



VCMH

Constant-volume units

Mechanical control

Single-walled and double-walled

LUKA C/ATC 3

Use

The mechanical constant-volume unit type VCMH serves to keep a constant adjustable volume flow, independent of any inlet pressure and without an external energy supply. The unit has a scale in m³/h and can be set easily from the outside. The unit compensates a change to the inlet pressure in the preferred range with an accuracy of approximately 5 to 10 %. In smaller models and/or with lower air volumes, the inaccuracy may increase. The units are suitable for supply air and discharge air.

Characteristics

- Volume range up to 3000 m³/h
- Pressure range of 50-1000 Pa.
- Available in seven model sizes.
- Low internal resistance.
- Insensitive to dirt.
- Can be fitted in any position.
- Can be adjusted across the entire volume range.
- Airtightness class LUKA C/ATC 3.

Finish

housing:	sendzimir galvanised steel sheet
blade spindle:	stainless steel mounting in special no-maintenance bearings

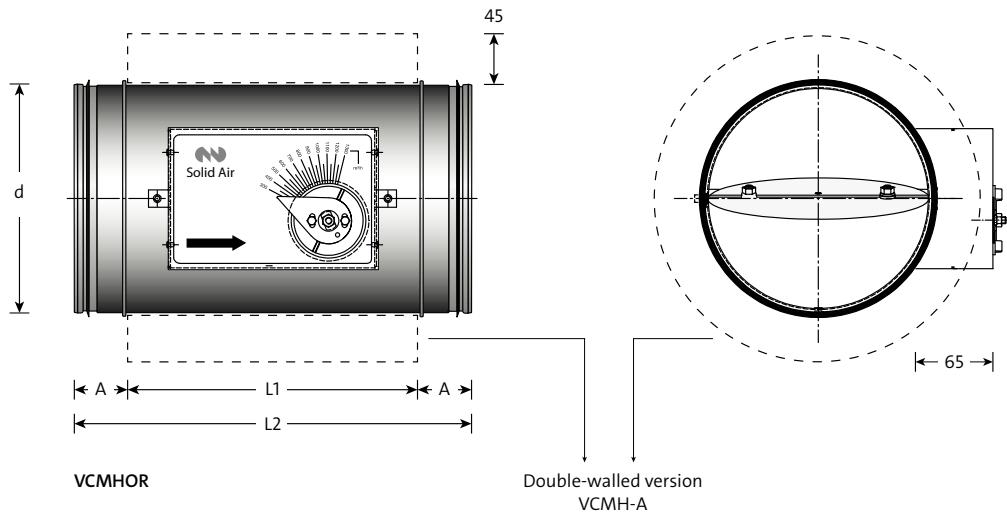
Available types

VCMH--

V volume unit
C constant volume
M mechanical control
H round version, adjustable

- **Adjustable**
 - O** manual
 - M** motor (see price list)
- **Connection**
 - R** single-walled (safe version)
 - A** double-walled (safe version)

Dimensions



Available dimensions

model	A	L1	L2	d
80	40	249	329	79
100	40	249	329	99
125	40	249	329	124
160	40	249	329	159
200	40	249	329	199
250	60	286	406	249
315	60	336	456	314

Comment

- The listed dimensions are in mm.

Fitting

Constant-volume units type VCMH are insensitive to the fitting position. However, the disruption of the flow due to bends and branches must be taken into account. Three times the diameter in a straight flow before the unit is recommended and twice the diameter after the unit. The duct dimension corresponds to the connection size of the unit.

Authority

To guarantee the accuracy of the unit, the pressure drop over the damper blade should at least equal the pressure drop of the section with fittings behind it.

General

The VCMH cannot be put in a closed position.

