

Data sheet

Return temperature limiter FJV (PN 16)

Description



FJV is self-acting temperature controller used to control:

- return water temperature from hot water tanks in direct connected district heating systems
- return water temperature in district heating systems with mixing loop.

The FJV ensures that return water is cooled to required temperature before it flows back to the district heating plant. Controller closes on rising temperature.

The controller has a control valve, thermostatic actuator and handle for temperature setting. Thermostatic actuator consist of a bellows only.

For block and district heating systems.

Main data:

- DN 15, 20, 25
- k_{vs} 1,9; 3,4; 5,5 m³/h
- PN 16
- Setting range: 20 ... 60 °C
- Temperature:
 - Circulation water / glycolic water up to 30 %: 2 ... 130 °C
- Connections:
 - Int. thread
 - Ext. thread (weld-on and ext. thread tailpieces)

Ordering

Example:
Return temperature limiter; DN 15;
 k_{vs} 1,9; PN 16; setting range
20...60°C; T_{max} 130°C; ext. thread

- 1x FJV DN 15 controller
Code No: **003N5117**

Option:

- 1x Weld-on taipieces
Code No: **003H6908**

FJV Controller

| Picture | DN | Setting range (°C) | k_{vs} (m ³ /h) | Internal thread | | External thread | |
|---------|----|-----------------------|---------------------------------|-----------------------|-----------------|-------------------------|-----------------|
| | | | | Connection ISO 7/1 | Code No. | Connection ISO 228/1 | Code No. |
| | 15 | 20 ... 60 | 1,9 | R _p 1/2 | 003N2250 | G 3/4 A | 003N5117 |
| | 20 | | 3,4 | R _p 3/4 | 003N3250 | G 1 A | 003N5118 |
| | 25 | | 5,5 | R _p 1 | 003N4250 | G 1 1/4 A | 003N5119 |

Accessories

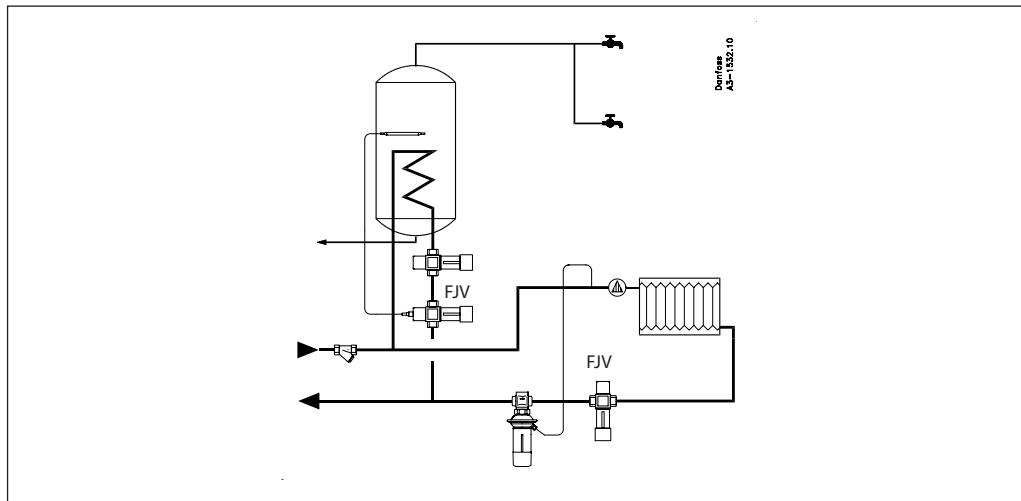
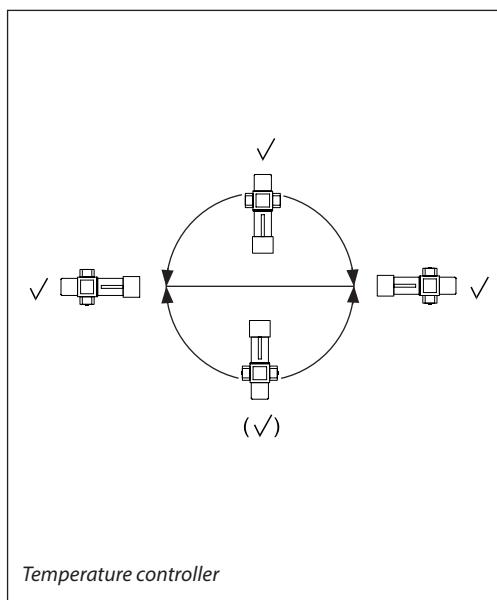
| Picture | Type designation | DN | | Code No. |
|---------|---------------------------|----|--|-----------------|
| | Weld-on taipieces | 15 | | 003H6908 |
| | | 20 | | 003H6909 |
| | | 25 | | 003H6910 |
| | External thread taipieces | 15 | | R 1/2" |
| | | 20 | | R 3/4" |
| | | 25 | | R 1" |

