

VarioVal FLS (800-1000)
Stratified storage tank
(suitable for heat pumps)

Stratified storage tank

- For single family homes with approx. 4-6 persons
- Heating with solar, low-temperature heat generator (heat pumps) or for high-temperature heat generators
- Annual solar coverage rate depends on heat demand, collector field size, collector field storage ratio and location
- Stratified storage tank made of steel, primed on the outside, for heating support
- Water heating via fresh water module (option)
- With built-in plain tube heat exchanger for connection to solar collectors (800) up to 10 m² collector surface (1000) up to 15 m² collector surface
- Layer installations:
 - Stratification pipe (pipe in pipe)
 - Horizontal baffle plates
 - Vertical baffle plates
 - Guide tubes (bent upwards/downwards) for fresh water module connections
 - Heating flow/return guide tubes (also with return in layer channel)
 - Separating plate in the central area for separation of the temperature zone
- Sensor terminal blocks
- Thermometer (with capillary)
- Thermal insulation
 - Made of polyester fibre fleece 140 mm
 - Outer plastic jacket with patented aluminium sealing bracket, red
 - Insulated cover flap (can be knocked out) for heat exchanger connections

Delivery

Calorifier and thermal insulation completely installed (can be removed for installation)

Design on request

- Heating module HMV20-3BM/SPS-S 8 with thermal insulation box
- Can be expanded with
 - Heating armature group HAV20-3BM-R/SPS-S 8
 - Solar armature group SAV20/SPS-S 7
- Fresh water module
 - TransTherm® aqua FT/FTC: For direct storage tank mounting with supplied fixing bolts (not pre-assembled) and connection set
 - TransTherm® aqua F: wall installation (pipework on site)
- Circulation lance
- Screw-in electric heating element



VarioVal FLS

VarioVal FLS incl. TransTherm® aqua FT/FTC

Model range

VarioVal FLS type	Solar heat exchanger m ²	dm ³
(800)	2	13.4
(1000)	3	18.9

Notice

SPF certificate stratification efficiency
SPF-18-009-SE

VarioVal FLS (800,1000) - selection table

	Hydraulic components + necessary TopTronic® E modules						Additional accessories			
	1st mixer circuit	2nd mixer circuit	Solar armature group	Return switching	Buffer management	Fresh water module	Screw-in electric heating element	Electrical box	Circulation heat exchanger	
	x	opt.	opt.	x	x	x	x	x	opt.	
Consisting of:										
	Heating module HMV20-3BM SPS-S 8	HA group HAV20-3BM-R SPS-S 8	TopTronic® E module expansion heating circuit	Solar group SAV20FR SPS-S 7 PM2	TopTronic® E solar module	Stratified charging set SLS32-3-H RL	TopTronic® E buffer module	TransTherm® aqua F TransTherm® aqua FT TransTherm® aqua FTC		
Heat generator										
Belaria® pro (8,13)	x	x	x	x	x	x	x	x	opt.	opt. ²⁾
Belaria® comfort ICM (8,13)	x	x	x	x	x	x	-	x	x	opt. ²⁾
Thermalia® comfort (6-17)	x	x	x	x	x	x	x	x	opt.	opt. ²⁾
Thermalia® comfort H (7,10)	x	x	x	x	x	x	x	x	opt.	opt. ²⁾
UltraSource® B comfort C (8-17)	x	x	x	x	x	x	-	x	x	opt. ²⁾
UltraSource® T comfort C (8-17)	x	x	x	x	x	x	-	x	opt.	opt. ²⁾
TopGas® classic (12-30)	x	x	x	x	x	- ³⁾	x	x	opt.	opt. ²⁾
UltraGas® (15-35)	x	x	x	x	x	-	x	x	opt.	opt. ²⁾
UltraOil® (16-35)	x	x	x	x	x	-	x	x	opt.	opt. ²⁾
MultiJet® (12-25)	x	x	x	x	x	-	x	x	opt.	opt. ²⁾
BioLyt (13-25)	x	x	x	x	x	-	x	x	opt.	opt. ¹⁾

¹⁾ A module expansion or a controller module can be installed in the heat generator.

²⁾ Two TopTronic® E controller modules can be mounted in the heat generator or in the wall casing. If the storage tank is fully equipped, a separate electrical box must be ordered for an additional module.

³⁾ Return switching to be installed by the client.

Stratified storage tank



VarioVal FLS (800-1000)

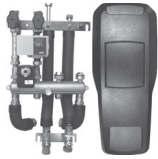
Stratified storage tank made of steel, primed on the outside, for heating support. Water heating optionally via fresh water module. With built-in plain tube heat exchanger for connection to solar collectors. Thermal insulation made of polyester fibre 140 mm and external plastic coating, colour red. Suitable for heat pumps up to 20 kW (up to 2500 l/h).

VarioVal FLS type	Total volume dm ³	Solar heat exchanger m ²	Solar heat exchanger dm ³
(800)	796	2	13.4
(1000)	892	3	18.9

Part No.

6046 238
6046 239

Accessories



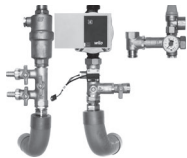
Heating module HMV20-3BM
with pressure distributor for 2 mixer circuits, incl. 1 heating armature group with 3-way motor mixer and pump SPS-S 8 and thermal insulation box

Notice

In combination with heat pumps, always use the stratified charging set SLS32-3-H RL.



Heating armature group HAV20-3BM-R
to extend the HMV20-3BM for a second mixer circuit
Pump SPS-S 8



Solar armature group SAV20FR
with PWM interface (TopTronic® E)
inc. safety group 6 bar with manometer, FlowRotor and air vent
Pump SPS-S 7 PM2



Layer charge set SLS32-3-H RT
connection set for return switching
for direct mounting on VarioVal for heat pumps up to 17 kW
Connection set between tank and pressure distributor on heating module, layer charge set with 3-way valve incl. motor drive.

Part No.

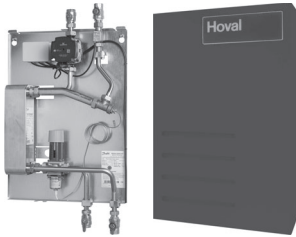
6046 091

6046 092

6046 093

6048 003

Accessories



**Fresh water module
TransTherm® aqua FT/FTC**

Fresh water module for hygienic water heating with thermostatic control of the hot water temperature by means of quick-acting water temperature controller. Incl. red casing and connection set AS20-FW for direct installation on the VarioVal FLS.

Fresh water module TransTherm® aqua	Output kW
FT (65)	65
FTC (57)	57

Part No.

6046 240
6046 241



TransTherm® aqua F

Fully assembled station with plate heat exchanger for the provision of domestic hot water using the continuous flow principle and built-in Hoval TopTronic® E control. The required energy buffer storage tank is not supplied.

Fresh water module TransTherm® aqua F	Output kW
(6-10)	50
(6-16)	90

8006 387
8006 388

**Version with copper-free
heat exchanger**

Fresh water module TransTherm® aqua F	Output kW
(6-10)	50
(6-16)	90

8006 521
8006 522

Accessories for TransTherm® aqua FT/FTC



Circulation heat exchanger lance R 1"

is screwed into the buffer storage tank and integrated into the circulation line.
Material: Copper, tinned inside
Transmission power approx. 1 kW at 60 °C
Hot water temperature in the buffer storage tank without mixing through the storage tank temperature.
Circulation connections R ½"
Installation length 660 mm

2038 434

Accessories for TransTherm® aqua F



Return switching valve set DN 20
for TransTherm® aqua F (50-90 kW)
Set consisting of temperature sensor, switching valve, drive, seals and screw fittings.

7010 832



Test valve DN 8 G 1/4"
for TransTherm® aqua L, LS and F, FS
Test valve suitable for flame treatment for hygienic-microbiologic tests.

2049 861



Sludge separator with magnet
Type: MB3 DN 25 Rp 1"
With variable connection for vertical or horizontal pipelines
Removal of ferromagnetic and non-magnetic dirt and sludge particles from heating or cooling circuits with the medium water or water/glycol (50/50%)
Brass casing
Sludge separation up to a particle size of 5 µm
With unscrewable casing bottom part for cleaning and inspection work complete with sludge removal tap

2062 165

Nominal diameter: DN 25
Pipe connection: Rp 1" (internal thread)
Installation length: 90 mm
Max. operating pressure: 6 bar
Max. flow temperature: 110 °C
Max. throughput: 2.0 m³/h
Max. flow speed: 1.0 m/s
Max. pressure drop: 3.8 kPa
Contents: 0.36 l
Weight: 2.3 kg



Sludge separator with magnet MBL DN 32 IT
With variable connection for vertical or horizontal pipelines
Performance-enhancing magnetic assistance from removable, external magnet.
Fast and continuous removal of ferromagnetic and non-magnetic dirt and sludge particles from heating or cooling circuits with the medium water or water/glycol (50/50%)
Brass casing
Sludge separation up to a particle size of 5 micrometres - separation and sludge removal without interrupting operation by the spiral pipe insert
With unscrewable casing bottom part for cleaning and inspection work complete with sludge removal tap.

2062 166

Nominal diameter: DN 32
Pipe connection: Rp 1 1/4" (internal thread)
Installation length: 128 mm
Max. operating pressure: 10 bar
Max. flow temperature: 110 °C
Max. throughput: 3.6 m³/h
Max. flow speed: 1.0 m/s
Max. pressure drop: 2.2 kPa
Contents: 0.75 l
Weight: 3.6 kg
Type: MBL DN 32 IT

Additional sludge separators
see "Various system components"

Notice

Information about engineering, space requirement, dimensioning table, dimensions, see "Hoval TransTherm® aqua F"

Accessories



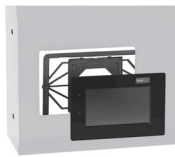
Screw-in electrical heating inset

made of Incoloy® alloy 825, with temperature control and overheating protection.
 Delivered separately, installation on site
 Not suitable for exclusively electric heating.

type	Heat input [kW]	Voltage [V]	Install. length [mm]
EP 2.5	2.35	3 x 400 (1 x 230)	390
EP 3.5	3.6	3 x 400	500
EP 5	4.9	3 x 400	620

Part No.

6049 557
 6049 558
 6049 559



TopTronic® E control module black with 4.3" colour touchscreen

For operation of all controller modules connected to the bus system (basic, solar, buffer modules etc.)
 Connection to the Hoval bus system via RJ45 plug connection or via plug terminals (max. 0.75 mm²), flat design with flexible installation option

Installation:

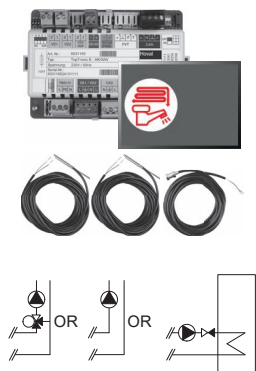
- in control panel of the heat generator
- in the Hoval wall casing
- in the control panel front, black high-gloss cover, customer-specific configurable start screen, Display of current weather or weather forecast (only possible in combination with HovalConnect)

Consisting of:

- TopTronic® E control module black
- Clamping device set control module
- RJ45 - Rast-5 CAN cable, L = 500

6043 844

TopTronic® E controller modules



TopTronic® E heating circuit/hot water module TTE-HK/WW

Controller module for controlling consumers with integrated control functions for:

- 1 heating/cooling circuit w/o mixer or
- 1 heating/cooling circuit with mixer or
- 1 hot water charging circuit
- various additional functions

Consisting of:

- Fitting accessories
- 2x immersion sensor TF/2P/5/6T, L = 5 m,
- 1 contact sensor ALF/2P/4/T, L = 4 m,
- Basic plug set for controller module



TopTronic® E solar module TTE-SOL

The controller module is suitable for use as temperature differential control, control of thermal solar plants, for heating process water and/or heating support.

Controller module with integrated control functions for

- solar circuit
- collector cascade
- storage tank cascade with up to 4 consumers
- consumer loading, with type selection
- temperature differential control
- loading and unloading function for additional/reserve buffer tank
- Integrated solar yield calculation

Consisting of:

- Fitting accessories
- 1 immersion sensor TF/2P/5/6T, L = 5 m,
- 1 collector sensor TF/1.1P/2.5S/5.5T L = 2.5 m,
- Basic plug set for controller module

Notice

In a standalone application, the control module for operating the solar module and a wall casing must be ordered separately!

Notice

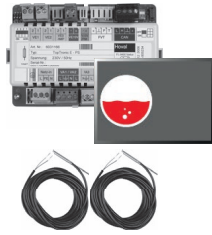
Depending on the complexity, module expansions are required for using the listed functions (max. 2 module expansion can be connected)!

