



Variable Air Volume Control

BM-VAV-02

Variable air volume control

BM-VAV-02

Round VAV box (Variable Air Volume) in galvanised sheet steel, equipped with electronic Belimo or Siemens controller and a built-in aluminium pressure differential sensor.



- For low, medium and high pressure installations.
- Suitable for both supply and extract systems.

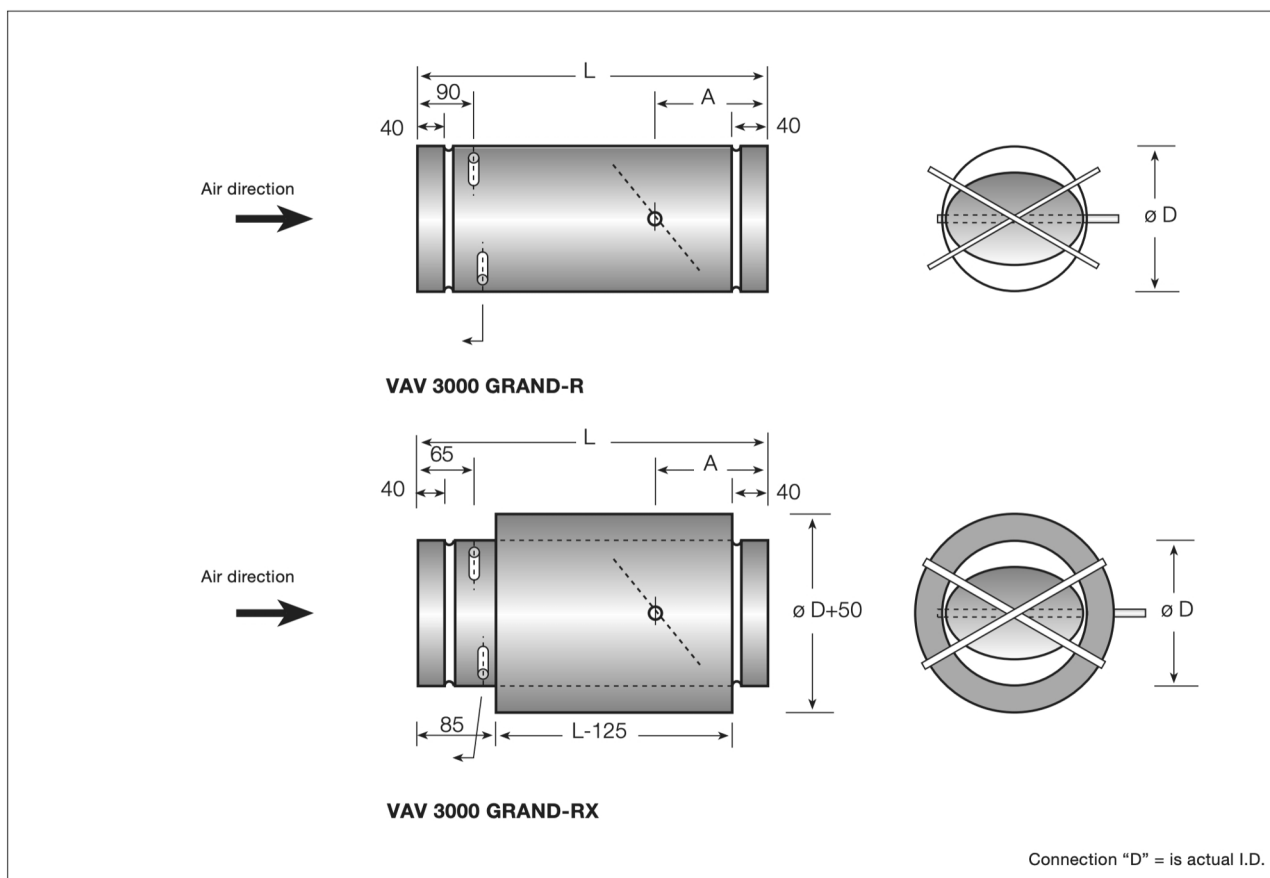
Design:

Housing of galvanized sheet steel. Single or double walled lined design as desired. Round connection according to Din 24145 and Eurovent diameters.

The units can be mounted in any position but it must be in accordance with the control manufacturers recommendations.