Service kits

| Picture | Type designation | for | Code No. |
|---------|---|-------|-----------------|
| | Repair set Two diaphragms, two O-rings, one rubber cone, one tube of grease and eight valve cover screws | DN 15 | 003N4006 |
| | | DN 20 | 003N4007 |
| | | DN 25 | 003N4008 |
| | Thermostatic actuator 20 ... 60 °C | | 003N0084 |

Technical data

| Nominal diameter | DN | 15 | 20 | 25 |
|----------------------------|-----------------|--|-----------|-----------|
| k_{vs} value | m^3/h | 1,9 | 3,4 | 5,5 |
| Nominal pressure | PN | | 16 | |
| Max. differential pressure | bar | | 10 | |
| Medium | | Circulation water / glycolic water up to 30 % | | |
| Medium pH | | Min. 7, max. 10 | | |
| Medium temperature | $^{\circ}C$ | -25 ... +130 | | |
| Materials | | | | |
| Valve body | internal thread | MS 58, hot-pressed, DIN 17660, W.No. 2.0401, CuZn40Pb3 | | |
| | external thread | Dezincing-free brass, BS 2872/CZ132 | | |
| Valve seat | | Cr Ni steel, DIN 17440, W.No. 1.4301 | | |
| Valve cone | | NBR-rubber | | |
| Spindle | | Dezincing-free brass, BS 2874/CZ132 | | |
| Diaphragms, O-rings | | EPDM-rubber | | |

Application principle

Installation positions


1. FJV must be installed immediately behind the hot water tank.
2. If central control of return water temperature is required (in district heating systems with mixing loop), FJV must be positioned so that return water temperature from hot water tank does not affect the element.

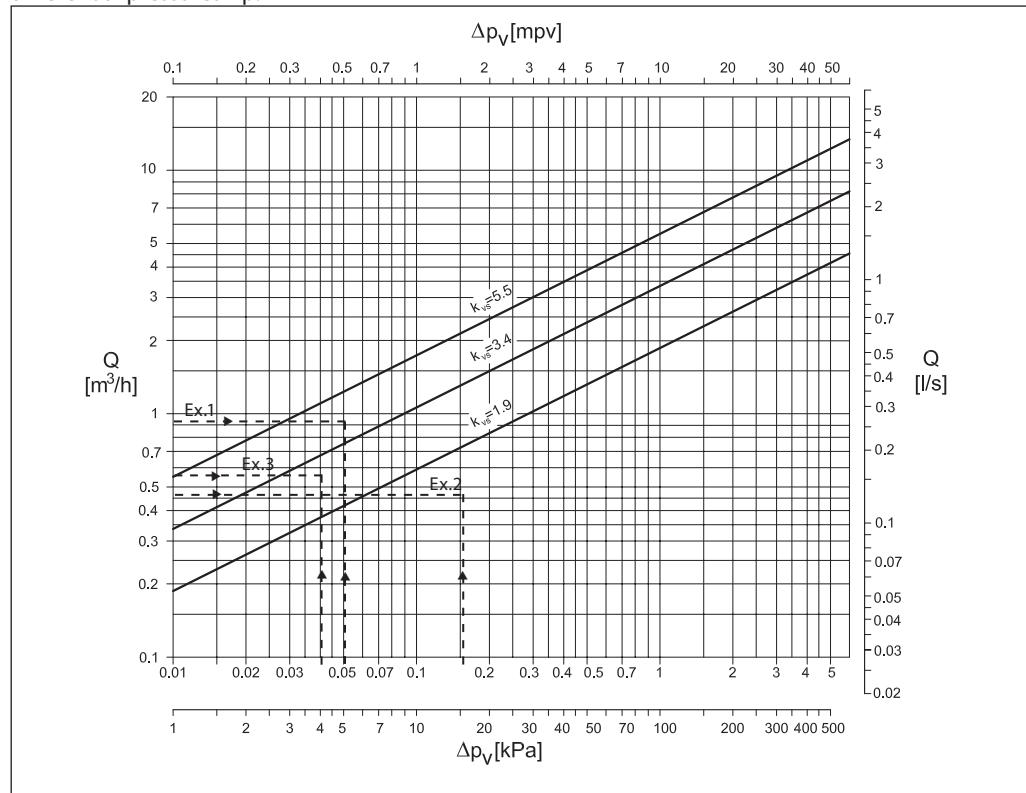
The controller must be installed in return line section. It is recommended that a strainer be inserted in the system inlet line, as shown under "Application principle". It can be installed in any position, with flow in the direction of the cast-in arrow.

