

4/S1
v 3.3 (en)

VENTILATION LOUVRES

FZ, AFZV, AFZM, RZ, ARZ, PZ, ZP



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FZ | AFZV

- FZ - made out of galvanized steel sheet
- AFZV - made out of galvanized steel sheet
- Galvanized steel mesh on the back side
- Fixing with screws

Options:

- Installation subframe
- RAL...

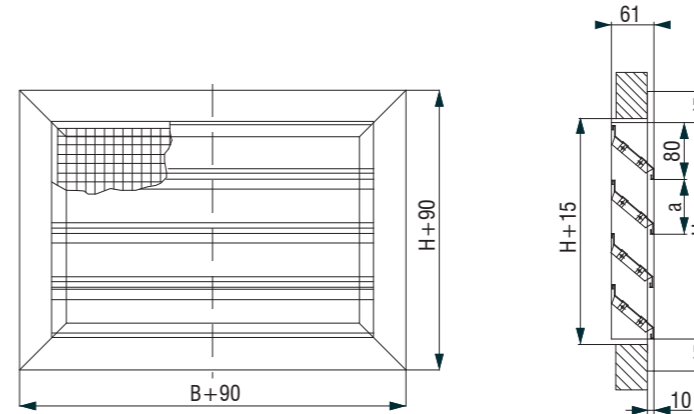
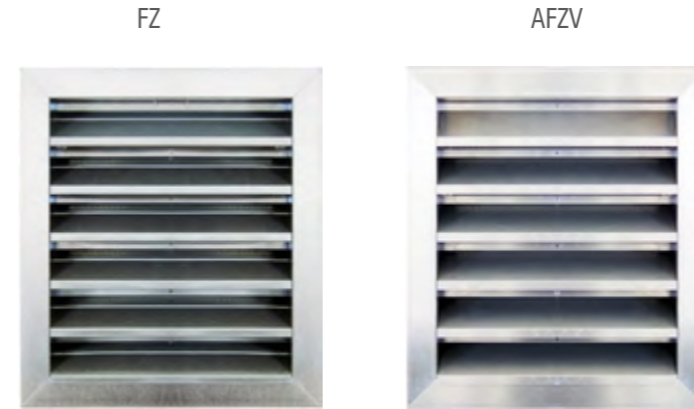
* Holes for screws are not drilled

Standard dimensions FZ, AFZV*

B	385 - 1885 mm, in increments 200mm
H	300 - 1800 mm, in increments 150mm

*all combinations B x H are possible

Free cross-section approx. 60 % of B x H

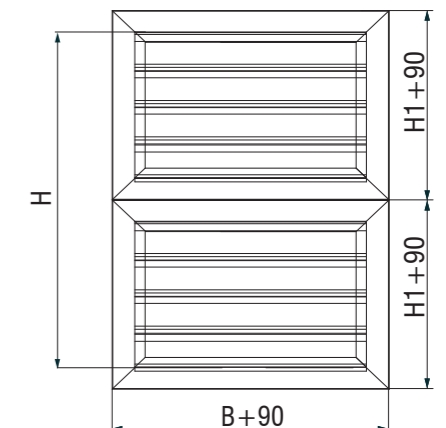
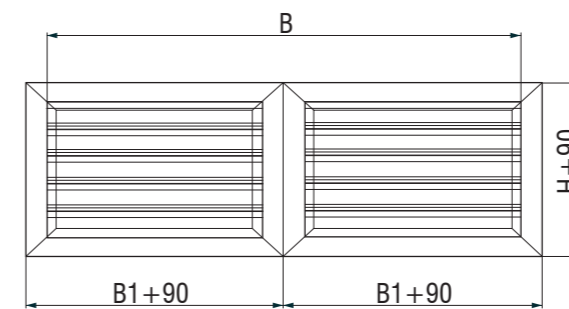


Dimension B > 1885 mm or H > 1800 mm

$$B = 2B1 + 90; H = 2H1 + 90$$

Example :
B = 1785 mm
H = 3400 mm

$$H1 = (H - 90) / 2 = (3400 - 90) / 2 = 1655$$



Definition of symbols:

