

1.2.6 VSQ-SA.

**VAV terminal with
integral sound attenuator
(Supply & Return)**



Application

Type VSQ-SA terminals are used to control air volume in situations with low noise requirements. The air flow sensor is located inside the unit which makes the terminals insensitive to irregular duct approach. The special high density (160kg/m³) polymer insulation provides excellent sound absorption ensuring low radiant and discharge noise levels.

Opposed blade damper with seals for tight shut-off application.

VSQ-SA terminals can also be used to maintain a constant (positive or negative) room pressure or as "Master-Slave" to balance supply and return air volume.

Design features

Casing

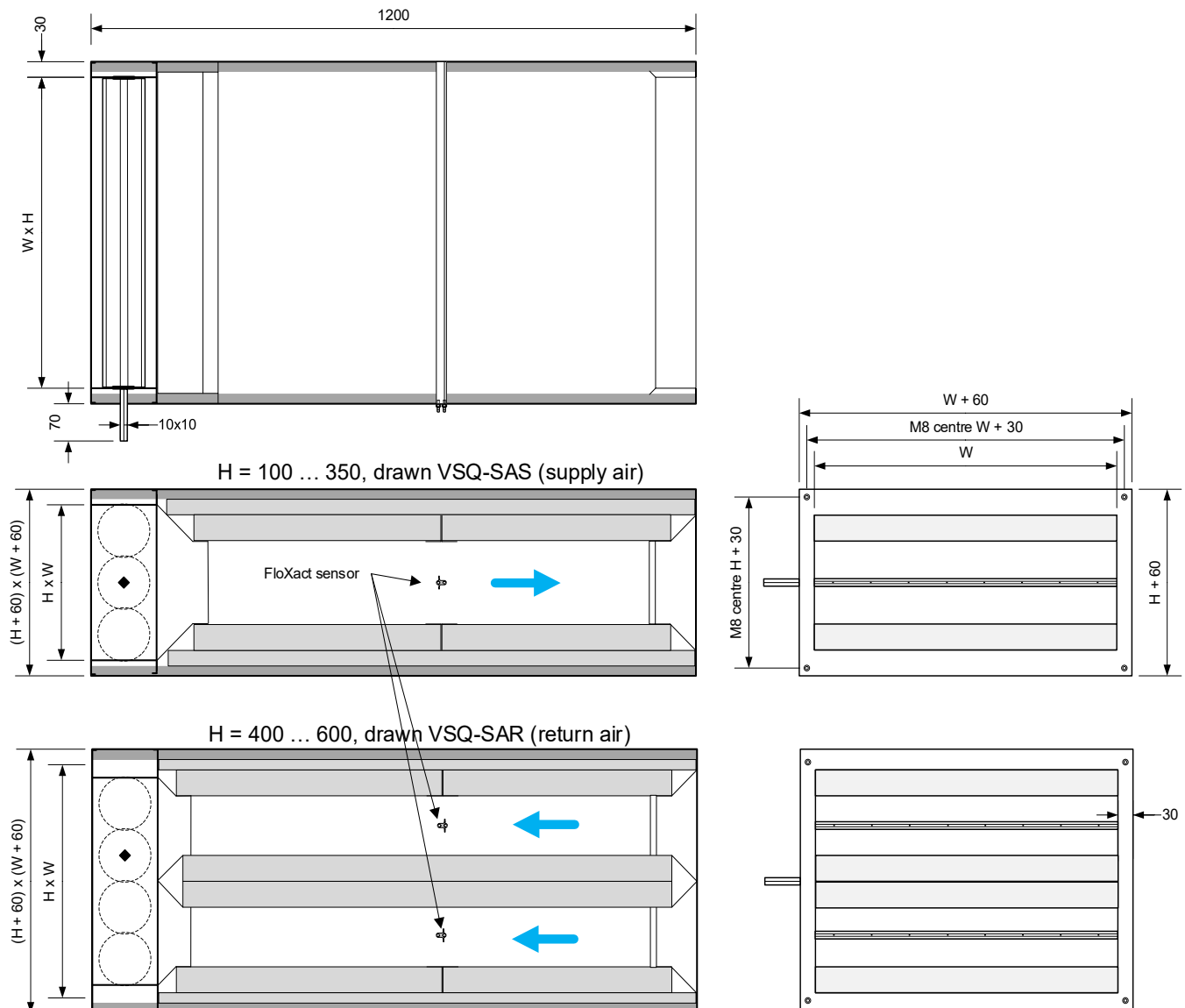
- Casing; Magnelis steel construction, 3x more corrosion proof than galvanise steel. Air-tightness Class C (EN 1751).
- Flange connection: 4x M8 press nuts on inlet and outlet side suitable for 30mm duct flanges.
- 1-piece construction, saves installation time on site.
- Damper blades: Aluminium opposed blade, air-tight damper with seals. Leakage Class-2 (EN 1751).
- Damper shaft aluminium, 10x10mm.
- Bearings Polyamide (PA6.6)
- Acoustical insulation: sandwich construction consisting of 40kg/m³ mineral wool with glued woven glass fibre top layer erosion proof up to 20 m/s and high density 160kg/m³ open cell rubber to absorb low frequency and reduce radiated noise. Fire resistant Class A1 (EN 13501).
- Air flow sensor: Aluminium profile, multi point averaging type FloXact. Fitted inside the unit, thus insensitive to irregular duct approach in supply and return application. Accurate measuring signal from 0,5 m/s inlet air velocity
- Operating temperature +5 to 50°C
- Storage temperature 0 to +70°C, max R.H. 95%
- Other construction available upon request.



