

## M3R, M4R: Control valve with threaded connection, PN 10

### Improving energy efficiency

Supply from both sides and the linear characteristic enable energy-efficient working

### Features

- M3R: 3-way valves with nominal diameters DN 15...50
- M4R: 4-way valves with nominal diameters DN 20...50
- Used in combination with the AR30 and ASM 105, 115, 124 motorised actuators
- Manual adjustment by means of lever and end stops
- Brass body and gate
- Lever of ABS
- Double O-ring of EPDM ensures the tightness of the seal at the spindle



M3R015F200



M3R0\*\*F200



M4R0\*\*F200

### Technical data

Parameters		
Nominal pressure	10 bar	
Angle of rotation	90°	
Valve characteristic	Linear	

Ambient conditions		
Operating temperature	2...110 °C	
Operating pressure	Max. 10 bar	

Overview of types				
Type	Nominal diameter	k <sub>VS</sub> value	Leakage rate in % of k <sub>VS</sub>	Weight
M3R015F200	DN 15 (Rp½)	2.5 m³/h	1 %	0.8 kg
M3R020F200	DN 20 (Rp¾)	6 m³/h	1 %	0.7 kg
M3R025F200	DN 25 (Rp1)	12 m³/h	1 %	1.2 kg
M3R032F200	DN 32 (Rp1¼)	18 m³/h	1 %	1.2 kg
M3R040F200	DN 40 (Rp1½)	26 m³/h	1 %	2.2 kg
M3R050F200	DN 50 (Rp2)	40 m³/h	1 %	2.3 kg
M4R020F200	DN 20 (Rp¾)	6 m³/h	1.5 %	0.8 kg
M4R025F200	DN 25 (Rp1)	12 m³/h	1.5 %	1.2 kg
M4R032F200	DN 32 (Rp1¼)	18 m³/h	1.5 %	1.3 kg
M4R040F200	DN 40 (Rp1½)	26 m³/h	1.5 %	2.3 kg
M4R050F200	DN 50 (Rp2)	40 m³/h	1.5 %	2.5 kg

💡 M3R0\*\*F200: 3-way valve: body, cover, front gate and spindle made of brass

💡 M4R0\*\*F200: 4-way valve: body, cover, front gate and spindle made of brass

### Accessories

Type	Description
0361775000	Assembly materials for M3R/M4R, MH32F/MH42F with AR30
0361977001	Assembly materials for M3R/M4R, MH32F/MH42F with ASM 124
0361977002	Assembly materials for M3R/M4R, MH32F/MH42F with ASM 105, 115



## Combination M3R/M4R with electric actuators

**i** *Warranty: The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.*

**i** *Definition of  $\Delta p_s$ : Maximum admissible pressure drop in the event of a malfunction (pipe break after control valve) at which the actuator reliably closes the valve by means of a return spring.*

**i** *Definition of  $\Delta p_{max}$ : Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.*

Actuator	ASM105F100	ASM105F120 ASM105F122	ASM105SF132	ASM115F120 ASM115F122	ASM115SF132
Torque	5 Nm	5 Nm	5 Nm	10 Nm	10 Nm
Control signal	2-/3-point	2-/3-point	2-/3-point, 0...10 V	2-/3-point	2-/3-point, 0...10 V
Running time	30 s	120 s	35/60/120 s	120 s	60/120 s

 $\Delta p$  [bar]

As control valve	$\Delta p_{max}$	$\Delta p_{max}$	$\Delta p_{max}$	$\Delta p_{max}$	$\Delta p_{max}$
M3R015F200	2.0	2.0	2.0	–	–
M3R020F200 M4R020F200	1.0	1.0	1.0	–	–
M3R025F200 M3R032F200 M3R040F200 M3R050F200 M4R025F200 M4R032F200 M4R040F200 M4R050F200	1.0	1.0	1.0	1.0	1.0


Cannot be used as distribution valve

Actuator	AR30W23F001	AR30W23F020	AR30W23SF020	ASM124SF132	ASM124F120 ASM124F122
Torque	–	15 Nm	15 Nm	15 Nm	18 Nm
Control signal	3-point	3-point	0...10 V	2-/3-point, 0...10 V	2-/3-point
Running time	120 s	120 s	120 s	60/120 s	120 s

 $\Delta p$  [bar]

