

## Data Sheet

# FHV Regulating Valve

## Application



FHV control valves are ideally suited for controlling the temperature of individual under-floor heated rooms and for systems using floor heating in conjunction with radiators.

Danfoss offers the following versions:

- FHV-R provides temperature control of under-floor heating circuits, using a return temperature limiting valve fitted with a type FJVR sensor element.
- FHV-A enables floor temperature control via a presettable thermostatic valve fitted with a type RA 2000 sensor element.

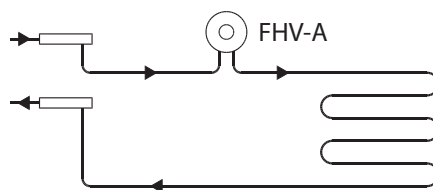
FHV control valves are flexible to use and easy to install in the floor heating circuit.

With the FHV-A, the integrated presetting simplifies hydraulic balancing of the system. Connections to the  $\frac{3}{4}$ " external thread are made with Danfoss compression connectors.

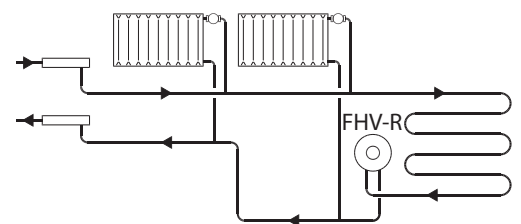
**Note!**

*If using the FHV-A for room temperature control, the flow temperature should not be permitted to exceed the maximum recommended by the floor heating supplier. When the FHV-R is used for controlling floor heating, the heated floor area should not be greater than 10 m<sup>2</sup>.*

## System Lay-outs



Floor heating system, heating circuit with FHV-A in flow.



Floor temperature control of mixed system, heating circuit with FHV-R in return.

## Technical Specifications

Type	Connection	k <sub>vs</sub> (m <sup>3</sup> /h)	Max. pressure			Max. flow temp.
			Working	Differential	Test	
FHV-R	G $\frac{3}{4}$ A	0.88	6 bar	0.6 bar	10 bar	90 °C
FHV-A	G $\frac{3}{4}$ A	0.04 - 0.79	6 bar	0.6 bar	10 bar	90 °C

## Ordering

FHV sets (with enclosure box and front cover)	For sensor	Colour	Code no.
FHV-R set: return temperature limiter valve with air vent and bleed key	FJVR	white	003L1000
FHV-A set: valve with presetting, air vent and bleed key	RA2000	white	003L1001
FHV-R set: return temperature limiter valve with air vent, bleed key and drain tap	FJVR	white	003L1015

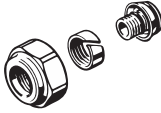
  


Sensors	Temp. range	Colour	Code no.
FJVR return temperature limiting sensor	10–50 °C	white	003L1040
Aveo RA standard built in sensor	7–28 °C	white	015G4090 /4290
Aveo RA built in sensor, shut-off function	7–28 °C	white	015G4098
Aero RA built in sensor, theft protection included	7–28 °C	white	015G4580
Aero RA standard built in sensor	7–28 °C	white	015G4590 /4594/4595
Aero RA built in sensor, shut-off function	7–28 °C	white	015G4595

## Accessories

Accessory	Code no.
Drain key	003L1340
Round front cover for FHV-R / -A	003L1050
Extension piece for RA sensors, 17.9 mm	003L1035
Extension piece for FJVR sensors, 17.9 mm	003L1036
Anti-theft plug for snap-lock sensors, white (20 pcs.)	013G5245
Allen key for RA2000 sensors	013G1236
Limiting pins for built-in, remote and service sensors (10 pcs.)	013G1246
Gland seal for FHV-R / -A	013G0290
FHV-R Service insert	003L1387
FHV-A Service insert	003L1388

