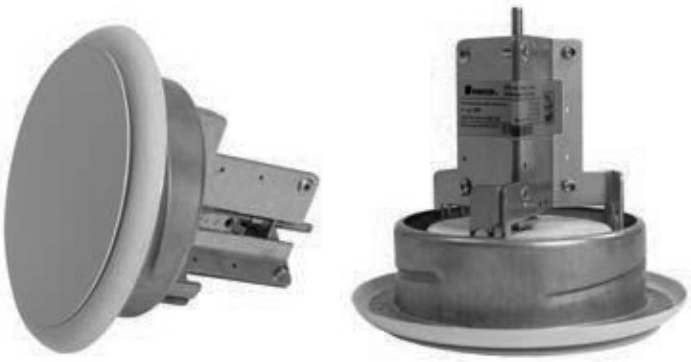
PRODUCT CONFIGURATOR AT WWW.MERCOR.COM.PL



1396-CPR-0092

ATEST HIGIENICZNY

- EIS120
- **Certificate of constancy of performance 1396-CPR-0092.**
- **Valves certified for compliance with EN 15650.**
- **Valves qualified under EN 13501-3 and tested under EN 1366-2.**

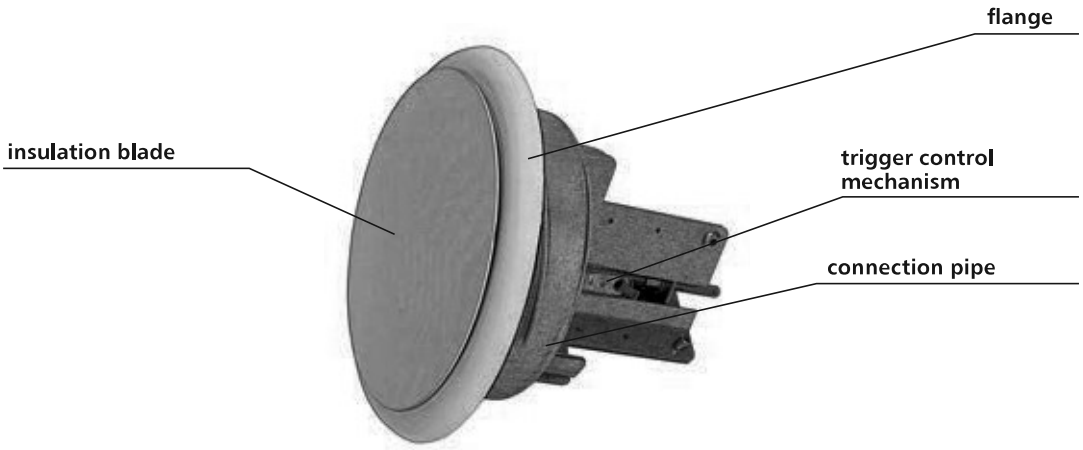
5.1. application

The mcr ZIPP cut-off fire valves are designed for installation at the ends of the general ventilation system, where those systems pass through construction partitions. They are used to separate the fire hazard zone from other parts of the building and to transfer air through construction partitions. During normal system operation, the valves are open. In case of fire, the valves close.

Furthermore, the mcr ZIPP cut-off fire valves may be used to close transfer openings, in which case they are installed without connection ducts.

Valves may also be used in the systems which are protecting escape routes from smoke, in which case they remain open during the fire and ensure the supply of fresh air to escape routes. As the fire develops further, the valves are automatically closed as a result of thermal trigger tripping, which prevents the spreading of fire and smoke to other rooms.

5.2. design



The mcr ZIPP cut-off valves consist of a casing with a circular cross-section, a moving cut-off partition (cover), a connection stub pipe and a trigger control mechanism activated when the thermal or electromagnetic trigger trips, with the automatic trip of the thermal trigger overrides the remote power supply application or disconnection.

The connection stub pipe is made of galvanised steel sheet. The valve flange is made of powder-painted steel sheet. The insulation blade of the valve is made of fire protection material, coated on the outside with powder-painted steel sheet. The blade is placed on a treaded, moving guiding pin, which enables the adjustment of performance (active surface) of the valve by tightening the cover.

