



# 2011

## general catalogue

Aldes Middle East



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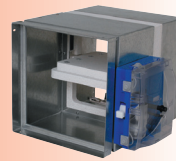
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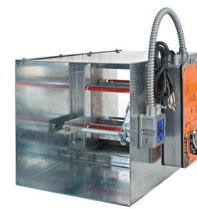
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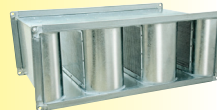


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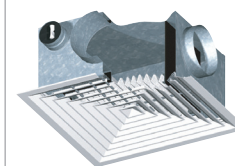


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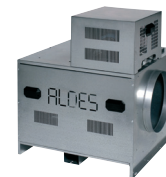
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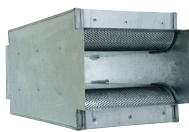
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# Green Products 2011

Green products can be identified in the Aldes Middle East Catalogue 2011 by the sign 






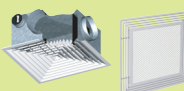
## Fire Protection

	<p><b>ISONNE fire, smoke &amp; heat dampers</b></p> <ul style="list-style-type: none"> <li>• Efficient motorised fire damper allowing 2h fire resistance.</li> <li>• No smoke leakage, no heat transfer.</li> <li>• Designed to meet green building criteria on energy savings:             <ul style="list-style-type: none"> <li>- FdP: low pressure loss version,</li> <li>- VDS: operation under power emission allowing no energy consumption at all.</li> </ul> </li> </ul> <p style="text-align: right;"><b>EN 1366-2</b></p> <p style="text-align: right;"></p>
	<p><b>VANTONE smoke &amp; heat exhaust dampers</b></p> <ul style="list-style-type: none"> <li>• Efficient smoke and heat exhaust damper allowing 2h fire resistance.</li> <li>• No smoke leakage, no heat transfer. • Designed to meet green building criteria on energy savings:             <ul style="list-style-type: none"> <li>- VDS: operation under power emission allowing no energy consumption at all.</li> </ul> </li> </ul> <p style="text-align: right;"></p>

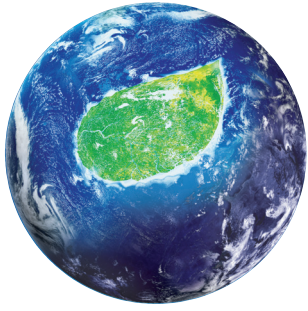
## Ventilation

	<p><b>COMPACT self-balanced extract ventilation</b></p> <ul style="list-style-type: none"> <li>• Compact unit with low noise level for 1 kitchen and 3 sanitary / bathrooms maximum.</li> <li>• Self-balanced extraction at pre-set airflow to ensure both IAQ and low energy consumption.</li> </ul>
	<p><b>Micro-watt range of fans</b></p> <ul style="list-style-type: none"> <li>• Designed in accordance with eco-friendly design requirements on energy savings, raw materials choice, recycling management and life expectancy.</li> <li>• Low energy consumption to meet green building criteria on energy savings, up to 60% reduction on energy consumption.</li> <li>• Minimum maintenance and easy setting. • Noise reduction on air outlets.</li> </ul> <p style="text-align: right;"></p>
	<p><b>MS Pro</b></p> <ul style="list-style-type: none"> <li>• Airtight flexible sleeves for a quick and easy fan-ductwork connection.</li> <li>• High durability &amp; outdoor resistant.</li> </ul> <p style="text-align: right;"></p>

## Air Distribution

	<p><b>Pressure Independent VAV boxes</b></p> <ul style="list-style-type: none"> <li>• Energy efficiency &amp; thermal comfort in HVAC systems.</li> <li>• Accurate regulation (damper actuator) and low leakage.</li> </ul>
	<p><b>Constant airflow regulators + Bap'SI twin exhaust grilles</b></p> <ul style="list-style-type: none"> <li>• Controlled ventilation system to provide both IAQ and energy efficiency.</li> <li>• Simple solutions to balance automatically airflow at pre-set constant levels in low and high pressure systems. • Easy installation &amp; maintenance</li> </ul>
	<p><b>ACTA circular sound active attenuators</b></p> <ul style="list-style-type: none"> <li>• Highly efficient at low frequency with low pressure loss.</li> <li>• Designed to ensure acoustical comfort and energy savings.</li> </ul>
	<p><b>SA rectangular sound attenuators</b></p> <ul style="list-style-type: none"> <li>• Highly efficient at medium and high frequencies.</li> <li>• Numerous baffles ensuring acoustical comfort.</li> </ul>
	<p><b>TWISTED 850 swirl diffusers</b></p> <ul style="list-style-type: none"> <li>• Attractive design circular ceiling swirl diffuser for air supply or air exhaust.</li> <li>• High induction ratio and ideal for airflow variation. • Discrete design and perfect comfort.</li> <li>• Easy installation. • Best solution for VAV systems.</li> </ul>
	<p><b>COMBINED solutions</b></p> <ul style="list-style-type: none"> <li>• Attractive design ceiling square / slot diffuser combining air supply and air exhaust.</li> <li>• Ventilation, heating or air conditioning systems. • Time savings during installation.</li> <li>• Energy savings by excluding any by-pass risk.</li> </ul>





# ALDES commmits itself to **environmental** protection.



**High performance insulation**



**Airtight sealing**



**Controlled ventilation**

## A Group commitment. Let's insulate the Earth against CO<sub>2</sub>.

French industrialists are mobilising to reduce greenhouse gas emissions by buildings.

The Collective Action Group "Isolons la Terre contre le CO<sub>2</sub>" (*Let's Insulate Earth against CO<sub>2</sub>*) was founded in December 2003, to propose strong measures to reduce emissions of greenhouse gases in the building industry sector. The initial ambition of the action group was to become a driving force for effective propositions to public authorities in order to divide by four greenhouse gas emissions (Kyoto Agreements) by 2050 in the building industry sector!

## The convictions put forward.

Along with these objectives, the action group ("Isolons la Terre contre le CO<sub>2</sub>") defends 4 major convictions:

- To divide by 4 all energy consumption levels and CO<sub>2</sub> emissions associated with heating in the building industry sector.
- To quickly set up a National Plan fixing the multi-annual objectives between now on and 2050.
- To involve all of the people working in this field (building owners and developers, contractors, manufacturers, distributors, banks and public authorities) by elaborating and implementing this action plan.
- Within the global offer, to emphasize the complementarity of synergies between insulation, glazing, ventilation, high performance equipments and renewable energies; but without setting one against the other, and with no 'a priori' on the materials used, construction methods and energies involved.

## The collective aims.

Today, "Isolons la Terre contre le CO<sub>2</sub>" gathers 10 industrial firms, leaders in the building construction sector and focused around 4 major objectives:

- **Informing** opinion leaders and the general public on the stakes involved with CO<sub>2</sub> and energy in the building construction sector and to promote energy efficiency in this sector.
- **Convincing** opinion leaders of the necessity and feasibility of an ambitious plan to reduce energy consumptions in existing buildings.
- **Make known** the best performing solutions to effectively reduce energy consumption in buildings.
- Actively **contribute** to the implementation and promotion of a national label for new or renovated buildings that are thrifty on energy; in the same way as the *Passivhaus* approach in Germany or the *Minergie* approach in Switzerland.



**"The cleanest and least expensive energy is that which we do not consume."**  
[www.isolonslaterre.fr](http://www.isolonslaterre.fr)

## A local commitment.

Aldes Middle East supports the promotion and development of sustainable buildings in the United Arab Emirates, and is a **Corporate Member** of the Emirates Green Building Council (EGBC)



[www.emiratesgbc.org](http://www.emiratesgbc.org)

# Electrical and Electronic Equipment Waste (WEEE)



European legislation is continually changing in the fields of environmental protection and sustainable energy. The two European Directives WEEE and ROHS were transposed into the French Regulations by French Decree N° 2005-829 of 20 July 2005 and applicable since the 13 August 2005. The latest Decrees published in August 2006 allow for its application since 15 November 2006.

## Products concerned.

The Decree targets household products. They are identified by the crossed-out dustbin logo.

The Decree distinguishes between:

- Products liable to be installed and thrown out at the end of their service life by individuals said to be "household waste".
- Products requiring the intervention of a professional for their assembly and dismantling said to be "professional waste"

The Aldes products concerned are those aimed at private housing.

- 'Split' self-balanced CMEV.
- Centralised self-balanced and humidity-controlled CMEV.
- Centralised Heat Recovery Ventilation.
- Extractors (occasional).
- Domestic centralised vacuum cleaners.

## Consequences: Eco-participation.

The Decree obliges producers and distributors to contribute to the processing of Electrical and Electronic Equipment waste.

Since the 15 November 2006, all products generating household waste are subject to the «Eco-participation» environmental

contribution invoiced by the producer and passed on in identical form right up to the end user.

On our invoices, an additional line for the cost of the eco-participation shall follow each product line targeted by the Decree. At the foot of the invoice, a line will present the total cost of the eco-participation, the costs scale are also given.

The processing of professional waste will be organised depending on the pending regulations.

## Producers Register.

Aldes is registered on the WEEE producers register of the ADEME.

### European REACH Regulation

(by Recording, Evaluation, and Authorisation of Chemical substances) In applying the REACH regulation No. 1907/2006/CE, we keep at our customers disposal the information provided for in Article 33.1 of the regulation, for any marketed item and in accordance with the list of chemical products regularly reviewed by the European Agency for chemical products.

## Eco-organism

Aldes has delegated its responsibility for collecting and processing waste to the following eco-organism:  
**ECO-SYSTEMES - 17 rue de l'Amiral Hamelin**  
**75 783 Paris Cedex 16, France**  
[www.eco-systemes.com](http://www.eco-systemes.com)

Find the Aldes products concerned by the WEEE throughout the pages of this catalogue by the logo in the "Conformity" sidebar

Aldes Products	Decree: Categories		Ademe: Customs Code		Eco Systems	
Self-balanced CMEV	1	Large Electrical Appliances	84145980	Fans (except table, floor, wall, ceiling mounted fans, roof or window fans, with an electrical motor, and power of ≤ 125 W, and except axial or centrifugal fans).	1.5	Other equipment for ventilation and air exhaust < 5 kg
Heat Recovery Ventilation CMEV	1	Large Electrical Appliances	84145980		1.4	Other equipment for ventilation and air exhaust > 5 kg
Extractors	1	Large Electrical Appliances	84145100	Table, floor, wall, ceiling mounted fans, roof or window fans, with an incorporated electrical motor, and power of ≤ 125 W	1.6	Other equipment for ventilation and air exhaust < 500 g
Centralised Vacuum Cleaning Units	2	Large Electrical Appliances	85091010	Vacuum cleaners, including cleaners for dry matter and liquids, with an incorporated motor, for domestic use, and voltage of ≥ 110 V	2.1	Cylinder vacuum cleaners, wet and dry vacuum cleaners, food processors, brushes



# The Subsidiaries

## America

### United States

AMERICAN ALDES VENTILATION  
CORP.

4521 19th St Court E. Suite 104  
FL 34203 BRADENTON  
FLORIDA  
Tel: +1 941 351 34 41  
Fax: +1 941 351 34 42

## Asia

### China

Shanghai ALDES Indoor Air  
Technology LTD CHINA  
22 F - N°1016 DingXi Road  
200050 SHANGHAI  
Tel: +86 21 62 26 11 72  
Fax: +86 21 62 26 91 15

## Europe

### Belgium

Aldes Belgium  
Rue Jean Verkruyts, 60  
4681 HERMALLE-SOUS-  
ARGENTEAU  
Tel: +32 (0) 43 74 98 20  
+32 (0) 27 25 13 80  
Fax: +32 (0) 43 74 98 29  
+32 (0) 27 25 17 53

### France

ALDES Aéraulique  
20 boulevard Joliot Curie  
69694 VÉNISSIEUX cedex  
Tel: +33 (0)4 78 77 15 15  
Fax: +33 (0)4 78 76 15 97  
20 agencies throughout France

### Germany

ALDES LÜFTTECHNIK  
Fanny Zobel Str. 5  
12435 BERLIN  
Tel: +49 30 532 19 000  
Fax: +49 30 532 19 001

### Hungary

Aldes Hungary Kft  
Hunyadi János u. 4.  
H-1117 Budapest  
Tel: +36 1 319 3228  
Fax: +36 1 319 3229

### Ireland

ALDES IRELAND  
31 Fincairn road  
Londonderry  
BT47 3LD, Northern Ireland  
Rep. of Ireland:  
Tel: +353 833 738 801  
Fax: +353 152 611 52  
Northern Ireland:  
Tel: +44 786 546 0164 (UK)

### Italy

ALDES EURO REGISTER  
Via Figino 45  
20016 PERO (Milan)  
Tel: +39 02 897 855 11  
Fax: +39 02 915 340 07

ALDES S.P.A.  
Via Gran Bretagna, 35  
41100 MODENA  
Tel: +39 059 315 707  
Fax: +39 059 313 374

CLIMOVENT ITALIA S.R.L.  
C. SO Industria 7  
14010 DUSINO S. MICHELE (AT)  
Tel: +39 01 41 93 09 69  
Fax: +39 01 41 93 04 70

### Luxembourg

Please contact our French agency:  
Aldes Nancy  
55, impasse Henri Becquerel  
Zone Industrielle - 54710 Ludres,  
France  
Tel : +33 (0)3 83 25 79 79  
Fax : +33 (0)3 83 25 78 81

### Netherlands

Aldes Netherlands  
Veem 3  
6909 DZ BABBERICH  
Tel: +31 (0)316 24 32 22  
Fax: +31 (0)316 24 32 23

### Spain

ALDER VENTICONTROL  
Polígono Industrial Prado Overa  
C/ Puerto Pajares, 29  
28919 LEGANÉS (MADRID)  
Tel: +34 91 428 20 12  
Fax: +34 91 746 31 32

## Middle East

## Africa

## Indian Ocean

### Mauritius

ALDES MAURITIUS  
La Tour Koenig Industrial Estate  
Pointe Aux Sables  
Republic of Mauritius  
Tel: +230 234 2628  
Fax: +230 234 2665

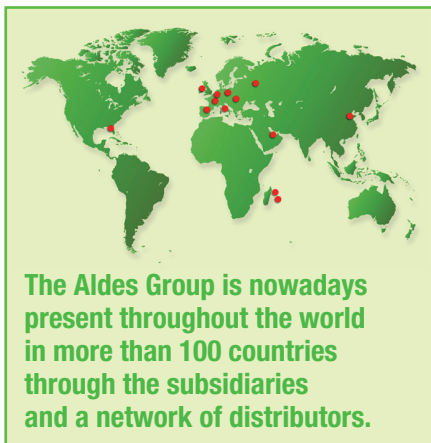
### Reunion Island

ALDES OCEAN INDIEN  
15 rue du Maine  
ZAC Moufia  
97400 SAINTE CLOTILDE  
Tel: +262 97 96 81  
Fax: +262 28 78 94

### United Arab Emirates

ALDES MIDDLE EAST (FZE)  
Sharjah Office & Factory:  
PO Box 8653 / SAIF Zone  
Tel: +971 6 55 78 285  
Fax: +971 6 55 78 405

Abu Dhabi Office:  
PO Box 47324  
Tel: +971 2 64 36 794  
Fax: +971 2 64 36 715



The Aldes Group is nowadays  
present throughout the world  
in more than 100 countries  
through the subsidiaries  
and a network of distributors.

## Aldes Head Office

20, boulevard Irène Joliot Curie  
F- 69694 Vénissieux Cedex – France  
Tel: + 33 (0)4 78 77 15 15  
Fax: + 33 (0)4 78 76 15 97

### Your contact in France \*:

## International Department

20, boulevard Irène Joliot Curie - F- 69694 Vénissieux Cedex – France  
E-mail: [aldes\\_international@aldes.com](mailto:aldes_international@aldes.com)  
Tel: + 33 (0)4 78 77 15 15 - Fax: + 33 (0)4 78 77 15 56

### Staff:

Export Area Sales Managers, office-based technical sales reps and administrative assistants are at your service.

### Design:

A highly trained team will provide you with all necessary information and advice. A team of experts in technical design and costing studies.

\*For all countries in which Aldes does not have a subsidiary, the International Department remains your contact.

# Innovating, the mission of a leader.

*Improving the quality of the air we breathe inside buildings to improve our quality of life is not only a dream, but also a marvellous company project, which all Aldes employees have been addressing since 1925. And if Aldes is today a leader in the sector, the orientation taken by the Group has always used the same guideline: innovation!*

From private and collective housing to commercial premises, Aldes Group has developed 5 business activities:

- Fire Protection
- Ventilation
- Air Distribution
- Centralised Vacuum Cleaning
- Temperation®

## air&people, the commitment of a leader.

**The commitment of a leader:** these two words sum up in themselves, the vocation of the Aldes Group. Improving air quality, thermal comfort and safety to improve people's lives and energy performance in buildings.

Yes, it may be a dream, but it is also a marvellous company project around which all of the Aldes employees have come together.

## Improving the quality of air.

Studies carried out on air quality inside buildings show the presence of a multitude of pollutants that are dangerous to health. Faced with this parameter, **the building construction market is confronted with a second challenge, that is just as important: the decrease in greenhouse gases.** Aldes ventilation products and global solutions allow them to meet head-on the importance of the health challenge, in agreement with the French Grenelle Environmental Forum.

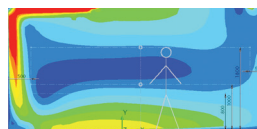


## Way ahead of the regulations.

Since the beginning, Aldes has anticipated new regulations by putting **products on the market with high performance air-flow, sound attenuation (acoustics) and energy saving qualities even greater than the standards.** This is why nowadays, products like **air diffusers, the micro-watt range of low energy consumption fans, the modulated ventilation system** for commercial premises,

**ducts and accessories with Virtuo-fix airtight seals, and fire dampers systems** find themselves fully validated by the new airflow regulations.

## Aldes Test Centre, fully adapted technical resources.

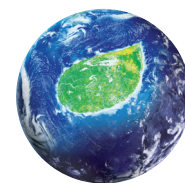


For high performance products and customised solutions, the Aldes Test

Centre relies on their **human and technical skills** to advise and support their customers throughout the tests right up to their complete satisfaction.

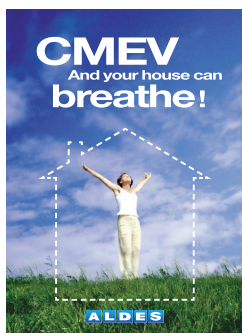
Aldes thereby offers **high quality products** in terms of aerualics, acoustics and aesthetic design **that also respect energy performance requirements.**

## Aldes commits itself to environmental protection.



As an active member of the Collective Action Group "Isolons la Terre contre le CO<sub>2</sub>" (*Let's insulate the Earth against CO<sub>2</sub>*) Aldes has committed itself, together with 9 other industrial leaders in the construction sector, to a large scale plan for the reduction of greenhouse gas emissions and energy consumption in buildings.

This collective action group was at the origin of the "Effinergie", which is a low energy consumption label.







● Aides' Subsidiaries

## Aides without borders.

**Air has no border.** The need to breathe a high air quality is universal.

The need for energy performance in buildings is just as important too.

Through the Aides Group, the intermediary of a vast sales network, eventually exports its know-how to more than **100 countries in Europe, Africa, the Middle East, Asia and America.** In total, there are over one thousand staff who participate in the Aides success story throughout the world.

## A few prestigious references.

Aides is involved in most large scale projects around the world. We could quote numerous reference such as the Twin Towers in Kuala Lumpur (Malaysia), the 'Arche de la Défense' and the Louvre in Paris (France) etc. Aides is also involved in over 2 500 000 houses and more than 3 000 000 collective housing apartments equipped with ventilation system.



Villa des Hauts de Feuilly/  
MCP - Lyon, France.



Zital Tower  
Madagascar.



Cove Rotana Hotel  
RAK, UAE.



Zenith Music Hall  
Dijon, France.



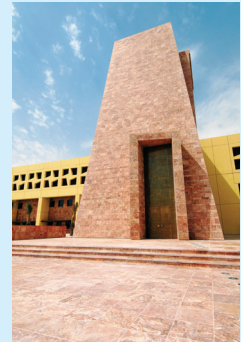
Hospital  
Nantes, France.



National Petroleum Building  
Beijing, China.



School  
Tournefeuille, France.



Texas A&M College  
Doha, Qatar.



Madinat Jumeirah  
Dubai, UAE.



Louvre  
Paris, France.



Rhône-Alpes Pavilion  
World Expo 2010 - Shanghai, China.



Twin Towers  
Kuala Lumpur, Malaysia.



# The Aldes ME Services.

support

TRAINING  
DESIGN  
PRODUCTION  
MAINTENANCE

*From training sessions to after-sales service, Aldes proposes different services to support you at each stage of a project in order to push forward the smooth running of your systems. For indoor air quality, comfort and safety of the occupants, there are 4 main categories of services available:*

## Training sessions.

Aldes ME team ensures technical training tailored to your needs and requirements. Our mission is to look after vast improvements in indoor air quality, safety in buildings and the control of energy consumptions in buildings.

For more information on our training sessions: [contactus@aldesme.com](mailto:contactus@aldesme.com)



## Design support.

Thanks to various softwares and the backup support from its employees, Aldes ME team offers its experience to support MEP consultants and MEP contractors in designing the systems and validating the selected products.

### Examples:

- Selection software (Selector).
- CFD analysis and air diffusion tests.
- Checking the coherence of the system and the design study.



## Installation support.



Due to their proximity, Aldes ME team can support you to carry out quality and efficient installations.

### Examples:

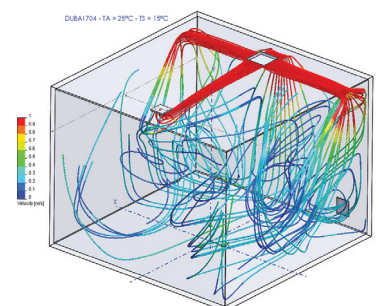
- Participation in a site co-ordination meeting (under request).
- Help in checking the correct operation and adjustment of the installation (under request).

## After-sales service.

To ensure sustainable performances and easiest maintenance over the long term for your installation, Aldes ME team offers you various services.

### Examples:

- Technical information on the products for your installation.
- Spare parts management.







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# Smoke Extraction Selection Guide p. 47

- More than 500 000 smoke exhaust dampers manufactured.
- More than 1 million fire dampers manufactured.
- Inventor and precursor:
  - Upgradable dampers mechanism.
  - Motorised resetting smoke exhaust dampers.
  - Low pressure loss fire dampers.
  - Aesthetic grille with 007 clip fixing.

**New**

## ISONE Motorised Fire, Smoke & Heat Dampers

- Motorised fire, smoke & heat damper.
- Fire resistance, no smoke leakage and no heat transfer.
- Abu Dhabi & Dubai Civil Defence approved.
- EN 1366-2 certified.
- **NF** certified.
- Available versions: low pressure loss and minimum space requirement.

## FD 150 CH Curtain Fire Dampers

- Abu Dhabi & Dubai Civil Defence approved.
- UL 555 classified.
- BS 476 certified.



## Compartmentation

Motorised Fire, Smoke & Heat Dampers



Green Product

Low pressure loss  
ISONE FdP  
**p. 28**



Green Product

Minimum space requirement  
ISONE EM  
**p. 29**

Curtain Fire Dampers



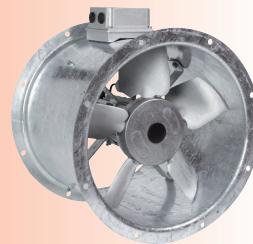
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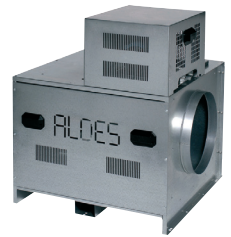
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Staircase Pressurisation Fans



Axial fans  
HELIONE  
**p. 48**

Smoke Exhaust Fans



Cabinet fans  
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Motorised Smoke & Heat Exhaust Dampers



Green Product

VANTONE  
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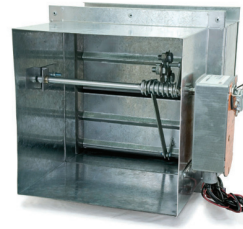


Control Pack  
**p. 34**

**Motorised Fire &  
Smoke Dampers**



FD 125  
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FD 125A  
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FD 150 AH  
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**Motorised  
Smoke Dampers**



SD 125  
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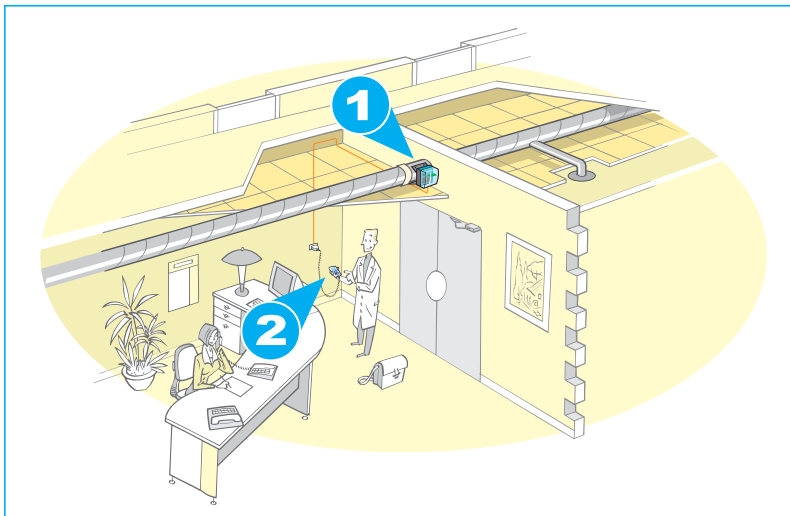


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# Systems

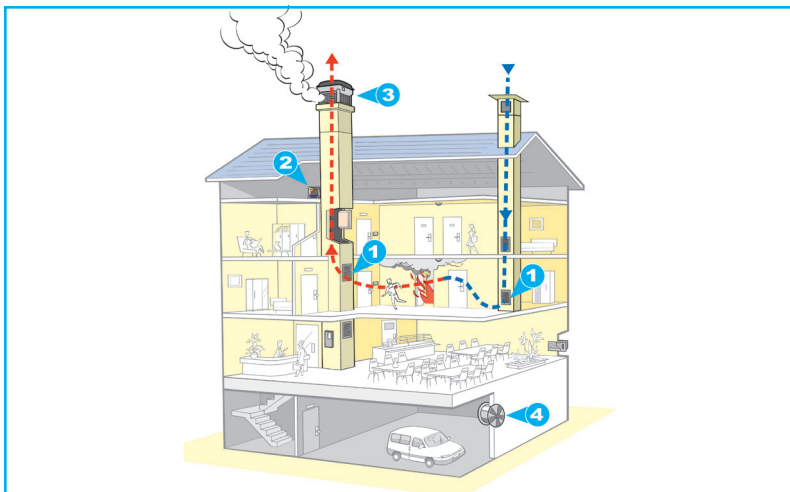
## Compartmentation



- 1 ISONE fire, smoke & heat dampers - p. 23
- 2 "Aldes Control" pack - p. 34

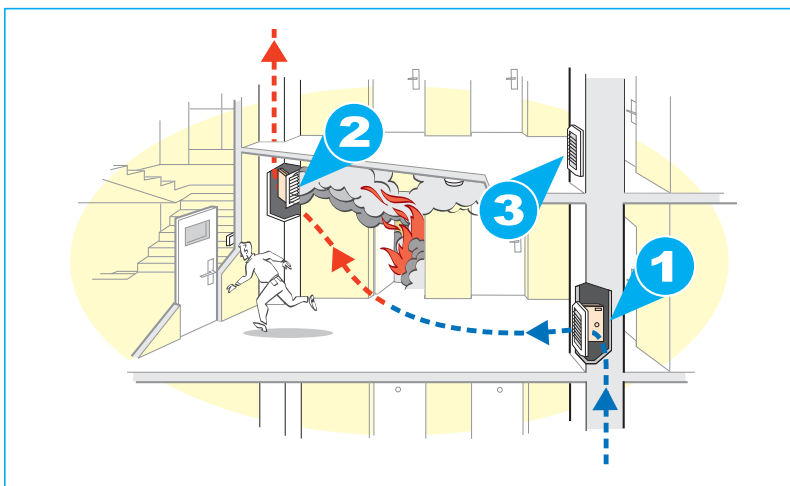
## Smoke Extraction

### Commercial Premises



- 1 VANTONE motorised smoke & heat exhaust dampers - p. 57
- 2 AXONE micro relaying box - please, consult us.
- 3 Smoke exhaust fans:
  - CYCLONE smoke exhaust roof fans - p. 50
  - VELONE smoke exhaust roof fans - p. 52
- 4 HELIONE axial fans - p. 48

### Corridor Zoom



VANTONE - motorised smoke & heat exhaust dampers:






- 1 Fire resistant for air inlet - p. 59
- 2 Fire resistant for the evacuation of smoke and fumes - p. 60
- 3 Aesthetic grille GFA 007 - p. 64

VANTONE-M motorised smoke & heat exhaust dampers:

- 1 2 Motorised resetting smoke & heat exhaust dampers - p. 61

# Selection Guide

## Compartmentation

Category	Model	Description	In accordance with	Integrity fire resistance	No smoke leakage	No heat transfer	Quick operation (motorization)	Easy maintenance	Energy saving
Fire Dampers	<b>ISONE with Aldes mechanism</b> 	<ul style="list-style-type: none"> <li>• Fire smoke and heat damper</li> <li>• Blade made of asbestos free refractory material</li> <li>• Instant closure thanks to Aldes mechanism</li> <li>• Manual or motorised resetting</li> <li>• Energy saving - VDS version</li> </ul>	EN 1366-2	2h	✓	✓	✓✓	✓	✓
	<b>ISONE with BF/BLF actuator</b> 	<ul style="list-style-type: none"> <li>• Fire smoke and heat damper</li> <li>• Blade made of asbestos free refractory material</li> <li>• Quick operation</li> <li>• Motorised resetting</li> </ul>	EN 1366-2	2h	✓	✓	✓	✓	
	<b>FD 125</b> 	<ul style="list-style-type: none"> <li>• Motorised fire and smoke damper</li> <li>• Single skin 3-V grooves type GI blades</li> <li>• Quick operation: closing time 15s</li> <li>• UL listed thermo-electrical resettable tripping device (165°F)</li> </ul>	UL 555 & UL 555 S	1.5h	✓		✓	✓	
	<b>FD 150 CH</b> 	<ul style="list-style-type: none"> <li>• Curtain fire damper with interlocking type blades</li> <li>• 100% free area</li> <li>• UL 555 classified - 1.5h</li> <li>• BS 476 certified - 2h</li> </ul>	UL 555 & BS 476	1.5h/2h					
	<b>FD 150 AH</b> 	<ul style="list-style-type: none"> <li>• Curtain fire damper with interlocking type blades</li> <li>• Two different installations:                             <ul style="list-style-type: none"> <li>- blades partially inside airstream</li> <li>- blades and frame inside airstream</li> </ul> </li> </ul>	UL 555 & BS 476	1.5h/2h					

Category	Model	Description	Fusible link	Actuator	Reset motor	Position switch
Mechanism Equipment	<b>ISONE mechanism</b> 	<ul style="list-style-type: none"> <li>• Electromagnetic coil allowing for remote control by fire alarm panel</li> <li>• Reset motor enabling remote control without any dismantling of suspended ceilings</li> <li>• Indicator contacts for indicating the position of the blade to the fire alarm panel or to any other control system.</li> </ul>	Thermal fusible link integrated	✓	✓	✓
	<b>FSNF actuator</b> 	<ul style="list-style-type: none"> <li>• Fire and smoke actuator (24V or 230V)</li> <li>• Spring return</li> <li>• Torque : 7.9Nm/350°F</li> <li>• Running time: motor ~ &lt;15s, Spring ~15s</li> <li>• UL 873 listed</li> </ul>	BAE 165ALD		✓	
	<b>BF / BLF actuator</b> 	<ul style="list-style-type: none"> <li>• Fire and smoke actuator (24V or 230V)</li> <li>• Spring return</li> <li>• Torque : 18Nm/6Nm</li> <li>• Running time: motor &lt;140s/75s, Spring ~16s/~20s</li> <li>• CE marking</li> </ul>	BAE 72		✓	

# EN 1366-2 Standard: 1999

## "Fire resistance tests for technical installations. Part 2: Fire damper"

### OBJECTIVE

To determine the fire resistance of fire dampers installed in space separation elements designed to resist heat and the passage of fumes, smoke and gas at high temperature.

A fire damper aims to stop the propagation of fire.

### DESCRIPTION OF THE PROCEDURE FOR A DAMPER'S FIRE RESISTANCE TEST

#### 1. Opening and closing test

On the damper to be subjected to the fire resistance test, carry out 50 opening and closing cycles using the manual mechanism.

• This test has the purpose of ageing the fire damper before the fire resistance test.

#### 2. Test for determining the rate of leakage at ambient temperature

Following the previous test, measure the rate of leakage with blade closed, from the smallest to the largest damper.

The rate of leakage is determined for the expected classification pressure: 300, 500 or 1500 Pa.

• This test has the purpose of demonstrating the capacity of the fire damper to stop the propagation of cold smoke and fumes, in order to avoid any risk of panic during the evacuation of persons.

#### 3. Fire resistance test

**3.1** Following the previous test, the damper is installed on the test oven, with its blade open. The pressure loss fan is set to obtain an airflow rate of 0.15 m/s through the damper.

The fire damper must close within 2 minutes following the start-up of the oven.

• This part of the test has the purpose of checking that the fire damper's fusible thermal link has been correctly designed to ensure the correct and rapid closing of the blade.

**3.2** The oven's temperature curve respects the ISO 834 curve and the fan is adjusted to maintain a pressure loss of 300, 500 or 1500 Pa in the exhaust duct right up to the end of the test, 2 hours for example.

• This part of the test has the purpose of checking that the damper remains leaktight and fire resistant in spite of the pressure loss.

### PERFORMANCE CRITERIA AND FIRE RESISTANCE RATING IN ACCORDANCE WITH EN 13501-3

**1. Fire integrity for meeting the classification "E"** After the 5th minute following the start-up of the oven, the leaks through the damper (reduced to 20°) must not exceed 360 m<sup>3</sup>/h/m<sup>2</sup> on the blade, whatever the pressure 300, 500 or 1500 Pa.

The "E" rating fire integrity for a damper corresponds to the number of minutes where this criterion is respected. As a reminder, the passage of hot fumes, smoke and gases can lead to the ignition on the side not exposed to fire.

**2. Thermal insulation to meet the "I" classification** The temperature around the damper is recorded: - on average, it must not exceed the ambient test temperature of more than 140°C, - at any point, it must not exceed this same temperature of more than 180°C.

The "I" thermal insulation rating of a damper corresponds to the number of minutes where this criterion is respected.

**3. Smoke integrity for meeting the classification "S"** At ambient temperature and after the 5th minute of temperature rise, the leaks through the damper (reduced to 20°) must not exceed 200 m<sup>3</sup>/h/m<sup>2</sup> on the blade, whatever the pressure 300, 500 or 1500 Pa.

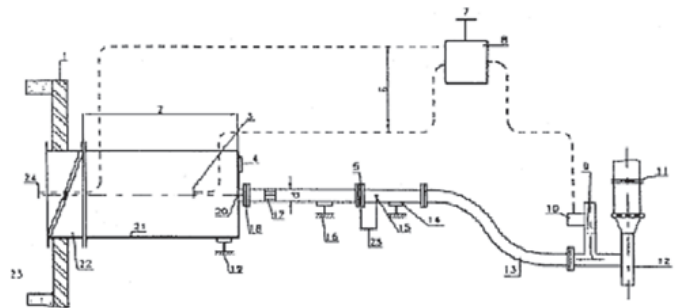
The "S" smoke integrity rating for a damper corresponds to the number of minutes where this criterion is respected.

**Definitive classification of the damper** The classification must be presented in compliance with the EN 13501-3 Standard:

E	I	t	t	(	ve	ho	i	↔	°	)		
---	---	---	---	---	----	----	---	---	---	---	--	--

For example, the ISONE fire dampers has obtained the classification: EI 120 min (ho ve i↔°) S.

Therefore, this fire damper has a fire integrity (E), thermal insulation (I) smoke integrity (S) for 120 minutes for the fire in 2 directions (i↔°) and for both a horizontal (ho) and vertical (ve) installation.



Key

- |   |  |
|---|--|
| 1 Mounting construction (wall)              | 14 Mounting                                  |
| 2 2 diagonals (up to a maximum of 2 metres) | 15 Thermocouple, 1.5 mm diameter             |
| 3 Pressure sensor (in the shaft)            | 16 Mounting                                  |
| 4 Sight hole                                | 17 Airflow regulator (if necessary)          |
| 5 Diaphragm or venturi                      | 18 Flange                                    |
| 6 Differential pressure - 300Pa             | 19 Support                                   |
| 7 Pressure sensor in the laboratory         | 20 Thermocouple on outlet from the plenum    |
| 8 Differential pressure control box         | 21 Connecting duct                           |
| 9 Pressure control dilution valve           | 22 Test valve                                |
| 10 Air cylinder or manual control           | 23 Oven enclosure                            |
| 11 Volume control damper                    | 24 Pressure detector (in the damper's shaft) |
| 12 Fan                                      | 25 Distance: thermocouple - diaphragm = 24   |
| 13 Flexible connecting duct                 |  |

Figure 1 - Example of a general test configuration

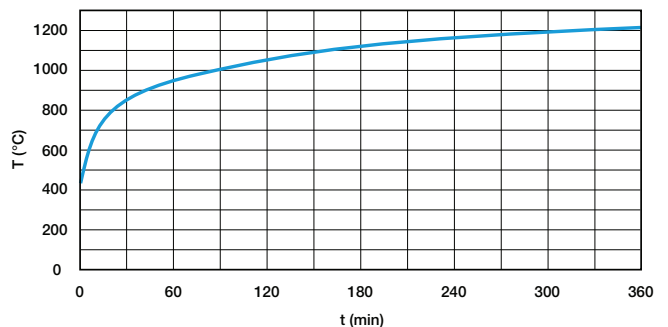
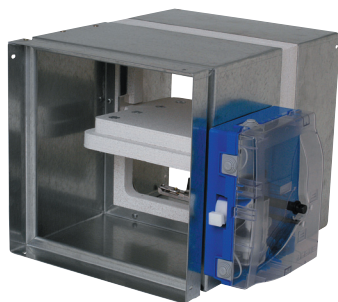


Figure 2 - ISO 834 Curve

# Motorised Fire, Smoke & Heat Dampers

ISONE Mechanism<sup>®</sup>: fully upgradable in just a few minutes!



Mechanism for ISONE EM

## Advantages

- Upgradable mechanism: all equipments can be added/removed at any time; the operation being carried out by one hand only, without any tools.
- 24 or 48 V? : no order mistakes thanks to the dual-voltage trip device.
- Easy wiring: all of the ISONE terminal boxes are detachable without any tools and have a polarizing slot.
- VDS version: operation under power emission allowing no energy consumption.

## DESCRIPTION

- The ISONE mechanism can include all tripping, indicating and resetting equipment, either in the factory or completing it on-site later.
- All these types of equipment are clipped into a blue IP42 box, designed to provide a multitude of useful features during both installation and testing.
- The clip-fixed transparent cover can be removed using a large screwdriver - its purpose is to show the position of the damper.

- ① The three cable glands can slide into the box.
  - ② Ergonomic and simple manual trip controls.
  - ③ 24/48 V electromagnetic tripping device.
  - ④ Unpluggable terminals for easier electrical connections.
  - ⑤ Signalling contacts.
  - ⑥ Reset lever accessible without removing the cover: a quarter turn with a screwdriver is sufficient to open the blade.
  - ⑦ Reset motor EHOP 30s.
- For even higher protection the IP42 transparent cover is used to cover all of the equipment.

## TRIPPING OPTIONS

### FTE 70°C thermal fuse

- It is compulsory for all shutters in accordance with NF-S 61937.
- A stainless steel thermal fuse is screw fixed into the mechanism's box.
- Rapid access for changing the fuse.
- 70°C fuse - in accordance with French Standard NF-S 61.937.

Green Product

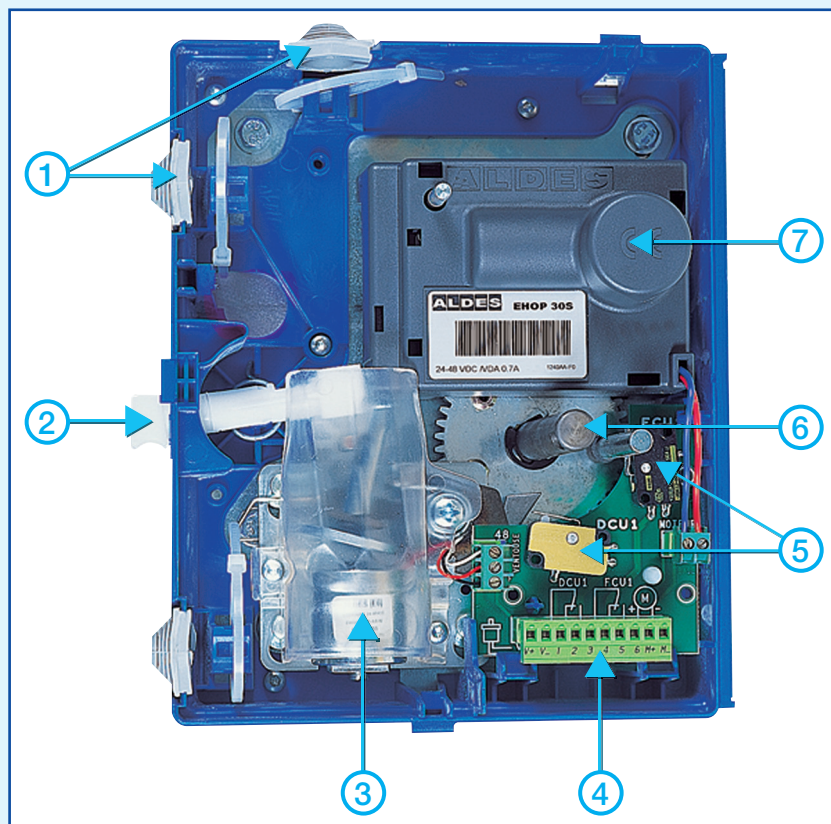
### VDS or VM electromagnetic coil device

- It operates on reception of an external electrical command (CMSI for example) by power emission (VDS) or power cut off (VM).
- An exclusive development of this tripping device enables it to function under both 24 and 48 VDC. A manual control switch is used to select the voltage.
- The trip device assembly is removable with one hand only, without using tools.

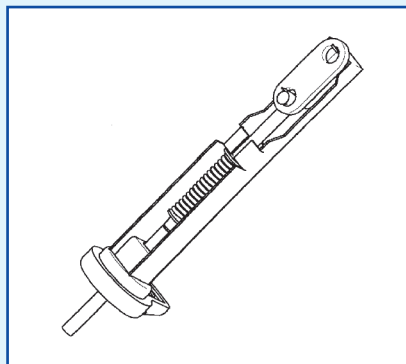
### Manual control

- It is compulsory for all shutters in accordance with NF-S 61937.
- White tripping handle integrated into the box and can be used without removing the cover.

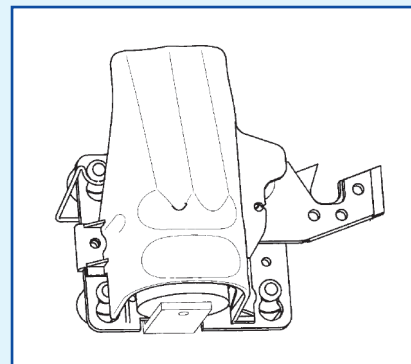
## ISONE MECHANISM



## OPTIONS



Thermal fuse



Electromagnetic coil device



# Motorised Fire, Smoke & Heat Dampers

**ISONE Mechanism®: fully upgradable in just a few minutes!**

## SIGNALLING OPTIONS

Signalling contacts are mounted on card-type printed circuit boards. All these cards clip into the mechanism housing and are easily removable without the use of tools. They are fitted with removable connection terminals with a polarizing slot.

### Electronic PCB n°1 - FCU1 - DCU1

- Reserved for dampers equipped with a thermal fuse (FTE) only.
- Comprises the choice of:
  - an FCU1 closed position switch (indicates that the shutter is closed),
  - an DCU1 opened position switch (indicates that the shutter is open),
  - the 2 contacts FCU1 + DCU1.

### Electronic PCB n°2 - Electromagnetic device

- Suitable for dampers fitted with a VDS or VM electromagnetic tripping device.
- In full compliance with French standard NF-S 61.937, it should be systematically fitted with a closed position switch (FCU1). It can also be fitted with an opened/ open position switch (DCU1).

### Electronic PCB n°3 - FCU2 - DCU2

- Clips on to cards n°1 and n°2.
- Systematically fitted with Open and Closed position switches FCU2 + DCU2.

## RESETTING OPTIONS

### Manual reset

- Manual resetting is possible without removing the cover.
- Using a large screwdriver, turn the operating rod by a ½ turn.

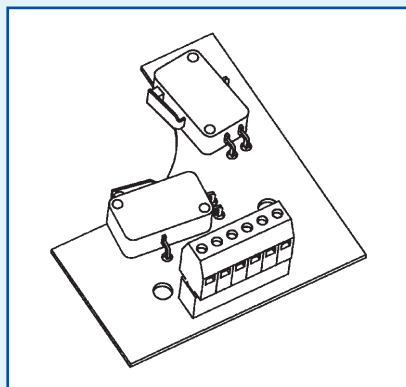
### Reset motor EHOP 30s

- Enables the blade to be replaced in the standby position without having to touch the shutter itself.
- Easily plugged in with one hand into the mechanism's box, without the use of tools.
- Can be removed with one hand, without using tools.
- Reset takes less than 10 seconds.
- Maximum current consumption 0.7 A.
- Voltage between 24 and 48 VDC/VDA.

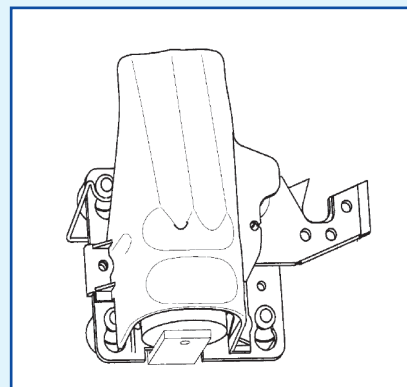
## REPLACEMENT KIT R17

Description	Code
FTE 70°C ISONE Kit	11043400
Packet of 10 fuses - 70°C ISONE	11043401
Manual tripping kit	11043411
VDS 24/48 ISONE kit	11043407
VM 24/48 ISONE kit	11043408
FCU1 for FTE kit	11043402
DCU1 for FTE kit	11043403
Kit FCU1 + DCU1 for FTE	11043404
Kit FCU1 for electromagnet	11043405
FCU1 + DCU1 for electromagnet	11043406
FCU2 + DCU2 kit	11043409
EHOP - 30 s - 24/48 VDC/VDA kit	11043410

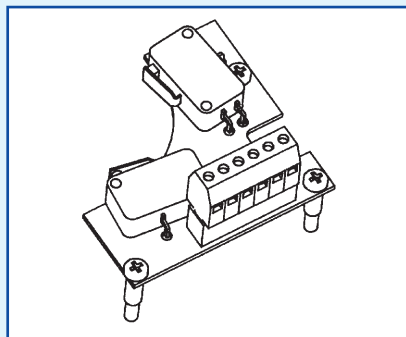
## OPTIONS



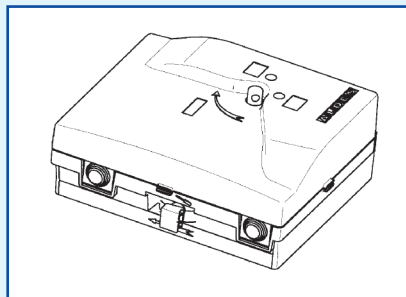
Electronic card n°1



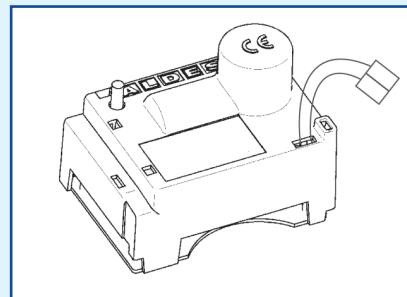
Electronic card n°2



Electronic card n°3



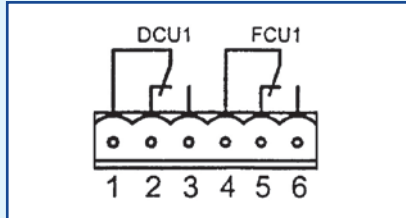
Mechanism box



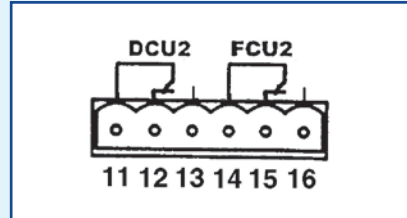
EHOP 30S motor

## ELECTRICAL CONNECTION

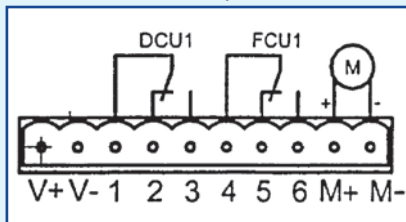
The ISONE terminals can be removed without the use of tools, electrical cables are fixed by screws.



**Card 1 FCU1-DCU1:** 2 contacts for an ISONE with an FTE only = 6 terminals.



**Card 3 FCU2-DCU2:** 2 auxiliary contacts = 6 terminals.



**Card 2 electromagnet/motor:** electromagnet + 2 contacts + motor = 10 terminals.

# Motorised Fire, Smoke & Heat Dampers

## ISONE Mechanism®: fully upgradable in just a few minutes!



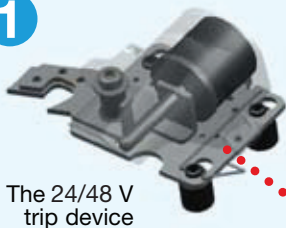
Since 1984, all Aldes fire dampers are fully adaptable. This means that, once installed, the fire damper mechanisms, can be completed by an electromagnetic coil device, or one or several signalling contacts and a resetting motor.

The fire dampers thereby adapt to changes in regulatory and standard requirements and operating needs. With the ISONE mechanism, adaptability is made as simple as possible! Thanks to equipment that can be clipped on using one hand and with no tools, the ISONE can upgrade to its most complete version in just 3 minutes.

The resetting motor is obviously the most interesting piece of equipment for the operator because it allows for carrying out the compulsory annual controls by remote control and thus avoid having to dismantle false ceilings.

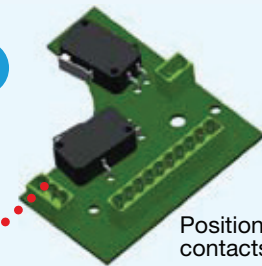
In the event of the absence of electrical supply, the use of the portable Aldes Control pack is sufficient.

1



The 24/48 V trip device

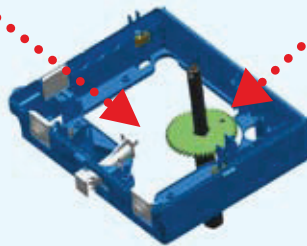
2



Position signalling contacts

60 SECONDS

60 SECONDS

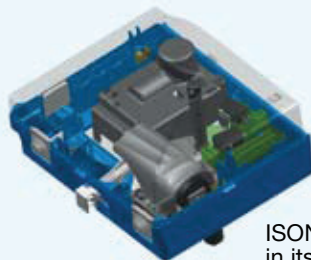
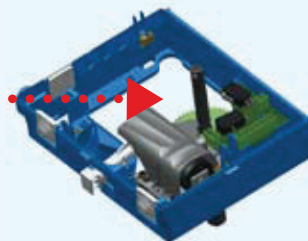


3



The resetting motor

30 SECONDS



ISONE mechanism in its complete version

### Example of how easy it is to fit the EHOP motor:

1



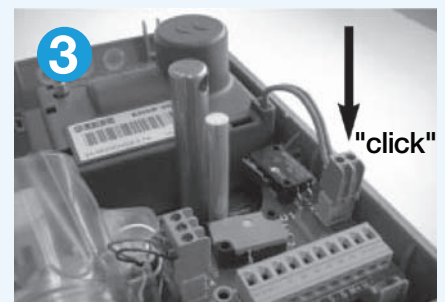
Fitting the motor

2



The pin descends into its housing

3



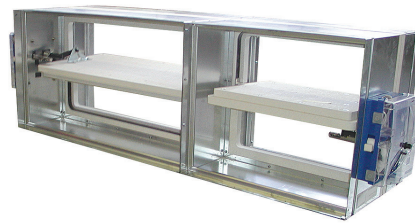
Electrical connections

# Motorised Fire, Smoke & Heat Dampers

## ISONE embedded rectangular fire damper: Did you know?



ISONE FdP



2 ISONE EM multi-sections

### Did you know?

- 2h-500 Pa fire protection, recto-verso, for concrete wall or tile mounting without fitting accessories.
- Authorised for aeraulic battery assembly.
- 1.5h- 500 Pa fire protection on 70 mm thick plaster tile, 2h if 100 mm.

### Advantages

- Choice between low pressure loss and minimum size.
- Traditional and economical grouting with mortar.
- Wall or tile: no fixing accessory.

• ISONE rectangular fire dampers offer certain advantages that have no equivalent:

- The "FdP" low pressure loss version, available in sizes 200 x 200 to 700 x 700 mm, improves the passage of air whilst keeping the opening dimensions identical to conventional fire dampers.
- The "EM" minimum overall dimension version, available up to 1250 x 850 mm and 1500 x 500 mm presents opening dimensions identical to the air duct, i.e. the smallest openings on the market.
- Grouted with traditional mortar, the fitting of ISONE embedded models requires no suspension or fixing, either in concrete wall or in a tile or slab.
- The metal body reduces its weight quite considerably.
- The mounting of ISONE embedded fire dampers in battery assemblies is the simplest and most economic on the market. In addition, thanks to its metal body, the reduction of free air passage is minimal, as opposed to fire dampers entirely made of refractory materials which generate more heat losses.

### APPROVED INSTALLATIONS

Fire wall material	Approved position	Installation	Fixing accessories	Fire protection rating
Concrete 110 mm	Wall or tile	Grouting with traditional mortar	None	CF 2h-500 Pa
150 mm cellular concrete (Siporex)		Grouting with traditional mortar		
70 mm thick gypsum wallboard	Wall			CF 1.5h-500 Pa
100 mm thick gypsum wallboard				CF 2h-500 Pa

## ISONE embedded circular fire damper: Did you know?



ISONE FdP



### Did you know?

- 2h-500 Pa fire protection rating, recto-verso, for concrete wall or tile mounting without fitting accessories.
- 1.5h - 500 Pa fire protection rating on 70 mm thick plaster tile, 2h if 100 mm.

### Advantages

- Choice between low pressure loss and minimum size.
- Economical grouting with traditional mortar.
- Wall or tile: no fixing accessory.

• Circular ISONE fire dampers offer a choice with no equivalent:

- The "FdP" low pressure loss version, available in diameters 160 to 315 mm, improves the passage of air whilst keeping the reserve openings identical to conventional fire dampers.
- The "EM" minimum dimensions version, available in diameters 160 to 500 mm (800 mm on a rectangular body), presents openings identical to the air duct, i.e. the smallest openings on the market.
- Grouted with traditional mortar, the fitting of ISONE embedded models requires no suspension or fixing, either in concrete wall or in a tile or slab.
- ISONE (both circular and rectangular models) is the first French fire damper to have obtained the EIS 120 classification, in compliance with the European Standard EN1366-2.

### APPROVED INSTALLATIONS

Fire wall material	Approved position	Installation	Installation accessories	Fire protection rating
Concrete 110 mm	Wall or tile	Grouting with traditional mortar	None	2h fire protection - 500 Pa
150 mm cellular concrete (Siporex)		Grouting with traditional mortar		
70 mm thick gypsum wallboard	Wall			1.5h - 500 Pa fire protection rating
100 mm thick gypsum wallboard				2h fire protection - 500 Pa

# Motorised Fire, Smoke & Heat Dampers

## ISONE embedded rectangular fire damper



ISONE EM




ISONE FdP

Green Product

CIVIL DEFENCE APPROVED

### Advantages

- Authorised for installation in walls and floors.
- Offset wall mounted mechanism for traditional grouting with mortar.
- Double range:
  - FdP = low pressure loss,
  - EM = minimum space requirement.
-  VDS version: operation under power emission allowing no energy consumption.

### APPLICATION

- Compartmentation of residential, commercial and industrial buildings.

### DESCRIPTION

- Composed of 2 metal sleeves on both sides of an assembly of refractory material.
- The upgradable mechanism box is positioned on a sleeve. This box is set back from the blade itself to avoid it being sealed into the partition during installation of the damper.

### FIRE PROTECTION RATING - EN 1366-2

- EIS 120 - 500 Pa in concrete wall 110mm and cellular concrete wall 150mm,
- EIS 120 - 500 Pa in concrete tile 150mm and cellular concrete tile 150mm.

### FIRE PROTECTION RATING - FRANCE

- 1.5h fire resistance rating on 70 mm plaster tile.
- 2h fire resistance rating on 100 mm plaster tile.

### INSTALLATION

- Embedded into a concrete wall of 110 mm.
- Embedded through a concrete tile: the installation requires no particular type of fixing or suspension.
- Traditional grouting with mortar.
- The mechanism's box is embedded into the wall or the tile.
- The aeraulic connection must not apply any stress on the damper.

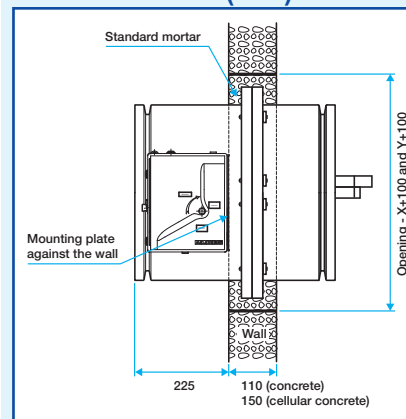
### RANGE

- Embedded, rectangular ISONE comprising 2 ranges:
  - ISONE FdP: designed to minimise the pressure losses created by the airflow passing through.
  - ISONE EM: a minimum overall dimension

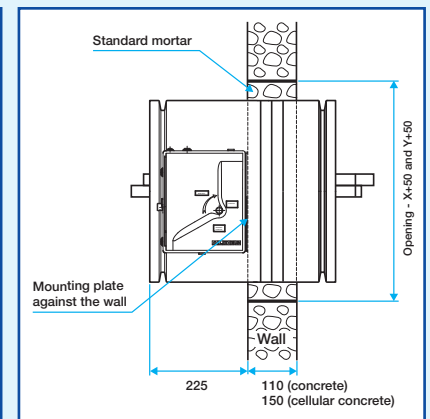
### AVAILABLE OPTIONS

- Mechanism equipment. Description: see page 23.
- Banks assembly for ISONE EM dampers.
- Customisable labelling: name of the worksite, of customer, installation area, etc.

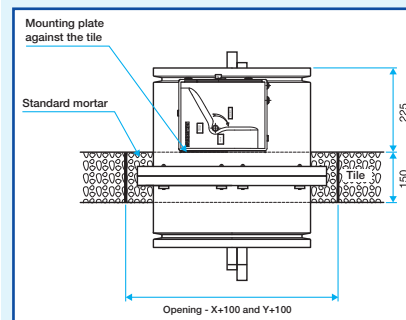
### INSTALLATION (mm)



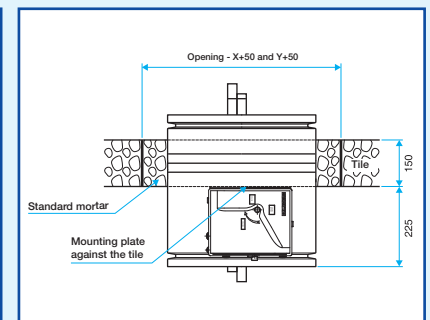
ISONE FdP in a concrete wall



ISONE EM in a concrete wall

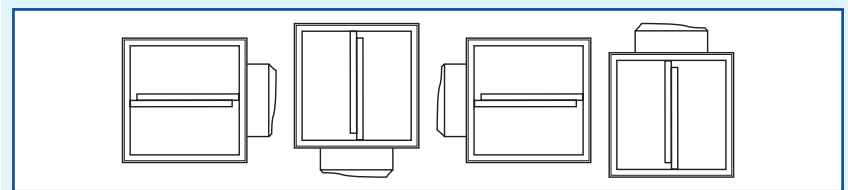


ISONE FdP in through-the-wall position in concrete tile



ISONE EM in through-the-wall position in concrete tile

### MECHANISM POSITIONING UNIMPORTANT





# Motorised Fire, Smoke & Heat Dampers

## ISONE rectangular - FdP: low pressure loss



- ### Advantages
- Fire resistance: 2h.
  - No smoke leakage, no heat transfer.
  - Quick operation.
  - Horizontal or vertical blades.
  - Low pressure drop.
  - VDS version: operation under power emission allowing no energy consumption.

### FIRE PROTECTION RATING - EN 1366-2

- EIS 120 - 500 Pa in concrete wall 110 mm and cellular concrete wall 150 mm.
- EIS 120 - 500 Pa in concrete tile 150 mm and cellular concrete tile 150 mm.

### FIRE PROTECTION RATING - FRANCE

- 1.5h fire resistance rating on 70 mm gypsum wallboards.
- 2h fire resistance rating on 100 mm gypsum wallboards.

### INSTALLATION

- Embedded into a concrete wall.
- Embedded through a concrete tile: the installation requires no particular type of fixing or suspension.
- Traditional grouting with mortar.
- The mechanism's box is fitted flush against the wall or the tile.
- The aeraulic connection must not apply any stress on the damper.

### ACCESSORIES

- Base, cover and terminal block kit.

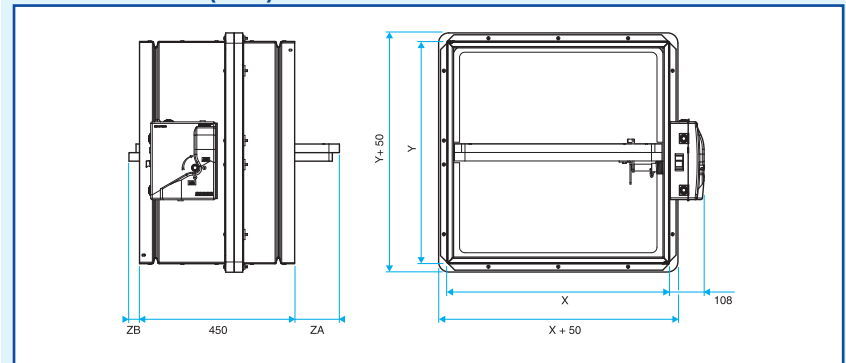
Description	Code
Complete transparent cover	11043413
Blue main control unit + manual control	11043412
10-pin withdrawable terminal block (electromagnet + motor + FCU1 + DCU1)	11041930
6-pin withdrawable terminal block, terminals 1 to 6 (FCU1 + DCU1)	11041931
6-pin withdrawable terminal block, 11 to 16 (FCU2 + DCU2)	11041932

### WEIGHT (kg) - RANGE with a choice of options

- The thermal fusible link at 70°C is included.

Code	11043342 ISONE-EUROPE-RECT-FDP-PM							
	Width X							
Height Y	200	250	300	350	400	450	500	
200	10	11	12	13	14	15	16	
250	11	12	13	14	15	16	-	
300	12	13	14	15	17	--		
350	13	14	15	17	---			
400	14	15	17	----				
450	-1	6	-----					

### DIMENSIONS (mm)



ZA: angular displacement of the blade

Y	200	250	300	350	400	450	500	550	600	650	700	750
ZA	0	0	0	0	16	42	66	92	116	142	166	190

### AVAILABLE OPTIONS

- The blue socket base is supplied when a contact is selected.

Equipment selection	Comments
<b>FTE 70°C</b>	Tripping only by thermal fusible link
<b>"FTE" contacts</b>	Contacts for signalling position of the blade
FCU1 for "FTE"	FCU = closed position switch = blade closed DCU = open position switch = blade open
DCU1 for "FTE"	
FCU1 + DCU1 for "FTE"	
<b>TRIP device</b>	Electrical tripping
VDS 24 ISONE VM 24 ISONE VDS 48 ISONE VM 48 ISONE	Carefull, connecting terminal on "VDS or VM or EHOP" contacts
<b>Contacts "VDS or VM or EHOP"</b>	Contacts for signalling position of the blade
FCU1 "VDS or VM or EHOP"	FCU = closed position switch = blade closed DCU = open position switch = blade open
FCU1 + DCU1 "VDS or VM or EHOP"	
<b>Contacts 2</b>	Doubles the position signalling contacts
FCU2 + DCU2"	Can be fixed to "FTE" contacts or "VDS or VM or EHOP contacts"
<b>Motor</b>	Electrical resetting of the damper by remote control in less than 30s
EHOP 30S ISONE	Carefull, connecting terminal on "VDS or VM or EHOP" contacts
<b>Protective cover</b>	Protection against dust (IP42), impacts and sealing

Code	11043343 ISONE-EUROPE-RECT-FDP-MM															
	Width X															
Height Y	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
200	-	-	-	-	-	-	17	18	-	-	-	-	-	-	-	-
250	-	-	-	-	-	17	18	19	20	21	22	-	-	-	-	-
300	-	-	-	-	18	19	20	21	22	23	24	25	26	28	-	-
350	-	-	-	18	19	20	21	23	24	25	26	27	28	30	31	32
400	-	-	18	19	20	22	23	24	25	27	28	29	30	32	33	34
450	-	18	19	20	22	23	24	26	27	28	30	31	32	34	35	-
500	17	19	20	22	23	24	26	27	29	30	31	33	34	36	-	-
550	-	20	21	23	24	26	27	29	30	32	33	35	36	-	-	-
600	-	21	23	24	26	27	29	30	32	34	35	37	-	-	-	-
650	-	-	24	25	27	29	30	32	34	35	37	-	-	-	-	-
700	-	-	25	27	28	30	32	34	35	37	-	-	-	-	-	-
750	-	-	-	28	30	31	33	35	37	-	-	-	-	-	-	-


# Motorised Fire, Smoke & Heat Dampers

## ISONE rectangular embedded - EM: minimum space requirement



**CIVIL DEFENCE APPROVED**

### Advantages

- Fire resistance: 2h.
- No smoke leakage, no heat transfer.
- Quick operation.
- Horizontal or vertical blades.
- Minimum space requirement and opening.
-  VDS version: operation under power emission allowing no energy consumption.

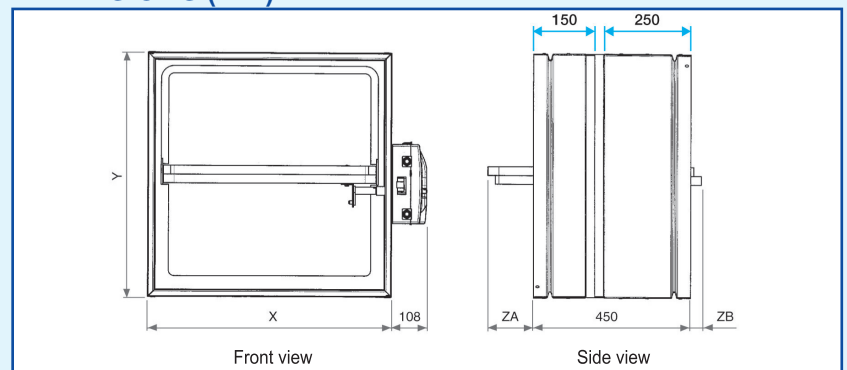
### FIRE PROTECTION RATING - EN 1366-2

- EIS 120-500 Pa in concrete wall 110 mm and cellular concrete wall 150mm,
- EIS 120 - 500 Pa in concrete tile 150 mm and cellular concrete tile 150mm.

### INSTALLATION

- Embedded into a concrete wall.
- Embedded through a concrete tile - no fixings or hangings.
- Traditional grouting with mortar.
- Offset mechanism on the wall or tile.
- Dimensions of openings required: (X + 50) x (Y + 50) mm.

### DIMENSIONS (mm)



ZA: angular displacement of the blade

Y	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
ZA	0	0	0	0	0	20	45	68	93	116	141	164	195	220	245	270	295	320
ZB	0	0	0	0	0	0	0	0	0	13	41	64	95	120	145	170	195	220

Height Y	Width X																									
	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450
200	11043340 EM - PM																				Use a multi-section assembly					
250	11043340 EM - PM																				Use a multi-section assembly					
300	11043340 EM - PM																				Use a multi-section assembly					
350	11043340 EM - PM																				Use a multi-section assembly					
400	11043340 EM - PM																				Use a multi-section assembly					
450	11043340 EM - PM																				Use a multi-section assembly					
500	11043340 EM - PM																				Use a multi-section assembly					
550	11043340 EM - PM																				Use a multi-section assembly					
600	11043340 EM - PM																				Use a multi-section assembly					
650	11043340 EM - PM																				Use a multi-section assembly					
700	11043340 EM - PM																				Use a multi-section assembly					
750	11043340 EM - PM																				Use a multi-section assembly					
800	11043340 EM - PM																				Use a multi-section assembly					
850	11043340 EM - PM																				Use a multi-section assembly					
900	11043340 EM - PM																				Use a multi-section assembly					
950	11043340 EM - PM																				Use a multi-section assembly					
1000	11043340 EM - PM																				Use a multi-section assembly					
1050	11043340 EM - PM																				Use a multi-section assembly					


# Motorised Fire, Smoke & Heat Dampers

## ISONE rectangular - EM: minimum space requirement



**CIVIL DEFENCE APPROVED**

### Advantages

- Fire resistance: 2h.
- No smoke leakage, no heat transfer.
- Quick operation.
- Horizontal or vertical blades.
- Minimum space requirement and opening.
-  VDS version: operation under power emission allowing no energy consumption.

### WEIGHT (kg) - RANGE with a choice of options

- The thermal fusible link at 70°C is included.

Code	11043340 ISONE-EUROPE-RECT-EM-PM						
Height Y	Width X						
	200	250	300	350	400	450	500
200	10	10	11	12	13	14	15
250	10	11	12	13	14	15	-
300	11	12	13	14	15	-	-
350	12	13	14	15	-	-	-
400	13	14	15	-	-	-	-
450	-	15	-	-	-	-	-

Code	11043341 ISONE-EUROPE-RECT-EM-MM															
Height Y	Width X															
	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
200	-	-	-	-	-	-	16	17	-	-	-	-	-	-	-	-
250	-	-	-	-	-	16	17	18	19	20	21	-	-	-	-	-
300	-	-	-	-	16	17	18	19	20	21	23	24	25	26	-	-
350	-	-	-	17	18	19	20	21	22	23	24	25	26	28	29	30
400	-	-	17	18	19	20	21	22	24	25	26	27	28	30	31	32
450	-	16	18	19	20	21	23	24	25	26	28	29	30	31	33	-
500	16	17	19	20	21	23	24	25	27	28	29	31	32	33	-	-
550	-	18	20	21	23	24	26	27	28	30	31	33	34	-	-	-
600	-	19	21	22	24	25	27	28	30	31	33	34	-	-	-	-
650	-	-	22	24	25	27	28	30	32	33	35	-	-	-	-	-
700	-	-	23	25	26	28	30	31	33	35	-	-	-	-	-	-
750	-	-	-	26	28	29	31	33	35	-	-	-	-	-	-	-

Code	11043344 ISONE-EUROPE-RECT-EM-GM																								
Height Y	Width X																								
	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500		
350	-	-	-	-	-	-	-	-	-	-	-	-	-	33	-	-	-	-	-	-	-	-	-	-	
400	-	-	-	-	-	-	-	-	-	-	-	-	-	35	36	37	38	-	-	-	-	-	-	-	
450	-	-	-	-	-	-	-	-	-	-	-	-	36	37	38	40	41	42	43	44	44	45	46	47	48
500	-	-	-	-	-	-	-	-	-	-	-	37	38	39	41	42	43	44	45	46	47	48	49	50	
550	-	-	-	-	-	-	-	-	-	37	39	40	42	43	44	46	47	47	48	49	49	50	51	51	
600	-	-	-	-	-	-	-	-	38	39	41	42	44	45	47	48	50	50	51	52	52	53	54	54	
650	-	-	-	-	-	-	-	38	40	41	43	44	46	48	49	50	52	52	53	54	54	55	55	-	
700	-	-	-	-	-	-	38	40	42	43	45	47	48	50	52	53	55	54	55	56	56	57	-	-	
750	-	-	-	-	-	38	40	42	43	45	47	49	51	53	55	56	56	57	57	-	-	-	-	-	
800	29	31	33	34	36	38	40	42	44	45	47	49	51	53	55	57	58	58	-	-	-	-	-	-	
850	-	32	34	36	38	40	42	43	45	47	49	51	53	55	57	59	60	62	-	-	-	-	-	-	

Code	11043345 ISONE-EUROPE-RECT-EM-TGM											
Height Y	Width X											
	450	500	550	600	650	700	750	800	850	900	950	1000
900	25	27	29	31	33	35	37	39	41	43	45	47
950	-	28	30	32	34	36	38	40	42	44	46	48
1000	-	29	31	33	35	37	39	41	43	45	47	49
1050	-	-	32	34	36	38	40	42	44	46	48	50

### ACCESSORIES

- Base, cover and terminal block kit: please, see page 28.

# Motorised Fire, Smoke & Heat Dampers

## ISONE rectangular - minimum space requirement

### RECTANGULAR ISONE PRESSURE LOSSES

• The below values are the pressure losses in Pa for a duct velocity of 4 m/s inside the damper.

Height Y	Width X																
	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
200	44	39	36	34	32	31	30	32	31								
250	34	29	26	25	23	22	22	22	21	21	21	20					
300	28	24	21	20	19	22	22	22	22	22	22	23	24	24	25		
350	24	20	18	17	20	19	19	19	19	19	19	20	20	20	21	21	21
400	23	19	17	19	18	17	17	17	17	17	17	17	17	17	17	18	18
450		18	20	18	17	16	16	15	15	15	15	15	15	15	15	15	15
500		23	19	17	16	15	15	14	14	14	14	14	14	14	14	14	14
550			18	16	15	14	14	13	13	13	13	13	13	13			
600			18	16	15	14	14	13	13	12	12	12	12				
650				15	14	13	13	12	12	12	12	12					
700				15	14	13	13	12	12	12	11						

ISONE FdP

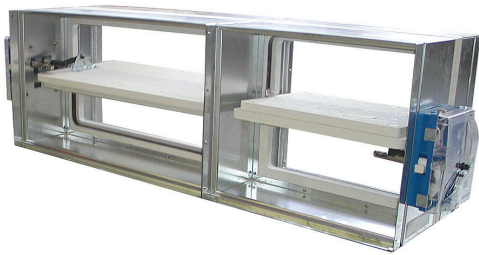
Height Y	Width X																											
	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	
200	328	218	170	145	129	118	110	104	108																			
250	149	109	86	73	64	59	55	52	54	52	50	48																
300	98	69	58	52	50	49	48	48	53	54	55	56	58	60	61													
350	82	55	44	39	36	35	34	33	36	36	36	36	36	37	38	38	39	48										
400	77	49	38	33	30	28	27	27	27	27	27	27	27	27	28	28	33	33	37	38								
450		46	35	30	27	25	23	23	23	22	22	22	22	22	22	25	25	28	28	28	29	29	29					
500		45	33	28	24	22	21	20	20	19	19	19	19	18	18	21	21	23	23	23	23	23	23	23	23	24	24	24
550			32	26	23	21	20	19	18	17	17	17	17	16	18	18	20	20	20	20	20	20	20	20	20	20	20	20
600			32	26	22	20	18	17	17	16	16	15	15	16	16	18	17	17	17	17	17	17	17	17	17	17	17	18
650				25	22	19	18	17	16	15	15	14	15	15	16	16	16	16	16	16	16	16	16	16	16	16	16	16
700				25	21	19	17	16	15	15	14	15	15	15	15	15	15	15	14	14	14	14	14	14	14	14	14	
750					21	19	17	16	15	14	15	14	15	14	14	14	14	14	13	13	13	13	13	13	13	13		
800					24	20	18	17	16	15	14	15	14	14	13	13	13	13	13	13	13	13	12	12				
850						20	18	17	15	15	15	14	14	13	13	13	12	12	12	12	12	12	12					
900						20	18	16	15	15	14	14	13	13	12	12	12	12	12	11	11	11						
950							18	16	15	14	14	13	13	12	12	12	12	11	11	11								
1000							18	16	15	14	13	13	12	12	12	11	11	11	11									
1050								16	15	14	13	13	12	12	11	11	11	11										

ISONE EM



# Motorised Fire, Smoke & Heat Dampers

## Multi-section installation of ISONE EM dampers



Multi-section ISONE EM

### Advantages

- Flexible and easy creation of multiple sections for large openings.
- Optimal air passage to minimise pressure losses.

### DESCRIPTION

- Battery assembly in banks allows for the installation of rectangular fire dampers on large dimension ductworks.
- There are three possible assemblies:
  - 2 side by side dampers - screwed together along their vertical parts.
  - 2 stacked dampers - screwed together along the width.
  - 4 dampers (2 x 2) together.
- A self-adhesive swelling seal is fitted between the dampers' the parts.

### INSTALLATION

- Battery assembly in banks of ISONE EM dampers affords maximum air passage and therefore minimum pressure loss.
- The fitting of banks of rectangular ISONE EM dampers is very simple.
- The metal sleeves are fixed to each other using self-drilling screws, a self-adhesive swelling seal is to be fitted between the refractory damper parts.
- For connection to an aeraulic ductwork system by the addition of flanges, it may be necessary to notch the sleeves by a few centimetres to be able to position the flanges.
- The grouting uses traditional mortar.

### CHOICE OF DAMPERS

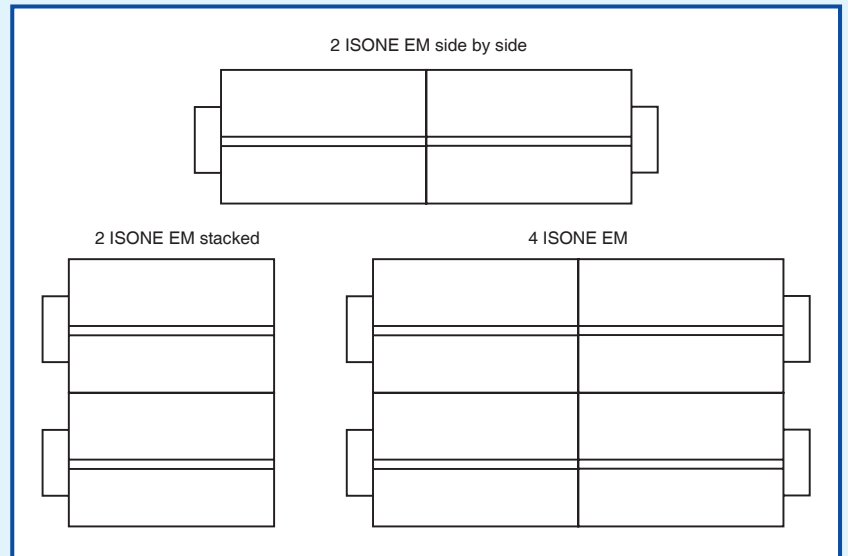
- The ISONE EM rectangular dampers used in bank assemblies are of standard dimensions.
- Example of selections:
  - Dimension of the duct: 1550 x 500 mm.
  - Choice of dampers: 2 side by side dampers of dimensions, one of 800 x 500 mm, the other of 750 x 500 mm.

### ACCESSORIES

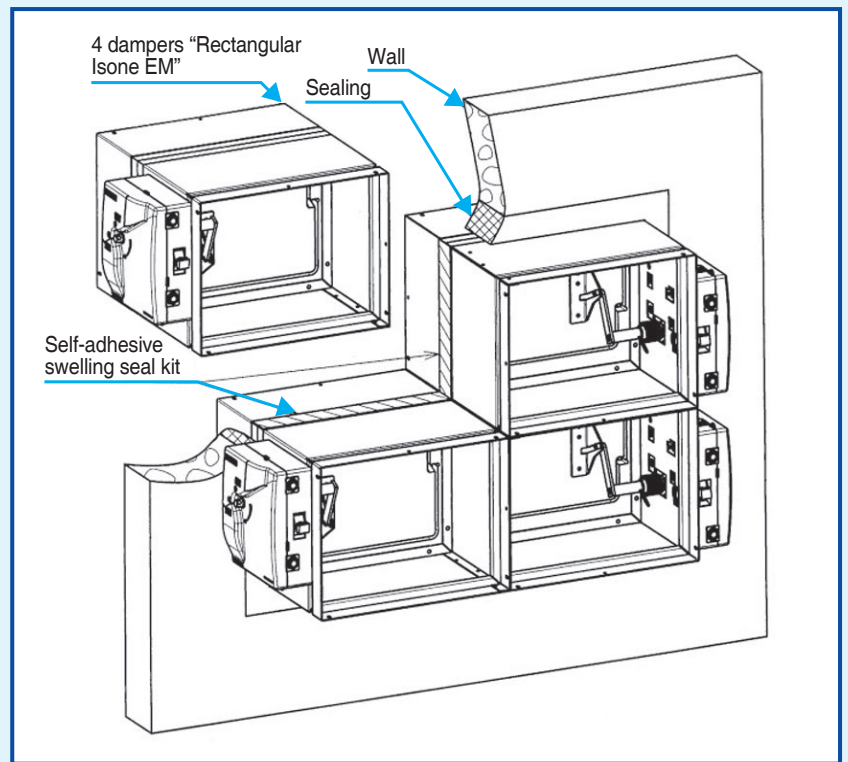
- Self-adhesive swelling seal for use when assembling banks of ISONE EM dampers.

Description	Code
Rolls of self-adhesive swelling seal L x l x th = 20 m x 40 mm x 2 mm	11045394

### POSSIBLE ASSEMBLIES



### INSTALLATION



# Motorised Fire, Smoke & Heat Dampers

## ISONE with a BF/BLF mechanism



CIVIL DEFENCE APPROVED

### DESCRIPTION

- All ISONE fire dampers can house the BF/BLF mechanism equipped with its 70° fuse (BAE 72), and a closed (FC) contact and open (DC) contact.

### FIRE PROTECTION RATING: EN 1366-2

- EIS 120 - 500 Pa in concrete wall 110 mm and cellular concrete wall 150 mm,
- EIS 120 - 500 Pa in concrete tile 150 mm and cellular concrete tile 150 mm.

### INSTALLATION

- Identical to ISONE with an Aldes mechanism.

### RANGE with a choice of options

Description	Code
ISONEUROP RECT EM PM-M	11043450
ISONEUROP RECT EM MM-M	11043451
ISONEUROP RECT FDP PM-M	11043452
ISONEUROP RECT FDP MM-M	11043453
ISONEUROP RECT EM GM-M	11043454
ISONEUROP RECT EM TGM-M	11043455

### AVAILABLE OPTIONS

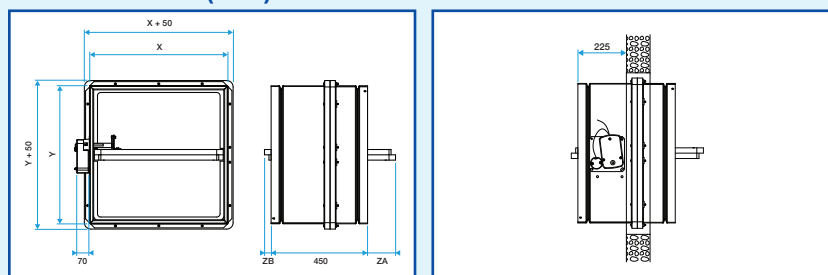
Description	Code
MECANISME BLF24V-BAE72-FC-DC	OPT43326
MECANISME BLF 230V-BAE72-FC-DC	OPT43327
MECANISME BF 24V-BAE72-FC-DC	OPT43328
MECANISME BF 230V-BAE72-FC-DC	OPT43329

- All mechanisms are equipped with:
  - FC/DC signalling contacts (open/closed position).
  - A 72° fuse.
- The BLF mechanisms equip ISONE and PM and MM dampers, the BF mechanisms equip ISONE GM and TGM dampers.

### RANGE with a choice of options

Height Y	Width X																									
	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450
200	11043450 ISONEUROP RECT EM PM-M																									
250	11043451 ISONEUROP RECT EM MM-M																									
300	11043452 ISONEUROP RECT FDP PM-M										Use a multi-section assembly															
350	11043453 ISONEUROP RECT FDP MM-M																									
400																										
450																										
500																										
550																										
600																										
650											11043454 ISONEUROP RECT EM GM-M															
700																										
750																										
800																										
850																										
900																										
950																										
1000											11043455 ISONEUROP RECT EM TGM-M										Use a multi-section assembly					
1050																										

### DIMENSIONS (mm)



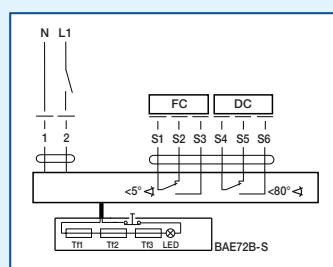
Dimensions identical to ISONE dampers with an Aldes mechanism

### TECHNICAL DETAILS

4 mechanism models	BLF		BF	
	24 V	230 V	24 V	230 V
Rated Voltage	AC 24 V 50 / 60 Hz - DC 24 V	AC 230 V 50 / 60 Hz	AC 24 V 50 / 60 Hz - DC 24 V	AC 230 V 50 / 60 Hz
Consumption (resetting)	5 W	6 W	7 W	8 W
Permanent consumption (excluded resetting)	2.5 W	3 W	2 W	3 W
Resetting time	40 to 75 s	40 to 75 s	140 s	140 s
Cable length:	1 m	1 m	1 m	1 m
- motor	2 x 0.75 mm <sup>2</sup>	2 x 0.75 mm <sup>2</sup>	2 x 0.75 mm <sup>2</sup>	2 x 0.75 mm <sup>2</sup>
- FC/DC contacts	6 x 0.75 mm <sup>2</sup>	6 x 0.75 mm <sup>2</sup>	6 x 0.75 mm <sup>2</sup>	6 x 0.75 mm <sup>2</sup>
Weight	1.6 kg	1.7 kg	2.8 kg	3.1 kg

- Degree of protection: IP 54.
- Temperature in use: -40° to +50° C.

### ELECTRICAL CONNECTIONS



# Motorised Fire, Smoke & Heat Dampers

## Control pack



"Aldes Control" pack

### Advantages

- Automatic functions controller - portable and autonomous.
- Ideal for controlling a fire damper independently from the CMSI.
- Easy to use.
- Automatic voltage selection.

## APPLICATION

- Allows for testing the operation of all components on a fire damper or a smoke exhaust damper:
  - electromagnetic trip device,
  - position signalling contacts,
  - reset motor.
- Simulates the different sequences of the centralised system.
- The "Aldes Control" pack can be used for the reception/acceptance of equipment before connection to the fire safety central control unit.

## DESCRIPTION

- Automatic controller - portable and autonomous.
- Rechargeable from mains supply.

## RANGE <sup>R17</sup>

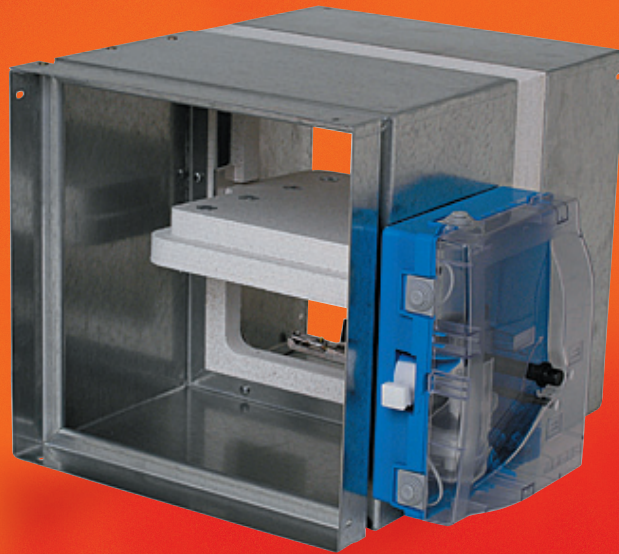
Description	Code
Aldes ISONE - VANTONE "Control" pack	11041695
"Control" pack bag kit	11041697
16-pin connector kit	11041770
A 12-pin cord kit for VRFI - VANTONE (after 09/2005)	11041699
A 10-pin cord kit for ISONE - VANTONE (after 09/2005)	11041696
"Control" pack charger kit	11041698





**ISONE fire dampers**

**10 years full of evolutions and innovations.**



Rectangular ISONE EM



ISONE mechanism



Rectangular ISONE embedded FdP



Multi-section rectangular ISONE EM



Control device



Circular ISONE EM

**For 10 years, Aldes has innovated to market a complete range of high performance ISONE motorised fire, smoke & heat dampers.**

Strong leader on the French market with more than 1 million of ISONE already supplied, Aldes has successfully introduced ISONE motorised fire, smoke & heat dampers in the UAE Market.

- Upgradable mechanism
- Easy installation
- Fire resistance during 2h with no smoke leakage and no heat transfer
- New version 1500 Pa (for nuclear plants)
- Control device
- Certification NF and EN 1366-2



# Motorised Fire & Smoke Dampers

With thermo-electrical resettable tripping device and spring return actuators



FD 125  
Both sides sleeve

### Compliance

- Constructed in accordance with UL 555 & UL555S.

**CIVIL  
DEFENCE  
APPROVED**

### Advantages

- Fire resistance: 1.5 h.
- No smoke leakage.
- Quick operation.
- UL listed thermo-electrical resettable tripping device

## APPLICATION

- Motorised fire & smoke damper in HVAC system used at locations that are designated as both fire barrier and smoke barrier.
- Prevents the spread of fire and smoke inside residential, commercial and industrial buildings.

## DESCRIPTION

- Normally open but close through signal from BMS or fire panel or automatically upon detection of heat.
- Protects the integrity of a fire barrier.
- Maintains the fire resistance rating where penetrated by HVAC ductwork.
- Allows smoke extraction if required by the smoke management system.

## CONSTRUCTION

- Casing manufactured from 16 ga. galvanized sheet.
- Single skin 3V groove blades manufactured from 16 ga. galvanized steel. Blades are parallel.
- Stainless steel side seal. Silicon rubber blade tip seal.
- Standard external linkages.
- Standard brass bushes. Bronze bushes available upon request.
- UL listed thermo-electrical resettable tripping device, which operates at 74°C (165°F).
- Spring return actuator, 24V/230V available as requested.
- Minimum size: 150 x 150 mm.
- Maximum size: overall 914 x 914 mm as single section. Larger sizes can be manufactured in multiple sections for assembly on site.

## INSTALLATION

- Vertical / horizontal installation.
- Follow the installation instructions of Aldes ME.

## AVAILABLE OPTIONS

- Sleeve can be factory installed (recommended) or site installed as per thickness as given in NFPA 90A.
- Mild steel angle frame (40 x 40 x 3 mm), code F.

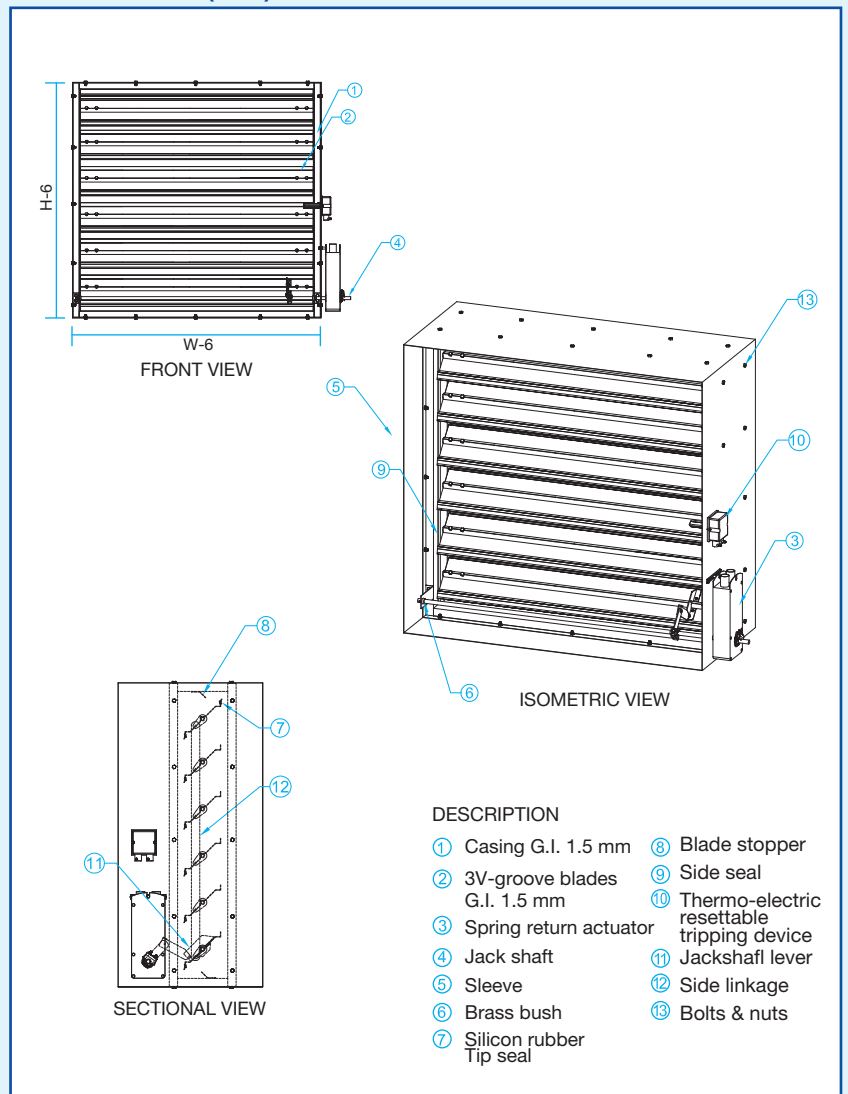
## ACCESSORIES

- Circular, rectangular and oval spigot for mounting: please, see page 44.
- Access doors: please, see page 46.

## RANGE

Type	Description	Code
FD 125	Motorised fire & smoke damper with casing and blades manufactured from GI	
FD 125-1	Motorised fire & smoke damper with casing made from GI and blades from SS (grade 304)	
FD 125-2	Motorised fire & smoke damper with casing and blades manufactured from SS (grade 304)	

## DIMENSIONS (mm)



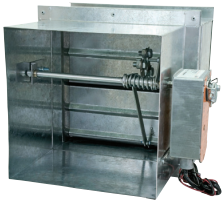
## AVAILABLE SIZES (mm)

W/H	150*	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900
-----	------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

- \* 200 x 200 - factory supplied sleeve will have reducer (with adopted neck)
- Any combination of W x H. For other sizes, please consult us.

# Motorised Fire & Smoke Dampers

With fusible link and spring return actuator



FD 125 A  
Flange & sleeve on opposite sides

## Compliance

- Constructed in accordance with UL 555 & UL 555S.

## Advantages

- Fire resistance: 1.5 h.
- No smoke leakage.
- Quick operation.

**CIVIL  
DEFENCE  
APPROVED**

## APPLICATION

- Motorised fire & smoke damper in HVAC system used at locations that are designated as both fire barrier and smoke barrier.
- Prevents the spread of fire and smoke inside residential, commercial and industrial buildings.

## DESCRIPTION

- Normally open but close through signal from BMS or fire panel or automatically upon detection of heat.
- Protects the integrity of a fire barrier.
- Maintains the fire resistance rating where penetrated by HVAC ductwork.
- Allows smoke extraction if required by the smoke management system.

## CONSTRUCTION

- Casing manufactured from 18 ga. galvanized sheet. Other gauges available upon request.
- Rectangular spigot manufactured from 18 ga. galvanized steel and bolted to the main frame in flange type damper.
- Single skin blades manufactured from 18 ga. galvanized steel. Aerofoil blades available upon request. Blades are parallel.
- Stainless steel side seal. Silicon rubber blade tip seal.
- Standard external linkages.
- Standard brass bushes. Bronze bushes available upon request.
- Standard fusible link, which operates at 74°C (165°F). Thermo-electrical tripping device, available upon request.
- Electrical actuator 24V/230V available as requested.
- Minimum size: 150 x 150 mm.
- Maximum size: 800 x 800 mm as single section. Larger sizes can be manufactured in multiple sections for assembly on site.

## INSTALLATION

- Vertical / horizontal installation.

## AVAILABLE OPTIONS

- Rectangular spigot on non-actuator side of damper.
- Mild steel angle frame (40 x 40 x 3 mm), code F.

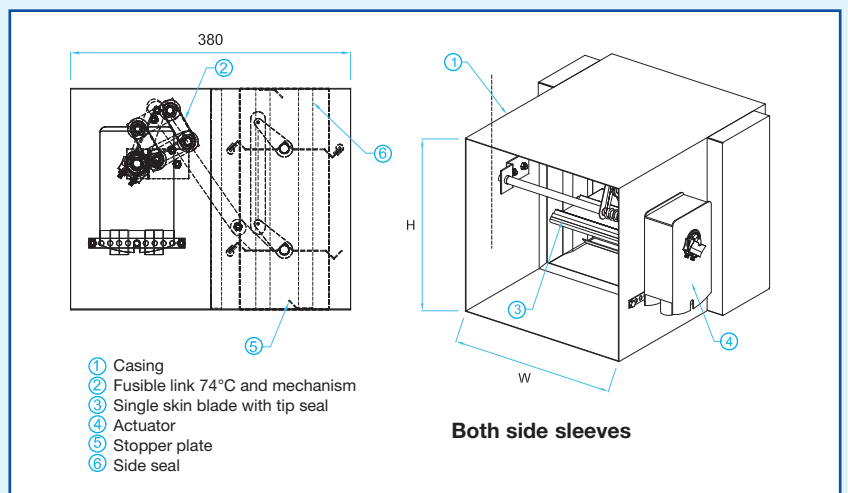
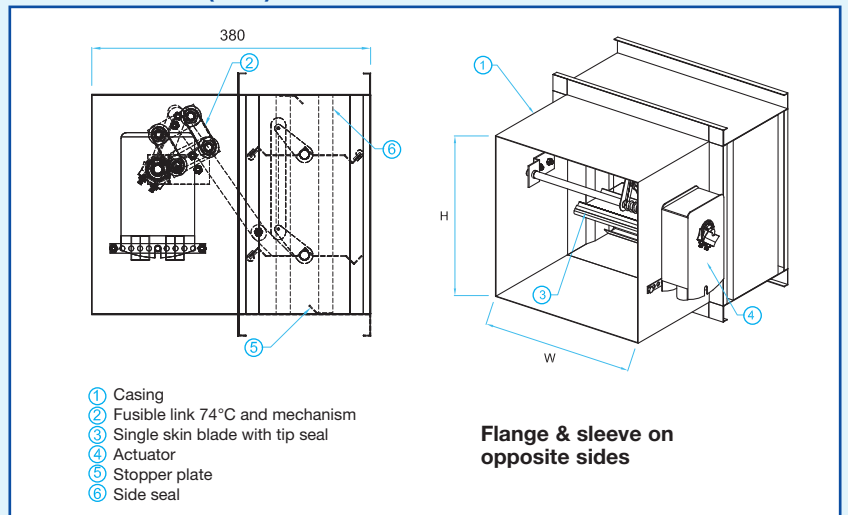
## ACCESSORIES

- Circular, rectangular and oval spigot for mounting: please, see page 44.
- Access doors: please, see page 46.

## RANGE

Type	Description	Code
FD 125 A	Motorised fire & smoke damper and with casing and blades manufactured from GI	
FD 125 A1	Motorised fire & smoke damper and with casing made from GI and blades from SS (grade 304)	
FD 125 A2	Motorised fire & smoke damper (flange & sleeve on opposite sides) and with casing and blades manufactured from SS (grade 304)	

## DIMENSIONS (mm)



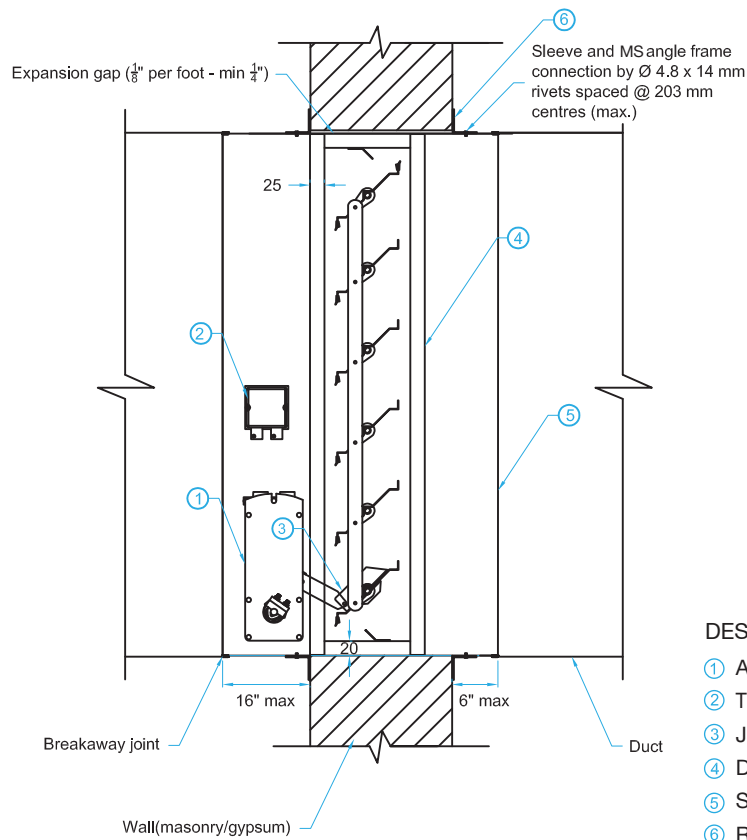
## AVAILABLE SIZES (mm)

W/H	150	200	250	300	350	400	450	500	550	600	650	700	750	800

• Any combination of W x H. For other sizes, please consult us.

# Motorised Fire & Smoke Dampers

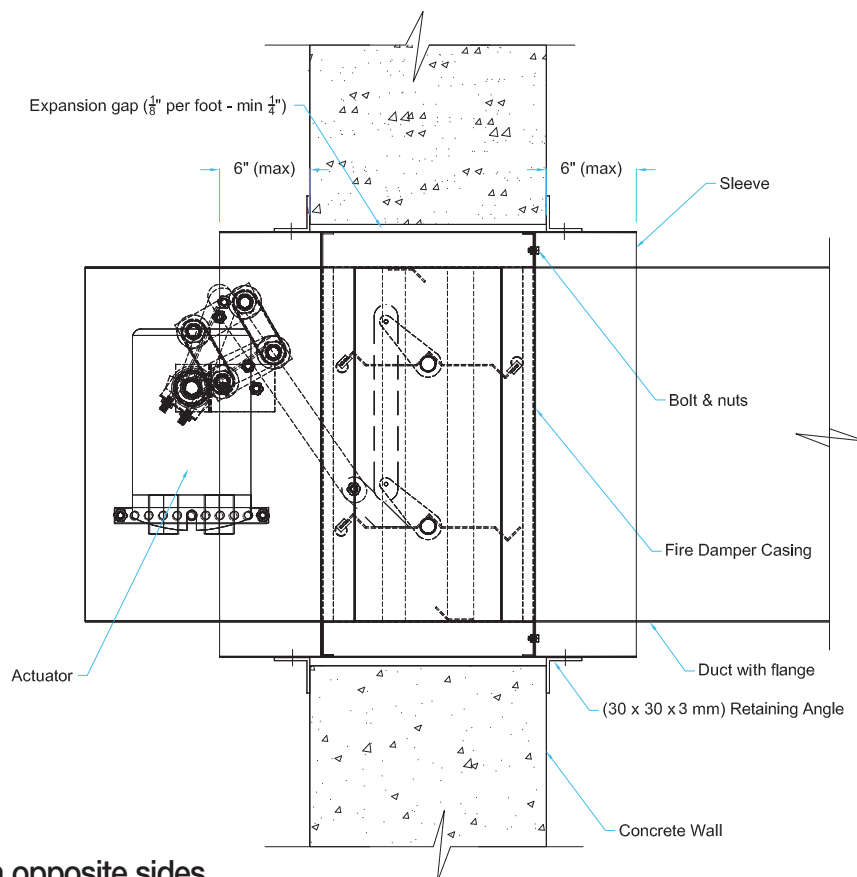
## INSTALLATION



### DESCRIPTION

- ① Actuator
- ② Thermo-electrical resettable tripping device
- ③ Jack shaft operating lever
- ④ Damper
- ⑤ Sleeve
- ⑥ Retaining angle (40 x 40 x 3 mm)

**FD 125**  
Both sides sleeve



**FD 125 A**  
Flange & sleeve on opposite sides

# Curtain Fire Dampers

Curtain fire damper with blades outside air stream and 100% free area



FD 150 CH

**CIVIL DEFENCE APPROVED**

## Compliance

- BS 476 certified.
- Constructed and tested in accordance with British Standard 476 part 20:1987.

## Advantages

- Fire resistance: 2h.
- Suitable for static and dynamic systems.
- 100% free area with no pressure loss.

## APPLICATION

- Curtain fire damper in HVAC system allows the creation of fire compartment to limit the spread of fire inside residential, commercial and industrial buildings.

## DESCRIPTION

- Curtain fire damper normally open but close automatically upon detection of heat.
- Protects the integrity of a fire barrier.
- Maintains the fire resistance rating where penetrated by HVAC ductwork.

## CONSTRUCTION

- Casing made from 1.2 mm galvanized sheet.
- Interlocking blades made from 0.9 mm galvanized sheet.
- Fusible link which operates at 74°C (165°F).
- Stainless steel coil tension closure spring.
- Minimum size: 100 x 100 mm.
- Maximum size: overall 1300 x 1400 mm as multiple section. For other sizes, please consult us.

## INSTALLATION

- Vertical installation.

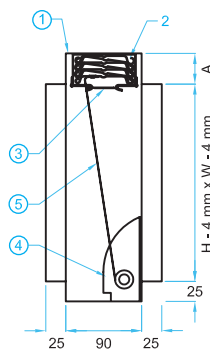
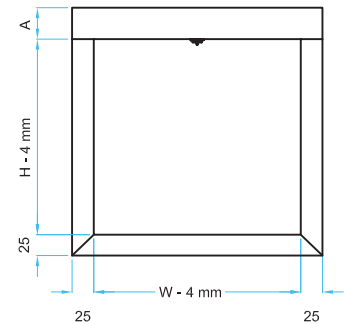
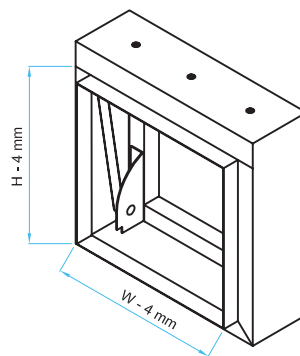
## AVAILABLE OPTIONS

- Sleeve can be factory installed (recommended) or site installed as per thickness given in NFPA 90A.
- Mild steel angle frames (40 x 40 x 3 mm), code F.

## RANGE

Type	Description	Code
FD 150 CH	CH curtain fire damper (BS 476 Certified) with casing and blades manufactured from GI	

## DIMENSIONS (mm)



Vertical mounting

## DESCRIPTION

- ① Casing G.I. 1.2 mm thick
- ② Interlocked galvanized Steel blades (0.8 mm thick)
- ③ Fusible link (165° F)
- ④ Blade ramp
- ⑤ Stainless steel closure spring

## AVAILABLE SIZES (mm)

W/H	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900
A	50	50	65	75	75	90	90	100	100	115	115	125	125	140	140	155	155

- Any combination of W x H. For other sizes, please consult us.



# Curtain Fire Dampers

Blades outside airstream and 100% free area



FD 150 CH

**CIVIL DEFENCE APPROVED**

**Compliance**

- UL 555 classified.
- Constructed and tested in accordance with UL 555.

**Advantages**

- Fire resistance: 1.5h.
- Suitable for static and dynamic systems.
- 100% free area with no pressure loss.

## APPLICATION

- Curtain fire damper in HVAC system allows the creation of fire compartment to limit the spread of fire inside residential, commercial and industrial buildings.

## DESCRIPTION

- Curtain fire damper normally open but close automatically upon detection of heat.
- Protects the integrity of a fire barrier.
- Maintains the fire resistance rating where penetrated by HVAC ductwork.

## CONSTRUCTION

- Casing made from 18 ga. galvanized sheet.
- Interlocking type blades made from 20 ga. galvanized steel.
- Standard fusible link which operates at 74°C (165°F).
- Stainless steel coil tension closure spring.
- Mild steel angle frame (40 x 40 x 3 mm), code F.
- Minimum size: 152 x 152 mm.
- Maximum size: overall 914 x 914 mm as single section.

## INSTALLATION

- Vertical installation.

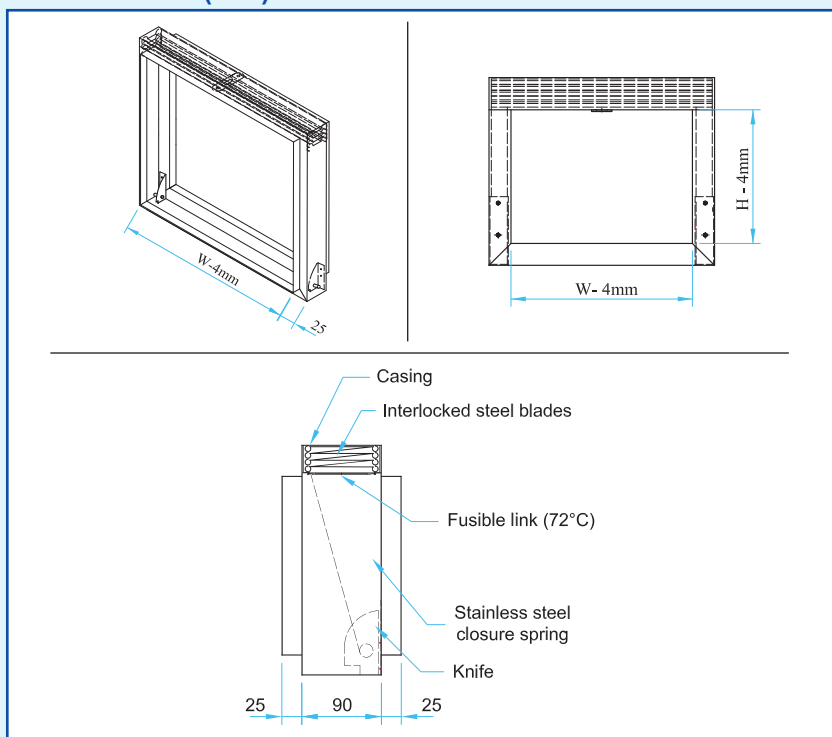
## AVAILABLE OPTIONS

- Sleeve can be factory installed (recommended) or site installed as per thickness as given in NFPA 90A.

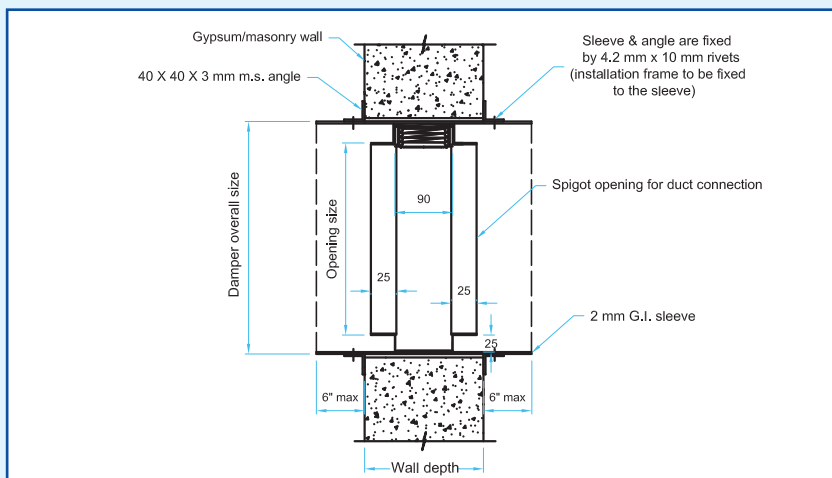
## RANGE

Type	Description	Code
FD 150 CH	CH curtain fire damper (UL 555 Classified) with casing and blades manufactured from GI	

## DIMENSIONS (mm)



## INSTALLATION DETAILS



## AVAILABLE SIZES (mm)

W/H	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900
A	50	65	75	75	90	90	100	100	115	115	125	125	140	140	155	155

• Any combination of W x H. For other sizes, please consult us.

# Curtain Fire Dampers

Blades outside airstream and 100% free area



FD 150 CH  
Standard

**CIVIL DEFENCE APPROVED**

**Compliance**  
 • Constructed in accordance with British Standard 476 part 20:1987 and UL 555.

**Advantages**

- Fire resistance: 2h.
- Suitable for static and dynamic systems.
- 100% free area with no pressure loss.
- Maintenance: easy removal of the fusible link.

## APPLICATION

- Curtain fire damper in HVAC system allows the creation of fire compartment to limit the spread of fire inside residential, commercial and industrial buildings.

## DESCRIPTION

- Curtain fire damper normally open but close automatically upon detection of heat.
- Protects the integrity of a fire barrier.
- Maintains the fire resistance rating where penetrated by HVAC ductwork.

## CONSTRUCTION

- Casing made from 18 ga. galvanized sheet. Other gauges available upon request.
- Interlocking type blades made from 22 ga. galvanized steel.
- Fusible link which operates at 74°C (165°F).
- Stainless steel coil tension closure spring.
- Minimum size: 100 x 100 mm.
- Maximum size: overall 914 x 914 mm as single section. Larger sizes can be manufactured in multiple sections for assembly on site.

## INSTALLATION

- Vertical / horizontal installation.

## AVAILABLE OPTIONS

- Sleeve can be factory installed (recommended) or site installed.
- Mild steel angle frame (40 x 40 x 3 mm), code F. HEVAC frame (20ga. galvanized steel).
- Micro switch available upon request, code M
- Visual indicator available upon request (not available along with MS angle frame but with HEVAC frame).

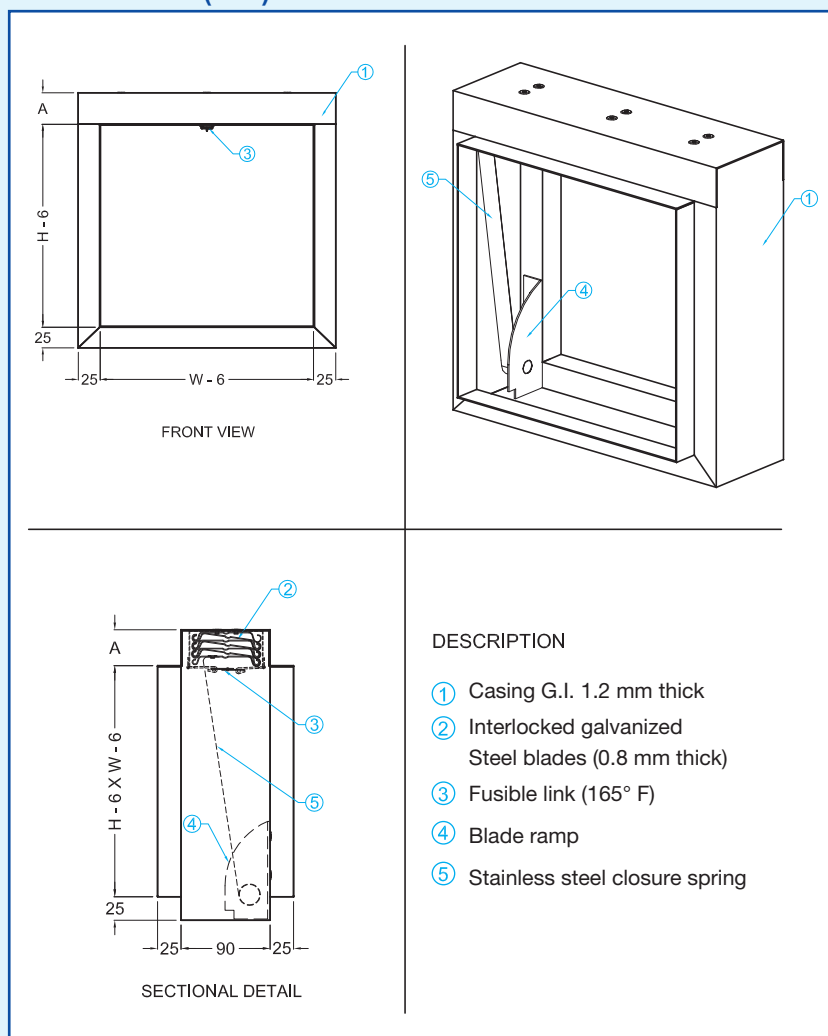
## ACCESSORIES

- Circular, rectangular and oval spigot for mounting: please, see page 44.
- Access doors: please, see page 46.

## RANGE

Type	Description	Code
FD 150 CH	CH curtain fire damper with casing and blades manufactured from GI	
FD 151 CH	CH curtain fire damper with casing made from GI and blades from SS (grade 304)	
FD 152 CH	CH curtain fire damper with casing and blades manufactured from SS (grade 304)	

## DIMENSIONS (mm)



## AVAILABLE SIZES (mm)

W/H	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900
A	50	50	65	75	75	90	90	100	100	115	115	125	125	140	140	155	155

• Any combination of W x H. For other sizes, please consult us.

# Curtain Fire Dampers

## Blades partially inside airstream



FD 150 AH  
Standard

**CIVIL DEFENCE APPROVED**

**Compliance**  
 • Constructed in accordance with British Standard 476 part 20:1987 and UL 555.

**Advantages**

- Fire resistance: 1.5h.
- Suitable for static and dynamic systems.
- Low pressure loss for installation on neck of damper.
- Maintenance: easy removal of the fusible link.

### APPLICATION

• Curtain fire damper in HVAC system allows the creation of fire compartment to limit the spread of fire inside residential, commercial and industrial buildings.

### DESCRIPTION

- Curtain fire damper are normally open but close automatically upon detection of heat.
- Protects the integrity of a fire barrier.
- Maintains its fire resistance rating where penetrated by HVAC ductwork.

### CONSTRUCTION

- Casing made from 18 ga. galvanized sheet. Other gauges available upon request.
- Interlocking type blades made from 22 ga. galvanized steel.
- Fusible link which operates at 74°C (165°F).
- Stainless steel coil tension closure spring.
- Minimum size: 100 x 100 mm.
- Maximum size: overall 914 x 914 mm as single section. Larger sizes can be manufactured in multiple sections for assembly on site.

### INSTALLATION

- Vertical / horizontal installation.

### AVAILABLE OPTIONS

- Sleeve can be factory installed (recommended) or site installed.
- NOTE: for insert type installation, factory installed short sleeve is mandatory.
- Mild steel angle frame (40 x 40 x 3 mm), code F.
- HEVAC frame (20 ga. galvanized steel), available upon request.
- Micro switch available upon request.
- Visual indicator available upon request (not available along with MS angle frame or HEVAC frame).

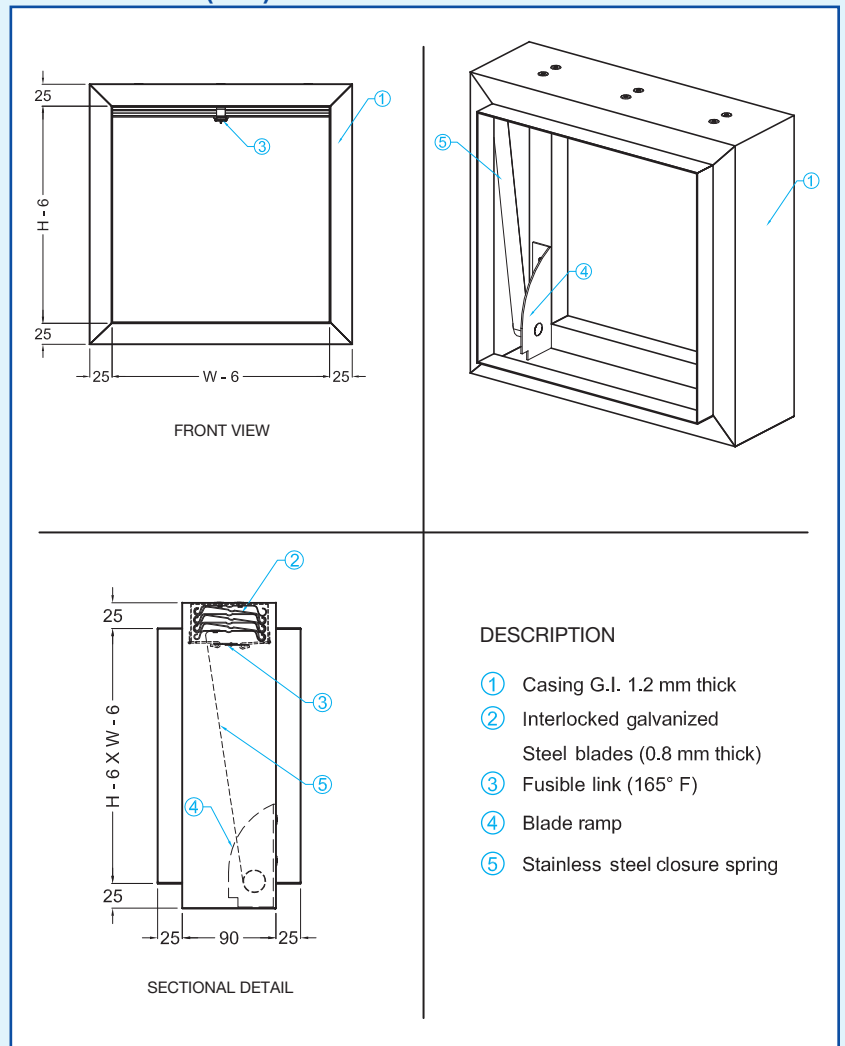
### ACCESSORIES

- Circular, rectangular and oval spigot for mounting: please, see page 44.
- Access doors: please, see page 46.

### RANGE

Type	Description	Code
FD 150 AH	AH curtain fire damper with casing and blades manufactured from GI	
FD 151 AH	AH curtain fire damper with casing made from GI and blades from SS (grade 304)	
FD 152 AH	AH curtain fire damper with casing and blades manufactured from SS (grade 304)	

### DIMENSIONS (mm)



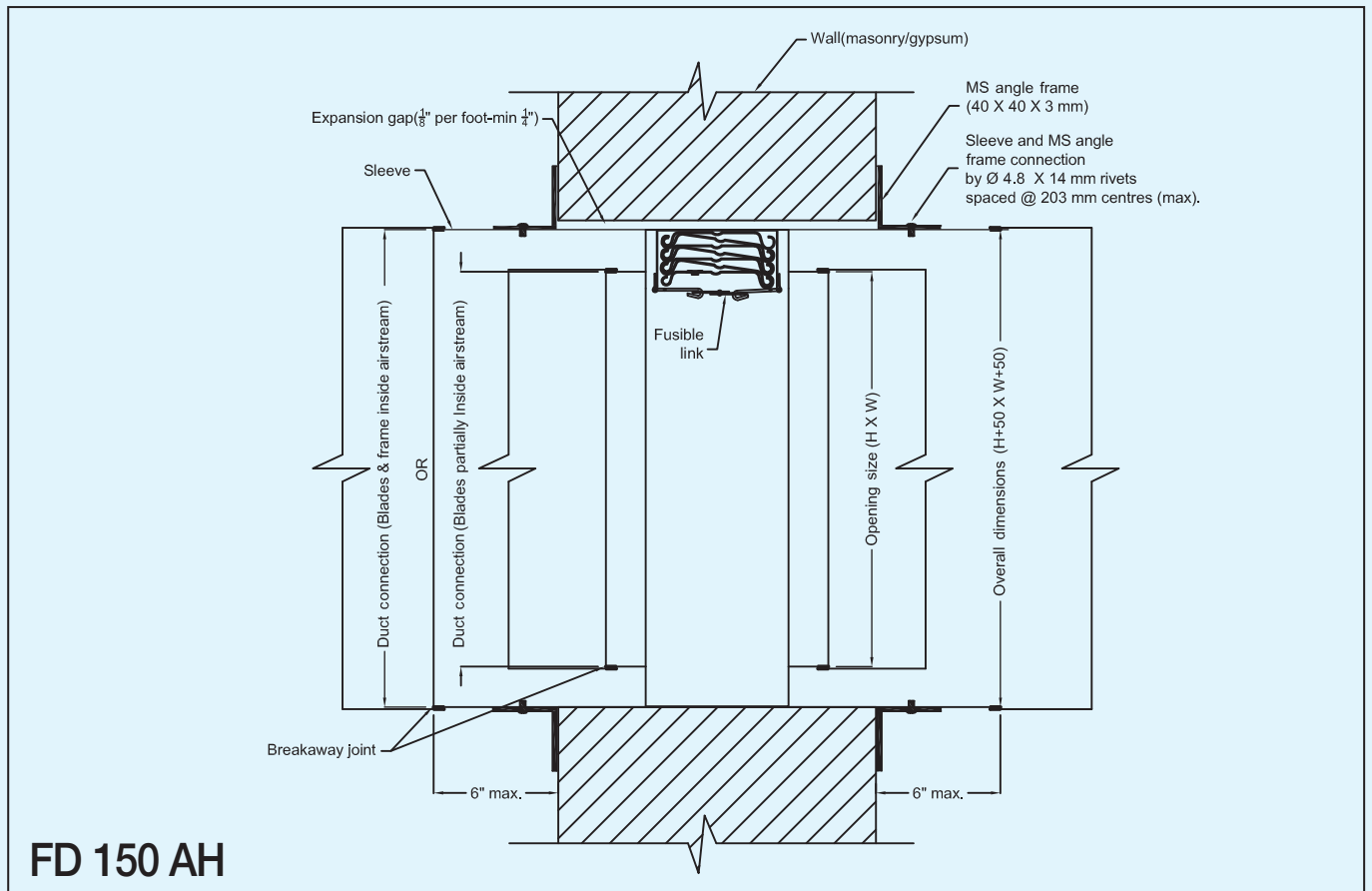
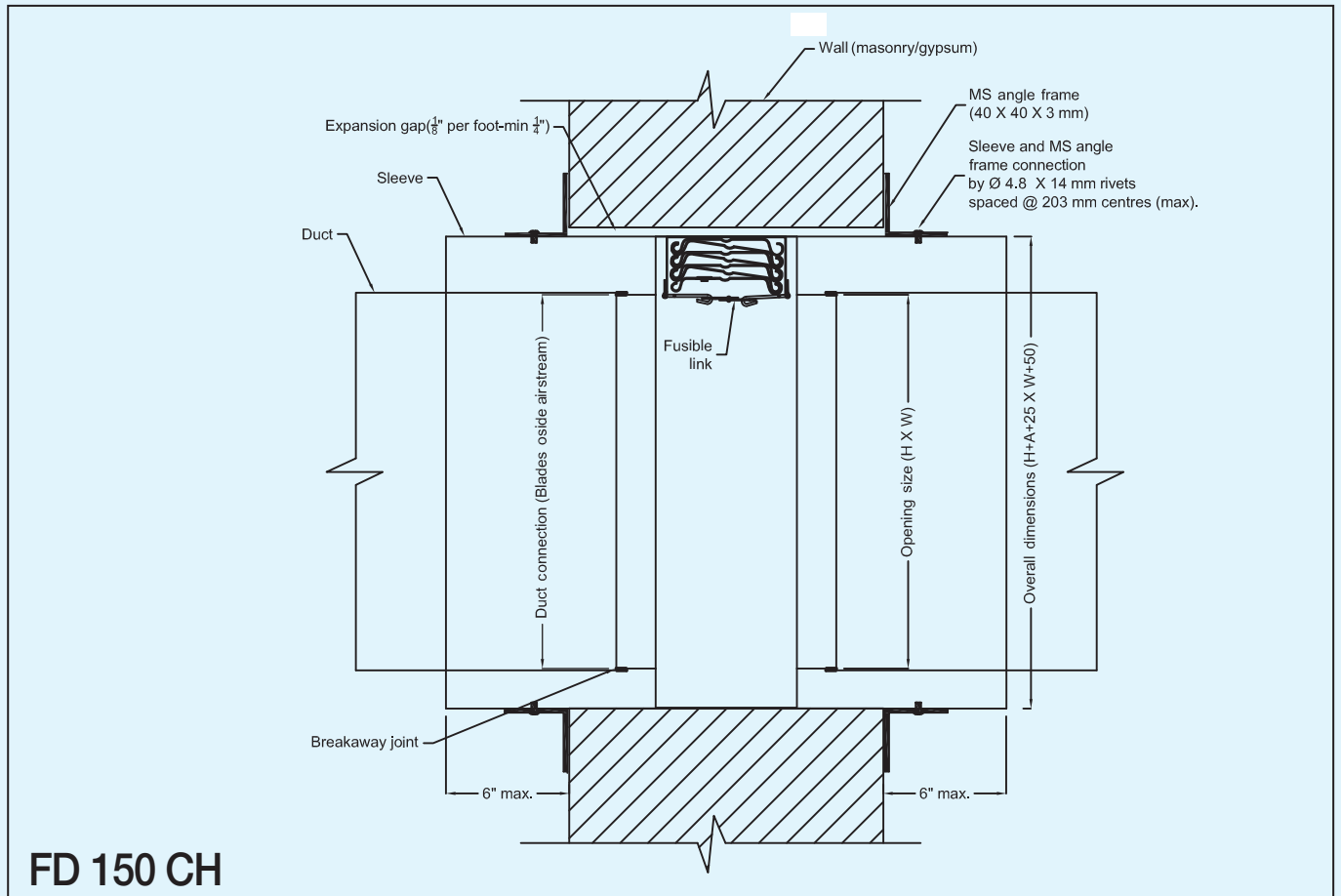
### AVAILABLE SIZES (mm)

Opening size W/H	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900
Overall size W+50 / H+50	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950

• Any combination of W x H. For other sizes, please consult us.

# Curtain Fire Dampers

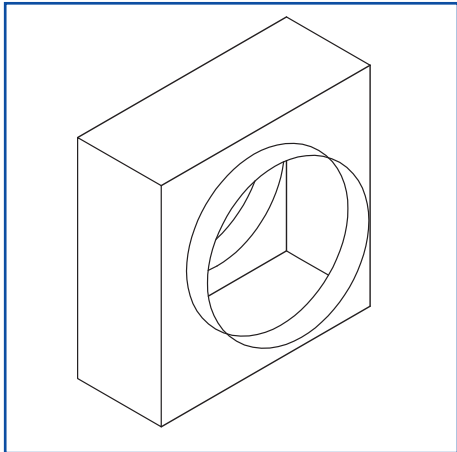
## Installation



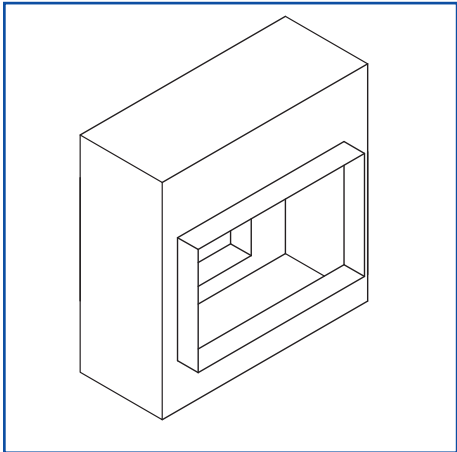


# Curtain Fire Dampers

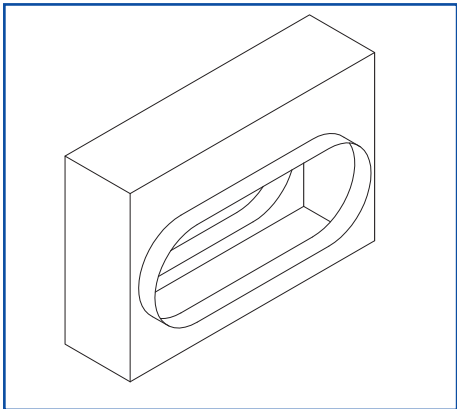
## Mounting Options



Circular spigot



Square or rectangular spigot



Oval spigot

- Available upon request.
- For proper selection of mounting option, please consult us.

# Curtain Fire Dampers

## Mild steel angle installation frame

### INSTALLATION

- The damper should be installed centrally within the surrounding wall or floor thickness with a minimum distance of 50 mm from the nearest face of the wall or floor in which the assembly is mounted.
- The damper should be installed in a rectangular galvanized steel sleeve with a minimum thickness of 1 mm.
- The sleeve should be attached to the damper by means of rivets at maximum of 300 mm centers.
- The sleeve should be a suitable length to extend through the wall of floor opening to enable the fitting of the cover angles and ductwork.
- The cover angles should be attached to the sleeve by rivets at a maximum of 300 mm centers and should form a complete frame around the sleeve and cover over the expansion gap required between sleeve and wall or floor opening.
- This should be in the order of 1% of linear measurement ( with soft packing mineral wool).
- The cover angle should be a size to form a cover of 25 mm minimum over the wall, and should be manufactured from minimum size of 30 x 30 x 2.5 mm mild steel angle.

## Installation frame



HEVAC

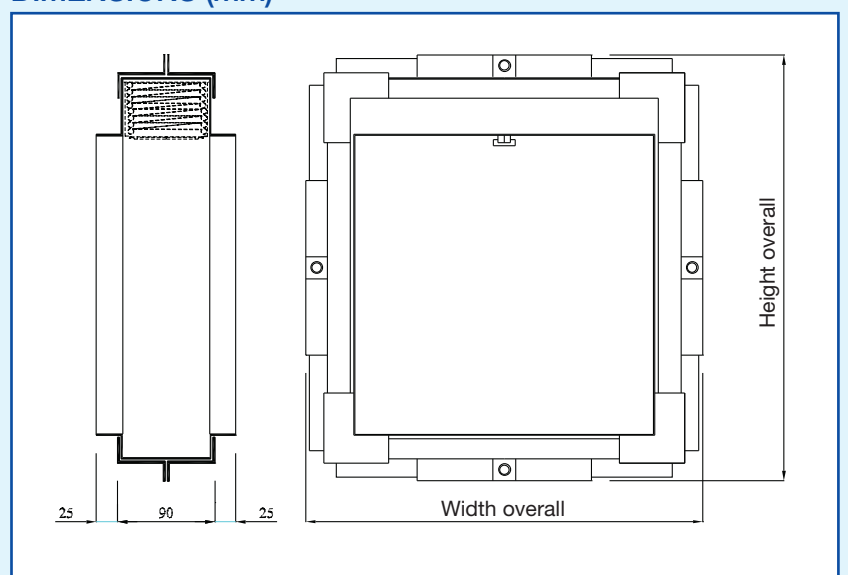
### DESCRIPTION

- The FD 150 CH damper designed to be used with the special HEVAC installation frame as illustrated.
- The installation frame assembled with its respective curtain fire damper and delivered to site as one complete unit.

### INSTALLATION

- Installed centrally within the thickness of the surrounding wall or floor such that the center line of the frame is at a minimum distance of 50 mm from the nearest face of the wall or floor.
- After completing the ductwork installation of the damper, the wall opening should be backfilled over the damper sub-frame building ties, which should be grouted into the surrounding wall or floor using cement mortar to fill all joints completely.

### DIMENSIONS (mm)



# Curtain Fire Dampers

## Accessories - Access doors



SC 675 C  
Double cam lock



SC 675 H  
Hinged

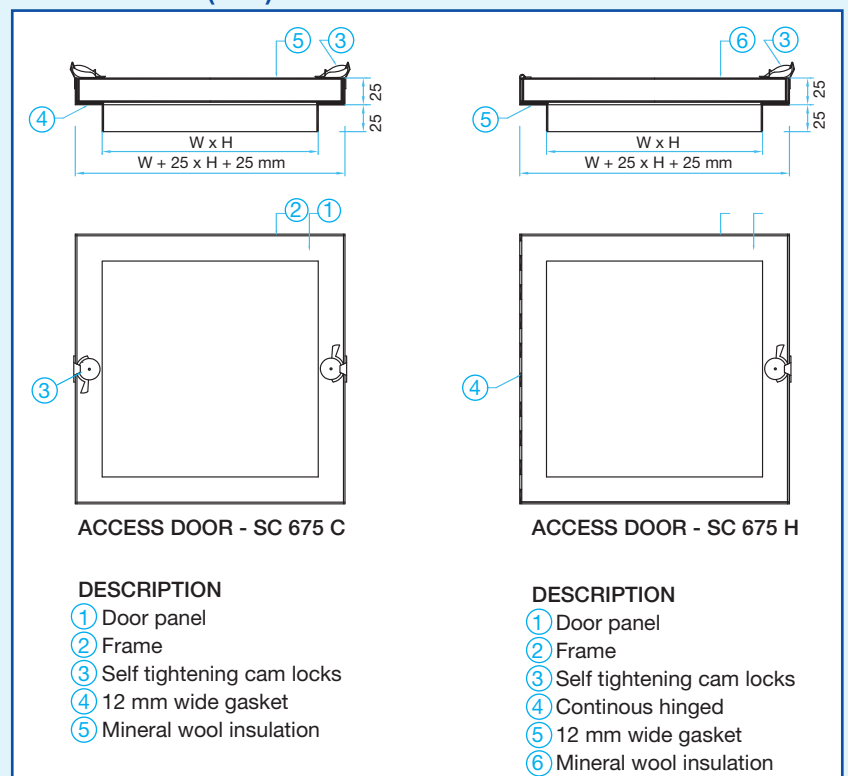
### DESCRIPTION

- Access doors of 25 mm / 50 mm thickness with double skin and filled with mineral insulation of density 24 kg/m<sup>3</sup> designed to provide access to fire damper, volume control damper, filters etc.
- Type SC 675 C: frame made of 1 mm galvanized steel with 2 self tightening camlock up to 350 mm, 4 per unit for larger sizes.
- Type SC 675 H: continuous hinge on one side, and one camlock on opposite side for normal sizes. Handle can be provided on request

### RANGE

Type	Description	Code
SC675 C	Access door - double cam lock	
SC675 H	Access door - hinged	

### DIMENSIONS (mm)






### STANDARD SIZES (mm)




W x H	Hole sizes*
200 x 150	200 x 150
200 x 200	200 x 200
300 x 300	300 x 300
600 x 600	600 x 600


- \* Holes in ductwork must be cut in accordance with sizes given above.  
• Other sizes available on request.

# Selection Guide

## Smoke Extraction

Category	Model	Description	High Temperature	Cabinet fan	Roof fan	Axial fan	Staircase pressurisation fan	Number of speeds	Max Airflow (m <sup>3</sup> /h)
Smoke Exhaust Fans	<b>HELIONE</b> 	<ul style="list-style-type: none"> <li>Staircase pressurisation</li> <li>Smoke extraction</li> <li>Car park ventilation</li> <li>Civil Defence approved</li> </ul>	200° - 2h 400° - 2h		✓	✓	✓	1 or 2	72000
	<b>CYCLONE</b> 	<ul style="list-style-type: none"> <li>Smoke extraction</li> <li>Civil Defence approved</li> <li>Easy access</li> </ul>	400° - 2h	✓	✓			1 or 2	32000
	<b>VELONE</b> 	<ul style="list-style-type: none"> <li>Smoke extraction</li> <li>Civil Defence approved</li> <li>Horizontal or vertical air discharge (kit optional)</li> </ul>	400° - 2h		✓			1 or 2	27000

Category	Model	Description	In accordance with	Integrity fire resistance	No smoke leakage	No heat transfer	Quick operation (motorisation)	Easy maintenance	Energy saving
Motorised Smoke Dampers	<b>VANTONE</b> 	<ul style="list-style-type: none"> <li>Easy installation on vertical riser</li> <li>Numerous test reports from CTICM and GERBAM have validated the installation of smoke exhaust ducts in lightweight materials</li> <li>Mounting frame recommended</li> </ul>	NF	2h	✓	✓	✓✓	✓	✓
	<b>VRFI-DES</b> 	<ul style="list-style-type: none"> <li>Easy installation on horizontal ductwork</li> <li>Blade in refractory material</li> <li>Intumescent real</li> <li>Possible installation with offset mechanism</li> </ul>	NF	2h	✓	✓	✓✓	✓	
	<b>SD 125</b> 	<ul style="list-style-type: none"> <li>Easy installation on vertical and horizontal ductwork</li> <li>Single skin 3V-grooves type blades</li> <li>Silicon rubber tip seal with 225°C working temperature</li> </ul>	UL 555S	1.5h	✓		✓	✓	

Category	Model	Description	Aesthetic	Clip fixing	RAL paint option
Facing Grilles	<b>GFA 007</b> 	<ul style="list-style-type: none"> <li>Aesthetic grille with non see-through vanes</li> <li>Wall mounted installation on the damper</li> </ul>	✓✓	✓	✓



# Staircase Pressurisation Fans

## Presentation of the HELIONE CE range of helicoid air pattern axial fans



Short shell

### Compliance

- F400°(2h) and F200°(2h) classifications.
- Conforms with the CE marking in accordance with Standard EN 12101-3.

### Advantages

- Wide range for car parks, commercial and industrial buildings.
- Numerous accessories to facilitate installation.

### APPLICATION

- With its F200°(2h) and F400°(2h) fire resistance classifications, the new HELIONE range meets the needs for ventilation and smoke exhaust in residential, commercial and industrial buildings where high airflows with low pressures are required.
- HELIONE operates just as well for air exhaust as for fresh air supply in premises where acoustic requirements are not predominant or for occasional.

### DESCRIPTION

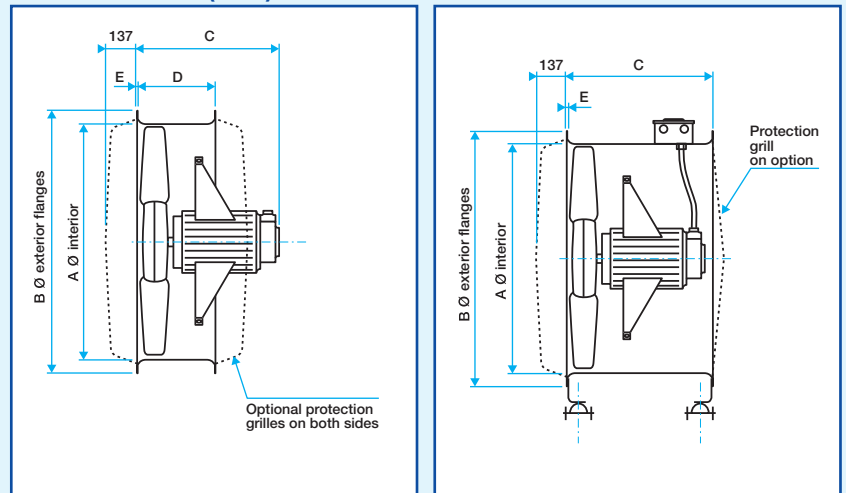
- The standard HELIONE range varies from Ø 500 to Ø 1000 mm for standard airflows of 5000 to 72000 m<sup>3</sup>/h for pressures of 100 to 500 Pa.
- The new HELIONE range can meet the requirements for numerous other cases, like different airflows and pressure levels for example: Please feel free to contact us.
- Propellers comprised of several blades in aluminium, mounted on an aluminium hub. The angle adjustment is determined depending on the operating point.
- Each blade is radiographically X-rayed before assembly in order to check the high quality of the material.
- The shells are formed from tubular metal plate, with integrated folded edges drilled for connections, continuous welded and hot galvanised following fabrication for a longer service life. Standard = short shell, long shell on option.
- The motor's fixing arms are hot galvanised for better corrosion resistance. 4 pole or 4/8 pole boss type motor, IP 55 tropicalised, class F as standard. Operating temperature range -20/ 50°C.

60 Hz motor: please, consult us. All motors are calculated to bear the input power throughout the length of the curve.

### AVAILABLE OPTIONS

- Long shell: comprises a pre-wired external terminal box.

### DIMENSIONS (mm)



Short shell

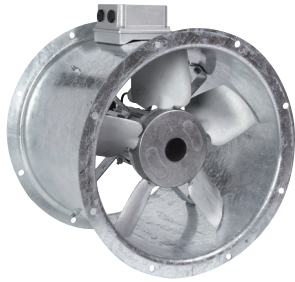
Long shell

Please, consult us to have the detailed technical data sheets for each model.

Short shell				
A	B	C	D	E
560	654	348	225	2,5
630	724	348	225	3
710	804	348	225	3
800	894	459	225	3
900	1006	459	225	3
		445	300	5
		575	300	5
1000	1106	459	225	3
		445	300	5
		575	300	5
Long shell				
A	B	C	D	E
560	654	375	368	2,5
630	724	375	403	3
710	804	375	443	3
800	894	520	488	3
900	1006	520	538	3
		520	575	5
		625	575	5
1000	1106	520	588	3
		520	625	5
		625	625	5

# Staircase Pressurisation Fans

## Presentation of the HELIONE CE range of helicoid air pattern axial fans



Long shell

### Compliance

- F400°(2h) and F200°(2h) classifications.
- Conforms with the CE marking in accordance with Standard EN 12101-3.

### Advantages

- Wide range for car parks, commercial and industrial buildings.
- Numerous accessories to facilitate installation.

## ACCESSORIES

- Protective mesh comes in both motor side and propeller side.
- Flexible sleeve is fitted between the mating flange and the circular duct. Incombustible fabric (M0).
- Mating flange in galvanised steel. It enables HELIONE to be connected to a circular duct. Necessary connection for the flexible sleeve.
- Square plate in galvanised steel to fix HELIONE in a wall mounting configuration.
- Feet supports (x2) in galvanised steel to fix HELIONE to the floor.
- Anti-vibration mountings (x4) are fixed under the feet supports.
- Backdraft damper: circular, with 2 galvanised steel blades.
- Passive circular noise trap/silencer.
- Electrical accessories:
  - proximity switch,
  - pressure switch,
  - emergency stop button.

## TECHNICAL DETAILS

- For technical details, please see page 86

## INSTALLATION

A (MH) OR B (HM) MOUNTING:

Horizontal on the ground and wall mounted against a wall:

- Indispensable options: economic square plate, feet and anti-vibration mountings, mating flange and flexible sleeves or grille if not connected up.

Horizontal on the ground between two ducts:

- Indispensable options: feet and anti-vibration mountings, mating flanges and flexible sleeves on both sides, long shell for motor access through the inspection hatch.

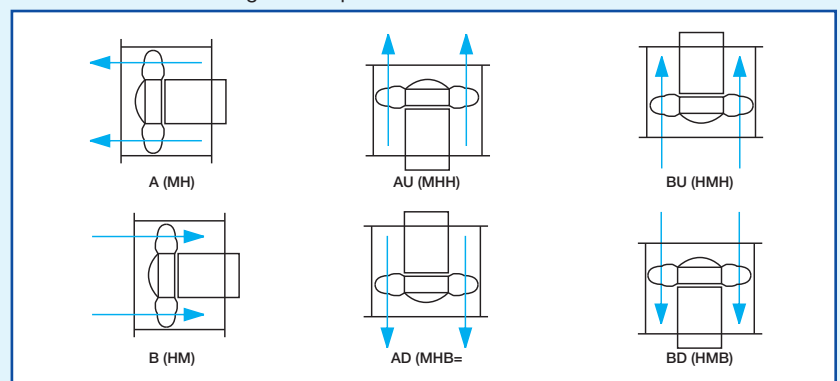
Horizontal fixed by wall mounting against a wall:

- Indispensable options: reinforced square plate for wall mounting, mating flange and flexible sleeve or grille if not connected up.

