

- Circular
- Galvanized steel
- Motorized 24V or 230V



Motorized Constant air volume control dampers type VRS-M

Motorized CAV controllers for flow control at 2 constant air flows. The minimum and maximum flow can easily be set. To be used for controlling the airflow at a pressure between 50 and 1000 Pa.

Application

- For flow control in ventilation and air conditioning systems at 2 set flow rates (V_{min} - V_{max}) with the following duct sizes and air volumes
 - Ø80: adjustable between 40 & 125 m³/h
 - Ø100: adjustable between 70 & 220 m³/h
 - Ø125: adjustable between 100 and 280 m³/h
 - Ø150: adjustable between 170 and 450 m³/h
 - Ø160: adjustable between 180 & 500 m³/h
 - Ø200: adjustable between 250 & 900 m³/h
 - Ø250: adjustable between 500 & 1600 m³/h
 - Ø315: adjustable between 800 & 2800 m³/h
 - Ø355: adjustable between 900 & 3200 m³/h
 - Ø400: adjustable between 1000 and 4000 m³/h
- Accuracy: +/- 10% of the set air volume

Material

- Galvanized steel housing
- Aluminium regulation blade with piston and spring
- Mechanism for positioning with scale for setting the minimum and maximum air flow

Composition

- Round housing made out of laser welded galvanised steel in standard duct sizes according to DIN EN 12237
- Airtight connection up to class D with EPDM rubber according to DIN EN 12237
- Balanced self-regulating aluminium blade with PTFE bearing and piston to prevent oscillations
- Adjustable scale
- Servomotor 24V or 230V for V_{min} - V_{max} flow setting with mechanical end stops.

Technical data

- Nominal voltage: AC / DC 24 V or AC 230 V
- Nominal frequency: 50/60 Hz
- Power consumption Ø80 - Ø250
 - In operation: 1.5 W @ nominal torque CM230-L / 0.5 W @ rated torque CM24-L
 - At rest: 1 W CM230-L / 0.2 W CM24-L
 - For measuring wires: 3 VA CM230-L / 1 VA CM24-L
 - Cable 1m, 3 x 0.75 mm²
- Power consumption Ø315 - Ø400
 - In operation: 1.5 W @ rated torque LM230A / 1 W @ nominal torque LM24A
 - At rest: 0.5 W LM230A / 0.2 W LM24A
 - For measuring wires: 3,5 VA LM230A / 1,5 VA LM24A
 - Cable 1m, 3 x 0.75 mm²
- Direction of rotation: depending on circuit CW or CCW
- Angle of rotation: limited on both sides by adjustable, mechanical end stops. The actuator is protected against overload, requires no limit switches and stops automatically when the end stop is reached
- Torque CM-L: 2 Nm, Torque LM A: 5 Nm
- Rotation time CM-L: 75 s / 90 °, Running time LM A: 150 s / 90 °
- Noise level: max. 35 dB (A)
- Designation position: mechanical, pluggable
- Integrated magnet for manual operation (magnetic gear release)
- Protection level: IP54 in every mounting position
- Ambient temperature range of servomotor during operation: -30 ... 50 ° C

Mounting

- Set minimum and maximum flow rates by setting the mechanical end stops of the servomotor according to the scale
- To be inserted at both sides into a round duct and to be equipped with a silencer if necessary
- Horizontal or vertical mounting

Accessories

- Insulation shells available upon request

Text for tender

- The regulation of the airflow of the duct network is done by means of motorized valves for constant air volume control for Vmin - Vmax switching. The round control valves are constructed from a galvanized steel laser welded tunnel in which an aluminum control valve with rotating blade is incorporated. It controls the airflow with a constant flow rate within an operating range between 50Pa and 1000Pa. The regulator is resistant to varying pressures in the duct and is provided with an airtight maintenance-free bearing made of PTFE. The air flow rate is preset at the factory, but can be adjusted manually. The calibrated scale outside the regulator allows very accurate adjustment of the flow. The valves are available in duct diameters 80, 100, 125, 150, 160, 200, 250, 315, 355 and 400. The control valves are mounted between 2 channels where a rubber double lip seal provides an air-tight connection to air-tightness class D with the duct.