During normal operation, cut-off valves remain open. The valve switches to safe mode (closes):

- automatically, by the thermal trigger tripping (RST trigger control mechanism),
- remotely, by the electromagnetic and thermal trigger tripping (RST+EK trigger control mechanism).

As a standard the valves are painted in RAL 9010.

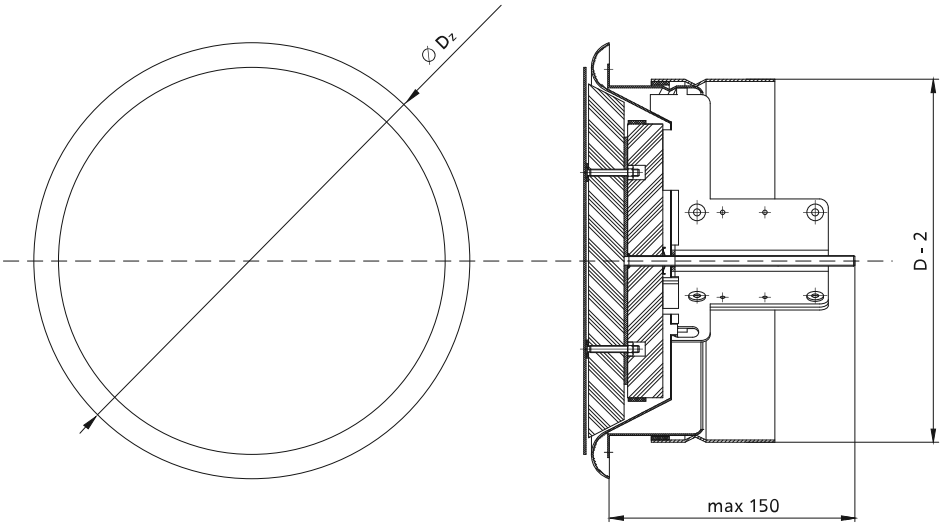
5.3. versions

5.3.1. mcr ZIPP RST – the cut-off fire valve for ventilation ducts with a thermal trigger

During normal operation, the insulation blade of the fire valve remains open. In case of fire, the blade closes automatically.

The mcr ZIPP RST valves are equipped with a RST trigger control mechanism with a thermal trigger 74°C (optionally, it is possible to use triggers with the nominal tripping temperature of 95°C) and a drive spring. After the nominal temperature is exceeded, the thermal trigger is tripped and the blade closes. It is possible to equip the valves with a WK1 limit switch used to signal the blade position state.

closed valve blade

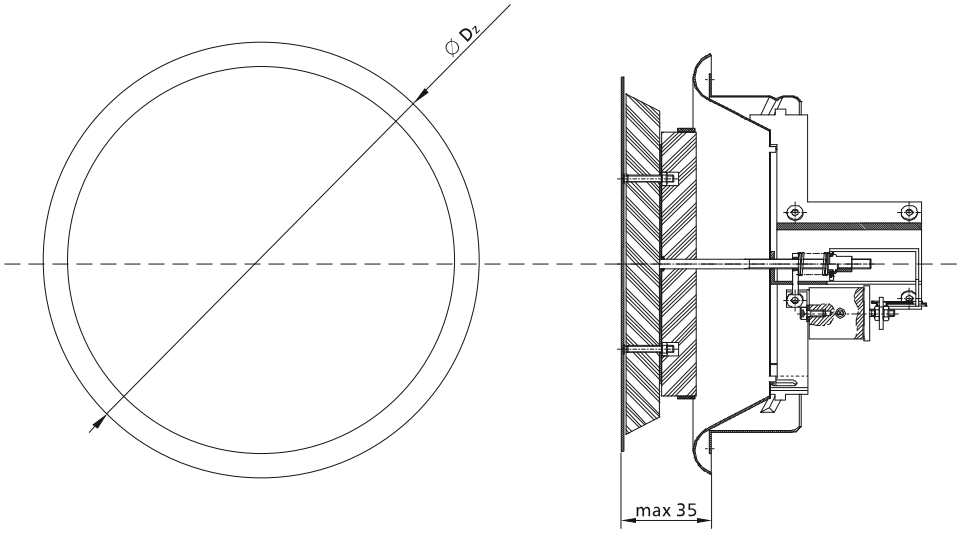


5.3.2. mcr ZIPP RST+EK – the cut-off fire valve for ventilation ducts with an electromagnetic and thermal trigger

During normal operation, the insulation blade of the fire valve remains open. In case of fire, the blade closes automatically or remotely by applying or cutting off the power supply.

