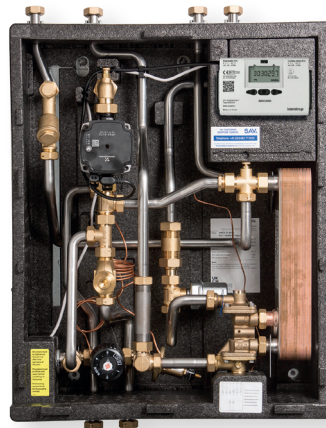


Technical Datasheet

Danfoss FlatStation 5 Series DS IV-MIX



Instantaneous DHW / Direct heating with integrated mixing loop 4th Generation Heat Network Ready

Key Features

Domestic Hot Water (DHW) Control

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

Plate Heat Exchanger

- Danfoss Micro Plate™ Heat Exchanger*
- 35% reduced pressure drop
- 10% improved efficiency
- Bespoke PHEX selection
- 4G Micro Plate™ Heat Exchanger for low temperature heat networks

Heating control

- Danfoss AVPL Self-Acting differential pressure control valve (DPCV)*
- Integrated mixing loop with thermostatic self-acting controller
- Operating D_p up to 4.5bar
- Safety stat on UFH units

*Separate datasheet available

Long Operating Life

- Self-Acting mechanical control
- 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
- Stainless steel PHEX and pipes

Insulation

- Full EPP insulation (including backplate)
- Compartmentalised wiring center
- Fully insulated First Fix Valve Set* available
- High resilience and durability

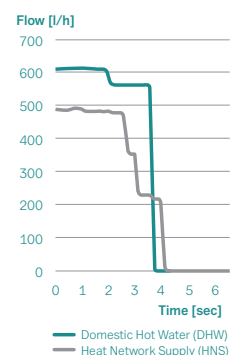
Installation & Commissioning

- Pipe configuration options
- Open bypass protection feature available
- Pre-wired for fast installation
- Easy access to all serviceable components

DHW - IHPT Self-Acting Mechanical Controller

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

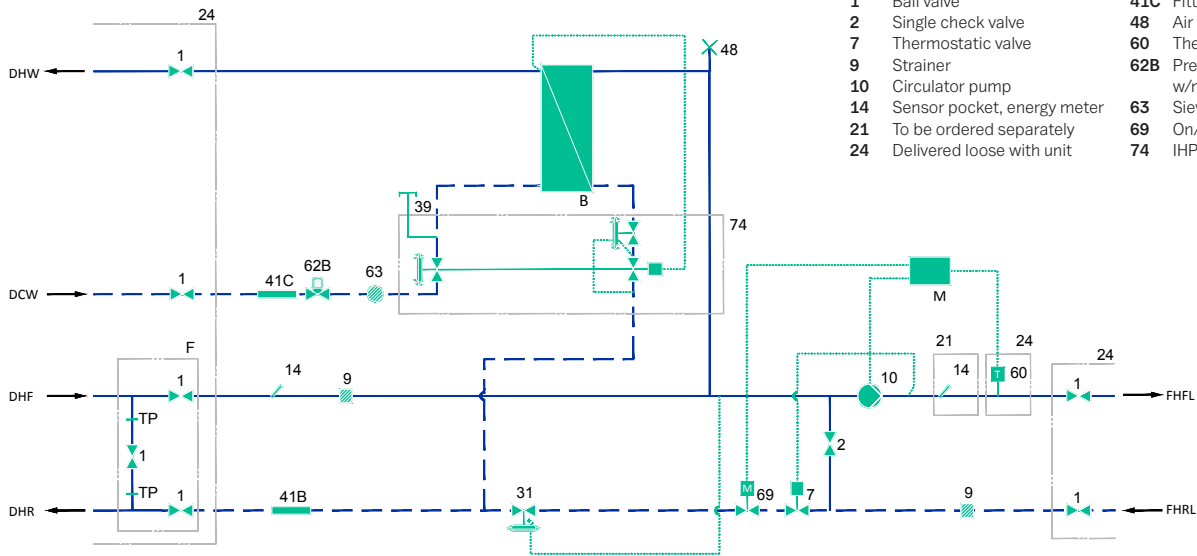
IHPT closing time after DHW tapping



Heating - AVPL Self-Acting Mechanical Controller

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

FlatStation Circuit Diagram



- | | | | |
|-----------|---------------------------------------|------------|--------------------------------------|
| B | Plate heat exchanger, DHW | 31 | Differential pressure controller |
| F | Flushing bypass with test points (TP) | 39 | Connection closed |
| M | Electrical wiring box | 41B | Fitting piece, energy meter |
| 1 | Ball valve | 41C | Fitting piece, Shut-off-valve |
| 2 | Single check valve | 48 | Air vent, manual |
| 7 | Thermostatic valve | 60 | Thermostat |
| 9 | Strainer | 62B | Pressure Absorber w/non-return valve |
| 10 | Circulator pump | 63 | Sieve |
| 14 | Sensor pocket, energy meter | 69 | On/off valve |
| 21 | To be ordered separately | 74 | IHPT |
| 24 | Delivered loose with unit | | |

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
Fully insulated enclosure	Anthracite grey EPP
Thermal conductivity EPP	0.038 - 0.040 W/(m ² *K)
Dimensions (mm) (with insulation)	H 710 x W 530 x D 270
Dry weight incl. enclosure	19 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	70	10/50	53	19.1	17.5	45
2	70	10/50	60	21.6	16	45
3	70	10/50	63	22.7	14.9	45
1	60	10/50	40	14.4	20.6	45
2	60	10/50	47	17.5	19.1	45
3	60	10/50	48	17.3	17.6	45
2	55	10/45	42	17.1	15.4	45
3	55	10/45	47	19.1	14.5	45

Examples shown at 1 bar CWM pressure.

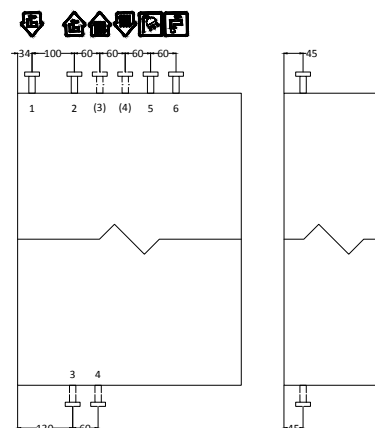
Please Note: Capacity examples are for guidance only, and vary dependent on several variables i.e. Heat Network Supply temperature, Secondary operating temperatures, Available differential pressure, CWM pressure.

Please contact us for project specific sizing.

Options

- 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
- Programmable room thermostat
- Pt40 pre-settable pressure independent TRV sets
- Rt40 pre-settable pressure independent towel rail sets
- Ft40 pre-settable pressure independent underfloor insert

Schematic: Pipe Configuration Options



Pipe Connections

Option 1: All top fed

Option 2: Top/Bottom fed

- 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