

## 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:

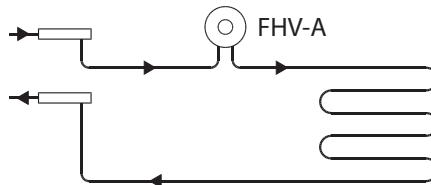
- FHV-R provides temperature control of under-floor heating circuits, using a return temperature limiting valve fitted with a type FJVR sensor element.
- FHV-A enables floor temperature control via a presettable thermostatic valve fitted with a type RA 2000 sensor element.

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.

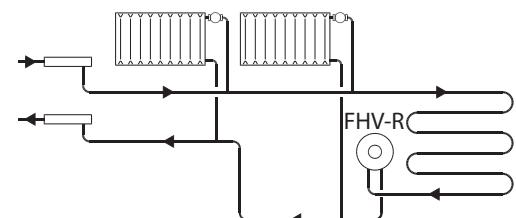
## Note!

*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	$k_{vs}$ (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**

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

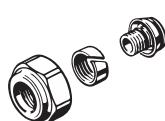
<b>Sensors</b>	<b>Temp. range</b>	<b>Colour</b>	<b>Code no.</b>
FJVR return temperature limiting sensor	10–50 °C	white	<b>003L1040</b>
Aveo RA standard built in sensor	7–28 °C	white	<b>015G4090 /4290</b>
Aveo RA built in sensor, shut-off function	7–28 °C	white	<b>015G4098</b>
Aero RA built in sensor,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

**Accessories**

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

**Compression Fittings**

<b>Description</b>	<b>Type, mm</b>	<b>Code no.</b>
Compression fittings for <b>PEX</b> tubing in accordance with DIN 16893 & DIN 4726.	12 x 2	<b>013G4152</b>
	13 x 2	<b>013G4153</b>
	14 x 2	<b>013G4154</b>
	15 x 2,5	<b>013G4155</b>
	16 x 1,5	<b>013G4157</b>
	16 x 2	<b>013G4156</b>
	16 x 2,2	<b>013G4163</b>
	17 x 2	<b>013G4162</b>
	18 x 2	<b>013G4158</b>
	18 x 2,5	<b>013G4159</b>
	20 x 2	<b>013G4160</b>
	20 x 2,25	<b>013G4093</b>
	20 x 2,5	<b>013G4161</b>



Compression fittings for **PEX** tubing  
in accordance with DIN 16893 & DIN 4726.

Max working pressure: 6 bar  
Test pressure: 10 bar  
Max. flow temperature: 95 °C  
G 3/4" internal thread

Max. flow temperature given by the tube  
manufacturer must not be exceeded.

Description	Type, mm	Code no.
Compression fittings for <b>ALUPEX</b> tubing in accordance with DIN 16893 & DIN 4726.	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

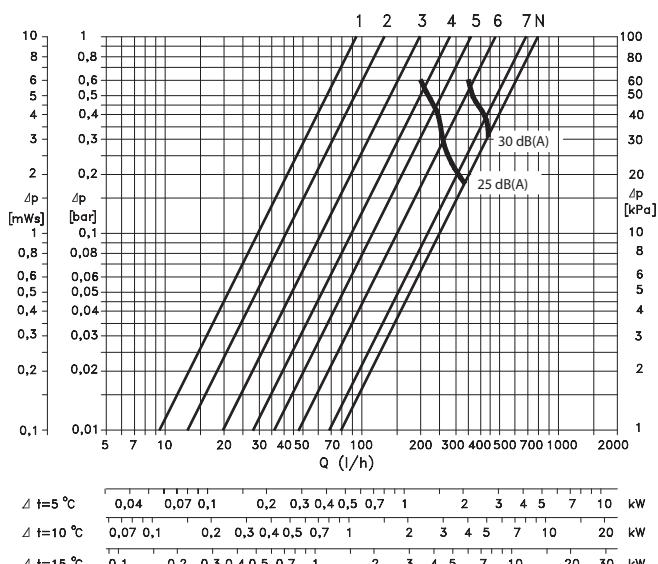
Danfoss presettable valve bodies incorporate easy-to-use adjustment rings with clearly engraved setting markers scaled from 1 - 7 and N. The preset level can be selected in 0.5 increments between 1 and 7 (see capacity diagram for flow rates). At setting N the valve is fully open (flushing option). Setting 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.

