

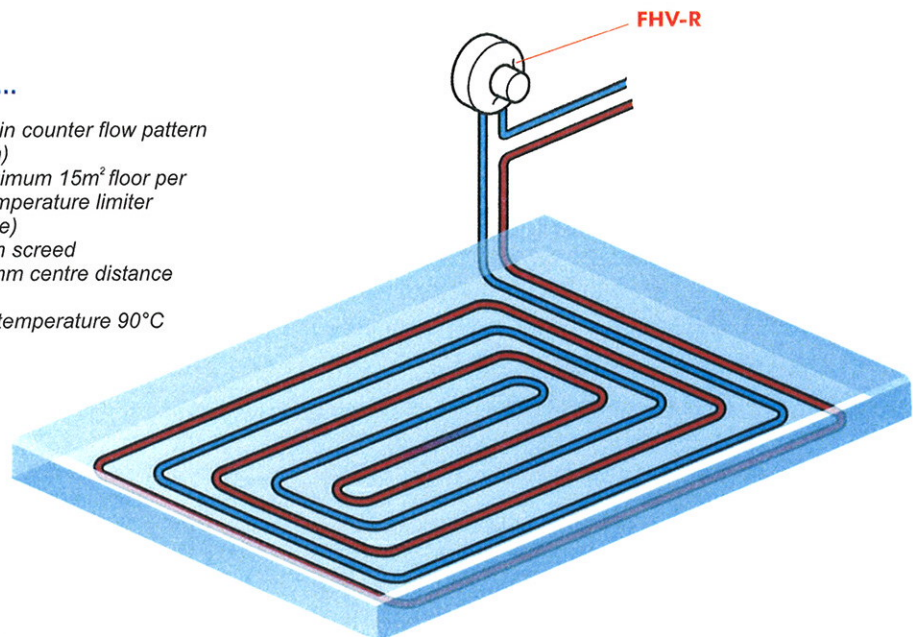
SINGLE ROOM UFH

in an extension to an existing heating system - controlled by self-acting return temperature limiter (type FHV-R)

Schematic

Please ensure.....

- Pipe laid down in counter flow pattern (or snail pattern)
- Solid floor, maximum 15m² floor per FJVR return temperature limiter (with 15mm pipe)
- Minimum 75mm screed
- Maximum 300mm centre distance between pipes
- Maximum flow temperature 90°C



Application

A self-acting return temperature limiter for controlling the floor temperature of individual rooms.

- Used in systems which are predominately heated by radiators (normal system design temperatures 82/71°C) and where Underfloor Heating represents only a minor part of the system, for example a single room or small extension
- Used in systems where a mixing valve arrangement, used to reduce the flow temperature of water flowing to the underfloor heating (UHF) circuit to a level acceptable for floor heating, is to be avoided because of cost
- Used for UFH systems where it is essential to maintain a constant and comfortable floor surface temperature, for example in bathrooms with ceramic tiled floors
- Also ideal for rooms with high peak of free heat gains, for example conservatories, where a room temperature based control system could result in a cold floor
- Suitable for both central conventional and manifold or distribution pipe-work systems
- Ideal where easy installation and operation and long life reliability are essential

It is only suitable for solid floor constructions and UFH systems where pipes are laid in a counter flow pattern to achieve even floor temperature.

Control

A return temperature limiter will maintain the return temperature from the UFH at a constant level and secure a constant floor temperature. Since there is a co-relation between the floor surface temperature and the room temperature, the room temperature will be held, more or less, at a constant level.

Advantages

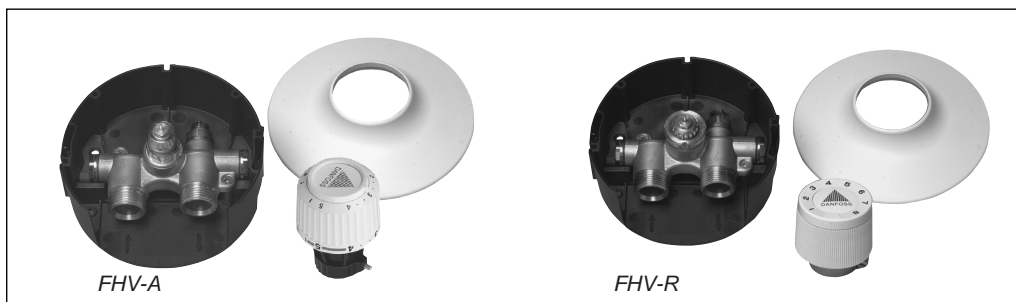
- Simple to install and operate
- No wiring
- Maintains a constant floor temperature
- No room temperature distortions from short term free heat gains
- No need for extra pump and mixing valve
- Minimises the running costs
- Good performance (self-acting proportional)
- Good value for money

