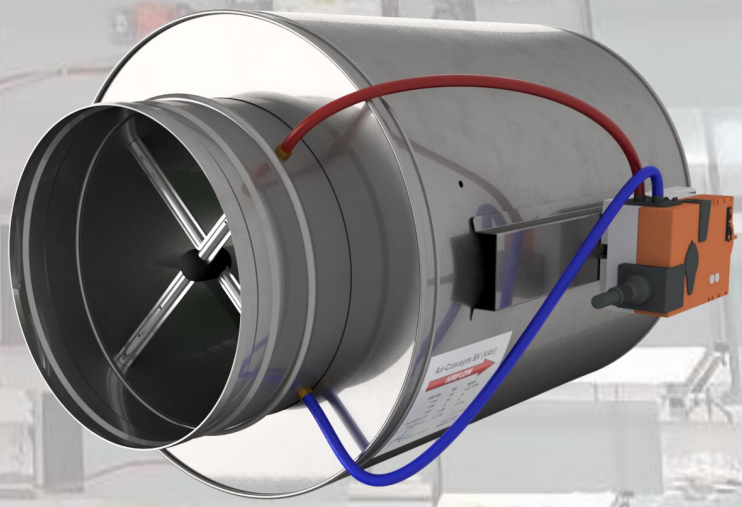
Circular VAV terminals

VSR-DW



AirConcepts
AIRFLOW MEASUREMENT AND CONTROL

Application

Single duct VAV (Variable-Air-Volume) terminals are commonly used to maintain a constant space temperature by varying the conditioned air volume to the space. If the space temperature raises above the set point, the primary air damper modulates open to supply more (cold) primary air into the space so that the required space temperature is maintained. As the space temperature drops below set point, the VAV terminal modulates to a pre-set minimum airflow, which is usually determined by the minimum level of ventilation required in the space. Should the space cooling loads drop even further at the minimum airflow setting, a reheat coil (hot water or electric) can be energized to provide further heating.
Single duct VAV terminals can also be used to maintain a constant (positive or negative) room pressure and to control the carbon dioxide (CO2) level in the room.

Design features

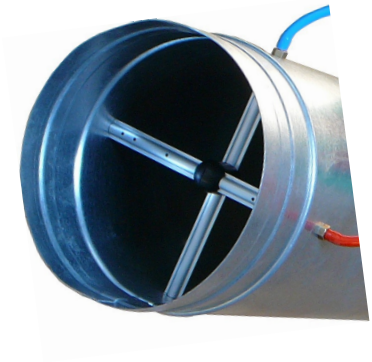
Casing

- Ridged galvanised steel construction (1,0mm or 20 gauge).
- Spigots comply with DIN 24145 or DIN 24146.
- Oval shaped damper blade, sandwich construction with synthetic rubber seals. Leakage rate 0.25% of Vnom @ 750Pa (3"WG) static pressure drop.
- Air leakage flow complies with Class II, VDI 3803 or DIN 24194, Part 2
- Damper shaft aluminium, ø12 mm
- Bearings Polyamide (PA6.6)
- Thermal / acoustical insulation 25kg/m3 (1,5lb/cuFt) fire resistant to BS-476 Class "O".
- Operating temperature +5 to 50°C (controls)
- Storage temperature 0 to +70°C, max R.H. 95%
- Other construction available upon request.

Air flow sensor

- The unique shape, patent pending, creates a linear amplified signal (at least 2.5x Pdyn) with a very low pressure drop and noise level.
- Multi point averaging according to the "Log-Tchebycheff" method
- 1% (FS) accuracy with 3xDeq straight duct approach
- 5% (FS) accuracy with 1xDeq straight duct approach
- Stable measuring signal from 0,7 m/s air velocity

Type VSR-DW-BE1 (Belimo LMP-D3-MP controller)



