ENGINEERING
TOMORROW

Fact Sheet

VXe Solo H fully insulated substation

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

Application

The VXe Solo H (ECL 310/A237) is a fully insulated substation for indirect heating with one heating circut featuring featuring high performance and simple operation.
VXe Solo H is especially suitable for two-pipe systems such as systems with radiator or floor heating. Designed for wall-mounting with pipes connection in bottom. The heating circuit is controlled by electronic temperature controller Danfoss ECL 310/A237.

District heating (DH)

The substation is prefabricated with interconnecting 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/A237 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 substation is available with heat exchanger types XB 06H-26 and XB 06H-40 for radiator heating and type XB 06L-1 24 for floor heating. The heating side also features safety valve, expansion vessel, strainer, thermometers, manometer, energy-efficient circulation pump 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/A237).

Mounting of heat meter

The substation is equipped with 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 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**
- **Pipes and heat exchanger made of stainless steel, connections with EPDM gaskets**
- **Capacity: 20 - 30 kW HE, 15 kW FH**
- **Minimum space required for installation**
- **Pipes and plate heat exchanger made of stainless steel AISI 316/314**
- **Dezincification-free brass CuZn39Pb3**
- **Electrical wiring from factory - Plug & Play**

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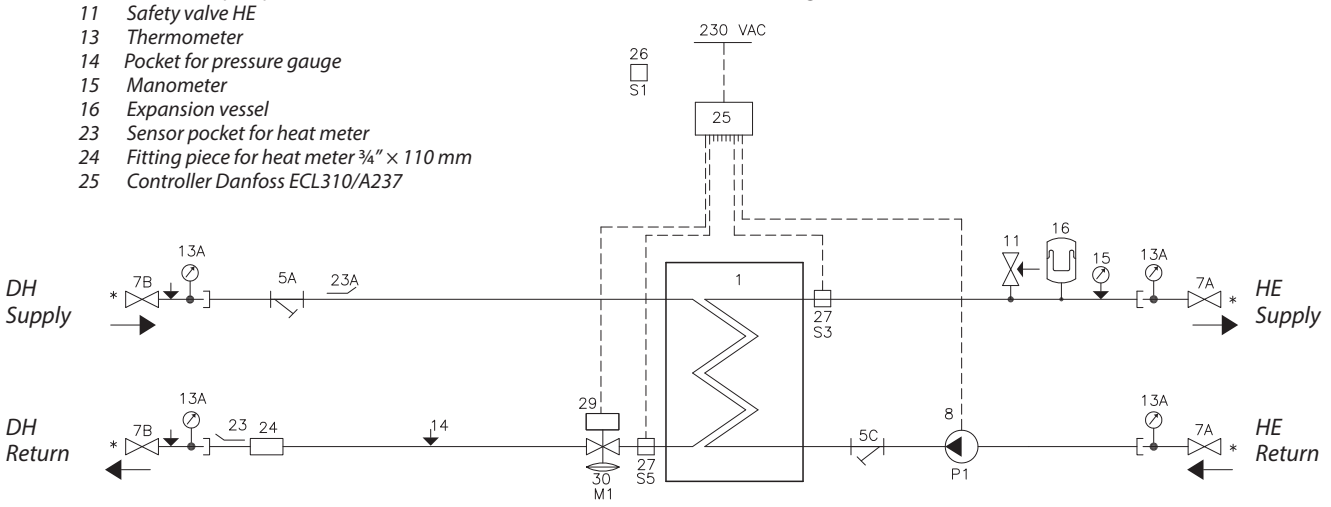
CIRCUIT DIAGRAM (EXAMPLE)

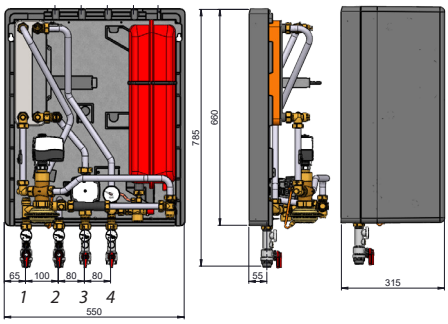
1 Plate heat exchanger HE
5 Strainer
7 Ball valve
8 Circulation pump HE
11 Safety valve HE
13 Thermometer
14 Pocket for pressure gauge
15 Manometer
16 Expansion vessel
23 Sensor pocket for heat meter
24 Fitting piece for heat meter ¾" × 110 mm
25 Controller Danfoss ECL310/A237
26 Outdoor sensor, ESMT
27 Sensor, ESMC
29 Danfoss actuator AMV
30 Flow controller with integrated control valve AVQM



Design specifications:

Nominal pressure (prim/sec.):	PN 16/PN 6
Max. supply temperature:	120 °C (design temp.)
Min. ΔP:	See capacity examples
Brazing material (HEX):	Copper
Weight:	Max. 55 kg
Insulation:	Polypropylene EPP λ 0.039
Electrical supply:	230 V AC
Dimensions (mm):	
with insulation:	H 785 × W 550 × D 315
Connections sizes:	
DH:	G ¾" ET (ext. thread)
HE:	G ¾" 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	Code No
Type 1, fully insulated	145F4440
Type 2, fully insulated	145F4441
Type 1, fully insulated, safety function*	145F4442
Type 2, fully insulated, safety function*	145F4443
Type 3, fully insulated, safety function*	145F4444

**Safety function = AMV13 / Jumo safety thermostat*

Options	Code No
KFE filling and drain valve ¼" (for mounting in ball valve)	145H3717

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]	Residual pressure UPM3 15-70 [kPa]
XB06H-1 26 Typ 1	20	75/46	40/65	38	594	696	57
	20	80/50	45/70	37	588	696	57
	20	90/52	50/70	28	462	870	51
XB06H-1 40 Typ 2	30	75/45	40/65	60	882	1038	44
	30	80/50	45/75	59	876	1044	44
	30	90/52	50/70	42	696	1308	26
XB06L-1 24 Typ 3	15	75/31	30/40	20	300	1296	25
	15	80/31	30/40	18	270	1296	25
	15	90/31	30/40	18	222	1296	25

* Heat meter and PHW capacity not incl.

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