AU (MHH), BU (HMH), AD (MHB), BD (HMB) MOUNTING

Vertical, suspended under a ceiling tile or duct

- The tubular casing must be bolted using all of the holes in its flange.
- Indispensable options: protective grille if access remains possible or if there are any risks of waste being sucked in, if connected from both sides: long shell tubular casing for motor access through the inspection hatch.



# Smoke Exhaust Fans

## Presentation of the CYCLONE F400° cabinet fans range



Standard access panel

### Compliance

- CE smoke exhaust casing in accordance with EN 12101-3.
- Classified F400(2h).
- Extension of the "thermally insulated" classification: complies with § 4.1 of Standard EN 12101-3.

**CIVIL  
DEFENCE  
APPROVED**

### Advantages

- Thermal insulation option: to avoid the CMEV system in attics.
- Variable pulley option for on-site airflow adjustment.
- Choice of access panel side possible depending on the various worksite configurations.
- Easier to access thanks to the handles on the motor cover and access panel.

### APPLICATION

- Smoke exhaust from residential, commercial and industrial buildings.
- CYCLONE F400 is a purely smoke exhaust fan in casing. Avoid using it for any professional kitchen type of application.

### DESCRIPTION

- 8 sizes of casing: for airflows between 1000 and 35000 m<sup>3</sup>/h.
- Casing in galvanised steel.
- Forward curve impeller with aluminium hub.
- Pulley-belt type drive.
- IP 55 Class F motor, fitted on a mounting designed for simple belt tension adjustment.
- 1-speed or 2-speed motor (Independent Windings 4/6 pole and Dahlander coupling 4/8 pole).

### INSTALLATION

- Can be installed either indoors or outdoors:
  - If used inside, the thermal insulation option should be chosen.
  - If used outdoors, a rain hood should be fitted.
- It is recommended that the system be installed on an anti-vibration mounting base.

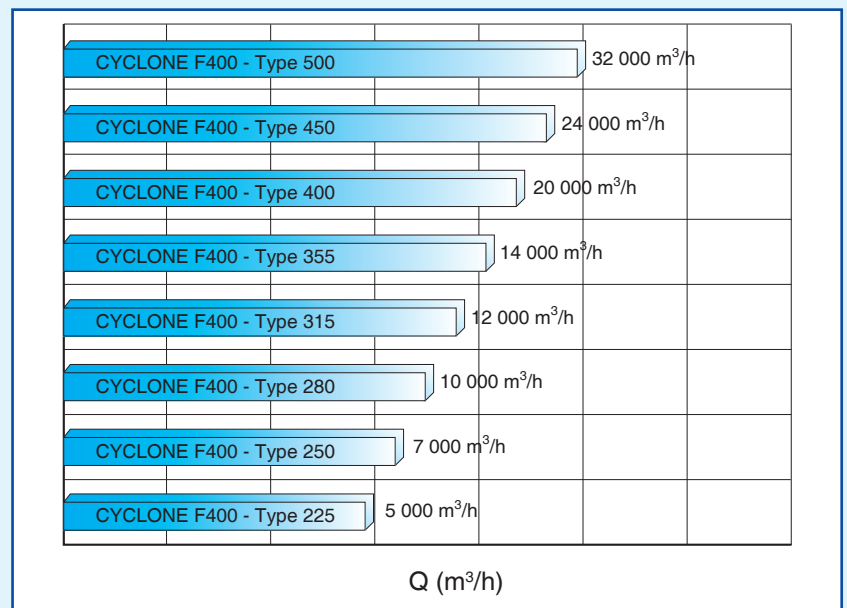
### AVAILABLE OPTIONS

- Thermal casing insulation. This option, with CE validation, allows for avoiding the CMEV system of the room receiving the smoke exhaust fan in casing (attics for example).
- Choice of the position of the exhaust (horizontal or vertical).
- Choice of the position of the transmission access panel.
- Rainproof cover (supplied with the casing but not fitted).
- Adjustable drive pulley (except model 500).
- "All-in-One": pre-wired relay box, protected by a cover (this option includes the disconnecter and pressure switch(es)).
- Fitted and cabled proximity switch.
- Adjustable pressure switch, aerally connected (2 pressure switches for two smoke extraction speeds).

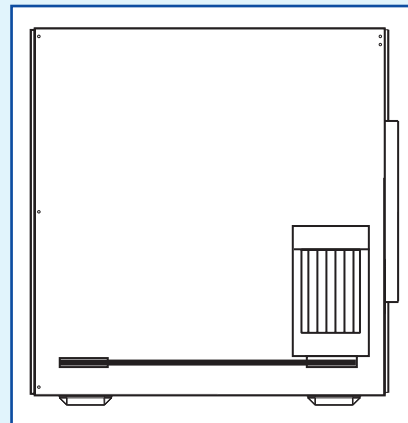
### ACCESSORIES

- Flexible, circular suction sleeve.
- Flexible, rectangular, discharge sleeve.
- Flexible rectangular / circular adapter component - exhaust.
- Anti-vibration mounting.

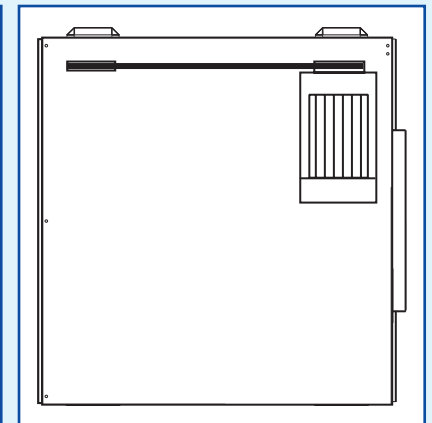
### PRE-SELECTION CYCLONE F400



### SELECTION OF ACCESS PANEL AND TRANSMISSION POSITIONS



Standard access panel face: door and transmission to the left of the suction outlet.



Optional access panel face: door and transmission to the right of the suction outlet.

# Smoke Exhaust Fans

## Presentation of the CYCLONE F400° cabinet fans range



With proximity switch option

**CIVIL DEFENCE APPROVED**

**Compliance**

- "All-in-One" option wired up in compliance with Standard NF-S 61.932.
- Thermal insulation option with CE certificate approval of Cyclone F400, with extension of the "thermally insulated" classification.

**Advantages**

- "Proximity switch" option: easier wiring to save time when fitting.
- "All-in-One" option: relay box, proximity switch and pressure switch(es) pre-wired and fitted to save time on the site.
- "Thermal insulation" option: to avoid the CMEV system in attics.

### AVAILABLE OPTIONS

#### Electrical accessories options

- Proximity switch fitted and cabled, fixed on to a galvanised steel mounting.
- Adjustable pressure switch, aeraulically connected (2 pressure switches for two smoke exhaust speeds). Positioned on the top of the casing, beside the motor cover.
- The "All-in-One" option has been validated during fire resistance tests:
  - The wiring of the relay box is carried out at the factory.
  - The proximity switch is integrated.
  - The aeraulically connected pressure switch(es) is/are positioned on the top of the casing, beside the motor cover.
  - The box is attached to the casing, under a protective cover (rain and UV rays), made of galvanised steel.
  - The front panel of the casing pivots to give easy access to the Axone Micro II relay box.

#### Casing configuration options

- Designed to be hand-fitted, the rain-fittings are supplied inside the casing. To install, fix them to the screws around the casing exhaust.
- Adjustable drive pulley (exc. model 500). Adjustable in 1/4 turn steps over 3 turns. Factory setting: Max. rotational speed.
- Thermal insulation option:
  - The casing is insulated with a layer of rockwool on the inner surface of all four single-skin faces (the double-skinned compartment access faces will not propagate heat).
  - Adapted for interior installations, this casing limits radiant heat from the casing caused by the high temperatures created by smoke.
- Your Aldes contact can help you to avoid the ventilation system in the room receiving the casing (attics for example).

### ACCESSORIES

- Flexible, circular M0 suction sleeve: composed of a flexible sleeve and two fixing collars.
- Flexible, rectangular, exhaust sleeve: composed of a flexible sleeve, four fixing plates and one fixing collar.
- Flexible rectangular/circular adapter component - exhaust. Composed of a flexible sleeve, four fixing plates and one fixing collar.
- Anti-vibration mounting in resilient material - size:
  - L x W x Th = 100 x 100 x 10 (mm).
  - 4 or 6 mountings are supplied - depending on the size of the casing.

### TECHNICAL DETAILS

- For technical details, please see page 126.

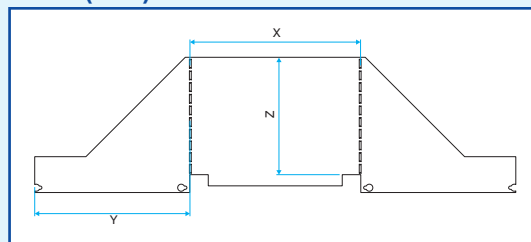
### "ALL-IN-ONE"

AXONE Micro II

- + Proximity switch (IP) pre-wired and fitted.
- + Aeraulically connected pressure switch(es).

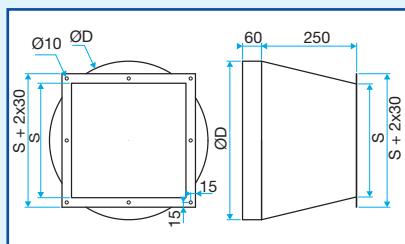


### RAIN HOOD DIMENSIONS (mm)

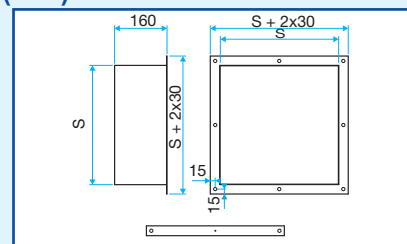


Type	225	250	280	315	355	400	450	500
X	388	422	461	504	553	607	699	738
Y	348	382	421	464	513	567	629	698
Z	247	276	320	356	405	459	521	590

### ACCESSORIES DIMENSIONS (mm)



Transformation part



Flexible sleeve

Type	225	250	280	315	355	400	450	500
Ø D	400	450	500	560	630	710	800	800
S	288	322	361	404	453	507	569	638



# Smoke Exhaust Fans

## Presentation of the VELONE F400° roof fans range - 2h



Without option



With the "All-in-One" option

### Compliance

- Conforms with the CE marking.
- F400°(2h) classification in accordance with Standard EN 12101-3.
- "All-in-One" option, backdraft damper and rain hood kit accessories in compliance with EN 12101-3.

**CIVIL  
DEFENCE  
APPROVED**

### Advantages

- Up to 27000 m<sup>3</sup>/h.
- Electrical accessories wired up at the factory and fixed to the interior for protection against impacts and bad weather.
- Aeraulics connection of the pressure switch made at the factory.
- IP x4 validated rain hood kit.
- Pivot pin: easy cleaning.

### APPLICATION

- Extraction from residential, commercial and industrial buildings.
- Ventilation of commercial premises with a need for fire protection classification (professional kitchens, sports halls, workshops etc.).

### FIRE PROTECTION RATING

- VELONE was awarded the classification F400° (2h). The "All-in-One" option (integrated relay box), backdraft damper and the rain hood kit have all been validated by fire resistance tests.
- CE in accordance with Standard EN 12101-3.

### DESCRIPTION

- 10 sizes of roof fans: for airflow rates of between 500 and 27000 m<sup>3</sup>/h.
- Base and motor mountings in galvanised steel, cover in ABS fixed by 4 quick-motion screws.
- Backward curve impeller in galvanised steel.
- IP 55, Class F electrical motor.
- Protection grille in galvanised steel.

### INSTALLATION

- Outdoors on a flat roof stack (accessory) or directly connected to the duct.

### AVAILABLE OPTIONS

- Adjustable pressure switch fixed to the interior to protect it from impacts and bad weather. **EXCLUSIVE:** The pressure switch is connected/fitted (Note: for use at 2 smoke exhaust speeds, fit 2 pressure switches).
- Proximity switch wired up and fixed to the interior to protect it from impacts and bad weather.
- "All-in-one" option.
- Ideal solution when the relay box is installed less than 2 m from the VELONE roof fan.
- Saves time when wiring up, simplified installation and a guarantee that the product will work on-site.
- The wiring of the relay box is carried out at the factory, in compliance with NF-S-61932
- Always comprises the relay box, pressure switch and proximity switch.
- 1-speed model: the AXONE relay box is fixed to the interior to protect it from impacts and bad weather.
- 2-speed model: the AXONE relay box is fixed to the exterior of the roof fan. Possibility of using the flat roof support.
- In case of use of the vertical exhaust kit, fix the relay box outside the VELONE and outside the airflow.

### ACCESSORIES

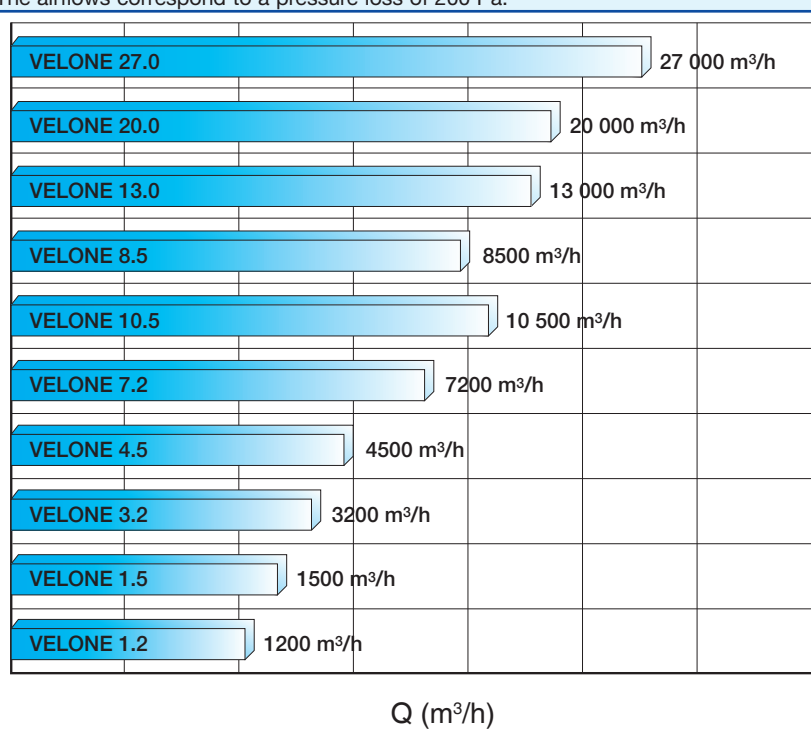
- Rain hood kit, laboratory tested for IP x 4 = sprayed from all directions
- Backdraft damper fire resistance tested.
- Vertical exhaust kit: prohibits with the "All-in-One" solution.
- Grouting frame or duct frame.
- Pivot pin.
- Flat roof stack or sloped roof stack.
- AXONE flat roof support.

### Electrical accessories

- Frequency controller.

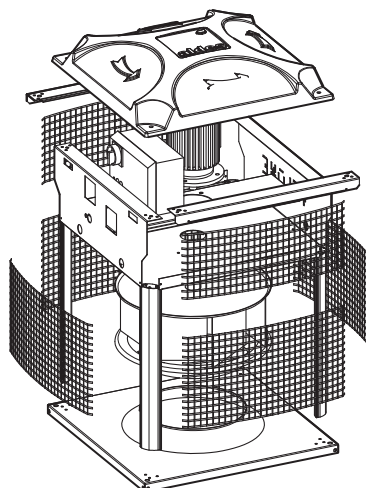
### PRE-SELECTION OF VELONE MODEL

The airflows correspond to a pressure loss of 200 Pa.



### DESIGN

It is possible to integrate the proximity switch, pressure switch(es) and the 1-speed AXONE relay box under the cover.



# Smoke Exhaust Fans

## Presentation of the VELONE F400° roof fans advantages



Without option



With the "All-in-One" option



With the "All-in-One" option - cover removed

### AIRFLOW UP TO 27000 m<sup>3</sup>/h

- Aldes has taken particular care in the design of the VELONE in order to offer you a range of smoke exhaust roof fans that comply with the CE marking up to 27000 m<sup>3</sup>/h, without increasing the dimensions of the base.

### COMPACT SO AS TO PROTECT IT FROM IMPACTS AND BAD WEATHER

- We have preferred to improve the motor mounting by using galvanised steel, rather than plastic, because we believe that for a lengthy service life the electrical accessories such as relay boxes, pressure switches and proximity switches, should be fully protected from impacts and bad weather.
- On the 2-speed model, the AXONE relay box is supplied with a 2 m long cable for fixing outside the roof fan. Possibility of using the flat roof support.

### AIR DUCT CONNECTION OF THE PRESSURE SWITCH

- Being the inventor of the "All-in-One" solution (relay box wired up at the factory), we are now offering an exclusive feature on this new range - the air duct connection of the pressure switch.
- This option minimises man-hour time on-site: drilling holes in the ductwork on-site is a thing of the past!

### RAIN HOOD KIT IPx4 - AN ALDES EXCLUSIVE FEATURE

- A smoke exhaust roof fan, used only for smoke extraction is permanently at rest, ready to start up in case of fire or for testing. A smoke exhaust roof fan at rest, presents a risk of penetration by rain during thunderstorms and violent winds.
- The new VELONE design now allows us to offer you a new accessory called the "rain hood kit". Comprised of 4 parts to be mounted on-site, the rain hood kit passed fire resistance tests and has an IP x4 safety index validated by the CETIAT laboratory.
- This classification corresponds to the usual safety protection index used for electrical equipment: switch, pressure switch, relaying box. The first figure concerns dust protection (because it does not concern a roof fan), the second figure is equivalent to water protection: the 4 guarantees its leaktightness faced with water sprayed at it from all directions with a flow rate of 600 l/h!

### CONFORMING BACKDRAFT DAMPER

- The backdraft damper which enables it to avoid heat losses succeeded in passing the regulatory fire resistance tests.

### EASY REPLACEMENT

- This range of roof fans can replace any VELONE roof fan delivered between 1998 and 2006. In fact, we designed this new range without having to change the dimensions of the base. Moreover, with an equivalent base dimension, the new range can only give better performances in terms of aerualics.

### TECHNICAL DETAILS

- For technical details, please see page 149.

# Smoke Exhaust Fans

## Presentation of the HELIONE CE range of helicoid air pattern axial fans



Short shell

**CIVIL DEFENCE APPROVED**

**Compliance**

- F400°(2h) and F200°(2h) classifications.
- Conforms with the CE marking in accordance with Standard EN 12101-3.

**Advantages**

- Wide range for car parks, commercial and industrial buildings.
- Numerous accessories to facilitate installation.

### APPLICATION

- With its F200°(2h) and F400°(2h) fire resistance classifications, the new HELIONE range meets the needs for ventilation and smoke exhaust in residential, commercial and industrial buildings where high airflows with low pressures are required.
- HELIONE operates just as well for air exhaust as for fresh air supply in premises where acoustic requirements are not predominant or for occasional.

### DESCRIPTION

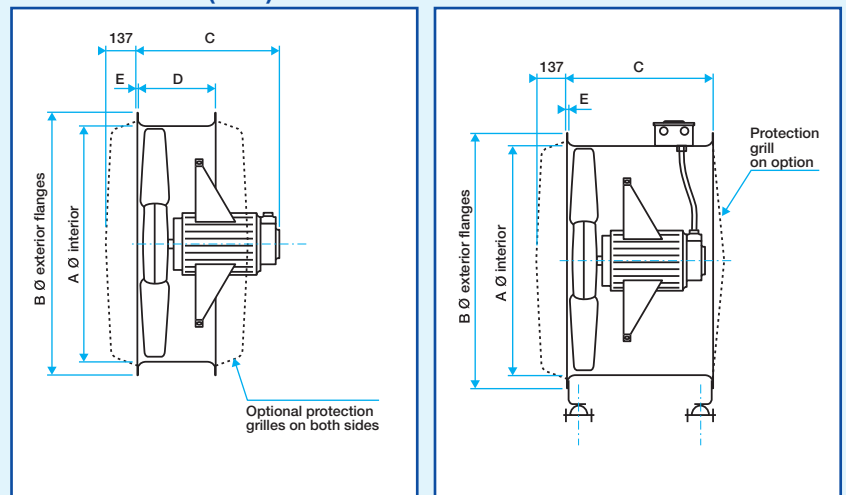
- The standard HELIONE range varies from Ø 500 to Ø 1000 mm for standard airflows of 5000 to 72000 m<sup>3</sup>/h for pressures of 100 to 500 Pa.
- The new HELIONE range can meet the requirements for numerous other cases, like different airflows and pressure levels for example: Please feel free to contact us.
- Propellers comprised of several blades in aluminium, mounted on an aluminium hub. The angle adjustment is determined depending on the operating point.
- Each blade is radiographically X-rayed before assembly in order to check the high quality of the material.
- The shells are formed from tubular metal plate, with integrated folded edges drilled for connections, continuous welded and hot galvanised following fabrication for a longer service life. Standard = short shell, long shell on option.
- The motor's fixing arms are hot galvanised for better corrosion resistance.
- 4 pole or 4/8 pole boss type motor, IP 55 tropicalised, class F as standard. Operating temperature range -20/ 50°C.

60 Hz motor: please consult us. All motors are calculated to bear the input power throughout the length of the curve.

### AVAILABLE OPTIONS

- Long shell: comprises a pre-wired external terminal box.

### DIMENSIONS (mm)



Short shell

Long shell

Please, consult us to have the detailed technical data sheets for each model.

Short shell				
A	B	C	D	E
560	654	348	225	2.5
630	724	348	225	3
710	804	348	225	3
800	894	459	225	3
900	1006	459	225	3
		445	300	5
		575	300	5
1000	1106	459	225	3
		445	300	5
		575	300	5
Long shell				
A	B	C	D	E
560	654	375	368	2.5
630	724	375	403	3
710	804	375	443	3
800	894	520	488	3
900	1006	520	538	3
		520	575	5
		625	575	5
1000	1106	520	588	3
		520	625	5
		625	625	5

# Smoke Exhaust Fans

## Presentation of the HELIONE CE range of helicoid air pattern axial fans



Long shell

**CIVIL  
DEFENCE  
APPROVED**

### Compliance

- F400°(2h) and F200°(2h) classifications.
- Conforms with the CE marking in accordance with Standard EN 12101-3.

### Advantages

- Wide range for car parks, commercial and industrial buildings.
- Numerous accessories to facilitate installation.

## ACCESSORIES

- Protective mesh comes in both motor side and propeller side.
- Flexible sleeve is fitted between the mating flange and the circular duct. Incombustible fabric (M0).
- Mating flange in galvanised steel. It enables HELIONE to be connected to a circular duct. Necessary connection for the flexible sleeve.
- Square plate in galvanised steel to fix HELIONE in a wall mounting configuration.
- Feet supports (x2) in galvanised steel to fix HELIONE to the floor.
- Anti-vibration mountings (x4) are fixed under the feet supports.
- Backdraft damper: circular, with 2 galvanised steel blades.
- Passive circular noise trap/silencer.
- Electrical accessories:
  - proximity switch,
  - pressure switch,
  - emergency stop button.

## TECHNICAL DETAILS

- For technical details, please see page 86.

## INSTALLATION

A (MH) OR B (HM) MOUNTING:

Horizontal on the ground and wall mounted against a wall:

- Indispensable options: economic square plate, feet and anti-vibration mountings, mating flange and flexible sleeves or grille if not connected up.

Horizontal on the ground between two ducts:

- Indispensable options: feet and anti-vibration mountings, mating flanges and flexible sleeves on both sides, long shell for motor access through the inspection hatch.

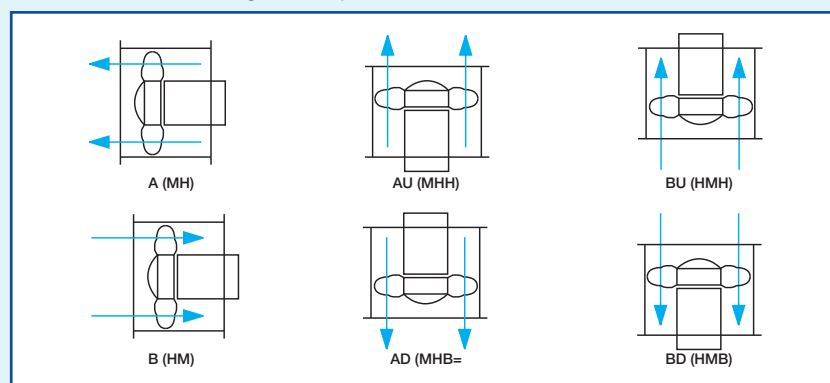
Horizontal fixed by wall mounting against a wall:

- Indispensable options: reinforced square plate for wall mounting, mating flange and flexible sleeve or grille if not connected up.

AU (MHH), BU (HMH), AD (MHB), BD (HMB) MOUNTING:

Vertical, suspended under a ceiling tile or duct:

- The tubular casing must be bolted using all of the holes in its flange.
- Indispensable options: protective grille if access remains possible or if there are any risks of waste being sucked in, If connected from both sides: long shell tubular casing for motor access through the inspection hatch.





# Motorised Smoke & Heat Exhaust Dampers

## Presentation of smoke and heat extraction system



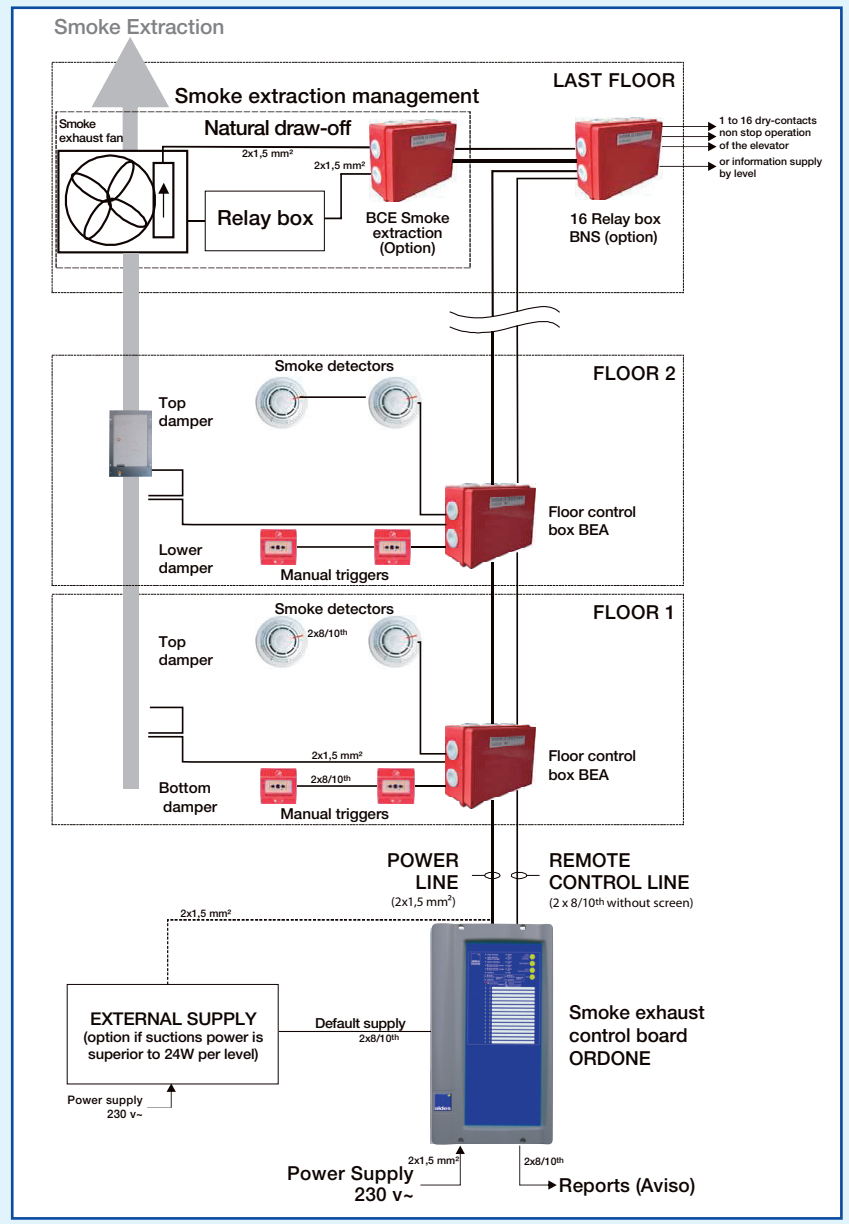
### PRINCIPLE OF SMOKE EXTRACTION

- A smoke extraction installation comprises:
  - Supply ducts for fresh air and exhaust ducts for smoke extraction.
  - Smoke exhaust dampers, closed in standby position, fitter to these ducts (VB for air supply and VH for smoke exhaust) and open on the storey(s) effected by the fire to permit smoke to be discharged outside.
  - Automatic smoke detectors and manual triggers - relaying information to a smoke extraction board.
  - A smoke exhaust fan if mechanical extraction is required.

### OPERATING PRINCIPLE: FROM THE DETECTOR TO THE SMOKE EXHAUST DAMPER

- Under normal operating conditions, each floor control box monitors the state of the manual tripping grilles and the loop of smoke detectors. This status is transmitted to the control board by the remote control line.
- In the event an alarm is detected, the floor control box transmits the information to the control board which handles the audible and visual signalling and authorises the floor control box (BEA) to control the electromagnetic air vent for the dampers of the floor where there is a fire.
- Each Floor Control Box (BEA) can handle the following power levels:
  - 10 detectors (max.),
  - 10 triggers (max.),
  - 3 x 3.5 W (max.) dampers.
 If there are more than 3 dampers for 1 BEA, provide for an additional power supply.
- The Connector Modules (MDR): linking the smoke exhaust dampers to the Floor Control Boxes are used to eliminate the risk of a reversal of the polarity when fitting the diodes. These modules are pre-wired with their diode incorporated. The black MDRs are intermediate modules, the red 'end-of-line' MDRs are designed for the last damper on each floor.

### FUNCTIONAL DIAGRAM OF SMOKE EXTRACTION



# Motorised Smoke & Heat Exhaust Dampers

## Presentation of the VANTONE range



VANTONE 2 leaves



Removable terminal block

**Compliance**

- Certified
- Approved installation:
  - vertical smoke exhaust ducts,
  - with or without mounting frames,
  - in wall-mounted and offset duct applications.

**Advantages**

- No smoke leakage, no heat transfer.
- Refractory blade.

### APPLICATION

- Mechanical or natural smoke exhaust installations (public assembly buildings, high-rise, multi-family housing).
- VANTONE can be used for both air supply as well as for smoke exhaust.
- Principle: VANTONE opens by command control from the fire safety central control unit, in order to create air swirl effect to evacuate the fumes and smoke.

### DESCRIPTION

- Normally closed gate type damper, fire resistant, 1 or 2 leaves systems.
- Made up of a metal frame an airtight mechanism box, and a casement air inlet in refractory materials.
- Access to the electrical equipment is made via the access box cover (2 screws).
- Electrical equipment wired up to a withdrawable terminal block.

#### Fire resistance with grille

- 2h flame resistance rating mainly for a supply air application.
- 1h or 2h fire resistance rating for evacuation of fumes and smoke.

#### Mechanism

- Tripping by self-reset electromagnetic lock (24 or 48 VDC, power emission or cut-off trip mode).
- System locking the door in its safe position (to be lifted manually before re-closing the leaf).

### INSTALLATION

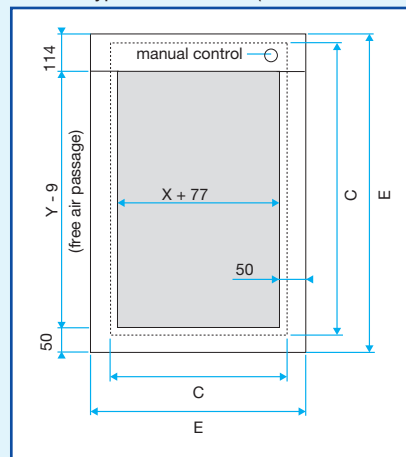
- Wall-mounted on 110 mm concrete wall fire dampers or lightweight partition smoke exhaust ducts. To be fixed or grouted depending on the types of ducts.
- The mounting frame, described in the test reports, is an accessory that can play an important role during fire resistance tests. Its use is recommended or even imposed to ensure the damper is correctly installed.
- Apply an Aldes self-adhesive intumescent seal to the mounting frame when the degree of fire resistance is higher than 1h30 or in cases where the partition wall is not rated M0 or M1 (incombustible or non-flammable).

### INSTALLATION OF THE DUCTS ON LIGHTWEIGHT MATERIALS

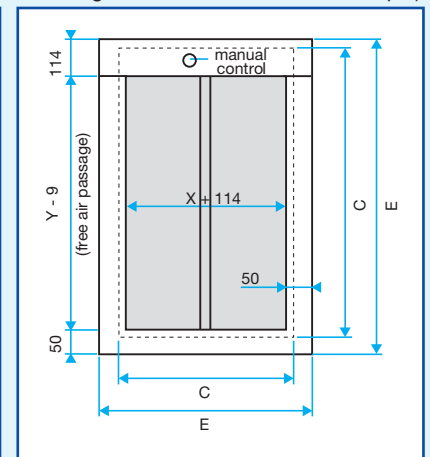
- VANTONE dampers are the subject of a test report validating their installation:
  - on PROMAT sand-lime walls with 1h, 1.5h and 2h fire protection (extension for a side-by-side assembly),
  - plasterboard walls with 2h fire protection rating,
  - staff 2h fire protection rating walls,
  - vermiculite (Mica) 2h fire protection rating walls,
  - on Pregyfeu M0 BD25,
  - 2h fire rating walls,
  - with or without mounting frames.
- For more information; please see page 58.

### DIMENSIONS (mm) - OPENING (mm)

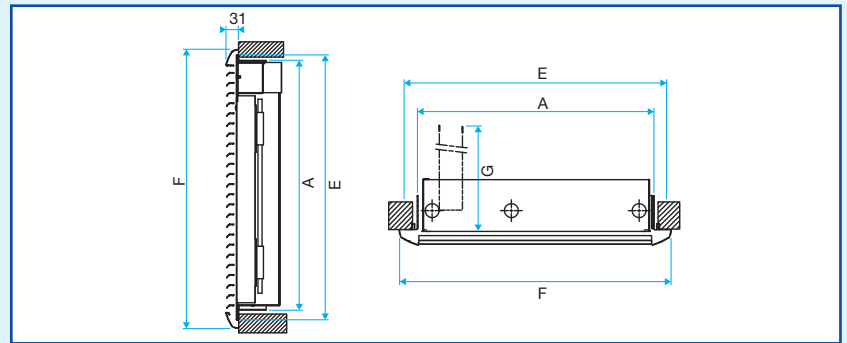
- Dimensions necessary for the installation of VANTONE smoke exhaust dampers depending on the type of installation (embedded or fixed mounting frame, embedded or fixed damper).



VANTONE 1 leaf



VANTONE 2 leaves



VANTONE DIMENSIONS		VANTONE 1 leaf		VANTONE 2 leaves	
		Width	Height	Width	Height
A	Except the frame of the fitting frame (part fitted into the duct)	$X + 130$	$Y + 120$	$X + 167$	$Y + 120$
B	Mounting frame opening (with 10 mm of grouting)	$X + 150$	$Y + 140$	$X + 187$	$Y + 140$
C	Except the VANTONE framework (part fitted into the duct)	$X + 111$	$Y + 102$	$X + 148$	$Y + 102$
D	Opening without the fitting frame (with 10 mm of grouting)	$X + 131$	$Y + 122$	$X + 168$	$Y + 122$
E	Vantone overall	$X + 177$	$Y + 155$	$X + 214$	$Y + 155$

VANTONE fire resistant		CF1/1 V	CF2/1 V	CF1/2 V	CF2/2 V
G	Depth with damper open	$X + 150$	$X + 170$	$X/2 + 150$	$X/2 + 170$
VANTONE flame resistant		PF2/1V (flame resistant 1 leaf)		PF2/2V (flame resistant 2 leaves)	
G	Depth with damper open	$X + 130$		$X/2 + 130$	

# Motorised Smoke & Heat Exhaust Dampers

## Presentation of the VANTONE range of smoke exhaust dampers



VANTONE



GFA 007 with removable core

### Advantages

#### EXCLUSIVE TO ALDES:

- Tripping and signalling equipment placed in an easy access box:
  - air passage completely free,
  - vandal proof,
  - easy cable inlets and outlets.
- Optimised Installation:
  - no drilling requirement on the damper or mounting frame,
  - unpluggable connector terminal block,
  - mounting frame quality.
- Customised and computerised labelling of the mounting frame, the damper and the grille.

### RANGE

- VANTONE fire resistant 2h, 1 leaf: please, see page 59.
- VANTONE fire resistant 2h, 2 leaves: please, see page 60.
- Range with a choice of options .
- Choice of mechanism positioning (top and bottom) and leaf opening direction (left or right).

### AVAILABLE OPTIONS

- VDS 24 or 48 VDC: power emission tripping device.
- VM 24 or 48 VDC: power cut-off tripping device.
- FCU, DCU: single-pole open / closed position contact.
- FCB, DCB: bipolar open / closed position contact.
- STOP'AIR: cold fitted airtight seal.
- Choice of the position of the mechanism (top or bottom).
- ¼ turn screw for fixing the GFA Alu grille.
- Labelling: personalised labelling possible (name of site, floor, etc.)

### NEW VANTONE MOUNTING FRAME

This mounting frame is a high performance product to obtain a solid installation in all cases:

- Adapted to installation of lightweight material of the type Promatect ; Supalux plasterboards, Pregyfeu M0 BD25, plasterboards + Stucal, plasterboards + Pregyfeu, staff, Isofire, Tecriver.
- Provided with grouting lugs and fixing holes into which the damper is screwed on (screws supplied).
- Now reversible, the installation direction no longer depends on the position of the damper mechanism (top or bottom).
- Drilled through the top and bottom to facilitate the passage of the electrical cables.
- Depth of 70 mm for good mechanical strength.
- Labelling: personalised labelling possible (name of site, floor, etc.).

### AESTHETIC GRILLES IN ALUMINIUM

- GFA 007 with removable core locked by the 007 clip. For more technical details, please see page 64.

### RECOMMENDATIONS

- French Standard NF-S 61.932 imposes position contacts whenever the damper is installed on a collective duct.
- French Standard NF-S 61.932 stipulates the regulatory requirements on remote control and command control lines.
- French Standard NF-S 61.933 imposes periodic operating controls on smoke exhaust dampers.

### FREE AIR PASSAGES (dm<sup>2</sup>) in compliance with IT246.

#### VANTONE 1 LEAF

Caution, not all dimensions are available for each model (2h flame resistance, 1h and 2h fire resistance). For more precise details, turn to the following pages.

Y/X	200	250	300	350	400	450	500	550	600	650	700
250	6.7	7.9	9.1	10.3	11.5	12.7	13.9	15.1	16.3	-	-
300	8.1	9.5	11.0	12.4	13.9	15.3	16.8	18.3	19.7	-	-
350	9.5	11.2	12.9	14.6	16.3	18.0	19.7	21.4	23.1	24.8	26.5
400	10.8	12.8	14.7	16.7	18.7	20.6	22.6	24.5	26.5	28.4	30.4
450	12.2	14.4	16.6	18.8	21.0	23.2	25.9	27.7	29.9	32.1	34.3
500	13.6	16.1	18.5	21.0	23.4	25.9	28.5	30.8	33.2	35.7	38.2
550	15.0	17.7	20.4	23.1	25.8	28.5	31.2	33.9	36.6	39.3	42.0
600	-	19.3	22.3	25.2	28.2	31.2	34.1	37.1	40.0	43.0	45.9
650	-	21.0	24.2	27.4	30.6	33.8	37.0	40.2	43.4	46.6	49.8
700	-	-	26.1	29.5	33.0	36.4	39.9	43.3	46.8	50.2	53.7
750	-	-	27.9	31.6	35.4	39.1	42.8	46.5	50.2	53.9	-
800	-	-	-	33.8	37.7	41.7	45.6	49.6	53.6	-	-
850	-	-	-	35.9	40.1	44.3	48.5	52.7	-	-	-
900	-	-	-	-	42.5	47.0	51.4	-	-	-	-

#### VANTONE 2 LEAVES

Caution, not all dimensions are available for each model (2h flame resistance, 1h and 2h fire resistance). For more precise details, turn to the following pages.

Y/X	300	350	400	450	500	550	600	650	700	750	800	850	900
300	10.9	12.3	13.8	15.2	16.7	18.2	19.6	21.1	22.5	24.0	-	-	-
350	12.8	14.5	16.2	17.9	19.6	21.3	23.0	24.7	26.4	28.1	29.8	31.5	33.2
400	14.6	16.6	18.5	20.5	22.4	24.4	26.4	28.3	30.3	32.2	34.2	36.1	38.1
450	16.5	18.7	20.9	23.1	25.3	27.5	29.7	31.9	34.1	36.3	38.5	40.7	43.0
500	18.4	20.8	23.3	25.7	28.2	30.6	33.1	35.5	38.0	40.5	42.9	45.4	47.8
550	20.2	22.9	25.6	28.3	31.1	33.8	36.5	39.2	41.9	44.6	47.3	50.0	52.7
600	22.1	25.1	28.0	31.0	33.9	36.9	39.8	42.8	45.7	48.7	51.7	54.6	57.6
650	24.0	27.2	30.4	33.6	36.8	40.0	43.2	46.4	49.6	52.8	56.0	59.2	62.4
700	25.8	29.3	32.8	36.2	39.7	43.1	46.6	50.0	53.5	56.9	60.4	63.8	67.3
750	27.7	31.4	35.1	38.8	42.5	46.2	49.9	53.6	57.4	61.1	64.8	68.5	-
800	29.6	33.5	37.5	41.4	45.5	49.4	53.3	57.3	61.2	65.2	69.1	-	-
850	-	35.7	39.9	44.1	48.3	52.5	56.7	60.9	65.1	69.3	-	-	-
900	-	37.8	42.2	46.7	51.1	55.6	60.1	64.5	69.0	-	-	-	-

# Motorised Smoke & Heat Exhaust Dampers

## VANTONE CF 2/1V: 2h fire resistance rating, 1 leaf



### APPLICATION

- Evacuation of smoke and fumes (conforms with paragraph 3.7.1 of IT 246).

### EXCLUSIVE FEATURES

- Removable terminal block.
- Electrical devices protected in a box.
- Grille with 007 clip for maintaining the vanes in place when reset the damper.

### AVAILABLE OPTIONS

Description	Code
DCU contact	OPT41136
FCU contact	OPT41135
DCB contact	OPT41162
FCB contact	OPT41161
Stop'air air supply	OPT45407
Stop'air air exhaust	OPT45406



- Reversible: there is no high / low assembly direction.
- Depth 70 mm for correct fixing to the duct.
- Designed for an assembly on all types of material.
- Drilled to allow the passage of electrical cables.
- Pre-drilled to accommodate the damper's fixing screws.
- If a 1.5h fire resistance rating >, place the self-adhesive intumescent seal (code 11045394) on the mounting frame.



### DID YOU KNOW?

- The GFA 007 was designed to combine air passage, aesthetic design and operating facility. Aldes invented the 007 clip to lock the vane core perfectly in place, removable for maintenance, but especially clever enough to reset the damper smoothly, without getting off the stepladder.
- To avoid any degradation to indoor hygiene during smoke extraction tests, Aldes proposes the use of a G3 filter adapted to the dimension, positioned between the damper and the vane core.

### RANGE with choice of options (opening from the left)

Y	11044225 (upper mechanism) -11044227 (bottom mechanism) Width X								
	250	300	350	400	450	500	550	600	650
250	•	•	•	•	•	•	•	•	•
300	•	•	•	•	•	•	•	•	•
350	•	•	•	•	•	•	•	•	•
400	•	•	•	•	•	•	•	•	•
450	•	•	•	•	•	•	•	•	•
500	•	•	•	•	•	•	•	•	•
550	•	•	•	•	•	•	•	•	•
600	•	•	•	•	•	•	•	•	•
650	•	•	•	•	•	•	•	•	•
700	•	•	•	•	•	•	•	•	•
750	•	•	•	•	•	•	•	•	•
800	•	•	•	•	•	•	•	•	•

- The electromagnetic tripping device is included. When ordering, state whether the power "emission" or "cut-off" mode versions are required, in addition to a 24 or 48 V DC supply. Standard NF-S 61.937 imposes the emission mode in multi-family housing ductwork, standard NF-S 61.932 requires FCU and DCU (closed/open) contacts on multi-family housing ductwork. A grille must be fitted to ensure the fire protection rating is respected.

### Mounting frame for VANTONE CF - 1 leaf dampers

Y	11045395 Width X								
	250	300	350	400	450	500	550	600	650
250	•	•	•	•	•	•	•	•	•
300	•	•	•	•	•	•	•	•	•
350	•	•	•	•	•	•	•	•	•
400	•	•	•	•	•	•	•	•	•
450	•	•	•	•	•	•	•	•	•
500	•	•	•	•	•	•	•	•	•
550	•	•	•	•	•	•	•	•	•
600	•	•	•	•	•	•	•	•	•
650	•	•	•	•	•	•	•	•	•
700	•	•	•	•	•	•	•	•	•
750	•	•	•	•	•	•	•	•	•
800	•	•	•	•	•	•	•	•	•

- For a fire protection rating of more than 1.5h, do not forget the self-adhesive intumescent seal (Code 11045394) to be applied the fitting frame.

### New GFA 007 with removable core locked by the 007 clip

Y	11045332 Width X								
	250	300	350	400	450	500	550	600	650
250	•	•	•	•	•	•	•	•	•
300	•	•	•	•	•	•	•	•	•
350	•	•	•	•	•	•	•	•	•
400	•	•	•	•	•	•	•	•	•
450	•	•	•	•	•	•	•	•	•
500	•	•	•	•	•	•	•	•	•
550	•	•	•	•	•	•	•	•	•
600	•	•	•	•	•	•	•	•	•
650	•	•	•	•	•	•	•	•	•
700	•	•	•	•	•	•	•	•	•
750	•	•	•	•	•	•	•	•	•
800	•	•	•	•	•	•	•	•	•

- A high resistance paint may be requested depending on the RAL colour code required (except on the clips).



# Motorised Smoke & Heat Exhaust Dampers

VANTONE CF 2/2V: 2h fire resistance rating, 2 leaves **NF**



## APPLICATION

- Evacuation of smoke and fumes (conforms with paragraph 3.7.1 of IT 246).

## EXCLUSIVE FEATURES

- Removable terminal block.
- Electrical devices protected in a box.
- Grille with 007 clip for maintaining the vanes in place when reset the damper.

## AVAILABLE OPTIONS **R15**

Description	Code
DCU contact	OPT41136
FCU contact	OPT41135
DCB contact	OPT41162
DCB contact	OPT41162
Stop'air air supply	OPT45407
Stop'air air exhaust	OPT45406



- Reversible: there is no high / low assembly direction.
- Depth 70 mm for correct fixing to the duct.
- Designed for an assembly on all types of material.
- Drilled to allow the passage of electrical cables.
- Pre-drilled to accommodate the damper's fixing screws.
- If a 1.5h fire resistance rating >, place the self-adhesive intumescent seal (code 11045394) on the mounting frame.



## DID YOU KNOW?

- The GFA 007 was designed to combine air passage, aesthetic design and operating facility. Aldes invented the 007 clip to lock the vane core perfectly in place, removable for maintenance, but especially clever enough to reset the damper smoothly, without getting off the stepladder.
- To avoid any degradation to indoor hygiene during smoke extraction tests, Aldes proposes the use of a G3 filter adapted to the dimension, positioned between the damper and the vane core.

## RANGE with a choice of options **R15**

Y	11044245 (upper mechanism) -11044246 (bottom mechanism) Width X								
	300	350	400	450	500	550	600	650	700
300	•	•	•	•	•	•	•	•	•
350	•	•	•	•	•	•	•	•	•
400	•	•	•	•	•	•	•	•	•
450	•	•	•	•	•	•	•	•	•
500	•	•	•	•	•	•	•	•	•
550	•	•	•	•	•	•	•	•	•
600	•	•	•	•	•	•	•	•	•
650	•	•	•	•	•	•	•	•	•
700	•	•	•	•	•	•	•	•	•
750	•	•	•	•	•	•	•	•	•

- The electromagnetic tripping device is included. When ordering, state whether the power "emission" or "cut-off" mode versions are required, in addition to a 24 or 48 V DC supply. Standard NF-S 61.937 imposes the emission mode in multi-family housing ductwork, standard NF-S 61.932 requires FCU and DCU (closed/open) contacts on multi-family housing ductwork. A grille must be fitted to ensure the fire protection rating is respected.

## Mounting frame for VANTONE CF - 2 leaves dampers **R15**

Y	11045396 Width X								
	300	350	400	450	500	550	600	650	700
300	•	•	•	•	•	•	•	•	•
350	•	•	•	•	•	•	•	•	•
400	•	•	•	•	•	•	•	•	•
450	•	•	•	•	•	•	•	•	•
500	•	•	•	•	•	•	•	•	•
550	•	•	•	•	•	•	•	•	•
600	•	•	•	•	•	•	•	•	•
650	•	•	•	•	•	•	•	•	•
700	•	•	•	•	•	•	•	•	•
750	•	•	•	•	•	•	•	•	•

- For a fire protection rating of more than 1.5h, do not forget the self-adhesive intumescent seal (code 11045394) to be applied to the fitting frame.

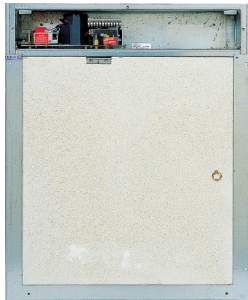
## New GFA 007 with removable core locked by the 007 clip **R15**

Y	11045333 Width X								
	300	350	400	450	500	550	600	650	700
300	•	•	•	•	•	•	•	•	•
350	•	•	•	•	•	•	•	•	•
400	•	•	•	•	•	•	•	•	•
450	•	•	•	•	•	•	•	•	•
500	•	•	•	•	•	•	•	•	•
550	•	•	•	•	•	•	•	•	•
600	•	•	•	•	•	•	•	•	•
650	•	•	•	•	•	•	•	•	•
700	•	•	•	•	•	•	•	•	•
750	•	•	•	•	•	•	•	•	•

- A high resistance paint may be requested depending on the RAL colour code required (except on the clips).

# Motorised Smoke & Heat Exhaust Dampers

## Presentation of the VANTONE-M range of reset motor dampers



VANTONE-M motorised electrical reset



GFA 007 with removable core

### Compliance

- Certified **NF**.
- Approved installation:
  - on the majority of vertical smoke exhaust ducts,
  - with or without mounting frames,
  - in wall-mounted and offset duct applications.
- Free air passage in compliance with the new IT 246.
- Reminder: a minimum annual control of dampers is imposed by French Standard NF-S 61.933.

### Advantages

- No smoke leakage, no heat transfer.
- Motorised reset:
  - reduces control time,
  - avoids any operating inconveniences caused by handling the damper and its grille.
- Upgradable: the motor can be installed on site without any reduction in the free air passage.
- The motor can be activated by the "Aldes Control" pack.
- VANTONE-M presents all of the advantages of VANTONE.

### APPLICATION

- Designed for all types of smoke exhaust installations, particularly where access to the dampers is difficult, or in case of big quantities.
- The motorised reset is ideal for carrying out periodic regulatory tests (French Standard NF-S 61.933) zone by zone. Permits considerable savings in time for inspection and testing and avoids operating inconveniences.

### DESCRIPTION

- Upgradable: the damper can be delivered with the motor mounted, or in the basic model pre-equipped to accommodate the motor after it leaves the factory. The addition of a motor does not reduce the free passage of the damper.
- Normally closed gate type damper, upgradable, fire resistant, 1 leaf.
- Made up of a metal frame composed of an airtight mechanism box and a casement air inlet in refractory materials.
- Access to the electrical equipment is made via the mechanism cover (2 screws). Electrical equipment wired up to an easy access unpluggable terminal block.
- 2h flame and fire resistance rating with grille GFA 007 with removable core locked by the 007 clip.

### Mechanism

- Basic model mechanism (without motor):
  - Tripping by self-reset electromagnetic lock (24 or 48 V DC, power emission or cut-off trip mode). Lock mounted on a plate pre-equipped to accommodate the future motor system.
  - Blocking system to maintain the door in the safety position.
- Accessory: post-motor system kit 24/48 V.
- Model mechanism motorised at the factory:
  - Tripping by self-reset electromagnetic lock (24 or 48 V DC, power emission or cut-off trip mode).
- Electrical characteristics of the B20S motor:
  - Power supply voltage between 24 and 48 VDC or VDA.
  - Maximum current consumed 700 mA.

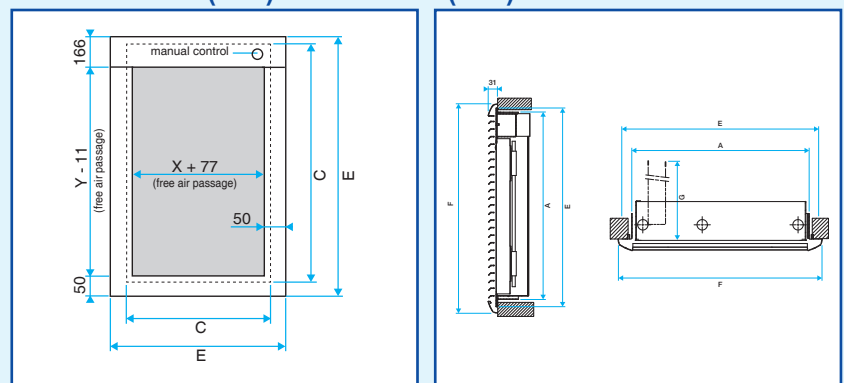
### INSTALLATION (see also page 63)

- Wall mounted on a fire damper duct. To be fixed or grouted depending on the types of ducts.
- The installation must respect the fire resistance Test Report.
- Mounting frames are required to ensure the damper is correctly fitted.

### RANGE

- VANTONE-M 2h fire resistance, 1 leaf for air supply.
- VANTONE-M 2h fire resistance, 1 leaf for air exhaust.
- GFA 007 with removable core fixed by screws, clips or hinges.
- VANTONE-M mounting frame.

### DIMENSIONS (mm) - OPENING (mm)



VANTONE-M DIMENSIONS		Width (mm)	Height (mm)
A	Except the frame of the mounting frame (part fitted into the duct)	X + 130	Y + 170
B	Mounting frame opening (with 10 mm of grouting)	X + 150	Y + 190
C	Except the VANTONE-M framework (part fitted into the duct)	X + 111	Y + 152
D	Opening without the mounting frame (with 10 mm of grouting)	X + 131	Y + 172
E	Vantone-M overall	X + 177	Y + 205
F	Vantone-M + new GFA 007 grille (overall dimension)	X + 200	Y + 240
	Vantone-M + GFA grille (overall dimension)	X + 214	Y + 260

### FREE AIRFLOW PASSAGE (dm<sup>2</sup>) - in accordance with IT 246

Y/X	250	300	350	400	450	500	550	600
300	9.5	10.9	12.3	13.8	15.2	16.7	-	-
350	11.1	12.8	14.5	16.2	17.9	19.6	21.3	-
400	12.7	14.7	16.6	18.6	20.5	22.4	24.4	26.3
450	14.4	16.6	18.7	20.9	23.1	25.3	27.5	29.7
500	16.0	18.4	20.9	23.3	25.8	28.2	30.7	33.1
550	17.6	20.3	23.0	25.7	28.4	31.1	33.8	36.5
600	19.3	22.2	25.2	28.1	31.0	34.0	36.9	39.9
650	20.9	24.1	27.3	30.5	33.7	36.9	40.1	43.3
700	-	26.0	29.4	32.9	36.3	39.8	43.2	46.6
750	-	27.9	31.6	35.3	38.9	42.6	46.3	50.0
800	-	-	33.7	37.6	41.6	45.5	49.5	-
850	-	-	35.8	40.0	44.2	48.4	-	-
900	-	-	-	42.4	46.9	-	-	-

### OPTIONS AND ACCESSORIES

- Reset motor.
- Other options and accessories same as VANTONE: please, see page 58.

# Motorised Smoke & Heat Exhaust Dampers

## VANTONE-M: 2h fire resistance, 1 leaf, motor compatible



- VANTONE-M 2h fire resistance for smoke exhaust.
- VANTONE-M 2h fire resistance for air supply.

### AVAILABLE OPTIONS R15

Description	Code
DCU contact	OPT41192
FCU contact	OPT41193
DCB contact	OPT41194
FCB contact	OPT41195
B20S Motor	OPT41196
B20s+FCU+DCU	OPT41199
Stop'air air exhaust	OPT45406
Stop'air air supply	OPT45407

### RANGE with a choice of options R15

Y	11044210 (upper mechanism) - 11044216 (bottom mechanism)							
	Width X							
	250	300	350	400	450	500	550	600
300	•	•	•	•	•	•		
350	•	•	•	•	•	•	•	
400	•	•	•	•	•	•	•	•
450	•	•	•	•	•	•	•	•
500	•	•	•	•	•	•	•	•
550	•	•	•	•	•	•	•	•
600	•	•	•	•	•	•	•	•
650	•	•	•	•	•	•	•	•
700		•	•	•	•	•	•	•
750		•	•	•	•	•	•	•
800			•	•	•	•	•	
850			•	•	•	•		
900				•	•			

- The electromagnetic tripping device is included. When ordering, state whether the power "emission" or "cut-off" mode versions are required, in addition to a 24 or 48 V DC supply. - Standard NF-S 61.937 requires that the emission mode be used in multi-family housing ductwork ; standard NF-S 61.932 requires FCU and DCU (closed/opened) contacts on multi-family housing ductwork. - A grille must be fitted to ensure the fire protection rating is respected.

NOTE: the upper damper mechanism opens to the left, the lower mechanism to the right.



- Reversible: there is no high / low assembly direction.
- Depth 70 mm for correct fixing to the duct.
- Designed for an assembly on all types of material.
- Drilled to allow the passage of electrical cables.
- Pre-drilled to accommodate the damper's fixing screws.
- If a fire resistance rating > 1.5h, place the self-adhesive intumescent seal (code 11045394) on the mounting frame.

### Mounting frame for Vantone-M - 1 leaf R15

Y	11045397							
	Width X							
	250	300	350	400	450	500	550	600
300	•	•	•	•	•	•		
350	•	•	•	•	•	•	•	
400	•	•	•	•	•	•	•	•
450	•	•	•	•	•	•	•	•
500	•	•	•	•	•	•	•	•
550	•	•	•	•	•	•	•	•
600	•	•	•	•	•	•	•	•
650	•	•	•	•	•	•	•	•
700		•	•	•	•	•	•	•
750		•	•	•	•	•	•	•
800			•	•	•	•	•	
850			•	•	•	•		
900				•	•			



### DID YOU KNOW?

- The GFA 007 was designed to combine air passage, aesthetic design and operating facility. Aldes invented the 007 clip to lock the vane core perfectly in place, removable for maintenance, but especially clever enough to reset the damper smoothly, without getting off the stepladder.
- To avoid any degradation to indoor hygiene during smoke extraction tests, Aldes proposes the use of a G3 filter adapted to the dimension, positioned between the damper and the vane core.

### New GFA 007 with removable core locked by the 007 clip R15

Y	11045334							
	Width X							
	250	300	350	400	450	500	550	600
300	•	•	•	•	•	•		
350	•	•	•	•	•	•	•	
400	•	•	•	•	•	•	•	•
450	•	•	•	•	•	•	•	•
500	•	•	•	•	•	•	•	•
550	•	•	•	•	•	•	•	•
600	•	•	•	•	•	•	•	•
650	•	•	•	•	•	•	•	•
700		•	•	•	•	•	•	•
750		•	•	•	•	•	•	•
800			•	•	•	•	•	
850			•	•	•	•		
900				•	•			

- A high resistance paint may be requested depending on the RAL colour code required (except on the clips).

# Motorised Smoke & Heat Exhaust Dampers

## Installation of VANTONE on smoke exhaust ducts

### INSTALLATION PRINCIPLE

- VANTONE exhaust damper is either wall mounted, or mounted offset on a duct. The duct is of the smoke exhaust type and can be made from several types of materials:
  - concrete 110 mm wall,
  - sand-lime (Promatect L500 or Supalux M),
  - plaster tiles - 2h fire rating (BPB placo: Standard plaster board 7 + Stucal, LAFARGE: PF3-70 + Pregelux M0 BA15),
  - prégyfeu MO BD 25 - 2h fire protection rating (Lafarge),
  - staff 2h fire rating (GEOSTAFF: Staff, EXTHA: Isofiare),
  - vermiculite (Mica) 2h fire rating (cf Distribution: Tecriver).
- Mounting frame described in the Test Reports, recommended to ensure the installation geometry is correct, which itself is necessary for correct functioning of the damper.
- Depending on the type of material, the mounting frame and/or damper can be fixed or embedded. Respect the indications given in the Test Report.

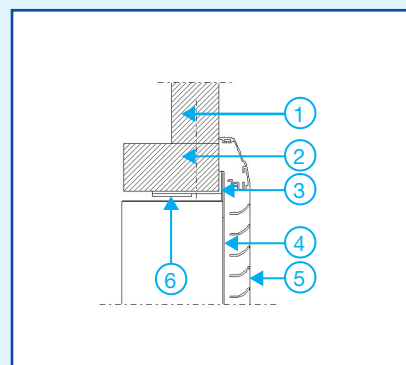
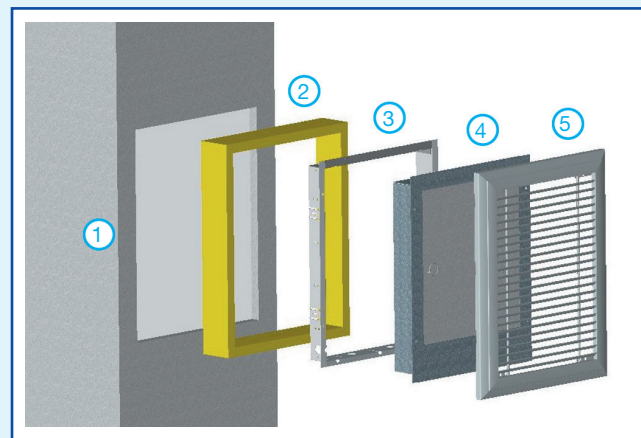
### INSTALLATION AND REGULATIONS

- Assembly of the damper on the duct must follow a fire resistance rating Test Report.
- VANTONE dampers have been tested in accordance to CTICM (Effectis) Test Reports, describing:
  - fixing of the VANTONE mounting frame, developed for a professional level installation,
  - precautions to be taken when fitting the VANTONE smoke exhaust damper, especially the fitting of a sleeve or not,
  - application of an intumescent seal on the mounting frame, if necessary.
- For more information, please consult us.

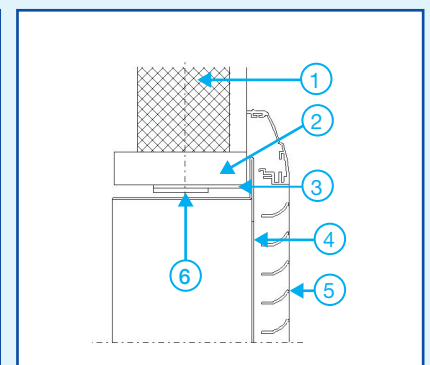
### KEY TO DIAGRAMS

- Duct having the benefit of a "vertical smoke exhaust duct" Test Report.
- Sleeve with a minimum depth of 110 mm. To be carried out by the duct supplier.
- VANTONE mounting frame to be fixed to the sleeve.
- VANTONE smoke exhaust damper to be screwed on to the mounting frame ③.
- GFA 007 grille to be fixed to the damper ④, by screws, clips or hinges.
- Self-adhesive intumescent seal to be applied to the mounting frame when the degree of fire resistance is higher than 1.5h or in cases where the partition wall is not M0 or M1 (incombustible or non-flammable).
- Grouting.

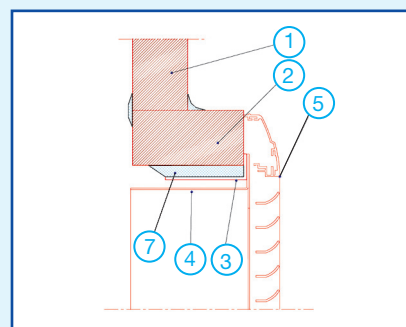
### SCHEMATIC DIAGRAMS



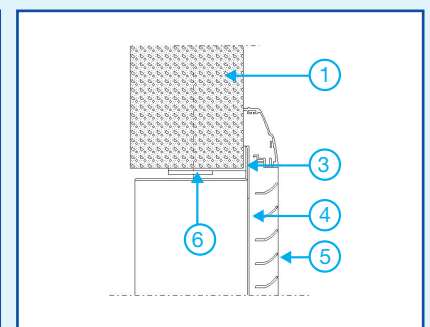
Silicate (PROMAT)



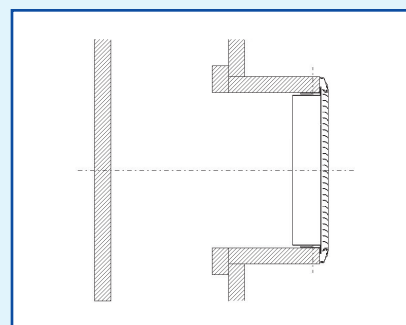
Plaster tiles + board



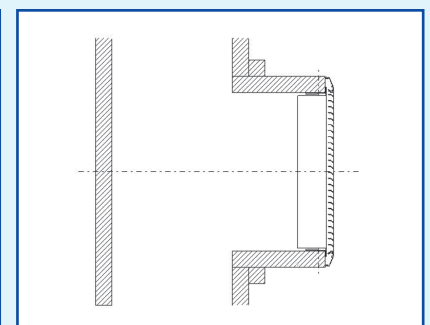
Staff



Concrete



Duct



Duct

### INTUMESCENT ROLLS R14

Description	Code
Self-adhesive intumescent seal: L x l x th. = 20 m x 40 mm x 2 mm	11045394



# Motorised Smoke & Heat Exhaust Dampers

## GFA 007 Grille



With removable core

### Compliance

- GFA 007 grille validated by the CTICM-Efectis for installation on VANTONE and VANTONE-M.
- Airflow passage > 91.3%.

### Advantages

- Removable core locked by a ¼ turn screw.
- New filter kit.
- EXCLUSIVE: core suspended by the 007 clip for smooth and simple reset!
- Reversible: high or low vanes.
- Aesthetic and aerodynamic vane section.

### APPLICATION

- GFA 007 = aesthetic facing grille for VANTONE and VANTONE-M smoke exhaust dampers.
- A grille is compulsory on all smoke exhaust dampers.

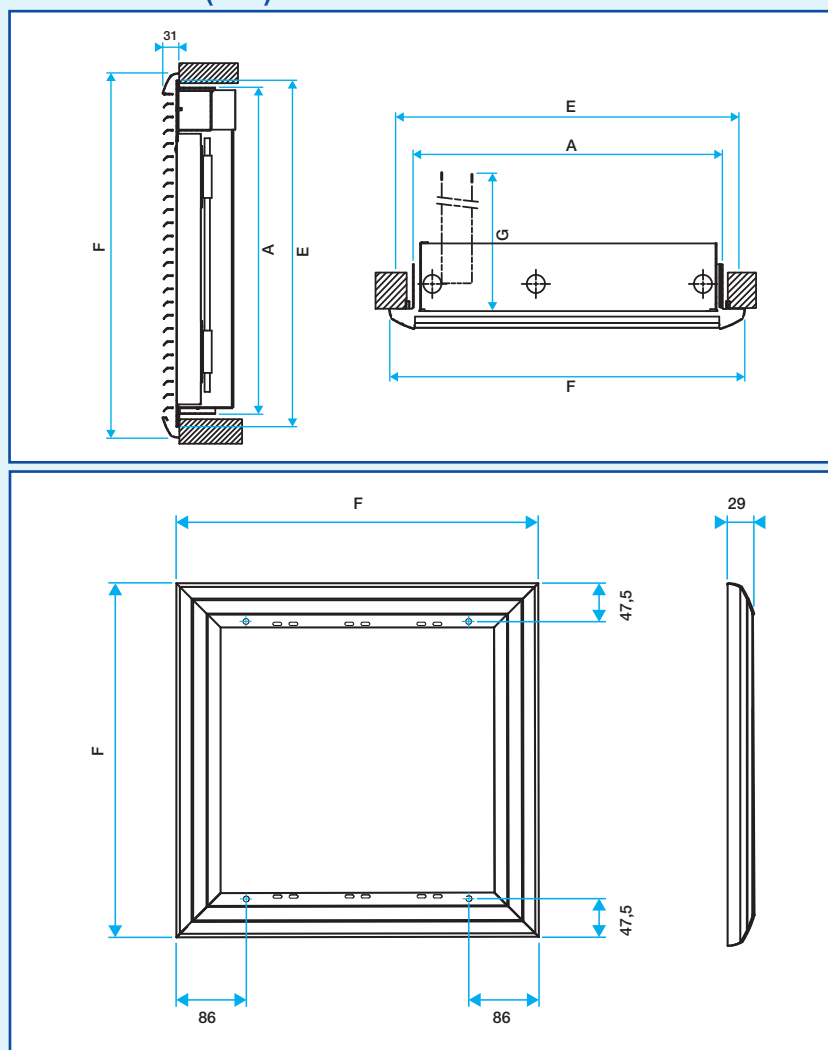
### DESCRIPTION

- Comprising a peripheral frame, totally covering the damper.
- The GFA 007 presents a removable core to facilitate reset the damper. This vane core is locked in place by the clever 007 clip, which opens using a flat-headed screwdriver or 6x6 Allen key and which is closed manually.
- The 007 clip also allows for hanging the vane core, for just the time needed to reset the smoke exhaust damper, calmly with both hands and without having to step off the stepladder.
- Horizontal aluminium vanes, in steps of 25 mm.
- The aluminium sections used guarantee low airflow pressure losses and answers perfectly to its function as a concealing grille.
- Air passage > 91.3% (allows for calculating the effective passage of air section for mechanical smoke extraction).
- The standard finish is a natural anodised appearance.
- A highly resistant epoxy paint can be requested depending on the RAL colour code required. The paint is not applied to the 007 clip.

### 007 CLIP

Description	Code
Set of 6 clips 007	11147071

### DIMENSIONS (mm)



GFA 007

### POSITION

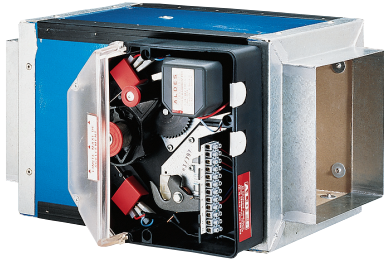
- The grille's frame imposes the location of the 007 clips. Please, consult us:
  - 007 clips on the lower part of a smoke exhaust damper (> 1 m 80 from the ground),
  - 007 clips in the upper part of the air inlet damper (< 1 m from the ground).
- For aesthetic reasons, we recommend a direction of the vane core:
  - place the vanes towards the top for a smoke exhaust damper,
  - place the vanes towards the bottom for a supply air inlet.

### FIXING

- GFA 007: fixing to a VANTONE or a VANTONE-M damper supplied after July 2007: products equipped with threaded inserts allowing them to house the GFA 007 grille, thanks to the 4 screws supplied.
- To fix a GFA 007 to a damper prior to July 2007: please, consult us.

# Motorised Smoke & Heat Exhaust Dampers

## VRFI-DES mechanism



### Advantages

- Adaptability since 1987!
- Easy to maintain.
- Proven and well recognised reliability.

### DESCRIPTION

- The VRFI mechanism is perfectly upgradable: all the equipment can be assembled in its original mechanism box, either directly on delivery, or on site later thanks to adapted kits.
- It is installed using screws (supplied).

### TRIPPING EQUIPMENT

- CM: manual control mounted on all of the dampers. Red rotating lever integrated into the removable cover for manual tripping operations without having to remove the cover.
- FTE: thermal fuse reacting to temperature (70°C), does not require any energy for its tripping. The fuse is placed on a removable base support. It can be changed on its own.
- VDS or VM: working either by 24 or 48 V (DC) by power emission (VDS), or by power cut-off (VM).

### SIGNALLING EQUIPMENT

- FCU: single-pole closed position switch designed to send out information on the damper's position (damper closed) for example to the fire safety central unit.
- DCU: single-pole open position switch designed to send out information on the damper's position (damper open).
- FCB: bipolar closed position switch.
- DCB: bipolar open position switch.

### VRFI MECHANISM KITS R17

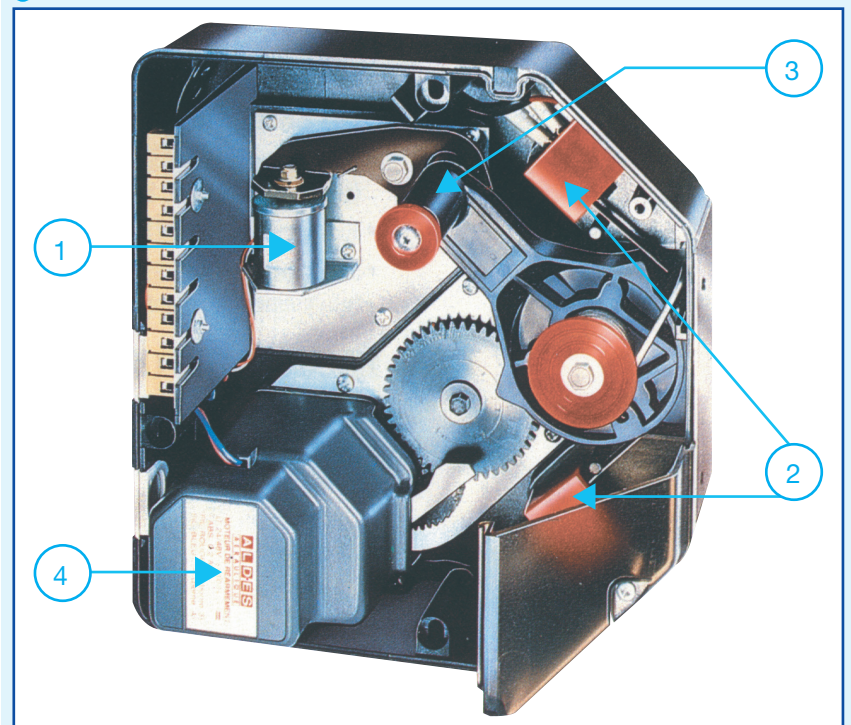
Description	Code
Thermal fuse FTE 70° kit	11041750
Bag of 10 fuse links FTE 70°	11041753
Bag of 10 fuse links 70° VRFI09/00	11041121
VDS 24 VCC 3.5 W electromagnet kit	11041754
VDS 48 VCC 3.5 W electromagnet kit	11041755
VDS 24 VCC 3.5 W electromagnet kit	11041758
VDS 48 VCC 3.5 W electromagnet kit	11041759
FCU or DCU (VRFI) contact kit	11041762
FCU or DCU (VRFI) contact kit	11041763
FCB VRFI contact kit	11041764
DCB VRFI contact kit	11041765
B20S 24/480.7A VRFI motor kit	11041777

### RESETTING EQUIPMENT

- Manual resetting is possible on all VRFI fire dampers, the control lever just needs to be operated (after removing the cover).
- Reset motor enables placing of the fire damper back in the stand-by position after electrical tripping, without intervening on the tripping device, which is often difficult to access (simulations, periodic testing, etc.).
- Motor integrated into the original equipment box (3 screws).
- Details:
  - Maximum current consumption: 700 mA.
  - Voltage: 24/48V DC or AC.
  - Time of the cycle: < 30s.

### VRFI MECHANISM

- ① Electromagnetic coil tripping device.
- ② Signalling contacts.
- ③ Reset lever.
- ④ B20S reset motor.



# Motorised Smoke & Heat Exhaust Dampers

## VRFI-DES with sleeve, tunnel section, 2h fire resistance rating



**Compliance**

- Certified **NF**.
- 2h fire rating generally reserved for high-rise buildings and premises presenting special risks.
- Authorised for installation with offset mechanism.
- Approved for assembly into banks.

**Advantages**

- Validated for offset mounting on a PROMAT duct.
- Suitable for installation in suspended ceilings.
- Traditional grouting with mortar.
- Upgradable VRFI mechanism.
- No smoke leakage, no heat transfer.
- Blade in refractory material.

### APPLICATION

- Tunnel section smoke exhaust damper, fire resistance rating reserved for high rise buildings.
- Suitable for installation in suspended ceilings.

### DESCRIPTION

- Damper normally closed and opened in case of fire as controlled from the CMSI function controller.
- Rectangular duct element in Supalux. The sleeves are fixed to the extremities for connection to the ductwork.

### INSTALLATION

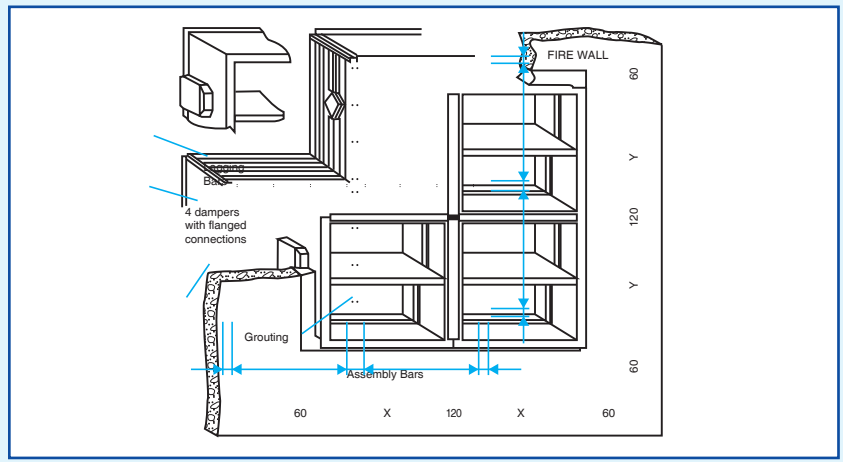
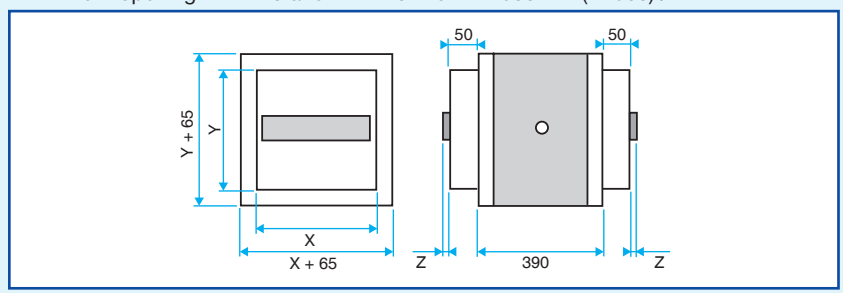
- **(New)**: connected to a PROMAT smoke extraction duct, offset from the vertical duct.
- Embedded into the wall.
- Traditional grouting with mortar.
- The mechanism can be offset from the wall (not grouted in).

### AVAILABLE OPTIONS **R15**

- Idem VRFI-DES 2h (ring casings) (see below).

### DIMENSIONS (mm)

- Minimum opening:  $X + 120$  and  $Y + 120$  - for  $Y > 500$   $Z = (Y - 500) / 2$ .



Parallel assembly

### RANGE with a choice of options **R15**

Y	11041022 Width X - VRFI-DES 2h																
	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
200	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
250	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
300	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
350	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
400	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
450		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
500		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
550			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
600			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
650				•	•	•	•	•	•	•	•	•	•	•	•	•	•

Y	11041019 Width X - VRFI-DES 2h													
	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
700	•	•	•	•	•	•	•	•	•	•	•	•	•	•
750		•	•	•	•	•	•	•	•	•	•	•	•	•
800		•	•	•	•	•	•	•	•	•	•	•	•	•
850			•	•	•	•	•	•	•	•	•	•	•	•
900				•	•	•	•	•	•	•	•	•	•	•
950					•	•	•	•	•	•	•	•	•	•
1000						•	•	•	•	•	•	•	•	•

# Motorised Smoke Dampers

## Motorised smoke dampers



SD 125

### APPLICATION

- Motorised smoke damper in HVAC system prevents the distribution of smoke through the ventilation ductworks inside residential, commercial and industrial buildings.

### DESCRIPTION

- Motorised smoke dampers are normally closed.
- Controlled by a smoke detection system,
- Where required, capable of being positioned from a remote command station.

### CONSTRUCTION

- Casing manufactured from 16 ga. galvanized sheet.
- Single skin blades manufactured from 16 ga. galvanized steel. Blades are parallel operated.
- Stainless steel side seal. Silicon rubber blade tip seal. Standard external linkages.
- Standard brass bushes. Bronze bushes available upon request.
- Spring return actuator 24V/230V available as requested.
- Minimum size: 150 x 150 mm.
- Maximum size: overall 914 x 914 mm as single section. Larger sizes can be manufactured in multiple sections for assembly on site.

### INSTALLATION

- Vertical / horizontal installation.

### AVAILABLE OPTIONS

- Sleeve can be factory installed (recommended) or site installed as per thickness as given in NFPA90A.
- Mild steel single frame (40 x 40 x 3 mm), code F.

### ACCESSORIES

- Circular, rectangular and oval spigot for mounting; please, see page 44.
- Access doors: please, see page 46.

### RANGE

Type	Description	Code
SD 125	Motorised smoke damper with casing and blades manufactured from GI	
SD 125-1	Motorised smoke damper with casing made from GI and blades from SS (grade 304)	
SD 125-2	Motorised smoke damper with casing and blades manufactured from SS (grade 304)	

### Compliance

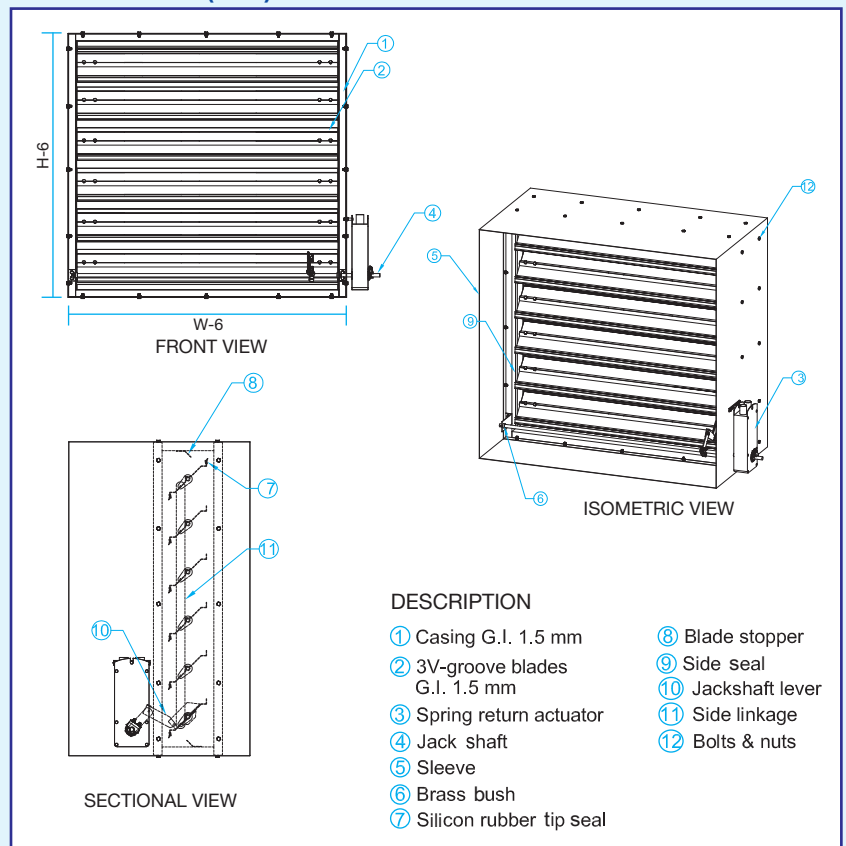
- Constructed in accordance with UL 555S.

**CIVIL  
DEFENCE  
APPROVED**

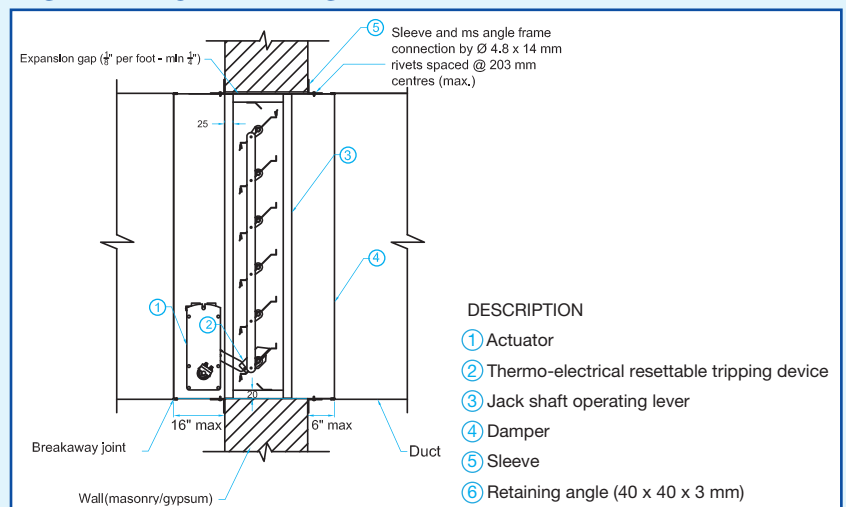
### Advantages

- No smoke leakage.
- Suitable for static and dynamic systems.
- Robust construction.
- Wall mounted installation.

### DIMENSIONS (mm)



### INSTALLATION DETAILS



### AVAILABLE SIZES (mm)

W/H	150*	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900
-----	------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

- \* 200 x 200 - factory installed sleeve will have reducer (with adopted neck).
- Any combination of W x H. For other sizes, please consult us.



# Motorised Smoke Dampers

## Motorised smoke dampers



SD 125 A

**Compliance**

- Constructed in accordance with UL 555S.

**CIVIL DEFENCE APPROVED**

**Advantages**

- No smoke leakage.
- Suitable for static and dynamic systems.
- Duct installation.

### APPLICATION

- Motorised smoke damper in HVAC system prevents the distribution of smoke through the ventilation ductworks inside residential, commercial and industrial buildings.

### DESCRIPTION

- Smoke damper operates automatically.
- Controlled by a smoke detection system,
- Where required, capable of being positioned from a remote command station.

### CONSTRUCTION

- Casing manufactured from 18 ga. galvanized sheet. Other gauges available upon request.
- Single skin blades manufactured from 18 ga. galvanized steel. Aerofoil blades available upon request. Blades are parallel operated. Oposed blade operation available upon request.
- Stainless steel side seal. Silicon rubber blade tip seal.
- Standard external linkages. Internal linkages available upon request.
- Standard brass bushes. Bronze bushes available upon request.
- Spring return actuator 24V/230V available as requested.
- Minimum size: 150 x 150 mm.
- Maximum size: 800 x 800 mm as single section. Larger sizes can be manufactured in multiple sections for assembly on site.

### INSTALLATION

- Vertical / horizontal installation.

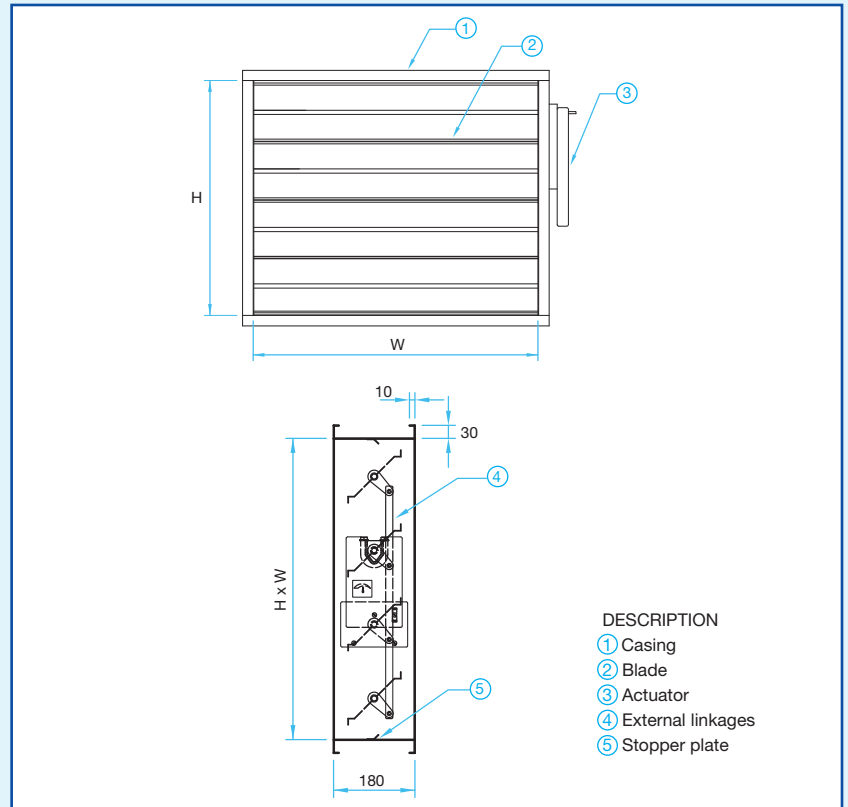
### ACCESSORIES

- Circular, rectangular and oval spigot for mounting: please, see page 44.
- Access doors: please, see page 46.

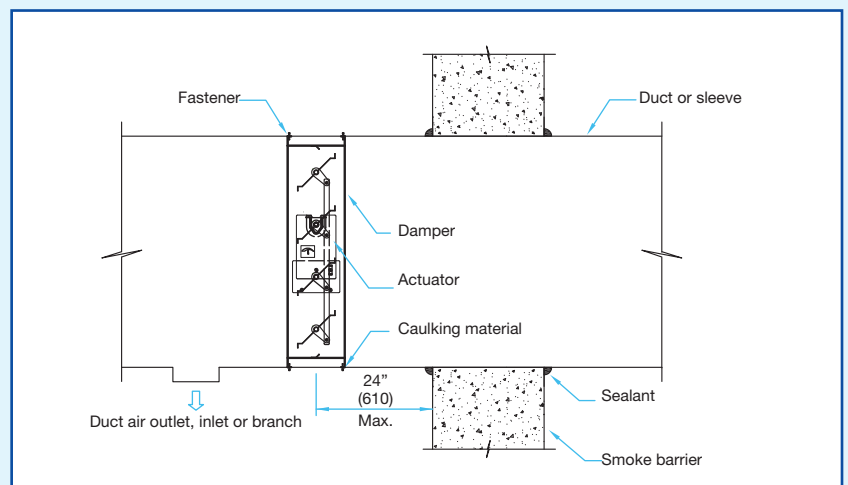
### RANGE

Type	Description	Code
SD 125 A	Motorised smoke damper with casing and blades manufactured from GI	
SD 125 A1	Motorised smoke damper with casing made from GI and blades from SS (grade 304)	
SD 125 A2	Motorised smoke damper with casing and blades manufactured from SS (grade 304)	

### DIMENSIONS (mm)



### INSTALLATION DETAILS



### AVAILABLE SIZES (mm)

W/H	150	200	250	300	350	400	450	500	550	600	650	700	750	800
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

• Any combination of W x H. For other sizes, please consult us.

# Project Reference List

Below are some of our prestigious project references.

S. No.	Project	Consultant/Client	Contractor	Location
1	Bab & Buhasa Substation	Lahmeyer	York's	Abu Dhabi
2	Bahya & Nadia Substation	Lahmeyer	AL Inayah	Abu Dhabi
3	E18 Substation	Lahmeyer	TSSC	Abu Dhabi
4	Qasr Al Sarab	Halcrow Yolles	ALEC	Abu Dhabi
5	Sub-Station at Delma & Shuweihat	Mott McDonald	York's	Abu Dhabi
6	Substation Jobs	FEWA	ESSA	Ajman
7	3 Buildings at DAFZA	Al Gurg	ETA	Dubai
8	4 Buildings for DIP	Shadeed Engg	Drake & Scull	Dubai
9	Armada Tower	Adnan Saffarini	Fawaz	Dubai
10	Concorde Tower	Arif & Bintok	Drake & Scull	Dubai
11	DAMAC Executive Heights	IBA	Omega	Dubai
12	DCP @ DHCC	Tebodin	Transgulf	Dubai
13	DEWA Substations	DEWA	TTE	Dubai
14	Dubai Library @ Al Twar	Dubai Municipalty (Gulf Eng.)	Condor	Dubai
15	Emirates Flight	IBA	Transgulf	Dubai
16	Emirates Headquarters	Arch Group / Archon	Int'l Electro-mechanical	Dubai
17	JAFZA Twin Towers	WSP Watson	Saifco	Dubai
18	Jumeirah Lake Towers	Archon	Bilt	Dubai
19	Marina View Towers	Adnan Saffarini	Transgulf	Dubai
20	PVG & HVG Warehouse	Arif & Bintok	Al Naboodah	Dubai
21	Reef Tower	KEO	GECO	Dubai
22	Sidra Tower	APG Consultants	Omega	Dubai
23	Zen Gardens	ECG	Minco	Dubai
24	Nad Al Shiba Dubai (2B+G+9)	Al Shraw	Model Engg	Dubai
25	Skytime Substation	DEWA	ESSA	Dubai
26	Emirates Park Hotel	IBA	Bilt	Dubai
27	Fujairah Tower	Al Qalaa Engg	ETA	Fujairah
28	Al Naeem Mall	Dynamic Engg.	Strabag	Ras Al Khaimah
29	Sheik Khalifa Hospital	Bayaty	ETA	Ras Al Khaimah
30	Al Zaura Power Plant	SEWA	ESSA	Sharjah
31	Research Laboratory	Cansult	GECO	Sharjah
32	AJ/170/09 (ERCO)	TNQ	ADEAREST	Sharjah
33	Umm Al Quwain Hospital	HDP	Bpower	Umm Al Quwain
34	Salmaniya Medical Center	MOH	Mercury	Bahrain
35	LBOP	Barco	Alkomed	Bahrain
36	Sakis Palace Majilis	MSCEB	Yateem	Bahrain
37	Sofitel Zallaq Resort	Halcron	Awal Products	Bahrain
38	220KV Substation, Marsa H Bahrain	MEW	Almoayyed	Bahrain
39	Akis Primary School	QEA Consultant	Diplomat Group	Qatar
40	Al Udeid Project	Qatar Armed forces	Voltas	Qatar
41	Diwan Ameri Building	Shaker Consultancy	Voltas Limited	Qatar
42	Khalifa stadium	Midmac	Qatari Engg	Qatar
43	Kinder Garden School	QEA Consultant	Al Malki Trading	Qatar
44	Texas A & M College	QP/KEO	Midmac Cont.	Qatar
45	The Villaggio-Retail, Sports Centre	QEA	Voltas	Qatar
46	Pearl Qatar VB-29	KEO	Arabian AC	Qatar
47	Business Park & Hotel Facilities	AEB	QEMG	Qatar
48	WOQOD Tower	Romatre	Diplomat	Qatar
49	Lusail Car Park	ACE	Arabian AC	Qatar
50	Dukhan Hospital	HDP Overseas	Diplomat	Qatar
51	Malul dept	QP	Krantz Engg	Qatar

# Ventilation Systems p.72 Selection Guide p.74 - 75

- Aldes, leader in manufacturing self-balanced CMEV: standard system with minimum space requirement that provides an excellent indoor air quality in residential premises.
- A complete range of fans designed in accordance with eco-friendly design requirements on energy savings, raw materials choice, recycling management and life expectancy.

**New**

## Low Energy Consumption Fans



- "Micro-watt" range of fans with low energy consumption to meet green building criteria:
  - CVEC micro-watt - p. 92
  - VEC micro-watt - p. 97
  - VIK micro-watt - p. 112
  - TVEC GII micro-watt - p. 118
- Up to 60% reduction on energy consumption.
- Minimum maintenance and easy installation.
- Noise reduction on air outlets.



### Extract Ventilation

Self-Balanced CMEV



COMPACT  
p. 73

### Fans - Supply & Extraction

Small Axial  
Extract Fans



Window  
XW 100 A  
p. 76



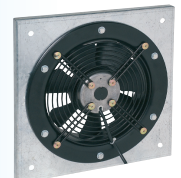
Window  
XW 150 A  
p. 77

Duct Fans



In-line fans  
VC  
p. 80

Axial Fans

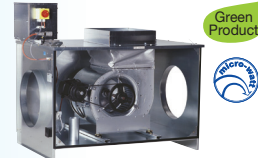


Wall mounted fans  
HELICA  
p. 81

Cabinet Fans



Exhaust fans  
C.VEC  
p. 90



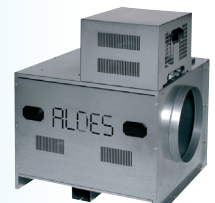
Exhaust fans  
VEC  
p. 94

Staircase  
Pressurisation Fans



Axial fans  
HELIONE  
p. 163

Smoke Exhaust Fans



Cabinet fans  
CYCLONE F400  
p. 165



Window  
XW 230 A  
**p. 78**



In-line fans  
INTEGRATED  
**p. 79**



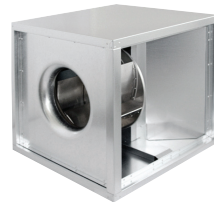
In-line fans  
HELIONE  
**p. 82**



In-line fans  
VEKITA+  
**p. 100**



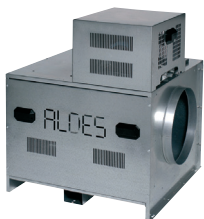
Double skin, in-line fans  
VEKITA SILENCE  
**p. 104**



Double skin, in-line fans for  
kitchens - VEKITA SILENCE-O  
**p. 107**



Supply / exhaust fans  
VIK  
**p. 110**



Smoke exhaust fans  
CYCLONE F400  
**p. 124**

Roof Fans



VDA  
**p. 142**



THELIA  
**p. 145**



VELONE  
**p. 147**



Roof fans  
VELONE  
**p. 167**



Axial fans  
HELIONE  
**p. 169**

Accessories



Electrical accessories  
**p. 171**

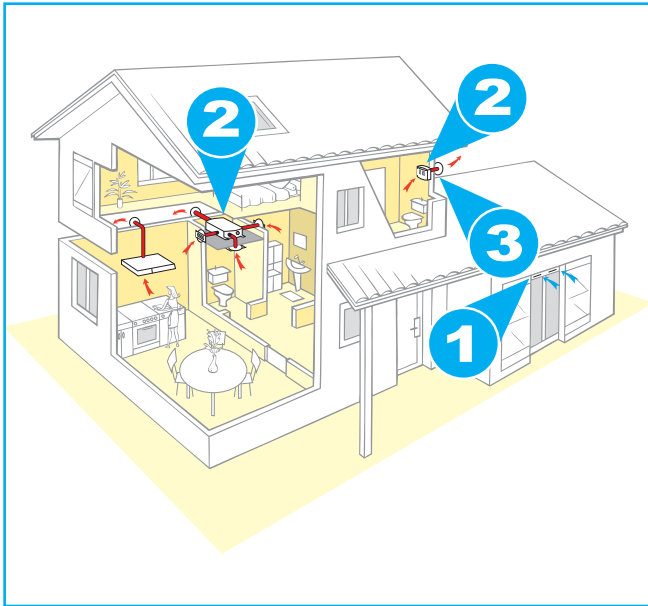


Ductwork accessories  
**p. 178**





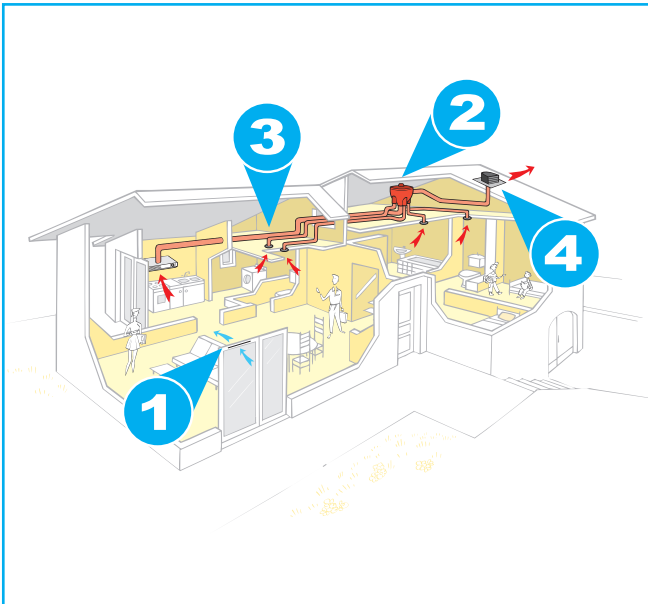
## 'Split' Self-balanced CMEV\*



- 1 Air inlets - please, consult us
- 2 Compact - p. 73
- 3 Ducts and accessories - please, consult us

\*CMEV is a constant mechanical extract ventilation.

## Centralised - Self-balanced CMEV\*



- 1 Air inlets - please, consult us
- 2 Units and kits - p. 73
- 3 Ducts and accessories - please, consult us
- 4 Grilles and discharge roof cowls - please, consult us

\*CMEV is a constant mechanical extract ventilation.

# Self-balanced CMEV

## COMPACT



### Compliance

- Respects the airflow levels of French Decree of 24.03.1982.
- CE electrical safety.
- WEEE electrical recycling capability.

### Advantages

- Extra-flat central unit.
- In-line connections.
- All-position mounting.
- Low noise level.
- Entirely mounted on silent blocks.

## APPLICATION

- General and permanent ventilation of the dwelling.
- Automatic adjustment of air flow levels by the unit and self-balanced air inlets.
- Full control of air renewal and the heating bill, without adjustment to the installation.
- Connection of 1 kitchen and 3 sanitary area units maximum.
- Particularly well adapted for installation in reduced spaces.

## DESCRIPTION

- Unit in a recyclable plastic material:
  - Ø 125 mm connection with integrated auto-amplifier.
  - Ø 80 mm removable connections with integrated regulator.
  - Ø 125 mm exhaust.
  - Integrated notice and pre-mounted silent blocks.
- 2-speed induction motors on ball bearings with thermal protection.

## INSTALLATION

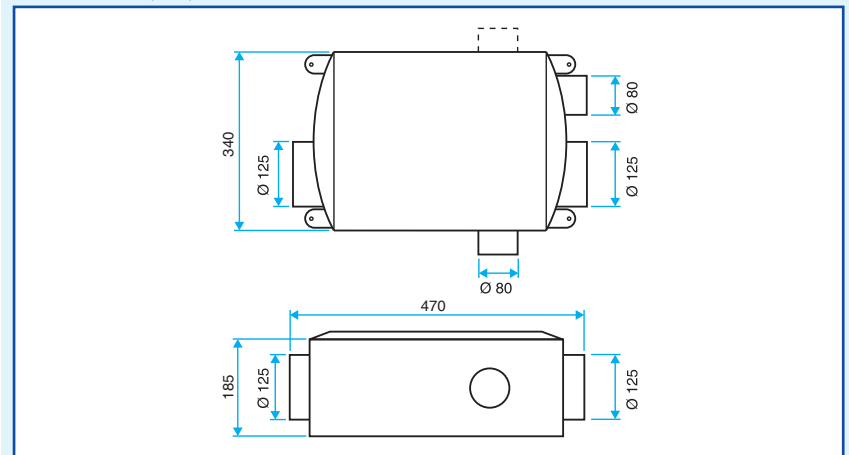
- Unit is fixed by 4 screws.
- Installation possible in all kinds of position.
- The group is controlled by inverter or by timer in the kitchen
- Ø 125 mm connection in the kitchen and Ø 80 mm connection in the bathroom and WC.

## RANGE R1

Description	Code
COMPACT kit R18	11026101
30 m³/h sanitary area kit	11026022
15 m³/h sanitary area kit	11026021
COMPACT unit R18	11026100

## TECHNICAL DETAILS

- Dimensions (mm) :












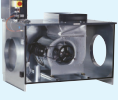

Airflow details	Kitchen Ø125 mm	Sanitary area Ø 80 mm	
		15 m³/h	30 m³/h
Low speed	45 to 58 m³/h	15 to 18 m³/h	30 to 36 m³/h
High speed	≥ 135 m³/h	15 to 21 m³/h	30 to 42 m³/h

- 2-speed fan with regulation of airflow levels on the unit.
- Acoustic power level kitchen grille/ unit: 33/49 dB (A).
- Average consumption < 35 W Th-C.
- Power: 27/ 85 W.
- Voltage: 230 V - 50 Hz 1-phase.
- Maximum current protection setting: 1 A.
- Weight (unit alone) : 3.3 kg.

## CONTENTS OF THE KITS

Kit description	COMPACT Kit	Sanitary area Kit 15 m³/h	Sanitary area Kit 30 m³/h	COMPACT Unit
<b>Code</b>	<b>11026101</b>	<b>11026021</b>	<b>11026022</b>	<b>11026100</b>
Exhaust fan unit	1			1
- Sanitary area connections 30 m³/h	2		1	2
- Sanitary area connections 15 m³/h		1		1
- Ø 80 mm plug	1			1
- screw + fixing plug	4			4
Kitchen grille + Ø 125 mm sleeve	1			
Sanitary area grille + Ø 80 mm sleeve	2	1	1	
2 position inverter switch	1			
User Instructions	1	1	1	1

# Selection Guide

Category	Model	Description	Axial	Centrifugal		Kitchen fan	High temperature	Energy saving	Max airflow (m³/h)
			Direct driven	Direct driven	Belt driven				
Small Axial Extract Fans	<b>XW 100 A</b> 	Window / glass mounted axial fans • 4" size • Auto shutter version • Timer controlled (optional)	✓			✓			<b>85</b>
	<b>XW 150 A</b> 	Window / glass mounted axial fans • 6" size • Auto shutter version • Timer controlled (optional)	✓			✓			<b>220</b>
	<b>XW 230 A</b> 	Window / glass mounted axial fans • 9" size • Auto shutter version • Timer controlled (optional)	✓			✓			<b>550</b>
In-line Duct Fans	<b>INTEGRATED</b> 	In-line axial fans • Duct installation • Polypropylene body	✓						<b>210</b>
	<b>VC</b> 	In-line duct fans • Centrifugal impeller • Thermally protected motor winding		✓					<b>1500</b>
Axial Fans	<b>HELICA</b> 	Wall mounted axial fans • Protection grille on motorside • Variable-speed control (optional)	✓						<b>3600</b>
	<b>HELIONE</b> 	In-line axial fans • Staircase pressurisation • Smoke extraction • Civil Defence approved • Car park ventilation • 1 or 2-speed	✓				<b>200°C (2h) or 400°C (2h)</b>		<b>72000</b>
Cabinet Fans	<b>C.VEC</b>  	Cabinet fans • Air exhaust • Low energy consumption version (original)		✓			<b>400°C (½h)</b>	✓	<b>2500</b>
	<b>VEC</b>  	Cabinet fans • Air exhaust and air supply • Low energy consumption version (optional)			✓		<b>400°C (½h)</b>	✓	<b>12000</b>
	<b>VEKITA+</b> 	In-line cabinet fans • Acoustically insulated version (optional) • 1 or 2-speed		✓					<b>3200</b>

# Selection Guide

Category	Model	Description	Axial	Centrifugal		Kitchen fan	High temperature	Energy saving	Max airflow (m³/h)
			Direct driven	Direct driven	Belt driven				
Cabinet Fans	<b>VEKITA SILENCE</b> 	In-line cabinet fans <ul style="list-style-type: none"> <li>• Double skin version</li> <li>• 1 or 2-speed</li> </ul>		✓					9300
	<b>VEKITA SILENCE-O</b> 	In-line cabinet fans for kitchen <ul style="list-style-type: none"> <li>• Double skin</li> <li>• Motor outside air stream</li> <li>• 1 or 2-speed</li> </ul>		✓		✓			6700
	<b>VIK</b> 	In-line cabinet fans <ul style="list-style-type: none"> <li>• Air supply and air exhaust</li> <li>• Low energy consumption version (optional)</li> <li>• Pre-filter (optional)</li> </ul>				✓		✓	12000
	<b>TVEC GII</b> 	In-line cabinet fans <ul style="list-style-type: none"> <li>• Air exhaust</li> <li>• Low energy consumption version (optional)</li> </ul>				✓	400°C (½h)	✓	20000
	<b>ALIZONE</b> 	Cabinet fans <ul style="list-style-type: none"> <li>• Air supply</li> <li>• Staircase pressurisation</li> <li>• Easy access</li> </ul>				✓			10000
	<b>CYCLONE</b> 	Cabinet fans <ul style="list-style-type: none"> <li>• Smoke extraction</li> <li>• Civil defence approved</li> <li>• F400 (2h)</li> <li>• 1 or 2-speed</li> <li>• Easy access</li> </ul>				✓	400°C (2h)		32000
Roof Fans	<b>VDA</b> 	Roof fans <ul style="list-style-type: none"> <li>• Vertical air discharge</li> <li>• 1 or 2-speed</li> </ul>		✓		✓			12000
	<b>THELIA</b> 	Roof fans <ul style="list-style-type: none"> <li>• Vertical or horizontal air discharge</li> <li>• 1 or 2-speed</li> </ul>	✓			✓			40000
	<b>VELONE</b> 	Roof fans <ul style="list-style-type: none"> <li>• Smoke extraction</li> <li>• Civil defence approved</li> <li>• F400 (2h)</li> <li>• 1 or 2-speed</li> <li>• Horizontal or vertical air discharge (kit optional)</li> </ul>			✓	✓	400°C (2h)		27000



# Small Axial Extract Fans

## WINDOW



XW 100 A (4")

### Compliance

- CE electrical safety.

### Advantages

- Induction motor with long maintenance free life.
- Double insulated.
- Strong, durable with glossy finish.
- Auto shutter.

### APPLICATION

- Occasional ventilation suitable for bathrooms / toilets.
- Forced and intermittent air exhaust.

### DESCRIPTION

- Automatic model with thermo-activated internal shutters.
- Grille in impact resistant high gloss ABS material.
- 1-phase, 220 - 240V ~ A.C. 50 Hz induction motor, protected by thermal fuse.
- A double pole isolating switch, having a contact separation of at least 3 mm in all poles, must be used with a 3 amp fuse fitted.
- Integrated backdraft damper.
- Rated to IP 44.

### INSTALLATION

- Fitting by 4 screws.
- Designed for window mounting through a standard 115 - 155 mm Ø hole.

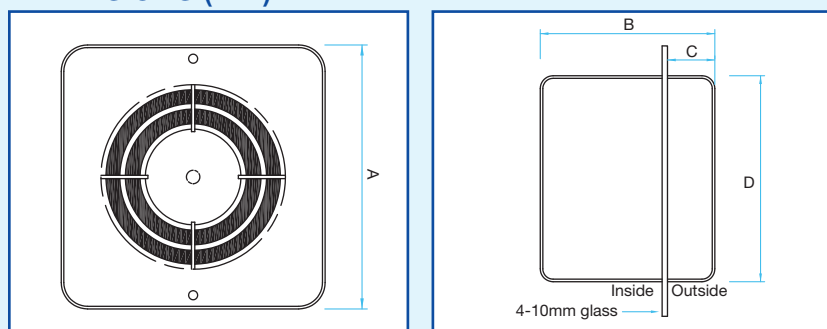
### AVAILABLE OPTIONS

- With pullcord switch.
- Timer model (adjustable electronic timer 1 - 20 mins).

### RANGE

Description	Code
WINDOW - XW 100 A	

### DIMENSIONS (mm)



Model	A	B	C	D
XW100A	163	115	53	163

### TECHNICAL DETAILS

Model	Maximum airflow (m³/h)	Power consumption (W)
XW 100 A	85	20

### ADDITIONAL DATA

- Maximum pressure: 20 Pa.
- Fan speed: 2400 r.p.m.
- Noise level: 41 dB(A).

# Small Axial Extract Fans

## WINDOW



XW 150 A (6")

### Compliance

- CE electrical safety.

### Advantages

- Induction motor with long maintenance free life.
- Double insulated.
- Strong, durable with glossy finish.
- Auto shutter.

## APPLICATION

- Occasional ventilation suitable for kitchens, utility rooms, restaurants, offices and shops.
- Forced and intermittent air exhaust.
- For residential and commercial buildings.

## DESCRIPTION

- Automatic model with thermo-activated internal shutters.
- Grille in impact resistant high gloss ABS material.
- Single phase, 220-240V ~ A.C. 50Hz induction motor, protected by thermal fuse.
- A double pole isolating switch, having a contact separation of at least 3 mm in all poles, must be used with a 3 amp fuse fitted.

## INSTALLATION

- Fitting by 4 screws.
- Designed to be fitted in either a window or wall through a standard 184 mm (7 1/4") hole. A wall fixing kit is available upon request.

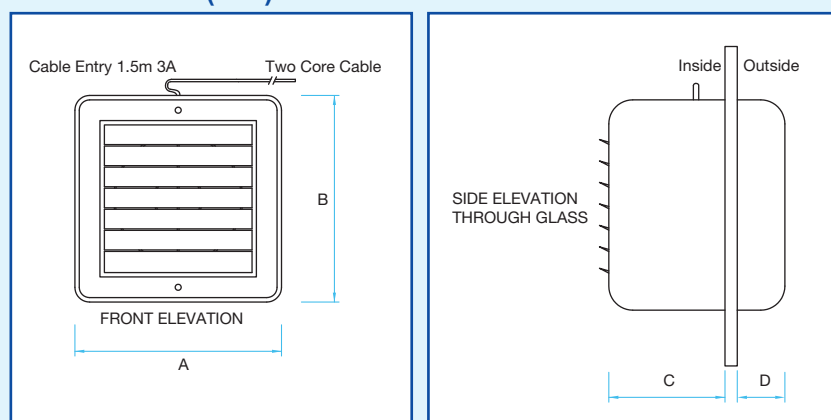
## AVAILABLE OPTIONS

- With pullcord switch.
- Timer model complete with pullcord.
- Humidity control complete with pullcord.

## RANGE

Description	Code
WINDOW - XW 150 A	

## DIMENSIONS (mm)



Model	A	B	C	D
XW 150A	203	203	95	23

## TECHNICAL DETAILS

Model	Maximum airflow (m³/h)	Power consumption (W)
XW 150 A	220	45

## ADDITIONAL DATA

- Maximum pressure: 50 Pa.
- Fan speed: 2400 r.p.m.
- Noise level: 40 dB(A).

# Small Axial Extract Fans

## WINDOW



XW 230 A (9")

### Compliance

- CE electrical safety.

### Advantages

- Induction motor with long maintenance free life.
- Double insulated.
- Strong, durable with glossy finish.
- Auto shutter.

## APPLICATION

- Occasional ventilation suitable for kitchens, utility rooms, pubs, restaurants, offices, shops and factories.
- Forced and intermittent air exhaust.
- For residential and commercial buildings.

## DESCRIPTION

- Automatic model with thermo-activated internal shutters.
- Grille in impact resistant high gloss ABS material.
- 4 pole, 1-phase, 220 - 240V ~ A.C. 50 Hz induction motor, protected by thermal fuse.
- A double pole isolating switch, having a contact separation of at least 3 mm in all poles, must be used with a 3 amp fuse fitted.
- Totally enclosed for protection against dust and dirt.
- Motors are continually rated.

## INSTALLATION

- Fitting by 4 screws.
- Window mounted through a standard 260 mm Ø hole.
- A wall fixing kit is also available upon request for through wall mounting.

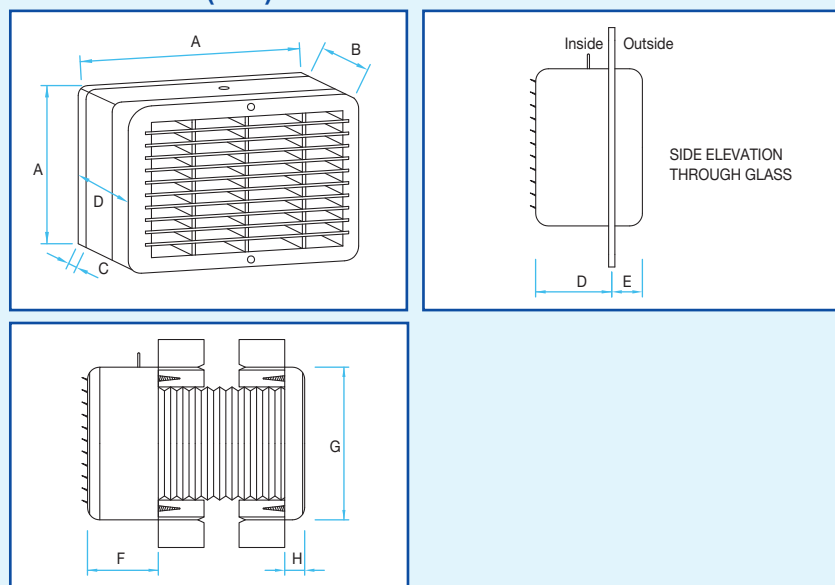
## AVAILABLE OPTIONS

- With pullcord switch.
- Timer model complete with pullcord.
- Humidity control complete with pullcord.

## RANGE

Description	Code
WINDOW - XW 230 A	

## DIMENSIONS (mm)



Model	A	B	C	D	E	F	G	H
XW 230 A	286	286	4-32	112	25	112	286	25

## TECHNICAL DETAILS

Model	Maximum airflow (m <sup>3</sup> /h)	Power consumption (W)
XW 230 A	550	80

## ADDITIONAL DATA

- Maximum pressure: 50 Pa.
- Fan speed: 1250 r.p.m.
- Noise level: 50 dB(A).

# Small Axial Extract Fans

## In-line fans



INTEGRATED

### APPLICATION

- Occasional ventilation in a room.
- Forced and intermittent air exhaust.

### DESCRIPTION

- Material: polypropylene body.
- Motor on roller bearings.
- Thermal protection by fusible link.
- Electrical insulation: class II.

### INSTALLATION

- Insertion inside a duct.
- Provide for an air inlet grille or a recess clearance for a good level of air supply to the room.

### RANGE R18

Description	Code
INTEGRATED Ø 100 mm	11022282
INTEGRATED Ø 120 mm	11022283
INTEGRATED Ø 150 mm	11022284

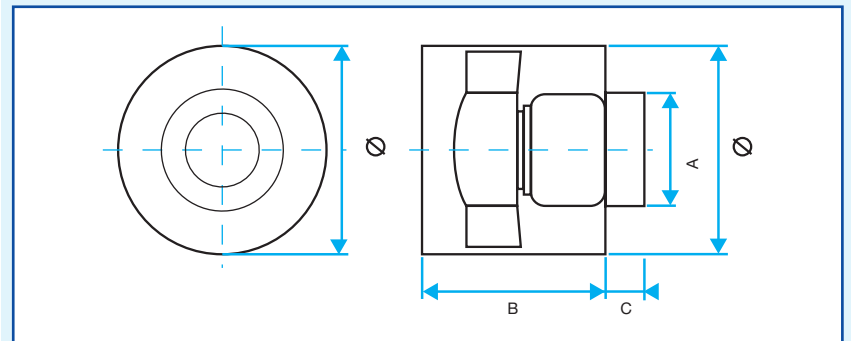
### Compliance

- CE electrical safety.
- WEEE electrical recycling capability.

### Advantages

- Air exhaust or air supply.
- No fan in the room (fitted into the duct).

### DIMENSIONS (mm)



Model	A	B	C
XI 100	53	83	13
XI 120	53	83	13
XI 150	53	83	13

### TECHNICAL DETAILS

- Power supply: 230 V - 50 Hz 1-phase.

Model	Maximum airflow (m <sup>3</sup> /h)	Power consumption (W)
XI 100	80	15
XI 120	140	15
XI 150	210	20



# Duct Fans

## In-line fans



VC

### APPLICATION

- Air exhaust / air supply in circular ductworks.
- For commercial and industrial premises.

### DESCRIPTION

- 6 models, up to 1500 m<sup>3</sup>/h in Ø 315 mm.
- Body made of galvanised sheet with in-line connections.
- Centrifugal impeller.
- Motor with exterior rotor single-phase 230 V - 50 hz - IP 44.
- Thermal protection incorporated in the motor winding.

### INSTALLATION

- Horizontal / vertical.
- Suspended ceilings / technical areas.
- Installation recommended with anti-vibration collars to prevent transmission of vibrations and facilitate maintenance.

### RANGE R6

Description	Code
VC 100	11032005
VC 125	11032004
VC 160	11032001
VC 200	11032002
VC 250	11032003
VC 315	11032006

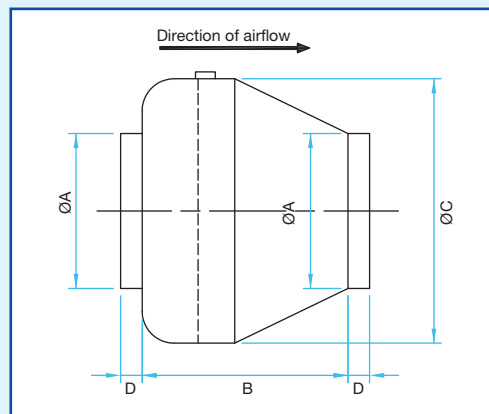
### ACCESSORIES R6

Description	Code
<b>Connection</b>	
Anti-vibration collar Ø 100 mm	11032105
Anti-vibration collar Ø 125 mm	11032104
Anti-vibration collar Ø 160 mm	11032101
Anti-vibration collar Ø 200 mm	11032102
Anti-vibration collar Ø 250 mm	11032103
Anti-vibration collar Ø 315 mm	11032107
<b>Electrical</b>	
1.5 A voltage regulator	11086572
1-phase electronic controller 5 A	11057080

### Advantages

- "Flat" airflow curves.
- Design.
- Air exhaust or air supply.
- Thermally protected motor winding.

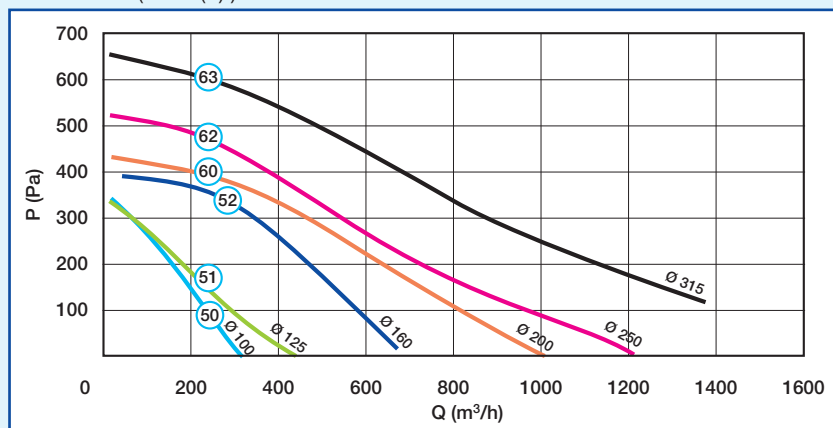
### DIMENSIONS - WEIGHT



Type	A (mm)	B (mm)	C (mm)	D (mm)	Weight (Kg)
Ø 100	100	188	288	30	2.1
Ø 125	125	188	288	30	2.1
Ø 160	160	170	379	30	2.5
Ø 200	200	198	379	30	4.1
Ø 250	250	195	379	30	4.2
Ø 315	315	218	453	30	4.5

### AIRFLOW AND ACOUSTIC DETAILS

- Airflow curves drawn up in accordance with the Standard NF-E 51.705.
- Acoustic pressure levels measured 3 m from the fan with suction and fan outlet connected (in dB (A)).

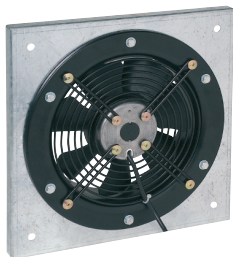


### ELECTRICAL DETAILS

Type	N° of poles	Max. power cons. (W)	Max. current cons. (A)	Capacitor (F)
Ø 100	2	56	0.24	2
Ø 125	2	59	0.25	2
Ø 160	2	99	0.44	2
Ø 200	2	140	0.60	5
Ø 250	2	193	0.84	5
Ø 315	2	274	1.21	5

# Axial Fans

## Wall mounted fans



HELICA

### Advantages

- Airflow between 100 and 3000 m<sup>3</sup>/h.
- Variable speed control is possible.
- Installation savings.
- Protective grille on motor side included.

### APPLICATION

- Ventilation for industrial, agricultural, commercial or residential buildings (car parks), without the necessity for a fire protection rating, as a complement to the HELIONE range.

### DESCRIPTION

- Axial fan with a galvanised fan blade, painted in black.
- Protective grille on suction side included.
- Ambient temperature: - 20° C at + 50°C.
- IP 44, class F, external rotor with the possibility of variable speed control.
- Single phase 230 V - 50 Hz supply (60 Hz possible if capacitor is changed).
- Used for exhaust purposes.

### ROUND SHELL RANGE R8

Description	Code
HELICA 200 - 1.500 rpm VR	11032201
HELICA 200 - 2.800 rpm VR	11032202
HELICA 250 - 1.500 rpm VR	11032203
HELICA 250 - 2.800 rpm VR	11032204
HELICA 300 - 1.500 rpm VR	11032205
HELICA 300 - 2.800 rpm VR	11032206
HELICA 350 - 1.500 rpm VR	11032207
HELICA 400 - 1.500 rpm VR	11032208

### SQUARE PLATE RANGE R8

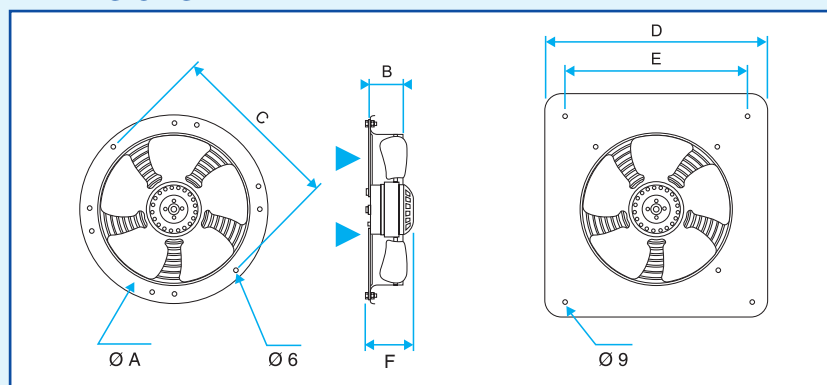
Description	Code
HELICA 200 - 1.500 rpm PC	11032211
HELICA 200 - 2.800 rpm PC	11032212
HELICA 250 - 1.500 rpm PC	11032213
HELICA 250 - 2.800 rpm PC	11032214
HELICA 300 - 1.500 rpm PC	11032215
HELICA 300 - 2.800 rpm PC	11032216
HELICA 350 - 1.500 rpm PC	11032217
HELICA 400 - 1.500 rpm PC	11032218

### ACCESSORIES R7

Description	Code
Protective grille - HELICA 200/ 250/ 300/ 350	11032222
HELICA 400 protection grille	11032223
Automatic shutter HELICA 200/250/300	11032231
HELICA 350 automatic shutter	11032232
HELICA 400 automatic shutter	11032233
1.5 A voltage regulator	11086572

- The protection grille or the automatic shutter are positioned on the axial fan blade side.

### DIMENSIONS



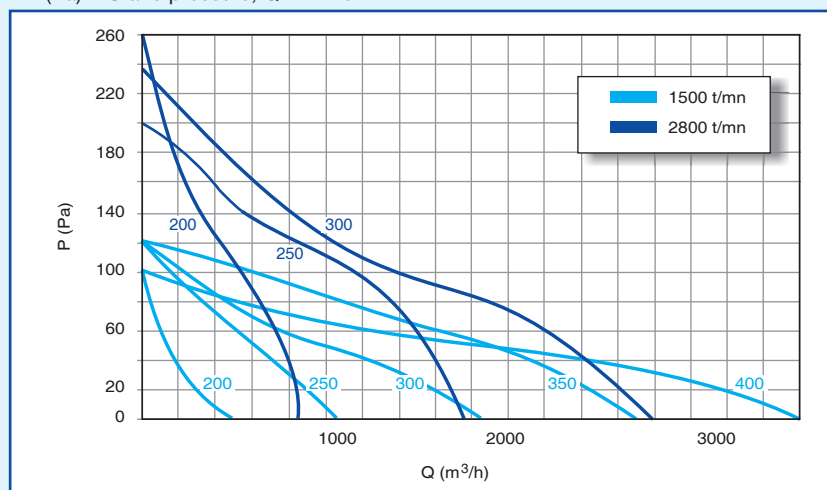
Description	Opening Ø (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)
HELICA 200	230	280	52	250	312	260	115
HELICA 250	280	320	55	295	370	320	115
HELICA 300	330	397	82	380	430	380	138
HELICA 350	380	460	86	442	495	435	142
HELICA 400	430	528	100	504	540	490	142

### AIRFLOW DETAILS

Description	I max (A)	P max. cons. (W)	Lp at 1 m dB (A)	Weight VR (Kg)	Weight PC (Kg)
HELICA 200 - 1.500 rpm	0.14	31	50	2.2	2.6
HELICA 200 - 2.800 rpm	0.30	59	63	1.8	2.6
HELICA 250 - 1.500 rpm	0.25	55	55	3.0	3.7
HELICA 250 - 2.800 rpm	0.46	101	71	3.0	3.7
HELICA 300 - 1.500 rpm	0.41	88	61	4.5	5.2
HELICA 300 - 2.800 rpm	0.81	181	77	4.8	5.6
HELICA 350 - 1.500 rpm	0.54	120	64	5.8	6.6
HELICA 400 - 1.500 rpm	0.63	141	69	6.7	7.6

### AIRFLOW CURVES

- P (Pa) = Static pressure, Q = Airflow.



# Axial Fans

## Presentation of the HELIONE CE range of helicoid air pattern axial fans



Short shell

**CIVIL DEFENCE APPROVED**

**Compliance**

- F400°(2h) and F200°(2h) classifications.
- Conforms with the CE marking in accordance with Standard EN 12101-3.

**Advantages**

- Wide range for car parks, commercial and industrial buildings.
- Numerous accessories to facilitate installation.

### APPLICATION

- With its F200°(2h) and F400°(2h) fire resistance classifications, the new HELIONE range meets the needs for ventilation and smoke exhaust in residential, commercial and industrial buildings, where high airflows with low pressures are required.
- HELIONE operates just as well for air exhaust as for fresh air supply in premises where acoustic requirements are not predominant or for occasional

### DESCRIPTION

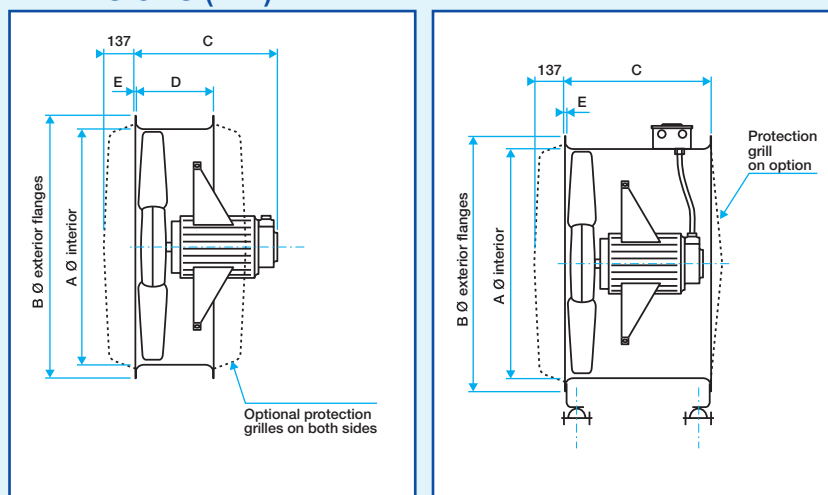
- The standard HELIONE range varies from Ø 500 to Ø 1,000 mm for standard airflows of 5000 to 72000 m<sup>3</sup>/h for pressures of 100 to 500 Pa.
- The new HELIONE range can meet the requirements for numerous other cases, like different airflows and pressure levels for example: Please feel free to contact us.
- Propellers comprised of several blades in aluminium, mounted on an aluminium hub. The angle adjustment is determined depending on the operating point.
- Each blade is radiographically X-rayed before assembly in order to check the high quality of the material.
- The shells are formed from tubular metal plate, with integrated folded edges drilled for connections, continuous welded and hot galvanised following fabrication for a longer service life. Standard = short shell, long shell on option.
- The motor's fixing arms are hot galvanised for better corrosion resistance.
- 4 pole or 4/8 pole boss type motor, IP 55 tropicalised, class F as standard. Operating temperature range -20/ 50°C.

60 Hz motor: please, consult us. All motors are calculated to bear the input power throughout the length of the curve.

### AVAILABLE OPTIONS

- Long shell: comprises a pre-wired external terminal box.

### DIMENSIONS (mm)



Short shell

Long shell

Please, consult us to have the detailed technical data sheets for each model.

Short shell				
A	B	C	D	E
560	654	348	225	2,5
630	724	348	225	3
710	804	348	225	3
800	894	459	225	3
900	1006	459	225	3
		445	300	5
		575	300	5
1000	1106	459	225	3
		445	300	5
		575	300	5
Long shell				
560	654	375	368	2,5
630	724	375	403	3
710	804	375	443	3
800	894	520	488	3
900	1006	520	538	3
		520	575	5
		625	575	5
1000	1106	520	588	3
		520	625	5
		625	625	5

# Axial Fans

## Presentation of the HELIONE CE range of helicoid air pattern axial fans



Long shell

**CIVIL DEFENCE APPROVED**

**Compliance**

- F400°(2h) and F200°(2h) classification.
- Conforms with the CE marking in accordance with Standard EN 12101-3.

**Advantages**

- Wide range for car parks, commercial and industrial buildings.
- Numerous accessories to facilitate installation.

### ACCESSORIES

- Protective mesh comes in both motor side and propeller side.
- Flexible sleeve is fitted between the mating flange and the circular duct. Incombustible fabric (M0).
- Mating flange in galvanised steel. It enables HELIONE to be connected to a circular duct. Necessary connection for the flexible sleeve.
- Square plate in galvanised steel to fix HELIONE in a wall mounting configuration.
- Feet supports (x2) in galvanised steel to fix HELIONE to the floor.
- Anti-vibration mountings (x4) are fixed under the feet supports.
- Backdraft damper: circular, with 2 galvanised steel blades.
- Passive circular noise trap / silencer.
- Electrical accessories:
  - proximity switch,
  - pressure switch,
  - emergency stop button.

### INSTALLATION

A (MH) OR B (HM) MOUNTING:

Horizontal on the ground and wall mounted against a wall:

- Indispensible options: economic square plate, feet and anti-vibration mountings, mating flange and flexible sleeves or grille if not connected up.

Horizontal on the ground between two ducts:

- Indispensible options: feet and anti-vibration mountings, mating flanges and flexible sleeves on both sides, long shell for motor access through the inspection hatch.

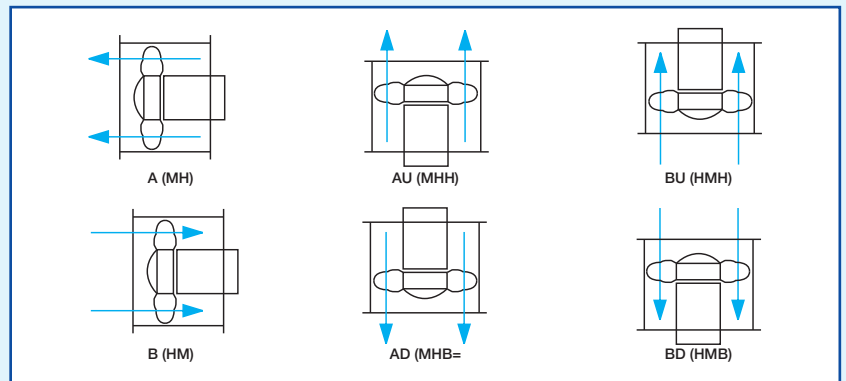
Horizontal fixed by wall mounting against a wall:

- Indispensible options: reinforced square plate for wall mounting, mating flange and flexible sleeve or grille if not connected up.

AU (MHH), BU (HMH), AD (MHB), BD (HMB) MOUNTING

Vertical, suspended under a ceiling tile or duct:

- The tubular casing must be bolted using all of the holes in its flange.
- Indispensible options: protective grille if access remains possible or if there are any risks of waste being sucked in, if connected from both sides: long shell tubular casing for motor access through the inspection hatch.





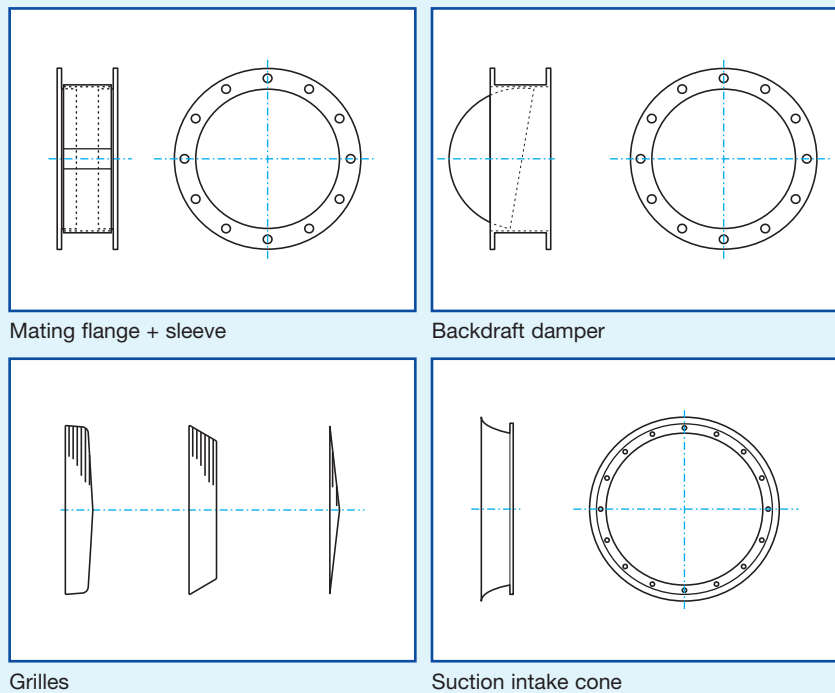
# Axial Fans

## HELIONE accessories

### DESCRIPTION

- Protective mesh comes in both motor side and propeller side.
- Flexible sleeve is fitted between the mating flange and the circular duct. Incombustible fabric (M0).
- Mating flange in galvanised steel. It enables HELIONE to be connected to a circular duct. Necessary connection for the flexible sleeve.
- Square plate in galvanised steel to fix HELIONE in a wall mounting configuration.
- Feet supports (x2) in galvanised steel to fix HELIONE to the floor.
- Anti-vibration mountings (x4) are fixed under the feet supports.
- Backdraft damper: circular, with 2 galvanised steel blades.
- Passive circular noise trap/ silencer: please consult us.
- Electrical accessories not connected:  
proximity disconnecting switch, pressure switch, emergency stop button → see *Electrical accessories* page 177 for pressure switch; for others, please consult us.

### PRINCIPLE DIAGRAMS



### ACCESSORIES R8

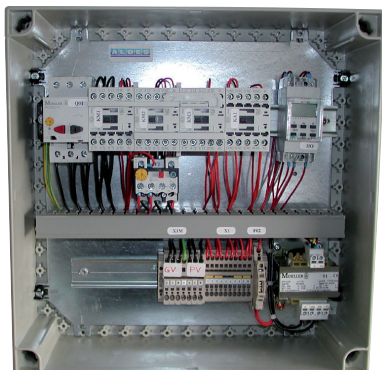
Description	560 Code	630 Code	710 Code	800 Code
"Economic" square plate	11090456	11090457	11090458	11090459
"Reinforced" square plate	11090464	11090465	11090466	11090467
Flexible sleeve	11090400	11090401	11090402	11090403
Horizontal backdraft damper	11090448	11090449	11090450	11090451
Mating flange	11090408	11090409	11090410	11090411
Motor grille for long shells	11090424	11090425	11090426	11090427
Motor grille for short shells	11090472	11090473	11090474	11090475
Propeller mesh	11090416	11090417	11090418	11090419
Set of 2 feet	11090480	11090481	11090482	11090483
Suction intake cone	11090432	11090433	11090434	11090435
Vertical backdraft damper	11090440	11090441	11090442	11090443

Description	0900 Code	1000 Code	1120 Code	1250 Code
"Economic" square plate	11090460	11090461	11090462	11090463
"Reinforced" square plate	11090468	11090469	11090470	11090471
Flexible sleeve	11090404	11090405	11090406	11090407
Horizontal backdraft damper	11090452	11090453	11090454	11090455
Mating flange	11090412	11090413	11090414	11090415
Motor grille for long shells	11090428	11090429	11090430	11090431
Motor grille for short shells	11090476	11090477	11090478	11090479
Propeller mesh	11090420	11090421	11090422	11090423
Set of 2 feet	11090484	11090485	11090486	11090487
Suction intake cone	11090436	11090437	11090438	11090439
Vertical backdraft damper	11090444	11090445		

Description	Code
<b>Set of 4 anti-vibrations mountings for HELIONE F200</b>	
Set of 4 HELIONE F200-560-630-710 mountings	11090490
Set of 4 HELIONE F200-800-900 mountings	11090492
Set of 4 HELIONE F200-1000-1120-1250 mountings	11090495
<b>Set of 4 anti-vibrations mountings for HELIONE F400</b>	
Set of 4 HELIONE F400-560-630-710 mountings	11090496
Set of 4 HELIONE F400-800-900 mountings	11090497
Set of 4 HELIONE F400-1000-1120-1250 mountings	11090498

# Axial Fans

## Car Park smoke extraction control unit



### Advantages

- Box ready for wiring.
- Backed-up programmable timer.

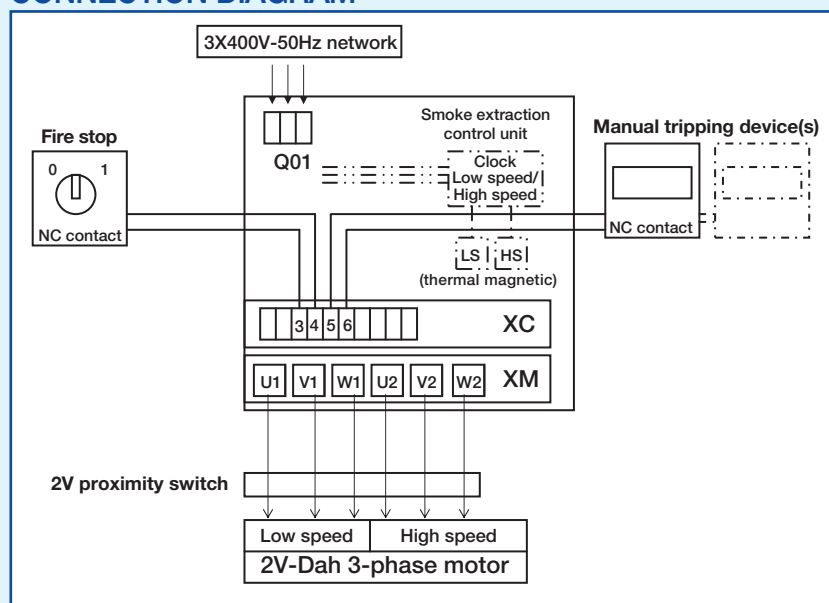
### APPLICATION

- This control unit, with its incorporated clock, allows for programming the fan (low speed/ high speed/ stop) with a forecast of the vehicle traffic in the car park. This control unit is particularly suited to multi-family housing buildings car parks.
- It manages the tripping of manual smoke extraction and stopping smoke extraction at the request of firefighters.

### DESCRIPTION

- IP 55 plastic box.
- Dimensions: width x height x depth = 375 x 375 x 200 mm.
- Backed-up weekly programmed timer.
- Protection of the motor under high speed and low speed by thermal magnetic circuit breakers, whose current rating is to be chosen depending on the motor used.
- Range for a 2-speed Dahlander motor, 400V 3-phase.
- Inputs / outputs terminal for manual smoke extraction de-energize to operate tripping devices (dry-contacts on opening).
- Connection possible for a key operated 'Fire stop' device (dry-contact on opening).
- Instructions note and drawing available from your agency.

### CONNECTION DIAGRAM



## CAR PARK SMOKE EXTRACTION CONTROL UNIT R8

Description	Code
Car Park control unit 4/ 1.6 A - DAH	11057252
Car Park control unit 6/ 1.6 A - DAH	11057255
Car Park control unit 9/ 2.4 A - DAH	11057253
Car Park control unit 12/ 4 A - DAH	11057256
Car Park control unit 16/ 6 A - DAH	11057254
Car Park control unit 24/ 6 A - DAH	11057257
Car Park control unit 31/ 10A - DAH	11057258
Car Park control unit 40/ 12 A - DAH	11057259
Car Park control unit 57/ 16 A - DAH	11057260

### ACCESSORIES R8

Description	Code
Manual tripping device	11044121
Fire stop NO + NC	11057251

- The mating flange, flexible sleeve, the propeller side grille, motor side grille on long shells, square plate and backdraft dampers all depend on the diameter only. (1)
- (1) Please, choose the accessories according to the axial fan's diameter as shown below.

# Axial Fans

## HELIONE F200 and unclassified - 1-speed

**New**



Short shell



Long shell

**Compliance**

- F200(2h) classification.
- Conforms with the CE marking in accordance with Standard EN 12101-3.

**CIVIL DEFENCE APPROVED**

**Advantages**

- Up to 70000 m<sup>3</sup>/h.
- Wide range for car parks, commercial and industrial buildings.
- Numerous accessories to facilitate installation.

### APPLICATION

- Ventilation and smoke extraction for covered car parks.
- Selection tables define the standard range. For more precise details, please consult us.

### UNCLASSIFIED RANGE / F200 (2h) 1-SPEED **R8**

Description	Code
HELIONE F200-560/20/4/6 - 0.66 kW	11090299
HELIONE F200-560/20/4/6 - 1.15 kW	11090300
HELIONE F200-630/20/4/3 - 1.4 kW	11090301
HELIONE F200-710/20/4/3 - 1.4 kW	11090302
HELIONE F200-710/20/4/3 - 1.6 kW	11090303
HELIONE F200-710/25/4/9 2.7 kW	11090304
HELIONE F200-800/20/4/3 - 2.7 kW	11090305
HELIONE F200-710/20/4/6 - 3.2 kW	11090306
HELIONE F200-900/25/4/3 - 3.2 kW	11090307
HELIONE F200-900/25/4/6 - 3.2 kW	11090308
HELIONE F200-900/25/4/6 - 4.4 kW	11090309
HELIONE F200-900/25/4/6 - 6.6 kW	11090310
HELIONE F200-900/25/4/9 - 6.6 kW	11090311
HELIONE F200-1000/25/4/3 - 4.4 kW	11090312
HELIONE F200-1000/25/4/3 - 6.6 kW	11090313
HELIONE F200-1000/25/4/6 - 4.4 kW	11090314
HELIONE F200-1000/25/4/6 - 9 kW	11090315
HELIONE F200-1000/25/4/6 - 13.2 kW	11090316
HELIONE F200-1000/25/4/9 - 18 kW	11090317
HELIONE F200-1000/31/4/9 - 22.2 kW	11090318
HELIONE F200-1000/31/4/9 - 27 kW	11090319

### AVAILABLE OPTIONS **R8**

Description	Code
Long shell Ø 560	OPT90392
Long shell Ø 630	OPT90393
Long shell Ø 710	OPT90394
Long shell Ø 800	OPT90395
Long shell Ø 900	OPT90396
Long shell Ø 1000	OPT90397

### RECOMMENDATION

- For an installation with anti-vibration mountings, above Ø 800, and for > 4 kW motors, we recommend you to order the long shell option. If not, provide for stringers between the feet and the mountings to redistribute the weight.