Detail FloXact-X® multipoint, averaging air flow sensor

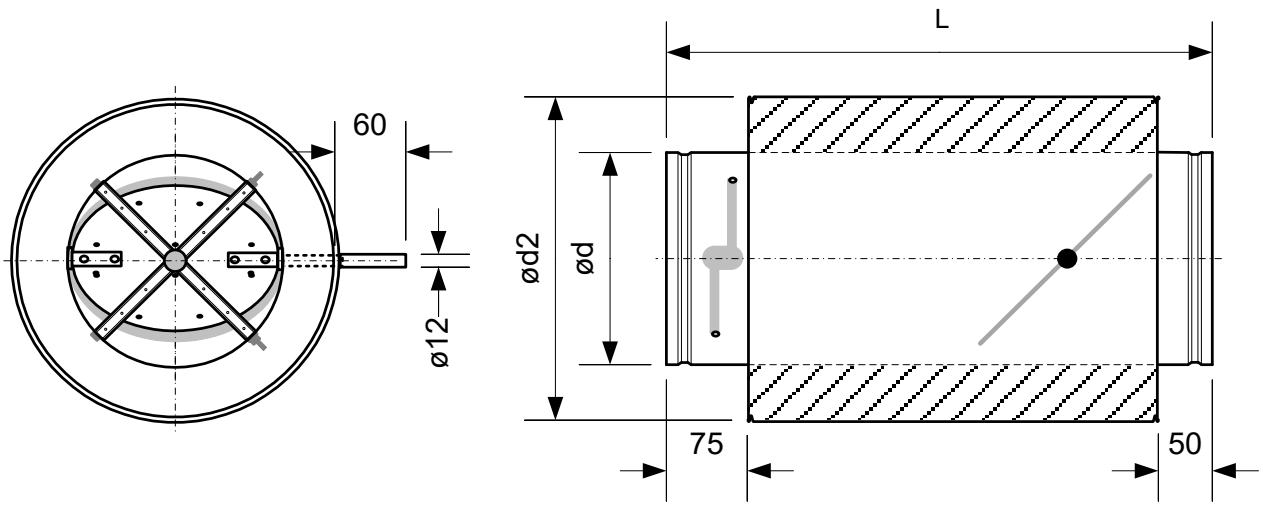
Accessories / Optional

The units are supplied as standard with controls on the right side (seen in the air direction).

- Standard Controls:
  BE1 Belimo LMV-D3-MP
  GR1 Grüner 327VM-024-05
  BEM Belimo LMV-D3-MOD
  GRM Grüner 327VM-024-05-MB
  The above controllers are factory mounted, calibrated and, if desired, provided with a location label.
- If desired, Air-Concepts can install free issue controls. We have suitable mounting consoles for all common control manufacturers.
- Transformer 230/24V AC (20 or 30VA)
- Hot water duct heater 1-, 2-, or 3-row.
- Duct cooler 3-row.
- Electric duct heater.

Kv Values FloXact-X®

	units	100	125	160	200	250	315	355	400	450	500
Kv Value	l/s/Pa	5,23	8,89	15,6	25,5	41,3	67,5	86,8	111,3	142,2	176,8
	m3/h/Pa	18,8	32,0	56,2	91,9	148,8	243,0	312,3	400,7	511,8	636,5
Vnom @ 150Pa	l/s	64	109	191	313	506	827	1.063	1.363	1.741	2.165
	m3/h	231	392	688	1.125	1.822	2.976	3.825	4.908	6.268	7.795
Vnom @ 250Pa (1"WC)	l/s	83	141	247	404	653	1.067	1.372	1.760	2.248	2.795
	m3/h	298	506	888	1.453	2.352	3.842	4.938	6.336	8.093	10.064



Type VSR-DW (double wall construction)

Dimensions and weight (without controls)

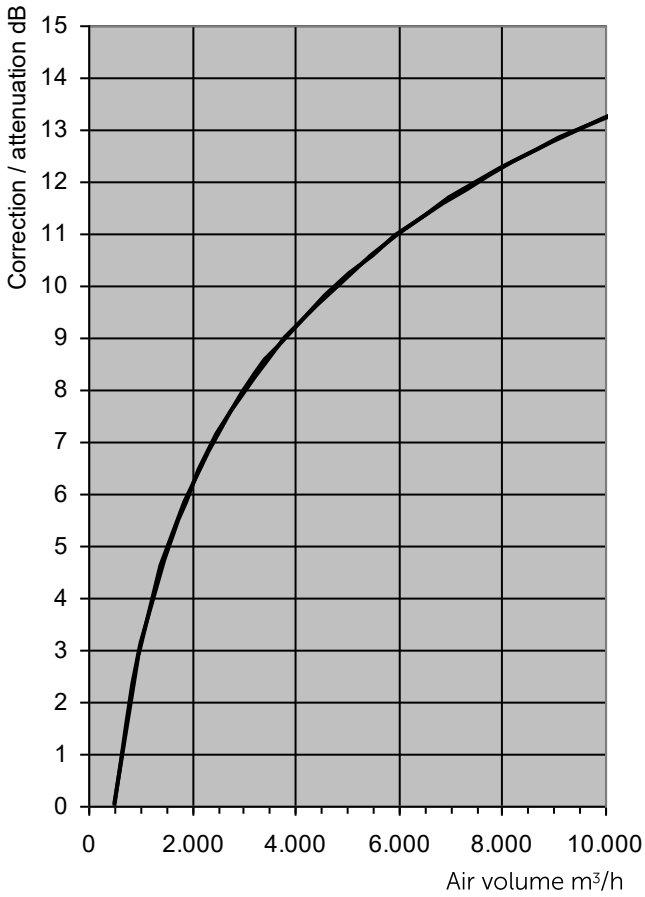
		100	125	160	200	250	315	355	400	450	500
ød	mm	ø 98	ø 123	ø 158	ø 198	ø 248	ø 313	ø 353	ø 398	ø 448	ø 498
ød2	mm	ø 200	ø 225	ø 260	ø 300	ø 350	ø 415	ø 455	ø 500	ø 550	ø 600
L	mm	500	500	500	500	500	500	500	500	550	600
VSR-DW	Kg	3,0	3,6	4,4	5,4	6,8	8,6	9,8	11,3	12,2	15,0