Typical application balanced supply and return air

Kv Values FloXact® and air flow range

Unit Height	Unit Width (mm)														
	150	200	250	300	350	400	450	500	600	700	800	900	1000	1100	1200
100	7,2	9,3	11,4	13,6	15,7	17,8	19,9	22,0	26,3	30,5	34,7	39,0	43,2	47,4	51,7
150	8,8	11,4	14,0	16,6	19,1	21,7	24,3	26,9	32,1	37,3	42,4	47,6	52,8	58,0	63,1
200	16,8	21,7	26,7	31,6	36,6	41,5	46,4	51,4	61,3	71,1	81,0	90,9	100,8	110,7	120,5
250	18,4	23,8	29,2	34,6	40,0	45,5	50,9	56,3	67,1	77,9	88,7	99,6	110,4	121,2	132,0
300	23,2	30,0	36,8	43,7	50,5	57,3	64,1	71,0	84,6	98,2	111,9	125,5	139,2	152,8	166,5
350	24,8	32,1	39,4	46,7	54,0	61,3	68,6	75,8	90,4	105,0	119,6	134,2	148,8	163,4	177,9
400	30,4	39,3	48,3	57,2	66,2	75,1	84,0	93,0	110,8	128,7	146,6	164,5	182,4	200,2	218,1
450	32,0	41,4	50,8	60,2	69,6	79,0	88,5	97,9	116,7	135,5	154,3	173,1	192,0	210,8	229,6
500	36,8	47,6	58,4	69,3	80,1	90,9	101,7	112,5	134,2	155,8	177,5	199,1	220,8	242,4	264,0
550	38,4	49,7	61,0	72,3	83,6	94,9	106,1	117,4	140,0	162,6	185,2	207,8	230,4	252,9	275,5
600	46,4	60,0	73,7	87,3	101,0	114,6	128,3	141,9	169,2	196,5	223,8	251,1	278,3	305,6	332,9



Static sound absorption attenuator in dB

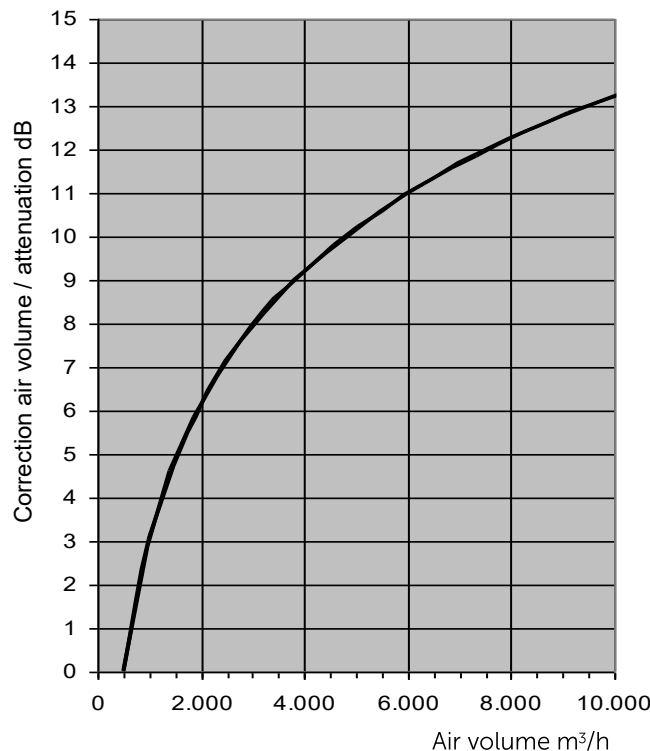
H	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz
100	-7	-23	-36	-46	-50	-44
150	-8	-27	-37	-47	-51	-44
200	-6	-23	-34	-46	-51	-46
250	-6	-23	-34	-46	-51	-46
300	-4	-18	-26	-34	-37	-24
350	-4	-18	-26	-34	-37	-24
400	-3	-16	-25	-33	-35	-23
450	-3	-16	-25	-33	-35	-23
500	-3	-14	-23	-32	-33	-19
550	-3	-14	-23	-32	-33	-19
600	-3	-14	-22	-30	-32	-19