The mcr ZIPP RST+EK valves are equipped with a trigger control mechanism with a thermal trigger 74°C (optionally 95°C), a drive spring and an electromagnetic trigger tripped by the power supply application („pulse") or removal („break"). The use of a MP230/24 conversion element enables tripping the blade with 230 V AC voltage. The valve is equipped with a WK1 limit switch used to signal the blade position state.

open valve blade



5.4. dimensions

Circular valves:

- nominal diameters D: 100 mm, 125 mm, 160 mm, 200 mm.

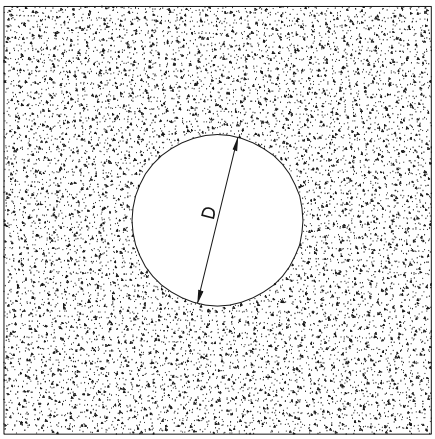
5.5. installation

The mcr ZIPP valves are EI120(ve ho o↔i)S-rated when installed in concrete partitions made of full bricks or cellular concrete blocks with the thickness of at least 110 mm, light walls of cardboard-plaster panels on a steel framework with the thickness of at least 125 mm and the resistance class of not less than EI120 and concrete ceilings with the thickness of at least 150 mm.

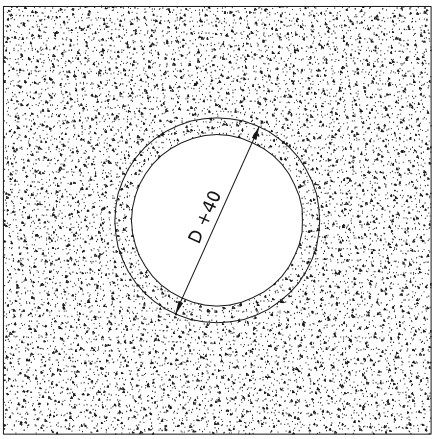
In the case of ductless installation, the valves have the resistance of EI120(ho i↔o).

5.5.1. preparation of installation openings

in lightweight plaster-cardboard walls

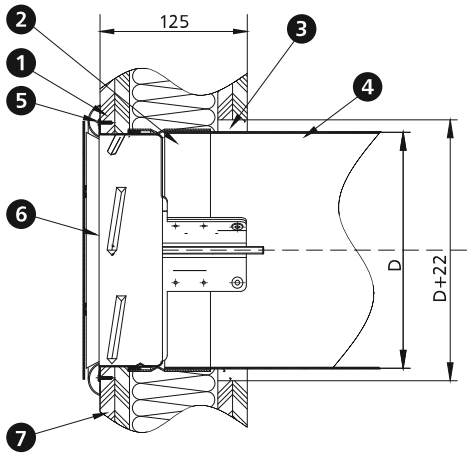


in rigid walls and ceilings



5.5.2. sample installation in lightweight walls of plaster-cardboard panels on a steel framework

duct installation

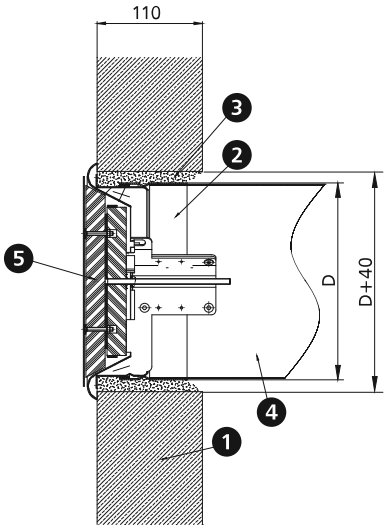


1. plaster-cardboard panel
2. extension connecting pipe
3. sealing - plaster mortar*
4. ventilation duct
5. screw for plaster-cardboard
6. mcr ZIPP valve
7. lightweight plaster-cardboard wall

