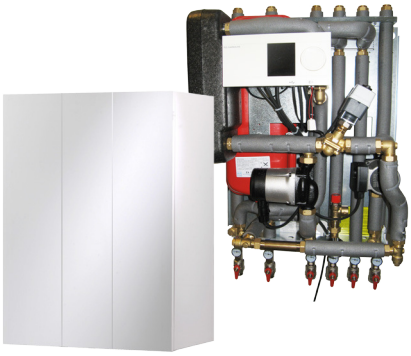
VX Solo II



Substation for single-family, semi-detached and terraced houses as well as flats

District heating substation for indirect heating. With connection pipes for DHW cylinder. Designed for wall-mounting with pipes connection in top or bottom

Application
The VX Solo II is a substation featuring high performance and simple operation. The VX Solo II is especially suitable for two-pipe systems and systems with floor heating.

District heating (DH)
The substation is prefabricated with interconnecting components such as fitting piece and sensor pockets for insertion of a heat meter mounted in the DH return pipe, as well as strainer, ball valves and pockets for pressure gauges.
As a standard the substation is supplied with fitting piece for mounting of heat meter in the DH return pipe.

Heating (HE)
The heating side consists of a stainless steel plate heat exchanger, manometer, thermometers, expansion vessel and circulation pump(s) and the heating temperature is controlled by an self-acting thermostatic valve or an electronic temperature controller with an outdoor temperature sensor, in combination with an actuator.
Depending on substation's application, different heat exchangers dimensioned for central or floor heating can be used. As an option the substation can be equipped with a thermostat with safety monitor.

Domestic hot water (DHW)
The substation can be supplied with connection pipes for DHW cylinder on the supply or return line.

Construction
All pipes are made of stainless steel. The connections are made by nuts and gaskets. The substation offers variable connection possibilities, as connection of pipes can be established both in the top or in the bottom of the substation. The VX Solo II can be delivered with white-lacquered steel cover, with door.

Variants
VX Solo II is available in various variants. The circuit diagram and the technical data on the back page illustrates VX Solo II HWS with 1 heating circuit and secondary connection for DHW cylinder, however, variants with 2 heating circuits, mixing loop and primary connection for cylinder are also available.

Enclosed application sheet illustrates the available variants.

