



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 m^3/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 tailpieces
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 tailpieces	15	003H6908
		20	003H6909
		25	003H6910
	External thread tailpieces	15	R 1/2" 003H6902
		20	R 3/4" 003H6903
		25	R 1" 003H6904

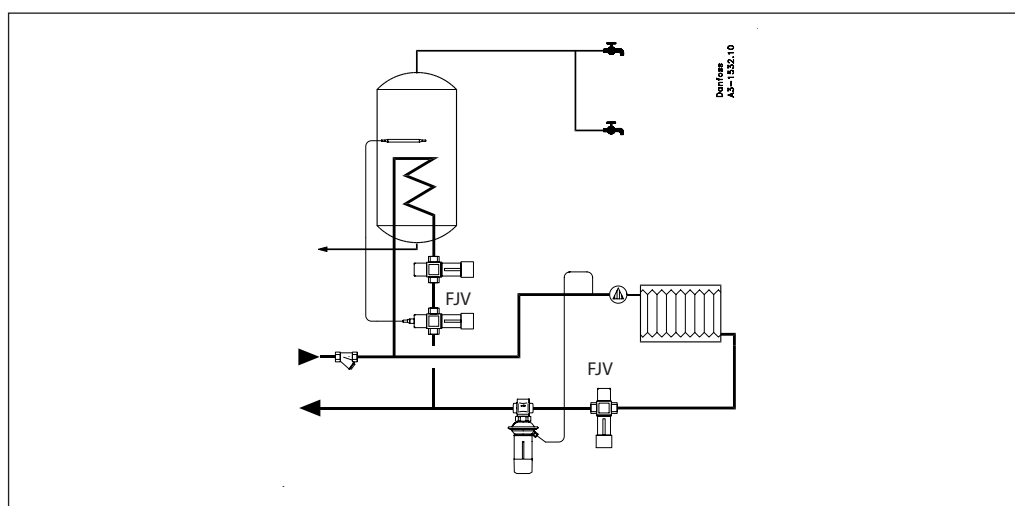
Service kits

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

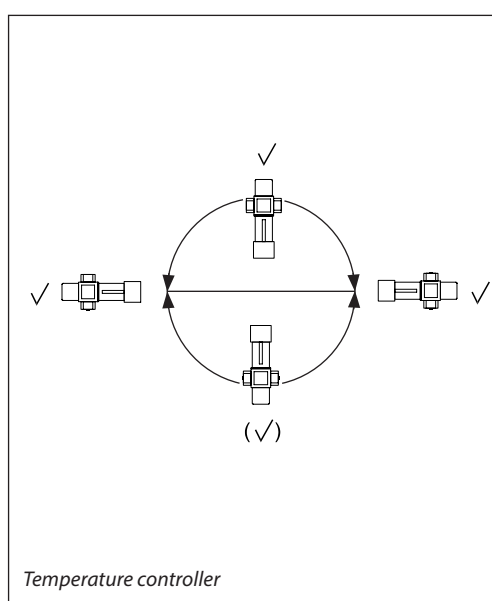
Technical data

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	°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.

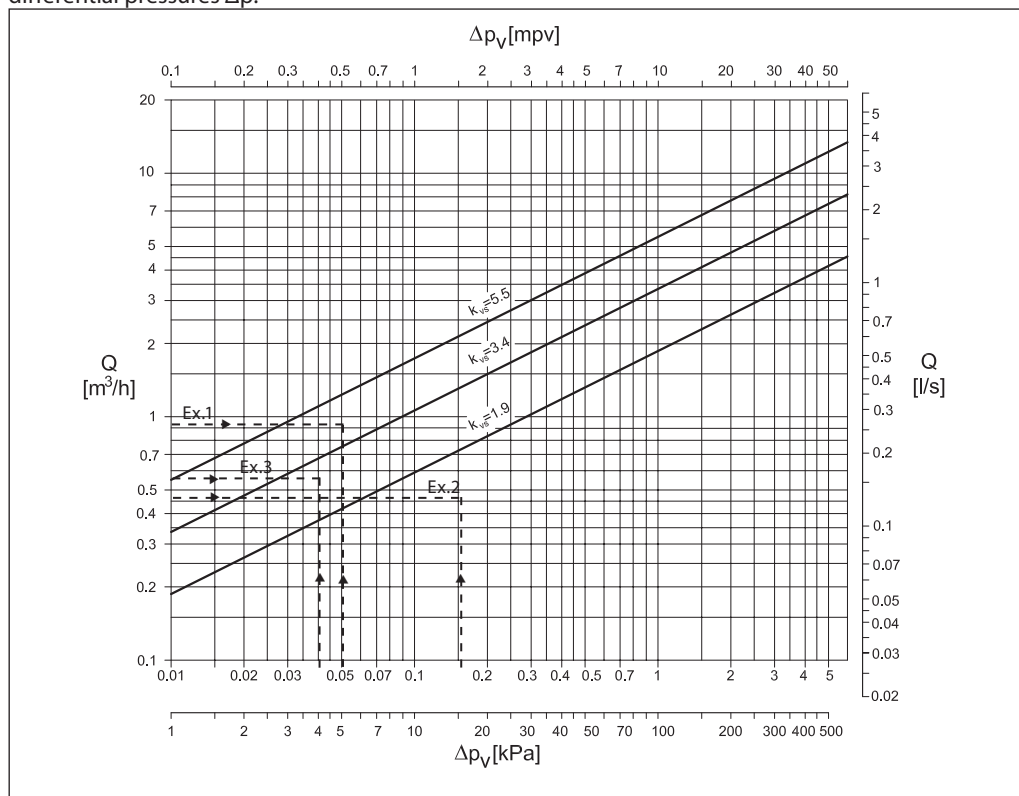
The controller must be installed in return line section. It is recommended that a strainer be inserted in the system inlet line, as shown under "Application principle". It can be installed in any position, with flow in the direction of the cast-in arrow.