Sound data dB(A) and NR

- The discharge sound pressure levels $L_p(A)$, 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

- The discharge sound pressure levels $L_p(A)$ also include a correction for air volume :



- The Radiated sound pressure levels $L_p(A)$ 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

- Sound data is measured in a reverberation room at an independent sound laboratory, according to ISO-3741 and ISO-5135 standards.
- 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 "-".
- n/a Not applicable, static pressure < unit resistance
- min ΔP_s . Unit resistance with fully opened damper blade

Sound data NC

- The sound pressure levels $L_p(A)$, are determined with the following attenuation factors according to the guidelines in ARI-885-98

- 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 ϕ 200mm)

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

- The Radiated sound pressure levels include:

>Environmental effect

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

>Ceiling effect, Mineral fibre 5/8" 20 lb/cu ft

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

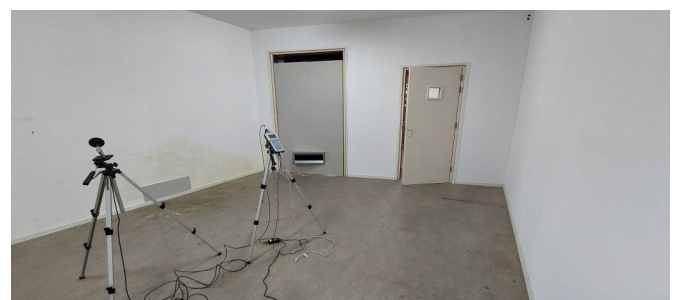
>Room effect, 3000 cubic ft, 10 ft from source.>

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

- Sound data is measured in a reverberation room at an independent sound laboratory, according to ISO-3741 and ISO-5135 standards.
- 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 "-".
- n/a Not applicable, static pressure < unit resistance
- min ΔP_s . Unit resistance with fully opened damper blade



VSQ-SAS in reverberant room

VAV terminal with integral sound attenuator

VSR-QA.