V [m³/h]	- Air flow	v _h [m/s]	- Average core velocity at distance h (m) from a diffuser
V [m³/h]	- Nominal air flow	Δp [Pa]	- Total pressure drop
V _{uk} ⁿ [m³/h]	- Total air volume in motion	t _p [°C]	- Air temperature in a room
h [m]	- Distance from the ceiling to the occupied zone	t _z [°C]	- Supply air temperature
H [m]	- Room height	t _m [°C]	- Core air temperature
A, B [m]	- Distance between diffusers	Δt _z [°C]	- (t _z - t _p)
x [m]	- Distance from wall	Δt _L [°C]	- (t _m - t _p)
L [m]	- Throw distance (x+h)	i	- Induction V _{uk} /V
A _{ef} [m²]	- Effective discharge area	L _{WA} [dB(A)]	- Sound power level
v _{ef} [m/s]	- Effective jet velocity		
v _L [m/s]	- Average core velocity at distance L (m) from a diffuser		
v _{Lmax} [m/s]	- Maximum core velocity at distance L (m) from a diffuser		

AFZM

- Made out of anodized aluminium profiles
- Galvanized steel mesh on the back side
- Fixing with screws

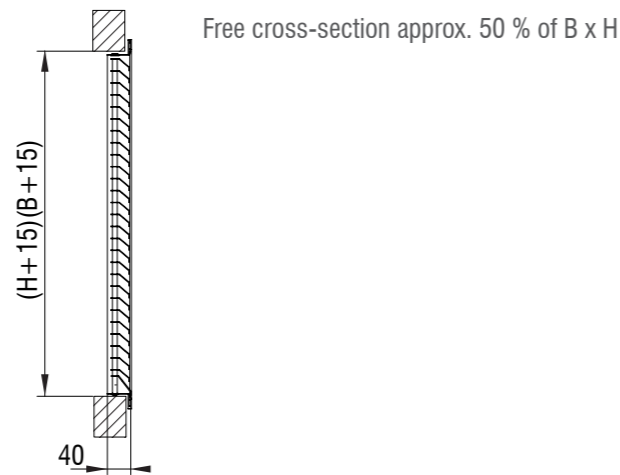
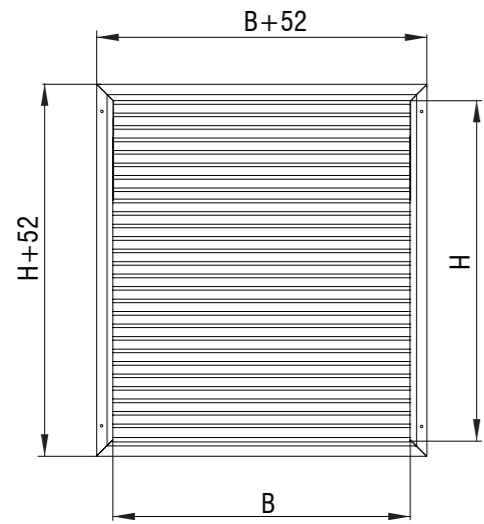
Options:

- Installation subframe (UR)
- RAL...

Standard dimensions AFZM*

B	297 - 1197 mm, in increments 100mm
H	197 - 697 mm, in increments 100mm

*all combinations B x H are possible

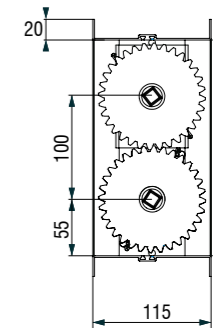
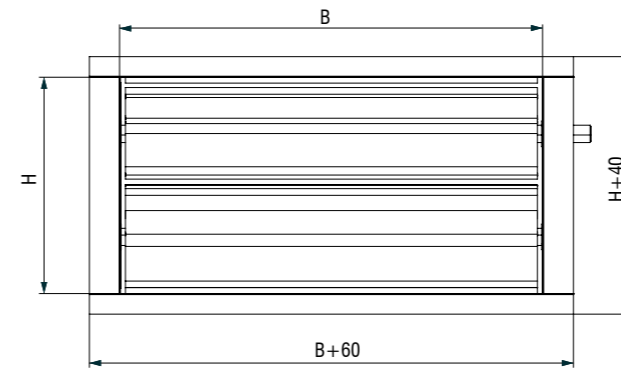