Selection details

model	air volume				pressure drop over the damper blade																				
					50 Pa						100 Pa						250 Pa								
	L _w in dB/octave band		L _p		L _w in dB/octave band		L _p		L _w in dB/octave band		L _p		L _w in dB/octave band		L _p										
m ³ /s	m ³ /h	P _{min}	m/s		63	125	250	500	1k	2k	dB(A)	63	125	250	500	1k	2k	dB(A)							
80	0.014	50	2.8		40	38	31	32	32	31	12	46	42	36	37	37	36	17	47	43	38	38	39	40	18
	0.022	80	50	4.4	43	39	35	34	36	35	14	48	45	41	38	39	38	20	48	46	44	43	44	45	22
	0.031	110	50	6.1	42	38	36	36	38	36	14	48	43	40	40	41	40	19	49	48	47	45	47	47	24
	0.042	150	50	8.3	43	41	39	41	39	39	17	48	47	45	44	45	44	23	51	51	49	49	49	49	27
	0.056	200	70	11.1	-	-	-	-	-	-	-	51	50	49	49	47	46	26	54	54	55	53	52	52	31
100	0.019	70	50	2.5	25	29	22	23	23	24	-	36	40	33	33	34	35	13	46	42	37	38	39	40	17
	0.036	130	50	4.6	41	38	34	32	35	34	13	45	44	39	39	38	37	18	50	49	44	46	46	46	24
	0.053	190	50	6.7	45	41	38	38	40	38	17	46	46	43	41	41	41	21	51	50	48	48	47	49	26
	0.069	250	50	8.8	45	44	42	43	41	43	20	50	49	48	47	48	46	25	53	54	53	52	51	50	30
	0.083	300	70	10.6	-	-	-	-	-	-	-	52	54	51	51	50	48	29	57	58	55	55	55	55	33
125	0.033	120	50	2.7	43	41	34	33	35	33	15	48	44	38	38	41	39	19	51	50	43	43	45	46	24
	0.056	200	50	4.5	45	42	37	37	39	36	17	48	46	41	40	41	40	21	55	51	48	48	50	49	27
	0.078	280	50	6.3	47	44	39	41	40	39	19	50	49	46	45	46	45	24	54	54	50	51	51	53	29
	0.100	360	50	8.1	48	44	42	43	42	41	20	52	51	49	48	47	47	27	56	57	56	55	54	54	33
	0.139	500	70	11.3	-	-	-	-	-	-	-	55	55	53	54	51	50	31	59	60	59	59	58	60	36
160	0.042	150	50	2.1	46	43	36	35	37	35	17	50	47	40	41	43	41	21	53	52	46	45	46	48	26
	0.083	300	50	4.1	47	43	39	39	39	38	18	52	49	45	44	44	43	24	54	52	49	49	49	51	27
	0.125	450	50	6.2	46	44	41	41	43	40	19	54	51	46	47	49	46	26	58	58	53	55	54	55	33
	0.167	600	50	8.3	48	46	44	45	44	43	22	54	53	51	51	50	50	28	59	58	57	58	56	57	34
	0.222	800	70	11.1	-	-	-	-	-	-	-	56	56	55	57	54	52	33	61	64	63	63	60	60	40
200	0.069	250	50	2.2	45	42	36	36	38	36	17	50	46	40	42	43	40	21	55	53	48	49	50	50	28
	0.125	450	50	4.0	45	42	38	38	39	37	17	51	48	44	43	45	44	23	56	54	50	51	51	52	29
	0.194	700	50	6.2	45	43	40	42	40	39	19	51	49	46	48	48	46	25	58	57	55	55	56	56	33
	0.250	900	50	8.0	49	47	45	46	44	44	23	54	52	52	51	50	29	58	59	58	58	56	57	35	
	0.333	1200	80	10.6	-	-	-	-	-	-	-	55	54	53	54	52	50	30	61	64	61	63	60	60	39
250	0.111	400	50	2.3	48	43	37	38	39	37	18	52	48	42	44	43	44	23	55	52	48	47	49	50	27
	0.194	700	50	4.0	47	44	41	38	39	38	19	53	51	46	45	46	45	26	59	56	51	51	52	53	31
	0.306	1100	50	6.2	48	45	44	42	42	42	21	53	51	48	49	48	47	27	59	57	54	56	54	55	33
	0.389	1400	50	7.9	48	46	44	44	43	42	22	55	54	52	53	51	49	30	58	60	59	57	56	58	36
	0.556	2000	90	11.3	-	-	-	-	-	-	-	57	56	55	57	55	53	33	63	65	62	64	62	61	40
315	0.167	600	50	2.1	44	42	35	35	36	35	16	52	50	42	43	44	43	24	56	53	50	48	51	52	28
	0.306	1100	50	3.9	47	44	41	39	39	39	19	55	52	47	47	47	46	27	60	56	53	53	54	54	32
	0.472	1700	50	6.1	48	45	43	42	42	41	21	54	53	51	49	50	48	28	59	58	56	56	55	56	34
	0.611	2200	50	7.8	50	49	46	46	46	44	24	56	55	52	52	52	50	30	60	61	60	59	59	59	37
	0.833	3000	90	10.7	-	-	-	-	-	-	-	61	60	58	59	56	55	36	63	64	64	63	62	61	41

Noise details

- Minimum static pressure loss over the unit P_{min} in Pa.
- The sound power is given in dB with a reference value of 10⁻¹² Watt.
- The sound-pressure values L_p are given in dB(A) and apply to air noise with an attenuator and a ceiling diffuser with a plenum box. See the octave-band correction table for the relevant calculation values.
- Under L_w and L_p, the above selection tables give the air-noise values. For radiation noise, these need to be corrected in accordance with the radiation-noise table.
- The assumed space attenuation is 10 dB. If the actual value is lower, the dB(A) values have to be corrected.
- **NB:** the L_w values are measured with a duct ending in the clearance (including end reflection).
- For high noise requirements (< 25 dB(A)), hard rooms, light walls, please consult an acoustic adviser.
- It is permitted to interpolate the interim values.
- **NB:** the available pressure drop over the unit should be at least 50 Pa.

Correction table

Radiation noise

model	80	100	125	160	200	250	315
VCMH-O/R single-walled	-18	-17	-17	-15	-14	-13	-12
VCMH-D/A double-walled	-36	-35	-35	-33	-32	-31	-30

Octave-band correction

octave bands	63	125	250	500	1k	2k
air noise	0	5	10	20	30	30