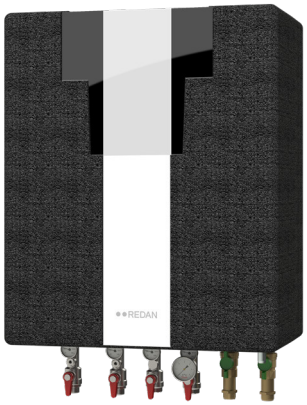
ENGINEERING
TOMORROW

Fact Sheet

VXe SLS fully insulated substation

For indirect heating with 1 HE circuit, with primary connection for storage charging cylinder



Application

The VXe SLS is a fully insulated substation for indirect heating with one heating circuit and primary connection for an storage charging cylinder featuring high performance and simple operation. Designed for wall-mounting with pipes connection in bottom. The heating circuit and the storage charging cylinder temperature is controlled by electronic temperature controller Danfoss ECL 310/A247.

District heating (DH)

The substation is prefabricated with interconnecting components such as strainers, thermometers, ball valves as well as a fitting piece and sensor pocket for insertion of a heat meter in the DH return line and a sensor pocket in the DH supply line.
A strainer is placed in the DH supply line.

Heating (HE)

The heating side consists of a stainless steel plate heat exchanger and the VXe SLS 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 and ball valves. The HE circuit is controlled by the district energy class pressure independent control valve AHQM together with an AMV actuator with or without safety function, - the temperature by means of an electronic temperature controller (ECL 310/A247).

Fitting 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. The substation is equipped with 3/4" fitting pieces in the cylinder return line for fitting of a heat meter.

Domestic hot water

The VXe SLS is supplied with connection pipes for storage charging cylinder on the secondary side. DHW heating takes place according to the storage charging principle, - cold water is heated to the desired value via the heat exchanger and loaded in the storage tank via a factory installed circulation pump. The substation is fittet with a heat exchanger types XB 06H-26 on the DHW side. The DHW temperature is regulated by an electronic actuator/control valve, which is connected to the Danfoss ECL, including an immersion sensor for installation in the storage cylinder.

Design

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

Service and maintenance

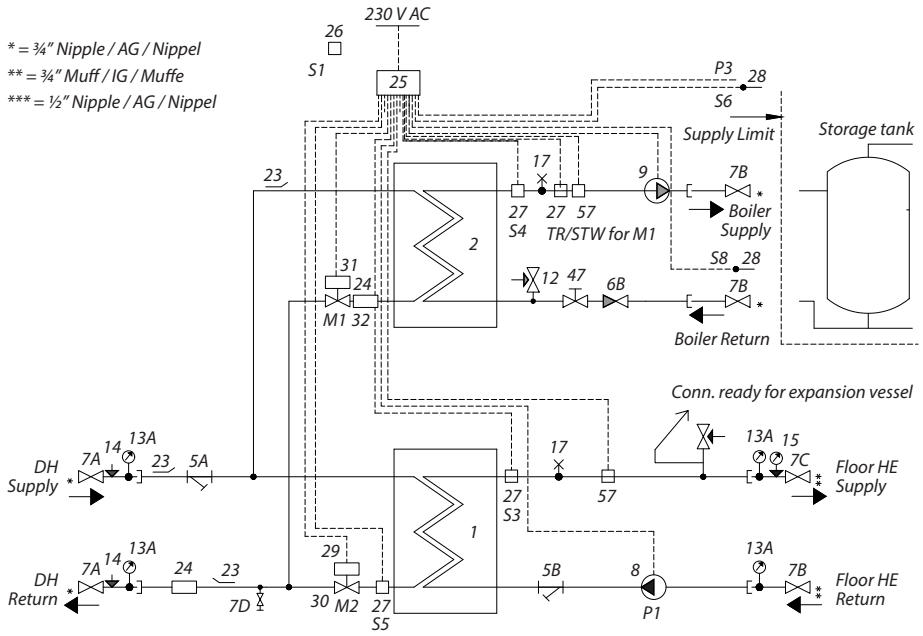
The substation is very service-friendly and easy to install. It is mounted on the wall and as all pipes are placed in pipe bracket distance, it is possible to establish a nice piping. The removable cover plate in the front allows easy access to the specially designed chamber, where the most frequently used components such as ECL 310 are located. The easy access chamber enables faster commissioning and maintenance without removing the 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**
- **Secondary connection for storage charging cylinder**
- **Fitting piece for heat meter in DH and cylinder return line**
- **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: Up to 30 kW HE, 15 kW FH and 40 kW DHW**
- **Minimum space required for installation**
- **Pipes and plate heat exchanger made of stainless steel AISI 316/314**
- **Dezincification-free brass CuZn39Pb3**

