

# 3-way Control Valve type M3FA-I (Ports A-AB interchanged)

Cast Iron, PN 10, DN 80 – 300 mm, DN 200/175 and 200 mm/PN 16

0-2.3.12.02-D

Page 1 of 2



## TECHNICAL DATA

### Materials:

- Valve body	Cast iron EN-GJS-400-15
- Trim	Alu Bronze CuAL10Fe5Ni5
- Valve spindle	Stainless steel (W.no. 1.4436)

### Nominal pressure

- DN200/175-200 M3FA-I	PN 16/232 psi max -20°C/248°F
- DN300/250-300 M3FA-I	PN 10/145 psi max.120°C/248°F

Seats	2 balanced single seats
Flow characteristic	Almost linear
Leakage rate	0.5%
Regulating capability	Kvs/Kvr > 25
Temperature range	Max. 120° C/248°F

Flanges	EN 1092-2 PN 10/16 EN 1092-2 145/232 psi
---------	---------------------------------------------

### Note !

Valve type 200/175 M3FA-I has outer measures and flanges drilled as valve type 200 M3FA-I Valve type 300/250 M3FA-I has outer measures and flanges drilled as valve type 300 M3FA-I

### Counter flanges (suggested)

- DN 200/175-200 M3FA-I	DIN 2633 – PN 16 -
- DN 300/250-300 M3FA-I	DIN 2632 – PN 10

### For cooling and heating purposes

#### Important note

In case the valves are applied as diverting valves, the pressure drop will increase by 35% and the kvs-value will decrease by 14% as against mixing valves.

## APPLICATIONS

Control valves type M3FA-I are designed for regulating of fresh water, lubricating oil and other liquid media. The valves are designed for use in conjunction with large industrial processes, district heating and marine installations, e.g. cooling of main and auxiliary engines. To be used with AVM234 or AVF234 electric actuators.

## DESIGN

The valve components (seats and cone) are made of alu bronze, the spindle of stainless steel. The valve body is made of cast iron and the valve flanges are drilled according to EN 1092-2.

## FUNCTION

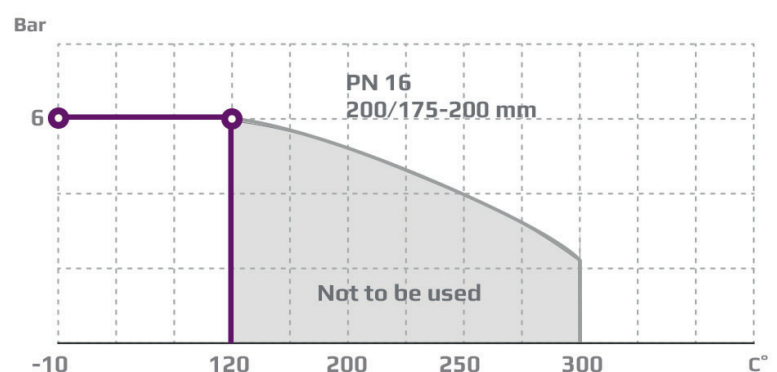
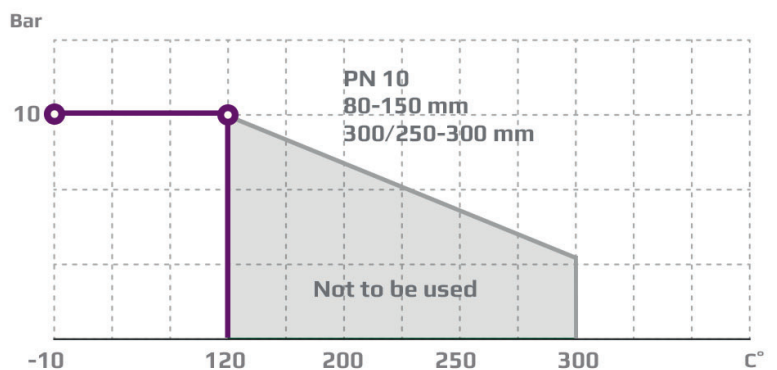
The valve cone is firmly connected with the motor spindle. When the valve cone is in the one extreme position by draw on the spindle, connection B-AB is kept fully open and connection A-AB is fully closed. In the other extreme position connection B-AB is fully closed and connection A-AB is fully open. In the intermediate positions the opening degrees change proportionally.

