3-way control valves type M3F
Cast iron, PN 16, DN 25 – 65 mm, Flanged ends

Characteristics

- Nominal pressure PN 16
- Regulating capability $\frac{k_{vs}}{k_{vr}} > 25$
- Same k_{vs}-value as mixing and diverting valve
- Quadratic/linear characteristic
- Ideal for controlling process and central heating plants.

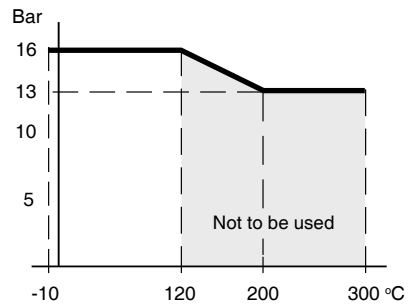
Applications

Control valves type M3F are designed for lubricants, hot water and other liquids and can be installed in pipe systems as mixing or diverting valves.
The valves are used in conjunction with our temperature regulators for controlling industrial processes, district or central heating plants or marine installations.

Dimensioning

For sizing of control valves and selection of actuators, please see "Quick Choice" leaflet No. 9.0.00.

Pressure/Temperature diagram



Design

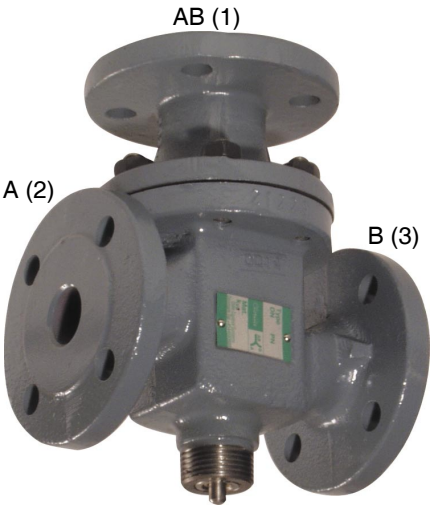
The valve components - seats and cone - are made of gun metal, the stem - of stainless steel.
The valve body is made of cast iron EN-GJL-250 with flanges drilled according to EN 1092-2 PN 16.
The thread for the actuator connection is G1B ISO 228.
The valves have two balanced single seats and are designed for tight closure. The leakage rate is less than 0.5 % of the full flow (according to VDI/VDE 2174).

Quality assurance

All valves are manufactured under an ISO 9001 certification and are pressure and leakage tested before shipment.
For marine applications the valves can be supplied with relevant test certificates from recognized classification societies.

Function

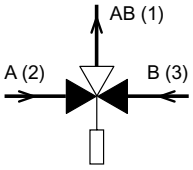
Without an actuator being installed, connection A-AB is fully open and connection B-AB completely closed by means of a spring.
By increasing pressure on the spindle, the opening of the ports changes proportionally to the travel of the spindle, and when the spindle is pressed to the bottom, connection B-AB is fully open and connection A-AB completely closed.
The valve characteristics are as follows:
Port A-AB and AB-A: quadratic
Port B-AB and AB-B: almost linear
These characteristics ensure constant total flow under almost all pressure conditions and optimum circulation in the individual circuits.



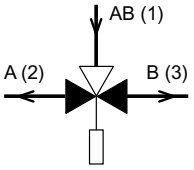
Port Numbering

Valves type M3F are marked with the internationally recognized port designations: A, B, AB.

Mixing valve



Diverting valve



Port AB common port always open
Port A closes by activating the spindle
Port B opens by activating the spindle

Specification

Type	Flange connection DN	Opening mm	k_{vs}-value* m^3/h	Lifting height mm	Weight kg
25 M3F	25 mm	25	7.5	7	7
32 M3F	32 mm	32	12.5	8	10
40 M3F	40 mm	40	20	9	14
50 M3F	50 mm	50	30	10	18
65 M3F	65 mm	65	50	11	26

* Same k_{vs}-values for mixing and diverting valves

Technical data

Materials:

- Valve body	Cast iron EN-GJL-250
- seats and cone	Gun metal RG 5 DIN/EN 1982 CC491K
- spindle	Stainless steel (W. No. 1.4305)
- bolts, nuts	24 CrMo 4/A4
Nominal pressure	PN 16
Seating	2 balanced single seats
Valve characteristic	Quadratic/linear
Regulating capability	$\frac{k_{vs}}{k_{vr}} > 25$
Leakage	$\leq$ 0.5 % of k_{vs}
Temperature range	See pressure/temperature diagram
Mounting	See page 2
Flanges - drilled according to	EN 1092-2 PN 16
Counter anges	DIN 2633
Colour	Grey

Subject to changes without notice.

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Definition of k_{VS}-value

The k_{VS}-value is identical to the IEC flow coefficient k_V and defined as the water flow rate in m^3/h through the fully open valve by a constant differential pressure, Δp_V, of 1 bar.

Mounting

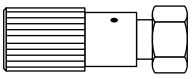
The valves can be installed with vertical as well as horizontal spindles.

Strainer

It is recommended to use a strainer in front of the control valve if the liquid contains suspended particles.

Accessories

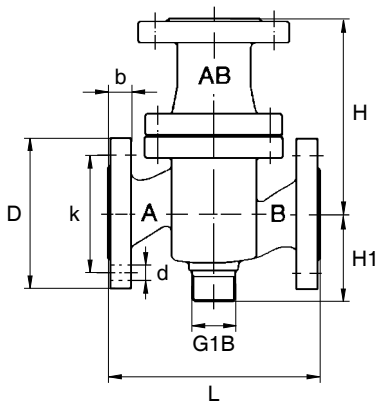
Manual adjusting device



The device has a built-in stuffing box. For sealing and manual operation of valves when an actuator has not been fitted, e.g. during periods of construction.

Subject to changes without notice.

Dimension sketch



Dimensions

Type	L mm	H mm	H1 mm	D (dia.) mm	b mm	k (dia.) mm	d mm dia. (number)
25 M3F	160	130	70	115	16	85	14x(4)
32 M3F	180	150	75	140	18	100	18x(4)
40 M3F	200	160	85	150	18	110	18x(4)
50 M3F	230	190	95	165	20	125	18x(4)
65 M3F	290	220	110	185	20	145	18x(4)

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