- Volume range: 0,031 m³/s - 1.508 m³/s (nominal) 111 m³/h - 5429 m³/h.
- Mounting of electronic or pneumatic (by others) control equipment is possible.
- Inlet pressure dependent or independent.
- Low pressure drop.
- Mechanically stable housing.
- Control valve can be fully closed (blade option O).
- It is possible to build in a diagonal integrated air volume measurement instrument.
- High control accuracy.

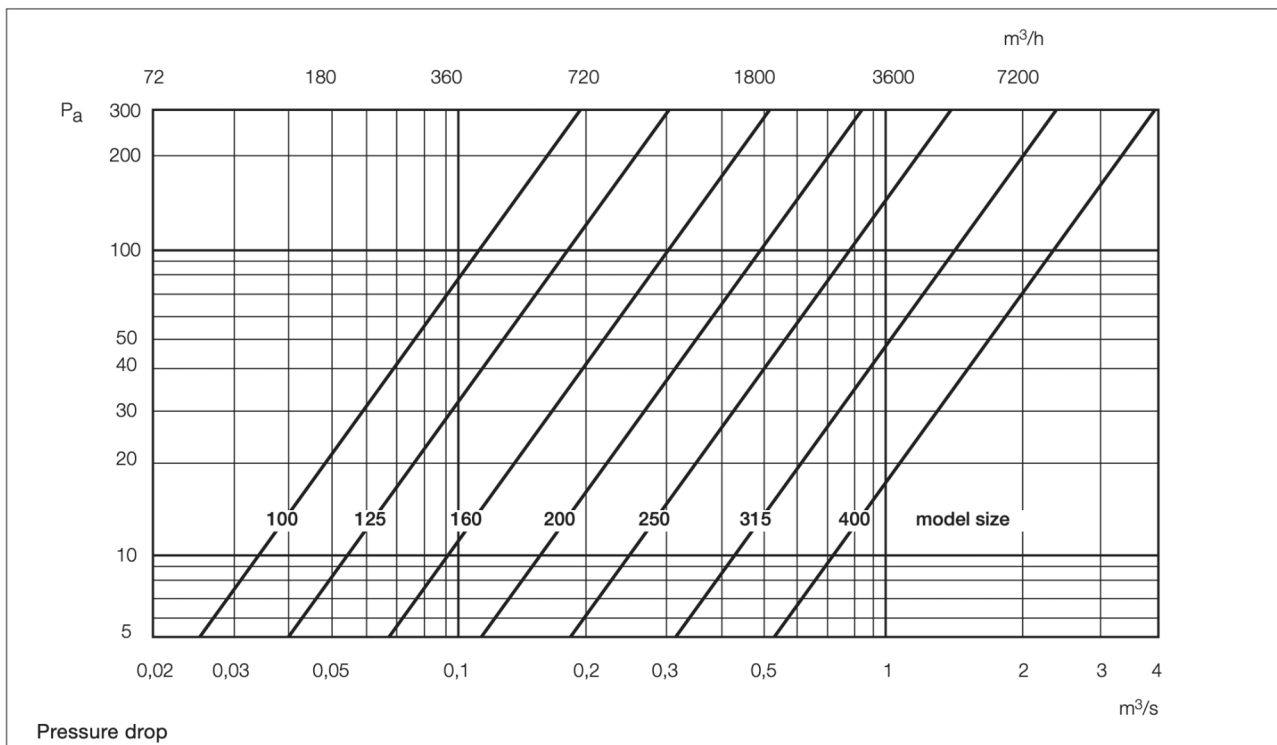
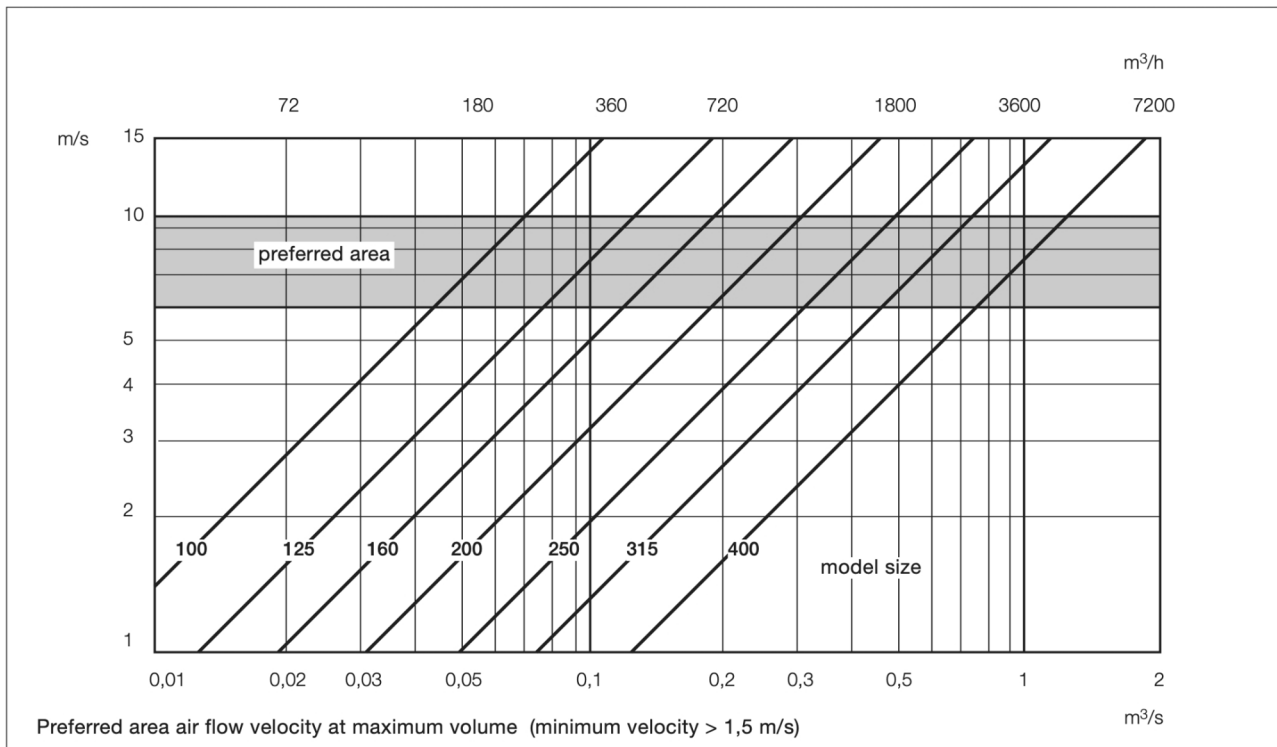
Dimensions



