



JZ – LOW LEAKAGE

FOR LOW-LEAKAGE SHUT-OFF IN AIR CONDITIONING SYSTEMS

Rectangular multileaf dampers for volume flow and pressure control as well as for low-leakage shut-off of ducts and openings in walls and ceiling slabs

- Maximum dimensions of steel and stainless steel variants: 2000 × 1995 mm; of aluminium variant: 1200 × 1050 mm
- Closed blade air leakage to EN 1751, classes 1 – 4, depending on variant
- Casing air leakage to EN 1751, class C
- Aerofoil opposed action blades
- Closed cell side seals meet increased hygiene requirements
- Steel and stainless steel variants: blades interconnected by external linkage
- Aluminium variant: blades interconnected by gears
- Available in standard sizes and many intermediate sizes

Optional equipment and accessories

- Actuators: Open/Close actuators, modulating actuators
- Explosion-proof construction with pneumatic actuator or spring return actuator (not for JZ-*L-AL)
- Powder-coated construction
- Aluminium variant also as anodised construction

Application



Application

- Multileaf dampers of Type JZ-Low leakage are used as an acting element in the volume flow and pressure control in air conditioning systems
- For low-leakage shut-off of ducts and openings in walls and ceiling slabs
- Stainless steel and powder-coated constructions with increased corrosion resistance if required
- Steel and stainless steel variants with brass or stainless steel bearings are suitable for use in potentially explosive atmospheres (ATEX)

Special characteristics

- Aerofoil blades
- Low-maintenance, robust construction
- No parts with silicone
- Available in standard sizes and many intermediate sizes
- Closed cell side seals meet increased hygiene requirements

Description



Variants

- JZ-LL: Multileaf damper with opposed blade action, made of galvanised sheet steel, to EN 1751, classes 3 – 4
- JZ-HL: Multileaf damper with opposed blade action, made of galvanised sheet steel, to EN 1751, classes 1 – 2
- JZ-LL-A2: Multileaf damper with opposed blade action, made of stainless steel, to EN 1751, classes 3 – 4
- JZ-LL-AL: Multileaf damper with opposed blade action, made of aluminium, to EN 1751, class 4
- JZ-HL-AL: Multileaf damper with opposed blade action, made of aluminium, to EN 1751, class 2

Attachments

- Quadrant stays and limit switches: Quadrant stays to adjust the damper blades (stepless adjustment) and for capturing the end positions
- Open/Close actuators: Actuators for opening and closing multileaf dampers
- Modulating actuators: Actuators for stepless blade adjustment
- Pneumatic actuators: Pneumatic actuators for opening and closing multileaf dampers
- Explosion-proof actuators: Actuators for opening and closing multileaf dampers installed in potentially explosive atmospheres

Accessories

- Installation subframe: Installation subframe for the fast and simple installation of multileaf dampers

TECHNICAL INFORMATION

Functional description

Linkage

Low-leakage multileaf dampers with external linkage have opposed action blades.

An external linkage transfers the synchronous rotational movement from the drive arm to the individual blades. Even very large multileaf dampers can be safely opened and closed with this type of linkage.

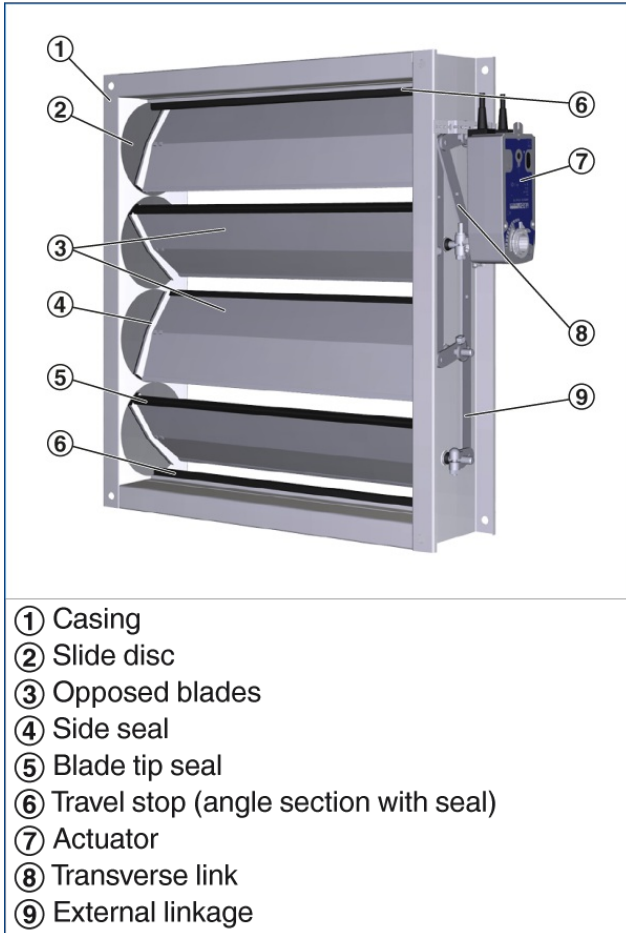
Opposed action blades close at different speeds since the linkage includes a transverse link. This facilitates the closing process and reduces the closed blade air leakage.