FJV must not be insulated as this would affect the valve control capability – must be allowed to give off heat.

Installation and service are described in detail in the instructions, which is supplied with the controller. Separate instructions are available.

Sizing

Capacity diagram, P band ~ 16 K.
 Control capacity Q is given for different differential pressures Δp .


Example no. 1

Water volume: $1,0 \text{ m}^3/\text{h}$ ($0,28 \text{ l/s}$)
 Differential pressure: $0,05 \text{ bar}$ ($0,5 \text{ m mpv}$)
 $K_v = 4,5 \rightarrow K_{VS} = 5,5$
 Valve selection: FJV 25

Example no. 2

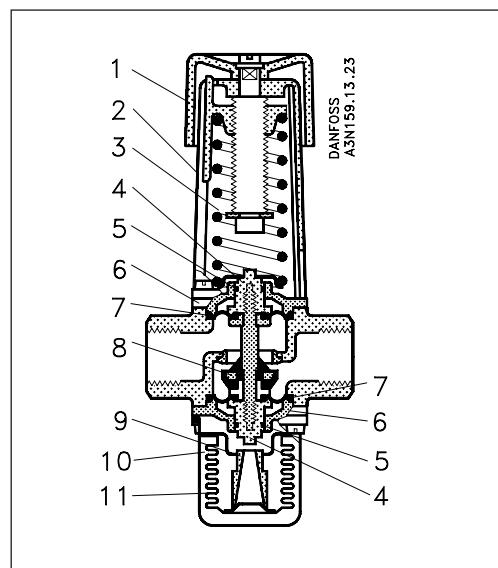
Water volume: $0,5 \text{ m}^3/\text{h}$ ($0,14 \text{ l/s}$)
 Differential pressure: $0,15 \text{ bar}$ ($1,5 \text{ m mpv}$)
 $K_v = 1,3 \rightarrow K_{VS} = 1,9$
 Valve selection: FJV 15

Example no. 3

Water volume: $0,6 \text{ m}^3/\text{h}$ ($0,17 \text{ l/s}$)
 Differential pressure: $0,04 \text{ bar}$ ($0,4 \text{ m mpv}$)
 $K_v = 3,0 \rightarrow K_{VS} = 3,4$
 Valve selection: FJV 20

Design

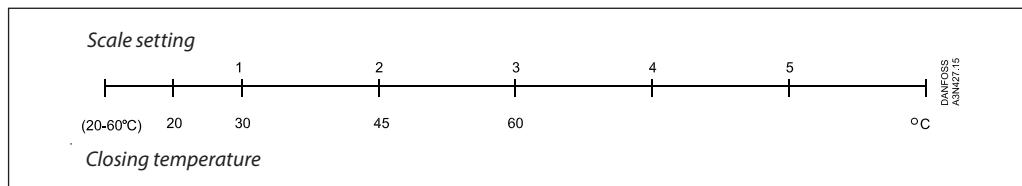
1. Handle for temperature setting
2. Spring housing
3. Setting spring
4. Spindle guide
5. O-ring
6. Valve cover
7. Diaphragm
8. Valve cone
9. Bellows stop
10. Thermostatic actuator
11. Bellows



Settings
Temperature setting

FJV have numbered neutral scale. The drawing shows the relation between scale numbers and return water temperature.

Values given are indicative only.


Dimensions
