

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

2.3.04-M

GB-1

Characteristics

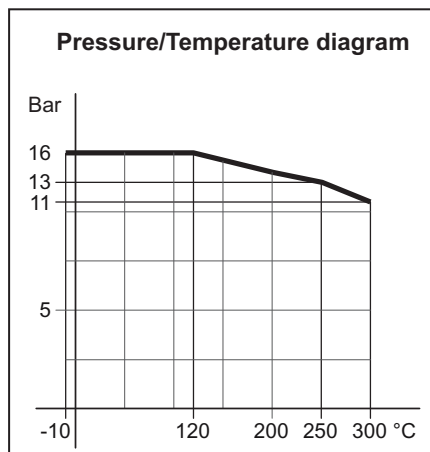
- Nominal pressure PN 16
- Regulating capability $\frac{k_{vs}}{k_{vr}} > 25$
- Double-seated
- Adjustable seat interspace
- Quadratic characteristic

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.



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 (DN 20 till DN 65) or EN-GJL-250 (DN 80) 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

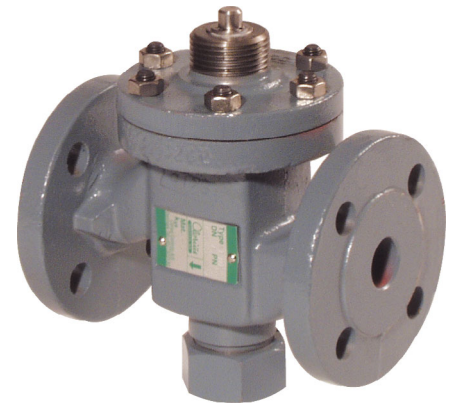
All valves are manufactured under an ISO 9001 certification and are pressure and leakage tested before shipment.

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
 - DN 20 - 65 Cast iron EN-GJS-400-15
 - DN 80 Cast iron EN-GJL-250
- 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 $\leq 0.5\%$ of k_{vs}
- Temperature range See pressure/temperature diagram
- Mounting See page 2
- Flanges drilled according to EN 1092-2 PN 16
- Counter 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.

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

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GB-2

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. For valve temperatures of max. 170°C, the thermostat/actuator can be fitted below or above the valve. For valve temperatures above 170°C, a cooling unit of type KS has to be applied with connection downwards - according to the following instructions:

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

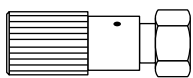
KS-5 or KS-6 must be applied to hot oil systems.

Strainer

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

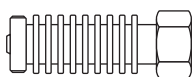
Accessories

Manual Adjusting Device



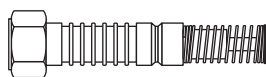
The device has a built-in stuffing box. For sealing and manual operation of valves when an actuator has not been fitted, e.g. during periods of construction (max. 170°C).

Cooling Unit KS-4



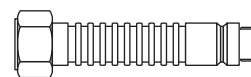
Cooling unit protecting the stuffing box of the motor/thermostat. To be applied at valve temperatures between 170°C and 250°C.

Cooling Unit KS-5



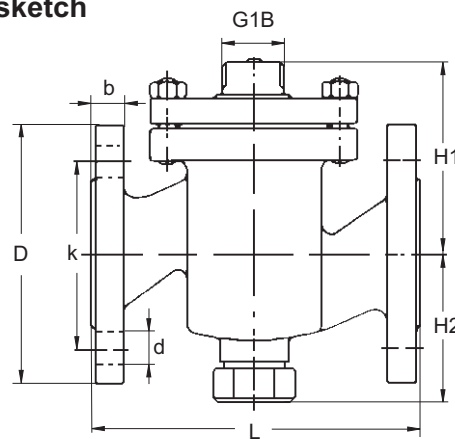
Cooling units with built-in bellow glands, replacing stuffing box of thermostat (KS-5) or valve motor (KS-6). Must be applied at valve temperatures above 250°C and in hot oil systems.

Cooling Unit KS-6

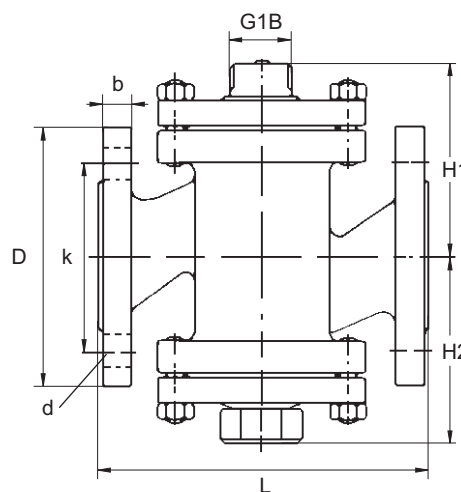


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Dimension sketch



Type: 20 - 65



Type: 80

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	165	19	200	160	19x(8)