Gears

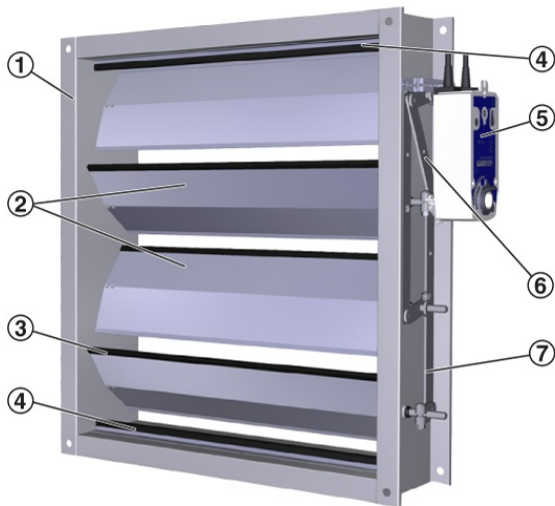
Multileaf dampers with gears can only have opposed action blades.

The internal gears transfer the synchronous rotational movement from the drive arm to the individual blades.

Schematic illustration of JZ-LL and JZ-LL-A2

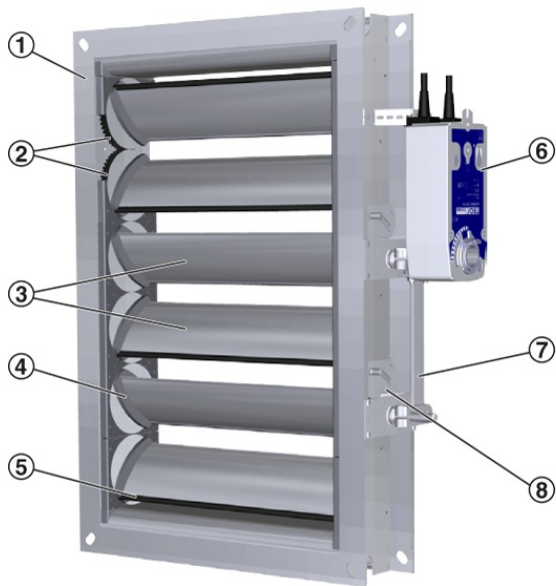


Schematic illustration of JZ-HL



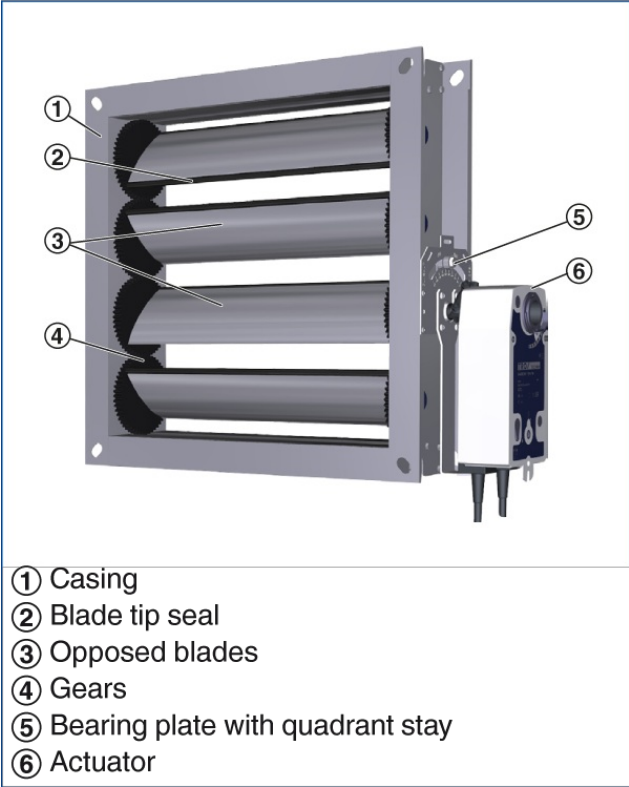
- ① Casing
- ② Opposed blades
- ③ Blade tip seal
- ④ Travel stop (angle section with seal)
- ⑤ Actuator
- ⑥ Transverse link
- ⑦ External linkage

