# PJR – MULTIPLE LEAF DAMPER

## Description

- Designed for air flow regulation in ventilation and air-conditioning installations. PJR ensure uniform air distribution after the unit and that differs it from single dampers.
- For bigger sizes double grilles with single control can be produced (PJR-D).
- Double multiple leaf dampers (PJR-BS) with single control are suitable for regulation of two air lows at the same time (inversely) or by-pass of recuperative heat exchanger „air-air".
- Working temperature range from -20°C to +80°C.
- **Designed for work in non-aggressive and explosion-proof environment.**

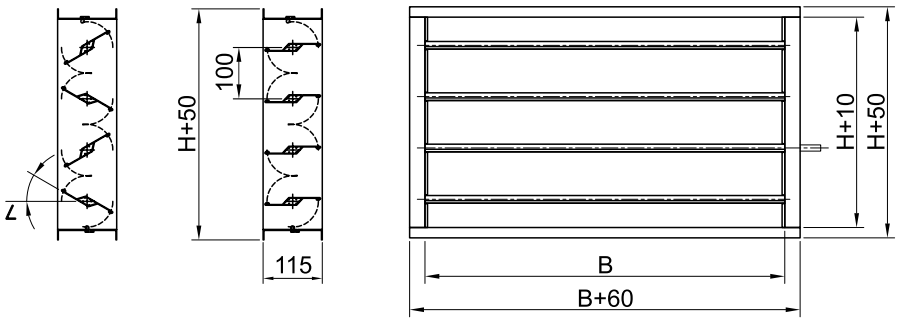
## Construction

- Corpus and blades are constructed of special aluminum profiles.
- Outside the flow of working fluid is situated the cogwheel polyamide mechanism.
- Blades gasketing – PVC.
- Contrary blades moving (one against other).
- Damper control can be with manual mechanism (+M) or with electric motor (actuator) (+A):
  - ON/OFF – open / close – 230V or 24V; 50Hz
  - Proportional – uniform regulation (analogue) - 230V or 24V; 50Hz
  - Spring-type (emergency function) - open / close or proportional (analogue) regulation - 230V or 24V; 50Hz. Suitable for systems with incorporated heat exchanger „water-air"
- By customer request is possible production of version from galvanized metal sheets (PJR-Zn), with additionally specified technical parameters.

## Installation

- For installation in air handling units (inlet, mixing and recuperative sections), ventilation blocks or between elements of air duct installation.

## PJR (single) – Overall and joined dimensions




| B [mm] | 200 | 400 | 500 | 600 | 800 | 1000 | 1200 |
|---|---|---|---|---|---|---|---|
| H [mm] | 200 | 300 | 400 | 500 | 600 | 800 | 1000 |

**Torque and weight are function of the inlet section B x H [m²]:**

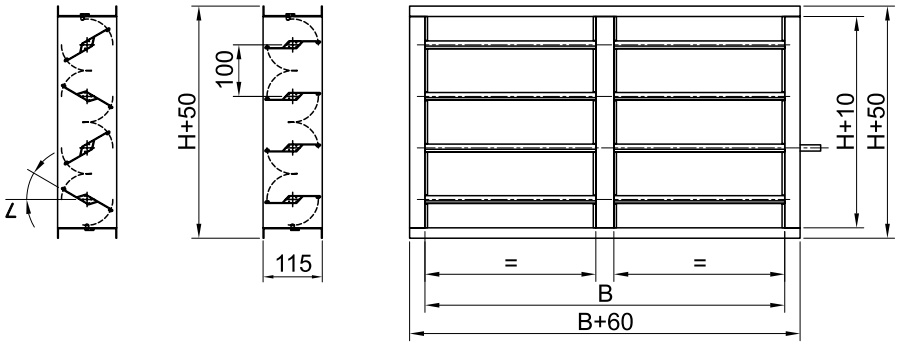
| Inlet section $A_0$ [m²] | Torque [Nm] | Weight - maximum [kg/m²] |
|---|---|---|
| **up to 0.1** | 2 | 29.5 |
| **up to 0.6** | 4 | 25.0 |
| **up to 0.8** | 5 | 15.5 |
| **up to 1.6** | 10 | 13.5 |

**Note:**

Multiple leaf dampers with different dimensions can be produced by customers request:

- Width B < 1300 mm.
- Height – divisible to 100 mm, but H ≤ 1200 mm

## PJR-D (double) – Overall and joined dimensions




**Torque and weight are function of the inlet section B x H [m²]:**

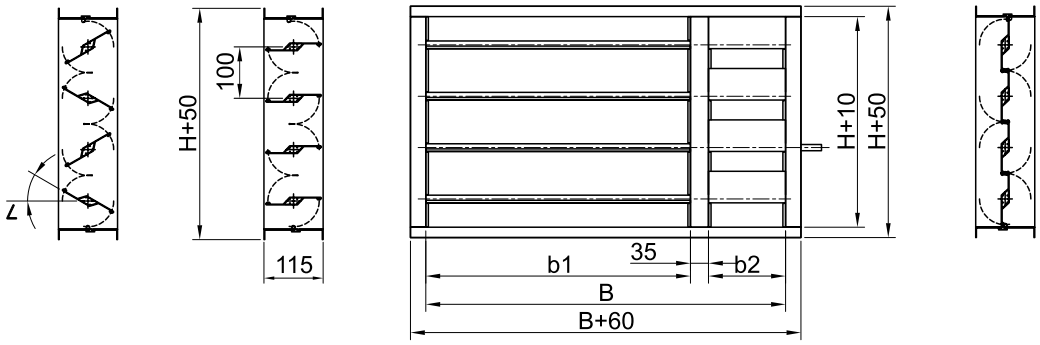
| Inlet section $A_0$ [m²] | Torque [Nm] | Weight - maximum [kg/m²] |
|---|---|---|
| **up to 0.6** | 4 | 25.5 |
| **up to 0.7** | 5 | 15.5 |
| **up to 1.4** | 10 | 13.5 |
| **up to 2.1** | 15 | 13.5 |
| **up to 2.8** | 20 | 13.0 |