*it is possible to use a different sealing which ensures the required fire resistance

5.5.3. sample installation in rigid walls

duct installation

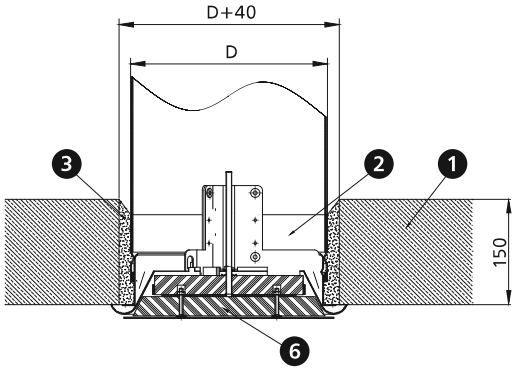


1. rigid concrete or masonry wall
2. extension connection pipe
3. sealing - plaster or cement mortar*
4. duct
5. mcr ZIPP valve

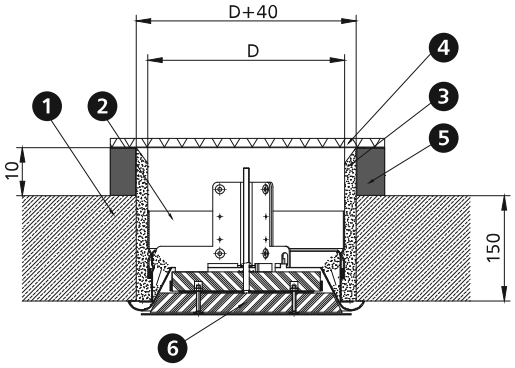
*it is possible to use a different sealing which ensures the required fire resistance

5.5.4. sample installation in ceilings

duct installation



ductless installation



1. ceiling
2. extension connecting pipe
3. sealing - plaster or cement mortar*
4. guard grid (not included)
5. circumferential trim or duct cover with suitable height
6. mcr ZIPP valve

*it is possible to use a different sealing which ensures the required fire resistance

5.6. technical parameters of mcr ZIPP valves

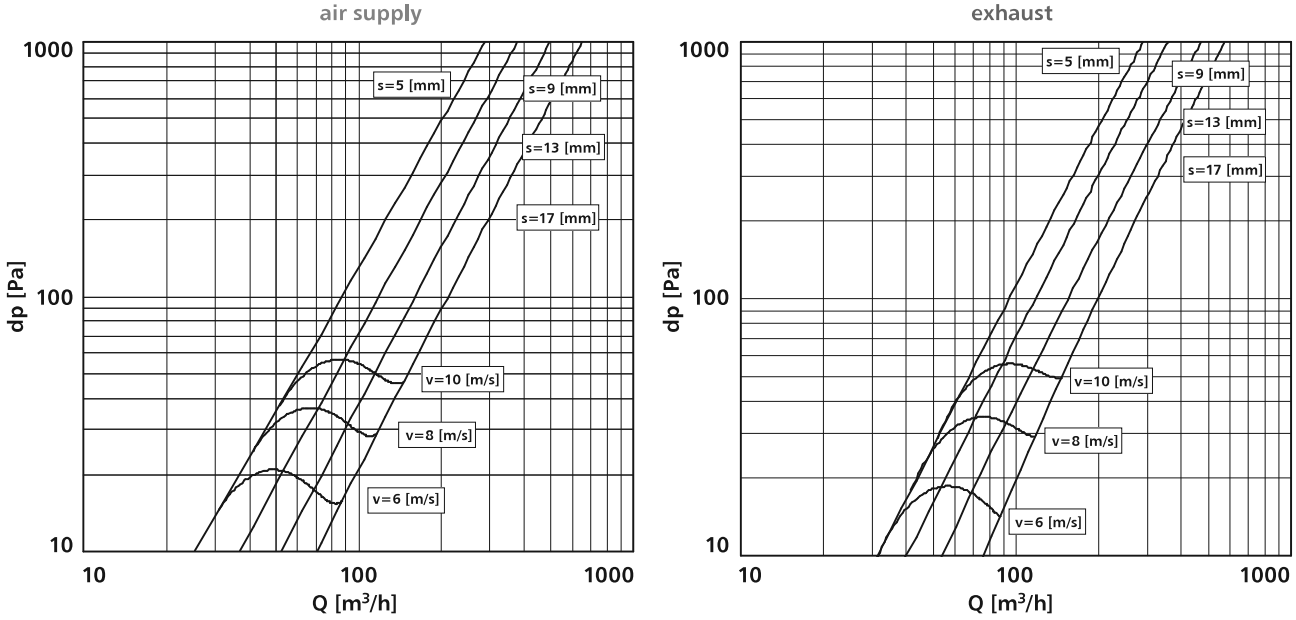
Se – damper active cross-section [m^2]
Sk – duct cross-section [m^2]
D – nominal diameter [mm]

