

Calorifier charging system

Consisting of:

- calorifier charging module
TransTherm® aqua L
- hot water charging tank
CombiVal E or CombiVal C (optional)

**Calorifier charging module
TransTherm® aqua L**

- Fully assembled station with plate heat exchanger for the provision of domestic hot water using the tank storage principle
- Intended for wall installation
- The primary side (heating side) contains the three-way valve, high-efficiency pump, air-bleeding, contact sensor and the filling and drain valve, line balancing valve. These components ensure a constant flow temperature at the plate heat exchanger. Pipes made from steel
- The secondary side (DHW side) contains the safety valve (10 bar), non-return valve, filling/drain valves and balancing valve. A flow sensor ensures the correct charging temperature for the hot process water storage tank. Pipes made from stainless steel
- Stainless steel plate heat exchanger 1.4404, copper-soldered or copper-free
- EPP insulation, 30 mm, for the heat exchanger
- Switch-on and switch-off of the charging pump is regulated via two sensors (included in the scope of delivery) in the storage tank.
- Mount tank sensor on the tank on site and connect it to the controller
- T-piece with dummy plug for on-site connection of the circulation group. Connect the pump to the controller on site.
- TopTronic® E control with integrated thermal disinfection of the DHW storage tank (anti-legionella circuit)

Delivery

- The storage tank required is not included in the scope of delivery

On site

- Installation of a circulation unit; the necessary connection is provided.
- Electrical connection of the controller

Suitable hot water charging tanks
see next page

TopTronic® E controller

**TopTronic® E basic module district heating/
fresh water**

- Control unit for controlling district heating systems in non-communicative networks and the corresponding consumers with integrated control functions for
 - primary valve control
 - cascade management
 - 1 heating/cooling circuit with mixer
 - 1 heating/cooling circuit without mixer
 - 1 hot water charging circuit
 - various additional functions



Range

Calorifier charging module

TransTherm® aqua L type	Output kW
(1-10)	50
(1-16)	90
(1-20)	115
(1-30)	175
(1-40)	230
(1-50)	275



Range

Hot water charging tank

CombiVal E	Content l	CombiVal C	Content l
(300)	B 301	(200)	B 212
(500)	B 475	(300)	B 289
(800)	747	(400)	B 411
(1000)	968	(500)	B 490
(1500)	1472	(750)	756
(2000)	2000	(1000)	990
		(1500)	1415
		(2000)	1975
		(2500)	2450

- Various functions for hot water:
 - selection of different basic programs (week programs, economy mode, holiday until, etc.)
 - various operating modes (e.g. accumulator priority or parallel mode)
 - buffer storage circuit on the primary or secondary side
 - adjustable loading criteria (e.g. adjustable loading times, undershooting the minimum nominal value, etc.)
 - adjustable switch-off criteria (e.g. achieving the setpoint valve, achieving the lower sensor setpoint value, etc.)
 - adjustable loading block (if the loading flow temperature is too low, the setpoint temperature is not reached, differential temperature-dependent solar circuit control)
- Definable switching times for recirculation pump control
- Outdoor sensor
- Immersion sensor (calorifier sensor)
- Contact sensor (flow temperature sensor)
- Complete plug set for DH module
- RPM-regulated pumps

No further module expansions or controller modules can be installed in the control panel!

Option

TopTronic® E control module

- Simple, intuitive operating concept
- Display of the most important operating states
- Configurable start screen
- Operating mode selection

- Configurable day and week programs
- Operation of all connected Hoval CAN bus modules
- Commissioning wizard
- Service and maintenance function
- Fault message management
- Analysis function
- Weather display (with HovalConnect option)
- Adaptation of the heating strategy based on the weather forecast (with HovalConnect option)

Notice

The TopTronic® E control module for operating the basic module district heating/fresh water must be ordered separately!

Further information about the TopTronic® E
see "Controls"

Delivery

- All armatures required for operation, such as flow balancing and shut-off valves, backflow preventer, air-bleeding and drain valve are fitted.

Caution

As a result of thermal disinfection of the domestic hot water for legionella protection, increased water temperatures (at least 65-70 °C) occur. Depending on the water quality, this may result in increased calcification at the installed armatures and heat exchangers and also brings the risk of scalding at the tapping points. Corresponding protective measures must be implemented on site.

CombiVal C (200-2500)

- Charging tank made from stainless steel (without built-in heating coil) for combination with calorifier charging module TransTherm® aqua L
- (200-1000) with one flange
(1500-2000) with two flanges
(2500) with one manhole
in each case with installed dummy flange plate for maintenance or, for types (200-2000), installation of a flange-mounted electric heating element
- Thermal insulation: Neodul® insulation (EPS rigid foam outside and 20 mm polyester fibre fleece inside) with zip, outer jacket made of polypropylene, colour red
(200-1000) 2-piece
(1500) 3-piece
(2000-2500) 4-piece
- Thermometer incl. immersion sleeve loose (packed with the product)
- Sensor terminal bar
- Observe limit values for chloride content in domestic water - see "Engineering".

Delivery

- (200-1000) charging tank with thermal insulation set completely installed (1500-2500) charging tank, thermal insulation set separately packed

Design on request

- (200-2000) Flange-mounted electric heating element

On site

- Installation of immersion sleeve for thermometer
- (1500-2500) Installation of the thermal installation kit and attachments of the protection rosettes

CombiVal E (300-2000)

- Charging tank made of steel, enamelled inside (without built-in heating coil) for combination with calorifier charging module TransTherm® aqua L
- (300-1000) with one flange
(1500,2000) with two flanges
in each case with installed dummy flange plate for maintenance or installation of a flange-mounted electric heating element
- (300-1000) one built-in magnesium protection anode (1500,2000) two built-in magnesium protection anodes
- Thermal insulation made of
 - (300,500) polyurethane rigid foam, directly foamed, with dismantable foil casing, 1-part, red coloured
 - (800-2000) polyester fleece with foil jacket, completely removable, red coloured (800-1500) 2-part
(2000) 3-part
- With thermometer
- (300,500) sensor channel (800-2000) two terminal bars for contact sensor

Delivery

- (300,500) with foil casing completely mounted
- (800-2000) with thermal insulation set completely mounted (removable)

Design on request

- Flange-mounted electric heating element

On site

- Installation of the thermometer
- Attachment of the glue-on protection rosettes to the thermal insulation

Water quality

see end of this brochure

Calorifier charging module



TransTherm® aqua L

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

TransTherm® aqua L	Output kW
(1-10)	50
(1-16)	90
(1-20)	115
(1-30)	175
(1-40)	230
(1-50)	275

Part No.

8005 864
8005 865
8005 866
8005 867
8005 868
8005 869

Version with copper-free heat exchanger

TransTherm® aqua L

with copper-free heat exchanger

TransTherm® aqua L	Output kW
(1-10)	50
(1-16)	90
(1-20)	115
(1-30)	175
(1-40)	230
(1-50)	275

8006 491
8006 492
8006 493
8006 494
8006 495
8006 496

Electric heating elements

see chapter "Electric heating elements"

Accessories



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



Return changeover valve set

Consisting of:

- Temperature sensor
- Changeover valve
- Drive (8 sec.)
- Seals
- Screw connections

Nominal diameter	Output kW	kvs m ³ /h
DN 20	50-90	6.3
DN 25	115-175	10
DN 32	230-275	16
DN 40	350	25
DN 50	450	40
DN 65	580	63
DN 80	700	100

7010 832
 7010 836
 7011 009
 7011 025
 7016 331
 7016 332
 7016 333

Notice

When using a circulation set with integration at the heat exchanger (also on-site circulating pump), it is imperative to install a return switching valve set.



Circulation set

for TransTherm® aqua L, F
 Piping of parts in contact with domestic water in stainless steel and gunmetal

Consisting of:

- Temperature sensor PT1000
- Recirculation pump Wilo Yonos PARA
- Recirculation pump Wilo Para MAXO
- Regulating valve
- Non-return valve

Connection	Flow rate m ³ /h	Recirculation pump
DN 20 ¾" Rp	1.9	Z15/7.0 RKC
DN 25 1" Rp	3.4	Z25/180/08/F02
DN 32 1¼" Rp	5.8	Z25/180/08/F02

8005 279
 8005 280
 8005 281



Test valve DN 8 G ¼"

for TransTherm® aqua L, F, FS
 Test valve suitable for flame treatment for hygienic-microbiologic tests.