## FEATURES

- Can be used for both mixing and diverting
- Simple design secures reliable controls and reduces costly downtime.
- Location of the pack box in the actuator makes the valve service friendly

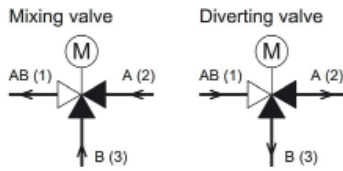
## PRESSURE/TEMPERATURE DIAGRAM

According to DIN 2401



### PORT NUMBERING

The ports of valves type M3FA-I are marked with the letters AB, B and A.



Port AB  
Port A  
Port B

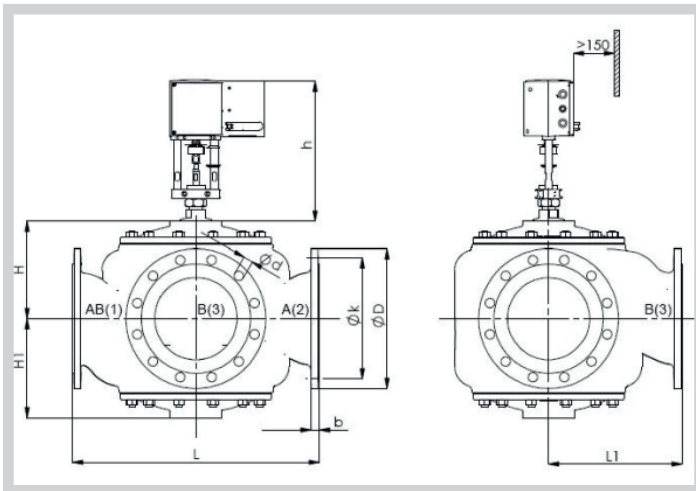
common port always open  
opens at load on spindle  
closes at load on spindle



### MOUNTING

The valves can be installed with vertical as well as horizontal spindles. The valves must be mounted in a way that the valve motor will be exposed to a minimum of moisture and unnecessary vibrations. Free height above / below the valve must be minimum 400 mm for mounting and operation of the AVM/AVF 234 motor. See drawing.

### DIMENSION SKETCH



Type	L mm	L1 mm	H mm	H1 mm	b mm	D (dia.) mm	k (dia.) mm	d mm dia. (number)
80 M3FA-I	310	155	117	127	20	200	160	18x(8)
100 M3FA-I	350	175	132	141	22	220	180	18x(8)
125 M3FA-I	400	240	181	171	24	250	210	18x(8)
150 M3FA-I	480	270	216	189	24	285	240	23x(8)
200/175 M3FA-I	600	325	238	238	20	340	295	23x(12)
200 M3FA-I	600	325	238	238	20	340	295	23x(12)
250 M3FA-I	850	340	305	305	25	445	400	23x(12)
300 M3FA-I	850	450	305	305	25	445	400	23x(12)

### SPECIFICATIONS

Type	Flange connection DN in mm	Opening mm	$k_{vs}$ -value <sup>1)</sup> mixing m <sup>3</sup> /h	$k_{vs}$ -value <sup>1)</sup> diverting m <sup>3</sup> /h	Lifting height mm	Weight kg
80 M3FA-I	80	80	80	69	11	35
100 M3FA-I	100	100	125	108	13	44
125 M3FA-I	125	125	215	185	18	72
150 M3FA-I	150	150	310	267	20	111
200/175 M3FA-I	200	200	425	366	22	165
200 M3FA-I	200	200	555	477	28	160
300/250 M3FA-I	300	300	865	744	28	306
300 M3FA-I	300	300	1250	1075	45	290

<sup>1)</sup> The stated  $k_{vs}$  values apply for mixing valves. Diverting valves: 0.86 x ( $k_{vs}$ -values for mixing valves).