Air dampers



JKG-1 (Parallel rotating blades)

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JKK-2 (Counter rotating blades)

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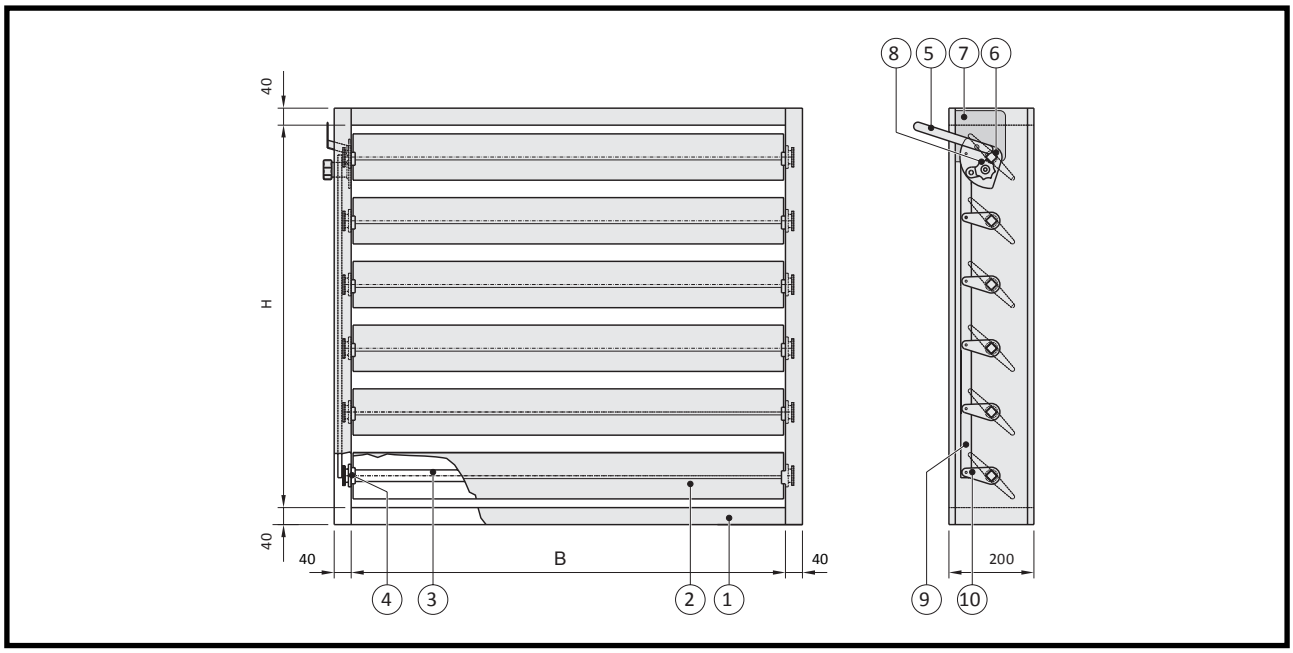


JKK-4 (Counter rotating with optimized seal)

