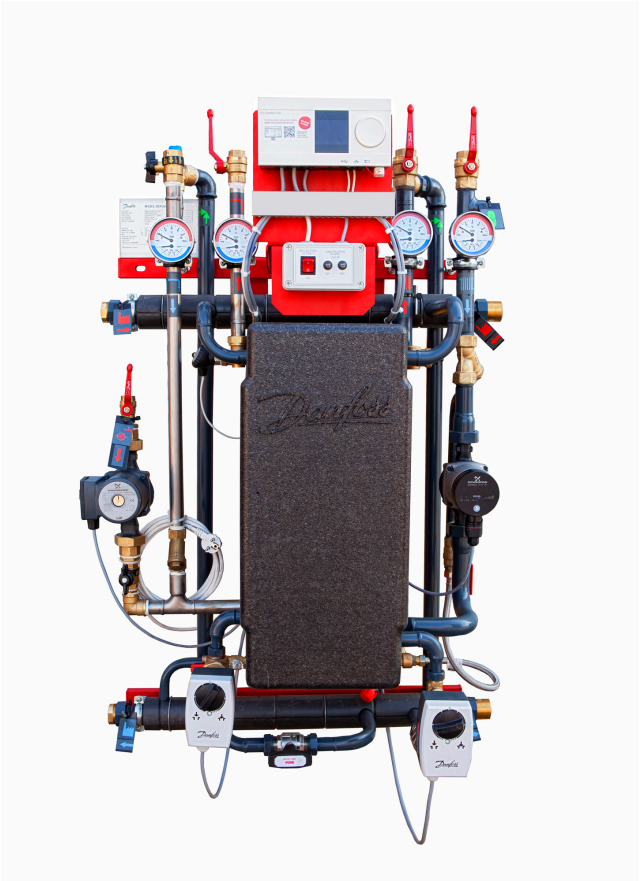
Data sheet



# Substations

# DSA WALL

Wall Mounted Station

# Description

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

## Features & Benefits

- Substation with high efficiency brazed plate heat exchangers for properties of between 1 to 30 apartments, 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
- Advanced gasket system - primary side
- Fast and reliable delivery
- Modular construction
- Fast and easy installation
- Danfoss substations and heat exchangers are manufactured according to European Pressure Directive PED 97/23/EC

## 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 WALL's flexibility of construction makes it possible to order a substation with additional components and different capacities depending on requested features and requirements, such as:

Primary side
- Shut-off valves
- Temperature sensors
- Drain valves

Heating
- Additional temperature sensors
- Thermostat
- Pressure measurement
- Temperature measurement
- Drain valve

Domestic hot water
- Additional temperature sensors
- Thermostat
- Pressure measurement
- Temperature measurement
- Drain valve
- Water meter

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

**Primary module may include:**

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

# Functions

## Operation

The DSA WALL platform can be used for various applications such as heating, domestic hot water and / or floor heating. Due to its modular construction and flexibility, it is possible to deliver a 1-, 2- or 3-circuit station 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 support significantly reduces the time needed to place the substation on the wall. An additional frame (accessory list) allows for placing the substation in the centre of the substation room.

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 optimization 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

