

## ■ Volume control damper RŽ-7

### Application

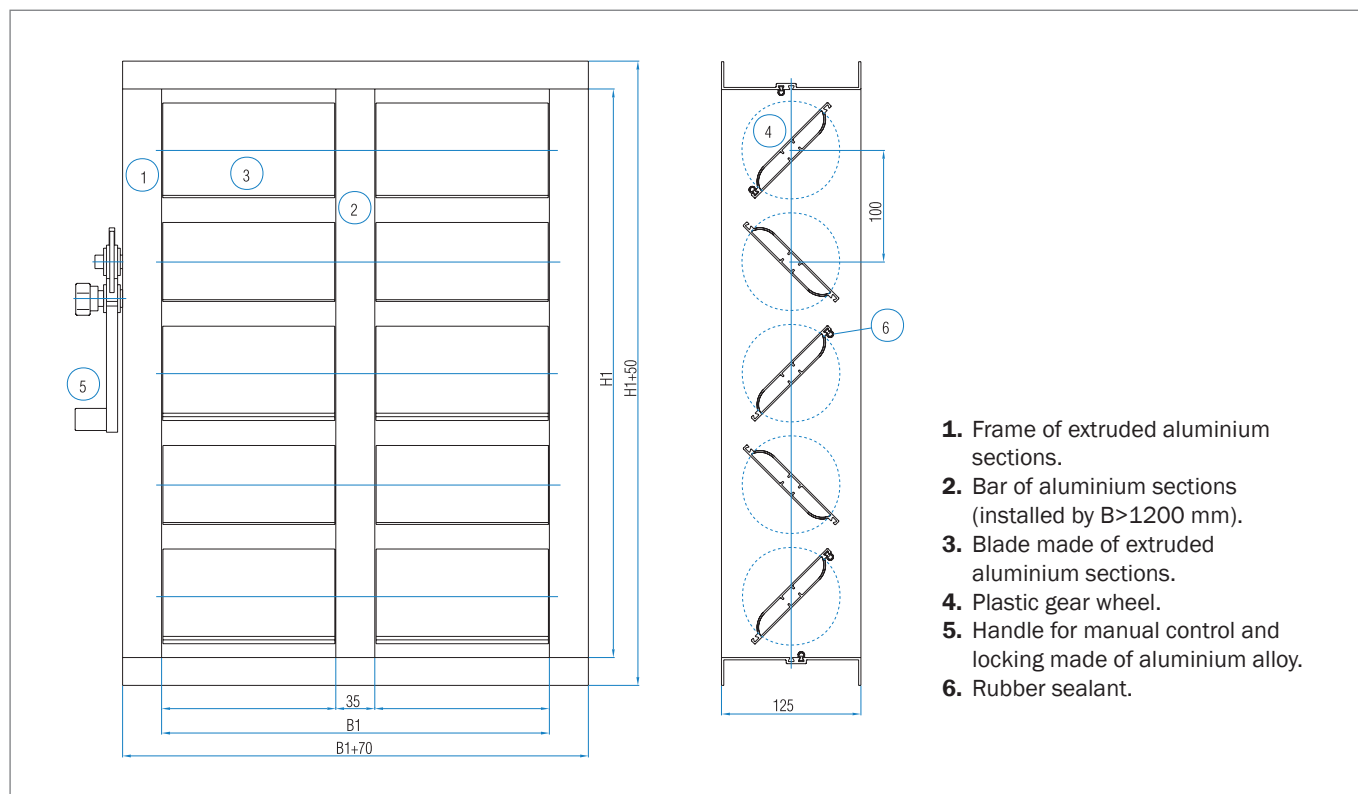
Volume control dampers are designed for regulation of air flow and pressure in ventilating ducts and air handling units.

### Description

Frame and blades are made of extruded aluminium sections. Blades are inserted in plastic bearings. They are driven via the plastic gear wheels, fixed in the frame section with plastic holders. Mechanism is encased in separate housing and therefore protected from dust and other influences. A rubber strip attached on blades provides better sealing. Blades open in opposed direction only. The dampers can be regulated manually (standard version) or power operated by electric actuator. Volume control damper is temperature resistant to 70 °C.



