

08



Overpressure dampers



Volume control dampers



Throttling, shut-off and non-return dampers



Mechanical flow rate controllers

Air flow control units

Overpressure dampers are used to equalize the pressures between adjacent rooms and for automatic interruption of air supply or air exhaust.

Volume control dampers regulate the air flow volume in ventilating ducts and air conditioning devices.

Throttling, shut-off and non-return dampers and flow rate controllers are used for control the air flow volume in ventilating ducts.

VENTILATING GRILLES,
VENTILATING VALVES

CIRCULAR DIFFUSERS,
SQUARE DIFFUSERS

SWIRL DIFFUSERS,
VARIABLE SWIRL
DIFFUSERS

SLOT DIFFUSERS,
ROUND DUCT DIFFUSERS

AIR DISPLACEMENT
UNITS

SUPPLY AIR NOZZLES

EXTERNAL ELEMENTS

AIR FLOW
CONTROL UNITS

SOUND ATTENUATORS,
SOUND ATTENUATING
LOUVRES

Overview

Overpressure dampers

Overpressure dampers are used to equalize the pressures between adjacent rooms and for automatic interruption of air supply or air exhaust. Steel (Types JNŽ) or aluminium (Types ANŽ) overpressure dampers can be produced.

Overpressure dampers



JNŽ-6



ANŽ-3, ANŽ-4

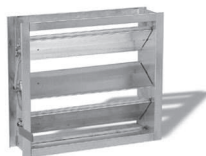


JNŽ-6W

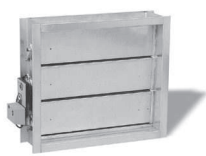
Volume control dampers

Volume control dampers regulate the air flow volume in ventilating ducts and air conditioning devices. We produce several construction types with manual, motor or pneumatic regulation.

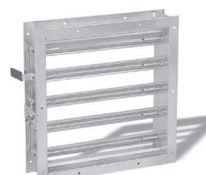
Volume control dampers



RŽ-1



RŽ-2



RŽ-3



RŽ-1/G

Throttling, shut off and non return dampers, flow rate controllers

They are used to control the air flow volume in ventilating ducts.



RŽ-7

Throttling, shut off and non return dampers



DL



DL-2



ZL-2



RSK

Mechanical flow rate controllers



MRP-1



MRP-2



MRP-3



MRP-4

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■ Mechanical flow-rate controller MRP-3 (Circular)

Description

The circular mechanical flow-rate controller provides a constant volume flow rate in ventilation and air conditioning installations. The controllers operate without an auxiliary power supply. The air flow is regulated mechanically via a regulatory panel, which is mutually bearing and through the leverage of the spring training. The setting of the desired flow can be manual or motor driven. Circular flow rate controller may also have acoustic insulation with 45 mm of mineral wool enclosed with galvanised sheet steel.

Application

These controllers are designed to control air flow rate in circular duct systems. Their application temperature range is -20 to 70 °C. The volume flow rate shall be maintained constant, with a deviation between ± 5 % and ± 10 % at variable pressures between 50 and 1000 Pa. External measurements of the controller must suit the measured channel, so as to avoid mechanical failures: pressure loss and a higher level of noise.

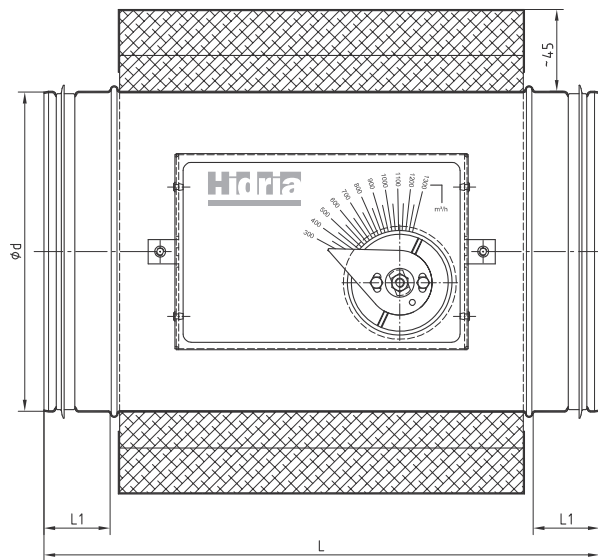
Material

Mechanical flow rate controllers are made of galvanised steel sheet. They are laser butt-welded to eliminate sharp seams both inside and outside. The housing of regulator and connecting pieces comply with the leak tightness classification B in accordance with EN 1751.