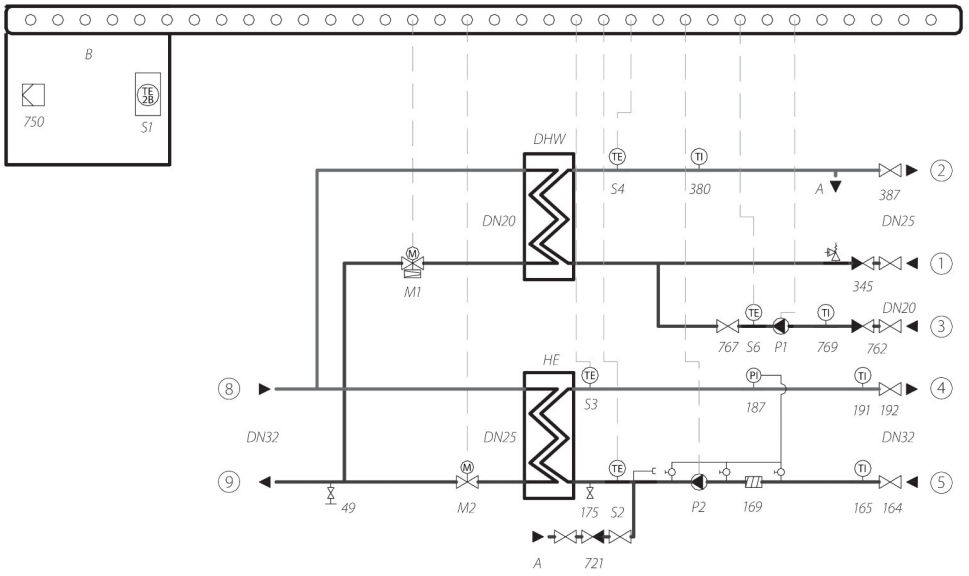
| Type HE/DHW | Control valve | | Heat exchanger | | Pump | |
|---|---|---|---|---|---|---|
| | HE VM2+AMV10 | DHW AVQM+AMV30 | HE | DHW | HE | DHW |
| 90 / 80[1] | DN15/1.6 | DN15/4.0/0.2 | XB37L-1-26 | XB37H-1-26 | Magna 3 25-100 | UPS 25-60 N |
| 120 / 80[1] | DN15/2.5 | DN15/4.0/0.2 | XB37L-1-40 | XB37H-1-26 | | |
| 150 / 80[1] | DN15/2.5 | DN15/4.0/0.2 | XB37L-1-60 | XB37H-1-26 | | |
| 90 / 120[1] | DN15/1.6 | DN20/6.3/0.2 | XB37L-1-26 | XB37H-1-36 | | |
| 120 / 120[1] | DN15/2.5 | DN20/6.3/0.2 | XB37L-1-40 | XB37H-1-36 | | |
| 150 / 120[1] | DN15/2.5 | DN20/6.3/0.2 | XB37L-1-60 | XB37H-1-36 | | |
| 145 / 120[2] | DN15/2.5 | DN20/6.3/0.2 | XB37L-1-80 | XB37H-1-36 | | |

1) Reference temperatures: HE – 100/63/60/80 °C, DHW – 65/22/10/55 °C. Pressure drop: HE – 20/20 kPa, DHW – 20/20 kPa

2) Reference temperatures: HE – 100/63/60/80 °C, DHW – 65/22/10/55 °C. Pressure drop: HE – 30/15 kPa, DHW – 20/20 kPa

