ENGINEERING
TOMORROW

Data sheet

DSA HOME
Wall Mounted Station

General description and application

Danfoss district heating substations provide the link between district heating suppliers and customer installations. They contain all the necessary equipment to adjust the heat supplied for the needs of the object premises as specified in the heating supply contract. In this respect they must comply with all applicable standards and with the supplier's technical connection conditions. Indirect connections (in which district heating and in-house systems are hydraulically isolated) incorporate components that separate the systems (heat exchanger), limit the flow volume to that specified in the contract, regulate the secondary supply temperature and measure energy consumption.

The DSA HOME is designed for use in high-parameter district heating networks. It is suitable for heating single family houses. It is an alternative solution to oil or gas boilers. The DSA HOME is prepared for heating or heating and domestic hot water applications. Its wall-mounted construction saves space needed for installation and servicing.

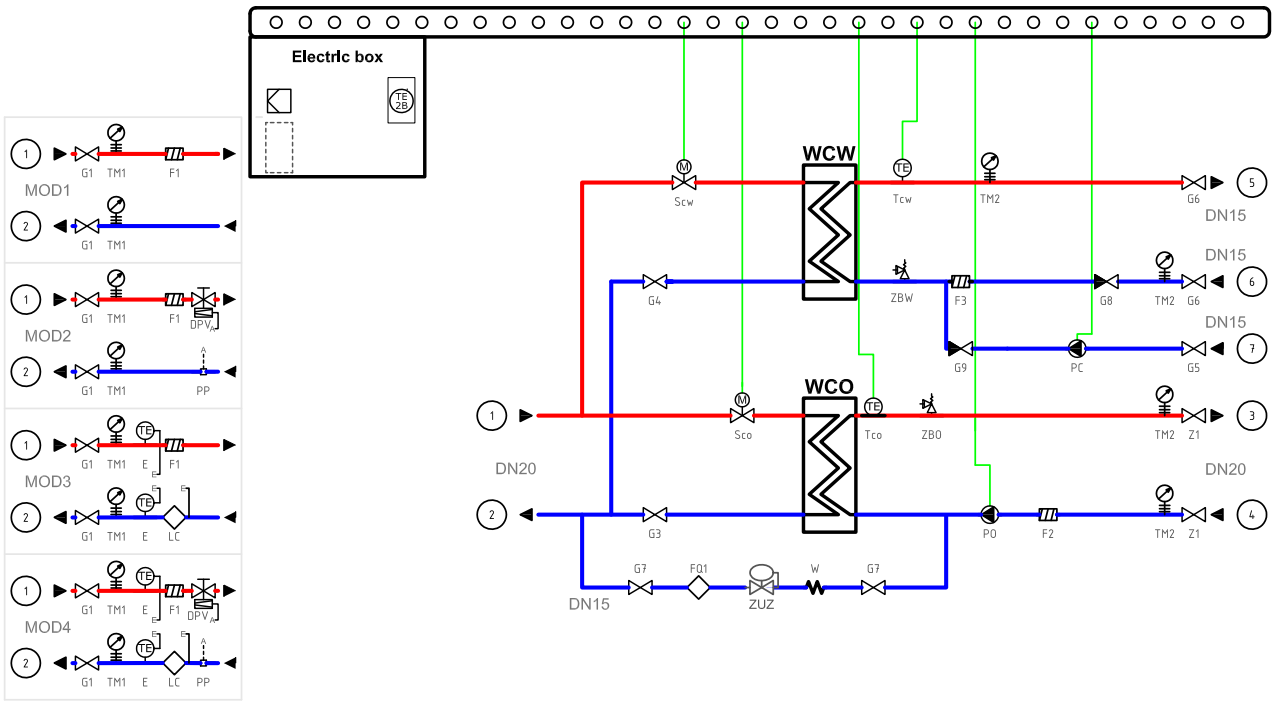
Maximum operating parameters

Primary	
Maximum permissible supply temperature, primary	130°C
Maximum permissible operating pressure, primary	14,4 bar(g)
Rated pressure, primary	PN16
Secondary Heating	
Maximum permissible temperature, secondary	100°C
Maximum permissible operating pressure, secondary	6 bar(g)
Minimum required pressure (static), water supply	1.0 bar(g)
Secondary Domestic Hot Water	
Maximum permissible temperature, secondary	90°C
Maximum permissible operating pressure, secondary	10 bar(g)
Minimum required pressure (static), water supply	1.0 bar(g)

Materials

Pipes, fittings, flanges, valves (primary side)	P235GH, EN-JL 1040 (GG25), CuSn5Pb5Zn5-C (RG-5)
Pipes, fittings, flanges, valves (heating side)	P235GH, EN-JL 1040 (GG25), CuSn5Pb5Zn5-C (RG-5)
Pipes, fittings, flanges, valves (DHW side)	1.4301, 1.4404, brass (DZR type), bronze
Heat exchanger	1.4404 with Cu solder
Insulation	PU foam λ=0.035 W/mK (heat exchanger) PU foam λ=0.0281 W/mK (primary piping)

