



Substations

DSA HOME

Wall Mounted Station

Description

The DSA HOME is designed for use in high-parameter district heating networks. Suitable for heating single houses. It provides an alternative solution to an oil or gas boiler. The DSA Home is designed for heating or heating and domestic hot water. The wall-mounted construction saves space needed for installation and servicing.

Features & benefits

- Substation with high efficiency brazed plate heat exchangers for one family houses, made from acid-proof stainless steel
- Wall-mounted construction
- Suitable for new buildings as well as renovation projects
- Small, lightweight, compact construction
- Electronic controllers for heating and domestic hot water systems
- Fast and reliable delivery
- Fast and easy installation
- Danfoss substations and heat exchangers are manufactured according to European Pressure Directive PED 2014/68/EU

Applications

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.

Overview

System architecture

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.

Primary module, may include:

- Shut-off valves
- Differential pressure regulator
- Strainer
- Energy meter
- Temperature measurement
- Pressure measurement

Sheet metal cabinet

Drain valve

Functions

Operation

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.

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)

Product details

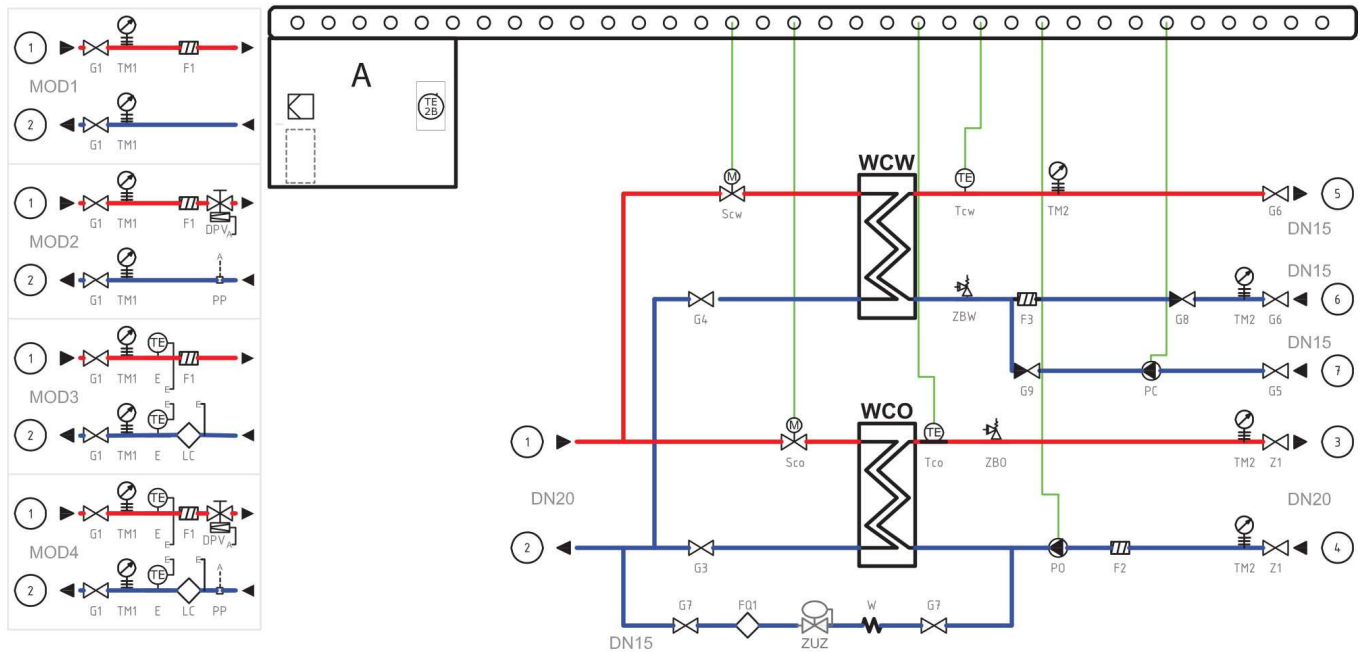
General data

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	-	ECL 310
DSA HOME 1F-3		-		-		-			
DSA HOME 2F-1	40			AVTQ 15 / 1,6	XB06H-1-20		UPM3 DHW 15-20	-	
DSA HOME 2F-2									
DSA HOME 2F-3				VM 2 DN15 / 2,5					
DSA HOME 2F-4									