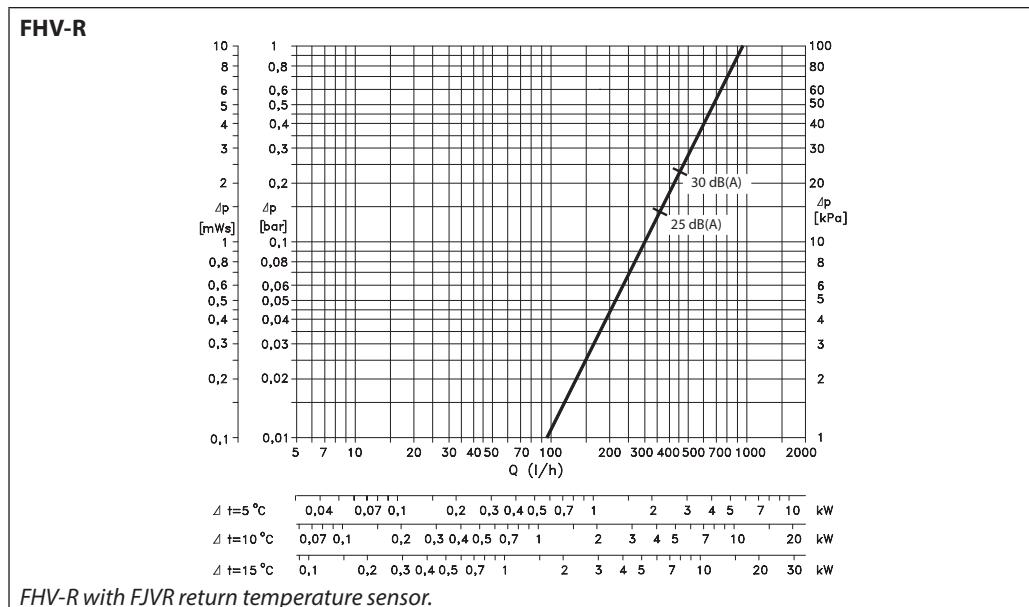


## Capacity Diagram

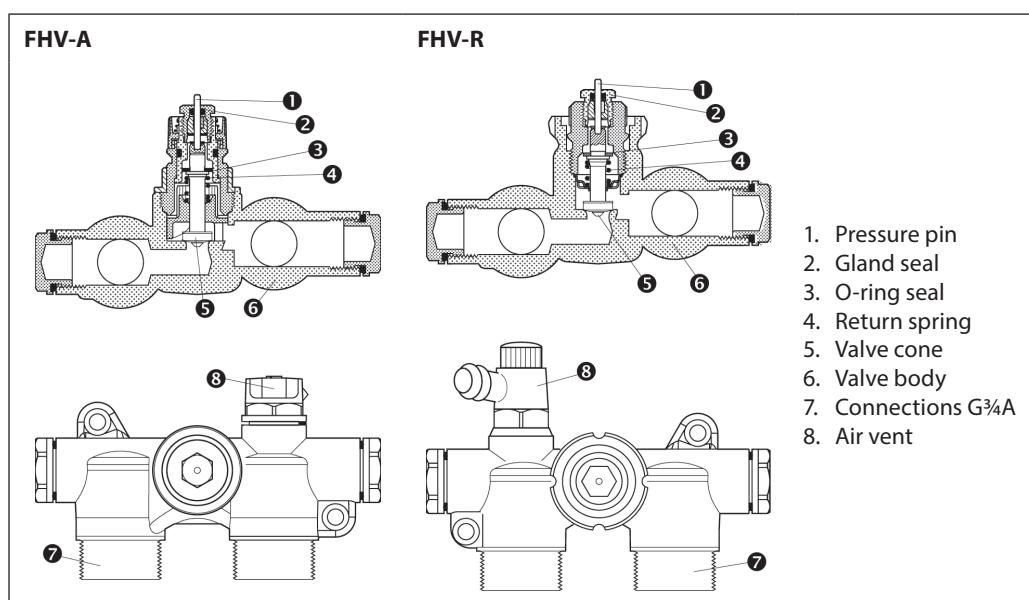
**FHV-A & FHV-W**



FHV-A with RA2000 sensor at P-band between 0.5 K and 2 K.

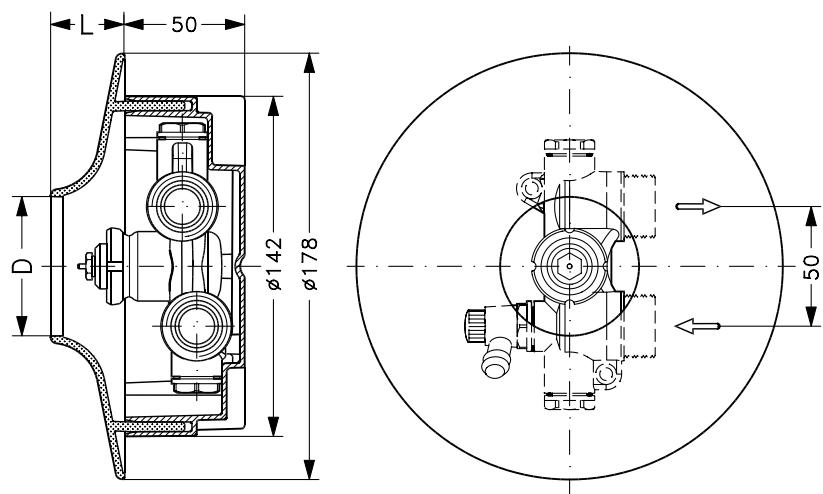
