

**KR Regulating and shut-off damper**

Damper for shut-off and regulation of air flow in rectangular duct systems.



**Versions and Structure**

KR dampers are manufactured of galvanized steel. Blade bearings are from polyamide. All blades with profiled sandwich structure and smooth surface to prevent thermal bridges and dirt accumulation. Dampers casing with thermal insulation there is used mineral wool for insulation.

KR dampers are manufactured in 4 versions:

- KR2** – Damper, tightness class 1 (EVS-EN 1751:2014). For regulating air flow in duct systems.
- KR4** – Edge-sealed damper for shut-off and regulation, tightness class 3 (EVS-EN 1751:2014). For systems with high requirements for tightness.
- KR4-S** – Edge-sealed damper for shut-off and regulation with thermal insulation, tightness class 3 (EVS-EN 1751:2014). For systems with high temperature variations and high requirements for tightness.
- KR4-S LE** – Edge-sealed damper for shut-off and regulation with thermal insulation, tightness class 3 (EVS-EN 1751:2014)

Type	Tightness class	Sealed blades	Insulated blades	Insulated casing
KR2	1			
KR4	3	x		
KR4-S	3	x	x	
KR4-S LE	3	x	x	x

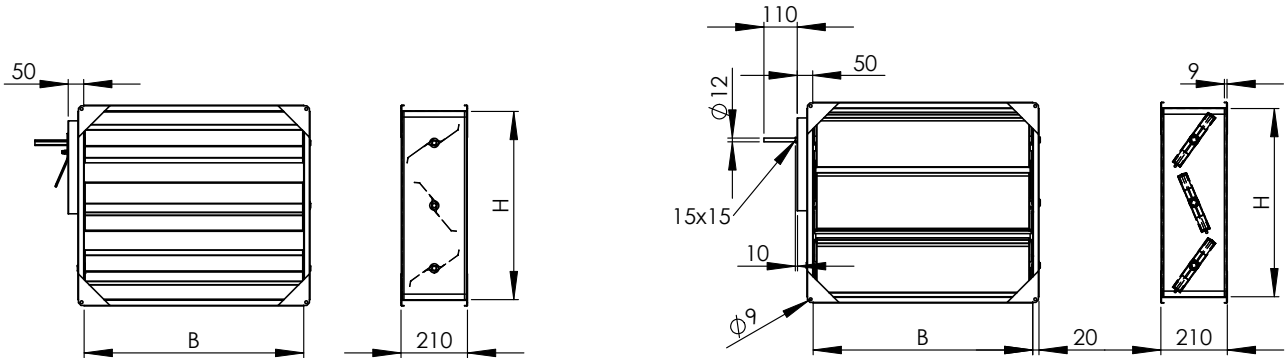
KR type of damper external casing leakage class is C according to EN 1751:2014. The temperature range of the KR damper is -40... ..+80 °C.

**Dimensions**

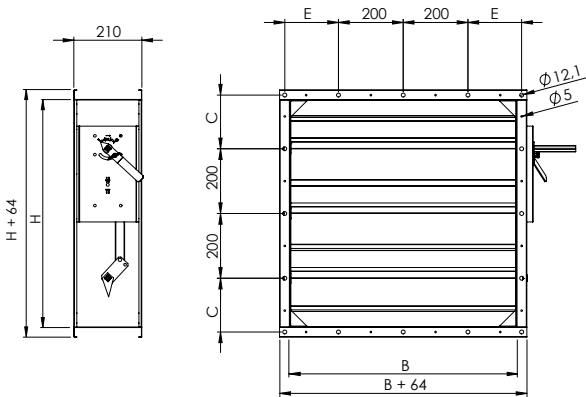
- Width B - 200 mm, ....., 2500 mm (pitch is 10 mm)
- Height H - 200 mm, ....., 3000 mm (pitch is 10 mm), when  $H \geq 2000$  mm and  $B \geq 1500$  mm the damper is made from two or more modules (separate actuators).
- B x H - Max 5 m<sup>2</sup>, if surface area >5 m<sup>2</sup>, the damper is made from two or more modules (separate actuators).

NB! KR4-S LE - Damper casing with thermal insulation increases the outer dimension of the damper on all sides by +30 mm (also observe the dimension of the motor base)!

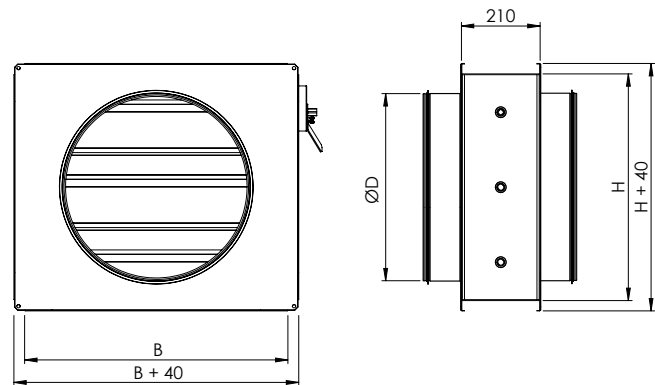
The rounded shaft (Ø12 mm) is used when damper blades area is <0,6 m<sup>2</sup>!