Sound data dB(A) and NR

1. The discharge sound pressure levels **Lp(A)**, are determined with a room absorption of 7dB/oct and the following assumption for downstream ductwork, diffuser(s) and end reflection:

125	250	500	1k	2k	4k	Hz
-3	-5	-10	-15	-15	-12	dB

2. The discharge sound pressure levels **Lp(A)** also include a correction for air volume :



3. The Radiated sound pressure levels **Lp(A)** are determined with a room absorption of 7dB/oct and the following assumption ceiling attenuation:

125	250	500	1k	2k	4k	Hz
-1	-3	-5	-7	-7	-10	dB

4. Sound data is measured in a reverberation room at an independent sound laboratory, according to ISO-3741 and ISO-5135 standards.
5. L_w in dB/Oct are sound power levels (re 10^{-12}W) per octave band in dB for discharge sound and radiated sound. Values less than 17 dB are indicated by "-".
6. **n/a** Not applicable, static pressure < unit resistance
7. **min ΔPs.** Unit resistance with fully opened damper blade

Sound data NC

1. The sound pressure levels **Lp(A)**, are determined with the following attenuation factors according to the guidelines in **ARI-885-98**
2. The discharge sound pressure levels include:

>**Environmental effect**

125	250	500	1k	2k	4k	Hz
-3	-2	-1	-1	-1	-1	dB

>**Duct lining,** 5 feet, 1" lining (1.5m, 25mm thick)

125	250	500	1k	2k	4k	Hz
-1	-3	-8	-21	-20	-12	dB

>End Reflection

125	250	500	1k	2k	4k	Hz
-11	-6	-2	0	0	0	dB

>**Acoustical flexible duct**. 5 ft 8" (1.5m ø200mm)

125	250	500	1k	2k	4k	Hz
-6	-10	-17	-19	-19	-12	dB

>**Room effect**. 3000 cu ft, 10 ft from source.

125	250	500	1k	2k	4k	Hz
-9	-10	-11	-12	-13	-14	dB

>Discharge sound total reduction in dB:

125	250	500	1k	2k	4k	Hz
-30	**-31**	**-39**	**-53**	**-53**	**-39**	dB

3. The Radiated sound pressure levels include:

>**Environmental effect**

125	250	500	1k	2k	4k	Hz
-3	-2	-1	-1	-1	-1	dB

>Ceilling effect. Mineral fibre 5/8" 20 lb/cu ft

125	250	500	1k	2k	4k	Hz
-9	-10	-12	-14	-15	-15	dB

>**Room effect**. 3000 cubic ft, 10 ft from source.>

125	250	500	1k	2k	4k	Hz
-9	-10	-11	-12	-13	-14	dB

>Radiated sound total reduction in dB:

125	250	500	1k	2k	4k	Hz
-21	**-22**	**-24**	**-27**	**-29**	**-30**	dB

4. Sound data is measured in a reverberation room at an independent sound laboratory, according to ISO-3741 and ISO-5135 standards.
5. L_w in dB/Oct are sound power levels (re 10^{-12}W) per octave band in dB for discharge sound and radiated sound. Values less than 17 dB are indicated by "-".
6. **n/a** Not applicable, static pressure < unit resistance
7. **min ΔPs.** Unit resistance with fully opened damper blade