2049 861



**Sludge separator with magnet
MB3/L DN 25...DN 50**

Fast and continuous removal of ferromagnetic and non-magnetic dirt and sludge particles. Sludge separation up to a particle size of 5 µm. Brass housing
Max. operating pressure: 6 bar
Max. flow temperature: 110 °C

Type	Connection	Flow rate m³/h at 1 m/s flow speed
MB3 DN 25	Rp 1"	2.0
MBL DN 32	Rp 1¼"	3.6
MBL DN 40	Rp 1½"	5.0
MBL DN 50	Rp 2"	7.5

Additional sludge separators
see "Various system components"



Temperature monitor 0...120 °C
for TransTherm® aqua L, F, FS

2048 299



Safety temperature monitor 70...130 °C
for TransTherm® aqua L, F, FS

2048 300



Safety temperature limiter 70...130 °C
for TransTherm® aqua L, F, FS

2049 619



**Immersion sleeve G ½" stainless steel
for thermostat**

for TransTherm® aqua L, F, FS
Installation length = 100 mm
Outer Ø: 8 mm, inner Ø: 6.5 mm

2048 285



**Immersion sleeve G ½" stainless steel
for 2 thermostats**

for TransTherm® aqua L, F, FS
Installation length = 100 mm
Outer Ø: 15 mm, inner Ø: 13.5 mm

2048 288

Part No.

Hot water charging tank



CombiVal E
Enamelled charging tank
(without heating coil)

CombiVal E (300-1000) with one flange
CombiVal E (1500,2000) with two flanges
- (300,500) thermal insulation mounted with foil casing
- (800-2000) thermal insulation set completely mounted (removable)

CombiVal type		Content l
E (300)	B ▶	301
E (500)	B ▶	475
E (800)		747
E (1000)		968
E (1500)		1472
E (2000)		2000

Part No.

6044 187
6044 188
6044 189
6044 190
6044 191
6044 192



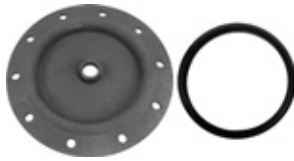
CombiVal C
Stainless steel charging tank
(without heating coil)

CombiVal C (200-1000) with one flange
CombiVal C (1500-2000) with two flanges
CombiVal C (2500) with one manhole
Thermal insulation set
- (200-1000) completely mounted (removable)
- (1500-2000) separately packed

CombiVal type		Content l
C (200)	B ▶	212
C (300)	B ▶	289
C (400)	B ▶	411
C (500)	B ▶	490
C (750)		756
C (1000)		990
C (1500)		1415
C (2000)		1975
C (2500)		2450

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6049 699
6049 700
6049 701

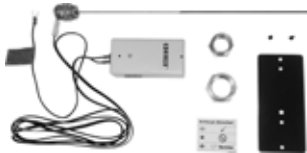
For CombiVal E (300-2000)



Flange cover 180 - 3/4"
for the installation of the Correx®
impressed current anode in flange
Ø 180/110 mm,
enamelled on the inside with Rp 3/4"
sleeve
Seal included

Part No.

2077 035



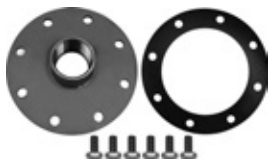
UP 2.3-919

**Kit Correx® impressed current anode
UP2.3-919-L395/1**
for long-term corrosion protection for
installation in the enamelled calorifier
with reduction R 1 1/4" (ET) – Rp 1" (IT)
and R 1" (ET) – Rp 3/4" (IT)
Installation length: 395 mm
Connection cable length: 1 x 2000 mm
1 Correx® impressed current anode

684 760

Either a Correx® impressed current anode or
one/two magnesium anodes may be used.

For CombiVal C (200-2500)



Flange cover 180 - 1 1/2"
for the installation of the Correx®
impressed current anode
in flange Ø 180/110 mm,
stainless steel with Rp 1 1/2" sleeve
Seal and screws included

2077 911



UP 1.9-924

**Kit Correx® impressed current anode
UP1.9-924-L395/1**
for long-term corrosion protection for
installation in the stainless steel
calorifier
with reduction R 1 1/2" - Rp 3/4"
Installation length: 395 mm
Connection cable length: 1 x 3500 mm
1 Correx® impressed current anode
(up to 800 l)

6031 813

The flange cover 180 - 1 1/2" must also be ordered for installation of the impressed current anode set.

Services



Commissioning

Commissioning by works service or Hoval
trained authorised serviceman/company is
condition for warranty.

For commissioning and other services
please contact your Hoval sales office.

Performance data

TransTherm® aqua L (1-10 to 1-50)

Domestic water secondary		Heating water temperature flow											
		55 °C (1-...)						60 °C (1-...)					
		(10)	(16)	(20)	(30)	(40)	(50)	(10)	(16)	(20)	(30)	(40)	(50)
60/5 °C	T return primary °C	-	-	-	-	-	-	-	-	-	-	-	-
	Ḃ primary m³/h	-	-	-	-	-	-	-	-	-	-	-	-
	Q max. kW	-	-	-	-	-	-	-	-	-	-	-	-
	Ḃ secondary m³/h	-	-	-	-	-	-	-	-	-	-	-	-
60/10 °C	T return primary °C	-	-	-	-	-	-	-	-	-	-	-	-
	Ḃ primary m³/h	-	-	-	-	-	-	-	-	-	-	-	-
	Q max. kW	-	-	-	-	-	-	-	-	-	-	-	-
	Ḃ secondary m³/h	-	-	-	-	-	-	-	-	-	-	-	-
60/15 °C	T return primary °C	-	-	-	-	-	-	-	-	-	-	-	-
	Ḃ primary m³/h	-	-	-	-	-	-	-	-	-	-	-	-
	Q max. kW	-	-	-	-	-	-	-	-	-	-	-	-
	Ḃ secondary m³/h	-	-	-	-	-	-	-	-	-	-	-	-
60/20 °C	T return primary °C	-	-	-	-	-	-	-	-	-	-	-	-
	Ḃ primary m³/h	-	-	-	-	-	-	-	-	-	-	-	-
	Q max. kW	-	-	-	-	-	-	-	-	-	-	-	-
	Ḃ secondary m³/h	-	-	-	-	-	-	-	-	-	-	-	-
55/5 °C	T return primary °C	-	-	-	-	-	-	30	30	30	30	30	30
	Ḃ primary m³/h	-	-	-	-	-	-	1.25	2.04	2.51	3.71	4.76	5.66
	Q max. kW	-	-	-	-	-	-	43	70	86	127	163	194
	Ḃ secondary m³/h	-	-	-	-	-	-	0.74	1.2	1.48	2.18	2.8	3.33
55/10 °C	T return primary °C	-	-	-	-	-	-	30	30	30	30	30	30
	Ḃ primary m³/h	-	-	-	-	-	-	1.11	2.04	2.51	3.71	4.76	5.63
	Q max. kW	-	-	-	-	-	-	38	70	86	127	163	193
	Ḃ secondary m³/h	-	-	-	-	-	-	0.73	1.34	1.64	2.43	3.12	3.69
55/15 °C	T return primary °C	-	-	-	-	-	-	30	30	30	30	30	30
	Ḃ primary m³/h	-	-	-	-	-	-	0.76	1.46	1.95	3.06	4.23	5.4
	Q max. kW	-	-	-	-	-	-	26	50	67	105	145	185
	Ḃ secondary m³/h	-	-	-	-	-	-	0.56	1.08	1.44	2.26	3.12	3.98
55/20 °C	T return primary °C	-	-	-	-	-	-	30	30	30	30	30	30
	Ḃ primary m³/h	-	-	-	-	-	-	0.47	0.9	1.17	1.9	2.63	3.36
	Q max. kW	-	-	-	-	-	-	16	31	40	65	90	115
	Ḃ secondary m³/h	-	-	-	-	-	-	0.39	0.76	0.99	1.6	2.22	2.83
50/5 °C	T return primary °C	30	30	30	30	30	30	30	30	30	30	30	30
	Ḃ primary m³/h	1.29	2.03	2.51	3.67	4.72	5.66	1.28	2.04	2.51	3.71	4.76	5.63
	Q max. kW	37	58	72	105	135	162	44	70	86	127	163	193
	Ḃ secondary m³/h	0.71	1.11	1.37	2	2.58	3.09	0.84	1.34	1.64	2.43	3.12	3.69
50/10 °C	T return primary °C	30	30	30	30	30	30	30	30	30	30	30	30
	Ḃ primary m³/h	1.29	2.03	2.51	3.67	4.72	5.66	1.28	2.04	2.51	3.73	4.81	5.69
	Q max. kW	38	58	72	105	135	162	44	70	86	128	165	195
	Ḃ secondary m³/h	0.82	1.25	1.77	2.26	2.9	3.48	0.95	1.51	1.85	2.75	3.55	4.19
50/15 °C	T return primary °C	30	30	30	30	30	30	30	30	30	30	30	30
	Ḃ primary m³/h	1.29	2.03	2.51	3.67	4.72	5.66	1.11	1.95	2.48	3.76	4.76	5.69
	Q max. kW	37	58	72	105	135	162	38	67	85	129	163	195
	Ḃ secondary m³/h	0.91	1.43	1.77	2.58	3.32	3.99	0.94	1.65	2.09	3.18	4.01	4.8
50/20 °C	T return primary °C	30	30	30	30	30	30	30	30	30	30	30	30
	Ḃ primary m³/h	1.15	2.03	2.55	3.7	4.75	5.69	0.96	1.69	2.13	3.24	3.63	5.16
	Q max. kW	33	58	73	106	136	163	33	58	73	111	145	177
	Ḃ secondary m³/h	0.95	1.67	2.1	3.05	3.91	4.69	0.95	1.67	2.1	3.19	4.17	5.09

