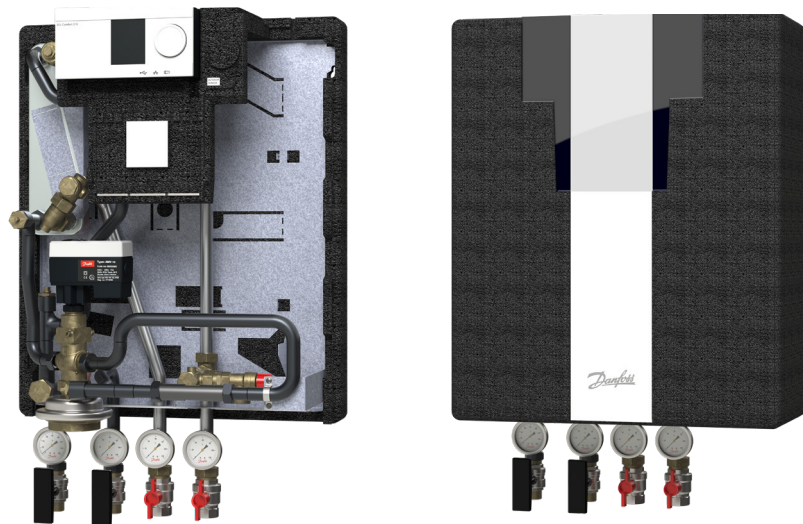


## Fact Sheet

# VXe Solo H OP HT fully insulated substation

Substation for indirect heating with one heating circuit for single-family, semi-detached and terraced houses



## Application

The VXe Solo H OP HT (ECL310) is a fully insulated substation for indirect heating with one heating circuit featuring high performance and simple operation. VXe Solo H OP HT is especially suitable for two-pipe systems such as systems with radiator heating. Designed for wall-mounting with pipes connection in bottom. The heating circuit is controlled by electronic temperature controller Danfoss ECL 310. The VXe Solo H OP HT can be connected in either high or low temperature district heating networks ( $T_{\max} = 130^{\circ}\text{C}$ ).

## District heating (DH)

The substation is prefabricated with inter-connecting components such as fitting piece and sensor pockets for insertion of a heat meter installed in the DH return line, as well as strainers, thermometers and ball valves. The heating temperature is controlled by an electronic ECL 310 controller with weather compensation, which enables further energy savings.

## Heating (HE)

The heating side consists of a stainless steel plate heat exchanger and the VXe Solo H OP HT substation is available with heat exchanger types XB 06H-26 and XB 06H-40 for radiator heating. The heating side also features safety valve, connection for an expansion vessel, strainer, thermometers, manometer and ball valves. The HE circuit

is controlled by the district energy class pressure independent control valve AVQM together with the AMV actuator with or without safety function, - the temperature by means of an electronic temperature controller (ECL 310).

## Mounting of heat meter

The substation is equipped with  $\frac{3}{4}$ " fitting pieces in the DH return line for fitting of a heat meter. Calculator of the heat meter can be mounted into a special chamber, that is designed for easy reading.

## Design

The design emphasizes the user-friendly placement of all components. The VXe Solo H OP HT is supplied with an elegant insulation cover and a removable cover plate in the front insulation.

## Service and maintenance

The substation is very service-friendly and easy to install. It is mounted on the wall and as all pipes are placed in pipe bracket distance, it is possible to establish a nice piping. The removable cover plate in the front allows easy access to the specially designed chamber, where the most frequently used components such as ECL 310 are located. The easy access chamber enables faster commissioning and maintenance without removing the whole cover of the substation.