As control valve	$\Delta p_{max}$	$\Delta p_{max}$	$\Delta p_{max}$	$\Delta p_{max}$	$\Delta p_{max}$
M3R015F200	2.0	2.0	2.0	–	–
M3R020F200 M3R025F200 M4R020F200 M4R025F200	1.0	1.0	1.0	–	–
M3R032F200 M3R040F200 M3R050F200 M4R032F200 M4R040F200 M4R050F200	1.0	1.0	1.0	1.0	1.0

Cannot be used as distribution valve

 *Accessories required: Assembly materials; see accessories. With ASM124, it is not possible to fit auxiliary contacts or a potentiometer*

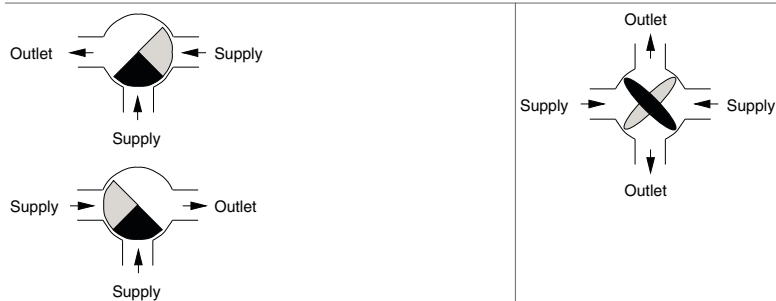
## Description of operation

When the spindle is turned, the hot-water inlet is opened continuously and the cold-water inlet (heater return flow) is closed to the same degree. As a result, the temperature of the mixed water increases (heating supply) at a practically constant flow rate.

When the hot-water inlet is closed, a by-pass to the boiler return is simultaneously opened at the 4-way valve so that thermal circulation is possible.

A reversible actuator with a 90° angle of rotation is suitable for automatic activation. After the coupling is disengaged, the gate can be adjusted manually.

## Schematic



## Intended use

This product is only suitable for the purpose intended by the manufacturer, as described in the "Description of operation" section.

All related product documents must also be adhered to. Changing or converting the product is not admissible.

## Additional technical data

Body made of unsprayed brass. Threaded holes for mounting the console and the motorised actuator.

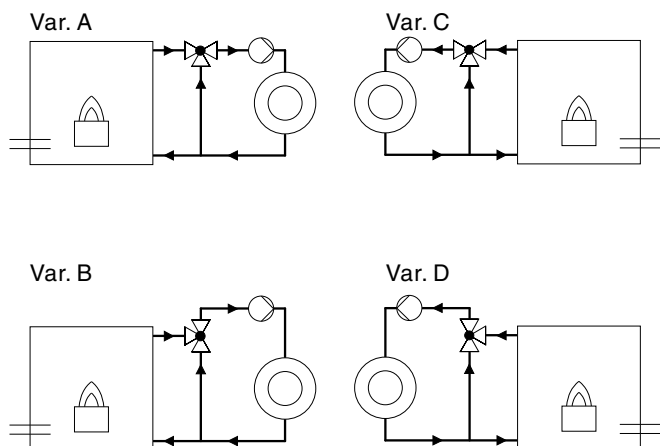
Lever for manual adjustment made of ABS. Scale labelled on both sides for the installation types:

Boiler supply from left or boiler supply from right.

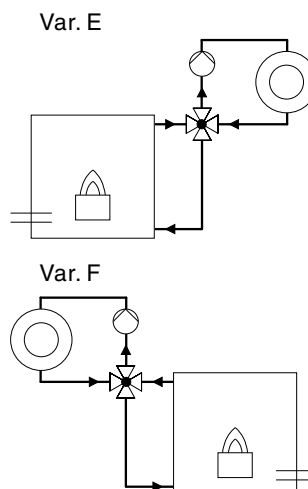
Delivery includes the ABS lever.

## Application example

M3R



M4R



## Engineering and fitting notes

All control valves must be used in closed circuits only. An excessively high oxygen mixture may destroy the control valves in open circuits. To avoid this, an oxygen binding agent must be used; here the compatibility must be clarified with the manufacturer with regard to corrosion. The material list can be used for this - see MD 54.026. Requirements for water quality as per VDI 2035.

## Using with water

When using water mixed with glycol or an inhibitor, the compatibility of the materials and seals used in the control valves should be clarified with the manufacturer. When glycol is used, we recommend using a concentration of between 20% and 50%.