Notice

The supplementary plug set may have to be ordered to implement functions differing from the standard!

Part No.
6034 571
6037 058

TopTronic® E controller modules



TopTronic® E buffer module TTE-PS

Controller module with integrated control functions for:

- heating buffer management or
- cooling buffer management
- var. additional functions

Consisting of:

- Fitting accessories
- 2 immersion sensors TF/2P/5/6T, L = 5 m,
- Basic plug set for controller module

Part No.

6037 057

Notice

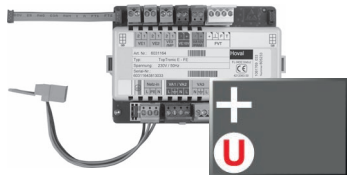
If the controller module is used without Hoval heat generator then a TopTronic® E control module must be ordered separately!

Notice

Depending on the complexity, module expansions are required for using the listed functions (max. 2 module expansion can be connected)!

Notice

The supplementary plug set may have to be ordered to implement functions differing from the standard!



TopTronic® E module expansion Universal TTE-FE UNI

Expansion to the inputs and outputs of a controller module (basic module heat generator, heating circuit/domestic hot water module, solar module, buffer module) for implementing various functions

Consisting of:

- Fitting accessories
- Plug set FE module

6034 575

Notice

Refer to the Hoval System Technology to find which functions and hydraulic arrangements can be implemented.

Accessories for TopTronic® E



Supplementary plug set
for controller modules and module expansion
TTE-FE HK

6034 503



TopTronic® E controller modules
TTE-RBM TopTronic® E room control modules
easy white
comfort white
comfort black

6037 071
6037 069
6037 070



HovalConnect
HovalConnect LAN
HovalConnect WLAN

6049 496
6049 498



TopTronic® E interface modules
GLT Modul 0-10 V
HovalConnect Modbus
HovalConnect KNX

6034 578
6049 501
6049 593



TopTronic® E wall casing
WG-190 Wall casing small 6052 983
WG-360 Wall casing medium 6052 984
WG-360 BM Wall casing medium with control module cut-out 6052 985
WG-360-3 BM Wall casing compact with control module cut-out 6052 988
WG-510 Wall casing large 6052 986
WG-510 BM Wall casing large with control module cut-out 6052 987



TopTronic® E sensors
AF/2P/K Outdoor sensor 2055 889
TF/2P/5/6T Immersion sensor, L = 5.0 m 2055 888
ALF/2P/4/T Contact sensor, L = 4.0 m 2056 775
TF/1.1P/2.5S/6T Collector sensor, L = 2.5 m 2056 776



System housing
System housing 182 mm 6038 551
System housing 254 mm 6038 552

Bivalent switch 2061 826

Further information
see "Controls"

VarioVal FLS (800-1000)

Type		(800)	(1000)
Storage tank			
• Total volume	dm ³	796	892
• Usable volume	dm ³	777	872
• Operating pressure/test pressure	bar	3/4.5	3/4.5
• Max. operating temperature	°C	95	95
• Transport weight	kg	228	233
• Dimensions		See Dimensions	
Solar coil (permanently installed)			
• Heating surface	m ²	2	3
• Contents	dm ³	13.4	18.9
• Operating pressure/test pressure	bar	10/15	10/15
• Max. operating temperature	°C	110	110
• Flow resistance ¹⁾ water/glycol 50 % (z-value)		19	25
• Number of collectors (max. - gross at 2.5 m ²)	pieces	4	6
• For flat collectors ²⁾ up to approx.	m ²	10	15
Thermal insulation			
• Insulation type		PE fibre fleece	PE fibre fleece
• Insulation thickness	mm	140	140
• Fire protection class		B2	B2
• Thermal conductance λ	W/mK	0.038	0.038
• U value	W/(m ² K)	0.27	0.27
• Heat loss at 65 °C	W	91	100
• Energy efficiency class		B	B

¹⁾ Flow resistance of heating coil in mbar = flow rate (m³/h)² x z (1 mbar= 0.1 kPa)

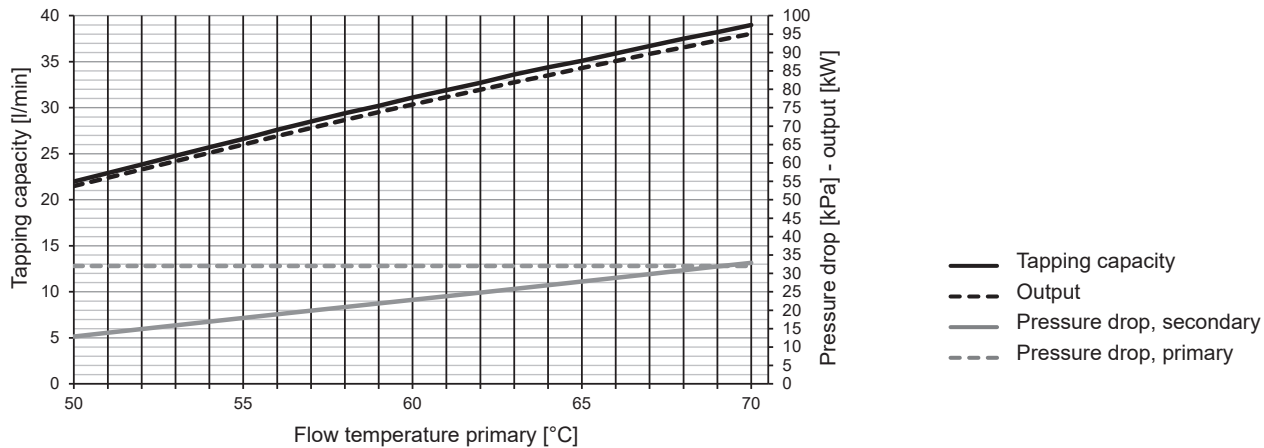
²⁾ Collector surface area, with regard to heat exchanger area only

Performance data

TransTherm® aqua FT/FTC

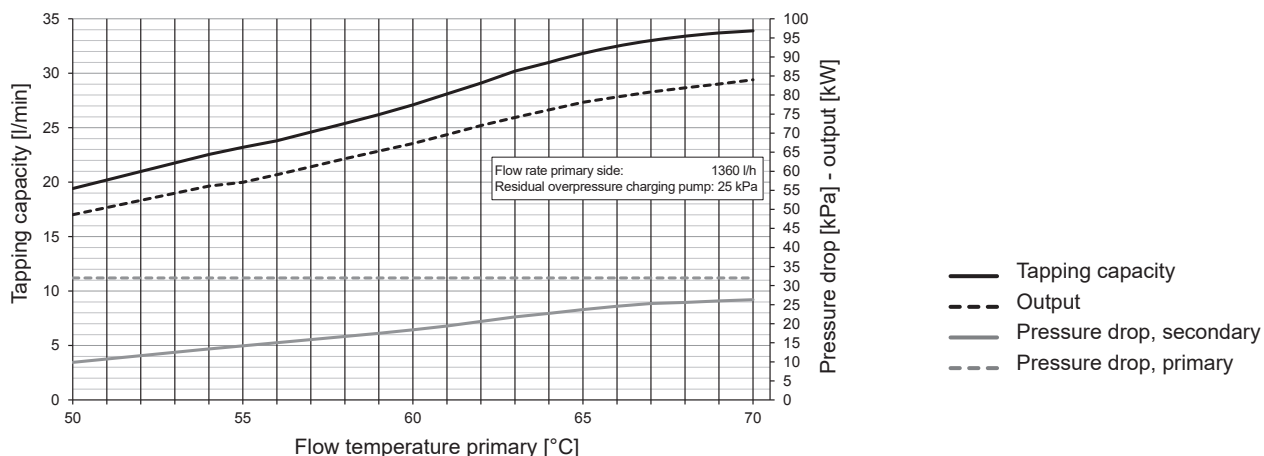
Hoval TransTherm® aqua FT (65)

Hot water temperature 45 °C: tapping capacity - output - pressure drops



Hoval TransTherm® aqua FTC (57)

Hot water temperature 45 °C: tapping capacity - output - pressure drops



Performance data

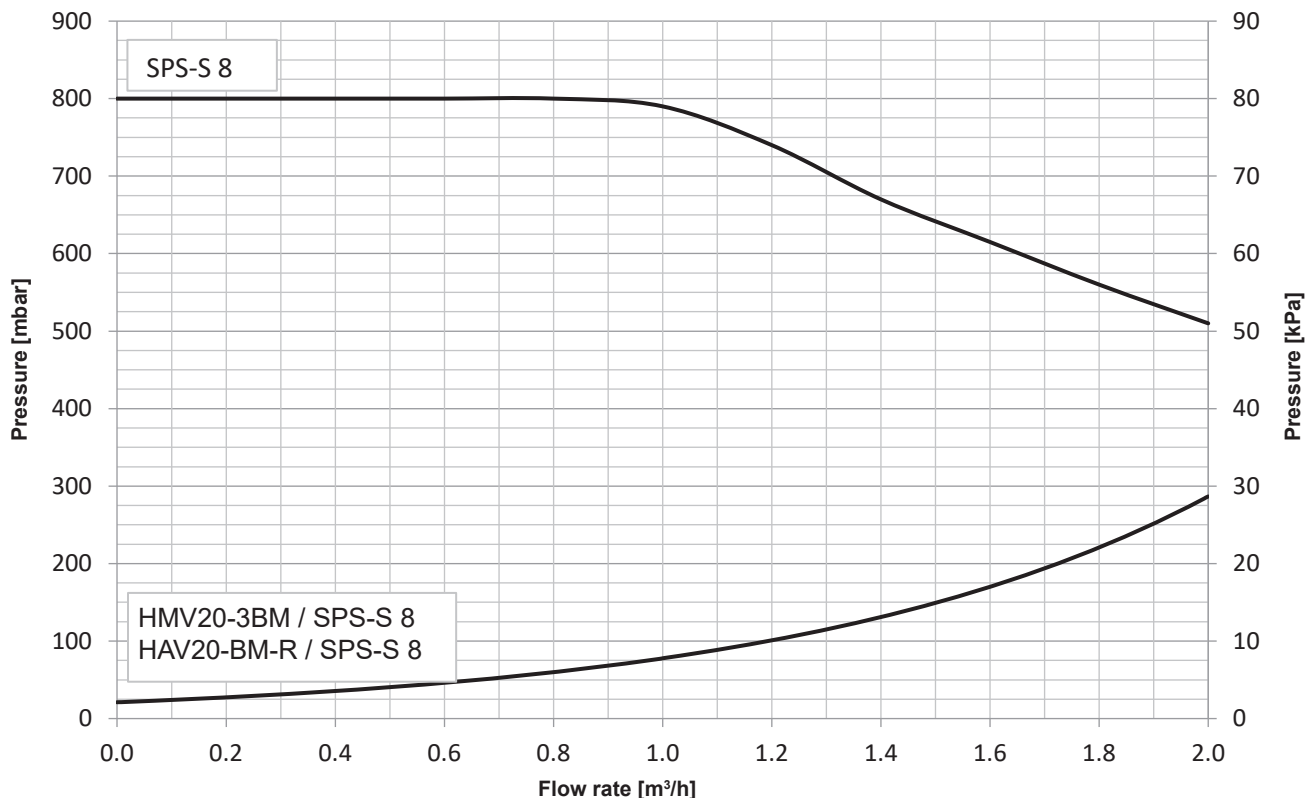
TransTherm® aqua F (6-10 up to 6-16)