## Design

### Circuit diagram




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

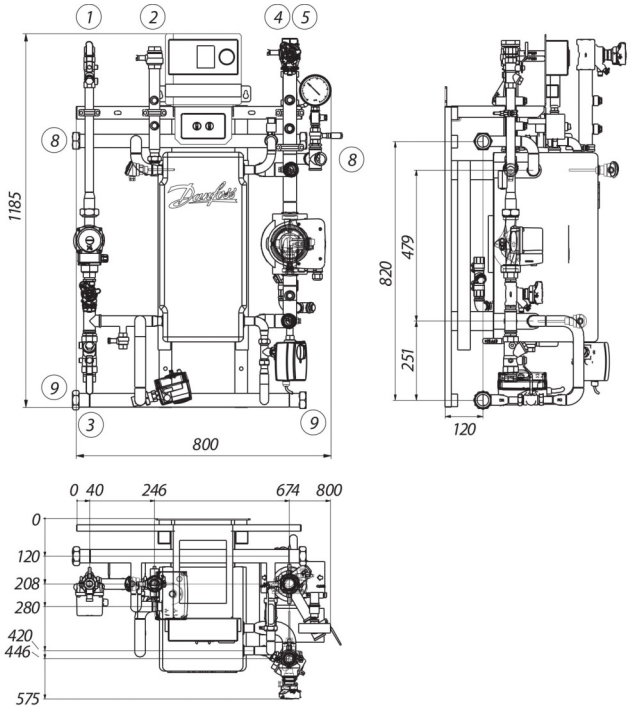
| | | | | | |
|---|---|---|---|---|---|
| **A** | Drain / Refilling | **345** | Supply valve | **191,165** | Thermometer |
| **B** | Electrical box | **762** | Pump valve | **192,164** | Shut off valve |
| **M1** | Combi valve | **769** | Thermometer | **169** | Strainer |
| **M2** | Control valve | **P1** | Circulation pump | **P2** | Heating pump |
| **49** | Drain valve | **S6** | Temperature sensor | **S2** | Temperature sensor |
| **S4** | Temperature sensor | **767** | Shut off valve | **175** | Drain |
| **380** | Thermometer | **S3** | Temperature sensor | **721** | Refilling valve |
| **387** | Shut off valve | **187** | Multipoint pressure measurement | | |

## 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=0.037 W/mK (heat exchanger)<br>PU foam λ=0.029 W/mK (primary piping) |

## Dimensions & weights

| Type HE / DHW | Pipe diameter | | | Weight [kg] | External dimension | | |
|---|---|---|---|---|---|---|---|
| | DH (8 & 9) | HE (4 & 5) | DHW | | Height | Width | Depth |
| 90 / 80 kW | DN25 | DN32 | DN25 | 69 | 1185 mm | 800 mm | 575 mm |
| 120 / 80 kW | DN32 | DN32 | DN25 | 73 | | | |
| 150 / 80 kW | DN32 | DN32 | DN25 | 77 | | | |
| 90 / 120 kW | DN25 | DN32 | DN25 | 81 | | | |
| 120 / 120 kW | DN32 | DN32 | DN25 | 85 | | | |
| 150 / 120 kW | DN32 | DN32 | DN25 | 89 | | | |
| 145 / 120 kW | DN32 | DN32 | DN25 | 91 | | | |




1 Domestic cold water
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3 Circulation
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## Accessories

Frame for stand-alone assembly, allowing for placement of the DSA WALL in the centre of the technical room.

## Certi cates, 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 | Certi cation body | Approval topic |
|---|---|---|---|
| EU Declaration | Danfoss EU PL32DOC000002en-000004.04 | Danfoss | EU RoHS |
| Declaration of Incorporation | Danfoss DOI PL32DOI000001en-000001.01 | Danfoss | MD |

# Contact details

## Online support

Danfoss offers a wide range of support along with our products, including digital information, software, mobile apps and expert guidance. See the possibilities below.

### The Danfoss Design center

Discover the Design Center, our advanced digital platform that streamlines product selection. With integrated tools and enhanced type pages, it's simpler than ever to access product information and documentation, and to select the right products. Check the availability of Danfoss products at partner locations and enjoy seamless transitions from selection to purchase with our basket-to-basket functionality. Whether you're buying from our distributors or directly from the Product Store, the Design Center simplifies your experience. Learn more at: designcenter.danfoss.com.

### The Danfoss product store

The Danfoss Product Store is a one-stop shop available 24/7 for our customers, no matter where you are in the world or what area of industry you work in. Browse our catalog, check product details and documentation, view your prices and product availability, and quickly finalize your purchase. Start browsing at: store.danfoss.com.

### Danfoss Partner Portal/Product Data tool

Designed to support you with easy access to product data extracts, essential resources, tools, and information. The Partner Portal provides a centralized hub for product documentation, training materials, marketing assets, and technical support, ensuring you have everything you need to succeed and grow your business with Danfoss. The Partner Portal is available 24/7 at: partner.danfoss.com and is ready to support your business.

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