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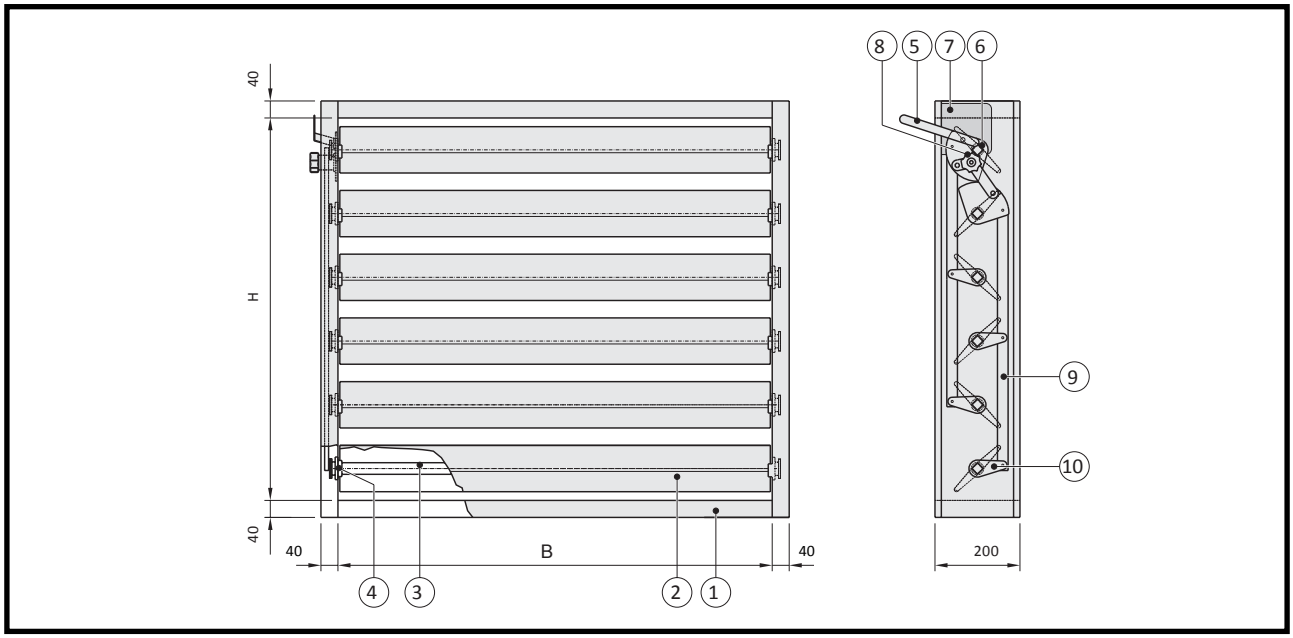
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Type JKG-1



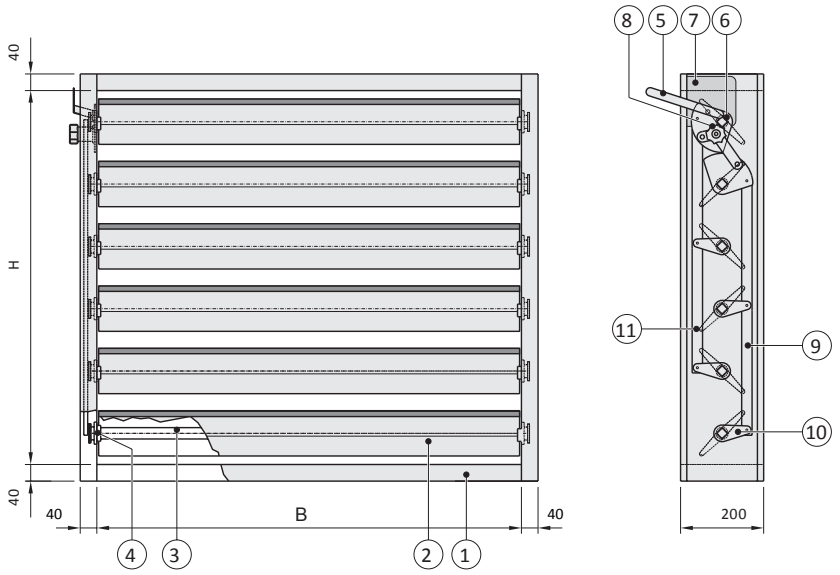
1	Casing	4	Plastic bearing and side seal	7	Position indicator	10	Lever
2	Double-walled blades	5	Control lever	8	Locking device		
3	Blade shaft	6	Coupling plate	9	Torque Rod		

Type JKK-2



1	Casing	4	Plastic bearing and side seal	6	Coupling plate	9	Torque Rod
2	Double-walled blades	5	Control lever	7	Position indicator	10	Lever
3	Blade shaft			8	Locking device		

Type JKK-4



1	Casing	4	Plastic bearing and side seal	7	Position indicator	10	Lever
2	Double-walled blades	5	Control lever	8	Locking device	11	Sealing profiles on valve blade
3	Blade shaft	6	Coupling plate	9	Torque Rod		