Installation

The controller can be installed at any location of the ventilation system. Access to the ducting and the controller shall be provided in conformance with DIN 1946 T2, for the purposes of actuation and maintenance. A minimum 3xΦd length straight duct section shall be provided on both sides of the controller, to ensure flow stabilisation and efficient controller operation.

| Size | V _{min} [m ³ /h] | V _{max} [m ³ /h] | Φd [mm] | L [mm] | L1 [mm] |
|------|---|---|------------|-----------|------------|
| 80 | 50 | 250 | 79 | 322 | 40 |
| 100 | 70 | 340 | 99 | 322 | 40 |
| 125 | 120 | 600 | 124 | 322 | 40 |
| 160 | 150 | 800 | 159 | 322 | 40 |
| 200 | 250 | 1300 | 199 | 352 | 40 |
| 250 | 400 | 2200 | 249 | 412 | 60 |
| 315 | 600 | 3000 | 314 | 462 | 60 |



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UNITS

SUPPLY AIR NOZZLES

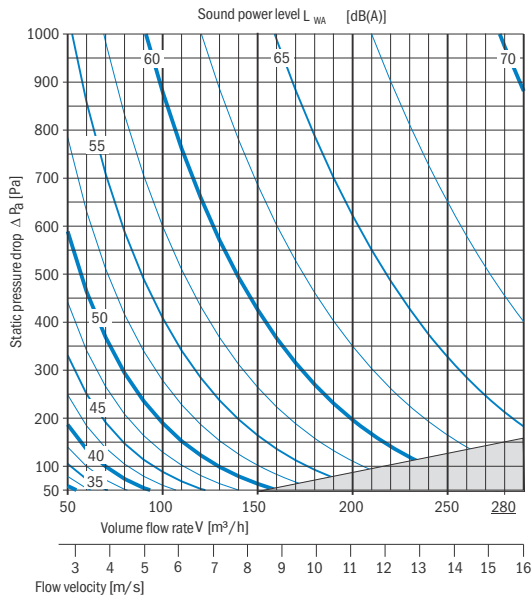
EXTERNAL ELEMENTS

AIR FLOW
CONTROL UNITS

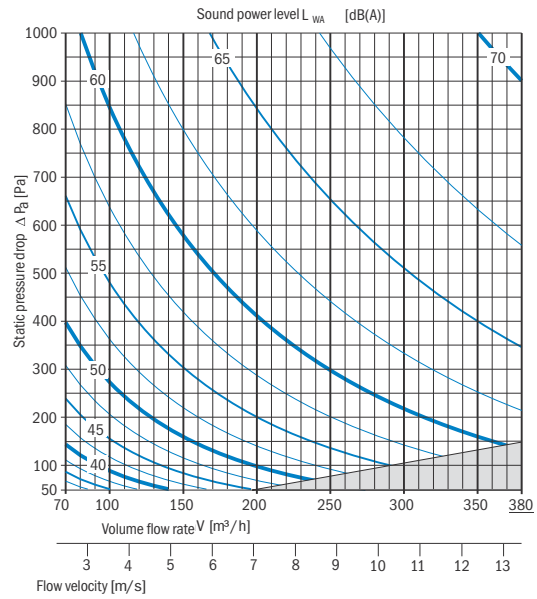
SOUND ATTENUATORS,
SOUND ATTENUATING
LOUVERES

Sound power level in the connecting duct (flow noise)

