

CONTENTS

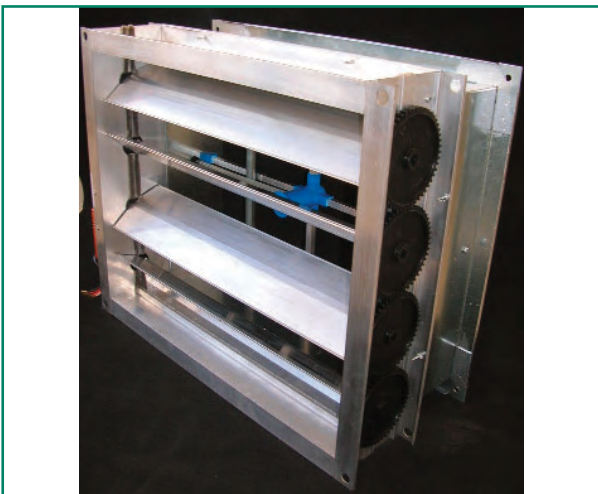
	Page
Introduction	2
Models and dimensions	3
Technical data. Selection tables	4
Technical data. Selection charts	5
Product codes	6

VAV regulator, JVR model



Description

The JVR variable air volume regulators are rectangular control units for use in variable air volume flow systems and single-duct installations. The regulators consist of an air inlet connection manufactured of galvanised sheet and fitted with a cross-shaped sensor that has differential pressure inlets. The control damper has opposed, aerodynamic blades and is manufactured of aluminium. The damper body includes internal airtight seals around its entire perimeter to ensure excellent air tightness. The blades are operated by a gear mechanism to achieve proper friction. The VAV regulator can be fitted with fibreglass thermal-acoustic insulation internally (JVR-DS regulator) upon request.



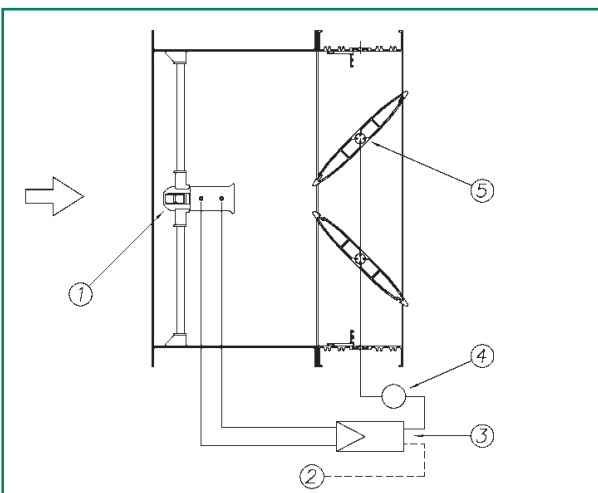
Applications

The JVR regulator is installed to supply variable air volume flow to the room, based on variations in the thermal loads or demands of the room. The unit can also be installed for the purpose of controlling the return of air from a room as a function of the incoming air volume, such that the volume maintains a certain level of over pressure or under pressure with respect to the adjacent rooms.

Control

The air flow regulation is electronic. The control assembly for JVR VAV regulators is composed of the following:

- 1 Differential pressure sensor.
- 2 Temperature sensor (not included in the regulator).
- 3 Controller that receives signals from the temperature and differential pressure sensors.
- 4 Actuator to modulate the volume control damper, based on the signal received by the regulator 5.



The VAV regulator and the actuator are combined in a compact part that includes both functions. The desired maximum and minimum flow rates are set in the VAV regulator and controlled by the actuator according to the signal from the differential pressure sensor; this signal is then converted by the regulator into a flow set point. The VAV regulator varies the air volume within these limits, based on the signal received from the temperature sensor. Flow adjustments and operating tests of all units are performed at the factory.

Technical data. Selection tables

Technical data table. Sound power level and pressure loss

The following table can be used to obtain the sound power level of regenerated noise (in dB/octaves), from a front air flow velocity and a degree of damper opening (pressure loss, in Pa).

The data shown in the following table are for VAV regulators with an area of 1 m². For other cross-sections, please use the correction factor listed on this page.

