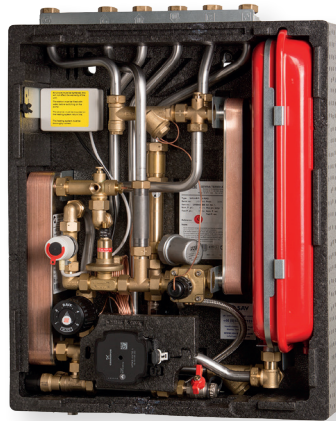


Technical Datasheet

Danfoss FlatStation 7 Series DS R-FI



Instantaneous DHW / Indirect Heating Reduced Dimensions - Fully Insulated

Key Features

Domestic Hot Water (DHW) control

- Danfoss IHPT Self-Acting controller*
- Valve authority = 1
- Primed DHW control with 8 °C set back
- Integral differential pressure control
- Pressure Absorber

Plate Heat Exchanger

- Danfoss Micro Plate™ Heat Exchanger* for improved water flow
- 35% reduced pressure drop
- 10% improved efficiency
- Wide capacity range

Heating control

- Danfoss AVPL Self-Acting differential pressure control valve (DPCV)*
- Grundfos pump EEI rating ≤ 0.20
- Operating Dp up to 4.5bar
- Safety stat on UFH units

*Separate datasheet available

Long operating life

- Self-Acting mechanical control
- Stainless steel PHEX and pipes
- Instantaneous shut off of Heat Network supply water through PHEX after tapping (Reduces scaling of heat exchanger)
- Strainers on Heat Network supply, heating return and cold water pipes

Insulation

- Full EPP insulation, including backplate
- Fully Insulated First Fix Valve Set* available
- H 690 x W 528 x D 235 (with insulation)
- Compact and easily fit into wall setbacks
- High resilience and durability

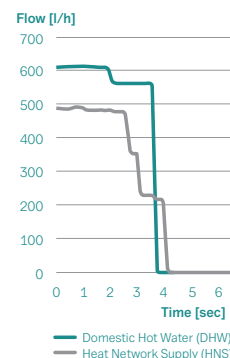
Commissioning & Maintenance

- Integral filling loop
- Pipe configuration options
- Enclosure designed for easy access
- Open bypass protection feature available
- Unit assembled for easy maintenance

DHW - IHPT Self-Acting mechanical controller

- Instantaneous response to DHW demand
- Kvs sized for design DHW load
- Suitable for low supply temperature operation

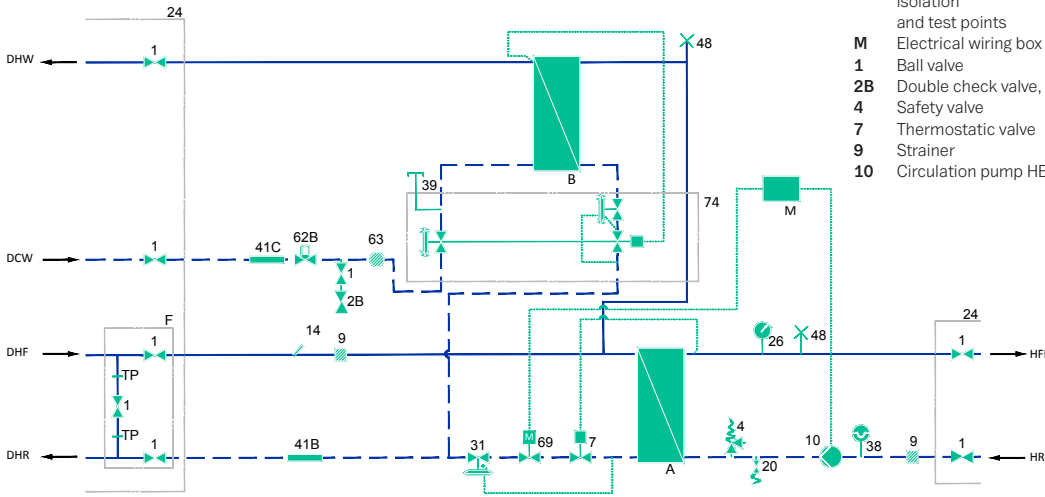
IHPT closing time after DHW tapping



Heating - AVPL Self-Acting mechanical controller

- Self-Acting differential pressure control valve
- Hydraulic balancing of Heat Network