DHW secondary		Heating water temperature flow							
		55 °C (6-..)		60 °C (6-..)		65 °C (6-..)		70 °C (6-..)	
		(10)	(16)	(10)	(16)	(10)	(16)	(10)	(16)
60/5 °C	T return primary °C	-	-	-	-	30	30	30	30
	V primary m³/h	-	-	-	-	1.08	1.88	1.32	2.09
	Q max. kW	-	-	-	-	43	75	60	95
	V secondary m³/h	-	-	-	-	0.67	1.17	0.94	1.48
60/10 °C	T return primary °C	-	-	-	-	30	30	30	30
	V primary m³/h	-	-	-	-	0.8	1.5	1.08	1.94
	Q max. kW	-	-	-	-	32	60	50	90
	V secondary m³/h	-	-	-	-	0.55	1.03	0.86	1.54
60/15 °C	T return primary °C	-	-	-	-	30	30	30	30
	V primary m³/h	-	-	-	-	0.55	1.05	0.97	1.8
	Q max. kW	-	-	-	-	22	42	44	82
	V secondary m³/h	-	-	-	-	0.42	0.8	0.84	1.57
60/20 °C	T return primary °C	-	-	-	-	30	30	30	30
	V primary m³/h	-	-	-	-	0.3	0.6	0.62	1.14
	Q max. kW	-	-	-	-	12	24	28	52
	V secondary m³/h	-	-	-	-	0.26	0.52	0.6	1.12
55/5 °C	T return primary °C	-	-	30	30	30	30	30	30
	V primary m³/h	-	-	1.25	2.04	0.8	1.5	1.08	2.09
	Q max. kW	-	-	43	70	32	60	50	95
	V secondary m³/h	-	-	0.74	1.2	0.55	1.03	0.86	1.63
55/10 °C	T return primary °C	-	-	30	30	30	30	30	30
	V primary m³/h	-	-	1.11	2.04	1.3	2.06	1.08	1.87
	Q max. kW	-	-	38	70	52	82	49	85
	V secondary m³/h	-	-	0.73	1.34	0.99	1.57	0.94	1.62
55/15 °C	T return primary °C	-	-	30	30	30	30	30	30
	V primary m³/h	-	-	0.76	1.46	0.97	1.65	1.1	1.88
	Q max. kW	-	-	26	50	44	75	44	75
	V secondary m³/h	-	-	0.56	1.08	0.95	1.61	0.94	1.62
55/20 °C	T return primary °C	-	-	30	30	30	30	30	30
	V primary m³/h	-	-	0.47	0.9	0.95	1.68	0.84	1.47
	Q max. kW	-	-	16	31	38	67	38	67
	V secondary m³/h	-	-	0.39	0.76	0.94	1.65	0.94	1.65
50/5 °C	T return primary °C	30	30	30	30	30	30	30	30
	V primary m³/h	1.29	2.03	1.28	2.04	1.25	2.06	1.08	1.87
	Q max. kW	37	58	44	70	50	82	49	85
	V secondary m³/h	0.71	1.11	0.84	1.34	0.95	1.57	0.94	1.62
50/10 °C	T return primary °C	30	30	30	30	30	30	30	30
	V primary m³/h	1.29	2.03	1.28	2.04	1.1	1.88	0.97	1.65
	Q max. kW	38	58	44	70	44	75	44	75
	V secondary m³/h	0.82	1.25	0.95	1.51	0.95	1.61	0.95	1.61
50/15 °C	T return primary °C	30	30	30	30	30	30	30	30
	V primary m³/h	1.29	2.03	1.11	1.95	0.95	1.68	0.84	1.47
	Q max. kW	37	58	38	67	38	67	38	67
	V secondary m³/h	0.91	1.43	0.94	1.65	0.94	1.65	0.94	1.65
50/20 °C	T return primary °C	30	30	30	30	30	30	30	30
	V primary m³/h	1.15	2.03	0.96	1.69	0.83	1.45	0.73	1.28
	Q max. kW	33	58	33	58	33	58	33	58
	V secondary m³/h	0.95	1.67	0.95	1.67	0.95	1.67	0.95	1.67
45/5 °C	T return primary °C	19,02	18,23	17,14	16,42	15,93	14,89	14,77	13,28
	V primary m³/h	0.86	1.91	0.86	1.92	0.87	1.83	0.84	1.62
	Q max. kW	35	80	42	95	48	104	52	104
	V secondary m³/h	0.76	1.73	0.90	2.05	1.04	2.24	1.13	2.24
45/10 °C	T return primary °C	21,39	20,71	19,73	19,13	18,68	17,4	17,23	16,05
	V primary m³/h	0.86	1.91	0.86	1.92	0.87	1.69	0.77	1.49
	Q max. kW	33	74	39	89	45	91	46	91
	V secondary m³/h	0.81	1.84	0.97	2.20	1.13	2.25	1.13	2.24
45/15 °C	T return primary °C	23,94	23,4	22,58	21,75	21,26	20,25	20,1	19,16
	V primary m³/h	0.86	1.91	0.87	1.8	0.8	1.55	0.71	1.36
	Q max. kW	30	69	37	78	39	78	40	78
	V secondary m³/h	0.88	1.99	1.07	2.26	1.14	2.27	1.16	2.26
45/20 °C	T return primary °C	26,68	26,26	25,48	24,59	24,16	23,43	23,25	22,6
	V primary m³/h	0.86	1.92	0.85	1.63	0.72	1.4	0.63	1.22
	Q max. kW	27	63	33	65	33	66	33	65
	V secondary m³/h	0.96	2.18	1.16	2.27	1.16	2.29	1.15	2.27

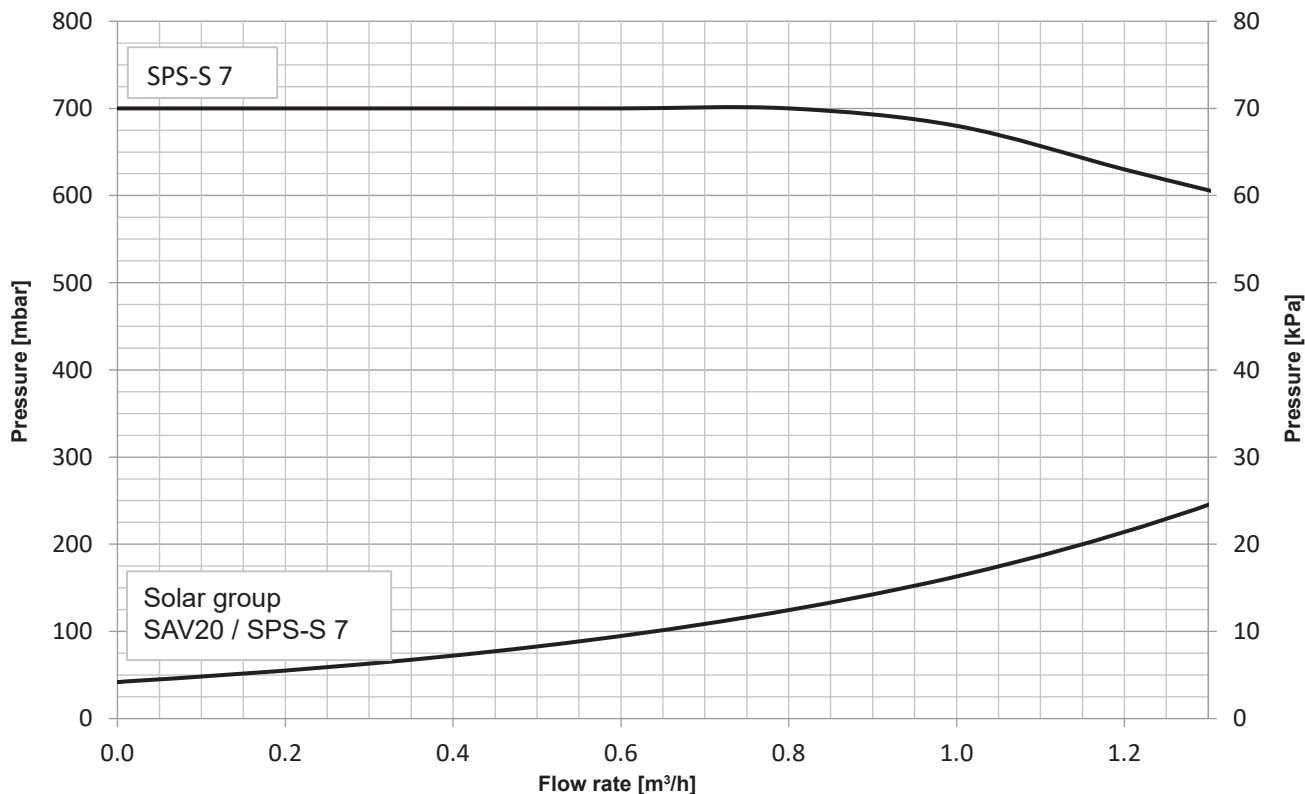
T return primary °C Primary return temperature
Vprimary m³/h Primary flow rate
 Q max. kW Output
Vsecondary m³/h Secondary flow rate

The specified technical data relates to the full load of the module in each case.

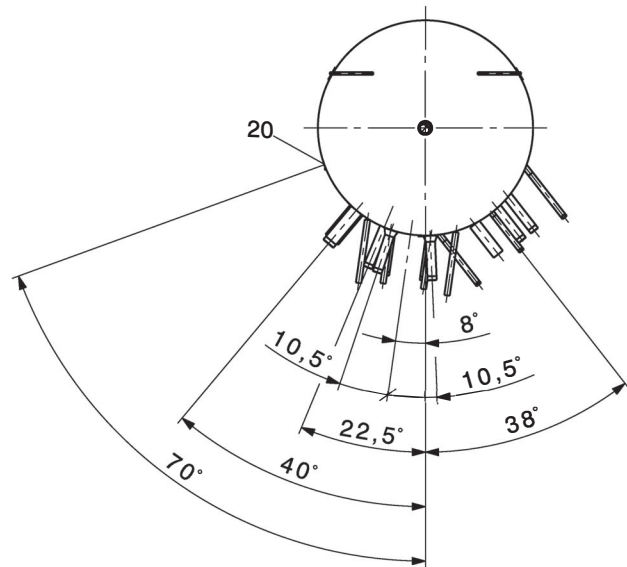
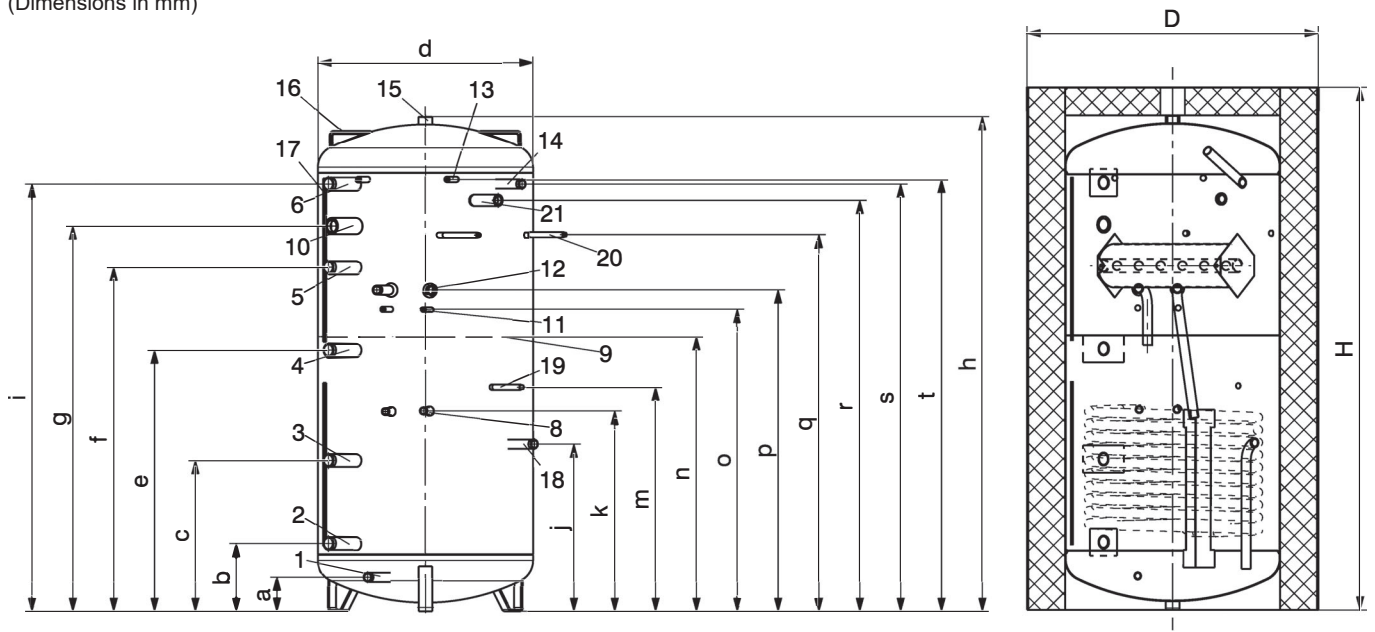
Residual overpressure heating module HMV20-3BM



Residual overpressures solar group SAV20



VarioVal FLS (800-1000)
(Dimensions in mm)



Deviations possible as a result of manufacturing tolerances.
Dimensions +/- 10 mm