Dimensional data

model	round D	A	L
100	100	90	500
125	125	95	500
160	160	105	500
200	200	120	500
250	250	130	500
315	315	150	650
400	400	175	650

Performance data



Discharge sound

model 100																		
Q		V	P	L _w in dB/octave						L _p	P	L _w in dB/octave						L _p
m³/s	m³/h	m/s	P _a	125	250	500	1K	2K	4K	dB(A)	P _a	125	250	500	1K	2K	4K	dB(A)
0.031	111	4	100	38	40	39	38	37	34	14	200	44	46	45	44	43	40	20
0.047	170	6	100	43	45	44	4	42	39	18	200	48	50	49	48	47	44	24
0.063	227	8	100	46	48	47	46	45	42	22	200	51	53	52	51	50	47	27
0.079	284	10	100	49	51	50	49	48	45	25	200	54	56	55	54	53	50	29
0.094	338	12	100	-	-	-	-	-	-	-	200	56	58	57	56	55	52	32
0.031	111	4	400	51	53	52	51	50	47	27	800	57	59	58	57	56	53	33
0.047	170	6	400	54	56	55	54	53	50	30	800	60	62	61	60	59	56	36
0.063	227	8	400	56	58	57	56	55	52	32	800	62	64	63	62	61	58	38
0.079	284	10	400	59	61	60	59	58	55	34	800	64	66	65	64	63	60	40
0.094	338	12	400	61	63	62	61	60	57	36	800	66	68	67	66	65	62	42

model 125																		
Q		V	P	L _w in dB/octave						L _p	P	L _w in dB/octave						L _p
m³/s	m³/h	m/s	P _a	125	250	500	1K	2K	4K	dB(A)	P _a	125	250	500	1K	2K	4K	dB(A)
0.049	176	4	100	41	42	41	38	37	34	16	200	47	48	47	44	43	40	22
0.074	266	6	100	46	47	46	43	42	39	20	200	51	52	51	48	47	44	26
0.098	353	8	100	49	50	49	46	45	42	24	200	54	55	54	51	50	47	29
0.123	443	10	100	52	53	52	49	48	45	27	200	57	58	57	54	53	50	31
0.147	529	12	100	-	-	-	-	-	-	-	200	59	60	59	56	55	52	34
0.049	176	4	400	54	55	54	51	50	47	29	800	60	61	60	57	56	53	35
0.074	266	6	400	57	58	57	54	53	50	32	800	63	64	63	60	59	56	38
0.098	353	8	400	59	60	59	56	55	52	34	800	65	66	65	62	61	58	40
0.123	443	10	400	62	63	62	59	58	55	37	800	67	68	67	64	63	60	42
0.147	529	12	400	64	65	64	61	60	57	39	800	69	70	69	66	65	62	44