FlatStation Circuit Diagram



- A** Plate heat exchanger HE
- B** Plate heat exchanger DHW
- F** Flushing bypass with isolation and test points
- M** Electrical wiring box
- 1** Ball valve
- 2B** Double check valve, WRAS
- 4** Safety valve
- 7** Thermostatic valve
- 9** Strainer
- 10** Circulation pump HE
- 14** Sensor pocket, heat meter
- 20** Filling/drain valve
- 24** Delivered loose with unit
- 26** Manometer
- 31** Differential pressure controller
- 38** Expansion vessel
- 39** Connection closed
- 41B** Fitting piece, heat meter 3/4" x 110 mm.
- 41C** Fitting piece, Shut-off-valve
- 48** Air escape, manual
- 62B** Pressure Absorber w/non-return valve
- 63** Sieve
- 69** on/off valve
- 74** IHPT

Technical Parameters

DHW valve authority	1
Nominal pressure	PN 10
Min DCW static pressure	$p_{min} = 1 \text{ bar}$
Max differential pressure	$\Delta p_{max} = 4.5 \text{ bar}$
HN supply temperature	$T_{max} = 99 \text{ }^\circ\text{C}$
Connection sizes (all connections)	G 3/4" (int. thread)
Pipe dimensions (all connections)	Ø18 mm
Electrical supply	230 V AC
Brazing material (PHEX)	Copper
Insulation enclosure	Anthracite grey EPP
Thermal conductivity EPP	0.038 - 0.040 W/(m ² *K)
Dimensions with insulation (mm)	With insulation: H 690 x W 528 x D 235
Weight incl. enclosure	28 kg Including packaging

FlatStation Capacity Examples

DHW PHEX Size	Heat Network Supply [°C]	CW/DHW [°C]	DHW Capacity [kW]	DHW Flow Rate [l/min]	Heat Network Return [°C]	Pressure Loss [kPa]
1 - x	60	10/45	42.0	17.3	17.3	45
1 - x	60	10/50	39.0	14.0	20.5	45
2 - x	60	10/45	50.0	20.6	16.1	45
2 - x	60	10/50	47.0	16.9	19.1	45

HTG PHEX Size	Heat Network Supply [°C]	HTG Circuit [°C]	HTG Capacity [kW]	Space HTG Flow Rate [l/h]	Heat Network Return [°C]	Pressure Pump Head [kPa]
x - 2 RAD	60	50/30	5.5	239	33.2	20
x - 3 RAD	60	50/30	7.5	325	33.1	20
x - 4 RAD	60	50/30	13.0	564	32.9	20
x - 5 RAD	60	50/30	20.0	868	32.6	25
x - 1 UFH	60	35/30	2.5	433	30.1	20
x - 2 UFH	60	35/30	4.5	779	30.0	20
x - 3 UFH	60	35/30	5.5	953	30.0	20
x - 4 UFH	60	35/30	7.0	1212	30.0	20

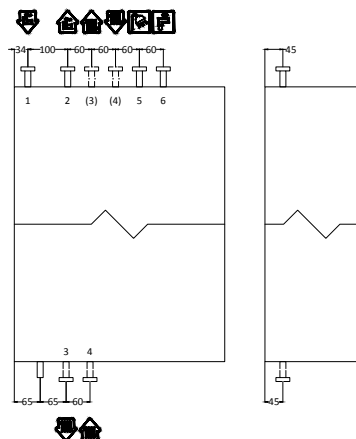
Please Note: Capacity examples are for guidance only, and vary dependent on several variables i.e. Heat Network Supply temperature, Secondary operating temperatures, Available differential pressure.

Please contact us for project specific sizing

Options

- White lacquered steel cover
- U shaped front cover white lacquered steel
- PN16
- First fix rail with fully insulated enclosure for First Fix Valve Set
- DHW recirculation pump incl. 10 bar safety valve, necessary pipes and fittings (Hot water circulation pump is to be mounted above the unit)
- Prepayment valve and pre-wiring
- Heat meter
- 2-zone heating module
- Programmable room thermostat
- Pt40 pre-settable pressure independent TRV sets
- Rt40 pre-settable pressure independent towel rail sets

Schematic: Pipe Configuration Options



Schematic: Pipe Connections

- 1 Heat Network (HN) Supply
- 2 Heat Network (HN) Return
- 3 Standard Heating (HE) Flow
- 4 Standard Heating (HE) Return
- (3) Alternative Heating (HE) Flow
- (4) Alternative Heating (HE) Return
- 5 Domestic Hot Water (DHW)
- 6 Domestic Cold Water (DCW)

* Distances from edge of metal back-plate, with cover tolerances are ±6mm