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 m³/h (0,28 l/s)
Differential pressure: 0,05 bar (0,5 m mpv)
 $k_v = 4,5 \rightarrow k_{VS} = 5,5$
Valve selection: FJV 25

Example no. 2

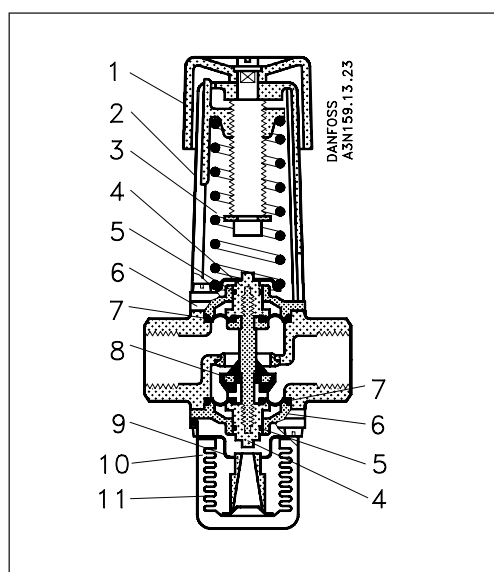
Water volume: 0,5 m³/h (0,14 l/s)
Differential pressure: 0,15 bar (1,5 m mpv)
 $k_v = 1,3 \rightarrow k_{VS} = 1,9$
Valve selection: FJV 15

Example no. 3

Water volume: 0,6 m³/h (0,17 l/s)
Differential pressure: 0,04 bar (0,4 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

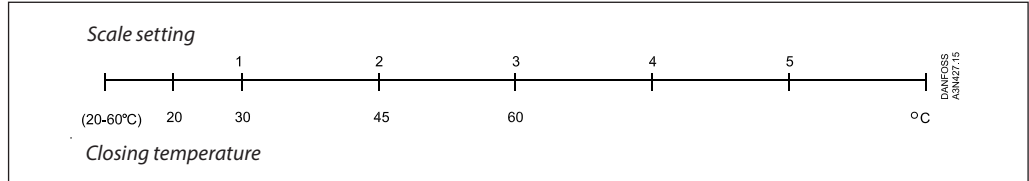


Settings

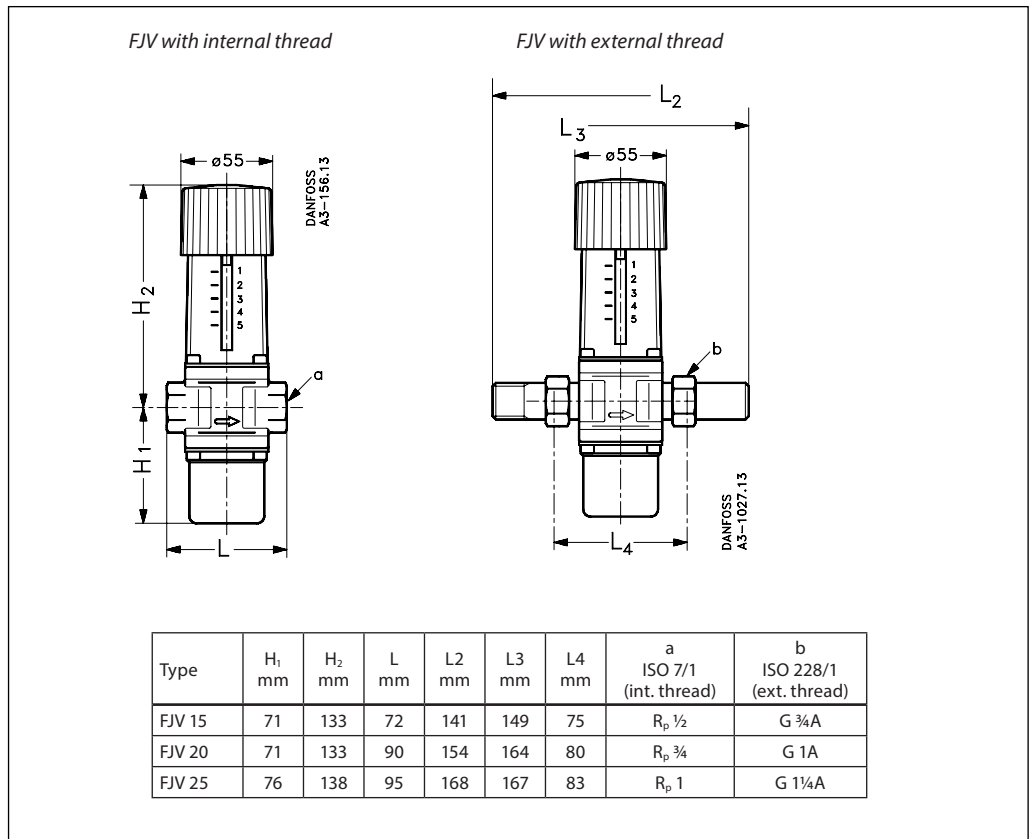
Temperature setting

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

Values given are indicative only.



Dimensions



Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without consequential changes being necessary in specifications already agreed. All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.