Rectangular inlet and outlet. Supply & return

Sound selection

Pressure drop over unit : 100 Pa

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		
								125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz				125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz			
W x H mm	m/s	m³/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		
250x200 equiv. ø250 0,05m²	0,5	90	25	15	1	38	22	-	-	-	-	--	--	--	26	25	23	-	-	-	--	--	--		
	1,0	180	50	29	3	41	25	-	-	-	-	--	--	--	29	28	24	-	-	-	--	--	--		
	2,0	360	100	59	11	37	22	-	-	-	-	--	--	--	25	23	-	-	-	-	--	--	--		
	4,0	720	200	118	45	48	38	35	32	29	24	24	--	--	36	36	32	23	21	19	21	--	--		
	6,0	1080	300	176	100	50	47	46	43	40	34	31	25	--	35	36	30	24	22	21	21	--	--		
400x200 equiv. ø315 0,08m²	0,5	144	40	24	1	41	24	-	-	-	-	--	--	--	29	27	25	-	-	-	--	--	--		
	1,0	288	80	47	3	43	27	-	-	-	-	--	--	--	31	30	26	-	-	-	--	--	--		
	2,0	576	160	94	11	39	24	-	-	-	-	--	--	--	27	25	19	-	-	-	--	--	--		
	4,0	1152	320	188	43	50	39	35	32	29	24	25	21	--	38	38	34	25	23	21	23	--	--		
	6,0	1728	480	282	95	51	47	46	43	40	34	31	25	--	37	38	32	26	24	23	23	--	--		
400x300 equiv. ø400 0,12m²	0,5	216	60	35	1	44	31	22	-	-	-	--	--	--	30	29	27	-	-	-	--	--	--		
	1,0	432	120	71	2	46	34	23	-	-	-	21	--	--	32	32	28	-	-	-	--	--	--		
	2,0	864	240	141	10	42	29	19	-	-	-	--	--	--	28	27	21	-	-	-	--	--	--		
	4,0	1728	480	282	38	54	43	36	32	29	24	29	25	--	40	40	35	27	25	23	25	20	--		
	6,0	2592	720	424	85	54	48	46	43	40	34	32	26	--	39	40	34	28	25	25	25	--	--		
400x400 equiv. ø450 0,16m²	0,5	288	80	47	1	47	34	24	-	-	-	21	--	--	32	30	28	-	-	-	--	--	--		
	1,0	576	160	94	2	49	37	25	-	-	-	23	--	--	34	33	29	-	-	-	--	--	--		
	2,0	1152	320	188	9	45	33	20	-	-	-	--	--	--	30	28	22	-	-	-	--	--	--		
	4,0	2304	640	376	36	56	46	37	32	29	24	31	27	--	41	41	37	29	26	24	26	21	--		
	6,0	3456	960	565	81	56	49	46	43	40	35	34	28	--	41	41	35	29	27	26	26	21	--		
500x400 equiv. ø500 0,20m²	0,5	360	100	59	1	47	34	24	-	-	-	21	--	--	32	30	28	-	-	-	--	--	--		
	1,0	720	200	118	2	49	37	26	-	-	-	23	--	--	34	33	30	-	-	-	--	--	--		
	2,0	1440	400	235	9	45	33	20	-	-	-	--	--	--	30	28	22	-	-	-	--	--	--		