## Compression Fittings

Description	Type, mm	Code no.
 <p>Compression fittings for <b>PEX</b> tubing in accordance with DIN 16893 &amp; DIN 4726.</p> <p>Max working pressure: 6 bar Test pressure: 10 bar Max. flow temperature: 95 °C G ¾" internal thread</p> <p>Max. flow temperature given by the tube manufacturer must not be exceeded.</p>	12 x 2	013G4152
	13 x 2	013G4153
	14 x 2	013G4154
	15 x 2,5	013G4155
	16 x 1,5	013G4157
	16 x 2	013G4156
	16 x 2,2	013G4163
	17 x 2	013G4162
	18 x 2	013G4158
	18 x 2,5	013G4159
	20 x 2	013G4160
	20 x 2,25	013G4093
	20 x 2,5	013G4161

Description	Type, mm	Code no.
 <p>Compression fittings for <b>ALUPEX</b> tubing in accordance with DIN 16893 &amp; DIN 4726.</p> <p>Max working pressure: 6 bar Test pressure: 10 bar Max flow temperature: 95 °C G 3/4" Internal thread</p> <p>Max flow temperature given by the tube manufacturer must not be exceeded.</p>	12 x 2	<b>013G4182</b>
	14 x 2	<b>013G4184</b>
	15 x 2,5	<b>013G4185</b>
	16 x 2	<b>013G4186</b>
	16 x 2,25	<b>013G4187</b>
	18 x 2	<b>013G4188</b>
	20 x 2	<b>013G4190</b>
	20 x 2,25	<b>013G4093</b>
	20 x 2,5	<b>013G4191</b>