### SELECTION HELIONE F200 (2h) - 1-SPEED

• The number of boxes corresponds to the last figures of the Aldes code.

Q (m <sup>3</sup> /h)	Pressure (Pa)							
	150	200	250	300	350	400	450	500
5400	299	299						
7200	299	299						
9000	300	300						
10800	300	300						
11400	301	302	302	306	306	304	308	
12000	301	302	302	306	306	304	308	
12600	301	302	302	306	306	304	308	314
13200	301	302	303	306	306	304	308	314
13800	301	302	303	306	306	304	308	314
14400	302	302	303	306	306	308	308	314
15000	302	302	306	306	306	308	308	314
15600	302	303	306	306	306	308	308	314
16200	302	303	306	306	306	308	309	314
16800	302	305	306	306	306	308	309	314
17400	303	305	306	306	306	308	314	314
18000	303	305	306	306	306	308	314	314
21000	305	305	305	307	309	309	311	311
24000	305	305	307	307	309	309	311	311
27000	307	307	307	312	310	311	311	315
30000	307	307	312	312	310	310	310	315
33000	307	312	312	312	310	310	315	315
36000	312	312	312	313	315	315	315	315
39000	312	312	313	315	315	315	315	316
42000	312	313	313	315	315	315	316	316
45000	313	313	315	315	315	316	316	316
48000	313	315	315	315	316	316	316	316
54000	315	315	316	316	316	316	317	317
60000	316	316	316	316	317	317	317	318
66000	316	316	317	317	318	318	319	319
72000	317	317	318	318	319			

### ELECTRICAL DETAILS F400

F200 motor - 1-speed - 4 pole		
Power (kW)	Rated current (A)	Start-up current (A)
0.66	1.9	6.4
1.15	3.2	11.0
1.4	3.8	13.5
1.6	3.9	19.0
2.7	5.8	30.0
3.2	6.8	35.0
4.4	9.3	55.0
6.6	12.6	84.0
9.0	17.0	114.0
13.2	25.4	127.0
18.0	34.8	171.0
22.2	41.0	242.0
27.0	49.8	284.0



# Axial Fans

## HELIONE F200 and unclassified - 2-speed

**New**



Short shell



Long shell

### Compliance

- F200<sup>o</sup>(2h) classification.
- Conforms with the CE marking in accordance with Standard EN 12101-3.

**CIVIL DEFENCE APPROVED**

### Advantages

- Up to 70000 m<sup>3</sup>/h.
- Wide range for car parks, commercial and industrial buildings.
- Numerous accessories to facilitate installation.

### APPLICATION

- Ventilation and smoke extraction for covered car parks.
- Selection tables define the standard range. For more precise details, please consult us.

### UNCLASSIFIED RANGE / F200 (2h) 2-SPEED R8

Description	Code
HELIONE F200-560/20/4-8/6 -0.92/0.23 kW	11090320
HELIONE F200-630/20/4-8/3 -1.84/0.46 kW	11090321
HELIONE F200-710/20/4-8/3 -1.84/0.46 kW	11090322
HELIONE F200-800/20/4-8/3 -3.22/0.8 kW	11090323
HELIONE F200-710/20/4-8/6 -3.22/0.8 kW	11090324
HELIONE F200-900/25/4-8/3 -3.22/0.8 kW	11090325
HELIONE F200-900/25/4-8/6 -3.22/0.8 kW	11090326
HELIONE F200-900/25/4-8/6 -4.37/1.15 kW	11090327
HELIONE F200-900/25/4-8/6 -5.75/1.5 kW	11090328
HELIONE F200-1000/25/4-8/3 -4.37/1.15 kW	11090329
HELIONE F200-1000/25/4-8/3 -5.75/1.5 kW	11090330
HELIONE F200-1000/25/4-8/6 -4.37/1.15 kW	11090331
HELIONE F200-1000/25/4-8/6 -5.75/1.5 kW	11090332
HELIONE F200-1000/25/4-8/6 -7.2/1.8 kW	11090333
HELIONE F200-1000/25/4-8/6 -12.7/3.45 kW	11090334
HELIONE F200-1000/25/4-8/9 -16.1/4.03 kW	11090335
HELIONE F200-1000/31/4-8/9 -19.6/4.95 kW	11090336
HELIONE F200-1000/31/4-8/9 -23/5.75 kW	11090337

### AVAILABLE OPTIONS R8

Description	Code
Long shell Ø 560	OPT90392
Long shell Ø 630	OPT90393
Long shell Ø 710	OPT90394
Long shell Ø 800	OPT90395
Long shell Ø 900	OPT90396
Long shell Ø 1000	OPT90397

### RECOMMENDATION

- Please, see page 86.

### SELECTION HELIONE F200 (2h) - 2-SPEED

- The number of boxes corresponds to the last figures of the Aldes code.

Q (m <sup>3</sup> /h)	Pressure (Pa)							
	150	200	250	300	350	400	450	500
5400	20	20						
7200	20	20						
9000	20	20						
10800	21	21						
11400	21	22	22	24				
12000	21	22	22	24	24	26	26	
12600	21	22	22	24	24	26	26	31
13200	21	22	22	24	24	26	26	31
13800	21	22	22	24	24	26	26	31
14400	22	22	22	24	24	26	26	31
15000	22	22	24	24	24	26	26	31
15600	22	22	24	24	24	26	26	31
16200	22	22	24	24	24	26	31	31
16800	22	23	24	24	24	26	31	31
17400	22	23	24	24	24	26	31	31
18000	22	23	24	24	24	26	31	31
21000	23	23	23	25	27	31	31	32
24000	23	23	25	25	27	31	28	32
27000	23	25	25	29	31	28	32	33
30000	25	25	29	29	28	33	33	33
33000	25	29	29	29	33	33	33	34
36000	29	29	29	30	33	33	34	34
39000	29	29	30	33	33	34	34	34
42000	29	30	30	33	34	34	34	34
45000	30	30	33	33	34	34	34	34
48000	30	33	33	34	34	34	34	35
54000	34	34	34	34	34	35	35	35
60000	34	34	34	34	35	36	36	36
66000	34	35	36	36	36	37	37	37
72000	36	36	37	37	37			

### ELECTRICAL DETAILS F200

F200 motor - 2-speed - 4/8 pole		
Power (kW)	Rated current (A)	Start-up current (A)
0.92/0v23	2.21/0.94	9.3/2.4
1.84/0.46	4.23/1.77	21.6/5.5
3.22/0.8	6.8/2.54	36/8.6
4.37/1.15	9.23/3.02	55.4/10.8
5.75/1.5	11.8/3.78	88.5/21.5
7.2/1.8	13.8/4.24	89.7/22
12.7/3.45	24/7.81	146/30.5
16.1/4.03	30.4/9.41	192/35.8
19.6/4.95	37.9/14	269/50.4
23/5.75	43.4/15.1	339/72.5



# Axial Fans

**New**

## HELIONE F400 - 1-speed



Short shell

Long shell

**Compliance**

- F400°(2h) classification.
- Conforms with the CE marking in accordance with Standard EN 12101-3.

**CIVIL DEFENCE APPROVED**

**Advantages**

- Up to 70000 m<sup>3</sup>/h.
- Wide range for car parks, commercial and industrial buildings.
- Numerous accessories to facilitate installation.

### APPLICATION

- Smoke exhaust in public assembly and high rise buildings.
- Ventilation and smoke extraction for covered car parks.
- Selection tables define the standard range. For more precise details, please consult us.

### RANGE - F400 (2h) - 1-SPEED R8

Description	Code
HELIONE F400-560/16/4/5 - 0.9 kW	11090340
HELIONE F400-630/20/4/6 - 0.9 kW	11090341
HELIONE F400-630/20/4/6 - 1.27 kW	11090342
HELIONE F400-630/20/4/6 - 1.8 kW	11090343
HELIONE F400-710/25/4/6 - 1.8 kW	11090345
HELIONE F400-800/25/4/3 - 1.8 kW	11090346
HELIONE F400-800/25/4/3 - 2.64 kW	11090347
HELIONE F400-800/25/4/6 - 2.64 kW	11090348
HELIONE F400-800/25/4/6 - 3.6 kW	11090349
HELIONE F400-900/25/4/3 - 3.6 kW	11090350
HELIONE F400-900/25/4/6 - 3.6 kW	11090351
HELIONE F400-900/25/4/6 - 4.8 kW	11090352
HELIONE F400-900/25/4/6 - 6.6 kW	11090353
HELIONE F400-900/25/4/9 - 3.6 kW	11090354
HELIONE F400-900/25/4/9 - 4.8 kW	11090355
HELIONE F400-900/25/4/9 - 6.6 kW	11090356
HELIONE F400-900/25/4/9 - 9 kW	11090357
HELIONE F400-900/25/4/9 - 11 kW	11090358
HELIONE F400-1000/31/4/6 - 6.6 kW	11090359
HELIONE F400-1000/31/4/6 - 9 kW	11090360
HELIONE F400-1000/31/4/6 - 11 kW	11090361
HELIONE F400-1000/31/4/6 - 13.2 kW	11090362
HELIONE F400-1000/31/4/9 - 11 kW	11090363
HELIONE F400-1000/31/4/9 - 13.2 kW	11090364
HELIONE F400-1000/31/4/9 - 18 kW	11090365
HELIONE F400-1000/31/4/9 - 20.4 kW	11090366
HELIONE F400-1000/31/4/9 - 27 kW	11090367

### AVAILABLE OPTIONS

Description	Code
Long shell Ø 560	OPT90392
Long shell Ø 630	OPT90393
Long shell Ø 710	OPT90394
Long shell Ø 800	OPT90395
Long shell Ø 900	OPT90396
Long shell Ø 1000	OPT90397

### RECOMMENDATION

- For an installation with anti-vibration mountings, above Ø 800, and for > 4 kW motors, we recommend you to order the long shell option. If not, provide for stringers between the feet and the mountings to redistribute the weight.

### SELECTION HELIONE F400 (2h) - 1-SPEED

The number of boxes corresponds to the last figures of the Aldes code.

Q (m <sup>3</sup> /h)	Pressure (Pa)							
	150	200	250	300	350	400	450	500
5400	40	41	45	45				
7200	40	41	45	48				
9000	40	42	45	48				
10800	42	42	45	48				
11400	42	43	45	48				
12000	43	43	45	48	51	51	54	55
12600	43	43	45	48	51	51	54	55
13200	43	43	45	48	51	51	54	55
13800	43	46	48	48	51	51	54	55
14400	43	46	48	48	51	54	55	55
15000	43	46	48	48	51	54	55	55
15600	46	46	48	48	51	54	55	55
16200	46	46	48	49	51	55	55	55
16800	46	47	48	49	51	55	55	55
17400	46	47	48	49	51	55	55	55
18000	46	47	48	49	52	55	55	56
21000	47	47	49	49	52	55	56	56
24000	47	50	49	52	52	56	56	56
27000	50	50	52	52	53	56	57	57
30000	50	50	52	53	53	59	57	57
33000	50	53	53	53	57	57	57	57
36000	53	53	53	59	57	57	58	63
39000	53	53	59	59	57	60	58	64
42000	53	59	59	60	60	61	61	64
45000	59	59	60	60	61	61	64	65
48000	59	60	60	60	61	62	65	65
54000	60	61	61	62	62	65	65	65
60000	62	62	62	65	65	66	67	67
66000	62	65	66	66	67	67		
72000	66	67	67	67				

### ELECTRICAL DETAILS F400

F400 motor - 1-speed - 4 pole		
Power (kW)	Rated current (A)	Start-up current (A)
0.66	1.56	8.2
0.90	2.00	9.4
1.27	3.08	14.2
1.80	3.75	19.8
2.64	5.42	30.9
3.60	7.03	38.6
4.80	9.23	57.2
6.60	12.60	84.0
9.00	17.10	114.0
11.00	21.40	107.0
13.20	24.30	165.3
18.00	34.70	170.0
20.40	41.40	242.0
27.00	49.80	284.0

# Axial Fans

## HELIONE F400 - 2-speed

**New**



Short shell

Long shell

### Compliance

- F400°(2h) classification.
- Conforms with the CE marking in accordance with Standard EN 12101-3.

**CIVIL DEFENCE APPROVED**

### Advantages

- Up to 70000 m<sup>3</sup>/h.
- Wide range for car parks, commercial and industrial buildings.
- Numerous accessories to facilitate installation.

### APPLICATION

- Smoke exhaust in public assembly and high rise buildings.
- Ventilation and smoke extraction for covered car parks.
- Selection tables define the standard range. For more precise details, please consult us.

### RANGE - F400 (2h) - 2-SPEED R8

Description	Code
HELIONE F400-560/16/4-8/5 - 0.92/0.23 KW	11090370
HELIONE F400-630/20/4-8/6 - 0.92/0.23 KW	11090371
HELIONE F400-630/20/4-8/6 - 1.84/0.46 KW	11090372
HELIONE F400-710/25/4-8/6 - 1.84/0.46 KW	11090373
HELIONE F400-800/25/4-8/3 - 1.84/0.46 KW	11090374
HELIONE F400-800/25/4-8/3 - 2.53/0.63 KW	11090375
HELIONE F400-800/25/4-8/6 - 2.53/0.63 KW	11090376
HELIONE F400-800/25/4-8/6 - 3.22/0.8 KW	11090377
HELIONE F400-900/25/4-8/3 - 3.22/0.8 KW	11090378
HELIONE F400-900/25/4-8/6 - 4.37/1.15 KW	11090379
HELIONE F400-900/25/4-8/6 - 5.75/1.5 KW	11090380
HELIONE F400-900/25/4-8/6 - 7.92/1.98 KW	11090381
HELIONE F400-900/25/4-8/9 - 4.37/1.15 KW	11090382
HELIONE F400-900/25/4-8/9 - 5.75/1.5 KW	11090383
HELIONE F400-900/25/4-8/9 - 7.92/1.98 KW	11090384
HELIONE F400-900/25/4-8/9 - 12.7/3.47 KW	11090385
HELIONE F400-1000/31/4-8/6 - 7.92/1.98 KW	11090387
HELIONE F400-1000/31/4-8/6 - 12.7/3.45 KW	11090388
HELIONE F400-1000/31/4-8/9 - 16.1/4.03 KW	11090389
HELIONE F400-1000/31/4-8/9 - 19.6/4.95 KW	11090390
HELIONE F400-1000/31/4-8/9 - 23/5.75 KW	11090391

### AVAILABLE OPTIONS

Description	Code
Long shell Ø 560	OPT90392
Long shell Ø 630	OPT90393
Long shell Ø 710	OPT90394
Long shell Ø 800	OPT90395
Long shell Ø 900	OPT90396
Long shell Ø 1000	OPT90397

### RECOMMENDATION

- Please, see page 88.

### SELECTION HELIONE F400 (2h) - 2-SPEED

- The number of boxes corresponds to the last figures of the Aldes code.

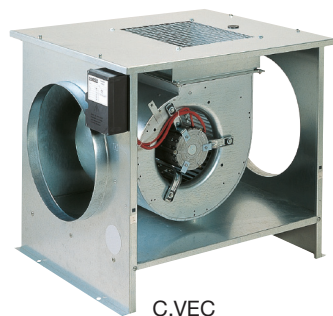
Q (m <sup>3</sup> /h)	Pressure (Pa)							
	150	200	250	300	350	400	450	500
5400	70	71	73	73				
7200	70	71	73	76				
9000	70	72	73	76				
10800	72	72	73	76				
11400	72	72	73	76				
12000	72	72	73	76			82	82
12600	72	72	73	76			82	82
13200	72	72	73	76			82	82
13800	72	74	76	76	82	82	82	82
14400	72	74	76	76	82	82	82	82
15000	72	74	76	76	82	82	82	83
15600	74	75	76	76	82	82	82	83
16200	74	75	76	77	82	82	82	83
16800	74	75	76	77	79	82	82	83
17400	74	75	76	77	79	82	83	83
18000	75	75	76	77	79	82	83	83
21000	75	78	77	79	79	83	83	83
24000	78	78	79	79	80	83	84	84
27000	78	78	79	80	80	84	84	84
30000	78	79	80	80	81	84	87	85
33000	79	80	80	81	81	87	87	85
36000	80	80	81	81	87	87	85	85
39000	80	81	81	81	87	85	85	85
42000	81	81	87	87	85	88	88	89
45000	87	87	87	88	88	88	89	89
48000	87	88	88	88	88	88	89	89
54000	88	88	88	88	89	89	90	90
60000	88	88	88	89	90	90	91	91
66000	88	90	90	90	91	91		
72000	90	91	91	91				

### ELECTRICAL DETAILS F400

F400 motor - 2-speed - 4/8 pole		
Power (kW)	Rated current (A)	Start-up current (A)
0.92/0.23	2.21/0.94	9.3/2.4
1.84/0.46	4.23/1.77	21.6/5.5
2.53/0.63	5.46/2.07	33.4/7
3.22/0.8	6.8/2.54	36/8.6
4.37/1.15	9.23/3.02	57.8/11
5.75/1.5	11.8/3.78	88.5/21.5
7.92/1.98	16.3/4.83	117/28.5
12.7/3.45	24/7.81	146/30.5
16.1/4.03	30.4/9.41	192/35.8
19.6/4.95	37.9/14	269/50.4
23/5.75	43.4/15.1	339/72.5

# Cabinet Fans

## Exhaust fans



C.VEC

### Compliance

- Standard XP P50-411 (DTU 68-2).
- 400° C (½h)

### Advantages

- External adjustment of the exclusive airflow (Aldes patent).

### APPLICATION

- Exhaust fan for CMEV systems.
- New apartment buildings and renovation work.
- C4 Fire resistance approval rating: 400°C - ½ h.

### DESCRIPTION

- Galvanised steel.
- Activated motorised fan.
- Direct drive\*.
- 3 sizes of casing: 750 - 1500 - 2500.
- Connection box with switch\*.

(\* Except for C.VEC 240 H, see page 91.

### INSTALLATION

- Attics / technical areas.
- Indoor / outdoor.

### RANGE R6

Description	Code
<b>Without pressure switch</b>	
C.VEC 750 R	11056071
C.VEC 1500 R	11056072
C.VEC 2500 R	11056073
C.VEC 240 H (3-phase)	11025137
<b>With pressure switch</b>	
C.VEC 750 R + pressure	11056074
C.VEC 1500 R + pressure	11056075
C.VEC 2500 R + pressure	11056076
C.VEC 240 H + pressure (3-phase)	11056020

### ACCESSORIES R6

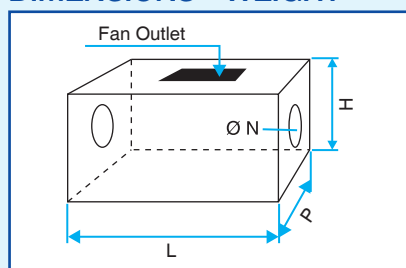
Description	Code
<b>Flexible sleeve (exhaust)</b>	
MS Pro M0 Ø 250 mm	11094693
MS Pro M0 Ø 315 mm	11094694
MS Pro M0 Ø 400 mm	11094696
Flexible sleeve (discharge)	
Flexible sleeve M0 Ø 260 mm	11056120
Flexible sleeve M0 + frame Ø 400 mm	11025075
Flexible sleeve M0 Ø 500 mm + frame	11025072

### ELECTRICAL ACCESSORIES R7

Description	Code
Thermal overload relay 1.0 to 1.6 A	11056184
Thermal overload relay 1.6 - 2.5 A	11057052
Thermal overload relay 2.5 - 4 A	11057053

- For more technical details, please consult us.

### DIMENSIONS - WEIGHT



Type	L (mm)	H (mm)	D (mm)	Discharge (mm)	Ø N (mm)	N° of connections (suct.)	Weight (Kg)
C.VEC 750 R	505	500	487	128 x 150	250	2	22
C.VEC 1500 R	710	610	577	257 x 300	315	2	33
C.VEC 2500 R	780	685	657	278 x 343	400	2	57
C.VEC 240 H	780	685	657	250 x 300	315	2	51

### M0 FLEXIBLE SLEEVE

Type	Vacuum cleaning Ø (mm)	Discharge Ø (mm)
C.VEC 750 R	250	Ø 260
C.VEC 1500 R	315	Ø 400 + frame
C.VEC 2500 R	400	Ø 520 + frame
C.VEC 240 H	315	Ø 400 + frame

### ELECTRICAL DETAILS

- (1) IP 44 motor-Class B.
- (1) 1-phase power supply 230 V - 50 Hz.
- (1) Built-in thermal protection on opening (TPO) with exposed wires.
- (2) 230/400 V 3-phase power supply – Belt drive.
- (2) IP 55 motor - Class F.

BE CAREFUL: in the C4 classification – 400°C - ½ h – the thermo-switch must not be connected.

Type	Fire classification	No of poles	Motor power (W)	Max. current (A)
CVEC 750 R (1)	C4 - 400°C ½ h fire rating	4	210	0.95
CVEC 1500 R (1)	C4 - 400°C ½ h fire rating	6	325	2.00
CVEC 2500 R (1)	C4 - 400°C ½ h fire rating	6	460	3.20
CVEC 240 H (2)	C4 - 400°C ½ h fire rating	4	465	1.50

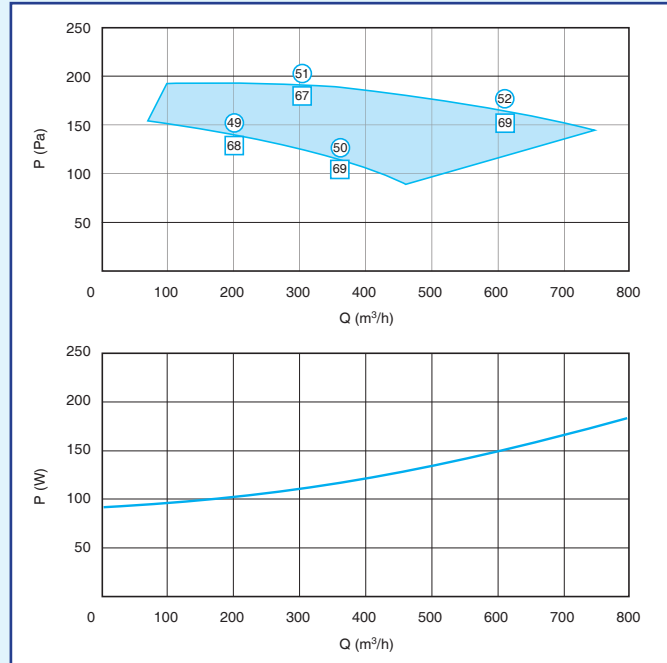
# Cabinet Fans

## C.VEC

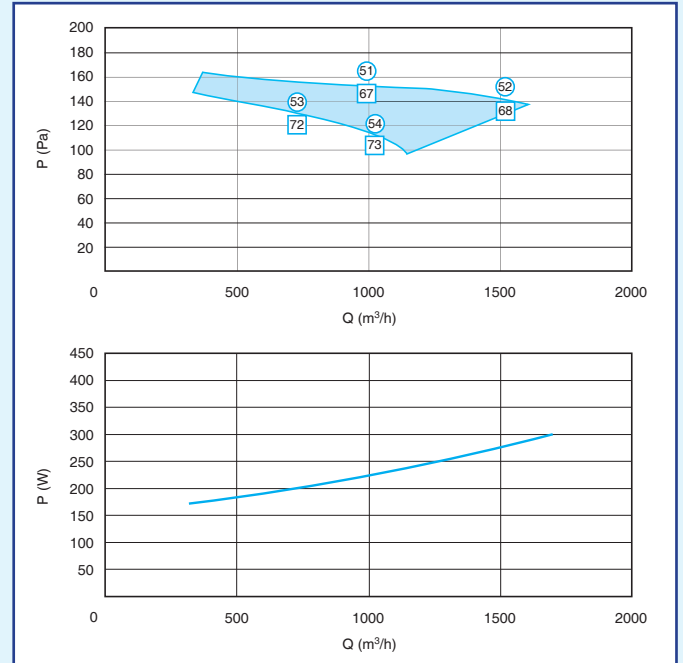
### AIRFLOW AND ACOUSTIC DETAILS

- Airflow curves drawn up in accordance with French Standard EN ISO 5801.
- ○ = Lp en dB (A) – Global acoustic pressure levels measured at 4 m from the casing with the air discharge disconnected.
- □ = Lw in dB (A) – Overall acoustic power levels measured in the duct.
- P (Pa) = Static pressure - P (W) = Maximum power consumption.

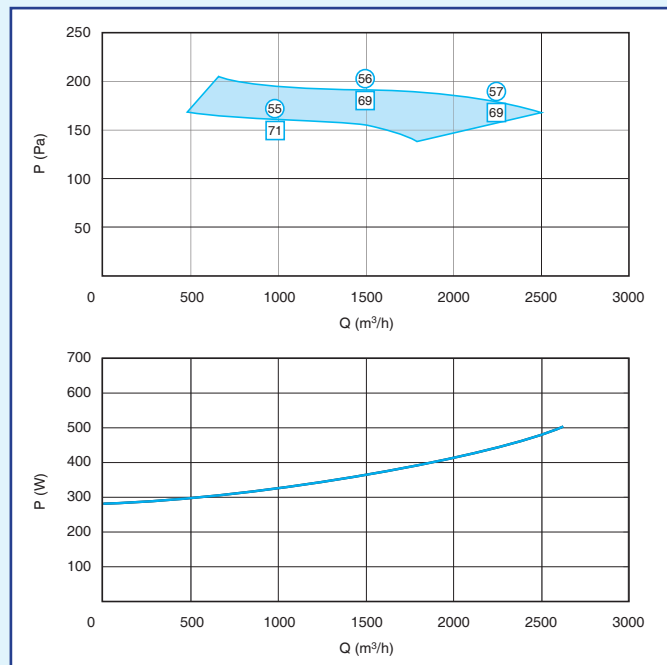
### C.VEC 750 R



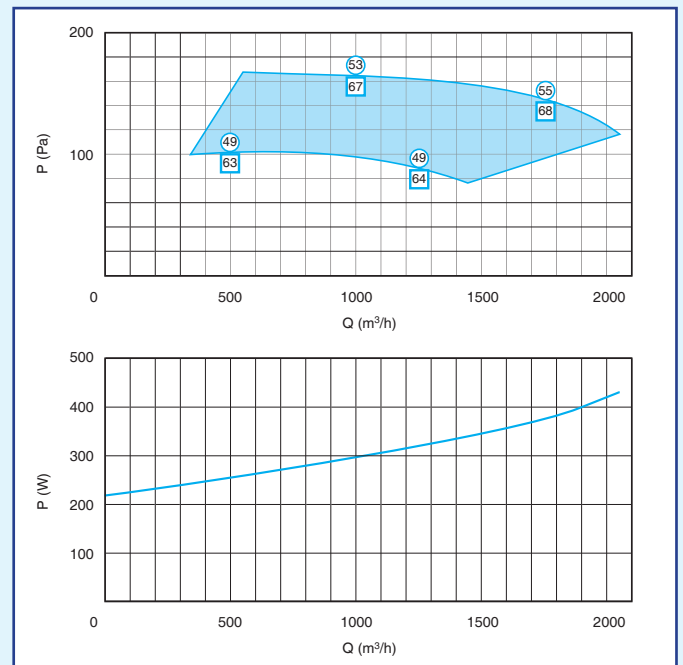
### C.VEC 1500 R



### C.VEC 2500 R



### C.VEC 240 H





# Cabinet Fans

## Low energy consumption exhaust fans



C.VEC micro-watt +



**Compliance**

- Standard XP P50-411 (DTU 68-2).
- 400° C (1/2h)

**Advantages**

- Increased energy savings.
- Rising curve (patented system).
- Airflow adjustment.
- Integrated overvoltage (400 V) and lightning protection.
- Expert level: programmable curve, casing history, and parameter change.

### APPLICATION

- Exhaust fan for CMEV systems.
- New apartment buildings and renovation (C4 classification: 400°C/ 1/2h).

### DESCRIPTION

- Galvanised steel casing with airflow separator.
- 1 or 2 circular suction connections depending on the configurations. RV version (vertical discharge) 2 suction connections, RH version (horizontal discharge) 1 suction connection.
- 1 rectangular in-line discharge (RH) or vertical (RV) with optional sleeve.
- Electronic switching motor mounted on a solid galvanised mounting base with a shock absorber device.
- Regulation PCB with a class B (residential) electromagnetic compatibility, pre-programmed and pre-wired.
- Direct drive single inlet impeller.
- Alarm pressure switch and proximity switch mounted.
- Adjustment and intuitive reading console.

### INSTALLATION

- Attics / technical areas.
- Interior / exterior.

### RANGE R17

Description	Code
C.VEC 1000 RV micro-watt +	11025121
C.VEC 1000 RH micro-watt +	11025122
C.VEC 2500 RV micro-watt +	11025123
C.VEC 2500 RH micro-watt +	11025124

### ACCESSORIES R6

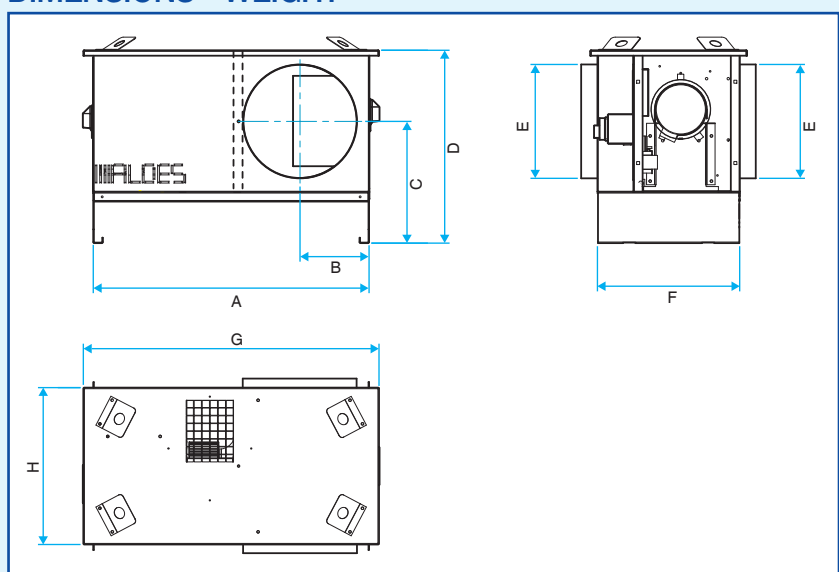
Description	Code
<b>Flexible sleeve (suction)</b>	
MS Pro M0 Ø 315 mm	11094694
MS Pro M0 Ø 400 mm	11094696
<b>Flexible sleeve (discharge)</b>	
Flexible sleeve M0 + frame Ø 315 mm	11025131
Flexible sleeve M0 + frame Ø 400 mm	11025075

### ELECTRICAL ACCESSORIES R7

Description	Code
Thermal overload relay 1.6 - 2.5 A	11057052
Thermal overload relay 4 - 6.3 A	11057054

- For more technical details, please consult us.

### DIMENSIONS - WEIGHT



TYPE	A (mm)	D (mm)	H (mm)	Discharge (mm)	Ø E (mm)	N° of connections (inlet)	Weight (kg)
C.VEC 1000 RV micro-watt +	763	534	434	171 X 131	315	2	30
C.VEC 1000 RH micro-watt +	763	534	434	182 X 131	315	1	30
C.VEC 2500 RV micro-watt +	901	629	529	196 X 213	400	2	52
C.VEC 2500 RH micro-watt +	901	629	529	215 X 213	400	1	52

### M0 FLEXIBLE SLEEVE

Type	Suction Ø (mm)	Discharge Ø (mm)
C.VEC 1000 micro-watt +	315	315 + frame
C.VEC 2500 micro-watt +	400	400 + frame

### ELECTRICAL DETAILS

- Electronic switching motor 230V, 50/60 Hz, class B, IP 44.

Type	Fire Classification	Motor speed (rpm)	Rated P (HP)	P max. cons. (W)	Protection current (A)
C.VEC 1000 micro-watt +	C4 - 400°C 1/2 h fire rating	1800	1/3	320	2
C.VEC 2500 micro-watt +	C4 - 400°C 1/2 h fire rating	1500	1	735	5

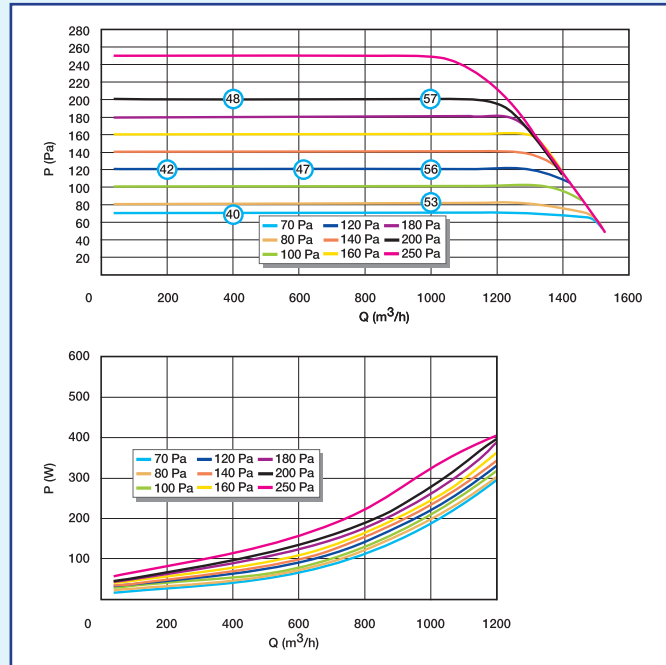
# Cabinet Fans

## C.VEC micro-watt +

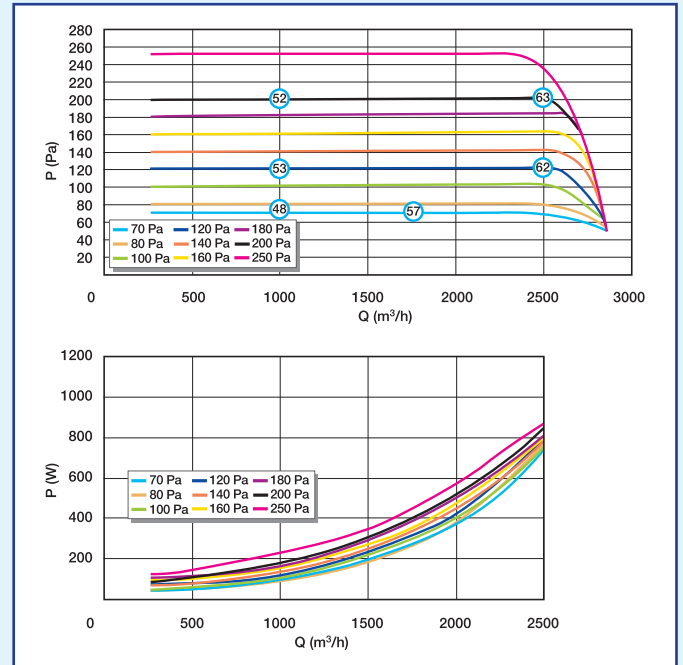
### AIRFLOW AND ACOUSTIC DETAILS

- Airflow curves drawn up in accordance with French Standard EN ISO 5801.
- ○ = Lp in dB (A) – Overall acoustic pressure levels measured 4 m from fan casing with free fan discharge.
- P (Pa) = Static pressure - P (W) = Maximum power consumption.

### C.VEC 1000 micro-watt +

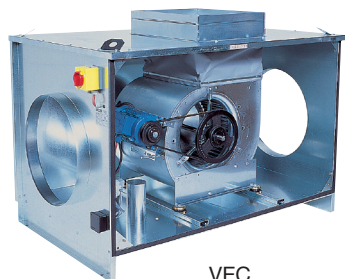


### C.VEC 2500 micro-watt +



# Cabinet Fans

## Exhaust fans



VEC

### Compliance

- Standard XP P50-411 (DTU 68-2).
- 400° C (½h)

### Advantages

- Easy maintenance.
- Reliable and robust.
- Padlockable proximity disconnecting switch is factory mounted.
- Numerous options for renovation work.

### APPLICATION

- Exhaust fan for CMEV systems.
- New apartment buildings and renovation (C4: 400°C - ½ h).

### DESCRIPTION

- Fan casing in galvanised steel, 2 suction connections on the sides and 1 discharge connection on the top.
- A forward curved motorised fan unit mounted on slide rails and separated from the casing by anti-vibration mountings, Except for C.VEC 240H = motor fan fixed to the lid a pulley-belt drive, with an adjustable drive pulley.
- IP 55 padlockable proximity disconnecting switch mounted in series.

### INSTALLATION

- Attics / technical areas.
- Indoor / outdoor.

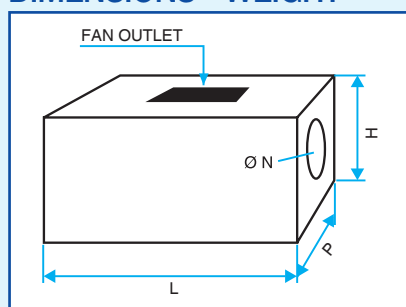
### AVAILABLE OPTIONS

- NEW: range with choice of options (for details, please, consult us).
- Circuit breaker mounted, casing with screws, 60 Hz motorisation, 2-speed motorisation, etc. please, consult us.

### RANGE R6

Description	Code
C.VEC 240 H (3-phase)	11025137
VEC 271 A	11025103
VEC 271 B	11025104
VEC 271 H	11025138
VEC 321 A	11025105
VEC 321 B	11025106
VEC 321 C	11025107
VEC 321 H	11025141
VEC 382 A	11025108
VEC 382 B	11025109
VEC 382 C	11025110
VEC 382 H	11025139
VEC 452 A	11025111
VEC 452 B	11025112
VEC 452 C	11025113
C.VEC 240 H + pressure (3-phase)	11056020
VEC 271 A + pressure switch	11056003
VEC 271 B + pressure switch	11056004
VEC 271 H + pressure switch	11056021
VEC 321 A + pressure switch	11056005
VEC 321 B + pressure switch	11056006
VEC 321 H + pressure switch	11056022
VEC 321 C + pressure switch	11056007
VEC 382 A + pressure switch	11056008
VEC 382 B + pressure switch	11056009
VEC 382 C + pressure switch	11056010
VEC 382 H + pressure switch	11056023
VEC 452 A + pressure switch	11056011
VEC 452 B + pressure switch	11056012
VEC 452 C + pressure switch	11056013

### DIMENSIONS - WEIGHT



Type	L (mm)	H (mm)	D (mm)	Fan outlet (mm)	Ø N (mm)	N° of connections	Weight (Kg)
C.VEC 240 H	780	685	657	250 x 300	315	2	51
VEC 271	1180	675	737	270 x 336	400	2	75
VEC 271 H	1180	675	737	270 x 336	500	2	75
VEC 321	1180	675	737	322 x 400	400	2	80
VEC 321 H	1180	675	737	322 x 400	500	2	80
VEC 382	1411	943	941	455 x 535	500	2	150
VEC 382 H	1411	943	941	455 x 535	630	2	150
VEC 452	1411	943	941	455 x 535	500	2	170

### M0 INCOMBUSTIBLE FLEXIBLE SLEEVES

Type	Vacuum cleaning Ø (mm)	Discharge Ø (mm)
CVEC 240 H	315	400 + frame
VEC 271 - 321	400	500
VEC 271 H - 321 H	500	630
VEC 382 - 452	500	630
VEC 382 H	630	800

### ELECTRICAL DETAILS

- A 3-phase asynchronous motor, 230/400 V, F class, IP55.
- 50 Hz power supply (60 Hz possible as an option).

Type	Fire classification	No of poles	Rated motor power (kW)	Max. current (A)	Max. power cons. (W)
C.VEC 240 H	C4 - 400°C ½ h fire rating	4	0.37	1.50	425
271 A	C4 - 400°C ½ h fire rating	4	0.37	2.00	500
271 B	C4 - 400°C ½ h fire rating	4	0.55	2.00	775
271 H	C4 - 400°C ½ h fire rating	4	0.37	2.00	500
321 A	C4 - 400°C ½ h fire rating	4	0.37	1.80	650
321 B	C4 - 400°C ½ h fire rating	4	0.55	2.40	750
321 C	C4 - 400°C ½ h fire rating	4	0.75	2.40	1150
321 H	C4 - 400°C ½ h fire rating	4	0.37	1.80	650

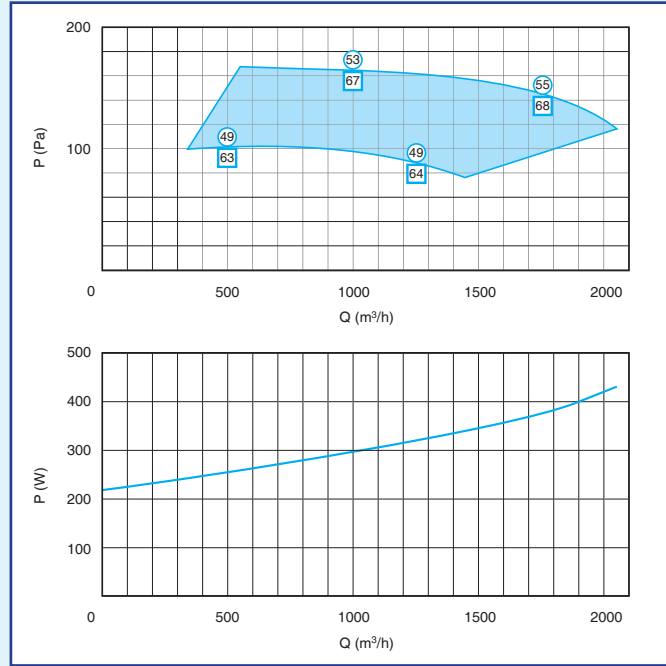
# Cabinet Fans

## VEC

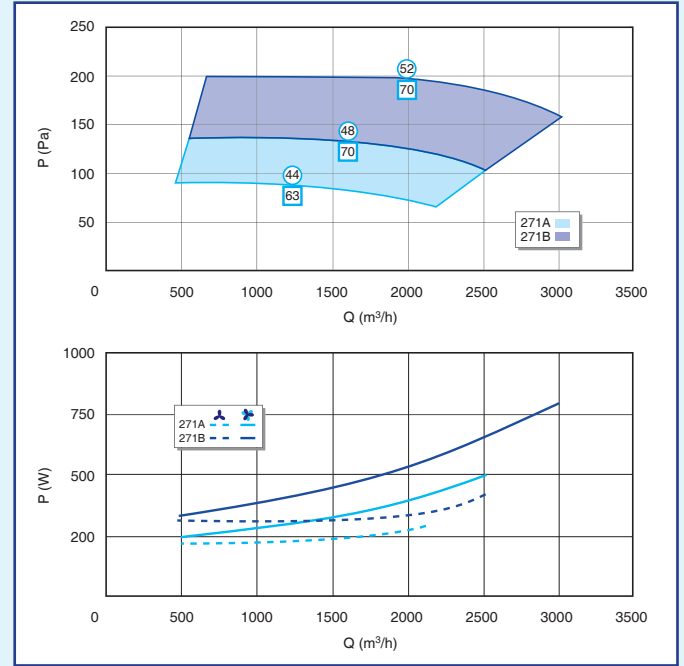
### AIRFLOW AND ACOUSTIC DETAILS

- Airflow curves drawn up in accordance with French Standard EN ISO 5801.
- ○ = Lp in dB (A) – Overall acoustic pressure levels measured 4 m from fan casing with free fan discharge.
- □ = Lw in dB (A) – Overall acoustic power levels measured in the duct.
- P (Pa) = Static pressure - P (W) = Maximum power consumption.

#### CVEC 240H



#### VEC 271



### ACCESSORIES R6

Description	Code
MS Pro M0 Ø 315 mm	11094694
MS Pro M0 Ø 400 mm	11094696
Flexible sleeve M0 + frame Ø 400 mm	11025075
Flexible sleeve M0 Ø 500 mm	11025076
Flexible sleeve M0 Ø 630 mm	11025077
Flexible sleeve M0 Ø 800 mm	11025078

### ELECTRICAL ACCESSORIES R7 (see pages 173 - 177)

Description	Code
Fixed pressure switch kit - 80 Pa	11025018
VEC adjustable pressure switch kit	11025009
Pressure switch timer (highly recommended in case of turbulent winds)	11025012
Adjustable thermal overload relay in an IP 55 box	



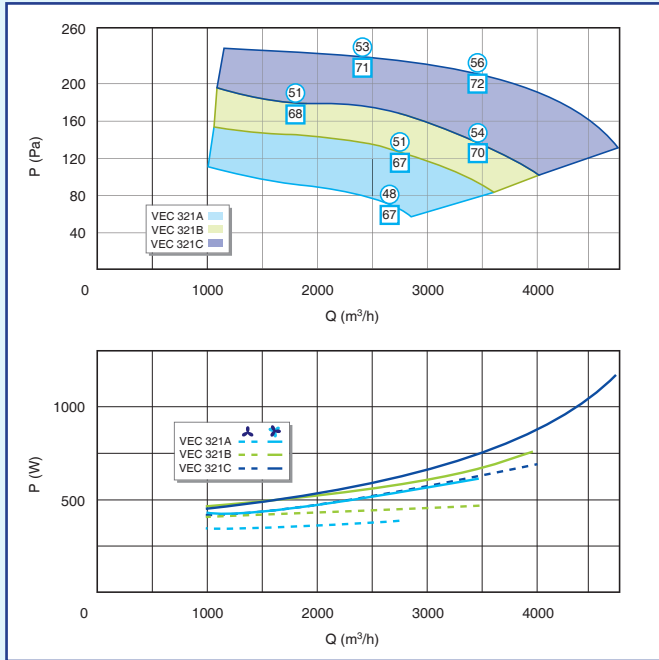
# Cabinet Fans

## VEC

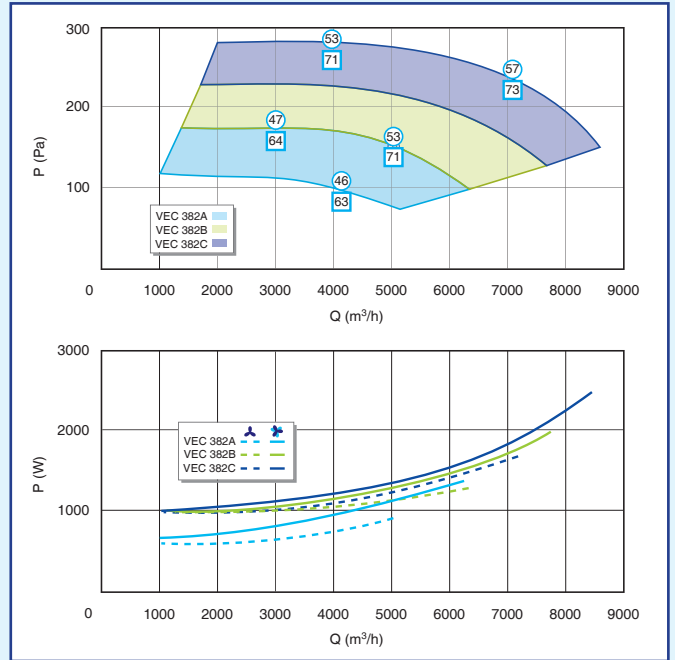
### AIRFLOW AND ACOUSTIC DETAILS

- Airflow curves drawn up in accordance with French Standard EN ISO 5801.
- ○ = Lp in dB (A) – Overall acoustic pressure levels measured 4 m from fan casing with free fan discharge.
- □ = Lw in dB (A) – Overall acoustic power levels measured in the duct.
- P (Pa) = Static pressure - P (W) = Maximum power consumption.

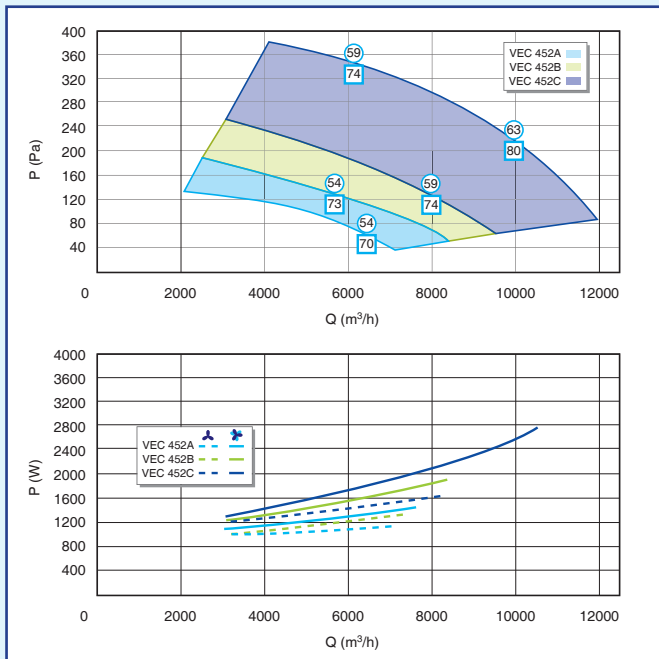
#### VEC 321



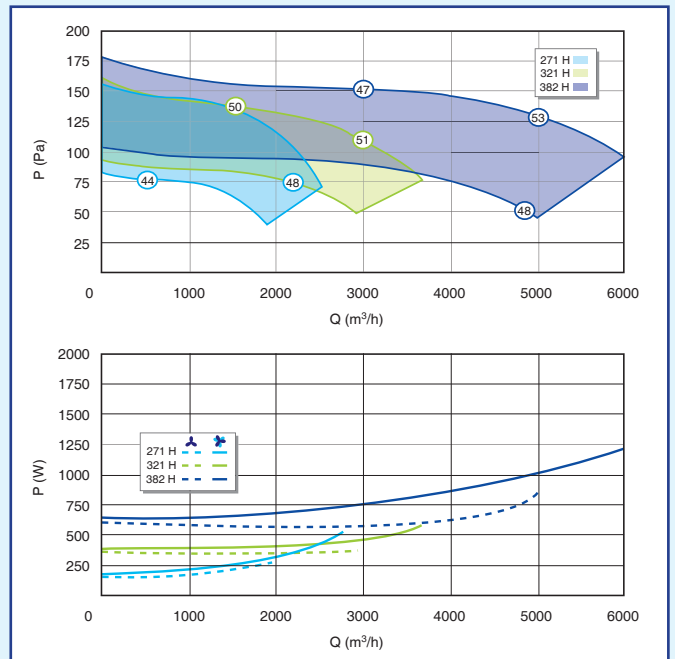
#### VEC 382



#### VEC 452

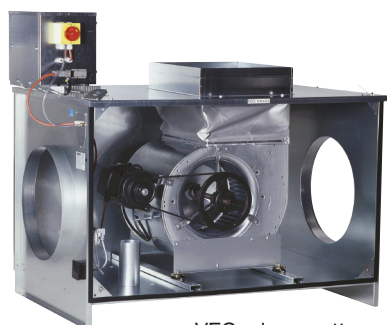


#### VEC HYGRO



# Cabinet Fans

## Low energy consumption exhaust fan units



VEC micro-watt



### Compliance

- Standard XP P50-411 (DTU 68-2).
- 400° C (1/2h)

### Advantages

- Low energy consumption fan units.
- 1-phase power supply.
- Electronic pressure adjustment.
- Patented system.

### APPLICATION

- Exhaust fan for CMEV systems.
- New apartment buildings and renovation (C4 classification: 400° C - 1/2h).

### DESCRIPTION

- Casing supplied with an electronics box to be screwed on on-site, pre-wired and pre-programmed at the factory, adjustment potentiometer included.
- Fan casing in galvanised steel with 2 circular suction and 1 rectangular discharge connections.
- Forward curved motorised fan unit, with pulley-belt drive, mounted on sliding rails and separated from the casing by anti-vibration mountings.
- Proximity switch and alarm pressure switch mounted as standard.
- Offset control as an accessory.

### INSTALLATION

- Attics / technical areas.
- Indoor / outdoor.

### RANGE **R17**

Description	Code
VEC 271 B micro-watt	11025146
VEC 321 B micro-watt	11056032
VEC 321 C micro-watt	11025147
VEC 321 D micro-watt	11056037
VEC 382 B micro-watt	11056033
VEC 382 C micro-watt	11056034
VEC 452 B micro-watt	11056035
VEC 452 C micro-watt (3-phase)	11056036

### ACCESSORIES **R6**

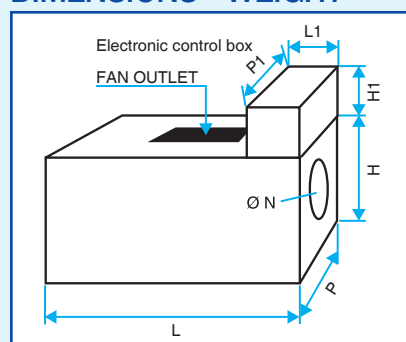
Description	Code
MS Pro M0 Ø 400 mm	11094696
Flexible sleeve M0 Ø 500 mm	11025076
Flexible sleeve M0 Ø 630 mm	11025077

### ELECTRICAL ACCESSORIES **R7**

(see pages 173 - 177)

Description	Code
Thermal overload relay 6.3 - 10 A	11057055
Thermal overload relay 11 - 16 A	11057056
Offset control	11057084
IP55 offset control	11057085

### DIMENSIONS - WEIGHT



Type	L (mm)	H (mm)	D (mm)	Discharge (mm)	Ø N (mm)	Weight (Kg)
VEC 271	1180	675	737	270 x 336	400	75
VEC 321	1180	675	737	322 x 400	400	80
VEC 382	1411	943	941	455 x 535	500	150
VEC 452	1411	943	941	455 x 535	500	170
Elec. control box	260	350	500			15

### M0 FLEXIBLE SLEEVE

Type	Vacuum cleaning Ø (mm)	Discharge Ø (mm)
VEC 271	400	500
VEC 321	400	500
VEC 382	500	630
VEC 452	500	630

### ELECTRICAL DETAILS

- 3-phase asynchronous motor 230/400 V, Class F, IP 55 protection index.
- 230 V - 50/60 Hz 1-phase power supply (except 452 C, 230/400 V 3-phase power supply).

Type	Fire classification	Max. airflow (m <sup>3</sup> /h)	Power supply	No of poles	Rated motor power (kW)	Max. current (A)
VEC 271 B	C4 - 400°C 1/2 h fire rating	3000	1-phase	4	0.55	6.7
VEC 321 B	C4 - 400°C 1/2 h fire rating	3500	1-phase	4	0.55	7.2
VEC 321 C	C4 - 400°C 1/2 h fire rating	4000	1-phase	4	0.75	7.2
VEC 321 D	C4 - 400°C 1/2 h fire rating	5500	1-phase	4	1.10	9.0
VEC 382 B	C4 - 400°C 1/2 h fire rating	7000	1-phase	4	1.10	15.3
VEC 382 C	C4 - 400°C 1/2 h fire rating	8000	1-phase	4	1.80	14.8
VEC 452 B	C4 - 400°C 1/2 h fire rating	9000	1-phase	4	1.80	14.8
VEC 452 C	C4 - 400°C 1/2 h fire rating	10000	3-phase	4	3.00	8.5

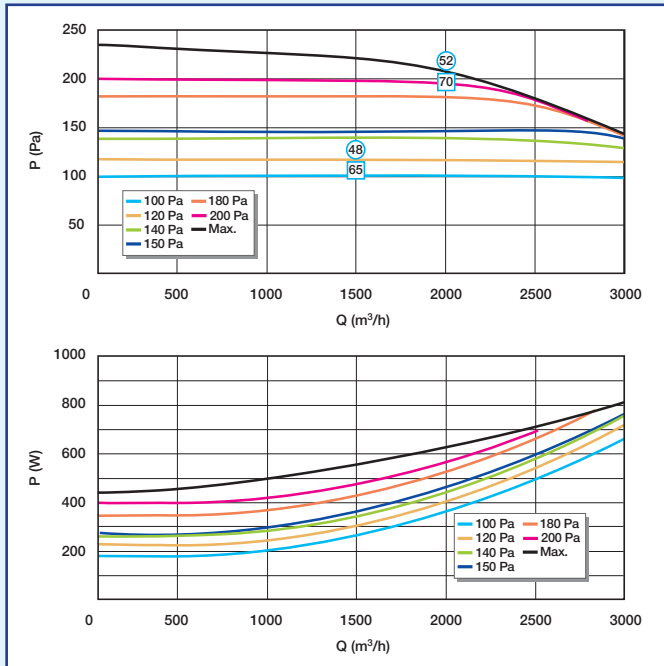
# Cabinet Fans

## VEC micro-watt

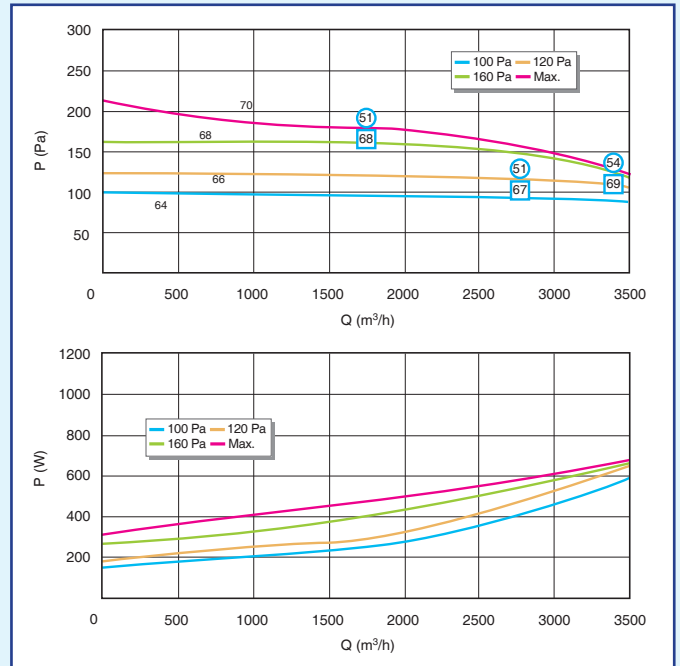
### AIRFLOW AND ACOUSTIC DETAILS

- Airflow curves drawn up in accordance with French Standard EN ISO 5801.
- ○ = Lp in dB (A) – Overall acoustic pressure levels measured 4 m from fan casing with free fan discharge.
- □ = Lw in dB (A) – Overall acoustic power levels measured in the duct.
- P (Pa) = Static pressure - P (W) = Maximum power consumption.

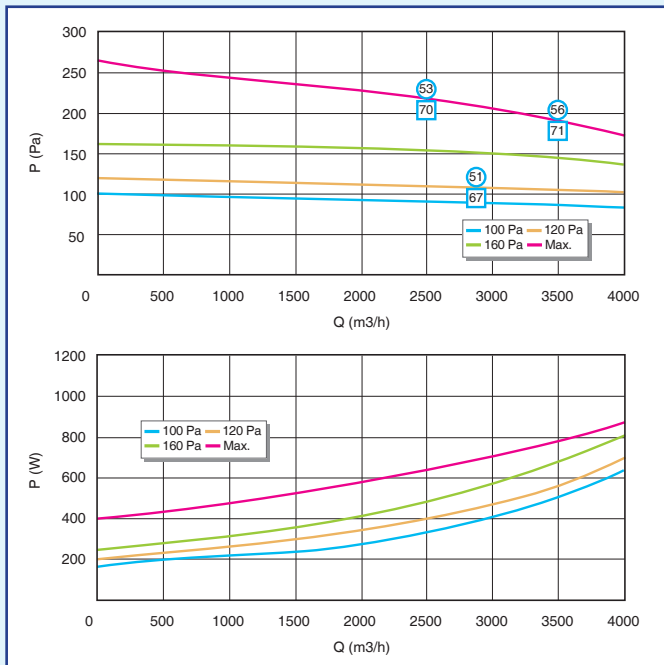
### VEC 271 B micro-watt



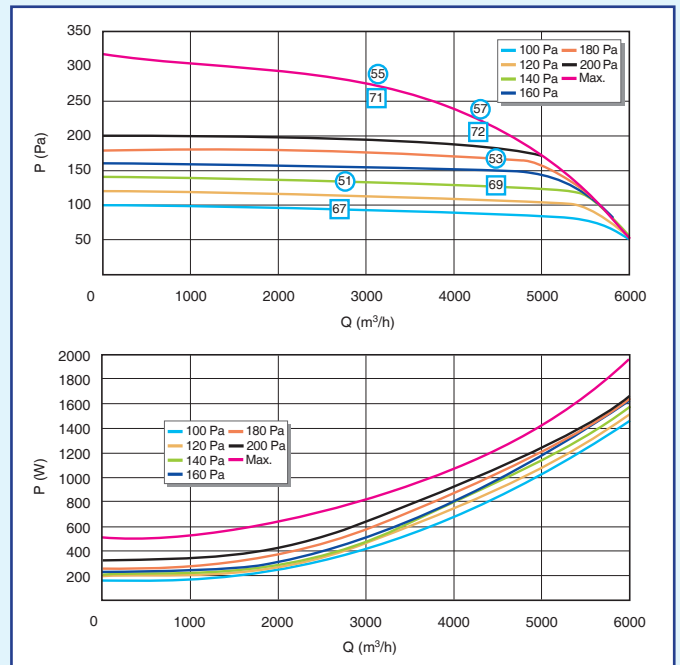
### VEC 321 B micro-watt



### VEC 321 C micro-watt



### VEC 321 D micro-watt



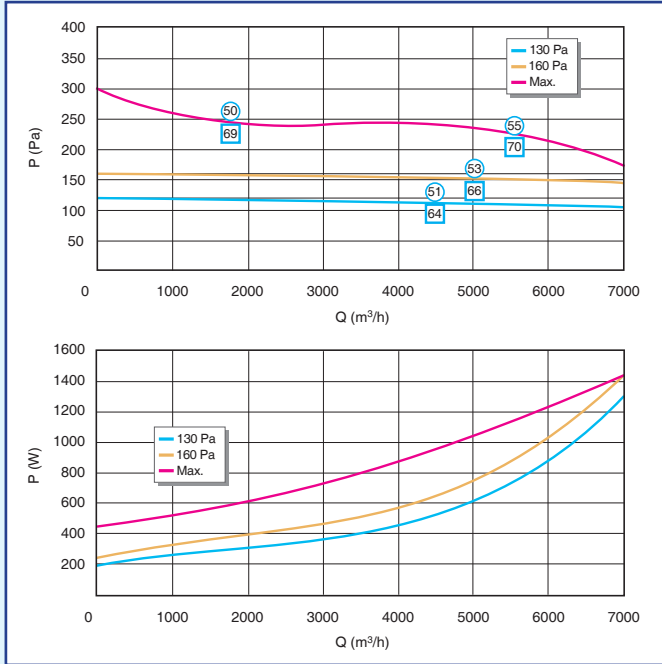
# Cabinet Fans

## VEC micro-watt

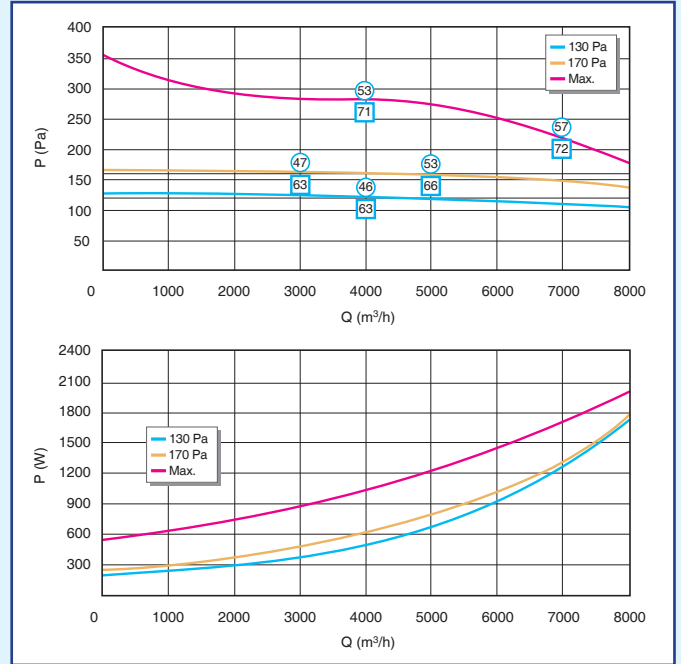
### AIRFLOW AND ACOUSTIC DETAILS

- Airflow curves drawn up in accordance with French Standard EN ISO 5801.
- $\circ$  = Lp in dB (A) – Overall acoustic pressure levels measured 4 m from fan casing with free fan discharge.
- $\square$  = Lw in dB (A) – Overall acoustic power levels measured in the duct.
- P (Pa) = Static pressure - P (W) = Maximum power consumption.

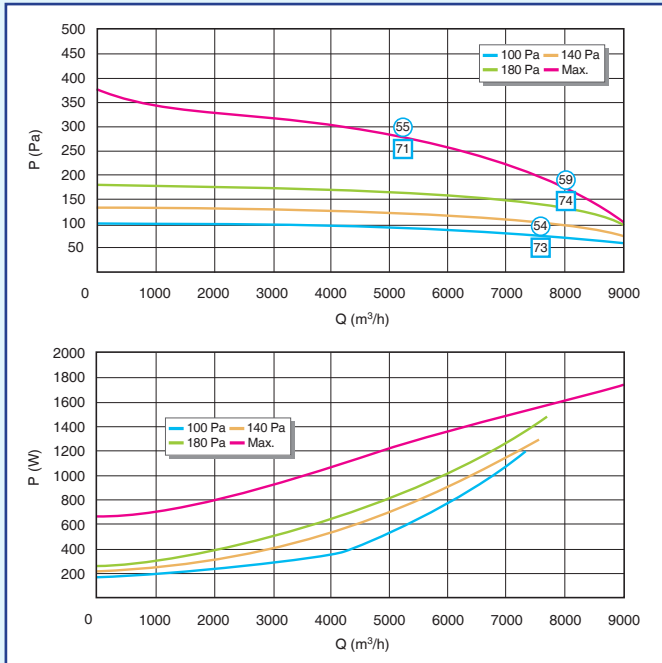
#### VEC 382 B micro-watt



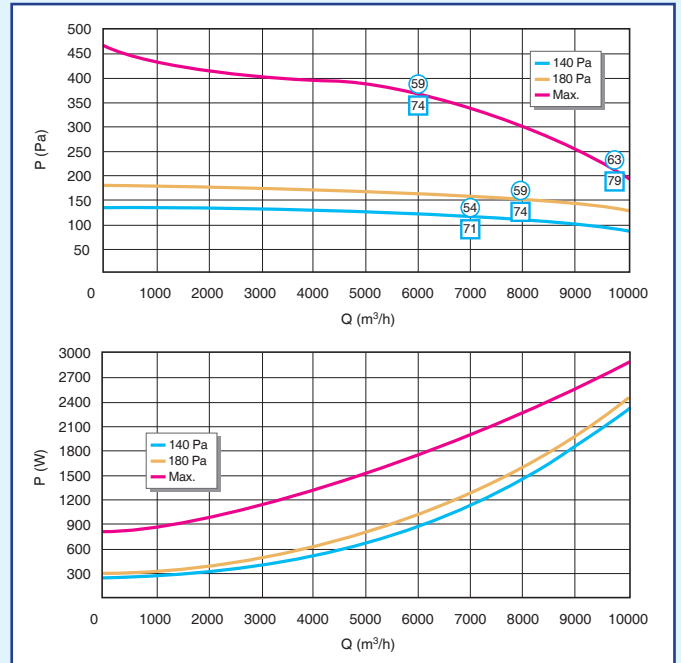
#### VEC 382 C micro-watt



#### VEC 452 B micro-watt



#### VEC 452 C micro-watt (triphase)



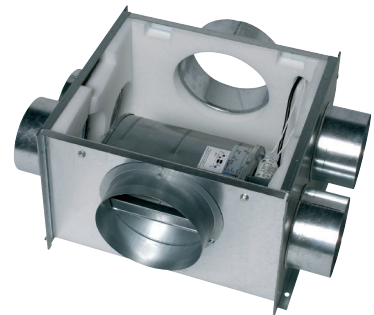


# Cabinet Fans

## In-line fans



VEKITA+



VEKITA+ 450 multi-insulated

- Advantages**
- Easy installation.
  - Indoor/ outdoor.
  - Acoustic insulation version.
  - Variable speed control.
  - Multi-connector version up to VEKITA+ 450.
  - VEKITA+ 300 ultra-slim model.

### APPLICATION

- Air exhaust / air supply.
- Small commercial premises.
- Variable speed control.

### DESCRIPTION

- Casing in galvanised steel with two in-line circular connections. Multi-connector exhaust version up to model 450.
- 2-speed motor with speed control possible on high speed up to VEKITA+ 700.
- Direct drive single inlet impeller.
- Offset electrical connection terminal on the outside of the casing
- Insulated version: interior lining with 25 mm of M1 fire resistance rating acoustic insulation.

NOTE: for acoustic applications, it is highly recommended to use an auto-transformer.

### INSTALLATION

- Horizontal / vertical.
- Suspended ceilings / attics / technical areas.
- Indoor / outdoor.

### RANGE R6

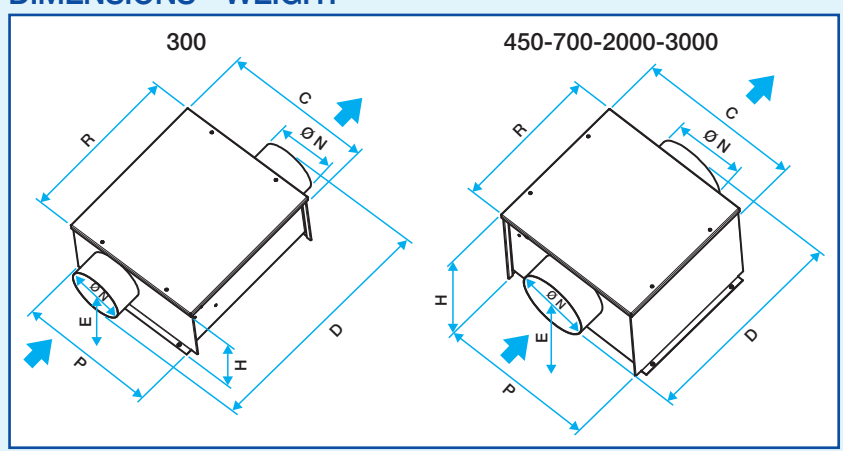
Description	Code
<b>Non-insulated version</b>	
VEKITA+ 300 single	11056014
VEKITA+ 300 multi	11056016
VEKITA+ 450 single	11056040
VEKITA+ 450 multi	11056018
VEKITA+ 700 single	11056042
VEKITA+ 2000 single	11056046
VEKITA+ 3000 single	11056048
<b>Insulated version</b>	
VEKITA+ 450 insulated	11056041
VEKITA+ 450 multi-insulated	11056019
VEKITA+ 700 insulated	11056043
VEKITA+ 2000 insulated	11056047
VEKITA+ 3000 insulated	11056049

### VARIABLE SPEED CONTROLLER R7

Description	Code
1.5 A voltage regulator	11086572
3.0 A voltage regulator	11086024
5.0 A voltage regulator	11086013
1.5 A 1-phase autotransformer	11086100
3.5 A 1-phase autotransformer	11086418
5.0 A 1-phase autotransformer	11086417

• For more technical details, please see pages 171-177.

### DIMENSIONS - WEIGHT



Type	H (mm)	D (mm)	C (mm)	D (mm)	E (mm)	Ø N (mm)	R (mm)	Weight (kg)
VEKITA+ 300	180	332	338	489	93	125	366	6
VEKITA+ 300 multi	267	332	338	489	149	125	366	6
VEKITA+ 450	267	360	347	362	165	160	341	8.5
VEKITA+ 450 multi	267	360	347	362	165	160 4 x 125	341	8.5
VEKITA+ 700	297	360	366	417	170	200	341	9.5
VEKITA+ 2000	400	545	605	597	216	315	535	25
VEKITA+ 3000	545	630	685	602	316	400	535	33

### M0 FLEXIBLE SLEEVE

Type	Vacuum cleaning Ø (mm)	Discharge Ø (mm)
VEKITA+ 300	125	125
VEKITA+ 300 multi	4 x 125	125
VEKITA+ 450	160	160
VEKITA+ 450 multi	4 X 125 + 1 X 160	160
VEKITA+ 700	200	200
VEKITA+ 2000	315	315
VEKITA+ 3000	400	400

### ELECTRICAL DETAILS

- 1-phase external rotor motor - 230 V /50-60 Hz with integrated thermal protection.
- Class B insulation.

Type	Impeller (mm)	No of poles	Max. power consumption (W)	I. protection (A)
VEKITA+ 300	Backward curve impeller 180	2	55	0.30
VEKITA+ 450	Forward curve impeller 133	2	121	0.63
VEKITA+ 700	Forward curve impeller 133	2	175	1.10
VEKITA+ 2000	Forward curve impeller 216	4	640	3.00
VEKITA+ 3000	Forward curve impeller 240	4	1000	5.00

# Cabinet Fans

## VEKITA+

### ELECTRICAL ACCESSORIES **R7** (see pages 171 - 177)

Description	Code
VEC adjustable pressure switch kit	11025009
1-Speed single-phase proximity switch 0.9 kW	11056196
Thermal overload relay 0.63 to 1.0 A	11056109
Thermal overload relay 2.5 - 4 A	11057053
Thermal overload relay 4 - 6.3 A	11057054
230 V emission coil kit (for the TPO sensor)	11056114

### ACCESSORIES **R6**

Description	Code
<b>Air intake flexible sleeve</b>	
MS Pro M0 Ø 125 mm	11094690
MS Pro M0 Ø 160 mm	11094691
MS Pro M0 Ø 200 mm	11094692
MS Pro M0 Ø 315 mm	11094694
MS Pro M0 Ø 400 mm	11094696
<b>Air discharge flexible sleeve</b>	
Flexible sleeve kit M0 Ø 125 mm	11096932
MS Ref. kit M0 Ø 160 mm	11025063
Flexible sleeve kit M0 Ø 200 mm	11025064
Flexible sleeve kit M0 Ø 315 mm	11025066
Flexible sleeve kit M0 Ø 400 mm	11025067
Anti-vibration mountings (set of 4)	11034385
Rain hood + grille Ø 125 mm	11094884
Rain hood + grille Ø 160 mm	11056101
Rain hood + grille Ø 200 mm	11056102
Rain hood + grille Ø 315 mm	11058205
Rain hood + grille Ø 400 mm	11056100

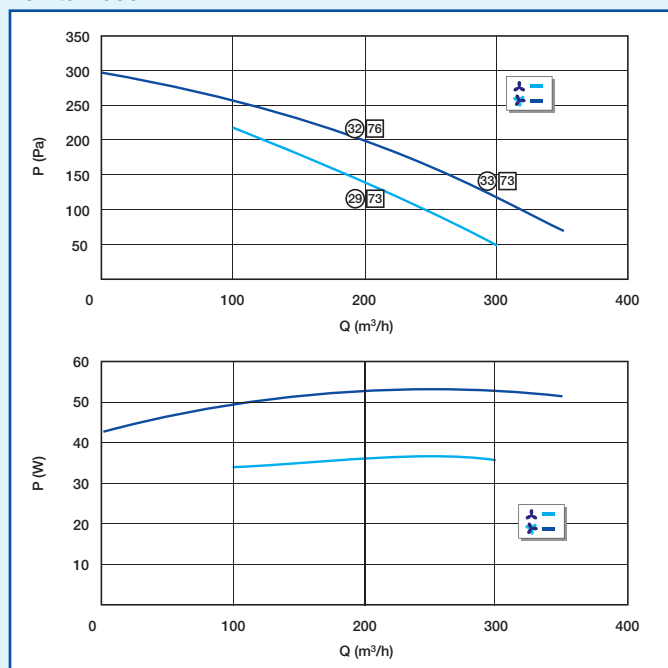
# Cabinet Fans

## VEKITA+

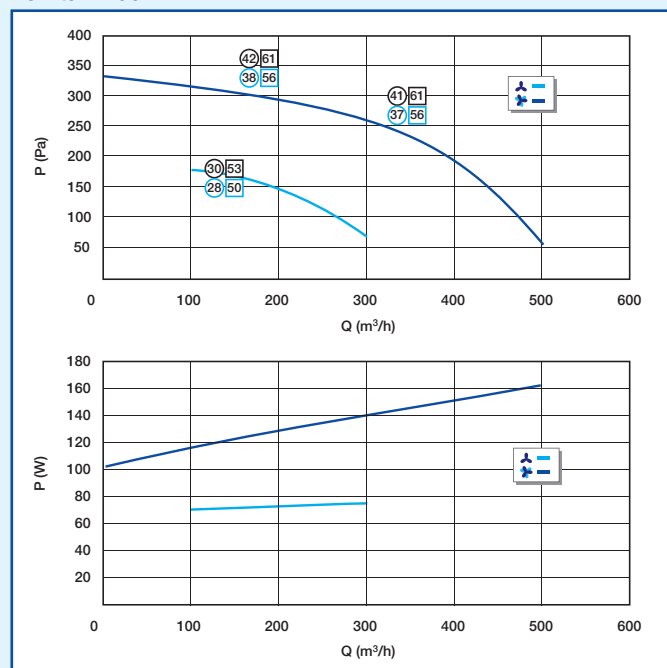
### AIRFLOW AND ACOUSTIC DETAILS

- The following airflow curves were drawn up in accordance with Standard EN ISO 5801.
- The minimum and maximum curves represent the 2-speed for the VEKITA+ 300, 450 and 700 and the lower and upper limits for the VEKITA 2000 and 3000 with speed controller.
- The values in black are those for the non-insulated version, the values in blue are those of the insulated version.
- ○ Lp (dB (A)) = sound pressure level measured at 4 m from the casing, with fan discharge connected.
- □ Lw (dB (A)) = level of acoustic power radiated in the duct under suction.
- P (Pa) = Static pressure - P (W) = Maximum power consumption.

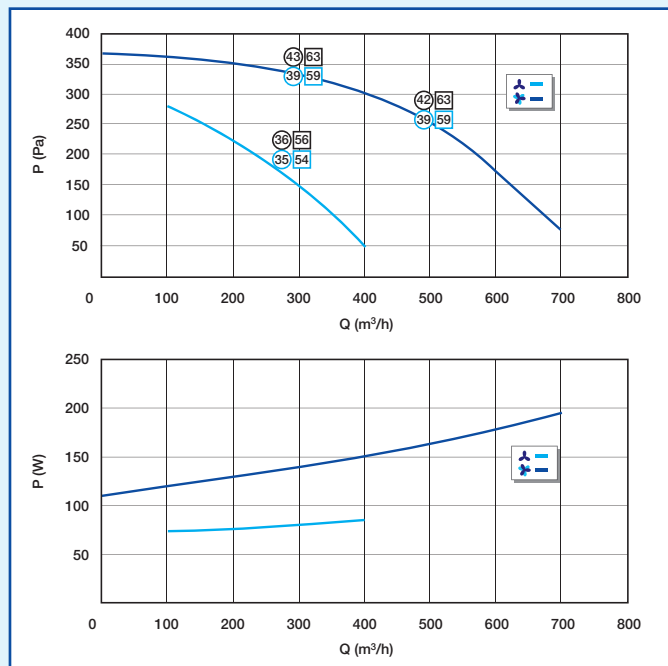
#### Vekita+ 300



#### Vekita+ 450



#### Vekita+ 700



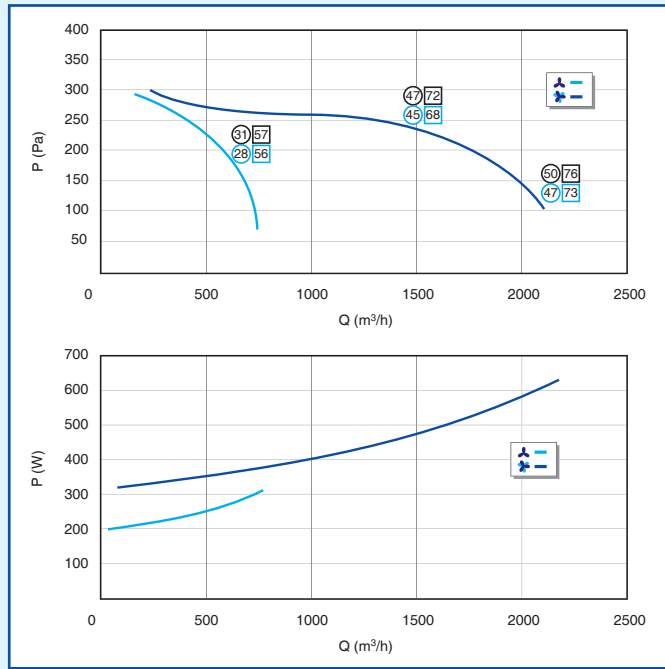
# Cabinet Fans

## VEKITA +

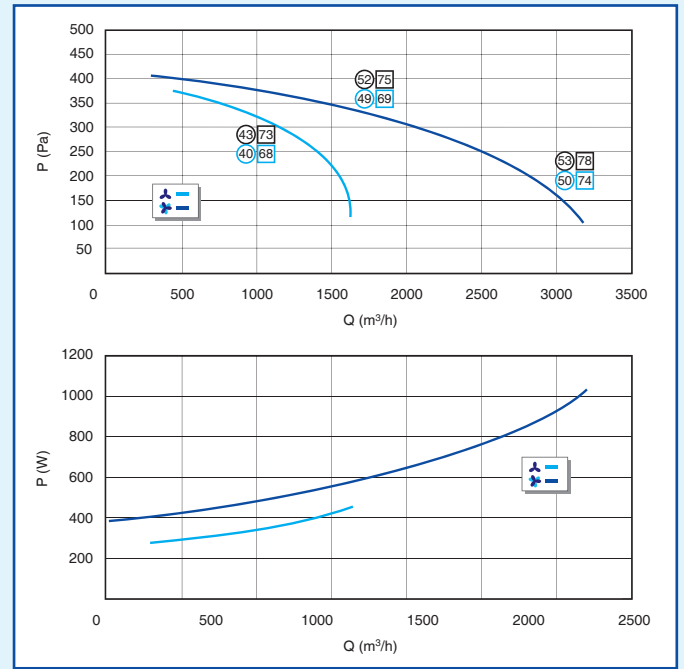
### AIRFLOW AND ACOUSTIC DETAILS

- The following airflow curves were drawn up in accordance with Standard EN ISO 5801.
- The minimum and maximum curves represent the 2-speed for the VEKITA+ 300, 450 and 700 and the lower and upper limits for the VEKITA 2000 and 3000 with speed controller.
- The values in black are those for the non-insulated version, the values in blue are those of the insulated version.
- ○ Lp (dB (A) ) = sound pressure level measured at 4 m from the casing, with fan discharge connected.
- □ Lw (dB (A) ) = level of acoustic power radiated in the duct under suction.
- P (Pa) = Static pressure - P (W) = Maximum power consumption.

#### Vekita+ 2000



#### Vekita+ 3000



# Cabinet Fans

## Double skin in-line fans



VEKITA SILENCE

### Advantages

- Double skin insulation.
- Aluminium impeller.
- Variable speed control.
- Maintenance-free.

### APPLICATION

- Air exhaust / air supply.
- Residential / commercial premises.

### INSTALLATION

- Horizontal / vertical.
- Suspended ceilings.
- Indoor / outdoor.

### DESCRIPTION

- Backward curved centrifugal fan.
- Galvanized steel sheet housing designed to function as a grease pan.
- Aluminium impeller except galvanized steel impeller for VS 2300.
- 40 mm insulation, double skin.
- With bottom pan.
- Variable spigot (available upon request).
- Long-life ball bearings.
- IP 54.

### RANGE

Description	Code
VS 2300 - 230 V	
VS 3400 - 230 V	
VS 3300 - 230/400 V	
VS 5400 - 230/400 V	
VS 7400 - 230/400 V	
VS 9300 - 400 V	

### ELECTRICAL ACCESSORIES

- 1-phase voltage regulator: please, see page 171.
- 1-phase electronic speed controller: please, see page 172.
- 1-phase autotransformer: please, see page 172.
- 3-phase autotransformer: please, see page 173.
- Frequency controller for 1-speed, 3-phase fans: please, see page 173.

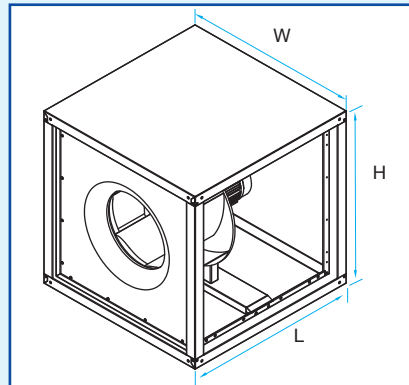
### PRE-SELECTION OF TYPE OF VEKITA SILENCE

• The airflows correspond to a pressure loss of 200 Pa.

VS 9300	9300 m <sup>3</sup> /h
VS 7400	7400 m <sup>3</sup> /h
VS 5400	5400 m <sup>3</sup> /h
VS 3400	3400 m <sup>3</sup> /h
VS 3300	3300 m <sup>3</sup> /h
VS 2300	2300 m <sup>3</sup> /h

q (m<sup>3</sup>/h)

### DIMENSIONS - WEIGHT



Type	L (mm)	W (mm)	H (mm)	Weight (kg)
VS 2300	500	500	500	36.0
VS 3400	500	500	500	38.0
VS 3300	700	700	700	65.0/61.0
VS 5400	700	700	700	60.5/58.0
VS 7400	700	700	700	70.5/71.0
VS 9300	900	900	900	123.5

### ELECTRICAL DETAILS

Type	I (A)	U (V)	f (Hz)	P (W)	No. of Poles
VS 2300	3.1	230	50	660	2
VS 3400	4.2	230	50	960	2
VS 3300	3.0/1.2	230/400	50	570/500	4
VS 5400	4.1/1.8	230/400	50	870/840	4
VS 7400	5.7/3.7	230/400	50	1280/1610	4
VS 9300	4.6	400	50	2200	4



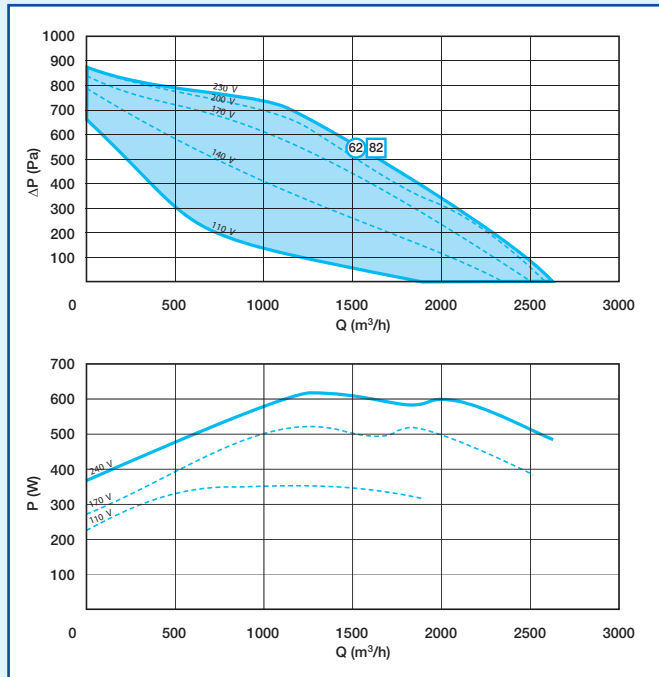
# Cabinet Fans

## VEKITA SILENCE

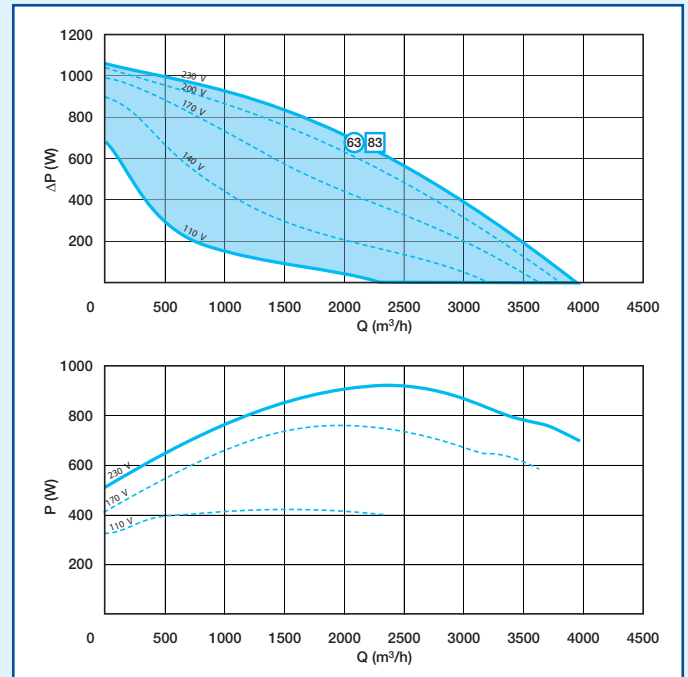
### AIRFLOW AND ACOUSTIC DETAILS

- The following airflow curves were drawn up in accordance with Standard EN ISO 5801.
- In Pressure vs. Flow graph, the minimum, maximum and intermediate curves represent the 5-speed for the VEKITA SILENCE 2300, 3400, 3300, 5400, 7400 and 9300 with the speed controller.
- $\circ$  Lp (dB (A)) = Sound pressure level measured at 4 m from the casing, with fan discharge connected.
- $\square$  Lw (dB (A)) = Sound power level radiated in the duct under suction.
- P (Pa) = Static pressure - P (W) = Maximum power consumption.

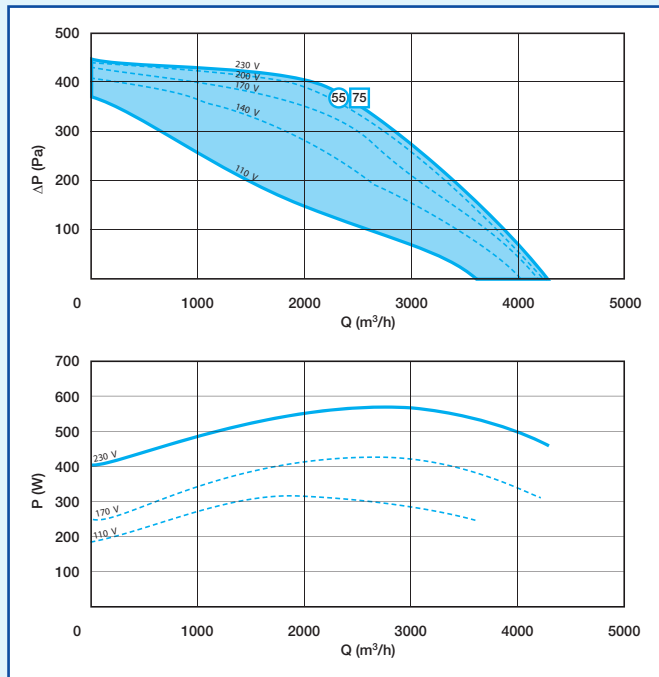
### VS 2300 - 230V



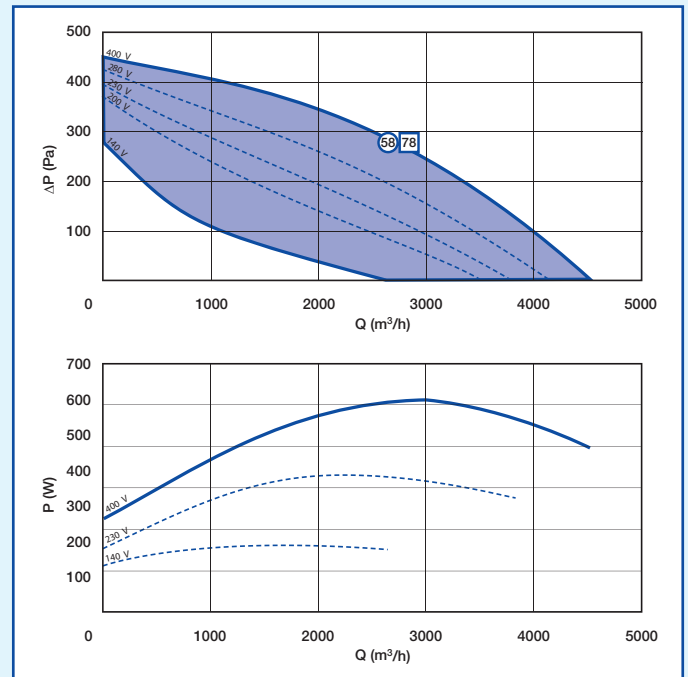
### VS 3400 - 230V



### VS 3300 - 230V



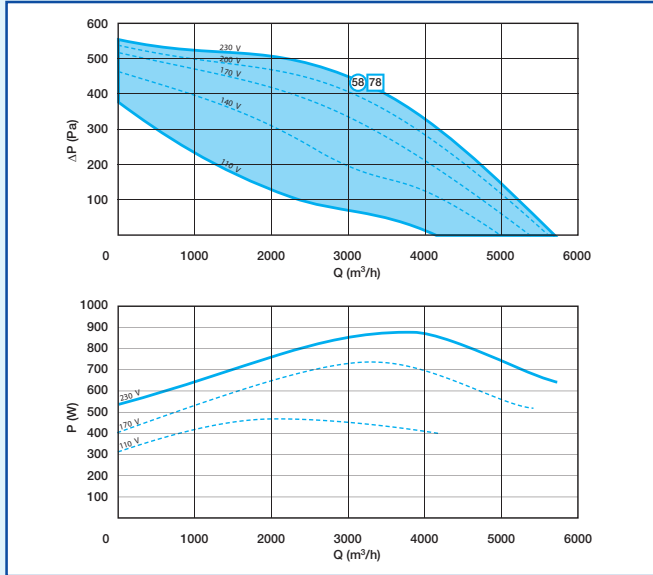
### VS 3300 - 400V



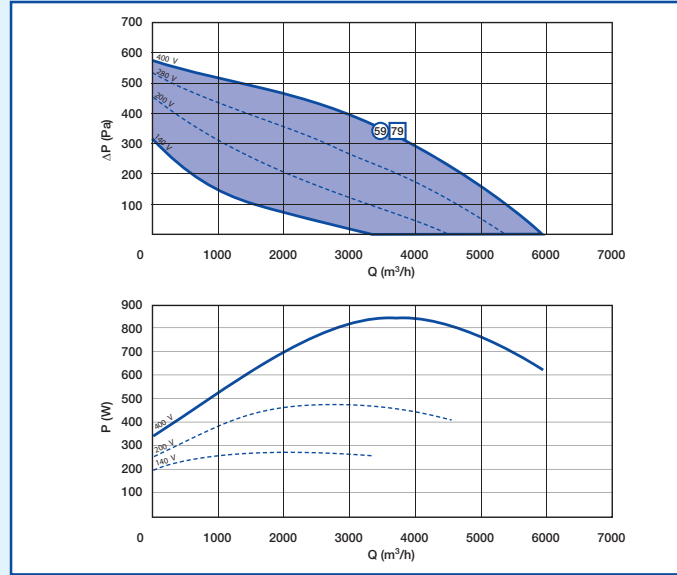
# Cabinet Fans

## VEKITA SILENCE

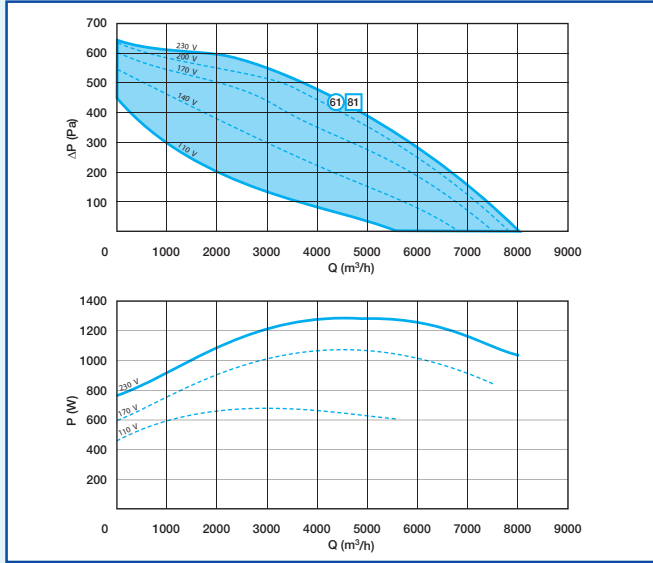
VS 5400 - 230V



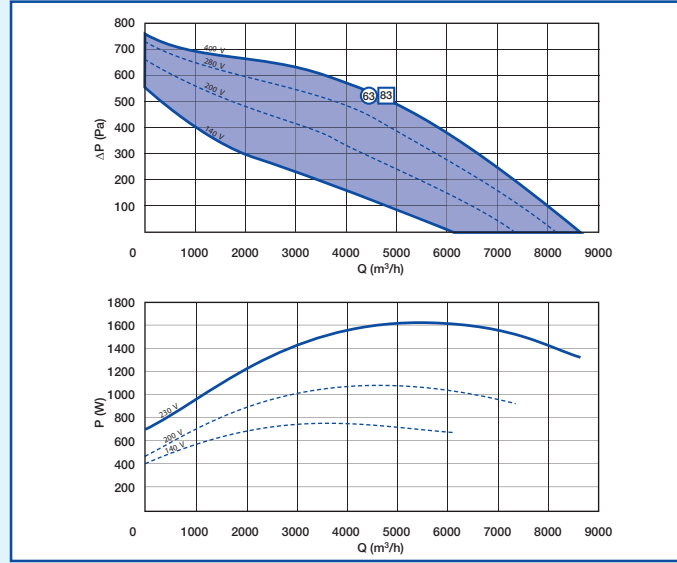
VS 5400 - 400V



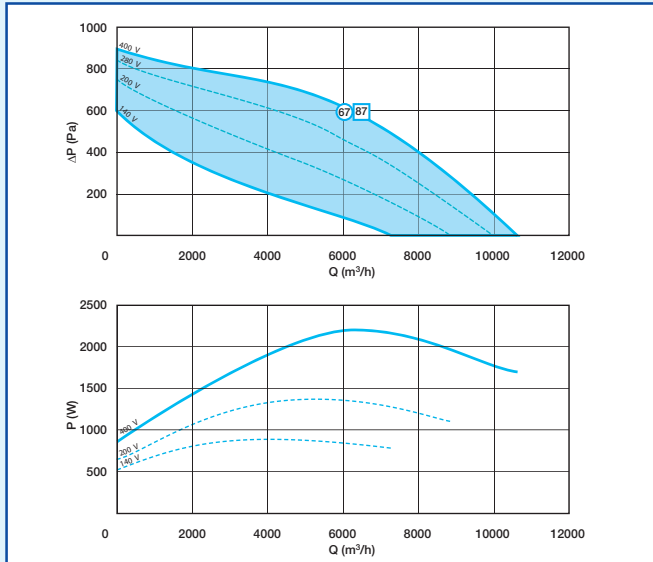
VS 7400 - 230V



VS 7400 - 400V

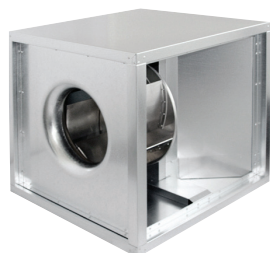


VS 9300 - 400V



# Cabinet Fans

## Double skin in-line fans for kitchens



VEKITA SILENCE-O

### Advantages

- Motor outside air stream.
- Ideal for kitchens.
- Double skin insulation.
- Aluminium impeller.
- Variable speed control.
- Maintenance-free.

### APPLICATION

- Air exhaust / air supply.
- Ideal for kitchens.

### DESCRIPTION

- Backward curved centrifugal fan.
- Galvanized steel sheet housing designed to function as a grease pan.
- Aluminium impeller.
- 40 mm insulation, double skin.
- With bottom pan.
- Motor separated from air stream through built-in bulhead.
- Outlet is right-angled to Inlet.
- Long-life ball bearings.
- IP 54.

### INSTALLATION

- Horizontal / vertical.
- Suspended ceilings.
- Indoor / outdoor.

### RANGE

Description	Code
VSO 2300 - 230 V	
VSO 3400 - 230 V	
VSO 3200 - 230 V	
VSO 4700 - 230 V	
VSO 6700 - 230 V	

### ELECTRICAL ACCESSORIES

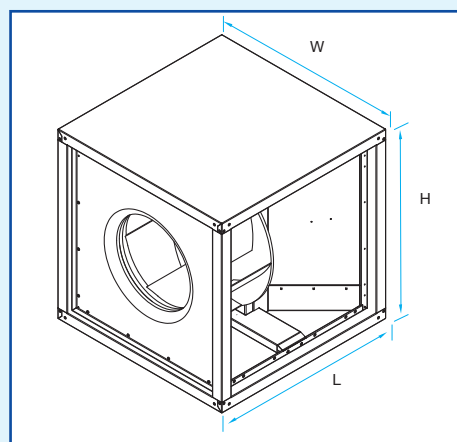
- 1-phase voltage regulator: please, see page 171.
- 1-phase electronic speed controller: please, see page 172.
- 1-phase autotransformer: please, see page 172.

### PRE-SELECTION OF TYPE OF VEKITA SILENCE-O

The airflows correspond to a pressure loss of 200 Pa.

VSO 6700	6 700 m <sup>3</sup> /h
VSO 4700	4 700 m <sup>3</sup> /h
VSO 3400	3 400 m <sup>3</sup> /h
VSO 3200	3 200 m <sup>3</sup> /h
VSO 2300	2 300 m <sup>3</sup> /h
Q (m <sup>3</sup> /h)	

### DIMENSIONS - WEIGHT



Type	L (mm)	W (mm)	H (mm)	Weight (kg)
VSO 2300	500	500	500	35.5
VSO 3400	500	500	500	37.0
VSO 3200	700	700	700	58.5
VSO 4700	700	700	700	59.5
VSO 6700	700	700	700	71.5

### ELECTRICAL DETAILS

Type	I (A)	U (V)	f (Hz)	Lwa5 (dB (A))	P (W)	No. of Poles
VSO 2300	3.1	230	50	78	660	2
VSO 3400	4.2	230	50	83	960	2
VSO 3200	3.0	230	50	72	570	4
VSO 4700	4.1	230	50	75	870	4
VSO 6700	5.7	230	50	80	1280	4

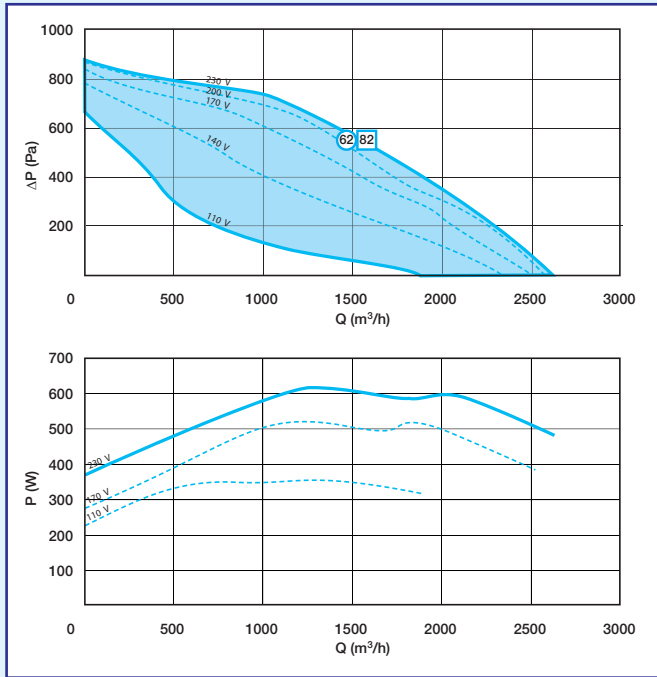
# Cabinet Fans

## VEKITA SILENCE-O

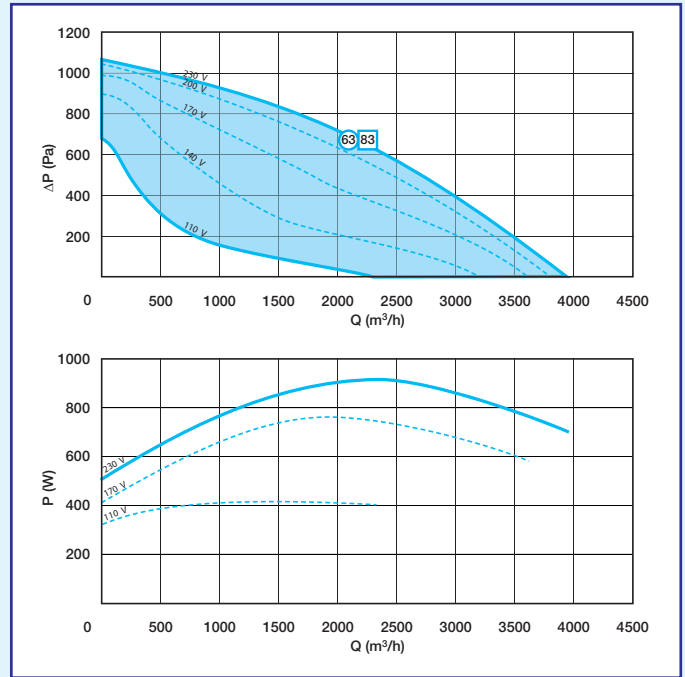
### AIRFLOW AND ACOUSTIC DETAILS

- The following airflow curves were drawn up in accordance with Standard EN ISO 5801.
- In Pressure vs. Flow graph, the minimum, maximum and intermediate curves represent the 5-speed for the VEKITA SILENCE-O 2300, 3400, 3200, 4700 and 6700 with the speed controller.
- $\circ$  Lp (dB (A)) = Sound pressure level measured at 4 m from the casing, with fan discharge connected.
- $\square$  Lw (dB (A)) = Sound power level radiated in the duct under suction.
- P (Pa) = Static pressure - P (W) = Maximum power consumption.

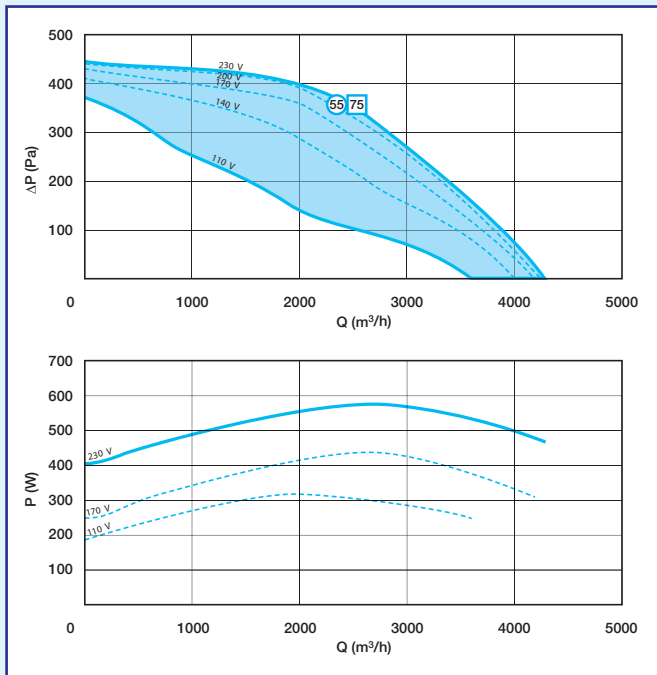
### VSO 2300 - 230V



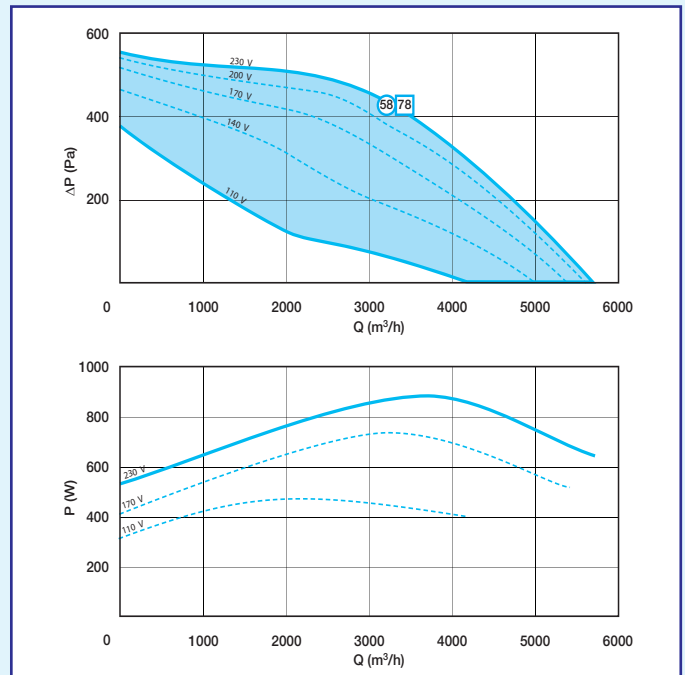
### VSO 3400 - 230V



### VSO 3200 - 230V



### VSO 4700 - 230V



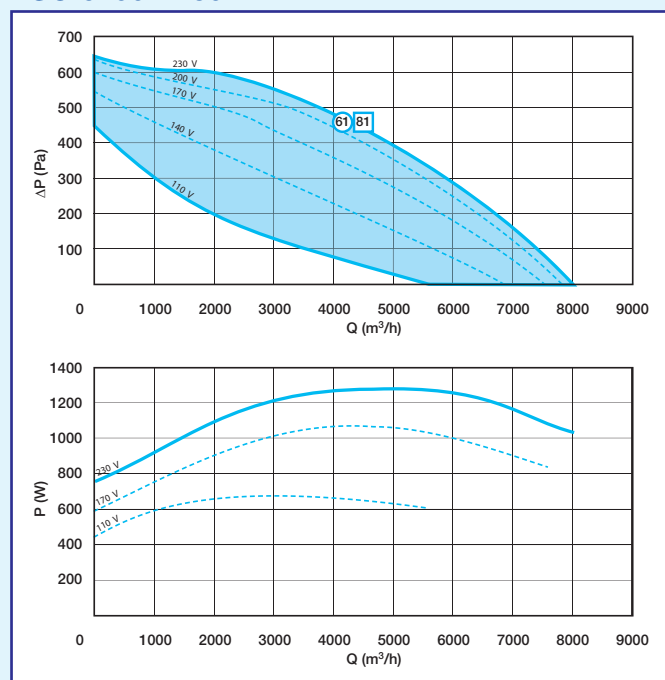
# Cabinet Fans

## VEKITA SILENCE-O

### AIRFLOW AND ACOUSTIC DETAILS

- The following airflow curves were drawn up in accordance with Standard EN ISO 5801.
- In Pressure vs. Flow graph, the minimum, maximum and intermediate curves represent the 5-speed for the VEKITA SILENCE-O 2300, 3400, 3200, 4700 and 6700 with the speed controller.
- ○ Lp (dB (A)) = Sound pressure level measured at 4 m from the casing, with fan discharge connected.
- □ Lw (dB (A)) = Sound power level radiated in the duct under suction.
- P (Pa) = Static pressure - P (W) = Maximum power consumption.

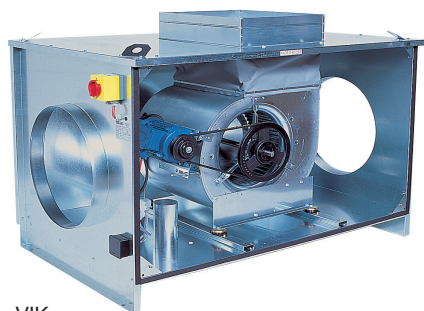
### VSO 6700 - 230V





# Cabinet Fans

## Supply / exhaust fans



VIK

### APPLICATION

- Air exhaust / air supply, up to 12000 m<sup>3</sup>/h.
- Medium to large commercial and industrial premises.
- Airflow adjustment.

### DESCRIPTION

- Casing in galvanised steel with in-line circular connections.
- Forward curved fan mounted on slide rails and separated from the casing by anti-vibration mountings.
- Pulley-belt drive, with adjustable motorised pulley (adjustment of the fan speed).
- An inner filter rail (optional G4 or F5 filter).

### INSTALLATION

- Indoor/ outdoor.
- New and renovation.

### STANDARD RANGE **R6**

Description	Code
<b>1-speed + fitted switch</b>	
VIK 4000 - 1-speed + TPO + IP	11028031
VIK 5000 - 1-speed + TPO + IP	11028032
VIK 7000 - 1-speed + TPO + IP	11028033
VIK 8500 - 1-speed + TPO + IP	11028034
<b>2-speed + fitted switch</b>	
VIK 4000 - 2-speed + TPO + IP	11028035
VIK 5000 - 2-speed + TPO + IP	11028036
VIK 7000 - 2-speed + TPO + IP	11028037
VIK 8500 - 2-speed + TPO + IP	11028038

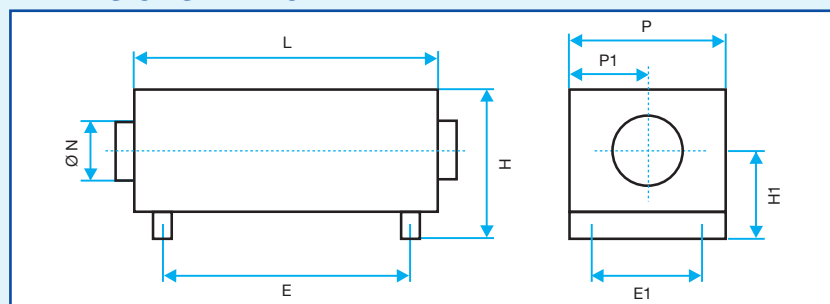
### RANGE with a choice of options **R6**

Description	Code
<b>Casing + motorised fan</b>	
VIK n°1 without MF	11028005
MF 4000 1-speed 50/60 Hz	OPT28006
MF 4000 2-speed	OPT28007
MF 5000 1-speed 50/60 Hz	OPT28008
MF 5000 2-speed	OPT28009
VIK n°2 without MF	11028010
MF 7000 1-speed 50/60 Hz	OPT28011
MF 7000 2-speed	OPT28012
MF 8500 2-speed 50/60 Hz	OPT28013
MF 8500 2-speed	OPT28014
VIK n°3 without MF	11028060
MF 12000 2-speed 50/60 Hz	OPT28742
Aquilone N°4	OPT28741
<b>Available options</b>	
G4 Filter VIK n°1	OPT28015
G4 Filter VIK n°2 and 3	OPT28018
F5 Filter VIK n°1	OPT28016
F5 Filter VIK n°2 and 3	OPT28019
Insulation VIK n°1	OPT28749
Insulation VIK n°2 and 3	OPT28748

### Advantages

- Connections in-line.
- Optional integrated filter.
- Airflow between 100 and 12000 m<sup>3</sup>/h.
- Motorised fan unit mounted on a slide rail.
- Adjustable drive pulley in series.

### DIMENSIONS - WEIGHT



Type	L (mm)	D (mm)	H (mm)	E (mm)	P1 (mm)	H1 (mm)	E1 (mm)	Ø N (mm)	Weight (kg)
VIK 4000	1161	737	675	1131	304	387	600	500	77
VIK 5000	1161	737	675	1131	304	387	600	500	80
VIK 7000	1406	941	943	1378	471	522	717	630	121
VIK 8500	1406	941	943	1378	471	522	717	630	127
VIK 12000	1406	941	943	1378	471	522	717	630	150

### M0 INCOMBUSTIBLE FLEXIBLE SLEEVES

Type	Vacuum cleaning Ø (mm)	Discharge Ø (mm)
VIK 4000 - 5000	500	500
VIK 7000 to 12000	630	630

### ELECTRICAL DETAILS

- IP 55 asynchronous motor, Class F, 230/400 V 3-phase - 50 Hz.
- Thermal Protection on opening built into the motor in parallel with the automatic reset winding (TPO with exposed wires).
- For the connection of the TPO, use the proposed tripping coil accessory with the thermal overload relay disconnecting switches, please see page 115.
- For operating and protection of the 2-speed fans, please see pages 172 - 177.

Type	Rated motor power (kW)	No. of poles	Max. power consumption (W)	Max. I. cons. (A)
VIK 4000 - 1-speed	1.1	4	1400	2.7
VIK 5000 - 1-speed	1.5	4	2400	4.5
VIK 7000 - 1-speed	1.8	4	2800	5.0
VIK 8500 - 1-speed	3.0	4	4800	8.0
VIK 12000 - 1-speed	4.0	4	6020	10.7
VIK 4000 - 2-speed	1.1 / 0.18	4/8	1500	2.8 / 1.0
VIK 5000 - 2-speed	1.5 / 0.25	4/8	2600	4.5 / 1.7
VIK 7000 - 2-speed	2.2 / 0.37	4/8	3500	5.5 / 2.2
VIK 8500 - 2-speed	3.0 / 0.55	4/8	4800	8 / 3.0
VIK 12000 - 2-speed	4.0 / 0.75	4/8	6020	10.7 / 3.7

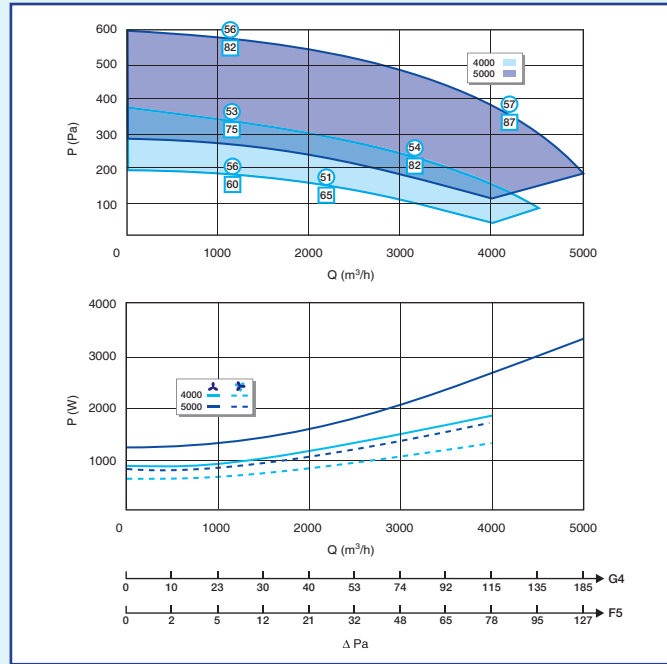
# Cabinet Fans

## VIK

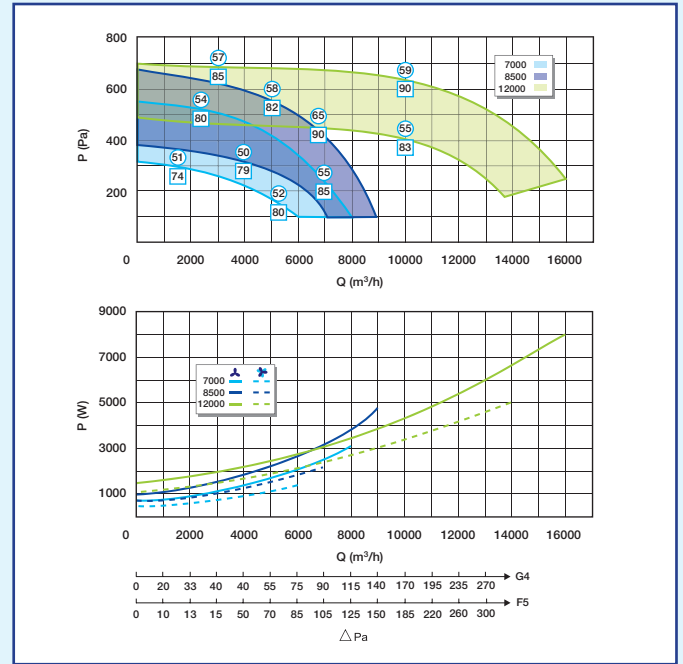
### AIRFLOW AND ACOUSTIC DETAILS

- The following airflow curves were drawn up in accordance with Standard EN ISO 5801.
- $L_p$  (dB (A)) = Sound pressure level measured at 4 m from the casing, with fan discharge connected.
- $L_w$  (dB (A)) = Level of acoustic power radiated in the duct during air discharge.
- $P$  (Pa) = Static pressure -  $P$  (W) = Maximum power consumption.

#### VIK 4000 - 5000



#### VIK 7000 - 8500 - 12000



### AVAILABLE OPTIONS (continued) R6

Description	Code
<b>Electrical</b>	
1-speed 7.5 kW proximity switch + aux. contacts	OPT28021
2-speed 7.5 kW proximity switch + aux. contacts	OPT28022
Pressure switch 40-300 Pa fitted	OPT28028
Pressure switch 100-1000 Pa connected/ fitted	OPT28029
Axone "All-in-One" 1-speed 4.7 A	OPT28025
Axone "All-in-One" 1-speed 16.7 A	OPT28027
VIK 4000 1-speed thermal overload relay	OPT28023
VIK 5000 - 7000 1-speed thermal overload relay	OPT28024
VIK 8500 1-speed thermal overload relay	OPT28026
VIK 12000 1-speed thermal overload relay	OPT28739
Filter clogging detection	OPT28030
<b>Finish</b>	
Epoxy Casing - VIK n°1	OPT28071
Epoxy Casing - VIK n°2	OPT28073
Epoxy Casing - VIK n°3	OPT28076
Epoxy Casing + MV VIK n°1	OPT28072
Epoxy Casing + MV VIK n°2	OPT28074
Epoxy Casing + MV VIK n°3	OPT28075
Screw-fit casing	OPTVISSE
Left hand side access	OPT58171
Standard opposite face access	OPT58172

### ACCESSORIES R6

Description	Code
Flexible sleeve M0 Ø 500 mm	11025076
Flexible sleeve M0 Ø 630 mm	11025077
Rain hood + grille Ø 500 mm	11056374
Rain hood canopy + grille Ø 630 mm	11056375
G4 filter VIK 4000 - 5000	11028050
G4 filter VIK 7000 - 8500 - 12000	11028048
F5 filter VIK 4000 - 5000	11028049
F5 filter VIK 7000 - 8500 - 12000	11028047

# Cabinet Fans

## Low energy consumption supply / exhaust fans



VIK micro-watt

Green Product



### Advantages

- Low energy consumption.
- Single-phase power supply.
- Connections in-line.
- Optional integrated filter.

### APPLICATION

- Air exhaust / air supply, up to 12000 m<sup>3</sup>/h.
- Medium to large commercial and industrial buildings.

### DESCRIPTION

- Casing in sheet metal with circular connections supplied with an electronics box to be screwed on on-site, pre-wired and pre-programmed at the factory, adjustment potentiometer included.
- Forward curved fan mounted on slide rails and separated from the casing by anti-vibration mountings.
- Pulley-belt type drive.
- An inner filter rail (optional G4 or F5 filter).

NOTE: for heating of air, see *Heating / Cooling coils* pages 214 to 216.

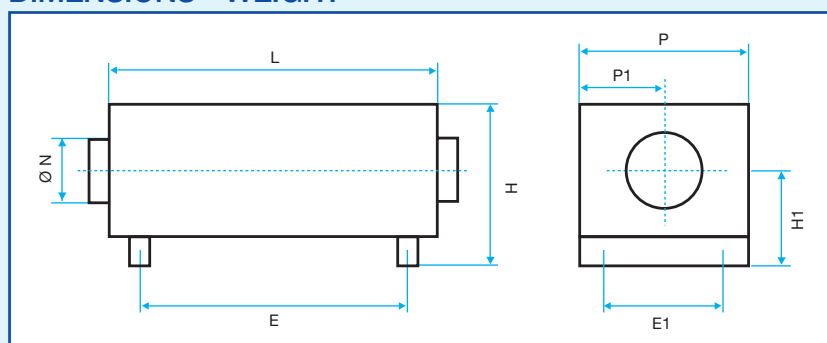
### INSTALLATION

- Indoor / outdoor.
- New and renovation.

### RANGE with a choice of options **R6**

Description	Code
<b>Casing + motorised fan</b>	
VIK n°1 without MF	11028005
MV 4000 micro-watt	OPT28085
MV 5000 micro-watt	OPT28086
VIK n°2 without MF	11028010
MV 7000 micro-watt	OPT28087
MV 8500 micro-watt	OPT28088
VIK N°3 without MF	11028060
MV 12000 micro-watt	OPT28089
<b>Available options</b>	
G4 filter VIK n°1	OPT28015
G4 filter VIK n°2 and 3	OPT28018
F5 filter VIK n°1	OPT28016
F5 filter VIK n°2 and 3	OPT28019
Insulation VIK n°1	OPT28749
Insulation VIK n°2 and 3	OPT28748

### DIMENSIONS - WEIGHT



Type	L (mm)	D (mm)	H (mm)	E (mm)	P1 (mm)	H1 (mm)	E1 (mm)	Ø N (mm)	Weight (kg)
VIK 4000	1161	737	675	1131	304	387	600	500	77
VIK 5000	1161	737	675	1131	304	387	600	500	80
VIK 7000	1406	941	943	1378	471	522	717	630	121
VIK 8500	1406	941	943	1378	471	522	717	630	127
VIK 12000	1406	941	943	1378	471	522	717	630	150
Micro-watt unit	260	350	500						15

### M0 INCOMBUSTIBLE FLEXIBLE SLEEVES

Type	Vacuum cleaning Ø (mm)	Discharge Ø (mm)
VIK 4000 - 5000	500	500
VIK 7000 to 12000	630	630

### ELECTRICAL DETAILS

- Asynchronous motor - IP 55 - class F - 3-phase 230/400 V - 50 Hz.
- 230 V - 50/60 Hz 1-phase power supply (except VIK 8500, 230/400 V 3-phase power supply).
- Thermal protection on opening and with resetting automatically integrated into the motor (TPO with exposed wires) directly connectable to the micro-watt box (cf. *Assembly instructions*).

Type	Rated motor power (kW)	No. of poles	Max. power consumption (W)	Max. I. cons. (A)
VIK 4000 micro-watt	1.1	4	1400	9.0
VIK 5000 micro-watt	1.5	4	2400	15.0
VIK 7000 micro-watt	1.8	4	2800	16.0
VIK 8500 micro-watt	3.0	4	4800	8.0
VIK 12000 micro-watt	4.0	4	6020	10.7

# Cabinet Fans

## VIK micro-watt

OPTIONS AVAILABLE (continued) **R6**

Description	Code
<b>Electrical</b>	
Filter clogging detection	OPT28030
<b>Finish</b>	
Epoxy casing - VIK n°1	OPT28071
Epoxy casing - VIK n°2	OPT28073
Epoxy casing - VIK n°3	OPT28076
Epoxy casing + MV VIK n°1	OPT28072
Epoxy casing + MV VIK n°2	OPT28074
Epoxy casing + MV VIK n°3	OPT28075
Screw-fit casing	OPTVISSE
Left hand side access	OPT58171
Standard opposite face access	OPT58172

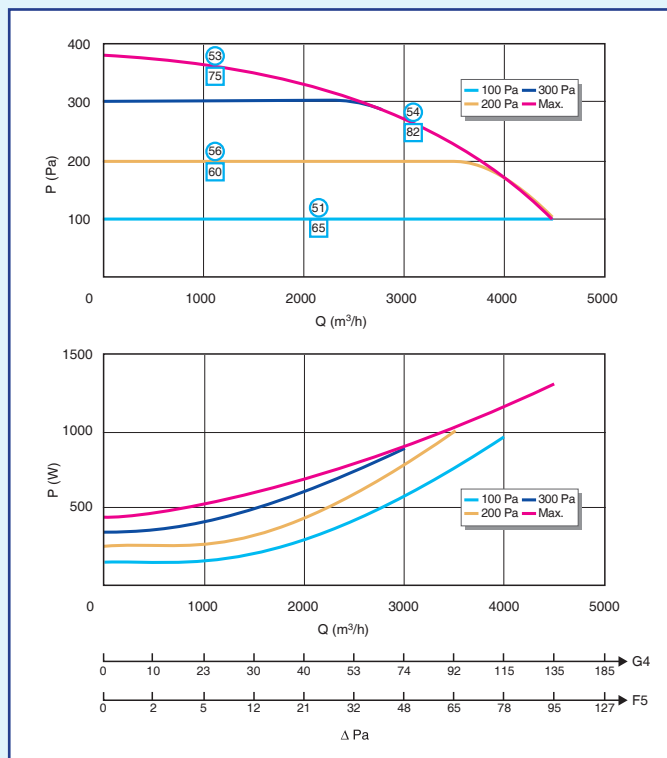
## ACCESSORIES **R6**

Description	Code
Flexible sleeve M0 Ø 500 mm	11025076
Flexible sleeve M0 Ø 630 mm	11025077
Rain hood + grille Ø 500 mm	11056374
Rain hood canopy + grille Ø 630 mm	11056375
G4 filter VIK 4000 - 5000	11028050
G4 filter VIK 7000 - 8500 - 12000	11028048
F5 filter VIK 4000 - 5000	11028049
F5 filter VIK 7000 - 8500 - 12000	11028047
<b>Electrical accessories (see pages 172 - 177)</b>	
Offset control	11057084
IP55 offset control	11057085
Thermal overload relay 6.3 - 10 A	11057055
Thermal overload relay 11 - 16 A	11057056

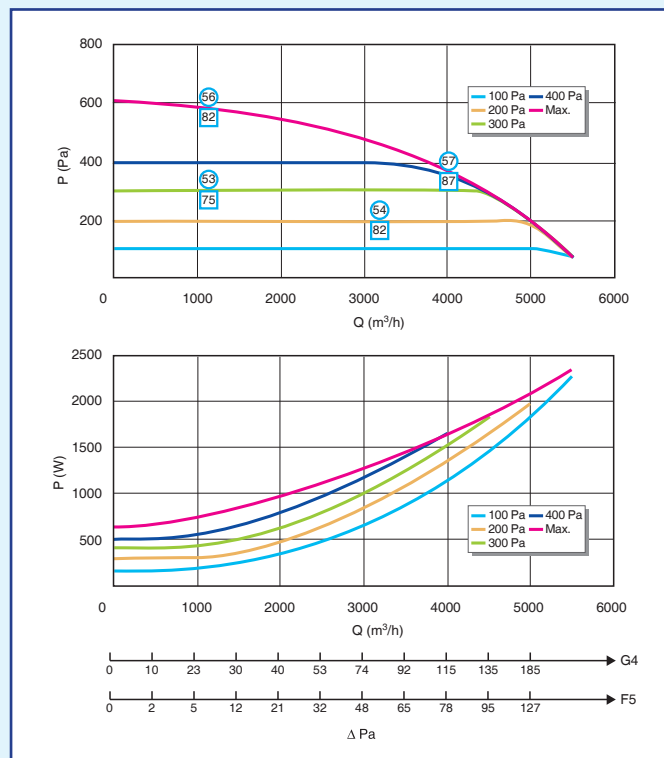
## AIRFLOW AND ACOUSTIC DETAILS

- The following airflow curves were drawn up in accordance with Standard EN ISO 5801.
- : Lp (dB (A)) = Sound pressure level measured at 4 m from the casing, with fan discharge connected.
- : Lw (dB (A)) = Level of acoustic power radiated in the duct during air discharge.
- P (Pa) = Static pressure - P (W) = Maximum power consumption.

### VIK 4000 micro-watt



### VIK 5000 micro-watt



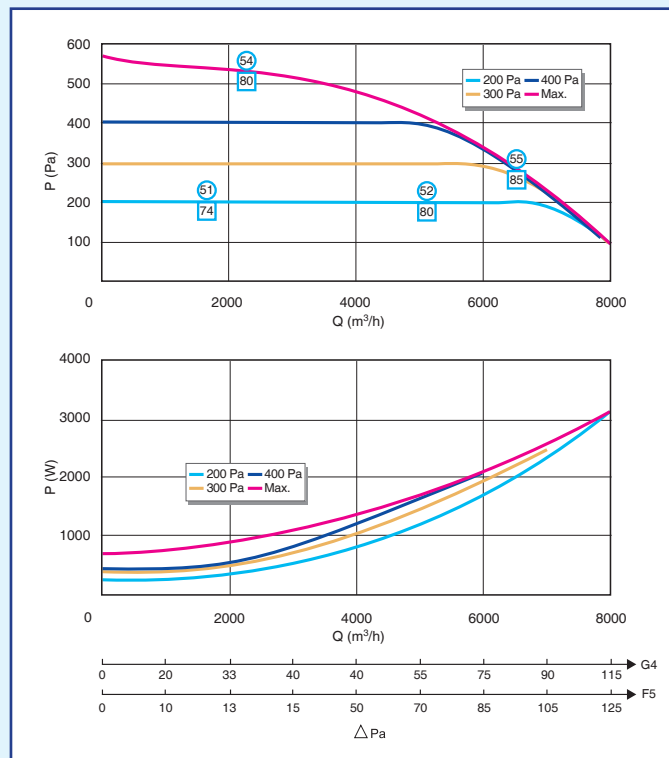
# Cabinet Fans

## VIK micro-watt

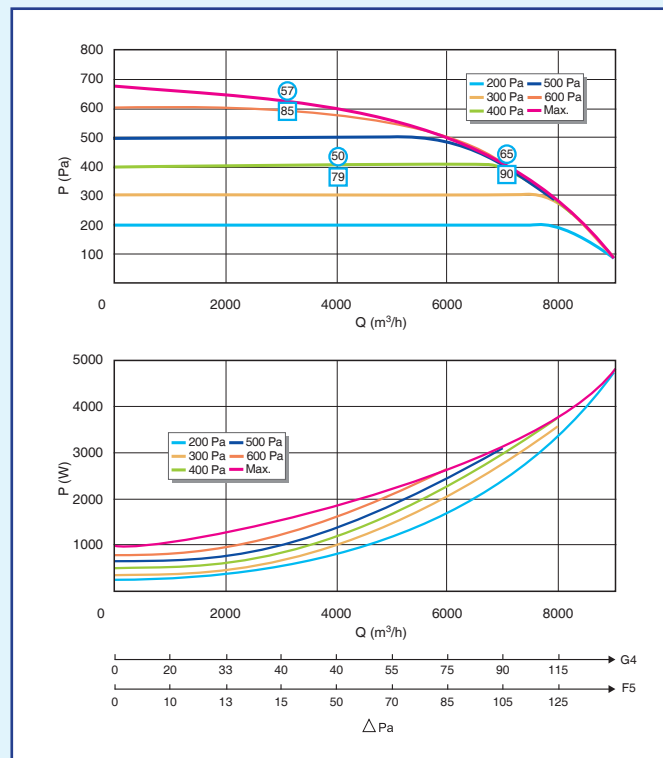
### AIRFLOW AND ACOUSTIC DETAILS

- The following airflow curves were drawn up in accordance with Standard EN ISO 5801.
- $\circ$ :  $L_p$  (dB (A)) = Sound pressure level measured at 4 m from the casing, with fan discharge connected.
- $\square$ :  $L_w$  (dB (A)) = Level of acoustic power radiated in the duct during air discharge.
- P (Pa) = Static pressure - P (W) = Maximum power consumption.

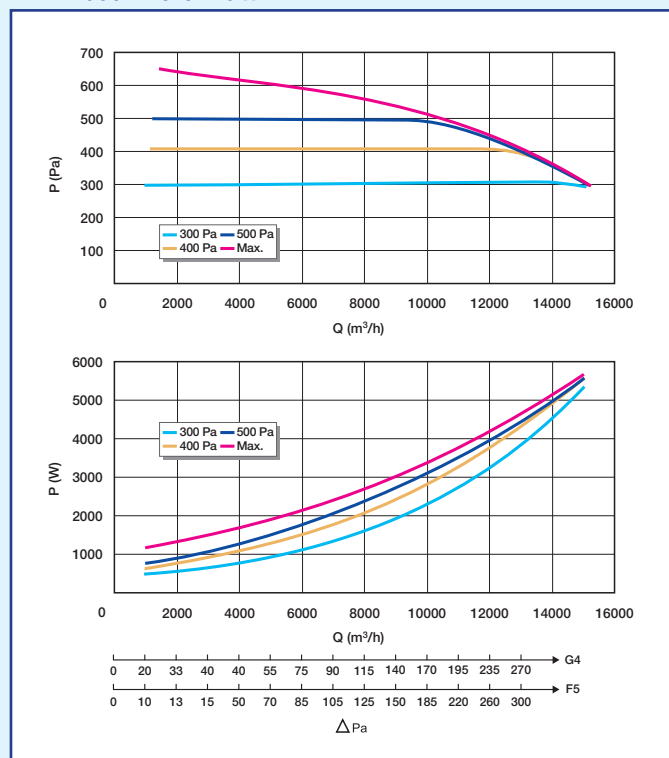
### VIK 7000 micro-watt



### VIK 8500 micro-watt



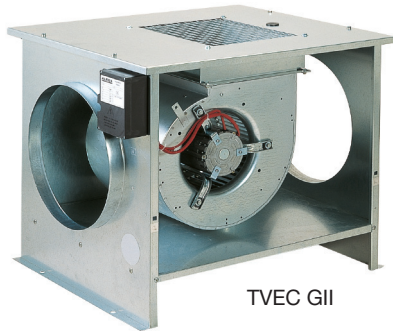
### VIK 12000 micro-watt





# Cabinet Fans

## Exhaust fans



TVEC GII

### Compliance

- Standard XP P50-411 (DTU 68-2).
- 400°C (½h).

### Advantages

- Several arrangements available.
- Reliable and robust.

### APPLICATION

- Air supply or exhaust with pre-treatment of the air.
- Fan unit in casing C4 - 400°C ½ h fire rating.

### DESCRIPTION

- Galvanised casing with three possible arrangements.
- Adjustable feet that can adapt to all types of floor.
- Double inlet / outlet forward curved fan mounted on slide rails and separated from the casing by anti-vibration mountings.
- Pulley-belt drive, with adjustable motorised pulley.

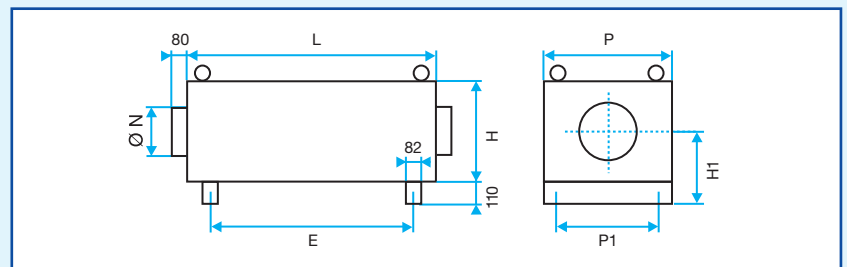
### INSTALLATION

- Horizontal.
- Technical areas / terraces.
- Indoor / outdoor.

### RANGE with a choice of options R7

Description	Code
<b>TVEC 1</b>	
TVEC 1 arrgt 1 without MV	11056401
TVEC 1 arrgt 2 without MV	11056402
TVEC 1 arrgt 3 without MV	11056403
MV A1 50/60 Hz	OPT56411
MV B1 50/60 Hz	OPT56412
MV C1 50/60 Hz	OPT56413
MV D1 50/60 Hz	OPT56414
MV A2 (Dahlander)	OPT56415
MV B2 (Dahlander)	OPT56416
MV C2 (Dahlander)	OPT56417
MV D2 (Dahlander)	OPT56418
<b>TVEC 2</b>	
TVEC 2 arrgt 1 without MV	11056404
TVEC 2 arrgt 2 without MV	11056405
TVEC 2 arrgt 3 without MV	11056406
MV A1 50/60 Hz	OPT56421
MV B1 50/60 Hz	OPT56422
MV C1 50/60 Hz	OPT56423
MV D1 50/60 Hz	OPT56424
MV A2 (Dahlander)	OPT56425
MV B2 (Dahlander)	OPT56426
MV C2 (Dahlander)	OPT56427
MV D2 (Dahlander)	OPT56428
<b>TVEC 3</b>	
TVEC 3 arrgt 1 without MV	11056407
TVEC 3 arrgt 2 without MV	11056408
TVEC 3 arrgt 3 without MV	11056409
MV A1 50/60 Hz	OPT56431
MV B1 50/60 Hz	OPT56432
MV C1 50/60 Hz	OPT56433
MV A2 (Dahlander)	OPT56435
MV B2 (Dahlander)	OPT56436
MV C2 (Dahlander)	OPT56437

### DIMENSIONS - WEIGHT



Type	L (mm)	D (mm)	P1 (mm)	H (mm)	H1 (mm)	E (mm)	Ø N (mm)	Weight (kg)
TVEC 1	983	813	650	710	465	707	500	110/130
TVEC 2	1099	1099	940	770	495	828	630	150/180
TVEC 3	1398	1398	1239	1144	682	1122	800	235/285

### ELECTRICAL DETAILS

- Asynchronous motor with IP 55 - class F - 3-phase 230/400V - 50/60 Hz (other than TVEC 3C, 400/660 V).
- Thermal protection on opening built into the motor in parallel with the automatic reset winding (TPO with exposed wires).

BE CAREFUL: the connection of the TPO is incompatible with the fire resistance classification C4-400° C ½ h.

Type	Motor.	Ø impeller (mm)	N° of poles	Rated power. (kW)	Max. power consumption (A)	Max. power consumption (W)
TVEC 1	A1	270	4	0.55	1.60	900
TVEC 1	B1	270	4	1.10	2.25	1250
TVEC 1	C1	270	4	1.50	3.55	2000
TVEC 1	D1	270	4	1.80	4.55	2500
TVEC 1	A2	270	4/8	0.55/0.09	1.60	900
TVEC 1	B2	270	4/8	1.10/0.18	2.80	1500
TVEC 1	C2	270	4/8	1.50/0.25	4.00	2200
TVEC 1	D2	270	4/8	2.20/0.37	5.50	3000
TVEC 2	A1	320	4	0.75	2.20	1200
TVEC 2	B1	320	4	1.10	3.30	1800
TVEC 2	C1	320	4	1.80	5.30	2900
TVEC 2	D1	320	4	3.00	8.20	4450
TVEC 2	A2	320	4/8	0.75/0.12	2.30	1250
TVEC 2	B2	320	4/8	1.10/0.18	3.30	1800
TVEC 2	C2	320	4/8	2.20/0.37	6.50	3500
TVEC 2	D2	320	4/8	3.00/0.55	8.20	4500
TVEC 3	A1	450	4	2.20	7.90	4300
TVEC 3	B1	450	4	4.00	12.00	6500
TVEC 3	C1	450	4	7.50	16.00	8700
TVEC 3	A2	450	4/8	2.20/0.37	7.90	4300
TVEC 3	B2	450	4/8	4.00/0.75	12.00	6500
TVEC 3	C2	450	4/8	7.50/1.50	16.00	8700

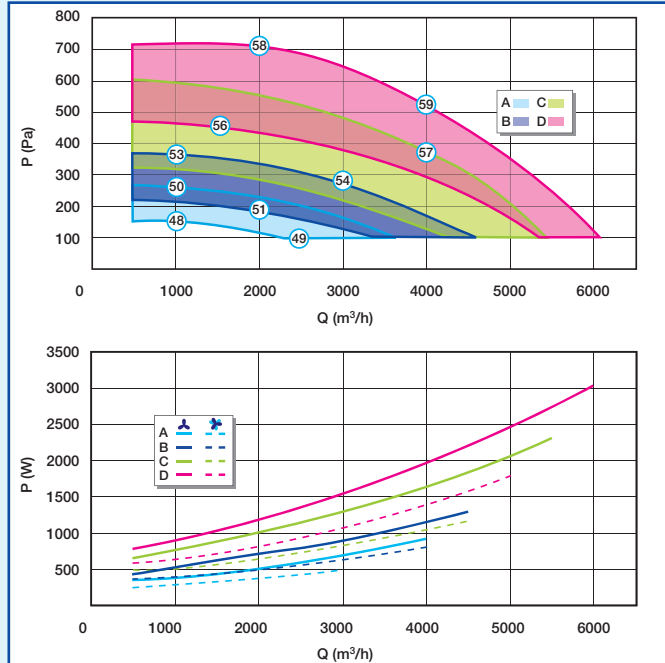
# Cabinet Fans

## TVEC GII

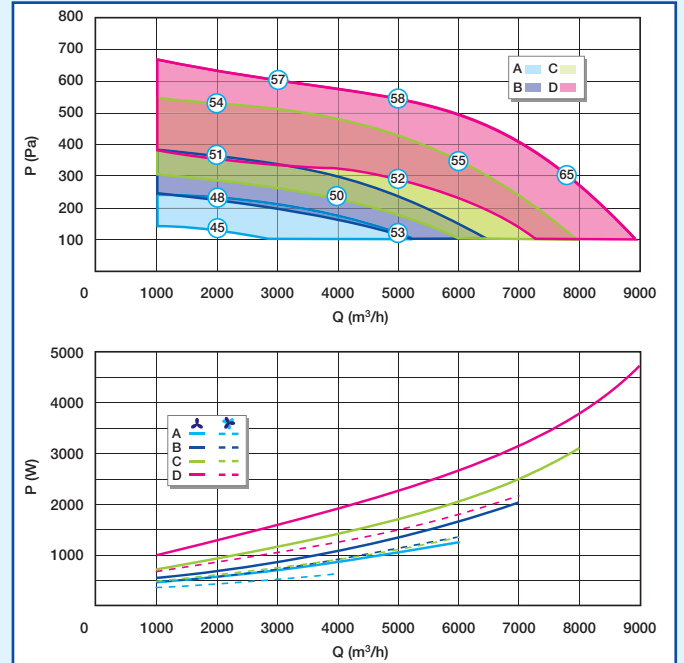
### AIRFLOW AND ACOUSTIC DETAILS

- Airflow curves drawn up in accordance with French Standard EN ISO 5801.
- ○ = Acoustic pressure level measured at 4 m from the casing, discharge connected in dB (A).
- $P$  (Pa) = Static pressure -  $P$  (W) = Maximum power consumption

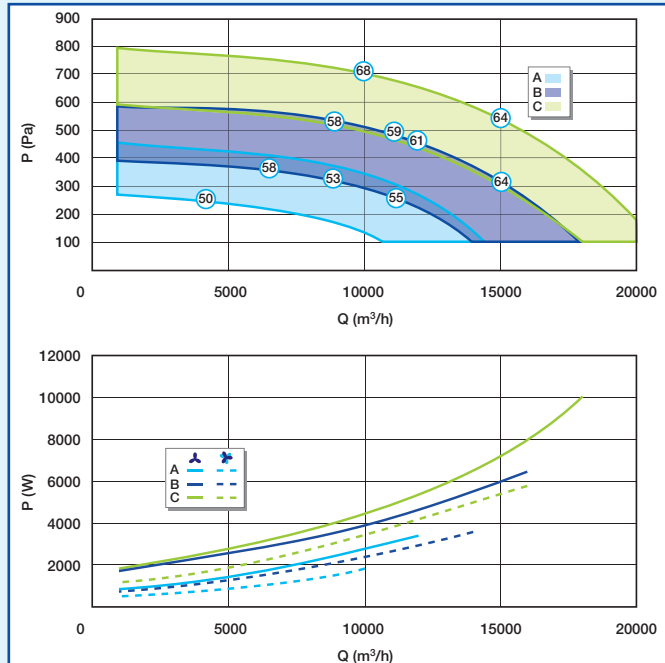
#### TVEC 1



#### TVEC 2



#### TVEC 3



# Cabinet Fans

## Casing filter module for TVEC GII

### APPLICATION

- TVEC GII accessory for filtering the air supply.