model 160																		
Q		V	P	L _w in dB/octave						L _p	P	L _w in dB/octave						L _p
m ³ /s	m ³ /h	m/s	P _a	125	250	500	1K	2K	4K	dB(A)	P _a	125	250	500	1K	2K	4K	dB(A)
0.080	288	4	100	45	46	43	40	37	34	20	200	51	52	49	46	43	40	26
0.121	436	6	100	50	51	48	45	42	39	24	200	55	56	53	50	47	44	29
0.161	580	8	100	53	54	51	48	45	42	27	200	58	59	56	53	50	47	32
0.201	724	10	100	56	57	54	51	48	45	30	200	61	62	59	56	53	50	35
0.241	868	12	100	59	60	57	54	51	48	33	200	63	64	61	58	55	52	37
0.080	288	4	400	58	59	56	53	50	47	32	800	64	65	62	59	56	53	39
0.121	436	6	400	61	62	59	56	53	50	35	800	67	68	65	62	59	56	42
0.161	580	8	400	63	64	61	58	55	52	38	800	69	70	67	64	61	58	44
0.201	724	10	400	66	67	64	61	58	55	40	800	71	72	69	66	63	60	46
0.241	868	12	400	68	69	66	63	60	57	42	800	73	74	71	68	65	62	48

model 200																		
Q		V	P	L _w in dB/octave						L _p	P	L _w in dB/octave						L _p
m³/s	m³/h	m/s	P _a	125	250	500	1K	2K	4K	dB(A)	P _a	125	250	500	1K	2K	4K	dB(A)
0.126	454	4	100	46	46	43	40	37	34	20	200	52	52	49	46	43	40	26
0.188	677	6	100	51	51	48	45	42	39	24	200	56	56	53	50	47	44	30
0.251	904	8	100	54	54	51	48	45	42	28	200	59	59	56	53	50	47	33
0.314	1130	10	100	57	57	54	51	48	45	31	200	62	62	59	56	53	50	35
0.377	1357	12	100	60	60	57	54	51	48	33	200	64	64	61	58	55	52	38
0.126	454	4	400	59	59	56	53	50	47	32	800	65	65	62	59	56	53	39
0.188	677	6	400	62	62	59	56	53	50	36	800	68	68	65	62	59	56	42
0.251	904	8	400	64	64	61	58	55	52	38	800	70	70	67	64	61	58	44
0.314	1130	10	400	67	67	64	61	58	55	40	800	72	72	69	66	63	58	46
0.377	1357	12	400	69	69	66	63	60	57	42	800	74	75	71	68	65	62	48

model 250																		
Q		V	P	L _w in dB/octave						L _p	P	L _w in dB/octave						L _p
m³/s	m³/h	m/s	P _a	125	250	500	1K	2K	4K	dB(A)	P _a	125	250	500	1K	2K	4K	dB(A)
0.196	706	4	100	47	48	44	40	37	34	22	200	53	54	50	46	43	40	28
0.296	1062	6	100	52	53	49	45	42	39	26	200	57	58	54	50	47	44	31
0.393	1415	8	100	55	56	52	48	45	42	29	200	60	61	57	53	50	47	34
0.491	1768	10	100	58	59	55	51	48	45	32	200	63	64	60	56	53	50	37
0.589	2120	12	100	61	62	58	54	51	48	35	200	65	66	62	58	55	52	39
0.196	706	4	400	60	61	57	53	50	47	34	800	66	67	63	59	56	53	41
0.296	1062	6	400	63	64	60	56	53	50	37	800	69	70	66	62	59	56	43
0.393	1415	8	400	65	66	62	58	55	52	40	800	71	72	68	64	61	58	46
0.491	1768	10	400	68	69	65	61	58	55	42	800	73	74	70	66	63	60	48
0.589	2120	12	400	70	71	67	63	60	57	44	800	75	76	72	68	65	62	49