Circuit diagram



G3, G4	*Shut-off valve*	*F3*	*Strainer*
Scw	*Control valve DHW*	*G5*	*Shut-off valve*
Sco	*Control valve HE*	*G8*	*Check valve*
Z1	*Shut-off valve*	*PC*	*Circulation pump*
TM2	*Thermomanometer*	*G7*	*Shut-off valve*
F2	*Strainer*	*FQ1*	*Watermeter*
PO	*Heating pump*	*ZUZ*	*Refilling valve*
Tco	*Temp. sensor HE*	*W*	*Elastic Hose*
ZBO	*Safety valve HE*	*G1*	*Shut-off valve*
Tcw	*Temp. sensor DHW*	*TM1*	*Thermomanometer*
G6	*Shut-off valve*	*F1*	*Strainer*
G9	*Check valve*	*DPV*	*dP controller*
ZBW	*Safety valve DHW*	*LC*	*Heatmeter*

Technical data

Type	Capacity [kW]*		Control valve		Heat exchanger		Pump		Controller
	HE	DHW	HE	DHW	HE	DHW	HE	DHW	
DSA HOME 1F-2	25	–	VS 2	–	XB06L-1-16	–	UPM3AUTO 15-70	–	ECL310
DSA HOME 1F-3		–		–		–		–	
DSA HOME 2F-1		40		AVTQ 15 / 1,6		XB06H-1-20		–	ECL310
DSA HOME 2F-2								UPM3 DHW 15-20	
DSA HOME 2F-3				VM 2 DN15/2,5					ECL310
DSA HOME 2F-4									

* Maximum capacity is determined by temperature, allowable pressure drops and local regulations.

Function

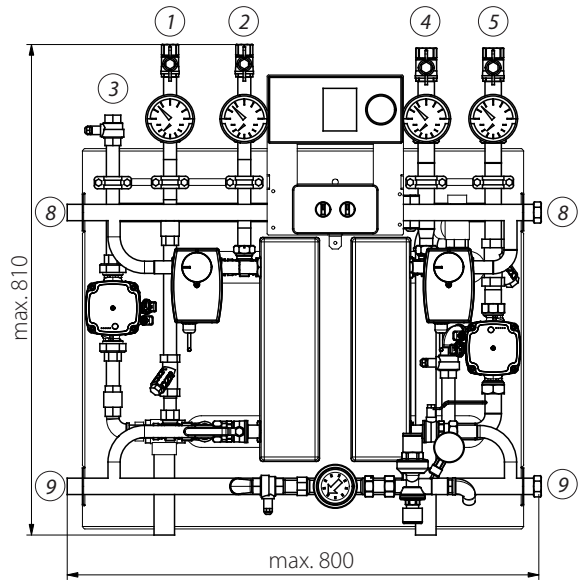
The DSA HOME platform can be used for various applications such as heating or heating with domestic hot water based on customer request and the needed application(s). The wall-mounted construction allows easy access to all components for maintenance and servicing purposes. Standard assembly accessories significantly reduce the time needed to place the substation on the wall.

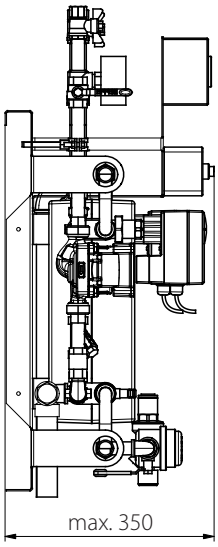
Heat transfer between the district heating network and the building installation is achieved by way of a micro plate heat exchanger, which ensures better heat transfer, higher energy efficiency and reduced pressure loss. In addition to the standard controller functions, the ECL310 offers easy remote access via an internet page with data logging possibilities and energy optimisation functions such as weather compensation and auto-tuning (adaptive settings for domestic hot water parameters).

The primary modules allow for the upgrading of the compact module with an additional differential pressure controller, measuring devices, strainers or a heat meter to fulfil all of the supplier's technical connection requirements.

Dimensions

Type	Connection size				Mass [kg]	External dimensions		
	Primary	HE	DHW	CIR		Height	Width	Depth
DSA HOME 1F-2	DN20	DN20	–	–	24	810 mm	500 mm	350 mm
DSA HOME 1F-3			–	–				
DSA HOME 2F-1			DN15	–	35		800 mm	
DSA HOME 2F-2				DN15				
DSA HOME 2F-3								
DSA HOME 2F-4								





8 Primary Supply
9 Primary Return
4 Heating Supply
5 Heating Return
2 Domestic Hot Water
1 Domestic Cold Water
3 Circulation

Data sheet **DSA HOME - Wall Mounted Station**

Accessories

Primary module, may include:
- Shut-off valves
- Differential pressure regulator
- Strainer
- Energy meter
- Temperature measurement
- Pressure measurement

Sheet metal cabinet
Drain valve

Configuration

The DSA HOME is a standard product, which allows only for small modifications, such as:

- changing type and kvs for primary control valve
- changing actuator types
- changing opening pressure of safety valve
- increase volume of expansion tank

Contact the sales staff responsible for additional details and a quotation for the DSA HOME.

Danfoss A/S
Climate Solutions • danfoss.com • +45 7488 2222