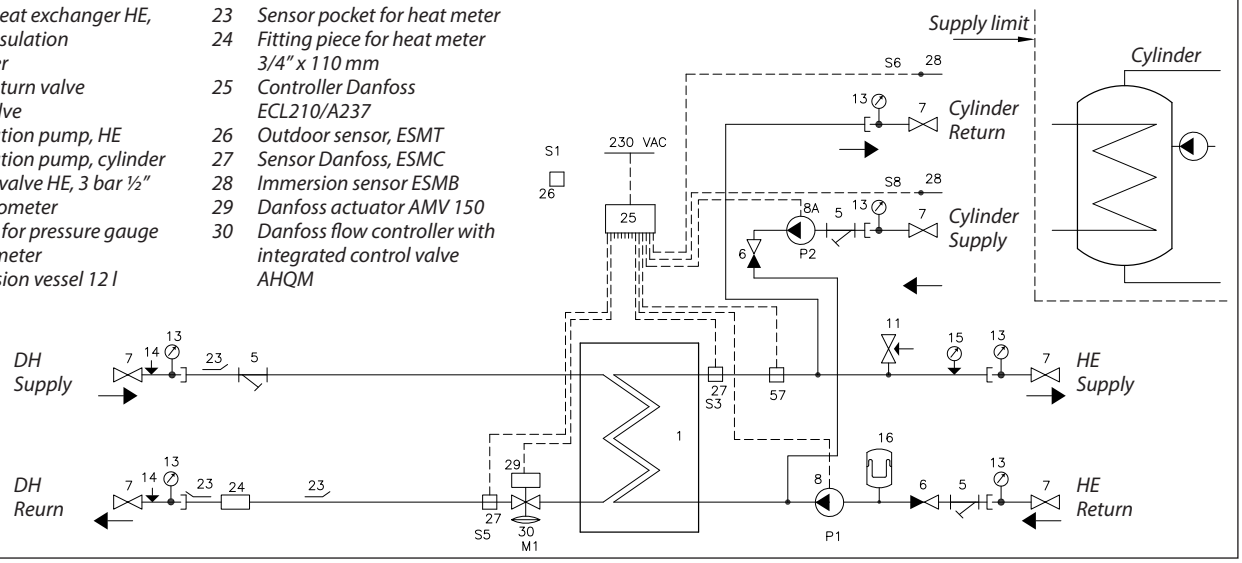
FEATURES AND BENEFITS

- Substation for single-family houses
- Indirect heating, - one or two heating circuits
- Selfacting or electronic control of heating (HE) temperature
- Connections for DHW cylinder on DH supply or return line
- Pipes connection in top or bottom of substation = Savings in installations costs
- Pipes and heat exchanger made of stainless steel, connections with EPDM gaskets.
- Minimized risk of lime scale and bacteria formation
- Electrical wiring from factory - Plug & Play
- Capacity: 20-30 kW HE / 15 kW FH

VX Solo II

Circuit diagram – example, VX Solo II HWS (ECL 210/A237) - 1 HE circuit + sec. connection for DHW cylinder

1	Plate heat exchanger HE, with insulation	23	Sensor pocket for heat meter
5	Strainer	24	Fitting piece for heat meter 3/4" x 110 mm
6	Non-return valve	25	Controller Danfoss ECL210/A237
7	Ball valve	26	Outdoor sensor, ESMT
8	Circulation pump, HE	27	Sensor Danfoss, ESMC
8A	Circulation pump, cylinder	28	Immersion sensor ESMB
11	Safety valve HE, 3 bar ½"	29	Danfoss actuator AMV 150
13	Thermometer	30	Danfoss flow controller with integrated control valve AHQM
14	Pocket for pressure gauge		
15	Manometer		
16	Expansion vessel 12 l		



Design specifications:

Nominal pressure (prim/sec.):	PN 16 / PN 3
Max. supply temperature:	120 °C (design temp.)
Min. ΔP:	See capacity examples
Brazing material (HEX):	Copper
Weight incl. cover:	46 kg
(incl. packing)	
Cover:	White-lacquered steel

Dimensions (mm):

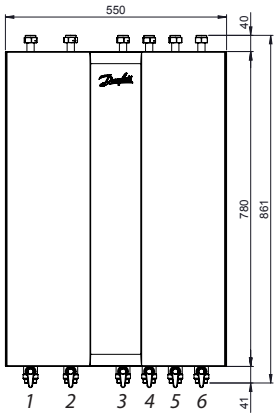
Without cover:	H 861 × W min. 510*/max. 525** × D 365
With cover:	H 861 × W 550 × D 381

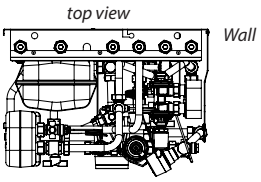
* Units with insulated plate heat exchanger type XB06H-1 26.
** Units with insulated plate heat exchanger type XB06H-1 40.

Electrical supply: 230 V AC

Connections sizes:

DH:	G¾" ET (ext. thread)
HE, DHW cylinder:	G¾" ET (int. thread)





Connections:

1. District heating (DH) supply
2. District heating (DH) return
3. Heating (HE) return
4. Heating (HE) supply
5. DHW cylinder supply
6. DHW cylinder return

Options:

- Cover, white-lacquered steel, with door
- Electronic controller Danfoss ECL310
- Safety function - safety thermostat + actuator
- Connection of pipes can be established in the top or in the bottom of the substation
- Pipe insulation
- Mounting of heat meter (supplied by customer)
- Supplementary fitting set for change of fitting piece size ¾ x 110 mm to fitting piece size 1" x 190 mm

Heating: Capacity examples

Heating capacity	Plate heat exchanger	HE circuit primary [° C]	HE circuit sedondary [° C]	Pressure loss primary* [kPa]	Pressure loss (only sec. side of heat exchanger) [kPa]	Flow rate primary ([l/h]	Flow rate secondary [l/h]
20	XB06H-1 26	75/44	40/65	35	6.0	555	688
20	XB06H-1 26	80/49	45/70	35	6.0	555	688
20	XB06H-1 26	90/51	50/70	29	8.5	441	860
30	XB06H-1 40	75/44	40/65	55	6.0	842	1032
30	XB06H-1 40	80/49	45/70	55	6.0	832	1032
30	XB06H-1 40	90/51	50/70	40	9.0	662	1290

* Heat meter not incl.