- | | | |
|----|--|----------------------|
| 1 | Drain | G 1" (ext. thread) |
| 2 | Heat generator connection bottom (vertical baffle plate) | G 1½" (ext. thread) |
| 3 | Heat generator connection 2 - bottom (inflow restrictor) | G 1½" (ext. thread) |
| 4 | Heat generator connection middle (inflow restrictor) | G 1½" (ext. thread) |
| 5 | Heat generator connection 2 - top (stratification pipe) | G 1½" (ext. thread) |
| 6 | Heat generator connection top (vertical baffle plate) | G 1½" (ext. thread) |
| 8 | Flow (left) and return (right) solar circuit | G ¾" (ext. thread) |
| 9 | Isolation plate | |
| 10 | Connection for screw-in electric heating element | Rp 1½" (int. thread) |
| 11 | Fixing bolts bottom left and right for solar group | M10 (int. thread) |
| 12 | Flow (left) and return (right) heating | G 1" (ext. thread) |
| 13 | Fixing bolts top left and right for heating group | M10 (int. thread) |
| 14 | Connection for fresh water station warm flow | G 1" (ext. thread) |
| 15 | Possible air vent | Rp 1¼" (int. thread) |
| 16 | Carry handle (2x) | |
| 17 | Sensor terminal strip (type (800) 2x, type (1000) 3x) | |
| 18 | Connection for fresh water station warm cold return | G 1" (ext. thread) |
| 19 | Bolt at bottom for fresh water station | |
| 20 | Fixing bolts top left and right for Fresh water station | M10 (int. thread) |
| 21 | Connection for circulation lance | R 1" (int. thread) |

VarioVal FLS	d	D	h	H
(800)	790	1070	1816	1919
(1000)	790	1070	2016	2119

VarioVal FLS	a	b	c	e	f	g	i	j	k	m	n	o	p	q	r	s	t	Tilting measure
																		without thermal insulation
(800)	125	249	554	959	1264	1415	1569	614	736	823	1009	1109	1180	1383	1509	1569	1586	1828
(1000)	125	249	554	959	1264	1415	1569	814	870	1023	1009	1243	1314	1583	1709	1769	1720	2030

Space requirements

Installation example - VarioVal FLS

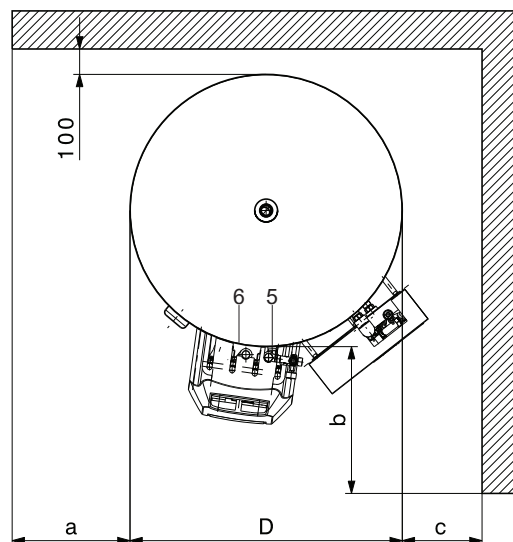
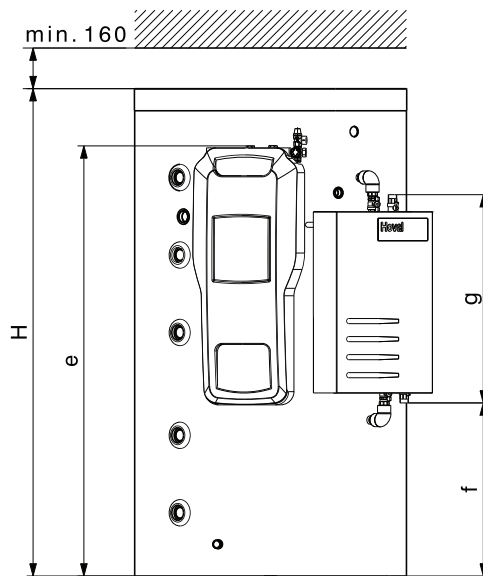
- Heating module HMV20-3B
- HA group HAV20-3BM-R
- Solar group SAV20
- DH module TransTherm® aqua FT (65)

Notices on operation and accessibility

The operating side must be easily accessible. Preferably place heat generator to the left of the storage tank.

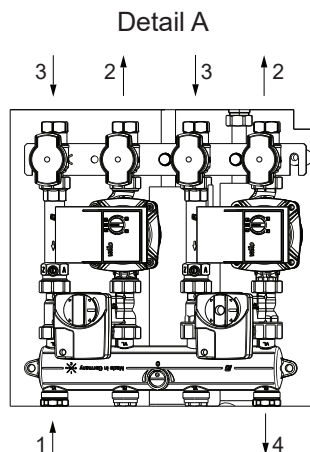
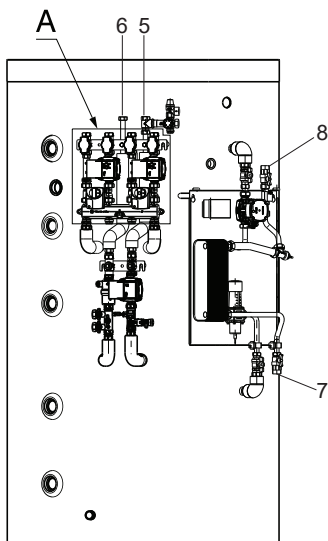
Accessibility, left according to heat generator (a):

- Installation and removal of the screw-in electric heating element
 - Thermal insulation can be opened to position the sensors in the terminal strips
 - Wall clearance, right (c):
- Installation of the pressure expansion tank
- Removal and installation of the DH module or the hood
 - Hot water (domestic water) flow and return
- Distance from the ceiling, top:
- Possibly for safety set



VarioVal FLS	a	b	c	D	e	f	g	H
(800)	≥650	≥1000	≥500	1070	1694	682	820	1919
(1000)	≥650	≥1000	≥500	1070	1828	882	820	2119

Representation without thermal insulating hood and DH module hood



- 1 Heating flow G 1" (ET)
- 2 Flow heating circuit Rp 3/4" (IT)
- 3 Return heating circuit Rp 3/4" (IT)
- 4 Heating return G 1" (ET)
- 5 Solar circuit return G 3/4" (IT)
- 6 Solar circuit flow G 3/4" (IT)
- 7 Cold water Rp 3/4" (IT)
- 8 Domestic hot water Rp 3/4" (IT)

VarioVal RHS (800-1000)

Stratified combination storage tank

- For single family homes with approx. 4-6 persons
- Heating with solar and high-temperature heat generators
- Annual solar coverage rate depends on heat demand, collector field size, collector field storage ratio and location
- Stratified combination storage tank made of steel, primed on the outside, for heating support and water heating with a built-in corrugated pipe heat exchanger
- With built-in plain tube heat exchanger for connection to solar collectors (800) up to 10 m² collector surface (1000) up to 15 m² collector surface
- Layer installations:
 - Horizontal baffle plates
 - Vertical baffle plates
 - Heating flow/return guide tubes (also with return in layer channel)
- Sensor terminal blocks
- Thermometer (with capillary)
- Thermal insulation
 - Polyester fibre fleece thermal insulation 100 mm
 - Outer plastic jacket with patented aluminium sealing bracket, colour red
 - Insulated cover flap (can be knocked out) for heat exchanger connections

Domestic hot water calorifier

- Stainless-steel corrugated tube heat exchanger installed

Delivery

Calorifier and thermal insulation completely installed (can be removed for installation)

Design on request

- Heating module HMV20-3BM/SPS-S 8 with thermal insulation box
- Can be expanded with
 - Heating armature group HAV20-3BM-R/SPS-S 8
 - Solar armature group SAV20/SPS-S 7
- Circulation
- Screw-in electric heating element

VarioVal RL (600)

Stratified combination storage tank

- For single family homes with approx. 4-6 persons
- Heating with low-temperature heat generator (heat pumps) or for high-temperature heat generators
- Stratified combination storage tank made of steel, primed on the outside, for heating support and water heating with a built-in corrugated pipe heat exchanger
- Layer installations:
 - Horizontal baffle plates
 - Vertical baffle plates
 - Heating flow/return guide tubes (also with return in layer channel)
 - Separating plate in the central area for separation of the temperature zone
- Sensor terminal blocks
- Thermometer (with capillary)



Notice

SPF certificate stratification efficiency SPF-18-009-SE

- Thermal insulation
 - Polyester fibre fleece thermal insulation 140 mm
 - Outer plastic jacket with patented aluminium sealing bracket, colour red
 - Insulated cover flap (can be knocked out) for heat exchanger connections

Domestic hot water calorifier

- Stainless-steel corrugated tube heat exchanger installed

Delivery

Calorifier and thermal insulation completely installed (can be removed for installation)

Design on request

- Heating module HMV20-3BM/SPS-S 8 with thermal insulation box
- Can be expanded with heating armature group HAV20-3BM-R/SPS-S 8
- Circulation
- Screw-in electric heating element

VarioVal RLS (800-1000)

Stratified combination storage tank

- For single family homes with approx. 4-6 persons
- Heating with solar, low-temperature heat generator (heat pumps) or for high-temperature heat generators
- Annual solar coverage rate depends on heat demand, collector field size, collector field storage ratio and location
- Stratified combination storage tank made of steel, primed on the outside, for heating support and water heating with a built-in corrugated pipe heat exchanger

- With built-in plain tube heat exchanger for connection to solar collectors (800) up to 10 m² collector surface (1000) up to 15 m² collector surface
- Layer installations:
 - Horizontal baffle plates
 - Vertical baffle plates
 - Heating flow/return guide tubes (also with return in layer channel)
 - Separating plate in the central area for separation of the temperature zone
- Sensor terminal blocks
- Thermometer (with capillary)
- Thermal insulation
 - Made of polyester fibre fleece 140 mm
 - Outer plastic jacket with patented aluminium sealing bracket, colour red
 - Insulated cover flap (can be knocked out) for heat exchanger connections

Domestic hot water calorifier

- Stainless-steel corrugated tube heat exchanger installed

Delivery

Calorifier and thermal insulation completely installed (can be removed for installation)

Design on request

- Heating module HMV20-3BM/SPS-S 8 with thermal insulation box
- Can be expanded with
 - Heating armature group HAV20-3BM-R/SPS-S 8
 - Solar armature group SAV20/SPS-S 7
- Circulation
- Screw-in electric heating element

VarioVal RL (600) - selection table

		Hydraulic components + necessary TopTronic® E modules					Additional accessories				
		1st mixer circuit	2nd mixer circuit	Solar armature group	Return switching	Buffer management	Screw-in electric heating element	Electrical box	Circulation set		
		x	opt.	-	x	x	x	x	opt.		
		Consisting of:									
Heat generator		Heating module HMV20-3BM SPS-S 8	HA group HAV20-3BM-R SPS-S 8	TopTronic® E module expansion heating circuit	Solar group SAV20FR SPS-S 7 PM2	TopTronic® E solar module	Stratified charging set SLS32-3-H RL	TopTronic® E buffer module			
Belaria® pro (8,13)		x	x	x	-	-	x	x	opt.	opt.	opt.
Belaria® comfort ICM (8,13)		x	x	x	-	-	x	-	x	-	opt.
Thermalia® comfort (6-17)		x	x	x	-	-	x	x	opt.	-	opt.
Thermalia® comfort H (7,10)		x	x	x	-	-	x	x	opt.	-	opt.
UltraSource® B comfort C (8-17)		x	x	x	-	-	x	-	x	-	opt.
UltraSource® T comfort C (8-17)		x	x	x	-	-	x	-	opt.	-	opt.
TopGas® classic (12-30)		x	x	x	-	-	- ³⁾	x	opt.	opt. ²⁾	opt.
UltraGas® (15-35)		x	x	x	-	-	-	x	opt.	-	opt.
UltraOil® (16-35)		x	x	x	-	-	-	x	opt.	-	opt.
MultiJet® (12-25)		x	x	x	-	-	-	x	opt.	-	opt.
BioLyt (13-23)		x	x	x	-	-	-	x	opt.	opt. ¹⁾	opt.

¹⁾ A module expansion or a controller module can be installed in the heat generator.

²⁾ Two TopTronic® E controller modules can be mounted in the heat generator or in the wall casing. If the storage tank is fully equipped, a separate electrical box must be ordered for an additional module.