ARZ

- Made out of anodized aluminium profiles, gears and bearings made of ABS.
- Opposed damper blade operation
- Blade tip seals, made of specially profiled rubber provides excellent sealing characteristics
- $\Delta p_{max} = 600 \text{ Pa}$; $t_{max} = 70^\circ\text{C}$

Standard dimensions ARZ*

B	400 - 2400 mm, in increments 200mm
H	210 - 1510 mm, in increments 100mm



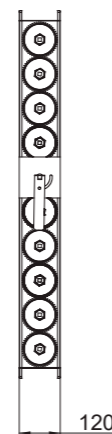
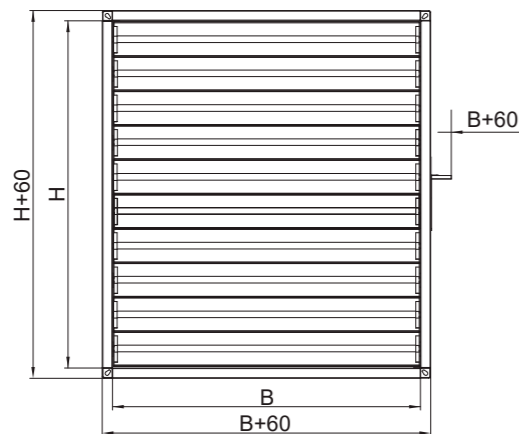
ZRZ12 / RZ12

- RZ - made out of galvanized steel sheet, gears and bearings made of ABS.
- Opposed damper blade operation
- $\Delta p_{max} = 1000 \text{ Pa}$; $t_{max} = 70^\circ\text{C}$

Standard dimensions RZ*

B	200 - 1400 mm, in increments 100mm
H	215 - 1015 mm, in increments 100mm

*all combinations B x H are possible



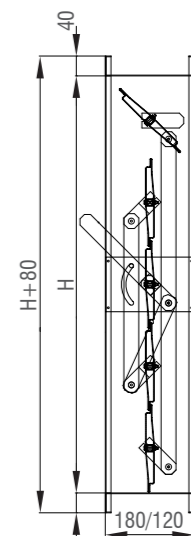
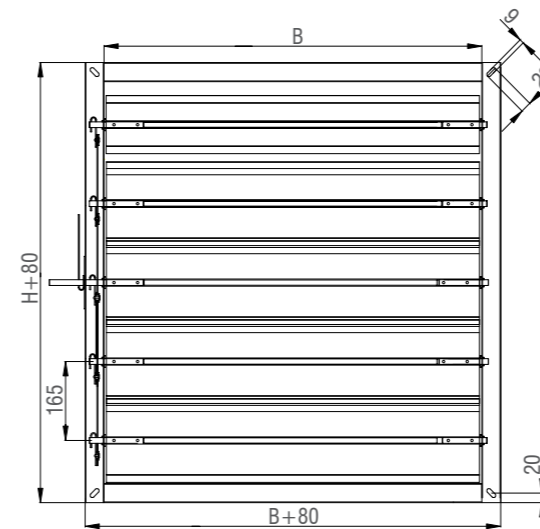
RZO

- Reinforced regulation louvre
- Made out of steel sheet profiles, reinforced damper blades out of steel profiles, brass bearings
- Frame width RZ012 - 120 mm
RZ018 - 180 mm
- Counter-rotating damper blades