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Application Sheet

VX Solo II

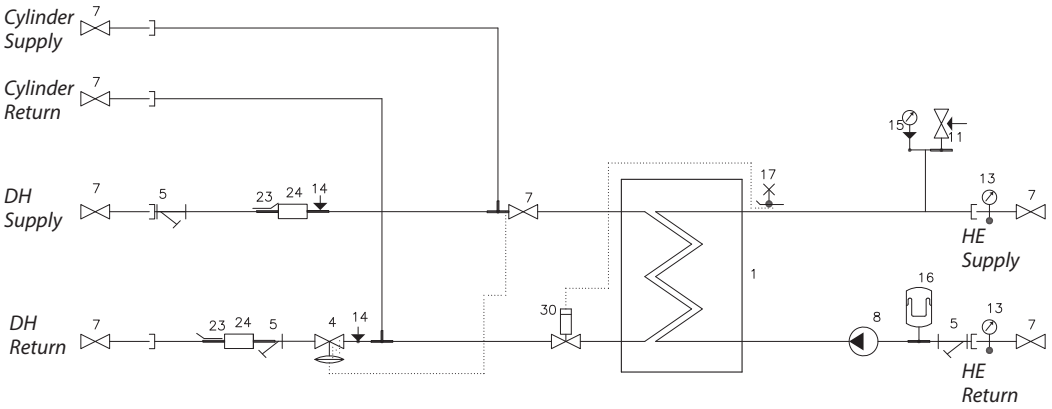
District heating substation for indirect heating and connection pipes for primary or secondary connnection of DHW cylinder

VX Solo II (T°C)
1 HE circuit, primary connection for DHW cylinder

1 Plate heat exchanger, HE, with insulation
4 Differential pressure controller AVPL
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
17 Air vent
23 Sensor pocket for heat meter
24 Fitting piece for heat meter 3/4" x 110 mm
30 Self-acting thermostatic valve T°C 200/VS2

Options:
- RAVK 25-65/VMA thermostatic actuator for temperature control of DHW cylinder.

Dimensions w/o cover:
H801 x W 510*/max. 525** x D 345 mm
* insulated plate heat exchanger XB06H-1 26.
**insulated plate heat exchanger type XB06H-1 40
Dimensions w/cover:
H801 x W 550 x D 381 mm

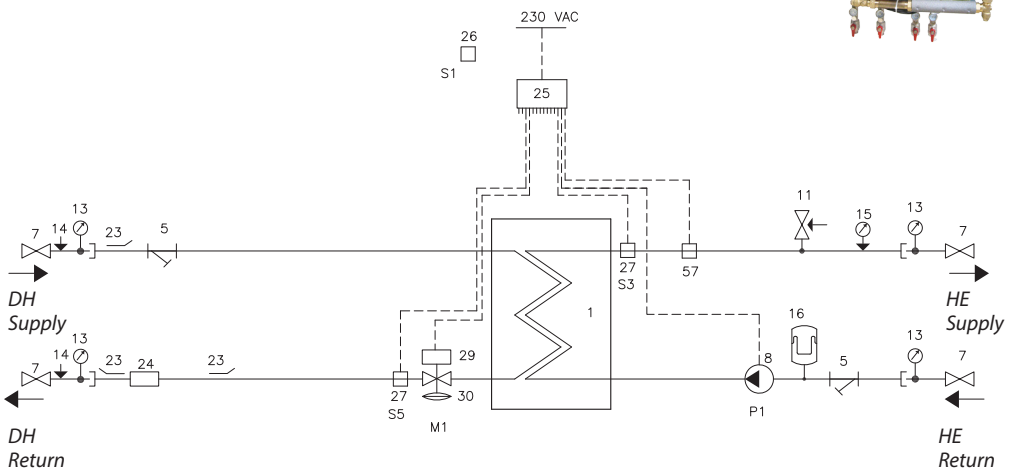


VX Solo II H, ECL 210/A230
1 HE circuit.