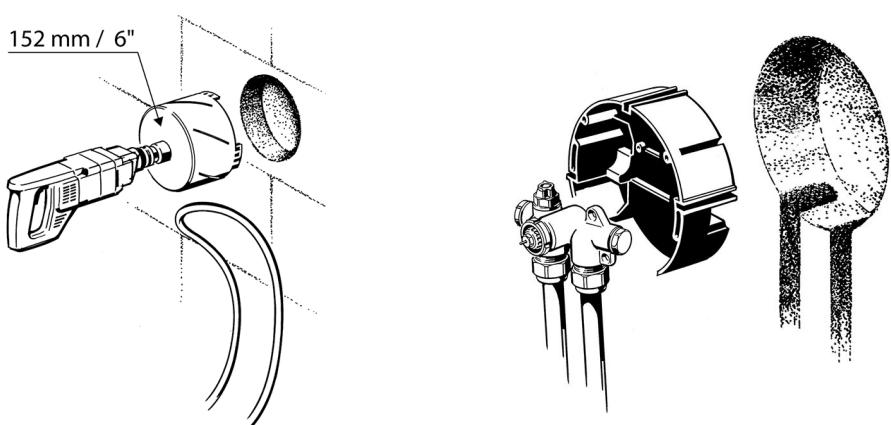


## Design



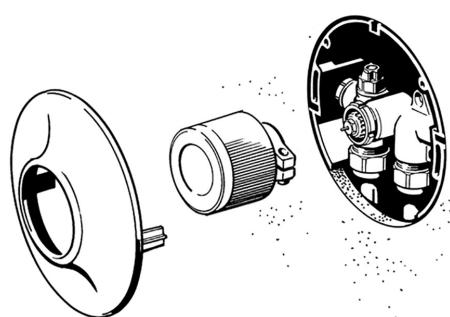
### Materials in contact with water

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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