³⁾ Return switching to be installed by the client

VarioVal RLS (800,1000) - selection table

		Hydraulic components + necessary TopTronic® E modules					Additional accessories				
		1st mixer circuit	2nd mixer circuit	Solar armature group	Return switching	Buffer management	Screw-in Electric heating element	Electrical box	Circulation set		
		x	opt.	opt.	x	x	x	x	opt.		
		Consisting of:									
Heat generator		Heating module HMV20-3BM SPS-S 8	HA group HAV20-3BM-R SPS-S 8	TopTronic® E module expansion heating circuit	Solar group SAV20FR SPS-S 7 PM2	TopTronic® E solar module	Stratified charging set SLS32-3-H RL	TopTronic® E buffer module			
Belaria® pro (8,13)		x	x	x	x	x	x	x	opt.	opt. ²⁾	opt.
Belaria® comfort ICM (8,13)		x	x	x	x	x	x	-	x	opt. ²⁾	opt.
Thermalia® comfort (6-17)		x	x	x	x	x	x	x	opt.	opt. ²⁾	opt.
Thermalia® comfort H (7,10)		x	x	x	x	x	x	x	opt.	opt. ²⁾	opt.
UltraSource® B comfort C (8-17)		x	x	x	x	x	x	-	x	opt. ²⁾	opt.
UltraSource® T comfort C (8-17)		x	x	x	x	x	x	-	opt.	opt. ²⁾	opt.
TopGas® classic (12-30)		x	x	x	x	x	- ³⁾	x	opt.	opt. ²⁾	opt.
UltraGas® (15-35)		x	x	x	x	x	-	x	opt.	opt. ²⁾	opt.
UltraOil® (16-35)		x	x	x	x	x	-	x	opt.	opt. ²⁾	opt.
MultiJet® (12-25)		x	x	x	x	x	-	x	opt.	opt. ²⁾	opt.
BioLyt (13-25)		x	x	x	x	x	-	x	opt.	opt. ¹⁾	opt.

¹⁾ A module expansion or a controller module can be installed in the heat generator.

²⁾ Two TopTronic® E controller modules can be mounted in the heat generator or in the wall casing. If the storage tank is fully equipped, a separate electrical box must be ordered for an additional module.

³⁾ Return switching to be installed by the client

VarioVal RHS (800,1000) - selection table

		Hydraulic components + necessary TopTronic® E modules					Additional accessories				
		1st mixer circuit	2nd mixer circuit	Solar armature group	Return switching	Buffer management	Screw-in electric heating element	Electrical box	Circulation set		
		x	opt.	opt.	-	x	opt.	x	opt.		
		Consisting of:									
		Heating module HMV20-3BM SPS-S 8	HA group HAV20-3BM-R SPS-S 8	TopTronic® E module expansion heating circuit	Solar group SAV20FR SPS-S 7 PM2	TopTronic® E solar module	Stratified charging set SLS32-3-H RL	TopTronic® E buffer module			
Heat generator											
TopGas® classic	(12-30)	x	x	x	x	x	- ³⁾	x	opt.	opt. ²⁾	opt.
UltraGas®	(15-35)	x	x	x	x	x	-	x	opt.	opt. ²⁾	opt.
UltraOil®	(16-35)	x	x	x	x	x	-	x	opt.	opt. ²⁾	opt.
MultiJet®	(12-25)	x	x	x	x	x	-	x	opt.	opt. ²⁾	opt.
BioLyt	(13-25)	x	x	x	x	x	-	x	opt.	opt. ¹⁾	opt.

¹⁾ A module expansion or a controller module can be installed in the heat generator.

²⁾ Two TopTronic® E controller modules can be mounted in the heat generator or in the wall casing. If the storage tank is fully equipped, a separate electrical box must be ordered for an additional module.

³⁾ Return switching to be installed by the client

Stratified combination storage tank



Hoval VarioVal RHS (800,1000)

Stratified combination storage tank made of steel, primed on the outside, for heating support and water heating with a built-in corrugated pipe heat exchanger.
 With built-in plain tube heat exchanger for connection to solar collectors. Thermal insulation made of polyester fibre 100 mm and external plastic coating, colour red.

VarioVal RHS type	Total volume	Solar heat exchanger		Calorifier	
		m ²	dm ³	m ²	dm ³
(800)	796	2	18.6	5.5	30.0
(1000)	892	3	20.4	6.7	36.3

Part No.

6046 236
 6046 237

Hoval VarioVal RLS (800,1000)

Stratified combination storage tank made of steel, primed on the outside, for heating support and water heating with a built-in corrugated pipe heat exchanger.
 With built-in plain tube heat exchanger for connection to solar collectors. Thermal insulation made of polyester fibre 100 mm and external plastic coating, colour red.
 Suitable for heat pumps up to 20 kW (up to 2500 l/h).

VarioVal RLS type	Total volume	Solar heat exchanger		Calorifier	
		m ²	dm ³	m ²	dm ³
(800)	796	2	18.6	6.7	36.3
(1000)	892	3	20.4	8.2	44.6

6046 234
 6046 235

Hoval VarioVal RL (600)

Stratified combination storage tank made of steel, primed on the outside, for heating support and water heating with a built-in corrugated pipe heat exchanger.
 Thermal insulation made of polyester fibre 140 mm and external plastic coating, colour red.
 Suitable for heat pumps up to 20 kW (up to 2500 l/h).

VarioVal RL/RLS type	Total volume	Solar heat exchanger		Calorifier	
		m ²	dm ³	m ²	dm ³
(600)	647	-	-	6.7	36.3

6046 233

Accessories



Heating module HMV20-3BM
with pressure distributor for 2 mixer
circuits, incl. 1 heating armature group
with 3-way motor mixer and pump
SPS-S 8 and thermal insulation box

Notice

In combination with heat pumps, always use
the stratified charging set SLS32-3-H RL.



Heating armature group HAV20-3BM-R
to extend the HMV20-3BM for a
second mixer circuit
Pump SPS-S 8



Solar armature group SAV20FR
with PWM interface (TopTronic® E)
inc. safety group 6 bar with
manometer, FlowRotor and air vent
Pump SPS-S 7 PM2



Layer charge set SLS32-3-H RT
connection set for
return switching
for direct mounting on VarioVal
for heat pumps up to 17 kW
Connection set between tank and
pressure distributor on heating module,
layer charge set with 3-way valve
incl. motor drive.

Thermal water mixer

see "Various system components"

Part No.

6046 091

6046 092

6046 093

6048 003

Accessories



Screw-in electrical heating inset
made of Incoloy® alloy 825, with temperature control and overheating protection.
Delivered separately, installation on site
Not suitable for exclusively electric heating.

type	Heat input [kW]	Voltage [V]	Install. length [mm]
EP 2.5	2.35	3 x 400 (1 x 230)	390
EP 3.5	3.6	3 x 400	500
EP 5	4.9	3 x 400	620

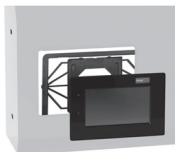
Part No.

6049 557
6049 558
6049 559



Circulation set with double nipple
for VarioVal RL, RLS und RHS
polyethylene hose (cross-linked)
fitting for securing the PE hose
Y connection piece made of brass Rp 1" - Rp 1" - R ¾"
Double nipple made of brass R 1" - R 5/4" (ext. thread/ext. thread)

2055 685

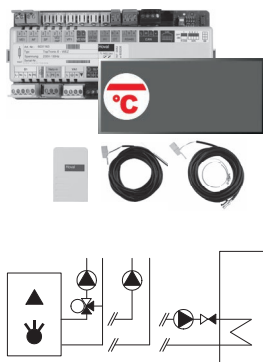


TopTronic® E control module black with 4.3" colour touchscreen
For operation of all controller modules connected to the bus system (basic, solar, buffer modules etc.)
Connection to the Hoval bus system via RJ45 plug connection or via plug terminals (max. 0.75 mm²), flat design with flexible installation option
Installation:
- in control panel of the heat generator
- in the Hoval wall casing
- in the control panel front, black high-gloss cover, customer-specific configurable start screen,
Display of current weather or weather forecast (only possible in combination with HovalConnect)

6043 844

Consisting of:
- TopTronic® E control module black
- Clamping device set control module
- RJ45 - Rast-5 CAN cable, L = 500

TopTronic® E controller modules



TopTronic® E basic module heat generator TTE-WEZ

Controller module for control of heat generators and the corresponding consumers with integrated control functions for:

- Heat generator management
- Additional heat generator management
- Cascade management
- 1 heating/cooling circuit without mixer
- 1 heating/cooling circuit with mixer
- 1 hot water charging circuit
- var. additional functions

Consisting of:

- Fitting accessories
- 1 outdoor sensor AF/2P/K
- 1 immersion sensor TF/2P/5/6T/S1
L = 5.0 with plug,
- 1 contact sensor ALF/2P/4/T/S1
L = 4.0 m with plug,
- Basic plug set for basic module

Notice

If the basic module is used without Hoval heat generator then a TopTronic® E control module must be ordered separately!

Notice

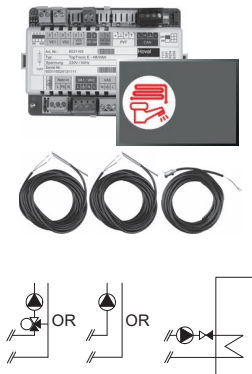
Depending on the complexity, module expansions are required for using the listed functions (max. 1 module expansion can be connected)!

Notice

The supplementary plug set may have to be ordered to implement functions differing from the standard!

Part No.

6037 053



TopTronic® E heating circuit/hot water module TTE-HK/WW

Controller module for controlling consumers with integrated control functions for:

- 1 heating/cooling circuit w/o mixer or
- 1 heating/cooling circuit with mixer or
- 1 hot water charging circuit
- various additional functions

Consisting of:

- Fitting accessories
- 2x immersion sensor TF/2P/5/6T, L = 5 m,
- 1 contact sensor ALF/2P/4/T, L = 4 m,
- Basic plug set for controller module



TopTronic® E solar module TTE-SOL

The controller module is suitable for use as temperature differential control, control of thermal solar plants, for heating process water and/or heating support.

Controller module with integrated control functions for

- solar circuit
- collector cascade
- storage tank cascade with up to 4 consumers
- consumer loading, with type selection
- temperature differential control
- loading and unloading function for additional/reserve buffer tank
- Integrated solar yield calculation

Consisting of:

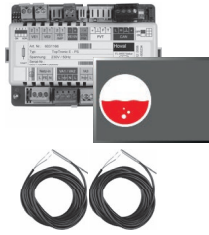
- Fitting accessories
- 1 immersion sensor TF/2P/5/6T, L = 5 m,
- 1 collector sensor TF/1.1P/2.5S/5.5T L = 2.5 m,
- Basic plug set for controller module

Part No.

6034 571

6037 058

TopTronic® E controller modules



TopTronic® E buffer module TTE-PS

Controller module with integrated control functions for:

- heating buffer management or
- cooling buffer management
- var. additional functions

Consisting of:

- Fitting accessories
- 2 immersion sensors TF/2P/5/6T, L = 5 m,
- Basic plug set for controller module

Notice

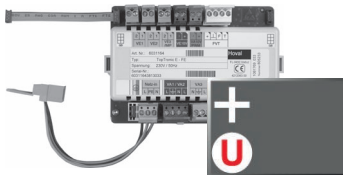
If the controller module is used without Hoval heat generator then a TopTronic® E control module must be ordered separately!

Notice

Depending on the complexity, module expansions are required for using the listed functions (max. 2 module expansion can be connected)!

Notice

The supplementary plug set may have to be ordered to implement functions differing from the standard!



TopTronic® E module expansion Universal TTE-FE UNI

Expansion to the inputs and outputs of a controller module (basic module heat generator, heating circuit/domestic hot water module, solar module, buffer module) for implementing various functions

Consisting of:

- Fitting accessories
- Plug set FE module

Notice

Refer to the Hoval System Technology to find which functions and hydraulic arrangements can be implemented.

Part No.