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 3/4" x 110 mm
25 Controller Danfoss ECL 210/A230
26 Outdoor sensor, ESMT
27 Sensor Danfoss, ESMC
29 Danfoss actuator AMV
30 Danfoss flow controller with integrated control valve AHQM

Options:
57 Safety thermostat

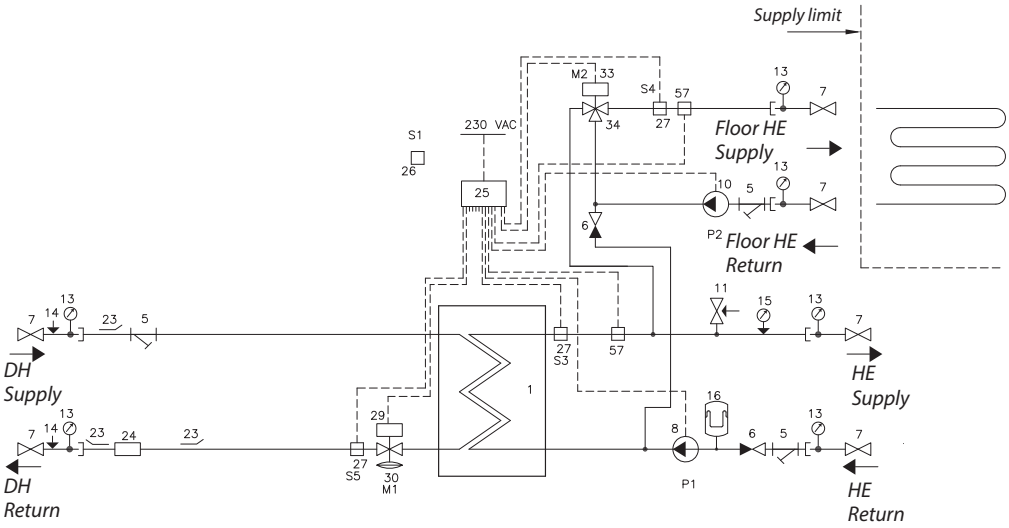
Dimensions w/o cover:
H861 x W 510*/max. 525** x D 365 mm
* insulated plate heat exchanger XB06H-1 26.
**insulated plate heat exchanger type XB06H-1 40
Dimensions w/cover:
H861 x W 550 x D 381 mm



VX Solo II H2, ECL210/A260
2 HE circuits

1 Plate heat exchanger, HE, with insulation
5 Strainer
6 Non-return valve
7 Ball valve
8 Circulation pump HE
10 Circulation pump FH
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 3/4" x 110 mm
25 Controller Danfoss ECL 210/A260
26 Outdoor sensor, ESMT
27 Sensor Danfoss, ESMC
29 Danfoss actuator AMV,HE
30 Danfoss flow controller with integrated control valve AHQM
33 Danfoss actuator AMV, FH
34 3-way valve VMV
57 Safety thermostat

Dimensions w/o cover:
H861 x W 510*/max. 525** x D 365 mm
* insulated plate heat exchanger XB06H-1 26.
**insulated plate heat exchanger type XB06H-1 40
Dimensions w/cover:
H861 x W 550 x D 381 mm

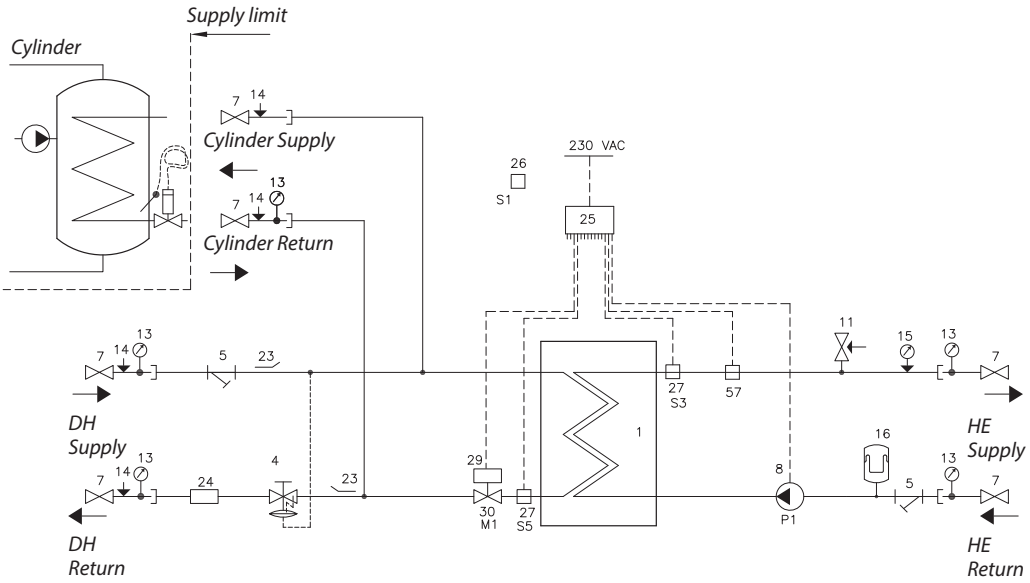


VX Solo II HWP, ECL 210/A237
1 HE circuit, primary connection for DHW cylinder

1 Plate heat exchanger, HE, with insulation
4 Differential pressure controller with flow limitation AVPB-F
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 3/4" x 110 mm
25 Controller Danfoss ECL 210/A237
26 Outdoor sensor, ESMT
27 Sensor Danfoss, ESMC
29 Danfoss actuator AMV, HE
30 2-way valve VS2