### DESCRIPTION

- Double skin galvanised steel casing without connections.
- Adjustable feet that can adapt to all types of terrain.
- Pocket filter class F5, 40 to 60% opacimetric efficiency, in accordance with standard EN 779, and M3 fire rating classification.

### INSTALLATION

- Fits directly on to the fan casing, suction side, or on the heater casing, by a system of rails + screws (supplied).

### RANGE with a choice of options **R7**

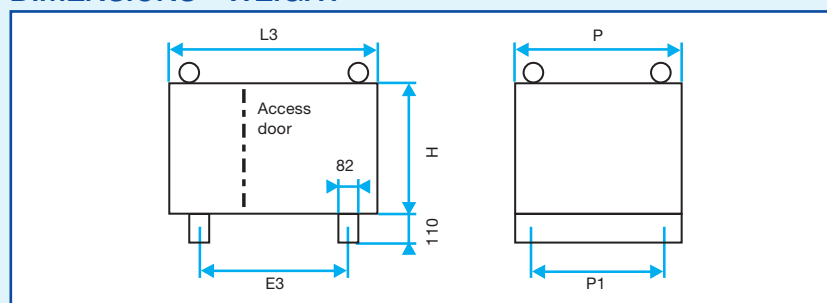
Description	Code	
Casing filter	TVEC 1	11056471
	TVEC 2	11056472
	TVEC 3	11056473

### AVAILABLE OPTIONS **R7**

Description	Code
Filter clogging detection	OPT56378

- Filter clogging detection mounted on the filter casing.

### DIMENSIONS - WEIGHT



Type	L3 (mm)	D (mm)	H (mm)	E3 (mm)	P1 (mm)	Weight (kg)
TVEC 1	980	813	710	707	650	70
TVEC 2	1096	1044	770	823	940	80
TVEC 3	1096	1398	1144	823	1239	110

### CASSETTE FILTER

- F5 pocket filter, fitted on a metal frame.
- Dimensions of the frame: 594 x 287 mm.

Type	TVEC 1	TVEC 2	TVEC 3
No. of filter cassettes per casing	2	3	6

## Filter extraction drawer for TVEC GII

### APPLICATION

- TVEC GII accessory for filtering the air supply.

### DESCRIPTION

- Double skin galvanised steel casing without connections.
- Pocket filter class G4, 40 to 90% gravimetric efficiency, in accordance with standard EN 779, and M3 fire rating classification.

### INSTALLATION

- Fits directly on to the fan casing, on its suction side.

### RANGE with a choice of options **R7**

Description	Code	
Filter extraction drawer	TVEC 1	11057091
Filter extraction drawer	TVEC 2	11057092
Filter extraction drawer	TVEC 3	11057093

- Filter clogging detection mounted on the filter casing.

### ACCESSORIES **R7**

Description	Code
G4 spare filter for TVEC 1	11057094
G4 spare filter for TVEC 2	11057095
G4 spare filter for TVEC 3	11057096

### DIMENSIONS - WEIGHT

Type	L (mm)	D (mm)	H (mm)	Weight (kg)
TVEC 1	740	185	640	20
TVEC 2	1026	185	700	20
TVEC 3	1325	185	1074	20

### CASSETTE FILTER

- G4 herringbone filter frame, fitted on a metal frame.
- Dimensions of the frame (mm): TVEC GI -> 592 x 510, TVEC GII -> 878 x 585, TVEC GIII -> 2 x (588 x 940).

Type	TVEC 1	TVEC 2	TVEC 3
No. of filter cassettes per casing	1	1	2

# Cabinet Fans

## Low energy consumption fans



TVEC GII micro-watt

Green Product



### Advantages

- Low energy consumption unit.
- 1-phase power supply.
- Numerous modules (see TVEC GII fan unit).
- Multi arrangements.

### APPLICATION

- Air supply or exhaust with pre-treatment of the air.

### DESCRIPTION

- Galvanised casing with three possible arrangements, supplied with an electronics box to be screwed on on-site, pre-wired and pre-programmed at the factory, adjustment potentiometer included.
- Adjustable feet that can adapt to all types of floor.
- Double inlet / outlet forward curved fan mounted on slide rails and separated from the casing by anti-vibration mountings.
- Standard factory mounted proximity disconnecting switch.
- Offset control available.

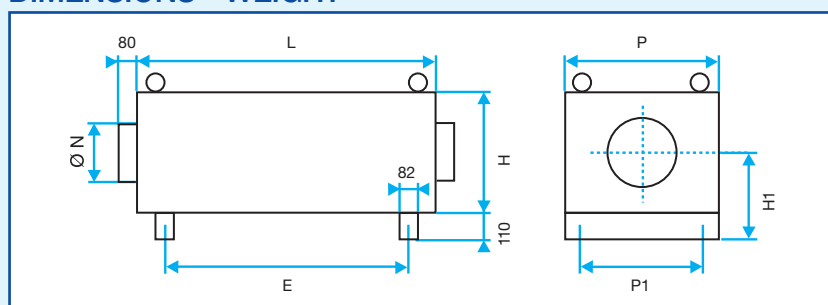
### INSTALLATION

- Horizontal.
- Technical areas / terraces.
- Indoor / outdoor.

### RANGE with a choice of options **R7**

Description	Code
<b>TVEC 1</b>	
TVEC 1 arrgt 1 without MV	11056401
TVEC 1 arrgt 2 without MV	11056402
TVEC 1 arrgt 3 without MV	11056403
A1 micro-watt MV	OPT57300
B1 micro-watt MV	OPT57301
C1 micro-watt MV	OPT57302
D1 micro-watt MV	OPT57303
<b>TVEC 2</b>	
TVEC 2 arrgt 1 without MV	11056404
TVEC 2 arrgt 2 without MV	11056405
TVEC 2 arrgt 3 without MV	11056406
A1 micro-watt MV	OPT57304
B1 micro-watt MV	OPT57305
C1 micro-watt MV	OPT57306
D1 micro-watt MV	OPT57307
<b>TVEC 3</b>	
TVEC 3 arrgt 1 without MV	11056407
TVEC 3 arrgt 2 without MV	11056408
TVEC 3 arrgt 3 without MV	11056409
A1 micro-watt MV	OPT57308
B1 micro-watt MV	OPT57309
<b>Available options</b>	
Double skin thermal insulation, TVEC 1	OPT56361
Double skin thermal insulation, TVEC 2	OPT56364
Double skin thermal insulation, TVEC 3	OPT56368
Screw-fit casing	OPTVISSE
<b>Accessories</b>	
Offset control	11057084
IP55 offset control	11057085

### DIMENSIONS - WEIGHT



Type	L (mm)	D (mm)	P1 (mm)	H (mm)	H1 (mm)	E (mm)	Ø N (mm)	Weight (kg)
TVEC 1	983	813	650	710	465	707	500	110/130
TVEC 2	1099	1099	940	770	495	828	630	150/180
TVEC 3	1398	1398	1239	1144	682	1122	800	235/285
Elec. Control box	260	350		500				15

### ELECTRICAL DETAILS

- Asynchronous motor - IP 55 - class F - 3-phase 230/400 V - 50 Hz.
- 230 V - 50/60 Hz 1-phase power supply (except TVEC 2D and 3A, 230/400 V 3-phase power supply).
- Thermal protection on opening and with resetting automatically integrated into the motor (TPO with exposed wires) directly connectable to the micro-watt box (Cf. Assembly instructions).

Type	Motor	Ø Impeller (mm)	No. of poles	Rated power (kW)	Max. power consumption (A)	Max. power consumption (W)
TVEC 1	A1 micro-watt	270	4	0.55	6	900
TVEC 1	B1 micro-watt	270	4	1.10	8	1250
TVEC 1	C1 micro-watt	270	4	1.50	12	2000
TVEC 1	D1 micro-watt	270	4	1.80	16	2500
TVEC 2	A1 micro-watt	320	4	0.75	8	1200
TVEC 2	B1 micro-watt	320	4	1.10	11	1800
TVEC 2	C1 micro-watt	320	4	1.80	17	2900
TVEC 2	D1 micro-watt	320	4	3.00	9	4450
TVEC 3	A1 micro-watt	450	4	2.20	8	4300
TVEC 3	B1 micro-watt	450	4	4.00	12	6500

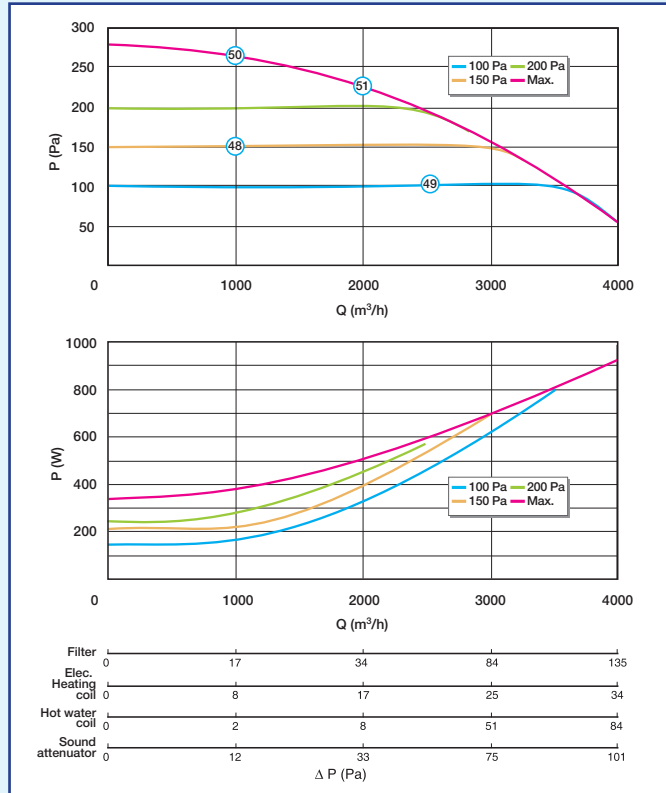
# Cabinet Fans

## TVEC GII micro-watt

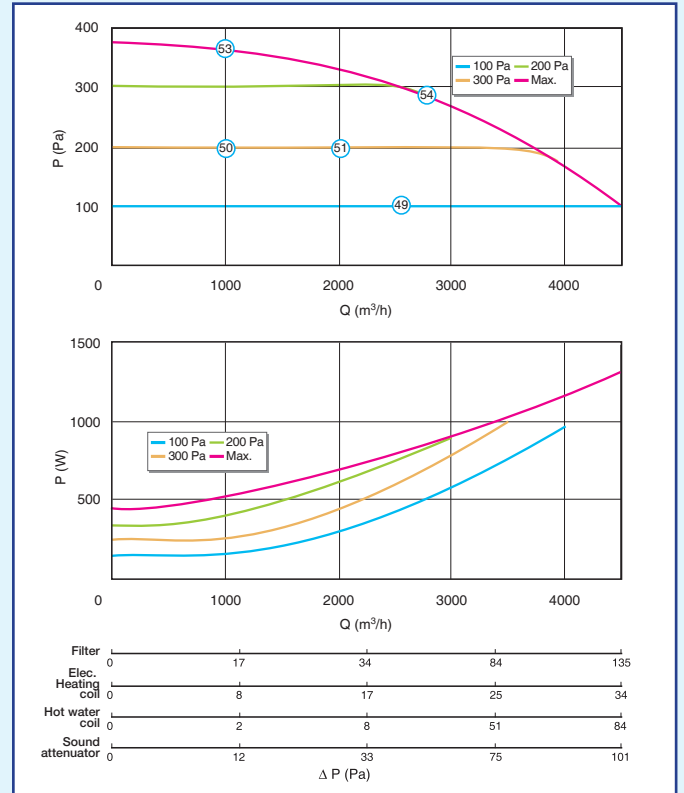
### AIRFLOW AND ACOUSTIC DETAILS

- Airflow curves drawn up in accordance with French Standard EN ISO 5801.
- ○ = Acoustic pressure level measured at 4 m from the casing, discharge connected in dB (A).
- P (Pa) = Static pressure - P (W) = Maximum power consumption.

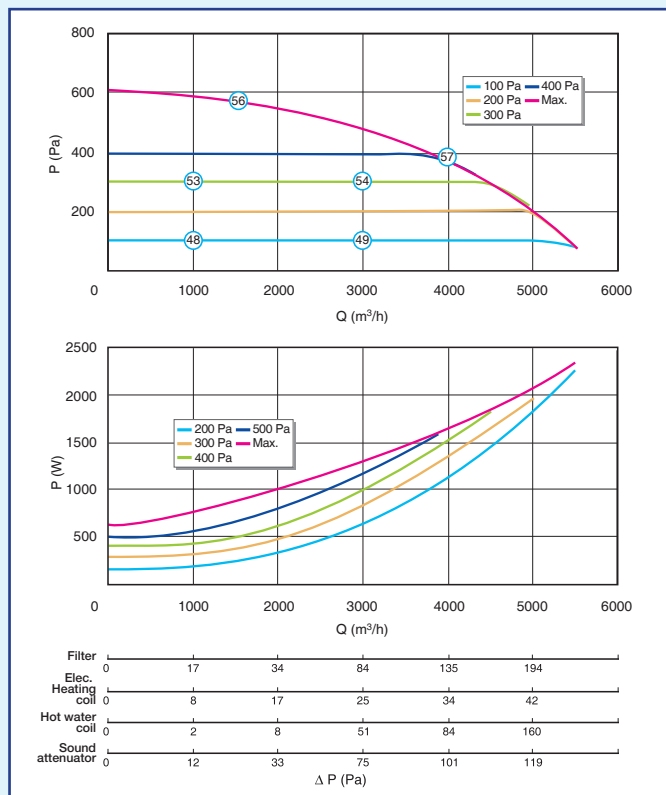
#### TVEC 1A micro-watt



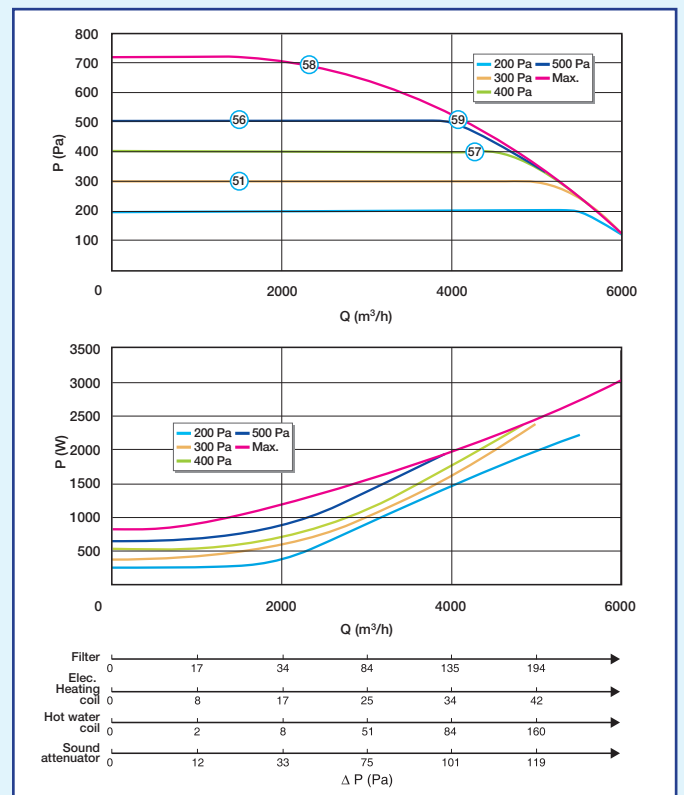
#### TVEC 1B micro-watt



#### TVEC 1C micro-watt



#### TVEC 1D micro-watt





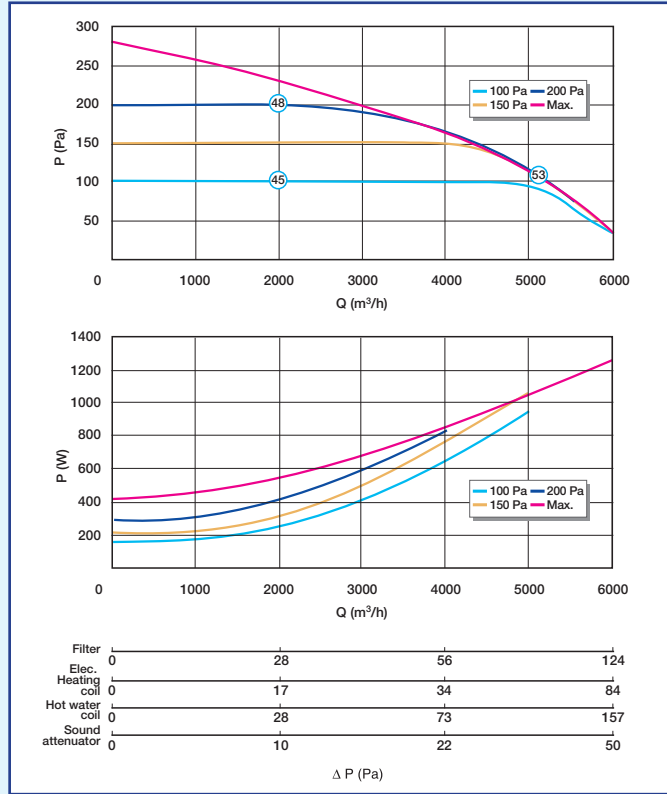
# Cabinet Fans

## TVEC GII micro-watt

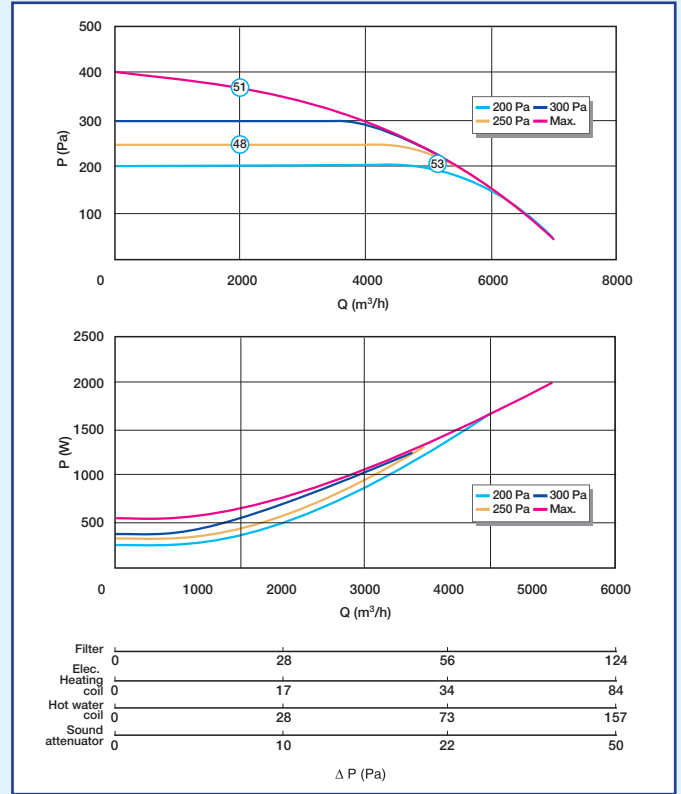
### AIRFLOW AND ACOUSTIC DETAILS

- Airflow curves drawn up in accordance with French Standard EN ISO 5801.
- ○ = Acoustic pressure level measured at 4 m from the casing, discharge connected in dB (A).
- P (Pa) = Static pressure - P (W) = Maximum power consumption.

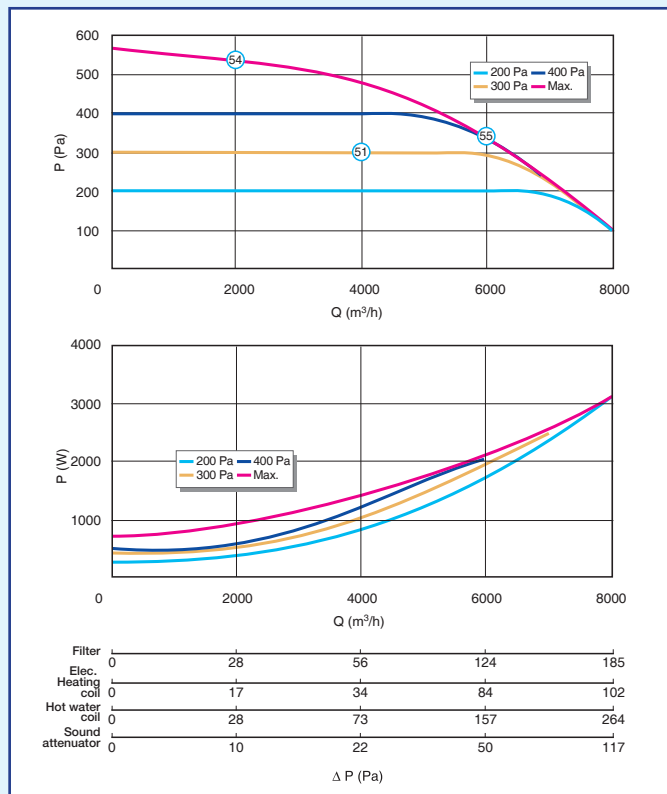
### TVEC 2A micro-watt



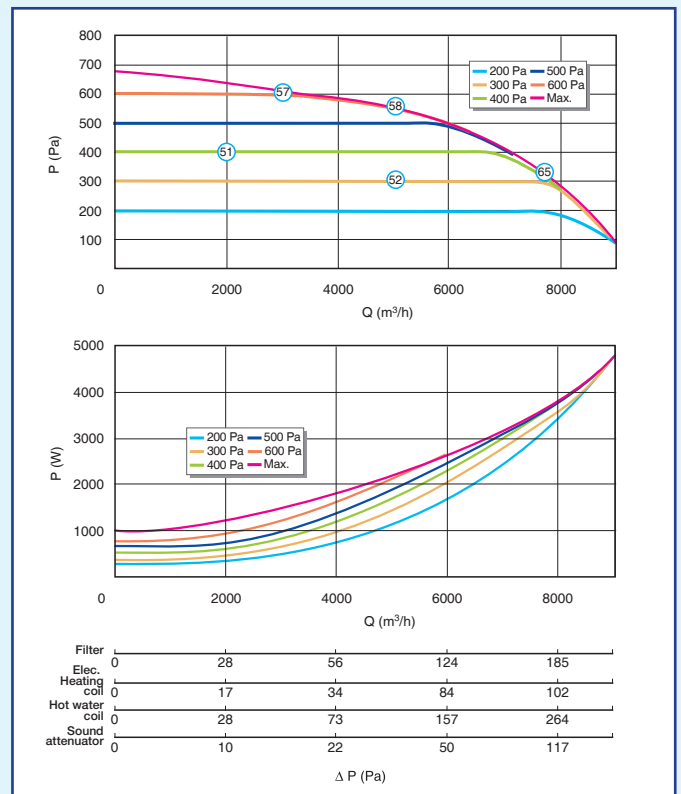
### TVEC 2B micro-watt



### TVEC 2C micro-watt



### TVEC 2D micro-watt



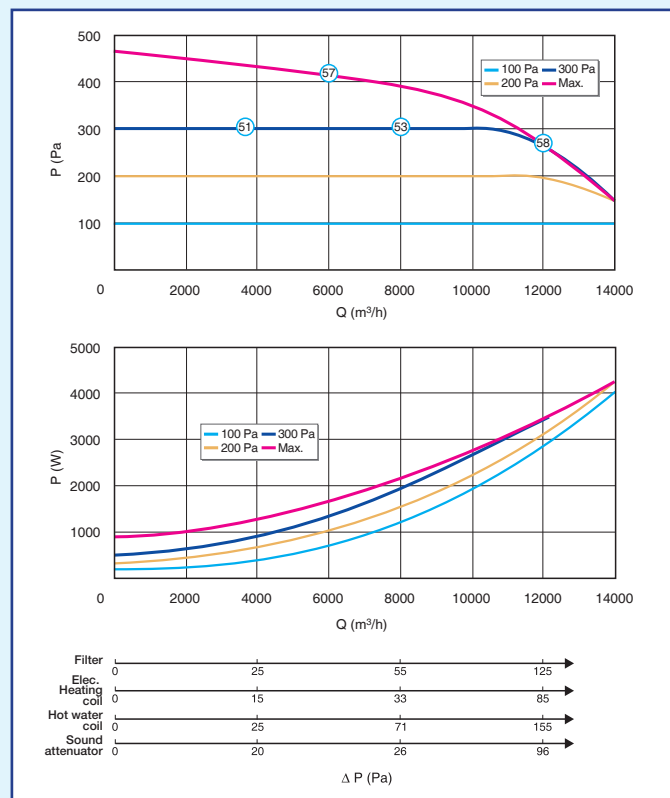
# Cabinet Fans

## TVEC GII micro-watt

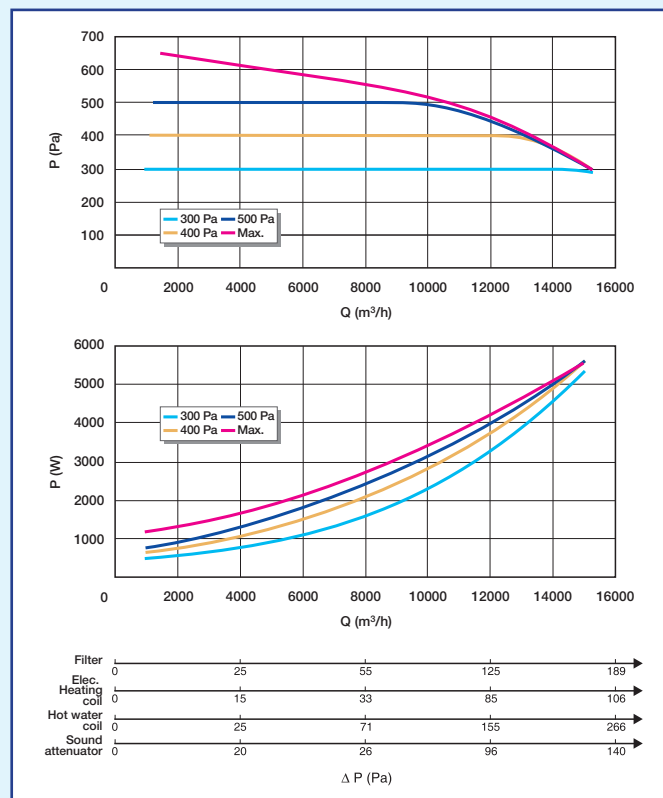
### AIRFLOW AND ACOUSTIC DETAILS

- Airflow curves drawn up in accordance with French Standard EN ISO 5801.
- ○ = Acoustic pressure level measured at 4 m from the casing, discharge connected in dB (A).
- P (Pa) = Static pressure - P (W) = Maximum power consumption.

#### TVEC 3A micro-watt



#### TVEC 3B micro-watt



# Cabinet Fans

## Supply fans

**New**



ALIZONE



### Advantages

- In-line connections.
- Adjustable drive pulley in series.
- Circular casing = discreet aesthetic design, minimum dimensions.

### APPLICATION

- Air exhaust / air supply, up to 10000 m<sup>3</sup>/h.
- Medium to large commercial and industrial premises.
- Airflow adjustment.

### DESCRIPTION

- Casing in galvanised steel with in-line circular connections.
- Forward curved fan rear mounted on rails.
- Pulley-belt drive, with adjustable motorised pulley (adjustment of the fan speed).
- The motorised fan unit slides into the body and can be dismantled from the rear.
- Large door for easy access to motorised fan unit.

### INSTALLATION

- Indoor / outdoor.
- New and renovation.
- Installation in any position depending on conditions: please, consult us.

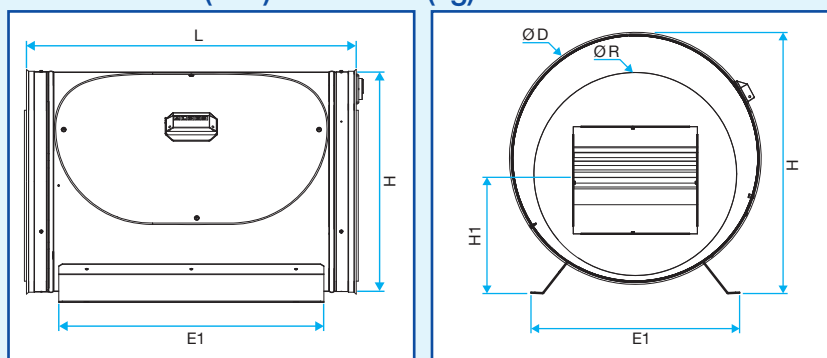
### RANGE with choice of options **R8**

Description	Code
<b>1-speed casing</b>	
ALIZONE 4.2 - TRI 1,5 kW	11039060
ALIZONE 6.2 - TRI 2.2 kW	11039061
ALIZONE 8.4 - TRI 3kW	11039062
ALIZONE 10.0 - TRI 4kW	11039063
<b>2-speed BI 4/6 casing</b>	
ALIZONE 4.2 - 1.5/0.45 kW	11039065
ALIZONE 6.2 - 2.5/0.8 kW	11039066
ALIZONE 8.4 - 3/1 kW	11039067
ALIZONE 10.0 - 4.4/1.5 kW	11039068
<b>2-speed DAH 4/8 casing</b>	
ALIZONE 4.2 - 1.5/0.25 kW	11039070
ALIZONE 6.2 - 2.2/0.37 kW	11039071
ALIZONE 8.4 - 3/0.55 kW	11039072
ALIZONE 10.0 - 4/0.75 kW	11039073

### AVAILABLE OPTIONS **R8**

- Please, see following page.

### DIMENSIONS (mm) - WEIGHT (kg)



Type	L	Ø D	H	E / E1	H1	Ø R	Weight
ALIZONE 4.2 and 6.2	950	630	670	760 / 540	320	500	70
ALIZONE 8.4 and 10.0	950	800	830	760 / 590	430	630	100

### M0 INCOMBUSTIBLE FLEXIBLE SLEEVES

Type	Vacuum cleaning Ø R (mm)	Discharge ØR (mm)
ALIZONE 4.2 and 6.2	500	500
ALIZONE 8.4 and 10.0	630	630

### ELECTRICAL DETAILS

- IP 55 asynchronous motor, Class F, 230/400 V - 50 Hz.
- Thermal protection on opening built into the motor in parallel with the automatic reset winding (TPO with exposed wires). WARNING: do not use for smoke extraction.
- For the connection of the TPO, use the proposed tripping coil accessory with the thermal overload relay disconnecting switches, please consult us.

Type 1V	Rated power (kW)	No. of poles	Rated Current (A) (W)	Max. I. cons. (A)	Id/ In
ALIZONE 4.2	1.5	4	3.6	3.6	5.7
ALIZONE 6.2	2.2	4	5.4	5.8	5.3
ALIZONE 8.4	3.0	4	6.8	7.5	4.6
ALIZONE 10.0	4.0	4	8.5	9.5	6.3

Type 2V - BI	Rated power (kW)	No. of poles	Rated Current (A)	Max. I. cons. (A)	Id/ In
ALIZONE 4.2	1.50 / 0.45	4/6	3.5/1.5	3.6/1.5	4.8/2.6
ALIZONE 6.2	2.50 / 0.80	4/6	5.1/2.1	5.7/2.2	5.0/3.5
ALIZONE 8.4	3.00 / 1.00	4/6	6.6/3.0	7.3/3.3	5.8/4.6
ALIZONE 10.0	4.50 / 1.50	4/6	9.2/4.2	9.6/4.5	5.4/3.7

Type 2V Dah	Rated motor power (kW)	No. of poles	Rated Current (A)	Max. I. cons. (A)	Id/ In
ALIZONE 4.2	1.50 / 0.25	4/8	4.00/1.8	3.8/1.9	5.0/3.1
ALIZONE 6.2	2.20 / 0.37	4/8	5.00/1.7	5.7/2.0	4.7/2.7
ALIZONE 8.4	3.00 / 0.55	4/8	7.4/2.2	7.1/2.1	6.5/3.4
ALIZONE 10.0	4.00 / 0.75	4/8	8.6/3.1	9.4/3.3	5.0/3.5

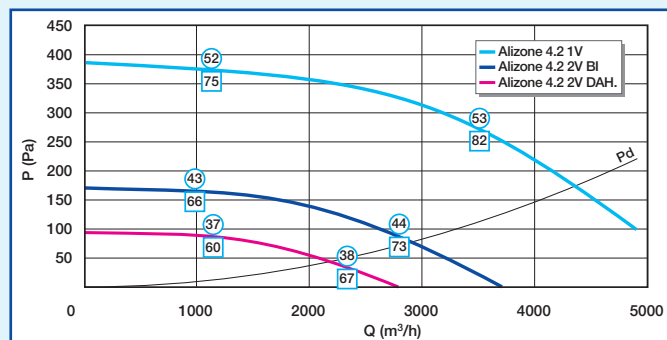
# Cabinet Fans

## ALIZONE

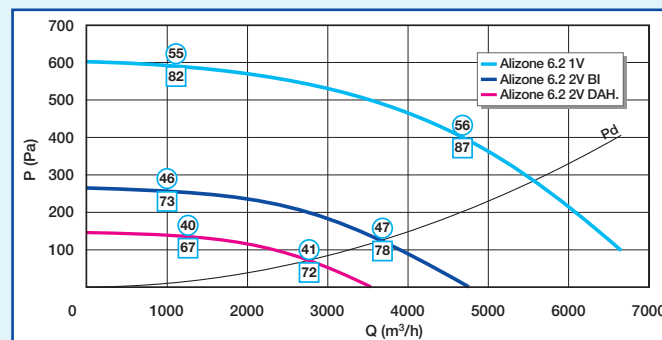
### AIRFLOW DETAILS

- The following airflow curves were drawn up in accordance with Standard EN ISO 5801.
- ○: Lp (dB (A)) = Sound pressure level measured at 4 m from the casing, with fan discharge connected.
- □: Lw (dB (A)) = Level of acoustic power radiated in the duct during air discharge.
- P (Pa) = Static pressure, Pd = Dynamic pressure in the air supply duct.

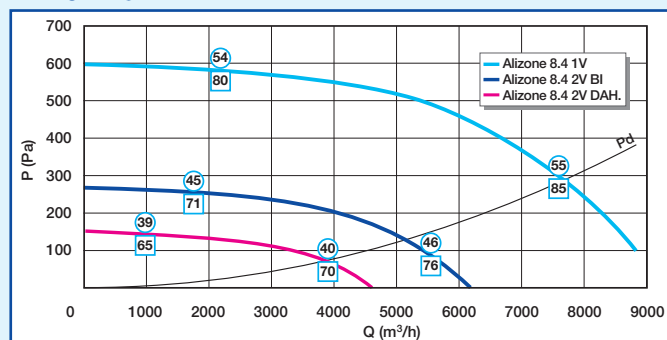
#### ALIZONE 4.2



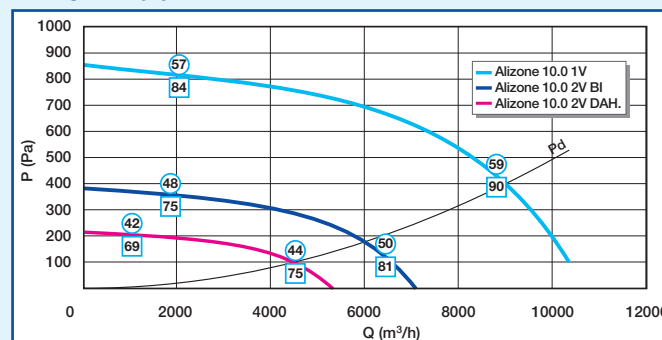
#### ALIZONE 6.2



#### ALIZONE 8.4



#### ALIZONE 10.0



### AVAILABLE OPTIONS R8

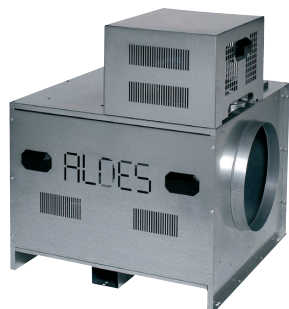
Description	Code
<b>Electrical</b>	
1V max 6.5 kW proximity switch + contacts - connected / mounted	OPT39083
2V max 6.5 kW proximity switch + contacts - connected / mounted	OPT39084
Pressure switch 100-1,000 Pa connected/ fitted	OPT39085
Second pressure switch 100-1,000 Pa connected/ fitted	OPT39086
"All-in-One" 1V Des 4.7A - connected / fitted	OPT39079
"All-in-One" 1V Des 16.7A - connected / fitted	OPT39080
"All-in-One" 2V Des BI 16.7A - connected / fitted	OPT39081
"All-in-One" 2V Des Dah 16.7A - connected / fitted	OPT39082
<b>Finish</b>	
Standard opposite face access	OPT39078
Epoxy 4.2/6.2 casing	OPT39093
Epoxy casing + MV 4.2/6.2	OPT39094
Epoxy 8.4/10.0 casing	OPT39095
Epoxy casing + MV 8.4/10.0	OPT39096

### ACCESSORIES R8

Description	Code
Flexible sleeve kit M0 Ø 500 mm	11096940
Flexible sleeve kit M0 Ø 630	11096942
Mesh insert plug D => 500 mm (= rain hood)	11093818
Mesh insert plug D => 630 mm (= rain hood)	11093820
Type 280 flexible exhaust adapter - D => 500 mm	11039341
Type 355 flexible exhaust adapter - D => 630 mm	11039343
6 pieces of anti-vibration mountings	11039348
Flat roof support L = 190 mm	11021267
Flat roof support L = 380 mm	11021265
Wall fixing pads for flat roof support	11021264

# Cabinet Fans

## Smoke exhaust fans



CYCLONE F400° range



Standard access panel

### Compliance

- CE smoke exhaust casing - in accordance with EN 12101-3.
- Classified F400 (2h).
- Extension of the "thermally insulated" classification: complies with § 4.1 of Standard EN 12101-3.

**CIVIL DEFENCE APPROVED**

### Advantages

- Thermal insulation option: to avoid the CMEV system in attics.
- Variable pulley option for on-site airflow adjustment.
- Choice of access panel side possible depending on the various worksite configurations.
- Easier to access thanks to the handles on the motor cover and access panel.

### APPLICATION

- Smoke exhaust from residential, commercial and industrial buildings.
- CYCLONE F400 is a purely smoke exhaust fan in casing. Avoid using it for any professional kitchen type of application.

### DESCRIPTION

- 8 sizes of casing for airflows between 1000 and 35000 m<sup>3</sup>/h.
- Casing in galvanised steel.
- Forward curve impeller with aluminium hub.
- Pulley-belt type drive.
- IP 55 Class F motor, fitted on a mounting designed for simple belt tension adjustment.
- 1-speed or 2-speed motor (Independent Windings 4/6 pole and Dahlander coupling 4/8 pole).

### INSTALLATION

- Can be installed either indoors or outdoors:
  - If used inside, the thermal insulation option should be chosen.
  - If used outdoors, a rain hood should be fitted.
- It is recommended that the system be installed on an anti-vibration mounting base.

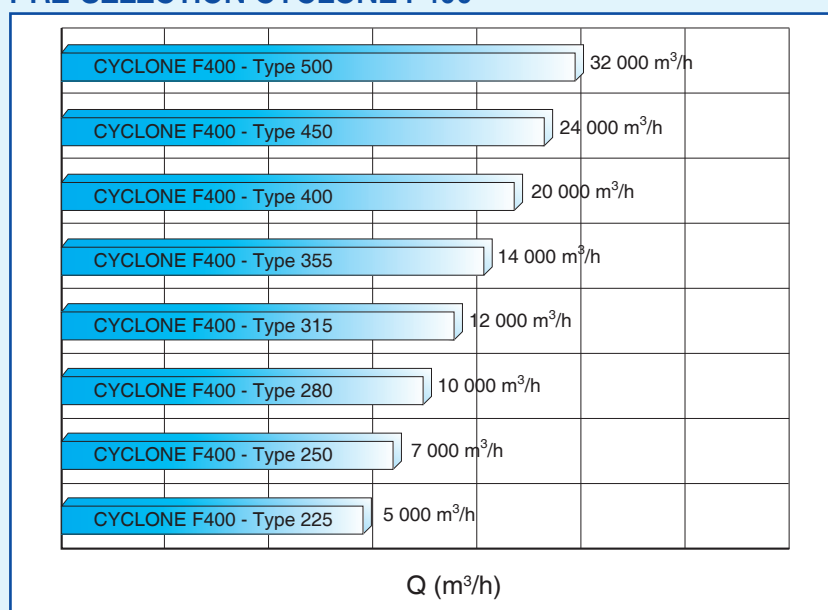
### AVAILABLE OPTIONS

- Thermal casing insulation. This option, with CE validation, allows for avoiding the CMEV system of the room receiving the smoke exhaust fan in casing (attics for example).
- Choice of the position of the exhaust (horizontal or vertical).
- Choice of the position of the transmission access panel.
- Rainproof cover (supplied with the casing but not fitted).
- Adjustable drive pulley (except for model 500).
- "All-in-One": pre-wired relay box, protected by a cover (this option includes the disconnecter and pressure switch(es)) - aerally connected.
- Fitted and cabled proximity switch.
- Adjustable pressure switch, aerally connected (2 pressure switches for two smoke extraction speeds).

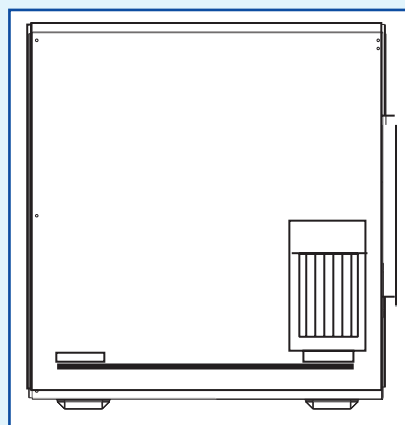
### ACCESSORIES

- Flexible, circular suction sleeve.
- Flexible, rectangular, discharge sleeve.
- Flexible rectangular / circular adapter component - exhaust.
- Anti-vibration mounting.

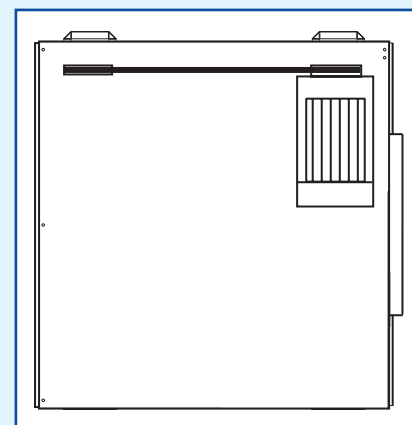
### PRE-SELECTION CYCLONE F400



### SELECTION OF ACCESS PANEL AND TRANSMISSION POSITIONS



Standard access panel face: door and transmission to the left of the suction outlet.



Optional access panel face: door and transmission to the right of the suction outlet.



# Cabinet Fans

## Smoke exhaust fans



CYCLONE F400 with proximity switch option

### Compliance

- "All-in-One" option wired up in compliance with Standard NF-S 61.932.
- Thermal insulation option with CE certificate approval of Cyclone F400, with extension of the "thermally insulated" classification.

### Advantages

- "Proximity switch" option: easier wiring to save time when fitting.
- "All-in-One" option: relay box, proximity switch and pressure switch(es) pre-wired and fitted to save time on the site.
- "Thermal insulation" option: to avoid the CMEV system in attics.



## OPTIONS

### Electrical accessories options

- Proximity switch fitted and cabled, fixed on to a galvanised steel mounting.
- Adjustable pressure switch, aeraulically connected (2 pressure switches for two smoke exhaust speeds). Positioned on the top of the casing, beside the motor cover.
- The "All-in-One" option has been validated during fire resistance tests:
  - The wiring of the relay box is carried out at the factory.
  - The proximity switch is integrated.
  - The aeraulically connected pressure switch(es) / are positioned on the top of the casing, beside the motor cover.
  - The box is attached to the casing, under a protective cover (rain and UV rays), made of galvanised steel.
  - The front panel of the casing pivots to give easy access to the AXONE Micro II relay box.

### Casing configuration options

- Designed to be hand-fitted, the rain-fittings are supplied inside the casing. To install, fix them to the screws around the casing exhaust.
- Adjustable drive pulley (except model 500). Adjustable in 1/4 turn steps over 3 turns. Factory setting: maximum rotational speed.
- Thermal insulation option:
  - The casing is insulated with a layer of rockwool on the inner surface of all four single-skin faces (the double-skinned compartment access faces will not propagate heat).
  - Adapted for interior installations, this casing limits radiant heat from the casing caused by the high temperatures created by smoke.
- Your Aldes contact can help you to avoid the ventilation system in the room receiving the casing (attics for example).

## ACCESSORIES

- Flexible, circular M0 suction sleeve: composed of a flexible sleeve and two fixing collars.
- Flexible, rectangular, exhaust sleeve: composed of a flexible sleeve, four fixing plates and one fixing collar.
- Flexible rectangular/circular adapter component - exhaust. Composed of a flexible sleeve, four fixing plates and one fixing collar.
- Anti-vibration mounting in resilient material - size:
  - L x W x Th = 100 x 100 x 10 (mm).
  - 4 or 6 mountings are supplied - depending on the size of the casing.

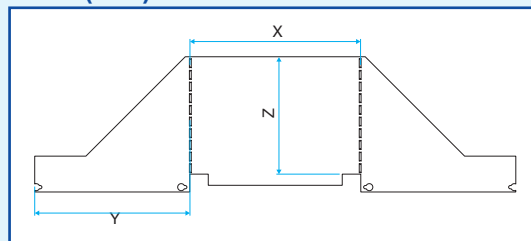
## "ALL-IN-ONE"

AXONE Micro II Relay box

- + Proximity switch (IP) pre-wired and fitted.
- + Aeraulically connected pressure switch(es).

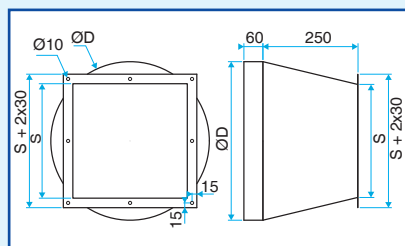


## RAIN HOOD DIMENSIONS (mm)

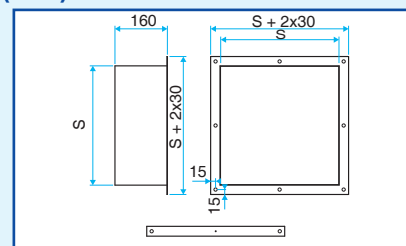


Type	225	250	280	315	355	400	450	500
X	388	422	461	504	553	607	699	738
Y	348	382	421	464	513	567	629	698
Z	247	276	320	356	405	459	521	590

## ACCESSORIES DIMENSIONS (mm)



Transformation part

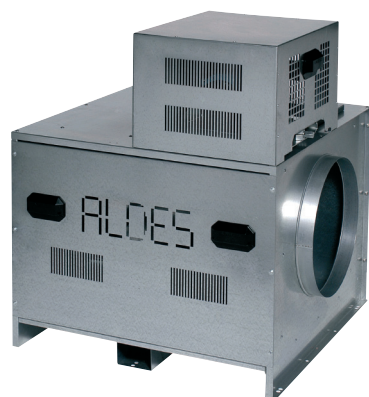


Flexible sleeve

Type	225	250	280	315	355	400	450	500
Ø D	400	450	500	560	630	710	800	800
S	288	322	361	404	453	507	569	638

# Cabinet Fans

## CYCLONE F400°: type 225



### Compliance

- Conforms with the CE marking in accordance with Standard EN 12101-3.
- F400 (2h) classification.
- Extension of the "thermally insulated" classification.

**CIVIL  
DEFENCE  
APPROVED**

### Advantages

- "Proximity switch" option: Simplified wiring to save time when fitting.
- "All-in-One" option: relay box, proximity switch and pressure switch(es) pre-wired and fitted to save time on the site.
- "Thermal insulation" option: to avoid the CMEV system in attics.

### DESCRIPTION

- Airflow between 1000 and 5000 m<sup>3</sup>/h.
- Variable pulley as standard.

### RANGE with a choice of options **R8**

Description	Code
<b>Cyclone F400 1-speed</b>	
Cyclone 225 A 1.1 kW	11039000
Cyclone 225 A 1.5 kW	11039001
Cyclone 225 A 2.2 kW	11039002
Cyclone 225 B 1.1 kW	11039003
Cyclone 225 B 1.5 kW	11039004
<b>Cyclone F400 2-speed - Dahlander</b>	
Cyclone 225 A - 2-speed Dahlander 1.1 kW / 0.26 kW	11039100
Cyclone 225 A - 2-speed Dahlander 1.7 kW / 0.36 kW	11039101
Cyclone 225 A - 2-speed Dahlander 2.3 kW / 0.5 kW	11039102
Cyclone 225 B - 2-speed Dahlander 1.1 kW / 0.26 kW	11039103
Cyclone 225 B - 2-speed Dahlander 1.7 kW / 0.36 kW	11039104
<b>Cyclone F400 2-speed Independent Windings (BI)</b>	
Cyclone 225 A - 2-speed BI - 1 kW / 0.3 kW	11039200
Cyclone 225 A - 2-speed BI - 1.5 kW / 0.45 kW	11039201
Cyclone 225 A - 2-speed BI - 2.5 kW / 0.8 kW	11039202
Cyclone 225 B - 2-speed BI - 1 kW / 0.3 kW	11039203
Cyclone 225 B - 2-speed BI - 1.5 kW / 0.45 kW	11039204

### AVAILABLE OPTIONS **R8**

#### Options included

- Vertical or horizontal discharge.
- Choice of the position of the access door to the transmission.

#### Options supplied mounted and wired-up

- For 2-speed smoke exhaust use provide for two pressure switches.
- "All-in-One": relay box delivered pre-wired. This option integrates the proximity disconnecting switch and the pressure switch(es).

### DIMENSIONS (mm)

- Overall dimensions: width (X) x height (Z1) x depth (Y) = 870 x 1024 x 841mm.
- Ø suction = 400.
- Exhaust cross section:
  - vertical discharge R x R = 300 x 300,
  - horizontal discharge R x R1 = 300 x 210.

### ELECTRICAL DETAILS - WEIGHT

Type	No of Poles	P (kW)	U (V)	Rated Current (A)	I <sub>max</sub> (A)	Id/IN	Weight (kg)
225 A	4	1.1	230/400	2.7	3.0	5	116
225 A	4	1.5	230/400	3.5	3.9	5	120
225 A	4	2.2	230/400	4.9	5.4	5.5	124
225 B	4	1.1	230/400	2.7	3.0	5	116
225 B	4	1.5	230/400	3.5	3.9	5	120
<b>Cyclone F400 2-speed - Dahlander</b>							
225 A2 Dahl	4/8	1.10/0.26	400	2.8/1.2	3.1/1.3	4.2/2.4	119
225 A2 Dahl	4/8	1.70/0.36	400	4.0/1.6	4.4/1.8	4.5/2.5	122
225 A2 Dahl	4/8	2.30/0.50	400	5.2/1.9	5.7/2.1	4.6/2.7	126
225 B2 Dahl	4/8	1.10/0.26	400	2.8/1.2	3.1/1.3	4.2/2.4	119
225 B2 Dahl	4/8	1.70/0.36	400	4.0/1.6	4.4/1.8	4.5/2.5	122
<b>Cyclone F400 2-speed - Independent Windings (BI)</b>							
225 A2 BI	4/6	1.00/0.30	400	2.5/1.2	2.8/1.3	4.2/2.6	119
225 A2 BI	4/6	1.50/0.45	400	3.5/1.6	3.9/1.8	4.3/2.9	122
225 A2 BI	4/6	2.50/0.80	400	5.5/2.5	6.1/2.8	5.6/3.5	126
225 B2 BI	4/6	1.00/0.30	400	2.5/1.2	2.8/1.3	4.2/2.6	119
225 B2 BI	4/6	1.50/0.45	400	3.5/1.6	3.9/1.8	4.3/2.9	122

# Cabinet Fans

## CYCLONE F400°: type 225

### AIRFLOW AND ACOUSTIC DETAILS

• Curves follow those of the French Standard NF EN ISO 5801, Installation C: connected suction - free exhaust.

- $P_s$  = Static suction pressure.
- $P_d$  = Dynamic duct suction pressure.

• For a casing with a connected exhaust (for example: in an attic space), select a casing so that:

System pressure loss (upstream+downstream) =  $P_s - P_d + C$

NOTE: do not forget the pressure loss in the ductwork downstream of the fan which may be high.

Example:

$Q = 3,600 \text{ m}^3/\text{h}$

Read on the graph the straight line  $P_d = 40 \text{ Pa}$  and in the table  $C = 200 \text{ Pa}$ .

System upstream pressure loss =  $500 \text{ Pa}$

System downstream pressure loss =  $150 \text{ Pa}$

$\Rightarrow$  System pressure loss (upstream + downstream) =  $650 \text{ Pa}$ .

Then, calculate the corresponding  $P_s$  to select the appropriate casing unit:

$S_p = \text{System PL} + D_p - C = 650 + 40 - 200 = 490 \text{ Pa}$

$\rightarrow$  CYCLONE F400° 225 A 1.5kW.

• The values circled correspond to the acoustic pressure measured at 6 m from the casing in dB (A).

### AVAILABLE OPTIONS R8

Description	Code
<b>Casing configuration options</b>	
Horizontal discharge	OPT39300
Vertical discharge	OPT39301
Motor on opposite face	OPT39302
225 rain hood	OPT39323
Thermal insulation - 225	OPT39355
<b>Electrical accessories options</b>	
"All-in-One" 1-speed Des < 8 kW	OPT39303
"All-in-One" 2-speed Des Dah < 8 kW - connected/fitted	OPT39307
"All-in-One" 2-speed Des BI < 8 kW - connected/fitted	OPT39311
Proximity switch 1-speed max 6.5 kW	OPT39315
Proximity switch 2-speed max 6.5 kW	OPT39318
100 -1000 Pa pressure switch	OPT39321
2nd pressure switch 100-1000 Pa.	OPT39322

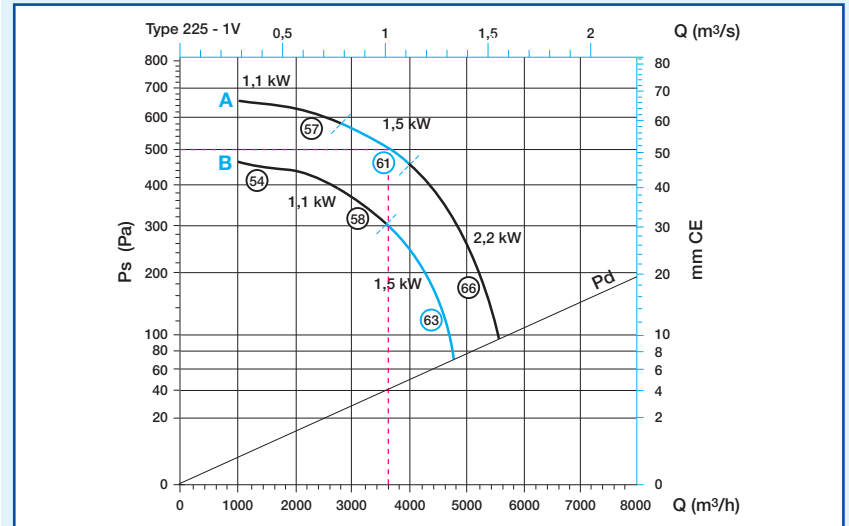
NOTE: the integrated "All-in-One" option includes the IP+DP.

### CONNECTION ACCESSORIES R8

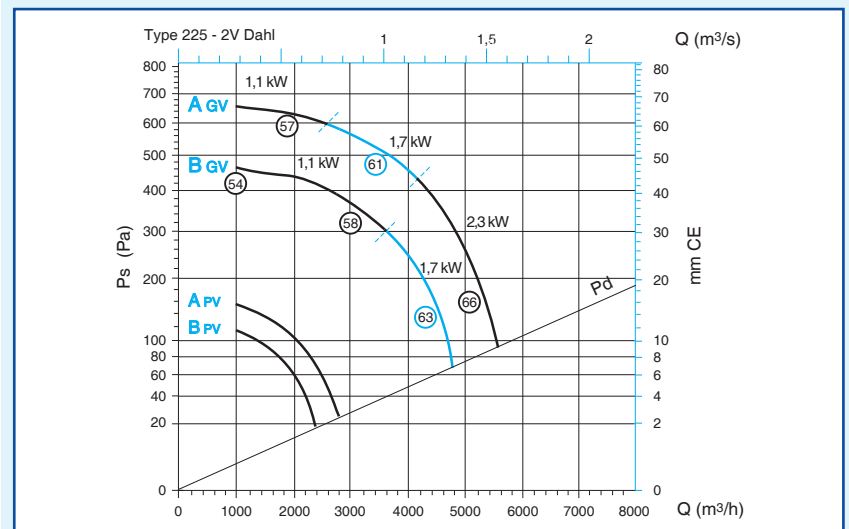
Description	Code
Flexible sleeve kit M0 Ø 400 mm	11096938
Flexible exhaust sleeve type 225	11039331
Flexible exhaust adapter type 225	11039339
4-piece anti-vibration support base	11039347

### COEFFICIENT C FOR THE CONNECTED EXHAUST CORRECTION

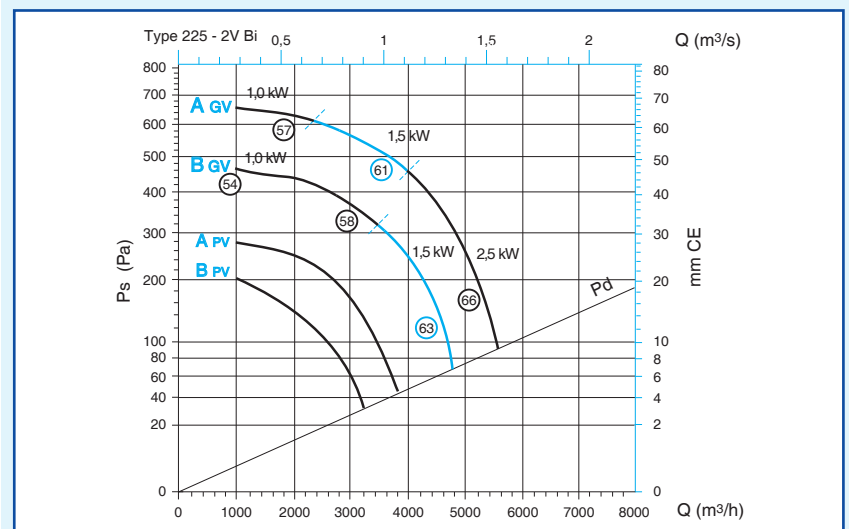
Q (m³/h)	2000	3000	3600	4000	5000
C (Pa)	59	132	200	235	367



Cyclone F 400° - 225, 1-speed



Cyclone F 400° - 225, 2-speed - Dahlander



Cyclone F 400° - 225, 2-speed - Independent windings

# Cabinet Fans

## CYCLONE F400°: type 250



**Compliance**

- Conforms with the CE marking in accordance with Standard EN 12101-3.
- F400 (2h) classification.
- Extension of the "thermally insulated" classification.

**CIVIL DEFENCE APPROVED**

**Advantages**

- "Proximity switch" option: easier wiring to save time when fitting.
- "All-in-One" option: relay box, proximity switch and pressure switch(es) pre-wired and fitted to save time on the site.
- "Thermal insulation" option: to avoid the CMEV system in attics.

### DESCRIPTION

- Airflow between 1000 and 7000 m<sup>3</sup>/h.

### RANGE with a choice of options **R8**

Description	Code
<b>Cyclone F400 1-speed</b>	
Cyclone 250 A 3.0 kW	11039005
Cyclone 250 A 4.0 kW	11039006
Cyclone 250 A 5.5 kW	11039007
Cyclone 250 B 2.2 kW	11039009
Cyclone 250 B 3.0 kW	11039010
Cyclone 250 C 1.5 kW	11039011
Cyclone 250 C 2.2 kW	11039012
Cyclone 250 C3.0 kW	11039013
<b>Cyclone F400 2-speed - Dahlander</b>	
Cyclone 250 A - 2-speed Dahlander 3.0 kW/ 0.65 kW	11039105
Cyclone 250 A - 2-speed Dahlander 5 kW/ 1 kW	11039107
Cyclone 250 B - 2-speed Dahlander 2.3 kW/ 0.5 kW	11039109
Cyclone 250 B - 2-speed Dahlander 3.0 kW/ 0.65 kW	11039110
Cyclone 250 C - 2-speed Dahlander 1.7 kW/ 0.36 kW	11039111
Cyclone 250 C - 2-speed Dahlander 2.3 kW/ 0.5 kW	11039112
Cyclone 250 C - 2-speed Dahlander 3.0 kW/ 0.65 kW	11039113
<b>Cyclone F400 2-speed - Independent Windings (BI)</b>	
Cyclone 250 A - 2-speed BI 3 kW/ 1 kW	11039205
Cyclone 250 A - 2-speed BI 4.5 kW/ 1.5 kW	11039206
Cyclone 250 A - 2-speed BI 6 kW/ 2 kW	11039207
Cyclone 250 B - 2-speed BI 2.5 kW/ 0.8 kW	11039209
Cyclone 250 B - 2-speed BI 3 kW/ 1 kW	11039210
Cyclone 250 C - 2-speed BI 1.5 kW/ 0.45 kW	11039211
Cyclone 250 C - 2-speed BI 2.5 kW/ 0.8 kW	11039212
Cyclone 250 C - 2-speed BI 3 kW/ 1 kW	11039213

### DIMENSIONS (mm)

Overall dimensions: width (X) x height (Z1) x depth (Y) = 915 x 1165 x 944.

- Ø suction = 450.
- Exhaust cross section:
  - vertical discharge R x R = 321 x 321,
  - horizontal discharge R x R1 = 321 x 233.

### ELECTRICAL DETAILS - WEIGHT

Type	No of Poles	P (kW)	U (V)	Rated Current (A)	I <sub>max</sub> (A)	Id/IN	Weight (kg)
250 A	4	3.0	230/400	6.6	7.3	5.5	154
250 A	4	4.0	230/400	8.4	9.2	7.0	157
250 A	4	5.5	230/400	11.5	12.7	7.3	170
250 B	4	2.2	230/400	4.9	5.4	5.5	150
250 B	4	3.0	230/400	6.6	7.3	5.5	154
250 C	4	1.5	230/400	3.5	3.9	5.0	157
250 C	4	2.2	230/400	4.9	5.4	5.5	150
250 C	4	3.0	230/400	6.6	7.3	5.5	154
<b>Cyclone F400 2-speed - Dahlander</b>							
250 A2 Dahl	4/8	3.00/0.65	400	6.8/2.5	7.5/2.8	5.6/3.0	158
250 A2 Dahl	4/8	5.00/1.00	400	9.9/3.3	10.9/3.6	6.4/3.6	182
250 B2 Dahl	4/8	2.30/0.50	400	5.2/1.9	5.7/2.1	4.6/2.7	152
250 B2 Dahl	4/8	3.00/0.65	400	6.8/2.5	7.5/2.8	5.6/3.0	158
250 C2 Dahl	4/8	1.70/0.36	400	4.0/1.6	4.4/1.8	4.5/2.5	148
250 C2 Dahl	4/8	2.30/0.50	400	5.2/1.9	5.7/2.1	4.6/2.7	152
250 C2 Dahl	4/8	3.00/0.65	400	6.8/2.5	7.5/2.8	5.6/3.0	158
<b>Cyclone F400 2-speed - Independent Windings (BI)</b>							
250 A2 BI	4/6	3.0/1.00	400	6.3/3.1	6.9/3.4	6.0/4.0	158
250 A2 BI	4/6	4.5/1.50	400	9.2/5.1	10.1/5.6	6.5/4.2	182
250 A2 BI	4/6	6.0/2.00	400	12.0/5.6	13.2/6.2	7.1/4.5	193
250 B2 BI	4/6	2.5/0.80	400	5.5/2.5	6.1/2.8	5.6/3.5	152
250 B2 BI	4/6	3.0/1.00	400	6.3/3.1	6.9/3.4	6.0/4.0	158
250 C2 BI	4/6	1.5/0.45	400	3.5/1.6	3.9/1.8	4.3/2.9	148
250 C2 BI	4/6	2.5/0.80	400	5.5/2.5	6.1/2.8	5.6/3.5	152
250 C2 BI	4/6	3.0/1.00	400	6.3/3.1	6.9/3.4	6.0/4.0	158



# Cabinet Fans

## CYCLONE F400°: type 250

### AIRFLOW AND ACOUSTIC DETAILS

• Curves follow those of the French Standard NF EN ISO 5801, Installation C: connected suction - free exhaust.

- Ps = Static suction pressure.
- Pd = Dynamic duct suction pressure.

• For a casing with a connected exhaust (for example: in an attic space), select a casing so that:

System pressure loss (upstream+downstream) = Ps - Pd + C

NOTE: do not forget the pressure loss in the ductwork downstream of the fan which may be high.

- Example: see CYCLONE type 225, page 126.
- The values circled correspond to the acoustic pressure measured at 6 m from the casing in dB (A).

### AVAILABLE OPTIONS R8

Description	Code
<b>Casing configuration options</b>	
Horizontal discharge	OPT39300
Vertical discharge	OPT39301
Motor on opposite face	OPT39302
250 rain hood	OPT39324
Adjustable pulley 250-280	OPT39350
Thermal insulation - 250	OPT39356
<b>Electrical accessories options</b>	
"All-in-One" 1-speed Des < 8 kW	OPT39303
"All-in-One" 2-speed Des Dah < 8 kW - connected/fitted	OPT39307
"All-in-One" 2-speed Des BI < 8 kW - connected/fitted	OPT39311
Proximity switch 1-speed max 6.5 kW	OPT39315
Proximity switch 2-speed max 6.5 kW	OPT39318
100 -1000 Pa pressure switch	OPT39321
2nd pressure switch 100-1000 Pa.	OPT39322

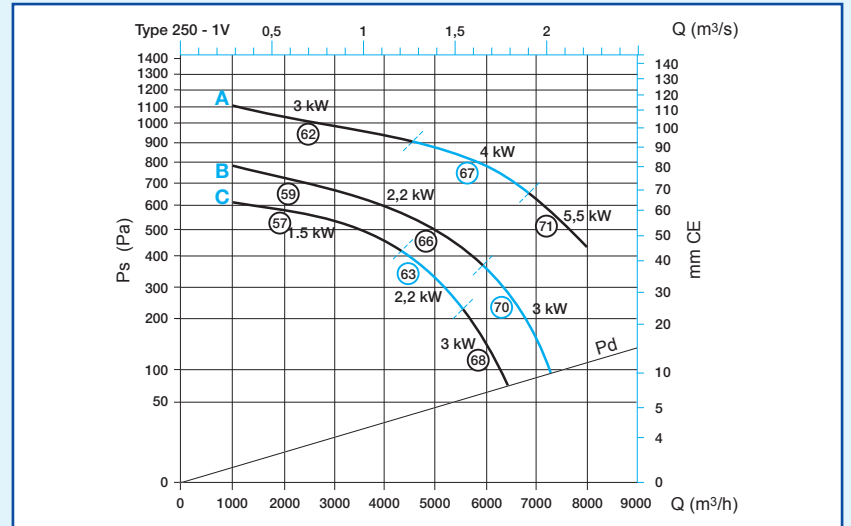
NOTE: the integrated "All-in-One" option includes the IP+DP.

### CONNECTION ACCESSORIES R8

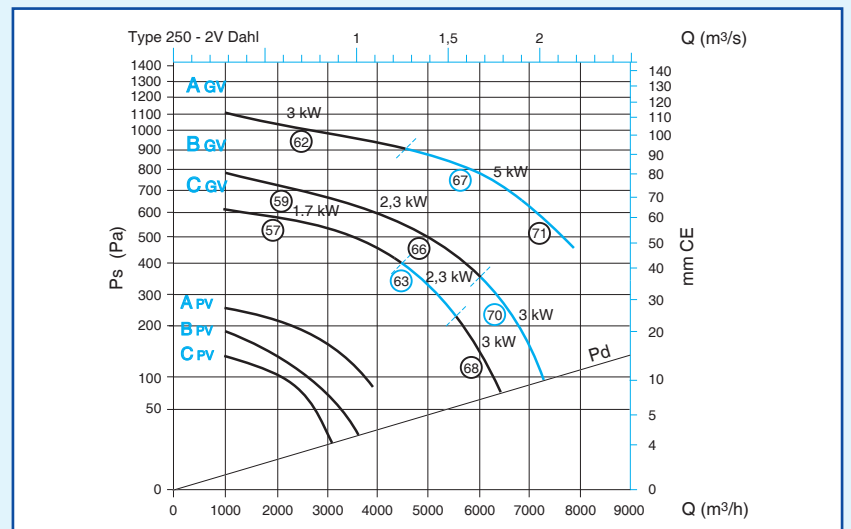
Description	Code
Flexible sleeve kit M0 Ø 450 mm	11096939
Flexible exhaust sleeve type 250	11039332
Flexible exhaust adapter type 250	11039340
4-piece anti-vibration support base	11039347

### COEFFICIENT C FOR THE CONNECTED EXHAUST CORRECTION

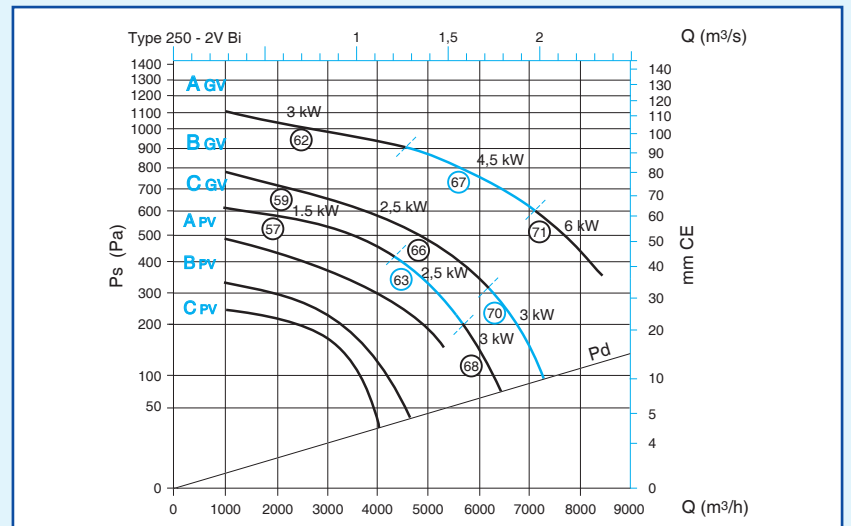
Q (m³/h)	2000	3000	4000	5000	6000	7000	8000
C (Pa)	39	89	157	246	354	482	630



Cyclone F 400°, 250, 1-speed



Cyclone F 400°, 250, 2-speed - Dahlander

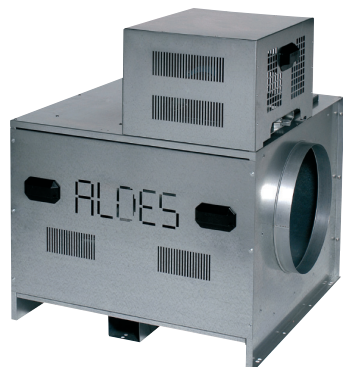


Cyclone F 400°, 250 - 2-speed - Independent windings



# Cabinet Fans

## CYCLONE F400°: type 280



**Compliance**

- Conforms with the CE marking in accordance with Standard EN 12101-3.
- F400 (2h) classification.
- Extension of the "thermally insulated" classification.

**CIVIL DEFENCE APPROVED**

**Advantages**

- "Proximity switch" option: easier wiring to save time when fitting.
- "All-in-One" option: relay box, proximity switch and pressure switch(es) pre-wired and fitted to save time on the site.
- "Thermal insulation" option: to avoid the CMEV system in attics.

### DESCRIPTION

- Airflow between 2000 and 10000 m<sup>3</sup>/h.

### RANGE with a choice of options **R8**

Description	Code
<b>Cyclone F400 1-speed</b>	
Cyclone 280 A 4.0 kW	11039014
Cyclone 280 A 5.5 kW	11039015
Cyclone 280 A 7.5 kW	11039016
Cyclone 280 B 3.0 kW	11039017
Cyclone 280 B 4.0 kW	11039018
<b>Cyclone F400 2-speed - Dahlander</b>	
Cyclone 280 A - 2-speed Dahlander 3.5 kW/ 0.7 kW	11039114
Cyclone 280 A - 2-speed Dahlander 5 kW/ 1 kW	11039115
Cyclone 280 A - 2-speed Dahlander 6.8 kW/ 1.4 kW	11039116
Cyclone 280 B - 2-speed Dahlander 3.5 kW/ 0.7 kW	11039118
<b>Cyclone F400 2-speed - Independent Windings (BI)</b>	
Cyclone 280 A - 2-speed BI 4.5 kW/ 1.5 kW	11039214
Cyclone 280 A - 2-speed BI 6 kW/ 2 kW	11039215
Cyclone 280 B - 2-speed BI 3 kW/ 1 kW	11039217
Cyclone 280 A - 2-speed BI 4.5 kW/ 1.5 kW	11039218

### DIMENSIONS (mm)

- Overall dimensions: width (X) x height (Z1) x depth (Y) = 968 x 1225 x 1014.
- Ø suction = 500.
- Exhaust cross section:
  - vertical discharge R x R = 364 x 364,
  - horizontal discharge R x R1 = 364 x 262.

### ELECTRICAL DETAILS - WEIGHT

Type	No of Poles	P (kW)	U (V)	Rated Current (A)	I <sub>max</sub> (A)	Id/IN	Weight (kg)
280 A	4	4.0	230/400	8.4	9.2	7.0	181
280 A	4	5.5	230/400	11.5	12.7	7.3	194
280 A	4	7.5	230/400	15.3	16.8	7.9	202
280 B	4	3.0	230/400	6.6	7.3	5.5	178
280 B	4	4.0	230/400	8.4	9.2	7.0	181
<b>Cyclone F400 2-speed - Dahlander</b>							
280 A2 Dahl	4/8	3.5/0.7	400	7.0/2.5	7.7/2.8	6.8/4.4	164
280 A2 Dahl	4/8	5.0/1.0	400	9.9/3.3	10.9/3.6	6.4/3.6	182
280 A2 Dahl	4/8	6.8/1.4	400	13.7/5.1	15.1/5.6	7.6/3.6	193
280 B2 Dahl	4/8	3.5/0.7	400	7.0/2.5	7.7/2.8	6.8/4.4	164
<b>Cyclone F400 2-speed - Independent Windings (BI)</b>							
280 A2 BI	4/6	4.5/1.5	400	9.2/5.1	10.1/5.6	6.5/4.2	182
280 A2 BI	4/6	6.0/2.0	400	12.0/5.6	13.2/6.2	7.1/4.5	193
280 B2 BI	4/6	3.0/1.0	400	6.3/3.1	6.9/3.4	6.0/4.0	158
280 B2 BI	4/6	4.5/1.5	400	9.2/5.1	10.1/5.6	6.5/4.2	182

# Cabinet Fans

## CYCLONE F400°: type 280

### AIRFLOW AND ACOUSTIC DETAILS

• Curves follow those of the French Standard NF EN ISO 5801, Installation C: connected suction - free exhaust.

- Ps = Static suction pressure.
- Pd = Dynamic duct suction pressure.

• For a casing with a connected exhaust (for example: in an attic space), select a casing so that:

System pressure loss (upstream+downstream) = Ps - Pd + C

NOTE: do not forget the pressure loss in the ductwork downstream of the fan which may be high.

Example: see CYCLONE type 225, page 126.

• The values circled correspond to the acoustic pressure measured at 6 m from the casing in dB (A).

### AVAILABLE OPTIONS R8

Description	Code
<b>Casing configuration options</b>	
Horizontal discharge	OPT39300
Vertical discharge	OPT39301
Motor on opposite face	OPT39302
280 rain hood	OPT39325
Adjustable pulley 250-280	OPT39350
Thermal insulation - 280	OPT39357
<b>Electrical accessories options</b>	
"All-in-One" 1-speed Des < 8 kW	OPT39303
"All-in-One" 2-speed Des Dah < 8 kW - connected/fitted	OPT39307
"All-in-One" 2-speed Des BI < 8 kW - connected/fitted	OPT39311
Proximity switch 1-speed max 6.5 kW	OPT39315
Proximity switch 1-speed max 15 kW	OPT39316
Proximity switch 2-speed max 6.5 kW	OPT39318
Proximity switch 2-speed max 13 kW	OPT39319
100 -1000 Pa pressure switch	OPT39321
2nd pressure switch 100-1000 Pa.	OPT39322

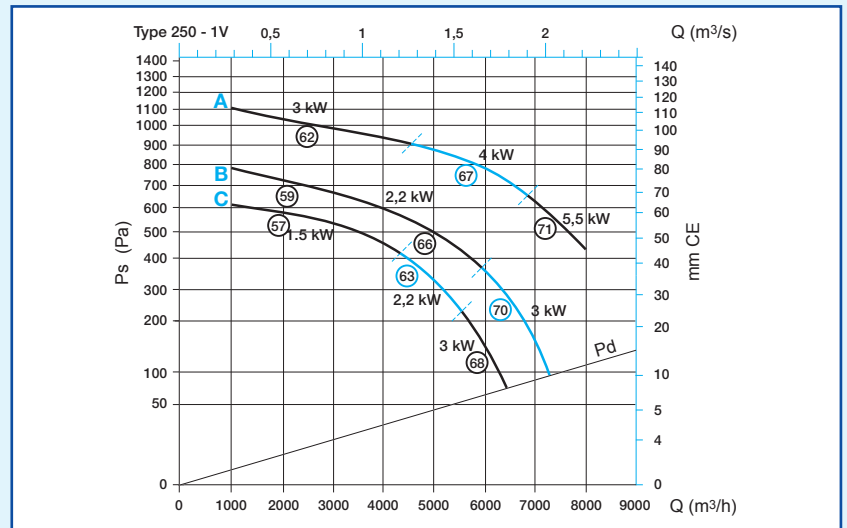
NOTE: the integrated "All-in-One" option includes the IP+DP.

### CONNECTION ACCESSORIES R8

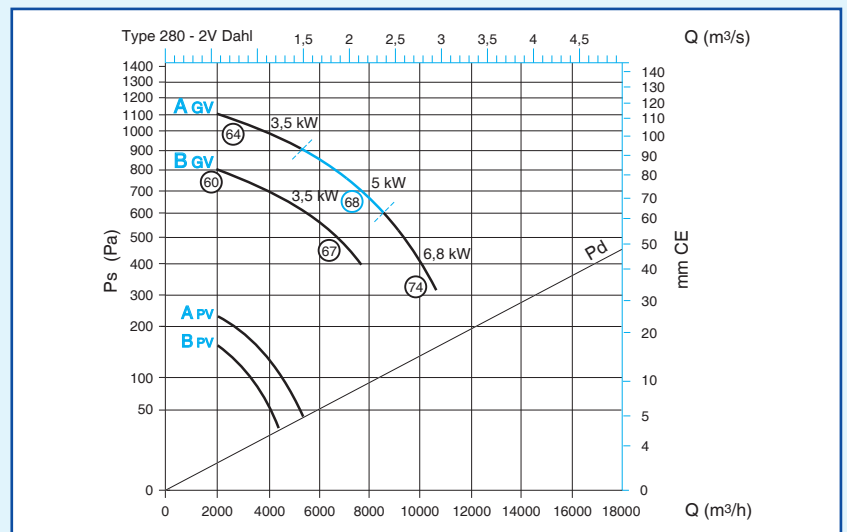
Description	Code
Flexible sleeve kit M0 Ø 500 mm	11096940
Flexible exhaust sleeve type 280	11039333
Flexible exhaust adapter type 280 Ø 500 mm	11039341
6 pieces of anti-vibration mountings	11039348

### COEFFICIENT C FOR THE CONNECTED EXHAUST CORRECTION

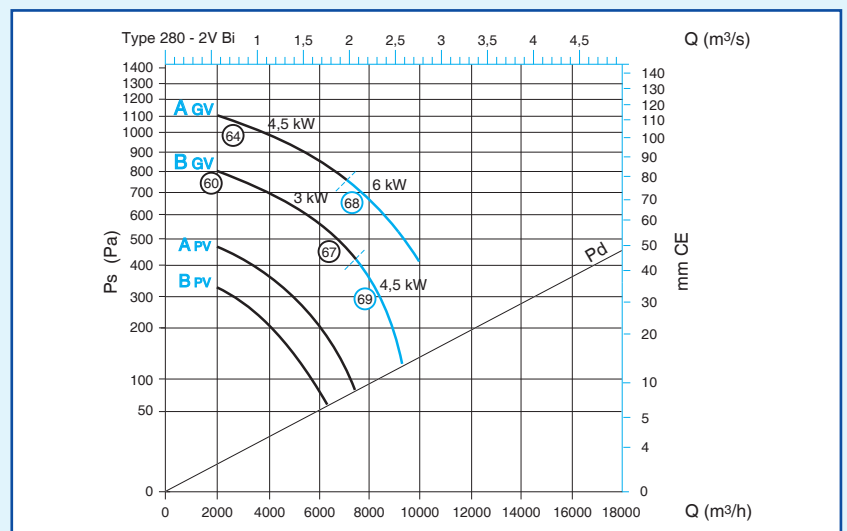
Q (m³/h)	4000	5000	6000	7000	8000	9000	10000	11000
C (Pa)	95	148	213	290	379	479	592	716



Cyclone F 400°, 280, 1-speed



Cyclone F 400°, 280, 2-speed- Dahlander



Cyclone F 400°, 280, 2-speed - Independent windings

# Cabinet Fans

## CYCLONE F400°: type 315



### Compliance

- Conforms with the CE marking in accordance with Standard EN 12101-3.
- F400 (2h) classification.
- Extension of the "thermally insulated" classification.

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### Advantages

- "Proximity switch" option: easier wiring to save time when fitting.
- "All-in-One" option: relay box, proximity switch and pressure switch(es) pre-wired and fitted to save time on the site.
- "Thermal insulation" option: to avoid the CMEV system in attics.

### DESCRIPTION

- Airflow between 2000 and 12000 m³/h.

### RANGE with a choice of options R8

Description	Code
<b>CYCLONE F 400 1-speed</b>	
Cyclone 315 A 5.5 kW	11039019
Cyclone 315 A 7.5 kW	11039020
Cyclone 315 A 11 kW	11039021
Cyclone 315 B 4.0 kW	11039022
Cyclone 315 B 5.5 kW	11039023
Cyclone 315 B 7.5 kW	11039024
<b>Cyclone F400 2-speed - Dahlander</b>	
Cyclone 315 A - 2-speed Dahlander 5 kW/ 1 kW	11039119
Cyclone 315 A - 2-speed Dahlander 6.8 kW/ 1.4 kW	11039120
Cyclone 315 A - 2-speed Dahlander 10.5 kW/ 2.2 kW	11039121
Cyclone 315 B - 2-speed Dahlander 3.5 kW/ 0.7 kW	11039122
Cyclone 315 B - 2-speed Dahlander 5 kW/ 1 kW	11039123
Cyclone 315 B - 2-speed Dahlander 6.8 kW/ 1.4 kW	11039124
<b>Cyclone F400 2-speed - Independent Windings (BI)</b>	
Cyclone 315 A - 2-speed BI 6 kW/ 2 kW	11039219
Cyclone 315 A - 2-speed BI 10.5 kW/ 3.5 kW	11039221
Cyclone 315 B - 2-speed BI 4.5 kW/ 1.5 kW	11039222
Cyclone 315 B - 2-speed BI 6 kW/ 2 kW	11039223

### DIMENSIONS (mm)

Overall dimensions: width (X) x height (Z1) x depth (Y) = 1070 x 1390 x 1162.

- Ø suction = 560.
- Exhaust cross section:
  - vertical discharge R x R = 407 x 407,
  - horizontal discharge R x R1 = 407 x 288.

### ELECTRICAL DETAILS - WEIGHT

Type	No of Poles	P (kW)	U (V)	Rated Current (A)	Imax (A)	Id/IN	Weight (kg)
315 A	4	5.5	230/400	11.5	12.7	7.3	232
315 A	4	7.5	230/400	15.3	16.8	7.9	240
315 A	4	11.0	230/400	21.5	23.7	6.5	367
315 B	4	4.0	230/400	8.4	9.2	7.0	219
315 B	4	5.5	230/400	11.5	12.7	7.3	232
315 B	4	7.5	230/400	15.3	16.8	7.9	240
<b>Cyclone F400 2-speed - Dahlander</b>							
315 A2 Dahl	4/8	5.0/1.0	400	9.9/3.3	10.9/3.6	6.4/3.6	244
315 A2 Dahl	4/8	6.8/1.4	400	13.7/5.1	15.1/5.6	7.6/3.6	255
315 A2 Dahl	4/8	10.5/2.2	400	21.0/7.4	23.1/8.1	6.9/3.7	292
315 B2 Dahl	4/8	3.5/0.7	400	7.0/2.5	7.7/2.8	6.8/4.4	226
315 B2 Dahl	4/8	5.0/1.0	400	9.9/3.3	10.9/3.6	6.4/3.6	244
315 B2 Dahl	4/8	6.8/1.4	400	13.7/5.1	15.1/5.6	7.6/3.6	255
<b>Cyclone F400 2-speed - Independent Windings (BI)</b>							
315 A2 BI	4/6	6.0/2.0	400	12.0/5.6	13.2/6.2	7.1/4.5	255
315 A2 BI	4/6	10.5/3.5	400	21.0/8.6	23.1/9.5	6.4/4.1	292
315 B2 BI	4/6	4.5/1.5	400	9.2/5.1	10.1/5.6	6.5/4.2	244
315 B2 BI	4/6	6.0/2.0	400	12.0/5.6	13.2/6.2	7.1/4.5	255

# Cabinet Fans

## CYCLONE F400°: type 315

### AIRFLOW AND ACOUSTIC DETAILS

• Curves follow those of the French Standard NF EN ISO 5801, Installation C: connected suction - free exhaust.

- $P_s$  = Static suction pressure.
- $P_d$  = Dynamic duct suction pressure.

• For a casing with a connected exhaust (for example: in an attic space), select a casing so that:

System pressure loss (upstream+downstream) =  $P_s - P_d + C$

NOTE: do not forget the pressure loss in the ductwork downstream of the fan which may be high.

Example: see CYCLONE type 225 page 126.

• The values circled correspond to the acoustic pressure measured at 6 m from the casing in dB (A).

### AVAILABLE OPTIONS R8

Description	Code
<b>Casing configuration options</b>	
Horizontal discharge	OPT39300
Vertical discharge	OPT39301
Motor on opposite face	OPT39302
315 rain hood	OPT39326
Adjustable pulley 315-355	OPT39351
Thermal insulation - 315	OPT39358
<b>Electrical accessories options</b>	
"All-in-One" 1-speed Des < 8 kW	OPT39303
"All-in-One" 1-speed Des < 13 kW	OPT39304
"All-in-One" 2-speed Des Dah < 8 kW - connected/fitted	OPT39307
"All-in-One" 2-speed Des DAH < 13 kW	OPT39308
"All-in-One" 2-speed Des BI < 8 kW - connected/fitted	OPT39311
"All-in-One" 2-speed Des BI < 13 kW	OPT39312
Proximity switch 1-speed max 6.5 kW	OPT39315
Proximity switch 1-speed max 15 kW	OPT39316
Proximity switch 2-speed max 6.5 kW	OPT39318
Proximity switch 2-speed max 13 kW	OPT39319
100 - 1000 Pa pressure switch	OPT39321
2nd pressure switch 100 - 1000 Pa.	OPT39322

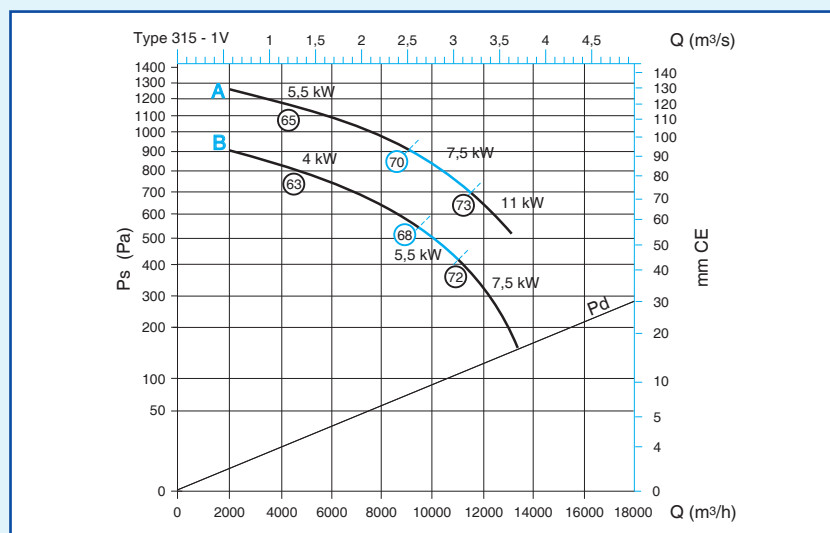
NOTE: the integrated "All-in-One" option includes the IP+DP.

### CONNECTION ACCESSORIES R8

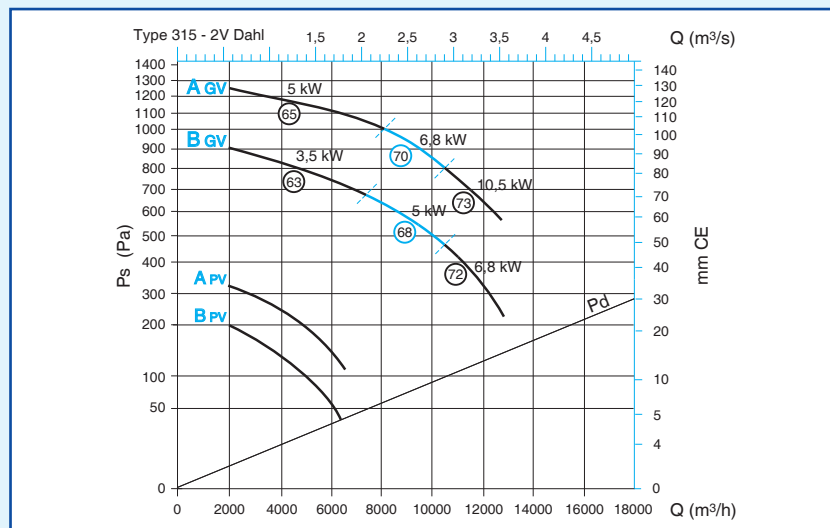
Description	Code
Flexible sleeve kit M0 Ø 560 mm	11096941
Flexible exhaust sleeve type 315	11039334
Flexible exhaust adapter type 315	11039342
6 pieces of anti-vibration mountings	11039348

### COEFFICIENT C FOR THE CONNECTED EXHAUST CORRECTION

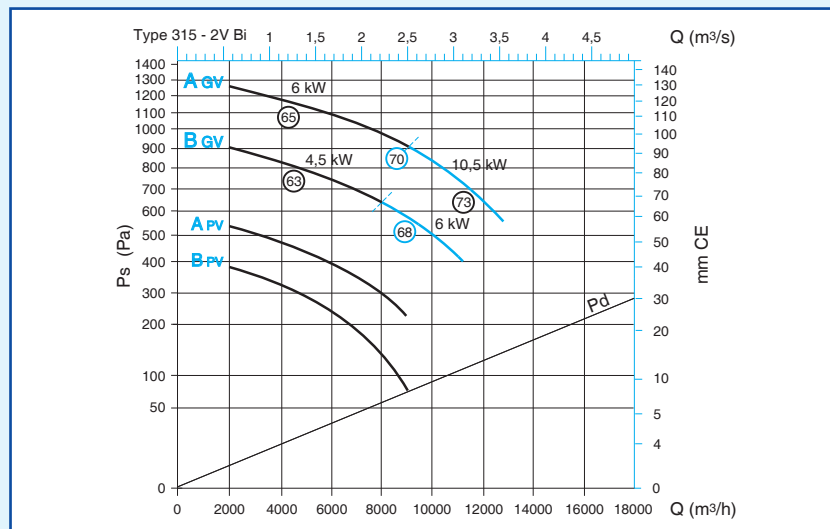
Q (m³/h)	4000	6000	8000	10000	12000
C (Pa)	61	137	244	381	548



Cyclone F 400°, 315, 1-speed



Cyclone F 400°, 315, 2-speed - Dahlander



Cyclone F 400°, 315, 2-speed - Independent windings

# Cabinet Fans

## CYCLONE F400°: type 355



### Compliance

- Conforms with the CE marking in accordance with Standard EN 12101-3.
- F400 (2h) classification.
- Extension of the "thermally insulated" classification.

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### Advantages

- "Proximity switch" option: easier wiring to save time when fitting.
- "All-in-One" option: relay box, proximity switch and pressure switch(es) pre-wired and fitted to save time on the site.
- "Thermal insulation" option: to avoid the CMEV system in attics.

### DESCRIPTION

- Airflow between 2000 and 14000 m<sup>3</sup>/h.

### RANGE with a choice of options **R8**

Description	Code
<b>Cyclone F400 1-speed</b>	
Cyclone 355 A 7.5 kW	11039025
Cyclone 355 A 11 kW	11039026
Cyclone 355 B 5.5 kW	11039027
Cyclone 355 B 7.5 kW	11039028
Cyclone 355 C 4.0 kW	11039029
Cyclone 355 C 5.5 kW	11039030
Cyclone 355 C 7.5 kW	11039031
<b>Cyclone F400 2-speed - Dahlander</b>	
Cyclone 355 A - 2-speed Dahlander 6.8 kW/ 1.4 kW	11039125
Cyclone 355 A - 2-speed Dahlander 10.5 kW/ 2.2 kW	11039126
Cyclone 355 B - 2-speed Dahlander 5 kW/ 1 kW	11039127
Cyclone 355 B - 2-speed Dahlander 6.8 kW/ 1.4 kW	11039128
Cyclone 355 C - 2-speed Dahlander 3.5 kW/ 0.7 kW	11039129
Cyclone 355 C - 2-speed Dahlander 5 kW/ 1 kW	11039130
Cyclone 355 C - 2-speed Dahlander 6.8 kW/ 1.4 kW	11039131
<b>Cyclone F400 2-speed - Independent Windings (BI)</b>	
Cyclone 355 A - 2-speed - BI 10.5 kW/ 3.5 kW	11039226
Cyclone 355 B - 2-speed - BI 6 kW/ 2 kW	11039227
Cyclone 355 C - 2-speed - BI 4.5 kW/ 1.5 kW	11039229
Cyclone 355 C - 2-speed - BI 6 kW/ 2 kW	11039230

### DIMENSIONS (mm)

- Overall dimensions: width (X) x height (Z1) x depth (Y) = 1105 x 1480 x 1256.
- Ø suction = 630.
- Exhaust cross section:
  - vertical discharge R x R = 453 x 453,
  - horizontal discharge R x R1 = 453 x 330.

### ELECTRICAL DETAILS - WEIGHT

Type	No of Poles	P (kW)	U (V)	Rated Current (A)	I <sub>max</sub> (A)	Id/IN	Weight (kg)
355 A	4	7.5	230/400	15.3	16.8	7.9	273
355 A	4	11.0	230/400	21.5	23.7	6.5	300
355 B	4	5.5	230/400	11.5	12.7	7.3	265
355 B	4	7.5	230/400	15.3	16.8	7.9	273
355 C	4	4.0	230/400	8.4	9.2	7.0	252
355 C	4	5.5	230/400	11.5	12.7	7.3	265
355 C	4	7.5	230/400	15.3	16.8	7.9	273
<b>Cyclone F400 2-speed - Dahlander</b>							
355 A2 Dahl	4/8	6.8/1.4	400	13.7/5.1	15.1/5.6	7.6/3.6	288
355 A2 Dahl	4/8	10.5/2.2	400	21.0/7.4	23.1/8.1	6.9/3.7	325
355 B2 Dahl	4/8	5.0/1.0	400	9.9/3.3	10.9/3.6	6.4/3.6	277
355 B2 Dahl	4/8	6.8/1.4	400	13.7/5.1	15.1/5.6	7.6/3.6	288
355 C2 Dahl	4/8	3.5/0.7	400	7.0/2.5	7.7/2.8	6.8/4.4	259
355 C2 Dahl	4/8	5.0/1.0	400	9.9/3.3	10.9/3.6	6.4/3.6	277
355 C2 Dahl	4/8	6.8/1.4	400	13.7/5.1	15.1/5.6	7.6/3.6	288
<b>Cyclone F400 2-speed - Independent Windings (BI)</b>							
355 A2 BI	4/6	10.5/3.5	400	21.0/8.6	23.1/9.5	6.4/4.1	325
355 B2 BI	4/6	6.0/2.0	400	12.0/5.6	13.2/6.2	7.1/4.5	288
355 C2 BI	4/6	4.5/1.5	400	9.2/5.1	10.1/5.6	6.5/4.2	277
355 C2 BI	4/6	6.0/2.0	400	12.0/5.6	13.2/6.2	7.1/4.5	288



# Cabinet Fans

## CYCLONE F400°: type 355

### AIRFLOW AND ACOUSTIC DETAILS

• Curves follow those of the French Standard NF EN ISO 5801, Installation C: connected suction - free exhaust.

- Ps = Static suction pressure.
- Pd = Dynamic duct suction pressure.

• For a casing with a connected exhaust (for example: in an attic space), select a casing so that:

System pressure loss (upstream+downstream) = Ps - Pd + C

NOTE: do not forget the pressure loss in the ductwork downstream of the fan which may be high.

Example: see CYCLONE type 225, page 126.

- The values circled correspond to the acoustic pressure measured at 6 m from the casing in dB (A).

### AVAILABLE OPTIONS R8

Description	Code
<b>Casing configuration options</b>	
Horizontal discharge	OPT39300
Vertical discharge	OPT39301
Motor on opposite face	OPT39302
355 rain hood	OPT39327
Adjustable pulley 315-355	OPT39351
Thermal insulation - 355	OPT39359
<b>Electrical accessories options</b>	
"All-in-One" 1-speed Des < 8 kW	OPT39303
"All-in-One" 1-speed Des < 13 kW	OPT39304
"All-in-One" 1-speed Des < 23 kW	OPT39305
"All-in-One" 2-speed Des DAH < 8 kW - connected/fitted	OPT39307
"All-in-One" 2-speed Des DAH < 13 kW	OPT39308
"All-in-One" 2-speed Des BI < 8 kW - connected/fitted	OPT39311
"All-in-One" 2-speed Des BI < 13 kW	OPT39312
Proximity switch 1-speed max 6.5 kW	OPT39315
Proximity switch 1-speed max 15 kW	OPT39316
Proximity switch 2-speed max 6.5 kW	OPT39318
Proximity switch 2-speed max 13 kW	OPT39319
100 - 1000 Pa pressure switch	OPT39321
2nd pressure switch 100 - 1000 Pa.	OPT39322

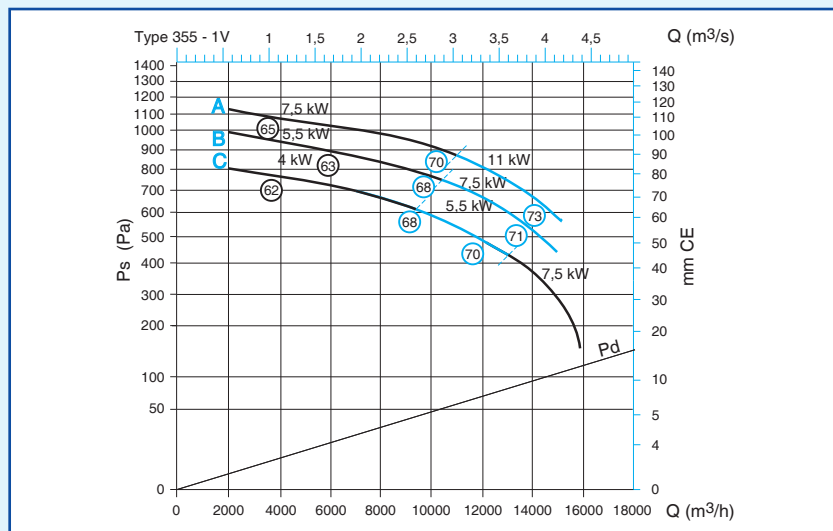
NOTE: the integrated "All-in-One" option includes the IP+DP.

### CONNECTION ACCESSORIES R8

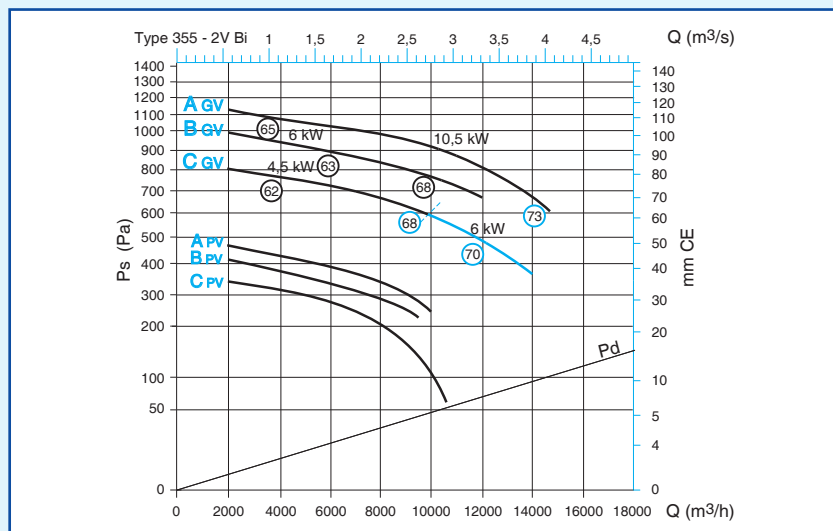
Description	Code
Flexible sleeve kit M0 Ø 630 mm	11096942
Flexible sleeve type 355 exhaust	11039335
Flexible exhaust adapter - type 355 Ø 630 mm	11039343
6 pieces of anti-vibration mountings	11039348

### COEFFICIENT C FOR THE CONNECTED EXHAUST CORRECTION

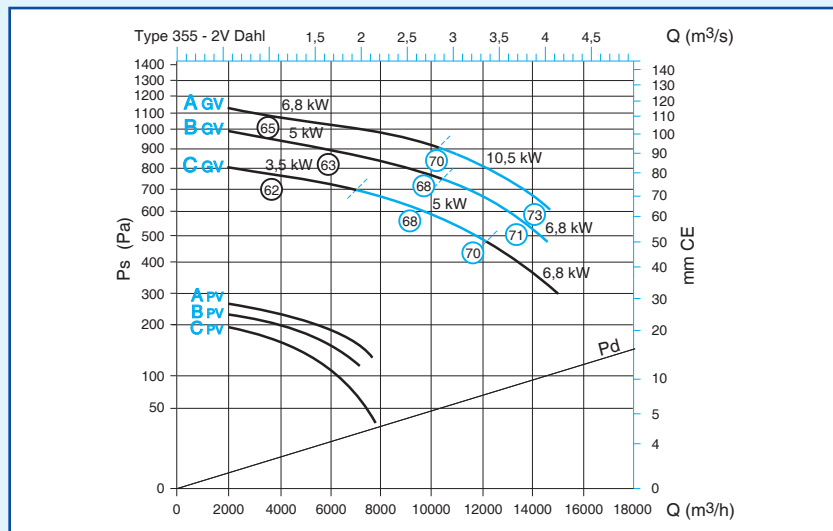
Q (m³/h)	4000	6000	8000	10000	12000	14000
C (Pa)	37	83	147	230	332	451



Cyclone F 400°, 355, 1-speed



Cyclone F 400°, 355, 2-speed - Dahlander



Cyclone F 400°, 355, 2-speed - Independent windings

# Cabinet Fans

## CYCLONE F400°: type 400



### Compliance

- Conforms with the CE marking in accordance with Standard EN 12101-3.
- F400 (2h) classification.
- Extension of the "thermally insulated" classification.

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### Advantages

- "Proximity switch" option: easier wiring to save time when fitting.
- "All-in-One" option: relay box, proximity switch and pressure switch(es) pre-wired and fitted to save time on the site.
- "Thermal insulation" option: to avoid the CMEV system in attics.

### DESCRIPTION

- Airflow between 2000 and 20000 m<sup>3</sup>/h.

### RANGE with a choice of options **R8**

Description	Code
<b>Cyclone F400 1-speed</b>	
Cyclone 400 A - 7.5 kW	11039032
Cyclone 400 A - 11 kW	11039033
Cyclone 400 A - 15 kW	11039034
Cyclone 400 B - 5.5 kW	11039035
Cyclone 400 B - 7.5 kW	11039036
Cyclone 400 B - 11 kW	11039037
Cyclone 400 C - 4.0 kW	11039038
Cyclone 400 C - 5.5 kW	11039039
Cyclone 400 C - 7.5 kW	11039040
<b>Cyclone F400 2-speed - Dahlander</b>	
Cyclone 400 A - 2-speed Dahlander 6.8 kW/ 1.4 kW	11039132
Cyclone 400 A - 2-speed Dahlander 10.5 kW/ 2.2 kW	11039133
Cyclone 400 A - 2-speed Dahlander 15.5 kW/ 2.7 kW	11039134
Cyclone 400 B - 2-speed Dahlander 5 kW/ 1 kW	11039135
Cyclone 400 B - 2-speed Dahlander 6.8 kW/ 1.4 kW	11039136
Cyclone 400 B - 2-speed Dahlander 10.5 kW/ 2.2 kW	11039137
Cyclone 400 C - 2-speed Dahlander 3.5 kW/ 0.7 kW	11039138
Cyclone 400 C - 2-speed Dahlander 5 kW/ 1 kW	11039139
Cyclone 400 C - 2-speed Dahlander 6.8 kW/ 1.4 kW	11039140
<b>Cyclone F400 2-speed - Independent Windings (BI)</b>	
Cyclone 400 A - 2-speed BI 10.5 kW/ 3.5 kW	11039233
Cyclone 400 A - 2-speed BI 16 kW/ 5 kW	11039234
Cyclone 400 B - 2-speed BI 6 kW/ 2 kW	11039235
Cyclone 400 B - 2-speed BI 10.5 kW/ 3.5 kW	11039237
Cyclone 400 C - 2-speed BI 4.5 kW/ 1.5 kW	11039238
Cyclone 400 C - 2-speed BI 6 kW/ 2 kW	11039239

### DIMENSIONS (mm)

- Overall dimensions: width (X) x height (Z1) x depth (Y) = 1205 x 1600 x 1370.
- Ø suction = 710.
- Exhaust cross section:
  - vertical discharge R x R = 507 x 507,
  - horizontal discharge R x R1 = 507 x 346.

### ELECTRICAL DETAILS - WEIGHT

Type	No of Poles	P (kW)	U (V)	Rated Current (A)	I <sub>max</sub> (A)	Id/IN	Weight (kg)
400 A	4	7.5	230/400	15.3	16.8	7.9	352
400 A	4	11.0	230/400	21.5	23.7	6.5	379
400 A	4	15.0	230/400	30.0	33.0	7.2	398
400 B	4	5.5	230/400	11.5	12.7	7.3	344
400 B	4	7.5	230/400	15.3	16.8	7.9	352
400 B	4	11.0	230/400	21.5	23.7	6.5	379
400 C	4	4.0	230/400	8.4	9.2	7.0	331
400 C	4	5.5	230/400	11.5	12.7	7.3	344
400 C	4	7.5	230/400	15.3	16.8	7.9	352
<b>Cyclone F400 2-speed - Dahlander</b>							
400 A2 Dahl	4/8	6.8/1.4	400	13.7/5.1	15.1/5.6	7.6/3.6	367
400 A2 Dahl	4/8	10.5/2.2	400	21.0/7.4	23.1/8.1	6.9/3.7	404
400 A2 Dahl	4/8	15.5/2.7	400	30.0/9.5	33.0/10.5	6.9/3.9	427
400 B2 Dahl	4/8	5.0/1.0	400	9.9/3.3	10.9/3.6	6.4/3.6	356
400 B2 Dahl	4/8	6.8/1.4	400	13.7/5.1	15.1/5.6	7.6/3.6	367
400 B2 Dahl	4/8	10.5/2.7	400	21.0/7.4	23.1/8.1	6.9/3.7	404
400 C2 Dahl	4/8	3.5/0.7	400	7.0/2.5	7.7/2.8	6.8/4.4	338
400 C2 Dahl	4/8	5.0/1.0	400	9.9/3.3	10.9/3.6	6.4/3.6	356
400 C2 Dahl	4/8	6.8/1.4	400	13.7/5.1	15.1/5.6	7.6/3.6	367
<b>Cyclone F400 2-speed - Independent Windings (BI)</b>							
400 A2 BI	4/6	10.5/3.5	400	21.0/8.6	23.1/9.5	6.4/4.1	404
400 A2 BI	4/6	16.0/5.0	400	31.0/12.5	34.1/13.8	6.3/4.6	427
400 B2 BI	4/6	6.0/2.0	400	12.0/5.6	13.2/6.2	7.1/4.5	367
400 B2 BI	4/6	10.5/3.5	400	21.0/8.6	23.1/9.5	6.4/4.1	404
400 C2 BI	4/6	4.5/1.5	400	9.2/5.1	10.1/5.6	6.5/4.2	356
400 C2 BI	4/6	6.0/2.0	400	12.0/5.6	13.2/6.2	7.1/4.5	367

# Cabinet Fans

## CYCLONE F400°: type 400

### AIRFLOW AND ACOUSTIC DETAILS

• Curves follow those of the French Standard NF EN ISO 5801, Installation C: connected suction - free exhaust.

- Ps = Static suction pressure.
- Pd = Dynamic duct suction pressure.

• For a casing with a connected exhaust (for example: in an attic space), select a casing so that:

System pressure loss (upstream+downstream) = Ps - Pd + C

NOTE: do not forget the pressure loss in the ductwork downstream of the fan which may be high.

Example: see CYCLONE type 225 page 126.

• The values circled correspond to the acoustic pressure measured at 6 m from the casing in dB (A).

### AVAILABLE OPTIONS R8

Description	Code
<b>Casing configuration options</b>	
Horizontal discharge	OPT39300
Vertical discharge	OPT39301
Motor on opposite face	OPT39302
400 rain hood	OPT39328
Adjustable pulley - 400	OPT39352
Thermal insulation - 400	OPT39360

<b>Electrical accessories options</b>	
"All-in-One" 1-speed Des < 8 kW	OPT39303
"All-in-One" 1-speed Des < 13 kW	OPT39304
"All-in-One" 1-speed Des < 23 kW	OPT39305
"All-in-One" 2-speed Des DAH < 8 kW - connected/fitted	OPT39307
"All-in-One" 2-speed Des DAH < 13 kW	OPT39308
"All-in-One" 2-speed Des DAH < 23 kW	OPT39309
"All-in-One" 2-speed Des BI < 8 kW - connected/fitted	OPT39311
"All-in-One" 2-speed Des BI < 13 kW	OPT39312
"All-in-One" 2-speed Des BI < 23 kW	OPT39313
Proximity switch 1-speed max 6.5 kW	OPT39315
Proximity switch 1-speed max 15 kW	OPT39316
Proximity switch 2-speed max 6.5 kW	OPT39318
Proximity switch 2-speed max 13 kW	OPT39319
100 - 1000 Pa pressure switch	OPT39321
2nd pressure switch 100 - 1000 Pa.	OPT39322

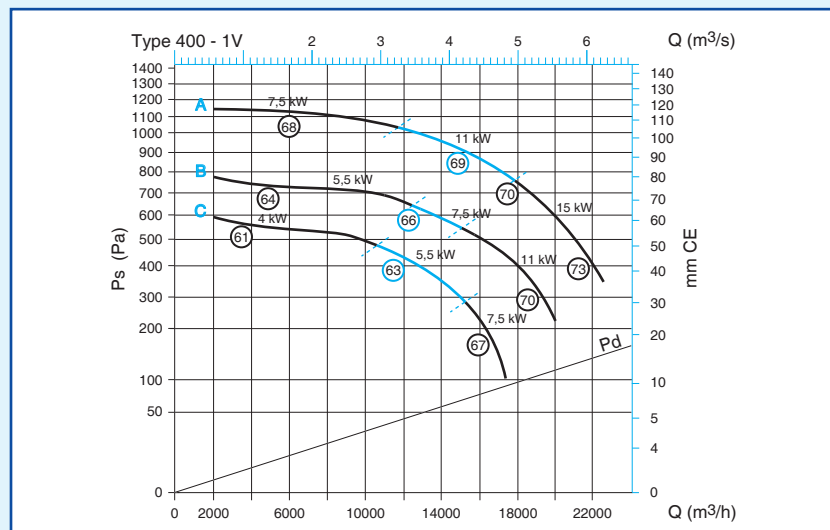
NOTE: the integrated "All-in-One" option includes the IP+DP.

### CONNECTION ACCESSORIES R8

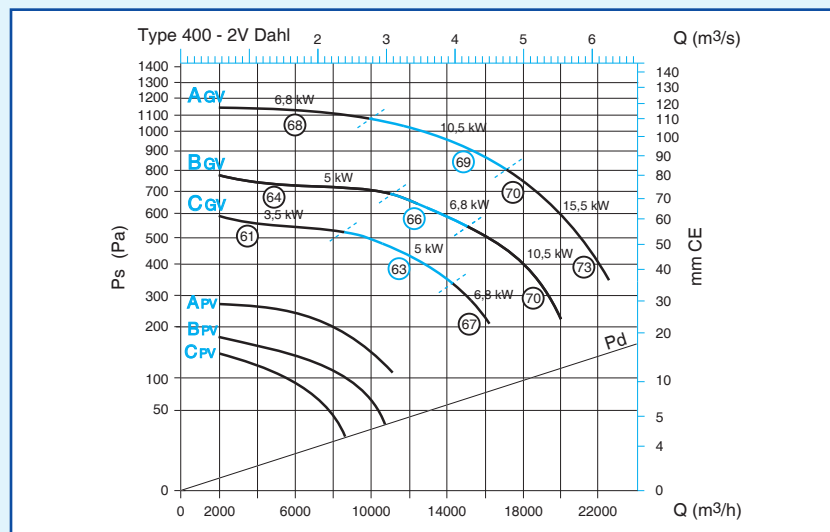
Description	Code
Flexible sleeve kit mo Ø 710 mm	11096930
Flexible exhaust sleeve type 400	11039336
Flexible exhaust adapter type 400	11039344
6 pieces of anti-vibration mountings	11039348

### COEFFICIENT C FOR THE CONNECTED EXHAUST CORRECTION

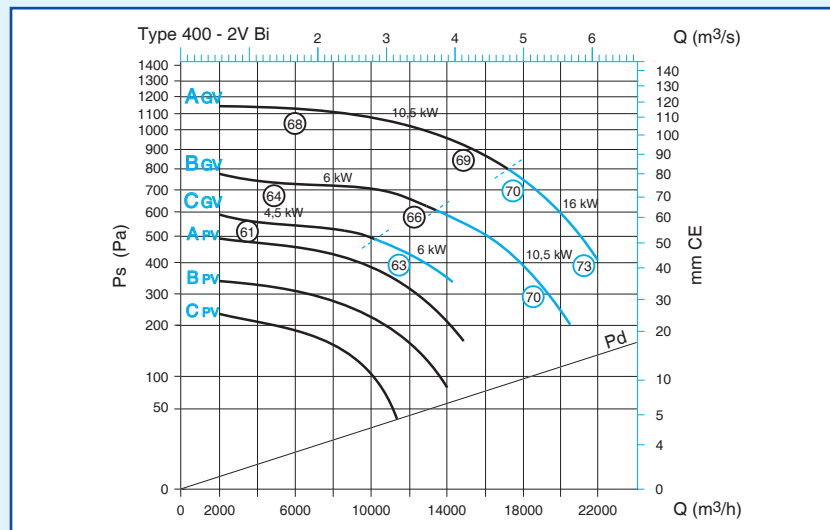
Q (m³/h)	6000	8000	10000	12000	14000	16000	18000	20000	22000
C (Pa)	53	94	147	212	288	376	476	588	712



Cyclone F 400°, 400, 1-speed



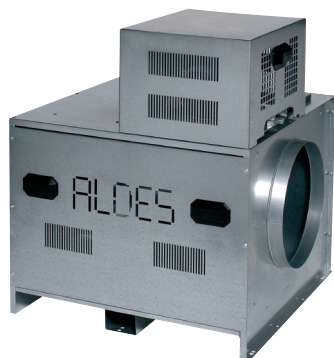
Cyclone F 400°, 400, 2-speed - Dahlander



Cyclone F 400°, 400, 2-speed - Independent windings

# Cabinet Fans

## CYCLONE F400°: type 450



### Compliance

- Conforms with the CE marking in accordance with Standard EN 12101-3.
- F400 (2h) classification.
- Extension of the "thermally insulated" classification.

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### Advantages

- "Proximity switch" option: easier wiring to save time when fitting.
- "All-in-One" option: relay box, proximity switch and pressure switch(es) pre-wired and fitted to save time on the site.
- "Thermal insulation" option: to avoid the CMEV system in attics.

### DESCRIPTION

- Airflow between 4000 and 24000 m<sup>3</sup>/h.

### RANGE with a choice of options **R8**

Description	Code
<b>Cyclone F400 1-speed</b>	
Cyclone 450 A 7.5 kW	11039041
Cyclone 450 A 11 kW	11039042
Cyclone 450 A 15 kW	11039043
Cyclone 450 B 5.5 kW	11039044
Cyclone 450 B 7.5 kW	11039045
Cyclone 450 B 11 kW	11039046
<b>Cyclone F400 2-speed - Dahlander</b>	
Cyclone 450 A - 2-speed Dahlander 6.8 kW/ 1.4 kW	11039141
Cyclone 450 A - 2-speed Dahlander 10.5 kW/ 2.2 kW	11039142
Cyclone 450 A - 2-speed Dahlander 15.5 kW/ 2.7 kW	11039143
Cyclone 450 B - 2-speed Dahlander 5 kW/ 1 kW	11039144
Cyclone 450 B - 2-speed Dahlander 6.8 kW/ 1.4 kW	11039145
Cyclone 450 B - 2-speed Dahlander 10.5 kW/ 2.2 kW	11039146
<b>Cyclone F400 2-speed - Independent Windings (BI)</b>	
Cyclone 450 A - 2-speed BI 10.5 kW/ 3.5 kW	11039242
Cyclone 450 A - 2-speed BI 16 kW/ 5 kW	11039243
Cyclone 450 B - 2-speed BI 6 kW/ 2 kW	11039244
Cyclone 450 B - 2-speed BI 10.5 kW/ 3.5 kW	11039246

### DIMENSIONS (mm)

- Overall dimensions: width (X) x height (Z1) x depth (Y) = 1357 x 1844 x 1492.
- Ø suction = 800.
- Exhaust cross section:
  - vertical discharge R x R = 569 x 569,
  - horizontal discharge R x R1 = 569 x 392.

### ELECTRICAL DETAILS - WEIGHT

Type	No of Poles	P (kW)	U (V)	Rated Current (A)	I <sub>max</sub> (A)	Id/IN	Weight (kg)
450 A	4	7.5	230/400	15.3	16.8	7.9	458
450 A	4	11.0	230/400	21.5	23.7	6.5	485
450 A	4	15.0	230/400	30.0	33.0	7.2	504
450 B	4	5.5	230/400	11.5	12.7	7.3	450
450 B	4	7.5	230/400	15.3	16.8	7.9	458
450 B	4	11.0	230/400	21.5	23.7	6.5	485
<b>Cyclone F400 2-speed - Dahlander</b>							
450 A2 Dahl	4/8	6.8/1.4	400	13.7/5.1	15.1/5.6	7.6/3.6	473
450 A2 Dahl	4/8	10.5/2.2	400	21.0/7.4	23.1/8.1	6.9/3.7	510
450 A2 Dahl	4/8	15.5/2.7	400	30.0/9.5	33.0/10.5	6.9/3.9	533
450 B2 Dahl	4/8	5.0/1.0	400	9.9/3.3	10.9/3.6	6.4/3.6	462
450 B2 Dahl	4/8	6.8/1.4	400	13.7/5.1	15.1/5.6	7.6/3.6	473
450 B2 Dahl	4/8	10.5/2.2	400	21.0/7.4	23.1/8.1	6.9/3.7	510
<b>Cyclone F400 2-speed - Independent Windings (BI)</b>							
450 A2 BI	4/6	10.5/3.5	400	21.0/8.6	23.1/9.5	6.4/4.1	510
450 A2 BI	4/6	16.0/5.0	400	31.0/12.5	34.1/13.8	6.3/4.6	533
450 B2 BI	4/6	6.0/2.0	400	12.0/5.6	13.2/6.2	7.1/4.5	473
450 B2 BI	4/6	10.5/3.5	400	21.0/8.6	23.1/9.5	6.4/4.1	510

# Cabinet Fans

## CYCLONE F400°: type 450

### AIRFLOW AND ACOUSTIC DETAILS

• Curves follow those of the French Standard NF EN ISO 5801, Installation C: connected suction - free exhaust.

- Ps = Static suction pressure.
- Pd = Dynamic duct suction pressure.

• For a casing with a connected exhaust (for example: in an attic space), select a casing so that:

System pressure loss (upstream+downstream) = Ps - Pd + C

NOTE: do not forget the pressure loss in the ductwork downstream of the fan which may be high.

Example: see CYCLONE type 225 page 126.

- The values circled correspond to the acoustic pressure measured at 6 m from the casing in dB (A).

### AVAILABLE OPTIONS R8

Description	Code
<b>Casing configuration options</b>	
Horizontal discharge	OPT39300
Vertical discharge	OPT39301
Motor on opposite face	OPT39302
450 rain hood	OPT39329
Adjustable pulley - 450	OPT39353
Thermal insulation - 450	OPT39361
<b>Electrical accessories options</b>	
"All-in-One" 1-speed Des < 8 kW	OPT39303
"All-in-One" 1-speed Des < 13 kW	OPT39304
"All-in-One" 1-speed Des < 23 kW	OPT39305
"All-in-One" 2-speed Des DAH < 8 kW - connected/fitted	OPT39307
"All-in-One" 2-speed Des DAH < 13 kW	OPT39308
"All-in-One" 2-speed Des DAH < 23 kW	OPT39309
"All-in-One" 2-speed Des BI < 8 kW - connected/fitted	OPT39311
"All-in-One" 2-speed Des BI < 13 kW	OPT39312
"All-in-One" 2-speed Des BI < 23 kW	OPT39313
Proximity switch 1-speed max 6.5 kW	OPT39315
Proximity switch 1-speed max 15 kW	OPT39316
Proximity switch 2-speed max 6.5 kW	OPT39318
Proximity switch 2-speed max 13 kW	OPT39319
Proximity switch 2-speed max 22 kW	OPT39320
100 -1000 Pa pressure switch	OPT39321
2nd pressure switch 100-1000 Pa.	OPT39322

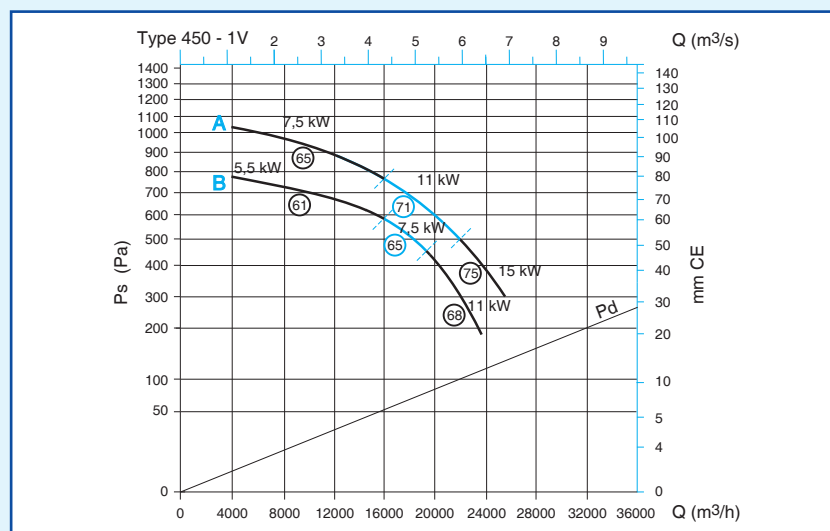
NOTE: the integrated "All-in-One" option includes the IP+DP.

### CONNECTION ACCESSORIES R8

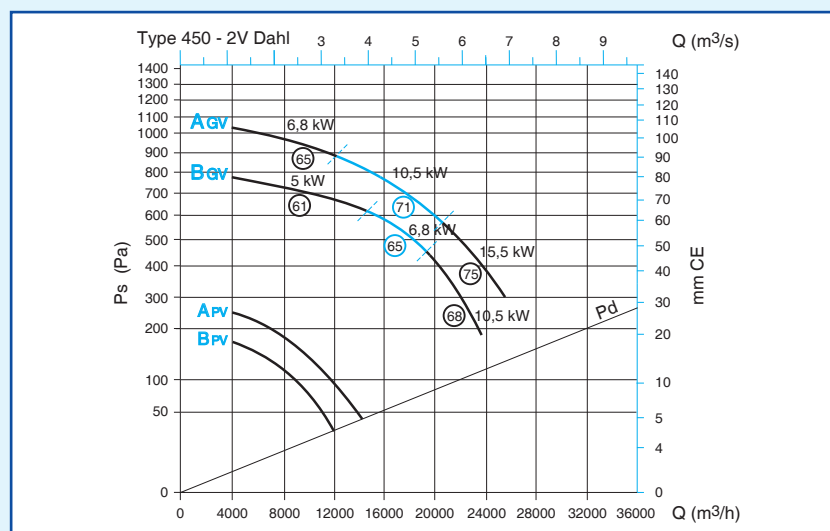
Description	Code
Flexible sleeve kit M0 Ø 800 mm	11096931
Flexible exhaust sleeve type 450	11039337
Flexible exhaust adapter type 450	11039345
6 pieces of anti-vibration mountings	11039348

### COEFFICIENT C FOR THE CONNECTED EXHAUST CORRECTION

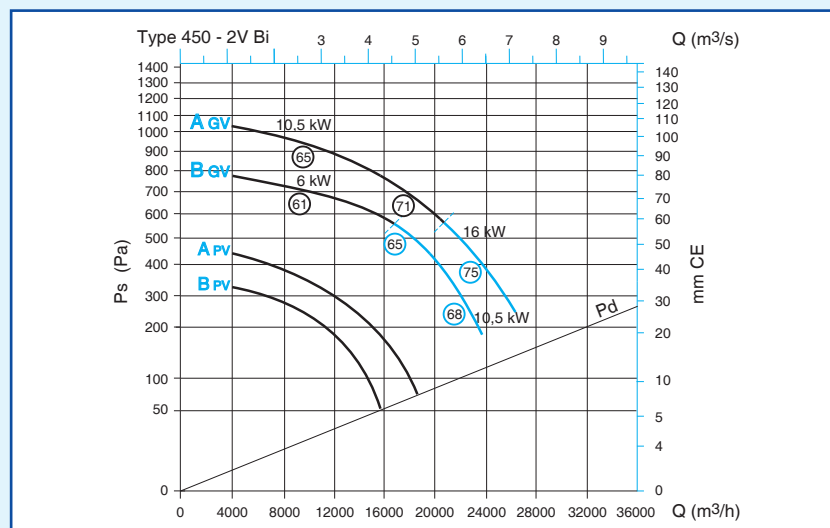
Q (m <sup>3</sup> /h)	8000	12000	16000	20000	24000
C (Pa)	61	137	244	382	550



Cyclone F 400°, 450, 1-speed



Cyclone F 400°, 450, 2-speed - Dahlander

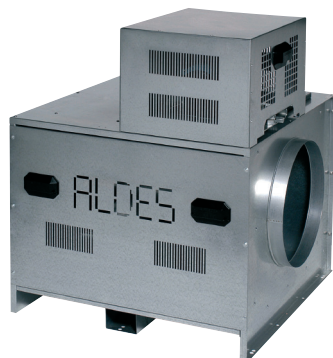


Cyclone F 400°, 450, 2, speed - Independent windings



# Cabinet Fans

## CYCLONE F400°: type 500



### Compliance

- Conforms with the CE marking in accordance with Standard EN 12101-3.
- F400 (2h) classification.
- Extension of the "thermally insulated" classification.

**CIVIL DEFENCE APPROVED**

### Advantages

- "Proximity switch" option: Easier wiring to save time when fitting.
- "All-in-One" option: relay box, proximity switch and pressure switch(es) pre-wired and fitted to save time on the site.
- "Thermal insulation" option: to avoid the CMEV system in attics.

### DESCRIPTION

- Airflow between 4000 and 32000 m<sup>3</sup>/h.

### RANGE with a choice of options **R8**

Description	Code
<b>Cyclone F400 1-speed</b>	
Cyclone 500 A 11 kW	11039047
Cyclone 500 A 15 kW	11039048
Cyclone 500 A 22 kW	11039049
Cyclone 500 B 7.5 kW	11039050
Cyclone 500 B 11 kW	11039051
Cyclone 500 B 15 kW	11039052
Cyclone 500 C 5.5 kW	11039053
Cyclone 500 C 7.5 kW	11039054
Cyclone 500 C 11 kW	11039055
<b>Cyclone F400 2-speed - Dahlander</b>	
Cyclone 500 A - 2-speed Dahlander 10.5 kW/ 2.2 kW	11039147
Cyclone 500 A - 2-speed Dahlander 15.5 kW/ 2.7 kW	11039148
Cyclone 500 A - 2-speed Dahlander 22.5 kW/ 4.4 kW	11039149
Cyclone 500 B - 2-speed Dahlander 6.8 kW/ 1.4 kW	11039150
Cyclone 500 B - 2-speed Dahlander 10.5 kW/ 2.2 kW	11039151
Cyclone 500 B - 2-speed Dahlander 15.5 kW/ 2.7 kW	11039152
Cyclone 500 C - 2-speed Dahlander 5 kW/ 1 kW	11039153
Cyclone 500 C - 2-speed Dahlander 6.8 kW/ 1.4 kW	11039154
Cyclone 500 C - 2-speed Dahlander 10.5 kW/ 2.2 kW	11039155
<b>Cyclone F400 2-speed - Independent Windings (BI)</b>	
Cyclone 500 A - 2-speed BI 10.5 kW/ 3.5 kW	11039247
Cyclone 500 A - 2-speed BI 16 kW/ 5 kW	11039248
Cyclone 500 A - 2-speed BI 23 kW/ 7.2 kW	11039249
Cyclone 500 B - 2-speed BI 10.5 kW/ 3.5 kW	11039251
Cyclone 500 B - 2-speed BI 16 kW/ 5 kW	11039252
Cyclone 500 C - 2-speed BI 6 kW/ 2 kW	11039253
Cyclone 500 C - 2-speed BI 10.5 kW/ 3.5 kW	11039255

### DIMENSIONS (mm)

- Overall dimensions: width (X) x height (Z1) x depth (Y) = 1495 x 1964 x 1621.
- Ø suction = 800.
- Exhaust cross section:
  - vertical discharge R x R = 638 x 638,
  - horizontal discharge R x R1 = 638 x 460.

### ELECTRICAL DETAILS - WEIGHT

Type	No of Poles	P (kW)	U (V)	Rated Current (A)	Imax (A)	Id/IN	Weight (kg)
500 A	4	11.0	230/400	21.5	23.7	6.5	549
500 A	4	15.0	230/400	30.0	33.0	7.2	568
500 A	4	22.0	230/400	41.0	45.1	8.0	615
500 B	4	7.5	230/400	15.3	16.8	7.9	522
500 B	4	11.0	230/400	21.5	23.7	6.5	549
500 B	4	15.0	230/400	30.0	33.0	7.2	568
500 C	4	5.5	230/400	11.5	12.7	7.3	514
500 C	4	7.5	230/400	15.3	16.8	7.9	522
500 C	4	11.0	230/400	21.5	23.7	6.5	549
<b>Cyclone F400 2-speed - Dahlander</b>							
500 A2 Dahl	4/8	10.5/2.2	400	21.0/7.4	23.1/8.1	6.9/3.7	574
500 A2 Dahl	4/8	15.5/2.7	400	30.0/9.5	33.0/10.5	6.9/3.9	597
500 A2 Dahl	4/8	22.5/4.4	400	43.0/15.0	47.3/16.5	6.7/3.9	641
500 B2 Dahl	4/8	6.8/1.4	400	13.7/5.1	15.1/5.6	7.6/3.6	537
500 B2 Dahl	4/8	10.5/2.2	400	21.0/7.4	23.1/8.1	6.9/3.7	574
500 B2 Dahl	4/8	15.5/2.7	400	30.0/9.5	33.0/10.5	6.9/3.9	597
500 C2 Dahl	4/8	5.0/1.0	400	9.9/3.3	10.9/3.6	6.4/3.6	526
500 C2 Dahl	4/8	6.8/1.4	400	13.7/5.1	15.1/5.6	7.6/3.6	537
500 C2 Dahl	4/8	10.5/2.2	400	21.0/7.4	23.1/8.1	6.9/3.7	574
<b>Cyclone F400 2-speed - Independent Windings (BI)</b>							
500 A2 BI	4/6	10.5/3.5	400	21.0/8.6	23.1/9.5	6.4/4.1	574
500 A2 BI	4/6	16.0/5.0	400	31.0/12.5	34.1/13.8	6.3/4.6	597
500 A2 BI	4/6	23.0/7.2	400	43.0/15.0	47.3/16.5	7.7/7.8	641
500 B2 BI	4/6	10.5/3.5	400	21.0/8.6	23.1/9.5	6.4/4.1	574
500 B2 BI	4/6	16.0/5.0	400	31.0/12.5	34.1/13.8	6.3/4.6	597
500 C2 BI	4/6	6.0/2.0	400	12.0/5.6	13.2/6.2	7.1/4.5	537
500 C2 BI	4/6	10.5/3.5	400	21.0/8.6	23.1/9.5	6.4/4.1	574

# Cabinet Fans

## CYCLONE F400°: type 500

### AIRFLOW AND ACOUSTIC DETAILS

• Curves follow those of the French Standard NF EN ISO 5801, Installation C: connected suction - free exhaust.

- $P_s$  = Static suction pressure.
- $P_d$  = Dynamic duct suction pressure.

• For a casing with a connected exhaust (for example: in an attic space), select a casing so that:

System pressure loss (upstream+downstream) =  $P_s - P_d + C$

NOTE: do not forget the pressure loss in the ductwork downstream of the fan which may be high.

Example: see CYCLONE type 225 page 126.

• The values circled correspond to the acoustic pressure measured at 6 m from the casing in dB (A).

### AVAILABLE OPTIONS R8

Description	Code
<b>Casing configuration options</b>	
Horizontal discharge	OPT39300
Vertical discharge	OPT39301
Motor on opposite face	OPT39302
500 rain hood	OPT39330
Thermal insulation - 500	OPT39362
<b>Electrical accessories options</b>	
"All-in-One" 1-speed Des < 8 kW	OPT39303
"All-in-One" 1-speed Des < 13 kW	OPT39304
"All-in-One" 1-speed Des < 23 kW	OPT39305
"All-in-One" 2-speed Des DAH < 8 kW - connected/fitted	OPT39307
"All-in-One" 2-speed Des DAH < 13 kW	OPT39308
"All-in-One" 2-speed Des DAH < 23 kW	OPT39309
"All-in-One" 2-Speed Des BI < 8 kW - connected/fitted	OPT39311
"All-in-One" 2-speed Des BI < 13 kW	OPT39312
"All-in-One" 2-speed Des BI < 23 kW	OPT39313
Proximity switch 1-speed max 6.5 kW	OPT39315
Proximity switch 1-speed max 15 kW	OPT39316
Proximity switch 1-speed max 30 kW	OPT39317
Proximity switch 2-speed max 6.5 kW	OPT39318
Proximity switch 2-speed max 13 kW	OPT39319
Proximity switch 2-speed max 22 kW	OPT39320
100 -1000 Pa pressure switch	OPT39321
2nd pressure switch 100-1000 Pa.	OPT39322

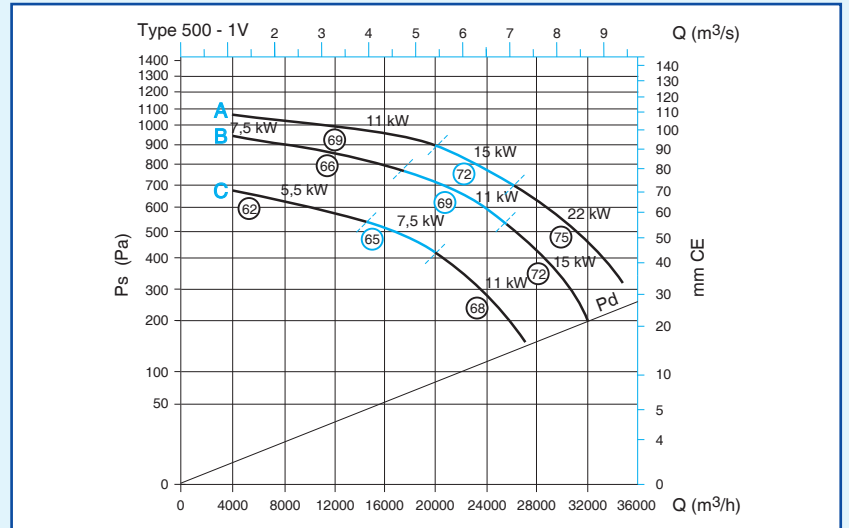
NOTE: the integrated "All-in-One" option includes the IP+DP.

### CONNECTION ACCESSORIES R8

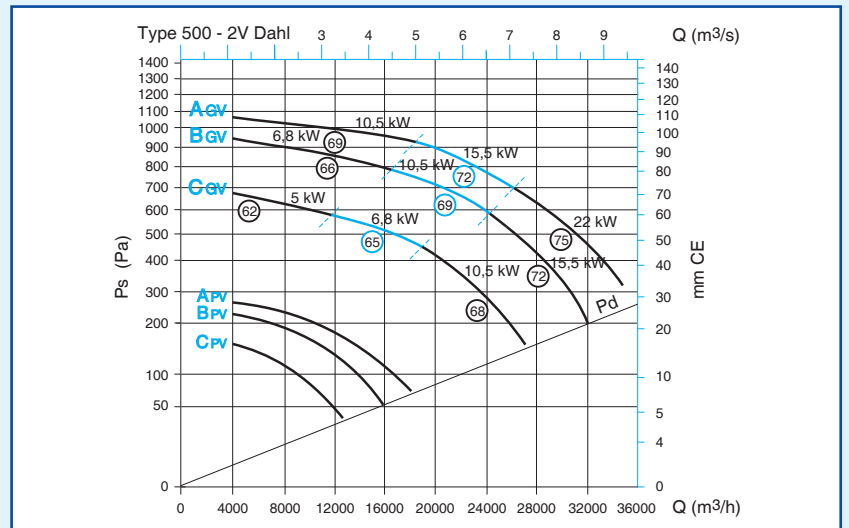
Description	Code
Flexible sleeve kit M0 Ø 800 mm	11096931
Flexible exhaust sleeve type 500	11039338
Flexible exhaust adapter type 500	11039346
6 pieces of anti-vibration mountings	11039348

### COEFFICIENT C FOR THE CONNECTED EXHAUST CORRECTION

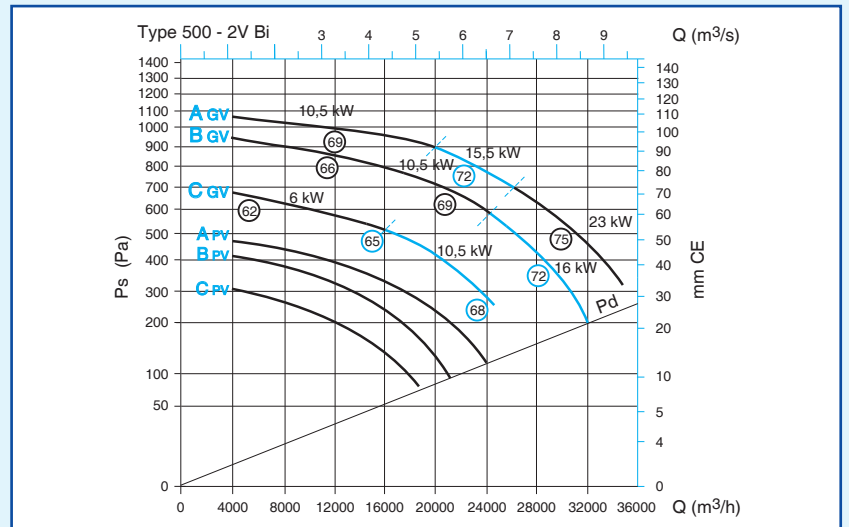
Q (m³/h)	8000	12000	16000	20000	24000	28000	32000
C (Pa)	45	102	182	284	409	557	728



Cyclone F 400°, 500, 1-speed



Cyclone F 400°, 500, 2-speed - Dahlander



Cyclone F 400° - 500, 2-speed - Independent windings

# Roof Fans

## VDA



### Advantages

- Flat airflow curves.
- Vertical discharge.
- Ideal for kitchen.

### APPLICATION

- Air exhaust roof fan designed for CMEV systems in residential and commercial buildings.

### DESCRIPTION

- 10 sizes, from 100 to 12000 m<sup>3</sup>/h.
- Vertical jet.
- Shell made from thermoformed fibre and resin.
- Bird and insect protection grille.
- Backward curved centrifugal impeller.

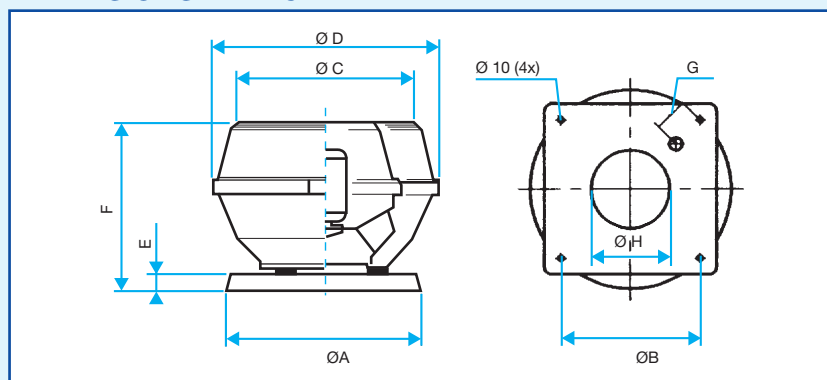
### INSTALLATION

- Horizontal.
- Terrace or roof with assembly fixing base (accessory).

### RANGE R8

Description	Code
<b>1-speed 1-phase VDA</b>	
VDA 160/4 M	11024001
VDA 180/4 M	11024002
VDA 200/4 M	11024003
VDA 225/4 M	11024005
VDA 250/6 M	11024007
VDA 280/6 M	11024013
VDA 355/6 M	11024020
<b>1-speed 3-phase VDA</b>	
VDA 200/4 T	11024004
VDA 225/4 T	11024006
VDA 250/6 T	11024008
VDA 280/6 T	11024014
VDA 355/6 T	11024021
VDA 450/8 T	11024027
VDA 450/6 T	11024028
VDA 500/8 T	11024033
VDA 500/6 T	11024034
VDA 560/8 T	11024040
VDA 560/6 T	11024041
<b>2-speed 3-phase VDA</b>	
VDA 250/6.8 T, 2-speed	11024047
VDA 280/6.8 T, 2-speed	11024048
VDA 355/6.8 T, 2-speed	11024049
VDA 450/6.12 T, 2-speed	11024030
VDA 500/6.12 T, 2-speed	11024037

### DIMENSIONS - WEIGHT



Type VDA	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	Weight (kg)
160	300	245	320	390	30	215	40	146	4
180	300	245	320	390	30	245	40	146	4
200	435	330	404	500	40	400	68	190	11
225	435	330	434	550	40	445	68	212	12
250	560	450	525	630	40	438	100	245	14
280	560	450	571	700	40	487	91	270	18
355	644	535	622	770	40	563	91	303	23
450	710	590	718	900	50	642	100	350	27
500	917	750	890	1060	50	709	100	412	51
560	917	750	988	1200	50	801	100	475	79

### ELECTRICAL DETAILS

- IP 54 asynchronous motor, class B (except VDA 160 and 180: IP 44).
- Speed control is possible only with an auto-transformer or frequency regulator (3-phase).
- 2-speed motor, use a 2-speed switch ; see *Electrical Accessories* page 176.

Type	No. of poles	Max. power consumption mono 230V (kW)	Max. power consumption 3-phase 400V (kW)	I. max. consumption 1-phase 230V (A)	I. max. consumption 3-phase 400V (A)
VDA 160	4	0.038	-	0.18	-
VDA 180	4	0.065	-	0.35	-
VDA 200	4	0.080	0.08	0.44	0.25
VDA 225	4	0.140	0.16	0.76	0.39
VDA 250	6	0.100	0.10	0.60	0.33
VDA 280	6	0.140	0.17	0.85	0.45
VDA 350	6	0.280	0.31	1.39	0.67
VDA 450	8	0.280	0.32	1.50	0.86
VDA 450	6	0.500	0.44	2.50	1.10
VDA 500	8	-	0.49	-	1.37
VDA 500	6	-	0.98	-	2.30
VDA 560	8	-	0.96	-	2.20
VDA 560	6	-	1.82	-	4.15
VDA 2502 Sp.	8/6	-	0.11/0.12	-	0.31/0.27
VDA 2802 Sp.	8/6	-	0.12/0.17	-	0.31/0.30
VDA 3502 Sp.	8/6	-	0.24/0.42	-	0.70/1.03
VDA 4502 Sp.	12/6	-	0.15/0.60	-	0.46/1.25
VDA 5002 Sp.	12/6	-	0.28/1.14	-	0.89/2.35

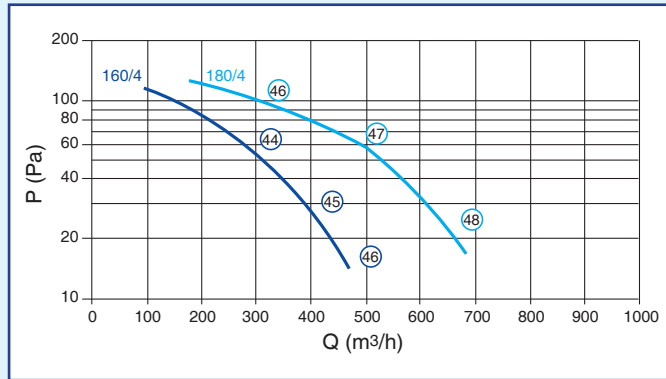
# Roof Fans

## VDA

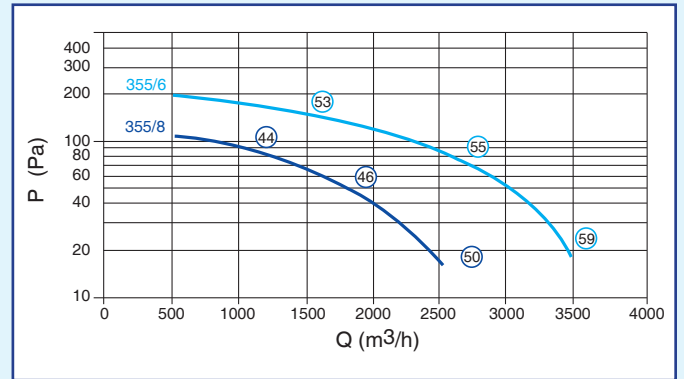
### AIRFLOW AND ACOUSTIC DETAILS

- Airflow curves drawn up in accordance with French Standard EN ISO 5801.
- ○ = Acoustic pressure levels measured 4 m from the casing, with fan outlet connected in dB (A).
- P (Pa) = Static pressure.