### Construction and dimensions



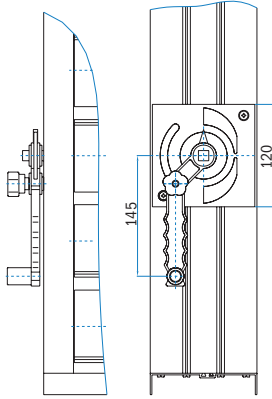
### Sizes RŽ-7

H1 (mm)	110	210	310	410	510	610	710	810	910	1010	1110	1210	1310	1410	1510	1610	1710	1810	1910	2010
B1 (mm)	100	150	200	300	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

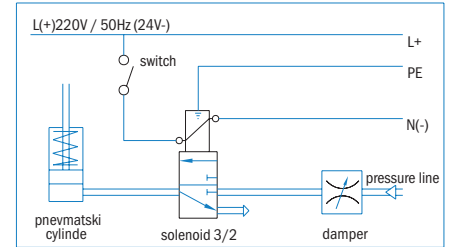
n – number of vanes

**Regulation types:**

**Manual control with handle and locking mechanism**



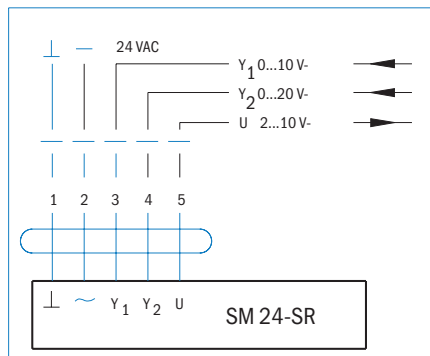
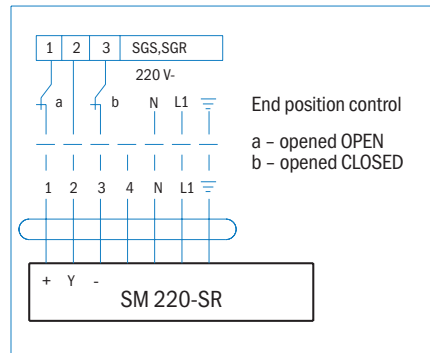
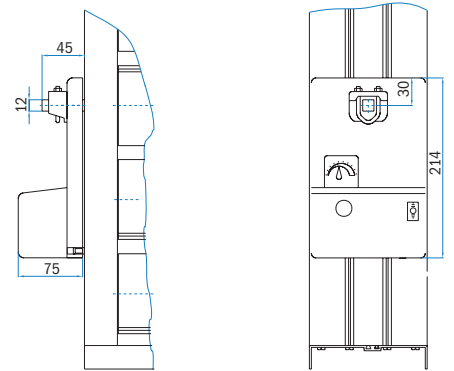
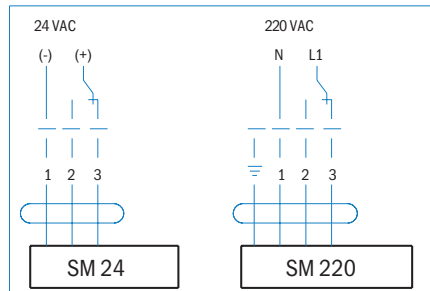
**Wiring scheme**