	4,0	2880	800	471	36	56	46	37	32	29	24	31	27	--	41	41	37	29	27	25	27	21	--		
	6,0	4320	1200	706	80	56	49	46	43	40	35	34	28	--	41	41	36	30	28	27	26	21	--		
600x400 equiv. ø560 0,24m²	0,5	432	120	71	1	47	34	25	-	-	-	21	--	--	32	30	29	-	-	-	--	--	--		
	1,0	864	240	141	2	49	37	26	-	-	-	23	--	--	34	33	30	-	-	-	--	--	--		
	2,0	1728	480	282	9	45	33	21	-	-	-	--	--	--	30	28	23	-	-	-	--	--	--		
	4,0	3456	960	565	35	56	46	37	32	29	24	31	27	--	41	41	37	30	28	26	27	21	--		
	6,0	5184	1440	847	79	56	49	46	43	40	35	34	28	--	41	41	36	31	28	28	26	21	--		
800x400 equiv. ø630 0,32m²	0,5	576	160	94	1	47	34	25	-	-	-	21	--	--	32	30	29	-	-	-	--	--	--		
	1,0	1152	320	188	2	49	37	27	-	-	-	23	--	--	34	33	31	18	-	-	--	--	--		
	2,0	2304	640	376	9	45	33	21	-	-	-	--	--	--	30	28	23	-	-	-	--	--	--		
	4,0	4608	1280	753	35	56	46	37	32	29	25	31	27	--	41	41	38	32	29	27	27	22	--		
	6,0	6912	1920	1129	78	56	49	46	43	40	35	34	28	--	41	41	36	32	30	29	27	21	--		
800x500 equiv. ø710 0,40m²	0,5	720	200	118	1	47	36	28	-	-	-	22	--	--	32	30	30	-	-	-	--	--	--		
	1,0	1440	400	235	2	49	39	29	-	-	-	24	--	--	34	33	31	19	17	-	--	--	--		
	2,0	2880	800	471	8	45	35	23	-	-	-	20	--	--	30	28	24	-	-	-	--	--	--		
	4,0	5760	1600	941	33	56	48	38	32	29	27	32	27	--	41	41	38	32	30	28	28	22	--		
	6,0	8640	2400	1412	75	56	50	46	43	40	35	34	28	--	41	41	37	33	31	30	27	21	--		
1000x500 equiv. ø800 0,50m²	0,5	900	250	147	1	47	36	28	-	-	-	22	--	--	32	30	30	-	-	-	--	--	--		
	1,0	1800	500	294	2	49	39	29	-	-	-	24	--	--	34	33	31	20	18	-	--	--	--		
	2,0	3600	1000	588	8	45	35	23	-	-	-	20	--	--	30	28	24	-	-	-	--	--	--		
	4,0	7200	2000	1176	33	56	48	39	32	29	27	32	27	--	41	41	39	33	31	29	28	22	--		
	6,0	10800	3000	1765	74	56	50	46	43	40	35	34	28	--	41	41	37	34	32	31	28	21	--		
1200x600 equiv. ø1000 0,72m²	0,5	1296	360	212	1	47	36	30	-	-	-	22	--	--	32	30	31	-	-	-	--	--	--		
	1,0	2592	720	424	2	49	39	31	-	-	-	24	--	--	34	33	32	21	20	-	20	--	--		
	2,0	5184	1440	847	8	45	35	24	-	-	-	20	--	--	30	28	25	-	-	-	--	--	--		
	4,0	10368	2880	1694	32	56	48	40	32	29	28	32	27	--	41	41	39	35	32	31	29	23	--		
	6,0	15552	4320	2541	72	56	50	46	43	40	35	34	28	--	41	41	38	35	33	33	28	22	--		

VAV terminal with integral sound attenuator

VSR-QA.