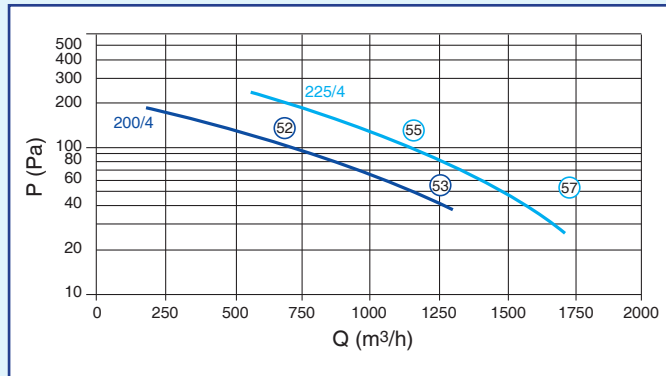
#### VDA 160



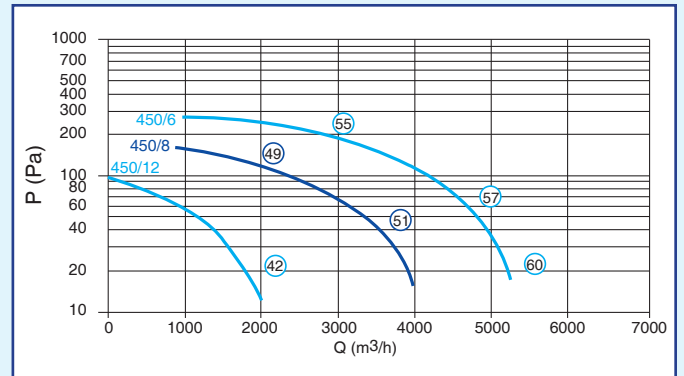
#### VDA 355



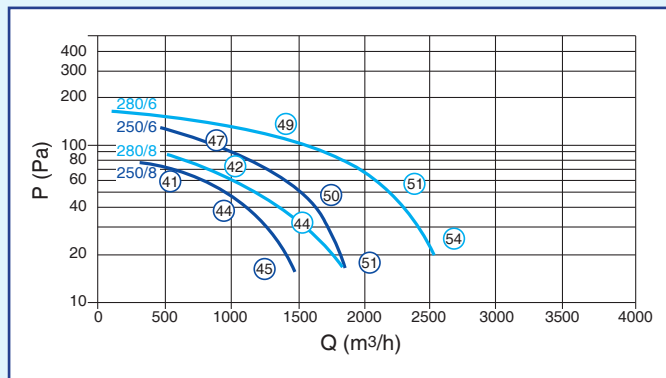
#### VDA 200



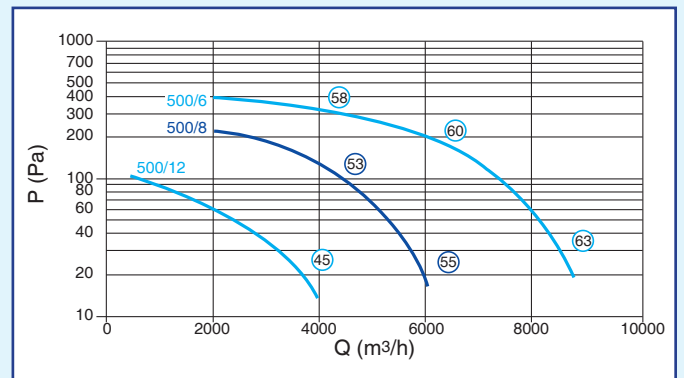
#### VDA 450



#### VDA 250



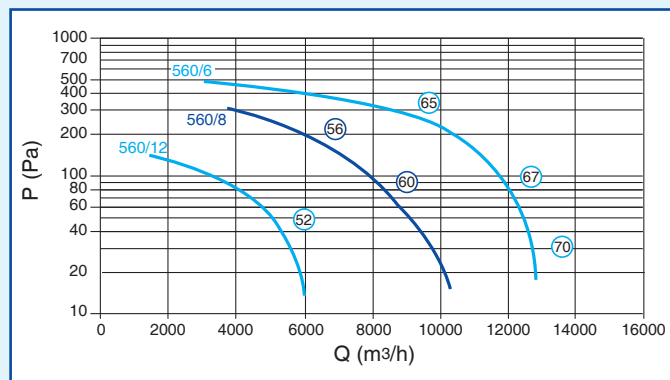
#### VDA 500



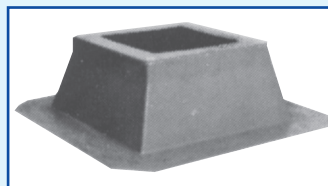
# Roof Fans

## VDA

### VDA 560



### Embase DOS



## ACCESSORIES R8

Type	DOS Base Code	DVK backdraft damper Code	DVS Adjustable sleeve Code	GDB embedded silencer Code	GDH Protruding silencer Code	PV Leak-tight joint Code
VDA 160-180	11024201	11024221	11024241	11024301	11024261	11024321
VDA 200-225	11024203	11024223	11024243	11024303	11024263	11024323
VDA 250-280	11024205	11024225	11024245	11024305	11024265	11024325
VDA 355	11024207	11024227	11024247	11024307	11024267	11024327
VDA 450	11024208	11024228	11024248	11024308	11024268	11024328
VDA 500-560	11024209	11024229	11024249	11024309	11024269	11024329

## ELECTRICAL ACCESSORIES R7 (see pages 171 - 177)

Description
Proximity switch
Thermal overload circuit breaker
Three-phase autotransformer
1 or 2-speed selector switch
Other electrical accessories



# Roof Fans

## THELIA



Horizontal jet



Vertical jet

### Advantages

- Horizontal or vertical discharge versions.
- Ideal for kitchens.

### APPLICATION

- Air exhaust roof fan intended for ventilation of commercial and industrial premises, with a low pressure loss network.
- Temperature range for continual operations: -20°C to +50°C.
- Version for variable speed controller 0-100 %.
- Flame-proof version available: please, consult us.
- "Air Introduction" version available in a horizontal jet: please, consult us.

### DESCRIPTION

- 8 sizes, from 500 to 40000 m<sup>3</sup>/h.
- Axial impeller.
- Cap in aluminium sheet (horizontal jet) or galvanised steel (vertical jet).

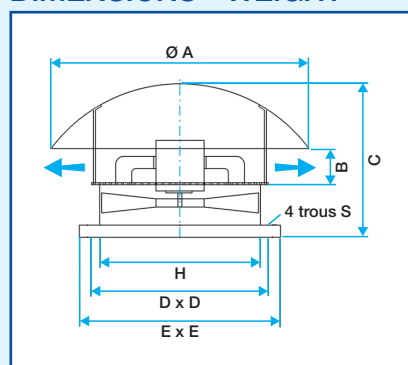
### RANGE

- Please, see page 146.

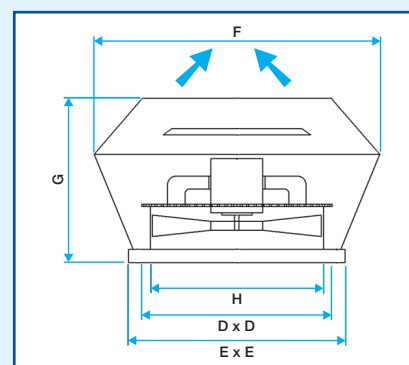
### ACCESSORIES R8

Type	Code
<b>Grouting frame</b>	
THELIA 500	11021476
THELIA 550	11021477
THELIA 600	11021478
THELIA 700	11021479
THELIA 800	11021480
THELIA 850	11021481
THELIA 1000	11021482
THELIA 1100	11021483
<b>Backdraft damper</b>	
THELIA 500	11021484
THELIA 550	11021485
THELIA 600	11021486
THELIA 700	11021487
THELIA 800	11021488
THELIA 850	11021489
THELIA 1000	11021490
THELIA 1100	11021491
<b>Flat roof stack</b>	
THELIA 500	11021468
THELIA 550	11021469
THELIA 600	11021470
THELIA 700	11021471
THELIA 800	11021472
THELIA 850	11021473
THELIA 1000	11021474
THELIA 1100	11021475

### DIMENSIONS - WEIGHT



THELIA horizontal jet



THELIA vertical jet

Type	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	S (mm)	Weight (Kg)
500	690	64	465	450	500	812	465	404	9	20
550	690	72	470	500	550	880	470	455	9	25
600	960	80	525	550	600	960	525	505	11	30
700	960	96	581	650	700	1110	575	606	11	40
800	1220	112	730	750	800	1340	738	707	11	60
850	1220	128	774	800	850	1420	780	770	13	65
1000	1400	144	734	950	1100	1790	900	909	13	120
1100	1500	160	750	1050	1200	1990	1010	1010	13	170

### ELECTRICAL DETAILS

Version	Type	N° of poles	Rated power. (kW)	Rated I. (A)
1-phase 1-speed	500	4	0.180	1.4
	550	4	0.370	3.2
3-phase 1-speed	500	4	0.180	0.6
	500	6	0.075	0.4
	550	4	0.370	1.1
	550	6	0.125	0.7
	600	4	0.750	1.8
	600	6	0.370	1.2
	700	4	1.100	2.7
	700	6	0.550	1.6
	800	4	3.00	7.2
	800	6	1.10	3.2
	850	6	1.10	3.2
3-phase 2-speed Dahlander	1000	6	3.00	7.1
	1100	6	5.50	12.9
	500	4/8	0.55/0.09	1.6/0.6
	550	4/8	0.55/0.09	1.6/0.6
	600	4/8	0.75/0.12	2.3/0.9
3-phase 2-speed Independent Windings	700	4/8	1.5/0.25	3.6/1.3
	800	4/8	3.00/0.55	7.3/2.7
	500	6/8	0.37/0.15	1.2/0.8
	550	6/8	0.37/0.15	1.2/0.8
	600	6/8	0.37/0.15	1.2/0.8
	700	6/8	0.60/0.24	1.6/1.0
	800	6/8	1.5/0.48	3.8/1.6
	850	6/8	1.5/0.48	3.8/1.6

# Roof Fans

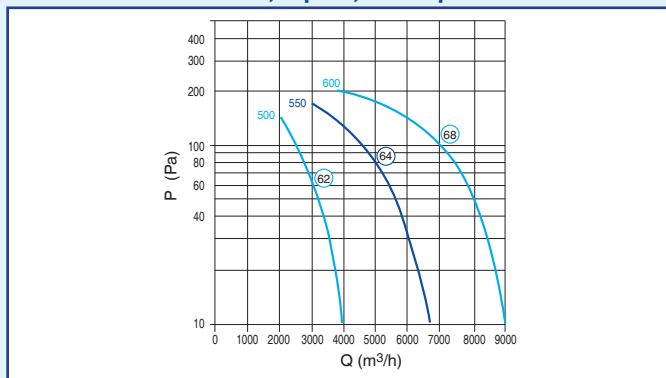
## THELIA

### AIRFLOW AND ACOUSTIC DETAILS

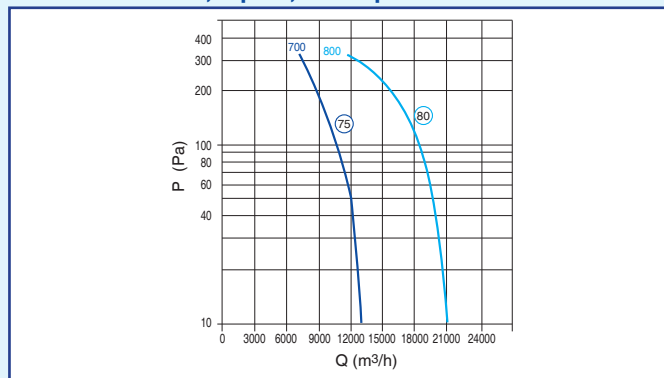
- Airflow curves drawn up in accordance with French Standard ISO 5801.
- Acoustic pressure levels measured 3 m from the fan in dB (A).
- P (Pa) = static pressure.

NOTE: for better acoustics quality, choose the 6 pole or 2-speed versions.

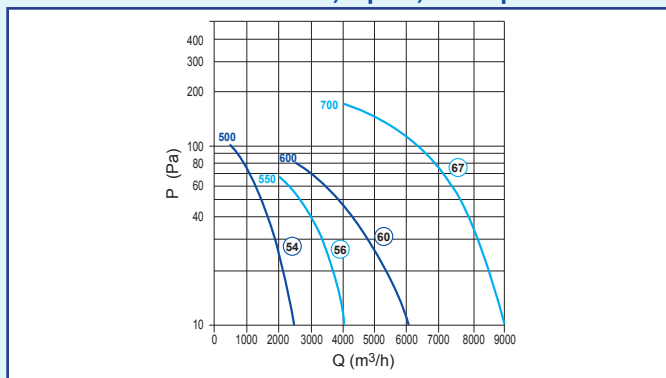
#### THELIA 500 - 550 - 600, 4 pole, 1500 rpm



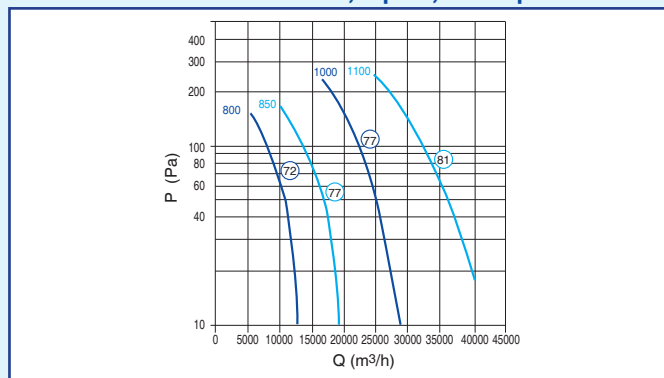
#### THELIA 700 - 800, 4 pole, 1500 rpm



#### THELIA 500 - 550 - 600 - 700, 6 pole, 1000 rpm



#### THELIA 800 - 850 - 1000 - 110, 6 pole, 1000 rpm



### RANGE HORIZONTAL JET R8

Description	1-speed / 4 pole 3-phase Code	1-speed / 4 pole 1-phase - VAR Code	1-speed / 4 pole 1-phase Code	1-speed / 6 pole 3-phase Code	2-speed - Dahl. 4/8 pole - 3-phase Code	2-speed - Ind. Wind. 6/8 pole - 3-phase Code
THELIA 1000				11021420		
THELIA 1100				11021421		
THELIA 500	11021404	11021452	11021400	11021414	11021430	11021440
THELIA 550	11021405	11021453	11021401	11021415	11021431	11021441
THELIA 600	11021406			11021416	11021432	11021442
THELIA 700	11021407			11021417	11021433	11021443
THELIA 800	11021408			11021418	11021434	11021444
THELIA 850				11021419		11021445

### RANGE VERTICAL JET R8

Description	1-speed / 4 pole 3-phase Code	1-speed / 4 pole 1-phase - VAR Code	1-speed / 4 pole 1-phase Code	1-speed / 6 pole 3-phase Code	2-speed - Dahl. 4/8 pole - 3-phase Code	2-speed - Ind. Wind. 6/8 pole - 3-phase Code
THELIA 1000				11021428		
THELIA 1100				11021429		
THELIA 500	11021409	11021454	11021402	11021422	11021435	11021446
THELIA 550	11021410	11021455	11021403	11021423	11021436	11021447
THELIA 600	11021411			11021424	11021437	11021448
THELIA 700	11021412			11021425	11021438	11021449
THELIA 800	11021413			11021426	11021439	11021450
THELIA 850				11021427		11021451

# Roof Fans

## Presentation of the VELONE F400° advantages



VELONE without option



With the "All-in-One" option

### Compliance

- Conforms with the CE marking.
- F400°(2h) classification in accordance with Standard EN 12101-3.
- "All-in-One" option, backdraft damper and rain hood kit accessories in compliance with EN 12101-3.

**CIVIL DEFENCE APPROVED**

### Advantages

- Up to 27000 m<sup>3</sup>/h.
- Electrical accessories wired up at the factory and fixed to the interior for protection against impacts and bad weather.
- Aeraulics connection of the pressure switch made at the factory.
- IP x4 validated rain hood kit.
- Pivot pin: easy cleaning.

## APPLICATION

- Smoke extraction from residential, commercial and industrial buildings
- Ventilation of commercial premises with a need for fire protection classification (professional kitchens, sports halls, workshops etc.).

## FIRE PROTECTION RATING

- VELONE was awarded the classification F400°(2h) The "All-in-One" option (integrated relay box), backdraft damper and the rain hood kit have all been validated by fire resistance tests.
- CE in accordance with Standard EN 12101-3.

## DESCRIPTION

- 10 sizes of roof fans: for airflow rates between 500 and 27000 m<sup>3</sup>/h.
- Base and motor mountings in galvanised steel, cover in ABS fixed by 4 quick-motion screws.
- Backward curve impeller in galvanised steel.
- IP 55, class F electrical motor.
- Protection grille in galvanised steel.

## INSTALLATION

- Outdoors on a flat roof stack (accessory) or directly connected to the duct.

## AVAILABLE OPTIONS

- Adjustable pressure switch fixed to the interior to protect it from impacts and bad weather. **EXCLUSIVE:** the pressure switch is connected/fitted (NOTE: for use at 2 smoke exhaust speeds, fit 2 pressure switches).
- Proximity switch wired up and fixed to the interior to protect it from impacts and bad weather.
- "All-in-One" option.
- Ideal solution when the relay box is installed less than 2 m from the VELONE roof fan.
- Saves time when wiring up, simplified installation and a guarantee that the product will work on-site.
- The wiring of the relay box is carried out at the factory, in compliance with NF-S-61932.
- Always comprises the relay box, pressure switch and proximity switch.
- 1-speed model: the AXONE relay box is fixed to the interior to protect it from impacts and bad weather.
- 2-speed model: the AXONE relay box is fixed to the exterior of the roof fan. Possibility of using the flat roof support.
- In case of use of the vertical exhaust kit, fix the relay.

## ACCESSORIES

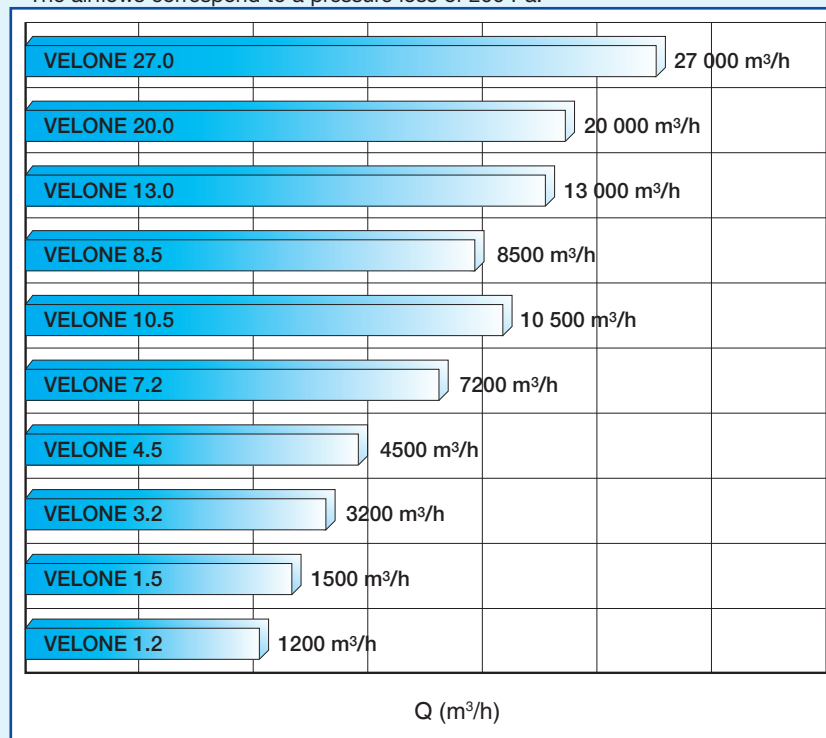
- Rain hood kit, laboratory tested for IP x 4 = sprayed from all directions
- Backdraft damper fire resistance tested.
- Vertical exhaust kit: prohibits with the "All-in-One" solution.
- Grouting frame or duct frame.
- Pivot pin.
- Flat roof stack or sloped roof stack.
- AXONE flat roof support.

## Electrical accessories

- Frequency controller.

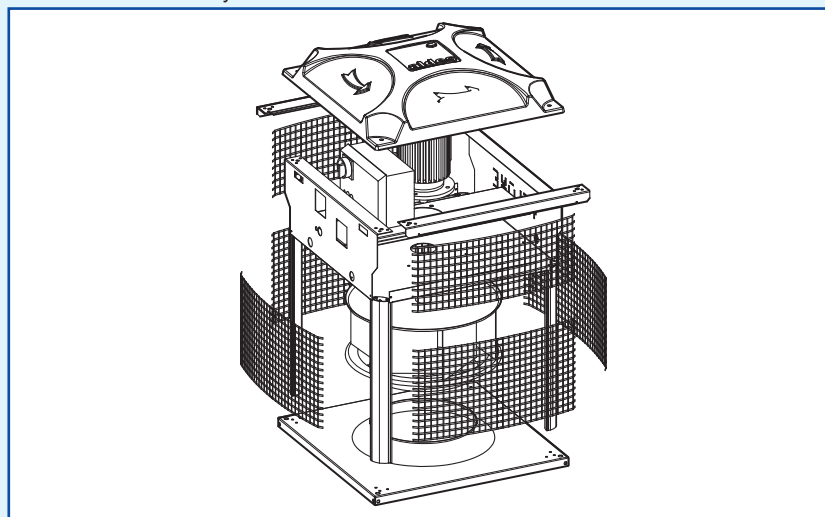
## PRE-SELECTION OF VELONE MODEL

- The airflows correspond to a pressure loss of 200 Pa.



## DESIGN

- It is possible to integrate the proximity switch, pressure switch(es) and the 1-speed AXONE Micro II relay box under the cover.



# Roof Fans

## Presentation of the VELONE F400° advantages



Without option



With the "All-in-One" option



With the "All-in-One" option - cover removed

### AIRFLOW UP TO 27000 m<sup>3</sup>/h

- Aldes has taken particular care in the design of the VELONE in order to offer you a range of smoke exhaust roof fans that comply with the CE marking up to 27000 m<sup>3</sup>/h, without increasing the dimensions of the base.

### COMPACT SO AS TO PROTECT IT FROM IMPACTS AND BAD WEATHER

- We have preferred to improve the motor mounting by using galvanised steel, rather than plastic, because we believe that for a lengthy service life the electrical accessories such as relay boxes, pressure switches and proximity switches, should be fully protected from impacts and bad weather.
- On the 2-speed model, the AXONE relay box is supplied with a 2 m long cable for fixing outside the roof fan. Possibility of using the flat roof support.

### AIR DUCT CONNECTION OF THE PRESSURE SWITCH

- Being the inventor of the "All-in-One" solution (relay box wired up at the factory), we are now offering an exclusive feature on this new range - the air duct connection of the pressure switch.
- This option minimises man-hour time on-site: drilling holes in the ductwork on-site is a thing of the past!

### RAIN HOOD KIT IPx4 - AN ALDES EXCLUSIVE FEATURE

- A smoke exhaust roof fan, used only for smoke extraction is permanently at rest, ready to start up in case of fire or for testing. A smoke exhaust roof fan at rest, presents a risk of penetration by rain during thunderstorms and violent winds.
- The new VELONE design now allows us to offer you a new accessory called the "rain hood kit". Comprised of 4 parts to be mounted on-site, the rain hood kit passed fire resistance tests and has an IP x4 safety index validated by the CETIAT laboratory.
- This classification corresponds to the usual safety protection index used for electrical equipment: switch, pressure switch, relaying box. The first figure concerns dust protection (because it does not concern a roof fan), the second figure is equivalent to water protection: The 4 guarantees its leaktightness faced with water sprayed at it from all directions with a flow rate of 600 l/h!

### CONFORMING BACKDRAFT DAMPER

- The backdraft damper which enables it to avoid heat losses succeeded in passing the regulatory fire resistance tests.

### EASY REPLACEMENT

- This range of roof fans can replace any VELONE roof fan delivered between 1998 and 2006. In fact, we designed this new range without having to change the dimensions of the base. Moreover, with an equivalent base dimension, the new range can only give better performances in terms of aerualics.



# Roof Fans

## VELONE F400 -1.2 - 3-phase/ 1-phase



With the "All-in-One" option

### Compliance

- Conforms with the CE marking in accordance with Standard EN 12101-3.
- F400 (2h) classification.
- "All-in-One" option, backdraft damper and rain hood kit accessories in compliance.

**CIVIL DEFENCE APPROVED**

### Advantages

- Accessories are protected from impacts + bad weather due to the metal body.
- Electrical accessories wired up at the factory and fixed to the interior for protection against impacts and bad weather.
- Pressure switch air duct connection is carried out at the factory.
- IP x4 validated rain hood kit.
- Pivot pin: easy to clean.

### DESCRIPTION

- Airflow between 100 and 1200 m<sup>3</sup>/h under 200 Pa.

### RANGE with a choice of options **R8**

Description	Code
<b>VELONE 1-speed</b>	
VELONE 1.2M 0.24KW	11021390
VELONE 1.2 - 4T 0.37KW	11021340

### AVAILABLE OPTIONS **R8**

- Pressure switch connected to the air duct, fixed and protected.
- Proximity switch wired up, fixed and protected.
- "All-in-One" solution (unavailable in 1-phase):
  - relay box delivered pre-wired,
  - pressure switch and proximity switch supplied and wired up.
- In case of use of the vertical exhaust kit, fix the relay box outside the VELONE and outside the airflow (the cable supplied measures 2 m).

Description	Code
Pressure switch 40-300 Pa connected/ fitted to air duct	OPT21279
1-speed - 7.5 kW switch + contacts	OPT21281
"All-in-One" 1-speed smoke exhaust 4.7A	OPT21273

### ACCESSORIES **R8**

- Description on the following pages.

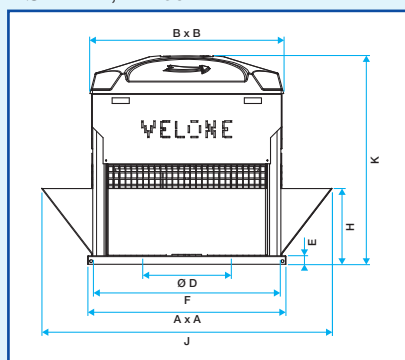
Description	Code
IPx4 rain hood kit - 1.2/ 1.5/ 3.2	11021285
Vertical kit 1.2/ 1.5/ 3.2	11021366
Grouting frame 1.2 / 1.5 / 3.2	11021290
Pivot pin 1.2/ 1.5/ 3.2	11021069
Backdraft damper 1.2 / 1.5 / 3.2	11021260
Frame on duct 1.2 / 1.5 / 3.2	11021295
Flat Roof stack 1.2 / 1.5 / 3.2	11021080
Roof stack 1.2 / 1.5 / 3.2	11021085

### ELECTRICAL ACCESSORIES **R7**

- 1-phase voltage regulator: please, see page 171.
- 3-phase autotransformer: please, see page 173.
- Frequency controller: please, see page 174.

### DIMENSIONS (mm) - WEIGHT (kg)

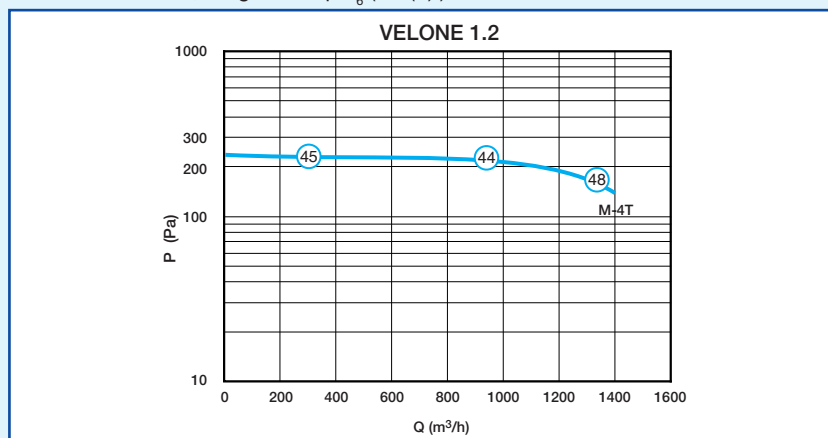
- Ø F = 14, E = 30.



Type	Horizontal air exhaust						With vertical kit		
	Velone	A	B	Ø D	F	K	Weight	J	H
1.2	533	519	185	493	580	36	707	190	41

### AIRFLOW AND ACOUSTIC DETAILS

- Curves follow those of the French Standard NF EN ISO 5801, ducted suction (Ø 250 mm).
- The pressures shown on the graphs are static pressures.
- The encircled values correspond to an overall acoustic pressure level radiated through a free field at 6 m, weighted ALp<sub>6</sub> (dB (A)).



### ELECTRICAL DETAILS

Type	No of poles	U (V)	P (kW)	f (Hz)	Rated I (A)	Id/ In
1.2 M	4	230	0.25	50	2.2	6.2
1.2 T	4	230/400	0.37	50/60	1.03	4.4

- Rated current (I<sub>n</sub>) is given for a voltage of 400 V for 3-phase roof fans.
- For operations under 60 Hz, please consult us.



# Roof Fans

## VELONE F400 - 1.5 - 3-phase/ 1-phase



### Compliance

- Conforms with the CE marking in accordance with Standard EN 12101-3.
- F400 (2h) classification.
- "All-in-One" option, backdraft damper and rain hood kit accessories in compliance.

**CIVIL DEFENCE APPROVED**

### Advantages

- Accessories are protected from impacts + bad weather due to the metal body.
- Electrical accessories wired up at the factory and fixed to the interior for protection against impacts and bad weather.
- Pressure switch air duct connection is carried out at the factory.
- IP x4 validated rain hood kit.
- Pivot pin: easy to clean.

### DESCRIPTION

- Airflow between 100 and 1500 m<sup>3</sup>/h under 200 Pa.

### RANGE with a choice of options R8

Description	Code
<b>VELONE 1-speed</b>	
VELONE 1.5M 0.24KW	11021391
VELONE 1.5 - 4T 0.37KW	11021341
VELONE 1.5 - 6T 0.18KW	11021342
<b>VELONE 2-speed</b>	
VELONE 1.5 - 4/8T 0.6/0.15KW	11021371
New: VELONE stock 1-speed	
VELONE 1.5M 0.24KW+IP (stock)	11021395
VELONE 1.5-6T 0.18KW+IP (stock)	11021256

### AVAILABLE OPTIONS R8

- Pressure switch connected to the air duct, fixed and protected. If 2 smoke exhaust speeds used provide for 2 pressure switches.
- Proximity switch wired up, fixed and protected.
- "All-in-One" solution (unavailable in 1-phase):
  - relay box delivered pre-wired,
  - pressure switch and proximity switch supplied and wired up,
  - for the 2-speed model, the AXONE relay box is supplied with a 2 m long cable for fixing outside the roof fan. Possibility of using the flat roof support.
- In case of use of the vertical exhaust kit, fix the relay box outside the VELONE and outside the airflow (the cable supplied measures 2 m).

Description	Code
Pressure switch 40-300 Pa connected/ fitted to air duct	OPT21279
1-speed - 7.5 kW switch + contacts	OPT21281
2-speed - 7.5 kW switch + contacts	OPT21282
"All-in-One" 1-speed smoke exhaust 4.7A	OPT21273
"All-in-One" 2-speed Dahlander smoke exhaust	OPT21275
"All-in-One" 2-speed Dahlander smoke exhaust + comfort	OPT21276

### ACCESSORIES R8

- Description on the accessories: see pages 159-162.

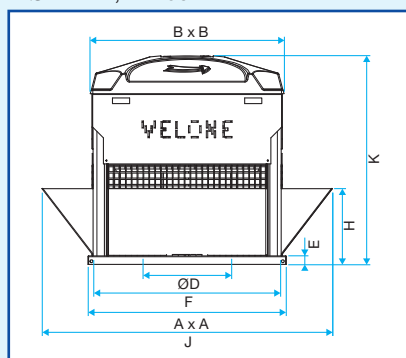
Description	Code
IPx4 rain hood kit - 1.2/ 1.5/ 3.2	11021285
Vertical kit 1.2/ 1.5/ 3.2	11021366
Grouting frame 1.2 / 1.5 / 3.2	11021290
Pivot pin 1.2/ 1.5/ 3.2	11021069
Backdraft damper 1.2 / 1.5 / 3.2	11021260
Frame on duct 1.2 / 1.5 / 3.2	11021295
Flat roof stack 1.2 / 1.5 / 3.2	11021080
Roof stack 1.2 / 1.5 / 3.2	11021085

### ELECTRICAL ACCESSORIES R7

- 1-phase voltage regulator: please, see page 171.
- 3-phase autotransformer: please, see page 173.
- Frequency controller: please, see page 174.
- Comfort 2-speed relay box: please, consult us.

### DIMENSIONS (mm) - WEIGHT (kg)

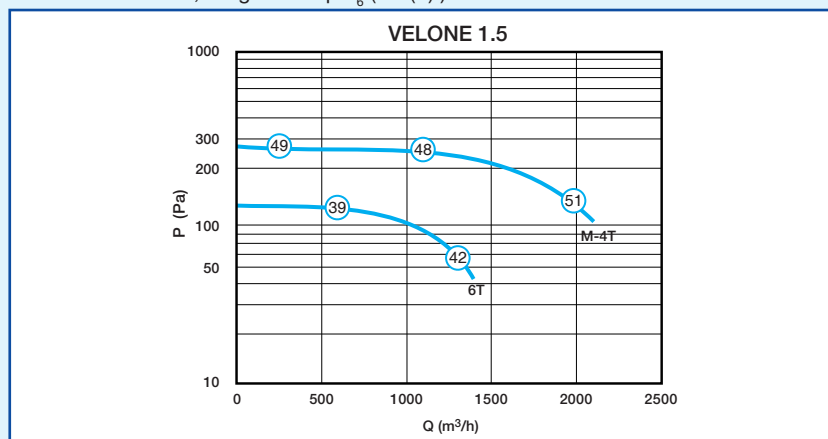
- Ø F = 14, E = 30.



Type	Horizontal air exhaust					With vertical kit			
Velone	A	B	Ø D	F	K	Weight	J	H	Weight
1.5	533	519	209	493	607	38	707	190	43

### AIRFLOW AND ACOUSTIC DETAILS

- Curves follow those of the French Standard NF EN ISO 5801, ducted suction (Ø 250 mm).
- Pressures indicated are static pressures.
- The encircled values correspond to an overall acoustic pressure level radiated through a free field at 6 m, weighted ALp<sub>m</sub> (dB (A)).



### ELECTRICAL DETAILS

Type	Number of poles	U (V)	P (kW)	f (Hz)	Rated I (A)	Id/ In
1.5 M	4	230	0.25	50	2.20	6.2
1.5 4T	4	230/400	0.37	50/60	1.03	4.4
1.5 6T	6	230/400	0.18	50/60	0.77	5.3
1.5 - 4/8T	4/8	400	0.60/0.15	50	1.87/0.90	5.2/2.8

- Rated current (In) is given for a voltage of 400 V for 3-phase roof fans.
- 4/8 pole = Dahlander motor.
- For operations under 60 Hz, please consult us.

# Roof Fans

## VELONE F400 - 3.2 - 3-phase/ 1-phase



With the "All-in-One" option

### Compliance

- Conforms with the CE marking in accordance with Standard EN 12101-3.
- F400 (2h) classification.
- "All-in-One" option, backdraft damper and rain hood kit accessories in compliance.

**CIVIL DEFENCE APPROVED**

### Advantages

- Accessories are protected from impacts + bad weather due to the metal body.
- Electrical accessories wired up at the factory and fixed to the interior for protection against impacts and bad weather.
- Pressure switch air duct connection is carried out at the factory.
- IP x4 validated rain hood kit.
- Pivot pin: easy to clean.

### DESCRIPTION

- Airflow between 100 and 3200 m<sup>3</sup>/h under 200 Pa.

### RANGE with a choice of options R8

Description	Code
<b>VELONE 1-speed</b>	
VELONE 3.2M 0.37KW	11021392
VELONE 3.2 - 4T 0.55KW	11021344
VELONE 3.2 - 6T 0.18KW	11021345
<b>VELONE 2-speed</b>	
VELONE 3.2 - 4/8T 0.6/0.15KW	11021373
New: VELONE stock 1-speed	
VELONE 3.2M 0.37KW + IP (stock)	11021396
VELONE 3.2 - 4T 0.55KW + IP (stock)	11021386
VELONE 3.2 - 6T 0.18KW + IP (stock)	11021257

### AVAILABLE OPTIONS R8

- Pressure switch connected to the air duct, fixed and protected. If 2 smoke exhaust speeds used provide for 2 pressure switches.
- Proximity switch wired up, fixed and protected.
- "All-in-One" solution:
  - relay box delivered pre-wired,
  - pressure switch and proximity switch supplied and wired up,
  - for the 2-speed model, the AXONE relay box is supplied with a 2 m long cable for fixing outside the roof fan. Possibility of using the flat roof support.
- In case of use of the vertical exhaust kit, fix the relay box outside the VELONE and outside the airflow (the cable supplied measures 2 m).

Description	Code
Pressure switch 40-300 Pa connected/ fitted to air duct	OPT21279
1-speed - 7.5 kW switch + contacts	OPT21281
2-speed - 7.5 kW switch + contacts	OPT21282
"All-in-One" 1-speed smoke exhaust 4.7A	OPT21273
"All-in-One" 2-speed Dahlander smoke exhaust	OPT21275
"All-in-One" 2-speed Dahlander smoke exhaust + comfort	OPT21276

### ACCESSORIES R8

- Description on the following pages.

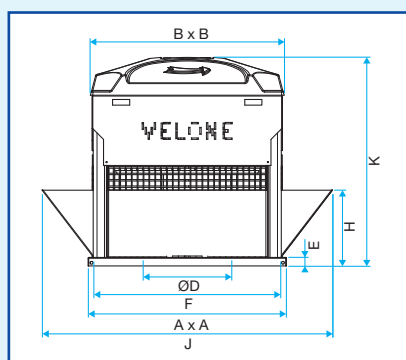
Description	Code
IPx4 rain hood kit - 1.2/ 1.5/ 3.2	11021285
Vertical kit 1.2/ 1.5/ 3.2	11021366
Grouting frame 1.2 / 1.5 / 3.2	11021290
Pivot pin 1.2/ 1.5/ 3.2	11021069
Backdraft damper 1.2 / 1.5 / 3.2	11021260
Frame on duct 1.2 / 1.5 / 3.2	11021295
Flat roof stack 1.2 / 1.5 / 3.2	11021080
Roof stack 1.2 / 1.5 / 3.2	11021085

### ELECTRICAL ACCESSORIES R7

- 1-phase voltage regulator: please, see page 171.
- 3-phase autotransformer: please, see page 173.
- Frequency controller: please, see page 174.
- Comfort 2-speed relay box: please, consult us.

### DIMENSIONS (mm) - WEIGHT (kg)

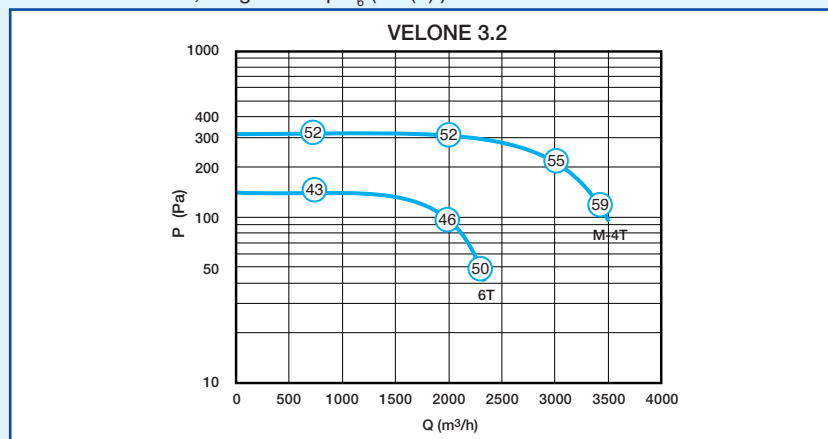
- Ø F = 14, E = 30.



Type	Horizontal air exhaust						With vertical kit		
Velone	A	B	Ø D	F	K	Weight	J	H	Weight
3.2	533	519	235	493	629	39	707	190	44

### AIRFLOW AND ACOUSTIC DETAILS

- Pressures indicated are static pressures.
- The encircled values correspond to an overall acoustic pressure level radiated through a free field at 6 m, weighted ALp<sub>m</sub> (dB (A)).



### ELECTRICAL DETAILS

Type	No of poles	U (V)	P (kW)	f (Hz)	Rated I (A)	Id/ In
3.2 M	4	230	0.37	50	3.00	6.0
3.2 - 4T	4	230/400	0.55	50/60	1.42	6.2
3.2 - 6T	6	230/400	0.18	50/60	0.77	5.3
3.2-4/8	4/8	400	0.6/0.15	50	1.87/0.90	5.2/2.8

- Rated current (In) is given for a voltage of 400 V for 3-phase roof fans.
- 4/8 pole = Dahlander motor.
- For operations under 60 Hz, please consult us.

# Roof Fans

## VELONE F400 - 4.5 - 3-phase/ 1-phase



### Compliance

- Conforms with the CE marking in accordance with Standard EN 12101-3.
- F400 (2h) classification.
- "All-in-One" option, backdraft damper and rain hood kit accessories in compliance.

**CIVIL DEFENCE APPROVED**

### Advantages

- Accessories are protected from impacts + bad weather due to the metal body.
- Electrical accessories wired up at the factory and fixed to the interior for protection against impacts and bad weather.
- Pressure switch air duct connection is carried out at the factory.
- IP x4 validated rain hood kit.
- Pivot pin: easy to clean.

### DESCRIPTION

- Airflow between 300 and 4500 m<sup>3</sup>/h under 200 Pa.

### RANGE with a choice of options **R8**

Description	Code
<b>VELONE 1-speed</b>	
VELONE 4.5M 0.75 kW	11021393
VELONE 4.5 - 4T 0.37 kW	11021347
VELONE 4.5 - 6T 0.37KW	11021348
<b>VELONE 2-speed</b>	
VELONE 4.5 - 4/6T 0.75 /0.25 kW	11021374
VELONE 4.5 - 4/8T 0.8/0.15 kW	11021375
NEW: VELONE STOCK 1-speed	
VELONE 4.5 - 4T 0.75KW + IP (stock)	11021397
VELONE 4.5 - 4T 0.75KW + IP (stock)	11021387
VELONE 4.5 - 6T 0.37KW + IP (stock)	11021258

### AVAILABLE OPTIONS **R8**

- For description, please see previous page.

Description	Code
Pressure switch 40-300 Pa connected/ fitted to air duct	OPT21279
Pressure switch 100 - 1000 Pa connected/ fitted to air duct	OPT21280
1-speed - 7.5 kW switch + contacts	OPT21281
2-speed - 7.5 kW switch + contacts	OPT21282
"All-in-One" 1-speed smoke exhaust 4.7A	OPT21273
"All-in-One" 2-speed Dahlander smoke exhaust	OPT21275
"All-in-One" 2-speed Dahlander smoke exhaust + comfort	OPT21276
"All-in-One" 2-speed Bl. smoke exhaust	OPT21277
"All-in-One" 2-speed Bl. smoke exhaust + comfort	OPT21278

### ACCESSORIES **R8**

- Description on the following pages.

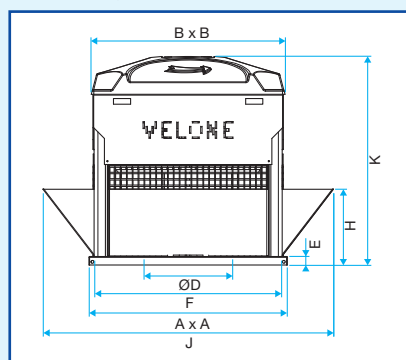
Description	Code
IP x4 rain hood kit - 4.5/ 7.2/ 10.5	11021286
Vertical kit 4.5/ 7.2/ 10.5	11021367
Grouting frame 4.5 / 7.2 / 10.5	11021291
Pivot pin 4.5/ 7.2/ 10.5	11021070
Backdraft damper 4.5 / 7.2 / 10.5	11021261
Frame on duct 4.5 / 7.2 / 10.5	11021296
Flat roof stack 4.5 / 7.2 / 10.5	11021081
Roof stack 4.5 / 7.2 / 10.5	11021086

### ELECTRICAL ACCESSORIES **R7**

- 1-phase voltage regulator: please, see page 171.
- 3-Phase autotransformer: please, see page 173.
- Frequency controller: please, see page 174.
- Comfort 2-speed relay box: please, consult us.

### DIMENSIONS (mm) - WEIGHT (kg)

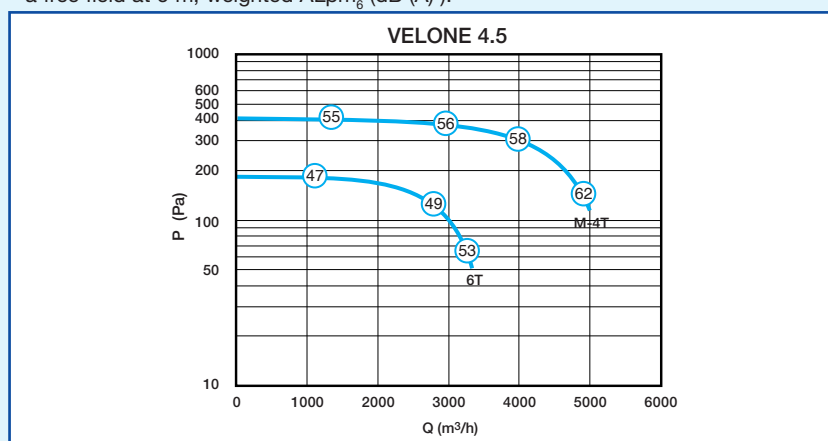
- Ø F = 14, E = 30.



Type	Horizontal air exhaust						With vertical kit			
	Velone	A	B	Ø D	F	K	Weight	J	H	Weight
4.5	698	684	265	658	658	658	50	991	265	60

### AIRFLOW AND ACOUSTIC DETAILS

- Curves follow those of the French Standard NF EN ISO 5801, ducted suction (Ø 355 mm).
- Pressures indicated are static pressures.
- The encircled values correspond to an overall acoustic pressure level radiated through a free field at 6 m, weighted ALp<sub>6</sub> (dB (A) ).



### ELECTRICAL DETAILS

Type	No of poles	U (V)	P (kW)	f (Hz)	Rated I (A)	Id/ In
4.5 M	4	230	0.75	50	5.50	5.5
4.5 - 4T	4	230/400	0.75	50/60	1.67	6.5
4.5 - 6T	6	230/400	0.37	50/60	1.11	5.2
4.5 - 4/6T	4/6	400	0.75/0.25	50	1.98/1.20	4.7/3.9
4.5 - 4/8T	4/8	400	0.80/0.20	50	1.99/0.88	4.7/2.7

- Rated current (In) is given for a voltage of 400 V for 3-phase roof fans.
- 4/6 pole = Dahlander motor - 4/6 pole = Independent Winding motor (BI).
- For operations under 60 Hz, please consult us.

# Roof Fans

## VELONE F400 - 7.2 - 3-phase/ 1-phase



With the "All-in-One" option

### Compliance

- Conforms with the CE marking in accordance with Standard EN 12101-3.
- F400 (2h) classification.
- "All-in-One" option, backdraft damper and rain hood kit accessories in compliance.

**CIVIL DEFENCE APPROVED**

### Advantages

- Accessories are protected from impacts + bad weather due to the metal body.
- Electrical accessories wired up at the factory and fixed to the interior for protection against impacts and bad weather.
- Pressure switch air duct connection is carried out at the factory.
- IP x4 validated rain hood kit.
- Pivot pin: easy to clean.

### DESCRIPTION

- Airflow between 500 and 7200 m<sup>3</sup>/h under 200 Pa.

### RANGE with a choice of options **R8**

Description	Code
<b>VELONE 1-speed</b>	
VELONE 7.2M 1.1KW	11021394
VELONE 7.2 - 4T 1.1KW	11021350
VELONE 7.2 - 6T 0.37KW	11021351
<b>VELONE 2-speeds</b>	
VELONE 7.2 - 4/6T 1.1/0.3KW	11021376
VELONE 7.2 - 4/8T 1.2/0.3 kW	11021377
NEW: VELONE STOCK 1-speed	
VELONE 7.2M 1.1KW + IP (stock)	11021398
VELONE 7.2 - 4T 1.1KW + IP (stock)	11021388

### AVAILABLE OPTIONS **R8**

- For description, please see previous pages.

Description	Code
Pressure switch 40 - 300 Pa connected/ fitted to air duct	OPT21279
Pressure switch 100 - 1000 Pa connected/ fitted to air duct	OPT21280
1-speed - 7.5 kW switch + contacts	OPT21281
2-speed - 7.5 kW switch + contacts	OPT21282
"All-in-One" 1-speed smoke exhaust 4.7A	OPT21273
"All-in-One" 2-speed Dahlander smoke exhaust	OPT21275
"All-in-One" 2-speed Dahlander smoke exhaust + comfort	OPT21276
"All-in-One" 2-speed Bl. smoke exhaust	OPT21277
"All-in-One" 2-speed Bl. smoke exhaust + comfort	OPT21278

### ACCESSORIES **R8**

- Description on the following pages.

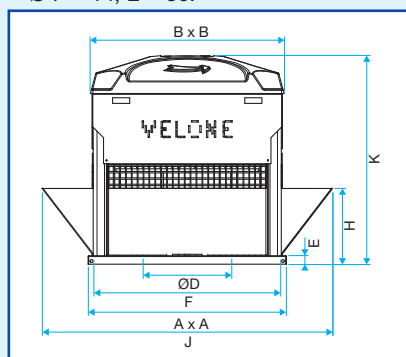
Description	Code
IP x4 rain hood kit - 4.5/ 7.2/ 10.5	11021286
Vertical kit 4.5/ 7.2/ 10.5	11021367
Grouting frame 4.5 / 7.2 / 10.5	11021291
Pivot pin 4.5/ 7.2/ 10.5	11021070
Backdraft damper 4.5 / 7.2 / 10.5	11021261
Frame on duct 4.5 / 7.2 / 10.5	11021296
Flat roof stack 4.5 / 7.2 / 10.5	11021081
Roof stack 4.5 / 7.2 / 10.5	11021086

### ELECTRICAL ACCESSORIES **R7**

- 1-phase voltage regulator: please, see page 171.
- 3-phase autotransformer: please, see page 172.
- Frequency controller: please, see page 174.
- Comfort 2-speed relay box: please, consult us

### DIMENSIONS (mm) - WEIGHT (kg)

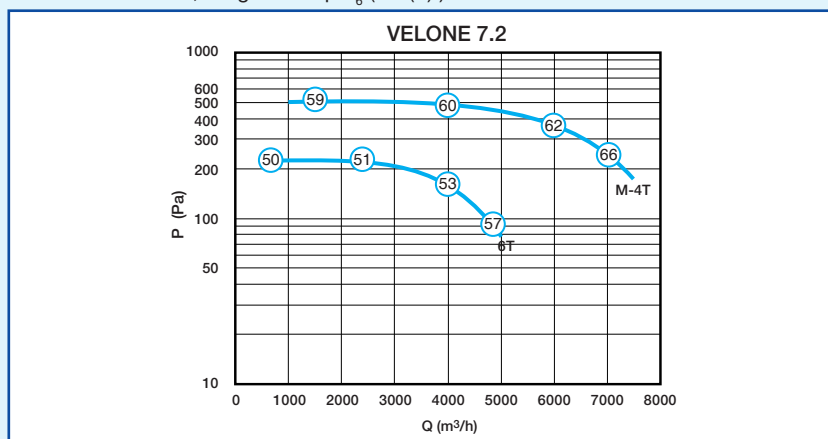
- Ø F = 14, E = 30.



Type	Horizontal air exhaust						With vertical kit		
	A	B	Ø D	F	K	Weight	J	H	Weight
7.2	698	684	299	658	688	60	991	265	70

### AIRFLOW AND ACOUSTIC DETAILS

- Curves follow those of the French Standard NF EN ISO 5801, ducted suction (Ø 400 mm).
- Pressures indicated are static pressures.
- The encircled values correspond to an overall acoustic pressure level radiated through a free field at 6 m, weighted AL<sub>p</sub><sub>6</sub> (dB (A)).



### ELECTRICAL DETAILS

Type	No of poles	U (V)	P (kW)	f (Hz)	Rated I (A)	Id/ In
7.2 M	4	230	1.10	50	7.60	7.0
7.2 - 4 T	4	230/400	1.10	50/60	2.51	6.7
7.2 - 6 T	6	230/400	0.37	50/60	1.11	5.2
7.2 - 4/6T	4/6	400	1.10/0.30	50	3.02/1.43	5.4/4.0
7.2 - 4/8T	4/8	400	1.20/0.30	50	2.92/1.29	5.5/3.1

- The rated currents are given for a voltage of 400 V for 3-phase roof fans.
- 4/8 and 6/12 pole = Dahlander motor - 4/6 pole = Independent Winding motor (BI).
- For operations under 60 Hz, please consult us.



# Roof Fans

## VELONE F400 - 8.5 - 3-phase



### Compliance

- Conforms with the CE marking in accordance with Standard EN 12101-3.
- F400 (2h) classification.
- "All-in-One" option, backdraft damper and rain hood kit accessories in compliance.

**CIVIL DEFENCE APPROVED**

### Advantages

- Accessories are protected from impacts + bad weather due to the metal body.
- Electrical accessories wired up at the factory and fixed to the interior for protection against impacts and bad weather.
- Pressure switch air duct connection is carried out at the factory.
- IP x4 validated rain hood kit.
- Pivot pin: easy to clean.

### DESCRIPTION

- Airflow between 500 and 8500 m<sup>3</sup>/h under 200 Pa.

### RANGE with a choice of options R8

Description	Code
<b>VELONE 1-speed</b>	
VELONE 8.5 - 6T 1.1KW	11021357
VELONE 8.5 - 8T 0.55KW	11021358
<b>VELONE 2-speed</b>	
VELONE 8.5 - 6/8T 1.1/0.55KW	11021380
VELONE 8.5 - 6/12T 1.1/0.22KW	11021381

### AVAILABLE OPTIONS R8

- Pressure switch connected to the air duct, fixed and protected. If 2 smoke exhaust speeds used provide for 2 pressure switches.
- Proximity switch wired up, fixed and protected.
- "All-in-One" solution:
  - relay box delivered pre-wired,
  - pressure switch and proximity switch supplied and wired up,
  - for the 2-speed model, the AXONE relay box is supplied with a 2 m long cable for fixing outside the roof fan. Possibility of using the flat roof support.
- In case of use of the vertical exhaust kit, fix the relay box outside the VELONE and outside the airflow (the cable supplied measures 2 m).

Description	Code
Pressure switch 40 - 300 Pa connected/ fitted to air duct	OPT21279
Pressure switch 100 - 1000 Pa connected/ fitted to air duct	OPT21280
1-speed - 7.5 kW switch + contacts	OPT21281
2-speed - 7.5 kW switch + contacts	OPT21282
"All-in-One" 1-speed smoke exhaust 4.7A	OPT21273
"All-in-One" 2-speed Dahlander smoke exhaust	OPT21275
"All-in-One" 2-speed Dahlander smoke exhaust + comfort	OPT21276
"All-in-One" 2-speed Bl. smoke exhaust	OPT21277
"All-in-One" 2-speed Bl. smoke exhaust + comfort	OPT21278

### ACCESSORIES R8

- Description on the following pages.

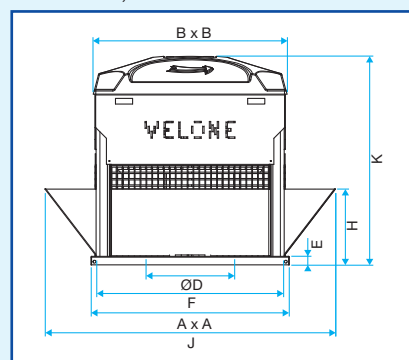
Description	Code
IP x4 rain hood kit - 8.5/ 13	11021287
Vertical kit 8.5/13	11021368
Frame to be embedded 8.5/13	11021292
Pivot pin 4.5/ 7.2/ 10.5	11021070
Backdraft damper 8.5/13	11021262
Frame on duct 8.5/13	11021297
Miniduct plug	11021082
Roof stack 8.5/13	11021087

### ELECTRICAL ACCESSORIES R7

- 3-phase autotransformer: please, see page 173.
- Frequency controller: please, see page 174.
- Comfort 2-speed relay box: please, consult us.

### DIMENSIONS (mm) - WEIGHT (kg)

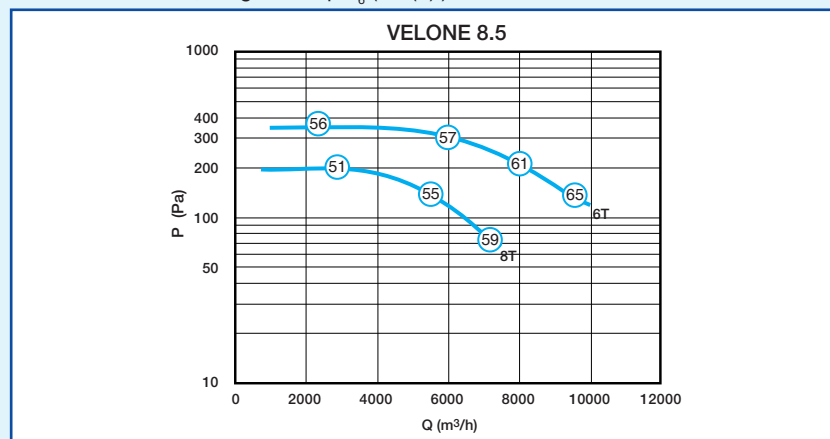
- Ø F = 14, E = 30.



Type	Horizontal air exhaust						With vertical kit		
	A	B	Ø D	F	K	Weight	J	H	Weight
8.5	834	820	373	794	793	100	1270	355	116

### AIRFLOW AND ACOUSTIC DETAILS

- Curves follow those of the French Standard NF EN ISO 5801, ducted suction (Ø 500 mm).
- Pressures indicated are static pressures.
- The encircled values correspond to an overall acoustic pressure level radiated through a free field at 6 m, weighted ALpm<sub>6</sub> (dB (A) ).



### ELECTRICAL DETAILS

Type	No of poles	U (V)	P (kW)	f (Hz)	Rated I (A)	Id/ In
8.5 - 6 T	6	230/400	1.10	50/60	2.90	5.3
8.5 - 8 T	8	230/400	0.55	50/60	2.17	5.1
8.5-6/8	6/8	400	1.10/0.55	50	3.59/2.52	5.1/4.0
8.5-6/12	6/12	400	1.10/0.22	50	4.39/1.50	5.5/2.6

- Rated current (In) is given for a voltage of 400 V for 3-phase roof fans.
- 4/8 pole = Dahlander motor - 4/6 pole = Independent Winding motor (BI).
- For operations under 60 Hz, please consult us.



# Roof Fans

## VELONE F400 - 10.5 - 3-phase



With the "All-in-One" option - cover removed

### Compliance

- Conforms with the CE marking in accordance with Standard EN 12101-3.
- F400 (2h) classification.
- "All-in-One" option, backdraft damper and rain hood kit accessories in compliance.

**CIVIL DEFENCE APPROVED**

### Advantages

- Accessories are protected from impacts + bad weather due to the metal body.
- Electrical accessories wired up at the factory and fixed to the interior for protection against impacts and bad weather.
- Pressure switch air duct connection is carried out at the factory.
- IP x4 validated rain hood kit.
- Pivot pin: easy to clean.

### DESCRIPTION

- Airflow between 500 and 10500 m<sup>3</sup>/h under 200 Pa.

### RANGE with a choice of options **R8**

Description	Code
<b>VELONE 1-speed</b>	
VELONE 10.5 - 4T 1.5KW	11021353
VELONE 10.5 - 6T 0.55KW	11021354
VELONE 10.5 - 8T 0.37KW	11021355
<b>VELONE 2-speed</b>	
VELONE 10.5 - 4/6T 1.5/0.37KW	11021378
VELONE 10.5 - 4/8T 1.6/0.4KW	11021379
New: VELONE stock 1-speed	
VELONE 10.5 - 4T 1.5KW + IP (stock)	11021389
VELONE 10.5 - 8T 0.37KW + IP (stock)	11021259

### AVAILABLE OPTIONS **R8**

- Description on the following page.

Description	Code
Pressure switch 40 - 300 Pa connected/ fitted to air duct	OPT21279
Pressure switch 100 - 1000 Pa connected/ fitted to air duct	OPT21280
1-speed - 7.5 kW switch + contacts	OPT21281
2-speed - 7.5 kW switch + contacts	OPT21282
"All-in-One" 1-speed smoke exhaust 4.7A	OPT21273
"All-in-One" 2-speed Dahlander smoke exhaust	OPT21275
"All-in-One" 2-speed Dahlander smoke exhaust + comfort	OPT21276
"All-in-One" 2-speed BI. smoke exhaust	OPT21277
"All-in-One" 2-speed BI. smoke exhaust +comfort	OPT21278

### ACCESSORIES **R8**

- Description on the following pages

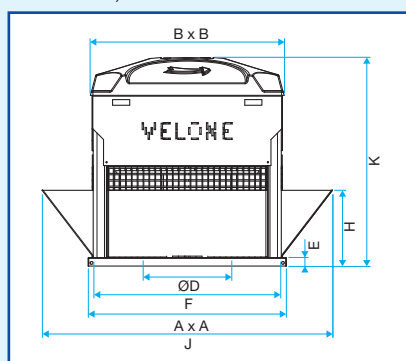
Description	Code
IP x4 rain hood kit - 4.5/ 7.2/ 10.5	11021286
Vertical kit 4.5/ 7.2/ 10.5	11021367
Grouting frame 4.5 / 7.2 / 10.5	11021291
Pivot pin 1.2/ 1.5/ 3.2	11021069
Backdraft damper 4.5 / 7.2 / 10.5	11021261
Frame on duct 4.5 / 7.2 / 10.5	11021296
Flat roof stack 4.5 / 7.2 / 10.5	11021081
Roof stack 4.5 / 7.2 / 10.5	11021086

### ELECTRICAL ACCESSORIES **R7**

- 3-phase autotransformer: please, see page 173.
- Frequency controller: please, see page 174.
- Comfort 2-speed relay box: please, consult us.

### DIMENSIONS (mm) - WEIGHT (kg)

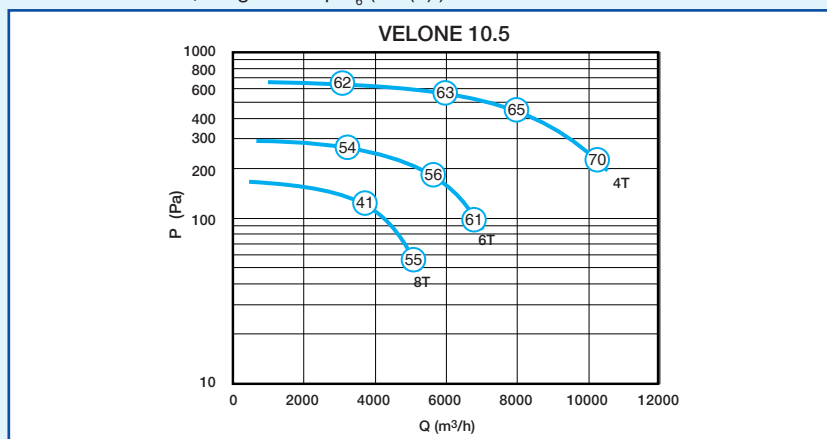
- Ø F = 14, E = 30.



Type	Horizontal air exhaust						With vertical kit		
	A	B	Ø D	F	K	Weight	J	H	Weight
10.5	698	684	332	658	721	72	991	265	82

### AIRFLOW AND ACOUSTIC DETAILS

- Curves follow those of the French Standard NF EN ISO 5801, ducted suction (Ø 450 mm).
- Pressures indicated are static pressures.
- The encircled values correspond to an overall acoustic pressure level radiated through a free field at 6 m, weighted ALp<sub>m</sub> (dB (A)).



### ELECTRICAL DETAILS

Type	No of poles	U (V)	P (kW)	f (Hz)	Rated I (A)	Id/ In
10.5 - 4 T	4	230/400	1.50	50/60	3.18	6.6
10.5 - 6 T	6	230/400	0.55	50/60	1.61	5.3
10.5 - 8 T	8	230/400	0.26	50/60	1.49	4.5
10.5 - 4/6T	4/6	400	1.50/0.37	50	3.71/1.73	5.6/3.8
10.5 - 4/8T	4/8	400	1.60/0.4	50	4.05/1.78	5.7/4.1

- Rated current (In) is given for a voltage of 400 V for 3-phase roof fans.
- 4/8 pole = Dahlander motor - 4/6 pole = Independent Winding motor (BI).
- For operations under 60 Hz, please consult us.

# Roof Fans

## VELONE F400 - 13.0 - 3-phase



With the "All-in-One" option - cover removed

### Compliance

- Conforms with the CE marking in accordance with Standard EN 12101-3.
- F400 (2h) classification.
- "All-in-One" option, backdraft damper and rain hood kit accessories in compliance.

**CIVIL DEFENCE APPROVED**

### Advantages

- Accessories are protected from impacts + bad weather due to the metal body.
- Electrical accessories wired up at the factory and fixed to the interior for protection against impacts and bad weather.
- Pressure switch air duct connection is carried out at the factory.
- IP x4 validated rain hood kit.
- Pivot pin: easy to clean.

### DESCRIPTION

- Airflow between 1000 and 13000 m<sup>3</sup>/h under 200 Pa.

### RANGE with a choice of options R8

Description	Code
<b>VELONE 1-speed</b>	
VELONE 13 - 6T 2.2 kW	11021359
VELONE 13 - 8T 1.1 kW	11021360
<b>VELONE 2-speed</b>	
VELONE 13 - 6/8T 2.2/1.3 kW	11021382
VELONE 13 - 6/12T 2.2/0.55 kW	11021383

### AVAILABLE OPTIONS R8

- Pressure switch fitted to air duct, fixed and protected. If 2 smoke exhaust speeds used provide for 2 pressure switches.
- Proximity switch wired up, fixed and protected.
- "All-in-One" solution:
  - relay box delivered pre-wired,
  - pressure switch and proximity switch supplied and wired up,
  - for the 2-speed model, the AXONE relay box is supplied with a 2 m long cable for fixing outside the roof fan. Possibility of using the flat roof support.
- In case of use of the vertical exhaust kit, fix the relay box outside the VELONE and outside the airflow (the cable supplied measures 2 m).

Description	Code
Pressure switch 40 - 300 Pa connected/ fitted to air duct	OPT21279
Pressure switch 100 - 1000 Pa connected/ fitted to air duct	OPT21280
1-speed - 7.5 kW switch + contacts	OPT21281
2-speed - 7.5 kW switch + contacts	OPT21282
"All-in-One" 1-speed smoke exhaust 4.7A	OPT21273
"All-in-One" 2-speed Dahlander smoke exhaust	OPT21275
"All-in-One" 2-speed Dahlander smoke exhaust + comfort	OPT21276
"All-in-One" 2-speed Bl. smoke exhaust	OPT21277
"All-in-One" 2-speed Bl. smoke exhaust + comfort	OPT21278

### ACCESSORIES R8

- Description on the following pages.

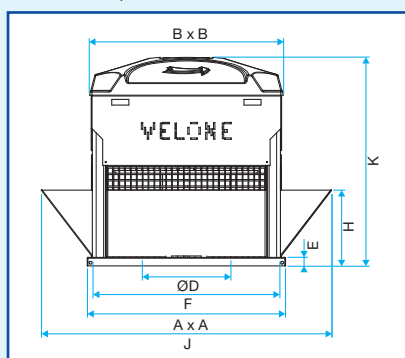
Description	Code
IP x4 rain hood kit - 8.5/ 13	11021287
Vertical kit 8.5/13	11021368
8.5/13 frame to be embedded	11021292
8.5/13 pivot pin	11021071
8.5/13 backdraft damper	11021262
8.5/13 frame on duct	11021297
Miniduct plug	11021082
8.5/13 roof stack	11021087

### ELECTRICAL ACCESSORIES R7

- 3-phase autotransformer: please, see page 173.
- Frequency controller: please, see page 174.
- Comfort 2-speed relay box: please, consult us.

### DIMENSIONS (mm) - WEIGHT (kg)

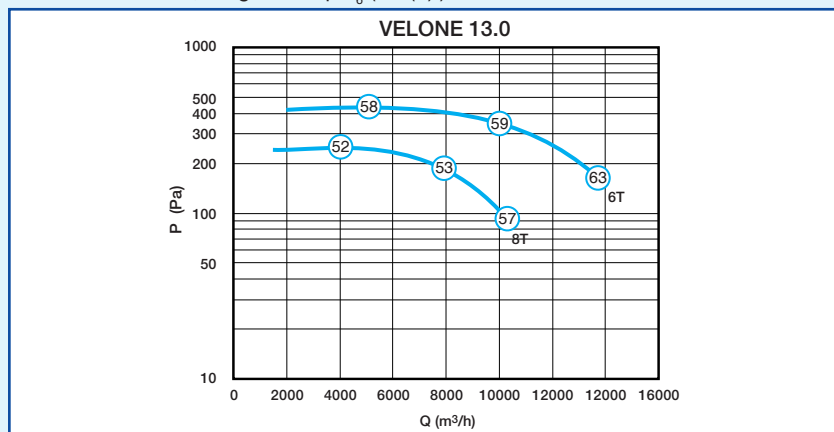
- Ø F = 14, E = 30.



Type	Horizontal air exhaust						With vertical kit		
Velone	A	B	Ø D	F	K	Weight	J	H	Weight
13.0	834	820	419	794	833	115	1270	355	131

### AIRFLOW AND ACOUSTIC DETAILS

- Curves follow those of the French Standard NF EN ISO 5801, ducted suction (Ø 560 mm).
- Pressures indicated are static pressures.
- The encircled values correspond to an overall acoustic pressure level radiated through a free field at 6 m, weighted ALp<sub>m</sub> (dB (A)).



### ELECTRICAL DETAILS

Type	No of poles	U (V)	P (kW)	f (Hz)	Rated I (A)	Id/ In
13.0 - 6T	6	230/400	2.02	50/60	5.36	7.7
13.0 - 8T	8	230/400	1.10	50/60	3.39	4.2
13.0 - 6/8T	6/8	400	2.20/1.30	50/60	5.96/4.36	5.6/3.9
13.0 - 6/12T	6/12	400	2.20/0.55	50/60	6.40/2.60	7.0/3.0

- Rated current (In) is given for a voltage of 400 V for 3-phase roof fans.
- 6/12 pole = Dahlander motor - 6/8 pole = Independent Winding motor (BI).
- For operations under 60 Hz, please consult us.

# Roof Fans

## VELONE F400 - 20.0 - 3-phase



### Compliance

- Conforms with the CE marking in accordance with Standard EN 12101-3.
- F400 (2h) classification.
- "All-in-One" option, backdraft damper and rain hood kit accessories in compliance.

**CIVIL DEFENCE APPROVED**

### Advantages

- Accessories are protected from impacts + bad weather due to the metal body.
- Electrical accessories wired up at the factory and fixed to the interior for protection against impacts and bad weather.
- Pressure switch air duct connection is carried out at the factory.
- IP x4 validated rain hood kit.
- Pivot pin: easy to clean.

### DESCRIPTION

- Airflow between 1000 and 20000 m<sup>3</sup>/h under 200 Pa.

### RANGE with a choice of options R8

Description	Code
<b>VELONE 1-speed</b>	
VELONE 20 - 6T 3 kW	11021361
VELONE 20 - 8T 1.5 kW	11021362
<b>VELONE 2-speed</b>	
VELONE 20 - 6/8T 4/1.1 kW	11021384
VELONE 20 - 6/12T 3/0.55 kW	11021385

### AVAILABLE OPTIONS R8

- Pressure switch connected to the air duct, fixed and protected. If 2 smoke exhaust speeds used, provide for 2 pressure switches.
- Proximity switch wired up, fixed and protected.
- "All-in-One" solution:
  - relay box delivered pre-wired,
  - pressure switch and proximity switch supplied and wired up,
  - for the 2-speed model, the AXONE relay box is supplied with a 2m long cable for fixing outside the roof fan. Possibility of using the flat roof support.
- In case of use of the vertical exhaust kit, fix the relay box outside the VELONE and outside the airflow (the cable supplied measures 2 m).

Description	Code
Pressure switch 40 - 300 Pa connected/ fitted to air duct	OPT21279
Pressure switch 100 - 1000 Pa connected/ fitted to air duct	OPT21280
1-speed - 7.5 kW switch + contacts	OPT21281
2-speed - 7.5 kW switch + contacts	OPT21282
"All-in-One" 1-speed smoke exhaust 4.7A	OPT21273
"All-in-One" 1-speed smoke exhaust 16.7A	OPT21274
"All-in-One" 2-speed Dahlander smoke exhaust	OPT21275
"All-in-One" 2-speed Dahlander smoke exhaust + comfort	OPT21276
"All-in-One" 2-speed BI. smoke exhaust	OPT21277
"All-in-One" 2-speed BI. smoke exhaust +comfort	OPT21278

### ACCESSORIES R8

- Description on the following pages.

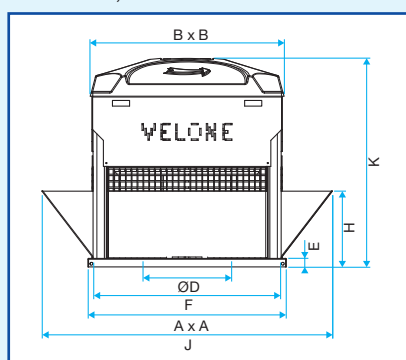
Description	Code
IP x4 rain hood kit - 20/27	11021288
Vertical kit 20/27	11021369
Frame to be embedded 20/27	11021293
Pivot pin 20/27	11021072
Backdraft damper 20/27	11021263
Frame on duct 20/27	11021298
Flat roof stack 20/27	11021083
Roof stack 20/27	11021088

### ELECTRICAL ACCESSORIES R7

- 3-phase autotransformer: please, see page 173.
- Frequency controller: please, see page 174.
- Comfort 2-speed relay box: please, consult us.

### DIMENSIONS (mm) - WEIGHT (kg)

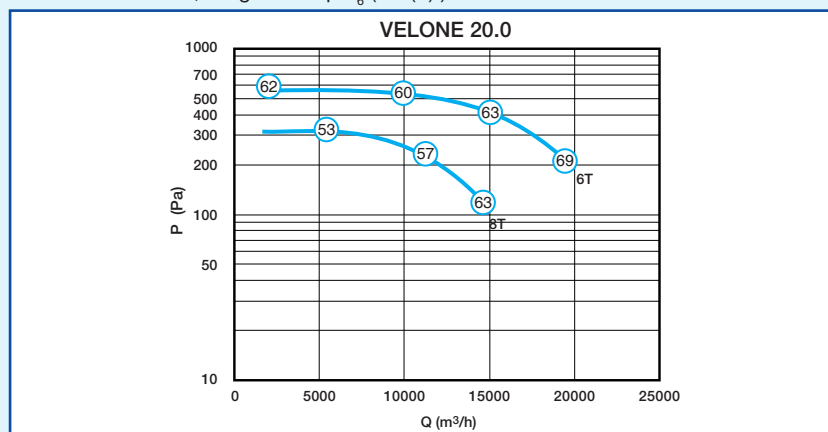
- Ø F = 14, E = 30.



Type	Horizontal air exhaust					With vertical kit			
	A	B	Ø D	F	K	Weight	J	H	Weight
20.0	984	970	474	944	983	165	1555	440	189

### AIRFLOW AND ACOUSTIC DETAILS

- Curves follow those of the French Standard NF EN ISO 5801, ducted suction (Ø 630 mm).
- Pressures indicated are static pressures.
- The circled values correspond to an overall acoustic pressure level radiated through a free field at 6 m, weighted ALp<sub>m</sub> (dB (A)).



### ELECTRICAL DETAILS

Type	No of poles	U (V)	P (kW)	f (Hz)	Rated I (A)	Id/ In
20.0 - 6T	6	230/400	3.00	50/60	6.82	5.3
20.0 - 8T	8	230/400	1.50	50/60	4.08	5.5
20.0 - 6/8T	6/8	400	4.00/1.1	50/60	11.3/4.84	6.6/4.6
20.0 - 6/12T	6/12	400	3.00/0.55	50/60	6.77/2.3	8.5/4.3

- Rated current (In) is given for a voltage of 400 V for 3-phase roof fans.
- 6/12 pole = Dahlander motor - 6/8 pole = Independent Winding motor (BI).
- For operations under 60 Hz, please consult us.

# Roof Fans

## VELONE F400 - 27.0 - 3-phase



### Compliance

- Conforms with the CE marking in accordance with Standard EN 12101-3.
- F400 (2h) classification.
- "All-in-One" option, backdraft damper and rain hood kit accessories in compliance.

**CIVIL DEFENCE APPROVED**

### Advantages

- Accessories are protected from impacts + bad weather due to the metal body.
- Electrical accessories wired up at the factory and fixed to the interior for protection against impacts and bad weather.
- Pressure switch air duct connection is carried out at the factory.
- IP x4 validated rain hood kit.
- Pivot pin: easy to clean.

### DESCRIPTION

- Airflow between 1000 and 27000 m<sup>3</sup>/h under 200 Pa.

### RANGE with a choice of options R8

Description	Code
<b>VELONE 1-speed</b>	
VELONE 27 - 6T 5.5KW	11021363
VELONE 27 - 8T 3KW	11021364

### AVAILABLE OPTIONS R8

- Pressure switch connected to the air duct, fixed and protected.
- Proximity switch wired up, fixed and protected.
- "All-in-One" solution:
  - relay box delivered pre-wired,
  - pressure switch and proximity switch supplied and wired up.
- In case of use of the vertical exhaust kit, fix the relay box outside the VELONE and outside the airflow (the cable supplied measures 2 m).

Description	Code
Pressure switch 40 - 300 Pa connected/ fitted to air duct	OPT21279
Pressure switch 100 - 1000 Pa connected/ fitted to air duct	OPT21280
1-speed - 7.5 kW switch + contacts	OPT21281
"All-in-One" 1-speed smoke exhaust 4.7A	OPT21273
"All-in-One" 1-speed smoke exhaust 16.7A	OPT21274

### ACCESSORIES R8

- Description on the following pages.

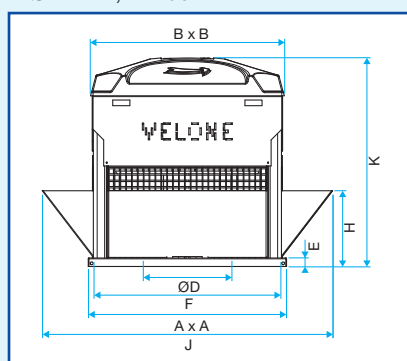
Description	Code
IP x4 rain hood kit - 20/ 27	11021288
Vertical kit 20/27	11021369
Frame to be embedded 20/27	11021293
Pivot pin 20/27	11021072
Backdraft damper 20/27	11021263
Frame on duct 20/27	11021298
Flat roof stack 20/27	11021083
Roof stack 20/27	11021088

### ELECTRICAL ACCESSORIES R7

- 3-phase autotransformer: please, see page 173.
- Frequency controller: please, see page 174.

### DIMENSIONS (mm) - WEIGHT (kg)

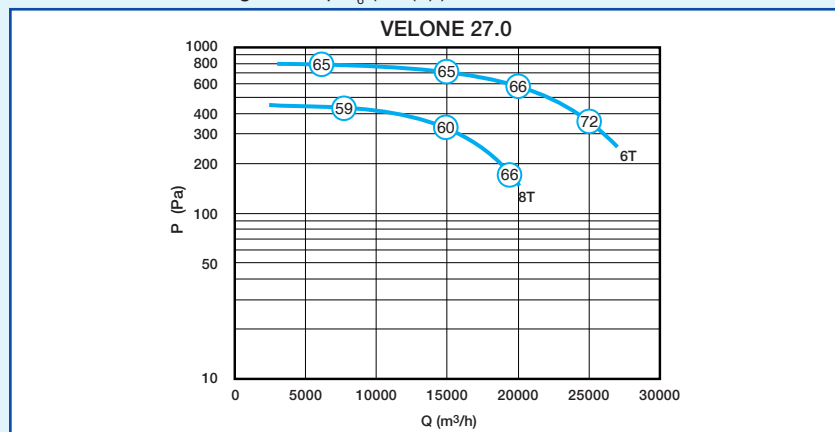
- Ø F = 14, E = 30.



Type	Horizontal air exhaust						With vertical kit		
Velone	A	B	Ø D	F	K	Weight	J	H	Weight
27.0	984	970	535	944	1034	175	1555	440	207

### AIRFLOW AND ACOUSTIC DETAILS

- Curves follow those of the French Standard NF EN ISO 5801, ducted suction (Ø 630 mm).
- Pressures indicated are static pressures.
- The encircled values correspond to an overall acoustic pressure level radiated through a free field at 6 m, weighted ALpm<sub>6</sub> (dB (A)).



### ELECTRICAL DETAILS

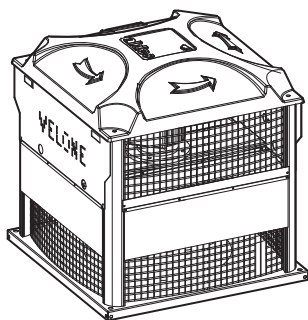
Type	No of poles	U (V)	P (kW)	f (Hz)	Rated I (A)	Id/ In
27.0 - 6T	6	230/400	5.5	50/60	12.40	7.0
27.0 - 8T	8	230/400	3.0	50/60	7.38	6.5

- Rated current (In) is given for a voltage of 400 V for 3-phase roof fans.



# Roof Fans

## VELONE IP x4 rain hood kit



**CIVIL  
DEFENCE  
APPROVED**

### Compliance

- Conforms with the CE marking in accordance with Standard EN 12101-3.
- F400 (2h) classification.
- IP x4 classification: tested by an independent test laboratory.

### Advantages

- A solution to prevent water penetration into the ducts in case of very bad weather.

### APPLICATION

- The rain hood kit protects against the penetration of rain into the duct due to heavy rainfall when the roof fan is at rest. It must be remembered that a pure smoke exhaust roof fan, in the majority of cases, is at rest, the rain hood kit is more efficient than a vertical kit.

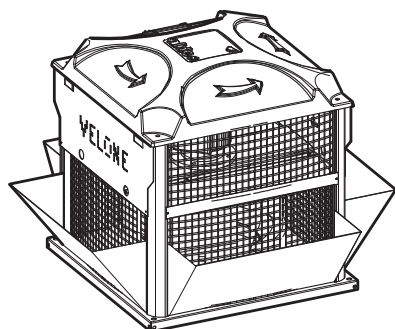
### DESCRIPTION

- Tested by an independent test laboratory, the VELONE roof fan equipped with the Rain Hood Kit was awarded an IP x4 classification validated by the CETIAT test laboratory (Test Report supplied on request).
- This classification corresponds to the usual safety protection index used for electrical equipment: switch, pressure switch, relaying box. The first figure concerns dust protection ("x" here, because it does not concern a roof fan), the second figure is equivalent to water protection: the "4" guarantees its leaktightness faced with water sprayed at it from all directions with a flow rate of 600 l/h!
- 4 parts in M0 incombustible fabric reinforced on one side by a metal strip.
- In the running position, the 4 parts lift up, without creating any significant loss of head.
- To be installed on-site.

### RANGE R8

Velone model	Code
IP x4 rain hood kit - 1.2 / 1.5 / 3.2	11021285
IP x4 rain hood kit - 4.5 / 7.2 / 10.5	11021286
IP x4 rain hood kit - 8.5 / 13	11021287
IP x4 rain hood kit - 20 / 27	11021288

## VELONE vertical exhaust kit



### Compliance

- Conforms with the CE marking in accordance with Standard EN 12101-3.
- F400 (2h) classification.

### APPLICATION

- The vertical exhaust kit is a deflector which orientates the waste air discharge vertically.
- CAUTION: it is incompatible with the rain hood kit.
- ATTENTION: the use of the vertical exhaust and the "All-in-one" solution imposes moving the relay box outside of the airflow.

### DESCRIPTION

- Composed of 4 parts in galvanised steel.
- Supplied with fully adapted fixings.

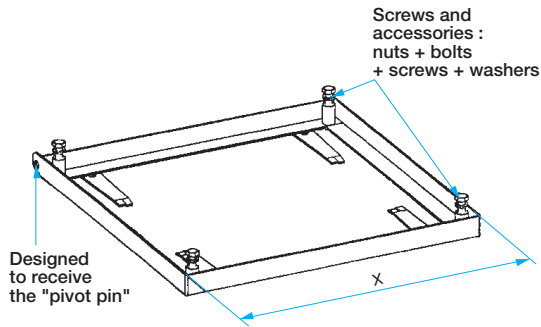
### RANGE R8

Velone model	Code
Vertical kit 1.2 / 1.5 / 3.2	11021366
Vertical kit 4.5 / 7.2 / 10.5	11021367
Vertical kit 8.5 / 13	11021368
Vertical kit 20 / 27	11021369



# Roof Fans

## VELONE grouting frame



### APPLICATION

- The grouting frame allows the roof fan to be fitted on to a brick stack.

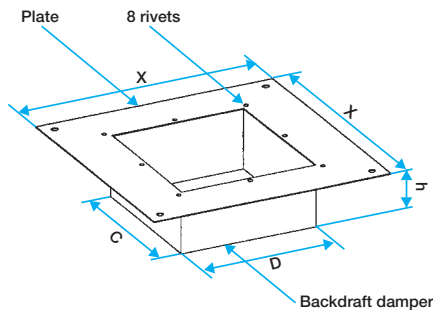
### DESCRIPTION

- Includes 4 fold-back lugs to be grouted on to the flat roof stack.
- Anti-corrosion paint.
- Delivered with fixing nuts and bolts.
- Can receive the pivot pin.

### RANGE R8

VELONE model	Code	X x X (mm)
Grouting frame 1.2 / 1.5 / 3.2	11021290	519
Grouting frame 4.5 / 7.2 / 10.5	11021291	684
Frame to be embedded 8.5 / 13	11021292	820
Frame to be embedded 20 / 27	11021293	970

## VELONE backdraft damper



### Compliance

- Conforms with the CE marking in accordance with Standard EN 12101-3.
- F400 (2h) classification.

### APPLICATION

- The backdraft damper avoids natural ventilation when the roof fan is stopped in order to save on heating and/or air-conditioning costs.
- The backdraft damper can be fitted with the grouting frame, pivot pin and the flat roof stack.
- It is incompatible with the frame on a duct.

### DESCRIPTION

- The backdraft damper has passed the fire resistance tests.
- The backdraft damper is designed to be installed in just a few seconds thanks to its stacking plate.
- Removable, it can be easily added later.
- Take into account an additional pressure loss of 50 Pa.

### RANGE R8

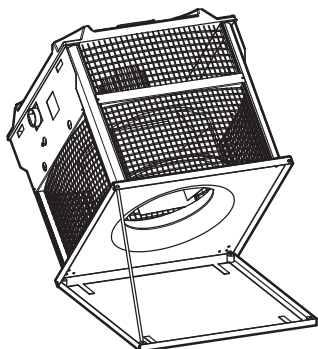
VELONE model	Code
Backdraft damper 1.2 / 1.5 / 3.2	11021260
Backdraft damper 4.5 / 7.2 / 10.5	11021261
Backdraft damper 8.5 / 13	11021262
Backdraft damper 20 / 27	11021263

### DIMENSIONS (mm)

Code	C	D	X	h
11021260	380	380	515	120
11021261	480	480	680	120
11021262	580	580	816	120
11021263	780	780	966	120

# Roof Fans

## VELONE pivot pin



### APPLICATION

- Pin allowing for access to the duct and the roof fan's impeller in order to facilitate maintenance.

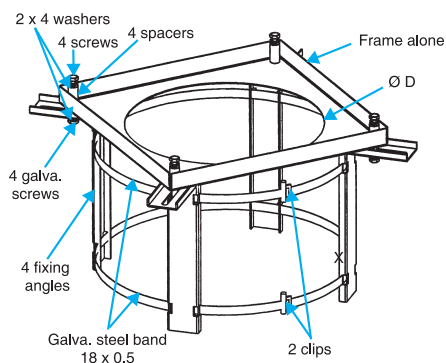
### DESCRIPTION

- Pivot pin in stainless steel that slides through the roof fan base and the grouting frame.
- Requires the grouting frame.
- 2 locking washers and a hold open chain.
- IMPORTANT: secure the roof fan when it is in the open position in order to avoid any accidents.

### RANGE R8

VELONE model	Code
Pivot pin 1.2 / 1.5 / 3.2	11021069
Pivot pin 4.5 / 7.2 / 10.5	11021070
Pivot pin 8.5 / 13	11021071
Pivot pin 20 / 27	11021072

## VELONE duct frame



### APPLICATION

- The duct frame is used to install a VELONE roof fan on a cylindrical duct which is strong enough to support it.

### DESCRIPTION

- It consists of four angle brackets, a frame, four spacers and the necessary threaded fasteners.

### RANGE R8

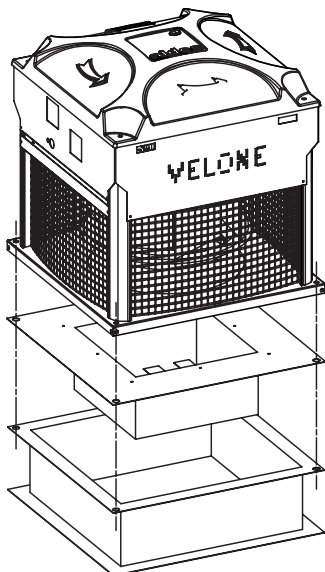
VELONE model	Code
Frame on duct 1.2 / 1.5 / 3.2	11021295
Frame on duct 4.5 / 7.2 / 10	11021296
Frame on duct 8.5 / 13	11021297
Frame on duct 20 / 27	11021298

### DIMENSIONS (mm)

Code	X	Ø D	Duct	
			Ø min.	Ø max.
11021063	490	420	250	400
11021064	655	520	315	500
11021065	790	650	400	630
11021066	940	820	500	800

# Roof Fans

## VELONE flat roof stack - roof stack



Flat roof stack

### APPLICATION

- The flat roof stack is used to fit a roof fan on a horizontal roof which does not have a brick stack.
- The roof stack is used to fit a roof fan on a sloping roof without a brick stack.

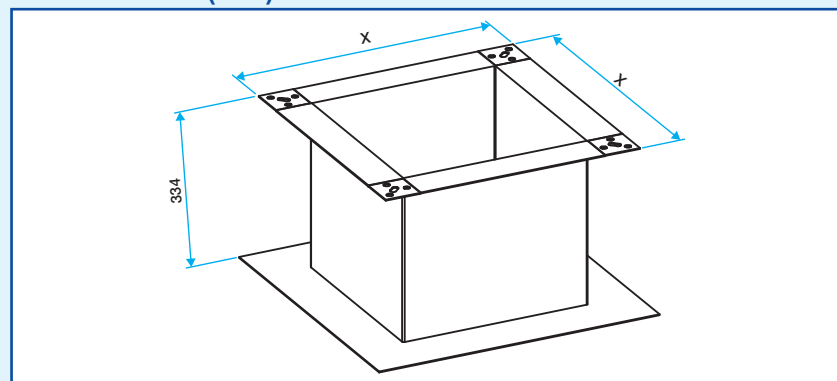
### DESCRIPTION

- Galvanised steel.
- Being drilled at 4 angles it can house the backdraft damper.
- State the angle of the roof as a percentage (%) or in degrees (°) when ordering.

### RANGE R8

VELONE model	Code
<b>Flat roof stack</b>	
Flat roof stack 1.2 / 1.5 / 3.2	11021080
Flat roof stack 4.5 / 7.2 / 10.5	11021081
Flat roof stack 8.5 / 13	11021082
Flat roof stack 20 / 27	11021083
<b>Roof stack: state the inclination of the roof</b>	
Roof stack 1.2 / 1.5 / 3.2	11021085
Roof stack 4.5 / 7.2 / 10.5	11021086
Roof stack 8.5 / 13	11021087
Roof stack 20 / 27	11021088

### DIMENSIONS (mm)



Roof stack model	X
Roof stack 1.2 / 1.5 / 3.2	526
Roof stack 4.5 / 7.2 / 10.5	691
Roof stack 8.5 / 13	827
Roof stack 20 / 27	977

# Staircase Pressurisation Fans

## Presentation of the HELIONE CE range of helicoid air pattern axial fans



Short shell

### Compliance

- F400°(2h) and F200°(2h) classifications.
- Conforms with the CE marking in accordance with Standard EN 12101-3.

### Advantages

- Wide range for car parks, commercial and industrial buildings.
- Numerous accessories to facilitate installation.

### APPLICATION

- With its F200°(2h) and F400°(2h) fire resistance classifications, the new HELIONE range meets the needs for ventilation and smoke exhaust in residential, commercial and industrial buildings where high airflows with low pressures are required.
- HELIONE operates just as well for air exhaust as for fresh air supply in premises where acoustic requirements are not predominant or for occasional

### DESCRIPTION

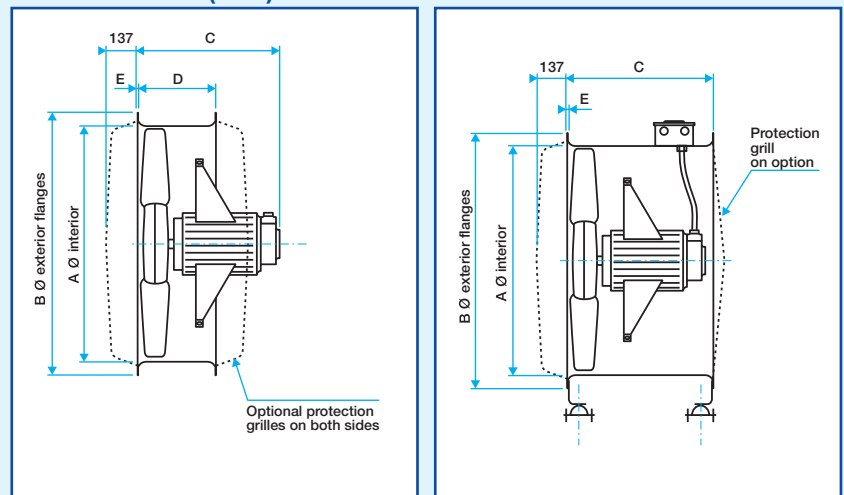
- The standard HELIONE range varies from Ø 500 to Ø 1000 mm for standard airflows of 5000 to 72000 m<sup>3</sup>/h for pressures of 100 to 500 Pa.
- The new HELIONE range can meet the requirements for numerous other cases, like different airflows and pressure levels for example: please, feel free to contact us.
- Propellers comprised of several blades in aluminium, mounted on an aluminium hub. The angle adjustment is determined depending on the operating point.
- Each blade is radiographically X-rayed before assembly in order to check the high quality of the material.
- The shells are formed from tubular metal plate, with integrated folded edges drilled for connections, continuous welded and hot galvanised following fabrication for a longer service life. Standard = short shell, long shell on option.
- The motor's fixing arms are hot galvanised for better corrosion resistance.
- 4 pole or 4/8 pole boss type motor, IP 55 tropicalised, class F as standard. Operating temperature range -20/ 50°C.

60 Hz motor: please consult us. All motors are calculated to bear the input power throughout the length of the curve.

### AVAILABLE OPTIONS

- Long shell: comprises a pre-wired external terminal box.

### DIMENSIONS (mm)



Short shell

Long shell

Please, consult us for the detailed technical data sheets for each model.

Short shell				
A	B	C	D	E
560	654	348	225	2.5
630	724	348	225	3
710	804	348	225	3
800	894	459	225	3
900	1006	459	225	3
		445	300	5
		575	300	5
1000	1106	459	225	3
		445	300	5
		575	300	5
Long shell				
A	B	C	D	E
560	654	375	368	2.5
630	724	375	403	3
710	804	375	443	3
800	894	520	488	3
900	1006	520	538	3
		520	575	5
		625	575	5
1000	1106	520	588	3
		520	625	5
		625	625	5

# Staircase Pressurisation Fans

## Presentation of the HELIONE CE range



Long shell

### Compliance

- F400°(2h) and F200°(2h) classifications.
- Conforms with the CE marking in accordance with Standard EN 12101-3.

### Advantages

- Wide range for car parks, commercial and industrial buildings.
- Numerous accessories to facilitate installation.

### ACCESSORIES

- Protective mesh comes in both motor side and propeller side.
- Flexible sleeve is fitted between the mating flange and the circular duct. Incombustible fabric (M0).
- Mating flange in galvanised steel. It enables HELIONE to be connected to a circular duct. Necessary connection for the flexible sleeve.
- Square plate in galvanised steel to fix HELIONE in a wall mounting configuration.
- Feet supports (x2) in galvanised steel to fix HELIONE to the floor.
- Anti-vibration mountings (x4) are fixed under the feet supports.
- Backdraft damper: circular, with 2 galvanised steel blades.
- Passive circular noise trap/silencer.
- Electrical accessories:
  - proximity switch,
  - pressure switch,
  - relaying box → see AXONE micro II,
  - emergency stop button.

### TECHNICAL DETAILS

- For technical details, please see page 86.

### INSTALLATION

A (MH) OR B (HM) MOUNTING:

Horizontal on the ground and wall mounted against a wall:

- Indispensable options: economic square plate, feet and anti-vibration mountings, mating flange and flexible sleeves or grille if not connected up.

Horizontal on the ground between two ducts:

- Indispensable options: feet and anti-vibration mountings, mating flanges and flexible sleeves on both sides, long shell for motor access through the inspection hatch.

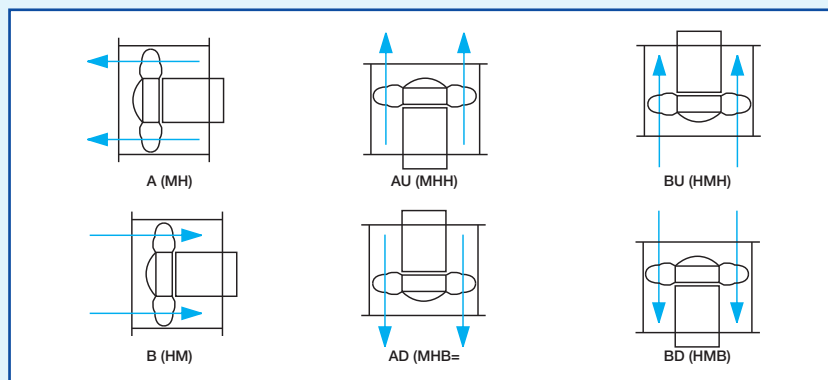
Horizontal fixed by wall mounting against a wall:

- Indispensable options: reinforced square plate for wall mounting, mating flange and flexible sleeve or grille if not connected up.

AU (MHH), BU (HMH), AD (MHB), BD (HMB) MOUNTING:

Vertical, suspended under a ceiling tile or duct

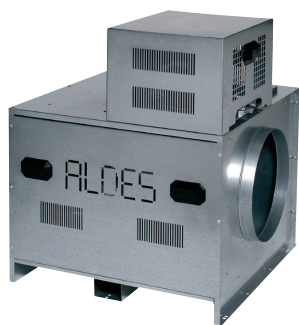
- The tubular casing must be bolted using all of the holes in its flange.
- Indispensable options: protective grille if access remains possible or if there are any risks of waste being sucked in, if connected from both sides: long shell tubular casing for motor access through the inspection hatch.





# Smoke Exhaust Fans

## Presentation of the CYCLONE F400° range



Standard access pannel

### Compliance

- CE smoke exhaust casing - in accordance with EN 12101-3.
- F400 (2h) classification.
- Extension of the "thermally insulated" classification: complies with § 4.1 of Standard EN 12101-3.

**CIVIL DEFENCE APPROVED**

### Advantages

- Thermal insulation option: to avoid the CMEV system in attics.
- Variable pulley option for on-site airflow adjustment.
- Choice of access panel side possible depending on the various worksite configurations.
- Easier to access thanks to the handles on the motor cover and access panel.

### APPLICATION

- Smoke exhaust from residential, commercial and industrial buildings.
- Cyclone F400 is a purely smoke exhaust fan in casing. Avoid using it for any professional kitchen type of application.

### DESCRIPTION

- 8 sizes of casing for airflows between 1000 and 35000 m<sup>3</sup>/h.
- Casing in galvanised steel.
- Forward curve impeller with aluminium hub.
- Pulley-belt type drive.
- IP 55 class F motor, fitted on a mounting designed for simple belt tension adjustment.
- 1-speed or 2-speed motor (Independent Windings 4/6 pole and Dahlander coupling 4/8 pole).

### INSTALLATION

- Can be installed either indoors or outdoors:
  - If used inside, the thermal insulation option should be chosen.
  - If used outdoors, a rain hood should be fitted.
- It is recommended that the system be installed on an anti-vibration mounting base.

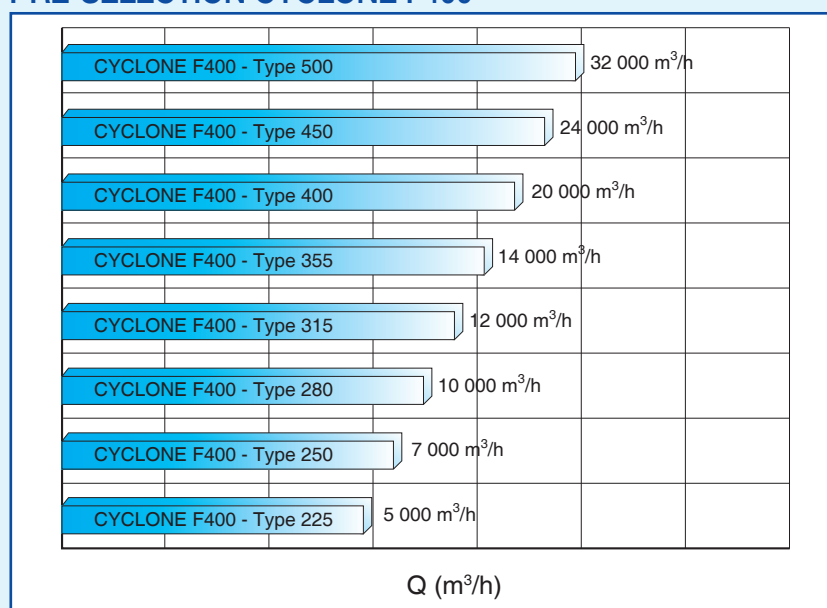
### AVAILABLE OPTIONS

- Thermal casing insulation. This option, with CE validation, allows for avoiding the CMEV system of the room receiving the smoke exhaust fan in casing (attics for example).
- Choice of the position of the exhaust (horizontal or vertical).
- Choice of the position of the transmission access panel.
- Rainproof cover (supplied with the casing but not fitted).
- Adjustable drive pulley (except model 500).
- "All-in-One": pre-wired relay box, protected by a cover (this option includes the disconnecter and pressure switch(es)) - aeraulically connected.
- Fitted and cabled proximity switch.
- Adjustable pressure switch, aeraulically connected (2 pressure switches for two smoke extraction speeds).

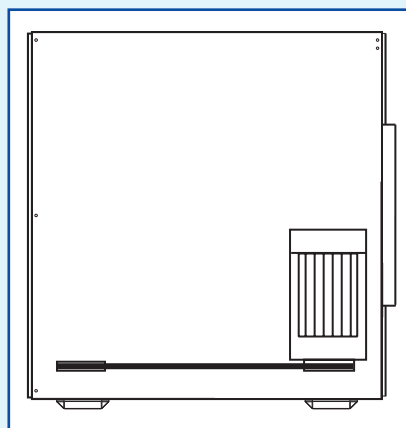
### ACCESSORIES

- Flexible, circular suction sleeve.
- Flexible, rectangular, discharge sleeve.
- Flexible rectangular / circular adapter component - exhaust.
- Anti-vibration mounting.

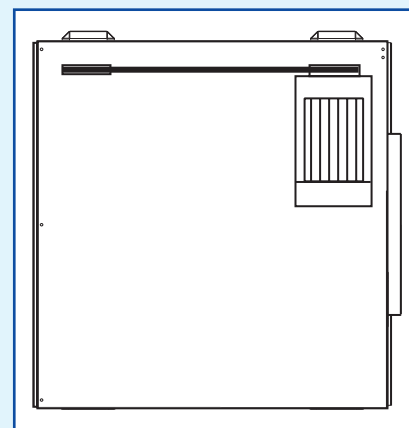
### PRE-SELECTION CYCLONE F400



### SELECTION OF ACCESS PANEL AND TRANSMISSION POSITIONS



Standard access panel face: door and transmission to the left of the suction outlet.



Optional access panel face: door and transmission to the right of the suction outlet.

# Smoke Exhaust Fans

## Presentation of the CYCLONE F400° range



With proximity switch option



**Compliance**

- "All-in-One" option wired up in compliance with Standard NF-S 61.932.
- Thermal insulation option with CE certificate approval of Cyclone F400, with extension of the "thermally insulated" classification.

**Advantages**

- "Proximity switch" option: easier wiring to save time when fitting.
- "All-in-One" option: relay box, proximity switch and pressure switch(es) pre-wired and fitted to save time on the site.
- "Thermal insulation" option: to avoid the CMEV system in attics.

### AVAILABLE OPTIONS

#### Electrical accessories options

- Proximity switch fitted and cabled, fixed on to a galvanised steel mounting.
- Adjustable pressure switch, aerally connected (2 pressure switches for two smoke exhaust speeds). Positioned on the top of the casing, beside the motor cover.
- The "All-in-One" option has been validated during fire resistance tests:
  - The wiring of the relay box is carried out at the factory.
  - The proximity switch is integrated.
  - The aerally connected pressure switch(es) are positioned on the top of the casing, beside the motor cover.
  - The box is attached to the casing, under a protective cover (rain and UV rays), made of galvanised steel.
  - The front panel of the casing pivots to give easy access to the AXONE Micro II relay box.

#### Casing configuration options

- Designed to be hand-fitted, the rain-fittings are supplied inside the casing. To install, fix them to the screws around the casing exhaust.
- Adjustable drive pulley (except model 500).
  - Adjustable in ¼ turn steps over 3 turns.
  - Factory setting: Maximum rotational speed.
- Thermal insulation option:
  - The casing is insulated with a layer of rockwool on the inner surface of all four single-skin faces (the double-skinned compartment access faces will not propagate heat).
  - Adapted for interior installations, this casing limits radiant heat from the casing caused by the high temperatures created by smoke.
- Your Aldes contact can help you to avoid the ventilation system in the room receiving the casing (attics for example).

### ACCESSORIES

- Flexible, circular M0 suction sleeve: composed of a flexible sleeve and two fixing collars.
- Flexible, rectangular, exhaust sleeve: composed of a flexible sleeve, four fixing plates and one fixing collar.
- Flexible rectangular / circular adapter component - exhaust. Composed of a flexible sleeve, four fixing plates and one fixing collar.
- Anti-vibration mounting in resilient material - size:
  - L x W x Th = 100 x 100 x 10 (mm).
  - 4 or 6 mountings are supplied - depending on the size of the casing.

### TECHNICAL DETAILS

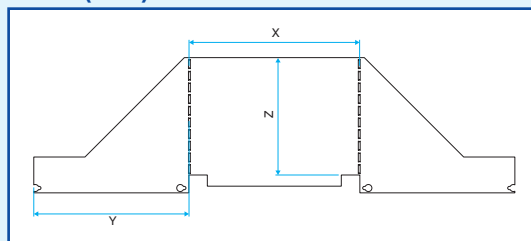
- For technical details, see page 126.

### "ALL-IN-ONE"

- AXONE Micro II relay box  
 + Proximity switch (IP) pre-wired and fitted.  
 + Aerally connected pressure switch(es).

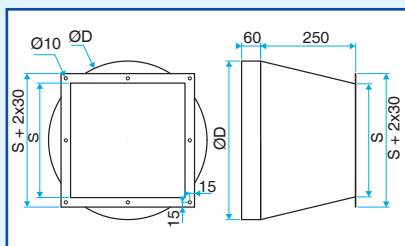


### RAIN HOOD DIMENSIONS (mm)

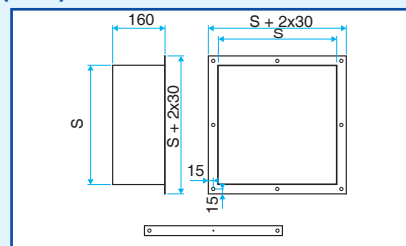


Type	225	250	280	315	355	400	450	500
X	388	422	461	504	553	607	699	738
Y	348	382	421	464	513	567	629	698
Z	247	276	320	356	405	459	521	590

### ACCESSORIES DIMENSIONS (mm)



Transformation part



Flexible sleeve

Type	225	250	280	315	355	400	450	500
Ø D	400	450	500	560	630	710	800	800
S	288	322	361	404	453	507	569	638

# Smoke Exhaust Fans

## Presentation of the VELONE F400° advantages



VELONE without option



With the "All-in-One" option

### Compliance

- Conforms with the CE marking.
- F400 (2h) classification in accordance with Standard EN 12101-3.
- "All-in-One" option, backdraft damper and rain hood kit accessories in compliance with EN 12101-3.

**CIVIL DEFENCE APPROVED**

### Advantages

- Up to 27000 m<sup>3</sup>/h.
- Electrical accessories wired up at the factory and fixed to the interior for protection against impacts and bad weather.
- Aeraulics connection of the pressure switch made at the factory.
- IP x4 validated rain hood kit.
- Pivot pin: easy cleaning.

## APPLICATION

- Smoke extraction from residential, commercial and industrial building
- Ventilation of commercial premises with a need for fire protection classification (professional kitchens, sports halls, workshops etc.).

## FIRE PROTECTION RATING

- VELONE was awarded the classification F400°(2h) The "All-in-One" option (integrated relay box), backdraft damper and the rain hood kit have all been validated by fire resistance tests.
- CE in accordance with Standard EN 12101-3.

## DESCRIPTION

- 10 sizes of roof fans: for airflow rates of between 500 and 27000 m<sup>3</sup>/h.
- Base and motor mountings in galvanised steel, cover in ABS fixed by 4 quick-motion screws.
- Backward curve impeller in galvanised steel.
- IP 55, class F electrical motor.
- Protection grille in galvanised steel.

## INSTALLATION

- Outdoors on a flat roof stack (accessory) or directly connected to the duct.

## AVAILABLE OPTIONS

- Adjustable pressure switch fixed to the interior to protect it from impacts and bad weather. EXCLUSIVE: the pressure switch is connected/fitted (NOTE: for use at 2 smoke exhaust speeds, fit 2 pressure switches).
- Proximity switch wired up and fixed to the interior to protect it from impacts and bad weather.
- "All-in-one" option.
- Ideal solution when the relay box is installed less than 2 m from the VELONE roof fan.
- Saves time when wiring up, simplified installation and a guarantee that the product will work on-site.
- The wiring of the relay box is carried out at the factory, in compliance with NF-S-61932
- Always comprises the relay box, pressure switch and proximity switch.
- 1-speed model: the AXONE relay box is fixed to the interior to protect it from impacts and bad weather.
- 2-speed model: the AXONE relay box is fixed to the exterior of the roof fan. Possibility of using the flat roof support.
- In case of use of the vertical exhaust kit, fix the relay.

## ACCESSORIES

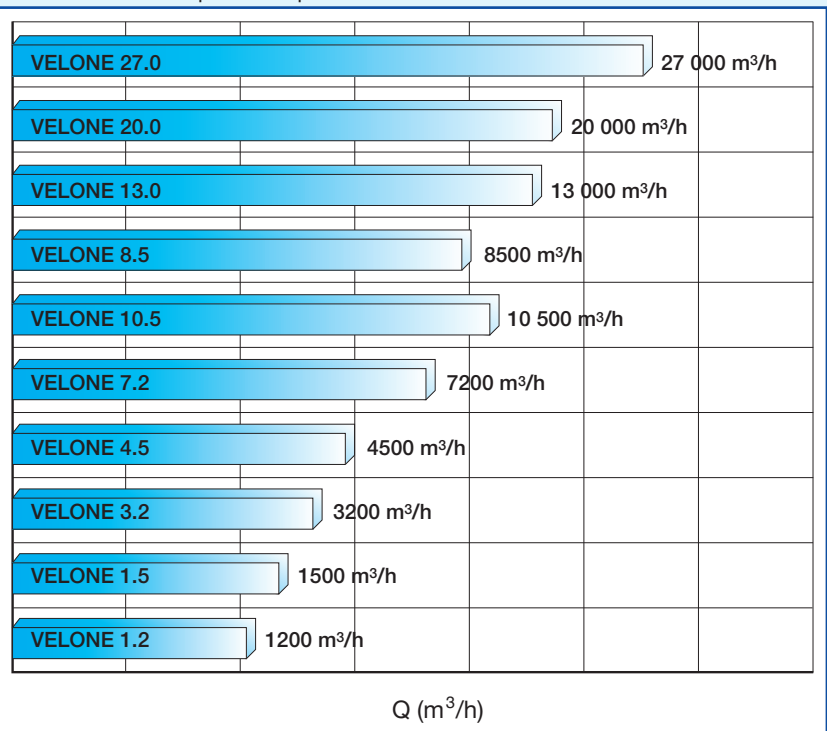
- Rain hood kit, laboratory tested for IP x 4 = sprayed from all directions
- Backdraft damper fire resistance tested.
- Vertical exhaust kit: prohibits with "All-in-One" solution.
- Grouting frame or duct frame.
- Pivot pin.
- Flat roof stack or sloped roof stack.
- AXONE flat roof support.

### Electrical accessories

- Frequency controller.

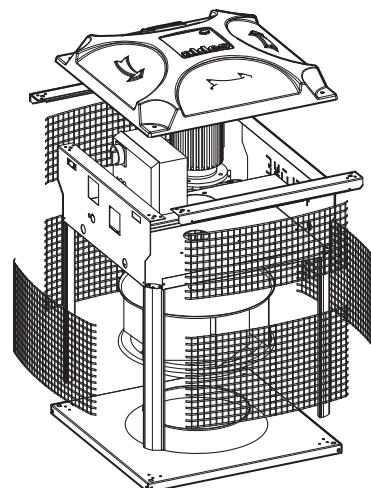
## PRE-SELECTION OF VELONE MODEL

- The airflows correspond to a pressure loss of 200 Pa.



## DESIGN

- It is possible to integrate the proximity switch, pressure switch(es) and the 1-speed AXONE relay box under the cover.



# Smoke Exhaust Fans

## Presentation of the VELONE F400 advantages



Without option



With the "All-in-One" option



With the "All-in-One" option - cover removed

### AIRFLOW UP TO 27000 m<sup>3</sup>/h

- Aldes has taken particular care in the design of the VELONE in order to offer you a range of smoke exhaust roof fans that comply with the CE marking up to 27 000 m<sup>3</sup>/h, without increasing the dimensions of the base.

### COMPACT SO AS TO PROTECT IT FROM IMPACTS AND BAD WEATHER

- We have preferred to improve the motor mounting by using galvanised steel, rather than plastic, because we believe that for a lengthy service life the electrical accessories such as relay boxes, pressure switches and proximity switches, should be fully protected from impacts and bad weather.
- On the 2-speed model, the AXONE relay box is supplied with a 2 m long cable for fixing outside the roof fan. Possibility of using the flat roof support.

### AIR DUCT CONNECTION OF THE PRESSURE SWITCH

- Being the inventor of the "All-in-One" solution (relay box wired up at the factory), we are now offering an exclusive feature on this new range - the air duct connection of the pressure switch.
- This option minimises man-hour time on-site: drilling holes in the ductwork on-site is a thing of the past!

### RAIN HOOD KIT IPx4 - AN ALDES EXCLUSIVE FEATURE

- A smoke exhaust roof fan, used only for smoke extraction is permanently at rest, ready to start up in case of fire or for testing. A smoke exhaust roof fan at rest, presents a risk of penetration by rain during thunderstorms and violent winds.
- The new VELONE design now allows us to offer you a new accessory called the "rain hood kit". Comprised of 4 parts to be mounted on-site, the rain hood kit passed fire resistance tests and has an IP x4 safety index validated by the CETIAT laboratory.
- This classification corresponds to the usual safety protection index used for electrical equipment: switch, pressure switch, relaying box. The first figure concerns dust protection (because it does not concern a roof fan), the second figure is equivalent to water protection: the 4 guarantees its leaktightness faced with water sprayed at it from all directions with a flow rate of 600 l/h!

### CONFORMING BACKDRAFT DAMPER

- The backdraft damper which enables it to avoid heat losses succeeded in passing the regulatory fire resistance tests.

### EASY REPLACEMENT

- This range of roof fans can replace any VELONE roof fan delivered between 1998 and 2006. In fact, we designed this new range without having to change the dimensions of the base. Moreover, with an equivalent base dimension, the new range can only give better performances in terms of aerualics.

### TECHNICAL DETAILS

- For technical details, please see page 149.



# Smoke Exhaust Fans

## Presentation of the HELIONE CE range of helicoid air pattern axial fans



Short shell

**CIVIL DEFENCE APPROVED**

**Compliance**

- F400(2h) and F200(2h) classifications.
- Conforms with the CE marking in accordance with Standard EN 12101-3.

**Advantages**

- Wide range for car parks, commercial and industrial buildings.
- Numerous accessories to facilitate installation.

### APPLICATION

- With its F200°(2h) and F400°(2h) fire resistance classifications, the new HELIONE range meets the needs for ventilation and smoke exhaust in residential, commercial and industrial buildings, where premises (car parks, shops) and in industry, just anywhere that high airflows with low pressures are required.
- HELIONE operates just as well for air exhaust as for fresh air supply in premises where acoustic requirements are not predominant or for occasional.

### DESCRIPTION

- The standard HELIONE range varies from Ø 500 to Ø 1000 mm for standard airflows of 5000 to 72000 m³/h for pressures of 100 to 500 Pa.
- The new HELIONE range can meet the requirements for numerous other cases, like different airflows and pressure levels for example: Please feel free to contact us.
- Propellers comprised of several blades in aluminium, mounted on an aluminium hub. The angle adjustment is determined depending on the operating point.
- Each blade is radiographically X-rayed before assembly in order to check the high quality of the material.
- The shells are formed from tubular metal plate, with integrated folded edges drilled for connections, continuous welded and hot galvanised following fabrication for a longer service life. Standard = short shell, long shell on option.
- The motor's fixing arms are hot galvanised for better corrosion resistance.
- 4 pole or 4/8 pole boss type motor, IP 55 tropicalised, class F as standard. Operating temperature range -20/ 50°C.

60 Hz motor: please consult us. All motors are calculated to bear the input power throughout the length of the curve.

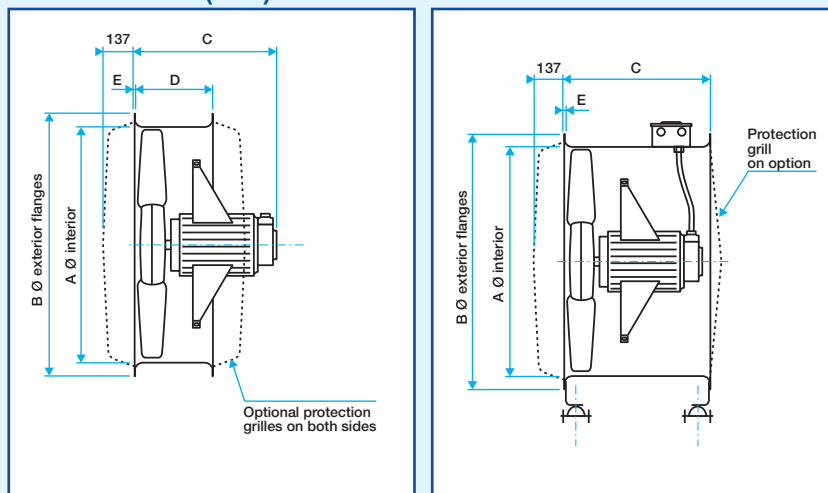
### AVAILABLE OPTIONS

- Long shell: comprises a pre-wired external terminal box.

### RECOMMENDATION

- For an installation with anti-vibration mountings, above Ø 800 mm and for >4kW motors, we recommend you to order the long shell option. If not, provide for stringers between the feet and the mountings to redistribute the weight.

### DIMENSIONS (mm)



Short shell

Long shell

Please, consult us for the detailed technical data sheets for each model.

Short shell				
A	B	C	D	E
560	654	348	225	2,5
630	724	348	225	3
710	804	348	225	3
800	894	459	225	3
900	1006	459	225	3
		445	300	5
		575	300	5
1000	1106	459	225	3
		445	300	5
		575	300	5
Long shell				
A	B	C	D	E
560	654	375	368	2,5
630	724	375	403	3
710	804	375	443	3
800	894	520	488	3
900	1006	520	538	3
		520	575	5
		625	575	5
1000	1106	520	588	3
		520	625	5
		625	625	5



# Smoke Exhaust Fans

## Presentation of the HELIONE C€ range of helicoid air pattern axial fans



Long shell

**CIVIL  
DEFENCE  
APPROVED**

### Compliance

- F400(2h) and F200(2h) classifications.
- Conforms with the C€ marking in accordance with Standard EN 12101-3.

### Advantages

- Wide range for car parks, commercial and industrial buildings
- Numerous accessories to facilitate installation.

### ACCESSORIES

- Protective mesh comes in both motor side and propeller side.
- Flexible sleeve is fitted between the mating flange and the circular duct. Incombustible fabric (M0).
- Mating flange in galvanised steel. It enables HELIONE to be connected to a circular duct. Necessary connection for the flexible sleeve.
- Square plate in galvanised steel to fix HELIONE in a wall mounting configuration.
- Feet supports (x2) in galvanised steel to fix HELIONE to the floor.
- Anti-vibration mountings (x4) are fixed under the feet supports.
- Backdraft damper: circular, with 2 galvanised steel blades.
- Passive circular noise trap/silencer.
- Electrical accessories:
  - proximity switch,
  - pressure switch,
  - emergency stop button.

### TECHNICAL DETAILS

- For technical details, please see page 86.

### INSTALLATION

#### A (MH) OR B (HM) MOUNTING:

##### Horizontal on the ground and wall mounted against a wall:

- Indispensible options: economic square plate, feet and anti-vibration mountings, mating flange and flexible sleeves or grille if not connected up.

##### Horizontal on the ground between two ducts:

- Indispensible options: feet and anti-vibration mountings, mating flanges and flexible sleeves on both sides, long shell for motor access through the inspection hatch.

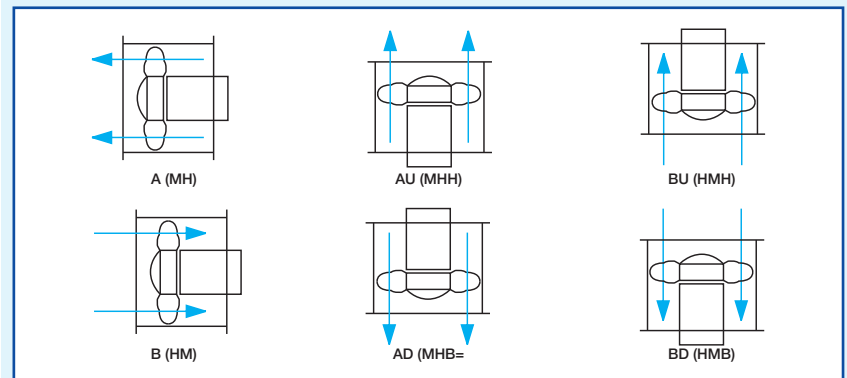
##### Horizontal fixed by wall mounting against a wall:

- Indispensible options: reinforced square plate for wall mounting, mating flange and flexible sleeve or grille if not connected up.

#### AU (MHH), BU (HMH), AD (MHB), BD (HMB) MOUNTING:

##### Vertical, suspended under a ceiling tile or duct

- The tubular casing must be bolted using all of the holes in its flange.
- Indispensible options: protective grille if access remains possible or if there are any risks of waste being sucked in, if connected from both sides: long shell tubular casing for motor access through the inspection hatch.



# Accessories

## 1-phase voltage controller 1.5 A



### Advantages

- Continuous speed control.
- Attractive and compact enclosure.
- Projection mounted or wall mounted.

### APPLICATION

- Speed controller designed for 1-speed 230 VAC 1-phase motors, whose maximum current consumed does not exceed 1.5 A, and which are compatible with voltage regulation.
- **Compatible with VEKITA+ (non acoustic), HELICA, VC, THELIA 1-phase and variable.**

### DESCRIPTION

- Supplied in an aesthetically designed enclosure with IP 44, for either wall or projection mounting.
- PCB type design.
- Start-up by an adjustment potentiometer.
- Integrated anti-EMI (EMC) feature.
- Integrated fuse protection.
- 230 VAC - 50/60 Hz
- Regulation of the maximum towards the minimum speed (avoids restarting at low voltage).
- Possibility to adjust the minimum speed (80 V by default).

### RANGE R7

Description	Code	L x H x P (mm)
1.5 A voltage regulator	11086572	82 x 82 x 65

## 3 to 10 A 1-phase voltage regulator



### Advantages

- Continuous speed control.
- Separate ON/OFF switch.
- Full voltage safety starting function.

### APPLICATION

- Speed controller designed for 1-speed 230 VAC 1-phase motors, whose maximum current consumed does not exceed 3, 5 and 10 A respectively, and which are compatible with voltage regulation.
- **Compatible with VEKITA+ (acoustic), HELICA, VC, THELIA 1-phase and variable.**

### DESCRIPTION

- Supplied in an IP 54 enclosure.
- PCB type design.
- Start-up by offset switch (on the side of the box).
- Integrated anti-EMI (EMC) feature.
- Integrated fuse protection.
- 230 VAC - 50/60 Hz.
- Full voltage start-up function: on starting up, the voltage regulator sends out a maximum voltage for 6 or 7 seconds before returning to the voltage adjustment on the potentiometer. This function avoids start-up at low voltage, which could damage the motor.
- It is possibility to adjust the minimum speed (100 V by default).

### RANGE R7

Description	Code	L x H x P (mm)
3.0 A voltage regulator	11086024	83 x 140 x 88
5.0 A voltage regulator	11086013	83 x 160 x 88
10 A voltage regulator	11057067	115 x 195 x 95

# Accessories

## 1-phase electronic speed controller



### Advantages

- Continuous speed control.
- 2 analogue 0-10 V inputs.
- Potentiometer and switch on the front panel.

### APPLICATION

- Electronic speed controller for 1-phase asynchronous motors accepting voltage control.
- **Compatible with VEKITA+, HELICA, THELIA 1-phase and VC.**

### DESCRIPTION

- IP 65 box.
- 230 VAC - 50/60 Hz
- Potentiometer on the facade.
- 2 analogue 0-10 V inputs.
- Adjustment U min, U max.
- ON/OFF switch, energized circuit warning light.
- Thermal protection.
- Visual display of faults by warning indicator light.

### RANGE R7

Description	Code	L x H x P (mm)
1-phase electronic controller 5 A	11057080	123 x 160 x 165
1-phase electronic controller 11.5 A	11057081	168 x 160 x 165

## 1-phase autotransformer



### Advantages

- Accurate 5 position adjustment.

### APPLICATION

- Regulator designed for 1-speed, 1-phase 230 VAC motors compatible with voltage regulation.
- **Compatible with VEKITA+, HELICA, THELIA 1-phase and VC.**

### DESCRIPTION

- Supplied in an IP 54 enclosure.
- 5 manual adjustment positions + stop (110 - 140 - 170 - 200 - 230 V).
- ON/OFF indicator light.
- Integrated fuse protection.
- Non-adjusted 230V additional outlet.
- 230 VAC - 50/60 Hz

### RANGE R7

Description	Code	L x H x P (mm)
1.5 A 1-phase autotransformer	11086100	115 x 180 x 85
3.5 A 1-phase autotransformer	11086418	170 x 245 x 140
5.0 A 1-phase autotransformer	11086417	170 x 245 x 140
13 A 1-phase autotransformer	11057061	300 x 300 x 170

# Accessories

## 3-phase autotransformer



### APPLICATION

- Voltage regulator designed for a 1 speed, 3-phase, 400V motor, compatible with the variation in voltage.
- **Compatible with VEC, VIK, TVEC GII, VDA 3-phase, THELIA 3-phase.**

### RANGE **R7**

Description	Code
2A 3-phase autotransformer	11086096
4A 3-phase autotransformer	11086097
6A 3-phase autotransformer	11086098
8A 3-phase autotransformer	11086099
14A 3-phase autotransformer	11057060

### DIMENSIONS - WEIGHT

Type	L (mm)	H (mm)	D (mm)	Weight (kg)
2 A, 3-phase autotransformer	200	280	140	6,0
4 A, 3-phase autotransformer	250	300	200	14,0
6 A, 3-phase autotransformer	300	400	200	20,5
8 A, 3-phase autotransformer	300	400	200	27,7
14 A, 3-phase autotransformer	500	400	250	38,0

### TECHNICAL DETAILS

- Voltage variation controlled by autotransformer.
- 400 V, 50 Hz three-phase network voltage + Neutral.
- IP 55 metal box enclosure with epoxy paint.
- Enclosure's front panel contains an ON/OFF indicator light and a 5-position + ON/OFF switch. (130 - 180 - 230 - 300 - 400 V).
- Articulated door on hinges.
- Without motor protection.

## Frequency controller



Frequency controller



Offset control

### APPLICATION

- Frequency controller designed for a 1-speed 3-phase 230/400V - 50/60 Hz asynchronous motor.
- Compatible with all Aldes 1-speed 3-phase fans.

### RANGE **R7**

Description	Code
<b>1 / 3-phase range</b>	
Freq. cont. 0.37 kW 1 / 3	11086389
Freq. cont. 0.75 kW 1 / 3	11086390
Freq. cont. 1.5 kW 1 / 3	11086391
Freq. cont. 2.2 kW 1 / 3	11086392
<b>3 / 3 phase range</b>	
Freq. cont. 0.75 kW 3 / 3	11086401
Freq. cont. 1.5 kW 3 / 3	11086402
Freq. cont. 2.2 kW 3 / 3	11086403
Freq. cont. 3 kW 3 / 3	11086404
Freq. cont. 4 kW 3 / 3	11057201
Freq. cont. 7.5 kW 3 / 3	11057202
<b>Accessories</b>	
Offset control	11057084
IP55 offset control	11057085

### DIMENSIONS

Type	L (mm)	H (mm)	D (mm)
Frequency controller 0.37 kW	80	140	114
Frequency controller 0.75 kW	110	155	136 S/T 163 T/T
Frequency controller 1.5 / 2.2 / 3 / 4 kW	110	155	163
Frequency controller 7.5 kW	180	250	163

### TECHNICAL DETAILS

- Frequency conversion from 0 to 50 Hz.
  - Comes in an IP 20 compact and robust box, to be fixed to a DIN rail.
  - LCD display screen + potentiometer on the front panel
  - Pid function for regulation via an exterior sensor (input 0-10 V or 4-20mA and 24 V output).
  - Converter 1 / 3-phase: enables conversion from 230 V single to 230 V 3-phase mode - Specific programming instruction manual supplied.
  - Offset potentiometer is possible, please consult us.
  - Delivered with the installation and programming instructions (CD).
- NOTE : EMC filter is highly recommended in order to respect electromagnetic compatibility standards for residential housing. Please, consult us.

# Accessories

## Frequency regulator for professional kitchens



VARILONE VF

### APPLICATION

- Speed control by frequency regulator designed for a 3-phase 230/400V - 50 Hz asynchronous motor.
- VARILONE VF is configured at the factory to be controlled by an RD offset potentiometer and an HS high speed emergency stop button with priority.
- Ideal for use in professional kitchens, especially for controlling VELONE roof fans.
- Reserved for 1-speed motors. Do not use for 2-speed motors.

### DESCRIPTION

- LCD = indicator light energized.
- IP 20 box.
- No ON/OFF switch.
- CE and UL certifications.
- Integrated class A EMC filter. Class B filter advisable for a residential environment, please consult us.
- 1 status change relay if the potentiometer requests 0 Hz.

NOTE 1: an action on the HS emergency stop button passes the speed controller to maximum smoke extraction speed in large kitchens.

NOTE 2: the front panel mounted potentiometer is inactive, only the offset potentiometer is authorised to control.

### RANGE **R7**

Description	Code
<b>1 / 3-phase range</b>	
VARILONE VF 0.75 kW - 1 / 3	11057265
VARILONE VF 1.5 kW - 1 / 3	11057266
VARILONE VF 2.2 kW - 1 / 3	11057267
<b>3 / 3-phase range</b>	
VARILONE VF 0.75 kW - 3 / 3	11057270
VARILONE VF 1.5 kW - 3 / 3	11057271
VARILONE VF 2.2 kW - 3 / 3	11057272
VARILONE VF 3 kW - 3 / 3	11057273
VARILONE VF 4 kW - 3 / 3	11057274
VARILONE VF 7.5 kW - 3 / 3	11057275

### INSTALLATION ACCESSORIES **R7**

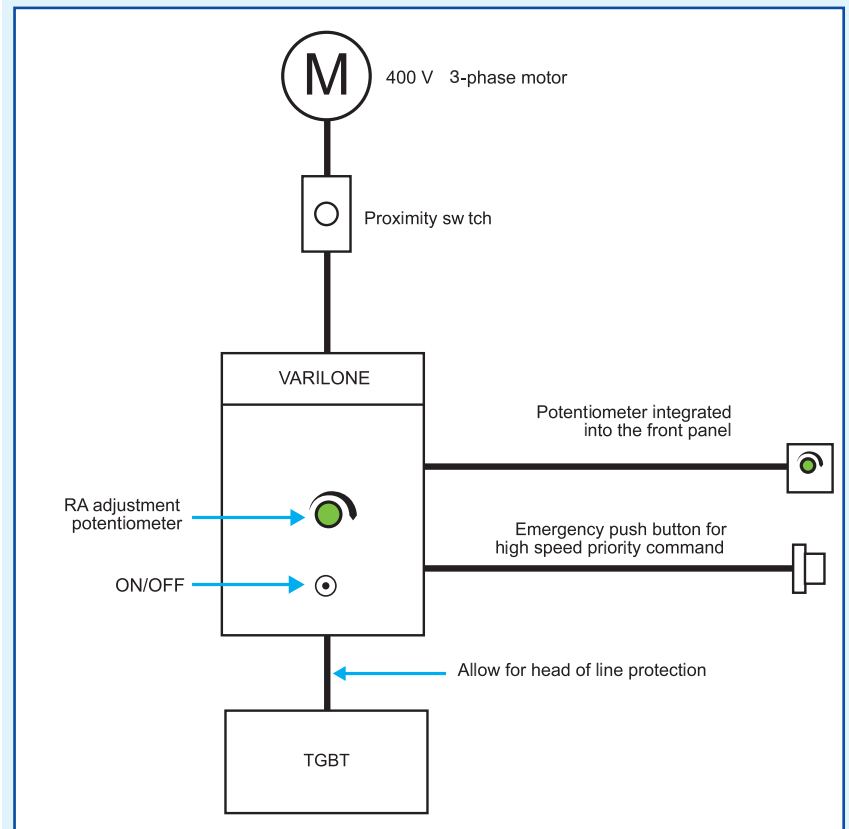
- Emergency stop button for closing: priority command for setting the fan to High Speed (HSPB). IP65 box enclosure.
- Potentiometer + emergency push button in the same IP65 box (RD+HSPB).

Description	Code
RD Potentiometer - IP65	11057065
HSPB emergency push button box	11057759
RD + HSPB box	11057066

### Advantages

- Pre-adjusted for professional kitchens use in order to facilitate the wiring.
- Progressive and continuous airflow variation.
- 1 potentiometer and 1 HS offset emergency stop button.

### SCHEMATIC DIAGRAM



### DIMENSIONS (mm)

Type	Width	Height	Depth
VARILONE VF 0.75 kW	110	155	136 Mono/Tri 163 Tri/Tri
VARILONE VF 1.5 / 2.2 / 3 / 4 kW	110	155	163
VARILONE VF 7.5 kW	180	250	163



# Accessories

## Comfort 2-speed box enclosure



### APPLICATION

- This box enclosure enable, for 2-speed 3-phase 400 V Independent Winding (IW) or Dahlander coupling (DAH) fans:
- manual control of the speeds: stop, low speed LS, high speed HS,
- thermal protection of the motor under LS and HS.

### DESCRIPTION

- IP65 box enclosure in ABS.
- Prepared cable gland inlet points (glands not supplied).
- 3 positions selector switch on the front panel (LS-STOP-HS).
- 400 V contactors with appropriate ratings.
- 2 thermal relays (LS/HS) with appropriate ratings.

### RANGE R7

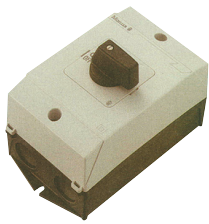
Description	Code
<b>2-speed Dahlander couplings</b>	
2-speed DAH 1.6/0.6 box	11057235
2-speed DAH 2.4/1.0 box	11057236
2-speed DAH 4/1.6 box	11057237
2-speed DAH 4/1 box	11057238
2-speed DAH 4/2.4 box	11057239
2-speed DAH 6/2.4 box	11057240
2-speed DAH 9/2.4 box	11057241
2-speed DAH 9/4 box	11057242
2-speed DAH 9/6 box	11057243
2-speed DAH 10/4 box	11057244
2-speed DAH 16/4 box	11057245
2-speed DAH 16/6 box	11057246
2-speed DAH 24/10 box	11057247
2-speed DAH 40/10 box	11057248
2-speed DAH 40/16 box	11057249
2-speed DAH 57/16 box	11057250
2-speed DAH 57/24 box	11057277
<b>2-speed Independent Windings</b>	
2-speed IW 1.6/0.6 box	11057280
2-speed IW 1.6/1.6 box	11057281
2-speed IW 2.4/1.6 box	11057282
2-speed IW 2.4/1.0 box	11057283
2-speed IW 4/1.6 box	11057284
2-speed IW 4/2.4 box	11057285
2-speed IW 6/2.4 box	11057286
2-speed IW 6/4 box	11057287
2-speed IW 9/4 box	11057288
2-speed IW 9/6 box	11057289
2-speed IW 10/6 box	11057290
2-speed IW 16/6 box	11057291
2-speed IW 16/10 box	11057292
2-speed IW 24/10 box	11057293
2-speed IW 40/10 box	11057294
2-speed IW 40/16 box	11057295
2-speed IW 57/16 box	11057296
2-speed IW 57/24 box	11057297

### DIMENSIONS - ELECTRICAL DETAILS

Description	HS current (A)		LS current (A)		Dimensions		
	Ith min.	Ith max.	Ith min.	Ith max.	L (mm)	H (mm)	D (mm)
<b>2-SPEED DAHLANDER MOTOR</b>							
2-speed DAH 1.6/0.6 box	1.0	1.6	0.4	0.6	160	240	152
2-speed DAH 2.4/1.0 box	1.6	2.4	0.6	1.0	160	240	152
2-speed DAH 4/1.6 box	2.4	4.0	1.0	1.6	160	240	152
2-speed DAH 4/1 box	2.4	4.0	0.6	1.0	160	240	152
2-speed DAH 4/2.4 box	2.4	4.0	1.6	2.4	160	240	152
2-speed DAH 6/2.4 box	4.0	6.0	1.6	2.4	160	240	152
2-speed DAH 9/2.4 box	6.0	9.0	2.4	4.0	160	240	152
2-speed DAH 9/4 box	6.0	9.0	2.4	4.0	160	240	152
2-speed DAH 9/6 box	6.0	9.0	4.0	6.0	160	240	152
2-speed DAH 10/4 box	6.0	10.0	2.4	4.0	200	280	152
2-speed DAH 16/4 box	10.0	16.0	2.4	4.0	200	280	152
2-speed DAH 16/6 box	10.0	16.0	4.0	6.0	200	280	152
2-speed DAH 24/10 box	16.0	24.0	6.0	10.0	200	280	152
2-speed DAH 40/10 box	24.0	40.0	6.0	10.0	375	375	175
2-speed DAH 24/16 box	24.0	40.0	10.0	16.0	375	375	175
2-speed DAH 57/16 box	40.0	57.0	10.0	16.0	375	375	175
2-speed DAH 57/24 box	40.0	57.0	16.0	24.0	375	375	175
<b>2-SPEED INDEPENDENT WINDING MOTOR</b>							
2-speed IW 1.6/0.6 box	1.0	1.6	0.4	0.6	160	240	152
2-speed IW 1.6/1.6 box	1.0	1.6	1.0	1.6	160	240	152
2-speed IW 2.4/1.6 box	1.6	2.4	1.0	1.6	160	240	152
2-speed IW 2.4/1.0 box	1.6	2.4	0.6	1.0	160	240	152
2-speed IW 4/1.6 box	2.4	4.0	1.0	1.6	160	240	152
2-speed IW 4/2.4 box	2.4	4.0	1.6	2.4	160	240	152
2-speed IW 6/2.4 box	4.0	6.0	1.6	2.4	160	240	152
2-speed IW 6/4 box	4.0	6.0	2.4	4.0	160	240	152
2-speed IW 9/4 box	6.0	9.0	2.4	4.0	160	240	152
2-speed IW 9/6 box	6.0	9.0	4.0	6.0	160	240	152
2-speed IW 10/6 box	6.0	10.0	4.0	6.0	160	240	152
2-speed IW 16/6 box	10.0	16.0	4.0	6.0	200	280	152
2-speed IW 16/10 box	10.0	16.0	6.0	10.0	200	280	152
2-speed IW 24/10 box	16.0	24.0	6.0	10.0	200	280	152
2-speed IW 40/10 box	24.0	40.0	6.0	10.0	250	375	175
2-speed IW 40/16 box	24.0	40.0	10.0	16.0	250	375	175
2-speed IW 57/16 box	40.0	57.0	10.0	16.0	250	375	175
2-speed IW 57/24 box	40.0	57.0	16.0	24.0	250	375	175

# Accessories

## 3-phase selector switch



### APPLICATION

- Enables, amongst other things, the delocalisation of the 1-speed or 2-speed 3-phase motors control:
  - 1-speed motor: ON/OFF command,
  - 2-speed motor: High/Low speed control + ON/OFF.
- **Compatible with TVEC GII, VIK, VEC, C.VEC, VDA 3-phase, THELIA 3-phase.**

### DESCRIPTION

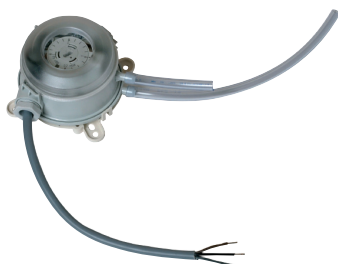
- Presentation in an IP 54 box enclosure for projection fitting.
- AC3 category in use.
- Supplied with connection instructions.

### RANGE **R7**

Description	Code	L x H x P (mm)
3-phase On/Off switch 7.5 kW max.	11056115	87 x 160 x 125
2-speed 3-phase Ind. Winding 4 kW max.	11056116	80 x 137 x 95
2-speed 3-phase Dahl. selector switch - 4 kW max.	11056117	80 x 137 x 95

# Accessories

## Alarm Pressure Switch Kit



### APPLICATION

- This safety device enables a fan operating anomaly to be detected (pressure loss) and thus to respect the installation standards.
- **Compatible with all Aldes fans, fan units or roof fans.**

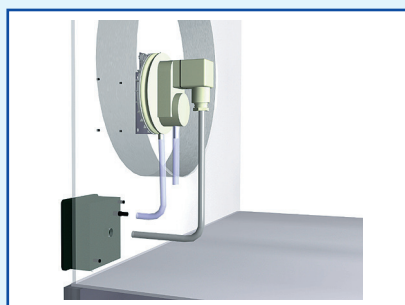
### DESCRIPTION

- Box enclosure to be installed inside the fan casing, or on the ductwork.
- Delivered in a complete kit, ready to be installed. Kit comprises 2 m of glassine tube, 2 pressure taps or grommets, threaded fasteners and fixed (80 Pa) or adjustable pressure switch alarm + installation instructions.

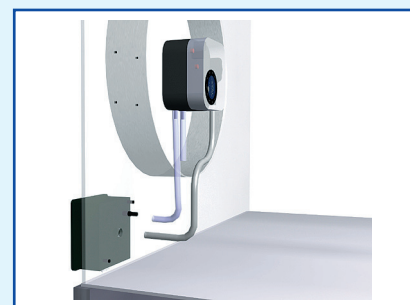
### RANGE R7

Description	Code
Fixed pressure switch kit - 80 Pa	11025018
VEC adjustable pressure switch kit	11025009
Adjustable pressure switch kit 40 - 300 Pa	11091001
Adjustable pressure switch kit 100 - 1000 Pa	11091002
Pressure switch timer (highly recommended in case of turbulent winds)	11025012

### ASSEMBLY DIAGRAMS



Fixed pressure switch kit



Adjustable pressure switch kit

## Filter Clogging Detection Kit



### APPLICATION

- This accessory is used to detect pressure loss, adjustable settings - to deal with filter clog.
- **Compatible with VIK and GII.**

### DESCRIPTION

- Kit comprising 4.5 m de glassine tube, 4 pressure taps, 1 x 40-300 Pa adjustable pressure alarm, threaded fasteners + fitting instructions.

### RANGE R6

Description	Code
Filter clogging detection kit	11056313

# Accessories

## M0 airtight flexible sleeve



**Compliance**

- Classified M0 non combustible.
- Aldes patented.
- CETIAT Test No. 2914020.

**Advantages**

- New generation of fan-ductwork sleeves:
- quick to install: integrated rigid connections,
- airtight: C Class, half as many leaks as airtight flexible sleeves,
- long lasting: silicon sleeve, weather resistant.

### APPLICATION

- Dissociation of fan-network or network-network links.
- Class C airtight connection extending performance of rigid ductwork with sealing fittings.
- Improved durability (silicon-coated sleeve).

### DESCRIPTION

- Flexible sleeve incorporating a rigid female connection and an airtight seal at each end.
- Airtight female interlocking: directly in fan connection, plugs onto a fitting (bend or RPC or RF or...) on the ductwork side.
- Silicon-coated sleeve: most resistant to UV, tearing, most airtight.
- Class M0 fire rating product.
- Class C airtight sealing.
- Operating range: pressure: 0-2500 Pa / T°continuous: -30° at +250° C; T° peak = +400°C max.

### RANGE R6

Ø mm	Code
125	11094690
160	11094691
200	11094692
250	11094693
315	11094694
355	11094695
400	11094696

### SPECIFICATIONS

- On connection between the rigid ductwork and the fan, the connection must be dissociated for acoustic reasons and shall be ensured by a flexible sleeve of the MS Pro type.
- In the case of use of a flexible MS Pro sleeve, the C Class airtightness of the ductwork

## Anti-vibration mountings



### APPLICATION

- Ensures dampening of the vibrations of a fan or a central unit.
- Spare parts for fans and central units with a pulley-drive belt.

CAREFUL: cannot be mounted on the outside of a pulley-drive belt fan.

### DESCRIPTION

- Rubber dampers, with a variety of diameters and densities (shore).
- Supplied with fixings and base plate.

### RANGE R9

Description	Ø (mm)	Type	Code
Anti-vibration mountings (set of 4)	40	Shore 45 / 4 kg per mounting	11034385
	40	Shore 60 / 10 kg per mounting	11034386
Anti-vibration mountings (set of 8)	60	Shore 45 / 15 kg per mounting	11034387
	60	Shore 60 / 25 kg per mounting	11034388

# Project Reference List

Below are few project references supplied by ALDES.