Discharge sound

model 315																		
Q		V	P	L _w in dB/octave						L _p	P	L _w in dB/octave						L _p
m ³ /s	m ³ /h	m/s	P _a	125	250	500	1K	2K	4K	dB(A)	P _a	125	250	500	1K	2K	4K	dB(A)
0.312	1123	4	100	48	49	44	37	34	34	23	200	54	55	50	46	43	40	29
0.468	1685	6	100	53	54	49	45	42	39	27	200	58	59	54	50	47	44	32
0.623	2243	8	100	56	57	52	48	45	42	30	200	61	62	57	53	50	47	35
0.779	2804	10	100	59	60	55	51	48	45	33	200	64	65	60	56	53	50	38
0.935	3366	12	100	62	63	58	54	51	48	36	200	66	67	62	58	55	52	40
0.312	1123	4	400	61	62	57	53	50	47	35	800	67	68	63	59	56	53	42
0.468	1685	6	400	64	65	60	56	53	50	38	800	70	71	66	62	59	56	44
0.623	2243	8	400	66	67	62	58	55	52	41	800	72	73	68	64	61	58	47
0.779	2804	10	400	69	70	65	61	58	55	43	800	74	75	70	66	63	60	49
0.935	3366	12	400	71	72	67	63	60	57	45	800	76	77	72	68	65	62	50

model 400																		
Q		V	P	L _w in dB/octave						L _p	P	L _w in dB/octave						L _p
m ³ /s	m ³ /h	m/s	P _a	125	250	500	1K	2K	4K	dB(A)	P _a	125	250	500	1K	2K	4K	dB(A)
0.503	1810	4	100	51	50	45	40	37	34	24	200	57	56	51	46	43	40	30
0.754	2714	6	100	56	55	51	45	42	39	28	200	61	60	55	50	47	44	34
1.005	3618	8	100	59	58	53	48	45	42	32	200	64	63	58	53	50	47	37
1.257	4525	10	100	62	61	56	51	48	45	35	200	67	66	61	56	53	50	39
1.508	5429	12	100	65	64	59	54	51	48	37	200	69	68	63	58	55	52	42
0.503	1810	4	400	64	63	58	53	50	47	37	800	70	69	64	59	56	53	43
0.754	2714	6	400	67	66	61	56	53	50	40	800	73	72	67	62	59	56	46
1.005	3618	8	400	69	68	63	58	55	52	42	800	75	74	69	64	61	58	48
1.257	4525	10	400	72	71	66	61	58	55	45	800	77	76	71	66	63	60	50
1.508	5429	12	400	74	73	68	63	60	57	47	800	79	78	73	68	65	62	52

Radiated sound

model 100																		
Q		V	P	L _w in dB/octave						L _p	P	L _w in dB/octave						L _p
m ³ /s	m ³ /h	m/s	P _a	125	250	500	1K	2K	4K	dB(A)	P _a	125	250	500	1K	2K	4K	dB(A)
0.031	111	4	100	24	22	23	24	26	26	8	200	30	28	29	30	32	32	14
0.047	170	6	100	29	27	28	29	31	31	12	200	34	32	33	34	36	36	18
0.063	227	8	100	32	30	31	32	34	34	16	200	37	35	36	37	39	39	21
0.079	284	10	100	35	33	34	35	37	37	19	200	40	38	39	40	42	42	23
0.094	338	12	100	-	-	-	-	-	-	-	200	42	40	41	42	44	44	26
0.031	111	4	400	37	35	36	37	39	39	21	800	43	41	42	43	45	45	27
0.047	170	6	400	40	38	39	40	42	42	24	800	46	44	45	46	48	48	30
0.063	227	8	400	42	40	41	42	44	44	26	800	48	46	47	48	50	50	32
0.079	284	10	400	45	43	44	45	47	47	28	800	50	48	49	50	52	52	34
0.094	338	12	400	47	45	46	47	49	49	30	800	52	50	51	52	54	54	36

