



Temperature controllers

FJV

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.

Ordering

Product code numbers

FJV Controller

Type	Diameter [mm]	Temperature setting range [°C] [Min]	Temperature setting range [°C] [Max]	Kvs values [m ³ /h]	Connection types	Code number
FJV	15	20	60	1.90	Internal thread	003N2250
FJV	20	20	60	3.40	Internal thread	003N3250
FJV	25	20	60	5.50	Internal thread	003N4250
FJV	15	20	60	1.90	External Thread	003N5117
FJV	20	20	60	3.40	External Thread	003N5118
FJV	25	20	60	5.50	External Thread	003N5119
FJV	15	20	60	0.63	External Thread	003N5134
FJV	15	50	90	1.90	Internal thread	003N8217
FJV	20	50	90	3.40	Internal thread	003N8218
FJV	25	50	90	5.50	Internal thread	003N8219

Example:

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

- 1× FJV DN 15 controller

Code No: **003N5117**

Option:

- 1× Weld-on taipieces

Code No: **003H6908**

Accessories code numbers

Type	Diameter [mm]	Connection types	Connection size	Code number
Thread tailpieces	15	External Thread	G 3/4 R 1/2	003H6902
Thread tailpieces	20	External Thread	R 3/4 G 1	003H6903
Thread tailpieces	25	External Thread	G 1 1/4 R 1	003H6904
Weld-on tailpieces	15	Weld-on	G 3/4	003H6908
Weld-on tailpieces	20	Weld-on	G 1	003H6909
Weld-on tailpieces	25	Weld-on	G 1 1/4	003H6910

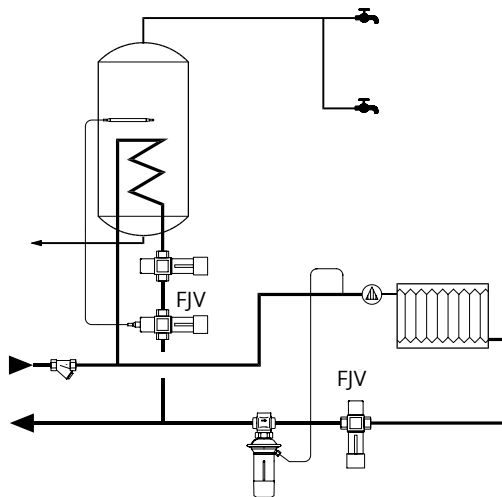
Spare parts code numbers

Type	Description	Code number
Thermostatic elements	FJV Thermostatic actuator 20-60	003N0084
Repair sets	AVTB, FJV, AVD(S)A Repair set DN15	003N4006
Repair sets	AVTB, FJV, AVD(S)A Repair set DN20	003N4007
Repair sets	AVTB, FJV, AVD(S)A Repair set DN25	003N4008

Overview

Application examples

Application principle

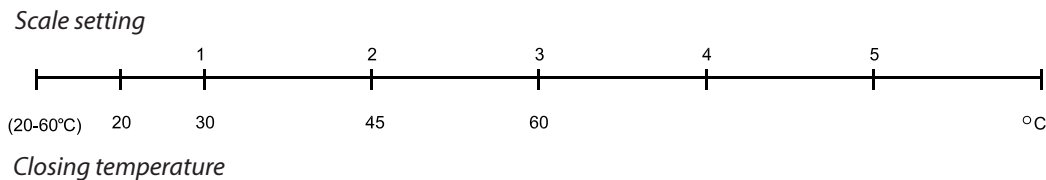




Functions

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.



Product details

General data

Technical data

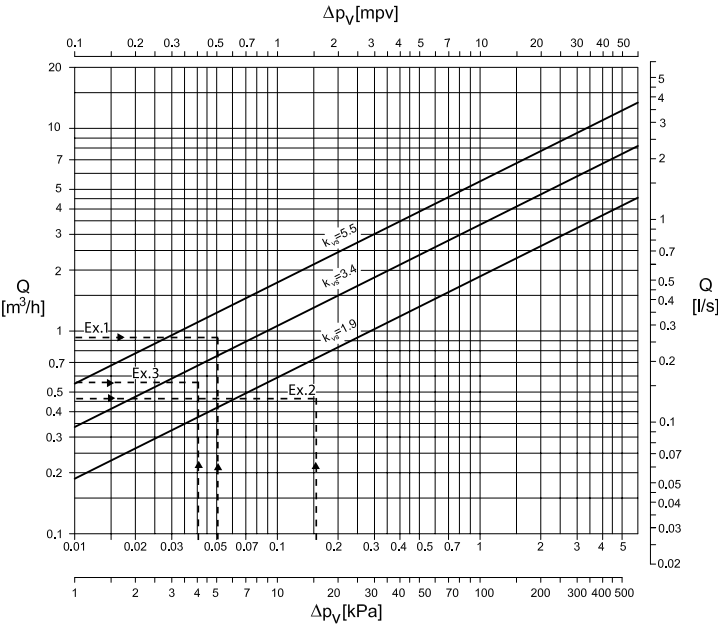
Nominal diameter, DN	15	20	25
k _{vs} value (m ³ /h)	1.9	3.4	5.5
Nominal pressure, PN	16	16	16
Max. differential pressure (bar)	10	10	10
Medium	Circulation water / glycolic water up to 30 %	Circulation water / glycolic water up to 30 %	Circulation water / glycolic water up to 30 %
Medium pH	Min. 7, max. 10	Min. 7, max. 10	Min. 7, max. 10
Medium temperature (°C)	-25 ... +130	-25 ... +130	-25 ... +130