FHV regulating valve

Temperature control of individual floor-heated rooms or mixed floor-heating/radiator systems



Application



FHV control valves are ideally suited to the temperature control of individual under-floor heated rooms and for systems using floor-heating in conjunction with radiators. Danfoss offers the following versions:

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

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 m².

FHV control valves are flexible to use and can be simply and easily installed in the floor heating circuit.

Valve parts are available with or without air vents. With the FHV-A, its integral pre-setting simplifies hydraulic balancing of the system. Connections to the 3/4" external thread are made with Danfoss compression connectors.

Ordering and technical data

FHV-R. Set includes wall enclosure box, cover and valve (return temperature limiter). An FJVR sensor element is required for controlling the return temperature.

Type	Description	Connection	kvs (m ³ /h)	Code no.
FHV-R	Floor heating valve for FJVR	G 3/4" A	0.88	003L10000
FHV-R	Floor heating valve for FJVR with air vent & bleed key	G 3/4" A	0.88	003L100301
FJVR	Return temp. limiter sensor. Setting range 10 -50 °C			003L104000
FJVR	Return temp. limiter sensor. Setting range 10 -80 °C			003L107000

FHV-A. Set includes wall enclosure box, cover and pre-settable valve. A type RA2000 sensor element is required for controlling the room temperature.

Type	Description	Connection	kvs (m ³ /h)	Code no.
FHV-A	Floor heating valve for RA 2000	G 3/4" A	0.04-0.79	003L100100
FHV-A	Floor heating valve for RA with air vent & bleed key	G 3/4" A	0.04-0.79	003L100401
RA2010	Room temperature sensor. Setting range 5-26 °C			013G201000
RA2070	Room temperature sensor. Setting range 5-22 °C			013G207000

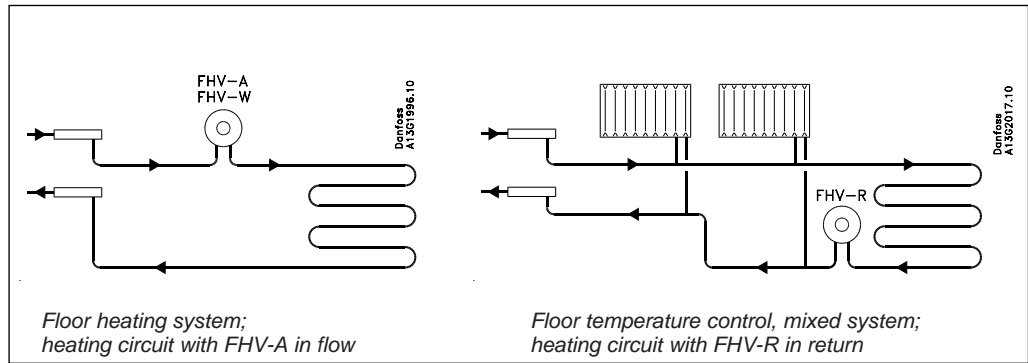
Compression fittings	Code no.	Compression fittings	Code no.
PEX 15x2.5 mm	013G414700	ALUPEX 14x2 mm	013G418400
PEX 16x2.2 mm	013G416300	ALUPEX 16x2 mm	013G418600
PEX 18x2.5 mm	013G415900	ALUPEX 18x2 mm	013G418800
PEX 20x2.5 mm	013G416100	ALUPEX 20x2 mm	013G419000

Spare parts	Code no.
Gland seal for FHV-A	013G029000
Gland seal for FHV-R	013U007000