model 125																		
Q		V	P	L _w in dB/octave						L _p	P	L _w in dB/octave						L _p
m ³ /s	m ³ /h	m/s	P _a	125	250	500	1K	2K	4K	dB(A)	P _a	125	250	500	1K	2K	4K	dB(A)
0.049	176	4	100	31	29	27	23	24	21	10	200	37	35	33	29	30	27	16
0.074	266	6	100	36	34	32	28	29	26	15	200	41	39	37	33	34	31	20
0.098	353	8	100	39	37	35	31	32	29	18	200	44	42	40	36	37	34	23
0.123	443	10	100	42	40	38	34	35	32	21	200	47	45	43	39	40	37	25
0.147	529	12	100	-	-	-	-	-	-	-	200	49	47	45	41	42	39	28
0.049	176	4	400	44	42	40	36	37	34	23	800	50	48	46	42	43	40	29
0.074	266	6	400	47	45	43	39	40	37	26	800	53	51	49	45	46	43	32
0.098	353	8	400	49	47	45	41	42	39	28	800	55	53	51	47	48	45	34
0.123	443	10	400	52	50	48	44	45	42	31	800	57	55	53	49	50	47	36
0.147	529	12	400	54	52	50	46	47	44	33	800	59	57	55	51	52	49	38

model 160																		
Q		V	P	L _w in dB/octave						L _p	P	L _w in dB/octave						L _p
m ³ /s	m ³ /h	m/s	P _a	125	250	500	1K	2K	4K	dB(A)	P _a	125	250	500	1K	2K	4K	dB(A)
0.080	288	4	100	32	28	27	25	25	22	11	200	38	34	33	31	31	28	17
0.121	436	6	100	37	33	32	30	30	27	15	200	42	38	37	35	35	32	20
0.161	580	8	100	40	36	35	33	33	30	18	200	45	41	40	38	38	35	23
0.201	724	10	100	43	39	38	36	36	33	21	200	48	44	43	41	41	38	26
0.241	868	12	100	46	42	41	39	39	36	24	200	50	46	45	43	43	40	28
0.080	288	4	400	45	41	40	38	38	35	23	800	51	47	46	44	44	41	30
0.121	436	6	400	48	44	43	41	41	38	26	800	54	50	49	47	47	44	32
0.161	580	8	400	50	46	45	43	43	40	29	800	56	52	51	49	49	46	35
0.201	724	10	400	53	49	48	46	46	43	31	800	58	54	53	51	51	48	37
0.241	868	12	400	55	51	50	48	48	45	33	800	60	56	55	53	53	50	38

Radiated sound

model 200																		
Q		V	P	L _w in dB/octave						L _p	P	L _w in dB/octave						L _p
m ³ /s	m ³ /h	m/s	P _a	125	250	500	1K	2K	4K	dB(A)	P _a	125	250	500	1K	2K	4K	dB(A)
0.126	454	4	100	33	27	26	26	25	23	11	200	39	33	32	32	31	29	17
0.188	677	6	100	38	32	31	31	30	28	15	200	43	37	36	36	25	33	20
0.251	904	8	100	41	35	34	34	33	31	18	200	46	40	39	39	38	36	23
0.314	1130	10	100	44	38	37	37	36	34	21	200	49	43	42	42	41	39	26
0.377	1357	12	100	47	41	40	40	39	37	24	200	51	45	44	44	43	41	28
0.126	454	4	400	46	40	39	39	38	36	23	800	52	46	45	45	44	42	30
0.188	677	6	400	49	43	42	42	41	39	26	800	55	49	48	47	47	45	32
0.251	904	8	400	51	45	44	44	43	41	29	800	57	51	50	50	49	47	35
0.314	1130	10	400	54	48	47	47	46	44	31	800	59	53	52	52	51	49	37
0.377	1357	12	400	56	50	49	49	48	46	33	800	61	56	54	54	53	51	38

model 250																		
Q		V	P	L _w in dB/octave						L _p	P	L _w in dB/octave						L _p
m ³ /s	m ³ /h	m/s	P _a	125	250	500	1K	2K	4K	dB(A)	P _a	125	250	500	1K	2K	4K	dB(A)
0.196	706	4	100	33	27	26	26	25	23	11	200	39	33	32	32	31	29	17
0.295	1062	6	100	38	32	31	31	30	28	15	200	43	37	36	36	35	33	20
0.393	1415	8	100	41	35	34	34	33	31	18	200	46	40	39	39	38	36	23
0.491	1768	10	100	44	38	37	37	36	34	21	200	49	43	42	42	41	39	26
0.589	2120	12	100	47	41	40	40	39	37	24	200	51	45	44	44	43	41	28
0.196	706	4	400	46	40	39	39	38	36	23	800	52	46	45	45	44	42	30
0.295	1062	6	400	49	43	42	42	41	39	26	800	55	49	48	48	47	45	32
0.393	1415	8	400	51	45	44	44	43	41	29	800	57	51	50	50	49	47	35
0.491	1768	10	400	54	48	47	47	46	44	31	800	59	53	52	52	51	49	37
0.589	2120	12	400	56	50	49	49	48	46	33	800	61	55	54	54	53	51	38