Options:
57 Safety thermostat
- RAVK 25-65/VMA thermostatic actuator for temperature control of DHWcylinder.

Dimensions w/o cover:
H861 x W 510*/max. 525** x D 365 mm
* insulated plate heat exchanger XB06H-1 26.
**insulated plate heat exchanger type XB06H-1 40
Dimensions w/cover:
H861 x W 550 x D 381 mm

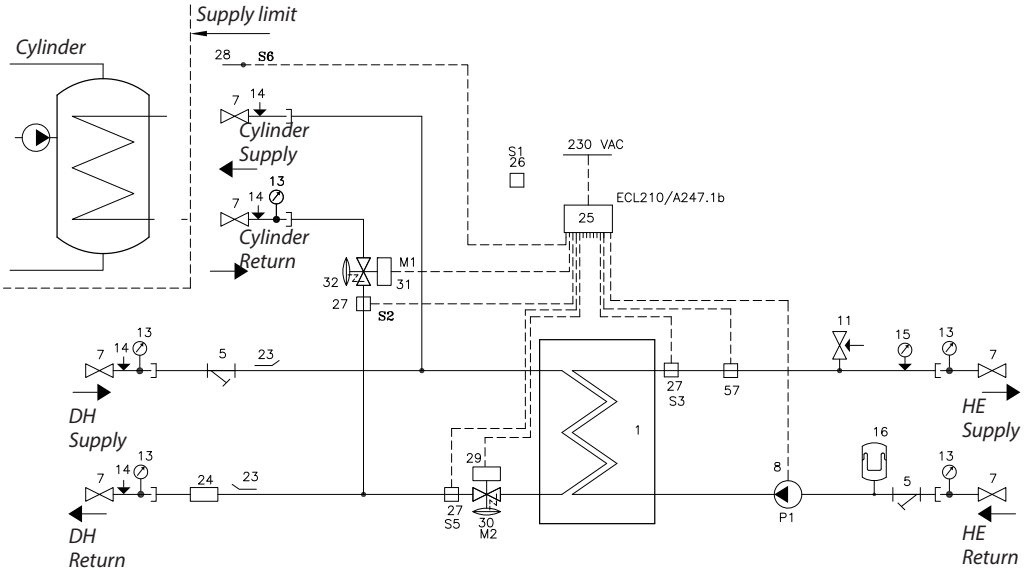


VX Solo II HWP, ECL210/A247
1 HE circuit, primary connection for DHW cylinder

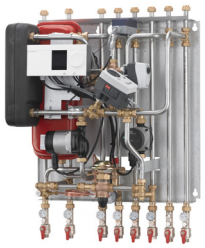
1 Plate heat exchanger, HE, with insulation
5 Strainer
7 Ball valve
8 Circulation pump HE
11 Safety valve HE
13 Thermometer
14 Pocket for pressure gauge
15 Manometer
16 Expansion vessel
23 Sensor pocket for heat meter
24 Fitting piece for heat meter 3/4" x 110 mm
25 Controller Danfoss ECL 210/A247
26 Outdoor sensor, ESMT
27 Sensor Danfoss, ESMC
28 Immersion sensor Danfoss ESMB
29 Danfoss actuator AMV, HE
30 Danfoss flow controller with integrated control valve AHQM
31 Danfoss actuator AMV, Cylinder
32 Danfoss flow controller with integrated control valve AHQM

Options:
57 Safety thermostat

Dimensions w/o cover:
H861 x W 510*/max. 525** x D 365 mm
* insulated plate heat exchanger XB06H-1 26.
**insulated plate heat exchanger type XB06H-1 40
Dimensions w/cover:
H861 x W 550 x D 381 mm