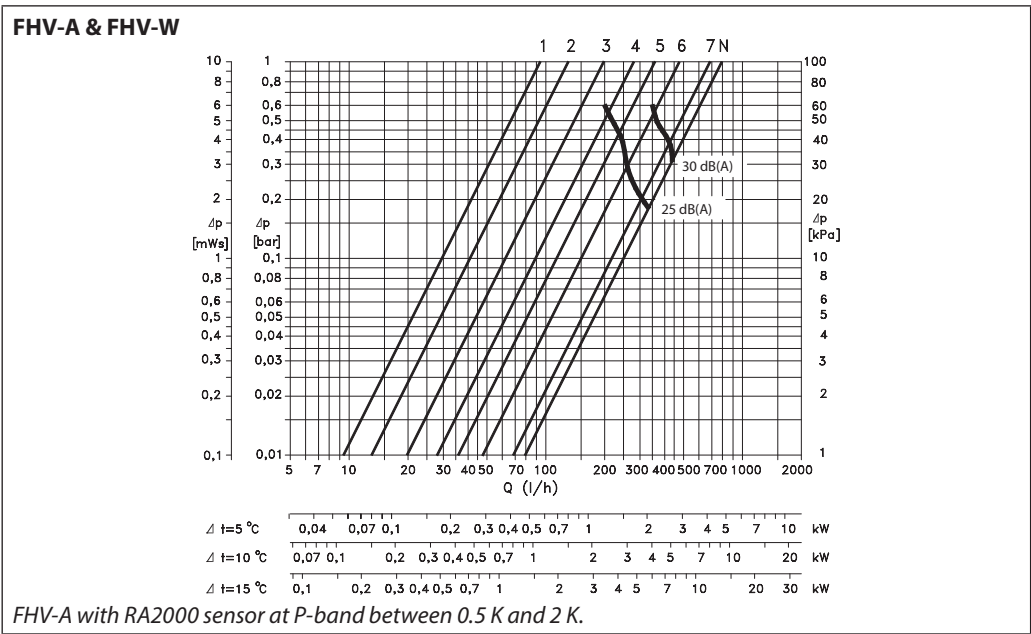
Presetting

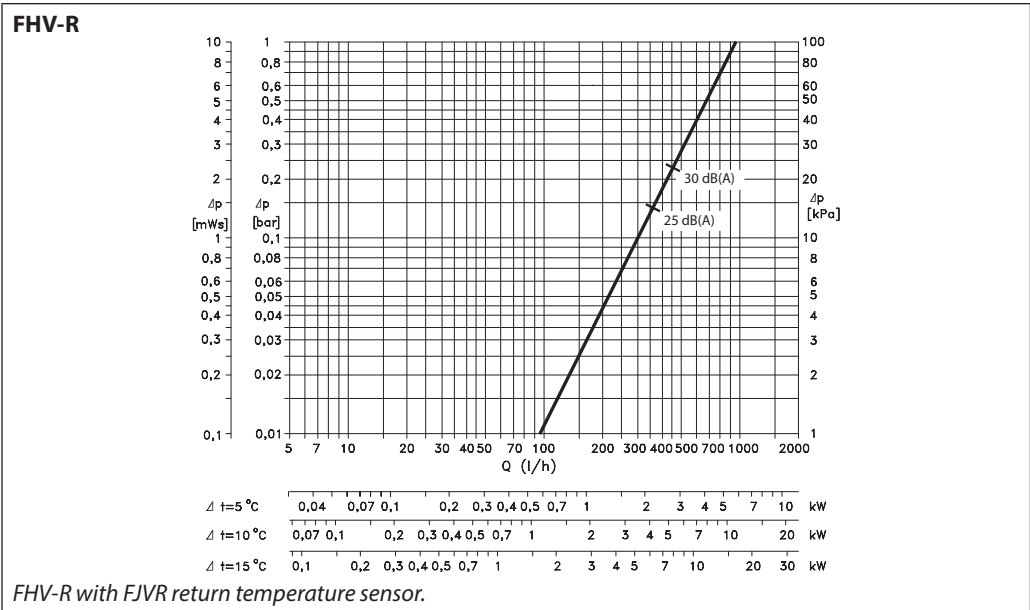
Danfoss presettable valve bodies incorporate easy-to-use adjustment rings with clearly engraved setting markers scaled from 1 - 7 and N. The preset level can be selected in 0.5 increments between 1 and 7 (see capacity diagram for flow rates). At setting N the valve is fully open (flushing option). Setting values can be set quickly and precisely without any tools:

1. Remove protective cap or sensor element.
2. Lift setting ring.
3. Turn anti-clockwise to the desired engraved setting value.
4. Allow setting ring to spring back into position.