T return primary °C Temperature primary return
 Ḃ primary m³/h Flow rate primary
 Q max. kW Output
 Ḃ secondary m³/h Flow rate secondary

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

Performance data

TransTherm® aqua L (1-10 to 1-50)

Heating water temperature flow

Domestic water secondary	TransTherm® aqua L	65 °C (1-...)												70 °C (1-...)					
		(10)	(16)	(20)	(30)	(40)	(50)	(10)	(16)	(20)	(30)	(40)	(50)						
		T return primary °C	30	30	30	30	30	30	30	30	30	30	30	30					
Ṽ primary m³/h	1.08	1.88	2.5	3.73	4.84	5.77	1.32	2.09	2.59	3.76	4.82	5.72							
Q max. kW	43	75	100	149	193	230	60	95	118	171	219	260							
Ṽ secondary m³/h	0.67	1.17	1.55	2.33	3.01	3.59	0.94	1.48	1.84	2.67	3.42	4.06							
T return primary °C	30	30	30	30	30	30	30	30	30	30	30	30							
Ṽ primary m³/h	0.8	1.5	2.01	3.16	4.34	5.39	1.08	1.94	2.48	3.77	4.95	5.92							
Q max. kW	32	60	80	126	173	215	50	90	115	175	230	275							
Ṽ secondary m³/h	0.55	1.03	1.38	2.17	2.98	3.7	0.86	1.54	1.98	3.01	3.95	4.73							
T return primary °C	30	30	30	30	30	30	30	30	30	30	30	30							
Ṽ primary m³/h	0.55	1.05	1.38	2.13	3.08	3.96	0.97	1.8	2.37	3.73	4.84	5.72							
Q max. kW	22	42	55	85	123	158	44	82	108	170	220	260							
Ṽ secondary m³/h	0.42	0.8	1.05	1.63	2.35	3.02	0.84	1.57	2.08	3.24	4.21	4.98							
T return primary °C	30	30	30	30	30	30	30	30	30	30	30	30							
Ṽ primary m³/h	0.3	0.6	0.8	1.28	1.75	2.33	0.62	1.14	2.05	2.4	3.43	4.22							
Q max. kW	12	24	32	51	70	93	28	52	68	109	156	192							
Ṽ secondary m³/h	0.26	0.52	0.69	1.1	1.51	2	0.6	1.12	1.47	2.36	3.36	4.14							
T return primary °C	30	30	30	30	30	30	30	30	30	30	30	30							
Ṽ primary m³/h	0.8	1.5	2.01	3.16	4.34	5.39	1.08	2.09	2.53	3.74	4.84	5.76							
Q max. kW	32	60	80	126	173	215	50	95	115	170	220	262							
Ṽ secondary m³/h	0.55	1.03	1.38	2.17	2.98	3.7	0.86	1.63	1.97	2.92	3.78	4.5							
T return primary °C	30	30	30	30	30	30	30	30	30	30	30	30							
Ṽ primary m³/h	1.3	2.06	2.53	3.71	4.81	5.64	1.08	1.87	2.42	3.74	4.84	5.72							
Q max. kW	52	82	101	148	192	225	49	85	110	170	220	260							
Ṽ secondary m³/h	0.99	1.57	1.93	2.83	3.67	4.3	0.94	1.62	2.1	3.24	4.21	4.98							
T return primary °C	30	30	30	30	30	30	30	30	30	30	30	30							
Ṽ primary m³/h	0.97	1.65	2.11	3.71	4.81	5.64	1.1	1.88	2.41	3.74	4.22	5.1							
Q max. kW	44	75	96	148	192	225	44	75	96	148	192	232							
Ṽ secondary m³/h	0.95	1.61	2.07	3.19	4.13	4.84	0.94	1.62	2.1	3.19	4.21	5							
T return primary °C	30	30	30	30	30	30	30	30	30	30	30	30							
Ṽ primary m³/h	0.95	1.68	2.13	3.23	4.24	5.14	0.84	1.47	1.87	2.84	3.72	4.51							
Q max. kW	38	67	85	129	169	205	38	67	85	129	169	205							
Ṽ secondary m³/h	0.94	1.65	2.09	3.18	4.16	5.05	0.94	1.65	2.09	3.18	4.16	5.05							
T return primary °C	30	30	30	30	30	30	30	30	30	30	30	30							
Ṽ primary m³/h	1.25	2.06	2.53	3.71	4.81	5.64	1.08	1.87	2.42	3.56	4.84	5.72							
Q max. kW	50	82	101	148	192	225	49	85	110	162	220	260							
Ṽ secondary m³/h	0.95	1.57	1.93	2.83	3.67	4.3	0.94	1.62	2.1	3.09	4.21	4.98							
T return primary °C	30	30	30	30	30	30	30	30	30	30	30	30							
Ṽ primary m³/h	1.1	1.88	2.41	3.71	4.81	5.64	0.97	1.65	2.11	3.25	4.22	5.1							
Q max. kW	44	75	96	148	192	225	44	75	96	148	192	232							
Ṽ secondary m³/h	0.95	1.61	2.07	3.19	4.13	4.84	0.95	1.61	2.07	3.19	4.13	5							
T return primary °C	30	30	30	30	30	30	30	30	30	30	30	30							
Ṽ primary m³/h	0.95	1.68	2.13	3.23	4.24	5.14	0.84	1.47	1.87	2.84	3.72	4.51							
Q max. kW	38	67	85	129	169	205	38	67	85	129	169	205							
Ṽ secondary m³/h	0.94	1.65	2.09	3.18	4.16	5.05	0.94	1.65	2.09	3.18	4.16	5.05							
T return primary °C	30	30	30	30	30	30	30	30	30	30	30	30							
Ṽ primary m³/h	0.83	1.45	1.81	2.44	3.63	4.44	0.73	1.28	1.61	2.44	3.19	3.89							
Q max. kW	33	58	73	111	145	177	33	58	73	111	145	177							
Ṽ secondary m³/h	0.95	1.67	2.1	3.19	4.17	5.09	0.95	1.67	2.1	3.19	4.17	5.09							

T return primary °C Temperature primary return
Ṽ primary m³/h Flow rate primary
 Q max. kW Output
Ṽ secondary m³/h Flow rate secondary

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

Performance data

TransTherm® aqua L (1-10 to 1-50)

