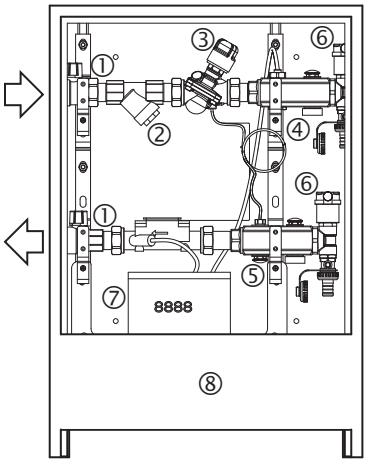
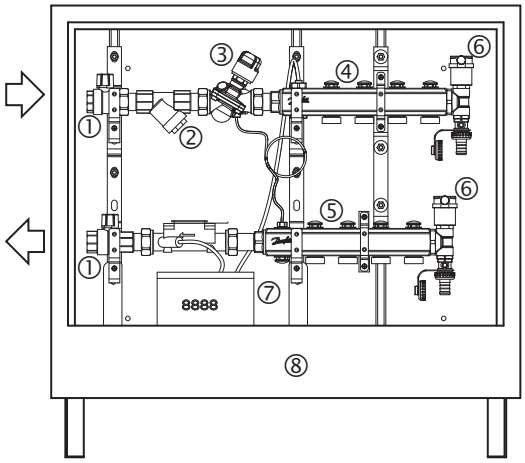
Installation Guide

HDU-SF (Horizontal Distribution Units - Single Flat)

1 Introduction



HDU-SF single-port



HDU-SF multi-port

1. *Ball valve for in- and outlet connection to the riser.*
2. *Strainer to trap dirt, sand etc. from pipe water (replacement filter available as accessory).*
3. *AB-PM automatic balancing valve, combines three functions: differential pressure controller, control valve with linear characteristic and flow limiter.*
4. *Manifold for radiator connection, flow.*
5. *Manifold for radiator connection, return.*
6. *Automatic air vent and drainage (both inlet and outlet has drainage and air vent possibilities).*
7. *Heat Meter for energy measuring, with 8-digit LCD.*
8. *Cabinet.*

Note!

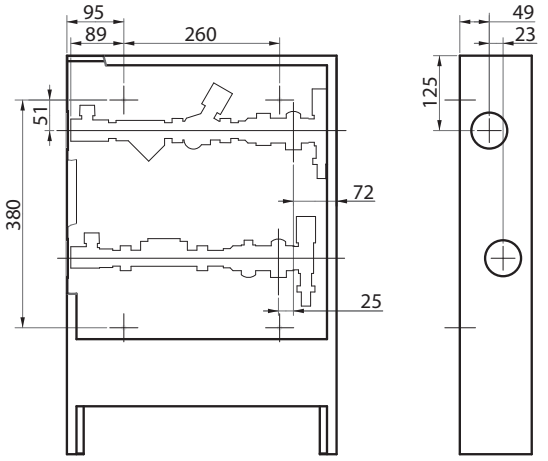
- The HDU-SF must only be installed in a dry and frost-free environment.
- Operation of the HDU-SF outside the specified operating and environmental conditions is not permitted.
- Joints may be loose after transportation. Please check and re-tighten, if necessary.
- HDU-SF are available with left or right side connections to riser. All illustrations are shown for the *left side* version.
- Service guide is placed on the inside of the cabinet door.

2 Technical Data

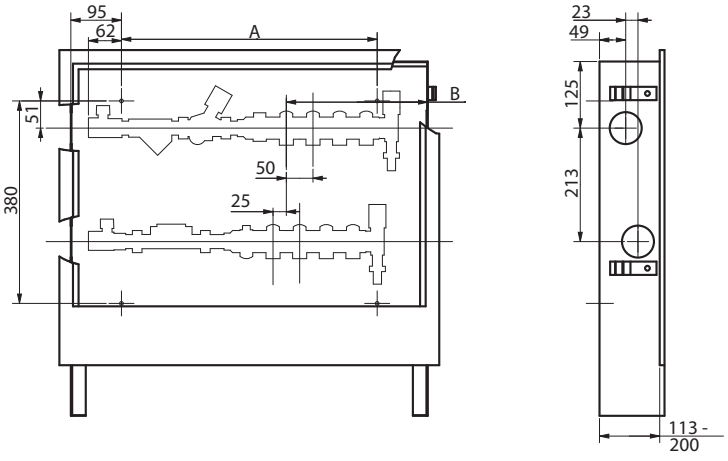
Max. temperature	90 °C
Max. working pressure in heating system piping before the unit	2 bar
Nominal required differential pressure over unit (HDU-SF)	0.26 bar*
Max. differential pressure in a control loop	0.22 bar
Max. static pressure	10 bar (PN 10)
Connection to riser (in and out)	R 3/4"
Connection to manifold (out)	3/4"
Power supply (Heat Meter)	A-cell battery, 3.6 VDC

* At differential pressure in control loop 10kPa at 100% AB-PM setting.

3 Mounting on Wall



HDU-SF single-port



HDU-SF multi-port

HDU-SF 4-port
A = 480 mm

HDU-SF 7-port
A = 630 mm

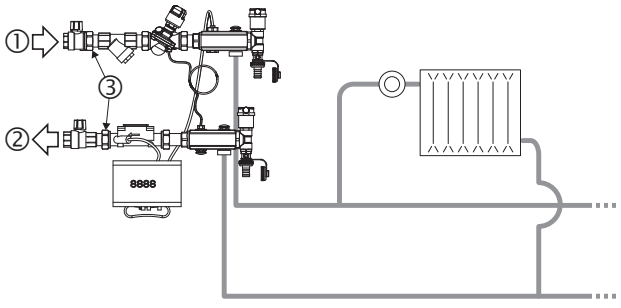
The HDU-SF is mounted vertically, tilted angle is to be checked with a spirit level. Available for wall or recess mounting, depth can be regulated by moving the face frame. The cabinet has four holes in the back plate, intended for mounting with the supplied screws and rawlplugs.