**KR damper with flange connection**



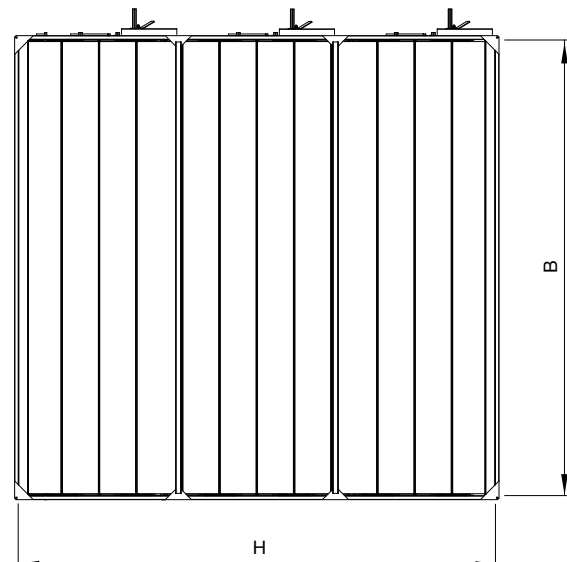
**KR damper with round connection**



**Dimensions for vertical installation:**

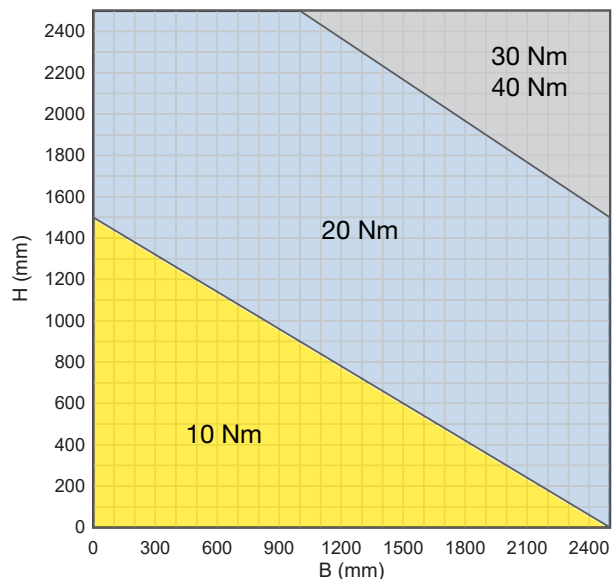
- Width B=3000 - Max. H=800 mm (one module)
- Width B=2800 - Max. H=1000 mm (one module)
- Width B=2600 - Max. H=1200 mm (one module)

**Sample for vertical installation**










### Actuator selection

The torque required for closing the damper is based on the dimensions of the damper:



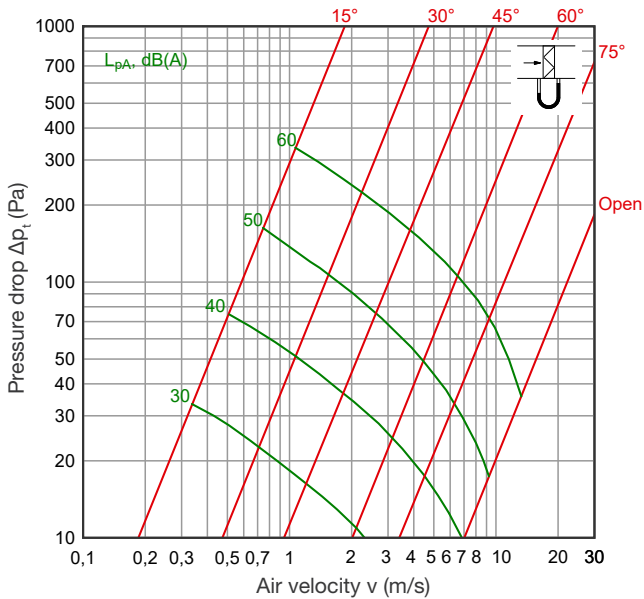
When choosing an actuator, the cross-sectional area of the damper, the width-to-height ratio, the installation conditions and the functions intended for the actuator must be taken into account. NB! There are separate instructions for the actuators ([www.belimo.com](http://www.belimo.com)).

		24V	230V	Torque (Nm)
Spring return		NFA 24-240V 2,0 kg		10
		SFA 24-230V 2,2 kg		20
		EF 24A 4,6 kg	EF 230V 2,0 kg	30
		GK 24A-1 1,9 kg		40
Without spring		NM 24A 0,72 kg	NM 230A 0,72 kg	10
		SM 24A 0,94 kg	SM 230A 0,94 kg	20
		GM 24A-SR 1,6 kg	GM 230A 1,6 kg	40

**Technical parameters**

KR-type regulating damper blades tightness class has been tested according to standard EN 1751: 2014.

**Pressure drop in the duct**



**Product marking**

**KR2 - H B x H - D2 - 1 R-50**

Type

- KR2 - tightness 1
- KR4 - tightness 3
- KR4-S - tightness 3, with insulated blades
- KR4-S LE - tightness 3, with insulated blade and casing

Material

- Galvanized steel (DX51D+Z275), standard material (not marked)
- H - acid-proof steel (AISI 316L)
- ZM - Magnelis®, zinc-magnesium coated steel (ZM310)

Width B x Height H

Round connection

- D1 - diameter, round connection one end
- D2 - diameter, round connection both ends

Accessories

- 1 - damper mechanism cover
- 2 - actuator weather protection

Wall mount

- R-50 - Wall profile (L profile width 50 mm), actuator on the right
  - L-50 - Wall profile (L profile width 50 mm), actuator on the left
- Note! View of the actuator location from the room side!

**Example: KR4-S-H 400x400 D1=400 1**