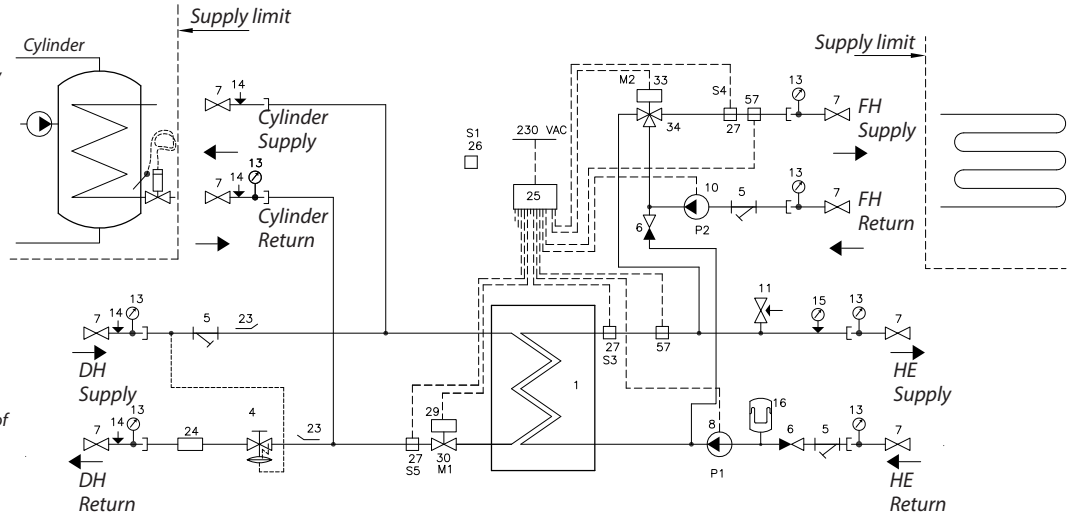
VX Solo II H2WP, ECL210/A260
2 HE circuits, primary connection for DHW cylinder



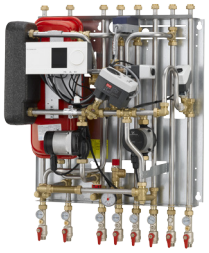
1 Plate heat exchanger, HE, with insulation
4 Differential pressure controller with flow limitation AVPB-F
5 Strainer
6 Non-return valve
7 Ball valve
8 Circulation pump HE
10 Circulation pump FH
11 Safety valve HE
13 Thermometer
14 Pocket for pressure gauge
15 Manometer
16 Expansion vessel
23 Sensor pocket for heat meter
24 Fitting piece for heat meter 3/4" x 110 mm
25 Controller Danfoss ECL 210/ A260
26 Outdoor sensor, ESMT
27 Sensor Danfoss, ESMC
29 Danfoss actuator AMV, HE
30 2-way valve VS2
33 Danfoss actuator AMV, FH
34 3-way valve VMV
57 Safety thermostat, FH circuit

Options:
57 Safety thermostat, HE circuit
99 Thermostatic valve for DHW
- RAVK 25-65/VMA thermostatic actuator for temperature control of DHW cylinder.

Dimensions w/o cover:
H861 x W 650 x D 365 mm
Dimensions w/cover:
H861 x W 700 x D 381 mm



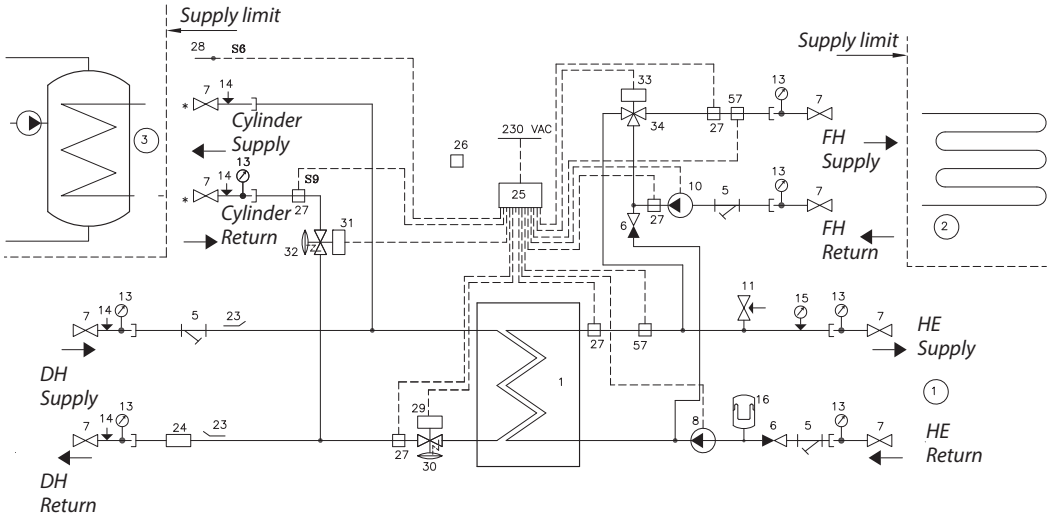
VX Solo II H2WP, ECL310/377
2 HE circuits, primary connection for DHW cylinder