4 Connections

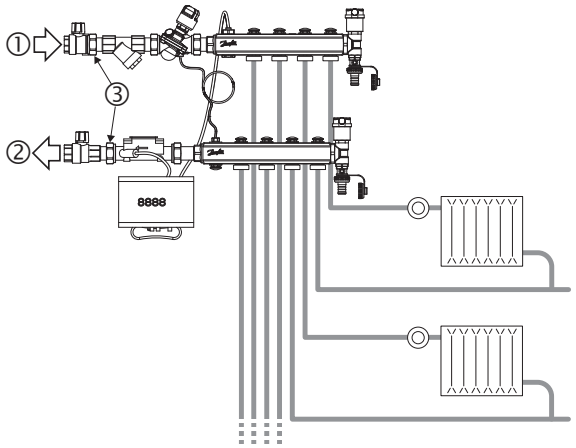
4.1 Connection to riser

Connect the HDU-SF to the riser according to flow direction:

1. *Riser inlet*
2. *Riser outlet*
3. *The connections are size DN20 with internal thread. Remember backstop to prevent the ball valves from loosening.*



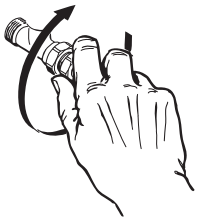
HDU-SF single-port



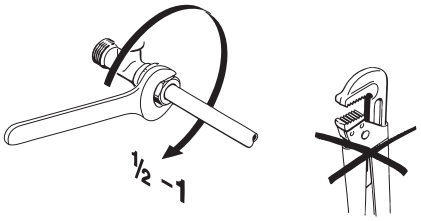
HDU-SF multi-port

4.2 Connection to radiator

Connection of system pipes to the HDU-SF manifold should be made with compression fittings, DN should be chosen according to the piping type and diameter.



1. Mount fittings by hand.



2. Tighten with spanner, max. ½ to 1 turns.

Danfoss recommends using the following compression fittings:

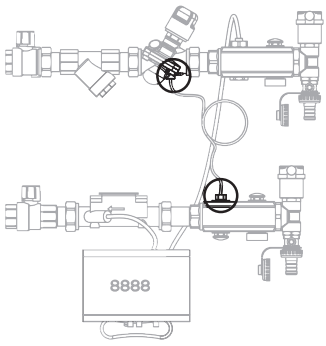
Compression fittings		Size	Code no.
for PEX tubing (in accordance with ISO 15875)	- PN6 - G ¾" internal thread	16 x 2 mm	**013G4156**
		20 x 2 mm	**013G4160**
		20 x 2.25 mm	**013G4093**
		20 x 2.5 mm	**013G4161**
for AluPEX tubing	- PN10 - G ¾" internal thread	16 x 2 mm	**013G4186**
		20 x 2 mm	**013G4190**
		20 x 2.25 mm	**013G4093**
		20 x 2.5 mm	**013G4191**
for steel and copper tubing	- PN10 - G ¾" internal thread	16 mm	**013G4126**
		18 mm	**013G4128**

5 Check and Test

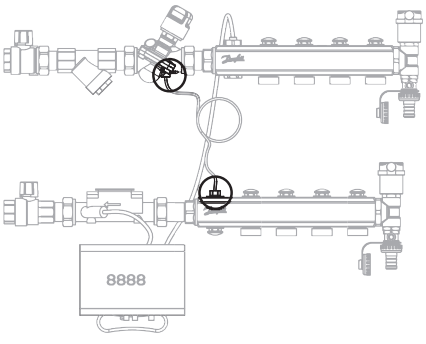
1. Ensure that the capillary tube in AB-PM valve is mounted correctly.
2. Fill the system with water and make sure that all connections are tight and without leaks.
3. Check function of the Heat Meter. The meter will only measure energy if the pipes are completely filled with water, otherwise a corresponding error message (E - 7) is shown in the display.
4. Check the flow rate display for plausibility. If the flow rate display is not steady, bleed the system. Regulate the system using the flow rate display.
5. Read the meter counts for energy, volume and operating hours.

Error messages for wrong installation
E - 3: Temperature sensors reversed during installation or connection.
E - 6: Heat meter has not been installed in the intended flow direction.

Note! Please refer to the Service Guide (placed on the inside of the cabinet door) for other error codes.



HDU-SF single-port



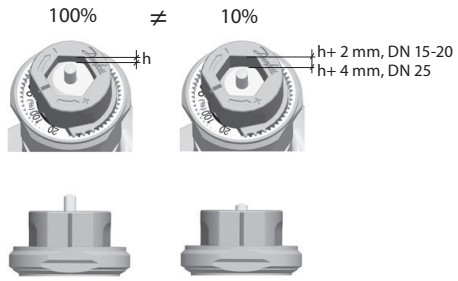
HDU-SF multi-port

6 Settings

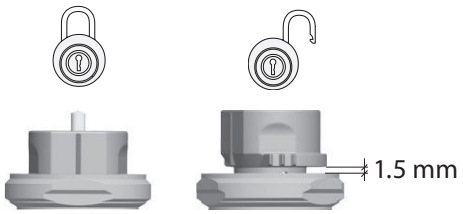
Setting of the AB-PM is done during the commissioning. The AB-PM automatic balancing valve is set to the wanted flow by

turning the top of the valve (or more information, please refer to

separate data sheet for AB-PM).



Push down on the top to lock the AB-PM settings.
To unlock, simply lift up the top.



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