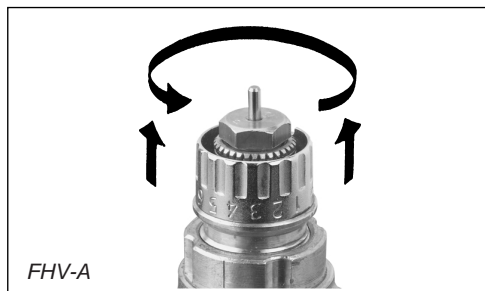
Accessories	Code no.
Mounting tool/installation aid with integral spirit level	003L133800
Bleed key	087N684900
Anti theft plugs for RA2000 sensors (50 pcs)	013G123200
Threaded range limiting pins for RA2000 sensors (30 pcs)	013G123700
Toolkit, comprising allen key for RA2000 sensors	013G123600

Max. operating pressure 6 bar
 Max. differential pressure 0,6 bar
 Test pressure 10 bar
 Max. flow temperature 90 °C

System layouts



Pre-setting

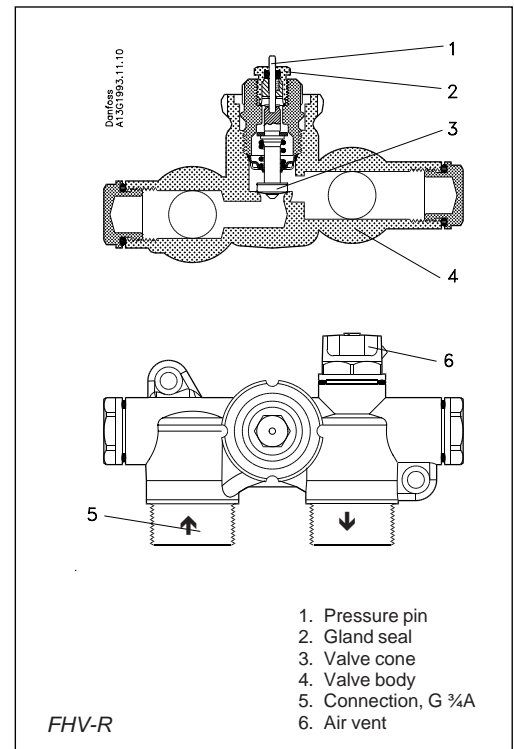
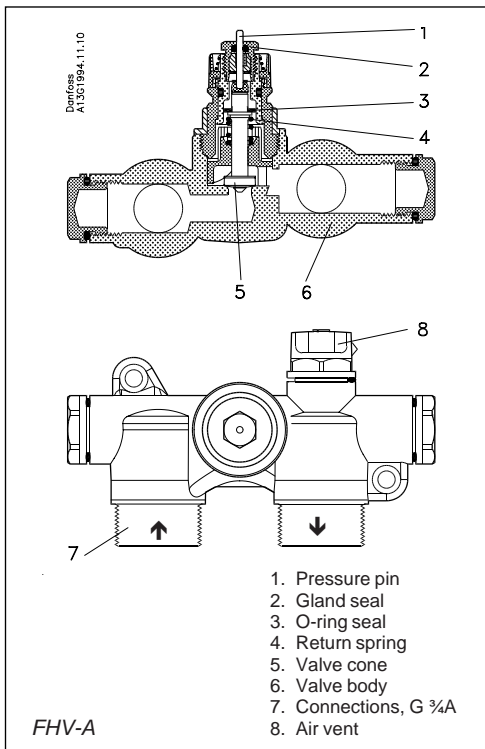


Danfoss pre-settable valve bodies incorporate easy setting adjustment rings with clearly engraved setting markers scaled from 1 - 7 and N. Setting values can be set quickly and precisely, without the need for tools, as follows:

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

The preset level can be selected in 0.5 increments between 1 and 7 (see chart on page 3 for flow rates). At setting N the valve is fully open (flushing option).