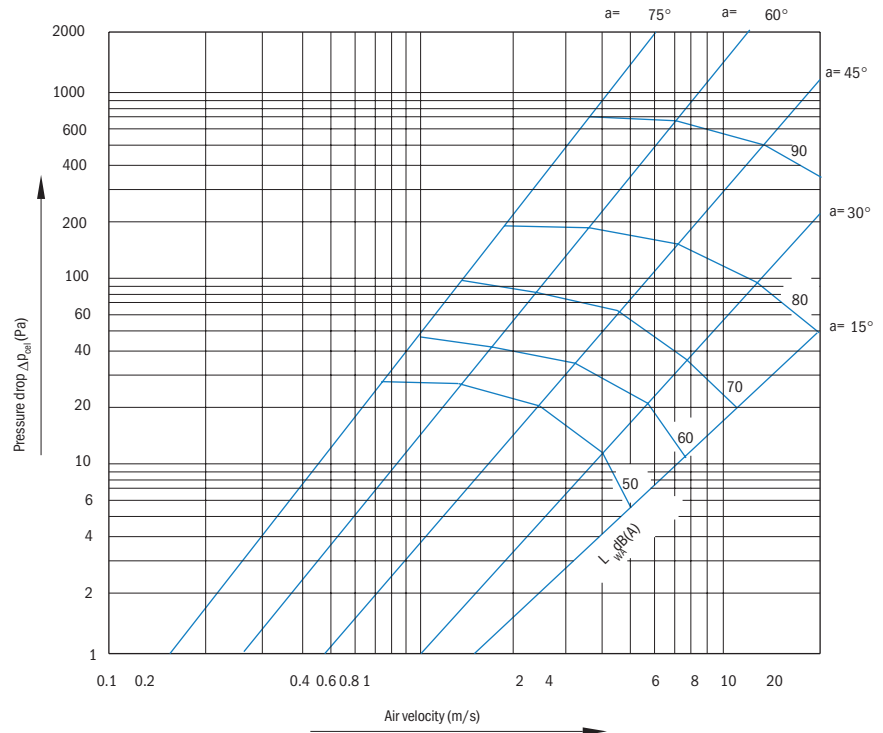
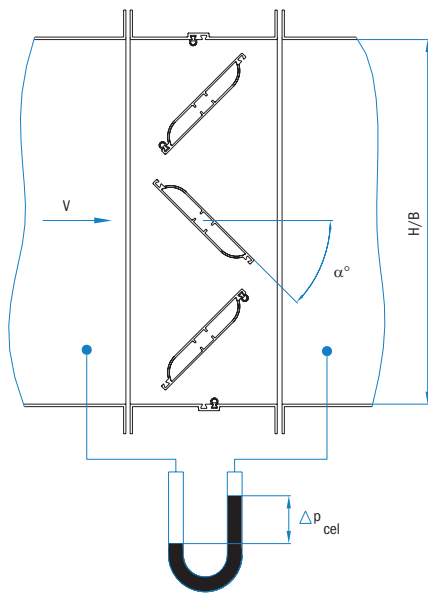
**Power driven by electric actuator BELIMO**

**Wiring scheme**

Two position control requires actuators type SM 24 or SM 220 with 15 Nm. of output power (see page 46) Continuous control and blades position of 0° - 90° is achieved with actuators SM 24-SR or SM 220-SR.



### Pressure drop and sound power level diagram



$$v = Q(\text{m}^3/\text{h}) / (H(\text{m}) \times B(\text{m}) \times 3600(\text{s}/\text{h}))$$

#### Volume control damper sealing:

Closed volume control damper of 1 m<sup>2</sup> area has a leakage of approx. 50 m<sup>3</sup>/h at the pressure of 100 Pa.

(Standard DIN 1946 permits leakage of 10 m<sup>3</sup>/h at equal conditions).

#### Ordering key

**RŽ-7 / R / B1 x H1**

- R** Manual control
- B** Power driven but without actuator
- B1** Actuator LM24A
- B2** Actuator LM230A
- B3** Actuator LM 24A SR
- B4** Actuator NM 24A
- B5** Actuator NM 230A
- B6** Actuator NM 24A-SR
- B7** Actuator SM 24A
- B8** Actuator SM 230A
- B9** Actuator SM 24A SR (continuous regulation)
- B10** Actuator SM 230A SR

**Note:** The range of applicability of individual actuators – see table on page 333.

#### Definition of symbols

- $\alpha$  ° Blade angle
- $\Delta p_{\text{cel}}$  (Pa) Pressure drop difference
- $v$  (m/s) Velocity in duct
- $Q$  (m<sup>3</sup>/h) Air flow
- $L_{\text{WA}}$  (dB(A)) Sound power level