- **Cairox Type VRS-M**

Order example

- **VRS-M, 125, 24V**

Explanation

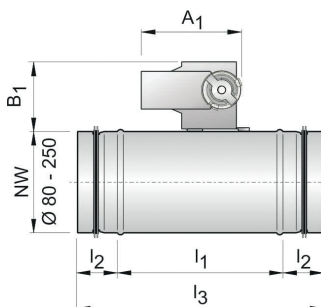
VRS-M = Type of constant air valve

125 = Duct diameter

24V = With actuator CM24-L (24V)

Other available products

- Stainless steel models available on request



Dimensions					
VRS-M	ØD [mm]	L1 [mm]	L2 [mm]	A1 [mm]	B1 [mm]
80	79	140	40	158	105
100	99	170	40	158	105
125	124	170	40	158	105
150	149	240	40	158	105
160	159	240	40	158	105
200	199	240	40	158	105
250	249	240	40	158	105
315	314	225	60	158	105
355	354	295	60	158	105
400	398	295	60	158	105

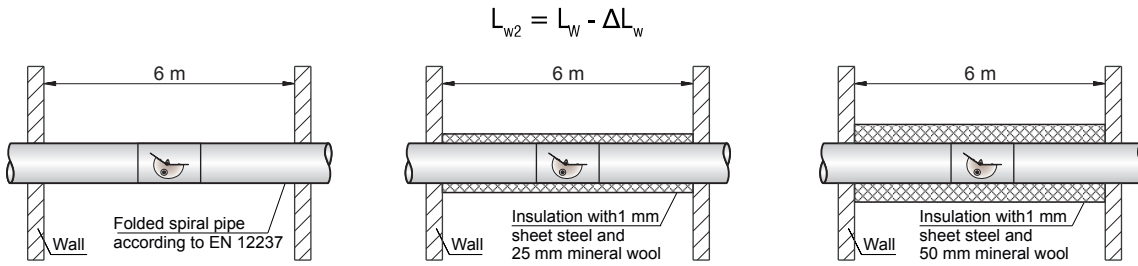
Sound data											
Ø	v [m/s]	Q [m³/h]	Lw [dB/Oct] - 100 Pa								Lw(A)
			63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
80	2.2	40	37	37	35	33	33	33	28	27	38
	4.5	82	49	47	44	41	39	39	33	32	45
	6.9	125	52	51	48	45	44	44	38	37	49
100	2.5	70	40	39	38	36	35	36	30	29	41
	4.8	135	50	48	45	42	41	40	34	33	46
	7.1	200	54	52	49	47	45	45	39	38	51
125	2.3	100	41	40	38	36	35	36	30	29	41
	4.3	190	51	49	46	42	41	40	34	32	46
	6.3	280	54	53	50	47	45	45	39	37	50
140	2.7	150	43	42	40	38	37	37	31	30	42
	4.9	270	53	51	47	44	43	42	36	34	48
	7.2	400	56	55	52	49	47	47	41	39	52
150	2.4	150	43	42	40	38	37	37	31	30	42
	4.2	270	52	50	46	43	41	41	34	33	47
	6.3	400	56	54	50	47	46	45	39	38	51
160	2.5	180	44	43	41	39	38	38	32	31	43
	4.7	340	53	51	48	44	43	42	36	34	48
	6.9	500	57	55	52	49	47	47	40	39	52
200	2.2	250	45	43	41	39	38	37	31	30	43
	5.1	575	55	53	50	46	44	44	37	36	50
	8	900	-	-	-	-	-	-	-	-	-
250	2.8	500	48	47	45	43	41	41	35	34	47
	5.7	1000	57	55	52	49	47	46	39	38	52
	8.5	1500	-	-	-	-	-	-	-	-	-
315	2.9	800	48	46	44	41	39	39	32	31	44
	5	1400	57	55	52	48	46	45	39	37	51
	7.8	2200	-	-	-	-	-	-	-	-	-
355	2.5	900	50	48	46	43	42	41	35	33	47
	5.6	2000	59	57	53	50	48	47	40	39	53
	9	3200	-	-	-	-	-	-	-	-	-
400	2.2	1000	50	48	45	42	41	40	33	31	46
	4.9	2200	58	56	52	49	47	46	39	37	52
	8.4	3800	-	-	-	-	-	-	-	-	-
Ø	v [m/s]	Q [m³/h]	Lw [dB/Oct] - 250 Pa								Lw(A)
			63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
80	2.2	40	39	42	43	44	44	46	41	41	50
	4.5	82	51	51	50	49	48	49	44	44	54
	6.9	125	61	60	57	54	53	53	47	46	58
100	2.5	70	43	45	46	46	47	49	44	43	53
	4.8	135	59	57	54	51	50	49	43	42	55
	7.1	200	63	61	58	55	54	54	48	47	59
125	2.3	100	45	47	47	48	48	49	44	43	54
	4.3	190	55	54	53	51	51	51	46	45	56
	6.3	280	63	61	58	55	54	53	47	46	59
140	2.7	150	47	49	49	49	50	51	46	45	55
	4.9	270	61	59	56	53	51	51	44	43	57
	7.2	400	65	63	60	57	56	55	49	48	61
150	2.4	150	47	49	49	49	50	51	45	44	55
	4.2	270	56	56	54	52	52	52	46	46	57
	6.3	400	64	62	59	56	54	54	48	46	60
160	2.5	180	48	50	50	50	50	51	46	45	56
	4.7	340	62	60	56	53	51	51	44	43	57
	6.9	500	66	64	61	58	56	55	49	48	61
200	2.2	250	51	52	52	51	51	51	45	44	56
	5.1	575	64	62	58	55	53	53	46	45	59
	8	900	68	66	63	60	58	58	52	50	64
250	2.8	500	54	56	55	55	54	55	49	48	60
	5.7	1000	66	64	61	57	55	55	48	47	61
	8.5	1500	70	68	65	62	60	60	53	52	65
315	2.9	800	55	56	55	54	53	53	46	44	58
	5	1400	66	64	60	57	55	54	47	46	60
	7.8	2200	71	69	65	62	60	59	53	51	65
355	2.5	900	57	58	57	56	55	55	49	47	60
	5.6	2000	68	66	62	59	57	56	49	47	62
	9	3200	73	71	67	64	62	61	55	54	68
400	2.2	1000	58	59	57	56	55	54	47	45	59
	4.9	2200	67	65	61	57	55	54	48	46	61
	8.4	3800	73	71	67	64	62	61	55	53	67