Standard dimensions RZ*

B	400 - 2000 mm, in increments 200mm
H	345 - 1995 mm, in increments 195mm

*all combinations B x H are possible



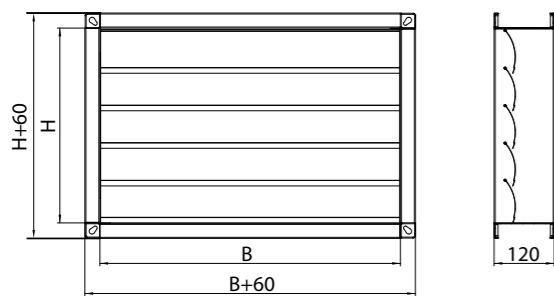


PZ

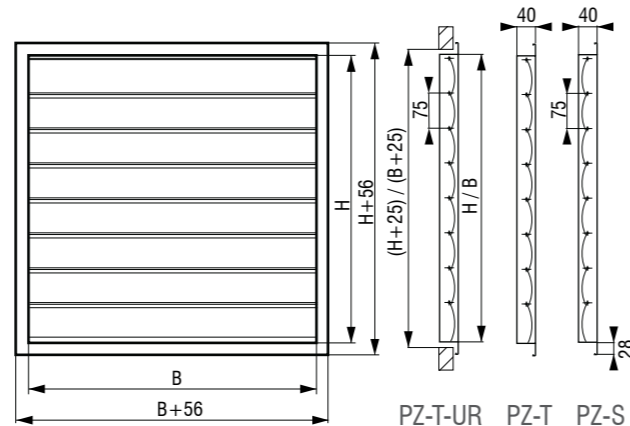
- Frame made of anodized aluminium profiles, blades made from anodized aluminium sheet.
- Duct version - frame made of galvanized steel sheet
- Wall or duct installation with screws

Options

- Overpressure (Supply)
- Underpressure (Exhaust)
- Duct type
- Discharge with square-to-cylindrical transition section
- Installation subframe



PZ-K



PZ-T-UR PZ-T PZ-S

Standard dimensions PZ-T, PZ-S, PZ-K*

B	200 - 1600 mm, in increments 200mm
H	240 - 1590 mm, in increments 75mm

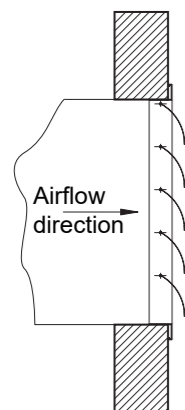
*all combinations B x H are possible

Standard dimensions PZ-T/O*

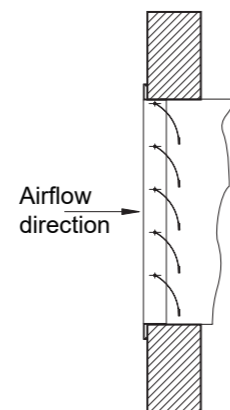
B	330 - 730 mm, in increments 50mm
∅D	300 - 700 mm, in increments 50mm

*all combinations B x H are possible

OVERPRESSURE



UNDERPRESSURE



ZP

- Made of galvanized steel sheet
- Installed directly into the wall opening by anchor springs at the installation frame

Application

- Separation of sand from air stream
- Correct mounting position of the sand-trap louvre is important
- Average efficiencies obtained by tests 80% particles 20 - 50 μm, or 50% particles 1 - 70 μm.

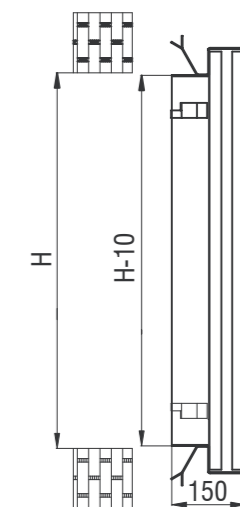
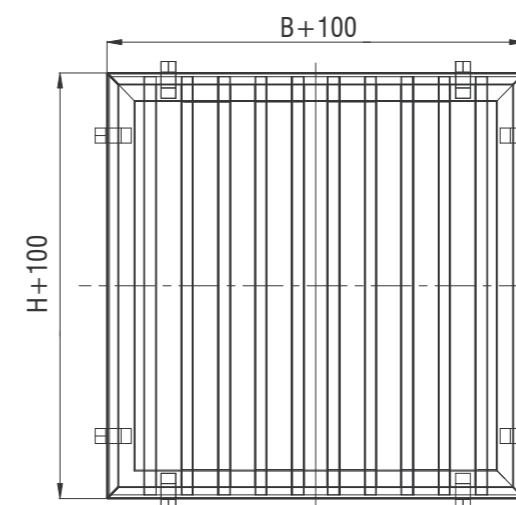
Options

- RAL...