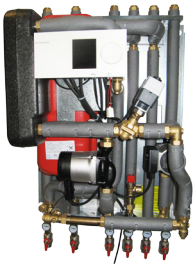
1 Plate heat exchanger, HE, with insulation
5 Strainer
6 Non-return valve
7 Ball valve
8 Circulation pump HE
10 Circulation pump FH
11 Safety valve HE
13 Thermometer
14 Pocket for pressure gauge
15 Manometer
16 Expansion vessel
23 Sensor pocket for heat meter
24 Fitting piece for heat meter 3/4" x 110 mm
25 Controller Danfoss ECL 310/377
26 Outdoor sensor, ESMT
27 Sensor Danfoss, ESMC
28 Immersion sensor ESMB
29 Danfoss actuator AMV, HE
30 Flow controller with integrated control valve AHQM
31 Danfoss actuator AMV, Cylinder
32 Flow controller with integrated control valve AHQM
33 Danfoss actuator AMV, FH
34 3-way valve VMV
57 Safety thermostat, FH circuit

Options:
57 Safety thermostat, HE circuit

Dimensions w/o cover:
H861 x W 650 x D 365 mm
Dimensions w/cover:
H861 x W 700 x D 381 mm



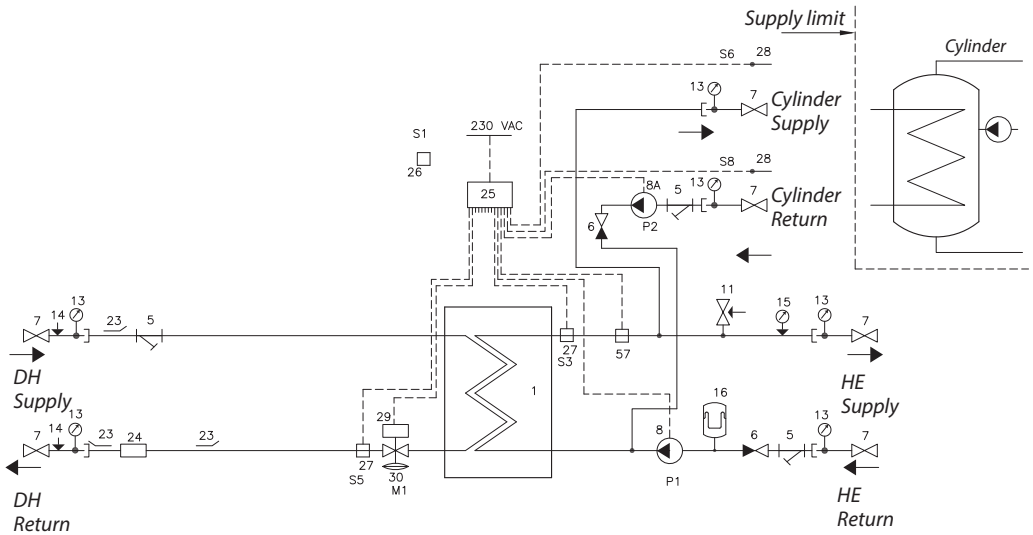
VX Solo II HWS, ECL210/A237
1 HE circuit, secondary connection for DHW



1 Plate heat exchanger, HE, with insulation
5 Strainer
6 Non-return valve
7 Ball valve
8 Circulation pump HE
8A Circulation pump, DHW
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 3/4" x 110 mm
25 Controller Danfoss ECL 210/A237
26 Outdoor sensor, ESMT
27 Sensor Danfoss, ESMC
28 Immersion sensor Danfoss ESMB
29 Danfoss actuator AMV, HE
30 Danfoss flow controller with integrated control valve AHQM

Options:
57 Safety thermostat, HE circuit

Dimensions w/o cover:
H861 x W 510*/max. 525** x D 365 mm
* insulated plate heat exchanger XB06H-1 26.
**insulated plate heat exchanger type XB06H-1 40
Dimensions w/cover:
H861 x W 550 x D 381 mm