diameter D [mm]	100	125	160	200
Se	0.0027	0.0055	0.0111	0.0191
Sk	0.0079	0.0123	0.0201	0.0314

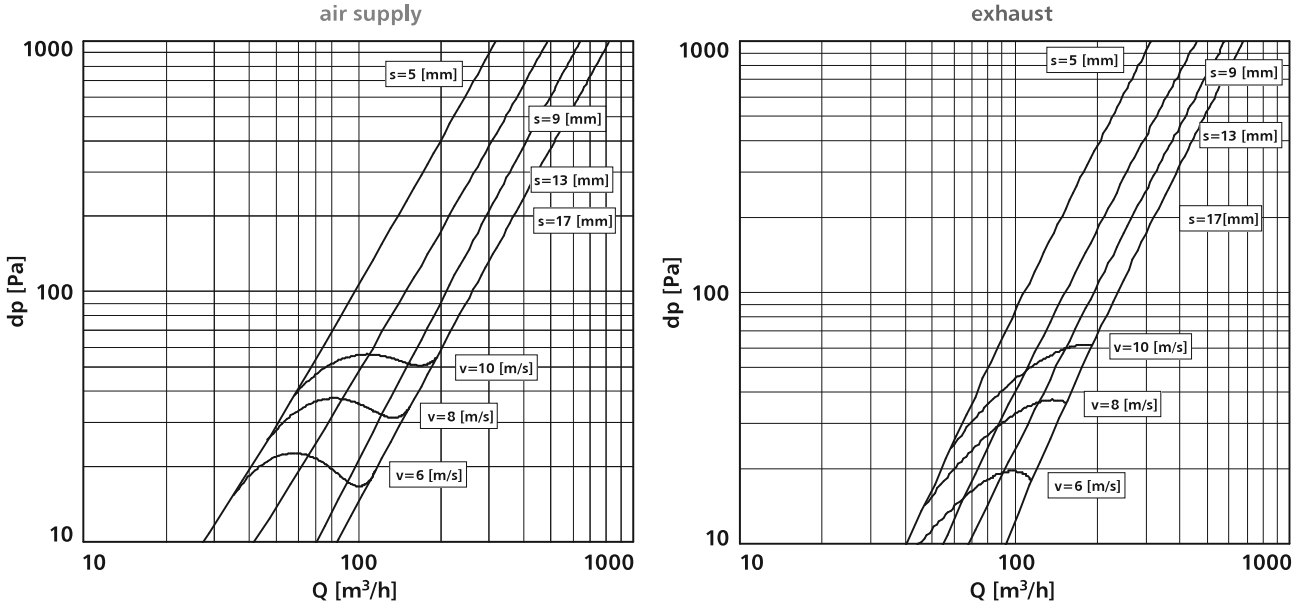
Flow characteristics

dp – pressure drop [Pa] **s –** valve opening [mm] **v –** velocity [m/s] **Q –** flow [m³/h]