Temperature primary 70 °C flow/30 °C return

Domestic water heating

			Cold water 10 °C Domestic water 60 °C					
TransTherm® aqua L			(10)	(16)	(20)	(30)	(40)	(50)
	kW		50	90	115	175	230	275
	m³/h		0.86	1.54	1.97	3.00	3.94	4.71
	l/min		14.3	25.7	32.9	50.0	65.7	78.6
	l/s		0.2	0.4	0.5	0.8	1.1	1.3
Tank size								
l	Ṽs	l/10 min						
200	Hourly output	l/h at 60 °C	343	457	529	-	-	-
	NL index		1057	1743	2171	-	-	-
			13	22	29	-	-	-
300	Hourly output	l/h at 60 °C	443	557	629	800	-	-
	NL index		1157	1843	2271	3300	-	-
			21	31	39	57	-	-
400	Hourly output	l/h at 60 °C	543	657	729	900	-	-
	NL index		1257	1943	2371	3400	-	-
			23	41	49	69	-	-
500	Hourly output	l/h at 60 °C	643	757	829	1000	1157	-
	NL index		1357	2043	2471	3500	4443	-
			25	44	56	80	100	-
800	Hourly output	l/h at 60 °C	943	1057	1129	1300	1457	-
	NL index		1657	2343	2771	3800	4743	-
			33	52	64	94	123	-
1000	Hourly output	l/h at 60 °C	1143	1257	1329	1500	1657	1786
	NL index		1857	2543	2971	4000	4943	5714
			38	57	69	100	128	152
1500	Hourly output	l/h at 60 °C	-	1757	1829	2000	2157	2286
	NL index		-	3043	3471	4500	5443	6214
			-	71	83	114	143	167
2000	Hourly output	l/h at 60 °C	-	2257	2329	2500	2657	2786
	NL index		-	3543	3971	5000	5943	6714
			-	84	97	128	158	182
2500	Hourly output	l/h at 60 °C	-	2757	2829	3000	3157	3286
	NL index		-	4043	4471	5500	6443	7214
			-	99	115	144	174	198

Ṽs **l/10 min** 10 minutes peak flow rate at 60 °C
NL index Performance figure in accordance with DIN 4708 = number of flats which can be supplied with domestic hot water when the calorifier is heated and permanently reheated with the heat generator (standard flat: 1 bath - 4 rooms - 3.5 persons)

Performance data

TransTherm® aqua L (1-10 to 1-50)

Tapping point (mixing temperature)

TransTherm® aqua L	Cold water 10 °C Domestic water 45 °C					
	(10)	(16)	(20)	(30)	(40)	(50)
kW	50	90	115	175	230	275
m³/h	1.22	2.20	2.82	4.29	5.63	6.73
l/min	20.4	36.7	46.9	71.4	93.9	112.2
l/s	0.3	0.6	0.8	1.2	1.6	1.9

Tank size

l	Ṽs	I/10 min	(10)	(16)	(20)	(30)	(40)	(50)
200	Hourly output	l/h at 45 °C	490	653	755	-	-	-
	NL index		13	22	29	-	-	-
	Ṽs	I/10 min	633	796	898	1143	-	-
300	Hourly output	l/h at 45 °C	1653	2633	3245	4714	-	-
	NL index		21	31	39	57	-	-
	Ṽs	I/10 min	776	939	1041	1286	-	-
400	Hourly output	l/h at 45 °C	1796	2776	3388	4857	-	-
	NL index		23	41	49	69	-	-
	Ṽs	I/10 min	918	1082	1184	1429	1653	-
500	Hourly output	l/h at 45 °C	1939	2918	3531	5000	6347	-
	NL index		25	44	56	80	100	-
	Ṽs	I/10 min	1347	1510	1612	1857	2082	-
800	Hourly output	l/h at 45 °C	2367	3347	3959	5429	6776	-
	NL index		33	52	64	94	123	-
	Ṽs	I/10 min	1633	1796	1898	2143	2367	2551
1000	Hourly output	l/h at 45 °C	2653	3633	4245	5714	7061	8163
	NL index		38	57	69	100	128	152
	Ṽs	I/10 min	-	2510	2612	2857	3082	3265
1500	Hourly output	l/h at 45 °C	-	4347	4959	6429	7776	8878
	NL index		-	71	83	114	143	167
	Ṽs	I/10 min	-	3224	3327	3571	3796	3980
2000	Hourly output	l/h at 45 °C	-	5061	5673	7143	8490	9592
	NL index		-	84	97	128	158	182
	Ṽs	I/10 min	-	3939	4041	4286	4510	4694
2500	Hourly output	l/h at 45 °C	-	5776	6388	7857	9204	10306
	NL index		-	99	115	144	174	198

Ṽs I/10 min 10 minutes peak flow rate at 45 °C
NL index Performance figure in accordance with DIN 4708 = number of flats which can be supplied with domestic hot water when the calorifier is heated and permanently reheated with the heat generator (standard flat: 1 bath - 4 rooms - 3.5 persons)

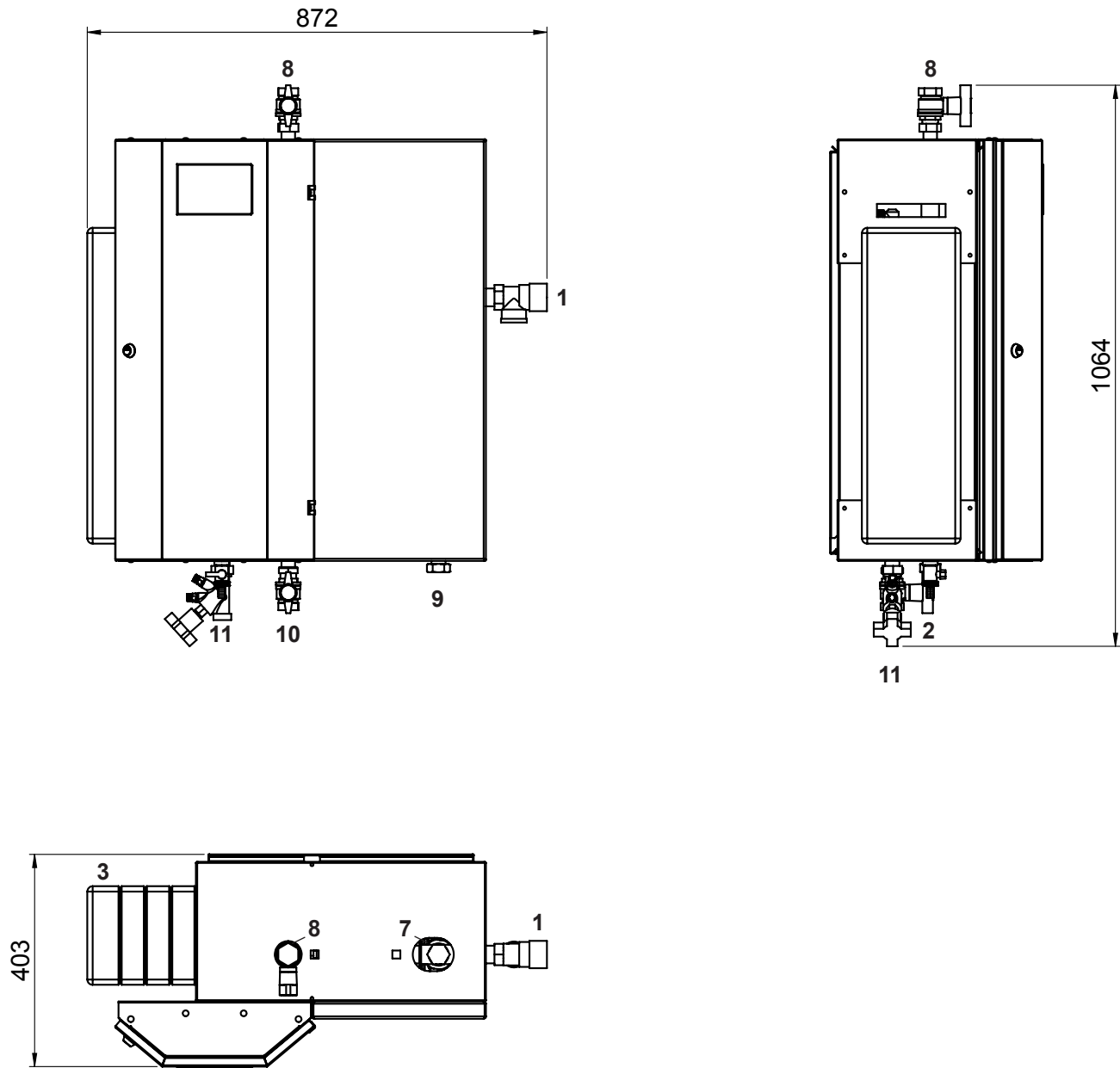
Hot water charging tank CombiVal E (300-2000)