## Fitting position

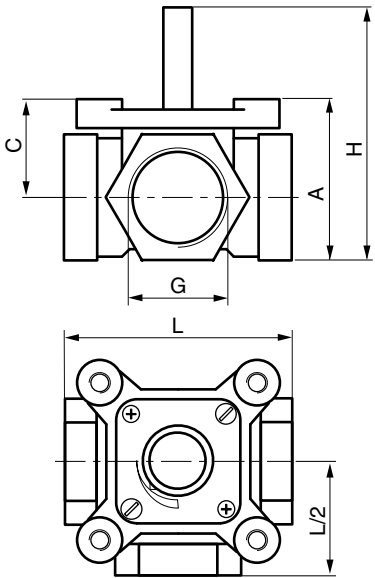
The control unit can be fitted in any position, but the hanging position is not recommended. Condensate, drops of water, etc. must be prevented from entering the actuator.

## Disposal

When disposing of the product, observe the currently applicable local laws.

More information on materials can be found in the Declaration on materials and the environment for this product.

**Dimension drawing of M3R**  
**DN 15...50**



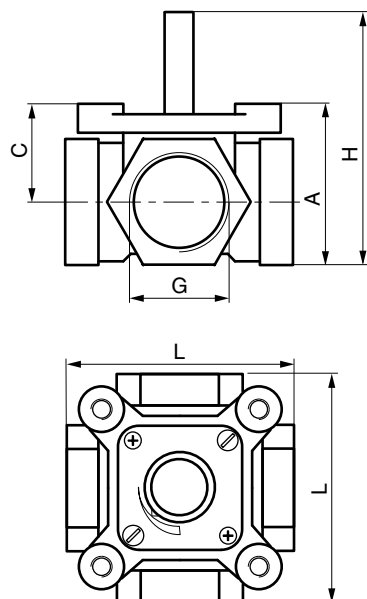
DN	G	L	A	H	C
15	Rp ½	80	51.5	79.5	34.5
20	Rp ¾	80	51.5	79.5	34.5
25	Rp 1	88	62	90	37
32	Rp 1¼	85	62	90	37
40	Rp 1½	116	73.5	101.5	41
50	Rp 2	125	76.5	104.5	41

**Combinations**

M3R 3-way control valves with actuator AR30	M3R 3-way control valves with actuator ASM124
<p>146</p> <p>115</p> <p>180</p> <p>150</p> <p>361775</p> <p>C</p> <p>DN15; DN20(F210)</p>	<p>92</p> <p>170</p> <p>84</p> <p>43</p> <p>C</p> <p>361977 001</p> <p>DN15; DN20(F210)</p>
3-way control valves with actuator ASM105/115	
<p>70</p> <p>133</p> <p>63</p> <p>10</p> <p>C</p> <p>361977 002</p> <p>DN15; DN20(F210)</p>	

## Dimension drawing for M4R

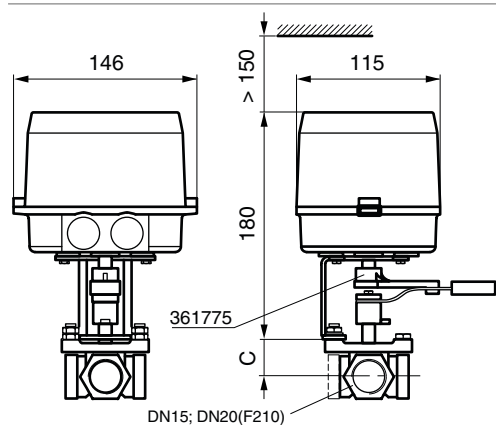
DN 20...50



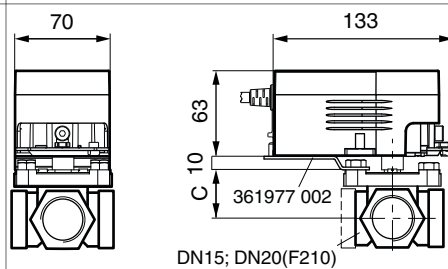
DN	G	L	A	H	C
20	Rp ¾	80	51.5	79.5	34.5
25	Rp 1	88	62	90	37
32	Rp 1¼	85	62	90	37
40	Rp 1½	116	73.5	101.5	41
50	Rp 2	125	76.5	104.5	41

## Combinations

### M4R 4-way control valves with actuator AR30



### M4R 4-way control valves with actuator ASM105/115



**M4R 4-way control valves with actuator ASM124**