**Note:**

Multiple leaf dampers with different dimensions can be produced by customers request:

- Width 1300 ≤ B ≤ 2400 mm.
- Height – divisible to 100 mm, but H ≤ 1200 mm

## PJR-BP (by-pass) –Overall and joined dimensions




| B [mm] | 540 | 680 | 780 | 900 | 1040 | 1340 | 1580 |
|---|---|---|---|---|---|---|---|
| b1 [mm] | 390 | 490 | 590 | 690 | 790 | 1030 | 1230 |
| b2 [mm] | 115 | 155 | 155 | 175 | 215 | 275 | 315 |
| B+60 [mm] | 600 | 740 | 840 | 960 | 1100 | 1400 | 1640 |

| H [mm] | 500 | 1100 |
|---|---|---|

**Torque and weight are function of the inlet section BxH B x H [m²]:**

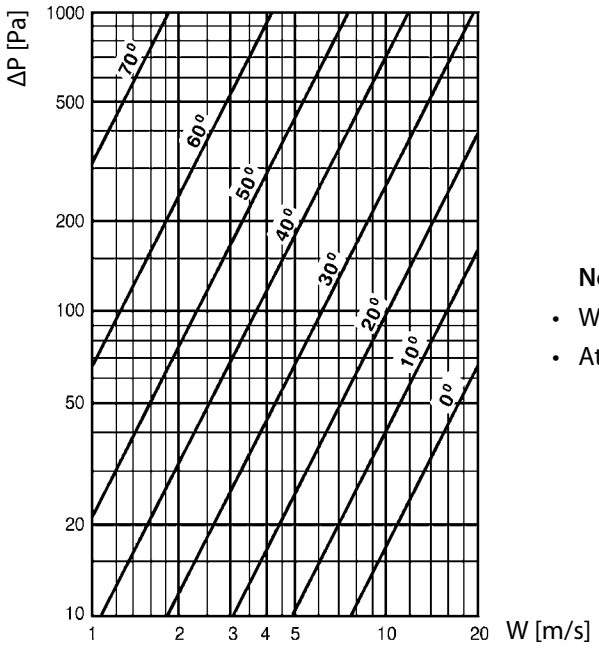
| Inlet section $A_0$ [m²] | Torque [Nm] | Weight – maximum [kg/m²] |
|---|---|---|
| **up to 0.6** | 4 | 25.5 |
| **up to 0.7** | 5 | 15.5 |
| **up to 1.4** | 10 | 13.5 |
| **up to 2.1** | 15 | 13.5 |
| **up to 2.8** | 20 | 13.0 |

**Note:**

Multiple leaf dampers with different dimensions can be produced by customers request:

- Width B ≤ 2400 mm
- Blade length b2 < b1 < 1300 mm
- Recommended : b2 = (0.20 ÷ 0.30) . b1
- Height – divisible to 100 mm, but H ≤ 1200 mm

## Pressure drop ΔP [Pa]




**Note:**

- $W_0$ [m/s] – velocity in the inlet section
- At angle 0° PJR is fully open

## Electric motors (actuators) - BELIMO

**Electric motors (actuators) IP54 – Belimo**

| Control type | Nominal voltage | Torque | | | |
|---|---|---|---|---|---|
| | | 2 Nm | 5 Nm | 10 Nm | 20 Nm |
| open/close | AC 24V/50Hz, DC 24V | CM24-L, CM24-R | LM24A | NM24A | SM24A |
| | AC 230V/50Hz | CM230-L, CM230-R | LM230A | NM230A | SM230A |
| analogue (proportional) | AC 24V/50Hz, DC 24V | CM24-SR-L, CM24-SR-R | LM24A-SR | NM24A-SR | SM24A-SR |
| | AC 230V/50Hz | - | LM230ASR | NM230ASR | SM230ASR |
| Motor running time [sec] | | 75 | 150 | 150 | 150 |

**Spring type electric motors (emergency function) IP54 - Belimo**

| Control type | Nominal voltage | Torque | | |
|---|---|---|---|---|
| | | 2 Nm | 4 Nm | 15 Nm |
| open/close | AC 24V/50Hz, DC 24V | TF24 | LF24 | AF24 |
| | AC 230V/50Hz | TF230 | LF230 | AF230 |
| analogue (proportional) | AC 24V/50Hz, DC 24V | TF24-3 | LF24 SR | AF24 SR |
| | | TF24-SR | | |
| Motor running time [sec] | | 75 | 150 | 150 |
| Spring-return time [sec] | | 25 | 20 | 16 |

- Temperature at the area of the electric motor (actuator) - from -30°C to +50°C.
- Possible 3-steps control of the shadowed electric motors (actuators).
- Different type electric motors and control options – on request.

## Order designation

PJR [-D] 1800 / 800 + A - LF24-SR / 15 Nm

- 15 Nm – Torque [Nm]
- LF24-SR – Electric motor (actuator) type – Belimo
- A – M – manual control; A – electric motor (actuator)
- 800 – Joined height
- 1800 – Joined width
- -D – -D – double; -BS – by-pass
- PJR – Multiple leaf damper

[ ] - main parameters

[ ] - optional parameters