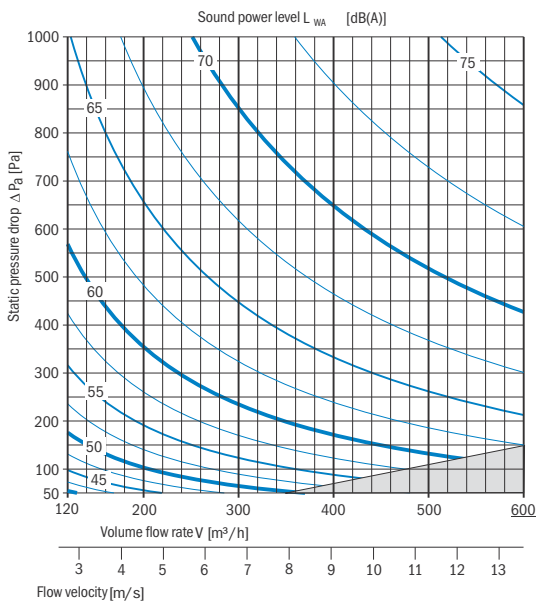
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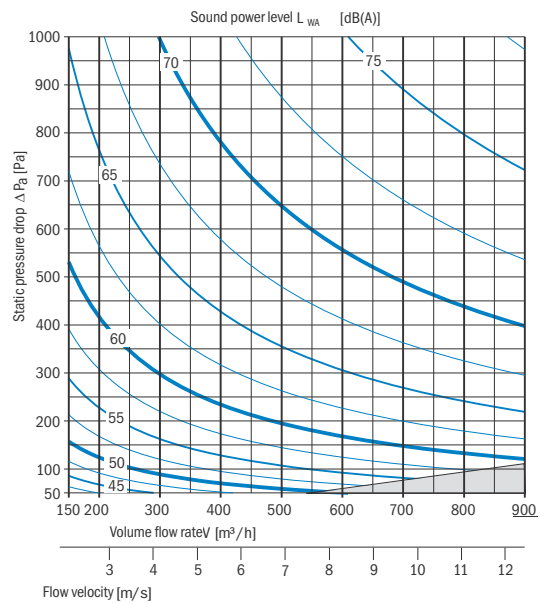
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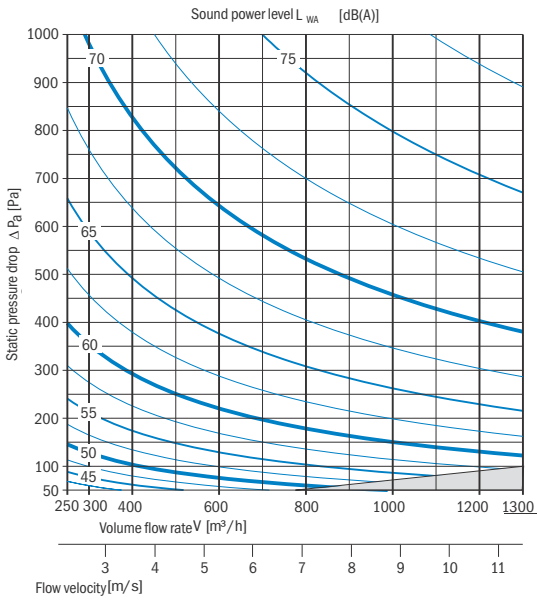
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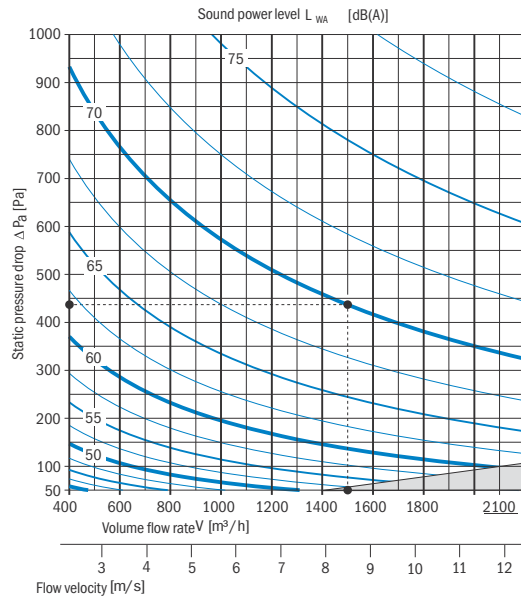
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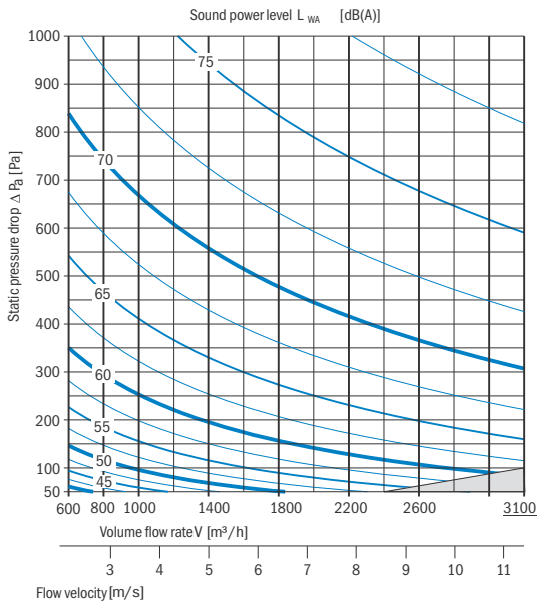
Size 200



