2-way Control Valves type M2F, Cast iron PN 16, DN 20 – 80 mm, 2 seats, Flanged ends

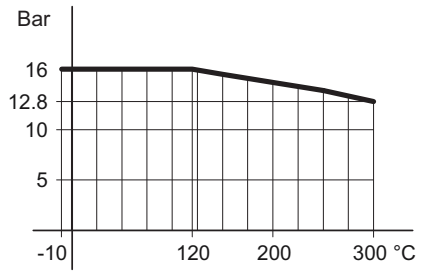
Characteristics

- Nominal pressure PN 16
- Regulating capability $\frac{k_{vs}}{k_{vr}}$ > 25
- Double-seated
- Adjustable seat interspace
- Quadratic characteristic

Applications

Control valves type M2F are designed for regulating hot water, steam and lubricating oil systems.
The double-seated valves are used in installations where the system pressure necessitates a closing force greater than available in the actuator programme for a single-seated valve.
The valves are used in conjunction with our temperature- or pressure differential regulators for controlling industrial processes, district or central heating plants or marine installations.

Pressure/Temperature diagram



Dimensioning

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

Design

The valve components - spindle, seats and cone - are made of stainless steel.
The valve body is made of cast iron EN-GJS-400-15 with flanges drilled according to EN 1092-2. The thread for the actuator connection is G1B ISO 228.
The valves are double-seated and 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.

Function

Without the actuator being connected, the valve is held in open position by means of a spring. With pressure on the spindle the valve will close.
In connection with our thermostats or electronic actuators, the valves will close at rising temperatures. For cooling circuits a reverse acting valve can be used.
The quadratic characteristic will not cease, until the flow has dropped below 4% of the full flow.

Technical data

Materials:	
- Valve body	Cast iron EN-GJS-400-15
- Components	Stainless steel
- Bolts, nuts	24 CrMo 4/A4
Nominal pressure	PN 16
Seating	Double-seated
Valve characteristic	Quadratic
Regulating capability	$\frac{k_{vs}}{k_{vr}}$ > 25
Leakage rate	≤ 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 flanges	DIN 2633/BS 4504
Colour	Grey

Specification

Type	Flange connection DN in mm	Opening mm	k_{vs}-value m^3/h	Lifting height mm	Weight kg
20 M2F	20	20	5	6.5	5
25 M2F	25	25	7.5	7	6.5
32 M2F	32	32	12.5	8	9
40 M2F	40	40	20	9	11
50 M2F	50	50	30	10	16
65 M2F	65	65	50	11	21
80 M2F	80	80	80	13	38

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

Up to 170ºC the valve can be installed vertically as well as horizontally. For media temperature above 170ºC, a cooling unit of type KS has to be applied. It must then be installed with actuator/ thermostats downwards, and according to the following instructions:

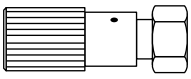
Valve Temperature	Cooling Unit	Suitable for
170ºC - 250ºC	KS-4	All actuators
250ºC - 300ºC	KS-5	Thermostats
250ºC - 300ºC	KS-6	Valve Motors

Strainer

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

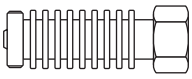
Accessories

Manual Adjusting Device



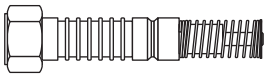
The device has a built-in stuffing box. For sealing and manual operation of valves when an actuator has not been fitted, e.g. during periods of construction (max. 170ºC).

Cooling Unit KS-4

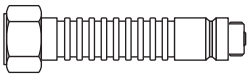


Cooling unit protecting the stuffing box of the motor/thermostat. To be applied at valve temperatures between 170ºC and 250ºC.

Cooling Unit KS-5

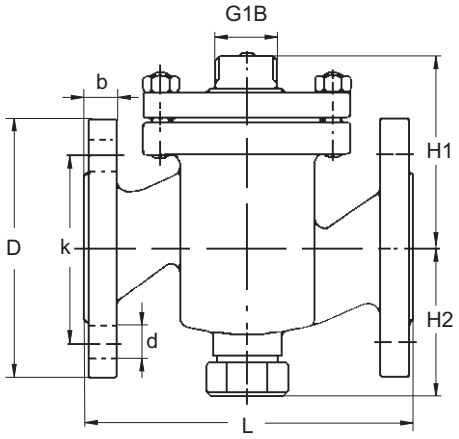


Cooling Unit KS-6



Cooling units with built-in bellow glands, replacing stuffing box of thermostat (KS-5) or valve motor (KS-6). Must be applied at valve temperatures above 250ºC.

Dimension sketch



Type	L mm	H1 mm	H2 mm	b mm	D (dia.) mm	k (dia.) mm	d mm dia. (number)
20 M2F	150	85	70	16	105	75	14x(4)
25 M2F	160	95	77	16	115	85	14x(4)
32 M2F	180	105	82	18	140	100	19x(4)
40 M2F	200	110	92	19	150	110	19x(4)
50 M2F	230	125	102	19	165	125	19x(4)
65 M2F	290	135	120	19	185	145	19x(4)
80 M2F	310	145	130	19	200	160	19x(8)

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