Type		(300)	(500)	(800)	(1000)	(1500)	(2000)
• Volume	dm ³	301	475	747	968	1472	2000
• Max. operating pressure/test pressure	bar	10/13	10/13	10/13	10/13	10/13	10/13
• Max. DHW temperature	°C	95	95	95	95	95	95
• Thermal insulation		PU hard foam			polyester fleece		
	mm	75	75	100	100	120	120
• Thermal insulation λ	W/mK	0.027	0.027	0.040	0.040	0.040	0.040
• Fire protection class		B2	B2	B2	B2	B2	B2
• Heat loss at 65 °C	W	58	75	128	139	170	190
• Transport weight	kg	97	126	205	264	400	600
• U value	W/m ² K	0.290	0.303	0.381	0.362	0.339	0.325

Hot water charging tank CombiVal C (200-2500)

Type		(200)	(300)	(400)	(500)	(750)	(1000)	(1500)	(2000)	(2500)
• Volume	dm ³	212	289	411	490	756	990	1415	1975	2450
• Max. operating pressure/test pressure	bar	6/12	6/12	6/12	6/12	6/12	6/12	6/12	6/12	6/12
• Max. DHW temperature	°C	95	95	95	95	95	95	95	95	95
• Thermal insulation		Neodul® insulation (EPS rigid foam outside and polyester fibre fleece inside)								
	mm	100	100	100	100	100	100	120	120	120
• Thermal insulation λ	W/mK	0.0316	0.0316	0.0316	0.0316	0.0316	0.0316	0.0316	0.0316	0.0316
• Fire protection class		B2	B2	B2	B2	B2	B2	B2	B2	B2
• Heat loss at 65 °C	W	62	68	77	82	120	140	162	180	206
• Transport weight	kg	55	70	83	85	119	150	215	265	445
• U value	W/m ² K	0.329	0.329	0.329	0.329	0.329	0.329	0.273	0.273	0.273

Charging module TransTherm® aqua L (1-10)
(Dimensions in mm)



- 1 Safety valve
Hot water 10 bar
- 2 Filling/drain valve
- 3 Heat exchanger

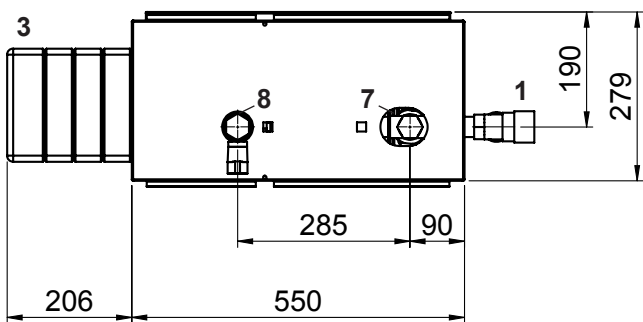
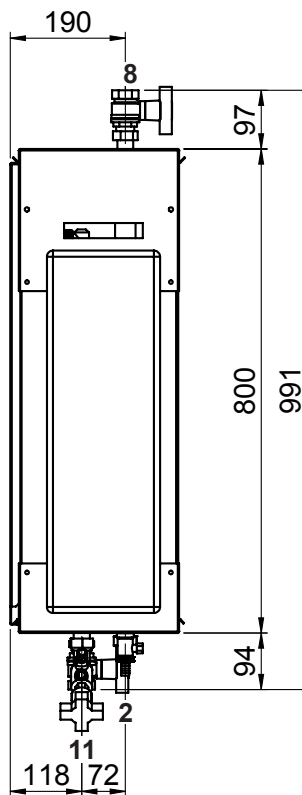
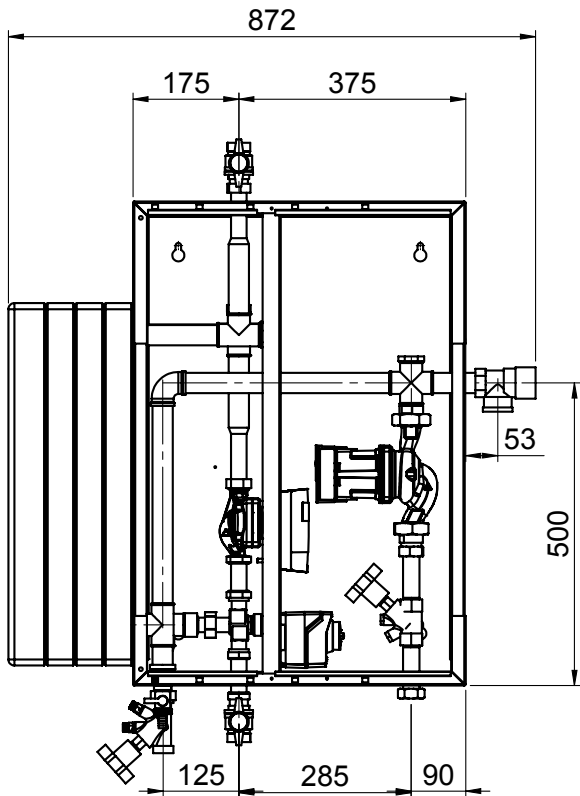
	(1-10)
7 Circulation	DN 25, Rp 1" (20, Rp ¾") (IT)
8 Hot water	DN 25, Rp 1" (IT)
9 Cold water	DN 20, Gp 1" (IT)
10 Flow heating water	DN 25, Rp 1" (IT)
11 Return heating water	DN 25, Gp 1" (IT)

Gp = straight internal thread

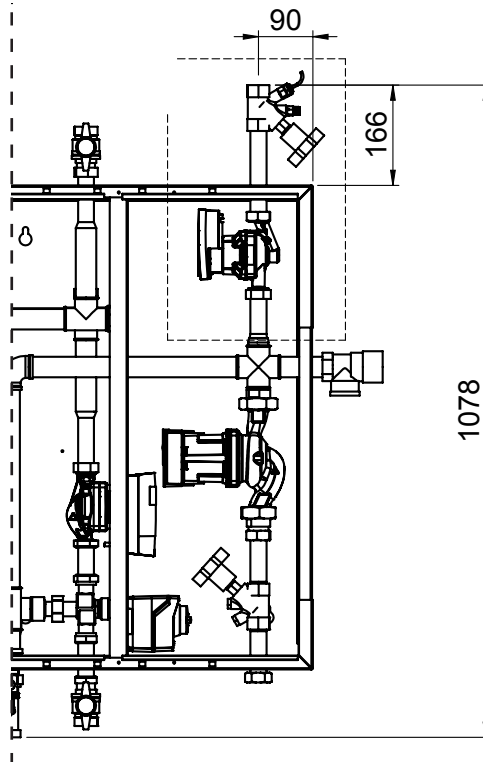
TransTherm® aqua L	Weight in kg
(1-10)	56

Charging module TransTherm® aqua L (1-10)

(Dimensions in mm)



