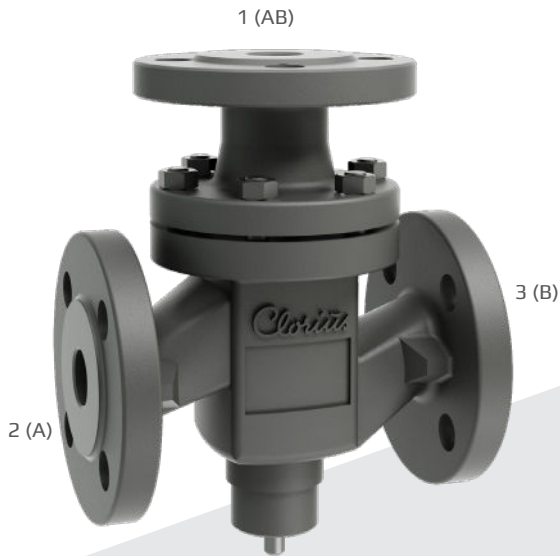


# 3-way control valve type M3F

Cast iron, PN 16, DN 20 – 65 mm, Flanged ends

0-2.3.08-J

Page 1 of 2



## TECHNICAL DATA

|                       |                                       |
|-----------------------|---------------------------------------|
| Materials:            |                                       |
| - Valve body          | Cast iron<br>EN-GJS-400-15            |
| - seats and cone      | ST.ST.1.4305<br>DIN/EN 1982<br>CC491K |
| - spindle             | Stainless steel<br>(W.No.1.4305       |
| - bolts, nuts         | 24 CrMo 4/A4                          |
| - Gasket              | Graphite                              |
| - O-ring              | 80 FPM                                |
| Nominal pressure      | PN 16                                 |
| Seating               | 2 balanced single<br>seats            |
| Flow characteristic   | Quadratic/linear                      |
| Leakage rate          | ≤ 0,5% of Kvs                         |
| Regulating capability | Kvs/Kvr > 25                          |
| Flanges - drilled     |                                       |
| according to          | EN 1092-2 PN 16                       |
| Counter flanges       | DIN 2633                              |

Same Kvs-value as mixing and diverting valve  
Ideal for controlling process and central  
heating plants

Subject to change without notice.

## 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.

## DESIGN

The valve components - seats, cone and stem 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 PN 16. The thread for the actuator connection is G1B ISO 228. The valves have two balanced single seats. The leakage rate is less than 0.5 % of the full flow (according to VDI/ VDE 2174).

## 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**

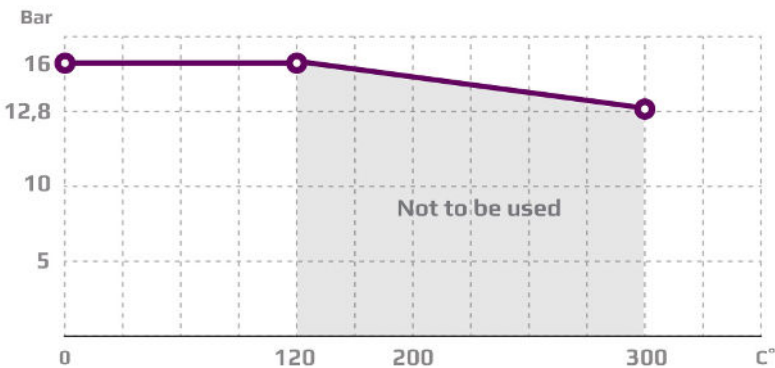
These characteristics ensure constant total flow under almost all pressure conditions and optimum circulation in the individual circuits.

## 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

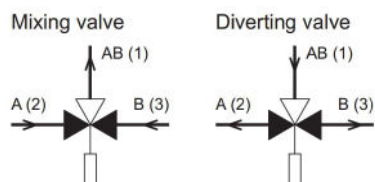
## PRESSURE/TEMPERATURE DIAGRAM

According to DIN 2401



## PORT NUMBERING

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



Port AB  
Port A  
Port B

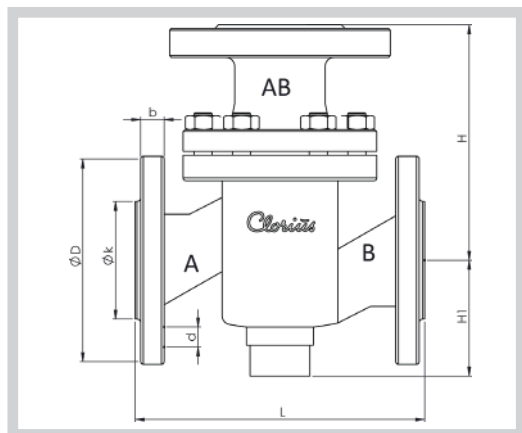
common port always open  
closes by activating the spindle  
opens by activating the spindle

1

## MOUNTING

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

## DIMENSION SKETCH



| Type   | L<br>mm | H<br>mm | H1<br>mm | D (dia.)<br>mm | b<br>mm | k (dia.)<br>mm | d mm dia.<br>(number) |
|--------|---------|---------|----------|----------------|---------|----------------|-----------------------|
| 20 M3F | 150     | 115     | 63       | 105            | 16      | 75             | 14x(4)                |
| 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)                |

## SPECIFICATIONS

| Type   | Flange<br>connection<br>DN in mm | Opening<br>mm | $k_{vs}$ -value*<br>$m^3/h$ | Lifting height<br>mm | Weight<br>kg |
|--------|----------------------------------|---------------|-----------------------------|----------------------|--------------|
| 20 M3F | 20                               | 20            | 6.3                         | 7.5                  | 6            |
| 25 M3F | 25                               | 25            | 10                          | 9                    | 7            |
| 32 M3F | 32                               | 32            | 16                          | 10                   | 10           |
| 40 M3F | 40                               | 40            | 25                          | 11                   | 14           |
| 50 M3F | 50                               | 50            | 38                          | 11.5                 | 18           |
| 65 M3F | 65                               | 65            | 63                          | 14.5                 | 26           |

\*Same kvs-values for mixing and diverting valves