ENGINEERING
TOMORROW

CIRCUIT DIAGRAM (EXAMPLE)

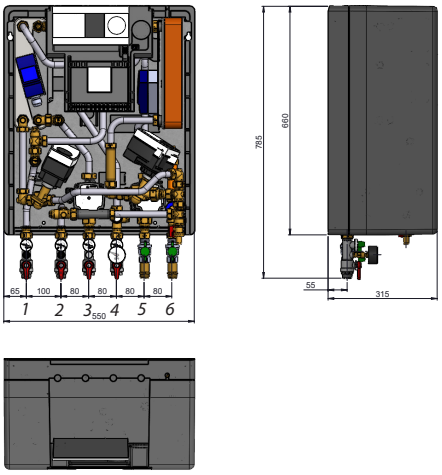


1 Plate heat exchanger HE
2 Plate heat exchanger DHW
5 Strainer
6 Non-return valve
7 Ball valve
8 Circulation pump HE
9 Circulation pump Charging Circuit
11 Safety valve HE, 3 bar
12 Safety valve DHW, 10 bar
13 Thermometer
14 Pocket for pressure gauge
15 Manometer
17 Air valve
18 Drain valve
23 Sensor pocket for heat meter
24 Fitting piece for heat meter ¾" x 110 mm
25 Controller Danfoss ECL310/A247
26 Outdoor sensor , ESMT
27 Sensor, ESMC
27b Jumo TR
28 Immersion sensor ESMB
29 Danfoss actuator AMV
30 Control valve AHQM
31 Danfoss actuator AMV
32 Control valve AHQM
47 Flow limiter Taco-Setter
57 Safety thermostat

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 DHW, DCW:	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
5. Cylinder supply
6. Cylinder return

VXe SLS HE / DHW	Code No
Type 1/1, fully insulated	145F4463
Type 2/1, fully insulated	145F4464
Type 3/1, fully insulated	145F4465
Type 1/1, fully insulated, safety function*	145F4460
Type 2/1, fully insulated, safety function*	145F4461
Type 3/1, fully insulated, safety function*	145F4462

*Safety function = AMV13 / Jumo safety thermostat & TR

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

DHW: CAPACITY EXAMPLES 10 °C/60 °C

Plate heat exchanger HEX	DHW capacity [kW]	Supply flow primary [°C]	Return flow primary [°C]	Pressure loss Primary [*kPa]	Flow rate primary [l/h]	DHW tap load [l/h]
XB06H-1 26 Type 1	40	75	24	70	684	684
	40	80	22	57	576	684
	40	90	20	43	468	684

* Heat meter not incl.

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]	Residual pressure UPM3 15-70 [kPa]
XB06H-1 26 Type 1	20	75/46	40/65	37	594	59
	20	80/50	45/70	37	588	59
	20	90/52	50/70	28	462	53
XB06H-1 40 Type 2	30	75/45	40/65	58	882	46
	30	80/50	45/70	57	876	46
	30	90/52	50/70	41	696	31
XB06L-1 24 Type 3	15	75/31	30/40	19	300	29
	15	80/31	30/40	18	270	29
	15	90/31	30/40	17	222	29

* Heat meter and PHW capacity not incl.

Danfoss Redan A/S
redan.dk • +45 8743 8943 • redan@danfoss.com