Rectangular inlet and outlet. Supply & return

Sound selection

Pressure drop over unit : 200 Pa

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		
								125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz				125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz			
W x H mm	m/s	m³/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		
250x200 equiv. ø250 0,05m²	0,5	90	25	15	1	38	22	-	-	-	-	--	--	--	26	25	23	-	-	-	--	--	--		
	1,0	180	50	29	3	44	29	-	-	-	-	--	--	--	32	32	29	-	-	-	--	--	--		
	2,0	360	100	59	11	40	25	-	-	-	-	--	--	--	28	27	21	-	-	-	--	--	--		
	4,0	720	200	118	45	50	39	35	32	29	24	25	20	--	37	38	34	26	23	21	23	--	--		
	6,0	1080	300	176	100	57	49	46	43	40	34	34	29	--	45	47	44	38	33	32	33	27	--		
400x200 equiv. ø315 0,08m²	0,5	144	40	24	1	41	24	-	-	-	-	--	--	--	29	27	25	-	-	-	--	--	--		
	1,0	288	80	47	3	46	31	18	-	-	-	20	--	--	34	34	31	-	-	-	--	--	--		
	2,0	576	160	94	11	42	27	17	-	-	-	--	--	--	30	29	23	-	-	-	--	--	--		
	4,0	1152	320	188	43	52	40	35	32	29	24	27	22	--	39	40	36	28	25	23	25	20	--		
	6,0	1728	480	282	95	59	49	46	43	40	34	35	31	--	47	49	46	40	35	34	35	30	--		
400x300 equiv. ø400 0,12m²	0,5	216	60	35	1	44	31	22	-	-	-	--	--	--	30	29	27	-	-	-	--	--	--		
	1,0	432	120	71	2	50	37	28	-	-	-	24	20	--	36	35	33	19	-	-	21	--	--		
	2,0	864	240	141	10	45	33	22	-	-	-	20	--	--	31	31	25	-	-	-	--	--	--		
	4,0	1728	480	282	38	55	45	37	32	29	24	31	27	--	41	42	38	30	27	25	27	22	--		
	6,0	2592	720	424	85	62	54	47	43	40	35	39	35	--	48	51	47	42	37	35	37	31	20		
400x400 equiv. ø450 0,16m²	0,5	288	80	47	1	47	34	24	-	-	-	21	--	--	32	30	28	-	-	-	--	--	--		
	1,0	576	160	94	2	52	41	30	-	-	-	27	23	--	37	37	34	20	17	-	22	--	--		
	2,0	1152	320	188	9	48	36	23	-	-	-	23	--	--	33	32	26	-	-	-	--	--	--		
	4,0	2304	640	376	36	57	48	38	32	29	24	33	29	--	42	43	39	31	28	26	28	23	--		
	6,0	3456	960	565	81	65	56	48	43	40	35	41	38	--	50	52	49	44	38	37	38	33	21		
500x400 equiv. ø500 0,20m²	0,5	360	100	59	1	47	34	24	-	-	-	21	--	--	32	30	28	-	-	-	--	--	--		
	1,0	720	200	118	2	52	41	31	-	-	-	27	23	--	37	37	35	21	18	-	22	--	--		
	2,0	1440	400	235	9	48	36	24	-	-	-	23	--	--	33	32	27	-	-	-	--	--	--		
	4,0	2880	800	471	36	57	48	38	32	29	25	33	29	--	42	43	39	32	29	27	29	23	--		
	6,0	4320	1200	706	80	65	56	48	43	40	35	41	38	--	50	52	49	44	39	38	38	33	22		
600x400 equiv. ø560 0,24m²	0,5	432	120	71	1	47	34	25	-	-	-	21	--	--	32	30	29	-	-	-	--	--	--		
	1,0	864	240	141	2	52	41	31	-	-	-	27	23	--	37	37	35	22	19	-	23	--	--		
	2,0	1728	480	282	9	48	36	24	-	-	-	23	--	--	33	32	27	-	-	-	--	--	--		
	4,0	3456	960	565	35	57	48	38	32	29	25	33	29	--	42	43	40	33	30	28	29	24	--		
	6,0	5184	1440	847	79	65	56	48	43	40	36	41	38	--	50	52	49	45	40	38	38	33	22		
800x400 equiv. ø630 0,32m²	0,5	576	160	94	1	47	34	25	-	-	-	21	--	--	32	30	29	-	-	-	--	--	--		
	1,0	1152	320	188	2	52	41	31	-	-	-	27	23	--	37	37	35	23	20	-	23	--	--		
	2,0	2304	640	376	9	48	36	24	-	-	-	23	--	--	33	32	28	17	-	-	--	--	--		
	4,0	4608	1280	753	35	57	48	39	32	29	25	33	29	--	42	43	40	34	31	29	29	24	--		
	6,0	6912	1920	1129	78	65	56	49	43	40	36	41	38	--	50	52	50	47	41	40	39	34	22		
800x500 equiv. ø710 0,40m²	0,5	720	200	118	1	47	36	28	-	-	-	22	--	--	32	30	30	-	-	-	--	--	--		
	1,0	1440	400	235	2	52	43	34	-	-	-	27	23	--	37	37	36	24	21	18	23	--	--		
	2,0	2880	800	471	8	48	38	26	-	-	-	23	--	--	33	32	28	18	18	-	--	--	--		
	4,0	5760	1600	941	33	57	50	40	32	29	28	34	29	--	42	43	41	35	32	30	30	24	--		
	6,0	8640	2400	1412	75	65	58	50	43	40	38	42	38	--	50	52	50	47	42	41	40	34	23		
1000x500 equiv. ø800 0,50m²	0,5	900	250	147	1	47	36	28	-	-	-	22	--	--	32	30	30	-	-	-	--	--	--		
	1,0	1800	500	294	2	52	43	34	-	-	-	27	23	--	37	37	36	25	22	19	24	20	--		
	2,0	3600	1000	588	8	48	38	27	-	-	-	23	--	--	33	32	28	19	19	-	--	--	--		
	4,0	7200	2000	1176	33	57	50	40	32	29	28	34	29	--	42	43	41	36	33	31	30	25	--		
	6,0	10800	3000	1765	74	65	58	50	43	40	39	42	38	--	50	52	51	48	43	42	40	35	23		
1200x600 equiv. ø1000 0,72m²	0,5	1296	360	212	1	47	36	30	-	-	-	22	--	--	32	30	31	-	-	-	--	--	--		
	1,0	2592	720	424	2	52	43	36	-	-	-	28	23	--	37	37	37	27	24	20	24	20	--		
	2,0	5184	1440	847	8	48	38	28	-	-	-	23	--	--	33	32	29	21	20	18	--	--	--		
	4,0	10368	2880	1694	32	57	50	42	33	30	29	34	29	--	42	43	42	38	34	33	31	25	--		
	6,0	15552	4320	2541	72	65	58	52	44	40	40	42	38	--	50	52	51	50	44	43	41	36	24		