Version incl. circulation set



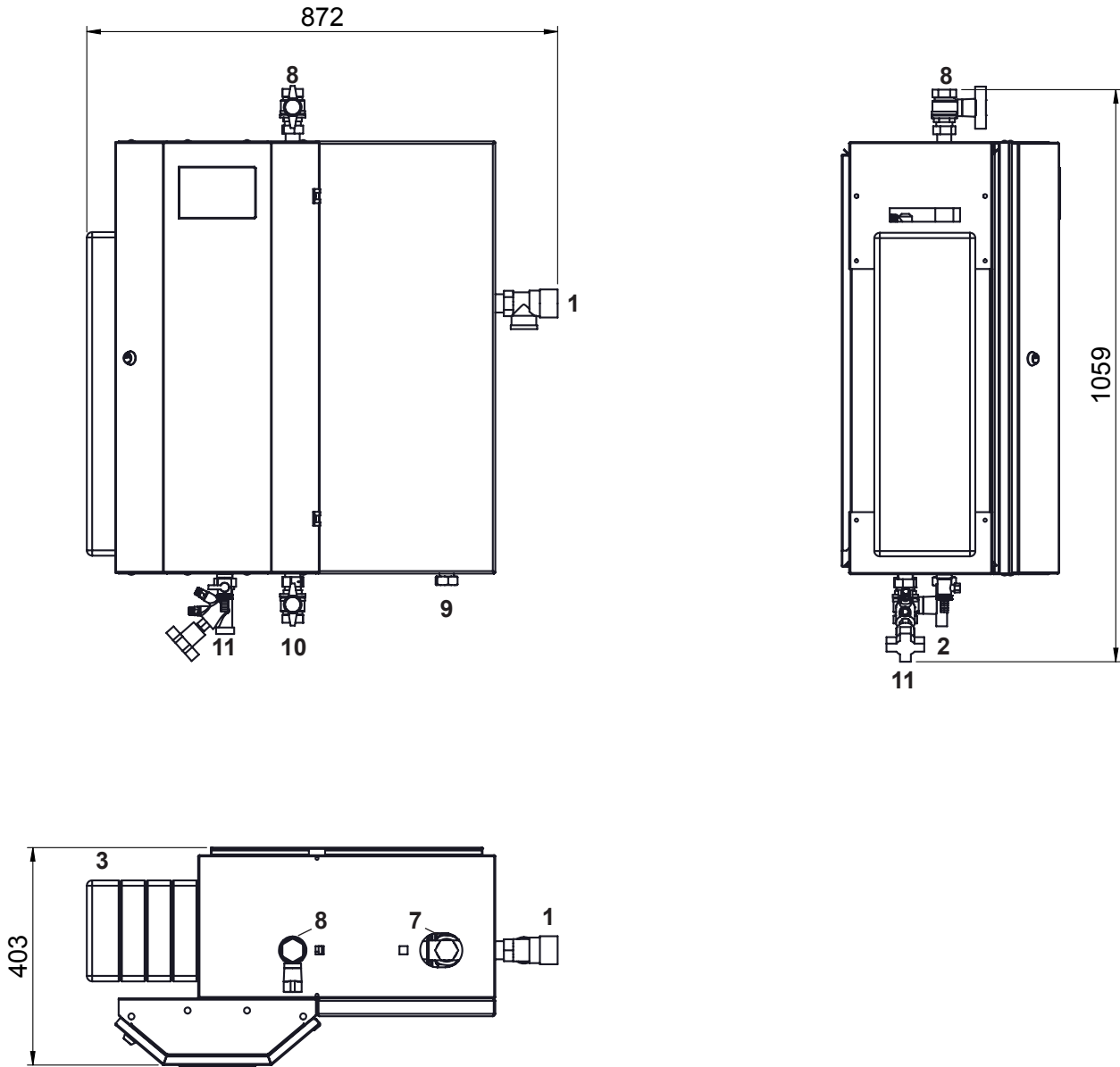
- 1 Safety valve
Hot water 10 bar
- 2 Filling/drain valve
- 3 Heat exchanger
- 4 Primary three-way valve
- 5 Primary circulating pump
- 6 Secondary circulating pump

(1-10)

- 7 Circulation DN 25, Rp 1" (20, Rp ¾") (IT)
- 8 Hot water DN 25, Rp 1" (IT)
- 9 Cold water DN 20, Gp 1" (IT)
- 10 Flow heating water DN 25, Rp 1" (IT)
- 11 Return heating water DN 25, Gp 1" (IT)

Gp = straight internal thread

Charging module TransTherm® aqua L (1-16, 1-20)
(Dimensions in mm)



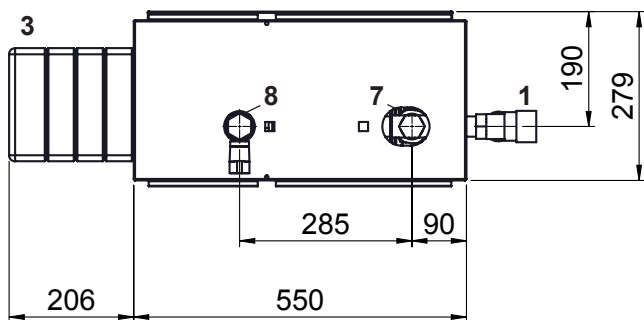
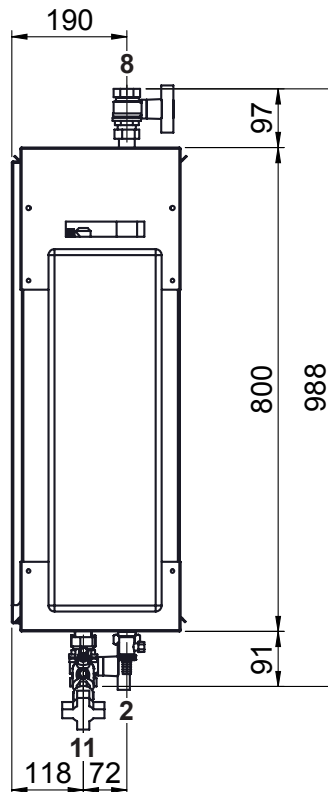
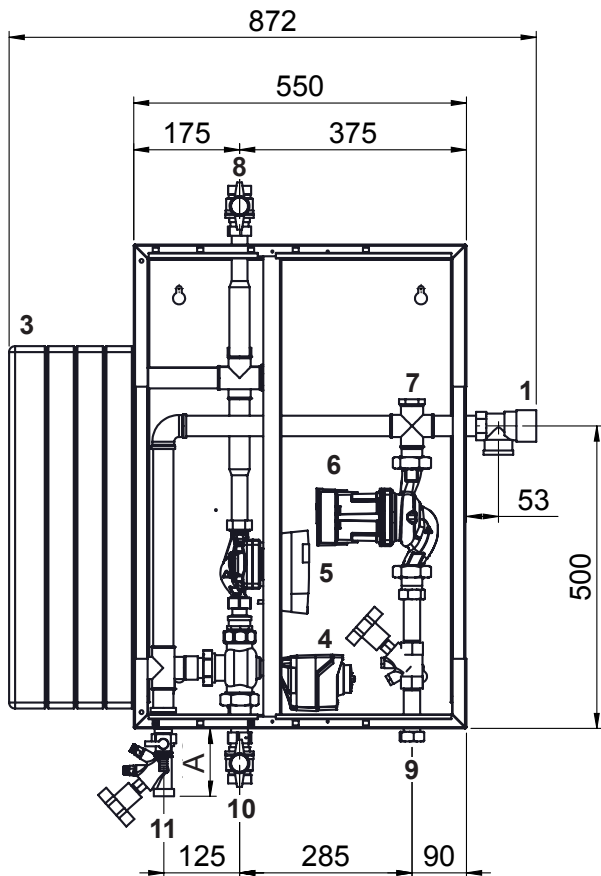
- 1 Safety valve
Hot water 10 bar
- 2 Filling/drain valve
- 3 Heat exchanger

	(1-16) (1-20)
7 Circulation	DN 25, Rp 1" (20, Rp ¾") (IT)
8 Hot water	DN 25, Rp 1" (IT)
9 Cold water	DN 20, Gp 1" (IT)
10 Flow heating water	DN 25, Rp 1" (IT)
11 Return heating water	DN 25, Gp 1" (IT)

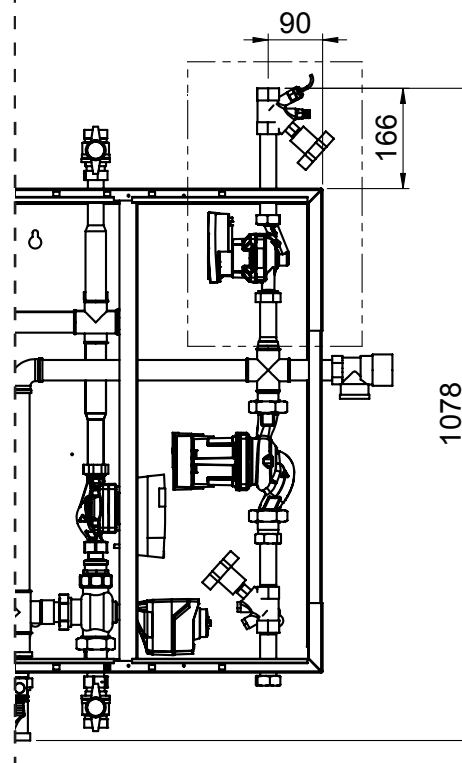
Gp = straight internal thread

TransTherm® aqua L	Weight in kg
(1-16)	58
(1-20)	60

Charging module TransTherm® aqua L (1-16, 1-20)
(Dimensions in mm)