Model	Air Vel.	Air Volume			Min. P_{st}	Discharge sound (Air borne sound)									Radiated sound (Break out sound)								
						Lw (dB/oct) re 10^{-12}W						Quick Sel. L_P			Lw (dB/oct) re 10^{-12}W						Quick Sel. L_P		
mm	m/s	m^3/h	l/s	CFM	Pa	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	dB (A)	NR	NC	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	dB (A)	NR	NC
100	0,7	19	5	11	0	25	28	28	24	23	21	-	-	-	-	-	-	-	-	-	-	-	-
	3,0	80	22	47	4	40	39	38	34	29	27	**23**	-	-	25	21	20	-	-	-	-	-	-
	6,0	160	44	94	16	47	44	43	40	32	30	**28**	**22**	-	32	26	25	22	-	-	-	-	-
	9,0	239	67	141	36	51	48	46	43	34	32	**31**	**25**	-	36	30	28	25	-	-	-	-	-
	12,0	319	89	188	64	54	50	48	45	35	33	**34**	**28**	-	39	32	30	27	-	18	-	-	-
125	0,8	32	9	19	0	28	30	30	26	24	23	-	-	-	-	-	-	-	-	-	-	-	-
	3,0	126	35	74	4	44	41	40	36	30	28	**25**	-	-	28	23	22	18	-	-	-	-	-
	6,0	253	70	149	15	52	46	45	41	34	31	**31**	**24**	-	36	28	27	23	-	-	-	-	-
	9,0	379	105	223	33	58	50	48	44	36	33	**35**	**29**	-	42	32	30	26	-	18	-	-	-
	12,0	505	140	297	59	57	52	50	46	37	34	**36**	**30**	-	41	34	32	28	18	19	**22**	-	-
160	0,8	56	16	33	0	31	32	31	27	26	25	-	-	-	-	-	-	-	-	-	-	-	-
	3,0	209	58	123	3	44	43	41	37	33	30	**26**	**20**	-	24	25	23	19	-	-	-	-	-
	6,0	418	116	246	13	52	48	46	42	36	34	**32**	**26**	-	32	30	28	24	-	18	-	-	-
	9,0	627	174	369	30	56	52	49	46	38	36	**34**	**29**	-	36	34	31	28	18	20	**20**	-	-
	12,0	836	232	492	53	59	54	51	48	39	37	**35**	**30**	-	39	36	33	30	19	21	**21**	-	-
200	0,8	92	26	54	0	32	36	34	30	29	27	**19**	-	-	-	-	-	-	-	-	-	-	-
	3,0	329	91	194	3	47	46	43	40	35	33	**29**	**24**	-	26	25	22	18	-	18	-	-	-
	6,0	658	183	387	12	54	52	49	45	38	36	**33**	**29**	-	33	31	28	23	18	21	-	-	-
	9,0	988	274	581	28	58	55	52	48	40	38	**35**	**30**	-	37	34	31	26	20	23	-	-	-
	12,0	1317	366	775	50	61	57	54	51	42	39	**36**	**32**	-	40	36	33	29	22	24	**19**	-	-
250	0,9	149	41	88	0	35	36	36	31	30	29	**20**	-	-	-	17	-	-	-	-	-	-	-
	3,0	517	144	304	3	48	47	45	41	36	35	**30**	**24**	-	29	28	25	23	17	21	-	-	-
	6,0	1035	287	609	13	52	52	50	46	40	38	**32**	**27**	-	33	33	30	28	21	24	-	-	-
	9,0	1552	431	913	29	57	56	53	49	42	40	**34**	**29**	-	38	37	33	31	23	26	-	-	-