Specifications

Toepassing	JKG-1	For example, on mixing cabinets of air handling units.
	JKK-2	Especially suitable as a quantity controller.
	JKK-4	For example, as a quantity controller. The JKK-4 is also suitable as open-close valve when higher demands are placed on the Valve leak tightness.
Benefits		Adjustment of flow rates (JKK-2/JKK-4). Mixing of air flows (JKG-1). Closing air duct (JKK-4). All dampers comply with air tightness class C (EN 1751). A large portion complies with air tightness class D (EN 1751) see chart 1
Type	JKG-1	Version with parallel-rotation blades.
	JKK-2	Version with counter-rotating blades.
	JKK-4	Version with counter-rotating blades with optimized sealing. B ≥ 520 mm leakage class 4 (EN 1751) see diagram 2 B ≤ 520 mm leakage class 3 (EN 1751) see diagram 2
Dimensions	All dimensions in W and H, greater than 150 mm, are available. For dimensions B greater than 1500 mm (JKK-2 greater than 2000 mm), the air dampers are constructed from multiple sections. The standard construction depth (D) is 200 mm. The standard flange width is 40 mm, undrilled. Deviating D sizes (180 ≤ D ≤ mm200) and flange widths can be provided at additional costs.	
Version	The casing is fitted with continuous blade shafts on which double-walled blades with aerodynamic design are mounted. The air dampers are equipped as standard with maintenance-free plastic bearings, which can withstand temperatures ranging from -20° to +120° C. The plastic bearing/side seal is patented under number NL1041189. The blade shafts are interconnected on the outside by levers and torque rods. These are adjustable by means of a control lever including a locking device and position indicator. Versions with actuation by a servomotor, air cylinder or cable control can be supplied, possibly combined with a limit switch.	
Material	Casing	• Sendzimir galvanized plate • Quality DX51D Z275-MA. • 1,5 mm thickness.
	Blades	• Sendzimir galvanized plate • Quality DX51D Z275-MA. • 2 x 0.75 mm
	Bearing	• Plastic. Patent number NL1041189.
	Components	• Sendzimir galvanized plate. • JKK-4: The rubber seal profile on the valve blades is temperature resistant from -20° to +120° C.
	Blade shafts	• Untreated steel tube 20 x 20 mm

Specifications

Different material		• Aluminum, grade EN AW-5754 H12/H22 • Stainless steel, AISI-304 • Stainless steel, AISI-316,
Mounting	• Prevent pivot points and the like from being contaminated by building materials and/or dust. • Mount air dampers tension-free to avoid to much friction between the blades and the casing. • Mount the dampers so that the blade shafts are horizontal and the weight of the blades do not rest axially on the bearings.	
Maintenance	Check the air dampers regularly (for example, once a year) for contamination to ensure proper operation.	
Special features	• Equipped with an internally mounted servo motor (H> = 450 mm). • Executed with an internally placed hand control (H> = 450 mm). • Equipped with a manual remote control by means of an inner and outer cable. • Equipped with flat filter • Equipped with removable protective grille	
Order example	When placing an order, please provide the following information:	
	Number ofl	2
	Type	JKK-2
	Dimensions	400 x 600 x 200 mm
	Shipping address	Incl. zip code and contact person