6037 057

6034 575

Accessories for TopTronic® E



Supplementary plug set
 for controller modules and module expansion
 TTE-FE HK

6034 503



TopTronic® E controller modules
 TTE-RBM TopTronic® E room control modules
 easy white
 comfort white
 comfort black

6037 071
 6037 069
 6037 070



HovalConnect
 HovalConnect LAN
 HovalConnect WLAN

6049 496
 6049 498



TopTronic® E interface modules
 GLT Modul 0-10 V
 HovalConnect Modbus
 HovalConnect KNX

6034 578
 6049 501
 6049 593



TopTronic® E wall casing

WG-190 Wall casing small
 WG-360 Wall casing medium
 WG-360 BM Wall casing medium with control module cut-out
 WG-360-3 BM Wall casing compact with control module cut-out
 WG-510 Wall casing large
 WG-510 BM Wall casing large with control module cut-out

6052 983
 6052 984
 6052 985
 6052 988
 6052 986
 6052 987

TopTronic® E sensors

AF/2P/K Outdoor sensor
 TF/2P/5/6T Immersion sensor, L = 5.0 m
 ALF/2P/4/T Contact sensor, L = 4.0 m
 TF/1.1P/2.5S/6T Collector sensor, L = 2.5 m

2055 889
 2055 888
 2056 775
 2056 776

System housing

System housing 182 mm
 System housing 254 mm

6038 551
 6038 552



Bivalent switch

2061 826

Further information
 see "Controls"

VarioVal RHS (800,1000)
VarioVal RL (600), VarioVal RLS (800,1000)

Type		RHS (800)	RHS (1000)	RL (600)	RLS (800)	RLS (1000)
Storage tank						
• Total volume	dm ³	796	892	647	796	892
• Usable volume	dm ³	747	835	611	741	827
• Operating pressure/test pressure	bar	3/4.5	3/4.5	3/4.5	3/4.5	3/4.5
• Max. operating temperature	°C	95	95	95	95	95
• Transport weight	kg	213	234	179	226	255
• Dimensions		See Dimensions				
Domestic/hot water (corrugated pipe firmly installed)						
• Heating surface	m ²	5.5	6.7	6.7	6.7	8.2
• Contents	dm ³	30.0	36.3	36.3	36.3	44.6
• Operating pressure/test pressure	bar	6/10	6/10	6/10	6/10	6/10
• Max. operating temperature	°C	95	95	95	95	95
• Flow resistance ¹⁾ water (z-value)		46	56	56	56	69
• Performance figure NL ²⁾	NL	1.6	2.1	1.4	1.7	2.4
Solar/coil (permanently installed)						
• Heating surface	m ²	2	3	-	2	3
• Contents	dm ³	13.4	18.9	-	13.4	18.9
• Operating pressure/test pressure	bar	10/15	10/15	-	10/15	10/15
• Max. operating temperature	°C	110	110	-	110	110
• Flow resistance ¹⁾ water/glycol 50 % (z-value)		19	25	-	19	25
• Number of collectors (max. - gross at 2.5 m ²)	pieces	4	6	-	4	6
• For flat plate collector ³⁾ up to approx.	m ²	10	15	-	10	15
Thermal insulation						
• Insulation type		PE fibre fleece				
• Insulation thickness	mm	100	100	140	140	140
• Fire protection class		B2	B2	B2	B2	B2
• Thermal conductance λ	W/mK	0.038	0.038	0.038	0.038	0.038
• U value		0.4	0.4	0.27	0.27	0.27
• Heat loss at 65 °C	W	120	128	80	91	100
• Energy efficiency class		C	C	B	B	B

¹⁾ Flow resistance in mbar = flow rate (m³/h)² x z (1 mbar= 0.1 kPa)

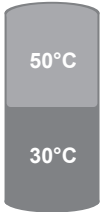
²⁾ Performance figure NL with hot water 10/45 °C, stocking 50 % with 60 °C / 50 % with 30 °C, without supplemental heating

³⁾ Collector surface area, with regard to heat exchanger area only

Hot water outputs 45 °C

Heating function with heat generator, heating flow 50 °C

Domestic water: 10 °C/45 °C



Output capacity/tapping capacity/ 10 l/min
Fitting flow rate

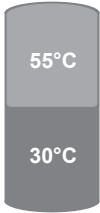
Supplemental heating output [kW]	Tapping volume [l/h]				
	VarioVal RHS		VarioVal RL	VarioVal RLS	
	800	1000	600	800	1000
0			110	140	180
5			140	170	230
10			190	230	300
15			290	360	470
20			540	600	600
25			600	600	600
30			600	600	600
35			600	600	600

Output capacity/tapping capacity/ 15 l/min
Fitting flow rate

Supplemental heating output [kW]	Tapping volume [l/h]				
	VarioVal RHS		VarioVal RL	VarioVal RLS	
	800	1000	600	800	1000
0			60	70	110
5			70	90	130
10			90	100	150
15			110	130	190
20			140	170	240
25			200	240	340
30			320	380	540
35			590	690	900

Heating function with heat generator, heating flow 55 °C

Domestic water: 10 °C/45 °C



Output capacity/tapping capacity/ 10 l/min
Fitting flow rate

Supplemental heating output [kW]	Tapping volume [l/h]				
	VarioVal RHS		VarioVal RL	VarioVal RLS	
	800	1000	600	800	1000
0	220	270	180	230	280
5	280	340	230	290	360
10	370	460	310	400	480
15	570	600	480	540	600
20	600	600	600	600	600
25	600	600	600	600	600
30	600	600	600	600	600
35	600	600	600	600	600

Output capacity/tapping capacity/ 15 l/min
Fitting flow rate

Supplemental heating output [kW]	Tapping volume [l/h]				
	VarioVal RHS		VarioVal RL	VarioVal RLS	
	800	1000	600	800	1000
0	150	190	130	170	210
5	170	220	150	190	250
10	200	260	180	230	300
15	250	320	220	280	370
20	330	420	280	360	480
25	470	590	400	520	670
30	700	900	600	800	900
35	900	900	900	900	900

Output capacity/tapping capacity/ 20 l/min
Fitting flow rate

Supplemental heating output [kW]	Tapping volume [l/h]				
	VarioVal RHS		VarioVal RL	VarioVal RLS	
	800	1000	600	800	1000
0	80	110	70	100	150
5	90	120	80	110	160
10	100	140	90	120	190
15	110	160	110	140	210
20	130	190	130	170	250
25	160	230	150	200	300
30	200	300	190	260	380
35	270	400	260	340	520

Heating function with heat generator, heating flow 60 °C

Domestic water: 10 °C/45 °C



Output capacity/tapping capacity/ 10 l/min
Fitting flow rate

Supplemental heating output [kW]	Tapping volume [l/h]				
	VarioVal RHS		VarioVal RL	VarioVal RLS	
	800	1000	600	800	1000
0	290	350	240	310	370
5	360	440	310	390	470
10	490	600	420	520	570
15	600	600	600	600	600
20	600	600	600	600	600
25	600	600	600	600	600
30	600	600	600	600	600
35	600	600	600	600	600

Output capacity/tapping capacity/ 15 l/min
Fitting flow rate

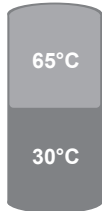
Supplemental heating output [kW]	Tapping volume [l/h]				
	VarioVal RHS		VarioVal RL	VarioVal RLS	
	800	1000	600	800	1000
0	220	280	190	240	300
5	250	320	220	280	350
10	300	380	260	330	410
15	370	480	320	410	510
20	480	620	420	530	660
25	690	880	580	740	800
30	900	900	900	900	900
35	900	900	900	900	900

Output capacity/tapping capacity/ 20 l/min
Fitting flow rate

Supplemental heating output [kW]	Tapping volume [l/h]				
	VarioVal RHS		VarioVal RL	VarioVal RLS	
	800	1000	600	800	1000
0	160	220	130	170	230
5	180	240	150	190	260
10	200	270	170	220	290
15	230	310	190	250	340
20	270	370	230	290	400
25	320	440	280	350	480
30	400	560	350	440	600
35	540	740	460	590	800

Heating function with heat generator, heating flow 65 °C

Domestic water: 10 °C/45 °C



Output capacity/tapping capacity/ 10 l/min
Fitting flow rate

Supplemental heating output [kW]	Tapping volume [l/h]				
	VarioVal RHS		VarioVal RL	VarioVal RLS	
	800	1000	600	800	1000
0	360	430	300	380	450
5	450	550	380	480	570
10	550	600	510	580	600
15	600	600	600	600	600
20	600	600	600	600	600
25	600	600	600	600	600
30	600	600	600	600	600
35	600	600	600	600	600

Output capacity/tapping capacity/ 15 l/min
Fitting flow rate

Supplemental heating output [kW]	Tapping volume [l/h]				
	VarioVal RHS		VarioVal RL	VarioVal RLS	
	800	1000	600	800	1000
0	290	360	250	310	380
5	330	420	290	360	440
10	400	500	340	430	520
15	490	610	420	530	650
20	640	800	540	690	840
25	900	900	770	820	900
30	900	900	900	900	900
35	900	900	900	900	900

Output capacity/tapping capacity/ 20 l/min
Fitting flow rate

Supplemental heating output [kW]	Tapping volume [l/h]				
	VarioVal RHS		VarioVal RL	VarioVal RLS	
	800	1000	600	800	1000
0	220	290	190	250	320
5	250	330	210	280	350
10	280	370	240	320	400
15	320	430	280	360	460
20	380	500	330	430	540
25	460	600	400	520	650
30	580	750	500	650	820
35	780	1000	650	850	1000

Hot water outputs 60 °C

Heating function with heat generator, heating flow 65 °C

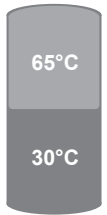
Domestic water: 10 °C/60 °C

Output capacity/tapping capacity/ 10 l/min
Fitting flow rate

Supplemental heating output [kW]	Tapping volume [l/h]				
	VarioVal RHS		VarioVal RL	VarioVal RLS	
	800	1000	600	800	1000
0	70	110	70	90	130
5	90	140	90	120	160
10	130	180	120	160	210
15	200	280	190	240	330
20	380	540	370	470	570
25	600	600	600	600	600
30	600	600	600	600	600
35	600	600	600	600	600

Output capacity/tapping capacity/ 15 l/min
Fitting flow rate

Supplemental heating output [kW]	Tapping volume [l/h]				
	VarioVal RHS		VarioVal RL	VarioVal RLS	
	800	1000	600	800	1000
0	30	60	35	50	70
5	35	70	40	60	85
10	40	80	50	70	100
15	50	100	60	90	130
20	60	130	70	110	170
25	90	180	110	160	240
30	140	290	170	260	380
35	250	530	310	470	650



Heating function with heat generator, heating flow 65 °C

Domestic water: 10 °C/60 °C

Output capacity/tapping capacity/ 10 l/min
Fitting flow rate

Supplemental heating output [kW]	Tapping volume [l/h]				
	VarioVal RHS		VarioVal RL	VarioVal RLS	
	800	1000	600	800	1000
0	40	70	40	60	80
5	50	90	50	70	100
10	60	120	70	100	140
15	100	180	100	150	220
20	190	340	200	300	420
25	490	600	500	600	600
30	600	600	600	600	600
35	600	600	600	600	600

Output capacity/tapping capacity/ 15 l/min
Fitting flow rate

Supplemental heating output [kW]	Tapping volume [l/h]				
	VarioVal RHS		VarioVal RL	VarioVal RLS	
	800	1000	600	800	1000
0	30	35	35	35	40
5	30	35	35	35	50
10	30	40	35	40	60
15	30	50	35	50	80
20	30	70	40	70	100
25	30	100	50	100	150
30	40	160	60	150	240
35	80	300	100	280	430



Heating function with heat generator, heating flow 70 °C

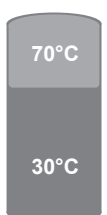
Domestic water: 10 °C/60 °C

Output capacity/tapping capacity/ 10 l/min
Fitting flow rate

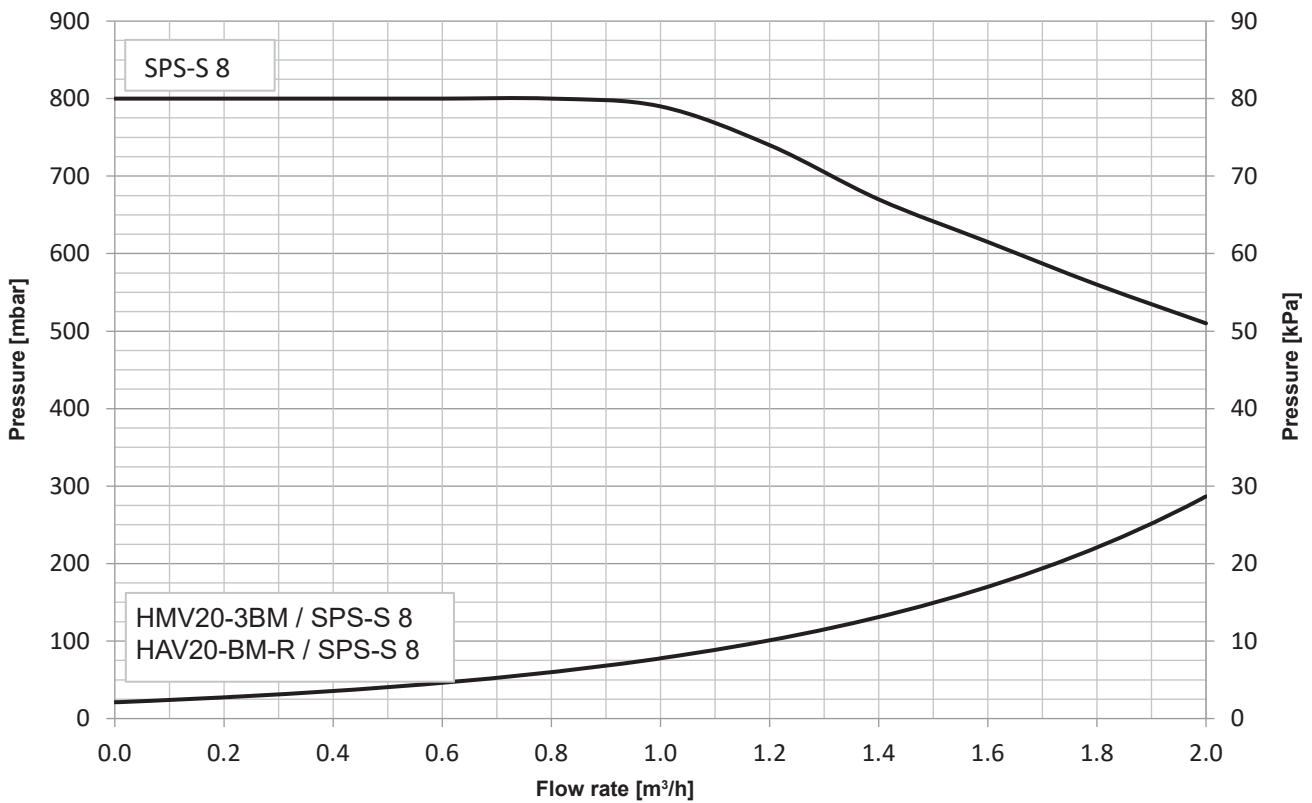
Supplemental heating output [kW]	Tapping volume [l/h]				
	VarioVal RHS		VarioVal RL	VarioVal RLS	
	800	1000	600	800	1000
0	80	120	70	90	130
5	100	150	90	120	160
10	140	200	130	160	220
15	210	310	190	240	340
20	410	590	370	470	600
25	600	600	600	600	600
30	600	600	600	600	600
35	600	600	600	600	600

