

2-way Control Valve type M2FR

Cast iron, PN 16, DN 20 – 80 mm, 2 seats, Reverse acting

0-2.3.06-N

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TECHNICAL DATA

Materials:

- Valve body	Cast iron EN-GJS-400-15
- Trim	Stainless steel
- Nuts, bolts	24 CrMo 4/A4
- Gasket	Graphite
Nominal pressure	PN 16
Seating	Double-seated
Flow characteristic	Quadratic
Function	Opens by pressing the spindle
Leakage rate	≤ 0,5% of Kvs
Regulating capability	Kvs/Kvr > 25
Flanges drilled according to	EN 1092-2
Counter flanges	DIN 2633/BS 4504

Reverse acting (normally closed)
For cooling systems or similar
Adjustable seats

Subject to change without notice.

APPLICATIONS

Valves type M2FR are mainly intended for control of cooling systems. The valves are used in conjunction with temperature or pressure differential regulators for controlling industrial processes or cooling systems. As the reverse acting valves are held in closed position by means of a built-in spring, the max. differential pressure, Δp_L , against which a valve can close depends on the spring and when opening the valve, the actuator has to overcome the spring force. The table on the next page shows the max. allowable values of Δp_L as well as the max. allowable inlet pressures for opening the valves, p_{1max} , for various actuator forces.

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. The leakage rate is less than 0.5% of the full flow (according to VDI/VDE 2174).

FUNCTION

REVERSE ACTING

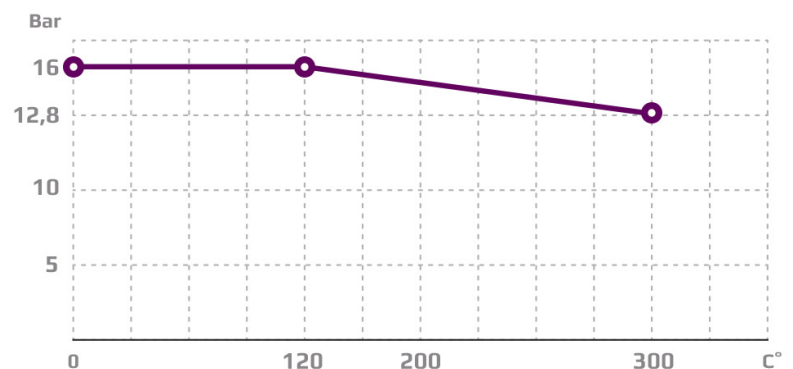
Without an actuator being connected, the valve is held in closed position by means of a spring. With pressure on the spindle the valve opens. In connection with our actuators, the valves act as "cooling" valves, i.e. they open at rising temperatures. The quadratic characteristic will not cease until the flow has dropped below 4% of the full flow.

FEATURES

- Simple design secures reliable controls.
- Location of the pack box in the actuator makes the valve service friendly
- Reliable and secure due to internal parts of stainless steel

PRESSURE/TEMPERATURE DIAGRAM

According to DIN 2401

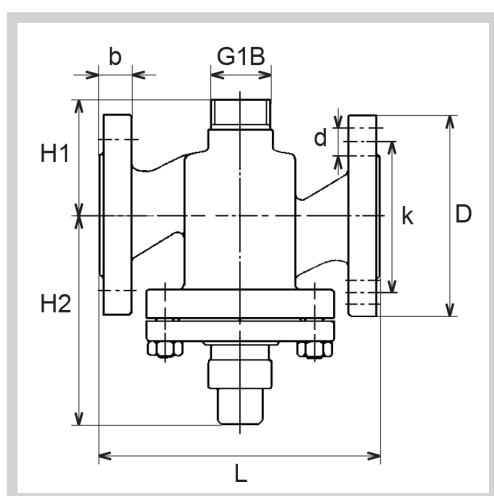


MOUNTING

The valve 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 mounted with thermostats in media temperatures above 170 °C, a cooling unit has to be applied with connection downwards (please refer to data sheet for thermostat accessories). For electric actuators a high temperature adaptor must be used (please refer to data-sheets for the electric actuators).



DIMENSION SKETCH



Type	L mm	H1 mm	H2 mm	D (dia.) mm	b mm	k (dia.) mm	d mm dia. (number)
20 M2FR	150	63	112	105	16	75	14x(4)
25 M2FR	160	70	117	115	16	85	14x(4)
32 M2FR	180	75	151	140	18	100	19x(4)
40 M2FR	200	85	155	150	19	110	19x(4)
50 M2FR	230	95	169	165	19	125	19x(4)
65 M2FR	290	110	180	185	19	145	19x(4)
80 M2FR	310	120	180	200	19	160	19x(8)

SPECIFICATIONS

Type	Flange connection Dn in mm	Opening mm	k_{vs} -value m ³ /h	Lifting height mm	Max. Δp_L bar	Actuat. force N	Corresp. p_{1max} bar	Weight kg
20 M2FR	20	20	5	6.5	8.3	200 400	9.4 16	5
25 M2FR	25	25	7.5	7	8	200 400	8.8 16	6.5
32 M2FR	32	32	12.5	8	7	400	16	9
40 M2FR	40	40	20	9	6.6	400	16	11
50 M2FR	50	50	30	10	5.8	400	15	16
65 M2FR	65	65	50	11	10	400 800	10 16	21
80 M2FR	80	80	80	13	6.7	400 800	10 16	38