mcr ZIPP 100 flow characteristics



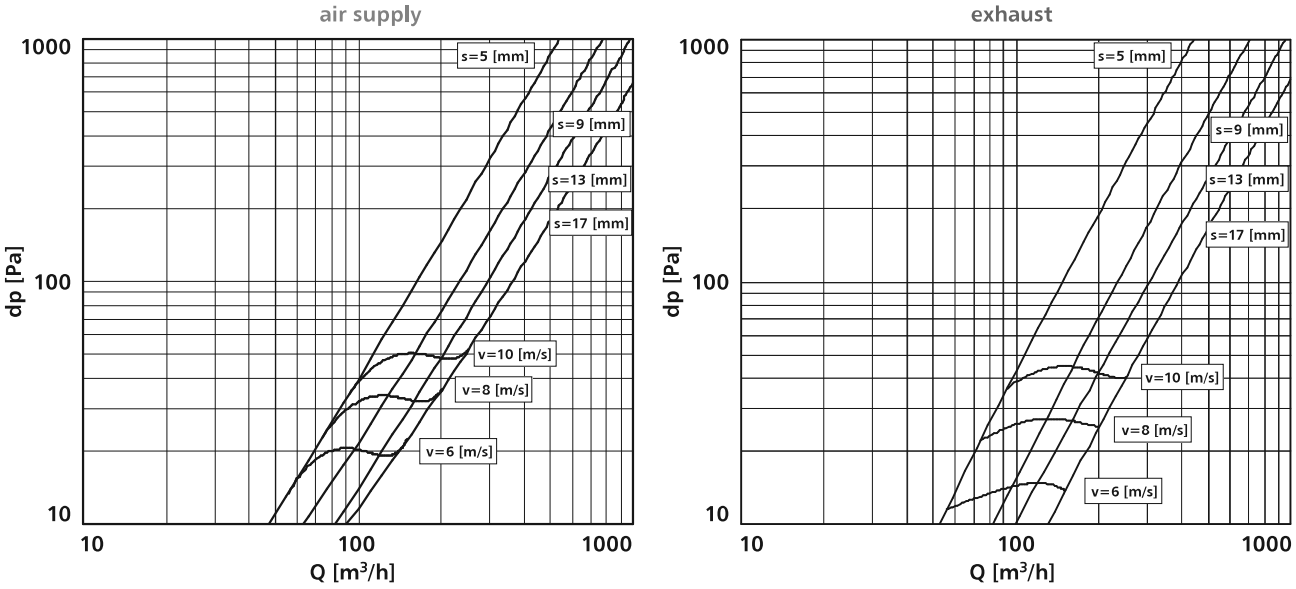
mcr ZIPP 125 flow characteristics



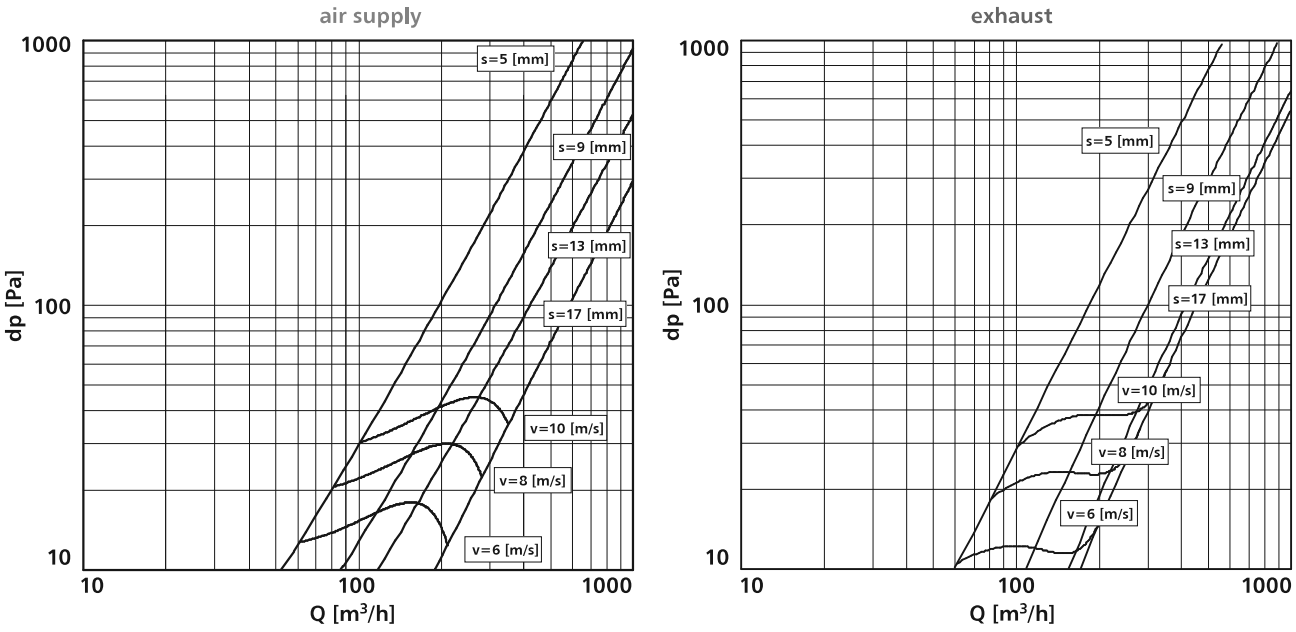
Flow characteristics

dp – pressure drop [Pa] **s** – valve opening [mm] **v** – velocity [m/s] **Q** – flow [m³/h]

mcr ZIPP 160 flow characteristics



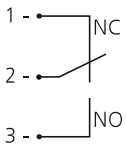
mcr ZIPP 200 flow characteristics



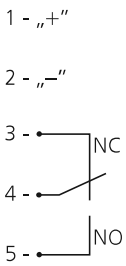
5.7. trigger control mechanisms – specifications and connection diagram

manufacture type	RST	RST+WK1	RST+EKI	RST+EKP	MP230/24
thermal trigger	+	+	+	+	-
limit switch	-	250 V AC / 5A	250V AC / 5A	250 V AC / 5A	-
rated voltage	-	-	24 V DC	24 V DC	230 V AC / output 24 V DC
power consumption	-	-	3.5 W	1.8 W	2 W

electric connection diagram for the mcr ZIPP RST+WK1 valve

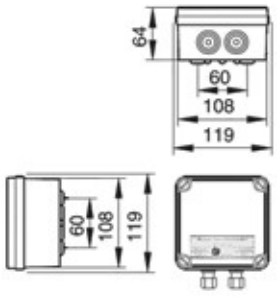


electric connection diagram for the mcr ZIPP RST+EKI valve or RST + EKP



note: the position of limit switch in standby (open valve)

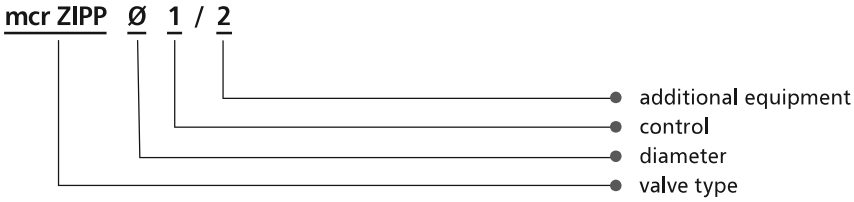
diagram and dimensions of the MP230/24 conversion unit



5.8. weights of the mcr ZIPP valves [kg]

D [mm]	RST	RST+EK
100	0.9	1
