Damper - rectangular DJP

Description

DJP is a rectangular control and shut-off damper.

DJP has opposing aerodynamic damper blades that are rotated via a lever device. The damper is supplied with an LS connection system for rectangular ducts. The damper can be used for pressure or volume flow regulation with external control options (open, closed, min., max.) depending on the form of control/regulation.

The damper can be con-trolled by an FRA (as a VRA) or a PR regulator, directly by a temperature sensor or BMS system (2–10 V modulating) or as a slave for another damper (mechanical slave operation with the same damper position).
DJP is also avaliable with a spring return motor.

When ordering, it is important to specify the form of control, and whether the damper motor must be programmable. All DJP dampers have Belimo motors installed.

Ordering example

Product **DJP** **a** **A x B** **c** **d**

Type

Standard 0
Spring return 3

Size

A (Width)
B (Height)

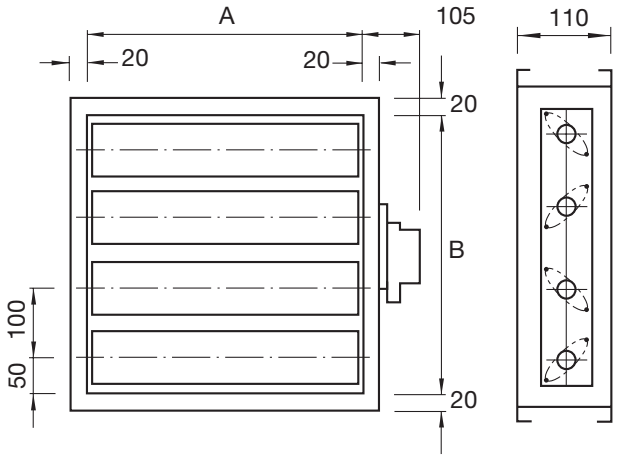
Form of control

R: Regulator-controlled
S: Slave or sensor-controlled

Programming

U: Without programming
P: Programmable

Dimensions



Motor overview

Type	Motor 0	Motor 3
DJP-RU	NM24A-V	NF24A-MF
DJP-RP	NM24A-MF	NF24A-MF
DJP-SU	NM24A-SR	NF24A-SR
DJP-SP	NM24A-MF	NF24A-MF

RU Used only with PR (and FRU) and is preset to a VAV input signal: 6 ± 4 V.

RP Has a programmable motor, is used together with PR and is preprogrammed for a VAV input signal: 6 ± 4 V. Has a modulating output signal indicating damper position for mechanical control of a slave damper.

SU Has a motor, which is controlled by a modulating input signal (2-10 V).
Also has a modulating output signal indicating damper position.

SP Has a programmable motor, which can be controlled by an optional input signal (standard modulating). Also has a modulating output signal indicating damper position for mechanical control of a slave damper.

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Technical data

Frequency-related sound effect level

DJP-1m^2		Sound power level [L_{w}] [dB]							
Duct velocity	Pressure difference [Pa]	Centre frequency [Hz]							[L_{WA} (A)] [dB(A)]
		125	250	500	1000	2000	4000	8000	
2m/s	50	62	60	59	53	50	45	42	60
	100	66	64	62	59	57	54	52	65
	200	71	65	63	65	65	61	58	70
	400	81	80	79	81	81	78	76	86
4m/s	50	65	63	62	56	53	48	45	63
	100	69	67	65	62	60	57	54	68
	200	74	68	67	68	68	64	60	73
	400	84	83	82	84	84	81	79	89
6m/s	50	67	65	63	57	54	49	45	64
	100	72	68	67	65	63	58	49	70
	200	75	69	68	70	71	66	63	76
	400	85	84	83	86	85	83	80	91
8m/s	50	68	66	63	59	56	51	48	65
	100	74	73	71	67	65	59	56	73
	200	80	80	79	75	75	70	65	82
	400	87	86	85	87	87	84	81	92

Correction of sound effect level for other damper sizes

Area [m^2]	0,1	0,2	0,4	0,6	0,8	1,0	1,5	2,0
dB correction	-10	-7	-4	-2	-1	0	+2	+3

Damper - rectangular DCT/DJP

Technical data

Dimensioning

When dimensioning the dampers inherent noise from the dampers and their regulating properties (damper characteristics) must be taken into consideration.

If excessively large dampers are used, the working area (angle of rotation) at given V_{min} and V_{max} may be so limited that regulation does not function satisfactorily. Efforts must be made to use damper dimensions that result in the largest possible working areas (angles of rotation).

Due to regulation accuracy, working areas with damper angles > 75° should be avoided. The diagram shows the damper position at given pressure losses and volume flows.

Example

The example shows the working area for a Ø250 mm damper, which works between

V_{max} =1,236 m³/h; Δp = 50 Pa

and

V_{min} =309 m³/h ; Δp = 100 Pa.

The diagram shows damper positions 31° and 69°.

Correction of sound effect level for other damper sizes