	12,0	2070	575	1218	51	62	58	55	52	43	41	**35**	**30**	-	43	39	35	34	24	27	**20**	-	-
315	0,9	243	67	143	0	36	38	37	33	32	31	**22**	-	-	18	18	17	-	-	-	-	-	-
	3,0	826	229	486	3	49	48	46	42	38	37	**29**	**24**	-	31	28	26	24	20	22	-	-	-
	6,0	1651	459	971	12	56	54	52	48	42	40	**32**	**27**	-	38	34	32	30	24	26	-	-	-
	9,0	2477	688	1457	26	61	57	55	51	44	42	**33**	**29**	-	43	37	35	33	26	28	-	-	-
	12,0	3303	917	1943	47	64	59	57	53	45	43	**35**	**30**	-	46	39	37	35	27	29	**19**	-	-
355	0,9	312	87	184	0	37	39	38	34	34	33	**23**	**20**	-	19	19	18	-	-	20	-	-	-
	3,0	1051	292	618	3	50	49	48	43	40	39	**29**	**24**	-	32	29	28	25	22	26	-	-	-
	6,0	2102	584	1236	11	57	55	53	49	44	43	**32**	**27**	-	39	35	33	31	26	30	-	-	-
	9,0	3153	876	1855	25	57	58	56	52	46	45	**33**	**29**	-	39	38	36	34	28	32	-	-	-
	12,0	4204	1168	2473	44	61	61	58	54	47	46	**34**	**30**	-	43	41	38	36	29	33	**19**	-	-
400	0,9	401	111	236	0	35	41	40	35	35	33	**24**	**20**	-	-	21	20	-	-	20	-	-	-
	3,0	1337	371	786	3	50	51	49	44	41	39	**29**	**24**	-	32	31	29	26	23	26	-	-	-
	6,0	2674	743	1573	10	58	56	54	50	45	43	**32**	**27**	-	40	36	34	32	27	30	-	-	-
	9,0	4011	1114	2359	24	62	60	57	53	47	45	**34**	**29**	-	44	40	37	35	29	32	-	-	-
	12,0	5348	1485	3146	42	65	62	59	55	48	46	**35**	**30**	-	47	42	39	37	30	33	**20**	-	-
450	0,9	512	142	301	0	38	41	40	36	35	34	**25**	**20**	-	20	21	20	18	17	21	-	-	-
	3,0	1695	471	997	3	45	51	49	45	42	40	**28**	**24**	-	27	31	29	27	24	27	-	-	-
	6,0	3390	942	1994	10	58	57	55	51	45	43	**31**	**27**	-	40	37	35	33	27	30	-	-	-
	9,0	5085	1412	2991	23	63	60	58	54	48	45	**33**	**29**	-	45	40	38	36	30	32	-	-	-
	12,0	6779	1883	3988	40	66	63	60	56	49	47	**34**	**30**	-	48	43	40	38	31	34	**19**	-	-
500	0,9	636	177	374	0	39	42	41	36	36	34	**24**	**20**	-	21	22	21	18	18	21	-	-	-
	3,0	2095	582	1232	2	51	52	50	46	42	40	**28**	**23**	-	33	32	30	28	24	27	-	-	-
	6,0	4190	1164	2465	10	59	57	55	51	46	44	**31**	**27**	-	41	37	35	33	28	31	-	-	-
	9,0	6286	1746	3697	22	63	61	58	54	48	46	**33**	**28**	-	45	41	38	36	30	33	-	-	-
	12,0	8381	2328	4930	38	66	63	61	57	50	47	**34**	**30**	**19**	48	43	41	39	32	34	**19**	-	-