Output capacity/tapping capacity/ 15 l/min
Fitting flow rate

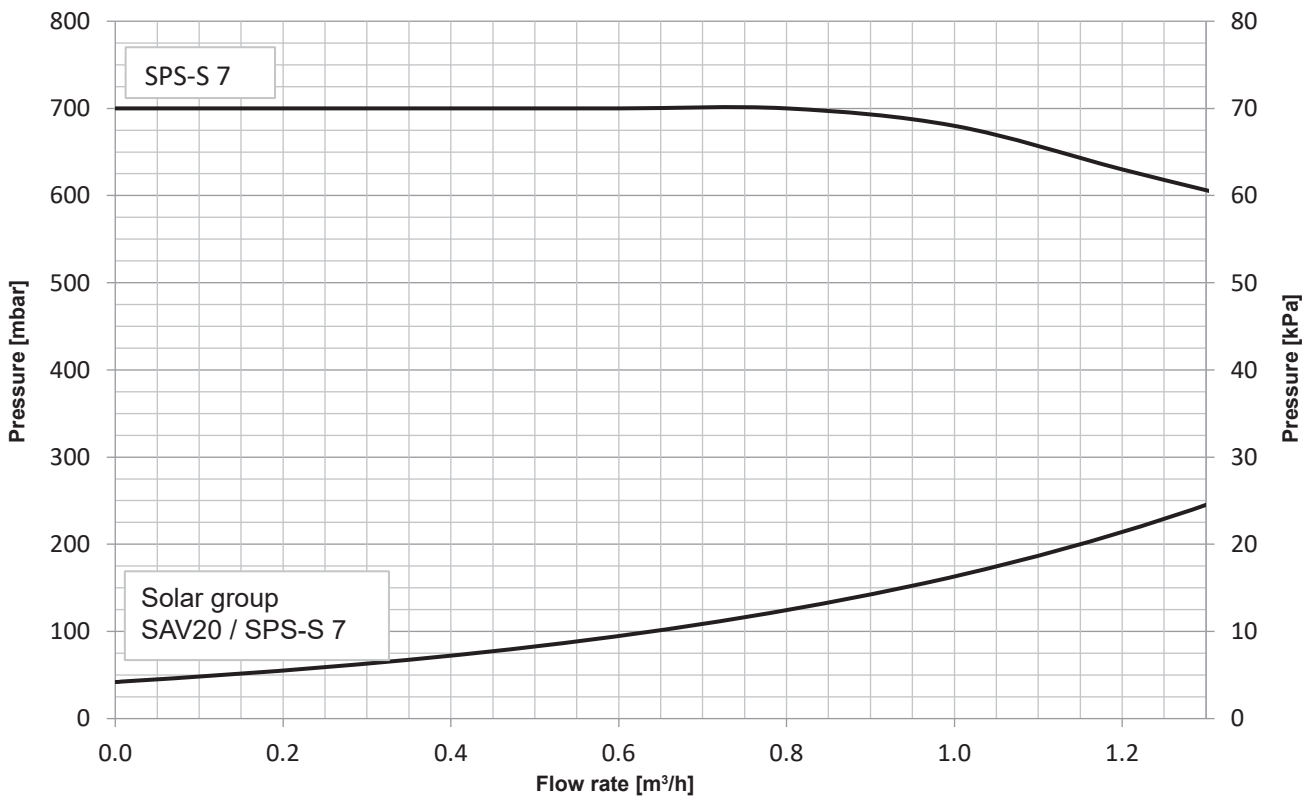
Supplemental heating output [kW]	Tapping volume [l/h]				
	VarioVal RHS		VarioVal RL	VarioVal RLS	
	800	1000	600	800	1000
0	30	70	35	40	80
5	30	80	40	50	90
10	40	100	50	60	110
15	50	120	60	70	140
20	70	160	80	100	180
25	100	220	110	140	260
30	170	350	180	220	420
35	300	600	330	400	750



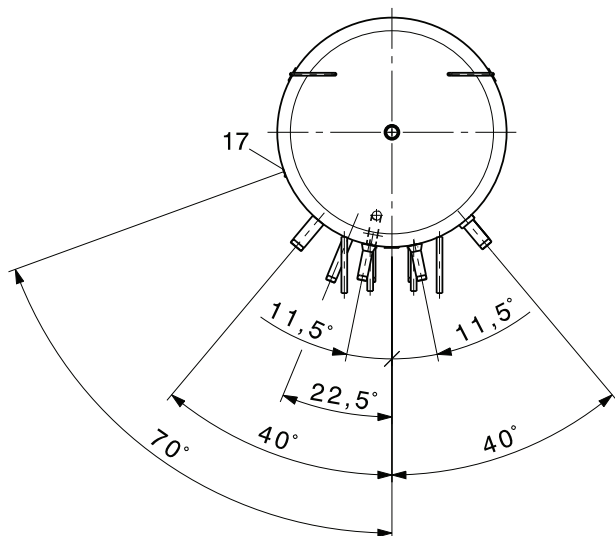
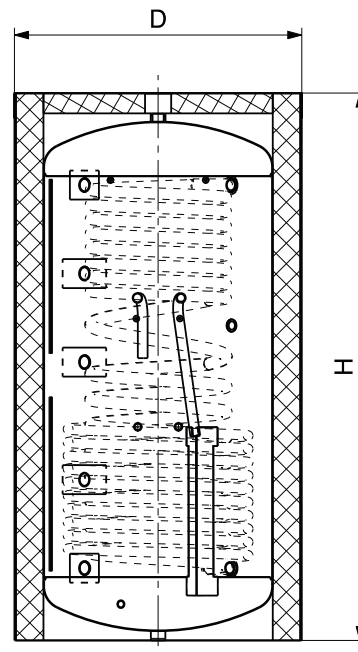
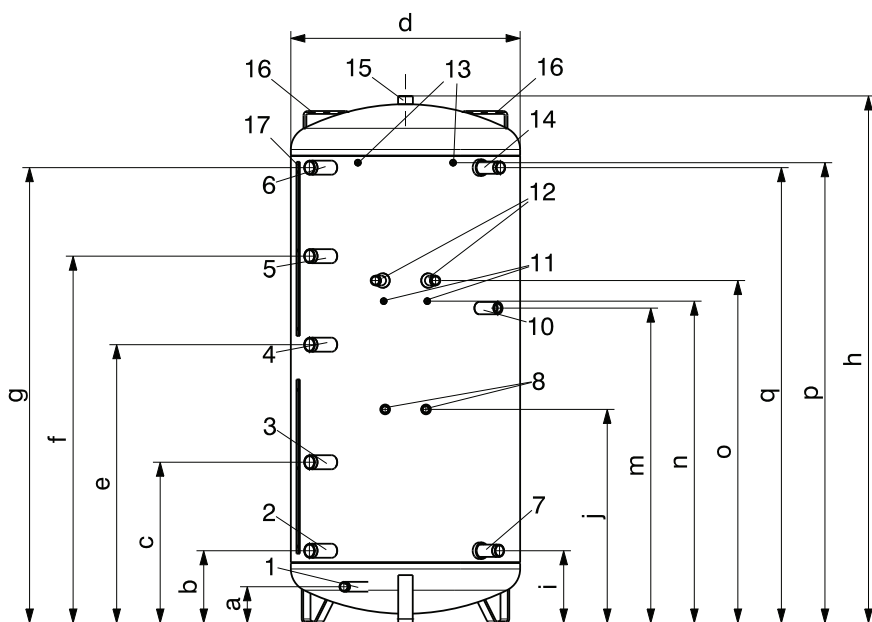
Residual overpressure heating module HMV20-3BM



Residual overpressures solar group SAV20



VarioVal RHS (800,1000)
(Dimensions in mm)



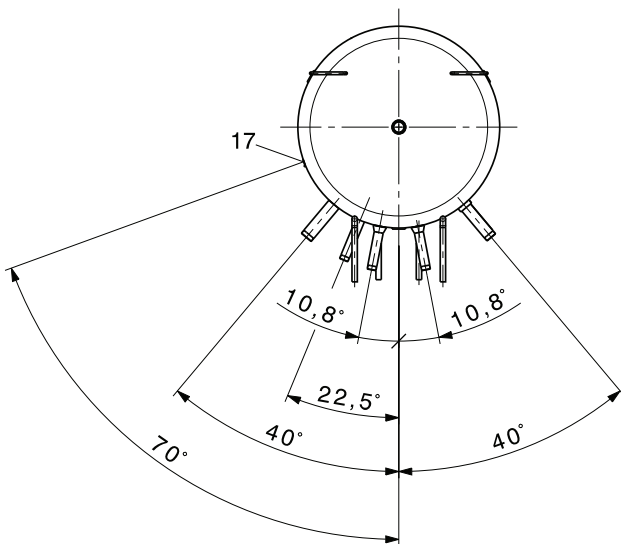
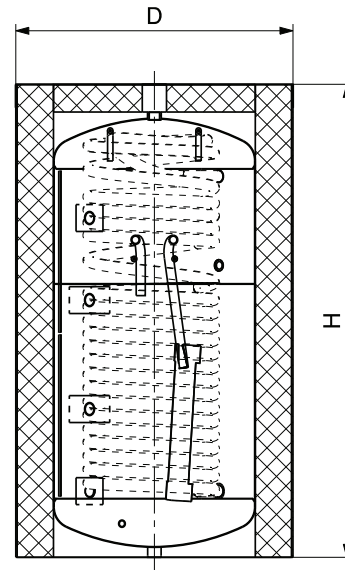
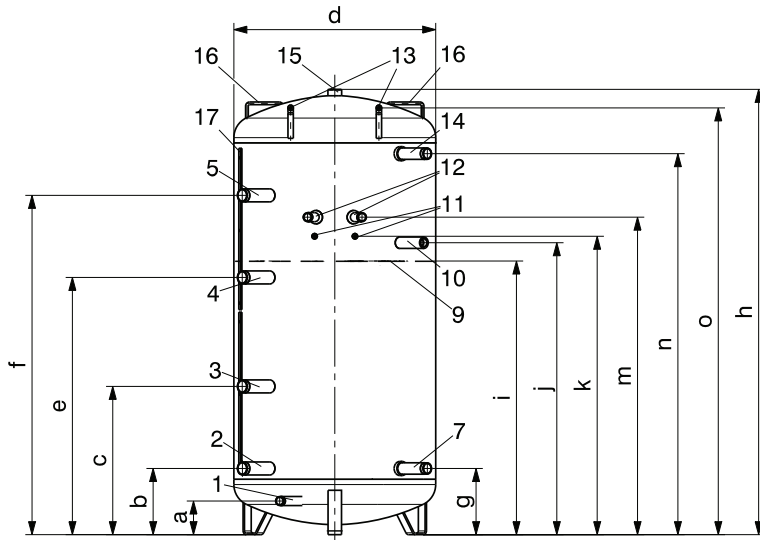
Deviations possible as a result of manufacturing tolerances.
Dimensions +/- 10 mm