Version incl. circulation set

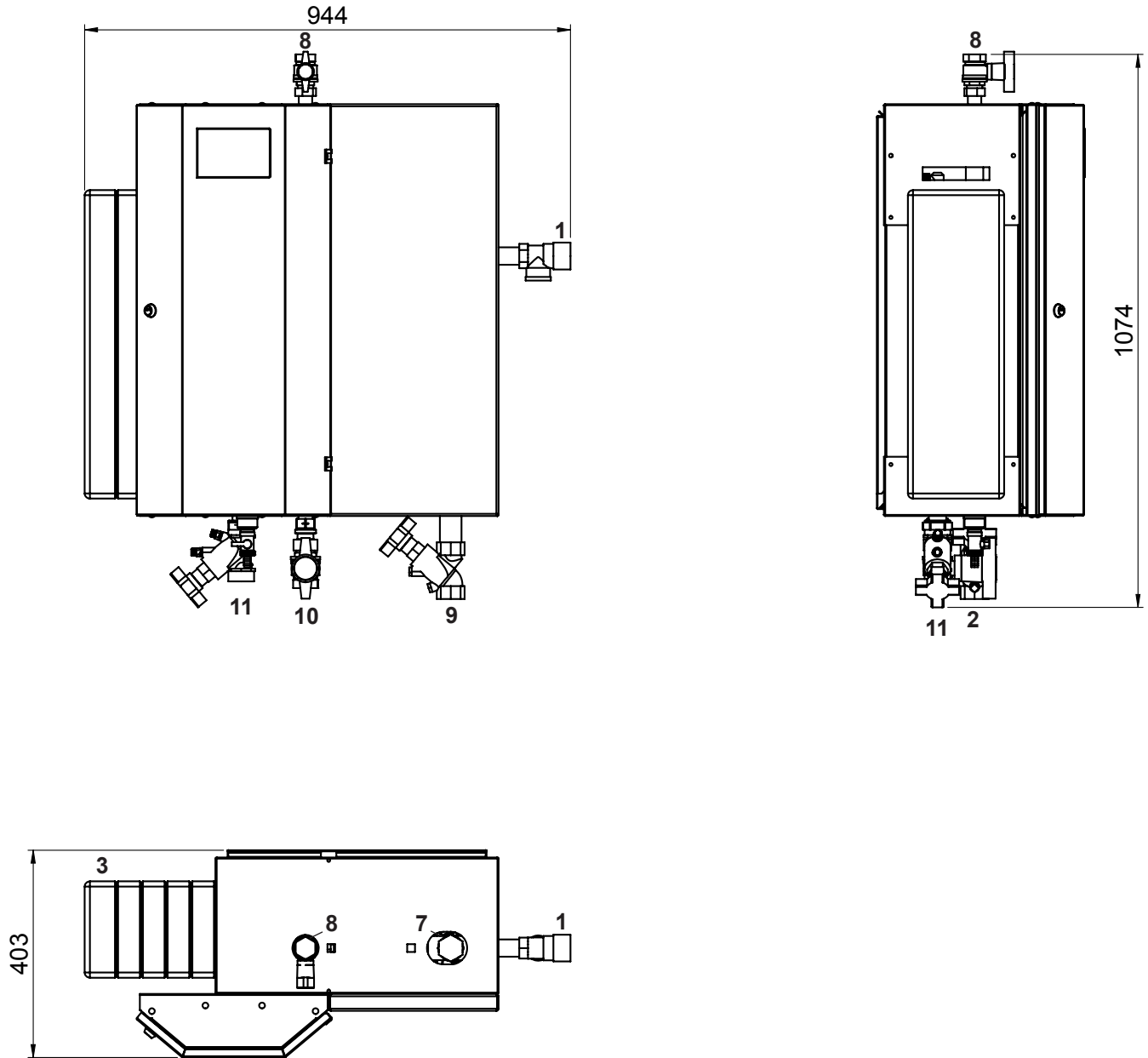


- 1 Safety valve
Hot water 10 bar
- 2 Filling/drain valve
- 3 Heat exchanger
- 4 Three-way valve primary
- 5 Primary circulating pump
- 6 Secondary circulating pump

	(1-16)	(1-20)	A	B	C
7 Circulation	DN 25, Rp 1" (20, Rp ¾") (IT)		(1-16) 112	166	1078
8 Hot water	DN 25, Rp 1" (IT)		(1-20) 128	193	1121
9 Cold water	DN 20, Gp 1" (IT)				
10 Flow heating water	DN 25, Rp 1" (IT)				
11 Return heating water	DN 25, Gp 1" (IT)				

Gp = straight internal thread

Charging module TransTherm® aqua L (1-30 to 1-50)
(Dimensions in mm)



- 1 Safety valve
Hot water 10 bar
- 2 Filling/drain valve
- 3 Heat exchanger

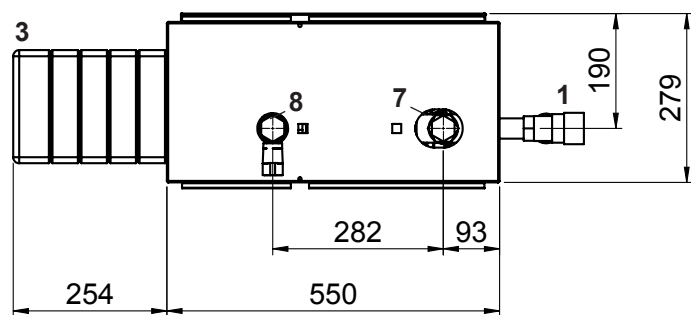
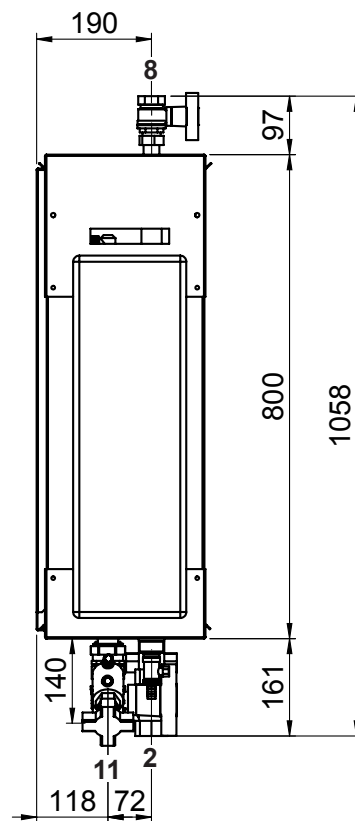
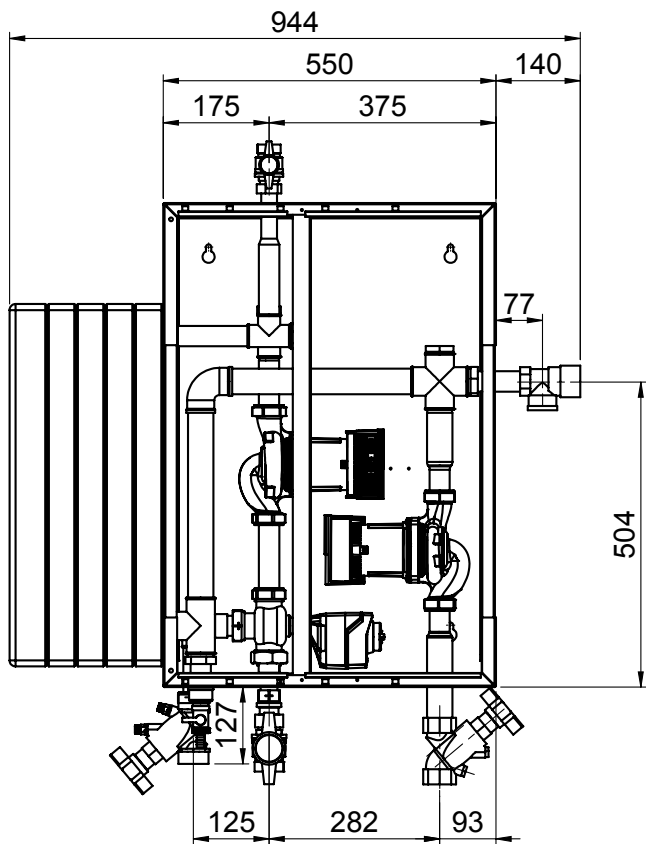
	(1-30)	(1-40)	(1-50)
7 Circulation	DN 32, Rp 1¼"	(25, Rp 1")	(20, Rp ¾") (IT)
8 Hot water	DN 32, Rp 1¼" (IT)		
9 Cold water	DN 32, Rp 1¼" (IT)		
10 Flow heating water	DN 32, Rp 1¼" (IT)		
11 Return heating water	DN 32, Gp 1½" (IT)		