model 315																		
Q		V	P	L _w in dB/octave						L _p	P	L _w in dB/octave						L _p
m ³ /s	m ³ /h	m/s	P _a	125	250	500	1K	2K	4K	dB(A)	P _a	125	250	500	1K	2K	4K	dB(A)
0.312	1123	4	100	33	28	26	26	25	23	11	200	39	34	32	32	31	129	17
0.468	1685	6	100	38	33	31	31	30	28	15	200	43	38	36	36	35	33	20
0.623	2243	8	100	41	36	34	34	33	31	18	200	46	41	39	39	38	36	23
0.779	2804	10	100	44	39	37	37	36	34	21	200	49	44	42	42	41	39	26
0.935	3366	12	100	47	42	40	40	39	37	24	200	51	46	44	44	43	41	28
0.312	1123	4	400	46	41	39	39	38	36	23	800	52	47	45	45	44	42	30
0.468	1685	6	400	49	44	42	42	41	39	26	800	55	50	48	48	47	45	33
0.623	2243	8	400	51	46	44	44	43	41	29	800	57	52	50	50	49	47	35
0.779	1804	10	400	54	49	47	47	46	44	31	800	59	54	52	52	51	49	37
0.935	3366	12	400	56	51	49	49	48	46	33	800	61	56	54	54	53	51	38

model 400																		
Q		V	P	L _w in dB/octave						L _p	P	L _w in dB/octave						L _p
m ³ /s	m ³ /h	m/s	P _a	125	250	500	1K	2K	4K	dB(A)	P _a	125	250	500	1K	2K	4K	dB(A)
0.503	1810	4	100	34	28	26	26	25	23	11	200	40	34	32	32	31	29	17
0.754	2714	6	100	39	33	31	31	30	28	15	200	44	38	36	36	35	33	21
1.005	3618	8	100	42	36	34	34	33	31	19	200	47	41	39	39	38	36	24
1.257	4525	10	100	45	39	37	37	36	34	22	200	50	44	42	42	41	39	26
1.508	5429	12	100	48	42	40	40	39	37	24	200	52	46	44	44	43	41	29
0.503	1810	4	400	47	41	39	39	38	36	23	800	53	47	45	45	44	42	30
0.754	2714	6	400	50	44	42	42	41	39	27	800	56	50	48	48	47	45	33
1.005	3618	8	400	52	46	44	44	43	41	29	800	58	52	50	50	49	47	35
1.257	4525	10	400	55	49	47	47	46	44	31	800	60	54	52	52	51	49	37
1.508	5429	12	400	57	51	49	49	48	46	33	800	62	56	54	54	53	51	39

Generated sound data

The sound power is given in dB at a reference value of 10-12 watt.

The sound pressure levels L_p , dB(A) stated have taken into account the following:

For discharge sound, the attenuation of a silencer and a ceiling diffuser with plenum box.

For radiated sound the attenuation of the ceiling plenum and associated false ceiling. These values are shown in the correction table.

The adopted room attenuation is 10dB. If the actual value is lower, the dB(A) values have to be corrected.

Correction table:

	octavebands					
	125	250	500	1k	2k	4k
discharge sound	5	10	20	30	30	25
radiated sound	2	5	10	15	15	15

The radiated sound of the double walled design is about 5 dB less than the above table values.

Note: the L_w values have been measured with one end nozzle of the duct in the free room. (i.e. including end reflection). For rooms with a low sound level (<25dB(A)), hard surfaces, light walls etc. consult an acoustic consultant.

Remark

The stated dimensions are in mm.

Secondary attenuators if required are available upon request.

The technical specifications are only valid if the supply to the units is even.

To ensure accurate flow cross measurement it is recommended that the minimum inlet velocity is 1.5 m/s, the inlet ductwork matches the inlet spigot diameter (D) and is 3 x D mm straight in length.

Silencer

For reduction of internal flow noise. Sound attenuator length 500-750-1000-1500 mm.
For performance details check model R01 silencer catalogue.