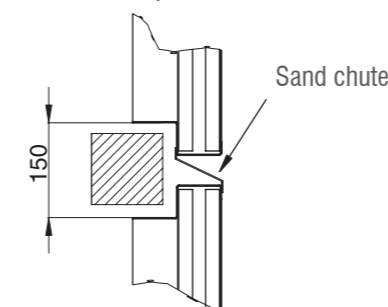
Standard dimensions ZP*

B	300 - 2250 mm, in increments 150mm
H	300 - 2250 mm, in increments 150mm

*all combinations B x H are possible

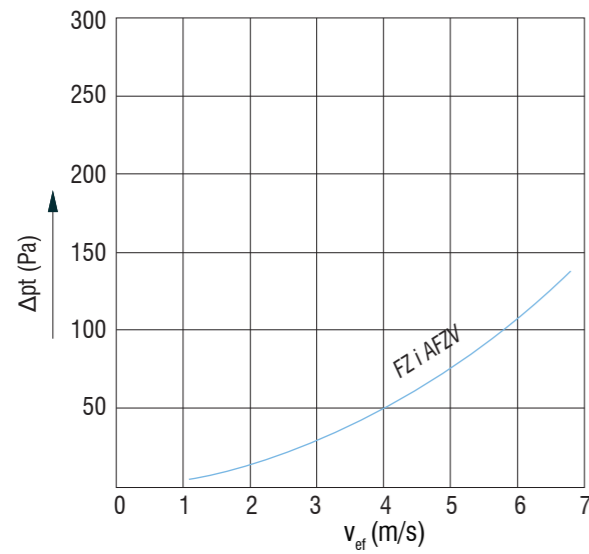


Vertical connection of two sand trap louvres

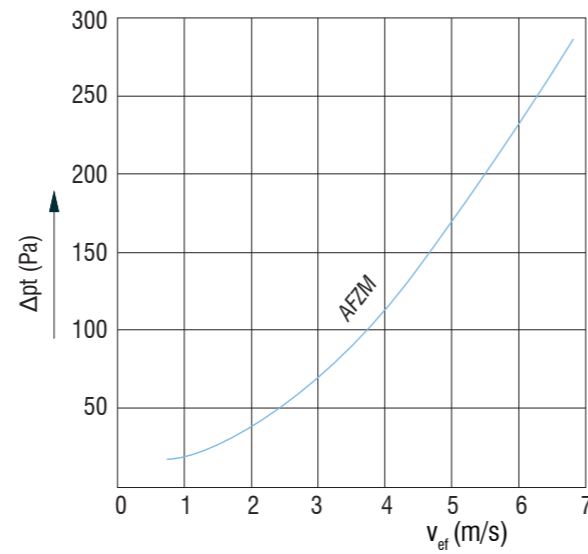


SELECTION DIAGRAMS

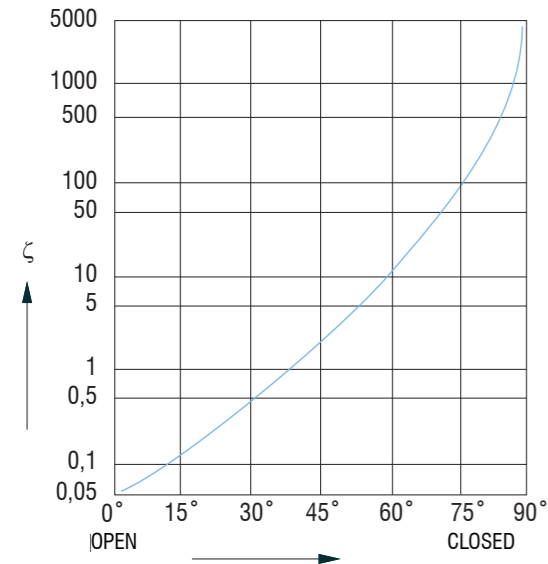
Pressure drop diagram - FZ



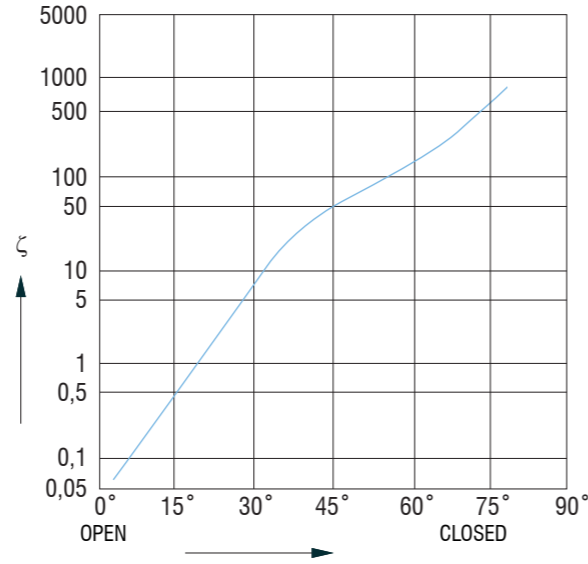
Pressure drop diagram - AFZM, AFZV



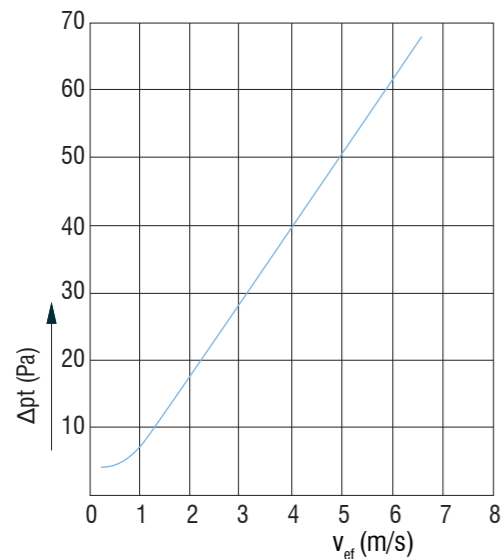