S.No.	Project	Consultant/Client	Contractor	Location
1	132/11 KV Substation	Lahmeyer	Dynamic Technical	Abu Dhabi
2	5 villas offices city	AEC	SEG Emirates	Abu Dhabi
3	LuLu Island Development	Hilli International	Emirates EMI	Abu Dhabi
4	Shuwehiat Desalination Plant	P.B. Power	THERMO	Abu Dhabi
5	Al Ain Hospital, Al Jimi	PWD	Al Dhafra Cont.	Al Ain
6	General Library & Theatre Society at Dibba Al Hassan for Govt. of Dubai	CAB Consultant	Al Sabbah	Al Ain
7	Al Moosa Tower	ARENCO	ETA	Dubai
8	Al Reef Mall	RMJM	GECO	Dubai
9	Arabian Ranches 829 Villas	Schuster Pechtold (SPP)	Bilt Middle East	Dubai
10	Boho Café & rest	Quatrofolio	Solica	Dubai
11	Capital Tower / Monarch Tower	RMJM	ETA	Dubai
12	Carpet Factory at JAFZA	Next Consultant	Amana Steel	Dubai
13	Dubai Mall	Meinhardt	Juma Al Majid	Dubai
14	Dubai studio city	Al Hashemir	Al Reyarmi	Dubai
15	Emirates Crew Training College	RMJM	Transgulf	Dubai
16	Emirates Hills Golf Academy	RMJM	Elemec Electrical Cont.	Dubai
17	Food Court at JAFZA	Belyoahah	ETA	Dubai
18	Grand Stand for Dubai Police	ARCHON	ETA	Dubai
19	Jebel Ali 'K' Station Phase II	DEWA	Drake & Scull	Dubai
20	Khaleej Times	Mario & Associates	ETA M&E	Dubai
21	Liwa Heights	KEO International	ELMACS	Dubai
22	Marina View Tower	Adnan Saffarini	Transgulf	Dubai
23	Palace Tower	Al Hashem	Fawaz A/C	Dubai
24	Pizza Restaurant	Kennedy & Donkin	Tech Trading	Dubai
25	Substation at Burjnahar	DEWA	ETA M&E	Dubai
26	Substation at Munay	Kennedy & Donkin	ETA M&E	Dubai
27	Union National Bank	Ian Banham & Associates	Sensaire Services	Dubai
28	Villa at Manara	Engineering's Office	Zener Steward	Dubai
29	Wafi Hotel	Hyder	Voltas	Dubai
30	Dental Clinic	HDP	Fawaz A/C	Fujairah
31	Fujairah Tower	Shadid Engineering	REMCO	Fujairah
32	ADNOC Filling Station at Ras Al Khaimah	DIAR Consultant	ETTS	Ras Al Khaimah
33	Ras Al Khaimah Police Headquarter	Al Burj	LOUJIEN	Ras Al Khaimah
34	Al Mansoury Tower	SYR Consultant	Fawaz A/C	Sharjah
35	American University Sharjah	Khatib & Alami	GECO	Sharjah
36	Expo Center Sharjah	Cansult	NILE E/M	Sharjah
37	Muhtadi Bldg	Adnan Saffarini	Fawaz A/C	Sharjah
38	Qatar Sports Club	Qatari Engineers & Associates	TRAGS	Qatar



# Air Distribution

**Selection Guides p.184 - 185**  
**p.206**  
**p.218 - 219**

**Selection Tables from p.279**

- Well thought out products for high performance and sound attenuation in ductworks.
- The assurance of having a reliable supply in high quality steel (galvanisation in compliance with standard EN 10142).
- Fully controlled manufacture in compliance with standards EN 1506 (dimensions) and EN 12237 (airtight sealing and resistance).

## Pressure Independent VAV boxes:

- Volume flow rate controlled by:
  - duct static pressure,
  - zone temperature control signal.
- Lower system energy consumption cost.
- Lower set-up and installation cost.









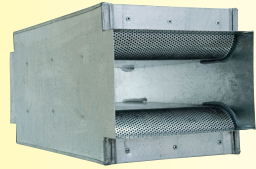

## Constant Airflow Regulators (CAR):

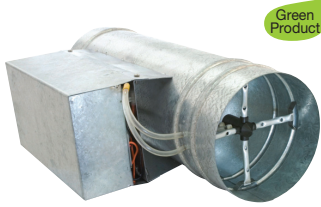
- Airflow automatically balanced at pre-set constant levels.
- Air exhaust and air supply.
- Horizontal or vertical.

## A complete range of grilles and diffusers for

- commercial and residential buildings designed:
- for full control of air diffusion,
  - to fulfill thermal, airflow and acoustical comfort.

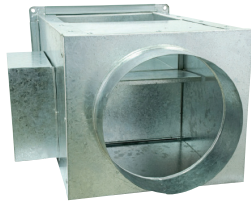


Airflow control	
Pressure Independent VAV Boxes	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Basic unit VA 110 <b>p. 187</b></p> </div> <div style="text-align: center;">  <p>Extended casing VA 120 <b>p. 187</b></p> </div> </div>
Volume Control Dampers	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Rectangular VCD, aerofoil blades - SU 651 Q <b>p. 199</b></p> </div> <div style="text-align: center;">  <p>Rectangular VCD, single skin blades SU 650 Q <b>p. 200</b></p> </div> </div>
Non Return Dampers	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Duct mounted SG 661 <b>p. 204</b></p> </div> <div style="text-align: center;">  <p>Wall mounted SG 663 <b>p. 204</b></p> </div> </div>
Sound Attenuation	
Rectangular Sound Attenuators	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>SA 20 <b>p. 210</b></p> </div> <div style="text-align: center;">  <p>Bend Type Attenuators Vertical and horizontal SA 20V <b>p. 211</b></p> </div> </div>
Cross Talk Attenuators	<div style="text-align: center;">  <p>SCS <b>p. 214</b></p> </div>
Acoustic Louvres	<div style="text-align: center;">  <p>SU 631 <b>p. 215</b></p> </div>



Circular  
VA 130  
**p. 190**

By-Pass VAV Boxes

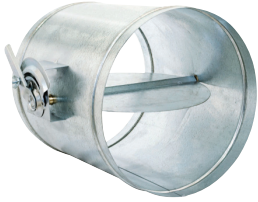


VA 200  
**p. 194**

Constant Airflow Regulators



MR  
**p. 196**

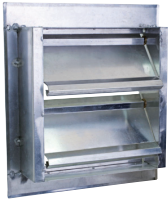


Circular VCD  
SR 653 Q  
**p. 201**



Splitter dampers  
SU 655  
**p. 202**

Pressure Relief Dampers

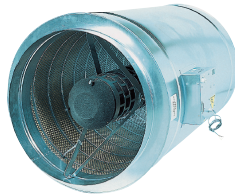


Wall mounted  
SG 662  
**p. 204**

Circular Sound Attenuators



Standard  
SAR 100  
**p. 212**



Active  
ACTA  
**p. 213**

**Air Diffusion**

Swirl Diffusers



Adjustable circular swirl diffusers  
**p. 223**



Green Product

Aesthetic swirl diffusers for ceiling tiles  
**p. 224**



Adjustable square swirl diffusers  
**p. 226**



Adjustable square swirl diffusers  
**p. 227**



Fixed square swirl diffusers  
**p. 228**

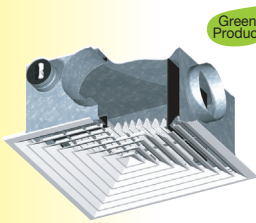


Fixed circular swirl diffusers for ceiling tiles  
**p. 229**



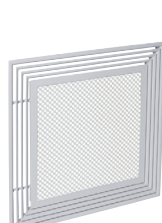
Fixed circular swirl diffusers  
**p. 230**

Special Diffusers



Green Product

Standard Combined Solution  
**p. 231**



Green Product

Multi-slot Combined Solution  
**p. 232**



Adjustable diffusers with rotating nozzles  
**p. 233**

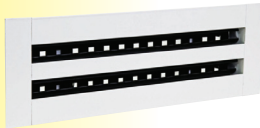


Jet diffusers  
**p. 234**

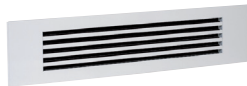


Jet diffusers  
**p. 236**

Slot Diffusers



Adjustable aluminium slot diffusers  
**p. 237**



Adjustable aluminium slot diffusers  
**p. 238**



Fixed high airflow level aluminium slot diffusers  
**p. 240**

Ceiling Diffusers



Multi-slot square diffusers  
**p. 241**



Fixed square diffusers for ceiling tiles  
**p. 242**



Square, removable, core diffusers  
**p. 243**



Fixed circular diffusers for ceiling tiles  
**p. 245**



Fixed circular diffusers  
**p. 246**



Adjustable circular diffusers for ceiling tiles  
**p. 247**



Adjustable circular diffusers  
**p. 248**



Adjustable square diffusers for ceiling tiles  
**p. 249**



Square diffusers with perforated sheet  
**p. 250**

Small & Constant Exhaust Grilles



Green Product

Self-balanced grilles  
**p. 251**



Adjustable core grilles  
**p. 253**



Small plastic grilles  
**p. 254**



Small plastic grilles  
**p. 255**

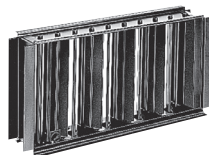


Small fixed metal grilles  
**p. 256**

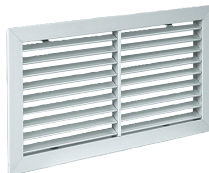
Indoor Grilles



Single & double deflection grilles  
**p. 258**



Indoor grilles accessories  
**p. 260**



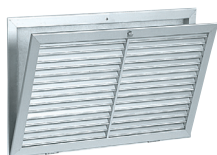
Fixed blade grilles  
**p. 261**



Fixed mesh grilles  
**p. 262**



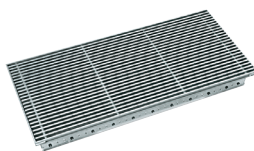
Grilles with fixed aluminium linear bars  
**p. 263**



Fixed blade grilles with filter  
**p. 265**



Fixed air transfer blade grilles  
**p. 266**



Grilles with fixed linear bars for floor mounting  
**p. 267**



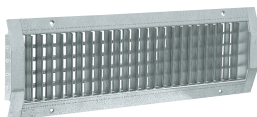
Pressed grilles  
**p. 269**



Fixed blade grilles for ceiling tiles  
**p. 270**



Fixed blade grilles with filter for ceiling tiles  
**p. 271**



Grilles for circular ducts  
**p. 272**

Louvres



Acoustic louvres  
SU 631  
**p. 273**



Sand trap louvres  
SG 644  
**p. 274**



Fresh air louvres  
AG 638  
**p. 275**








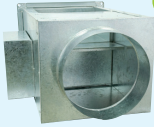





Fresh air louvres  
Robust construction - AG 639  
**p. 276**



Small outdoor grilles  
AWA 251  
**p. 278**















# Selection Guide

Category	Model	Description	Sound attenuation 	Comfort 	Energy saving 	AHU 
Variable Air Volume Boxes	Pressure independent VAV boxes  <span style="font-size: small; color: green;">Green Product</span>	→ VA 110 / VA 120 / VA 130 <ul style="list-style-type: none"> <li>Lower system energy consumption cost</li> <li>Lower set-up and installation cost</li> <li>Greater flexibility with regulation resulting in occupancy controlled comfort</li> <li>Volume flow rate controlled by:                             <ul style="list-style-type: none"> <li>- duct static pressure</li> <li>- zone temperature control signal</li> </ul> </li> </ul>	✓	✓✓✓	✓✓✓	✓
	By-pass VAV boxes  <span style="font-size: small; color: green;">Green Product</span>	→ VA 200 <ul style="list-style-type: none"> <li>Controls volume flow rate in response to zone temperature control signal</li> <li>Excess air inside the VAV diverted through by-pass damper into ceiling plenum or return duct</li> </ul>	✓	✓✓		✓
Category	Model	Description	Comfort 	Energy saving 	Ventilation 	AHU 
Constant Airflow Regulators	Fixed airflow  <span style="font-size: small; color: green;">Green Product</span>	→ MR <ul style="list-style-type: none"> <li>Airflow automatically balanced at pre-set constant levels</li> </ul>	✓✓	✓✓	✓✓	✓

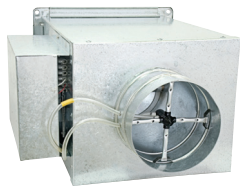


# Selection Guide

Category	Model	Description	Control 	Comfort 	Ventilation 	AHU 
Volume Control Dampers	Rectangular volume control damper 	<ul style="list-style-type: none"> <li>➔ SU 650 Q / SU 651 Q</li> <li>• Single skin blade (SU650) or aerofoil blade (SU651)</li> </ul>	Manual or Motorised	✓✓	✓	✓✓
	Circular volume control damper 	<ul style="list-style-type: none"> <li>➔ SR 653 Q</li> <li>• Single skin blade</li> </ul>	Manual or Motorised	✓✓	✓	✓✓
Category	Model	Description	Control 	Comfort 	Ventilation 	AHU 
Non-Return & Pressure Relief Dampers	Duct/wall mounted non-return damper 	<ul style="list-style-type: none"> <li>➔ SG 661 / SG 663</li> <li>• Air intake or exhaust</li> <li>• Blades remain closed to prevent reverse airflow</li> </ul>		✓	✓✓	✓✓
	Wall mounted pressure relief damper 	<ul style="list-style-type: none"> <li>➔ SG 662</li> <li>• Air exhaust</li> <li>• Blades open to relief excess pressure</li> <li>• Counter weight</li> </ul>	Motorised version available	✓	✓✓	✓

# Pressure Independent VAV Boxes

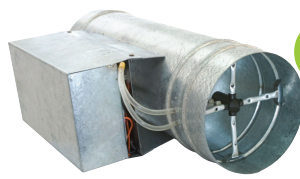
## Presentation of pressure independent VAV boxes



VA 110  
Basic unit



VA 120  
Extended box



VA 130  
Basic unit

Green Product

### Advantages

- Volume flow rate controlled by:
  - zone temperature control signal,
  - duct static pressure.
- Lower system energy consumption cost.
- Lower set up and installation cost.

## APPLICATION

- The extensive range of VAV terminals manufactured by Aldes Euroregister have been designed specifically to accommodate the rigorous criteria of today's modern buildings.
- The equipment selection offers outstanding advantages in terms of service, flexibility, reliability and product performance which are equally recognised by the energy conscious designer and provides a tangible system which is capable of meeting the most demanding design applications.

## DESCRIPTION

- Aldes Euroregister VAV boxes are designed to control the volume flow rate of the conditioned air in an occupied zone in response to a duct static pressure or zone temperature control signal.
- These VAV deliver variable / constant air volume (CAV) as designed by providing excellent performance and temperature control for central air distribution with unlimited zoning, combined with, by passing with Variable Frequency Drive (VFD).
- Extensive range of 7 sizes, covering volume flow range from 55-5700 m<sup>3</sup>/h. Accurate control with low leakage damper achieving proportional control between volume flow range 15 to 100% depending on controller used.

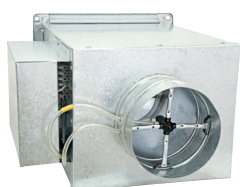
## AVAILABLE OPTIONS

- Extended terminal box construction for additional attenuation.
- Ancillary connecting flange. Multi-octopus outlet plenum chamber.
- Direct digital controllers.
- Perforated sheet over acoustic lining.

## OPERATION PRINCIPLE

- Model type VA100 features a unique cross flow sensor located in the upstream section of the valve chamber. The sensing points collectively average the primary air velocity pressure across the entire inlet area.
- Requirement is achieved through a differential pressure sensing system which regulates the damper independent of static pressure developed in the supply duct. Air volume is achieved in the limit to V<sub>min</sub> to V<sub>max</sub> by directing required volume of air in direct response to temperature signals for modulating thermostat installed in the room. This grid measures the differential pressure at the inlet and transfer to the actuator through a controller to adjust the damper in order to meet required air flow within the set values.
- Aldes Euroregister averaging differential cross flow sensor integrates and monitors the pressure difference and allows precise volume flow control, regardless of adverse upstream conditions and ductworks configuration. The accuracy of the sensor is however subject to the upstream condition of the ductwork.
- Ideally the inlet condition to the sensor should be in the region of 4 x diameter of straight ductwork, to achieve accurate flow readings. The terminal housing is constructed from high quality heavy gauge galvanized mild steel which is clad internally with 25 mm thick high density insulation. The face of the insulation is lined to prevent degradation and air erosion. The complete assembly is secured to the structure by means of hanger brackets for drop rod fixing by others.

## VAV boxes + Twisted



VA 110  
Basic unit



Twisted

Green Product

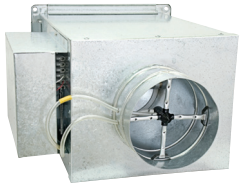
TWISTED  
+  
VAV  
=  
Your Best  
Comfort Solution

## DESCRIPTION

- The association of a Twisted swirl diffuser with a wide airflow capacity (150 to 650 m<sup>3</sup>/h) and a pressure independent VAV box is the best solution to ensure comfort in any variable airflow system.
- For more details, please consult us.

# Pressure Independent VAV Boxes

## Basic units and extended casings



VA 110  
Basic unit



VA 120  
Extended box comprising of  
basic unit with attenuator section

Green  
Product

TWISTED  
+  
VAV  
=  
Your Best  
Comfort Solution

### Advantages

- Volume flow rate controlled by:
  - zone temperature control signal
  - duct static pressure.
- Lower system energy consumption cost.
- Lower set up and installation cost.

## DESCRIPTION

- Please, see page 186.

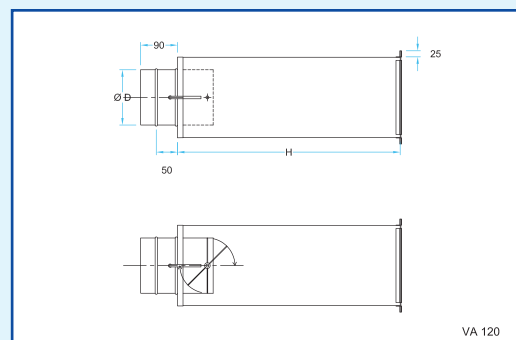
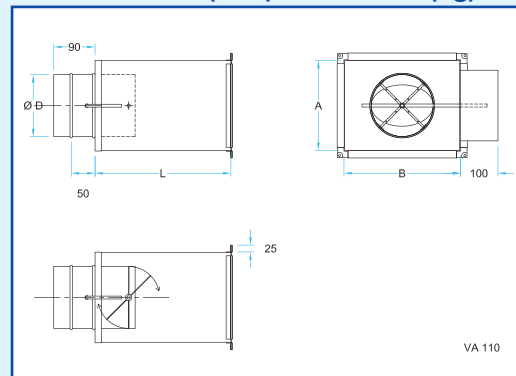
## CONSTRUCTION

- VA 110 and VA 120 units manufactured from 20 ga. galvanized sheet steel casing.
- The blade assembly comprised of single skin 22 ga. galvanized sheet steel with a flexible gasket to assure low leakage.
- All VA units are lined by 1/2" thick sound liner.
- All VA units are equipped with actuator which accepts as standard 0-10 or 2-10 V signals from thermostat units.
- All units can be supplied with secondary attenuators to achieve required noise levels.
- Controls are calibrated and tested by Aldes.
- Units are provided with flow sensor grid at the inlet of the unit.

## RANGE

Description	Code
<b>Pressure independent VAV: VA 110</b>	
VA 110 - 12	
VA 110 - 14	
VA 110 - 16	
VA 110 - 20	
VA 110 - 25	
VA 110 - 31	
VA 110 - 40	
<b>Pressure independent VAV: VA 120</b>	
VA 120 - 12	
VA 120 - 14	
VA 120 - 16	
VA 120 - 20	
VA 120 - 25	
VA 120 - 31	
VA 120 - 40	

## DIMENSIONS (mm) - WEIGHT (kg)

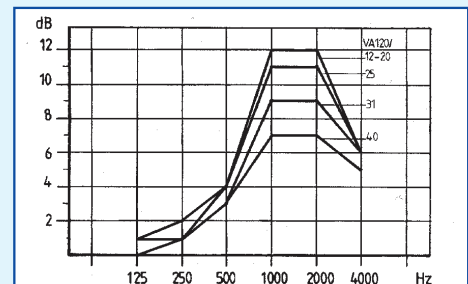


VA	A	B	Ø D	H	L	V	W	Qnom
12	210	310	123	1000	400	0.056	7	540
14	210	310	138	1000	400	0.056	7	700
16	260	310	158	1000	400	0.066	7	920
20	260	310	198	1000	400	0.066	7.5	1460
25	320	360	248	1000	400	0.086	8.5	2300
31	385	410	313	1000	500	0.139	12	3700
40	460	615	398	1000	500	0.222	16	5980

- V (m<sup>3</sup>) is the overall volume of the basic unit (VA 110).
- W (kg) is the weight of the basic unit (VA 110).
- Qnom is the nominal airflow rate in m<sup>3</sup>/h.

## EXTENDED CASING

The correction values highlighted in the adjacent graph should be deducted from the discharge sound power level characteristics indicated in the VA 110 discharge sound power level data for the introduction of the attenuation within the extended box (VA 120).





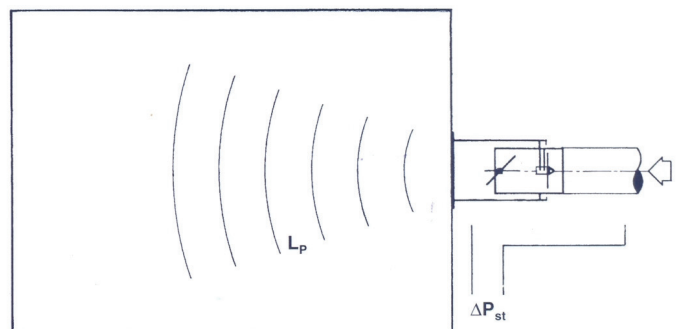
# Pressure Independent VAV Boxes

## Application / performance data

### DISCHARGE SOUND POWER LEVEL - VA 110

VA	L/s	Q m³/h	Min Pa	125 Pa $\Delta P_{st}$						250 Pa $\Delta P_{st}$						500 Pa $\Delta P_{st}$						1000 Pa $\Delta P_{st}$					
				125	250	500	1000	2000	4000	125	250	500	1000	2000	4000	125	250	500	1000	2000	4000	125	250	500	1000	2000	4000
12	15	54	-	53	47	41	33	32	29	56	52	47	40	40	37	58	56	53	47	47	45	61	60	59	54	54	53
	35	125	-	54	48	42	34	33	29	57	53	48	41	40	37	59	57	54	48	47	45	62	61	60	55	54	53
	69	250	9	57	52	45	36	35	30	60	56	51	43	42	38	62	60	57	50	49	46	65	64	63	57	56	54
	106	380	22	62	58	50	40	38	31	65	61	56	47	45	39	67	65	62	54	52	47	70	69	68	61	59	56
	150	540	44	69	66	57	45	43	33	73	69	64	52	50	41	75	73	70	61	57	49	78	77	78	68	64	59
14	19	69	-	53	49	41	33	32	29	57	53	48	40	39	37	60	57	54	47	47	45	62	61	60	54	54	53
	42	150	-	54	50	42	33	33	29	57	53	48	41	40	38	60	57	54	48	47	46	62	62	60	55	54	54
	90	325	10	57	53	45	36	35	30	60	56	51	43	42	38	63	60	57	50	48	46	65	64	63	57	55	54
	139	500	24	61	57	49	39	37	31	64	60	55	46	44	39	66	64	61	53	51	47	69	67	67	60	58	55
	192	690	46	66	62	55	44	41	33	64	60	55	46	44	39	72	69	66	57	55	49	74	73	72	64	61	57
16	26	92	-	46	41	33	26	28	27	48	45	39	33	35	35	51	49	45	41	43	43	54	52	51	48	50	51
	63	225	-	47	42	34	27	29	27	49	46	40	34	36	35	52	50	46	42	43	43	55	53	52	49	50	51
	104	375	7	50	45	37	30	31	28	52	49	43	36	38	36	55	53	49	44	44	44	58	56	55	51	51	52
	194	700	25	59	55	47	37	36	31	61	58	52	44	43	39	63	61	58	51	49	46	66	64	64	58	56	54
	256	920	43	66	62	55	44	40	33	69	66	61	50	47	41	72	69	66	57	54	49	74	72	72	64	61	57
20	42	150	-	58	50	40	38	37	33	61	56	48	44	42	41	64	61	55	49	48	46	67	67	61	54	54	54
	106	380	-	59	51	41	39	38	34	62	57	49	47	43	41	65	62	56	50	49	47	68	68	62	55	55	54
	208	750	7	61	54	44	43	40	36	64	59	51	47	45	43	67	64	58	52	51	49	70	70	64	57	57	56
	347	1250	20	66	60	50	49	44	41	69	65	67	54	49	47	72	70	64	59	55	53	75	75	70	64	61	60
	417	1500	30	69	63	53	52	46	43	72	68	60	58	52	49	75	74	68	63	58	56	78	78	74	68	64	62
25	67	240	-	58	54	46	44	45	38	62	61	56	53	52	46	65	67	67	62	59	54	69	74	77	70	67	62
	139	500	-	58	54	46	44	46	38	62	61	56	53	53	47	65	67	67	62	60	55	69	74	77	70	67	63
	278	1000	-	60	54	46	44	46	39	64	61	56	53	53	47	67	67	67	62	60	55	71	74	77	70	67	63
	444	1600	-	63	55	45	45	48	41	66	62	56	54	55	49	70	68	66	63	62	57	73	75	77	71	69	65
	667	2400	-	67	57	44	47	50	44	71	63	55	56	57	52	75	70	65	64	64	60	78	77	76	73	71	68
31	103	370	-	57	50	46	43	41	37	61	58	53	50	48	45	66	64	60	57	55	52	70	70	67	64	62	60
	250	900	-	58	51	47	43	41	37	62	58	53	50	48	45	66	65	60	58	56	53	70	70	67	65	63	61
	500	1800	-	60	53	49	45	43	39	64	60	55	52	50	47	68	66	62	59	57	54	72	72	69	66	64	62
	750	2700	-	64	55	51	47	45	41	68	62	57	54	52	49	72	67	64	60	58	55	76	74	71	67	65	63
	1028	3700	-	69	58	54	49	47	43	72	64	60	56	54	51	76	70	67	63	61	58	80	77	74	70	68	66
40	161	580	-	51	38	45	46	45	43	57	47	51	52	52	49	61	54	58	59	59	56	65	62	64	65	66	63
	389	1400	-	53	40	46	46	45	44	58	48	52	52	53	50	62	55	58	60	60	57	66	63	64	66	67	64
	778	2800	-	57	43	49	48	47	45	61	51	55	54	54	51	65	58	60	61	61	58	69	66	66	67	68	65
	1278	4600	-	64	51	54	51	50	47	69	58	59	57	56	53	72	65	65	64	63	60	76	73	71	70	70	67
	1611	5800	-	70	56	58	54	52	49	75	63	63	60	59	56	79	71	69	67	66	62	83	79	75	73	73	69

- $\Delta P_{st}$  is the difference in static pressure from inlet to discharge
- (-)  $\Delta P_s < 5$  Pa
- Minimum  $\Delta P_s$  is the lowest inlet-to-discharge static pressure difference (damper wide open)
- End discharge sound power is the noise emitted from the unit discharge into the downstream duct
- Sound power levels are in decibels, re  $10^{-12}$  watts.



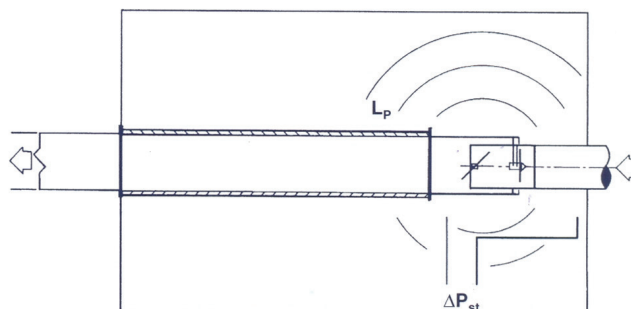
# Pressure Independent VAV Boxes

## Application / performance data

### RADIATED SOUND POWER LEVEL - VA 110

VA	Q		Min Pa	125 Pa $\Delta P_{st}$						250 Pa $\Delta P_{st}$						500 Pa $\Delta P_{st}$						1000 Pa $\Delta P_{st}$					
	L/s	m <sup>3</sup> /h		125	250	500	1000	2000	4000	125	250	500	1000	2000	4000	125	250	500	1000	2000	4000	125	250	500	1000	2000	4000
12	15	54	-	47	36	26	20	20	14	51	41	34	27	25	19	53	45	41	34	30	26	55	49	49	41	35	32
	35	125	-	48	37	27	20	20	15	52	41	35	28	26	20	54	46	42	35	31	26	56	50	50	42	36	32
	69	250	9	51	40	29	22	22	16	54	44	37	29	27	21	56	48	44	36	32	27	58	52	52	43	37	33
	106	380	22	55	45	33	24	24	18	58	48	41	31	29	23	60	52	48	38	34	29	62	56	56	45	39	35
	150	540	44	62	52	38	28	28	21	63	55	46	35	33	27	66	59	55	42	38	32	69	63	62	49	43	38
14	19	69	-	49	37	27	21	20	15	51	41	34	27	25	20	53	45	42	34	30	26	56	49	51	41	35	32
	42	150	-	49	38	28	21	20	15	52	41	35	27	25	20	54	46	43	34	30	26	57	50	51	41	35	33
	90	325	10	52	41	30	22	21	16	54	44	37	28	26	21	56	48	45	35	31	27	59	52	52	42	36	33
	139	500	24	55	45	33	25	24	18	57	47	40	31	29	23	59	51	48	38	33	29	61	55	55	44	38	34
	192	690	46	59	50	37	28	27	19	61	52	44	34	31	25	63	56	52	41	36	31	66	60	59	47	41	36
16	26	92	-	42	30	20	16	16	12	45	34	28	23	22	18	47	38	36	30	27	23	49	42	44	37	32	29
	63	225	-	43	31	21	17	17	12	46	35	29	23	22	18	48	39	37	30	27	23	50	43	45	37	32	29
	104	375	7	45	34	23	19	19	13	48	37	31	24	23	19	50	41	39	31	28	24	52	45	47	38	33	30
	194	700	25	53	42	31	24	23	16	55	45	38	29	28	22	57	49	45	36	32	27	59	53	53	43	37	33
	256	920	43	59	49	37	28	27	19	62	52	44	33	31	25	63	56	51	40	36	31	65	60	59	47	41	37
20	42	150	-	50	41	29	21	20	17	52	46	37	27	25	21	55	51	45	35	31	25	57	56	54	40	34	29
	106	380	-	51	42	30	22	21	18	53	47	38	28	26	22	56	52	46	35	31	26	58	57	55	41	35	30
	208	750	7	53	44	32	24	23	20	55	49	40	30	28	24	58	54	48	37	33	28	60	59	57	43	37	32
	347	1250	20	58	49	37	29	28	25	60	53	45	34	32	29	63	58	53	41	37	33	66	63	61	47	41	37
	417	1500	30	61	52	40	31	30	28	63	56	48	37	35	32	66	61	56	43	39	36	70	66	64	50	44	40
25	67	240	-	48	43	34	32	24	17	50	49	40	36	29	22	53	55	47	40	35	27	55	61	53	44	40	33
	139	500	-	49	44	34	32	24	17	51	50	40	36	29	22	53	56	47	40	35	27	55	61	54	45	40	33
	278	1000	-	51	44	36	34	26	19	53	50	41	38	31	24	55	56	48	42	37	29	57	61	54	45	43	35
	444	1600	-	55	46	38	36	29	21	57	52	43	40	33	26	58	58	50	44	39	31	60	63	56	47	44	37
	667	2400	-	61	48	41	40	33	25	63	54	47	44	38	30	65	60	54	48	44	35	67	65	60	51	49	41
31	103	370	-	51	42	34	28	23	20	55	48	42	34	31	28	59	54	48	40	38	35	64	62	55	47	44	41
	250	900	-	51	43	35	28	24	21	56	49	42	35	32	28	60	55	48	41	39	36	64	62	56	47	45	41
	500	1800	-	53	44	37	30	26	23	57	50	44	36	33	30	62	56	50	43	41	37	66	63	57	49	46	43
	750	2700	-	56	45	39	33	30	25	60	51	46	39	36	32	64	57	52	45	43	38	68	64	58	51	49	45
	1028	3700	-	60	47	42	37	34	28	64	53	48	43	40	34	68	60	55	49	47	41	72	66	61	55	54	48
40	161	580	-	45	39	35	30	27	26	49	46	42	36	34	33	54	52	48	42	41	40	58	58	54	48	48	47
	389	1400	-	46	40	35	30	27	26	50	46	42	36	35	33	55	52	48	42	42	40	59	58	54	48	49	47
	778	2800	-	49	43	37	32	29	26	53	48	44	38	36	33	58	54	50	44	43	40	62	60	56	50	50	47
	1278	4600	-	55	47	41	36	32	28	59	53	48	42	38	35	64	59	54	47	45	42	68	64	60	53	52	49
	1611	5800	-	60	50	44	39	34	29	64	56	51	44	41	36	69	62	57	50	48	43	73	68	63	56	55	50

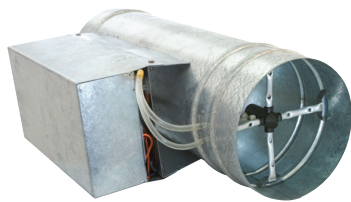
- $\Delta P_{st}$  is the difference in static pressure from inlet to discharge
- (-)  $\Delta P_s < 5$  Pa
- Minimum  $\Delta P_s$  is the lowest inlet-to-discharge static pressure difference (damper wide open)
- Radiated sound power is the noise transmitted through the unit casing walls
- Sound power levels are in decibels, re  $10^{-12}$  watts.





# Pressure Independent VAV Boxes

## Circular pressure independent VAV boxes



Green Product

TWISTED  
+  
VAV  
=  
Your Best  
Comfort Solution

### Advantages

- Volume flow rate controlled by:
  - zone temperature control signal,
  - duct static pressure.
- Lower system energy consumption cost.
- Lower set up and installation cost.

VA 130

### DESCRIPTION

- Please, see page 186.

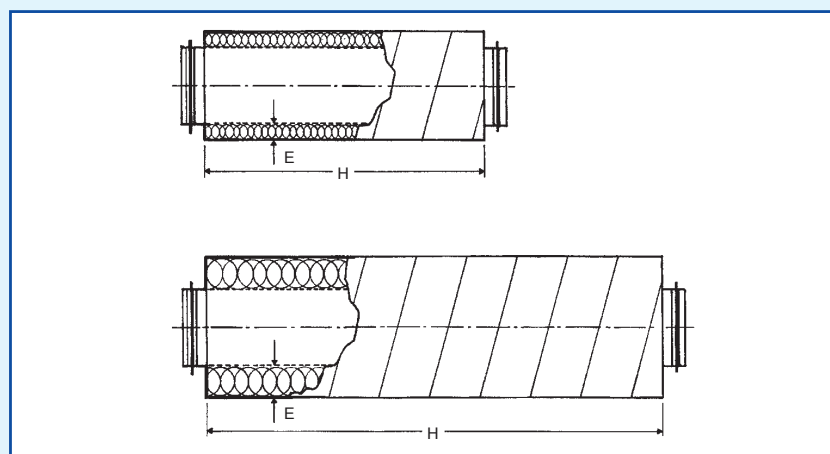
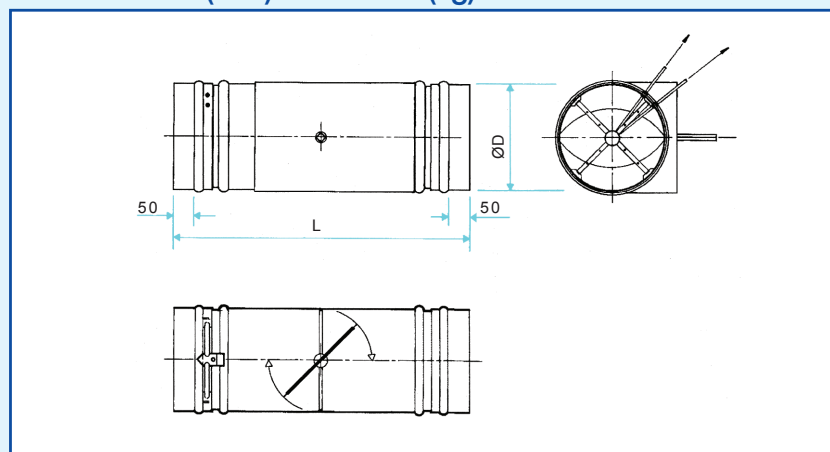
### CONSTRUCTION

- Low leakage robust single blade damper housed within a circular casing.
- Damper rotation via a steel shaft revolving in a self-lubricating bearing providing an unequalled low friction damper operation. The damper interface within the chamber is sealed with a flexible gasket located on the damper blade.
- Unique cross flow sensor located in the upstream section of the VAV casing. The sensing points collectively average the primary air velocity pressure across the entire inlet area. The averaging differential cross flow sensor integrates and monitors the pressure to achieve accurate flow reading.
- Various, analog and digital controls can be factory fitted (optional extra) to suit the specific design criteria sound attenuators (SAR) shown adjacent available in various dimensions to meet the required duct borne sound levels.

### RANGE

Description	Code
<b>Pressure independent VAV</b>	
VA 130 - 12	
VA 130 - 14	
VA 130 - 16	
VA 130 - 20	
VA 130 - 25	
VA 130 - 31	
VA 130 - 40	

### DIMENSIONS (mm) - WEIGHT (kg)



VA	Ø D	E	H	L	V	W	Qnom
12	123	100	300/600/900	500	0.01	3.5	540
14	138	100	300/600/900	500	0.02	3.5	700
16	158	100	300/600/900	500	0.02	4.5	920
20	198	100	300/600/900	500	0.03	5.0	1460
25	248	100	600/900/1200	500	0.05	6.0	2300
31	313	100	600/900/1200	600	0.09	7.0	3700
40	393	100	900/1200	600	0.14	10.0	5980

- V (m<sup>3</sup>) is the overall volume of the basic unit.
- W(kg) is the weight of the basic unit.
- Qnom is the nominal airflow rate in m<sup>3</sup>/h.

# Pressure Independent VAV Boxes

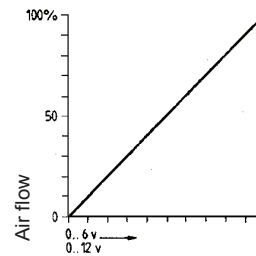
## Accessories

### ELECTRIC AND ELECTRONIC CONTROLS

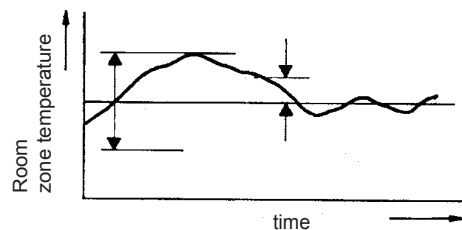
- Electronic controls use line voltage of 220 volts alternating current (A/C) or low voltage 24 volts, and are two position devices. In most cases electronic controls are low-voltage, 24 volts A/C. Electronics controllers use electronics circuits to sense and transmit varying voltages for the proportional controlled devices. Electronics controllers are proportional (P) and proportional plus integral (PI) mode controllers. The controls have ability to measure variable electronic input signals and to produce variable output signals.
- Analog signals express information in measurable increments that are continuously changing or modulating. An example is a thermostat expressing temperature by gradually rising and falling in proportion with the amount of heat increase is considered to be analog. The purpose of automatic control is to modulate the capacity of the VAV terminal unit to satisfy the cooling and heating requirements of a zone condition thus optimize energy and maximise occupant comfort.
- This type of control has traditionally been performed by pneumatic and electric control systems. A comparison between conventional and digital control systems is based on the criteria of system performance, cost, reliability, flexibility, maintainability ease of use and life cycle costs. It is easy to recognise that digital controls can perform complex control sequences far beyond the capabilities of single purpose controllers. Innovations in the design and manufacturer of DDC (Direct Digital Control) product have reduced the costs of these systems substantially, to the point where they can now compete on a first-cost basis. Automatic control is the ability of a system to self correct output signals from a variable device, such as room thermostat or the multipoint averaging velocity sensor. Example for three automatic controls are shown.
- Each condition are differentiated by their response rate to changes within the variable parameter and the rate of accuracy in which they return to the desired condition. Controls can be factory calibrated and tested. Available Control Package by Belimo.

### CONTROLS

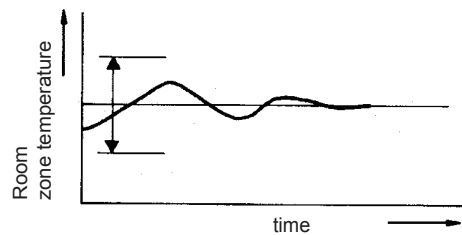
Proportional input/output  
Vs air flow control



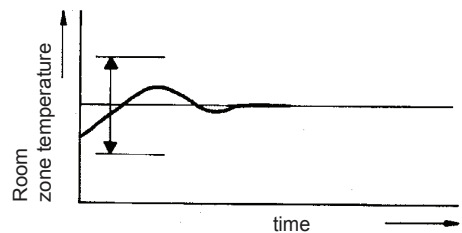
Proportional  
control code (P)



Proportional  
with integral  
control code (PI)

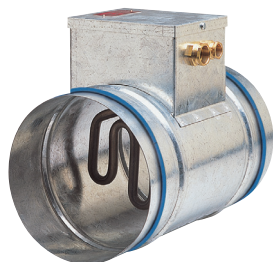


Proportional  
with integral  
and derivative control  
code (PID)



# Pressure Independent VAV Boxes

## Accessories



Circular electric coil

### Advantages

- Heating the fresh air supply.
- Easy installation.
- Homogeneous heating throughout the cross section of the air passage.
- Manual and automatic temperature limiter.
- Duct connection with seals.

## APPLICATION

- Airflow heating for commercial or industrial premises.
- Used as a fan accessory (VC, VEKITA+ or VIK type) or as a terminal coil on air diffusion terminal plenums (diffusers etc.).
- Circular connection on standard ducts.

## DESCRIPTION

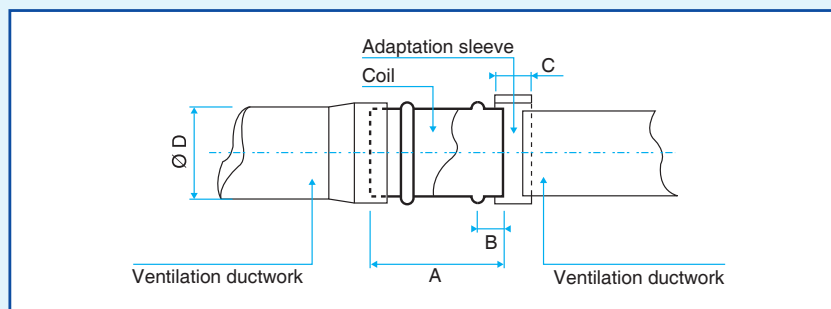
- Galvanised steel shell with seals.
- AISI 321 L stainless steel circuit.
- Single phase 230 V or three-phase 400 V power supply.
- Available with 1 or 3 shielded circuits (1C, 2C or 3C).
- IP 40 box.
- Temperature limiter automatic and manual (60°C/ 120°C up to Ø250, beyond that, 79°C/ 113°C).

## RANGE R7

Description	Code
<b>1-phase</b>	
BCA Ø125 - 0.5 kW - 1C	11090750
BCA Ø125 - 1 kW - 2C	11090751
BCA Ø160 - 0.5 kW - 1C	11090752
BCA Ø160 - 1 kW - 2C	11090753
BCA Ø160 - 1.5 kW - 3C	11090754
BCA Ø200 - 1 kW - 1C	11090755
BCA Ø200 - 2 kW - 2C	11090756
BCA Ø200 - 3 kW - 3C	11090757
BCA Ø250 - 1 kW - 1C	11090758
BCA Ø250 - 2 kW - 2C	11090759
BCA Ø250 - 3 kW - 3C	11090760
BCA Ø250 - 4.5 kW - 3C	11090761
BCA Ø315 - 1 kW - 1C	11090762
BCA Ø315 - 2 kW - 1C	11090763
BCA Ø315 - 4 kW - 2C	11090764
BCA Ø315 - 6 kW - 3C	11090765
BCA Ø355 - 4 kW - 2C	11090767
BCA Ø355 - 6 kW - 3C	11090768
BCA Ø400 - 3 kW - 1C	11090770
BCA Ø400 - 6 kW - 2C	11090771
BCA Ø450 - 5 kW - 2C	11090772
BCA Ø450 - 9 kW - 3C	11090773
BCA Ø500 - 12 kW - 3C	11090775
BCA Ø630 - 18 kW - 3C	11090777
<b>3-phase</b>	
BCA Ø500 - 18 kW - 6C	11090780
BCA Ø500 - 30 kW - 6C	11090781
BCA Ø500 - 36 kW - 6C	11090782
BCA Ø630 - 18 kW - 3C	11090783
BCA Ø630 - 30 kW - 6C	11090784
BCA Ø630 - 36 kW - 6C	11090785

xC: x indicates the number of circuits.

## DIMENSIONS - WEIGHT



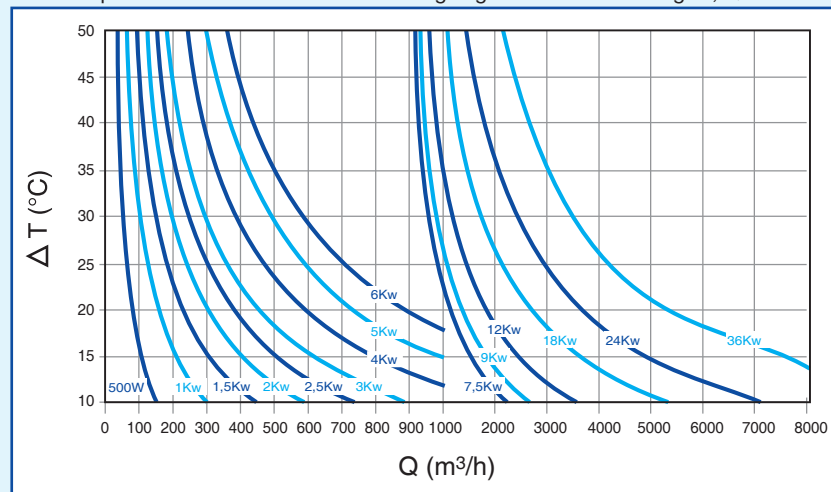
Ø D (mm)	A (mm)	B (mm)	C (mm)	Weight (kg)
125	300	50	120	3.0 - 4.0
160	300	50	120	3.5 - 5.0
200	300	50	120	4.0 - 5.5
250	300	50	120	4.5 - 6.5
315	300	50	120	5.5 - 7.5
355	300	50	120	6.5 - 8.0
400	300	80	250	7.0 - 8.5
450	300	80	250	7.5 - 9.0
500	350	80	250	8.0 - 10.5
630	350	80	250	9.5 - 12.0

## AIRFLOW DETAILS

Air speed in the duct (m/s)	Pressure loss ΔP (Pa)
2	2
4	8
6	18
8	32

## SELECTION CURVES

ΔT = Temperature difference between the outgoing air and the incoming air, Q = airflow.



# Pressure Independent VAV Boxes

## Accessories



Circular regulated electric heating coil

### Advantages

- Accurate incoming air temperature control.
- Easy installation.
- Autonomous.
- Manual and automatic temperature limiter.
- Low temperature sensor and room temperature thermostat.
- Duct connection with seals.

## APPLICATION

- Regulated heating of the air supply in a CMEV ductwork.

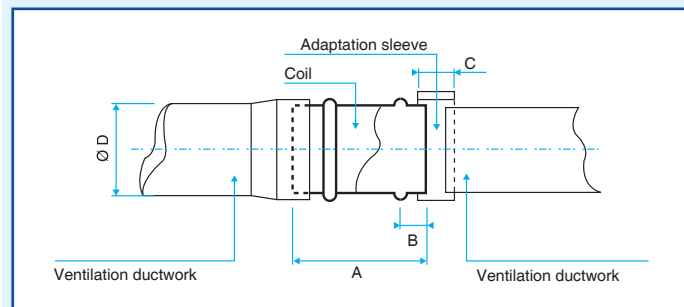
## DESCRIPTION

- Galvanised steel shell with seals. IP40 Control Box - Adjusted using a potentiometer mounted in the box.
- Temperature limiter automatic and manual (60°C/120°C up to Ø 250 mm, beyond that, 79°C/113°C).
- 4 inputs, pressure switch for airflow control, duct sensor, ambient temperature thermostat and external control.

## RANGE R7

Description	Code
<b>1-phase</b>	
BCA R Ø 125 - 0.5 kW	11090800
BCA R Ø 125 - 1 kW	11090801
BCA R Ø 160 - 0.75 kW	11090802
BCA R Ø 160 - 1.5 kW	11090803
BCA R Ø 200 - 1.5 kW	11090804
BCA R Ø 200 - 3 kW	11090805
BCA R Ø 250 - 2.5 kW	11090806
BCA R Ø 250 - 4.5 kW	11090807
BCA R Ø 315 - 3 kW	11090808
BCA R Ø 315 - 6 kW	11090809
BCA R Ø 355 - 7.5 kW	11090810
BCA R Ø 400 - 7.5 kW	11090811
<b>3-phase</b>	
BCA R Ø 160 - 5 kW	11090820
BCA R Ø 200 - 6 kW	11090821
BCA R Ø 250 - 5 kW	11090822
BCA R Ø 250 - 9 kW	11090823
BCA R Ø 315 - 6 kW	11090824
BCA R Ø 315 - 12 kW	11090825
BCA R Ø 355 - 6 kW	11090826
BCA R Ø 355 - 12 kW	11090827
BCA R Ø 400 - 7.5 kW	11090828
BCA R Ø 400 - 15 kW	11090829
BCA R Ø 450 - 9 kW	11090830
BCA R Ø 450 - 18 kW	11090831
BCA R Ø 500 - 9 kW	11090832
BCA R Ø 500 - 18 kW	11090833
BCA R Ø 560 - 12 kW	11090834
BCA R Ø 560 - 24 kW	11090835
BCA R Ø 630 - 12 kW	11090836
BCA R Ø 630 - 24 kW	11090837
BCA R Ø 630 - 36 kW	11090838
<b>Accessories</b>	
Duct sensor +25/+90°C	11090900
Duct sensor -10/+35°C	11090902
Room temperature control thermostat	11090903
Weekly programmable thermostat 230 V	11090904
Battery operated weekly programmable thermostat	11090905
Airflow control kit (20-300 Pa)	11090901

## DIMENSIONS - WEIGHT



Ø D (mm)	A (mm)	B (mm)	C (mm)	Weight (kg)
125	500	50	120	3.0 - 4.0
160	500	50	120	3.5 - 5.0
200	500	50	120	4.0 - 5.5
250	500	50	120	4.5 - 6.5
315	500	50	120	5.5 - 7.5
355	500	50	120	6.5 - 8.0
400	500	80	250	7.0 - 8.5
450	500	80	250	7.5 - 9.0
500	500	80	250	8.0 - 10.5
560	500	80	250	9.0 - 11.5
630	500	80	250	9.5 - 12.0

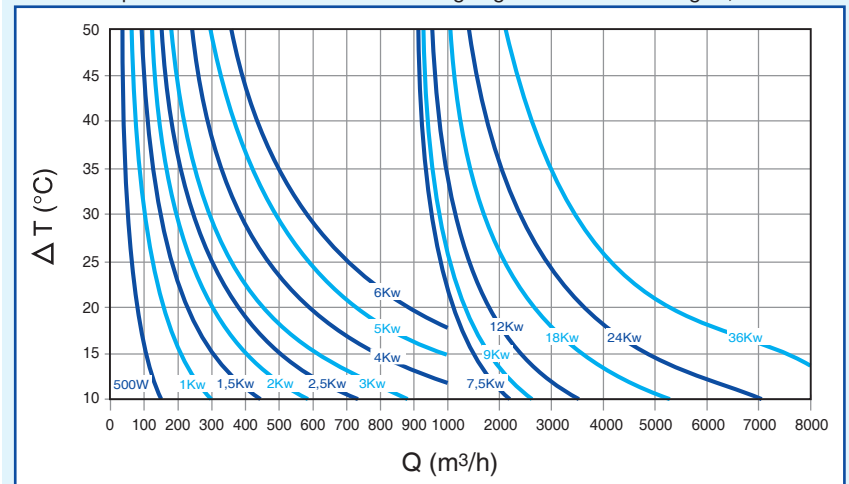
## ELECTRICAL DETAILS

- M = 1-phase, T = 3-phase, I = Current.

BCA R	M 0.5 kW	M 0.75 kW	M 1 kW	M 1.5 kW	M 2.5 kW	M 3 kW	M 4.5 kW
I (A)	2.2	3.3	4.4	6.6	10.1	13.2	19.8
BCA R	M 6 kW	M 7.5 kW	T 4.5 kW	T 5 kW	T 6 kW	T 7.5 kW	T 9 kW
I (A)	26.4	33.0	6.5	7.2	8.7	10.8	13.0
BCA R	T 12 kW	T 15 kW	T 18 kW	T 24 kW	T 36 kW		
I (A)	17.4	21.6	26.0	34.8	52.2		

## SELECTION CURVES

- $\Delta T$  = Temperature difference between the outgoing air and the incoming air, Q = airflow.



# By-Pass VAV Boxes

## By-pass VAV boxes



VA 200

**TWISTED  
+  
VAV  
=  
Your Best  
Comfort Solution**

### Advantages

- Provides airflow to individual zone while by-passing the unneeded air to ceiling plenum for recirculation.
- Delivers relatively constant air flow over the full range of by-pass damper positions.

### DESCRIPTION

- Combination of the advantages of proven air handling concepts to give complete flexibility from a single zone source.
- Provides excellent temperature control and central air distribution with unlimited zoning.
- Simple solution to distribute and control airflow from constant speed FCUs or AHVs
- Multi-zone systems: supplying centralized air distribution from unwanted zones to demand related zones.
- Extensive range of 8 sizes covering volume flow range from up to 5440 m<sup>3</sup>/h.

### CONSTRUCTION

- Manufactured from 20 ga. galvanized mild steel casing.
- Incorporate a 1/2" insulation of sound liner.
- Blades composed of 20 ga. galvanized mild steel with a flexible gasket to assure low leakage.
- Equipped with modulating actuator, which accepts 0-10 or 2-10 V signals from thermostats.
- Electronic thermostat provides accurate modulating - ON/OFF. Standard supply is modulating 0-10 V.
- In case lower noise levels are required, VAV units can be provided with integral sound attenuators to achieve lower noise level.

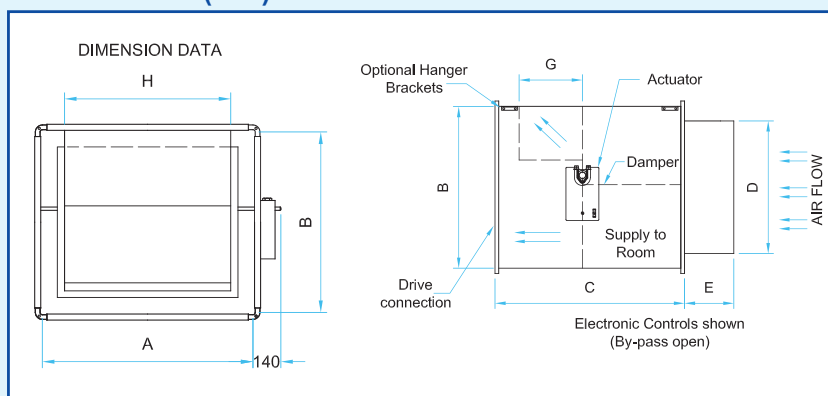
### OPERATION PRINCIPLE

- A variable air volume, by-pass system consists of VAV units connected to the supply air duct of a constant air volume source. A constant air volume of conditioned air is supplied to each VAV unit. The primary damper modulates in response to a zone thermostat demand, to vary the amount of combined air delivered to the occupied zone. Damper modulation will range from full shut off to full open position by supplying variable air volume or to a minimum air volume to the conditioned zone.
- As the primary damper modulates in response to room thermostat demand and once it is satisfied to reduce the air to occupied zone, the excess air is diverted through the secondary by-pass damper into ceiling plenum or ducted return.

### RANGE

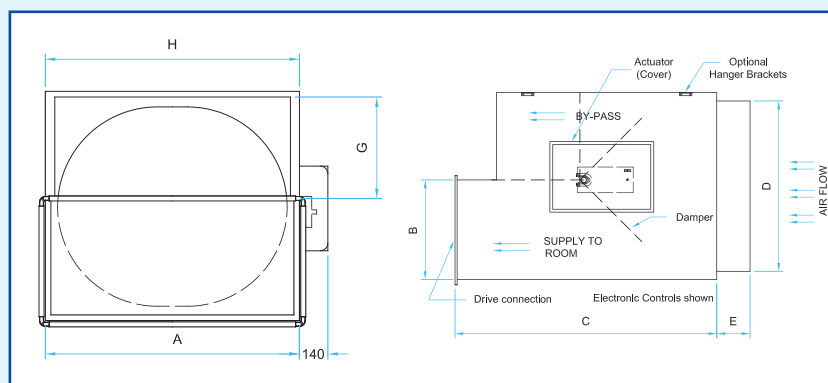
Description	Code
<b>By-Pass VAV</b>	
VA 200 - 02	
VA 200 - 04	
VA 200 - 06	
VA 200 - 08	
VA 200 - 12	
VA 200 - 16	
VA 200 - 24	
VA 200 - 32	

### DIMENSIONS (mm)



Unit size	Discharge		Basic assembly			By-pass opening		Airflow
	A	B	C	D	E	G	H	Q <sub>nom</sub>
02	254	203	400	127	60	111	178	340
04	305	254	400	203	60	137	229	680
06	356	305	552	254	60	238	279	1020
08	406	356	552	305	60	238	330	1360
12	457	406	603	356	60	264	381	2040

• Q<sub>max</sub> is the airflow rate in m<sup>3</sup>/h.



Unit size	Discharge		Basic assembly			By-pass opening		Airflow
	A	B	C	D	E	G	H	Q <sub>nom</sub>
16	508	254	622	406	67	165	432	2550
24	610	254	622	406 x 457	86	165	533	4080
32	813	254	622	406 x 610	92	165	737	5440

• Q<sub>nom</sub> is the nominal airflow rate in m<sup>3</sup>/h.



# By-Pass VAV Boxes

## Performance Data

### SOUND DATA

CFM	$\Delta P_s$	Sound Power db Octave Band						Max. Disc. NC	Radiated NC
		(2) 125	(3) 250	(4) 500	(5) 1000	(6) 2000	(7) 4000		
<b>SIZE 02</b>									
80	.07	40	31	24	17	15	15	--	10
120	.14	47	41	34	28	24	23	12	12
160	.24	51	49	42	36	30	26	14	14
200	.35	55	54	48	42	35	28	19	20
<b>SIZE 04</b>									
160	.05	44	30	22	19	17	20	--	--
240	.12	49	41	33	29	25	25	12	13
320	.21	52	48	41	36	31	28	13	19
400	.33	54	53	47	42	36	31	15	25
<b>SIZE 06</b>									
240	.04	42	31	22	20	18	21	--	--
360	.09	56	39	32	28	25	24	--	11
480	.16	50	45	40	34	30	27	12	14
600	.25	52	49	46	39	34	29	13	22
<b>SIZE 08</b>									
320	.03	41	28	19	18	18	21	--	--
480	.07	46	38	30	26	24	23	--	12
640	.12	49	45	37	31	28	25	11	15
800	.20	52	50	43	35	31	27	13	22

### NOTES:

1.  $\Delta P_s$  static pressure difference from inlet to discharge.
2. Dash (---) indicates sound power db or NC level less than 10.
3.  $\Delta P_s$  is the minimum pressure drop required to deliver CFM shown with the primary damper in wide open position (Bypass Closed).

### Discharge NC levels are based on --

- a) 5 foot rectangular 12" x 12" duct lined with 1" fiberglass insulation.
- b) Rectangular tee attenuation entering branch duct.
- c) 6 foot lined flex duct (8" diameter).
- d) Maximum of 300 CFM per outlet.
- e) Space effect factor (5000 ft<sup>3</sup>) at 5 feet from outlet.
- f) End reflection.
- g) Environmental adjustment factor.

### SOUND DATA

CFM	$\Delta P_s$	Sound Power db Octave Band						Max. Disc. NC	Radiated NC
		(2) 125	(3) 250	(4) 500	(5) 1000	(6) 2000	(7) 4000		
<b>SIZE 12</b>									
480	.03	42	30	21	21	20	21	--	--
720	.06	47	39	31	29	26	24	--	12
960	.11	50	46	39	34	30	26	12	16
1200	.17	53	51	44	38	33	28	13	21
<b>SIZE 16</b>									
840	.03	42	30	22	19	19	18	--	--
960	.06	48	40	33	28	25	22	--	13
1280	.12	52	47	40	35	30	25	11	16
1500	.18	55	53	46	40	34	28	13	23
<b>SIZE 24</b>									
960	.04	41	32	27	18	15	16	--	11
1440	.10	49	42	38	31	27	26	--	15
1920	.18	54	50	46	39	35	33	12	23
2400	.29	58	56	52	46	41	38	14	30
<b>SIZE 32</b>									
1280	.04	44	37	33	27	23	22	--	11
1920	.09	51	47	42	36	32	29	11	15
2560	.15	57	54	48	43	39	34	12	23
3200	.23	61	59	53	48	44	37	14	31

### Radiated NC levels are based on --

- a) Plenum / ceiling effect - 5/8" mineral fiber tile, 35 lb / ft<sup>3</sup>  
- 3 foot plenum
- b) Space effect factor (5000 ft<sup>3</sup>) at 10 feet from source
- c) Environmental adjustment factor.

# Constant Airflow Regulators

## General information



**Advantages**

- Automatically balance airflow at pre-set constant levels.
- Standard (low pressure) and high pressure (150 - 600 Pa)

### APPLICATION

- Airflow is controlled at a pre-set value in HVAC circular ductwork.
- Installation of CMEV and air conditioning.
- Air exhaust and supply.
- Operating temperature range: -10°C/ +60°C.

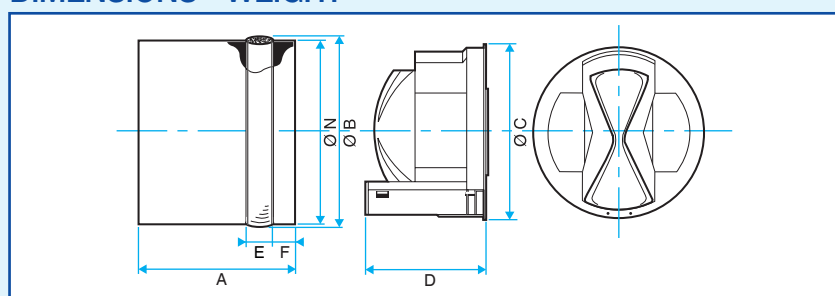
### DESCRIPTION

- Plastic body (M1 fire resistance classification) housing the silicone regulating membrane in a calibrated air passage.
- "Brush type" peripheral outdoor seal.
- Outdoor diameter calibrated for standard duct diameters up to 250 mm.
- Operating range of the standard range: 50-200 Pa.
- Airflow tolerances:
  - Q medium = Q nominal +/- 5 m³/hr for MR ≤ 50 m³/hr,
  - Q medium = Q nominal +/- 10% for MR > 50 m³/hr.
- Operating range of the high pressure range: 150-600 Pa.

### INSTALLATION

- Inserts directly into a circular duct near a connection or a terminal.
- In air exhaust mode: distance equivalent to Ø 3 mm between the MR and the terminal.
- In air supply mode: distance equivalent to Ø 5 mm between the MR and the terminal.
- Direction of assembly indicated on the component.
- Horizontal / vertical.

### DIMENSIONS - WEIGHT



Ø (rated) - Duct (mm)	ØN (mm)	ØB (mm)	ØC (mm)	A (mm)	D (mm)	E (mm)	F (mm)	Weight (g)
80	76	82	76	82	79	15	12	150
100	98	104	96	80	60	13	10	190
125	121	128	119	137	95	13	20	400
160	156	166	148	137	105	20	20	570
200	196	206	192	155	125	20	20	920
250	247	256	234	172	158	20	20	1700

## Standard MR

### RANGE R11

Ø (mm)	Lw* dB (A)	Description	Code	Pack.
80	39.5	MR 15	11016320	10
	42	MR 30	11016321	
	45	MR 45	11016322	
	39	MR 60	11016323	
100	24**	MR 15	11016330	10
	25**	MR 20	11016170	
	26**	MR 25	11016336	
	29**	MR 30	11016331	
	32**	MR 40	11016171	
	33**	MR 45	11016332	
	33**	MR 50	11016337	
	33**	MR 55	11016172	
	33.5**	MR 60	11016333	
	33.5**	MR 75	11016334	
	36**	MR 85	11016173	
	37**	MR 90	11016335	

Lw\*: sound power level at 100 Pa except \*\* at 50 Pa

# Constant Airflow Regulators

## Standard MR



Green Product

### Advantages

- Automatically balance airflow at pre-set constant levels.
- Standard (low pressure) and high pressure (150 - 600 Pa)

## RANGE R11

Ø (mm)	Lw* dB (A)	Description	Code	Pack.
125	25**	MR 15	11016346	10
	29**	MR 25	11016340	
	29**	MR 30	11016347	
	29**	MR 45	11016348	
	29.5**	MR 50	11016341	
	30.5**	MR 60	11016349	
	27.5	MR 75	11016342	
	29	MR 95	11016174	
	29.5	MR 100	11016343	
	30	MR 105	11016175	
	30	MR 110	11016176	
	31	MR 120	11016191	
	32	MR 130	11016344	
	32.5	MR 140	11016213	
	34	MR 160	11016345	
150	28.5	MR 110	11016178	10
	29.5	MR 130	11016370	
	31	MR 150	11016179	
	32	MR 170	11016371	
	34.5	MR 210	11016372	
	37	MR 250	11016373	
160	29	MR 120	11016180	10
	29.5	MR 130	11016350	
	30	MR 140	11016181	
	31	MR 150	11016192	
	31.5	MR 160	11016182	
	32	MR 170	11016351	
	32.5	MR 180	11016183	
	33.5	MR 190	11016184	
	34	MR 200	11016185	
	34.5	MR 210	11016352	
200	30	MR 200	11016360	4
	30.5	MR 225	11016186	
	31.5	MR 250	11016361	
	32	MR 275	11016187	
	32.5	MR 300	11016362	
	-	MR 325	11016188	
	34	MR 350	11016363	
	35.5	MR 400	11016364	
250	34	MR 300	11016365	1
	35	MR 350	11016189	
	35.5	MR 400	11016366	
	36.5	MR 450	11016190	
	37.5	MR 500	11016367	
	38.5	MR 550	11016368	
	40	MR 650	11016369	

Lw\*: sound power level at 50 Pa except\*\* at 100 Pa

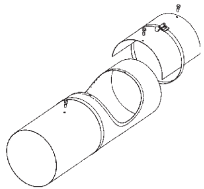
# Constant Airflow Regulators

## High pressure MR

### RANGE R1

Ø (mm)	Description	Code	Pack.
125	MR 110 HP	11016101	10
	MR 150 HP	11016102	10
	MR 200 HP	11016103	10
	MR 240 HP	11016104	10
	MR 290 HP	11016105	
150	MR 210 HP	11016111	10
	MR 260 HP	11016112	10
	MR 310 HP	11016113	10
	MR 380 HP	11016114	10
	MR 450 HP	11016115	10
160	MR 210 HP	11016106	10
	MR 260 HP	11016107	10
	MR 310 HP	11016108	10
	MR 380 HP	11016109	10
	MR 450 HP	11016110	10
200	MR 350 HP	11016116	4
	MR 440 HP	11016117	4
	MR 530 HP	11016118	4
	MR 620 HP	11016119	4
	MR 700 HP	11016120	4
250	MR 550 HP	11016121	1
	MR 600 HP	11016122	1
	MR 800 HP	11016123	1
	MR 950 HP	11016124	1
	MR 1100 HP	11016125	1

## Sleeve with inspection door for MR



### DESCRIPTION

- Enables the MR to be extracted for maintenance.

### RANGE R3

Description	Code
Sleeve with Ø100 mm inspection door	11013121
Sleeve with Ø125 mm inspection door	11013122
Sleeve with Ø150 mm inspection door	11013123
Sleeve with Ø160 mm inspection door	11013124
Sleeve with Ø200 mm inspection door	11013125

## Sound-proofed flexible aluminium duct

### INSTALLATION

- Inserts a length of 3 diameters between the MR and the grille.

### RANGE R9

Ø (mm)	Description	Code
100	Sound proofed alflex aluminium (by 3 m)	11091971
125	Sound proofed alflex aluminium (by 3 m)	11091972
150	Sound proofed alflex aluminium (by 3 m)	11091973
160	Sound proofed alflex aluminium (by 3 m)	11091974
200	Sound proofed alflex aluminium (by 3 m)	11091975
250	Sound proofed alflex aluminium (by 3 m)	11091976

# Volume Control Dampers

## Rectangular VCD - aerofoil blades



SU 651 Q



SU 651 M

### Advantages

- Manual or motorized control.
- Low pressure loss resulting from aerofoil blades.

### DESCRIPTION

- Single and multi-blade volume control dampers designed for quiet, efficient and reliable air volume control in ventilation systems.
- Ruggedly built damper, with a casing of robust assembly formed from channel frame for flanged connection to the ductwork.

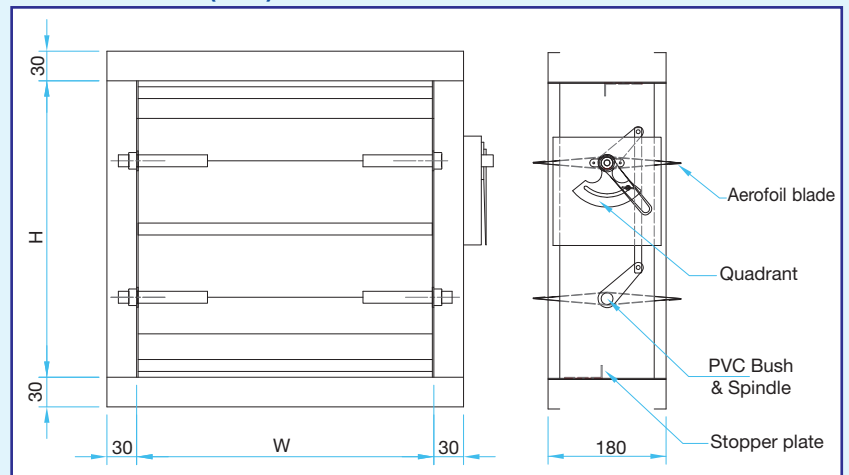
### CONSTRUCTION

- Casing manufactured from 20 ga. galvanized sheet as standard. Other gauges available on request.
- Aerofoil shaped blades manufactured from 24 ga. galvanized steel double skin construction. Opposed blade operation standard. Parallel blade operation available upon request.
- Stainless steel side seal, code J, available on request. Standard neoprene gasket, code N2. Silicon rubber gasket, code N3, available upon request.
- External linkages shall be concealed in a frame, and bolted or welded. Internal linkages available upon request.
- Blades connected to the casing by means of spindles which are mild steel hot dip galvanized. Size shall be 12 mm round or 10 mm square. Spindles bolted, riveted or welded as per specification.
- Standard brass bushes, code B1. PVC bush, code B2. Stainless steel bearing, code B3. Available upon request.
- Mode of operation: manual quadrant, code Q. Motorization, code M, available upon request.
- Minimum size: 100 x 100 mm. Single blade damper construction up to 250 mm height.
- Maximum size: 1000 x 800 mm as single section. Larger sizes can be manufactured in multiple sections for assembly on site.

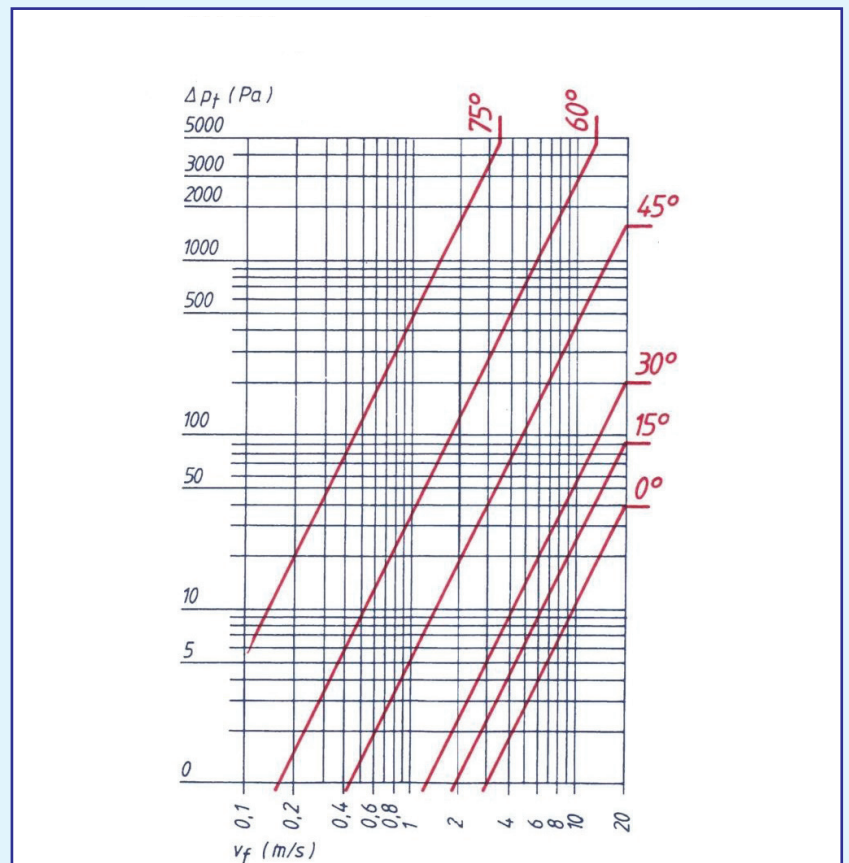
### RANGE

Type	Description	Code
SU 651	Aerofoil blade VCD with casing and blades manufactured from GI	
EU 651	Aerofoil blade VCD with casing, blades, spindles and linkages made from SS (grade 304)	
AU 651	Aerofoil blade type volume control damper with casing and blades manufactured from mill aluminum.	

### DIMENSIONS (mm)



### PRESSURE DROP





# Volume Control Dampers

## Rectangular VCD - single skin blades



SU 650 Q

### Advantages

- Manual or motorised control.

### DESCRIPTION

- Single skin volume control dampers designed for quiet, efficient and reliable air volume control in ventilation and air conditioning systems.
- Ruggedly built damper, with casing of robust assembly formed from channel frame for flanged connections to ductwork.

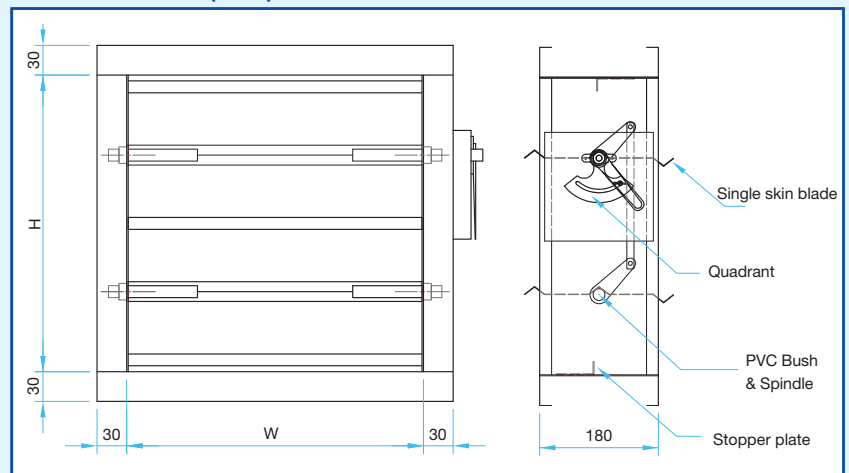
### CONSTRUCTION

- Casing manufactured from 20 ga. galvanized sheet as standard. Other gauges available on request.
- Single skin blades manufactured from 20 ga. galvanized sheet. Opposed blade operation standard. Parallel blade operation available upon request.
- Stainless steel side seal, code J, available upon request. Standard neoprene gasket, code N2. Silicon rubber gasket, code N3, available upon request.
- External linkages shall be concealed in a frame, and bolted, riveted or welded. Internal linkages available upon request.
- Blades connected to the casing by means of spindles which are mild steel hot dip galvanized. Size shall be 12 mm round or 10 mm square. Spindles bolted or welded as per specification.
- Standard brass bushes, code B1. PVC bush, code B2. Stainless steel bearing, code B3, available upon request.
- Mode of operation: standard manual quadrant, code Q. Motorization, code M, available upon request.
- Minimum size: 100 x 100 mm. Single blade damper construction up to 250 mm height.
- Maximum size: 1000 x 800 mm as single section. Larger sizes can be manufactured in multiple sections for assembly on site.

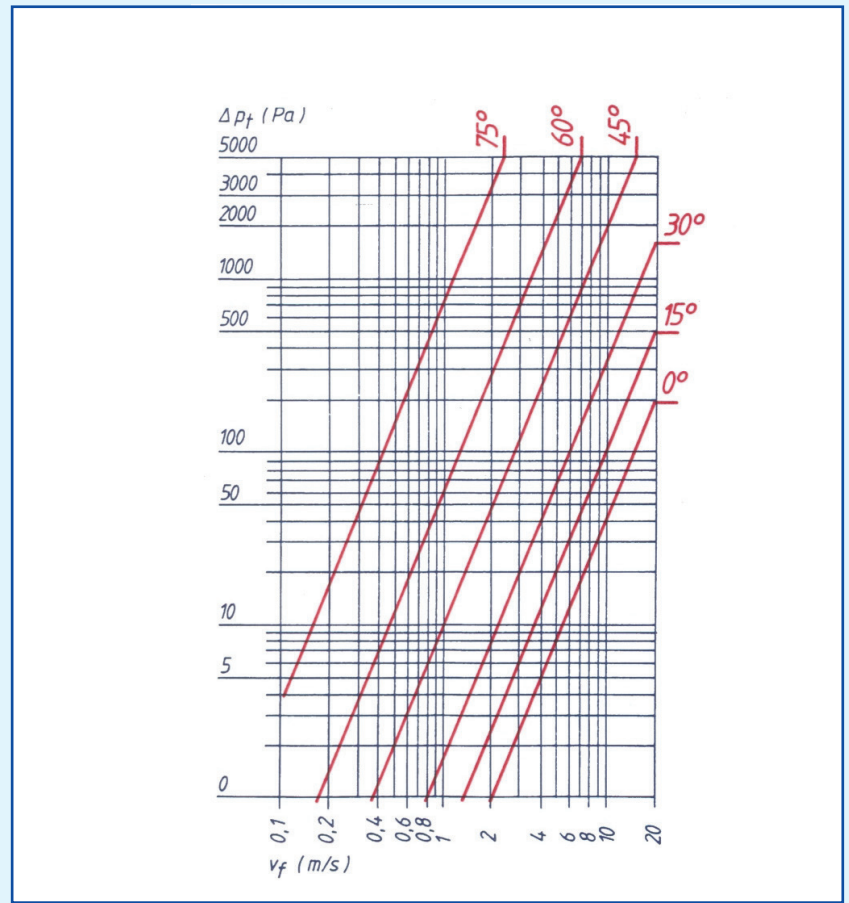
### RANGE

Type	Description	Code
SU 650	Single skin blade VCD with casing and blades manufactured from GI	
EU 650	Single skin blade VCD with casing, blades, spindles and linkages made from SS (grade 304)	
AU 650	Single skin blade VCD with casing and blades manufactured from mill aluminium	

### DIMENSIONS (mm)



### PRESSURE DROP



# Volume Control Dampers

## Circular VCD



SR 653 Q

### Advantages

- Manual or motorised control.

### DESCRIPTION

- Volume control dampers are designed for quiet, efficient and reliable air volume control in ventilation systems.

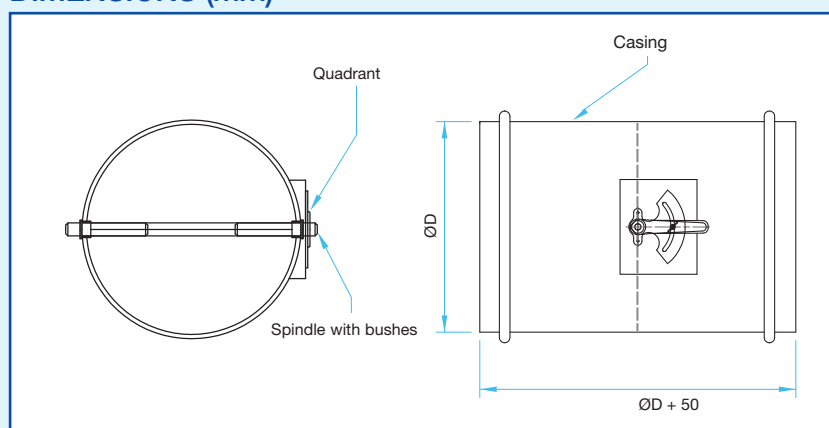
### CONSTRUCTION

- Casing manufactured from 20 ga. galvanized sheet as standard. Other gauges available on request.
- Blades manufactured from 20 ga. galvanized steel up to 500 mm and 18 ga. for larger sizes.
- Standard neoprene gasket, code N2.
- Blades connected to the casing by means of spindles which are mild steel hot dip galvanized. Size shall be 12 mm round or 10 mm square. Spindles bolted, riveted or welded as per specification.
- Standard brass bushes, code B1. PVC bush, code B2. Stainless steel bearing, code B3, available upon request.
- Mode of operation: standard manual quadrant code Q. Motorization, code M, available upon request.
- Minimum size: 100 mm.
- Maximum size: 700 mm.

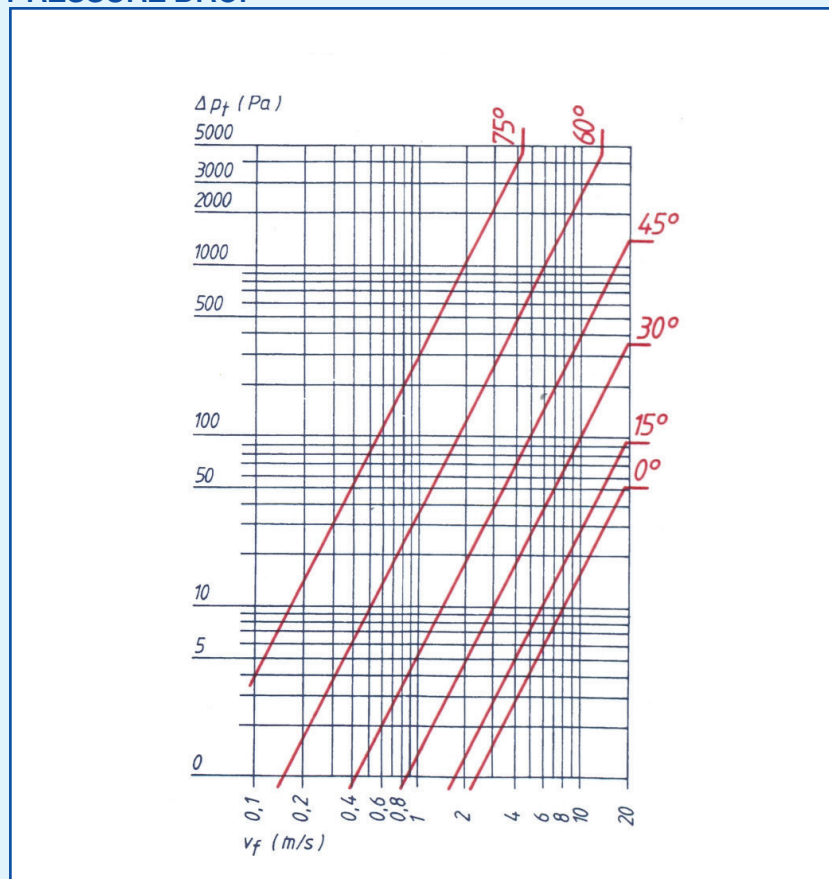
### RANGE

Type	Description	Code
SR 653	Circular VCD with casing and blades manufactured from GI	
ER 653	Circular VCD with casing and blade made from SS (grade 304)	

### DIMENSIONS (mm)



### PRESSURE DROP

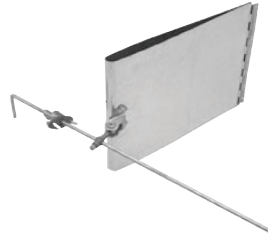


# Volume Control Dampers

## Splitter dampers



SU 655



Aerofoil Blade

### Advantages

- Easy solution for balancing and adjusting airflow in duct branches.

### DESCRIPTION

- Airflow balancing and adjustment in duct branches.

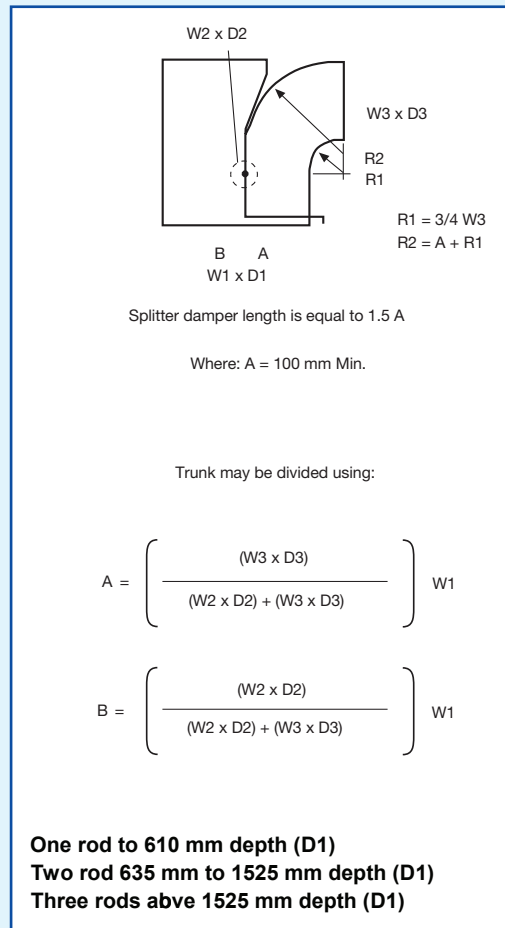
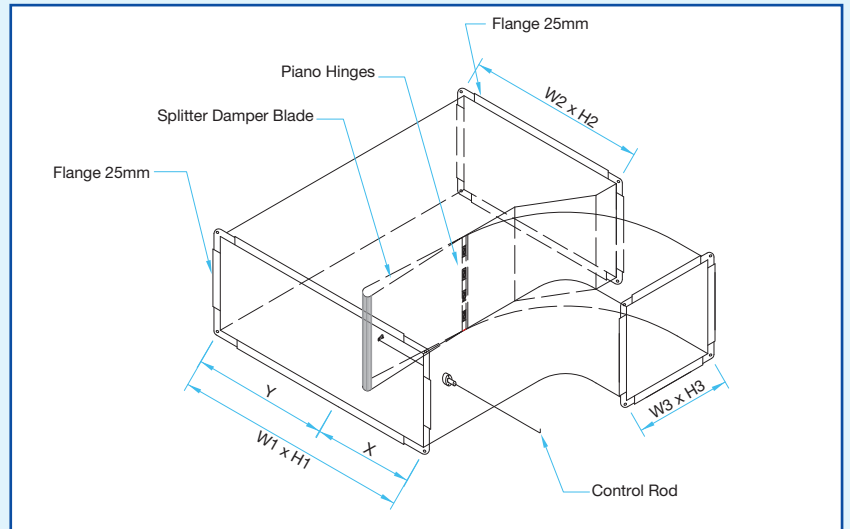
### CONSTRUCTION

- Manufactured from 20 ga. galvanized sheet.
- Aerofoil blade complete with brackets, nuts and bolts, continuous piano hinge and control rod.

### RANGE

Type	Description	Code
SU 655	Aerofoil blade splitter damper	

### DIMENSIONS (mm)



# Volume Control Dampers

## Motorisation and accessories



### APPLICATION

- Motorisation and adjustment of SU650, SU651 and SR653 dampers.
- Choice of actuators depending on torque, modulated or total open / close functions, safety functions and data feedback.

### DESCRIPTION

- Actuators covering torque levels of 2 to 20 Nm.
- Open / close type or modulating type.
- Safety functions: re-arming spring.
- Data feedback: actuators with contacts.
- All the F type actuators have a reversible sprocket wheel in the event that the shaft is too short.
- Actuators type 24: 24 V AC / DC.
- Actuators type 230: 230 V AC.

### DETAILS

Damper type	Max. area (m <sup>2</sup> )	Type of actuators	Torque (Nm)	Circular shaft Ø (mm)	Square Shaft (mm)
<b>Non-spring return actuators</b>					
SU 650 M	up to 1 m <sup>2</sup>	LM 24 A-S & LM 230 A-S	5	6-20	6-20
		LM 24 A-SR & LM 230 A-SR			
SU 651 M	from 1 to 2 m <sup>2</sup>	NM 24 A-S & NM 230 A-S	10	8-20	8-20
SR 653 M		NM 24 A-SR & NM 230 A-SR			
	from 2 to 4 m <sup>2</sup>	SM 24 A-S & SM 230 A-S	20	10-20	10-20
		SM 24 A-SR & SM 230 A-SR			
<b>Spring return actuators</b>					
SU 650 M	up to 0.4 m <sup>2</sup>	TF 24-S & TF 230-S	2	6-12	6-12
		TF 24-SR & TF 230-SR			
SU 651 M	from 0.4 to 0.8 m <sup>2</sup>	LF 24-S & LF 230-S	4	8-16	8-16
SR 653 M		LF 24-SR & LF 230-SR			
	from 0.8 to 3 m <sup>2</sup>	AF 24-S & AF 230-S	15	10-20	10-16
		AF 24-SR & AF 230-SR			

### ACCESSORIES

Description	Code
<b>Contacts (for LM, NM and SM models only)</b>	
S1 A	
S2 A	

### NON-SPRING RETURN ACTUATORS

Description	Code
<b>Open / close type</b>	
LM 230 A - S	
LM 24 A - S	
NM 230 A - S	
NM 24 A - S	
SM 230 A - S	
SM 24 A - S	
<b>Modulating type</b>	
LM 230A - SR	
LM 24A - SR	
NM 230A - SR	
NM 24A - SR	
SM 230A - SR	
SM 24A - SR	

### SPRING RETURN ACTUATORS

Description	Code
<b>Open / close type</b>	
TF 230 - S	
TF 24 - S	
LF 230 - S	
LF 24 - S	
AF 230 - S	
AF 24 - S	
<b>Modulating type</b>	
TF 230 - SR	
TF 24 - SR	
LF 230 - SR	
LF 24 SR	
AF 230 - SR	
AF 24 SR	

# Non Return Dampers/Pressure Relief Dampers

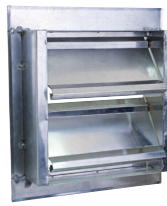
## Non return / pressure relief dampers



SG 661  
Non return damper  
(duct mounted)



SG 663  
Non return damper  
(wall mounted)



SG 662  
Pressure relief damper  
(wall mounted)

### Advantages

- NRD prevents reverse airflow.
- PRD releases excess pressure inside pressure controlled rooms.
- Protection against ingress of untempered air, rain and birds into air conditioning system.

### DESCRIPTION

- Non return/pressure relief dampers are designed for use in intake and discharge opening in commercial and residential air conditioning systems.
- When the ventilation system is on, the blades of the non-return damper are held in the open position by the airflow.
- If the system is switched off, the damper blades close automatically, thus preventing reverse airflow and giving protection against the ingress of untempered air, rain and birds into the air conditioning system.

### CONSTRUCTION

#### SG 661

- Non return damper designed to be duct mounted.
- Frame & blades made from 20 ga. galvanized steel.
- Round spindles Ø 12 mm linked together by means of GI linkages.
- Gasket is provided on blade tips for low leakage.

#### AG 661

- Same as SU 661.
- Frame and blades manufactured from mill finish aluminium.

#### EG 661

- Same as SU 661.
- Only frame and blades manufactured from SS (grade 304).

#### SG 663

- Non return damper.
- Wall mounted.
- Frame and blades manufactured from 20 ga. galvanized steel. Other gauges available upon request. Blades are fixed on Ø 12 mm round spindle and are linked together by GI linkages.

#### AG 663

- Same as SG 663.
- Only frame and blades manufactured from mill finish aluminium.

#### EG 663

- Same as SG 663.
- Only frame and blades manufactured from mill finish SS (grade 304).

#### SG 662

- Pressure relief damper.
- Wall mounted.
- Casing manufactured from 18 ga.
- Blades manufactured from 20 ga. galvanized steel sheet.

#### AG 662

- Same as SG 662.
- Only frame and blades manufactured from mill finish aluminium.

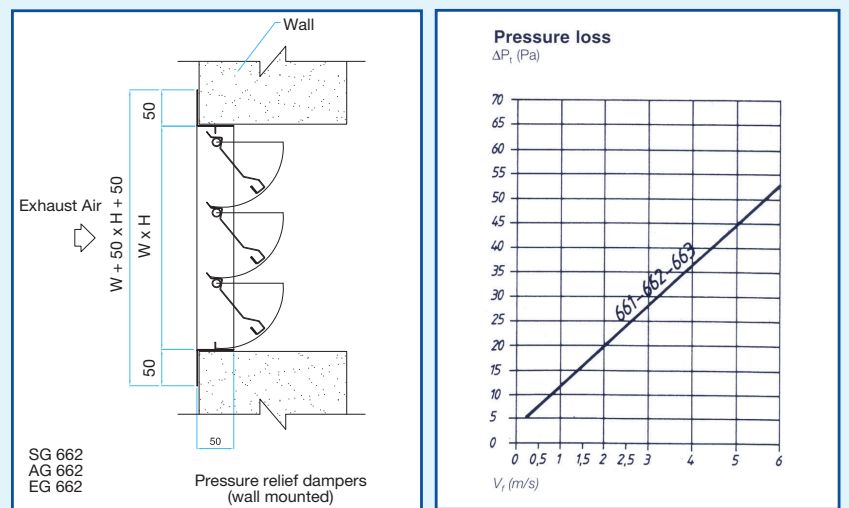
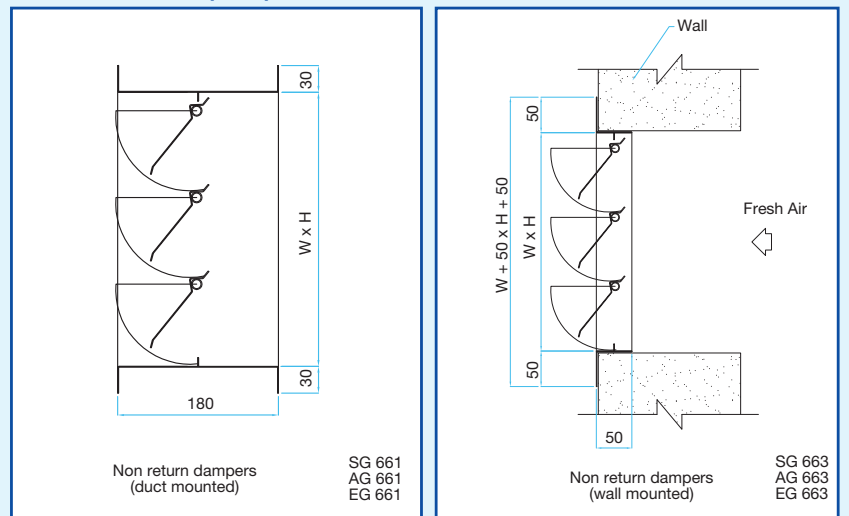
#### EG 662

- Same as SG 662.
- Only frame and blades manufactured from SS (grade 304).

### AVAILABLE OPTIONS

- Belimo actuator, code M.
- Brass / PVC bushes, code B1/B2.
- Counter weight, code K.
- Natural anodized aluminium, code A.
- Power coated to RAL colour, code Z.

### DIMENSIONS (mm) - PRESSURE DROP



### RANGE

Type	Description	Code
SG 661	Duct mounted NRD, casing and blades made from GI	
AG 661	Duct mounted NRD, casing and blades made from aluminium	
EG 661	Duct mounted NRD, casing and blades made from SS (grade 304)	
SG 663	Wall mounted NRD, casing and blades made from GI	
AG 663	Wall mounted NRD, casing and blades made from aluminium	
EG 663	Wall mounted NRD, casing and blades made from SS (grade 304)	
SG 662	Wall mounted PRD, casing and blades made from GI	
AG 662	Wall mounted PRD, casing and blades made from aluminium	
EG 662	Wall mounted PRD, casing and blades made from SS (grade 304)	

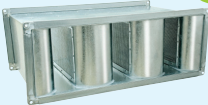


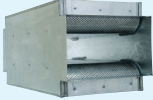



# Project Reference List

Below are few project references supplied by ALDES.

S. No.	Project	Consultant/Client	Contractor	Location
1	ADCB Head Quarter	APG	ETA	Abu Dhabi
2	ADNOC Head Quarter	Atkins	ETA	Abu Dhabi
3	Ajman University	Adnan Saffarini	ETTS	Abu Dhabi
4	Al Bateen Airbase	DMW	Code Contracting	Abu Dhabi
5	Bab & Buhasa Substation	Lahmeyer	York's	Abu Dhabi
6	Cosmetic Surgery Hospital for American Academy	Art Consultants	Elemec	Abu Dhabi
7	Etihad Airways Complex	ACG	Verger	Abu Dhabi
8	Qasr Al Sarab	Halcrow Yolles	ALEC	Abu Dhabi
9	Sheikh Khalifa Medical Centre	Ministry of health	Al Sabah Company	Abu Dhabi
10	SVC Plant	Lahmeyer	ACECO/York	Abu Dhabi
11	Al Gurg Tower	RMJM	TTE	Dubai
12	Al Mas Tower	W. S. Atkins	ETA	Dubai
13	American School	RMJM	Drake & Scull	Dubai
14	Concorde Tower	Arif & Bintook	Drake & Scull	Dubai
15	Emirates Flight Catering	IBA	Transgulf	Dubai
16	Emirates Sports Centre	Spec/Emirates Airlines	Bilt Middle East	Dubai
17	Harvard Medical School	Arif & Bintook	Transgulf	Dubai
18	Iris Tower	Atkins	ETA	Dubai
19	JC Mcleans Factory	Diar	Trinity	Dubai
20	Jumeirah Beach Club	Roberts and Parteners	Diplomat	Dubai
21	Latifa Tower	Arkiplan	ETA	Dubai
22	Madina Jumeirah Resort III	RPW	Transgulf	Dubai
23	Mall of the Emirates	WSP watson	Khansaheb/Voltas	Dubai
24	Marina View Towers @ Dubai Marina	Adnan Saffarini	Transgulf	Dubai
25	Mott McDonalds Office	Mott McDonalds	Al Reyami	Dubai
26	Muraqqabad Police Station	Arenco	Bilt Middle East	Dubai
27	PVG & HVG Warehouse	Arif & Bintook	Al Naboodah	Dubai
28	Renaissance Hotel at Motor City	Burt Hill	Thermo	Dubai
29	Sky Courts	Hydro	China State	Dubai
30	Zulekha Hospital	Electrowatt	Jamaheer	Dubai
31	Fujairah Beach Resort	Archon	Bilt Middle East	Fujairah
32	Sheikh Khalifa Specialist Hospital	Bayati	ETA	RAK
33	American University	AECOM	AMBB	Sharjah
34	Beach Tower	Consultaire	ETA	Sharjah
35	Palm Tower	Consultair	ETA	Sharjah
36	Petrofac Tower	Consultair/Al Turath/Arenco	ETA	Sharjah
37	Research Laboratory	Cansult	GECO	Sharjah
38	Bahrain International Circuit	Tilke	Almoayed-Bhn	Bahrain
39	Isa Sport City	Gemac	Almoayyed	Bahrain
40	Sheikh Isa Library	EMDEG	Al Komed	Bahrain
41	Sofitel Zallaq Resort	Halcron	Awal Products/Awdco	Bahrain
42	Ministry of Defense	MOD	Airmech	Oman
43	Ministry of Higher Education	Gulf Engineering Consultancy	Al Adrak	Oman
44	Palm Garden @ Sohar	Kadri Consultant	Larsen & Toubro	Oman
45	Qasr Al Alam	RCA	IRACO	Oman
46	Sohar Court Complex	National Engineering Office	Drake & Scull	Oman
47	Tilal Complex	IBN Khaldun	Bahwan Engg	Oman
48	AKH Tower	Syna Development	Almoayyed	Qatar
49	Al Udeid project	Qatar Armed Forces	Almoayed/Voltas	Qatar
50	Business Park & Hotel Facilities	AEB	QEMG	Qatar
51	Khalifa stadium	Midmac	Qatari Engg	Qatar
52	Pearl Qatar Parcel 1C, 2A, 7A	KEO	Arabian AC	Qatar
53	School of Foreign Services	KEO	Midmac Cont.	Qatar
54	Texas A & M College	QP/KEO	Midmac Cont.	Qatar
55	Two Oil Platform for Maersk Oil	Maersk Oil Qatar S.A. / GPMC	Specialist Services	Qatar
56	UB 400	Kahrama	Butec	Qatar
57	Woqod Tower	Romatre	Diplomat	Qatar

# Selection Guide

Category	Model	Description	Sound attenuation		Pressure loss	AHU
			Low frequency	High frequency		
Sound Attenuators	<b>Rectangular sound attenuators</b>  <span style="color: green; font-size: small;">Green Product</span>	→ SA20 • Highly effective at medium & high frequencies • SA or SAL type baffles • Available with air gaps from 75 mm - 200 mm • Easy installation	✓✓	✓✓✓	✓	✓✓
	<b>Circular sound attenuators</b> 	→ SAR100 • Standard circular sound attenuator • Acoustic infill 100 mm thick • Available in spigot or flange connection • Circular sound attenuator with pod (SARP 100) available upon request	✓	✓	✓✓	✓✓✓
	<b>Active circular sound attenuators</b>  <span style="color: green; font-size: small;">Green Product</span>	→ ACTA • Active circular sound attenuator with pod • Highly effective at low frequency • Easy installation	✓✓✓	✓✓	✓✓	✓✓
	<b>Cross talk sound attenuators</b> 	→ SCS • Designed for inline duct mounting in system where rooms are served by branches of common duct • Reduce noise transfer in adjacent rooms	✓	✓	✓	✓✓
Category	Model	Description	Sound attenuation	Comfort	Ventilation	AHU
Louvres	<b>Acoustic louvres</b> 	→ SU 631 / SU 632 • Air intake or air exhaust • Acoustic infill for reduced noise • SU 632: combination of two back-to-back SU 631 acoustic louvres	✓	✓✓	✓✓	✓

# Terminology

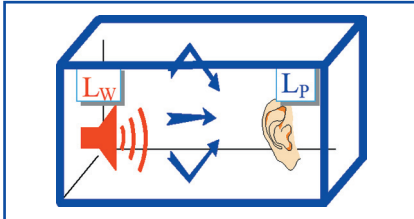
## General Information

### DEFINITIONS

The following terms are commonly used in the field of acoustic and understanding of their practical (rather than academic) meaning and import might be of use to the ventilation engineer. (as a high tone) or slowly (a low tone) or somewhere in the middle, and we hear these pressure changes as sound.

#### 1. Attenuation

The reduction of sound level per unit distance by divergence, diffusion, absorption or scattering.



Pressure ( $L_p$ ) - Power ( $L_w$ )

#### 2. Sound power level ( $L_w$ )

A level which depends only on the source and is independent of the environment or location. The sound power level of a fan is therefore very useful information since any level quoted can be compared directly with data from any other manufacturer.

#### 3. Sound pressure level ( $L_p$ )

A measured sound level which is an indication only of the noise produced at source since environmental factors such as reverberation and distance from the source shall affect the measurement. The sound pressure level of a fan is not very useful since environmental factors apparent when the unit was measured may or may not be present in the actual location of the plant.

#### 4. Decibel (DB)

Commonly, the unit used to measure sound. It is a logarithmic ratio of two sound pressures or sound powers where one is a reference level. Care must be exercised when mathematically manipulating decibels.

#### 5. A-weighting

The A-weighting is a collection of coefficients to be added to the acoustic pressure levels or acoustic power levels for each octave band. The overall acoustic pressure level is therefore closer to sensorial perception by the human ear.

#### 6. Criteria

Noise levels which are subjectively or objectively acceptable in a given environment. The most commonly used criteria are Noise Criteria Curves (NC Levels), Noise Rating Curves (NR Levels) and dB (A).

#### 7. Ductborne noise

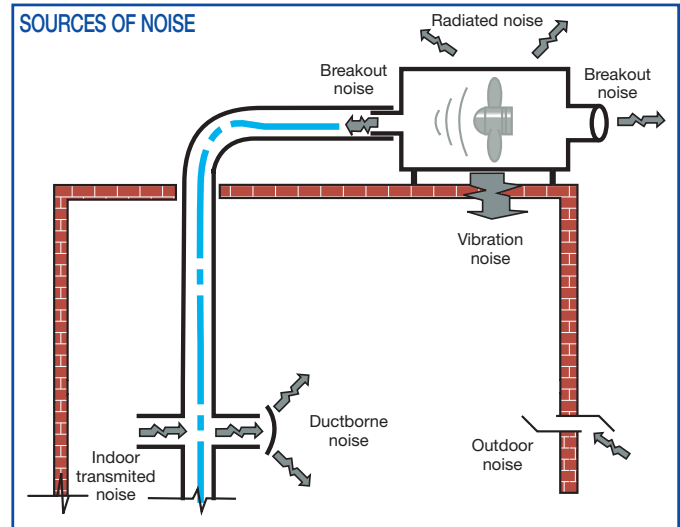
Noise which is transmitted along ductwork, both upstream and downstream of a fan.

#### 8. Flanking noise (breakout)

Noise transmitted through a barrier, often a fan casing or ductwork. Any indirect noise path which tends to devalue noise control measures used to reduce the transmission along the more obvious paths.

#### 9. Noise outlet

Usually a grille or a diffuser. Any opening acting as a terminal element on either an extract or supply system.



#### 10. Direct sound power level

Noise, which is transmitted directly from a source (i.e. a grille or diffuser) without reflection.

#### 11. Reverberant sound power level

Noise, which is transmitted by reflection from room surfaces.

#### 12. Reverberation time

A measurement of a room acoustic "reflectiveness".

#### 13. Background noise

It is the constant noise level measured in the absence of any building occupants when all of known sound sources have been turned off.

#### 14. Insertion loss

A measure of the noise reduction capability of an attenuator (sometimes of a partition) so named after the method of testing where a section of ductwork is replaced by an attenuator between two test rooms. One room contains the noise source and the other sound level measuring equipment. The difference in recorded noise level is said to be the insertion loss due to the insertion of the attenuator in the system.

#### 15. Regenerated noise

Noise in addition to that produced by the fan, caused by air passing over fixed duct elements such as blades on grilles, dampers, air turns, splitters in attenuators, etc. Not normally a problem on low velocity systems and is not dealt with in this booklet.

#### 16. Frequency (Hz.)

The pitch of sound. The number of sound pressure waves arriving at a fixed point per second.

#### 17. Octave bands

Subdivisions of the frequency range each identified by its mid (or centre) frequency. By international agreements these comprise 63, 125, 250, 500, 1k, 2k, 4k and 8k Hz, and sometimes 31.5 Hz.

# Acoustic Design

## Definition & basic principles

### NOISE CONTROL PRINCIPLES

There are three distinct stages to the noise control process:

1. Source
2. Transmission
3. Reception

Noise control problem involves examining the noise sources (fan noise, duct noise, diffuser noise and building noise), the sound transmission paths and the receivers.

For most HVAC system, the sound sources are associated with the building mechanical and electrical equipment. Noise travels from the source to the receiver through many possible sound transmission paths, (structure-borne path through floor, airborne path through supply air system, duct breakout from supply air duct, airborne path through return air system, and airborne path through mechanical equipment room wall). Sound sources are the components that either generate noise, like electric motors, or produce noise when air passes by them, like dampers or diffusers. Sound receivers are generally the occupant of the building. The noise control engineers are most often constrained to modify the sound transmission paths as a means of achieving the desired sound levels in occupied areas of a building.

### HOW TO CONTROL THE NOISE

Efforts to control noise and vibration in a wide range of mechanisms and devices inevitably require the use of passive acoustical materials. To achieve the greatest performance per dollar requires not only the correct choice of materials, but also an understanding of how they work, and of how and where to install them. All passive noise control systems use at least one of the following material types:

- **Barrier...** Enclosures, weighted materials
- **Walls Absorption materials...** Acoustical foams, fibrous batts or blankets acoustical tiles.
- **Vibration isolators...** Equipment mounts plastic or rubber-based bushing and grommets, steel spring equipment supports...
- **Damping materials...** Plastic sheets, mastic solutions, adhesive films.

To carry out an accurate acoustic assessment of a ductwork run for the selection of a silencer, the following information will be required:

#### 1. Ductwork losses

This is assessed from ductwork layout drawing provided by the design team. However site co-ordination can often result in some ductwork runs being altered. Ductwork losses should always be checked with the mechanical contractor prior to final schedule selection of the silencers.

#### 2. Grille size and location

Required to assess end reflection. 'The End Reflection - the energy loss and subsequent attenuation of sound change in cross section from one area to another and directivity' without the need for detailed drawing, air volumes and approximate pressure and fan type.

#### 3. Number of noise sources in a room

For instance one extract and one supply grille would be two noise sources. This would add 10 (Log<sub>2</sub>) to the overall sound pressure, i.e. 3dB. Hence if one calculated NR30 independently for each noise source, without taking into account the two noise sources within the calculation, the overall result could be NR30 + 3dB, an excess. The greater the number of noise sources, the worse the potential problem.

#### 4. Sound power to room

Sound is measured in decibels, a logarithmic scale, and this changes in proportion to the amount of air entering a room from the total being handled by the fan.

#### 5. Room size (volume)

In reality, it is really the room volume that one requires. However, most room tend to be a standard Length x Width x Height, hence 'Room Size'.

#### 6. Reverberation time (RT)

The reverberation time can dramatically change overall sound pressure measured in a room from the same sound source. The lower the reverberation time the lower the contribution to the overall sound level, and vice versa with a higher RT.

However, as it is affected by the amount of total absorption in a room (the great number of soft furnishings, i.e. chairs, curtains, carpets etc., the greater the absorption and the lower the reverberation time and hence overall sound level in the room, from a given noise source), it is often difficult to assess at design stage. Opposite is a basic guide for different applications where the RT is unknown.

#### 7. Sound power to outlet

This is effectively the outlet for the sound power, which in the case of an induct silencer is often an air inlet or outlet grill, diffuser, stub duct or other termination, such as an atmospheric louvre.

#### 8. Distance to listener

The distance from the sound source (for instance the grille) to the receiver (the human ear). Generally for a ceiling mounted grille with a standard room height of 2.8m - this is usually calculated as 1.0m (average human height is 1.8m). In the case of an atmospheric calculation this will change from site to site and will be dependent upon the proximity of other noise sensitive areas on the site, i.e. office or bedroom windows and / or the site legal boundary, i.e. industrial location or close to residential properties.

The above is a basic guide only with regards to the minimum of information required to a carryout an induct silencer selection.

Please, note this system is a guide only and not a substitute for accurate calculations.

# Design Guidelines

## Design guidelines for HVAC-related background sound in rooms (Ref. ASHRAE Handbook)

Room Types	RC(N); QAI ≤ 5dB Criterion a,b
<b>Residences, Apartments, Condominiums</b>	25 – 35
<b>Hotels / Motels</b>	
Individual rooms or suites	25 – 35
Meeting / banquet rooms	25 – 35
Corridors, lobbies	35 – 45
Service / support areas	35 – 45
<b>Office Buildings</b>	
Executive and private offices	25 – 35
Conference rooms	25 – 35
Teleconference rooms	25 (max)
Open-plan offices	30 – 40
Corridors and lobbies	40 – 45
<b>Hospitals and Clinics</b>	
Private rooms	25 – 35
Wards	30 – 40
Operating rooms	25 – 35
Corridors and public areas	30 – 40
<b>Performing Arts Spaces</b>	
Drama theaters	25 (max)
Concert and recital halls c	
Music teaching studios	25 (max)
Music practice rooms	30 - 35 (max)
<b>Laboratories (with fume hoods)</b>	
Testing / research, minimal speech communication	45 – 55
Research, extensive telephone use, speech communication	40 – 50
Group teaching	35 – 45
<b>Churches, Mosques, Synagogues</b>	
General assembly	25 – 35
With critical music programs <sup>c</sup>	
<b>Schools<sup>d</sup></b>	
Classrooms up to 70 m <sup>2</sup>	40 (max)
Classrooms over 70 m <sup>2</sup>	35 (max)
Large lecture rooms, without speech amplification	35 (max)
<b>Libraries</b>	30 – 40
<b>Courtrooms</b>	
Unamplified speech	25 – 35
Amplified speech	30 – 40
<b>Indoor Stadiums, Gymnasiums</b>	
Gymnasiums and natatoriums	40 – 45
Large seating-capacity spaces with speech amplification <sup>e</sup>	45 – 55

<sup>a</sup> The values and ranges are based on judgment and experience, not on quantitative evaluations of human reactions. They represent general limits of acceptability for typical building occupancies. Higher or lower values may be appropriate and should be based on a careful analysis of economics, space use, and user needs.

<sup>b</sup> When quality of sound in the space is important, specify criteria in terms of RC(N). If the quality of the sound in the space is of secondary concern, the criteria may be specified in terms of NC or NCB levels of similar magnitude.

<sup>c</sup> An experienced acoustical consultant should be retained for guidance on acoustically critical spaces (below RC 30) and for all performing arts spaces.

<sup>d</sup> HVAC-related sound criteria for schools, such as those listed in this table, may be too high and impede learning by children in primary grades whose vocabulary is limited, or whose first language is not the language of the class. Some educators and others believe that the HVAC-related background sound should not exceed RC 25(N).

<sup>e</sup> RC or NC criteria for these spaces need only be selected for the desired speech and hearing conditions.



# Rectangular Sound Attenuators

## Rectangular sound attenuators



SA 20  
SA type baffle



SA 20  
SAL type baffle

Green Product

### Advantages

- Efficient at medium and high frequencies.
- Easy installation.

### APPLICATION

- Attenuation of fan / AHU noises propagated through air ducting.
- Highly effective at medium and high frequencies.
- Air exhaust and air supply.

### DESCRIPTION

- Sound attenuators and sound baffles are heavy duty type, galvanized mild steel construction for air conditioning and industrial applications.

### CONSTRUCTION

- Casing and baffles manufactured from galvanized sheets metal of 20 ga. thickness in accordance to BS 2989 grade Z2 G275 casing are formed with lock formed seams. The construction complies with DW 144 Class B code, slide on flanges are fitted as standard.

- The baffle contains acoustic infill which complies with Class O building regulation. The infill cloth has a black glass tissue facing and is contained behind perforated sheet of 0.7 mm thickness on both sides.

D = Width of baffles (200 mm)

S = Air gap (75 to 200 mm)

S+D = 1 module

- Minimum size: W = 275 mm; H = 300 mm; L = 600 mm.
- Maximum size: W=2100 mm; H=1800 mm; L=2400 mm.

NOTE: bigger sizes available upon request and will be supplied in sections.

### INSTALLATION

- Install directly on a duct section.
- Horizontal / vertical Installation.
- Indoor / outdoor.

### AVAILABLE OPTIONS

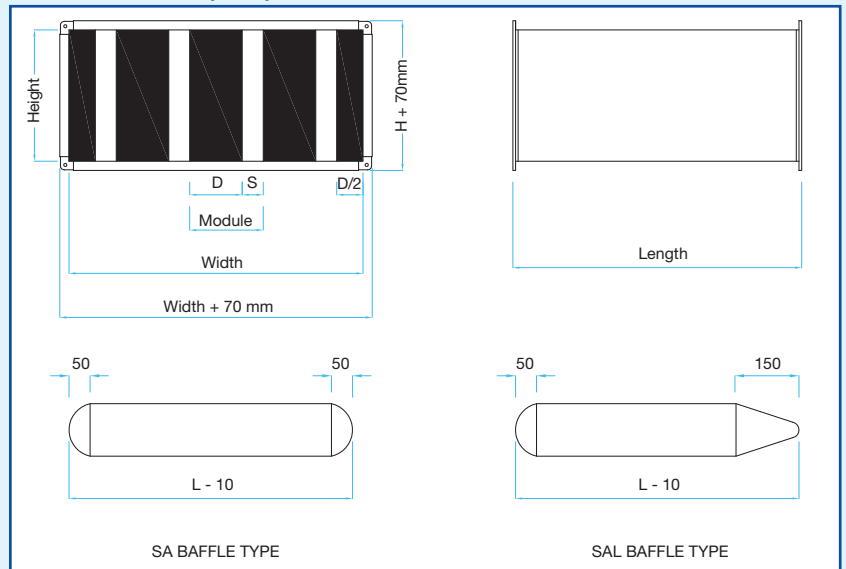
- Melinex is an impervious thin membrane used totally enclosed sound absorbent material where clinical conditions are required. This is used for the hospitals food factories and also where humidifiers are used.

- Melinex film on both sides reducing contamination risk, code P.

### RANGE with a choice of options

Description	Code
SA 20 - 75	
SA 20 - 100	
SA 20 - 125	
SA 20 - 150	
SA 20 - 175	
SA 20 - 200	

### DIMENSIONS (mm)



### INSERTION LOSS (dB)

Model	Length L	Octave centre frequency in Hz							
		63	125	250	500	1k	2k	4k	8k
SA20 - 75	600	7	11	19	31	45	36	29	20
SA20 - 75	900	9	14	26	49	50	50	37	29
SA20 - 75	1200	10	18	33	50	50	50	47	38
SA20 - 75	1500	12	21	40	50	50	50	50	45
SA20 - 75	1800	13	24	47	50	50	50	50	50
SA20 - 75	2100	15	28	50	50	50	50	50	50
SA20 - 75	2400	17	31	50	50	50	50	50	50
SA20 - 100	600	6	9	14	22	28	28	21	15
SA20 - 100	900	8	11	19	31	37	37	28	21
SA20 - 100	1200	9	14	25	41	48	48	34	27
SA20 - 100	1500	11	17	30	50	50	50	42	33
SA20 - 100	1800	12	20	34	50	50	50	49	39
SA20 - 100	2100	14	23	39	50	50	50	50	45
SA20 - 100	2400	15	26	44	50	50	50	50	50
SA20 - 150	600	5	7	11	17	24	20	13	11
SA20 - 150	900	6	9	14	24	33	25	18	15
SA20 - 150	1200	7	11	18	31	42	33	23	19
SA20 - 150	1500	8	12	22	39	50	40	28	23
SA20 - 150	1800	9	14	25	45	50	47	34	27
SA20 - 150	2100	10	16	29	50	50	50	39	31
SA20 - 150	2400	11	19	32	50	50	50	44	35
SA20 - 200	600	5	6	9	13	18	14	10	9
SA20 - 200	900	6	7	12	20	25	20	14	12
SA20 - 200	1200	6	9	14	25	33	25	18	15
SA20 - 200	1500	7	10	18	30	40	31	22	18
SA20 - 200	1800	8	11	20	35	48	37	26	21
SA20 - 200	2100	8	13	24	40	50	42	30	24
SA20 - 200	2400	9	15	26	45	50	48	34	27

# Bend Type Sound Attenuators

## Vertical and horizontal bend type sound attenuators



SA 20 V  
SA 20 H

### APPLICATION

- Bend attenuators can be designed for vertical or horizontal installation to suit the ductwork layout.

### DESCRIPTION

- Vertical / horizontal mounting.
- Rectangular cased bend attenuator is mainly used to reduce fan noise to meet the required NC levels.

### CONSTRUCTION

- Generally as for the straight version. To minimise resistance to airflow, turning vanes are incorporated into the design.
- The vertical and horizontal mounting cased bend rectangular attenuator mainly used to reduce fan & machine noise to meet the required or allowed noise levels.
- The SA sound attenuators offer many advanced features including standard aerodynamic splitters.
- Erosion protected acoustic infills covered by galvanized perforated sheet.

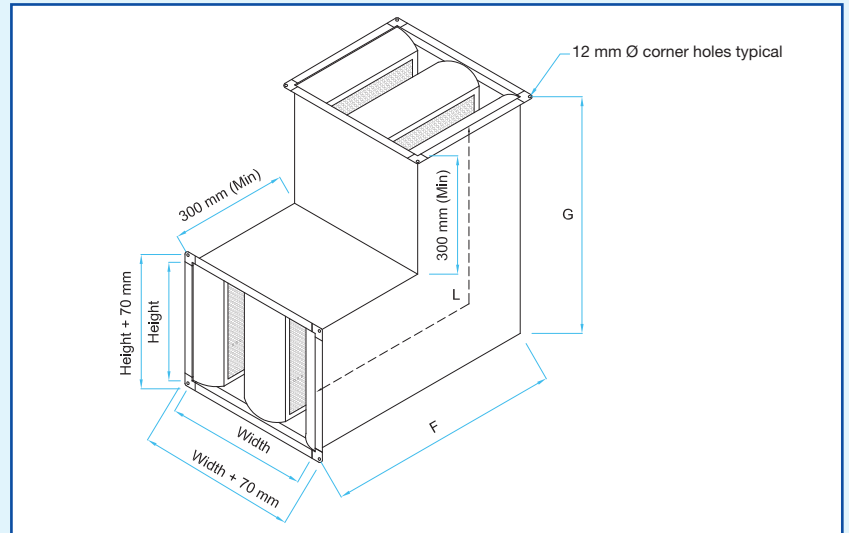
### INSTALLATION

- Directly installed on a duct section.
- SA 20 V for vertical installation.
- SA 20 H for horizontal installation.

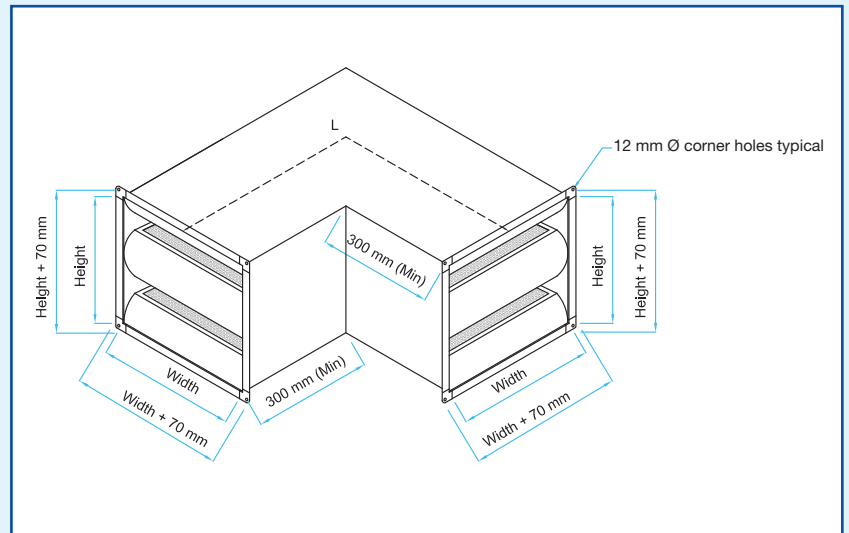
### RANGE

Type	Description	Code
SA 20 V	Vertical bend type sound attenuator	
SA 20 H	Horizontal bend type sound attenuator	

### DIMENSIONS (mm)



SA 20 V



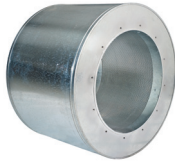
SA 20 H

# Circular Sound Attenuators

## Circular passive attenuators



SAR 100  
Spigot connection



SAR 100  
Flange connection



SARP 100 \*

### Advantages

- Low pressure loss.
- Easy installation.

### APPLICATION

- Attenuation of fan / AHU noises propagated through air ducting.
- Air exhaust and air supply.

### DESCRIPTION

- Prefabricated sections of double walled round duct with solid outer shell and perforated inner shell with acoustic infill in between both shells.
- Designed to reduce fan noise meeting required noise levels such as NC and NR levels.

### CONSTRUCTION

- Standard type SAR and podded type SARP available in different size range. Standard attenuator casing is manufactured from galvanized sheet metal in accordance to BS 2989 grade Z2 G275, casing are constructed with full seam welding, casing thickness complies with DW 144 Class B duct work code.
- Contains acoustic infill which complies with Class O building regulation. The infill has black glass tissue coating contained behind perforated sheet of 0.7mm thickness. This dual protection prevent damage and fibre erosion up to 30 m/s air way velocity.
- Available in diameter from 100 to 630 mm and incorporating absorbing partitions available in two densities.
- SAR 100: 100 mm thickness.

### INSTALLATION

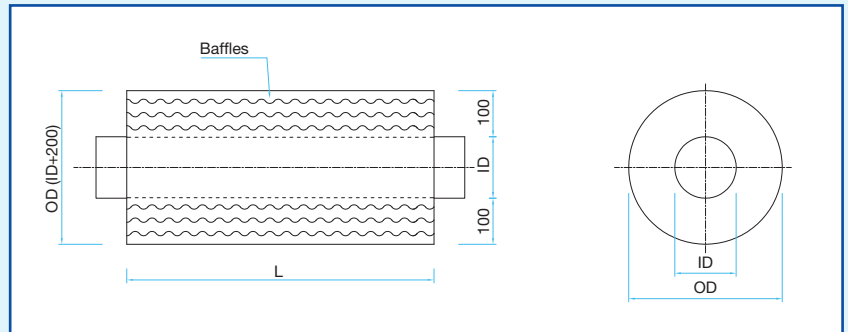
- Directly installed on a duct section.
- Horizontal / vertical installation.
- Indoor / outdoor.

### RANGE

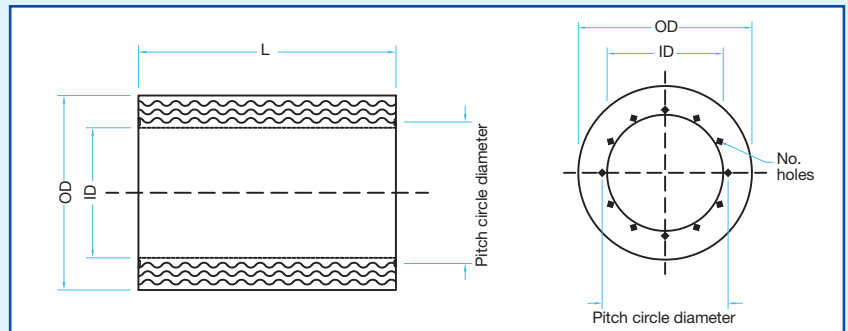
Description	Code
SAR 100 - Ø 100 mm	
SAR 100 - Ø 125 mm	
SAR 100 - Ø 160 mm	
SAR 100 - Ø 200 mm	
SAR 100 - Ø 250 mm	
SAR 100 - Ø 315 mm	
SAR 100 - Ø 400 mm	
SAR 100 - Ø 500 mm	
SAR 100 - Ø 630 mm	

\* SARP 100 and other sizes of SAR 100 are also available upon request.

### DIMENSIONS (mm)



SAR 100 (spigot connection)



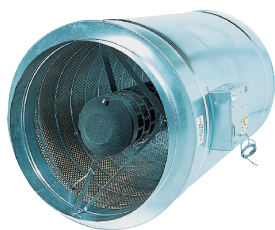
SAR 100 (flange connection)

### INSERTION LOSS (dB)

Model	Length L	Octave centre frequency in Hz							
		63	125	250	500	1k	2k	4k	8k
100	300	6	8	13	20	26	30	30	24
125	300	6	7	12	19	24	29	28	21
160	300	5	6	9	14	20	22	22	16
200	600	6	9	13	22	27	32	21	18
250	600	6	7	12	21	26	29	19	17
315	600	5	7	10	16	20	22	16	15
400	900	3	5	9	19	26	20	13	10
500	900	3	4	9	15	23	17	12	8
630	1200	5	7	12	16	16	16	12	8

# Circular Sound Attenuators

## Circular active attenuators



Green Product

ACTA

### APPLICATION

- Attenuation of fan / AHU noises propagated through ductworks.
- Highly effective at low frequencies with low pressure losses.
- Air exhaust and air supply.
- Operating range: -10° C to +55°C.

### INSTALLATION

- Directly installed on a duct section (please, consult us).
- Horizontal / vertical.
- Interior / exterior.
- Power supply wiring and remote signals.
- Adjustment during installation by control box / integrated test.

### DESCRIPTION

- Ø 315 to 500 mm models, cylindrical exterior casing.
- Ø 560 and 630 mm models, rectangular exterior casing.
- Passive circular silencer in galvanised steel.
- Central bulb in perforated galvanised steel housing the electro-acoustic system.
- Bulb operated by enclosed electronics box fixed on outer casing.
- 8 models in standard diameters: up to 630 mm to process up to 7000 m<sup>3</sup>/h.
- The acoustic performances of ACTA partly depend on the installation: please, consult us.

### RANGE R17

Description	Code
ACTA Ø 250	11094801
ACTA Ø 315	11094802
ACTA Ø 355	11094803
ACTA Ø 400	11094804
ACTA Ø 450	11094805
ACTA Ø 500	11094806
ACTA Ø 560	11094818
ACTA Ø 630	11094819

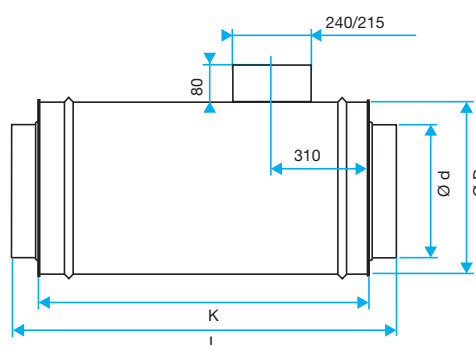
### ELECTRICAL ACCESSORIES R7

Description	Code
0.4 to -0.6 A circuit breaker in an IP 55 box	11056183

### Advantages

- Attenuates noises in air ducts.
- Efficient at low frequencies.
- Low pressure loss.
- Easy installation.
- New: integrated self-test.

### DIMENSIONS - WEIGHT

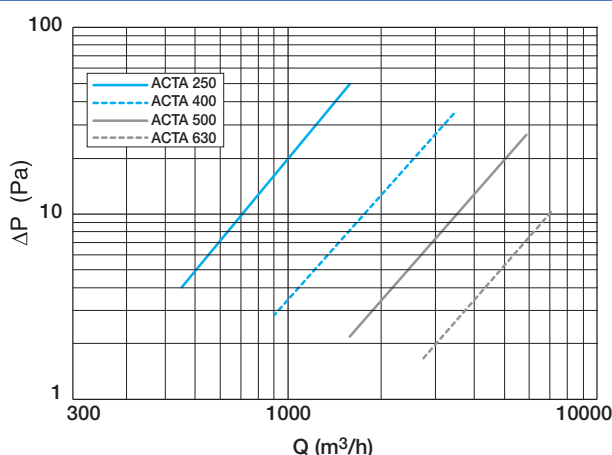


Model	Ø d (mm)	Ø D (mm)	K (mm)	L (mm)	Weight (Kg)
250	250	450	1499	1579	33
315	315	530	1514	1604	41
355	355	530	1465	1544	41
400	400	400	1250	1365	38
450	450	450	1491	1621	56
500	500	500	1250	1365	52
560	560	650 x 650	2000	2115	80
630	630	650 x 650	2000	2115	80

### AIRFLOW AND ACOUSTIC DETAILS

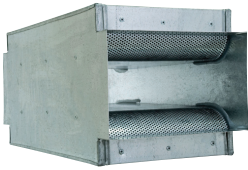
Example of acoustic performances. For an air speed passage upstream of the silencer of 4 m/s and an sound pressure level of 90 dB (A).

Model	Octave band central frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
250	9	19	25	26	32	50	45	33
315	7	19	22	25	32	41	30	22
355	7	19	22	25	32	41	30	22
400	7	19	22	25	31	41	31	22
450	4	9	19	24	28	33	25	17
500	4	9	19	24	28	33	25	17
560	9	16	20	27	31	33	22	16
630	9	16	20	27	31	33	22	16



# Cross Talk Sound Attenuators

## Cross talk sound attenuators



SC series

### Advantages

- Reduce noise transfer in adjacent room.
- Easy installation.

### APPLICATION

- SCS type is designed for in-line duct mounting in a ventilation system where rooms are served by branches of common duct galvanized sheet metal construction to BS 2989 grade Z2 G275 with DW144 Class B code.

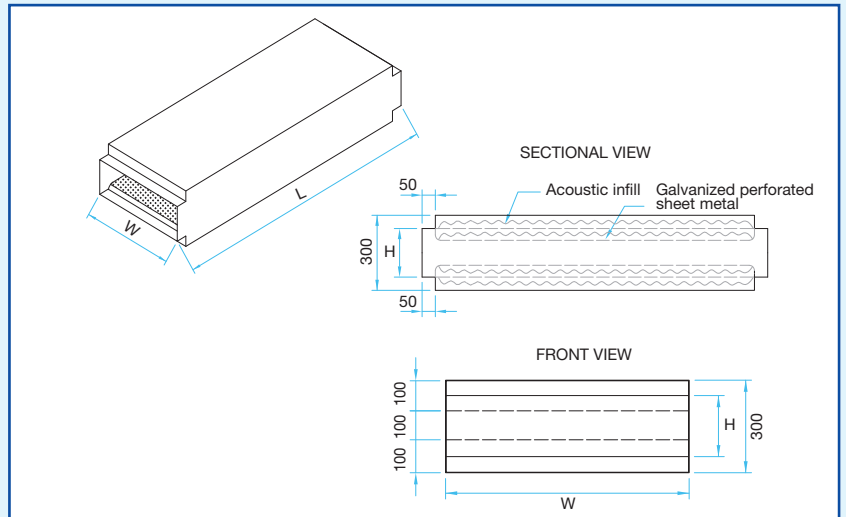
### DESCRIPTION

- The splitters contain acoustic infill which complies with Class O building regulations.
- The splitters are radiussed at both ends to minimize air pressure loss and regenerated noise.

### CONSTRUCTION

- Casing and side splitters manufactured from 20 ga. galvanised sheet metal. Casing formed with pittsburgh lock formed seams with mastic sealant. The construction complies with SMACNA & DW 144 standards. Plain ends for duct connection as standard.
- The side baffles contain acoustic infill with glass cloth facing and contained behind galvanised perforated metal. This dual protection prevents damage and fiber erosion up to 30 m/s airway velocity. The splitters are radiussed at both ends to minimise air pressure loss.

### DIMENSIONS (mm)



### QUICK SELECTION

Design noise criterion in noise critical area	Attenuator length required (mm)	Total noise reduction at 500 Hz, dB
NC45	500	30
NC40	750	35
NC35	1000	40
NC30	1250	45
NC25	1500	50

### INSERTION LOSS, D. IN dB

Attenuator length L (mm)	Octave band central frequency (Hz)							
	63	125	250	500	1k	2k	4k	8k
500	5	7	10	15	23	17	13	11
750	6	9	14	23	37	29	22	16
1000	8	11	19	31	48	37	28	21
1250	9	14	23	38	50	44	32	26
1500	10	16	27	45	50	50	39	31

### PRESSURE DROP

Attenuator Type	Air velocity, v, in m/s at duct size B x H		2.0	3.0	4.0	5.0
	Self noise guide against velocity		NC 25	NC 30	NC 35	NC 40
	Width B (mm)	Height H (mm)	Volume flow V liters / seconds			
SCS - 1	100	100	20	30	40	50
	150	100	30	45	60	75
	200	100	40	60	80	100
Pressure loss, Δp in Pa			<5	<5	<5	<5
SCS - 2	150	150	45	70	90	115
	200	150	60	90	120	150
	250	150	75	115	150	190
	300	150	90	135	180	225
Pressure loss, Δp in Pa			<5	<5	<5	<5
SCS - 3	200	200	80	120	160	200
	250	200	100	150	200	250
	300	200	120	180	240	300
	350	200	140	210	280	350
	400	200	160	240	320	400
Pressure loss, Δp in Pa			<5	10	15	25
SCS - 4	250	250	125	190	250	315
	300	250	150	225	300	375
	350	250	175	265	350	440
	400	250	200	300	400	500
	450	250	225	340	450	565
	500	250	250	375	500	625
Pressure loss, Δp in Pa			10	20	35	50
SCS - 5	300	300	180	270	360	450
	350	300	210	315	420	525
	400	300	240	360	480	600
	450	300	270	405	540	675
	500	300	300	450	600	750
	550	300	330	495	660	825
	600	300	360	540	720	900
Pressure loss, Δp in Pa			15	30	55	85



# Acoustic Louvres

## Acoustic Louvres



SU 631 - Galvanized steel  
AU 631 - Aluminium

### DESCRIPTION

- Acoustic louvres designed to provide optimal acoustic performance (noise reduction) with minimal airflow restrictions.

### CONSTRUCTION

- SU 631: blades inclined at 40° on 300 mm pitch centers provide a resistance to water ingress with acoustic properties. Infill material is inert, incombustible, non-hygroscopic and vermin proof. Enclosed and covered on the under side with a perforated sheet suitable for velocities up to 20 m/s. Bird mesh in galvanized steel as standard (12 x 12 x Ø 1 mm).
- SU 632: combination of two SU 631 back to back to achieve 610 mm depth. Made in single section up to 1200 x 2100 mm. Larger sizes manufactured in multiple sections for assembly on site.

### AVAILABLE OPTIONS

- Natural anodized aluminium, code A.
- Construction in stainless steel (grade 304), code EU.
- Insect mesh in galvanized steel (6 x 6 x Ø 0.8 mm).

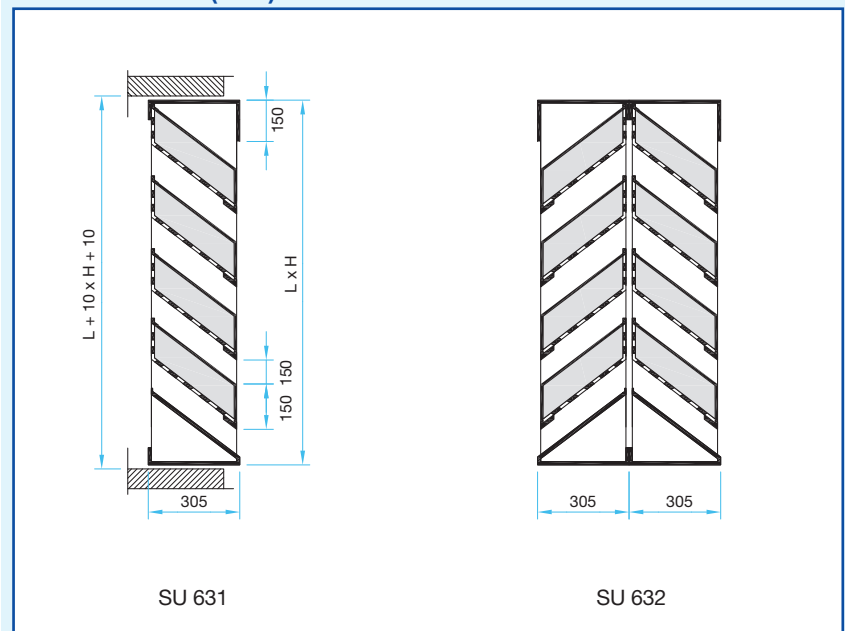
### RANGE

Type	Description	Code
SU 631	Construction in galvanized steel	
AU 631	Construction in aluminium	
EU 631	Construction in stainless steel (grade 304)	
SU 632	Combination of two SU 631 back to back	
AU 632	Combination of two AU 631 back to back	
EU 632	Combination of two EU 631 back to back	

### Advantages

- Noise reduction with minimal airflow restrictions.

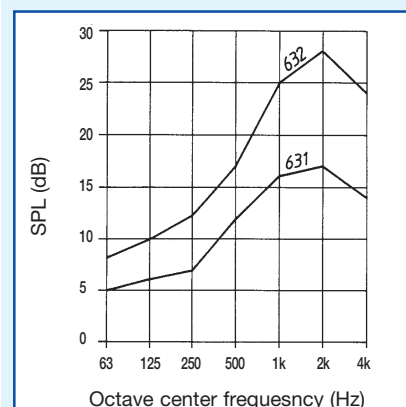
### DIMENSIONS (mm)



H (mm)	L (mm)					
	400	500	600	800	1000	1200
600	0.11	0.15	0.18	0.24	0.31	0.38
900	0.21	0.28	0.34	0.47	0.59	0.72
1200	0.32	0.41	0.50	0.69	0.87	1.06
1500	0.42	0.54	0.66	0.91	1.16	1.40
1800	0.52	0.67	0.83	1.13	1.44	1.74
2100	0.62	0.81	0.99	1.35	1.72	2.09

- Af (m<sup>2</sup>) - frontal surface.
- Other dimensions are available upon request.

### SOUND REDUCTION INDEX (SPL)



# Project Reference List

Below are few of our prestigious project references.

S. No.	Project	Consultant/Client	Contractor	Location
1	7 Substations	PB Power Ltd.	York	Abu Dhabi
2	Abu Dhabi Exhibition Center	RMJM	ETA	Abu Dhabi
3	ADDC Head Quarters	APG	York's A/C	Abu Dhabi
4	ADWEA Head Quarters	APG	Verger et Delporte	Abu Dhabi
5	ADWEA Substation	ADWEA / ESBI	Hyundai	Abu Dhabi
6	Al Hamed Residential Compound	Khatib & Alami	Emirates – EMI	Abu Dhabi
7	Al Wahda Mall	Khatib Alami/EC Harris	Aster	Abu Dhabi
8	B+G+7 Storey Luxury Bldg. On Plot 317-0218	Electrowatt Engg.	Elemec	Abu Dhabi
9	Conference Palace Hotel	Mott McDonald	Al Inayah	Abu Dhabi
10	Juvenile Center	Tahl Engg. Consultant	IECO	Abu Dhabi
11	K - Race Track	Tilke & Partner	Voltas Limited	Abu Dhabi
12	Qasr Al Sarab	Halcrow Yolles	ALEC	Abu Dhabi
13	Sheraton Hotel Extension	Khatib & Alami	Airmech	Abu Dhabi
14	Tweelah 400 Kv Substation	Lahmeyer International	Aceco	Abu Dhabi
15	Al Ain Airport Extension	Mein-Hardt	Nael E/m	Al Ain
16	Celebration Hall	Parc International /CRSS	Al Sabbah E/M	Al Ain
17	I.T. College	Keo International	Emirates – EMI	Al Ain
18	Soldier's Club	Military Works	Al Sabbah	Al Ain
19	Al Mas Tower	Atkins	ETA	Dubai
20	Boutique Offices	Al Hashemi	International E/M Services	Dubai
21	DIFC - District Cooling North Plant	Ellerbe Becket/Tebodin	Voltas Limited	Dubai
22	Dubai Festival City	Mario & Associates	Transgulf	Dubai
23	Dubai Marina	Roberts & Partners	Yateem A/c	Dubai
24	Dubai Marina Phase - 1	Mott McDonald	Danway	Dubai
25	Dubai Municipality	Dubai Municipality	MACAir	Dubai
26	Dubai Public Library @ Al Twar	Gulf Engineering	Condor	Dubai
27	Indoor sports Hall	Archon / Jain & Partners	ETA	Dubai
28	Laboratory Building at Dubiotech	Kling	MACAir	Dubai
29	Madinat Jumeirah	RPW	Transgulf	Dubai
30	Marina View Towers @ Dubai Marina	Engg. Adnan Safrini	Transgulf	Dubai
31	Palace for H.H. The Chairman, D.M.	Shadid Engg.	Bin Ladin	Dubai
32	Petrofac Tower	Consultair / Arenco	ETA	Dubai
33	Zabeel Sports Club	Engineer's Office	Engineer's Office	Dubai
34	Fujairah Power Plant II	OTV S.A.	Dubai A/C	Fujairah
35	Palm Garden @ Sohar	Kadri Consultant	Larsen & Toubro	Oman
36	QLNG Headquarter @ Gala	Alkins	Al Ansari	Oman
37	Al Nakheel Tower at West Bay	Diwan Al Emara	Al Moayyed	Qatar
38	Al Nahda residence	QHC/TNQ	Al Hamad	Sharjah
39	Emirates Banking Institute	Gambert	Al Hamad	Sharjah
40	Etisalat - Thuraya Extension	Arif & Bintook	Al Rehan	Sharjah
41	Youth Center At Malyha	CAB Consultant	IECO	Sharjah
42	Umm Al Quwain Hospital	HDP	Bpower	Umm Al Quwain
43	City Center	AAA	Bukamal	Bahrain
44	Riffa Views	MSCEB	Bukamal	Bahrain
45	SPM Project	MSCEB	Yateem A/c	Bahrain
46	Al Saad Development Complex	AEB	Samko	Qatar
47	Business Park & Hotel Facilities	AEB	QEMG	Qatar
48	Dental Clinics	Q.E.A.	Satco	Qatar
49	Kinder Garden School	QEA	Al Malki	Qatar
50	Preparatory Schools	Q.E.A. Doha	Al Moayyed	Qatar
51	Ras Gas Project	Qatar Petroleum	Al Moayyed	Qatar
52	Two Oil Platform for Maersk Oil	Maersk Oil Qatar S.A./GPMC	Specialist Services	Qatar
53	Villagio Mall	QEA	Voltas	Qatar











# Selection Guide



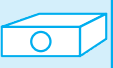




**Suitable for ceiling heights of less than 3 metres**

- ++** Optimal comfort and system efficiency
- +** Correct comfort level, acceptable system performance
- Prior to use an in-depth diffusion study must be carried out.