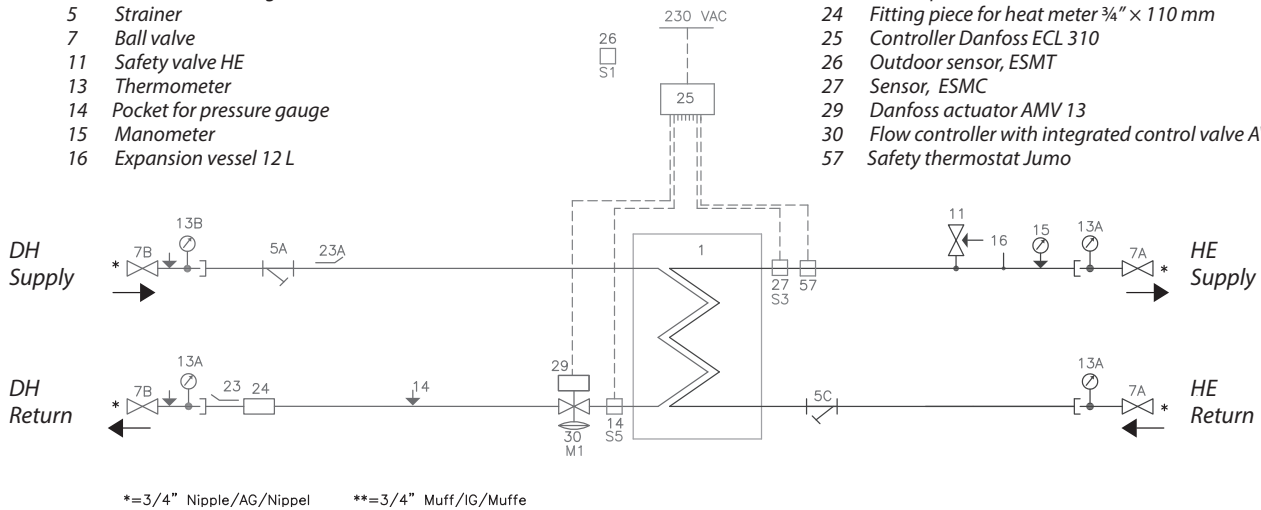
## FEATURES AND BENEFITS

- Connectivity with LeanHeat Monitor for monitoring and remote setting
- Fully insulated with very low heat losses
- Indirect heating, 1 HE circuit
- Customer-specific solutions, specially adapted to the applicable technical regulations
- Ensuring the lowest return temperature by special Danfoss technologies exclusively developed for substations.
- Advanced electronic control of heating (HE) with weather compensation and remote access possibility
- Capacity: 25 -47 kW HE
- Minimum space required for installation
- Primary pipes are welded. All other pipes and plate heat exchanger are made of stainless steel AISI316/314, connections with EPDM gaskets.
- Dezincification-free brass CuZn39Pb3
- Electrical wiring from factory - Plug & Play
- Applicable for high or low temperature district heating networks ( $T_{\max} = 130^{\circ}\text{C}$ )

CIRCUIT DIAGRAM ( EXAMPLE )

- 1 Plate heat exchanger HE
- 5 Strainer
- 7 Ball valve
- 11 Safety valve HE
- 13 Thermometer
- 14 Pocket for pressure gauge
- 15 Manometer
- 16 Expansion vessel 12 L

- 23 Sensor pocket for heat meter
- 24 Fitting piece for heat meter 3/4" x 110 mm
- 25 Controller Danfoss ECL 310
- 26 Outdoor sensor, ESMT
- 27 Sensor, ESMC
- 29 Danfoss actuator AMV 13
- 30 Flow controller with integrated control valve AVQM
- 57 Safety thermostat Jumo



**Design specifications:**

Nominal pressure (prim/sec.): PN25/PN6  
 Max. supply temperature: 130°C (design temp.)  
 Min. ΔP: See capacity examples  
 Brazing material (HEX): Copper

**Weight:** Max. 50 kg

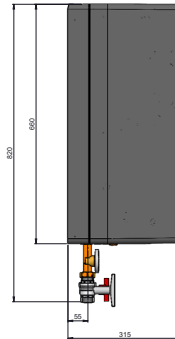
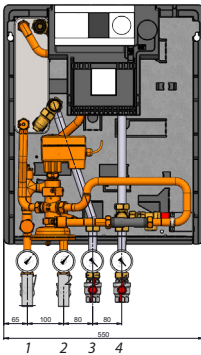
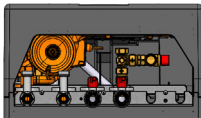
**Insulation:** Polypropylene  
 EPP λ 0.039

**Electrical supply:** 230V AC

**Dimensions (mm):**  
 with insulation: H 820 x W 550 x D 315

**Connections sizes:**  
 DH: G 3/4" ET (ext. thread)  
 HE: G 1" IT (int. thread)

**Dimensional sketch:**



**Connections:**

1. District heating (DH) supply
2. District heating (DH) return
3. Heating (HE) return
4. Heating (HE) supply

Basic type VXe Solo H OP HT	Code No
Type 1, fully insulated	145F4479
Type 2, fully insulated	145F4480
Type 2, fully insulated, safety function*	145F4481

\*Safety function = AMV13 / Jumo safety thermostat

HEATING: CAPACITY EXAMPLES

Plate heat exchanger HEX	HE capacity [kW]	HE circuit primary [°C]	HE circuit secondary [°C]	Pressure loss primary [*kPa]	Flow rate primary [l/h]	Flow rate secondary [l/h]
XB06H-1 26 Type 1	25	75/46	40/65	34	717	860
	25	80/50	45/70	32	717	860
	25	90/52	50/70	20	566	1075
	25	130/46	45/70	9	252	860
	25	130/51	50/70	9	267	860
XB06H-1 40 Type 2	47	75/45	40/65	39	1347	1617
	47	80/50	45/70	41	1347	1617
	47	90/52	50/70	24	1064	2021
	47	130/46	45/70	6	476	1617
	47	130/51	50/70	6	505	2021
XB06L-1 24 Type 3	20	75/31	30/40	9	391	1720
	20	80/31	30/40	9	351	1720
	20	90/31	30/40	6	292	1720
	20	130/31	30/40	2	171	1720

\* Heat meter not incl.

**Danfoss Redan A/S**

redan.dk • +45 8743 8943 • redan@danfoss.com

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