VAV terminal with integral sound attenuator

VSR-QA.

Rectangular inlet and outlet. Supply & return

Sound selection

Pressure drop over unit : 400 Pa

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		
								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
W x H mm	m/s	m³/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		
250x200 equiv. ø250 0,05m²	0,5	90	25	15	1	38	22	-	-	-	-	--	--	--	26	25	23	-	-	-	--	--	--		
	1,0	180	50	29	3	54	40	31	-	-	-	29	25	--	42	43	44	31	25	20	31	28	--		
	2,0	360	100	59	11	56	43	32	-	-	-	31	28	--	44	46	45	36	29	26	33	29	--		
	4,0	720	200	118	45	52	40	35	32	29	24	27	23	--	40	41	38	31	26	24	27	22	--		
	6,0	1080	300	176	100	58	49	46	43	40	34	35	30	--	46	48	46	41	35	33	35	30	--		
400x200 equiv. ø315 0,08m²	0,5	144	40	24	1	41	24	-	-	-	-	--	--	--	29	27	25	-	-	-	--	--	--		
	1,0	288	80	47	3	56	42	33	-	-	-	31	28	--	44	45	46	33	27	22	33	30	--		
	2,0	576	160	94	11	58	45	34	-	-	-	33	30	--	46	48	47	38	31	28	35	31	20		
	4,0	1152	320	188	43	54	42	35	32	29	24	29	26	--	42	44	40	33	28	27	29	24	--		
	6,0	1728	480	282	95	60	50	46	43	40	34	36	33	--	48	51	48	43	37	35	37	32	20		
400x300 equiv. ø400 0,12m²	0,5	216	60	35	1	44	31	22	-	-	-	--	--	--	30	29	27	-	-	-	--	--	--		
	1,0	432	120	71	2	60	49	43	19	-	-	35	32	--	46	47	48	35	28	24	35	32	20		
	2,0	864	240	141	10	62	52	44	24	-	20	37	34	--	48	50	49	40	33	30	37	33	22		
	4,0	1728	480	282	38	58	48	39	32	29	25	33	30	--	44	45	42	34	30	28	31	26	--		
	6,0	2592	720	424	85	64	55	48	43	40	35	40	37	--	50	52	50	45	38	37	39	34	22		
400x400 equiv. ø450 0,16m²	0,5	288	80	47	1	47	34	24	-	-	-	21	--	--	32	30	28	-	-	-	--	--	--		
	1,0	576	160	94	2	62	52	45	21	-	-	38	35	--	47	48	49	36	30	25	36	33	22		
	2,0	1152	320	188	9	64	55	46	26	20	22	40	37	--	49	51	50	41	34	31	38	35	23		
	4,0	2304	640	376	36	60	51	40	32	29	25	36	32	--	45	47	43	36	31	30	32	27	--		
	6,0	3456	960	565	81	66	58	49	43	40	36	42	39	--	51	54	51	46	40	38	40	35	24		
500x400 equiv. ø500 0,20m²	0,5	360	100	59	1	47	34	24	-	-	-	21	--	--	32	30	28	-	-	-	--	--	--		
	1,0	720	200	118	2	62	52	45	22	-	17	38	35	--	47	48	49	37	31	26	36	33	22		
	2,0	1440	400	235	9	64	55	47	27	21	23	40	37	--	49	51	51	42	35	32	38	35	23		
	4,0	2880	800	471	36	60	51	41	32	29	26	36	32	--	45	47	43	37	32	31	32	27	--		
	6,0	4320	1200	706	80	66	58	49	43	40	36	42	39	--	51	54	51	47	41	39	40	35	24		
600x400 equiv. ø560 0,24m²	0,5	432	120	71	1	47	34	25	-	-	-	21	--	--	32	30	29	-	-	-	--	--	--		
	1,0	864	240	141	2	62	52	46	23	-	18	38	35	--	47	48	50	38	31	27	36	34	22		
	2,0	1728	480	282	9	64	55	47	28	21	24	40	37	--	49	51	51	43	36	33	38	35	24		
	4,0	3456	960	565	35	60	51	41	32	29	26	36	32	--	45	47	44	37	33	31	33	28	--		
	6,0	5184	1440	847	79	66	58	50	43	40	36	42	39	--	51	54	52	48	41	40	41	36	24		
800x400 equiv. ø630 0,32m²	0,5	576	160	94	1	47	34	25	-	-	-	21	--	--	32	30	29	-	-	-	--	--	--		
	1,0	1152	320	188	2	62	52	46	24	18	19	38	35	--	47	48	50	39	33	28	37	34	23		
	2,0	2304	640	376	9	64	55	48	29	22	25	40	37	--	49	51	52	44	37	34	39	36	24		
	4,0	4608	1280	753	35	60	51	41	32	29	27	36	32	--	45	47	44	39	34	33	33	28	--		
	6,0	6912	1920	1129	78	66	58	50	43	40	37	42	39	--	51	54	52	49	43	41	41	36	25		
800x500 equiv. ø710 0,40m²	0,5	720	200	118	1	47	36	28	-	-	-	22	--	--	32	30	30	-	-	-	--	--	--		
	1,0	1440	400	235	2	62	54	49	26	21	24	38	35	--	47	48	51	40	34	29	37	35	23		
	2,0	2880	800	471	8	64	57	50	31	25	30	41	37	--	49	51	52	45	38	35	39	36	25		
	4,0	5760	1600	941	33	60	53	43	33	30	30	36	32	--	45	47	45	40	35	34	33	29	--		
	6,0	8640	2400	1412	75	66	60	52	43	40	39	43	39	--	51	54	52	50	44	42	42	37	25		
1000x500 equiv. ø800 0,50m²	0,5	900	250	147	1	47	36	28	-	-	-	22	--	--	32	30	30	-	-	-	--	--	--		
	1,0	1800	500	294	2	62	54	49	27	22	25	38	35	--	47	48	51	41	35	30	38	35	24		
	2,0	3600	1000	588	8	64	57	50	32	26	31	41	37	--	49	51	52	46	39	36	40	37	25		
	4,0	7200	2000	1176	33	60	53	44	33	30	30	36	32	--	45	47	45	41	36	34	34	29	--		
	6,0	10800	3000	1765	74	66	60	52	44	40	40	43	39	--	51	54	53	51	45	43	42	37	26		
1200x600 equiv. ø1000 0,72m²	0,5	1296	360	212	1	47	36	30	-	-	-	22	--	--	32	30	31	-	-	-	--	--	--		
	1,0	2592	720	424	2	62	54	51	31	24	27	39	35	--	47	48	52	43	36	32	38	36	24		
	2,0	5184	1440	847	8	64	57	52	35	29	32	41	37	--	49	51	53	47	41	37	40	37	26		
	4,0	10368	2880	1694	32	60	53	45	34	31	32	37	32	--	45	47	46	42	38	36	35	30	--		
	6,0	15552	4320	2541	72	66	60	53	45	41	41	43	39	--	51	54	53	52	46	45	43	38	26		