Applications	Range	Model		System upstream of the diffuser		
				Ventilation 	AHU 	Fan coil unit 
Wall-mounted air supply	Small fixed metal grilles Air circulation levels 1 - 6		BIM 320 Page 255	++	+	-
	Adjustable core grilles Air circulation levels 1 - 4		SR 149 Page 253	++	-	-
	Single / double deflection grilles Air circulation levels 4 - 10		AC 101 D Page 259	++	++	+
	Fixed linear bar grilles Air circulation levels 4 - 10		AC 440 Page 263	++	++	++
	Floor-mounted fixed linear bar grilles Air circulation levels 4 - 10		AG 450 Page 267	++	+	+
	Fixed linear bar grilles (L/H 10) Air circulation levels 4 - 15		AC 440 Page 263	+	++	++
	Fixed air transfer blades grilles		AC 181 Page 266	++	++	++
Ceiling-mounted air supply	Small fixed metal grilles Air circulation levels 1 - 6		BIM 320 Page 255	++	+	-
	Fixed circular diffusers for ceiling tiles Air circulation levels 6 - 10		SC 832 TP Page 245	++	+	-
	Adjustable circular diffusers for ceiling tiles Air circulation levels 6 - 25		AT 842 Page 247	+	++	++
	Fixed square diffusers for ceiling tiles Air circulation levels 6 - 20		SF 704 TP Page 242	+	++	++
	Combined multi-slots square diffusers for ceiling tiles (air supply and return) Air circulation levels 6 - 22	 <small>Green Product</small>	ALD 610 K COMBINED Page 232	+	++	++
	Adjustable square diffusers - perforated sheet - for ceiling tiles Air circulation levels 6 - 20		SC 360 R Page 249	+	+	++
	Swirl square diffusers for ceiling tiles Air circulation levels 6 - 28		SF 786 Page 228	+	++	++

# Selection Guide

Applications	Range	Model	System upstream of the diffuser		
			Ventilation 	AHU 	Fan coil unit 
Ceiling-mounted air supply	Swirl diffusers for ceiling tiles Air circulation levels 6 - 32	 <span style="color: green; font-size: small;">Green Product</span> Twisted 850 Page 224	+	++	++
	Adjustable aluminium slot diffusers Air circulation levels 6 - 20	 AG 280 Page 237	+	++	++
	Adjustable aluminium slot diffusers Air circulation levels 6 - 20	 AN 285 DTP Page 238	++	+	++
Wall-mounted air return	Small fixed metal grilles	 BIM 300 Page 255	++	+	-
	Fixed blades grilles	 AC 121 Page 261	++	+	+
	Fixed blades grilles with filter	 AC 163 W Page 265	++	+	+
Ceiling-mounted air return	Small fixed metal grilles	 BIM 300 Page 255	++	+	-
	Frameless grilles for ceiling tiles	 AU 124 Page 270	+	++	++
	Fixed blade grilles with fitted filter - for ceiling tiles	 AG 637 WZ Page 271	+	++	++

Category	Model	Description	Sound attenuation 	Comfort 	Ventilation 	AHU 
Louvres	Acoustic louvres 	<ul style="list-style-type: none"> <li>➡ SU 631 / SU 632</li> <li>• Air intake or air exhaust</li> <li>• Acoustic infill for reduced noise</li> <li>• SU 632: combination of two back-to-back SU 631 acoustic louvres</li> </ul>	✓	✓✓	✓✓	✓
	Fresh air louvres 	<ul style="list-style-type: none"> <li>➡ AG 638 / AG 639</li> <li>• Air intake or air exhaust</li> </ul>		✓	✓✓	✓
	Sand trap louvres 	<ul style="list-style-type: none"> <li>➡ SG 644</li> <li>• Air intake</li> <li>• Separates sand and dust particles</li> <li>• Self cleaning &amp; maintenance free</li> </ul>		✓✓	✓✓	✓

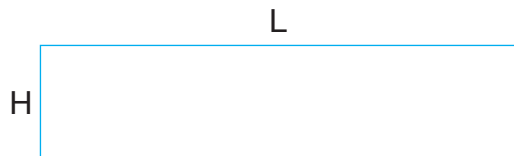


# Technical Datas

## Air diffusion and comfort

### DIMENSIONS

- All grille dimensions are in nominal values L x H (in mm). L x H is the opening required in either the duct or the partition.

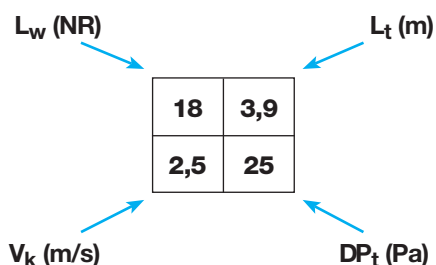


### SYMBOLS

- $Q_v$  (m<sup>3</sup>/h) = Airflow.
- $V_k$  (m/s) = Airspeed in the diffuser.
- $V_t$  (m/s) = Final velocity (at the end of the airstream throw).
- $A_k$  (m<sup>2</sup>) = Free surface.
- $L_w$  (NR) = Sound power level.
- $\Delta P_t$  (Pa) = Total pressure drop.
- $L_t$  (m) = Air jet throw.

### SELECTION TABLES

- The selection tables at the end of the section comprise the following information:
  - Nominal dimensions L x H (or D) and free surface area  $A_k$ .
  - The airflow  $Q_v$ .
  - The four data items below.



### AIR JET THROW ( $L_t$ )

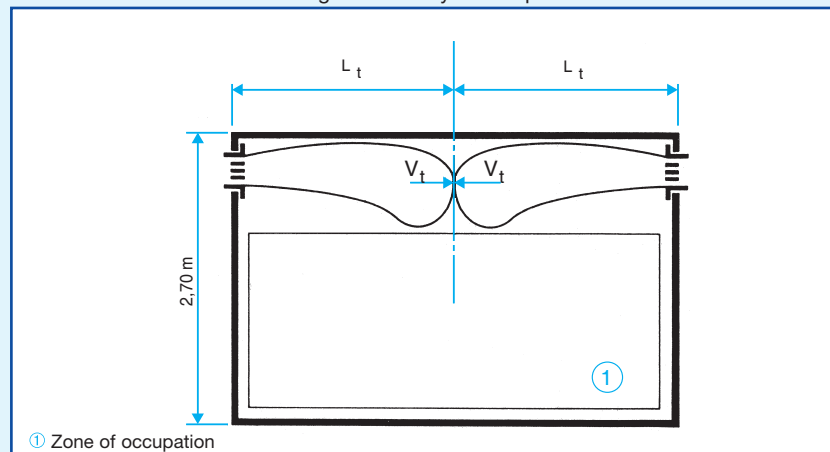
- In most cases, for high wall grilles or ceiling grilles with ceiling heights of about 2.7 m ( $\pm 0.3$  m) the throw is considered as being the distance of the grille as far as the opposite wall or the middle distance between two opposite grilles with air jets that meet in the middle. For even higher ceilings, one could add, to this distance, the difference between 3 m and the actual room height. In such a way that this vertical throw  $L_v$  is less than or equal to the half of the horizontal part  $L_h$  of the air throw. Thus  $L_t = L_h + L_v < 1.5 \times L_h$ .
- The airthrow depends on the accepted final velocity ( $V_t$ ) in order to guarantee comfort (see below).

### FINAL VELOCITY ( $V_t$ )

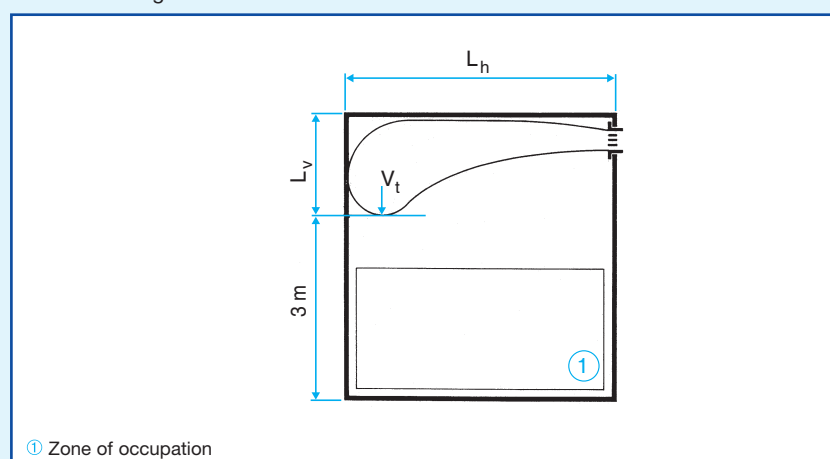
- The published ranges are for final, optimum velocity in the direction of the air jet axis. This optimum velocity is a value found by experimentation, giving the best criteria of comfort for each type of air grille. Final throw levels for other terminal velocities are given in the form of correction factors. Extreme values represent the practical limitations for use.

### ZONE OF OCCUPATION

- The occupied zone is defined as being that volume contained within two horizontal planes at 0.15 and 1.80 metres from the ground and by vertical planes 0.15 metres from the walls.

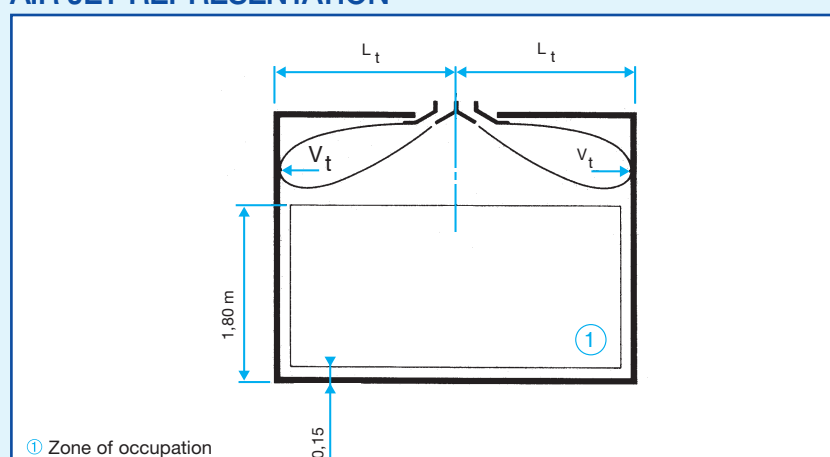


Wall-mounted grilles face-to-face



Wall mounted grille

### AIR JET REPRESENTATION



Ceiling diffuser

# Technical Data

## Design guidelines for HVAC-related background sound in rooms (Ref. ASHRAE Handbook)

Room Types	RC(N); QAI ≤ 5dB Criterion a,b
<b>Residences, Apartments, Condominiums</b>	25 – 35
<b>Hotels / Motels</b>	
Individual rooms or suites	25 – 35
Meeting / banquet rooms	25 – 35
Corridors, lobbies	35 – 45
Service / support areas	35 – 45
<b>Office Buildings</b>	
Executive and private offices	25 – 35
Conference rooms	25 – 35
Teleconference rooms	25 (max)
Open-plan offices	30 – 40
Corridors and lobbies	40 – 45
<b>Hospitals and Clinics</b>	
Private rooms	25 – 35
Wards	30 – 40
Operating rooms	25 – 35
Corridors and public areas	30 – 40
<b>Performing Arts Spaces</b>	
Drama theaters	25 (max)
Concert and recital halls <sup>c</sup>	
Music teaching studios	25 (max)
Music practice rooms	30 – 35 (max)
<b>Laboratories (with fume hoods)</b>	
Testing / research, minimal speech communication	45 – 55
Research, extensive telephone use, Speech communication	40 – 50
Group teaching	35 – 45
<b>Churches, Mosques, Synagogues</b>	
General assembly	25 – 35
With critical music programs <sup>c</sup>	
<b>Schools<sup>d</sup></b>	
Classrooms up to 70 m <sup>2</sup>	40 (max)
Classrooms over 70 m <sup>2</sup>	35 (max)
Large lecture rooms, without speech amplification	35 (max)
<b>Libraries</b>	30 – 40
<b>Courtrooms</b>	
Unamplified speech	25 – 35
Amplified speech	30 – 40
<b>Indoor Stadiums, Gymnasiums</b>	
Gymnasiums and natatoriums	40 – 45
Large seating-capacity spaces with speech amplification <sup>e</sup>	45 – 55

<sup>a</sup> The values and ranges are based on judgment and experience, not on quantitative evaluations of human reactions. They represent general limits of acceptability for typical building occupancies. Higher or lower values may be appropriate and should be based on a careful analysis of economics, space use, and user needs.

<sup>b</sup> When quality of sound in the space is important, specify criteria in terms of RC(N). If the quality of the sound in the space is of secondary concern, the criteria may be specified in terms of NC or NCB levels of similar magnitude.

<sup>c</sup> An experienced acoustical consultant should be retained for guidance on acoustically critical spaces (below RC 30) and for all performing arts spaces.

<sup>d</sup> HVAC-related sound criteria for schools, such as those listed in this table, may be too high and impede learning by children in primary grades whose vocabulary is limited, or whose first language is not the language of the class. Some educators and others believe that the HVAC-related background sound should not exceed RC 25(N).

<sup>e</sup> RC or NC criteria for these spaces need only be selected for the desired speech and hearing conditions.

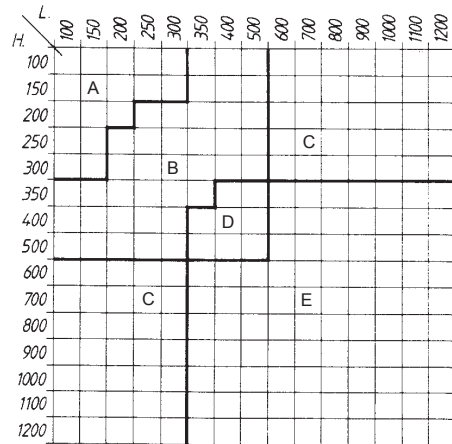
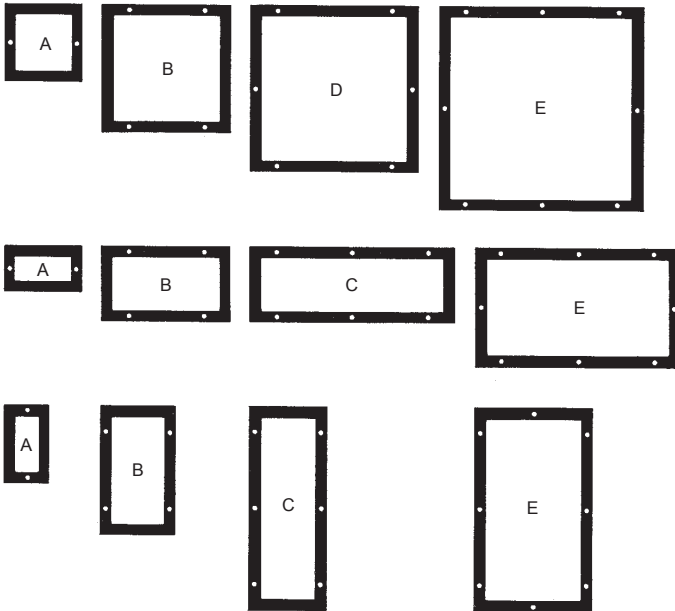
# Technical Datas

## Grille fixing systems

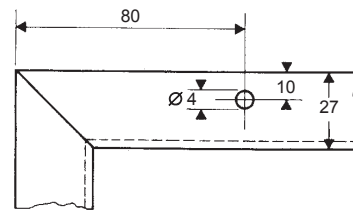
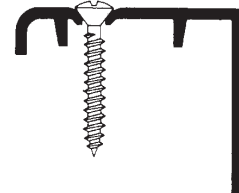
### Standard fixing (flange screw fixing)

All grilles supplied with visible screw fixing pre-punched holes, code F1.

Screw hole location chart.



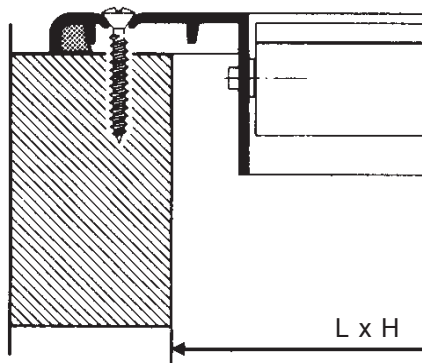
Recommended self tapping screw cross recess  
DIN 7983  
Ø 3,5 x 38 mm  
(not supplied)



### OTHER FIXING AVAILABLE UPON REQUEST

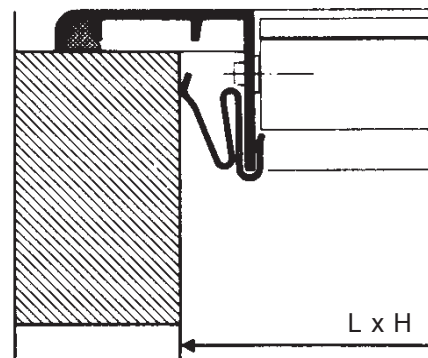
#### Fixing type F1

Visible screw fixing.  
Fixing holes location see above.



#### Fixing type F3

Concealed spring clip.  
(Not recommended for ceiling mounting)



# Swirl Diffusers

## Adjustable circular swirl diffusers



AR 883 series - Aluminium

### Advantages

- Adjustable diffusion.
- Ideally suited for high ceilings or those requiring a high-volume air displacement.
- Motor driven air diffuser blades.

### APPLICATION

- Air supply: high inductance adjustable airflow.
- Ideal for high temperature air-conditioning installations (high  $\Delta T$ ).
- Adjustable, motorised diffusion for optimum supply in both winter and summer.
- Very high levels of air circulation.
- Ceiling mounted.

### DESCRIPTION

- Body and diffusion vanes in aluminium.
- White epoxy painted aluminium finish, RAL 9010 tint.
- Concealed fixing to the plenum by using a screw on the neck of the diffuser. The plenum is fitted with lugs for fixing to the concrete tile.
- Use the suspension cables.

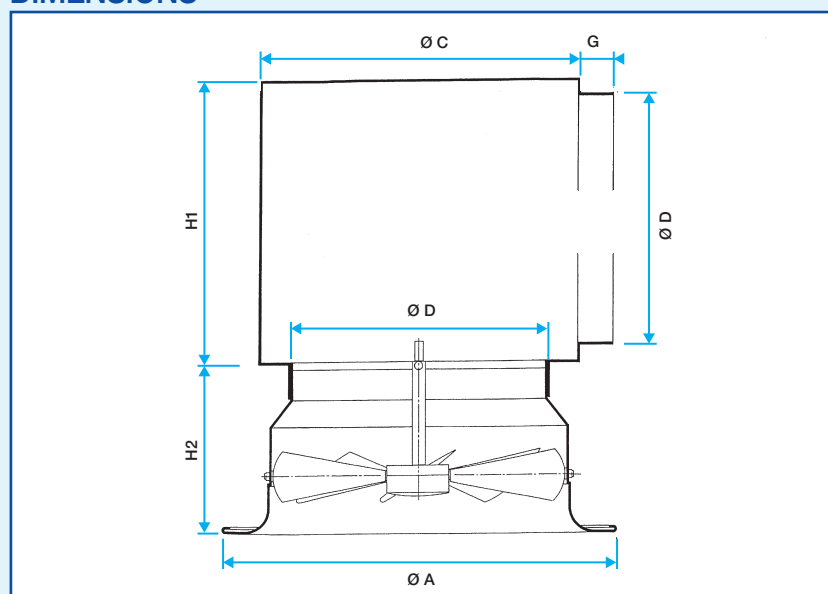
### ACCESSORIES

- Connection plenum "side connection", supplied with the diffusers, code RE.
- Single speed 230V motor included.
- Damper with mounting frame supplied with the diffuser on request (supplied fitted with a plenum connection.)

### ADDITIONAL RANGE

- Proportional motors.
- Manual version.
- Insulated plenums on 2 or 5 sides.
- Damper with control dial delivered fitted to the plenum connection.
- Paint finish in accordance with the RAL colour chart (please, consult us).

### DIMENSIONS



AR 883 diffuser with RE plenum

Comfort airflow levels for  $L_w < NR 40$  and dimensions

Ø D (mm)	C (mm)	Ø A (mm)	G (mm)	H1 (mm)	H2 (mm)	Airflow (m <sup>3</sup> /h)	Airflow in cooling position (m <sup>3</sup> /h)
250	310	425	50	300	225	500	450
315	375	500	50	365	240	1000	750
400	460	615	60	450	280	1600	900
500	560	850	70	550	320	2500	1400
630	690	1070	70	680	410	6000	1600

• See selection table on page 280.

### RANGE R10

Dimensions	AR 883 M1 Motorised Code	AR 883 Manual Code	Plenum side connector Code
Ø 250	11051095	11002361	11053313
Ø 315	11051096	11002362	11053314
Ø 400	11051097	11002363	11053316
Ø 500	11051098	11002364	11053318
Ø 630	11051099	11002365	11053319

# Swirl Diffusers

## Aesthetic swirl diffusers for ceiling tiles



Twisted 850 supply diffuser

Green  
Product



TWISTED  
+  
VAV  
=  
Your Best  
Comfort Solution

New

### Advantages

- Can be installed to replace a suspended ceiling tile 600 x 600 or 675 x 675 mm.
- Blends perfectly with the majority of ambience fittings in commercial premises.
- Ideal for variable airflow systems.
- Excellent high level air circulation.
- Accepts large differences in temperature.
- Easy access to the filter on the exhaust model.

## APPLICATION

- Ceiling mounted diffuser designed to replace a 600 x 600 or 675 x 675 mm suspended ceiling tile.
- Air supply or air exhaust, fixed high induction diffusion by helicoid air pattern swirl diffusers.
- Large airflow range on a single dimension for the diffuser.
- Heating and air-conditioning installations requiring high levels of air circulation.
- Ideal for the supply of cold or hot air (air conditioning) with large differences in temperature and low ceiling heights.
- Ideal for variable airflow installations (of the ducted fan coil units type).

## DESCRIPTION

### Design

- Diffusion of high induction air by the rotation of an air jet inside the plenum.
- The diffusion cone, by maintaining a sufficient speed of ejection, ensures a perfect Coanda effect (ceiling effect) and a helicoid air pattern. It is this swirl effect (or helicoid air pattern) that will induce the movement of the ambient air, and thus mix it with the air blown in to guarantee great homogeneity of temperatures in the occupied area.

### Description

- Diffusion cone and central disk in painted steel.
- Compensation plate in steel adapted to 600 x 600 mm ou 675 x 675 mm ceiling tiles, with "Tbar" or "Fine-Line" frames.
- Air supply model fitted with a fixed central disk, serving as a deflector.
- Exhaust model fitted with a removable central disk and an elliptical filter. Access to the filter is by quick and simple opening of the central disk.
- Galvanised steel cylindrical plenum for direct connection to a circular duct with a 200 mm diameter.
- RAL9010 mat epoxy paint finish.
- Fixing to all of the concrete tile using the lugs located on the plenum.

NOTE: the diffuser weight must not be borne by the frame of the suspended ceiling. Use the suspension cables.

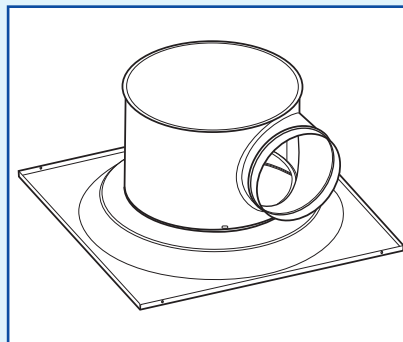
## ACCESSORIES

- G2 efficiency elliptical flat filter in compliance with the HQE label supplied with the exhaust diffuser.
- M1 fire protection classification.

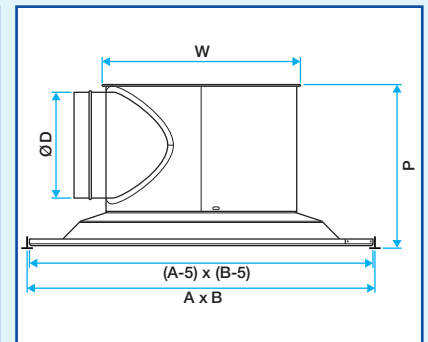
## ADDITIONAL RANGE

- Paint finish in accordance with the RAL colour chart (please, consult us).

## DIMENSIONS



Twisted 850 diffuser top view



Twisted 850 diffuser

### Comfort airflow levels for $L_w < NR 35$ and dimensions

A x B* (mm)	Ø W (mm)	Ø D (mm)	P (mm)	Airflow (m <sup>3</sup> /h)
600 x 600	366	200	298	150 à 600
675 x 675	366	200	298	150 à 600

\* Nominal ceiling tile dimensions.

- See selection table on page 279.

## RANGE <sup>R10</sup>

Dimensions	Air inlet and exhaust diffuser with filter	Air supply diffuser	Spare filter
	Twisted 850 W 600 x 600	Twisted 850 600 x 600	W 850
	Code	Code	Code
Ø 200	11051162	11051161	11053949

## PRODUCT RANGE WITH CHOICE OF OPTIONS <sup>R10</sup>

Dimensions	Air inlet and exhaust diffuser with filter	Air inlet and exhaust diffuser with filter	Air supply diffuser	Air supply diffuser
	Twisted 850 W 600 x 600	Twisted 850 W 675 x 675	Twisted 850 600 x 600	Twisted 850 675 x 675
	Code	Code	Code	Code
Ø 200	11003362	11003364	11003361	11003363

## AVAILABLE OPTIONS

Options
For T-bar or Fine Line type ceilings
Epoxy paint according to RAL colour chart
Acoustic insulation
Acoustic + thermal insulation



# Swirl Diffusers

## Aesthetic swirl diffusers for ceiling tiles

**New**



Twisted 850  
Return diffuser with filter



Twisted 850  
Return diffuser without plenum

### Advantages

- Can be installed to replace a suspended ceiling tile 600 x 600 or 675 x 675 mm.
- Blends perfectly with the majority of ambience fittings in commercial premises.
- Ideal for variable airflow systems.
- Excellent high level air circulation.
- Accepts large differences in temperature.
- Easy access to the filter on the exhaust model.

### FINISH

- RAL 9010 mat 30% epoxy paint finish.
- Paint finish in accordance with the RAL colour chart (please, consult us).

### INSTALLATION

- Fixing to ceiling tile using lugs mounted on the plenum.
- NOTE: the diffuser weight must not be borne by the frame of the suspended ceiling tile.

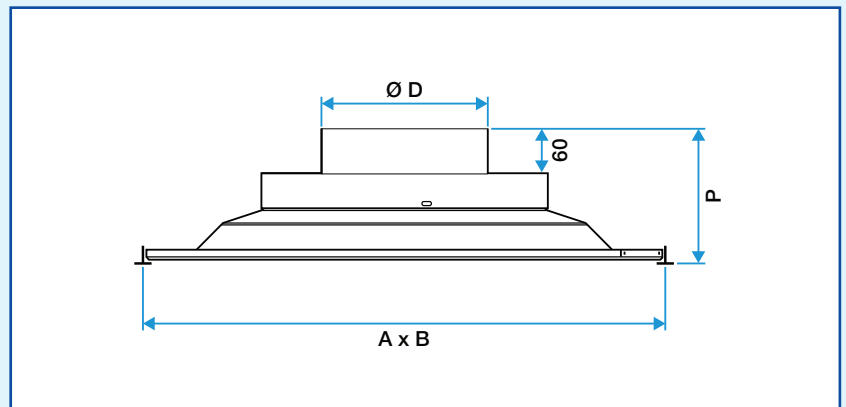
### STANDARD DIMENSIONS

- Diffuser well adapted to standard 600 x 600 and 675 x 675 mm ceiling tiles.
- 200 mm diameter circular spigot.

### ACCESSORIES

- G2 efficiency elliptical filter, provided with the supply diffuser.
- Acoustic insulation (M1 melamine foam, 15 mm thick inside the plenum).
- Thermal insulation (M1 polyurethane, 5 mm thick outside the plenum).

### DIMENSIONS



Twisted 850 return diffuseur without plenum

Dimensions A x B* (mm)	Ø D (mm)	P (mm)
600 x 600	200 ou 250	170
675 x 675	200 ou 250	170

\* Nominal ceiling tile dimensions

# Swirl Diffusers

## Adjustable square swirl diffusers with helical air pattern



SF 773 series - Steel

### Advantages

- Adjustable air diffusion.
- Ideally suited for installations requiring a high-volume air displacement.

### APPLICATION

- Air supply; adjustable diffusion.
- Heating ( $\Delta T_{\max} = -30^{\circ}\text{C}$ ) and air conditioning ( $\Delta T_{\max} = -16^{\circ}\text{C}$ ) installations with adjustable, important airflow rates.
- Very high levels of air circulation.
- Ceiling mounted.

### DESCRIPTION

- Flush mounted square ceiling diffuser designed specifically for T-bar lay-in application (tile replacement) for standard modular ceiling grid sizes, also available for surface mounted applications.
- Creative helical airstream discharge of supply air resulting in a high induction ratio and a rapid consolidation of supply air and room air temperature. Ability to handle high air change rates with draught free mixing.
- Galvanised mild steel pressed fascia having transverse supply apertures. Located within the supply apertures are acute angled deflectorals, adjustable for directional flow and painted stove enamelled black.

### ACCESSORIES

- Connection arrangements for plenum boxes, manufactured from galvanised mild steel and available in 4 options as indicated below:
  - ST: top entry inlet spigot complete with perforated equalising grid and air deflectors (SF 773 ST).
  - RT: top entry inlet spigot without perforated equalising grid and air deflectors for return air application (SF 771 RT).
  - RS: side entry inlet spigot complete with perforated equalising grid and air deflectors (SF 773 RS).
  - RE: side entry inlet spigot without perforated equalising grid and air deflectors for return air application (SF 771 RE).

### ADDITIONAL RANGE

- Version without plenum.
- Paint finish in accordance with the RAL colour chart.
- Damper with control dial, supplied with the diffuser (delivered already fitted to the plenum connection).
- Lever operated quadrant damper located in the plenum inlet spigot, code Q.

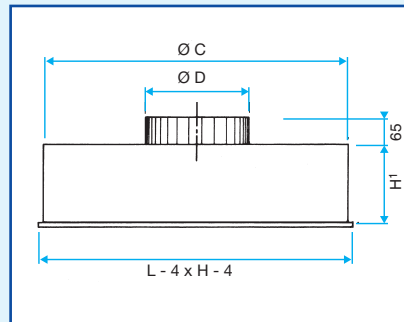
### RANGE with choice of options

Description	Code
SF 773 - 400 x 400 mm (option: 44.4)	
SF 773 - 500 x 500 mm (option: 55.4, 55.5)	
SF 773 - 600 x 600 mm (option: 66.4, 66.5, 66.6)	
SF 773 - 625 x 625 mm (option: 662.4, 662.5, 662.6)	

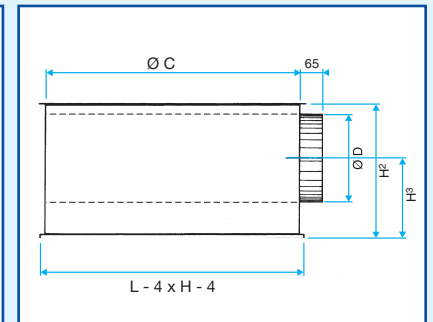
### DIMENSIONS (mm)



SF 773 diffuser



ST and RT type



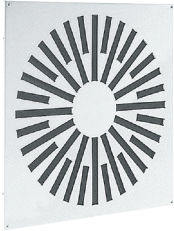
RS and RE type

L X H	Option	Ø C	Ø D	H1	H2	H3
400 x 400	44.4	360	198	200	300	175
500 x 500	55.4	460	198	200	300	175
500 x 500	55.5	460	198	200	300	175
600 x 600	66.4	545	198	200	300	175
600 x 600	66.5	545	198	200	300	175
600 x 600	66.6	545	248	250	350	200
625 x 625	662.4	545	198	200	300	175
625 x 625	662.5	545	198	200	300	175
625 x 625	662.6	545	248	250	350	200

L X H	ØW		
	340	440	540
400 x 400	44.4	-	-
500 x 500	55.4	55.5	-
600 x 600	66.4	66.5	66.6
625 x 625	662.4	662.5	662.6

# Swirl Diffusers

## Adjustable square swirl diffusers with helical air pattern



SF 783 series - Steel

### Advantages

- Adjustable air diffusion.
- Ideally suited for installations requiring a high-volume air displacement.

### APPLICATION

- SF 781: air exhaust.
- SF 783: air supply.
- Heating installations ( $\Delta T_{max} = -30^{\circ}C$ ) and air-conditioning ( $\Delta T_{max} = -16^{\circ}C$ ) with adjustable, important airflow rates.
- Very high levels of air circulation.
- Ceiling mounted.

### DESCRIPTION

- Flush mounted square ceiling diffuser designed specifically for T-bar lay-in application (tile replacement) for standard modular ceiling grid sizes, also available for surface mounted applications.
- Creative helical airstream discharge of supply air resulting in a high induction ratio and a rapid consolidation of supply air and room air temperature. Ability to handle high air change rates with draught free mixing.
- Galvanised mild steel pressed fascia having transverse supply apertures. Located within the supply apertures are acute angled deflectors, adjustable for directional flow and painted stove enamelled black.

### ACCESSORIES

- Connection arrangements for plenum boxes, manufactured from galvanised mild steel and available in 4 options as indicated below:
  - ST: top entry inlet spigot complete with perforated equalising grid and air deflectors (SF 783 ST).
  - RT: top entry inlet spigot without perforated equalising grid and air deflectors for return air application (SF 781 RT).
  - RS: side entry inlet spigot complete with perforated equalising grid and air deflectors (SF 783 RS).
  - RE: side entry inlet spigot without perforated equalising grid and air deflectors for return air application (SF 781 RE).

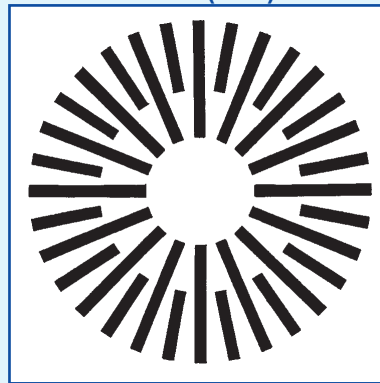
### ADDITIONAL RANGE

- Version without plenum.
- Paint finish in accordance with the RAL colour chart.
- Damper with control dial, supplied with the diffuser (delivered already fitted to the plenum connection).
- Lever operated quadrant damper located in the plenum inlet spigot, code Q.

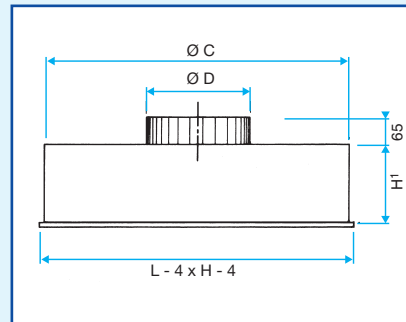
### RANGE with choice of options

Description	Code
SF 783 - 400 x 400 mm (option: 44.4)	
SF 783 - 500 x 500 mm (option: 55.4, 55.5)	
SF 783 - 600 x 600 mm (option: 66.4, 66.5, 66.6)	
SF 783 - 625 x 625 mm (option: 662.4, 662.5, 662.6)	
SF 783 - 825 x 825 mm (option: 882.8)	

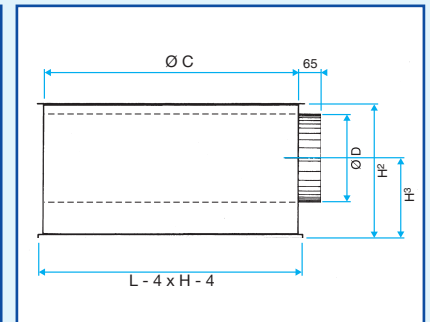
### DIMENSIONS (mm)



SF 783 diffuser



ST and RT type



RS and RE type

L X H	Option	Ø C	Ø D	H1	H2	H3
400 x 400	44.4	360	198	200	300	175
500 x 500	55.4	460	198	200	300	175
500 x 500	55.5	460	198	200	300	175
600 x 600	66.4	545	198	200	300	175
600 x 600	66.5	545	198	200	300	175
600 x 600	66.6	545	248	250	350	200
625 x 625	662.4	545	198	200	300	175
625 x 625	662.5	545	198	200	300	175
625 x 625	662.6	545	248	250	350	200
825 x 825	882.8	745	313	300	415	234

L X H	Ø W			
	345	445	525	725
400 x 400	44.4	-	-	-
500 x 500	55.4	55.5	-	-
600 x 600	66.4	66.5	66.6	-
625 x 625	662.4	662.5	662.6	-
825 x 825	-	-	-	882.8

# Swirl Diffusers

## Fixed square swirl diffusers

**New**

### Advantages

- Easy installation.
- Ideally suited for installations requiring a high-volume air displacement.



SF 786 series - Steel

### APPLICATION

- Air supply fixed diffusion pattern.
- Heating and air-conditioning installations where the airflows are high and modulated.
- Very high levels of air circulation.
- Ceiling mounted.

### DESCRIPTION

- Finish - white epoxy painted steel RAL 9010 tint.
- Fixing (F7) by means of a central screw under the plenum. This fixing is well adapted to staff or BA13 non removable fixed ceilings.
- Finish - white epoxy painted steel RAL 9010 tint.
- Front face adjustable blades in black polypropylene.
- Fixing to the plenum by means of a central screw (F7). This fixing is well adapted to staff or BA13 non removable fixed ceilings.
- Fixing to all of the concrete tile using the lugs located on the connecting plenum. Use the suspension cables.

### ACCESSORIES

- RE connecting plenum (side connection).

NOTE: the plenums are fitted, as standard, with an airflow diffuser.

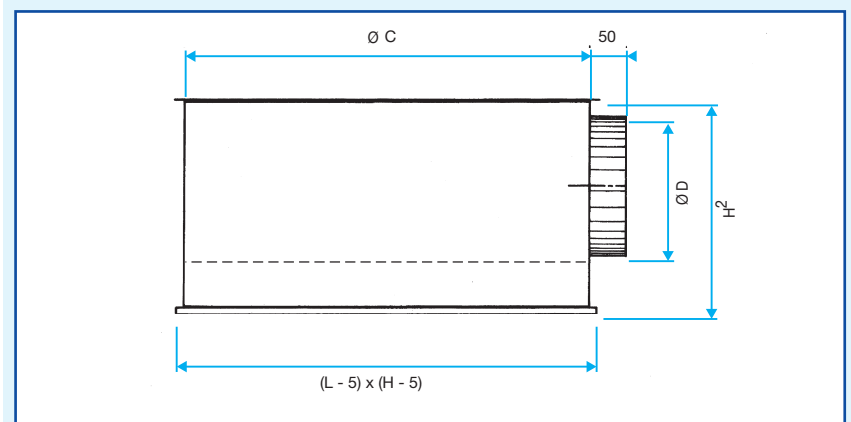
### ADDITIONAL RANGE

- Paint finish in accordance with the RAL colour chart (please, consult us).
- Insulated plenum (please, consult us).
- Top connection plenum (please, consult us).

### RANGE R10

Dimensions	Diffuser SF 786 F7 Code	Plenum RE Code
600 x 600	11051133	11002950

### DIMENSIONS



SF 786 diffuser with RE plenum

#### Comfort airflow levels for Lw < NR 30 and dimensions

L x H (mm)	Ø C (mm)	Ø D (mm)	H2 (mm)	Airflow (m <sup>3</sup> /h)
600 x 600	560	250	340	550

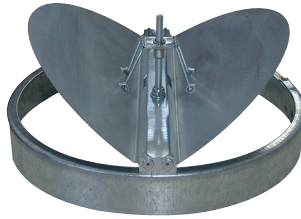
- Dimension adapted to standard 600 x 600 mm ceiling tiles.
- See selection table on page 281.

# Swirl Diffusers

## Fixed circular swirl diffusers for ceiling tiles



SF 861T series - Steel



BR damper

### Advantages

- Designed for 600 x 600 mm ceiling tiles.
- Efficient diffusion and easy to fit.
- Excellent high level air circulation.

### APPLICATION

- Ceiling mounted diffuser designed to replace a 600 x 600 mm suspended ceiling tile.
- Heating and air-conditioning installations requiring high levels of air circulation.
- Ideal for the cold air supply (air-conditioning).

### DESCRIPTION

- Body and diffusion vanes in steel.
- Based on the design of the SF 861 diffuser as standard, integrated into a steel plate.
- Connection to circular ducts or the LRE plenum.
- White steel epoxy painted, RAL 9010 tint.

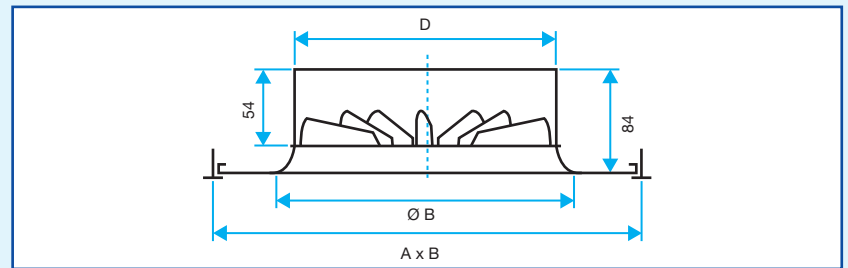
### ACCESSORIES

- BR damper: butterfly type with either 2 or 4 V-shaped blades (depending on diameter). Manufactured in steel. Adjustment through the diffuser uses a screw.
- LRE side connector plenum in galvanised steel.

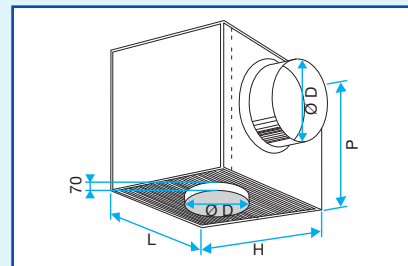
### ADDITIONAL RANGE

- Paint finish in accordance with the RAL colour chart (please, consult us).

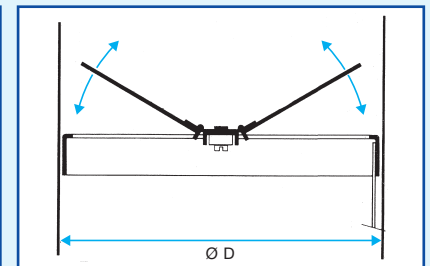
### DIMENSIONS



SF 861T diffuser



LRE plenum



BR damper

Comfort airflow levels for Lw < NR 30 and dimensions					
Ø D (mm)	A x B* (mm)	Ø B (mm)	Ø Connections Plenum (mm)	P (mm)	Airflow (m <sup>3</sup> /h)
160	600 x 600	200	160	210	130
200	600 x 600	250	200	250	200
250	600 x 600	300	250	300	280
315	600 x 600	360	315	365	420

- \* Nominal ceiling tile dimensions.
- See selection table on page 281.

### RANGE R10

Dimensions	Diffuser SF 861 T Code	Damper BR Code	Plenum LRE Side connector Code
Ø 160	11051081	11053220	11053311
Ø 200	11051082	11053221	11053312
Ø 250	11051083	11053222	11053313
Ø 315	11051084	11053223	11053314



# Swirl Diffusers

## Fixed circular swirl diffusers



SF 861 series - Steel



SR 861 series - Steel

**Advantages**

- Perfect for cooling installations.
- Excellent high level air circulation.

### APPLICATION

- Air supply and air exhaust: high inductance fixed airflow.
- Heating and air-conditioning installations requiring high levels of air circulation.
- Ideal for the cold air supply (air-conditioning).
- Ceiling mounted.

### DESCRIPTION

- Body and diffusion vanes in steel.
- Finish - white epoxy painted steel RAL 9010 tint.
- Invisible fixing, using a screw in the diffuser neck.

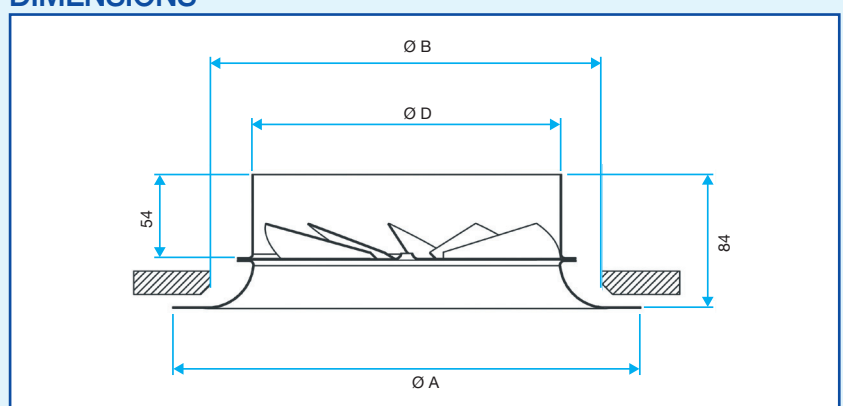
### ACCESSORIES

- LRE: side connector plenum in galvanised steel.
- BR damper: butterfly type with either 2 or 4 V-shaped blades (depending on diameter). Manufactured in steel. Adjustment through the diffuser uses a screw.

### ADDITIONAL RANGE

- Paint finish in accordance with the RAL colour chart (please, consult us).
- Models available to replace suspended ceiling tiles, see page 229.

### DIMENSIONS



SR 861 & SF 861 diffusers

Comfort airflow levels for Lw < NR 30 and dimensions SR 861			
Ø D (mm)	Ø A (mm)	Ø B (mm)	Airflow (m <sup>3</sup> /h)
125	225	175	80
160	250	210	130
200	300	250	200
250	350	300	280
315	415	360	420

Comfort airflow for Lw < NR 30 and connector diameters SF 861			
Ø D (mm)	A (mm)	Ø B (mm)	Airflow (m <sup>3</sup> /h)
125	225	175	80
160	250	210	130
200	300	250	200
250	350	300	280
315	415	360	420

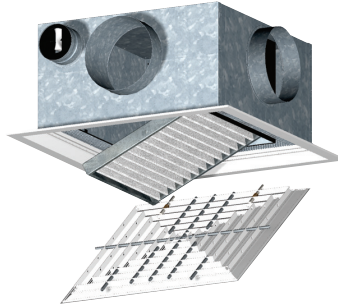
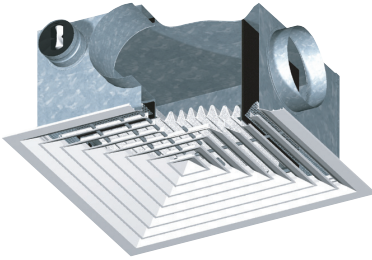
• See selection table on page 281.

### RANGE R10

Dimensions	Damper BR Code	Diffuser SF 861 Code	Diffuser SR 861 Code	Plenum LRE Side connector Code
Ø 125		11051121	11051105	
Ø 160	11053220	11051122	11051106	11053311
Ø 200	11053221	11051123	11051107	11053312
Ø 250	11053222	11051124	11051108	11053313
Ø 315	11053223	11051125	11051109	11053314

# Special Diffusers

## Square diffusers air supply + air exhaust



Standard Combined Solution  
SF/SN 704S series  
AF/AN 704S RREI Combined series  
Steel or aluminium

### Advantages

- Integrated air supply + air exhaust diffuser.
- Saves time during installation.
- Suitable for both centralised air conditioning and convector fans using ducts.
- Access to the air return filter (optional).

### APPLICATION

- Simultaneous air supply (on the periphery) and air exhaust (at the centre) for all ventilation and air-conditioning applications.
- Ceiling mounted diffuser designed to replace a 600 x 600 or 675 x 675 mm suspended ceiling tile (T-shaped framework).
- Fixed air diffusion in four directions.
- Heating and air-conditioning installations.

### DESCRIPTION

- Double plenum and air diffuser assembly ensuring the functions of air supply and exhaust simultaneously.
- SF and SN types: white epoxy painted steel RAL 9010 tint.
- AF and AN types: diffuser in anodised aluminium, natural satin finish.
- Double plenum in galvanised steel with two branches at 90°.
- Invisible fixing, using a screw in the neck of the diffuser. The plenum is fitted with lugs for fixing to the concrete tile. Use the suspension cables.

NOTE: the diffuser weight must not be borne by the frame of the suspended ceiling.

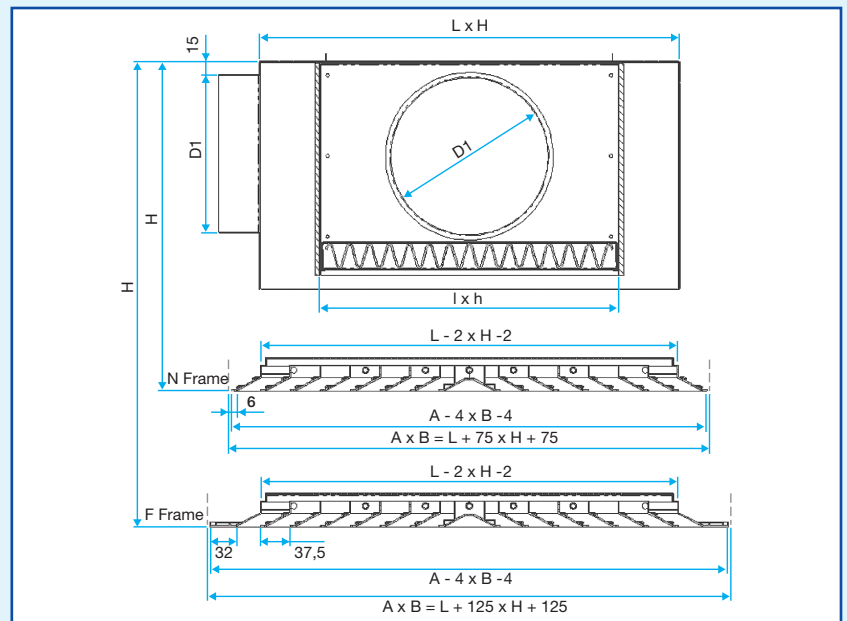
### ACCESSORIES

- Folded 35 mm filter – G3 efficiency – M1 fire-resistance rating for air exhaust.

### ADDITIONAL RANGE

- Paint finish in accordance with the RAL colour chart (please, consult us).
- Other connection diameters for the various airflow rates (please, consult us).

### DIMENSIONS



704 S R REI diffuser

#### Comfort airflow levels for LW < NR 35 (air supply + exhaust) and dimensions

Model	A x B* (mm)	L x H (mm)	l x h (mm)	H (mm)	Ø D1 (mm)	Airflow (m³/h)
AF/SF 704S R REI	600 x 600	472 x 472*	323 x 323	355	250	500
AN/SN 704S R REI	600 x 600	525 x 525*	375 x 375	420	315	650
AN/SN 704S R REI	675 x 675	600 x 600**	375 x 375	420	315	850

\* Dimensions for 600 x 600 mm suspended ceiling tiles.

\*\* Dimensions for 675 x 675 mm suspended ceiling tiles.

• See selection table on page 282.

### RANGE <sup>R10</sup>

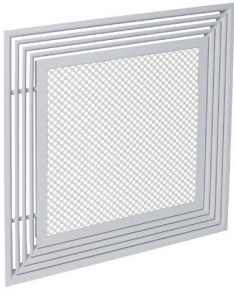
Dimensions	Diffuser SF 704 S Code	Double plenum R-REI Code	Filter (L1 x H1) W Code
472 x 472*	11051051	11003291	11053511
525 x 525 + 600 x 600			11053512

### PRODUCT RANGE WITH CHOICE OF OPTIONS <sup>R10</sup>

Dimensions	Diffuser AF 704 S Code	Diffuser AN 704 S Code	Diffuser SF 704 S Code	Diffuser SN 704 S Code	Double plenum R-REI Code
472 x 472*	11002804		11002803		11003291
525 x 525*		11002807		11002805	11003292
600 x 600**		11002808		11002806	11003293

# Special Diffusers

## Multi-slot square diffusers



Multi-slot Combined Solution  
ALD 610 K - Aluminium

### Advantages

- Integrated air supply + air exhaust diffuser.
- Saves time during installation
- Suitable for both centralised air conditioning and convector fans using ducts.
- Access to the air return filter (optional).

### APPLICATION

- Simultaneous air supply (on the periphery) and air exhaust (at the centre) for all ventilation and air-conditioning applications.
- Four direction horizontal fixed diffusion with 1, 2, 3 or 4 slots.
- Heating and air-conditioning installations.
- Ceiling mounted diffuser designed to replace a 600 x 600 or 675 x 675 mm suspended ceiling tile (T-shaped framework).

### DESCRIPTION

- Diffuser equipped with a double plenum for simultaneous air supply and air exhaust functions.
- Body and deflectors of air supply in aluminium extrusions.
- Central plate (for exhaust) comprising a perforated steel sheet. This plate can have a filter, and in that case the central core opens for easy access.
- Double plenum in galvanised steel with two facing branches.
- White epoxy painted steel RAL 9010 tint.
- Diffuser fixed discreetly to plenum using non-removable clips.
- Fixing to all of the concrete tile using the lugs located on the plenum.

NOTE: the diffuser weight must not be borne by the frame of the suspended ceiling. Use the suspension cables.

### ACCESSORIES

- G2 or G3 flat filter delivered mounted in the plenum for air exhaust (M1).
- 5 sided plenum insulation (M1 polyurethane foam).

### ADDITIONAL RANGE

- Paint finish in accordance with the RAL colour chart (please, consult us).

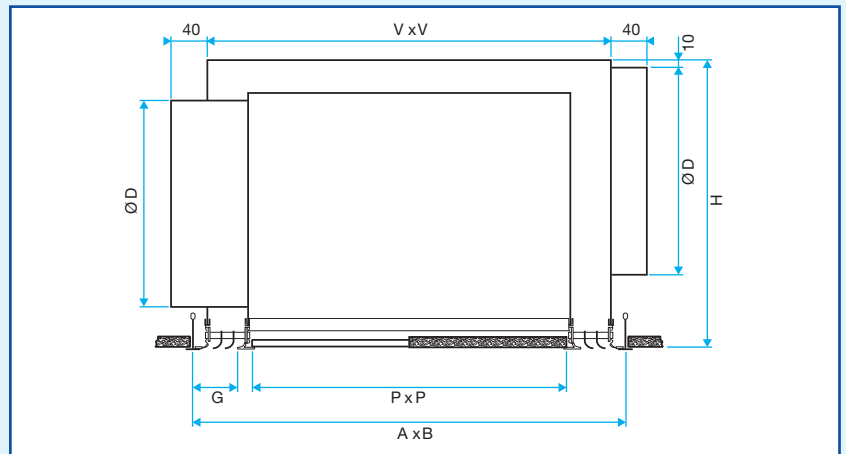
### RANGE R10

Dimensions	N° slots	Air inlet core with filter included option Code	Air inlet diffuser with filter included option Code	Double plenum R-RE Code	Filter holder on plenum (option) Code	Fixed diffuser with perforated sheet metal Combined ALD610K Code
600 x 600	1	11002881-a		11003341	11003341-a	11002881
600 x 600	2		11002882-a	11003342	11003342-a	11002882
600 x 600	3		11002883-a	11003343	11003343-a	11002883
600 x 600	4		11002884-a	11003344	11003344-a	11002884
675 x 675	1		11002886-a	11003346	11003346-a	11002886
675 x 675	2		11002887-a	11003347	11003347-a	11002887
675 x 675	3		11002888-a	11003348	11003348-a	11002888
675 x 675	4		11002889-a	11003349	11003349-a	11002889

### OPTIONS

Diffuser	Plenum
Epoxy paint according to RAL colour chart	Connections positioned at 90°
	5 sides insulation

### DIMENSIONS



Combined ALD 610 K diffuser

#### Comfort airflow levels for LW < NR 35 (air supply + exhaust) and dimensions

A x B* (mm)	Number of slots	P x P (mm)	V x V (mm)	H (mm)	G (mm)	Ø D (mm)	Airflow (m³/h)
600 x 600	1	508 x 508	560 x 560	365	25	250	300
600 x 600	2	474 x 474	560 x 560	365	42	250	500
600 x 600	3	440 x 440	560 x 560	365	59	250	750
600 x 600	4	406 x 406	560 x 560	365	76	250	900
675 x 675	1	583 x 583	635 x 635	365	25	250	350
675 x 675	2	549 x 549	635 x 635	365	42	250	550
675 x 675	3	515 x 515	635 x 635	365	59	250	850
675 x 675	4	481 x 481	635 x 635	365	76	250	1000

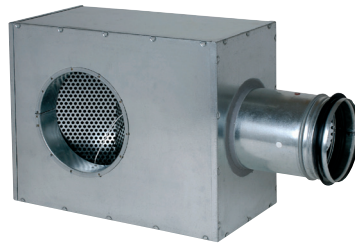
- \* Nominal ceiling tile dimensions.
- See selection table on page 283.

# Special Diffusers

## Adjustable diffusers with rotating nozzles



SC 984 diffuser - Steel



Plenum LREI (5)

### Advantages

- Aesthetic design.
- Ideally suited for installations requiring a high-volume air displacement.
- Adjustable diffusion.
- Version adapted to 600 x 600 mm ceiling tiles.
- Easy installation.

### APPLICATION

- Air supply: adjustable diffusion.
- Heating and air-conditioning installations.
- Very high levels of air circulation.
- Ceiling mounted.

### DESCRIPTION

- Front face in steel plate with RAL9010 tint.
- White plastic rotating nozzles.
- Invisible fixing, using a screw in the neck of the diffuser.
- "T" models adapted to 600 x 600 mm suspended ceiling tiles of

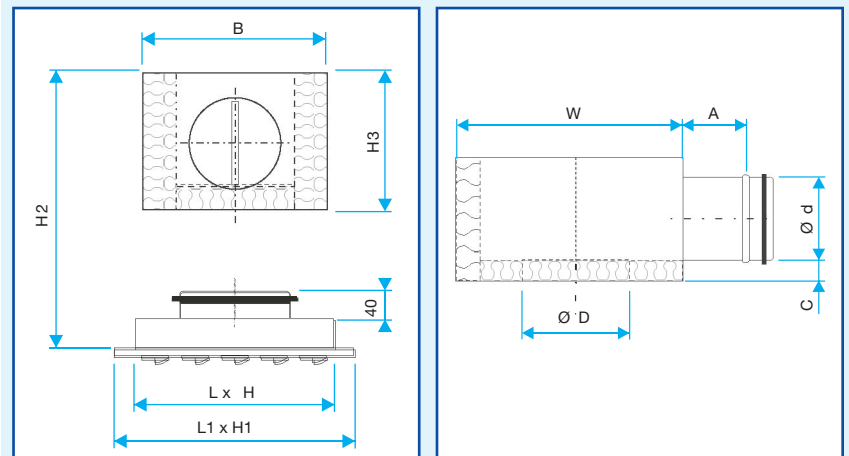
### ACCESSORIES

- LREI (5) plenum insulated on 5 sides (side connection).
- Damper with control dial delivered fitted to the plenum connection (supplied as standard).

### ADDITIONAL RANGE

- Paint finish in accordance with the RAL colour chart (please, consult us).

### DIMENSIONS



SC 984 diffuser with plenum

LREI (5) plenum

#### Comfort airflow levels for Lw < NR 35 and dimensions

Ø D (mm)	L x H (mm)	L1 x H1 (mm)	Ø d (mm)	H2 (mm)	H3 (mm)	B (mm)	W (mm)	A (mm)	C (mm)	Airflow (m³/h)
125	333	389	100	185	155	250	320	81	30	130
125	333	595*	100	185	155	250	320	81	30	130
160	333	389	125	210	180	300	380	91	40	210
160	333	595*	125	210	180	300	380	91	40	210
200	415	472	160	260	215	370	440	103	35	300
200	415	595*	160	260	215	370	440	103	35	300
250	554	595	200	315	255	465	520	123	30	480
315	554	595	250	360	300	550	580	144	25	600

\* Models adapted to 600 x 600 mm suspended ceiling tiles.

### RANGE R10

Dimensions	600x600 mm diffuser SC 984T Code	Diffuser SC 984 Code	Insulated plenum LREI (5) Code
Ø 125	11051301	11051291	11053361
Ø 160	11051302	11051292	11053362
Ø 200	11051303	11051293	11053363
Ø 250	11051304		11053364
Ø 315	11051305		11053365

# Special Diffusers

## Jet diffusers



DGH series - Aluminium

### Advantages

- Ideal for destratifying air layers in high ceilinged premises.
- Adjustable air-jet throw.

### APPLICATION

- Air supply for premises with high ceilings of the airport type.
- Long-range diffusion to provide an airflow to the occupied zone, ideal for avoiding stratification of air in heating systems.
- Adjustable diffusion direction – angles of up to 30°.
- Wall or ceiling mounted.

### DESCRIPTION

- White epoxy painted aluminium finish, RAL 9010 tint.
- DGH and DGHB: fixing by visible screws against the wall, rectangular frame.
- DGH-C and DGHB-C: fixing directly on to the circular air supply duct.

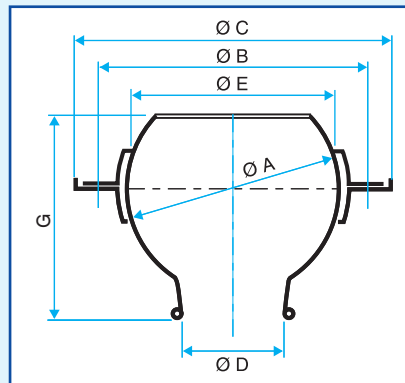
### ACCESSORIES

- DGH-C: supplied with circular connector sleeve.
- DGHB: supplied with an integrated damper which can be adjusted.
- DGHB-C: supplied with circular connector sleeve and integrated damper.

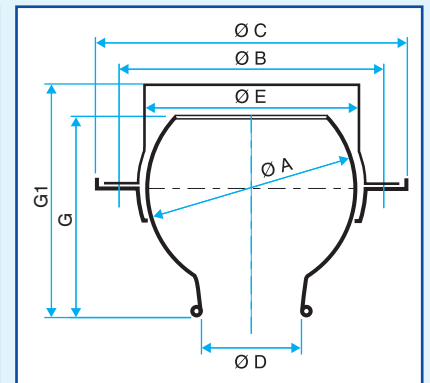
### ADDITIONAL RANGE

- Paint finish in accordance with the RAL colour chart (please, consult us).

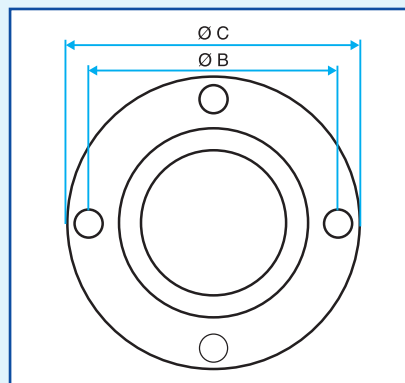
### DIMENSIONS



DGH jet diffuser



DGH-C ejector



Comfort airflow levels for Lw < NR 40 and dimensions									
Model (mm)	Ø Résevation (mm)	Ø A (mm)	Ø B (mm)	Ø C (mm)	Ø D (mm)	Ø E (mm)	G (mm)	G1 (mm)	Airflow (m <sup>3</sup> /h)
100	105	95	120	140	45	98	90	98	125
150	165	155	180	200	70	148	140	150	250
200	215	205	240	260	95	198	180	188	450
315	325	315	350	370	160	313	265	305	1000
400	425	415	455	480	225	398	355	395	2000

• See selection table on page 284.

### RANGE R10

Dimensions	DGH	DGHB (with damper)	DGHB-C (damper + sleeve)	DGH-C (with sleeve)
	Code	Code	Code	Code
Ø 100	11051681	11051225	11051230	11051220
Ø 150	11051682	11051226	11051231	11051221
Ø 200	11051683	11051227	11051232	11051222
Ø 315	11051684	11051228	11051233	11051223
Ø 400	11051685	11051229	11051234	11051224



# Special Diffusers

## Jet diffusers



DGH2 series - Aluminium

### Advantages

- Ideal for destratifying air layers in high ceilinged premises.
- Adjustable air-jet throw.
- Aesthetic design.

### APPLICATION

- Air supply for premises with high ceilings of the airport type.
- Long-range diffusion to provide an airflow to the occupied zone, ideal for avoiding stratification of air in heating systems.
- Adjustable diffusion direction – angles of up to 30°.
- Wall or ceiling mounted.

### DESCRIPTION

- White epoxy painted aluminium finish, RAL 9010 tint.
- DGH2: fixing by visible screws against the wall, rectangular frame.
- DGH2-C: fixing directly on to the circular air supply duct.

NOTE: no damper available for this range.

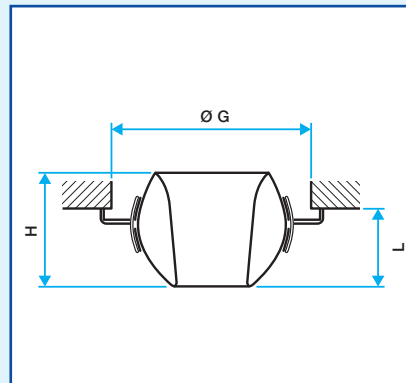
### ACCESSORIES

- DGH2-C supplied with circular connector sleeve.

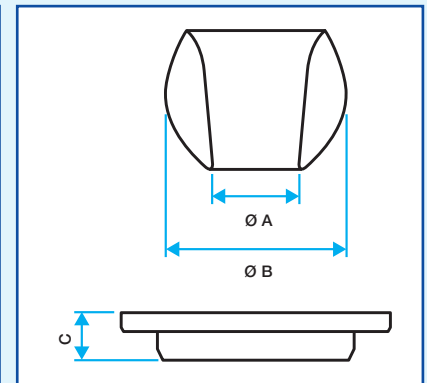
### ADDITIONAL RANGE

- Paint finish in accordance with the RAL colour chart (please, consult us).

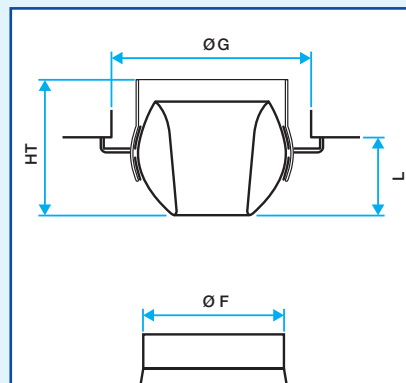
### DIMENSIONS



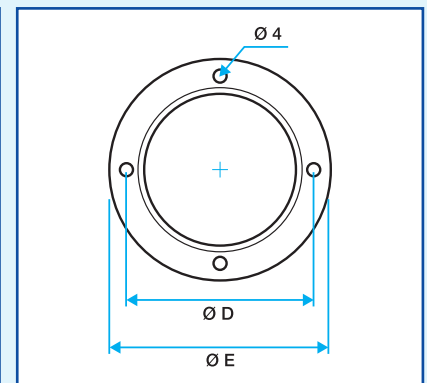
DGH2 jet diffuser



DGH2 jet diffuser



DGH2-C jet diffuser



Connection flange

Comfort airflow levels for Lw < NR 40 and dimensions											
Model (mm)	Ø G (mm)	Ø A (mm)	Ø B (mm)	Ø C (mm)	Ø D (mm)	Ø E (mm)	Ø F (mm)	H (mm)	HT (mm)	L (mm)	Airflow (m <sup>3</sup> /h)
100	105	45	95	25	120	140	98	75	85	50	125
150	165	70	155	25	180	200	148	120	130	80	250
200	215	95	205	30	240	260	198	150	155	100	450
315	325	160	315	35	350	370	313	215	230	145	1000

• See selection table on page 284.

### RANGE R10

Dimensions	DGH2	DGH2-C (with sleeve)
	Code	Code
Ø 100	11051281	11051271
Ø 160	11051282	11051272
Ø 200	11051283	11051273
Ø 315	11051284	11051274

# Special Diffusers

## Jet diffusers



SR 151 S series - Steel

### Advantages

- Ideal for destratifying air layers in high ceillinged premises.

### APPLICATION

- Air supply for premises with high ceilings of the industrial type.
- Long-range diffusion to provide an airflow to the occupied zone, ideal for avoiding stratification of air in heating systems.
- Adjustable diffusion direction - angles of up to 30°.
- Wall or ceiling mounted.

### DESCRIPTION

- White epoxy painted steel finish, RAL9010 tint. Other colours on request.
- Fixing directly on to the circular air supply duct.
- Standard sizes: Ø 200, 250, 300, 350 mm.
- Adujstable core may be rotated through 360° and titled up to a maximum of 30° from mid position to produce a wide variation in air jet angles.
- Available with one, two, three or four elements per panel.

### AVAILABLE OPTIONS

- Painted to RAL, code Z.

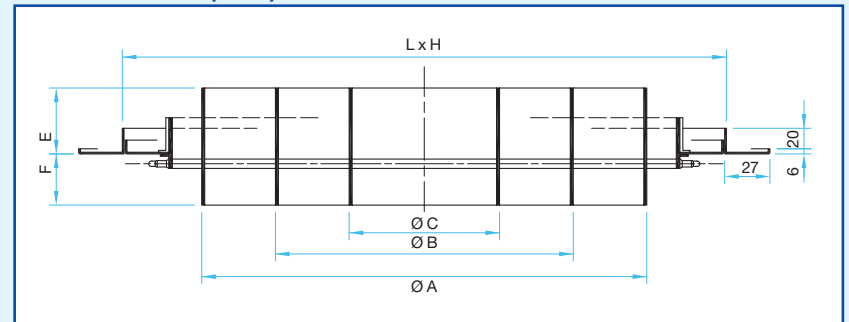
### ADDITIONAL RANGE

- Air diffusers are mounted in batteries.
- Paint finish in accordance with the RAL colour chart (please, consult us).

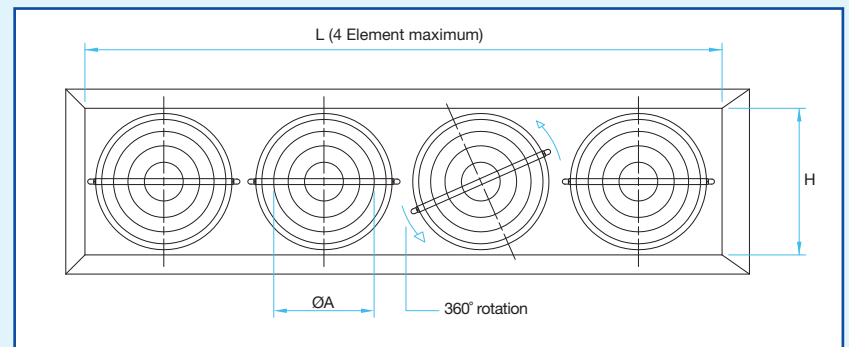
### RANGE R10

Dimensions	Code
<b>SR 151 S</b>	<b>(1 elements)</b>
Ø 200	
Ø 250	
Ø 300	
Ø 350	
Ø 400	11051679
<b>SR 152</b>	<b>(2 elements)</b>
Ø 200	
Ø 250	
Ø 300	
Ø 350	
<b>SR 153</b>	<b>(3 elements)</b>
Ø 200	
Ø 250	
Ø 300	
Ø 350	
<b>SR 154</b>	<b>(4 elements)</b>
Ø 200	
Ø 250	
Ø 300	
Ø 350	

### DIMENSIONS (mm)



SR 151 diffuser



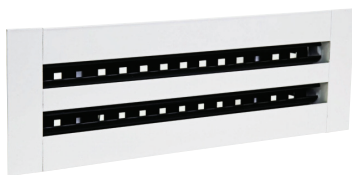
SR 154 (4 elements) diffuser

Size	No. of elements	L	H	ØA	ØB	ØC	E	F
Ø 200	1	300	300	200	150	100	60	70
	2	600						
	3	900						
	4	1200						
Ø 250	1	350	350	250	175	100	60	70
	2	700						
	3	1050						
	4	1400						
Ø 300	1	400	400	300	200	100	70	90
	2	800						
	3	1200						
	4	1600						
Ø 350	1	450	450	350	225	100	70	90
	2	900						
	3	1350						
	4	1800						
Ø 400	1	500	500	400	250	100	70	100

• See selection table on page 284.

# Slot Diffusers

## Adjustable aluminium slot diffusers



AG 280 BDE - Extruded aluminium

### Advantages

- Adjustable diffusion.
- Aesthetic design.
- Possible exhaust filtration.
- Integrated damper.

### APPLICATION

- Supply or exhaust systems.
- Adjustable diffusion using two directional deflectors on each slot.
- Heating installations ( $\Delta T_{\max} = + 30^{\circ} \text{C}$ ) and air-conditioning ( $\Delta T_{\max} = - 16^{\circ} \text{C}$ ) installations.
- Ceiling mounted.

### DESCRIPTION

- AG 200, AN 200 series: available in slots of 20 mm, 25 mm and 12.5 mm, from 1 to 8 slots.
- For continuous length assembly, the maximum length per section will be 3000 mm complete with alignment strips.
- Two air pattern deflectors per slot provide an adjustable air pattern of 180° fully. The hit-and-miss damper does not affect the air pattern and can be used as an equalizing grid.

### ACCESSORIES

- Connector plenum and lever in simple galvanised steel (P/S3) or insulated on two sides (PI/S3).

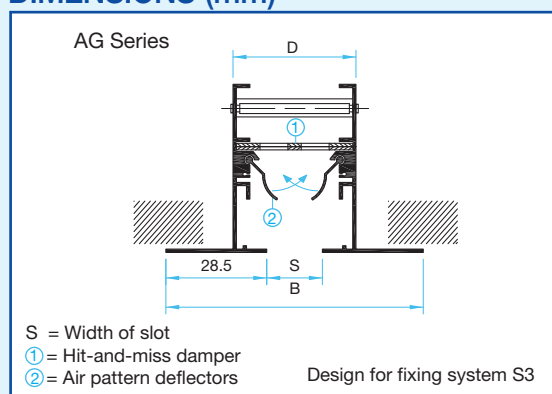
### ADDITIONAL RANGE

- Flange type AN: 20 mm width.
- Paint finish in accordance with the RAL colour chart (please, consult us).
- Version with between 5 and 8 slots (please, consult us).
- For the linear strips version (please, consult us).
- Corner pieces (please, consult us).
- For the expansion and insulated connection on 5 faces (please, consult us).
- Version without deflector or damper (please, consult us).

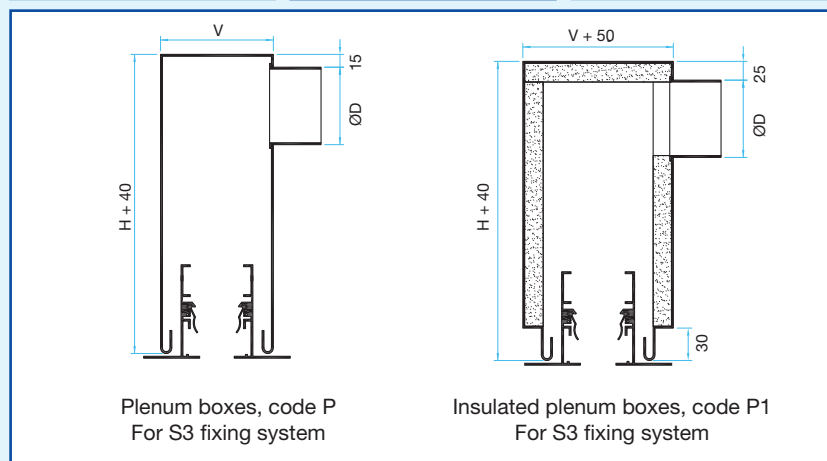
### RANGE

Description	Code
AG 270 - No of slots 1 to 8	
AG 280 - No of slots 1 to 8	
AG 290 - No of slots 1 to 8	

### DIMENSIONS (mm)



AG 270 S = 12.5 mm			AG 280 S = 20 mm			AG 290 S = 25 mm		
No. of Slots	B	D	No. of Slots	B	D	No. of Slots	B	D
1	69	33	1	77	40	1	82	45
2	100	63	2	115	78	2	125	88
3	131	94	3	154	117	3	169	132
4	162	125	4	192	155	4	212	175
5	193	156	5	231	193	5	256	218
6	224	187	6	269	232	6	299	262
7	255	218	7	308	270	7	343	305
8	286	249	8	346	309	8	386	349



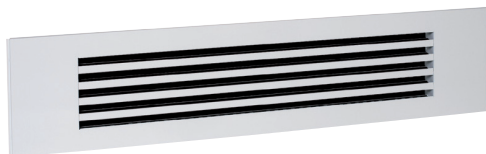
AG 270 S = 12.5 mm				AG 280 S = 20 mm				AG 290 S = 25 mm			
No. of Slots	H	Ø D	V	No. of Slots	H	Ø D	V	No. of Slots	H	Ø D	V
1	250	123	53	1	250	123	60	1	250	158	65
2	250	158	83	2	250	158	98	2	250	198	108
3	300	198	117	3	300	198	137	3	300	198	152
4	300	198	145	4	300	248	175	4	300	248	219
5	300	198	176	5	300	248	213	5	300	248	238
6	300	248	207	6	300	248	252	6	365	313	282
7	300	248	238	7	365	313	290	7	365	313	325
8	300	248	268	8	365	313	328	8	365	313	368

• See selection table on page 282.

# Slot Diffusers

## Adjustable aluminium slot diffusers

**New**



AN 285 D TP  
1200 x 300 mm



AN 294 TP  
600 x 600 mm

### Advantages

- Adjustable diffusion.
- Aesthetic design.
- Replaces a standard suspended ceiling tile.
- Adapted to T frames or Fine-line frames.
- Slot length adjustable independently of ceiling panel.

### APPLICATION

- Supply or exhaust systems – adjustable diffusion using two directional deflectors on each slot.
- Heating and air-conditioning installations.
- Ceiling mounted.
- Designed to replace a standard type T or Fine-line suspended ceiling tile.
- Inlet air supply models with filter replacing filter in duct-mounted convector fans.

### DESCRIPTION

- Extruded aluminium body with RAL9010 tint.
- Ceiling-mounted compensation plate in RAL9010 tinted steel.
- Aluminium deflectors with RAL9005 black.
- Type 280 D: slot width 20 mm.
- Type 290 D: slot width 25 mm.
- Standard slot length (L) is the maximum available length in the selected ceiling panel. This length (L) can be reduced on request depending on the installation airflow.

NOTE: types 280 and 290: diffusers without deflectors to be used for air exhaust only. Come in air inlet filter holder models with core mounted on hinges and push-push opening.

- Concealed fixing, using screws in the plenum (type S2). The plenum is fitted with lugs for fixing to the concrete tile. Use the suspension cables.

NOTE: the diffuser weight must not be borne by the frame of the suspended ceiling.

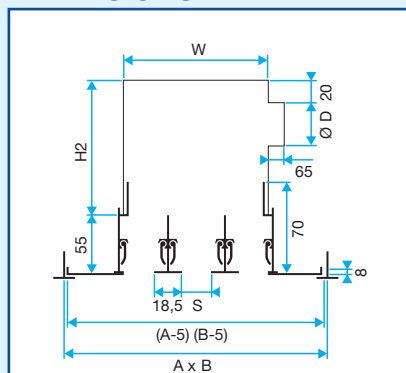
### ACCESSORIES

- B: slide damper, in galvanised black sheet steel. Adjustable from the front panel of the diffuser. Delivered mounted on the diffuser.
- 1/2 B: attractive cover in black coloured sheet steel allowing for reducing the "openwork" effect of the slots (pointless with D deflectors). Delivered mounted on the diffuser.
- White deflectors (type D only).
- Connecting and expansion plenum in simple or insulated galvanised steel (models P280 and P290).

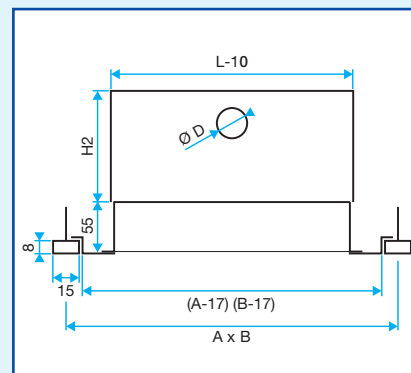
### ADDITIONAL RANGE

- Paint finish in accordance with the RAL colour chart (please, consult us).
- Available in up to 8 slots if the ceiling width allows (please, consult us).
- Slot length (L) can be adjusted depending on airflow and / or desired attractiveness (please, consult us).
- Linear range without compensation plate (see preceding pages).

### DIMENSIONS



Ceiling mounted with T profiles



Ceiling mounted with Fine-line profiles

AN 280 D TP : S = 20 mm				
Comfort airflow levels in m <sup>3</sup> /h for Lw < NR 30 and dimensions				
No. of slots	W (mm)	H2 (mm)	Ø D (mm)	Air supply airflow (m <sup>3</sup> /h)
1	34	175	125	125
2	72	210	160	225
3	110	250	200	300
4	149	300	250	400
5	187	300	250	480
6	225	300	250	550
7	263	365	315	610
8	302	365	315	700

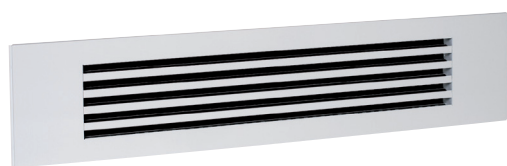
• See selection tables on page 282.

AN 290 D TP : S = 25 mm				
Comfort airflow levels in m <sup>3</sup> /h for Lw < NR 30 and dimensions				
No. of slots	W (mm)	H2 (mm)	Ø D (mm)	Air supply airflow (m <sup>3</sup> /h)
1	39	210	160	150
2	82	250	200	270
3	125	250	200	400
4	169	300	250	500
5	212	300	250	600
6	255	365	315	710
7	298	365	315	810
8	342	365	315	900

• See selection table on page 282.

# Slot Diffusers

## Adjustable aluminium slot diffusers



AN 285 D TP



AN 294 TP

### Advantages

- Adjustable diffusion.
- Aesthetic design.
- Replaces a standard suspended ceiling tile.
- Adapted to T frames or Fine-line frames.
- Slot length adjustable independently of ceiling panel.

## 280D TP and 290D TP air supply diffusers

A x B H / L	AN280DTP code 11002174 - AN290DTP code 11002176							
	600x300 570	900x300 870	1200x300 1170	1350x300 1320	600x600 570	1200x600 1170	675x675 645	1350x675 1320
1	•	•	•	•	•	•	•	•
2	•	•	•	•	•	•	•	•
3	•	•	•	•	•	•	•	•
4	•	•	•	•	•	•	•	•
5	•	•	•	•	•	•	•	•
6	•	•	•	•	•	•	•	•

## 280 TP and 290 TP air exhaust diffusers

A x B H / L	AN280TP code 11002173 - AN290TP code 11002175							
	600x300 570	900x300 870	1200x300 1170	1350x300 1320	600x600 570	675x675 645	1200x600 1170	1350x675 1320
1	•	•	•	•	•	•	•	•
2	•	•	•	•	•	•	•	•
3	•	•	•	•	•	•	•	•
4	•	•	•	•	•	•	•	•
5	•	•	•	•	•	•	•	•
6	•	•	•	•	•	•	•	•

## 280 TP and 290 TP air exhaust diffusers filter holder

A x B H / L	AN280TP+O code 11002177 - AN290TP+O code 11002178							
	600x300 570	900x300 870	1200x300 1170	1350x300 1320	600x600 570	1200x600 1170	675x675 645	1350x675 1320
4	•	•	•	•	•	•	•	•
5	•	•	•	•	•	•	•	•
6	•	•	•	•	•	•	•	•

## P280 et P290 air supply or air exhaust plenums

H / L	P280 code 11002122 - P290 code 11002123					
	570	645	870	1170	1320	
1	•	•	•	•	•	•
2	•	•	•	•	•	•
3	•	•	•	•	•	•
4	•	•	•	•	•	•
5	•	•	•	•	•	•
6	•	•	•	•	•	•

## AVAILABLE OPTIONS

Diffuser	Options on plenum
White deflectors (type D only)	Special depth
Slide damper B	Special diameter on connectors
Attractive cover 1/2 B	Additional connectors
For T-bar or Fine-line type ceilings	Fresh air connector
Protective film	2 sides insulation
Epoxy paint according to RAL colour chart	5 sides insulation
	G3 filter included



# Slot Diffusers

## Fixed high airflow level aluminium slot diffusers



AF 792 F0 - AFZ 91 - S792 series

### Advantages

- Capable of handling large volumes of airflow.
- Easy installation in all types of suspended ceilings with a length of 675 mm.

### APPLICATION

- Horizontal air supply diffusion, fixed by 2 or 4 slots.
- Heating installations ( $\Delta T_{\max} = + 30^{\circ} \text{C}$ ) and air conditioning ( $\Delta T_{\max} = - 16^{\circ} \text{C}$ ) installations.
- To be mounted in a suspended ceiling.

### DESCRIPTION

- Body and deflectors in extruded aluminium.
- Fixed central core.
- White epoxy painted aluminium finish, RAL 9010 tint.
- Fixing by screw into the neck of the diffuser.
- The plenum is fitted with lugs for fixing to the concrete tile.

NOTE: the diffuser weight must not be borne by the frame of the suspended ceiling. Use the suspension cables.

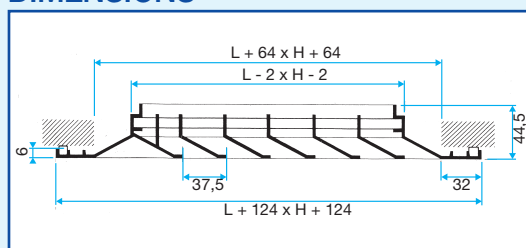
### ACCESSORIES

- Damper B 700 in aluminium. Counter-rotating dampers. Adjustment via the front panel of the diffuser. Mounted on the diffuser using the clips supplied.
- Connector plenum and lever in galvanised steel - side connector (type RE).

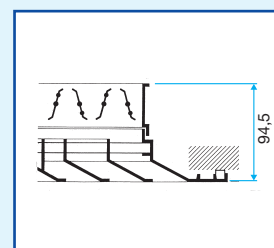
### ADDITIONAL RANGE

- Paint finish in accordance with the RAL colour chart (please, consult us).
- F7 fixings for non-removable fixed ceiling tiles (please, consult us).
- For the linear strips version (please, consult us).
- Insulated connector plenum (please, consult us).

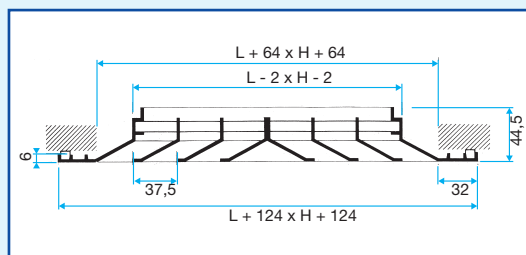
### DIMENSIONS



AF 791R diffuser alone



Diffuser + B700 damper



AF 792R diffuser alone

#### Comfort airflow levels for $Lw < NR 30$ and dimensions

Modèle	L x H (mm)	Tile (mm)	H plenum (mm)	Ø (mm)	Airflow (m <sup>3</sup> /h)
AF 791 Z F0	472 x 75	600	235	125	190
AF 791 Z F0	472 x 150	600	270	160	290
AF 791 Z F0	547 x 75	675	235	125	220
AF 791 Z F0	1072 x 75	1200	310	200	430
AF 791 Z F0	1072 x 150	1200	425	315	660
AF 792 Z F0	1072 x 150	1200	425	315	660
AF 792-1 Z F0	1072 x 150	1200	425	315	660

- For dimensions of the plenums, please contact us.
- See selection table on page 281.

#### Directions of the air supply and number of slots

Model	AF 791 Z F0	AF 792 Z F0	AF 792-1 Z F0
Width	75	150	150
No. of slots	2	4	4
Directions of air supply			

### RANGE R10

Dimensions	1 direction diffuser AF 791 Z F0	2 directions diffuser AF 792 Z F0	2 directions diffuser AF 792-1 Z F0	Damper B 700	Plenum side connection RE
	Code	Code	Code	Code	Code
472 x 75	11051241			11051331	11053541
472 x 150	11051242			11051334	11053544
547 x 75	11051243			11051332	11053542
1072 x 75	11051244			11051333	11053543
1072 x 150	11051245	11051246	11051247	11051335	11053545

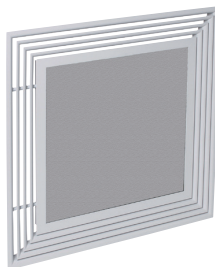
# Ceiling Diffusers

## Multi-slot square diffusers

**New**



ALD 610 K with central plate



ALD 610 K with suspended ceiling tile

### Advantages

- Diffuser adapted to standard 600 x 600 and 675 x 675 mm ceiling tiles.
- Aesthetic design.
- Access to the air return filter.
- Accepts variable flow system.

## APPLICATION

- Air supply or exhaust. Four direction horizontal fixed diffusion with 1, 2, 3 or 4 slots.
- Filter holder version with opening core for easy access to the interior filter.
- Heating installations ( $\Delta T_{\max} = + 30^{\circ} \text{C}$ ) and air-conditioning ( $\Delta T_{\max} = - 16^{\circ} \text{C}$ ) installations.
- Ceiling mounted diffuser designed to replace a 600 x 600 or 675 x 675 mm suspended ceiling tile (T-shaped framework).

## DESCRIPTION

- Body and deflectors in epoxy painted aluminium extrusions, RAL 9010 white tint.
- White epoxy painted steel RAL 9010 tint.
- NOTE: the central plate may be replaced by a suspended ceiling tile cut in the same format as the plate for a more attractive integration.
- Filter holder model with opening central core.
- Side (RE type) or top (RT type) connection plenum in galvanised steel, simple or insulated.
- Diffuser fixed to plenum using non-removable clips. Fixing to all of the concrete tile using the lugs located on the plenum.

NOTE: the diffuser weight must not be borne by the structure of the suspended ceiling. Use the suspension cables.

## ACCESSORIES

- G2 or G3 flat filter for exhaust (M1).
- Adjustment damper mounted on the plenum with access via the diffuser.
- 2 or 5 sided plenum insulation (M1 polyurethane foam).

## ADDITIONAL RANGE

- Paint finish in accordance with the RAL colour chart (please, consult us).

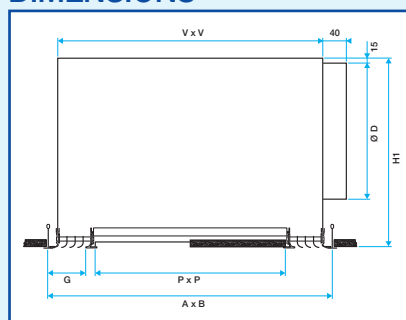
## RANGE R10

Dimensions	N° slots	Air inlet diffuser with filter included option	Damper on RE610* plenum (option)	Filter holder on RE610 plenum option	Fixed diffuser without central plate ALD610K	Full central plate option	Plenum side connection RE610	Plenum with bottom connection RT610
		Code	Code	Code	Code	Code	Code	Code
600 x 600	1	11002861-b	11003321-b	11003321-a	11002861	11002861-a	11003321	11003331
600 x 600	2	11002862-b	11003322-b	11003322-a	11002862	11002862-a		
600 x 600	3	11002863-b	11003323-b	11003323-a	11002863	11002863-a		
600 x 600	4	11002864-b	11003324-b	11003324-a	11002864	11002864-a	11003324	11003334
675 x 675	1	11002866-b	11003326-b	11003326-a	11002866	11002866-a	11003326	11003336
675 x 675	2	11002867-b	11003327-b	11003327-a	11002867	11002867-a		
675 x 675	3	11002868-b	11003328-b	11003328-a	11002868	11002868-a		
675 x 675	4	11002869-b	11003329-b	11003329-a	11002869	11002869-a	11003329	11003339

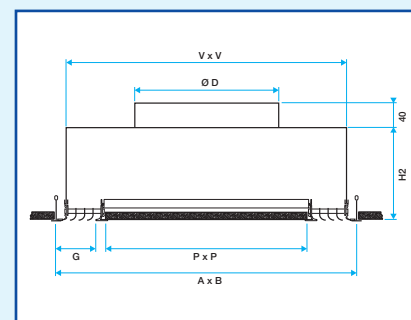
## AVAILABLE OPTIONS

Diffuser	Plenum
Epoxy paint according to RAL colour chart	1 additional connector
	2 sides insulation
	5 sides insulation

## DIMENSIONS



ALD 610 K diffuser with plenum with side connection



ALD 610 K diffuser with plenum with bottom connection

### Comfort airflow levels for Lw < NR 35 and dimensions

A x B* (mm)	No of slots	P x P (mm)	V x V (mm)	H1 (mm)	H2 (mm)	G (mm)	Ø D (mm)	H1** (mm)	Ø D** (mm)	Airflow (m³/h)
600 x 600	1	508 x 508	560 x 560	265	125	25	200	325	250	300
600 x 600	2	474 x 474	560 x 560	325	125	42	250	325	250	500
600 x 600	3	440 x 440	560 x 560	325	125	59	250	325	250	750
600 x 600	4	406 x 406	560 x 560	325	125	76	250	325		900
675 x 675	1	583 x 583	635 x 635	265	125	25	200	325	250	350
675 x 675	2	549 x 549	635 x 635	325	125	42	250	325	250	550
675 x 675	3	515 x 515	635 x 635	325	125	59	250	325	250	850
675 x 675	4	481 x 481	635 x 635	325	125	76	250	325	250	1000

\* Nominal ceiling tile dimensions.

\*\*Air inlet diffuser version with filter only.

• See selection tables on page 285.

NOTE: the diffuser and its plenum cannot be sold separately.

# Ceiling Diffusers

## Fixed square diffusers for ceiling tiles



AN 704 TP - SF 704 TP series  
Aluminium or steel



AF 704  
with filter for air exhaust



Damper B 700

### Advantages

- Designed for 600 x 600 mm suspended ceiling tiles.
- Aesthetic design.
- Air exhaust filter.
- The filter is accessible by a quick and simple dismantling of the central core.

### APPLICATION

- Ceiling mounted diffuser designed to replace a 600 x 600 mm suspended ceiling tile (T-shaped framework).
- Air supply or exhaust, fixed diffusion pattern.
- Heating installations ( $\Delta T_{max} = + 30^{\circ} C$ ) and air-conditioning ( $\Delta T_{max} = - 16^{\circ} C$ ) installations.
- Possibility of adding a filter for air exhaust use.

### DESCRIPTION

- External frame and core assembly of extruded aluminium sections (AN type) or in sheet steel section (SF type).
- Based on the design of the type 704 diffuser as standard, integrated into an aluminium or steel plate.
- White epoxy painted, RAL 9010 tint.
- Invisible fixing, using a screw in the neck of the diffuser. The plenum is fitted with lugs for fixing to the concrete tile.

NOTE: the diffuser weight must not be borne by the frame of the suspended ceiling. Use the suspension cables.

### ACCESSORIES

- B700 aluminium damper. Counter-rotating dampers. Adjustment via the front panel of the diffuser. Mounted on the diffuser using the clips supplied.
- W4 folded filter (50 mm in height) G3, M1 fire rating, for air exhaust use. Access to the filter is made by a simple and rapid central core.

NOTE: the use of a W4 filter is incompatible with the B700 damper.

- RT connection plenums (top connection) and RE (side connection) in galvanised steel.
- REI (5) side connection plenums in galvanised steel, thermally insulated on five face (to avoid any risk of condensation in air-conditioning.)

### ADDITIONAL RANGE

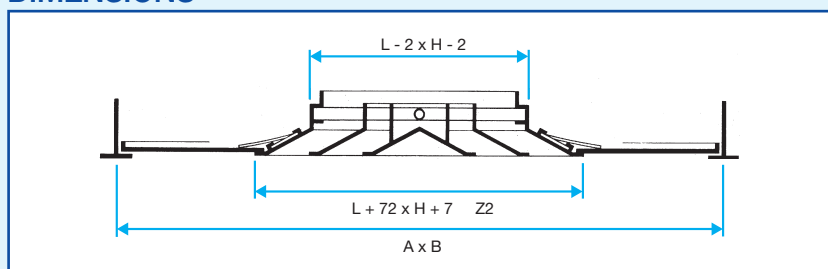
- Models adapted to 675 x 675 mm suspended ceilings or with Fine-line frameworks (please, consult us).
- Paint finish in accordance with the RAL colour chart (please, consult us).
- Various connection diameters for connection on RT and RE plenums.
- For exhaust air filtration (please, consult us).

### RANGE R10

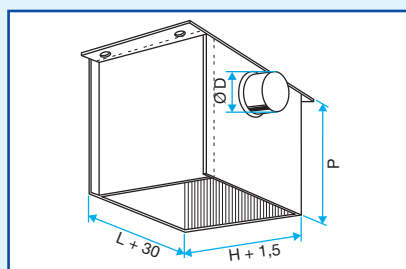
Dimensions	Damper B 700 Code	Insulated side plenum REIF (5) Code	Rear plenum RT Code	Side plenum RE Code	Steel diffuser SF 704 TP Code	White aluminium diffuser AN 704 Z TP Code
150 x 150	11051321		11053580	11053610	11051076	11051746
225 x 225	11051322	11053594	11053583	11053613	11051077	11051747
300 x 300	11051323	11053595	11053585	11053615	11051078	11051748
375 x 375	11051324	11053596	11053588	11053618	11051079	11051749

Dimensions	Filter cassette (G3 filter included) CW4		G3 filter alone (for spares) W4	
	Code		Code	
150 x 150	11053431		11053371	
225 x 225	11053432		11053372	
300 x 300	11053433		11053373	
375 x 375	11053434		11053374	

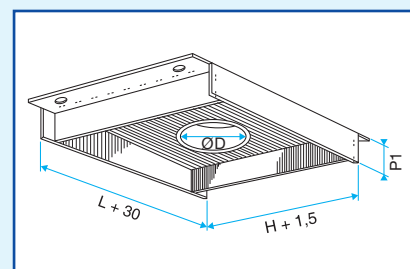
### DIMENSIONS



AN 704 TP - SF 704 TP diffusers



RE type plenum



RT type plenum

### Comfort airflow levels for $L_w < NR 30$ and dimensions

L x H (mm)	A x B* (mm)	P1 (mm)	P (mm)	Ø D (mm)	Air supply airflow (m <sup>3</sup> /h)	Air exhaust airflow with filter (m <sup>3</sup> /h)
150 x 150	600 x 600	115	215	125	180	130
225 x 225	600 x 600	115	250	160	320	230
300 x 300	600 x 600	165	340	250	500	350
375 x 375	600 x 600	165	405	315	650	440

- \* Nominal ceiling tile dimensions.
- See selection table on page 286.

# Ceiling Diffusers

## Square, removable core diffusers



AF 704 - Extended aluminium  
AF 703 - 702 - 701



AF 704  
with filter for air exhaust



Damper B700

### Advantages

- Aesthetic design.
- 1, 2, 3 or 4 way diffusion.
- Air exhaust filter.
- The fitter is accessible by a quick and simple dismantling of the central core.

## APPLICATION

- Fixed horizontal air supply diffusion.
- Simple heating installations ( $\Delta T_{max} = +30^{\circ}C$ ) and air-conditioning ( $\Delta T_{max} = -14^{\circ}C$ ) installations.
- Ceiling mounted.

## DESCRIPTION

- External frame and core in extruded aluminium assembled profiles, or in profile section sheet steel.
- Removable core using a system of clips for access to the interior.
- AF 701 - 702 - 703 - 704: aluminium.
- AF 704: white epoxy painted steel finish - RAL9010 tint.
- Concealed fixing, by lateral screws in the neck.
- Connection to circular ducts.

## ACCESSORIES

- Damper B 700 in aluminium. Counter-rotating shutters. Adjustment via the front panel of the diffuser. Mounted on the diffuser using the clips supplied.
- RT (top connection) and RE (side connection) plenums in galvanised steel.
- REI (5) side connection plenum in galvanised steel - thermal insulation on 5 faces.

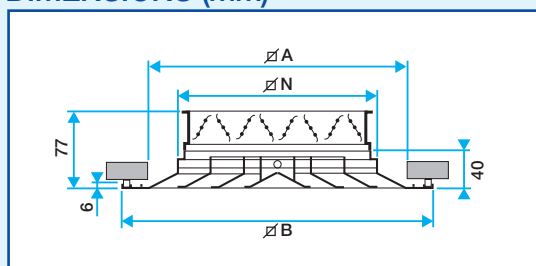
## OPTIONS

- Visible flange screw, code F1 (for AF flange only).
- Concealed bracket fixing, code F7.
- Optional frame, code AS.
- All above types are available with opposed blade damper, adjustable from diffuser front face. eg. AF 704 B.

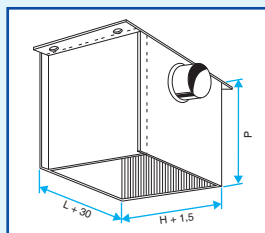
## ADDITIONAL RANGE

- Thin framed versions. Rectangular versions.
- Paint finish in accordance with the RAL colour chart (please, consult us).

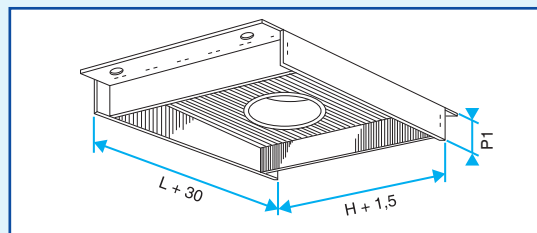
## DIMENSIONS (mm)



Diffuser + B 700 damper



RE connecting plenum



RT connecting plenum

### Comfort airflow levels for $Lw < NR 30$ and dimensions

Dimensions L x H (mm)	Ø N (mm)	Ø A (mm)	Ø B (mm)	P1 (mm)	D (mm)	Ø (mm)	Air exhaust airflow with filter (m <sup>3</sup> /hr)	Air supply airflow (m <sup>3</sup> /hr)
150 x 150	148	214	274	115	235	125	130	180
225 x 225	223	289	349	115	270	160	230	320
300 x 300	298	364	424	165	360	250	350	500
375 x 375	373	439	499	165	425	315	440	630
472 x 472*	470	536	596	215	465	355	670	950
525 x 525	523	589	649	215	465	355	770	1100
600 x 600	598	664	724	215	510	400	980	1400

\* Designed for suspended ceiling tiles.

• See selection table on page 286.

## RANGE

Dimensions	1-way diffuser AF 701 Code	2-way diffuser AF 702 Code	3-way diffuser AF 703 Code	4-way diffuser AF 704 Z RAL 9010 Code	4-way diffuser AF 704 Code
150 x 150					
225 x 225					
300 x 300					
375 x 375					
450 x 450					
472 x 472*					
525 x 525					
600 x 600					

# Ceiling Diffusers

## Square diffusers accessories



B 700 Damper

### OPPOSED BLADE DAMPER (OBD)

#### Code B

- The specially designed blades have an overlapping lip, which assures a tight closure.
- Blades are under spring wire tension to prevent rattling.
- Adjustment by lever through the front face of diffuser.
- Extruded aluminium construction / black matt finish.

### EQUALIZING GRID

#### Code D

- Individually adjustable blades, to provide precise directional control of air through the diffuser. Nylon tension bushes.
- Extruded aluminium construction/ black matt finish.

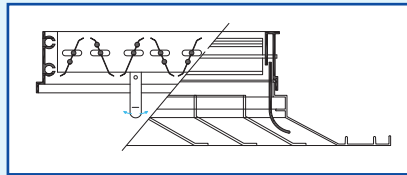
### CIRCULAR DUCT CONNECTION ADAPTORS

- Suitable for supply and exhaust ceiling diffusers.
- Round inlet.
- Galvanized steel construction.
- Special construction available on request.

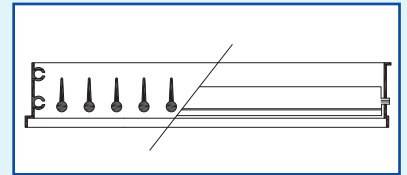
### RANGE

Dimensions	Damper B 700 Code
150 x 150	
225 x 225	
300 x 300	
375 x 375	
450 x 450	
472 x 472*	
525 x 525	
600 x 600	

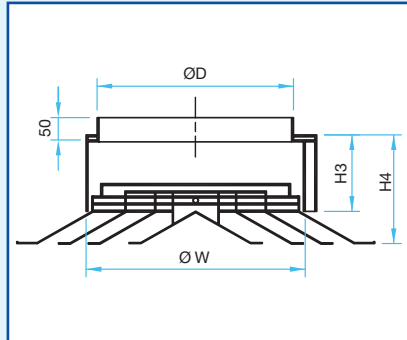
### DIMENSIONS (mm)



OBD

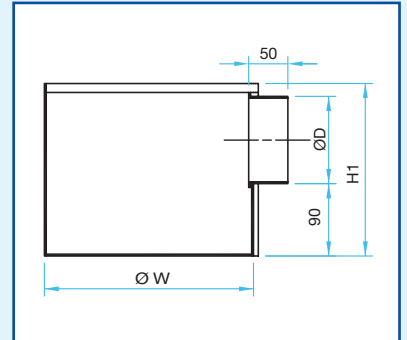


Equalizing grid



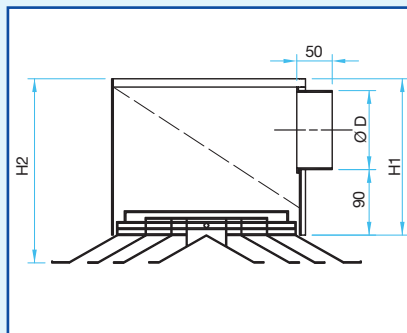
RT

Square to round adaptor without perforated plate. Top inlet.



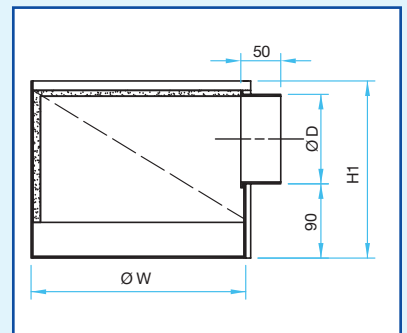
RE

Square to round adaptor without perforated plate. Side inlet.



RS

Square to round adaptor without perforated plate. Side inlet.



RSI

Insulated square to round adaptor with perforated plate. Side inlet.

Dim.	Ø D	Ø W	Type RS		Type RT	
			H1	H2	H3	H4
150	123	148	245	263	115	133
225	198	223	320	338	115	133
300	248	298	368	388	165	183
375	313	373	435	453	165	183
450	398	448	520	538	215	233
472	398	470	520	538	215	233
525	398	523	520	538	215	233
600	498	598	620	638	215	233

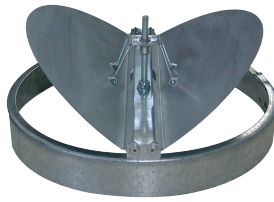


# Ceiling Diffusers

## Fixed circular diffusers for ceiling tiles



SC 832 TP series - Steel



BR damper

### Advantages

- Designed for 600 x 600 mm suspended ceiling tiles.
- Easy installation.

### APPLICATION

- Ceiling mounted diffuser designed to replace a 600 x 600 mm suspended ceiling tile (T-shaped framework).
- Horizontal air supply, fixed diffusion pattern.
- Simple heating and air-conditioning installations.

### DESCRIPTION

- Fixed circular cones in pressed steel.
- Compensation plate in steel to replace a suspended ceiling tile.
- Concealed fixing to the concrete tile, using a screw in the neck of the diffuser.

NOTE: the diffuser weight must not be borne by the frame of the suspended ceiling. Use the suspension cables.

- Direct connection to circular ducts or the LRE plenum.
- Finish - white epoxy painted steel RAL 9010 tint.

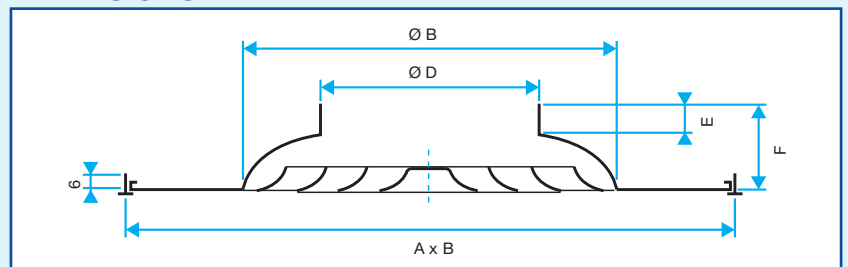
### ACCESSORIES

- Butterfly type BR damper with 2 V-shaped blades.
- LRE side connection plenum in galvanised steel.

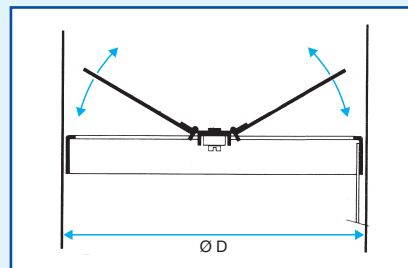
### ADDITIONAL RANGE

- Paint finish in accordance with the RAL colour chart (please, consult us).

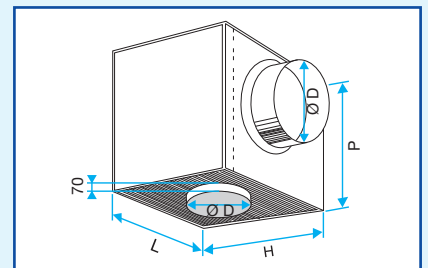
### DIMENSIONS



SC 832 TP diffuser



BR damper



LRE plenum

#### Comfort airflow levels for $L_w < NR 35$ and dimensions

Ø D (mm)	A x B* (mm)	Ø B (mm)	E (mm)	F (mm)	P (mm)	Airflow from (m <sup>3</sup> /h)
160	600 x 600	188	60	104	210	250
200	600 x 600	235	60	104	250	450
250	600 x 600	294	60	104	300	600
315	600 x 600	370	60	104	365	900

\* Nominal ceiling tile dimensions.

- For plenum sizes see page 248.
- See selection table on page 287.

### RANGE R10

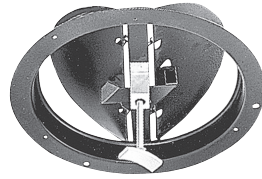
Dimensions	Damper BR Code	Diffuser SC 832 TP Code	Plenum LRE Side connector Code
Ø 160	11053220	11051015	11053311
Ø 200	11053221	11051016	11053312
Ø 250	11053222	11051017	11053313
Ø 315	11053223	11051018	11053314

# Ceiling Diffusers

## Fixed circular diffusers



SC 831 series - Steel



Damper BY

### Advantages

- Easy installation.

### APPLICATION

- Horizontal air supply, fixed air diffusion pattern.
- Simple heating ( $\Delta T_{\max} = + 30^{\circ} \text{C}$ ) and air-conditioning ( $\Delta T_{\max} = - 14^{\circ} \text{C}$ ) installations.
- Ceiling mounted or on exposed ductwork.

### DESCRIPTION

- Protruding pressed steel circular cones.
- Finish - white epoxy painted steel RAL 9010 tint.
- Visible fixing to ceiling, using screws in the external cone and FR mounting ring or BY damper.
- Connection to circular ducts.

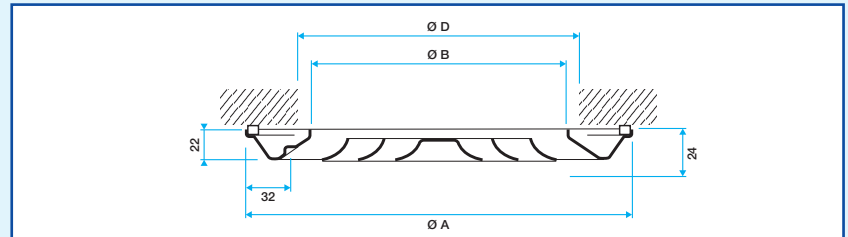
### ACCESSORIES

- FR mounting ring in steel.
- BY damper in steel, also used as a mounting ring. Adjusted through the centre of the diffuser. Adjustment key supplied with the damper.
- LRE side connection plenum in galvanised steel - see page 248.

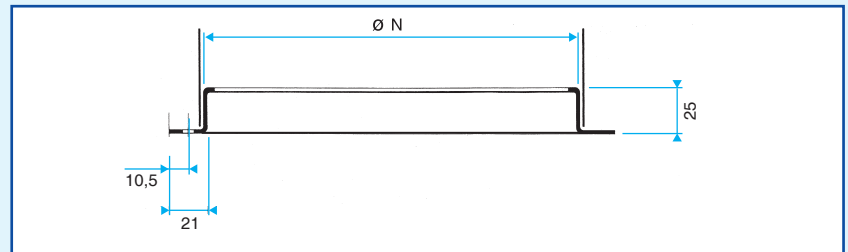
### ADDITIONAL RANGE

- Paint finish in accordance with the RAL colour chart (please, consult us).

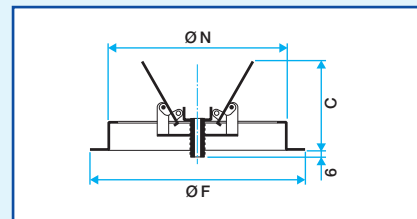
### DIMENSIONS



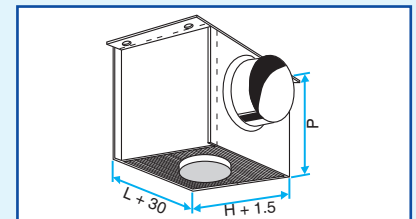
SC 831 diffuser



FR mounting ring



BY damper



LRE plenum

Accessories: Dimensions		
Ø N (mm)	Ø A (mm)	C (mm)
160	190	110
200	240	110
250	290	140
315	340	165
355	390	180

Diffusers: Comfort airflow levels for Lw < NR 35 and dimensions				
Ø N (mm)	Ø A (mm)	Ø B (mm)	E (mm)	Airflow (m <sup>3</sup> /h)
160	230	134	24	250
200	282	186	30	450
250	334	238	35	600
315	386	290	40	900
355	440	340	45	1200

- See selection table on page 287.
- For plenum sizes, see page 248.

### RANGE R10

Dimensions	Damper BY Code	Diffuser SC 831 Code	Mounting ring FR Code	Plenum LRE Side connector Code
Ø 160	11053180	11051020	11053440	11053311
Ø 200	11053181	11051021	11053441	11053312
Ø 250	11053182	11051022	11053442	11053313
Ø 315	11053183	11051023	11053443	11053314
Ø 355	11053184	11051024	11053444	11053315

# Ceiling Diffusers

## Adjustable circular diffusers for ceiling tiles



AT 842 series - Aluminium



BR damper

### Advantages

- Replaces a 600 x 600 mm suspended ceiling tile.
- Aesthetic design.
- Wide airflow level range.
- Highly simplified adjustment (patented system).
- Easy ceiling fixing using the F16 lugs.

### APPLICATION

- Ceiling mounted diffuser designed to replace a 600 x 600 mm suspended ceiling tile (T-shaped framework).
- Adjustable horizontal or vertical air supply diffusion.
- Heating installations ( $\Delta T_{max} = + 30^{\circ} C$ ) and air -conditioning ( $\Delta T_{max} = - 16^{\circ} C$ ) installations.

### DESCRIPTION

- External cone in aluminium and core in pressed steel.
  - Adjustable air diffusion by a quick and easy worm screw system (patented).
  - Designed from a standard AF 842 diffuser whose outer cone is extended from a compensation plate for 600 x 600 mm ceiling tiles (pressed into one part).
  - Fixing to the concealed concrete tile using lugs mounted on the diffuser (F16 fixing).
- NOTE: the diffuser weight must not be borne by the frame of the suspended ceiling. Use the suspension cables.
- Connection to circular ducts or the LRE plenum.
  - Finish - white epoxy painted steel RAL 9010 tint.

### ACCESSORIES

- BR damper: butterfly type with either 2 or 4 V-shaped blades (depending on diameter). Manufactured in steel. Adjusted through the diffuser by direct movement of the blade
- BY damper: butterfly type with either 2 or 4 V-shaped blades (depending on diameter). Manufactured in steel. Adjusted through the diffuser by direct movement of the blades.
- LRE side connection plenum in galvanised steel.

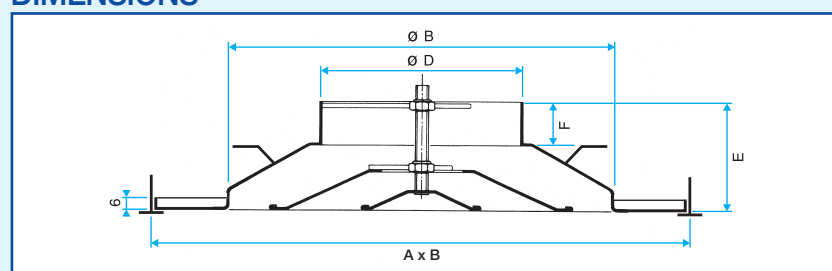
### ADDITIONAL RANGE

- Paint finish in accordance with the RAL colour chart (please, consult us).
- LRE insulated connection plenums or with different connection diameters (please, consult us).

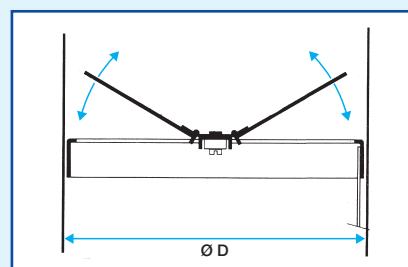
### RANGE R10

Dimensions	Damper BR Code	Diffuser AT 842 F16 RAL9010 Code	Plenum LRE Side connector Code
Ø 160	11053220	11051071	11053311
Ø 200	11053221	11051072	11053312
Ø 250	11053222	11051073	11053313
Ø 315	11053223	11051509	11053314

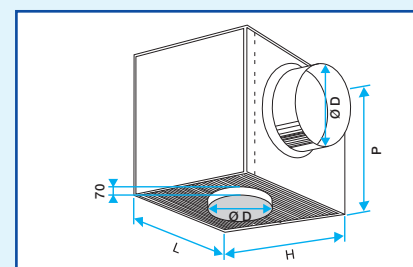
### DIMENSIONS



AT 842 diffuser



BR damper



LRE plenum

Comfort airflow levels for $L_w < NR 35$ and dimensions						
Ø D (mm)	A x B* (mm)	Ø B (mm)	E (mm)	F (mm)	P (mm)	Airflow (m <sup>3</sup> /h)
160	600 x 600	295	110	55	210	250
200	600 x 600	370	120	60	250	400
250	600 x 600	465	135	60	300	650
315	600 x 600	555	150	60	365	900

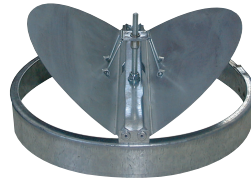
- \* Nominal ceiling tile dimensions.
- For plenum sizes see page 248.
- See selection table on page 286.

# Ceiling Diffusers

## Adjustable circular diffusers



AF 842 series - Aluminium



BR damper

### Advantages

- Available in two standard finishes.
- Wide airflow level range.
- Highly simplified adjustment (patented system).
- Easy ceiling fixing using the F16 lugs.

### APPLICATION

- Adjustable horizontal or vertical air supply diffusion.
- Heating ( $\Delta T_{\max} = + 30^{\circ} \text{C}$ ) and air-conditioning ( $\Delta T_{\max} = - 16^{\circ} \text{C}$ ) installations.
- Ceiling mounted or on exposed ductwork.

### DESCRIPTION

- External cone in aluminium and core in pressed steel.
- Adjustable air diffusion by a quick and easy worm screw system (patented).
- Painted in epoxy, white RAL 9010 or coloured alu. RAL 9006.
- Fixing to the concealed concrete tile using lugs mounted on the diffuser (F16 fixing).
- Direct connection on a circular duct or using the LRE plenum.

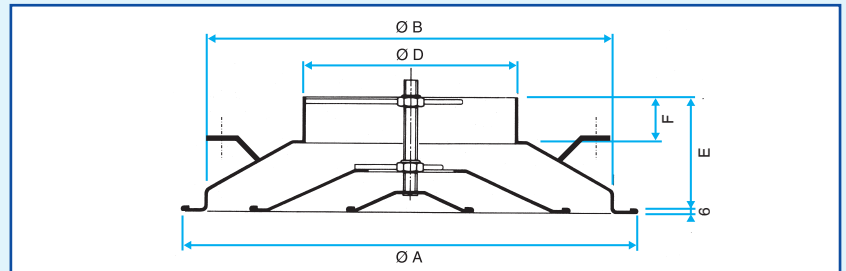
### ACCESSORIES

- BR damper: butterfly type with either 2 or 4 V-shaped blades (depending on diameter). Manufactured in steel. Adjusted through the diffuser by direct movement of the blades.
- BY damper: butterfly type with either 2 or 4 V-shaped blades (depending on diameter). Manufactured in steel. Adjusted through the diffuser by direct movement of the blade.
- LRE side connection plenum in galvanised steel.

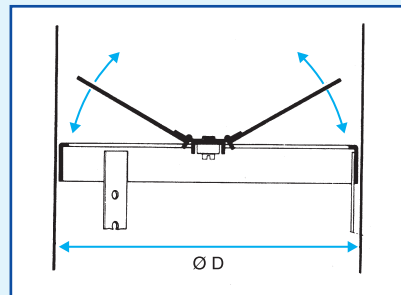
### ADDITIONAL RANGE

- Paint finish in accordance with the RAL colour chart (please, consult us).
- LRE insulated connection plenums or with different connection diameters (please, consult us).

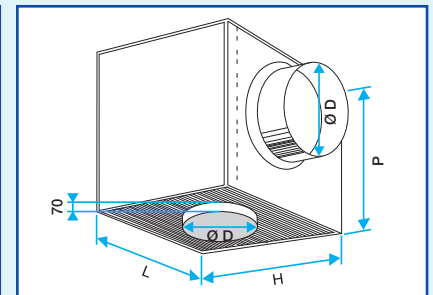
### DIMENSIONS



AF 842 diffuser



BR damper



LRE plenum

Comfort airflow levels for  $L_w < \text{NR } 35$  and dimensions

Ø D (mm)	Ø A (mm)	Ø B (mm)	E (mm)	F (mm)	P (mm)	L x H (mm)	Airflow (m <sup>3</sup> /h)
160	354	295	110	55	210	220 x 220	250
200	428	370	120	50	250	265 x 265	400
250	532	465	135	50	300	315 x 315	650
315	623	555	150	50	365	375 x 375	850
355	730	645	187	75	405	420 x 420	1100
400	776	690	185	78	450	460 x 460	1300
500	909	807	195	79	550	560 x 560	1800
630	1045	950	184	75	680	690 x 690	2500

• See selection table page 286.

### RANGE R10

Dimensions	Damper BR Code	Diffuser AF 842 F16 RAL9006 Code	Diffuser AF 842 F16 RAL9010 Code	Plenum LRE Side connector Code
Ø 160	11053220	11051521	11051060	11053311
Ø 200	11053221	11051522	11051061	11053312
Ø 250	11053222	11051523	11051062	
Ø 315	11053223	11051524	11051063	
Ø 355	11053224	11051525	11051064	11053315
Ø 400	11053225	11051526	11051065	
Ø 500	11053227	11051528	11051067	
Ø 630	11053228	11051529	11051068	

# Ceiling Diffusers

## Adjustable square diffusers for ceiling tiles



SC 360 R - Steel  
SC 369 series



SC 360 R - Rear

### Advantages

- Designed for 600 x 600 mm suspended ceiling tiles.
- Circular connection to gain installation time.
- Diffusion 1, 2, 3 or 4 ways adjustable on-site.
- Filtration for air return.

### APPLICATION

- Ceiling mounted diffuser designed to replace a 600 x 600 mm suspended ceiling tile (T-shaped framework).
- Air supply (SC 360 R model) or air exhaust (SC 369 R model).
- Adjustable diffusion in one to four directions by means of individually adjustable deflectors.
- Heating ( $\Delta T_{max} = + 30^{\circ} C$ ) and air-conditioning ( $\Delta T_{max} = - 16^{\circ} C$ ) installations where airflow levels are large and modulated.
- Possible exhaust filtration.

### DESCRIPTION

- Removable perforated sheet metal.
- Based on the design of a SC 310 R or SC 319 R diffuser as standard, integrated into a steel compensation plate.
- Finish - white epoxy painted steel RAL 9010 tint.
- Fixing to the concealed concrete tile using lugs mounted on the diffuser (F16 fixing).

NOTE: the diffuser weight must not be borne by the frame of the suspended ceiling. Use the suspension cables.

- Direct connection to circular ducts.
- Thermally insulated version to avoid any risk of condensation under air conditioning.

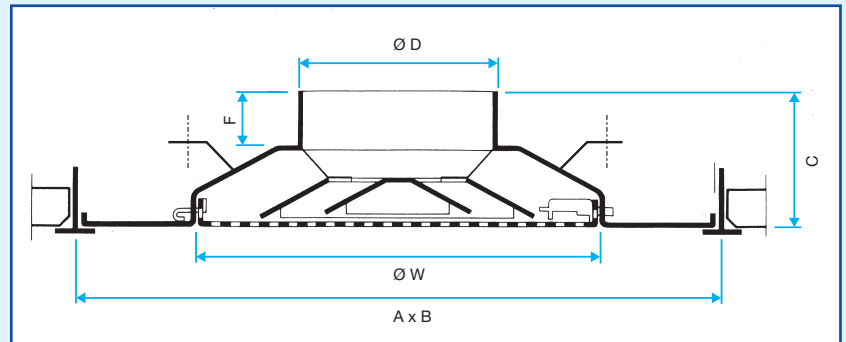
### ACCESSORIES

- Dampers and plenums used for standard diffusers.
- W flat filter, attached to the T-stop ring M1 fire rating, G3, for exhaust diffusers SC 369 R.

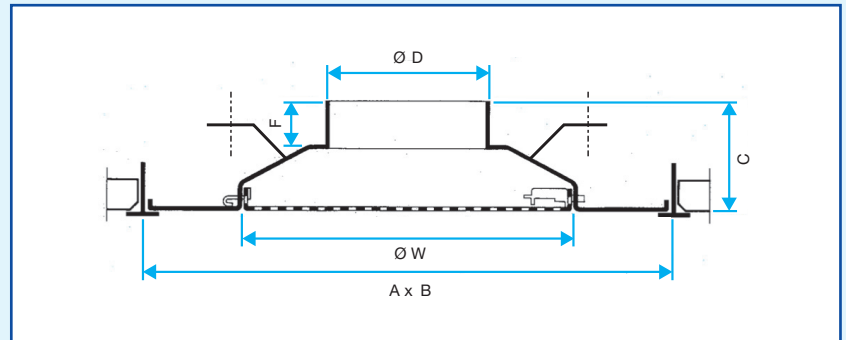
### ADDITIONAL RANGE

- Models adapted to 675 x 675 mm suspended ceilings or with Fine-line frameworks (please, consult us).
- Paint finish in accordance with the RAL colour chart (please, consult us).
- SC 350 R range with the compensation plate completely perforated for a different aesthetic design (please, consult us).

### DIMENSIONS



SC 360 R air supply diffuser



SC 369 R air exhaust diffuser

#### Comfort airflow levels for $L_w < NR 30$ and dimensions

Ø D (mm)	A x B* (mm)	W (mm)	C (mm)	F (mm)	Air supply airflow (m <sup>3</sup> /h)	Air exhaust airflow with filter (m <sup>3</sup> /h)
160	600 x 600	280	98	55	250	250
200	600 x 600	380	108	60	400	450
250	600 x 600	480	122	60	600	650
315*	600 x 600	542	135	60	900	900

\* Nominal ceiling tile dimensions.

- See selection table on page 286.

### RANGE R10

Dimensions	Air supply diffuser SC 360 R F16 Code	Damper BR Code	Exhaust diffuser SC 369 R F16 Code	Insulated air supply diffuser SC360 RIF (5) F16 Code	Spare filter W Code
Ø 160	11051145	11053220	11051135		
Ø 200	11051146	11053221	11051136	11051159	11053519
Ø 250	11051147	11053222	11051137	11051160	11053520
Ø 315		11053223			11053521



# Ceiling Diffusers

## Square diffusers with perforated sheet



SC 310 R series - Steel



BR damper



SC 319 R series - Steel

### Advantages

- Circular connection and plenum integrated in to the diffuser to gain installation time.
- Diffusion from one to four ways adjustable on site.
- Filtration for air exhaust - SC 319 R.

### APPLICATION

- Air supply (SC 310 R model) or air exhaust (SC 319 R model).
- Adjustable diffusion (in one to four directions) by means of individually adjustable deflectors.
- Heating ( $\Delta T_{max} = + 30^{\circ} C$ ) and air-conditioning ( $\Delta T_{max} = - 14^{\circ} C$ ) installations with adjustable important airflow rates.
- Ceiling mounted.
- Possible air exhaust filtration.

### DESCRIPTION

- Removable perforated sheet metal.
- Finish - white epoxy painted steel RAL 9010 tint.
- Fixing to the concealed concrete tile using lugs mounted on the diffuser (F16 fixing).
- Direct connection to circular ducts.

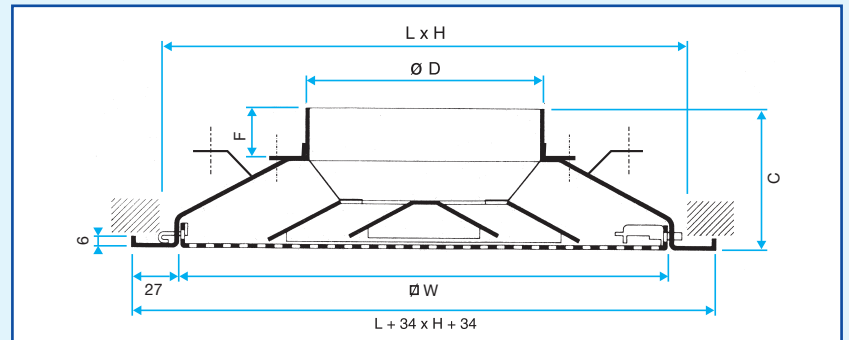
### ACCESSORIES

- BR dampers: type butterfly damper with 2-V shaped blades. Fitted into the supply duct.
- Connecting plenum integrated into the diffuser. Circular connection (on the top).
- W flat filter attached to T-stop ring. M1 fire rating. G3 for exhaust diffusers SC 319 R.

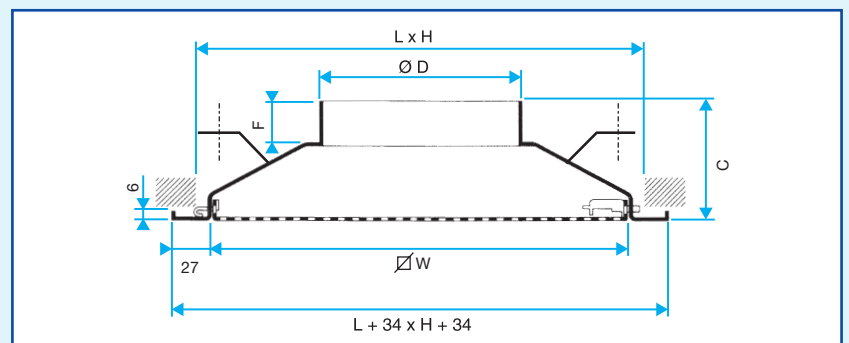
### ADDITIONAL RANGE

- Fixed diffusion version.
- Paint finish in accordance with the RAL colour chart (please, consult us).

### DIMENSIONS



SC 310 R air supply diffuser



SC 319 R air exhaust diffuser

Comfort airflow levels for $L_w < NR 30$ and dimensions						
Ø D (mm)	W (mm)	L x H (mm)	C (mm)	F (mm)	Air supply airflow (m <sup>3</sup> /h)	Air exhaust airflow with filter (m <sup>3</sup> /h)
160	280	300 x 300	98	55	250	250
200	380	400 x 400	108	60	400	450
250	480	500 x 500	122	60	600	650
315*	542	562 x 562	135	60	900	900

\* Designed for 600 x 600 mm suspended ceiling tiles.  
• See selection table on page 286.

### RANGE R10

Dimensions	Air supply diffuser SC 310 R F16	Damper BR	Exhaust diffuser SC 319 R F16	Insulated air supply diffuser SC310 RIF (5) F16	Spare filter W
	Code	Code	Code	Code	Code
Ø 160	11051140	11053220	11051170		
Ø 200	11051141	11053221	11051171		11053519
Ø 250	11051142	11053222	11051172		11053520
Ø 315	11051143	11053223	11051173	11051144	11053521

# Small & Constant Exhaust Grilles

## Self-balanced systems: General Information



Green Product

### AIRFLOW REQUIREMENTS

In a self-balancing CMEV system, the grilles and air inlets are self-balanced, guaranteeing a constant airflow whatever the atmospheric conditions or the occupation of the rooms.

The ventilation system must allow to reach the airflow levels given in the table opposite to be reached.

### ACOUSTICS REQUIREMENTS

The acoustics regulations set results to be achieved. The product requirements so also depend on other housing parameters (surface area of the room etc.)

### AIRFLOW REQUIREMENTS

Apartment type	Total min.	Kitchen min.	Kitchen max.	Bathroom	Other sanitary area	WC	
						single	multiple
Studio	35	20	75	15	15	15	15
T2	60	30	90	15	15	15	15
2 bed.	75	45	105	30	15	15	15
3 bed.	90	45	120	30	15	30	15
4-bed.	105	45	135	30	15	30	15
5 bed.	120	45	135	30	15	30	15
6 bed.	135	45	135	30	15	30	15

### FRENCH ACOUSTICS REQUIREMENTS

Demand bearing upon	Requirement of the result	Demand on the grille
Equipment noise	LnAT < 35 dB (A) in the kitchen	Lw < 38 dB (A) if the kitchen surface area >10 m <sup>2</sup>
	LnAT < 30 dB (A) in the main room	Lw < 38 dB (A) if the kitchen surface area >30 m <sup>2</sup> for opening on to the living room.
Insulation between dwellings	DnT, A>50 dB in kitchen and bathroom	The demand on the Dnew (C) depends on the room surface area and the manifold diameter.
	DnT,A>53 dB in the main room	

## Aeraulic sizing

### APPLICATION

- Self-balanced CMEV.
- Residential housing and commercial premises.
- New and renovation.

### DESCRIPTION

#### Self-balanced CMEV

- Type of heating: electricity, gas (boiler with sealed chamber) or other device independent from the CMEV.

#### Self-balanced CMEV with compensation valve

- Type of heating: electricity, gas (boiler with sealed chamber) or other device independent from the CMEV.
- Dimensioning of the air inlets to minimum airflow.

#### Self-balanced CMEV for gas applications

- Type of heating: boiler connected to the CMEV.

### APPLICATION

Type of dwelling	Kitchen	Bathroom	Single WC	Multiple WC
F1	BAP 20/75	BAP 15	BAP 15	BAP 15
F2	BAP 30/90	BAP 15	BAP 15	BAP 15
F3	BAP 45/105	BAP 30	BAP 15	BAP 15
F4	BAP 45/120	BAP 30	BAP 30	BAP 15
F5 - 3 bedrooms and more	BAP 45/135	BAP 30	BAP 30	BAP 15

# Small & Constant Exhaust Grilles

## Self-balanced grilles



Green Product

New

### Advantages

- Designed without grille.
- Airflow between 15 and 150 m<sup>3</sup>/h.
- Modulo: airflow adjustment is possible.

Bap'si twin

## APPLICATION

- Self-balanced Continuous Mechanical Extract Ventilation (CMEV).
- Residential housing and commercial premises.
- New buildings and renovation.

## DESCRIPTION

- Self-balanced exhaust grille.
- Innovative design, without grille.
- Airflow between 15 and 150 m<sup>3</sup>/h.
- Composed of three parts: a technical fitting plate, a regulator, a removable front panel.
- Possibility of choosing from several airflows: the same grille gives several airflow rates:
  - Bap'SI twin 60 Ø 125 modulo (code 11019188) permits airflow rates of 60, 75 and 90 m<sup>3</sup>/h.
  - Bap'SI twin 100 Ø125 modulo (code 11019191) permits airflow rates of 100, 120 and 150 m<sup>3</sup>/h.
  - Bap'SI twin 60 without shaft modulo (code 11019197) permits airflow rates of 60, 75 and 90 m<sup>3</sup>/h.

## INSTALLATION

- Pressure range: between 50 and 160 Pa.
- Grille Ø 125 mm for new construction:
  - Fixing by clipping into: sleeve Ø 125 mm, RT Flex, rigid duct Ø 125 mm.
  - The seal (roll in or foam depending on versions) ensures a high level of airtightness and flush fitting against the wall.
- Grille without shaft adapted to the majority of installation configurations for renovation:
  - Fixed by clip on to the shaft Ø 125 mm, Ø 116 mm and Ø 100 mm.
  - Screwed directly on to the wall.

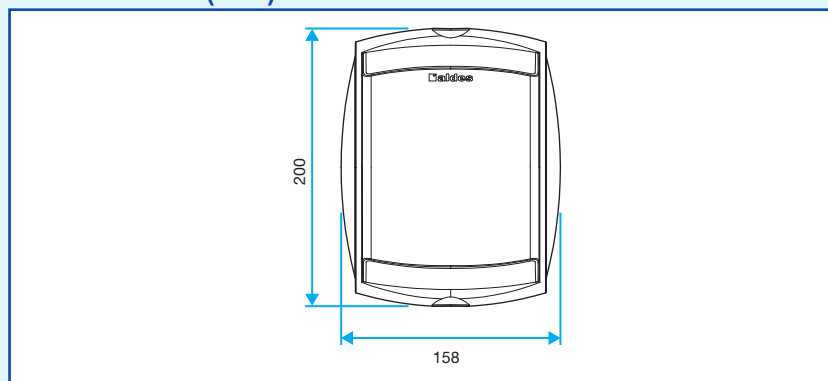
## RANGE of Bap'SI twin Ø 125

Description	Code	Pack.
Bap'SI twin 15 Ø 125	11019185	10
Bap'SI twin 30 Ø 125	11019186	10
Bap'SI twin 45 Ø 125	11019187	10
Bap'SI twin 60 Ø 125 modulo	11019188	10
Bap'SI twin 75 Ø 125	11019189	10
Bap'SI twin 90 Ø 125	11019190	10
Bap'SI twin 100 Ø 125 modulo	11019191	5
Bap'SI twin 120 Ø 125	11019192	5
Bap'SI twin 150 Ø 125	11019193	5

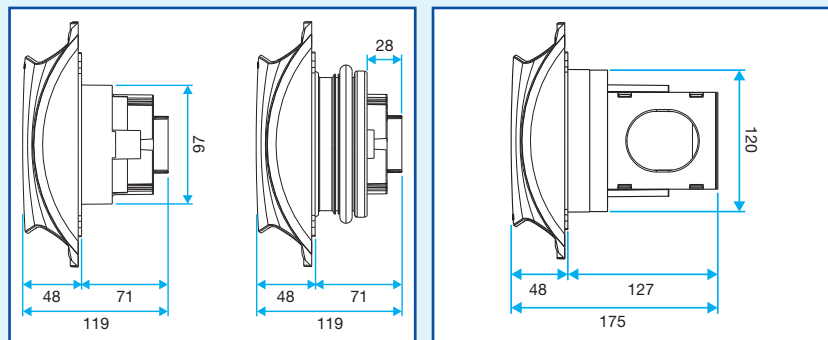
## RANGE of Bap'SI twin without shaft

Description	Code	Pack.
Bap'SI twin 15 without shaft	11019194	10
Bap'SI twin 30 without shaft	11019195	10
Bap'SI twin 45 without shaft	11019196	10
Bap'SI twin 60 without shaft modulo	11019197	10
Bap'SI twin 75 without shaft	11019198	10
Bap'SI twin 90 without shaft	11019199	10
Bap'SI twin air supply	11019200	10

## DIMENSIONS (mm)



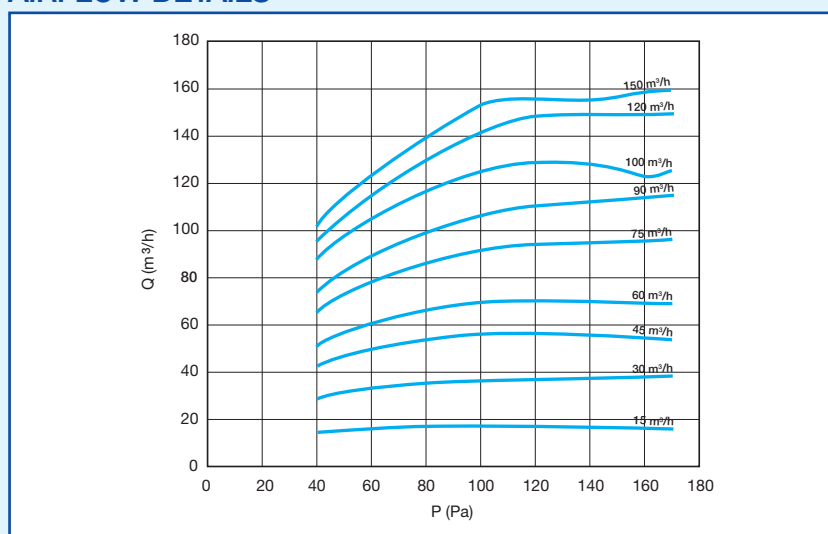
Bap'SI twin front panel



Bap'SI twin 15 to 90 & Bap'SI twin air supply

Bap'SI twin 100 to 150

## AIRFLOW DETAILS



# Small & Constant Exhaust Grilles

## Adjustable core grilles



SR143 - Steel



SR 149 - Plastic

### Advantages

- Adjustable.
- Connection sleeve supplied.

### APPLICATION

- Air exhaust for all ventilation applications in small commercial premises.
- For wall or ceiling mounting.

### DESCRIPTION

- Adjustable core.
- SR 143: white epoxy painted steel RAL 9010.
- SR 149: white polypropylene.
- BHP: white PVC.
- Fitted by clipping into the duct.

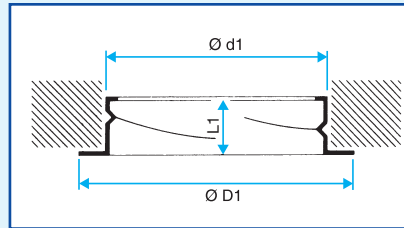
### ACCESSORY

- Connection sleeve supplied.

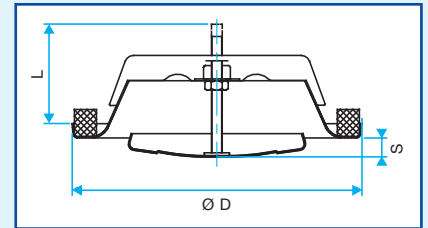
### ADDITIONAL RANGE

- Air supply version.
- Paint finish in accordance with the RAL colour chart.

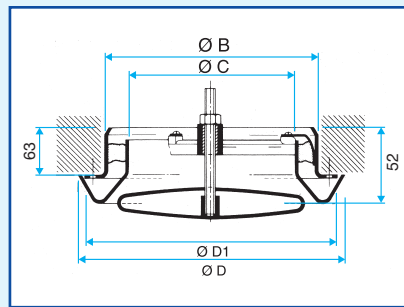
### DIMENSIONS



SR 143 sleeve alone



SR143 grille alone



SR 149 grille with sleeve

Comfort airflow levels for Lw < NR 30 and dimensions						
Model	SR 143					
Dimensions (mm)	ØD (mm)	Ø D1 (mm)	Ø d1 (mm)	L (mm)	L1 (mm)	Airflow (m³/h)
Ø 100	137	130	100	47	50	80
Ø 125	161	155	125	49	50	100
Ø 160	218	190	160	60	50	150
Ø 200	248	236	200	75	50	190
Model	SR 149					
Dimensions (mm)	Ø B (mm)	Ø C (mm)	ØD (mm)	Ø D1 (mm)	-	Airflow (m³/h)
Ø 100	100	80	150	122	-	80
Ø 125	125	100	170	155	-	100
Ø 150	150	120	190	168	-	150
Ø 200	200	170	240	220	-	190

### RANGE R10

Dimensions	SR 143 Code	SR 149 Code
Ø 100	11052226	11001996
Ø 125	11052227	11001997
Ø 150		11001998
Ø 160	11052228	
Ø 200	11052229	11001999

# Small & Constant Exhaust Grilles

## Small plastic grilles



GPA round

### Advantages

- Comes in both round or square models.
- Mesh filter.

### DESCRIPTION

- Air supply for exhaust system.
- Air discharge for exhaust system and CMEV.
- Plastic material.
- Colour - white.
- Mesh filter.

### INSTALLATION

- Circular connection.
- Fitting using screws is possible for square models.

### RANGE R18

Description	Dimension	Code
GPA Ø134	Ø 100 mm	11001504
GPA Ø159	Ø 120 - 125 mm	11001505
GPA Ø184	Ø 150 mm	11001506
GPA 140 x 140	Ø 100 - Ø 120 - Ø 125 mm	11001502
GPA 175 x 175	Ø 150 mm	11001503

## Small plastic series



BIP



BSP

### Advantages

- Aesthetic design.
- White plastic material RAL 9010 tint.

### APPLICATION

- BSP: air exhaust for all ventilation applications in small commercial premises. For wall or ceiling mounting.
- BIP: air supply or air exhaust for all ventilation applications in small commercial premises. For wall mounting in air supply and wall or ceiling mounting in air exhaust.

### DESCRIPTION

- Shock-proof injected polystyrene material, white RAL 9010 tint.
- BSP and BIP monobloc construction.
- Fixing by clipping on to the sheet metal sleeve.

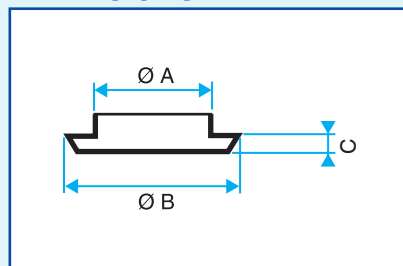
### ACCESSORY

- Sheet metal connection sleeve.

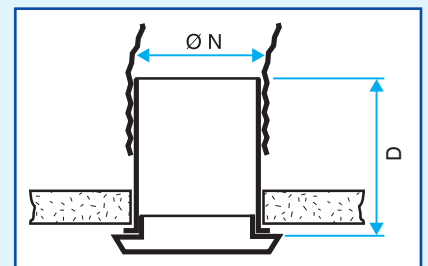
### ADDITIONAL RANGE

- Paint finish in accordance with the RAL colour chart (please, consult us).

### DIMENSIONS



BIP grille alone



BIP with sleeve

Comfort airflow levels for Lw < NR 30 and dimensions					
Model	BIP				Airflow (m <sup>3</sup> /hr) Air supply or exhaust
	Ø N (mm)	Ø A (mm)	Ø B (mm)	C (mm)	
80	75	120	13	100	60
100	100	148	16	-	90
125	125	185	16	-	110
Model	BSP				
80	75	115	10	100	60

### RANGE R1

Description	Dimensions	Code
BSP	Ø80	11022717
BIP	Ø80	11022073
BIP	Ø100	11085064
BIP	Ø125	11022078
Galvanized sleeve	Ø80 R3	11012490



# Small & Constant Exhaust Grilles

## Small fixed metal grilles



BIM 300



BIM 320

### Advantages

- Aesthetic design.
- Available in white painted RAL 9010 tint or anodised aluminium.
- Easy installation.

### APPLICATION

- Air supply and air exhaust for all ventilation applications in air exhaust or heat recovery ventilation, for small commercial premises.
- BIM 300: exhaust air. Wall or ceiling mounting. Ceiling mounting only for air supply.
- BIM 320: ceiling mounting.

### DESCRIPTION

- Central core in extruded aluminium sections, inclined at 0° for BIM 300 and at 90° for BIM 320.
- Detachable cheek system to modify the terminal's airtthrow.
- Framing in M1 polycarbonate.
- Anodised aluminium, natural gloss tint or epoxy white painted aluminium - RAL 9010.
- Wall fixing by slotting into the duct (can be screwed in if required) or into the ceiling by the use of fixing lugs supplied as accessories.

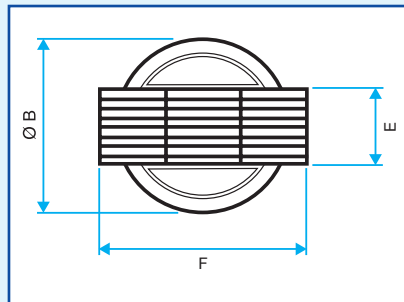
### ACCESSORY

- Mounting lugs.

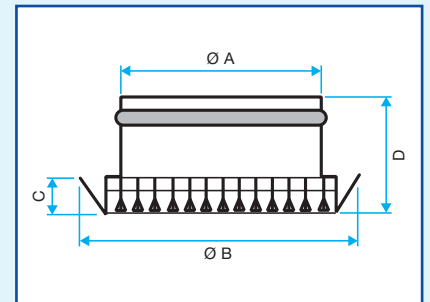
### ADDITIONAL RANGE

- Paint finish in accordance with the RAL colour chart (please, consult us).