Model	Air Vel.	Air Volume			Min. P_{st}	Discharge sound (Air borne sound)									Radiated sound (Break out sound)								
						Lw (dB/oct) re 10^{-12}W						Quick Sel. L_P			Lw (dB/oct) re 10^{-12}W						Quick Sel. L_P		
mm	m/s	m^3/h	l/s	CFM	Pa	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	dB (A)	NR	NC	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	dB (A)	NR	NC
100	0,7	19	5	11	0	29	33	34	29	28	27	-	-	-	-	-	-	-	-	-	-	-	-
	3,0	80	22	47	4	44	44	44	40	35	34	28	23	-	29	26	26	22	-	18	-	-	-
	6,0	160	44	94	16	51	50	49	45	38	37	34	28	-	36	32	31	27	19	22	20	-	-
	9,0	239	67	141	36	55	53	52	48	40	39	37	31	-	40	35	34	30	21	24	23	-	-
	12,0	319	89	188	64	58	55	54	50	42	40	39	34	-	43	37	36	32	23	25	26	20	-
125	0,8	32	9	19	0	32	35	35	31	30	29	20	-	-	-	17	17	-	-	-	-	-	-
	3,0	126	35	74	4	48	46	46	41	36	35	30	24	-	32	28	28	23	17	20	-	-	-
	6,0	253	70	149	15	56	52	51	46	40	38	36	30	-	40	34	33	28	21	23	22	-	-
	9,0	379	105	223	33	62	55	54	50	42	40	40	34	-	46	37	36	32	23	25	26	19	-
	12,0	505	140	297	59	61	57	56	52	43	42	41	36	-	45	39	38	34	24	27	27	22	-
160	0,8	56	16	33	0	35	38	37	33	32	31	22	-	-	-	20	19	-	-	-	-	-	-
	3,0	209	58	123	3	48	48	47	43	39	38	32	26	-	28	30	29	25	19	22	-	-	-
	6,0	418	116	246	13	56	54	52	48	42	41	37	32	-	36	36	34	30	22	25	23	-	-
	9,0	627	174	369	30	60	57	55	51	44	43	40	35	-	40	39	37	33	24	27	25	20	-
	12,0	836	232	492	53	63	60	58	53	46	44	41	36	-	43	42	40	35	26	28	26	21	-
200	0,8	92	26	54	0	36	41	40	36	35	34	25	20	-	-	20	19	-	-	19	-	-	-
	3,0	329	91	194	3	51	52	50	45	41	40	35	30	-	30	31	29	23	21	25	-	-	-
	6,0	658	183	387	12	58	57	55	51	45	43	39	35	-	37	36	34	29	25	28	22	-	-
	9,0	988	274	581	28	62	61	58	54	47	45	40	37	-	41	40	37	32	27	30	23	-	-
	12,0	1317	366	775	50	65	63	60	56	48	47	42	38	19	44	42	39	34	28	32	24	19	-
250	0,9	149	41	88	0	39	42	42	37	36	36	26	22	-	20	23	22	19	17	22	-	-	-
	3,0	517	144	304	3	52	52	51	46	43	42	35	30	-	33	33	31	28	24	28	21	-	-
	6,0	1035	287	609	13	56	58	56	52	46	45	38	33	-	37	39	36	34	27	31	23	-	-
	9,0	1552	431	913	29	62	61	59	55	49	47	39	35	-	43	42	39	37	30	33	24	-	-
	12,0	2070	575	1218	51	66	64	62	57	50	49	40	36	19	47	45	42	39	31	35	25	19	-
315	0,9	243	67	143	0	40	44	43	38	38	38	28	24	-	22	24	23	20	20	24	-	-	-
	3,0	826	229	486	3	53	54	53	48	45	44	35	30	-	35	34	33	30	27	30	20	-	-
	6,0	1651	459	971	12	61	59	58	53	48	47	37	33	-	43	39	38	35	30	33	23	-	-
	9,0	2477	688	1457	26	65	63	61	56	51	49	39	35	-	47	43	41	38	33	35	24	-	-
	12,0	3303	917	1943	47	68	65	63	59	52	51	40	36	21	50	45	43	41	34	37	25	19	-
355	0,9	312	87	184	0	41	45	45	39	40	41	30	27	-	23	25	25	21	22	28	-	-	-
	3,0	1051	292	618	3	54	55	54	49	47	47	35	30	-	36	35	34	31	29	34	21	19	-
	6,0	2102	584	1236	11	61	61	59	54	50	50	38	33	-	43	41	39	36	32	37	23	19	-
	9,0	3153	876	1855	25	61	64	62	58	52	52	39	35	20	43	44	42	40	34	39	24	20	-
	12,0	4204	1168	2473	44	65	67	64	60	54	54	40	36	23	47	47	44	42	36	41	25	20	-
400	0,9	401	111	236	0	39	46	46	41	42	41	31	27	-	21	26	26	23	24	28	-	-	-
	3,0	1337	371	786	3	54	56	55	50	48	47	35	30	-	36	36	35	32	30	34	21	-	-
	6,0	2674	743	1573	10	62	62	60	56	52	51	38	34	-	44	42	40	38	34	38	23	19	-
	9,0	4011	1114	2359	24	66	65	64	59	54	53	39	35	21	48	45	44	41	36	40	24	19	-
	12,0	5348	1485	3146	42	69	68	66	61	55	54	40	37	24	51	48	46	43	37	41	25	19	-
450	0,9	512	142	301	0	42	47	47	41	42	41	31	27	-	24	27	27	23	24	28	-	-	-
	3,0	1695	471	997	3	50	57	56	51	48	47	35	30	-	32	37	36	33	30	34	20	-	-
	6,0	3390	942	1994	10	62	63	61	56	52	51	37	33	-	44	43	41	38	34	38	23	-	-
	9,0	5085	1412	2991	23	67	66	64	59	54	53	39	35	22	49	46	44	41	36	40	24	-	-
	12,0	6779	1883	3988	40	70	68	66	62	56	54	40	36	25	52	48	46	44	38	41	25	19	-
500	0,9	636	177	374	0	43	48	47	42	43	42	31	27	-	25	28	27	24	25	29	-	-	-
	3,0	2095	582	1232	2	56	57	56	51	49	48	34	30	-	38	37	36	33	31	35	20	-	-
	6,0	4190	1164	2465	10	63	63	62	57	53	51	37	33	19	45	43	42	39	35	38	22	-	-
	9,0	6286	1746	3697	22	67	67	65	60	55	53	38	35	23	49	47	45	42	37	40	24	-	-
	12,0	8381	2328	4930	38	70	69	67	62	56	55	40	36	26	52	49	47	44	38	42	25	19	-