Flow resistance diagram - FZ



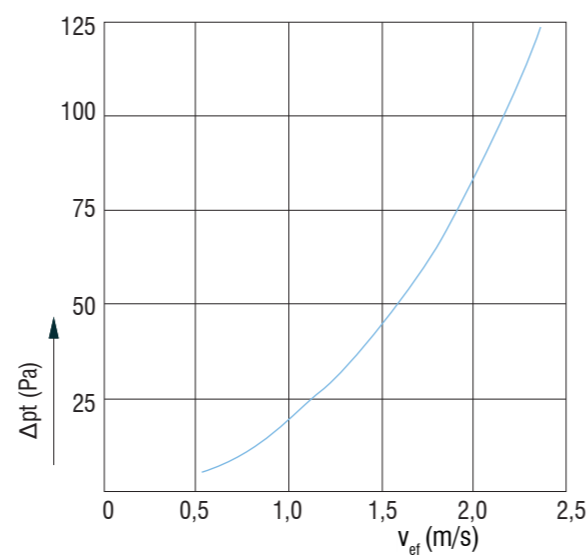
Flow resistance diagram - ARZ



Pressure drop diagram - PZ



Flow resistance diagram - ZP



ORDERING KEY

Louvre type	AFZM - 1785X1500 - UR - M230 - OZ
	FZ, AFZV, AFZM, RZ12, RZO, ARZ, PZ-T, PZ-S, PZ-K, PZ-T/O, ZP
Dimensions	
Installation subframe (UR, IS)	
Drive (RZ, ARZ)	
	- R , manual
	- M 24 , motor actuator 24 V
	- M 230 , motor actuator 230 V
Regulation (RZ, ARZ)	
	- OZ (two positions)
	- K (continuous)
	- F (return spring)

* Screws are not delivered