Ø	v [m/s]	Q [m³/h]	Lw [dB/Oct] - 500 Pa								Lw(A)
			63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
80	2.2	40	46	49	49	50	51	53	48	48	57
	4.5	82	58	58	56	55	55	56	51	51	61
	6.9	125	68	66	63	61	59	59	53	52	65
100	2.5	70	49	52	52	53	54	55	50	50	60
	4.8	135	60	60	58	57	57	58	53	52	63
	7.1	200	70	68	65	62	61	60	54	53	66
125	2.3	100	52	54	54	54	55	56	50	49	60
	4.3	190	61	61	59	58	57	58	52	52	63
	6.3	280	64	64	62	61	61	62	57	56	67
140	2.7	150	53	56	56	56	56	58	52	51	62
	4.9	270	63	63	61	60	59	60	54	54	65
	7.2	400	72	70	67	64	62	62	56	55	68
150	2.4	150	54	56	56	56	56	57	52	51	62
	4.2	270	63	62	60	59	58	59	53	52	64
	6.3	400	65	65	64	62	62	63	57	57	68
160	2.5	180	55	57	57	57	57	58	53	51	63
	4.7	340	64	64	62	60	60	60	55	54	65
	6.9	500	72	70	67	64	62	62	56	54	68
200	2.2	250	57	59	58	58	57	58	52	50	63
	5.1	575	66	66	64	62	62	62	56	56	67
	8	900	75	73	70	67	65	65	58	57	70
250	2.8	500	61	62	62	61	61	62	56	54	66
	5.7	1000	69	68	67	65	64	64	59	58	69
	8.5	1500	77	75	72	68	67	66	60	58	72
315	2.9	800	62	63	62	61	60	59	53	51	65
	5	1400	70	69	67	65	64	64	58	57	69
	7.8	2200	77	75	72	69	67	66	60	58	72
355	2.5	900	64	65	64	63	62	62	55	53	67
	5.6	2000	72	71	69	67	66	66	60	59	71
	9	3200	79	77	74	71	69	68	62	60	74
400	2.2	1000	65	65	64	62	61	61	54	51	66
	4.9	2200	72	71	68	66	65	65	59	57	70
	8.4	3800	79	77	74	70	68	68	61	60	74