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

Design

Circuit diagram

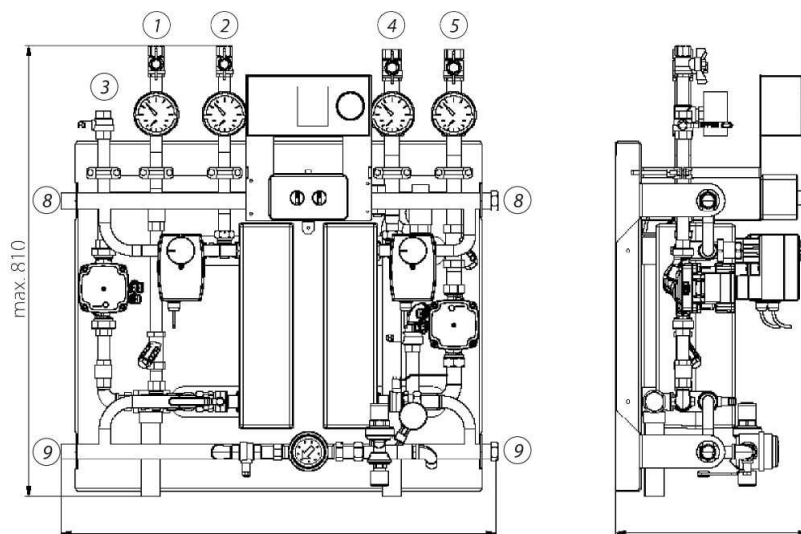


- | | | | |
|------------------------------|-----------------------------|----------------------------|----------------------------|
| G3, G4 Shut-off valve | Tco Temp. sensor HE | G5 Shut-off valve | G1 Shut-off valve |
| Scw Control valve DHW | ZB0 Safety valve HE | G8 Check valve | TM1 Thermomanometer |
| Sco Control valve HE | Tcw Temp. sensor DHW | PC Circulation pump | F1 Strainer |
| Z1 Shut-off valve | G6 Shut-off valve | G7 Shut-off valve | DPV dP controller |
| TM2 Thermomanometer | G9 Check valve | FQ1 Watermeter | LC Heatmeter |
| F2 Strainer | ZBW Safety valve DHW | ZUZ Refilling valve | A Electrical box |
| PO Heating pump | F3 Strainer | W Elastic Hose | |

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 $\lambda=0.035$ W/mK (heat exchanger) PU foam $\lambda=0.0281$ W/mK (primary piping)

Dimensions



- 1 Domestic cold water
- 2 Domestic hot water
- 3 Circulation
- 4 Heating supply
- 5 Heating return
- 8 Primary supply
- 9 Primary return

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								
DSA HOME 2F-3			-					
DSA HOME 2F-4	-	-	-	-	-	-	-	

Certificates, declarations and approvals

The list contains all certificates, declarations, and approvals for this product type. Individual code number may have some or all of these approvals, and certain local approvals may not appear on the list.

When you click on the link you will be directed to the latest version of the 'Declaration of Conformity'. Products developed and sold before this date of issue conform to the directives/standards in force at the time of their sale.

Approval type	Title	Certification body	Approval topic
EU Declaration	Danfoss EU PL32DOC000002en-000004.04	Danfoss	LVD, EU RoHS, MD, EMC, RED, PED, Pressure
Declaration of Incorporation	Danfoss DOI PL32DOI000001en-000001.01	Danfoss	MD
Export Control Declaration	Sub stations and DHW systems	Danfoss	

Contact details

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