Type:

- VSQ- VAV terminal rectangular in- and outlet

Construction:

- SAS - Integral sound attenuator, double wall construction, supply air.
- SAR - Integral sound attenuator, double wall construction, return air.

W x H:

- - 200x100 ... 1200x600

Controls:

- BEX - Belimo LMV-D3-FL, 5Nm without NFC
- BE1 - Belimo LMV-D3-MP, 5Nm with NFC
- BE2 - Belimo NMV-D3-MP, 10Nm with NFC
- BEM- Belimo LMV-D3-MOD, 5Nm MODbus/BACnet

Delivery / Controls

- All controls, supplied and fitted by Air-Concepts, are pressure independent and factory calibrated.
- The unit can be supplied with analogue (0(2)-10V) or DDC (BACnet) controls.
- When units are ordered with controls "free-issued" by 3rd party, wiring diagrams, calibration instructions, calibration tools and mounting instructions must be provided free of charge.
- All controls will be mounted, as standard, on the right hand side of the unit when looking in the direction of airflow, unless otherwise requested.

Specify as:

Example:

Supply and install, VAV terminal, from Magnelis™ sheet steel, double wall construction with integral sound attenuator (1-piece construction). Rectangular inlet and outlet with 4x M8 press nuts on each side suitable for 30mm duct flanges. Casing leakage rate to Class-C (EN-1751). Damper leakage Class-2 (EN-1751).

Acoustical insulation must be combination of high density open cell rubber and mineral wool with woven glass fibre glued top layer, erosion proof up to 20 m/s. Fire rated Class-1

Averaging airflow sensor type FloXact™ fitted inside the unit and insensitive to irregular duct approach.

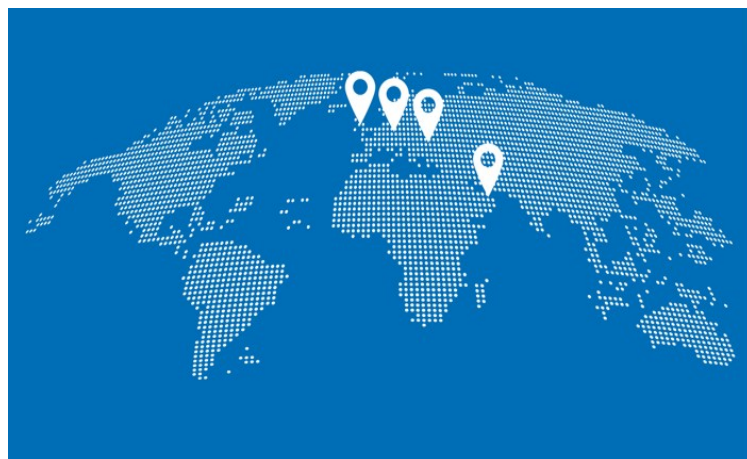
For:

Air volume	 l/s
Application	Supply air
Unit size	 (W x H mm)
Max. pressure loss	 Pa
Max. discharge Lp	 NR
Max. radiated Lp	 NR
Controller	Belimo type LMV-D3-MP factory fitted and calibrated with MP bus and NFC chip for easy on site commissioning.
Manufacturer	Air-Concepts BV
Type	VSQ-SAS-BE1

Air-Concepts locations

Head Office:
AIR-CONCEPTS BV
De Compagnie 22E
1620 AG Hoor
The Netherlands
+31 229 262 300
info@air-concepts.nl
www.air-concepts.nl

Factory:
AIR-CONCEPTS d.o.o.
Obrtniška ulica 25
8010 Trebnje
Slovenia
+386 31 34 22 79
j.pekolj@air-concepts.nl



Sales UK:
BARCOL-AIR UK Ltd
128, City Road
London, EC1V 2NX
United Kingdom
+44 1225 310309
info@barcol-air.co.uk
www.barcol-air.co.uk

Sales Middle East:
AIR-CONCEPTS FZ-LLC
Al Hamra Industrial Zone-FZ
Ras Al Khaimah
United Arab Emirates
info@air-concepts.nl
www.air-concepts.nl