Size 250



Size 315



■ Out of throw area

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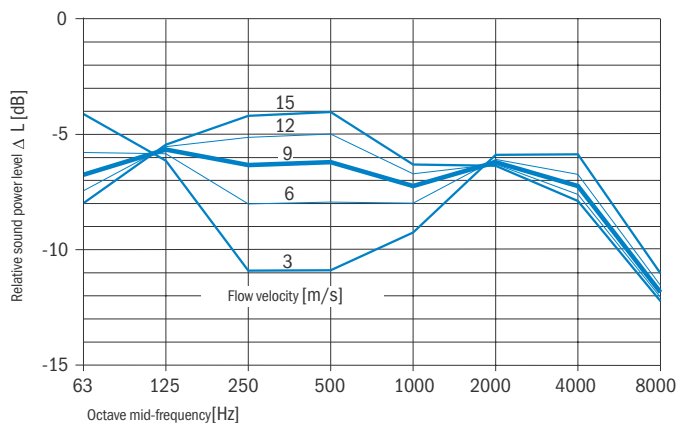
EXTERNAL ELEMENTS

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LOUVRES

Relative sound power level ΔL [dB]

Average values for all size and pressure drops.



Example

Specified:
Size: 250
Volume flow rate: $V = 1500$ [m³/h]
Static pressure drop: $\Delta p_s = 435$ [Pa]
Result:
Sound power level: $L_{WA} = 70$ [dB(A)]

Definition of symbols

V (m³/h) Volume flow rate
v (m/s) Flow velocity in the incoming cross-section
 Δp_s (Pa) Static pressure drop
 L_{WA} (dB(A)) A-weighted sound power level
 L_{W-oct} (dB) Octave sound power level
 $L_{W-oct} = L_{WA} + \Delta L$
 ΔL (dB) Relative sound power level L_{WA}
f (Hz) Octave mid-frequency

Sound power L_{W-oct} for the octave mid-frequencies

| f | [Hz] | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
|------------------------|---------|----|-----|-----|-----|------|------|------|------|
| L_{WA} | [dB(A)] | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| $\Delta L_{8.5}$ [m/s] | [dB] | -7 | -6 | -7 | -7 | -7 | -6 | -7 | -12 |
| L_{W-oct} | [dB] | 63 | 64 | 63 | 63 | 63 | 64 | 63 | 58 |

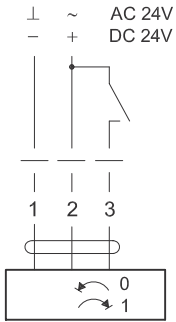
Technical data for actuators:

| | B2 | B1 | B3 |
|--|-----------------------|-----------------------|-----------------------|
| Connection voltage | 230 V [~] | 24 V ^{∞=} | 24 V ^{∞=} |
| Operating range | 85 to 265V | 19.2 to 28.8V | 19.2 do 28.8V |
| Run time for 90° | 150 s | 150 s | 150 s |
| Input power supply | ≤6 VA | ≤4 VA | ≤4 VA |
| Energy consumption | ≤2.5 W | ≤2 W | ≤2 W |
| Degree of protection | IP 54 | IP 54 | IP 54 |
| Connection cable 0.75 mm ² | approx. 1 m 3 core | approx. 1 m 3 core | approx. 1 m 4 core |
| Ambient temperature | -30 to +50 °C | -30 to +50 °C | -30 to +50 °C |

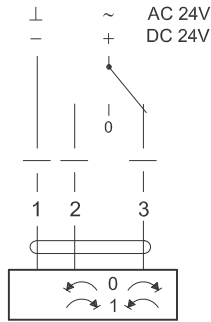
Wiring diagrams

Motor B1

1 wire control

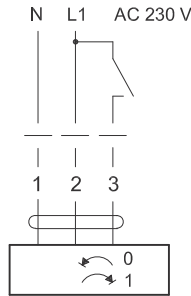


2 wire control

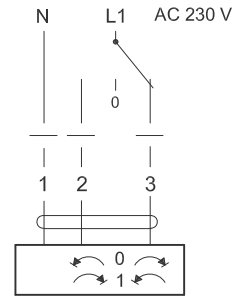


Motor B2

1 wire control

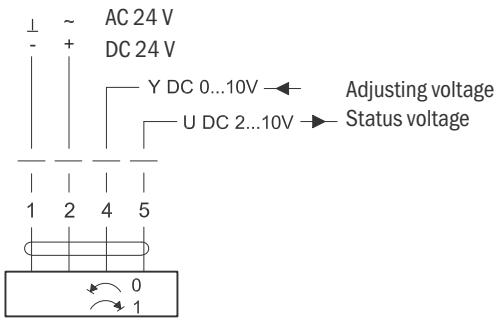


2 wire control



Motor B3

Continuous



Ordering key

MRP-3/Q/Φ/I/B1