Mounting Examples

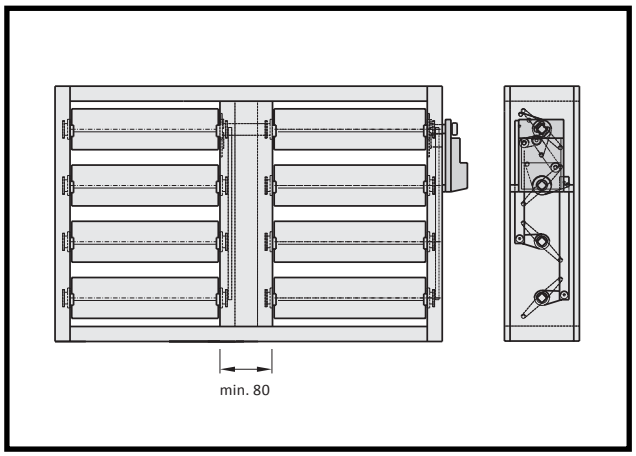


Figure 1: Air damper made up of sections

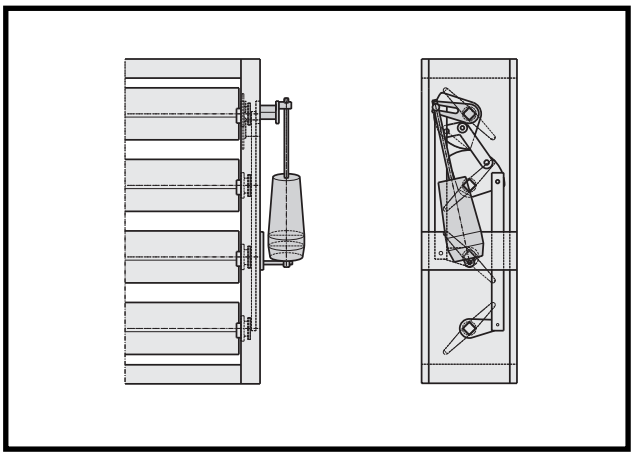


Figure 3: Air damper with motor seat on side for linear servomotor/air cylinder

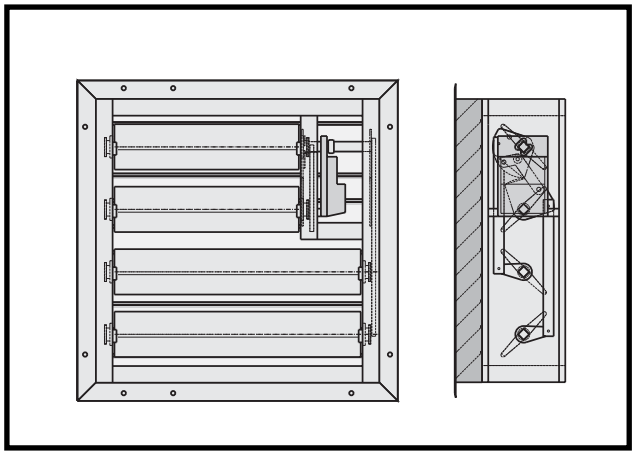


Figure 2: Air damper assembled with grille and internal servo motor

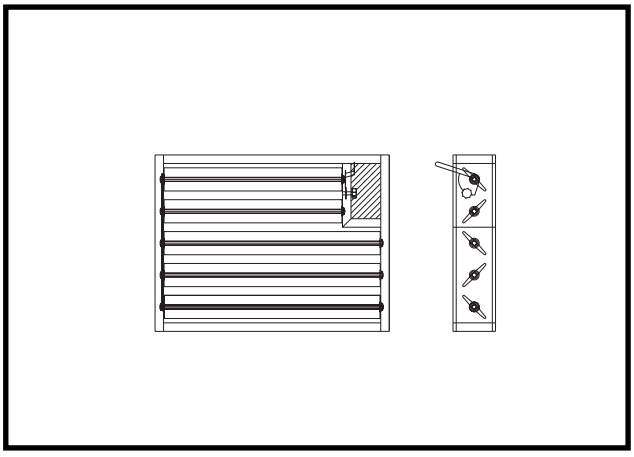
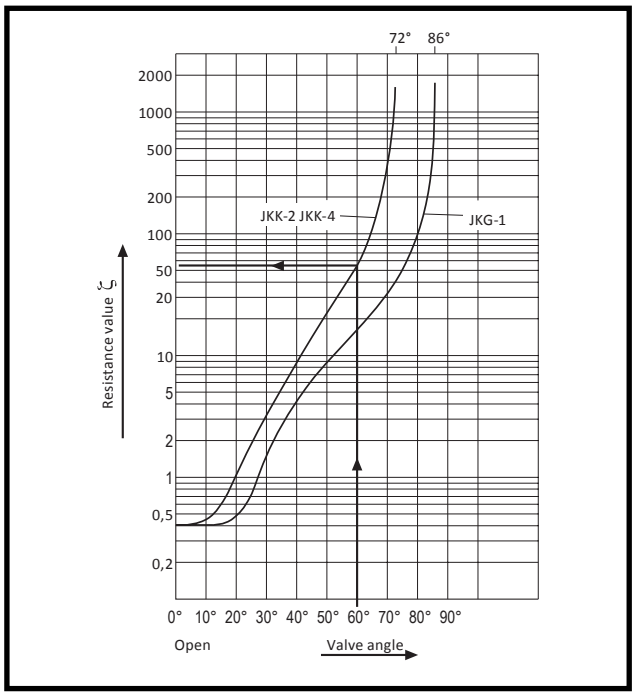