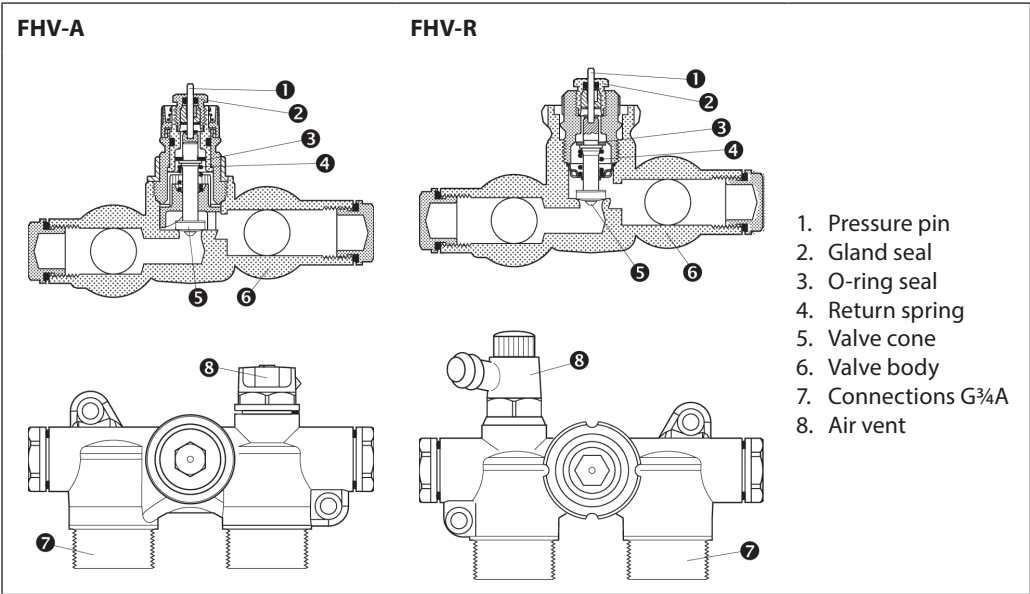


Capacity Diagram





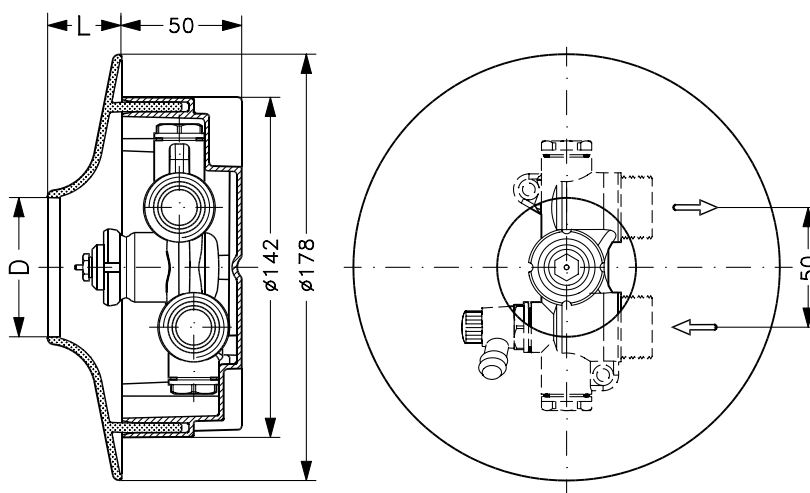
Design



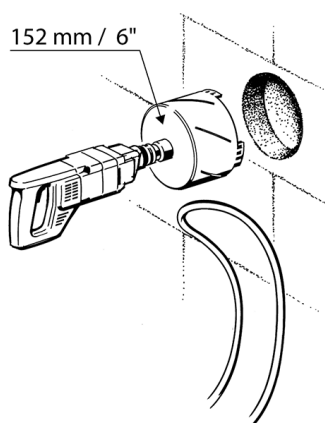
Materials in contact with water

Setting cylinder	PPS
Spindle	Ms, resistant against de-zincification
O-ring	EPDM
Valve cone	NBR
Pressure pin, valve spring	Chrome-plated steel
Other metal parts	Ms 58

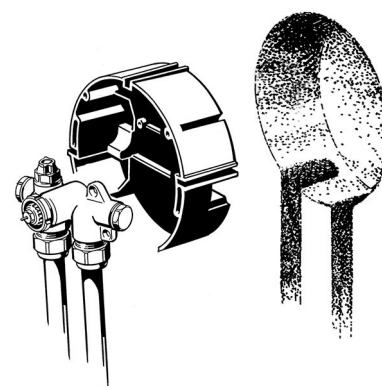
## Dimensions



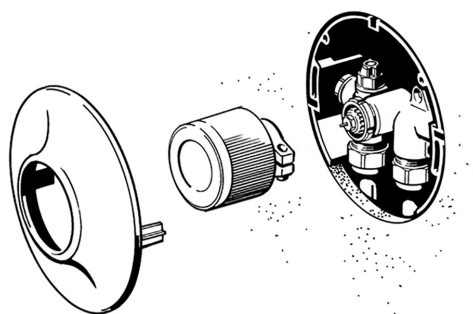
## Installation



FHV valves are equally suited for installation in solid and partition walls.



All connections are made within the wall enclosure box.



Sensor and cover are simply plugged on.



## Danfoss A/S

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