Symbols and specifications

- Q [m³/h] = Air volume in m³/h
- Ø = Duct diameter in mm
- 100Pa, 250Pa of 500Pa = Static pressure in Pa
- Lw (0m (int.)) = Generated sound power in the duct divided into dB per octave band at 0 m
- Lw ext. duct L = 6m = The radiated sound of a duct with a length of 6 m expressed as Lw in dB

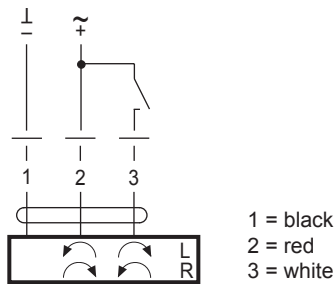
Radiated sound data									
Ø	ΔLw [dB/Oct] - non insulated duct								
	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
80	36	33	32	23	17	12	11	11	
100	34	32	30	22	16	12	11	10	
125	29	29	31	24	21	19	15	11	
140	27	28	27	21	18	14	12	10	
150	25	25	23	19	14	12	11	9	
160	23	23	20	18	11	10	9	8	
200	22	19	16	16	15	11	9	8	
250	19	16	13	12	12	10	9	8	
315	18	14	12	13	11	11	8	8	
355	17	12	11	11	10	10	7	7	
400	17	11	10	10	10	9	7	6	
Ø	ΔLw [dB/Oct] - insulated duct (25mm)								
	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
80	39	35	39	35	32	33	34	29	
100	38	35	38	34	31	33	34	28	
125	35	33	37	36	32	33	36	27	
140	29	29	32	32	32	33	33	26	
150	28	27	30	30	29	32	32	25	
160	27	26	28	29	27	31	31	25	
200	23	18	23	26	29	29	29	24	
250	23	18	20	24	26	30	28	24	
315	22	17	19	23	27	29	28	24	
355	20	15	18	22	26	28	27	23	
400	19	14	17	22	25	28	27	23	
Ø	ΔLw [dB/Oct] - insulated duct (50mm)								
	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
80	42	37	45	46	47	54	56	47	
100	41	38	46	45	47	54	57	47	
125	35	36	42	48	51	60	58	45	
140	31	30	37	42	45	52	54	44	
150	30	29	36	41	44	51	54	44	
160	29	28	35	40	44	51	54	44	
200	26	22	29	37	42	51	53	43	
250	25	20	26	35	41	50	52	42	
315	26	18	26	38	42	51	53	45	
355	23	17	24	35	40	49	51	42	
400	20	16	23	33	39	48	50	40	



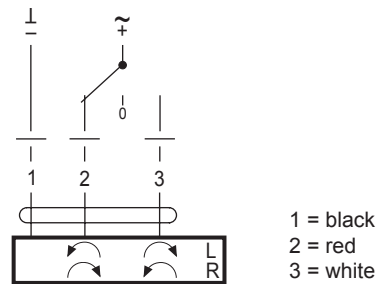
$L_{w2} = L_w - \Delta L_w$
 L_{w2} = Case radiated noise in dB
 L_w = Sound power given for the frequencies f [Hz] from 63 up to 8000 Hz
 ΔL_w = Correction values for case radiated noise in dB

Wiring diagram

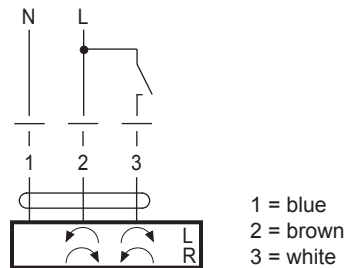
AC/DC 24 V, open-close



AC/DC 24 V, 3-point



AC 230 V, open-close



AC 230 V, 3-point