Schematic illustration of JZ-LL-AL



- ① Casing
- ② Encased gears
- ③ Opposed blades
- ④ Side seal
- ⑤ Blade tip seal
- ⑥ Actuator
- ⑦ External linkage (from = 600 mm)
- ⑧ Bearing plate with quadrant stay

Schematic illustration of JZ-HL-AL



Nominal sizes	200 x 100 mm – 2000 x 1995 mm
Volume flow rate range	200 – 40,000 l/s
Volume flow rate range	720 – 143,640 m³/h
Maximum static differential pressure	Up to 3500 Pa
Operating temperature	0 – 100 °C

Quick sizing – differential pressure and sound power level for JZ-LL, JZ-LL-A2 and JZ-HL

v	Damper blade position α									
	OPEN		20°		40°		60°		80°	
	Δp _{st} Pa	L _{WA} dB(A)	Δp _{st} Pa	L _{WA} dB(A)	Δp _{st} Pa	L _{WA} dB(A)	Δp _{st} Pa	L _{WA} dB(A)	Δp _{st} Pa	L _{WA} dB(A)
m/s										
0.5	<5	<30	<5	<30	<5	7.5	22	34	250	63
1	<5	<30	<5	<30	8	26	85	53	1000	83
2	<5	<30	<5	<30	30	46	345	73	>2000	>90
4	<5	41	10	44	120	65	1385	>90	>2000	>90
6	<5	52	24	56	270	77	>2000	>90	>2000	>90
8	10	60	42	64	480	85	>2000	>90	>2000	>90
10	14	67	65	70	750	>90	>2000	>90	>2000	>90

Rectangular multileaf dampers for volume flow and pressure control as well as for low-leakage shut-off of ducts and openings in walls and ceiling slabs.

Suitable for duct pressures up to 1000 Pa.

Ready-to-operate unit which consists of the casing, aerofoil blades and the blade mechanism.

Flanges on both sides, suitable for duct connection.

The blade position is indicated externally by a notch in the blade shaft extension.

Closed blade air leakage to EN 1751, class 4.

Casing air leakage to EN 1751, class C.

Special characteristics

- Aerofoil blades
- Low-maintenance, robust construction
- No parts with silicone
- Available in standard sizes and many intermediate sizes
- Closed cell side seals meet increased hygiene requirements

Technical data

- Nominal sizes: 200 × 100 mm – 2000 × 1995 mm
- Differential pressure range: 5 – 3500 Pa
- Operating temperature: 0 to 100 °C

JZ-LL, JZ-HL

JZ – HL – A2 – G – E – V – L / 1000×1005 / ER / Z64 / NC / P1 – RAL ...									
1	2	3	4	5	6	7	8	9	10

1 Type

JZ Multileaf damper

7 Installation subframe

No entry: none

ER With (only for construction G)

2 Classification

Closed blade air leakage to EN 1751

LL Classes 3 – 4

HL Classes 1 – 2

8 Attachments

No entry: none

Z04 – Z07 Quadrant stay

Z12 – Z51 Actuators

ZF01 – ZF15 Spring return actuators

Z60 – Z77 Pneumatic actuators

Explosion-proof actuators

Z1EX, Z3EX Electric

Z60EX – Z77EX Pneumatic

4 Construction

No entry: corner holes on both sides; plastic bearings

G Flange holes on both sides (no corner holes)

M Brass bearings

E Stainless steel bearings

M-V Brass plain bearings and reinforced blades

(not for JZ-LL-A2)

E-V Stainless steel plain bearings and reinforced blades

(not for JZ-LL-A2)

M, E, M-V, E-V can be combined with G

9 Damper blade safety function

Only for spring return actuators or pneumatic actuators

NO Pressure off/power off to OPEN

NC Pressure off/power off to CLOSE

10 Surface

No entry: standard construction

P1 Powder-coated, RAL CLASSIC colour

PS Powder-coated, DB colour

Gloss level

RAL 9010 50 %

RAL 9006 30 %

All other RAL colours 70 %

5 Operating side

No entry: on the right

L Left side

6 Nominal size [mm]

B × H

B > 2000 = width subdivided

H > 1998 = height subdivided

Attachments

Type Quadrant stays and limit switches
Type Open/Close actuators
Type Modulating actuators
Type Pneumatic actuators
Type Explosion-proof actuators

Accessories

Type Installation subframes