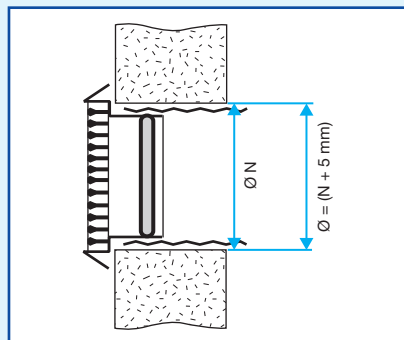
### DIMENSIONS



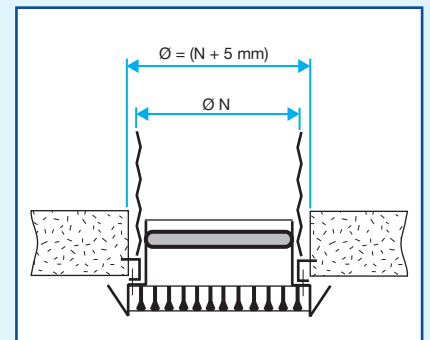
BIM 300 & BIM 320 grilles



BIM 300 & BIM 320 grilles



Wall mounting



Ceiling mounting (use the mounting lugs)

#### Comfort airflow levels for Lw < NR 30 and dimensions

Ø N (mm)	Ø A (mm)	Ø B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Airflow (m³/h)
100	99	151	28	73	68	172	80
125	124	172	28	78	82	194	100
160	159	213	28	93	105	247	150

### RANGE R10

Dimensions	BIM 300 anodised Code	BIM 300 white Code	BIM 320 anodised Code	BIM 320 white Code
Ø 100	11052216	11052231	11052221	11052236
Ø 125	11052217	11052232	11052222	11052237
Ø 160	11052218	11052233	11052223	11052238

### ACCESSORIES R10

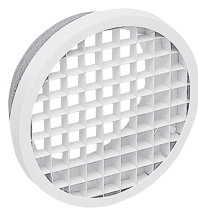
Dimensions	Fixing lugs for BEM and BIM Code
Ø 100 - Ø 125 - Ø 160	11053493

# Small & Constant Exhaust Grilles

## Small fixed metal grilles



BIM 400



BEM 780

### Advantages

- Aesthetic design.
- Available in white painted RAL 9010 tint or anodised aluminium.
- Easy installation.
- Also comes in Ø 200 mm.

### APPLICATION

- Air supply and air exhaust for all air exhaust or heat recovery ventilation applications in small commercial premises.
- BIM 400: air exhaust. Wall or ceiling mounting. Wall mounting only for air supply.
- BEM 780: air exhaust applications only. Wall or ceiling mounting.

### DESCRIPTION

- Pressed aluminium frame.
- BIM 400: core made of extruded aluminium bars, inclined at 15°.
- BEM 780: core made of a 12.5 x 12.5 mesh.
- Anodised aluminium, natural gloss tint or epoxy white painted aluminium - RAL 9010.
- Wall fixing by slotting into the duct (can be screwed in if required) or into the ceiling by the use of fixing lugs supplied as accessories.

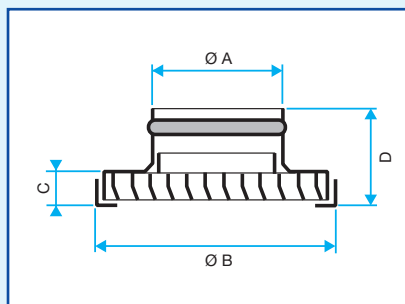
### ACCESSORY

- Mounting claws.

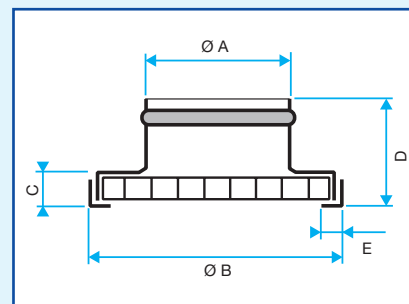
### ADDITIONAL RANGE

- Paint finish in accordance with the RAL colour chart (please, consult us).

### DIMENSIONS



BIM 400 grille



BEM 780 grille

#### Comfort airflow levels for Lw < NR 30 and dimensions

Model	Ø N (mm)	Ø A (mm)	Ø B (mm)	C (mm)	D (mm)	E (mm)	Airflow (m³/h)
BIM 400	100	98	160	20	55	15	75
BIM 400	125	123	160	20	55	15	120
BIM 400	160	158	200	20	55	15	170
BIM 400	200	198	248	20	55	15	250
BEM 780	100	98	160	14	55	15	80
BEM 780	125	123	160	14	55	15	160
BEM 780	160	158	200	14	55	15	250
BEM 780	200	198	248	14	55	15	380

### RANGE R10

Dimensions	BIM 400 anodised Code	BIM 400 white Code	BIM 780 anodised Code	BIM 780 white grille Code
Ø 100	11052211	11052208	11052201	11052245
Ø 125	11052212	11052209	11052202	11052246
Ø 160	11052213	11052210	11052203	11052247
Ø 200	11052214	11052215	11052249	11052248

### ACCESSORIES R10

Dimensions	Fixing lugs for BEM and BIM Code
Ø 100 - Ø 125 - Ø 160	11053493

# Small & Constant Exhaust Grilles

## Bap'SI twin accessories



Shaft Ø 125 mm



Acoustic ring

### DESCRIPTION

- Bag of five seals: allow to ensure airtightness when the grille is screwed directly on to the wall.
- Shaft of Ø 125, Ø 116 and Ø 100 mm: allows to connect to the Bap'SI twin without shaft to the existing duct.
- Solid blanking plate, allows to blank off old ventilation ductwork.
- Acoustic ring: to improve acoustic performances.

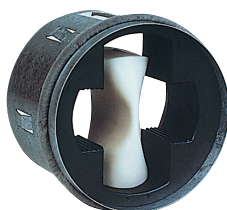
### RANGE R3

Description	Code
Bap'SI 5 airtight seals	11019049
Shaft Ø 125 mm	11019023
Shaft Ø 116 mm	11019024
Shaft Ø 100 mm	11019025
180 x 280 mm blanking plate	11034108
Acoustic ring (x5)	11019429
Pull cord return	11015001

## Grille + Regulation



BIM 400



MR



### DESCRIPTION

- The combination of a BIM and a MR also enables the grille to obtain a properly adjusted solution.
- BIM 400: see page 256.
- MR: see page 196.

# Indoor Grilles

## Single & double deflection grilles



AC 101 - SC 101  
Extruded aluminium or steel

### Advantages

- Adjustable blades.
- Easy installation.

### APPLICATION

- Air supply and air exhaust for all ventilation and air-conditioning applications.
- Wall mounted.

### DESCRIPTION

- AC 101: single deflection grille with horizontal, mobile and individually adjustable blades, with a 20 mm spacing.
- AC 101 D: double deflection grille with front horizontal and rear vertical, mobile & individually adjustable blades, with a 20 mm spacing.
- AC 101 B: grille AC 101 with opposed blade damper (OBD).
- AC 101 BD: grille AC 101 D with opposed blade damper (OBD).

### STANDARD SUPPLY

- RAL 9010. Other RAL colours available upon request.
- Fixing F3 clips.

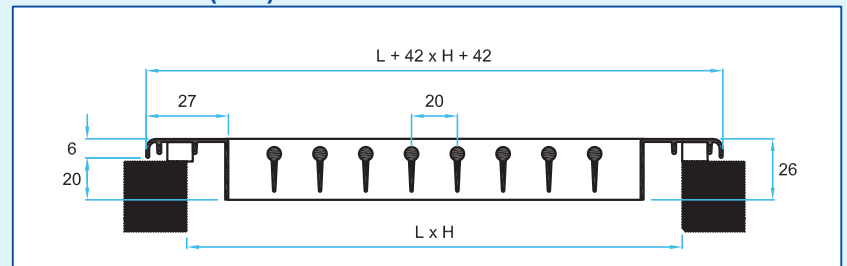
### ACCESSORIES

- Opposed blade damper (OBD) - aluminum profiles. Fitted to the grille using clips.
- MT and ME connection plenum, aluminium or galvanized sheet, with rear or side mounted connection. See plenum dimensions on page 260.

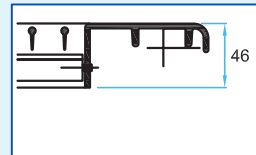
### ADDITIONAL RANGE

- Other sizes available upon request.

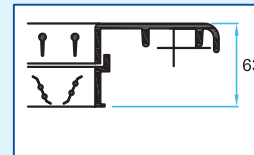
### DIMENSIONS (mm)



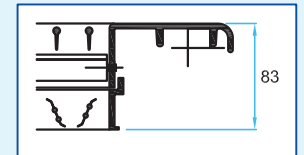
AC 101 grille



AC 101 D grille



AC 101 B grille



AC 101 BD grille

### Comfort airflow in m<sup>3</sup>/hr for Lw < NR 25 and dimensions

L (mm)	H (mm)			
	100	150	200	300
200	200	-	-	-
250	250	370	-	-
300	300	450	-	-
400	400	700	800	-
500	500	800	1000	-
600	-	900	1200	1700
800	-	-	1500	2300
1000	-	-	-	2700

- See selection tables on pages 288 and 291.

### RANGE R10

Dimensions	SD Grille AC 101 F3 Code	SD Grille SC 101 F3 Code	DD Grille AC 101 D F3 Code
200 x 100		11050020	
250 x 100		11050021	
300 x 100		11050022	
400 x 100		11050023	
500 x 100		11050024	
250 x 150		11050025	
300 x 150		11050026	
400 x 150		11050027	
500 x 150		11050028	
600 x 150		11050029	
400 x 200		11050030	
500 x 200		11050031	
600 x 200		11050032	
800 x 200		11050033	
600 x 300		11050034	
800 x 300		11050035	
1000 x 300		11050036	

# Indoor Grilles

## Single & double deflection grilles



AC 102 D - SC 102 D  
Extruded aluminium or steel

### Advantages

- Adjustable blades.
- Easy installation.

### APPLICATION

- Air supply and air exhaust for all ventilation and air-conditioning applications.
- Wall mounted.

### DESCRIPTION

- AC 102: single deflection grille with vertical, mobile and individually adjustable blades, with a 20 mm spacing.
- AC 102 D: double deflection grille with front vertical and rear horizontal, mobile and individually adjustable blades, with a 20 mm spacing.
- AC 102 B: grille AC 102 with opposed blade damper (OBD).
- AC 102 BD: grille AC 102 D with opposed blade damper (OBD).

### STANDARD SUPPLY

- RAL 9010. Other RAL colours available upon request.
- Fixing F3 clips.

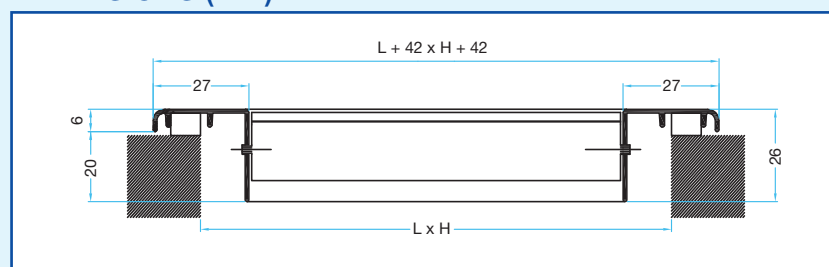
### ACCESSORIES

- Opposed blade damper (OBD) - aluminum profiles. Fitted to the grille using clips.
- MT and ME connection plenum, aluminium or galvanized sheet steel, with rear or side mounted connection. See plenum dimensions on page 260.

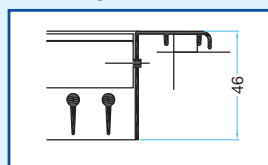
### ADDITIONAL RANGE

- Other sizes available upon request.

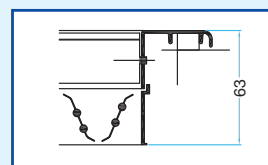
### DIMENSIONS (mm)



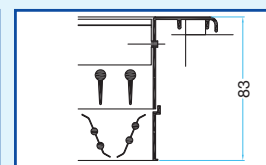
AC 102 grille



AC 102 D grille



AC 102 B grille



AC 102 BD grille

### Comfort airflow in m³/hr for Lw < NR 25 and dimensions

L (mm)	H (mm)			
	100	150	200	300
200	200	-	-	-
250	250	370	-	-
300	300	450	-	-
400	400	700	800	-
500	500	800	1000	-
600	-	900	1200	1700
800	-	-	1500	2300
1000	-	-	-	2700

• See selection tables on pages 288 and 291.

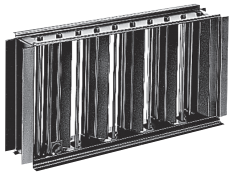
### RANGE R10

Dimensions	SD Grille AC 102 F3 Code	DD Grille AC 102 D F3 Code	DD Grille SC 102 D F3 Code
200 x 100			11050060
250 x 100			11050061
300 x 100			11050062
400 x 100			11050063
500 x 100			11050064
250 x 150			11050065
300 x 150			11050066
400 x 150			11050067
500 x 150			11050068
600 x 150			11050069
400 x 200			11050070
500 x 200			11050071
600 x 200			11050072
800 x 200			11050073
600 x 300			11050074
800 x 300			11050075
1000 x 300			11050076



# Indoor Grilles

## Indoor grilles accessories



Opposed Blade Damper (OBD)  
MT F3 - ME F3 series - Aluminium

### Advantages

- Facilitates installation of the indoor grilles.
- OBD to adjust airflow.

### APPLICATION

- Range of accessories suitable for indoor grilles
- CAUTION: these accessories are not compatible with grilles intended for circular ducts.

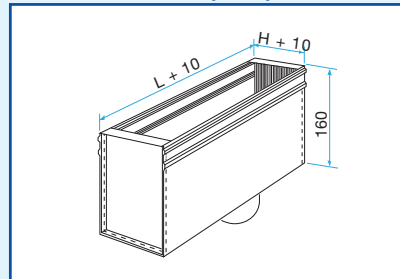
### DESCRIPTION

- OBD: counter-rotating adjusting damper-in aluminium or galvanised sheet steel. Attaches to the grille with 'S' clips.
- MT F3: connection plenum with back duct connection. Construction - Aluminium or galvanised sheet steel. Two models are available - depending on the connection branch diameter -
  - "90°" model if the connection diameter < nominal height of the grille.
  - "83°" model if the connection diameter > nominal height of the grille.
- ME F3: connection plenum with side-mounted connector. Construction - aluminium or galvanised sheet steel.
- MEI (5) F3: connection plenum with side-mounted connector. Construction - aluminium or galvanised sheet steel. Insulated on 5 faces.
- Plenums MT F3 and ME F3 are suitable for use with F3 fixings (clips) designed for standard grilles and require no F4 fixing frame.

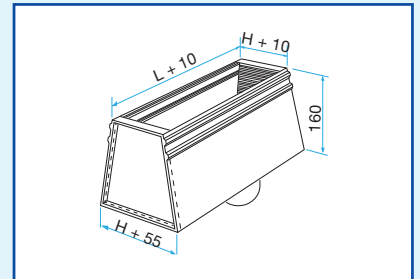
### ADDITIONAL RANGE

- Other sizes available upon request.

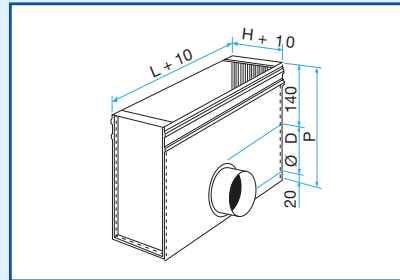
### DIMENSIONS (mm)



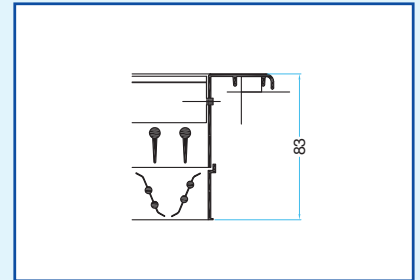
MT F3 plenum with 90° rear connection



MT F3 plenum with 83° rear connection



ME F3 plenum with 90° side connection



AC or SC 102 D grille with damper

L (mm)	Dimensions						
	H = 100		H = 150		H = 200		H = 300
	ME / MT F3	ME F3 A/C.	ME / MT F3	ME F3 A/C.	ME / MT F3	ME F3 A/C.	ME / MT F3
200	Ø 80*	Ø 125	-	-	-	-	-
250	Ø 100	-	Ø 125*	-	-	-	-
300	Ø 125	Ø 160	Ø 160	Ø 200	-	-	-
400	Ø 125	-	Ø 160	-	Ø 200	Ø 200	-
500	Ø 125	-	Ø 160	-	Ø 200	-	-
600	-	-	Ø 160	-	Ø 200	-	Ø 250*
800	-	-	-	-	2 x Ø 200	-	2 x Ø 250*
1000	-	-	-	-	-	-	2 x Ø 250*

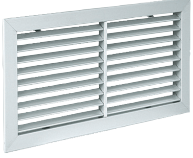
• All MT plenums are 83° models except those marked (\*).

### RANGE

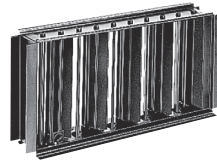
Dimensions	Opposed blade damper Code	ME F3 plenum side connection Code	MT F3 plenum back connection Code	ME F3 plenum connection A/C Code	MEI (5) plenum F3 conn. A/C. Code
200 x 100					
250 x 100					
250 x 150					
300 x 100					
300 x 150					
400 x 100					
400 x 150					
400 x 200					
500 x 100					
500 x 150					
500 x 200					
600 x 150					
600 x 200					
600 x 300					
800 x 200					
800 x 300					
1000 x 300					

# Indoor Grilles

## Fixed blade grilles



AC 121 or SC 121  
Aluminium or steel



Opposed Blade Damper

### Advantages

- Low noise level.
- Fixed blades for air exhaust.
- Easy installation.

### APPLICATION

- Air supply and air exhaust for all ventilation and air-conditioning applications.
- Wall mounted.

### DESCRIPTION

- AC 121: single deflection grille with fixed horizontal blades, inclined at 40° and with a spacing of 20 mm.
- AC 121 B: AC 121 grille with opposed blade damper (OBD).

### STANDARD SUPPLY

- RAL 9010. Other RAL colours available upon request.
- Fixing F3 clips.

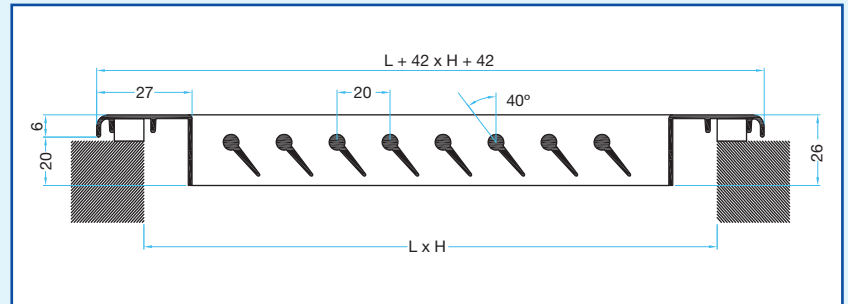
### ACCESSORIES

- Opposed blade damper (OBD) - aluminum profiles. Fitted to the grille using clips.
- MT and ME connection plenums in galvanised sheet steel with rear or side mounted connection. See plenum dimensions on page 260.

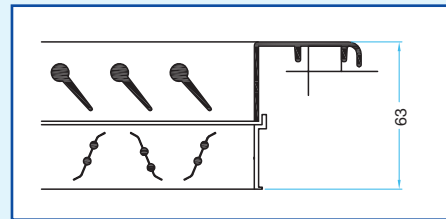
### ADDITIONAL RANGE

- Other sizes available upon request.
- Single deflection grille with horizontal vanes, inclined at 40° and with a spacing of 20 mm.
- AC models: finish - anodised aluminium, natural satin finish.
- SC models: finish - white epoxy painted steel RAL 9010 tint.
- Hidden fixing using friction clips.

### DIMENSIONS (mm)



AC or SC 121 alone



AC or SC 121 with damper

Comfort airflow levels for Lw < NR 25 and dimensions

L (mm)	H (mm)	Ø plenum (mm)	Airflow (m³/hr)
200	100	80*	180
300	150	160	350
400	200	200	600
600	200	200	1200
300	300	250	700
500	300	315	1200
600	300	250*	1400
800	300	2 x 250*	1800
600	600	355	2000
1000	600	2 x 315	3000

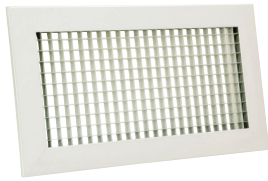
- All MT plenums are 83° models except those marked (\*).
- See selection table on page 291.

### RANGE

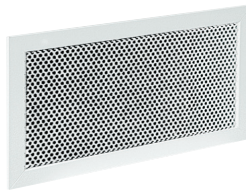
Dimensions	Aluminium grille AC 121 F3 Code	Steel grille SC 121 F3 Code	Opposed blade damper Code	ME F3 plenum side connection Code	MT F3 plenum back connection Code
200 x 100					
300 x 150					
400 x 200					
600 x 200					
300 x 300					
500 x 300					
600 x 300					
800 x 300					
600 x 600					
1000 x 600					

# Indoor Grilles

## Fixed mesh grilles



AC 123  
Aluminium or steel



SC 125

### Advantages

- Aesthetic, "mesh" type design for air exhaust.

### APPLICATION

- Air exhaust for all ventilation and air-conditioning applications.
- Wall mounted.

### DESCRIPTION

- Meshed grille with 12 x 12 x 0.4 mm squares (AC 123) or perforated sheet with 45 % free surface area (SC 125).
- AC models: finish - aluminium, desired RAL colour.
- SC models: white epoxy painted steel finish, RAL 9010 tint.
- Hidden fixings using friction clips.

### STANDARD SUPPLY

- RAL 9010. Other RAL colours available upon request.
- Fixing F3 clips.

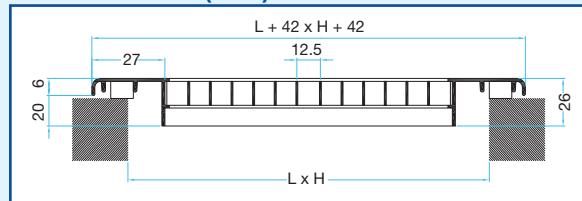
### ACCESSORIES

- Opposed blade damper (OBD) - aluminum profiles. Fitted to the grille using clips.
- MT and ME connection plenums in galvanised sheet steel with rear or side mounted connection. See plenum dimensions on page 260.

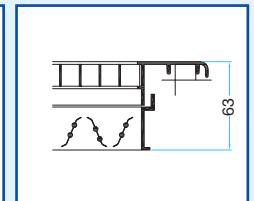
### ADDITIONAL RANGE

- Other sizes available upon request.

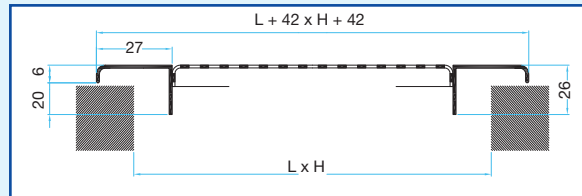
### DIMENSIONS (mm)



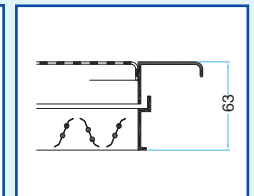
AC 123 grille alone



AC 123 with damper



SC 125 grille alone



SC 125 with damper

#### Comfort airflow levels for Lw < NR 25 and dimensions

L (mm)	H (mm)	Ø plenum (mm)	Airflow (m³/hr) for AC 123	Airflow (m³/hr) for SC 125
200	100	80*	160	140
300	150	160	400	350
400	200	200	700	600
600	200	200	1200	900
300	300	250	700	600
500	300	315	1300	1100
600	300	250*	1500	1200
800	300	2 x 250*	1900	1600
600	600	355	2200	1800
1000	600	2 x 315	4000	

- All MT plenums are 83° models except those marked (\*).
- See selection table on page 291.

### RANGE R10

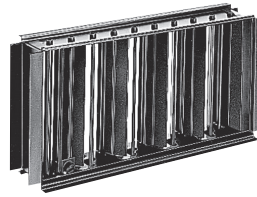
Dimensions	Aluminium grille AC 123 F3 Code	Opposed blade damper Code	ME F3 plenum side connection Code	MT F3 plenum back connection Code	Steel grille SC 125 F3 Code
200 x 100					11050011
300 x 150					11050012
400 x 200					11050013
600 x 200					11050014
300 x 300					11050015
500 x 300					11050016
600 x 300					11050017
800 x 300					11050018
600 x 600					11050019
1000 x 600					

# Indoor Grilles

## Grilles with fixed aluminium linear bars



AC 440 - Aluminium



Opposed blade damper

### Advantages

- Aesthetic design.
- Linear effect.

### APPLICATION

- Air supply and air exhaust for all ventilation and air conditioning applications.
- Wall or breast wall mounting.

### DESCRIPTION

- AC 440: fixed horizontal linear bars with a 13 mm spacing and 0° deflection.
- AC 440 B: AC 440 grille with opposed blade damper (OBD).
- AC 440 D: fixed horizontal linear bars with a 13 mm spacing and 0° deflection, rear individually adjustable blades, perpendicular to frontal bars.
- AC 440 BD: AC 440 D grille with opposed blade damper (OBD).

### STANDARD SUPPLY

- RAL 9010. Other RAL colours available upon request.
- Fixing F3 clips.

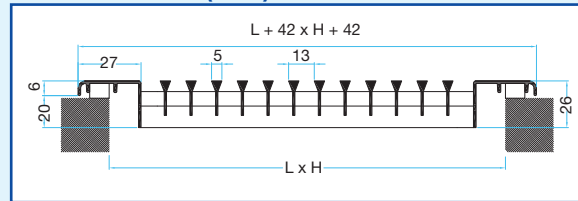
### AVAILABLE OPTIONS

- Corner piece 90° or 45°; code K.

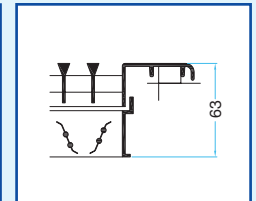
### ADDITIONAL RANGE

- Other sizes available upon request.

### DIMENSIONS (mm)



AC 440 grille alone



Grille + damper

Comfort airflow levels for Lw < NR 25 and dimensions					
L x H (mm)	Ø connections (mm)	Airflow (m³/hr)	L x H (mm)	Ø connections (mm)	Airflow (m³/hr)
200 x 100	80	160	600 x 150	160	650
250 x 100	100	180	600 x 200	200	800
300 x 100	125	250	800 x 100	2 x 125	550
400 x 100	125	330	800 x 200	2 x 200	1000
500 x 100	125	380	1000 x 150	2 x 160	1000
600 x 100	2 x 100	500	1500 x 200	3 x 200	1800
250 x 150	125	280	800 x 75	2 x 100	400
300 x 150	160	350	800 x 150	2 x 160	800
400 x 150	160	450	1000 x 75	2 x 100	550
500 x 150	160	550	1000 x 200	2 x 200	1200
400 x 200	200	550	1000 x 100	2 x 125	650
500 x 200	200	680	1500 x 150	3 x 160	1350

- All MT plenums are 83° models, except 250 x 150 and 200 x 100 mm.
- See selection tables on pages 289 and 291.

### RANGE

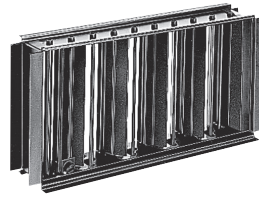
Dimensions	Grille AC 440 F3 Code	Opposed blade damper Code	ME F3 plenum side connection Code	MT F3 plenum back connection Code
800 x 75				
1000 x 75				
200 x 100				
250 x 100				
300 x 100				
400 x 100				
500 x 100				
600 x 100				
800 x 100				
1000 x 100				
250 x 150				
300 x 150				
400 x 150				
500 x 150				
600 x 150				
800 x 150				
1000 x 150				
1500 x 150				
400 x 200				
500 x 200				
600 x 200				
800 x 200				
1000 x 200				
1500 x 200				

# Indoor Grilles

## Grilles with fixed aluminium linear bars



AC 441 - Aluminium



Opposed blade damper

### Advantages

- Aesthetic design.
- Linear effect.

### APPLICATION

- Air supply and air exhaust for all ventilation and air-conditioning applications.
- Wall or breast wall mounting.

### DESCRIPTION

- AC 441: fixed horizontal linear bars with a 15 mm spacing and 15° deflection.
- AC 441 B: AC 441 grille with opposed blade damper (OBD).
- AC 441 D: fixed horizontal linear bars with a 15 mm spacing and 15° deflection, rear individually adjustable blades, perpendicular to frontal bars.
- AC 441 BD: AC 441 D grille with opposed blade damper (OBD).

### STANDARD SUPPLY

- RAL 9010. Other RAL colours available upon request.
- Fixing F3 clips.

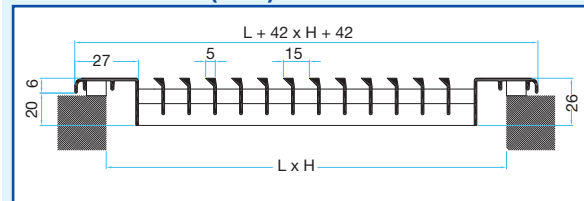
### AVAILABLE OPTIONS

- Corner piece 90° or 45°; code K.

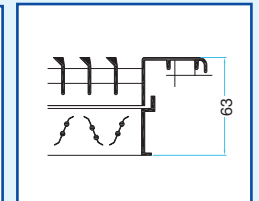
### ADDITIONAL RANGE

- Other sizes available upon request.

### DIMENSIONS (mm)



AC 441 grille alone



AC 441 with damper

Comfort airflow levels for Lw < NR 25 and dimensions					
L x H (mm)	Ø connections (mm)	Airflow (m³/hr)	L x H (mm)	Ø connections (mm)	Airflow (m³/hr)
200 x 100	80	160	600 x 150	160	650
250 x 100	100	180	600 x 200	200	800
300 x 100	125	250	800 x 100	2 x 125	550
400 x 100	125	330	800 x 200	2 x 200	1000
500 x 100	125	380	1000 x 150	2 x 160	1000
600 x 100	2 x 100	500	1500 x 200	3 x 200	1800
250 x 150	125	280	800 x 75	2 x 100	400
300 x 150	160	350	800 x 150	2 x 160	800
400 x 150	160	450	1000 x 75	2 x 100	550
500 x 150	160	550	1000 x 200	2 x 200	1200
400 x 200	200	550	1000 x 100	2 x 125	650
500 x 200	200	680	1500 x 150	3 x 160	1350

- All MT plenums are 83° models, except 250 x 150 and 200 x 100 mm.
- See selection tables on pages 289 and 291.

### RANGE

Dimensions	Grille AC 441 F3 Code	Opposed blade damper Code	ME F3 plenum side connection Code	MT F3 plenum back connection Code
800 x 75				
1000 x 75				
200 x 100				
250 x 100				
300 x 100				
400 x 100				
500 x 100				
600 x 100				
800 x 100				
1000 x 100				
250 x 150				
300 x 150				
400 x 150				
500 x 150				
600 x 150				
800 x 150				
1000 x 150				
1500 x 150				
400 x 200				
500 x 200				
600 x 200				
800 x 200				
1000 x 200				
1500 x 200				

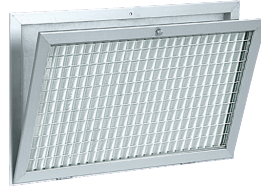


# Indoor Grilles

## Fixed blade grilles with filter



AC 161 W  
Extruded aluminium



AC 163 W

### Advantages

- Front face opening on hinges for easy access to filter.
- RAL 9010 white finish.

### APPLICATION

- Air exhaust for all ventilation and air-conditioning applications.
- Wall mounted.

### DESCRIPTION

- AC 161: single deflection grille with horizontal fixed blades inclined at 40° with a 20 mm spacing. Housing for 25 mm thick filter. Front of the grille hinged - locked into position with a button screw.
- AC 163: square mesh 12 x 12 mm grille. Housing for 25 mm thick filter. Front of the grille hinged and locked into position with a button screw.
- Models AC 161 & AC 163: finish - extruded aluminium, natural satin finish.
- Hinges in stainless steel.
- Concealed fixing, using screws in the filter housing acting as a mounting frame.

### STANDARD SUPPLY

- RAL 9010. Other RAL colours available upon request
- Fixing F3 clips.

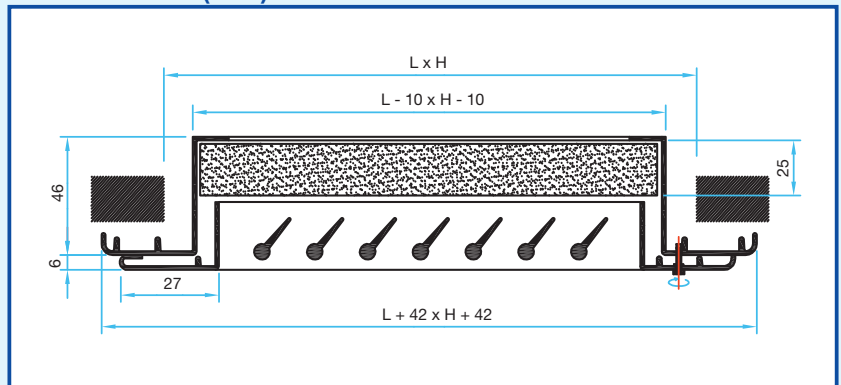
### ACCESSORY

- Washable filter, code W.

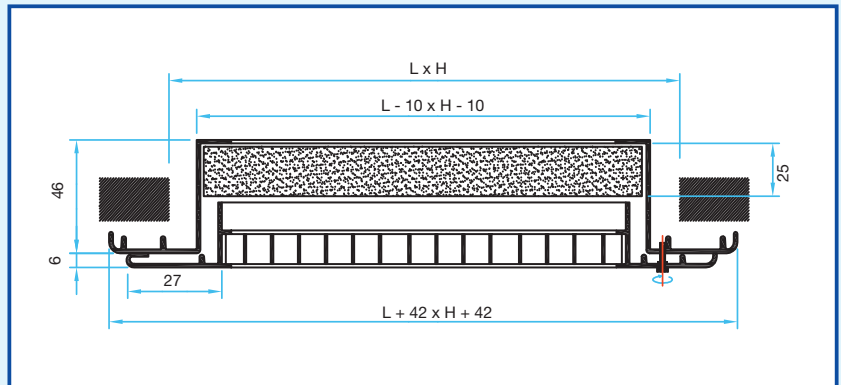
### ADDITIONAL RANGE

- Other sizes available upon request.

### DIMENSIONS (mm)



AC 161 grille with filter



AC 163 grille with filter

#### Comfort airflow levels for Lw < NR 25 and dimensions

L x H (mm)	Standard filter (mm)	ØD Plenum (mm)	H Plenum (mm)	Airflow (m³/hr)
622 x 322	596 x 296	250	215	800
522 x 422	496 x 396	355	215	1600
622 x 422	596 x 396	355	215	1600
522 x 522	496 x 496	400	215	1800
622 x 522	596 x 496	450	215	2400

- See selection table on page 291.

### RANGE

Dimensions	Vane grille AC 161 W F1 Code	Mesh grille AC 163 W F1 Code	Filters W Code	RT plenum back connection Code
622 x 322				
522 x 422				
622 x 422				
522 x 522				
622 x 522				

# Indoor Grilles

## Fixed air transfer blade grilles



AC 181 - Aluminium

### Advantages

- Aesthetic design.
- Mounting frame supplied.
- No see-through from one room to another.

### APPLICATION

- Air transfer from one room to another.
- Normally used as a door grille.

### DESCRIPTION

- Single deflection grille with horizontal fixed vanes, spaced at 12.5 mm. Herringbone vane arrangement.
- Finish – anodised aluminium, natural satin finish.
- Visible fixing, by screwing into the frame.
- AC 180: non-vision door or partition transfer grille with fixed frame on one side. For dark rooms, we suggest two grilles (painted black), fitted to both sides of the door.
- AC 181: non-vision door or partition grille with fixed frame on one side, complete with sliding frame on the opposite side.

### STANDARD SUPPLY

- RAL 9010. Other RAL colours available upon request.
- Fixing F3 clips.

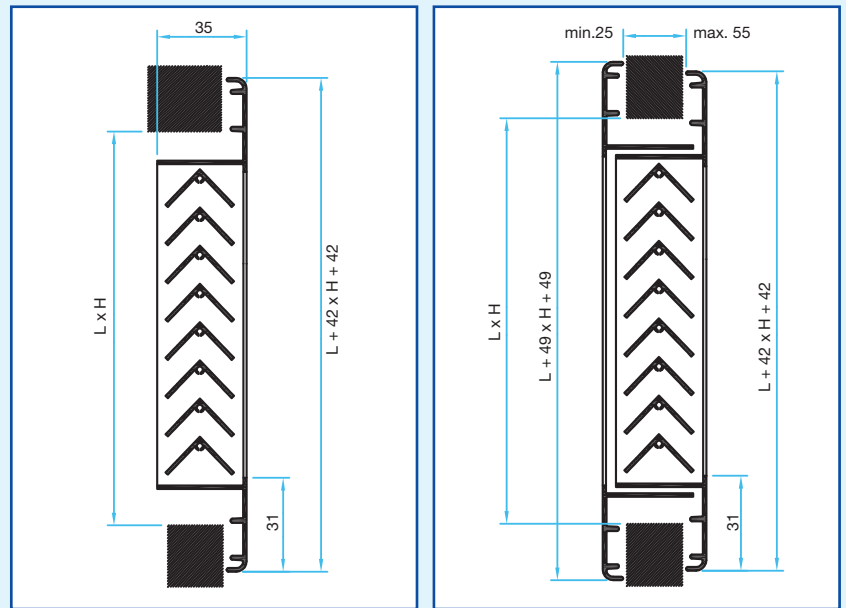
### ACCESSORIES

- Mounting frame supplied.

### ADDITIONAL RANGE

- All sizes up to 1200 x 600 mm.
- Paint finishes as for RAL card (please, consult us).

### DIMENSIONS



AC 180 grille

AC 181 grille

#### Comfort airflow levels for Lw < NR 25 and dimensions

L (mm)	H (mm)	Airflow (m³/h)
200	100	60
300	150	150
400	200	250
600	200	350
500	300	410
600	300	600
600	400	650

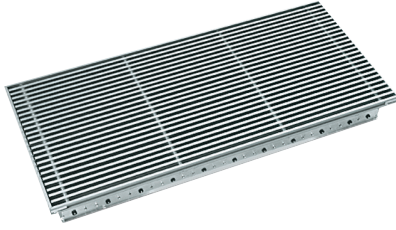
• See selection table on page 287.

### RANGE

Dimensions	Air transfer grille AC 180 Code	Air transfer grille AC 181 Code
200 x 100		
300 x 150		
400 x 200		
600 x 200		
500 x 300		
600 x 300		
600 x 400		

# Indoor Grilles

## Grilles with fixed linear bars for floor mounting



AG 450 - AG 470 series  
Steel

### Advantages

- Version suitable for designed floor assemblies.

### APPLICATION

- Air supply and air exhaust for all ventilation and air-conditioning applications.
- Suitable for floor mounting.

### DESCRIPTION

- Fixed horizontal linear bars with a 13 mm spacing.
- Special version for designed floor assemblies with reinforced use (model AG 470). For this version, it is necessary to stipulate the floor height as the grille will be adapted in the factory up to this height (modification of dimension C). CAUTION: the minimum value of dimension C is 35 mm.
- Finish – anodised aluminium, natural satin finish.
- Embedded into the floor.

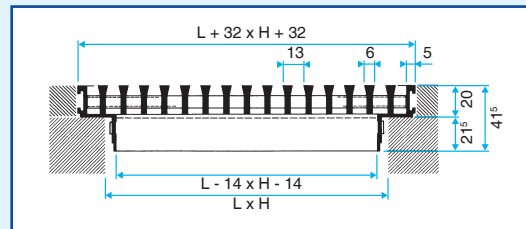
### ACCESSORIES

- Counter-rotating movement AGB damper, in aluminium. Fitted to the grille using clips (please, consult us).

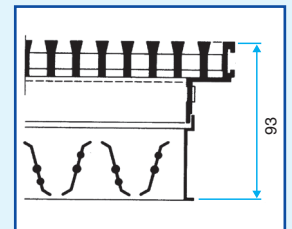
### ADDITIONAL RANGE

- All sizes of up to 1200 x 400 mm. Finished with paint in accordance with RAL colour chart (please, consult us).
- All aluminium version for swimming pool applications (please, consult us).

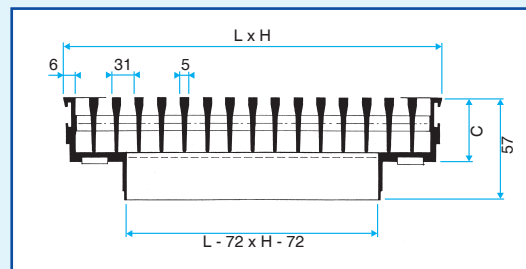
### DIMENSIONS



AG 450 grille alone



AG 450 grille with damper



AG 470 grille alone

- C: variable depending on flooring type, specify when ordering.

#### Comfort airflow in m<sup>3</sup>/h for Lw < NR 25 and dimensions

L (mm)	H (mm)				
	100	150	200	300	600
200	160	-	-	-	-
300	250	350	-	-	-
400	-	450	550	-	-
500	-	-	-	1200	-
600	-	-	800	1400	2000

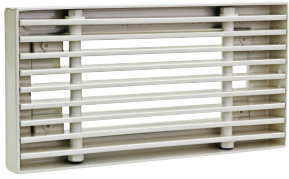
- See selection tables on pages 289 and 291.

### RANGE R10

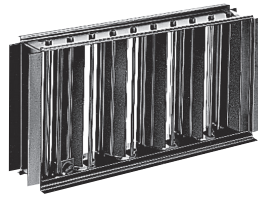
Dimensions	Floor grille AG 450 F0 Code	Floor grille AG 470 F0 Code
200 x 100	11050881	
300 x 100	11050882	
300 x 150	11050883	
400 x 150	11050884	
400 x 200	11050885	
600 x 200	11050886	
500 x 300	11050887	
600 x 300	11050888	
600 x 600	11050889	11002061

# Indoor Grilles

## Grilles with fixed linear bars for floor mounting



AG 450A - Extruded aluminium



Opposed Blade Damper

### Advantages

- Version suitable for designed floor assemblies.

### APPLICATION

- Air supply and air exhaust for all ventilation and air-conditioning applications.
- Floor mounted.

### DESCRIPTION

- Fixed horizontal linear bars with a 16 mm spacing.
- Aluminium finish or desired RAL colour, natural satin finish.
- Embedded into the floor.

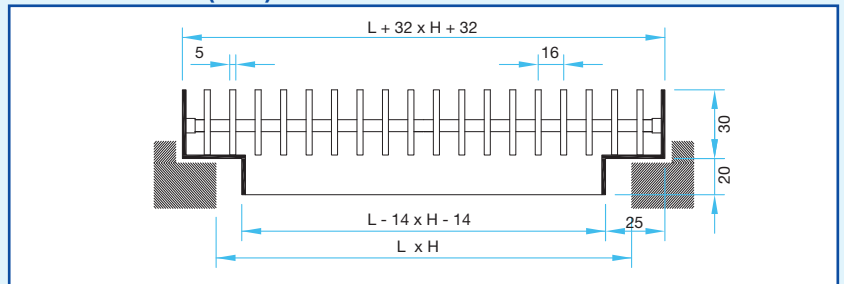
### ACCESSORIES

- Opposed blade damper - in aluminium profiles, fitted to the grille using clips.
- All aluminium version for swimming pool applications (please, consult us).

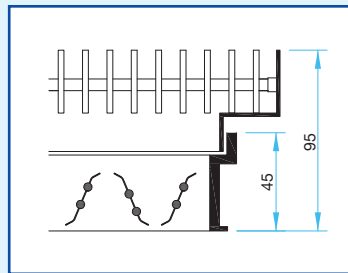
### ADDITIONAL RANGE

- Other sizes available upon request.

### DIMENSIONS (mm)



AG 450A grille alone



AG 450A with damper

### Comfort airflow in m<sup>3</sup>/hr for Lw < NR 25 and dimensions

L (mm)	H (mm)				
	100	150	200	300	600
200	160	-	-	-	-
300	250	350	-	-	-
400	-	450	550	-	-
500	-	-	-	1200	-
600	-	-	800	1400	2000

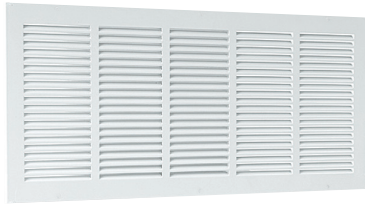
- Special grille for designed floor assemblies (600 x 600 mm tiles).
- State the type of flooring when ordering.
- See selection tables on pages 289 and 291.

### RANGE

Dimensions	Grille AG 450 F0 Code
200 x 100	
300 x 100	
300 x 150	
400 x 150	
400 x 200	
600 x 200	
500 x 300	
600 x 300	
600 x 600	

# Indoor Grilles

## Pressed grilles



SR 377 - Steel



SR 378 - Steel

### Advantages

- Wall mounted installation.

## APPLICATION

- Air exhaust for simple air-conditioning or heating installations.
- Wall mounted.

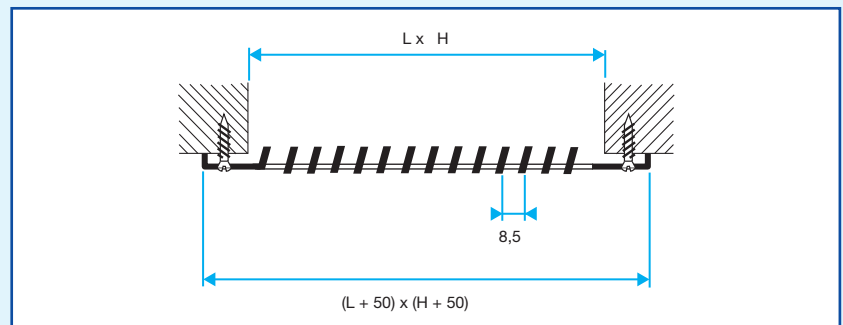
## DESCRIPTION

- Single deflection grille with horizontal vanes, inclined at 20° and with a spacing of 8.5 mm.
- Pressed steel design.
- Finish - white epoxy painted steel RAL 9010 tint.
- Visible fixing, by screwing into the frame.

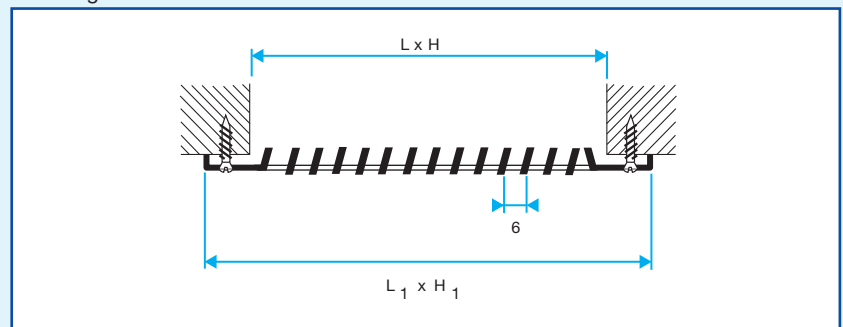
## RANGE R10

Dimensions	Grille SR 377 Code	Grille SR 378 Code
100 x 100		11050272
200 x 100	11050260	
250 x 100	11050261	
300 x 100	11050262	
100 x 150		11050273
150 x 150		11050274
250 x 150		11050275
350 x 150	11050263	
400 x 150	11050264	
100 x 200		11050276
200 x 200		11050277
300 x 300	11050265	
600 x 300	11050266	
400 x 400	11050267	
500 x 500	11050268	
600 x 600	11050269	
750 x 750	11050270	
900 x 900	11050271	

## DIMENSIONS



SR 377 grille



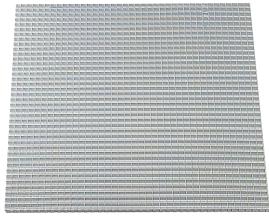
SR 378 grille

Comfort airflow levels for $L_w < NR 30$ and dimensions		
L (mm)	H (mm)	Airflow (m <sup>3</sup> /h)
100	100	60
200	100	120
250	100	150
300	100	180
100	150	90
150	150	100
250	150	150
350	150	300
400	150	350
100	200	120
200	200	240
300	300	600
600	300	1200
400	400	1000
500	500	1800
600	600	2500
750	750	3000
900	900	3500



# Indoor Grilles

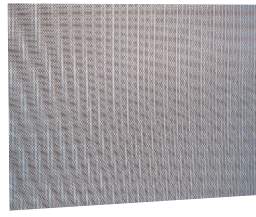
## Fixed blade grilles for ceiling tiles



AO 123 Z - AU 123 - AU 124  
Aluminium or steel



AO 129



SC 370

### Advantages

- Adapted for standard 600 x 600 mm suspended ceiling tiles.
- AU 123 and AU 124 series with a thin frame for even greater rigidity.

### APPLICATION

- Exhaust grilles for all ventilation and air-conditioning applications.
- Ceiling mounted, replacing a 600 x 600 mm suspended ceiling tile.

### DESCRIPTION

- AO 123 Z: frameless straight square mesh grille (15 x 15 mm).
- AU 123 Z: straight square mesh grille (15 x 15 mm) with thin 5 mm frame.
- AU 124 Z: square mesh grille (15 x 15 mm) – inclined at 45° with thin 5 mm frame. White epoxy painted aluminium finish, RAL 9010 tint.
- AO 129: grille with vanes inclined at 45°.
- Anodized aluminium, natural tint or white epoxy painted aluminium, RAL 9010 tint (AO 129 Z model).
- SC 370: perforated sheet covering 45 % of free surface area without frame.
- Finish - white epoxy painted steel RAL 9010 tint.
- Gravity fixing using the T-branches of the suspended ceiling.

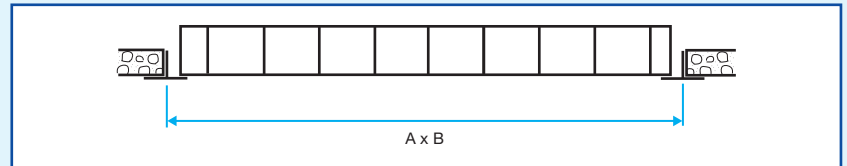
### ACCESSORY

- Connection plenum supplied (side connection) in galvanised steel.

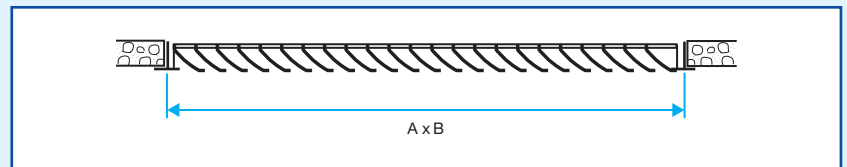
### ADDITIONAL RANGE

- Paint finish in accordance with the RAL colour chart (please, consult us).
- Other dimensions available by request.

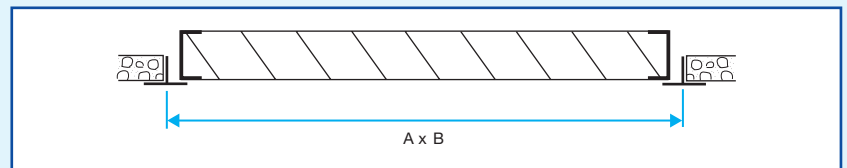
### DIMENSIONS



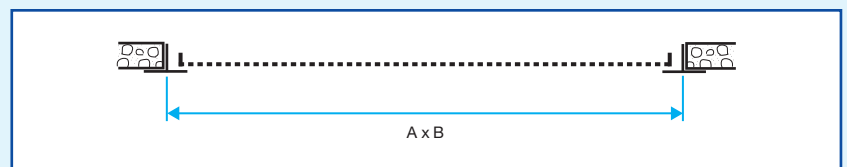
AO 123 grille



AO 129 grille



AU124 grille



SC 370 grille

#### Comfort airflow levels for Lw < NR 25 and dimensions

A (mm)	B (mm)	Ø D plenum (mm)	H plenum (mm)	airflow(m <sup>3</sup> /h)
600	600	250	300	1000
1200	600	-	-	2000

• See selection table on page 291.

### RANGE R10

Dimensions	Grille anodised vanes AO 129 Code	Grille white vanes AO 129 Z Code	Grille with white mesh AO 123 Z Code	Grille with white mesh AU 124 Z Code	Plenum side connection RE 123 Code
600 x 600	11050663	11050665	11050661	11050727	11053694
1200 x 600	11050664	11050666	11050662		11053700

Dimensions	Grille with white mesh AU 123 Z Code	Plenum side connection RE 123 Code	Spare filter W Code	White perforated sheet + filter SC 370 W Code	White perforated sheet SC 370 Code
600 x 600	11050725	11053694	11053499	11050670	11050669

# Indoor Grilles

## Fixed blade grilles with filter for ceiling tiles



AG 637 WZ - Aluminium



AC174 WZ

### Advantages

- Front face opening on hinges.
- Adapted for standard suspended ceiling tiles.
- Dimensions available for 675 x 675 mm tiles.
- Efficient and robust closing system.
- Can be fitted into fixed suspended ceilings.

### APPLICATION

- Exhaust grilles for all ventilation and air-conditioning applications.
- Fitted into suspended ceiling tiles or wall-mounted.
- Special model for fixed suspended ceilings.

### DESCRIPTION

- Front face opening on hinges.
- Aluminium construction.
- White epoxy painted, RAL 9010 tint.
- Gravity fixing using the 'T' pieces of the suspended ceiling (F0) or by visible screws (F1 - Designed for Staff ceilings).
- AG 637 WZ: front grille with fixed vanes inclined at 45° - with filter.
- AC 174 WZ: square mesh grille (15 x 15 mm) at 45° - with filter.

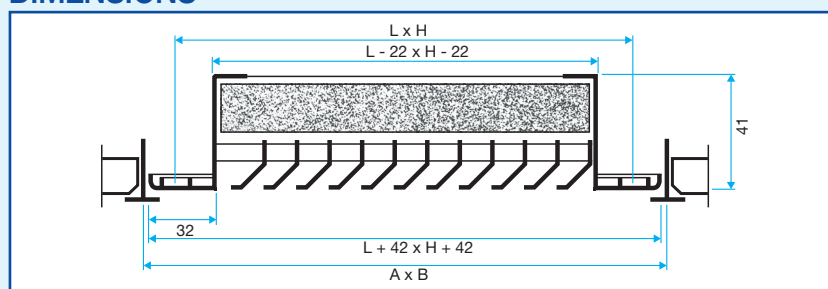
### ACCESSORIES

- W filter 15 mm thick, M1 fire rating, G3 (supplied).
- Connection plenum in galvanised steel.

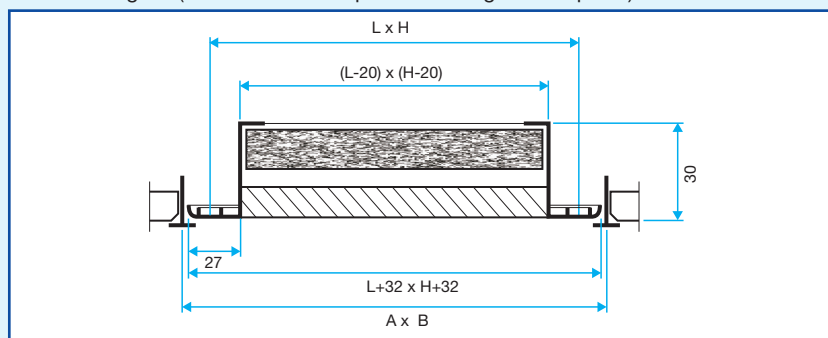
### ADDITIONAL RANGE

- For other sizes, please consult us.
- Paint finish in accordance with the RAL colour chart (please, consult us).
- Other fitting methods (please, consult us).

### DIMENSIONS



AG 637 WZ grille (for removable suspended ceilings with T-piece)



AC 174 WZ grille (for removable suspended ceilings with T-piece)

Comfort airflow levels for Lw < NR 30 and dimensions						
Model	A x B* (mm)	L (mm)	H (mm)	Plenum height (mm)	Ø Plenum connection (mm)	Airflow (m³/h)
AG 637 WZ	600 x 300	554*	254	360	250	800
	600 x 600	554*	554	360	250	1000
	675 x 675	628**	628	360	250	1000
AC 174 WZ	-	400	200	350	200	450
	-	500***	500	360	250	1000
	600 x 300	563*	263	360	250	1000
	600 x 600	563*	563	360	250	1000

\* Special dimensions for suspended ceiling tiles 600 mm in length.

\*\* Special dimensions for suspended ceiling tiles 675 mm in length.

\*\*\* Dimensions and fittings for non-removable (fixed) suspended ceilings.

### RANGE for removable suspended ceilings R10

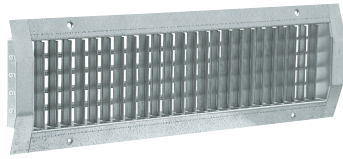
Dimensions	45° mesh grille AC 174 WZ F0 Code	Grille white vanes AG 637 WZ F0 Code	Side plenum RE 174 Code	Side plenum RE 637 Code	Spare filter W Code
600 x 300	11050742	11050682	11053572	11053575	11053515
600 x 600	11050743	11050681	11053570	11053577	11053514
675 x 675		11050683		11053576	11053516

### RANGE for rigid suspended ceilings or walls R10

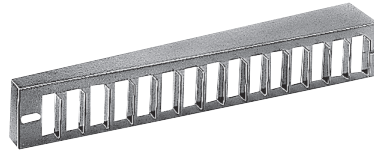
Dimensions	45° mesh grille AC 174 WZ F1 Code	Rear plenum MT F3 Code	Side plenum ME F3 Code	Side plenum RE174 Code	Spare filter W Code
500 x 500	11050741			11053578	11053518
400 x 200	11050740	11053648	11053678		11053517

# Indoor Grilles

## Grilles for circular ducts



GD 102 - GD 102 D  
Steel



N damper

### Advantages

- Suitable for circular and oblong ducts – all standard diameters.

### APPLICATION

- Air supply and air exhaust for all ventilation and air-conditioning applications.
- Can be mounted on cylindrical or oblong ductwork.

### DESCRIPTION

- GD 102 F1: single deflection grille (air return) horizontal vanes, mobile, individually adjustable with a 20 mm spacing.
- GD 102 D F1: double deflection grille (air supply) horizontal vanes behind and vertical vanes in front, mobile, individually adjustable with a 20 mm spacing.
- Galvanised steel with natural tint.
- Visible fixing, by screwing into the frame.

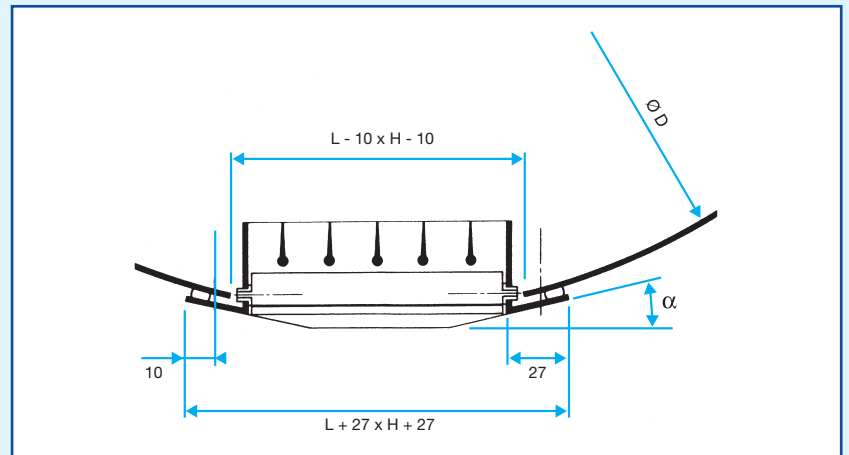
### ACCESSORIES

- 'N' damper with inclined sliding rail, in black sheet steel with locking screws. Fitted to the grille using clips. Used for air supply.
- 'H' damper with straight sliding rail and in black sheet steel. Fitted to the grille using clips, with locking screws. Used for air exhaust.

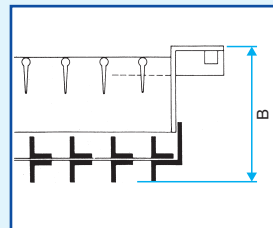
### ADDITIONAL RANGE

- All sizes of up to 1225 x 225 mm.
- Finished with paint in accordance with RAL colour chart (please, consult us).

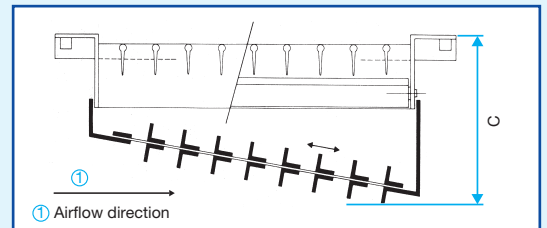
### DIMENSIONS



GD 102 grille alone



GD 102 with H damper



GD 102 D with N damper

### Comfort airflow levels for $L_w < NR 35$ (air supply with N damper 100% open) and dimensions

L (mm)	H (mm)	A (mm)	B (mm)	C (mm)	Min. duct Ø D (mm)	Max. duct Ø D (mm)	Airflow (m <sup>3</sup> /h)
325	75	42	86	124	160	400	190
425	75	42	86	137	160	400	230
525	75	42	86	150	160	400	300
625	75	42	86	163	160	400	360
425	125	46	90	141	315	900	460
525	125	46	90	154	315	900	560
625	125	46	90	167	315	900	680
525	225	56	100	164	630	1600	1000
625	225	56	100	177	630	1600	1300
825	225	56	100	204	630	1600	1500

• See selection tables pages 290 and 291.

### RANGE R10

Dimensions	Double deflection grille GD 102 D F1 Code	Inclined slide damper N Code	Single deflection grille GD 102 F1 Code	Straight slide damper H Code
325 x 75	11050148	11053969	11050108	11053959
425 x 75	11050140	11053960	11050100	11053950
525 x 75	11050141	11053961	11050101	11053951
625 x 75	11050142	11053962	11050102	11053952
425 x 125	11050143	11053963	11050103	11053953
525 x 125	11050144	11053964	11050104	11053954
625 x 125	11050145	11053965	11050105	11053955
525 x 225	11050146	11053966	11050106	11053956
625 x 225	11050147	11053967	11050107	11053957
825 x 225	11050154	11053968	11050114	11053958

# Louvres

## Acoustic louvres



SU 631 - Galvanized steel  
AU 631 - Aluminium

### Advantages

- Noise reduction with minimal airflow restrictions.

### DESCRIPTION

- Designed to provide optimal acoustic performance (noise reduction) with minimal airflow restrictions.

### CONSTRUCTION

- SU 631: frame and blades made from galvanized steel.
- Blades inclined at 40° on 300 mm pitch centers provide a resistance to water ingress with acoustic properties. Infill material is inert, incombustible, non-hygroscopic and vermin proof. It is enclosed and covered on the under side with a perforated sheet suitable for velocities up to 20 m/s. Bird mesh in galvanized steel as standard (12 x 12 x Ø 1 mm).
- SU 632: combination of two SU 631 back to back to achieve 610 mm depth. The acoustic louvres are made in single section up to 1200 x 2100 mm. Larger sizes manufactured in multiple sections for assembly on site.

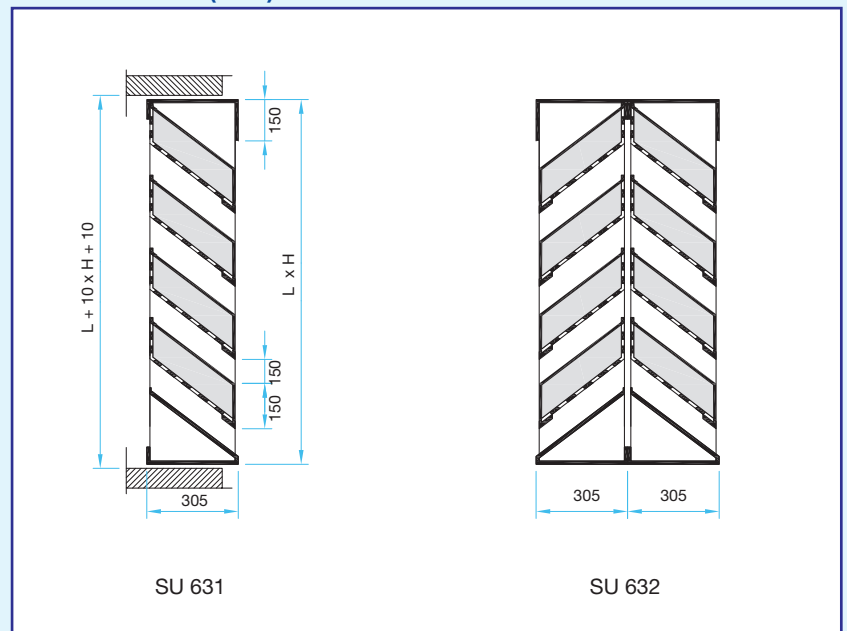
### AVAILABLE OPTIONS

- Natural anodized aluminium, code A.
- Construction in stainless steel (grade 304), code EU.
- Insect mesh in galvanized steel (6 x 6 x Ø 0.8 mm).

### RANGE

Type	Description	Code
SU 631	Construction in galvanized steel	
AU 631	Construction in aluminium	
EU 631	Construction in stainless steel (grade 304)	
SU 632	Combination of two SU 631 back to back	
AU 632	Combination of two AU 631 back to back	
EU 632	Combination of two EU 631 back to back	

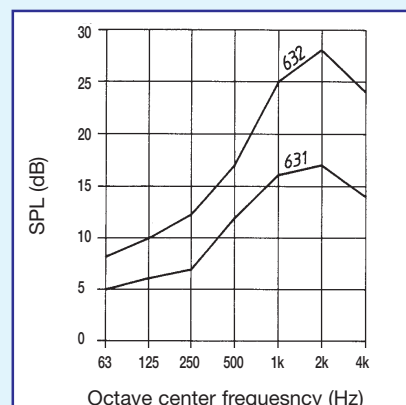
### DIMENSIONS (mm)



H (mm)	L (mm)					
	400	500	600	800	1000	1200
600	0.11	0.15	0.18	0.24	0.31	0.38
900	0.21	0.28	0.34	0.47	0.59	0.72
1200	0.32	0.41	0.50	0.69	0.87	1.06
1500	0.42	0.54	0.66	0.91	1.16	1.40
1800	0.52	0.67	0.83	1.13	1.44	1.74
2100	0.62	0.81	0.99	1.35	1.72	2.09

- Af (m<sup>2</sup>) - frontal surface.
- Other dimensions available upon request.

### SOUND REDUCTION INDEX (SPL)



# Louvres

## Sand trap louvres



SG 644 - Galvanised steel

### Advantages

- Separates dust and sand from air.

### DESCRIPTION

- Used as prefilter for the protection of air-conditioning plants in areas exposed to extreme levels of industrial pollution.
- High degree of separation of sand and large dust concentrations.
- The vertically arranged sections and holes for sand drainage ensure that the sand trap louver is self cleaning and maintenance free.

### CONSTRUCTION

- Sand trap louvres with vertical slots designed to separate dust and sand from air stream.
- Frame and baffles are made from 18 ga. galvanized steel.

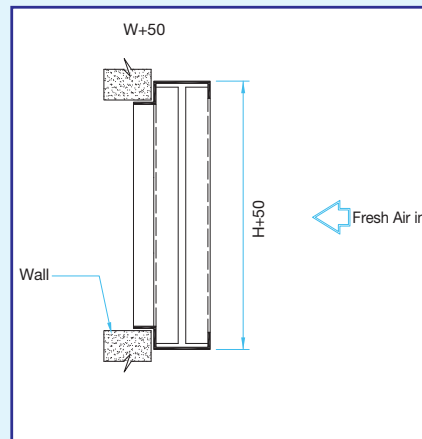
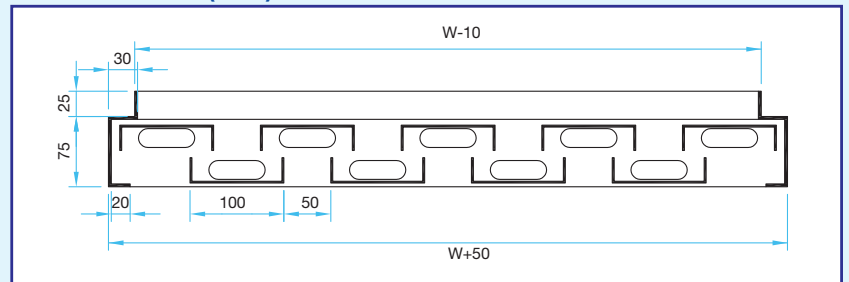
### AVAILABLE OPTIONS

- Flush mounted sand trap louver, code SG 644A.
- Extruded aluminium frame (16 ga. or 14 ga.) and blade (16 ga.), code AG 644.

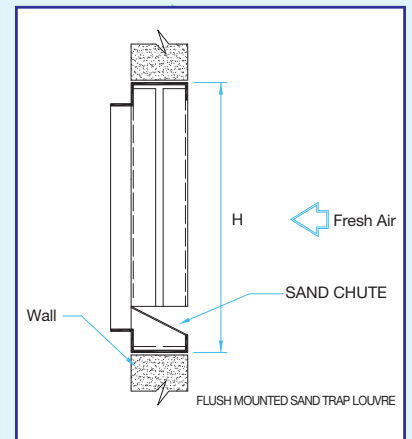
### RANGE

Type	Description	Code
SG 644	Sand trap louver with frame and baffles made from GI	
AG 644	Sand trap louver with frame and baffles made from aluminium	
EG 644	Sand trap louver with frame and baffles made from SS (grade 304)	

### DIMENSIONS (mm)



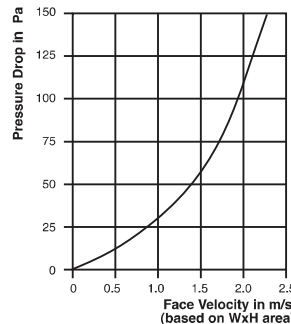
SG 644 louver



SG 644 A louver

### PRESSURE DROP

Data for inlet application with rear duct or plenum connection.



### PERFORMANCE DATA

The filtration performance is dependant on the dust type and the velocity of the air.

Particles Size Range	Filtration Efficiency in %	
	at 1.0 m/s	at 2.0 m/s
350 - 700	90	70
75 - 700	60	approx. 30



# Louvres

## Fresh air louvres



AG 638 - Aluminium

### Advantages

- Protection against rain water and weather.

### DESCRIPTION

- Designed for both intake and exhaust air service in commercial and industrial application.
- Total structure is weather proof and blades inclined downwards to protect against rain water.

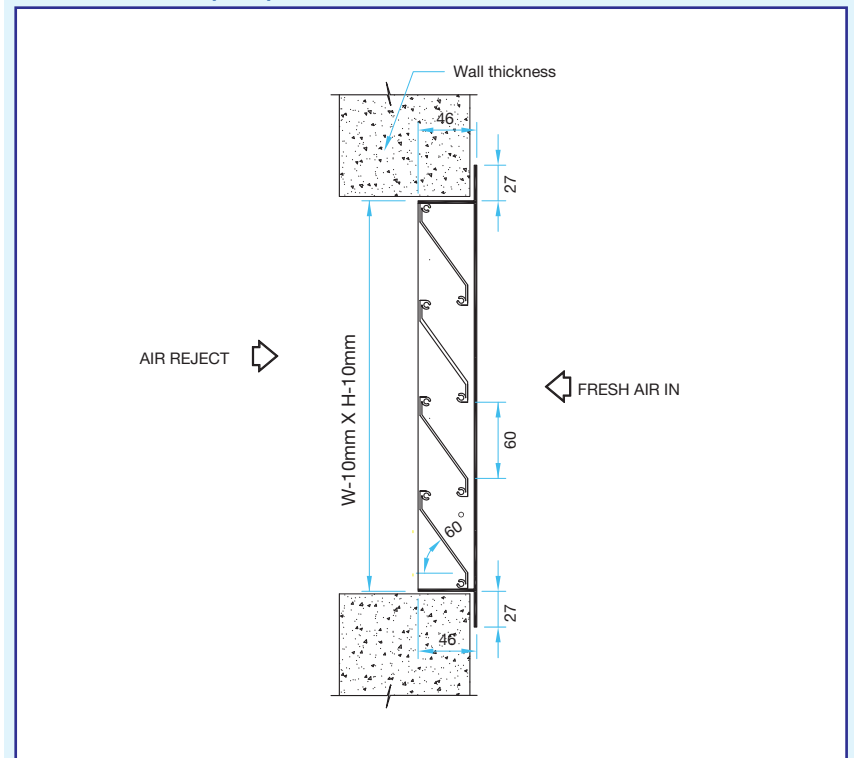
### CONSTRUCTION

- Casing / frame manufactured from 1.2 mm extruded aluminium as standard.
- Blades manufactured from 1.2 mm extruded aluminium and are inclined at 60° on 60 mm blade pitch centre to minimize water ingress. Other inclinations available upon request. Bird mesh guard of size 12 x 12 x Ø 1 mm PVC coated GI as standard supply, insect mesh available upon request.

### AVAILABLE OPTIONS

- Insect mesh in galvanized steel, code I.
- Insect mesh in stainless steel code IS.
- Bird mesh in galvanized steel, code T.
- Bird mesh in stainless steel, code TS.
- Powder coated to RAL colour, code Z.
- Bird mesh in PVC coated galvanised welded mesh - PT.
- Filter - FT.

### DIMENSIONS (mm)



AG 638 louvre

### RANGE

Type	Description	Code
AG 638	Fresh air louvre, casing and blades made from aluminium	
SG 638	Fresh air louvre, casing and blades made from GI	
EG 638	Fresh air louvre, casing and blades made from SS (grade 304)	

# Louvres

## Fresh air louvres, robust construction



AG 639

### DESCRIPTION

- Designed for both intake and exhaust air service in commercial and industrial application.
- Total structure is weather proof and blades inclined downwards to protect against rain water.

### CONSTRUCTION

- Casing manufactured from 3.0 mm heavy duty extruded aluminium. Other gauges available upon request.
- Blades manufactured from 1.2 mm inclined at 60° on 60 mm blade pitch centre to minimize water ingress. Other inclinations available upon request. Bird mesh guard of size 12 x 12 x Ø 1 mm PVC coated GI as standard supply, insect mesh available upon request.

### AVAILABLE OPTIONS

- Insect mesh in galvanized steel, code I.
- Insect mesh in stainless steel code IS.
- Bird mesh in stainless steel, code TS.
- Powder coated to RAL colour, code Z.
- PVC coated bird mesh - PT.
- Filter - FT.

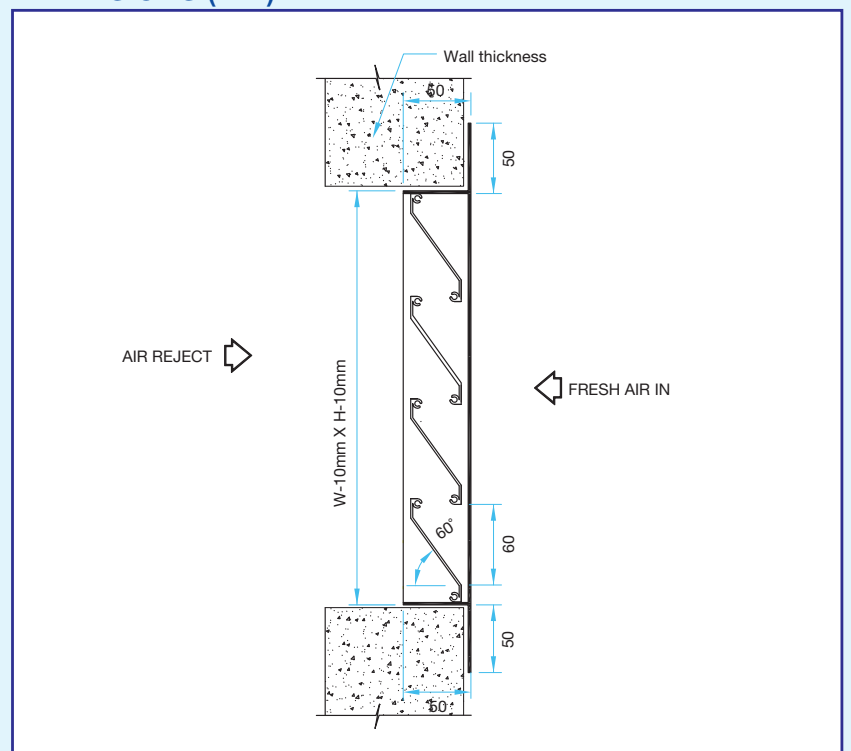
### RANGE

Type	Description	Code
AG 639	Robust construction FAL, casing and blades made from aluminium	
SG 639	Robust construction FAL, casing and blades made from GI	
EG 639	Robust construction FAL, casing and blades made from SS (grade 304)	

### Advantages

- Protection against rain water and weather.
- Robust construction.

### DIMENSIONS (mm)



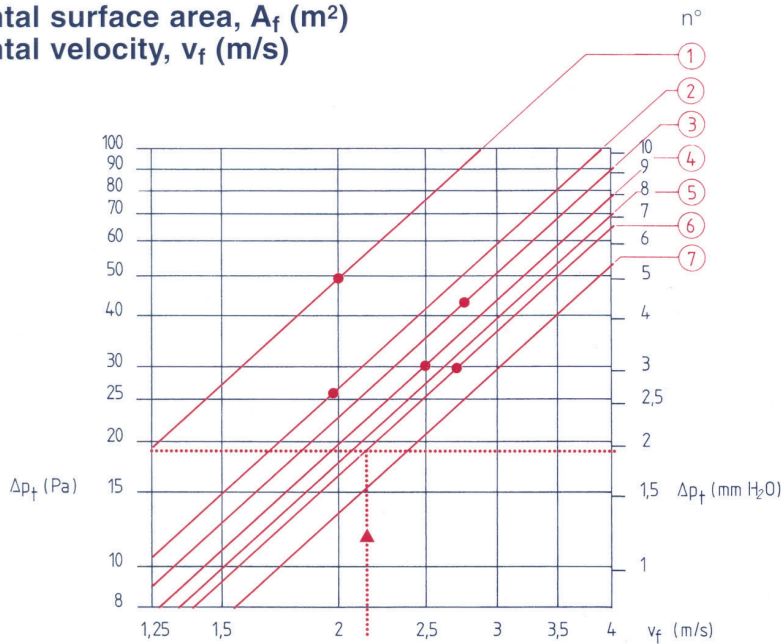
AG 639 louvre

# Louvres

## Selection curve - AG 638 & AG 639

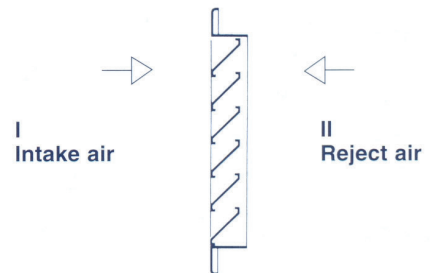
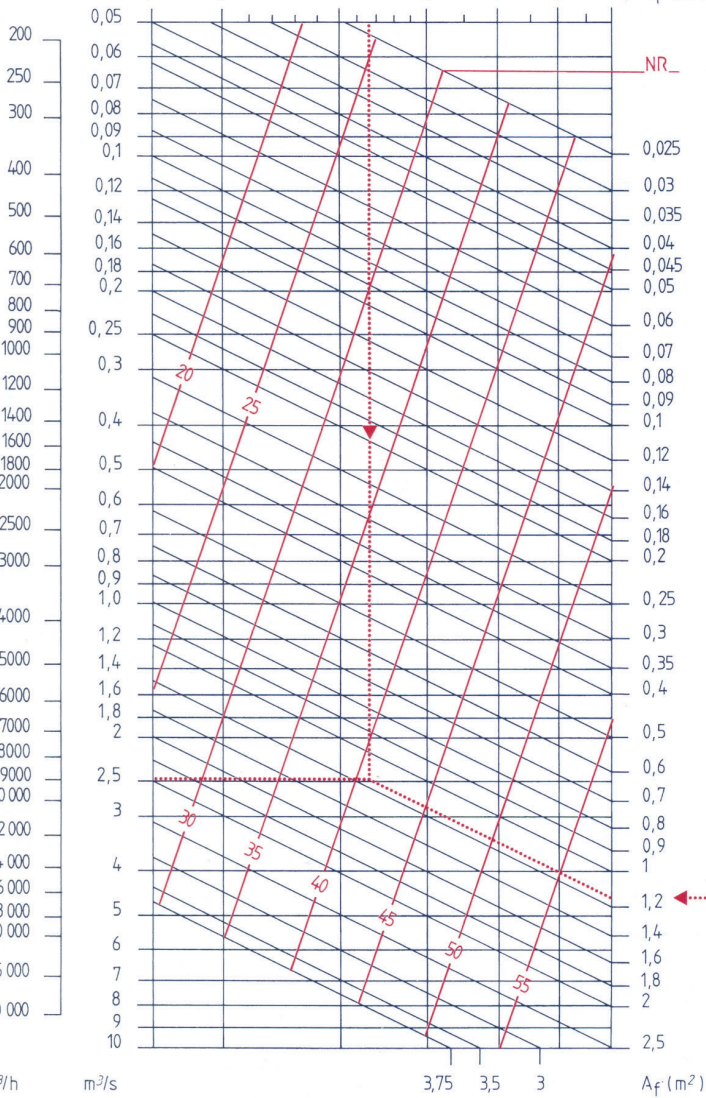
### Selection chart

- Frontal surface area,  $A_f$  (m<sup>2</sup>)
- Frontal velocity,  $v_f$  (m/s)



n°	NR	Intake air I	Reject air II
1	+9	632	632
2	+6	631	-
3	+4	640, 641, AP	631
4	+2	638	-
5	+1	-	640, 641, AP
6	0	639	638
7	-2	-	639

- Acceptable limit of intake air (I) to ensure rain-proof characteristics.



### Symbols

- $\Delta P_t$  (Pa) Pressure loss
- $\Delta P_t$  (mm H<sub>2</sub>O) Pressure loss
- $v_f$  (m/s) Frontal velocity
- $A_f$  (m<sup>2</sup>) Frontal surface area
- $q_v$  (m<sup>3</sup>/h or m<sup>3</sup>/s) Air volume
- NR ISO acoustic noise levels

### Selection example

- Given
- Type of louvre: **AG 639**
- Volume: **9000 m<sup>3</sup>/h** (or 2.5 m<sup>3</sup>/s)
- Frontal velocity: **2.1 m/s**

### Result

- Frontal surface area ( $A_f$ ) expressed in m<sup>2</sup>: **1.16 m<sup>2</sup>**
- Nominal dimensions: **800 x 1600 mm**
- Noise level: **NR 40**
- Pressure loss: **18 Pa** or 1.83 mm H<sub>2</sub>O

# Louvres

## Small outdoor grilles



AWA 251 - Aluminium

### Advantages

- Light weight grille suitable for ventilation airflows.
- Available from stock in most standard dimensions.

### APPLICATION

- Fresh air supply or exhaust of polluted air.
- Wall mounted.

### DESCRIPTION

- Frame in extruded aluminium, horizontal rain-hood type fins in extruded aluminium.
- Centre distance of 25 mm between the vanes.
- Internally fitted with a protection grille (diamond shaped) 10 x 30, diameter 0.8 mm.
- Finish – anodised aluminium, natural satin finish.
- Visible fixing, by screwing into the frame.

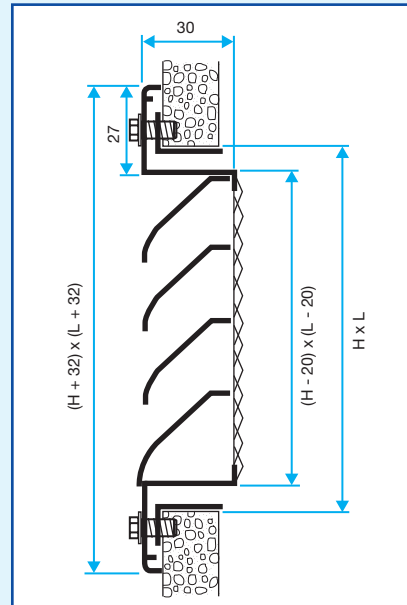
### ACCESSORIES

- F4 fitting frame in galvanised sheet steel.
- Rear connector plenum up to 600 x 600 mm (please consult us).

### ADDITIONAL RANGE

- Paint finish in accordance with the RAL colour chart (please, consult us).
- All sizes available up to 1200 x 1200 mm (please, consult us).

### DIMENSIONS



AWA 251 grille with mounting frame

- See selection table on page 292.

### RANGE R10

H	L 200 Code	L 250 Code	L 300 Code	L 350 Code	L 400 Code	L 450 Code
100	11152023	11052069	11052024	11052070	11152025	11052071
150	11052027	11052077	11052028	11052078	11052029	11052079
200	11052032	11052084	11052033	11052085	11052034	11052086
250	11052089	11052090	11052091	11052092	11052093	11052094
300	11052126	11052127	11052039	11052128	11052040	11052129
350	11052132	11052133	11052134	11052135	11052136	11052137
400	11052144	11052145	11052146	11052147	11052045	11052148
450	11052149	11052150	11052151	11052152	11052153	11052154

H	L 500 Code	L 600 Code	L 700 Code	L 800 Code	L 900 Code	L 1000 Code
100	11152026	11052072	11052073	11052074	11052075	11052076
150	11052030	11052031	11052080	11052081	11052082	11052083
200	11052035	11052036	11052037	11052038	11052087	11052088
250	11052095	11052096	11052097	11052098	11052099	11052125
300	11052041	11052042	11052043	11052044	11052130	11052131
350	11052138	11052139	11052140	11052141	11052142	11052143
400	11052046	11052047	11052048	11052049	11052050	11052051
450	11052155	11052156	11052157	11052158	11052159	11052160
500	11052052	11052064	11052065	11052066	11052067	11052068
600		11052167	11052168	11052169	11052170	11052171
700		11052172	11052173	11052174	11052175	11052176
800		11052177	11052178	11052179	11052180	11052181

# Selection Tables



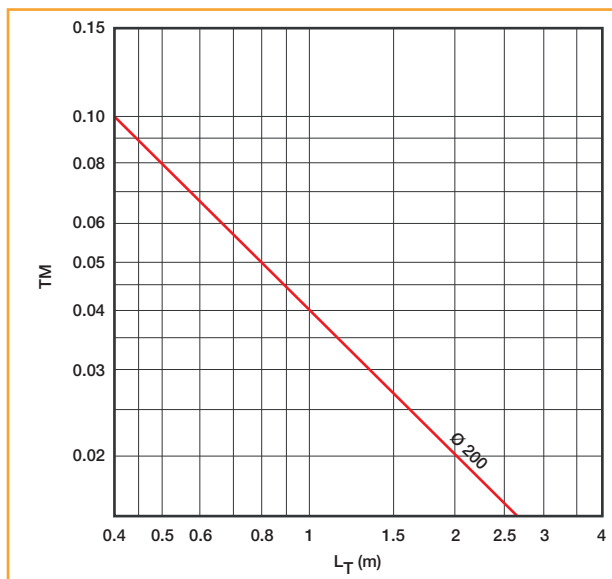
## Twisted 850 Series

Air supply with ceiling effect

Ak (m²)	Dimensions	qv (m³/h)																					
		150		200		250		300		350		400		450		500		550		600		650	
0.022	Ø 200	19	0.30	20	0.39	21	0.52	23	0.59	24	0.65	26	0.71	30	0.85	32	0.91	34	0.96	35	1.02	38	1.10
		2.0	2	2.6	3	3.3	4	3.9	6	4.6	8	5.2	11	5.9	13	6.5	17	7.2	20	7.8	24	8.5	28
		Lw	Lt																			Lw	Lt
		Vk	Pa																			Vk	Pa

The values Lw (NR) do not take any account of the attenuation in the premises. Tests carried out with a standard plenum.

Vt = 0.37 m/s.



### Mixing rate (TM)

Lt (m)	Throw in m
ΔTL (°C)	Difference between the temperature at the end of throw and room temperature (in °C)
ΔTS (°C)	Difference between the air supply temperature and room temperature (in °C)
TM = ΔTL / ΔTS	Temperature quotient. This value is significant capacity to mixing "fast" air supply to the room temperature.

### Example

<b>Example with 15°C supply and 25°C in the room</b>	Air jet temperature at 1 m (Lt = 1m) of the diffuser = [25 - 10 x 0.04] (°C) = 24.6° C
--	--

### Corrections for other terminal velocities

Vt (m/s)	0.25	0.37	0.5
Lt	x 1.5	x 1	x 0.75



## Twisted 850 Series

Exhaust without filter

Ak (m²)	Dimensions	qv (m³/h)																							
		150		200		250		300		350		400		450		500		550		600		650			
0.029	Ø 200	19	-	19	-	20	-	21	-	22	-	25	-	28	-	31	-	33	-	35	-	37	-		
		1.4	2	1.9	3	2.4	5	2.9	7	4.6	10	3.8	13	4.3	16	4.8	20	5.3	24	5.7	29	6.2	34		
		-	Pa2	-	4	-	7	-	11	-	16	-	21	-	28	-	35	-	44	-	53	-	63	-	74
		Lw	-																			Lw	-		
		Vk	Pa																			Vk	Pa		

The values Lw (NR) do not take any account of the attenuation in the premises. Tests carried out without plenum and with a standard plenum (Pa2).

### Exhaust G2 filter only

Ak (m²)	Dimensions	qv (m³/h)																					
		150	200	250	300	350	400	450	500	550	600	650											
	Ø 200	-	1	-	2	-	3	-	4	-	6	-	8	-	10	-	12	-	14	-	17	-	20
			Pa												Pa								



# Selection Tables



## AR 883 Series

Air supply with ceiling effect - Heating Position -  $\Delta T +10^{\circ} C - \alpha 90^{\circ}$

Ak (m <sup>2</sup> )	Ø D (mm)	qv (m <sup>3</sup> /hr)												Lw	Lt														
		500		750		1000		1200		1600		2000				3000		4000		5000		6500		8000					
0.03665	250	38	5.9	48	9.0																								
		3.8	27	5.8	63																								
0.07355	315			27	4.5	37	6.5	41	7.6	49	10.3																		
				2.7	14	3.8	27	4.4	35	6.4	76																		
0.10970	400							29	5.2	37	7.3	43	9.0																
								2.9	15.8	4.0	29	5.2	47																
0.16293	500									25	5.1	31	6.3	42	10	50	14												
										2.5	11.4	3.3	19.5	5	45	6.9	86												
0.30157	630	Lw	Lt											25	5.8	37	7.8	37	10	44	12.7	52	16						
		Vk	Pa											2.5	11.4	3.5	23	4.6	37	5.8	64	7.3	99						

The values Lw (NR) do not take the attenuation in the premises into account.

Vt = 0.25 m/s.

### Corrections for other angles of air diffusion

$\alpha$	LtM	Vk	$\Delta Pt$	Lw	Ak
45°	x 0.35	x 1.59	x 1.42	+ 10	x 0.63
60°	x 0.66	x 1.13	x 1.12	+ 3	x 0.88

$\alpha$  = angle of the blades. LtM = vertical reach.



## AR 883 Series

Air supply with ceiling effect - Cooling Position -  $\Delta T -10^{\circ} C - \alpha 30^{\circ}$

Ak (m <sup>2</sup> )	Ø D (mm)	qv (m <sup>3</sup> /hr)												Lw	Lt														
		200		300		400		500		600		800				1000		1400		1800		2000		2500					
0.01705	250	20	0.62	30	0.9	37	1.25	42	1.5																				
		3.4	8.1	5.0	16.5	7.0	30	8.7	44																				
0.03090	315			18	0.7	25	0.87	30	1.15	35	1.35	42	1.8	47	2.3														
				2.7	5.3	8.5	3.5	4.6	15	5.8	21	7.2	33	9.5	53														
0.03810	400							26	1.0	31	1.25	38	1.65	43	2	52	2.8												
								3.6	8.7	4.5	14	6	23	7.5	35	10.5	65												
0.06700	500									26	1.2	32	1.5	38	2.1	46	2.8	48	3.1										
										3.2	7.4	4.0	11	5.7	20	7.5	35	8.1	40										
0.07720	630	Lw	Lt											28	1.4	37	1.9	43	2.5	45	2.7	51	3.5						
		Vk	Pa											3.4	8.0	4.8	16	6.3	25	7.0	35	9.0	48						

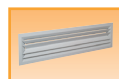
The values Lw (NR) do not take the attenuation in the premises into account.  $\alpha$  = angle of the blades.

Vt = 0.25 m/s.

### Corrections for other terminal velocities

Vt (m/s)	0.25	0.37	0.5	0.63
Lt	x 1	x 0.67	x 0.5	x 0.4

# Selection Tables



## AF 792 Series

Air supply for a length of 1 m with ceiling effect

Ak (m <sup>2</sup> )	Height (mm)	No. of slots	qv (m <sup>3</sup> /hr)												Lw	Lt									
			300		350		400		500		600		800				1100		1300						
0.025	75	2	25.0	3.7	28.0	4.7	32.0	5.1	35.0	6.1	40.0	7.2													
			3.3	6.0	4.0	9.6	4.5	12.0	5.5	19.0	6.5	26.0					Vk	Pa							
0.05	150	4													28.0	6.0	35.0	7.0	42.0	10.0	45.0	12.0			
			3.4	7.2	4.5	12.0	6.5	25.0	7.5	38.0															
0.05 0.037 + 0.013	150	4	3													28.0	4.7	35.0	6	42.0	7.7	45.0	9.3		
				3.4	7.2	4.5	12.0	6.5	25.0	7.5	4.2														
0.05 0.025 + 0.025	150	4	1													-	1.6	-	3.5	-	4.9	-	5.3		
				3.4	-	4.5	-	6.5	-	7.5	-														
0.05 0.025 + 0.025	150	4	2													28.0	3.7	35.0	5.1	42.0	6.4	45.0	7.4		
				3.4	7.2	4.5	12.0	6.5	25.0	7.5	4.2														
				Lw	Lt													-	3.7	-	5.1	-	6.4	-	7.4
				Vk	Pa													3.4	-	4.5	-	6.5	-	7.5	-

The values Lw (NR) do not take the attenuation in the premises into account.

Speed = 0.37 m/s.

### Corrections for other terminal velocities

Vt (m/s)	0.25	0.37	0.5	0.63
Lt	x 1.5	x 1	x 0.75	x 0.6



## SF 786 Series

Air supply with ceiling effect

Ak (m <sup>2</sup> )	Length L x H / W	qv (m <sup>3</sup> /hr)												Lw	Lt												
		100		150		250		350		500		600				700		800									
0.0165	400 x 400 345	-	1	20	1.4	31	2.4	39	3.3																		
		1.7	2.5	2.5	6	4.0	15	5.9	35							Vk	Pa										
0.0340	500 x 500 445																										
				-	1.1	-	1.7	25	2.4	33	3.3	38	4														
0.0420	600 x 600 525																										
						-	1.4	20	2.2	28	3.0	33	3.6	37	4.1												
0.0760	825 x 825 725	Lw	Lt													1.5	2	2.3	5	3.3	10	4.0	15	4.6	21		
		Vk	Pa													-	1.4	-	2.1	27	2.9	32	3.5	36	4.0	39	4.6
																1.5	2	2.2	4.6	3.0	9	3.7	14	4.3	18	5.0	25

The values Lw (NR) do not take the attenuation in the premises into account.

Speed = 0.25 m/s.

### Corrections for other terminal velocities

Vt (m/s)	0.25	0.37	0.5
Lt	x 1	x 0.87	x 0.65



## SR 861 - SF 861 - SF 861 T Series

Air supply with ceiling effect

Ak (m <sup>2</sup> )	Ø D (mm)	qv (m <sup>3</sup> /hr)												Lw	Lt										
		50		70		100		150		250		350				500		600							
0.0039	125	-	1	26	1.8	33	3																		
		2.5	4.5	5	17	8.5	45									Vk	Pa								
0.0071	160																								
				-	1.4	24	2.3	33	3.2	42	4.0														
0.0124	200																								
						2.6	5	4.5	13	6.5	26	8.5	45												
0.0199	250																								
						-	19	24	2.9	35	3.6	42	5.0												
0.0358	315	Lw	Lt													2.7	5	3.5	9	4.9	16	6.5	26	8.5	45
		Vk	Pa													-	2.5	26	3.2	33	4.5	37	5.5		
																3.0	7.0	4.0	11	5.5	20	7.0	30		

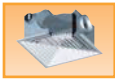
The values Lw (NR) do not take the attenuation in the premises into account.

Speed = 0.25 m/s.

### Corrections for other terminal velocities

Vt (m/s)	0.25	0.37	0.5	0.63
Lt	x 1	x 0.67	x 0.5	x 0.4

# Selection Tables



## Combined Series

Air supply in 4 directions with ceiling effect - air supply + air exhaust

Air supply selection (at the periphery of the diffuser)

Type	Ak (m <sup>2</sup> )	L x H (mm)	qv (m <sup>3</sup> /hr)												Lw	Lt	
			450		550		650		750		850		950				1100
SF/AF	0.05	472 x 472	29	2.1	33	2.6	36	3.1	39	3.5							
			2.5	21	3.1	32	3.61	45	4.2	60							Vk
SN/AN	0.06	525 x 525			30	2.4	33	2.8	36	3.2	38	3.7					
					2.6	22	3	31	3.5	42	3.9	53					
SN/AN	0.09	600 x 600	Lw	Lt							31	3	33	3.4	36	4	
			Vk	Pa*							2.6	24	3	29	3.4	40	

\* Pressure loss for the Combined assembly in air supply.

The values Lw (NR) do not take the attenuation in the premises into account and concern the Combined assembly in both air supply and air exhaust.

Speed = 0.5 m/s.

Air exhaust selection (at the centre of the diffuser)

Type	Ak (m <sup>2</sup> )	L x H (mm)	L1 x H1 (mm)	qv (m <sup>3</sup> /hr)												Lw	Lt
				450		550		650		750		850		950			
SF/AF	0.07	472 x 472	323 x 323	1.8	16	2.2	24	2.6	34	3	45					Vk	Pa*
SN/AN	0.094	525 x 525	375 x 375			1.6	14	1.9	19	2.2	25	2.5	32				
SN/AN	0.094	600 x 600	375 x 375	Vk	Pa*							2.5	32	2.8	40	3.2	53

\* Pressure loss for the Combined assembly in air exhaust.

Air exhaust filter selection

Type	Ak (m <sup>2</sup> )	L x H (mm)	L1 x H1 (mm)	qv (m <sup>3</sup> /hr)									
				450	550	650	750	850	950	1100			
SF/AF	0.07	472 x 472	323 x 323	21	25	29	33				Pa		
SN/AN	0.094	525 x 525	375 x 375		19	22	25	29					
SN/AN	0.094	600 x 600	375 x 375	Pa				29	34	42			

Corrections for other terminal velocities

Vt (m/s)	0.25	0.37	0.5	0.63	0.75
Lt	x 2	x 1.33	x 1	x 0.8	x 0.67



## AG / AN 280 Series

Air supply for a length of 1 m with ceiling effect

Ak (m <sup>2</sup> )	Number of slots	qv (m <sup>3</sup> /hr)																	
		60		100		150		200		250		300		400		500		600	
0.007	1	-	1.9	24	3.1	35	4.7											Lw	Lt
		2.4	5.1	4.0	14	6.0	32											Vk	Pa
0.014	2	-	2.2	20	3.3	27	4.4	33	5.5	38	6.6								
		2.0	3.5	3.0	8.0	4.0	14	5.0	22	6.0	32								
0.021	3	-	2.7	18	3.6	24	4.5	29	5.4	37	7.2								
		2.0	3.5	2.6	6.3	3.3	10	4.0	14	5.3	25								
0.028	4	Lw	Lt					-	3.1	18	3.9	23	4.7	30	6.2	36	7.8	41	9.3
		Vk	Pa					2.0	3.5	2.5	5.5	3.0	8.0	4.0	14	5.0	22	6.0	32

The values Lw (NR) do not take the attenuation in the premises into account.

Speed = 0.37 m/s.

Corrections for other terminal velocities

Vt (m/s)	0.25	0.37	0.5	0.63
Lt	x 2	x 1	x 0.75	x 0.6

Corrections for the vertical through with ceiling effects.

ΔT (°C)	- 10	0	+ 15	Vk	ΔP	Lw
Lt	x 0.8	x 0.5	x 0.3	x 0.45	x 0.8	- 3

# Selection Tables



## ALD 610 K Combined Series

Air supply with ceiling effect

Ak (m <sup>2</sup> )	Dimensions	qv (m <sup>3</sup> /h)																						
		150		200		250		300		400		500		600		800		1000		1200		1400		
0.016	600-1 slot	20	2.3	27	2.7	32	3	34	3.4	41	4												Lw	Lt
		2.4	5	3.3	9	4	13	4.9	20	6.5	35												Vk	Pa*
0.018	675-1 slot	17	2	24	2.6	29	2.9	33	3.3	39	3.9	43	4.6											
		2.3	4	2.9	7	3.8	12	4.5	17	6	30	7.5	46											
0.030	600-2 slots					21	2.5	24	2.9	30	3.4	35	3.9	38	4.5	45	5.4							
						2.3	4	2.7	6	3.6	11	4.5	17	5.5	25	7.1	42							
0.034	675-2 slots					19	2.6	22	2.8	28	3.3	34	3.8	37	4.2	43	5.2							
						2	3	2.4	5	3.2	8	4	13	4.9	19	6.5	35							
0.045	600-3 slots									23	2.9	28	3.4	32	3.8	37	4.6	42	5.4	46	6.3			
										2.3	4	2.9	7	3.4	9	4.6	17	5.9	29	6.9	39			
0.051	675-3 slots									21	2.8	26	3.3	29	3.7	36	4.4	41	5.2	44	6			
										2	3	2.6	5	3	7	4	13	5.1	22	6.2	33			
0.060	600-4 slots									23	3.1	27	3.5	33	4.2	38	5	42	5.7	44	6.6			
										2.2	4	2.6	5	3.5	10	4.5	16	5.2	22	6.2	31			
0.068	675-4 slots	Lw	Lt																					
		Vk	Pa*																					

\* Pressure loss of the combined assembly in supply mode. Tests carried out with a standard plenum. Vt = 0.37 m/s  
Lw (NR) values are based without room absorption and related to the combined assembly in supply and extraction mode.

### Selection - Air exhaust without filter

Dimensions	qv (m <sup>3</sup> /h)											
	150	200	250	300	400	500	600	800	1000	1200	1400	
600-1 slot	1	1	2	3	5						Pa*	
675-1 slot	1	1	1	1	3							
600-2 slots			3	4	6	10	14					
675-2 slots			2	2	4	6	9	15				
600-3 slots					9	14	20	36	56			
675-3 slots					4	7	10	18	28	40		
600-4 slots						19	27	49				
675-4 slots	Pa*						13	23	36	52		

\* Pressure loss of the combined assembly in supply mode. Tests carried out with a standard plenum.   Dp > 70 Pa

### Selection - Air exhaust with G2 filter

Dimensions	qv (m <sup>3</sup> /h)											
	150	200	250	300	400	500	600	800	1000	1200	1400	
600-1 slot	2	2	3	5	8						Pa*	
675-1 slot	1	1	2	3	5							
600-2 slots			4	6	10	16	23					
675-2 slots			2	3	6	9	14	24				
600-3 slots					15	23	33	58				
675-3 slots					7	11	17	30	46	66		
600-4 slots						31	45					
675-4 slots	Pa*						20	46	60			

\* Pressure loss of the combined assembly in supply mode. Tests carried out with a standard plenum.   Dp > 70 Pa

# Selection Tables



## DGH - DGH2 Series

Air supply without ceiling effect

Ak (m <sup>2</sup> )	Ø N (mm)	qv (m <sup>3</sup> /hr)																Lw	Lt				
		25		50		75		100		125		150		200		300				400			
0.002	100	-	3.2	-	6.1	24	8.9	33	11.7	40	14.5	45	17.3										
		4.1	11	8.3	43	12.4	96	16.5	170	20.6	266	24.8	383									Vk	Pa
0.004	150	-	1.9	-	3.5	-	5.0	20	6.5	17	8.0	22	9.5	31	12.5	43	18.6						
		1.8	2	3.6	8	5.4	18	7.2	33	9.0	51	10.8	73	14.4	130	21.6	293						
0.007	200			-	2.3	-	3.3	-	4.2	20	5.1	20	6.1	-	8.0	27	11.8	36	15.5				
				1.9	2	2.9	5	3.8	9	4.8	14	5.8	21	7.7	37	11.5	83	15.4	147				
0.020	300													-	3.1	-	3.9	-	5.7	< 20	7.4		
														3.1	3	2.8	5	4.1	11	5.5	19		
0.039	400	Lw	Lt																				
		Vk	Pa																				

• With ceiling effect : throw multiplication (Lt) by 1.4.

Ak (m <sup>2</sup> )	Ø N (mm)	qv (m <sup>3</sup> /hr)										Lw	Lt											
		500		600		700		800		1000				1500		2000		2500		3000				
0.007	200	43	19.3																					
		19.2	230																					
0.020	300	-	9.2	21	11	26	12.7	30	14.5	37	18													
		6.9	30	8.3	43	9.7	58	11.1	76	13.8	119													
0.039	400	-	5.7	-	6.7	-	7.8	-	8.8	-	10.9	31	16.2	40	21.5	48	27.5	52	34.1					
		3.5	8	4.2	11	4.9	15	5.6	20	7.0	31	10.5	69	14	122	17.8	200	21.4	265					

The values Lw (NR) do not take the attenuation in the premises into account.

Speed = 0.5 m/s.

### Corrections for other terminal velocities

Vt (m/s)	0.25	0.37	0.5	0.63	0.75
Lt	x 2	x 1.33	x 1	x 0.8	x 0.67

### Corrections to the vertical throw depending on the air supply temperature

ΔT (°C)	-20	-15	-10	-5	0	5	10	15	20
Lt	x 2.5	x 2	x 1.7	x 1.3	x 1	x 0.7	x 0.5	x 0.4	x 0.33



## SR 151 S Series

Air supply without ceiling effect

Ak (m <sup>2</sup> )	Ø N (mm)	qv (m <sup>3</sup> /hr)										Lw	Lt												
		500		750		1000		1500		2000				2500		3000		3500		4000		5000			
0.031	200	30	7.0	42	10																				
		4.5	25	7.0	58																				
0.049	250			32	8	38	10	51	16	58	21														
				4.2	23	5.8	40	8.5	40	11.5	150														
0.071	315					31	9	43	13	51	17	57	21	63	26										
						3.9	17	6.0	42	8.0	76	9.8	110	12	167										
0.096	350							36	9	45	15	50	17	56	22	61	26	65	30						
								4.2	23	5.9	41	7.2	60	8.5	90	10.2	130	12	165						
0.125	400	Lw	Lt																						
		Vk	Pa																						

The values Lw (NR) do not take the attenuation in the premises into account.

Speed = 0.37 m/s.

• With ceiling effect: multiply the throw (Lt) by 1.4.

### Corrections for other terminal velocities

Vt (m/s)	0.25	0.37	0.5
Lt	x 1.5	x 1	x 0.75

### Corrections to the vertical throw depending on the air supply temperature

ΔT (°C)	-20	-15	-10	-5	0	5	10	15	20
Lt	x 2.5	x 2	x 1.7	x 1.3	x 1	x 0.7	x 0.5	x 0.4	x 0.33







# Selection Tables



## AC 181 Series

Transfer

Ak (m <sup>2</sup> )	L x H (mm)		qv (m <sup>3</sup> /hr)												Lw	Lt											
			50		100		150		200		300		400				600		800		1000		1500		2000		
0.016	300 x 100	200 x 150	-	-	23	-																			Lw	Lt	
			0.9	3.5	1.7	14																					Vk
0.027	500 x 100 200 x 200	300 x 150	-	-	14	-	23	-																			
			0.6	1.6	1.0	4.0	1.5	9.9																			
0.040	800 x 100 300 x 200	400 x 150			-	-	16	-	23	-																	
					0.7	2.3	1.0	4.0	1.3	8.0																	
0.056	1000 x 100 400 x 200	500 x 150			-	-	-	-	18	-	25		31														
					0.5	1.1	0.7	2.5	1.0	4.5	1.5	10	2.0	18													
0.070	1200 x 100 500 x 200	800 x 150 300 x 300			-	-	-	-	-	-	22		27														
					0.3	1.0	0.6	1.6	0.8	3	1.2	6.5	1.6	11													
0.081	800 x 150 400 x 300	600 x 200			-	-	-	-	-	-	20		26		35												
					0.5	1.6	0.7	2.3	1.0	4.0	1.3	8.0	2.1	20													
0.120	1200 x 150 500 x 300	800 x 200 400 x 400			-	-	-	-	-	-	20		27		33												
					0.5	1.4	0.7	2	0.9	4	1.4	9	1.9	15													
0.150	1000 x 200 500 x 400	600 x 300			-	-	-	-	-	-	24		30		35												
					0.57	1.6	0.6	2.0	1.1	5.0	1.5	9.8	1.9	15													
0.190	1200 x 200 600 x 400	800 x 300 500 x 500			-	-	-	-	-	-	20		25		30												
					0.6	1.5	0.9	3.5	1.1	6.0	1.5	10															
0.260	1200 x 300 600 x 500	800 x 400			-	-	-	-	-	-	20		25		30												
					0.63	1.8	0.8	3.1	1.0	4.1	1.6	11															
0.320	1000 x 400 600 x 600	800 x 500	Lw	Lt																						Lw	Lt
			Vk	Pa																							Vk

The values Lw (NR) do not take the attenuation in the premises into account.



## SC 831 - SC 832 TP Series

Air supply with ceiling effect

Ak (m <sup>2</sup> )	Ø N (mm)	qv (m <sup>3</sup> /hr)												Lw	Lt											
		150		200		300		400		500		600				800		1000		1200		1400		1600		
0.011	160	-	1.8	27	2.3	41	3.4																		Lw	Lt
		3.9	1	5.0	22	7.5	50																			Vk
0.020	200	-	1.3	-	1.8	23	2.6	33	3.4	41	4.3															
		2.1	6.0	2.8	7.8	4.1	15	5.7	28	7.0	45															
0.031	250			-	1.4	-	2.1	20	2.7	27	3.5	34	4.1	45	5.5											
				1.9	-	2.7	7.2	3.6	12	4.5	18	5.5	26	7.5	50											
0.046	300			-	1.7	-	2.3	15	2.8	22	3.3	32	4.6	40	5.7	46	6.7									
				1.9	-	2.5	5.5	3.1	8.0	3.7	14	5.0	22	6.2	35	7.5	50									
0.047	355	Lw	Lt																						Lw	Lt
		Vk	Pa																						Vk	Pa

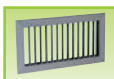
The values Lw (NR) do not take the attenuation in the premises into account.

Speed = 0.37 m/s.

### Corrections for other terminal velocities

Vt (m/s)	0.25	0.37	0.5
Lt	x 1.5	x 1	x 0.75

# Selection Tables



## AC 101 D - SC 101 D - AC 102 D - SC 102 D Series

Air supply with ceiling effect

Ak (m <sup>2</sup> )	L x H (mm)		qv (m <sup>3</sup> /hr)												Lw Vk		Lt Pa									
			150	200	300	400	500	700	900	1200	1500	3000	5000													
0.0074	200 x 75		22	5.8	27	7.5																				
			5.9	25	7.5	40																				
0.0110	300 x 75 200 x 100		-	4.1	19	5.5	28	8.2																		
			3.8	10	5.0	18	7.6	40																		
0.0160	400 x 75 300 x 100	200 x 150	-	3.4	-	4.5	21	6.8	28	9.1																
			2.6	5	3.5	8	5.2	19	6.9	34																
0.0240	600 x 75 400 x 100	300 x 150 200 x 200			-	3.7	-	5.6	20	7.4	25	9.3														
					2.3	4	34.5	8	4.6	15	5.8	23														
0.0300	800 x 75 500 x 100						-	5.0	16	6.0	21	8.3	29	12												
							2.8	5	3.7	10	4.6	15	6.5	29												
0.0400	1000 x 75 600 x 100	400 x 150 300 x 200							-	5.7	-	7.2	23	10	29	13										
									2.8	5	3.5	8	4.9	17	6.2	27										
0.0490	1200 x 75 800 x 100	500 x 150 400 x 200							-	5.2	-	6.5	19	9.1	25	12	32	16								
									2.3	4	2.8	6	4.0	11	5.1	18	6.8	32								
0.0600	1000 x 100 600 x 150	500 x 200 300 x 300									-	5.9	15	8.2	21	11	22	14	34	18						
											2.3	4	3.2	7	4.2	12	5.5	22	6.9	34						
0.0780	1200 x 100 800 x 500	600 x 200 400 x 300											-	7.2	16	9.2	23	12	29	15						
													2.5	4	3.2	7	4.3	13	5.3	20						
0.1050	1000 x 150 800 x 200	500 x 300 400 x 400													-	8.0	17	11	23	13						
															2.4	4	3.2	7.0	4.0	11						
0.1320	1200 x 150 1000 x 200	600 x 300 500 x 400															-	9.5	18	12	35	27				
																	2.5	4.0	3.2	7	6.3	30				
0.1600	1200 x 200 800 x 300	600 x 400 500 x 500																-	9.5	15	12.5	31	24			
																		2.1	3.0	2.6	5.0	5.1	18			
0.2100	1000 x 300 800 x 400	600 x 500																	-	11	26	15	38	-		
																			2.0	2.8	4.0	11	6.9	32		
0.2800	1200 x 300 1000 x 400	800 x 500																		-	9.0	20	18	33	30	
																				-	-	3.0	6.0	5.0	17	
0.3500	1200 x 400 1000 x 500																					15	16.5	27	27	
																						2.4	4.1	4.0	11	
0.4200	1200 x 500																						-	15	24	25
																							2.0	2.8	3.3	7.5

The values Lw (NR) do not take the attenuation in the premises into account.

Speed = 0.37 m/s.

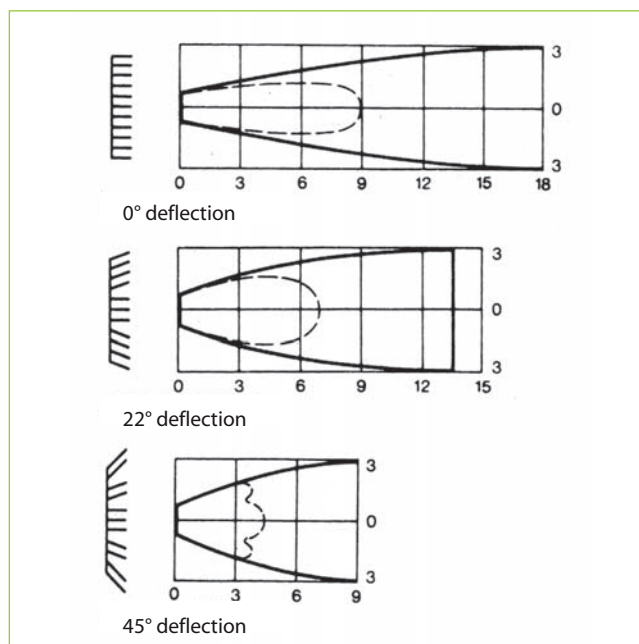
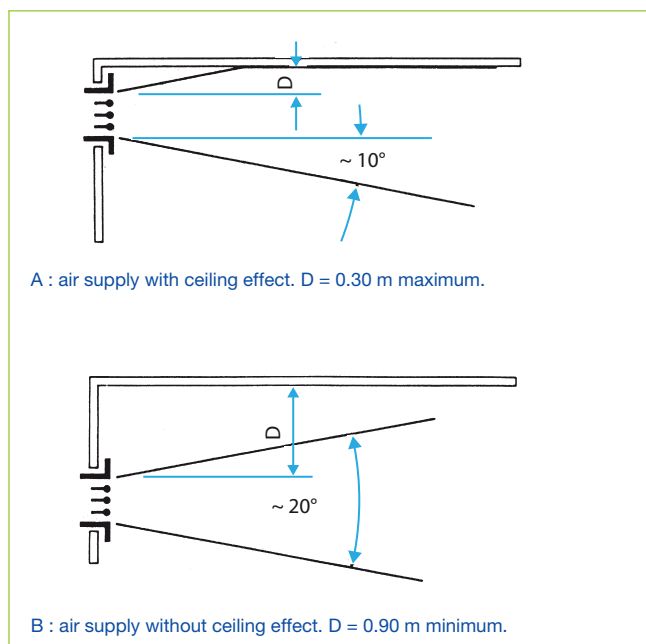
### Corrections for other terminal velocities

Vt (m/s)		0.25	0.37	0.5	0.63
Lt	A	x 1.5	x 1	x 0.75	x 0.6
Lt	B	x 1.05	x 0.7	x 0.53	x 0.42

### Corrections for deflection

$\alpha$	$\beta$	Lt	Vk	$\Delta Pt$	Lw
22°	35°	x 0.77	x 1.15	x 1.30	+ 3
45°	60°	x 0.55	x 1.25	x 1.60	+ 6

$\alpha$  = vanes angle       $\beta$  = air jet angle



# Selection Tables



## AC 440 - AC 441 - AG 450/ 450 A - AG 470 Series

Air supply with ceiling effect

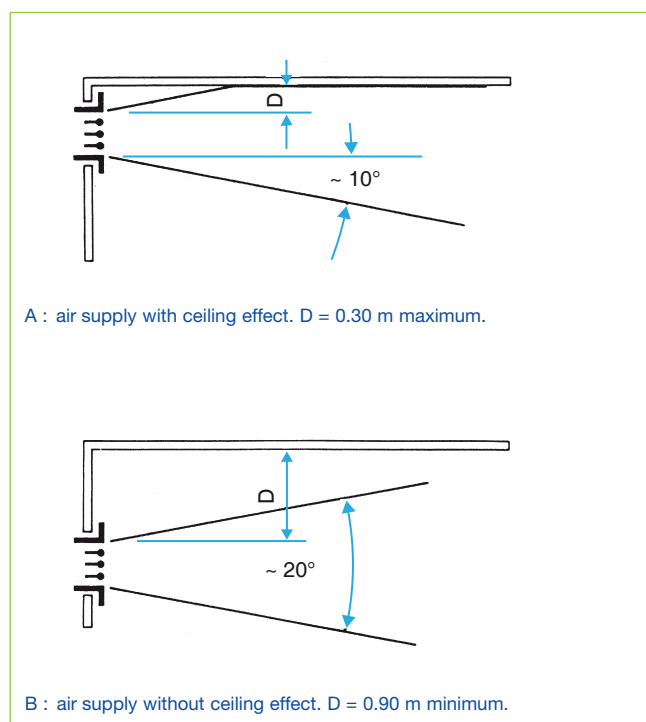
Ak (m <sup>2</sup> )	L x H (mm)		qv (m <sup>3</sup> /hr)												Lw	Lt											
			100		200		300		400		600		800				1000		1500		2000		2500		3000		
0.008	300 x 75	200 x 100	15	4	25	9																					
			3.5	8.6	7.0	35																					
0.012	400 x 75 200 x 150	300 x 100	-	3	20	8	25	12																			
			2.3	4	4.8	16	7.0	35																			
0.018	600 x 75 300 x 150	400 x 100 200 x 200			15	6	20	9.0	25	12																	
					3.0	6.3	4.5	15	6.0	25																	
0.022	800 x 75	500 x 100			15	6.0	20	9.0	25	12	30	17															
					2.5	4.4	3.7	10	5.0	17	7.5	40															
0.029	1000 x 75 400 x 150	600 x 100 300 x 200			16	7.0	20	10	25	15	30	17															
					2.8	6.0	3.7	10	5.8	23	6.0	25															
0.036	1200 x 75 500 x 150	800 x 100 400 x 400			20	9.0	25	13	25	16																	
					3.0	6.3	4.5	15	5.0	17																	
0.044	1000 x 100 500 x 200	600 x 150 300 x 300			15	8.0	20	12	20	14	30	20															
					2.5	4.4	3.7	10	3.7	10	3.7	10	6.3	28													
0.057	1200 x 100 600 x 200	800 x 150 400 x 300			15	10	15	12	25	18																	
					2.9	6.1	3.0	6.3	4.8	16																	
0.077	1000 x 150 500 x 300	800 x 200 400 x 400			-	9.0	-	11	20	15	31	17															
					2.2	3.5	2.3	4.0	3.7	10	5.5	22															
0.097	1200 x 150 600 x 300	1000 x 200 500 x 400											15	13	27	16	30	27									
					2.8	6	4.2	14	5.8	23																	
0.117	1200 x 200 600 x 400	800 x 200											15	13	23	14	30	19	34	23							
					2.3	4.0	3.5	8.8	4.8	16	5.9	25															
0.154	1000 x 300	800 x 400													18	12	25	16	29	20	30	33					
					2.7	5.0	3.7	10	4.5	15	5.5	22															
0.205	1200 x 300	1000 x 400	Lw	Lt																							
			Vk	Pa																							

The values Lw (NR) do not take the attenuation in the premises into account.

Speed = 0.25 m/s.

### Corrections for other terminal velocities

Vt (m/s)		0.25	0.37	0.5	0.63
Lt	A	x 1	x 0.67	x 0.5	x 0.4
Lt	B	x 0.7	x 0.47	x 0.36	x 0.28











# Project Reference List

Below are few of our prestigious project references.

S. No.	Project	Consultant/Client	Contractor	Location
1	30 Villa compound	W S Atkins	Verger	Abu Dhabi
2	400 KV substation	Lahmeyer	Al Inayah	Abu Dhabi
3	Bu Hasa ICS	Gasco	Emco	Abu Dhabi
4	E14 substation	ADWEA	Dynamic	Abu Dhabi
5	Emirates Centre for Strategic studies	DMW	ALGECO	Abu Dhabi
6	G+1, 96 Villas	Mario	ETTS	Abu Dhabi
7	Indian Embassy	Dustoor	Universal Voltas	Abu Dhabi
8	Marina Mall	Meinhardt	ETA	Abu Dhabi
9	Marina Mall Substation	ADWEA	ACECO	Abu Dhabi
10	Qasr Al Sarab	Halcrow Yolles	ALEC	Abu Dhabi
11	Ruwais Housing Complex	ADNOC	Square General	Abu Dhabi
12	Spinney's Shopping Complex	Archon	Elemec	Abu Dhabi
13	Taweelah 400 KV substation	Lahmeyer	ACECO	Abu Dhabi
14	Al Ain Zoo	Shankland Cox	Al hamad	Al Ain
15	Al Jeemi Mall Extension	GHD	ACECO	Al Ain
16	Al Mas Tower	W. S. Atkins	ETA	Dubai
17	Children's Museum	GEMAC	A & P partners	Dubai
18	City Bank	Kennedy & Donkin	Sensaire	Dubai
19	DIFC - District Cooling North Plant Cons.	Ellerbe Becket/Tebodin	Voltas Limited	Dubai
20	Dubai Arch Tower	Art Consultants	Al Ahmadiyah Aktor	Dubai
21	Dubai Mall	Meinhardt	Juma Al Majid	Dubai
22	Duboitech	Kling	Macair	Dubai
23	DWTC	RMJM	Transgulf	Dubai
24	Emirates Flight Catering Facility	Ian Banham	Transgulf	Dubai
25	Garden Tower	Shadeed Engg	GECO	Dubai
26	Kendah House	W S Atkins	ETA	Dubai
27	Mall of the Emirates	WSP watson	Khansaheb	Dubai
28	Marina Scape	Archgroup	Trinity	Dubai
29	Muraqqabad Police Station	Arenco	Bilt	Dubai
30	New Laboratories Bldg. & New ITD Bldg.	Arc International D.M.	Al Arrab	Dubai
31	PVG & HVG Warehouse	Arif & Bintook	Al Naboodah	Dubai
32	Twin Tower at Marina	Adnan Saffarini	Transgulf	Dubai
33	Zen Gardens	ECG	JSCOM	Dubai
34	Dubai Airport	Dar al Handasah	Al Tamanir	Dubai
35	Aryar Tower	Erga	Al Bonian	Dubai
36	Majestic Tower	CAB	Universal Voltas	Dubai
37	Al Naeem Mall	Dynamic Engg	Strabag	Ras Al Khaimah
38	Hilton Hotel	W. S. Atkins	EMI	Ras Al Khaimah
39	Palm Tower & Beach Tower	Consultair	ETA	Sharjah
40	Petrofac Tower	Consultair	ETA	Sharjah
41	Police Head Quarter	Sharjah Police	Fawaz	Sharjah
42	Research Laboratory	Cansult	GECO	Sharjah
43	Centro Hotel, Sharjah	G.H.D	Al Bonian	Sharjah
44	Umm al Quwain Hospital	HDP	B Power	Umm Al Quwain
45	QLNG Headquarters	Atkins	Al Ansari	Oman
46	Al Nakheel Tower	Diwan Al Emara	Almoayyed	Qatar
47	Al Udeid project	Qatar Armed Forces	Almoayed	Qatar
48	Al Wosail Tower	KEO	Man Enterprises	Qatar
49	Diwan Ameri Building	Shaker Consultancy	Voltas Limited	Qatar
50	Oil Platform for Maersk Oil	Maersk Oil Qatar S.A./ GPMC	Specialist Services	Qatar
51	Qatar Petroleum Fire Station	Q.P.	Arabian A/c	Qatar
52	Texas A & M College	KEO	Midmac Cont.	Qatar
53	The Gate Development	Maunsell Consultancy	Man Enterprises	Qatar
54	Businesspark & hotel facilities	AEB	QEMG	Qatar
55	GTL Project	QP	Kentech	Qatar
56	SER Building @ NDIA	QP	Bluestar	Qatar
57	Woqod Tower	Romatre	Diplomat	Qatar



# Miscellaneous engineering datas

## METRIC SYMBOLS AND NAMES

A – ampere	m – meter
°C – degree Celsius	min – minute
g – gram	Pa – pascal
h – hour	s – second
Hz – hertz = cycle/second	V – volt = W/A
J – joule	W – watt = J/s
L – liter = 1000 cm <sup>3</sup>	Ω – ohm = V/A

## INCH/ DECIMAL/ MILLIMETER CONVERSION

Fractional Inches	Decimal inches	Millimeters
1/16	0.0625	1.588
1/8	0.1250	3.175
3/16	0.1875	4.763
1/4	0.2500	6.350
5/16	0.3125	7.938
3/8	0.3750	9.525
7/16	0.4375	11.113
1/2	0.5000	12.700
9/16	0.5625	14.288
5/8	0.6250	15.875
11/16	0.6875	17.463
3/4	0.7500	19.050
13/16	0.8125	20.638
7/8	0.8750	22.225
15/16	0.9375	23.813
1	1.00	25.400

## FORMULAS

### AIR VELOCITY AS A FUNCTION OF THE DYNAMIC PRESSURE Pd

$$V \text{ (m/s)} = \sqrt{\frac{2 P_d \text{ (Pa)}}{\rho \text{ (kg/m}^3\text{)}}$$

### AIR DENSITY AS A FUNCTION OF TEMPERATURE AND PRESSURE

$$\rho \text{ (kg/m}^3\text{)} = \frac{P_t \text{ (Pa)}}{287 \times T \text{ (}^\circ\text{C)}} = 1,2 \text{ at } 20^\circ\text{C and } 101325 \text{ Pa}$$

### AIRFLOW AS A FUNCTION OF VELOCITY AND OPENING SECTION

$$Q \text{ (m}^3\text{/h)} = V \text{ (m/s)} \times S \text{ (m}^2\text{)}$$

### AIRFLOW THROUGH A HOLE

$$Q \text{ (m}^3\text{/s)} = x \cdot S_h \text{ (m}^2\text{)} \cdot \sqrt{\frac{2 \Delta P \text{ (Pa)}}{\rho \text{ (kg/m}^3\text{)}}$$

(S<sub>h</sub> = hole surface - x = contraction factor (0,6 - 0,7))

### AIR LEAKAGE THROUGH A SLOT

$$Q \text{ (m}^3\text{/h)} = \frac{1}{\sqrt{10}} S_A \text{ (cm}^2\text{)} \sqrt{\Delta P \text{ (Pa)}} \quad (S_A = \text{slot surface})$$

### STACK EFFECT

$$\Delta P \text{ (Pa)} = 0,00467 (\theta_{in} - \theta_{out}) \times g \times \Delta H$$

θ<sub>in</sub> = indoor temperature - θ<sub>out</sub> = outdoor temperature - g = 9,81 = gravity constant

ΔH = height difference between air inlet and air outlet.

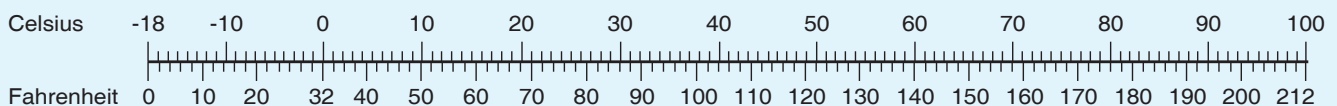
## COMMON EXPRESSIONS

1.00/sq. ft. = 10.76/m <sup>2</sup>	1 cfm/sq. ft. = 5.080 L/s m <sup>2</sup>
m <sup>3</sup> /h = 1.6981 cfm	W = 1.21 L/s Δt °C (air)

## USEFUL CONVERSION FACTORS

Multiply	By	To get	Multiply	By	To get
mm	0.0393	in.	in.	25.4	mm
m	3.2807	ft.	ft.	0.3048	m
m <sup>2</sup>	10.76	ft. <sup>2</sup>	ft. <sup>2</sup>	0.0929	m <sup>2</sup>
m <sup>3</sup>	35.31	ft. <sup>3</sup>	ft. <sup>3</sup>	0.0283	m <sup>3</sup>
m <sup>3</sup> /s	1000	l/s	l/s	0.001	m <sup>3</sup> /s
m <sup>3</sup> /s	2119.5	cfm	cfm	0.00047	m <sup>3</sup> /s
m <sup>3</sup> /h	0.5886	cfm	cfm	1.6986	m <sup>3</sup> /h
m <sup>3</sup> /s	15873	gpm US	gpm US	0.0001	m <sup>3</sup> /s
m <sup>3</sup> /h	4.403	gpm US	gpm US	0.2268	m <sup>3</sup> /h
l/s	15.85	gpm US	gpm US	0.063	l/s
m/s	196.8	fpm	fpm	0.0051	m/s
m/s	3.28	fps	fps	0.3048	m/s
kg	2.2046	lbs.	lbs.	0.4536	kg
kg	15456	grain	grain	0.00006	kg
N	0.1020	kg (kp)	kg (kp)	9.8066	N
N	0.2248	lb. f	lb. f	4.4482	N
Pa	1.0	N/m <sup>2</sup>	N/m <sup>2</sup>	1.0	Pa
Pa	0.000145	psi	psi	6896	Pa
Pa	0.00029	in. Hg	in. Hg	3386	Pa
Pa	0.0040	in. WG	in. WG	249	Pa
Pa	0.0003	ft. WG	ft. WG	2989	Pa
Pa	0.00001	bar	bar	100000	Pa
Pa	0.1020	mmWG	mmWG	9.8066	Pa
Pa	0.0010	mWG	mWG	980.66	Pa
Pa	0.00001	at	at	98066	Pa
Pa	0.00001	kg/cm <sup>2</sup>	kg/cm <sup>2</sup>	98066	Pa
kg/cm <sup>2</sup>	14.233	psi	psi	0.0703	kg/cm <sup>2</sup>
Pa	0.0075	Tr	Tr	133.3	Pa
kcal/h	3.968	Btu/h	Btu/h	0.2519	kcal/h
kcal/h	0.0003	Ref. ton	Ref. ton	3022.8	kcal/h
W	1.0	J/s	J/s	1.0	W
W	0.8598	kcal/h	kcal/h	1.163	W
W	3.412	Btu/h	Btu/h	0.2931	W
kW	0.284	Ref. ton	Ref. ton	3.517	kW
kW	1.359	HP metric	HP metric	0.7354	kW
kW	1.341	HP UK	HP UK	0.7457	kW
cal	4.1858	J	J	0.2389	cal
Btu	1055	J	J	0.0009	Btu
kWh	3.6	MJ	MJ	0.2778	kWh
kg	9.8067	J	J	0.1020	kg
ft. lb.	1.3558	J	J	0.7376	ft. lb.
kcal/kg	4.1868	kJ/kg	kJ/kg	0.2388	kcal/kg
Btu/lb.	2.326	kJ/kg	kJ/kg	0.4299	Btu/lb.
lb./lb.	1.0	kg/kg	kg/kg	1.0	lb./lb.
grain/lb.	0.143	g/kg	g/kg	6.993	grain/lb.
m <sup>3</sup> /kg	16.018	ft. <sup>3</sup> /lb	ft. <sup>3</sup> /lb	0.0624	m <sup>3</sup> /kg
m <sup>2</sup> °C	5.0	ft. <sup>2</sup> °F h	ft. <sup>2</sup> °F h	0.2	m <sup>2</sup> °C
kcal		Btu	Btu		kcal

\* Commonly used prefixes





# General Terms of Sale and Conditions 01/2010

Unless otherwise stipulated, as specified in a specific agreement between the parties, all orders placed are subject, without exception, to our G.T.S. whatever the customer's general terms of purchase, the customer hereby declaring and acknowledging that he is aware of the G.T.S. and expressly accepts them.

**1. GENERAL POINTS** The information given by ALDES in any catalogues, brochures, price lists and drawings are for information only, ALDES reserving the right, at any time and without prior notice, to make modifications thereto, except when a technical file supporting a sales contract is drawn up in reference to the equipment. ALDES is only bound by any undertakings made by its employees if it has issued written confirmation thereof. No order shall be deemed accepted unless it is expressly accepted by a document bearing a registration number and acknowledging receipt of said order.

**2. TECHNICAL SURVEYS AND PROJECTS** ALDES' liability is limited to the characteristics of the products. The Customer remains liable for the choice of the product and its start-up according to the properties of the installation. Any theoretical or computational drawings giving dimensions, drawn up by ALDES, or which result from computer-assisted calculation software made available for the purpose of surveys and price offers, cannot be considered as a technical survey of the actual installation. Indeed any such survey remains the task and responsibility of the project manager or, if appropriate, the specialised company.

**3. PRICE** The products are supplied at the rates given in the unit price scale detailed in our Price Catalogue herewith and, if appropriate, the sales offer addressed to the Customer. The unit price scale in our Price Catalogue herewith is not applicable in the following cases:

- specific product packaging;
- a specific order requiring one or more product changes and/or mountings;
- an order requiring technical survey costs;
- special terms or specific delivery deadlines.

Unit prices may also vary according to the frequency of delivery. In these cases, the Customer must ask ALDES to provide a specific estimate beforehand. Prices are quoted in Euros excluding VAT, net of any discount. Price quotations do not constitute a firm offer as our prices may be modified without prior notice. Confirmed prices are those in force at the time of the order. The prices invoiced are those in force at the time of delivery. Unless otherwise stipulated, offers only remain valid (content and price) for a period of one month.

For all orders for an amount of less than 250 USD, 25 USD excl. VAT shall be invoiced for general expenses.

Notwithstanding the stipulations given herein, our prices shall be revised to take into account any new taxes, duties or costs generated by a change in the legislation relative to the conformance of our products, the prevention and management of waste concerning electrical and electronic equipment and their elimination, processing and recovery without this list being exhaustive. Our prices shall be revised if the price of raw materials rises.

**4. SALES RETURNS AND ALLOWANCES** The Customer may benefit from the sales returns and allowances listed in the price scale in our Price Catalogue herewith according to the quantities ordered, promotional discounts and collection terms.

**5. DEADLINES** Delivery deadlines are approximate and given for information only. They are quoted "delivered" except for export orders, for which the delivery time given for information only on our acknowledgements of orders corresponds to the date the goods are made available at our loading bays. Any extension of the delivery time shall not lead to the cancellation of the order, nor a request to revise the prices nor any indemnity, unless otherwise agreed. We are rightfully released from any undertaking relating to the delivery times if the terms of payment are not respected by the purchaser or in the case of circumstances beyond our control, or in the case of force majeure or events such as lock-outs, strikes, epidemics, war, requisition, fire, flooding, tooling accidents, significant rejects during manufacturing, interruption or delays in terms of transport or any other cause leading to the total or partial lay off of our workforce or our suppliers. We shall keep the purchaser informed of this type of case or event.

**6. DELIVERIES** Delivery automatically engenders invoicing. Unless otherwise stipulated, delivery is deemed to be at our factories or warehouses. Prices are quoted excl. VAT at our factories or warehouses.

Delivery is carried out either by handing the goods directly to the customer, or by simple notification that they are available, or else by delivery at our factories or warehouses to a carrier or forwarding agent appointed by the customer or, failing this appointment, chosen by us. The principle of delivery at our factories or warehouses is not subject to change due to contrary indications such as: free on rail, free at wharf, free customer's premises or by the partial or total reimbursement of transport costs. Should the dispatching be delayed for any reason whatsoever beyond the seller's control and if the seller agrees thereto, the equipment shall be stored and handled at the cost and risks of the purchaser, the seller declining all subsequent liability in this respect. These provisions do not in any way modify the obligations governing the payment of the supplies and do not constitute a substitution in any way. Delivery times run from the latest of the following dates: the date of acknowledgement of receipt of the order, the dates on which the information reached us, or the down payment or supplies that the purchaser undertook to give to us. Once sold and delivered, the equipment shall not be taken back excepting a written agreement given by our head office in which the terms thereof are specified in accordance with the provisions of § 13 herein.

We are not liable for any rust, dampness or any damage whatsoever occurring to the goods after their dispatching or their being made available to the purchaser. In the case of damage of any nature whatsoever occurring during transport, it is up to the consignee to exert any recourse against the carrier or the insurer by the usual means and within the usual deadlines.

**7. PACKAGING** The customer always pays for the packaging, which is not taken back by us unless otherwise stipulated. In the absence of specifications, the packaging is prepared by us in the best interests of the customer.

**8. PROCESSING OF ELECTRICAL AND ELECTRONIC EQUIPMENT WASTE** accordance with Decree n°2005-829 of 20th July 2005, ALDES contributes to the selective collection of waste according to the provisions of article 8 III. We are registered as producers of electrical and electronic equipment in the National Register of Producers. Our products carry markings specifying our identity and an inspection label showing the date on which the equipment was put on the market.

- "Household" category products as defined in Decree n°2005-829 of 20th July 2005. ALDES has delegated an eco-organisation with the responsibility of removing and processing waste coming under the "household" category. Under article 13 of the Decree, these articles are subject to a waste elimination cost (Environmental Duty). This cost is mentioned on our invoices. It is up to the distributor or fitter to pass this cost on to the end customer, without modifying the sum.

- Other products defined by Decree n°2005-829 of 20th July 2005. For other electrical and electronic products not subject to this unit cost, in accordance with article 18 of Decree n°2005-829 of 20th July 2005, the customer shall assume the financing and organisation of the elimination of waste resulting from this equipment under the conditions provided for in articles 21 and 22 of this decree. The customer must be able to provide us with documents proving that the obligations thus defined have been fulfilled. Otherwise, ALDES reserves the right to claim compensation for any subsequent prejudice that may be incurred. This information is available for consultation on our website: [www.aldes.fr](http://www.aldes.fr)

**9. TERMS OF PAYMENT** In accordance with Act n° 2001-420 of 15th May 2001 and the European Directive 2000/35 EC of 29th June 2000:

- Payments occur, unless otherwise expressly stipulated, on the 30th day following the date the equipment is invoiced, this being defined as the delivery under § 6 herein. Down payments shall be paid immediately.
- Any late payment shall result in the application of interest for late payment at twice the interest rate set by decree for the duration of the calendar year in question.

Any clause or request to obtain or set a payment deadline beyond the 30-day period, which reflects the usual professional conditions in the mechanical industries, made without any objective reason justified by the customer may be considered as improper under article L.442-6-7° of the Commercial Code as results from the Act of 15th May 2001 mentioned hereabove. Payments are to be made to our head office and, excepting an agreement to the contrary, are payable net and without discount. Failing an agreement between the parties, repair work,

maintenance and additional supplies or supplies delivered during the assembly process are invoiced monthly and payable immediately net and without discount.

The invoice mentions the date on which payment should occur. Payments are made to our offices. Agreed payment dates may not be postponed for any reason whatsoever, including in the case of a dispute. In the case of the purchaser selling, transferring or pledging the business or equipment as collateral or capital investment, and also in the case where one of the payments or acceptance of drafts is not carried out on the due date, the sums owing shall be payable immediately whatever terms were previously agreed upon.

Penal clause: in accordance with article 1226 of the Civil Code, in the case of debtor insolvency, the sums due collected by legal means shall be incremented, in addition to interest for late payment, by an indemnity set at 15 % of the amount. In the case of non-payment on the due date, ALDES may suspend the consignment of other goods ordered by the same customer without incurring the payment of any damages.

Any significant change in the financial or economic situation of the purchaser, even after the partial performance of orders, may lead to the terms of payment relative to said orders being reviewed. As ALDES is neither a contractor nor a work contractor, the company is not subject to the provisions of Article 1799-1 of the Civil Code. ALDES does not therefore accept any deduction for guarantee on the amount of the products invoiced, whether it is secured or not.

**10. TRANSFER OF OWNERSHIP** We remain the owners of the goods sold until the full price has been paid in terms of the principal sum and ancillary costs.

Failure to pay any one of the instalments may lead to the property being claimed back. From the time of delivery, as defined under paragraph 6 hereabove, the purchaser shall assume the risks of loss and damage to the goods and all liability for damage incurred.

**11. TRANSPORT, CUSTOMS, INSURANCE, ETC.** Operations including transport, insurance, customs, handling and transferring the goods on site are conducted at the expense and risk of the purchaser. It is up to the purchaser to check the consignments at the point of destination and to exert any recourse against the carriers, even if the consignment was carriage-paid. In the case of a consignment conducted by our company, this consignment is conducted carriage due, at the lowest price, unless otherwise expressly requested by the purchaser and, in all cases, is performed under the full liability of the purchaser.

**12. INSPECTION AND TESTING** For all goods submitted to inspection or in-factory commissioning, this must be conducted in factory before dispatching. Any purchaser requesting in-factory commissioning must indicate the nature of the tests required. The cost of receiving agents and the cost of inspection certificates are payable by the purchaser. Should the receiving agents not be present on the day agreed to for the testing, the goods shall be considered as accepted upon loading at the factory.

If, after delivery, the characteristics or performance of the equipment is contested and requires measurements performed by ALDES, the purchaser shall bear all the costs committed by ALDES if it is proved that the services undertaken by ALDES were duly respected.

## 13. CLAIMS - CANCELLATIONS OF ORDERS - RETURNED EQUIPMENT

**13.1. Claims** Claims concerning transport must be made as customary with the carrier with a duplicate sent to ALDES. Claims concerning quantity or weight can only be accepted if they are made in writing within two days of the goods arriving at their destination and, of course, before any transformation or installation.

Claims concerning quality can only be accepted if they are made in writing within eight days of the arrival of the goods at their destination. In the case of a claim which we acknowledge is justified, our liability is limited to the replacement of the part acknowledged as being faulty under the terms and within the limits stipulated in § 14 hereunder, without it being possible to claim any indemnity for any reason whatsoever. All the goods that are replaced must be returned to our factory, unless otherwise stipulated. All exchanges or returns must be carried out by our usual carriers. Any departure from this rule shall be payable by the purchaser.

**13.2. Cancellation of orders** The customer is liable for any cancellation of order. The customer may not cancel orders without our express, prior agreement and only on the minimum condition that the customer takes delivery of any equipment already manufactured and pays an indemnity covering our outlay and loss of profit for the equipment in the process of being manufactured. In the case of a change in the purchaser's situation and, in particular, in the case of death, incapacity, winding-up or modification of the company, mortgaging of the real estate, the business being pledged as security etc., ALDES reserves the right, even after the partial performance of an order, to demand guarantees or to cancel the balance of the orders in process in the name of the purchaser in question.

**13.3. Return of equipment** Standard appliances stocked by ALDES can only be returned under exceptional circumstances if they are in their initial state, at 50% of their value and following agreement in writing by ALDES. They shall be returned carriage paid.

**14. GUARANTEES** **14.1. Defects coming under the guarantee** The guarantee is applied to appliances used and maintained in accordance with user standards and our installation recommendations and that have not been subject to any external damage (electrical shocks, inclement weather), modifications made by the customer or abnormal usage.

The guarantee covers the replacement of equipment acknowledged as being faulty by our technical services to the exclusion of any labour and travelling expenses which may be incurred.

The guarantee excludes any incidents due to circumstances beyond our control or cases of force majeure, and all replacements or repairs resulting from the normal wear and tear of the equipment, damage or accidents resulting from negligence, faults due to ineffective supervision or maintenance and all incorrect use of the equipment in question.

**14.2. Duration and start of the guarantee** Our guarantee covers a period of one year from the date of invoice. It is understood that the replacement of one part does not modify the duration of the initial guarantee for the product concerned. ALDES' liability is strictly limited to the obligations defined herein and it is expressly agreed that ALDES shall not be bound to pay any indemnity including for financial or indirect loss such as loss of profit, operating loss, loss of profit margin, claims by third parties etc.

**14.3. Obligations of the purchaser** To be able to benefit from these provisions, the purchaser must inform us without delay and in writing of any defects attributed to the equipment and provide all relevant justifications. The purchaser is bound to facilitate all actions so that a statement of these defects can be made and a solution found. He must abstain from carrying out repairs himself or having them carried out by a third party, excepting express agreement from us.

**14.4. Means of exercising the guarantee** Once informed thereof, it is up to our company to repair the defect at our cost and in good time. We reserve the right to modify the devices on the equipment if necessary, so as to be able to fulfil these obligations. Work resulting from the guarantee clause are in principle conducted in our workshops once the purchaser has sent the equipment or the faulty parts back for the purpose of repairs or replacement. However, in view of the nature of the equipment, should the equipment be repaired on the site of installation, we shall bear the labour costs corresponding to these repairs, excluding the time spent for preliminary work or any dismantling and remounting operations made necessary by the conditions of use or installation of the equipment and with regard to any items that are not included in the supplies in question.

The cost of transporting the equipment or the faulty parts and the return of the equipment or parts once they have been repaired or replaced is payable by the purchaser, as are the travelling and accommodation expenses of our agents in the case of repairs conducted on the site of installation.

Any parts replaced free of charge become our property and remain at our disposal. **14.5. Damages** Our liability is strictly limited to the obligations defined herein and cannot access the cost of the products or services invoiced and it is expressly agreed that we are not bound to pay any indemnity, including financial or indirect loss such as loss of profit, loss of use or income, claims by third parties etc.

**15. DISPUTES** If a friendly settlement is not reached, it is expressly agreed that any dispute relating to the contract shall come under the exclusive jurisdiction of the court of our domicile, even in the case of an impleader or in the case of more than one defendant.

**16. SPECIAL CONVENTIONS** Any special convention, and any departure from any one of these terms and conditions must be the subject of a special, written agreement. All the general terms not expressly modified or waived in this special agreement shall remain fully effective.

[www.aldes.ae](http://www.aldes.ae)

ALDES | Saif Zone | P.O. Box : 8653 | Sharjah - U.A.E.  
Tel : +971 6 557 8285 | Fax : +971 6 557 8405  
[contactus@aldesme.com](mailto:contactus@aldesme.com)



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