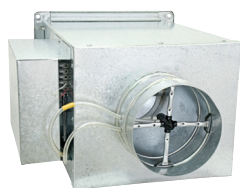


Pressure Independent VAV Boxes

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.

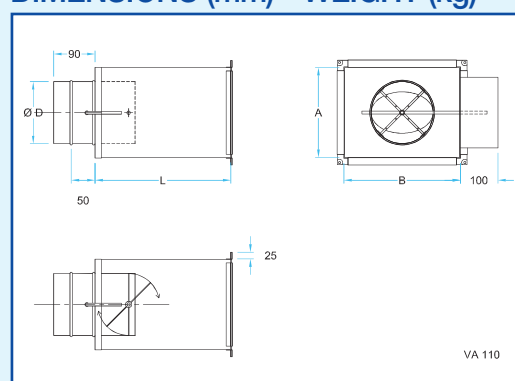
CONSTRUCTION

- 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.

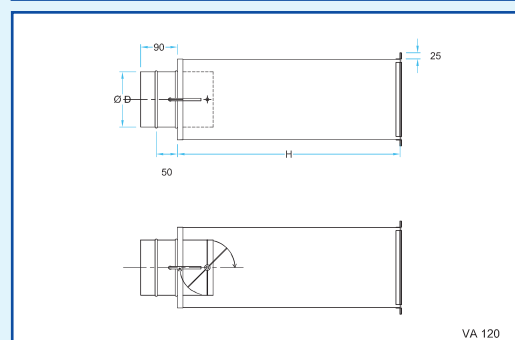
RANGE

Description	Code
Pressure independent VAV: VA 110	
VA 110 - 12	
VA 110 - 14	
VA 110 - 16	
VA 110 - 20	
VA 110 - 25	
VA 110 - 31	
VA 110 - 40	
Pressure independent VAV: VA 120	
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 110



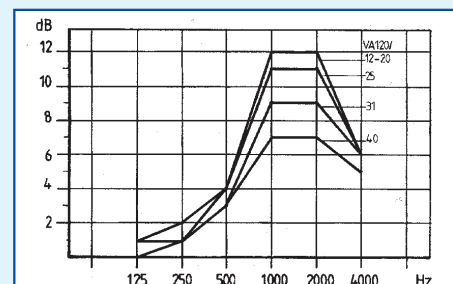
VA 120

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 (m³) 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 m³/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).



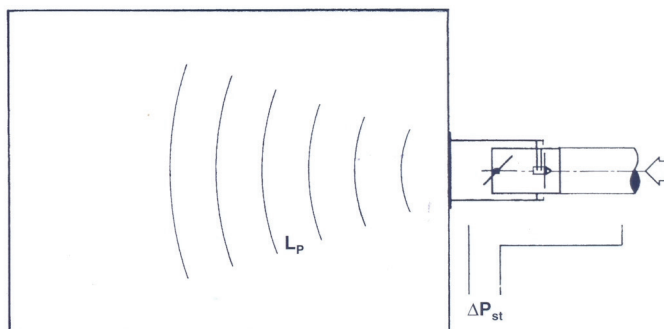
Pressure Independent VAV Boxes

Application / performance data

DISCHARGE SOUND POWER LEVEL - VA 110

VA	L/s	Q m³/h	Min Pa	125 Pa ΔP_{st}						250 Pa ΔP_{st}						500 Pa ΔP_{st}						1000 Pa ΔP_{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

- ΔP_{st} is the difference in static pressure from inlet to discharge
- (-) $\Delta P_s < 5$ Pa
- Minimum ΔP_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 ΔP_{st}						250 Pa ΔP_{st}						500 Pa ΔP_{st}						1000 Pa ΔP_{st}					
	L/s	m³/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

- ΔP_{st} is the difference in static pressure from inlet to discharge
- (-) $\Delta P_s < 5$ Pa
- Minimum ΔP_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.