Model	Air Vel.	Air Volume			Min. P_{st}	Discharge sound (Air borne sound)									Radiated sound (Break out sound)								
						Lw (dB/oct) re 10^{-12}W						Quick Sel. L_P			Lw (dB/oct) re 10^{-12}W						Quick Sel. L_P		
mm	m/s	m^3/h	l/s	CFM	Pa	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	dB (A)	NR	NC	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	dB (A)	NR	NC
100	0,7	19	5	11	0	33	38	40	34	34	34	23	20	-	18	20	21	-	-	19	-	-	-
	3,0	80	22	47	4	48	50	50	45	41	41	34	29	-	33	32	32	27	22	26	21	-	-
	6,0	160	44	94	16	55	55	55	50	45	44	39	34	-	40	37	37	32	26	29	26	21	-
	9,0	239	67	141	36	59	58	58	54	47	46	42	37	-	44	40	40	36	28	31	29	24	-
	12,0	319	89	188	64	62	61	60	56	48	47	45	40	-	47	43	42	38	29	32	31	26	-
125	0,8	32	9	19	0	36	41	42	36	36	36	26	22	-	20	23	24	18	-	21	-	-	-
	3,0	126	35	74	4	52	52	52	47	43	42	36	31	-	36	34	34	29	24	27	22	-	-
	6,0	253	70	149	15	60	57	57	52	46	46	41	36	-	44	39	39	34	27	31	28	23	-
	9,0	379	105	223	33	66	61	60	55	48	48	45	39	-	50	43	42	37	29	33	31	26	-
	12,0	505	140	297	59	65	63	62	57	50	49	46	42	-	49	45	44	39	31	34	33	28	-
160	0,8	56	16	33	0	39	43	44	38	39	38	28	25	-	19	25	25	20	19	22	-	-	-
	3,0	209	58	123	3	52	54	53	48	45	45	38	32	-	32	36	35	30	25	29	24	19	-
	6,0	418	116	246	13	60	59	58	53	49	48	43	38	-	40	41	40	35	29	32	29	24	-
	9,0	627	174	369	30	64	63	62	57	51	50	45	41	-	44	45	44	39	31	34	31	26	-
	12,0	836	232	492	53	67	65	64	59	52	52	46	42	21	47	47	46	41	32	36	32	27	-
200	0,8	92	26	54	0	40	47	46	41	41	41	31	28	-	19	26	25	19	21	26	-	-	-
	3,0	329	91	194	3	55	57	56	51	48	47	40	36	-	34	36	35	29	28	32	24	21	-
	6,0	658	183	387	12	62	63	61	56	51	51	45	41	19	41	42	40	34	31	36	28	23	-
	9,0	988	274	581	28	66	66	64	59	53	53	46	43	22	45	45	43	37	33	38	29	24	-
	12,0	1317	366	775	50	69	69	66	62	55	54	47	44	25	48	48	45	40	35	39	30	25	-
250	0,9	149	41	88	0	43	48	48	42	43	43	32	30	-	24	29	28	24	24	29	19	-	-
	3,0	517	144	304	3	56	58	57	52	49	49	41	36	-	37	39	37	34	30	35	27	24	-
	6,0	1035	287	609	13	60	64	63	57	53	53	43	39	19	41	45	43	39	34	39	29	24	-
	9,0	1552	431	913	29	66	67	66	60	55	55	45	41	23	47	48	46	42	36	41	30	25	-
	12,0	2070	575	1218	51	70	69	68	63	57	56	46	42	26	51	50	48	45	38	42	31	26	-
315	0,9	243	67	143	0	44	49	50	44	45	45	34	32	-	26	29	30	26	27	31	21	20	-
	3,0	826	229	486	3	57	59	59	53	51	52	41	36	-	39	39	39	35	33	38	27	24	-
	6,0	1651	459	971	12	65	65	64	59	55	55	43	39	21	47	45	44	41	37	41	29	24	-
	9,0	2477	688	1457	26	69	69	67	62	57	57	45	41	25	51	49	47	44	39	43	30	24	-
	12,0	3303	917	1943	47	72	71	70	64	59	58	46	42	28	54	51	50	46	41	44	31	25	19
355	0,9	312	87	184	0	45	51	51	45	47	48	36	34	-	27	31	31	27	29	35	23	24	-
	3,0	1051	292	618	3	58	61	60	55	53	54	41	37	-	40	41	40	37	35	41	28	26	-
	6,0	2102	584	1236	11	65	67	66	60	57	58	44	39	23	47	47	46	42	39	45	29	27	-
	9,0	3153	876	1855	25	65	70	69	63	59	60	45	41	27	47	50	49	45	41	47	30	27	20
	12,0	4204	1168	2473	44	69	72	71	65	61	61	46	43	29	51	52	51	47	43	48	31	27	21
400	0,9	401	111	236	0	43	52	52	46	48	49	37	35	-	25	32	32	28	30	36	24	24	-
	3,0	1337	371	786	3	59	62	62	56	55	55	41	37	19	41	42	42	38	37	42	27	26	-
	6,0	2674	743	1573	10	66	68	67	61	58	58	44	40	24	48	48	47	43	40	45	29	26	-
	9,0	4011	1114	2359	24	70	71	70	64	60	60	45	42	28	52	51	50	46	42	47	31	26	20
	12,0	5348	1485	3146	42	73	74	72	67	62	62	46	43	31	55	54	52	49	44	49	31	26	22
450	0,9	512	142	301	0	46	53	53	47	49	49	37	35	-	28	33	33	29	31	36	24	24	-
	3,0	1695	471	997	3	54	63	62	56	55	55	41	36	19	36	43	42	38	37	42	27	25	-
	6,0	3390	942	1994	10	67	68	68	62	59	58	43	39	25	49	48	48	44	41	45	29	25	19
	9,0	5085	1412	2991	23	71	72	71	65	61	60	45	41	29	53	52	51	47	43	47	30	25	20
	12,0	6779	1883	3988	40	74	74	73	67	62	62	46	43	32	56	54	53	49	44	49	31	26	22
500	0,9	636	177	374	0	47	53	54	48	49	49	37	34	-	29	33	34	30	31	36	24	24	-
	3,0	2095	582	1232	2	60	63	63	57	56	55	41	36	19	42	43	43	39	38	42	27	24	-
	6,0	4190	1164	2465	10	67	69	68	63	59	59	43	39	26	49	49	48	45	41	46	29	25	19
	9,0	6286	1746	3697	22	72	72	71	66	61	61	44	41	30	54	52	51	48	43	48	30	25	21
	12,0	8381	2328	4930	38	75	75	74	68	63	62	45	42	32	57	55	54	50	45	49	31	25	23