JVR		P _{est} (Pa)	REGENERATED NOISE								
% open	V (m/s)		Octave bands (Hz) - Sound power (dB)								L _W - dB(A)
			63	125	250	500	1000	2000	4000	8000	
100	6	2	55	56	52	50	44	44	36	37	52
	8	3	64	64	60	58	52	52	45	45	60
	10	4	70	71	67	64	59	58	51	51	66
	12	6	75	76	72	69	64	63	56	56	71
	15	10	81	82	78	76	70	70	62	62	78
80	6	15	55	59	59	59	58	52	43	40	62
	8	26	63	66	66	66	65	59	51	47	69
	10	40	68	72	72	72	71	65	56	53	75
	12	58	73	76	77	76	76	69	61	57	79
	15	91	79	82	82	82	81	75	67	63	85
60	3	48	50	56	59	64	67	60	49	40	71
	4	85	57	63	65	71	74	67	56	47	78
	5	133	62	68	71	76	79	73	62	52	83
	6	191	67	73	75	81	84	77	66	57	87
	7	260	70	76	79	84	88	81	70	60	91
40	1	23	40	49	46	50	55	53	42	32	59
	2	93	56	64	61	65	70	69	57	47	75
	3	209	65	73	70	74	79	78	66	56	84
	4	372	71	79	77	81	86	84	72	62	90
	5	581	76	84	81	86	91	89	77	67	95
20	0,5	37	37	42	40	44	44	47	44	40	52
	1,0	146	53	59	57	60	61	64	61	56	69
	1,5	329	63	69	67	70	71	74	71	66	79
	2,0	585	70	76	74	77	78	81	78	73	86
	2,5	914	75	81	79	83	83	86	83	78	91

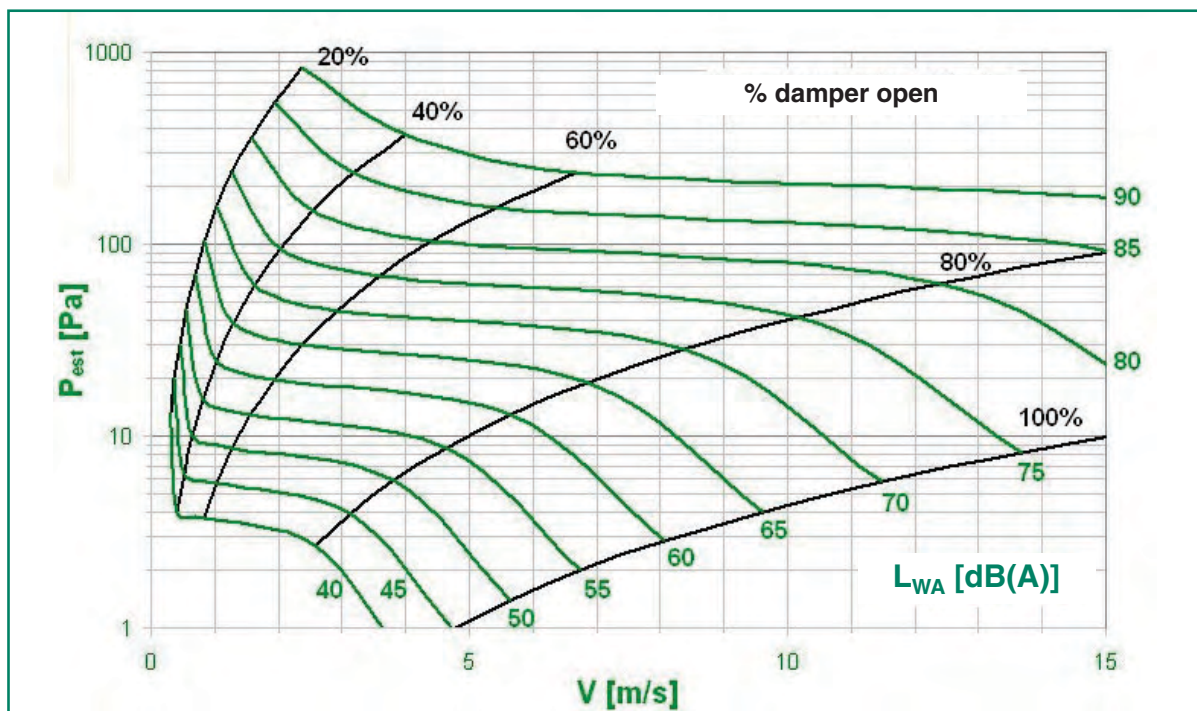
Sound power level correction values, for various control damper cross-sections

Area (m ²)	0,1	0,15	0,2	0,3	0,4	0,5	0,7	0,9	1	1,2	1,4	1,6	2
Correction	-10	-8	-6	-5	-4	-3	-2	-1	0	1	2	3	5

Technical data. Selection chart

Sound power and pressure loss chart, for % opening (20% to 100%)

The following chart corresponds to VAV regulators with an area of 1 m². For other sections, please use the correction factor listed in the table on the previous page.



Symbols

- V (m/s)** Frontal air flow velocity through the damper, in m/s
- P_{est} (Pa)** Pressure loss in the VAV regulator, in Pa
- L_{WA} [dB(A)]** Sound power level, in dB(A)

Product codes

The VAV regulator identification will be coded according to the nomenclature indicated in the table.

JVR	VAV regulator
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JVR-DS	VAV regulator, insulated
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L x H	Dimensions, in mm
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Q _{min} - Q _{max}	Air flow minimum-maximum of setting
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Coding example: **JVR-DS 500x300**

*The manufacturer's brand for control components must be specified in the order.

**The mechanisms and fasteners are made of corrosion-resistant materials.



factory setting