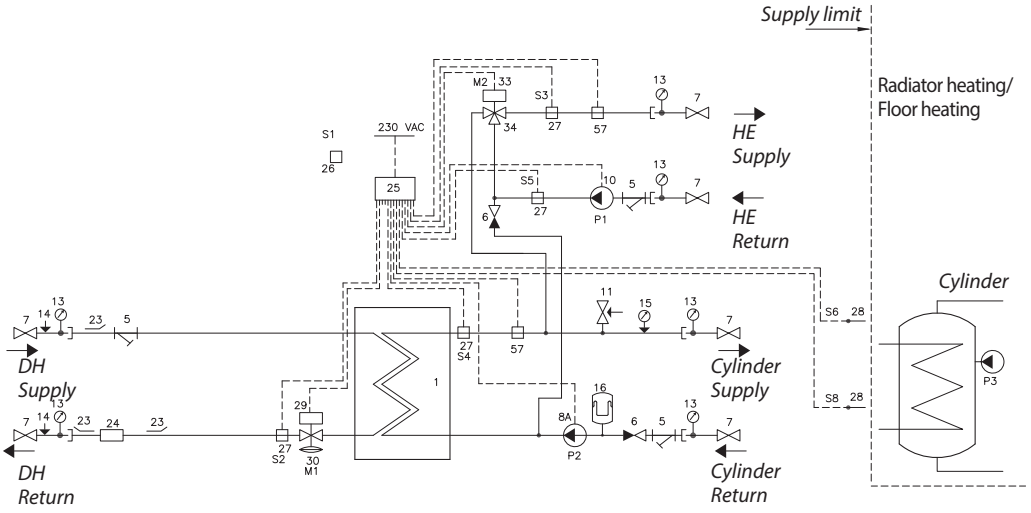


VX Solo II HWS, ECL210/A247
1 HE circuit + mixing loop, secondary connection for DHW cylinder

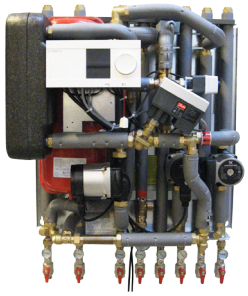
1 Plate heat exchanger, HE, with insulation
5 Strainer
6 Non-return valve
7 Ball valve
8A Circulation pump, DHW
10 Circulation pump HE
11 Safety valve HE
13 Thermometer
14 Pocket for pressure gauge
15 Manometer
16 Expansion vessel
23 Sensor pocket for heat meter
24 Fitting piece for heat meter 3/4" x 110 mm
25 Controller Danfoss ECL 210/A247
26 Outdoor sensor, ESMT
27 Sensor Danfoss, ESMC
28 Immersion sensor Danfoss ESMB
29 Danfoss actuator AMV
30 Danfoss flow controller with integrated control valve AHQM
33 Danfoss actuator AMV
34 3-way valve VMV
57 Safety thermostat

Options:
57 Safety thermostat, HE circuit

Dimensions w/o cover:
H861 x W 510*/max. 525** x D 365 mm
* insulated plate heat exchanger XB06H-1 26.
**insulated plate heat exchanger type XB06H-1 40
Dimensions w/cover:
H861 x W 550 x D 381 mm



VX Solo II H2WS, ECL210/A267
2 HE circuits + mixing loop, secondary connection for DHW cylinder



1 Plate heat exchanger, HE, with insulation
5 Strainer
6 Non-return valve
7 Ball valve
8 Circulation pump HE
8A Circulation pump, DHW
10 Circulation pump FH
11 Safety valve HE
13 Thermometer
15 Manometer
16 Expansion vessel
23 Sensor pocket for heat meter
24 Fitting piece for heat meter 3/4" x 110 mm
25 Controller Danfoss ECL 210/ A267
26 Outdoor sensor, ESMT
27 Sensor Danfoss, ESMC
28 Immersion sensor Danfoss ESMB
29 Danfoss actuator AMV, HE
30 Danfoss flow controller with integrated control valve AHQM
33 Danfoss actuator AMV
34 3-way valve VMV
57 Safety temperatue monitor

Options:
57 Safety thermostat, HE circuit

Dimensions w/o cover:
H861 x W 650 x D 365 mm
Dimensions w/cover:
H861 x W 700 x D 381 mm