- | | |
|---|----------------------|
| 1 Drain | G 1" (ext. thread) |
| 2 Heat generator connection bottom (vertical baffle plate) | G 1½" (ext. thread) |
| 3 Heat generator connection 2 - bottom (inflow restrictor) | G 1½" (ext. thread) |
| 4 Heat generator connection middle (inflow restrictor) | G 1½" (ext. thread) |
| 5 Heat generator connection 2 - top (single-layer pipe) | G 1½" (ext. thread) |
| 6 Heat generator connection top (vertical baffle plate) | G 1½" (ext. thread) |
| 7 Domestic water cold (corrugated pipe) | R 1½" (ext. thread) |
| 8 Flow (left) and return (right) solar circuit | G ¾" (ext. thread) |
| 10 Connection for screw-in electric heating element | Rp 1½" (int. thread) |
| 11 Fixing bolts bottom left and right (heating module) | M10 (int. thread) |
| 12 Flow (left) and return (right) heating | G 1" (ext. thread) |
| 13 Fixing bolts top left and right (heating module) | M10 (int. thread) |
| 14 Domestic water hot (corrugated pipe) | R 1½" (ext. thread) |
| 15 Possible air vent | Rp 1¼" (int. thread) |
| 16 Carry handle (2x) | |
| 17 Sensor terminal strip
(type (800) 2x, type (1000) 3x) | |

VarioVal RHS	d	D	h	H
(800)	790	990	1816	1886
(1000)	790	990	2016	2086

VarioVal RHS	a	b	c	e	f	g	i	j	m	n	o	p	q	Tilting measure without thermal insulation
(800)	125	249	554	959	1264	1569	249	736	1085	1109	1180	1586	1569	1828
(1000)	125	249	554	959	1264	1569	249	870	1085	1243	1314	1720	1769	2030

VarioVal RL (600)
(Dimensions in mm)



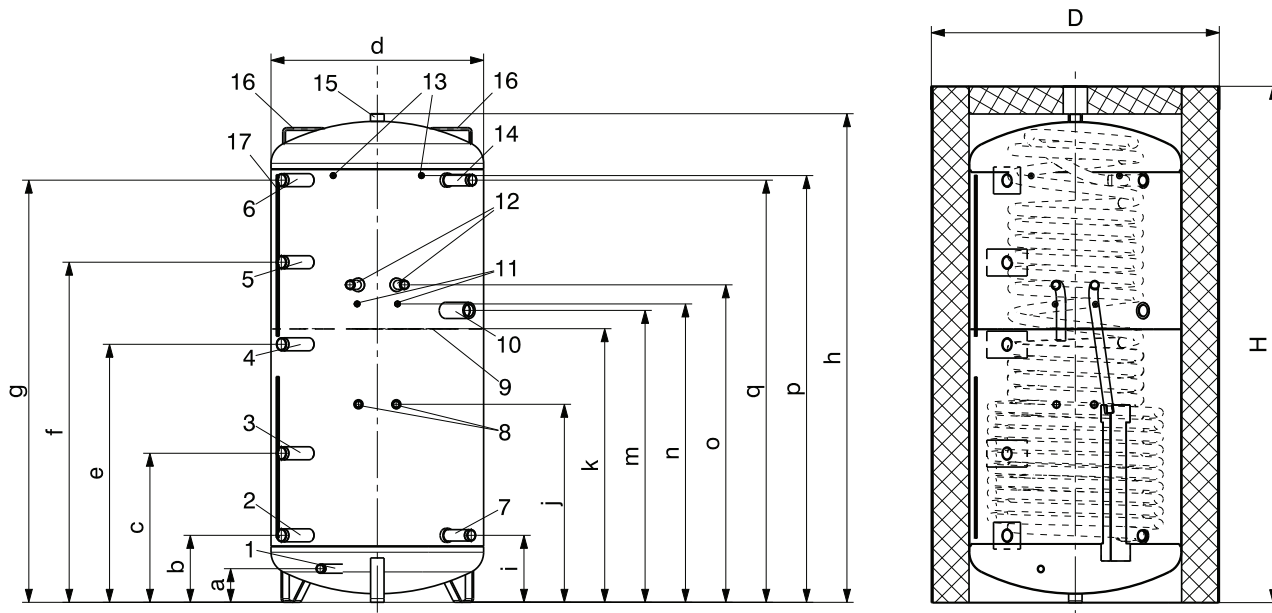
Deviations possible as a result of manufacturing tolerances.
Dimensions +/- 10 mm

- | | | |
|----|--|----------------------|
| 1 | Drain | G 1" (ext. thread) |
| 2 | Heat generator connection bottom (vertical baffle plate) | G 1½" (ext. thread) |
| 3 | Heat generator connection 2 - bottom (inflow restrictor) | G 1½" (ext. thread) |
| 4 | Heat generator connection middle (inflow restrictor) | G 1½" (ext. thread) |
| 5 | Heat generator connection 2 - top (single-layer pipe) | G 1½" (ext. thread) |
| 7 | Domestic water cold (corrugated pipe) | R 1½" (ext. thread) |
| 9 | Isolation plate | |
| 10 | Connection for screw-in electric heating element | Rp 1½" (int. thread) |
| 11 | Fixing bolts bottom left and right (heating module) | M10 (int. thread) |
| 12 | Flow (left) and return (right) heating | G 1" (ext. thread) |
| 13 | Fixing bolts top left and right (heating module) | M10 (int. thread) |
| 14 | Domestic water hot (corrugated pipe) | R 1¼" (ext. thread) |
| 15 | Possible air vent | Rp 1¼" (int. thread) |
| 16 | Carry handle (2x) | |
| 17 | Sensor terminal bar (2x) | |

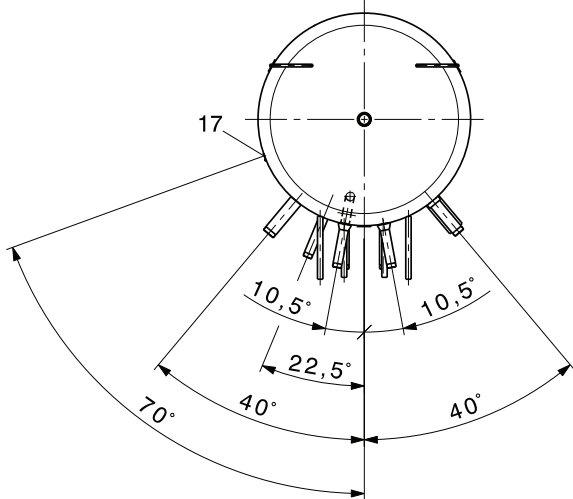
VarioVal RL	d	D	h	H
(600)	750	1030	1655	1758

VarioVal RL	a	b	c	e	f	g	i	j	k	m	n	o	Tilting measure without thermal insulation
(600)	125	246	551	956	1261	246	1017	1085	1109	1180	1416	1586	1670

VarioVal RLS (800,1000)
(Dimensions in mm)



Deviations possible as a result of manufacturing tolerances.
Dimensions +/- 10 mm



- | | |
|---|----------------------|
| 1 Drain | G 1" (ext. thread) |
| 2 Heat generator connection bottom (vertical baffle plate) | G 1½" (ext. thread) |
| 3 Heat generator connection 2 - bottom (inflow restrictor) | G 1½" (ext. thread) |
| 4 Heat generator connection middle (inflow restrictor) | G 1½" (ext. thread) |
| 5 Heat generator connection 2 - top (single-layer pipe) | G 1½" (ext. thread) |
| 6 Heat generator connection top (vertical baffle plate) | G 1½" (ext. thread) |
| 7 Domestic water cold (corrugated pipe) | R 1½" (ext. thread) |
| 8 Flow left and return right solar circuit | G ¾" (ext. thread) |
| 9 Isolation plate | |
| 10 Connection for screw-in electric heating element | Rp 1½" (int. thread) |
| 11 Fixing bolts bottom left and right (heating module) | M10 (int. thread) |
| 12 Flow (left) and return (right) heating | G 1" (ext. thread) |
| 13 Fixing bolts top left and right (heating module) | M10 (int. thread) |
| 14 Domestic water hot (corrugated pipe) | Rp 1½" (int. thread) |
| 15 Possible air vent | Rp 1¼" (int. thread) |
| 16 Carry handle (2x) | |
| 17 Sensor terminal strip
(type (800) 2x, type (1000) 3x) | |

VarioVal RLS	d	D	h	H
(800)	790	1070	1816	1919
(1000)	790	1070	2016	2119

VarioVal RLS	a	b	c	e	f	g	i	j	k	m	n	o	p	q	Tilting measure without thermal insulation
(800)	125	249	554	959	1264	1569	249	736	1017	1085	1109	1180	1586	1569	1828
(1000)	125	249	554	959	1264	1569	249	870	1009	1085	1243	1314	1720	1769	2030

Space requirements

Installation example - VarioVal RLS (800):

- Heating module HMV20-3B
- HA group HAV20-3BM-R
- Solar group SAV20

Notices on operation and accessibility

The operating side must be easily accessible. Preferably place heat generator to the left of the storage tank.

Accessibility, left according to heat generator (a):

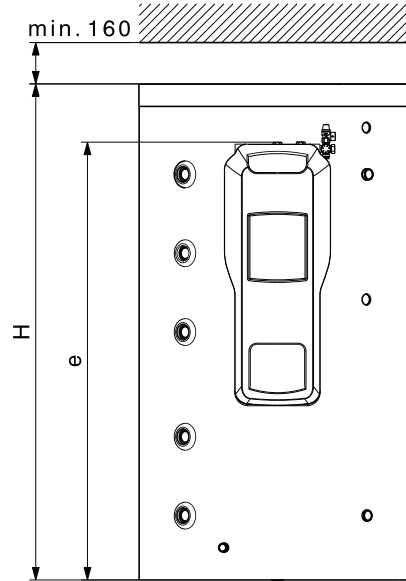
- Thermal insulation can be opened to position the sensors in the terminal strips

Wall clearance, right (c):

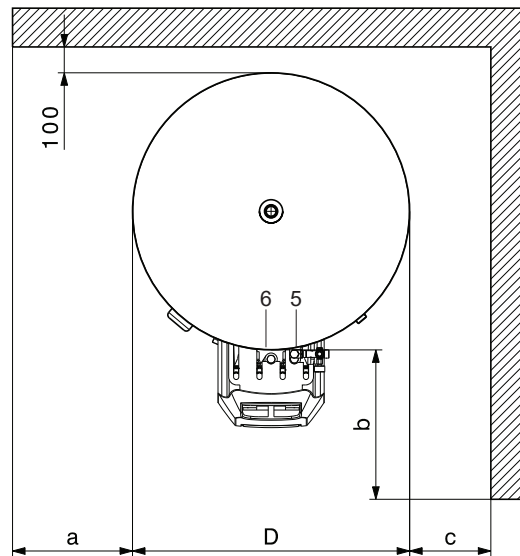
- Installation and removal of the screw-in electric heating element
- Installation of the pressure expansion tank
- Hot water (domestic water) flow and return

Distance from the ceiling, top:

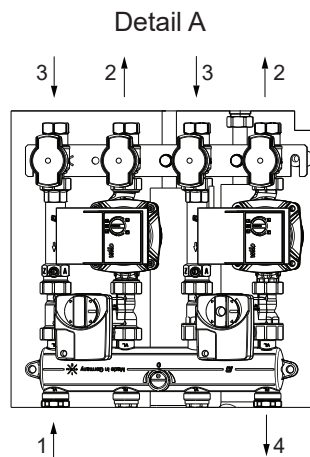
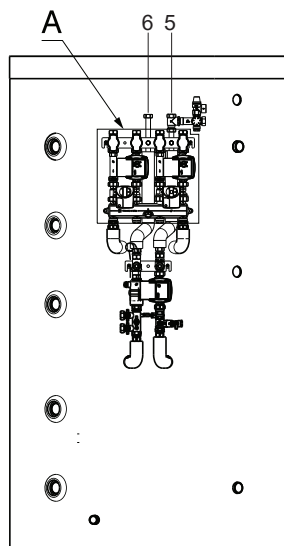
- Possibly for safety set



VarioVal Type	a	b	c	D	e	H
RL (600)	≥300	≥1000	≥650	1030	1694	1758
RLS (800)	≥300	≥1000	≥650	1070	1694	1919
RLS (1000)	≥300	≥1000	≥650	1070	1828	2119
RHS (800)	≥300	≥1000	≥650	990	1694	1886
RHS (1000)	≥300	≥1000	≥650	990	1828	2086



Representation without thermal insulating hood and DH module hood



- | | |
|--------------------------|--------------|
| 1 Heating flow | G 1" (ET) |
| 2 Flow heating circuit | Rp 3/4" (IT) |
| 3 Return heating circuit | Rp 3/4" (IT) |
| 4 Heating return | G 1" (ET) |
| 5 Solar circuit return | G 3/4" (IT) |
| 6 Solar circuit flow | G 3/4" (IT) |