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

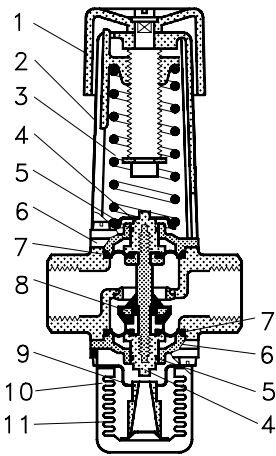
Water volume: 0.5 m³/h (0.14 l/s)
Differential pressure: 0.15 bar (1.5 m mpv)
 $k_v = 1.3 \rightarrow k_{vs} = 1.9$
Valve selection: FJV 15

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

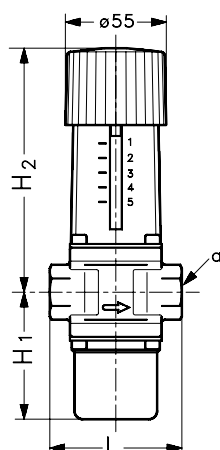
- 1 Handle for temperature setting
- 2 Spring housing
- 3 Setting spring
- 4 Spindle guide
- 5 O-ring
- 6 Valve cover
- 7 Diaphragm
- 8 Valve cone
- 9 Bellows stop
- 10 Thermostatic actuator
- 11 Bellows



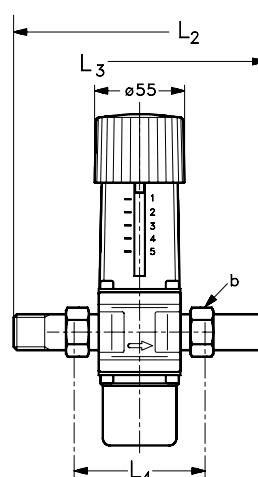
Materials

Nominal diameter, DN	15, 20, 25
Valve body, internal thread	MS 58, hot-pressed, DIN 17660, W.No. 2.0401, CuZn40Pb3
Valve body, external thread	Dezincing-free brass, BS 2872/CZ1332
Valve seat	Cr Ni steel, DIN 17440, W.No. 1.4301
Valve cone	NBR-rubber
Spindle	Dezincing-free brass, BS 2874/CZ1332
Diaphragms, O-rings	EPDM-rubber

Dimensions



FJV with internal thread



FJV with external thread

Type	H ₁ (mm)	H ₂ (mm)	L (mm)	L ₂ (mm)	L ₃ (mm)	L ₄ (mm)	a ISO 7/1 (int. thread)	b ISO 228/1 (ext. thread)
FJV 15	71	133	72	141	149	75	Rp 1/2	G 3/4A
FJV 20	71	133	90	154	164	80	Rp 3/4	G 1A
FJV 25	76	138	95	168	167	83	Rp 1	G 1 1/4A

Installation

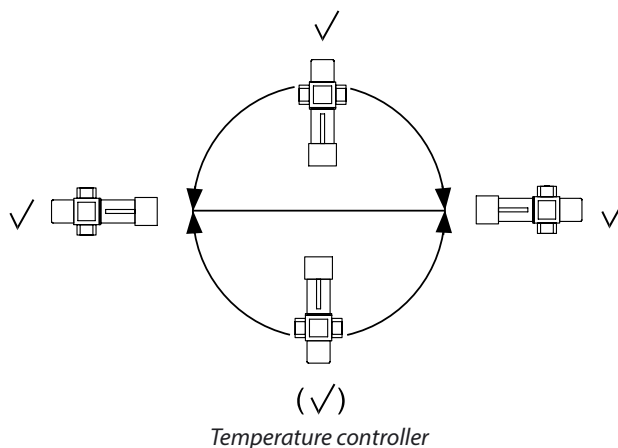
Installation positions

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.



Certificates, declarations and approvals

The list contains all certificates, declarations, and approvals for this product type. Individual code number may have some or all of these approvals, and certain local approvals may not appear on the list.

When you click on the link you will be directed to the latest version of the 'Declaration of Conformity'. Products developed and sold before this date of issue conform to the directives/standards in force at the time of their sale.

Approval type	Title	Issuer	Approval topic
EAC Declaration	EAC KZ 7100841.13.12.02363	EAC - Eurasian Customs Union	MD
UA Declaration	Danfoss UA 10.01.23 Heat Control Valves	Danfoss	
Export Control Declaration	Actuators pressure flow and temperature	Danfoss	
Pressure Safety Certificate	Certificate B (UA.TR.131.B.2655-26) Control valves	Academtest LLC	Pressure
Pressure Safety Certificate	Certificate D (UA.TR.131.B.2655-26) Control valves	Academtest LLC	Pressure
Pressure Safety Certificate	Declaration Control valves	Danfoss	Pressure
Manufacturer's Declaration	Danfoss MD 003N9614.AB	Danfoss	China RoHS
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