Figure 4: Air damper with internal manual control

Charts



Graph to determine ζ-value

The resistance value ζ for air dampers in ducting can be determined

with the help of the adjacent graph

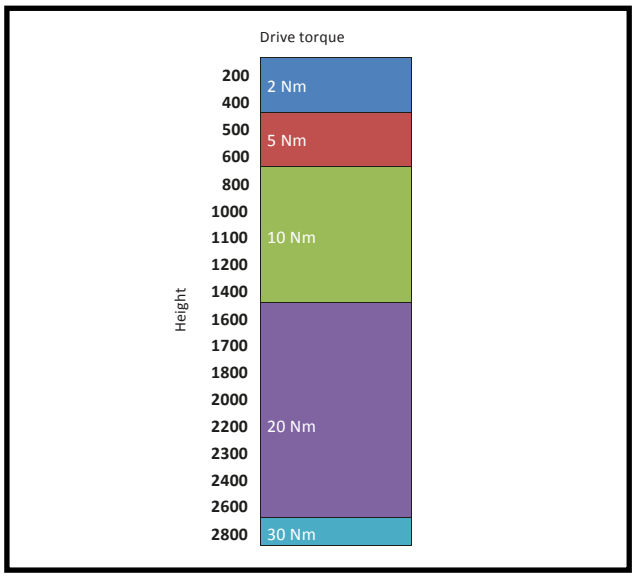
Example:

Given: Air damper type JKK-2 valve angle 60°.

(υ = 5 m/s)

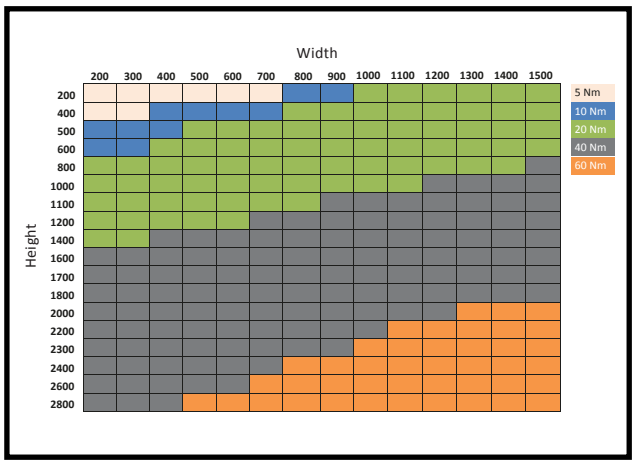
Solution: from the graph follows ζ = 55.

($\Delta P_t = \zeta \frac{1}{2} \cdot \rho \cdot v^2 = 55 \cdot \frac{1}{2} \cdot 1{,}2 \cdot 25 =$ 825 Pa)



Drive torque for JKG-1 and JKK-2

The drive torque, due to frictional forces follows from the adjacent diagram for air dampers type JKG-1 and JKK-2.



Drive torque for JKK-4

The drive torque, due to frictional forces follows from the adjacent diagram for air dampers type JKK-4.

Options

Combination examples

The air dampers can be combined with the following product:

- Weather protection grilles