125	1.5	1.6
160	1.7	1.8
200	2.7	2.8

5.9. marking



1 – control:

– RST trigger control mechanism
RST – thermal trigger

– RST+EK trigger control mechanism
RST+EKI24 – thermal trigger + „pulse" electromagnetic trigger, U = 24 V DC + limit switch (open/closed blade signal)
RST+EKP24 – thermal trigger + „break" electromagnetic trigger, U = 24 V DC + limit switch (open/closed blade signal)

2 – additional equipment:

WK1 – limit switch (closed blade signal)
MP230/24 – conversion unit – possible to power with the voltage of 230 V AC
RMK – extension connecting pipe

example marking:

mcr ZIPP Ø125 RST

EIS120 cut-off fire valve with a thermal trigger rated at 74°C.

mcr ZIPP Ø125 RST + WK1

EIS120 cut-off fire valve with a thermal trigger rated at 74°C and a limit switch.

mcr ZIPP Ø125 RST + EKP24

EIS120 cut-off fire valve with a thermal trigger rated at 74°C and a „break" electromagnetic trigger, U = 24 V DC and a limit switch.

mcr ZIPP Ø125 RST+EKI24+MP230/24

EIS120 cut-off fire valve with a thermal trigger rated at 74°C and a „pulse" electromagnetic trigger, U = 24 V DC, a limit switch and a 230 V AC to 24 V DC voltage conversion unit.