Quick Selection		Model:	R01	
Maximum possible reduction of flow noise in [dB] with a				
Size	Outer diameter	L [mm]		
DN	Ø [mm]	750	1000	
100	200	-22	-	dB
125	225	-22	-25	
140	240	-22	-25	
160	260	-22	-24	
200	300	-19	-24	
250	355	-18	-22	
315	415	-17	-20	
400	500	-15	-20	

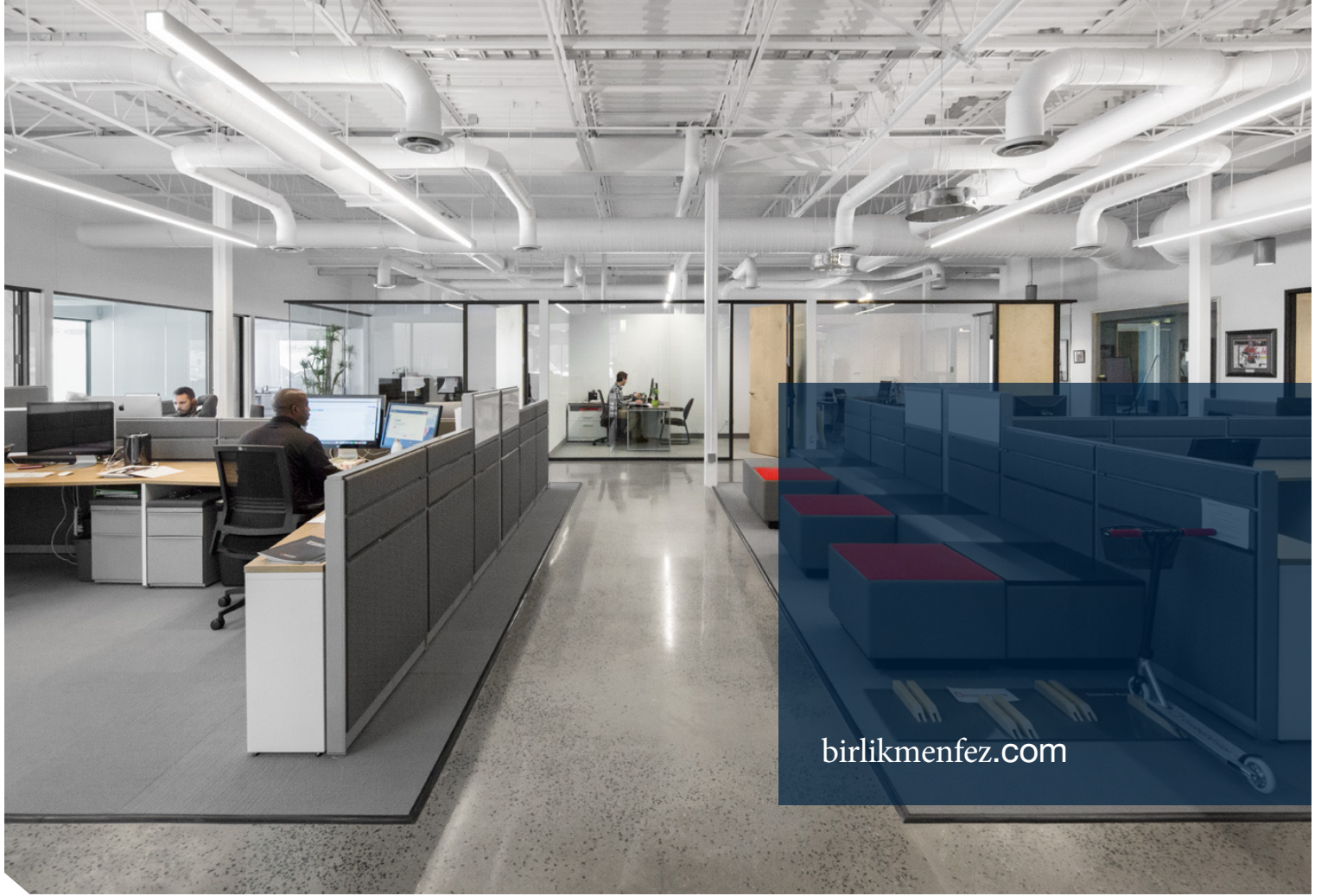


R01

Reheat Coil

- Separately deliverable for reheat of air volume
- Casing made of galvanised sheet steel
- Flanged on both ends
- Copper tubes and aluminium fins
- Generally two rows
- Maximum operating pressure 16 bar
- For warm water up to 100 °C
- Water connections horizontal, air venting by customer





Variable Air Volume Control

BM-VAV-02



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