Type | Construction | Model | Controls

Type:
- VSR - VAV terminal met round in– and outlet. Supply and return application.

Construction:
- DW - Double wall construction

Model:
- Ø - 100, 125, 160, 200, 250, 315, 355, 400, 450 or 500

Controls:
- BE0 - Belimo LMV-D3-FX (5Nm w/o NFC)
- BE1 - Belimo LMV-D3-MP (5Nm)
- BE2 - Belimo NMV-D3-MP (10Nm)
- BE3 - Belimo VRU-D3-BAC + LM24A-VST (5Nm, 150sec/90°)
- BE4 - Belimo VRU-D3-BAC + LMQ24A-VST (5Nm, 2,5sec/90°)
- BE5 - Belimo VRU-M1-BAC + LMQ24A-VST (5Nm, 2,5sec/90°)
- BEM - Belimo LMV-D3-MOD
- GR1 - Grüner 327VM-024-05
- GRM - Grüner 327VM-024-05-MB

Specify as:

Example:
Supply and install, VAV terminal, double wall constructing, from galvanized sheet steel, duct sleeve connections suitable for DIN 24 145 or DIN 24 146. Casing leakage rate to class II, VDI 3803/ DIN 24 194. The VAV units should have a low leakage, sandwich construction damper blade with SBR gasket and an aluminium damper shaft with self lubricating Nylon bearings and averaging airflow sensor type FloXact®.
For:

Air volume	.... m3/h
Unit size	.... mm
Max. pressure loss	.... Pa
Max. discharge SPL	.... dB(A)
Max. radiated SPL	.... dB(A)
Controller	Belimo LMV-D3-MP (factory fitted and calibrated)
Manufacturer	AIR-CONCEPTS BV
Type	VSR-DW-250-BE1-xxx-

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