Construction

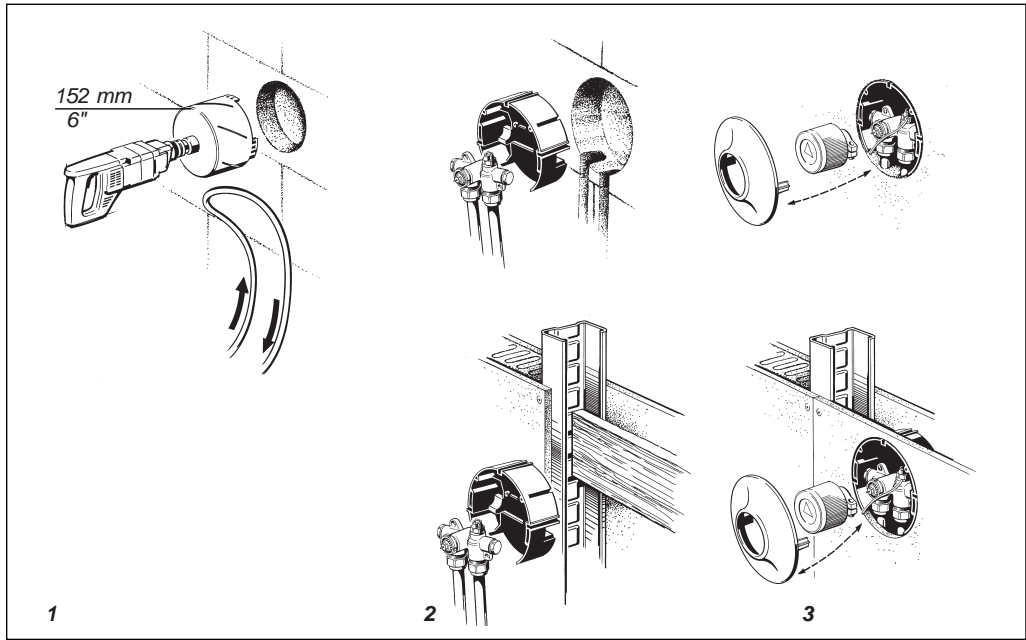


Materials in contact with water

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

Connection: 3/4" external thread for compression fittings.

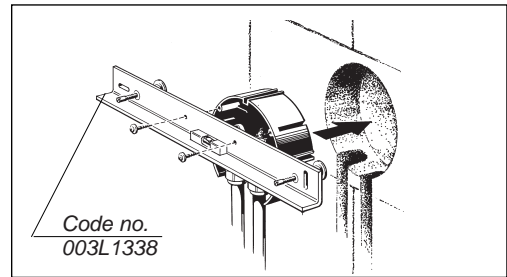
Installation



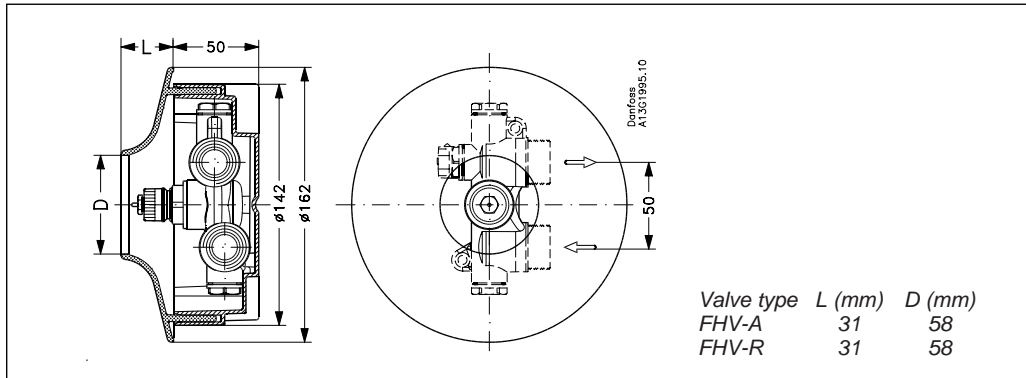
FHV valves are equally suitable for installation in solid or partition walls. To assist in the fitting of FHV control valves, we offer a compact customised valve enclosure wall box that can be fitted and fastened easily into a shallow recess in any type of wall.

All connections are made within the enclosure. The Danfoss sensor is simply plugged on.

An optional installation aid, incorporating a spirit level, is available to make assembly extra easy and reliable.



Dimensions



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