TransTherm® aqua L	Weight in kg
(1-30)	66
(1-40)	68
(1-50)	70

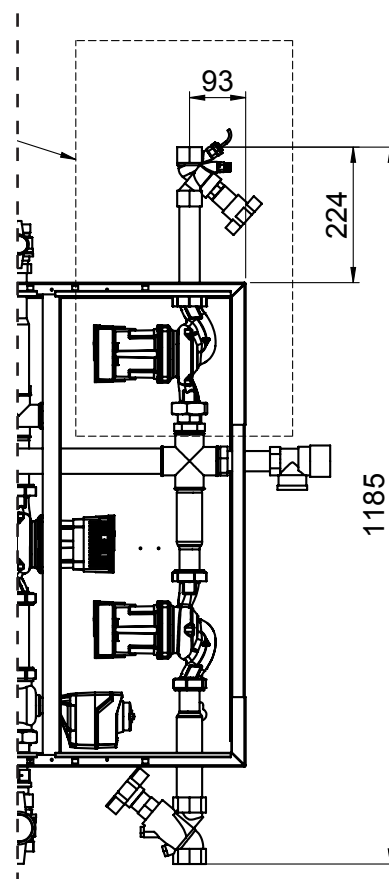
Gp = straight internal thread

Charging module TransTherm® aqua L (1-30 to 1-50)

(Dimensions in mm)



Version incl. circulation set



- 1 Safety valve
Hot water 10 bar
- 2 Filling/drain valve
- 3 Heat exchanger
- 4 Primary three-way valve
- 5 Primary circulating pump
- 6 Secondary circulating pump

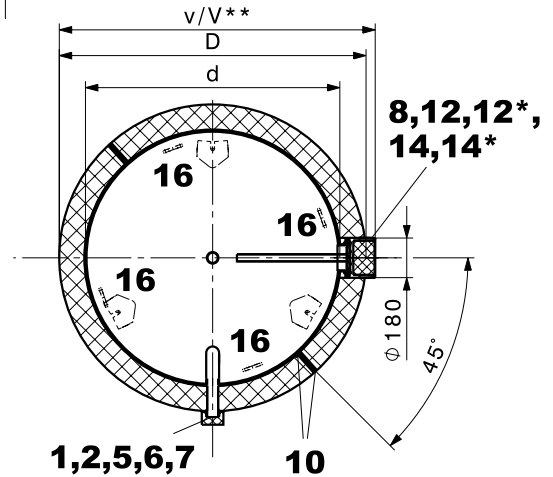
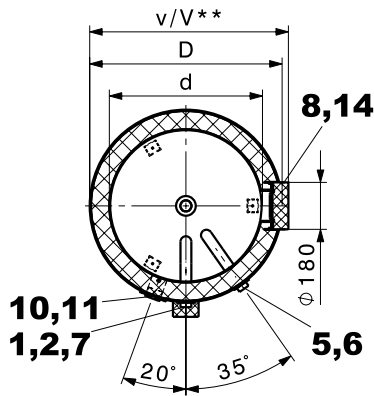
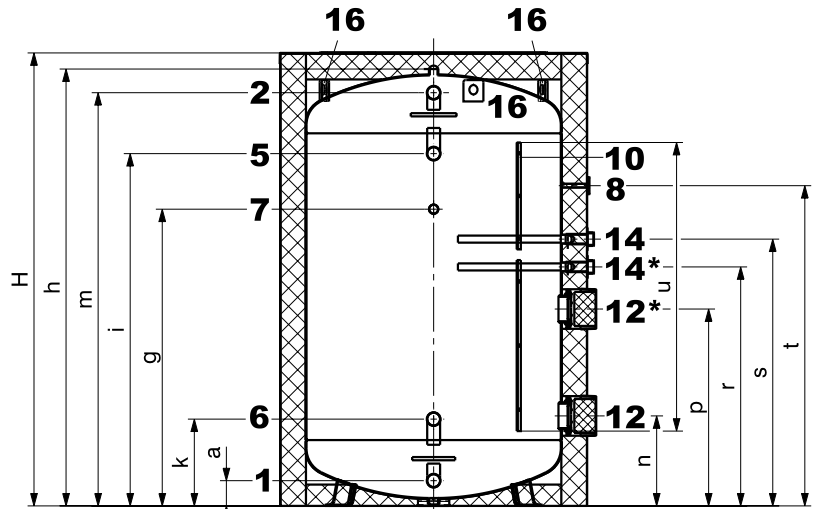
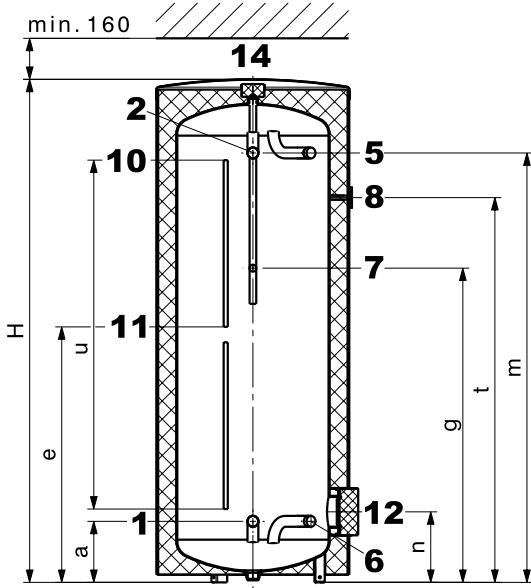
(1-30) (1-40) (1-50)

- 7 Circulation DN 32, Rp 1¼" (25, Rp 1") (20, Rp ¾") (IT)
- 8 Hot water DN 32, Rp 1¼" (IT)
- 9 Cold water DN 32, Rp 1¼" (IT)
- 10 Flow heating water DN 32, Rp 1¼" (IT)
- 11 Return heating water DN 32, Gp 1½" (IT)

Gp = straight internal thread

CombiVal E (300,500)
(Dimensions in mm)

CombiVal E (800-2000)



- 1 Cold water (charging return) type (300,500) G 1¼" (ET) type (800-2000) G 2" (ET)
- 2 Domestic hot water type (300,500) G 1¼" (ET) type (800-2000) G 2" (ET)
- 5 Charging flow – hot type (300,500) G 1¼" (ET) type (800-2000) G 2" (ET)
- 6 Charging return – cold type (300,500) G 1¼" (ET) type (800-2000) G 2" (ET)
- 7 Circulation (removable insulated cap Ø 100 mm) type (300,500) G ¾" (ET) type (800-2000) G 1¼" (ET)

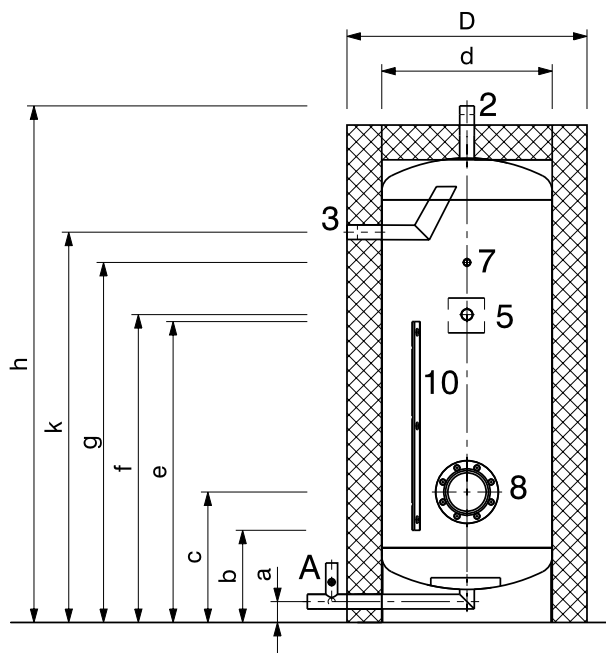
- 8 Thermometer
- 10 Sensor channel, inner Ø 11 mm type (300,500) Sensor terminal strip (zip fastener) type (800-2000)
- 11 Removable cap (Ø 60 mm) for positioning the sensor in the sensor channel type (300,500)
- 12 Hand-hole flange (flange-mounted electric heating element) Ø 180/120 mm, pitch circle 150 mm, 8 x M10
- 12* **Attention:** type (800,1000) does not have a second flange
- 14 Anode sleeve type (300,500) G 1" (IT) type (800-2000) G 1¼" (IT) type (1500,2000) G 1¼" (IT)
- 14* Anode sleeve Screw connection uninsulated
- 16 Transport strap type (800-2000)

Variation because of the production tolerance possible
Dimension +/- 10 mm

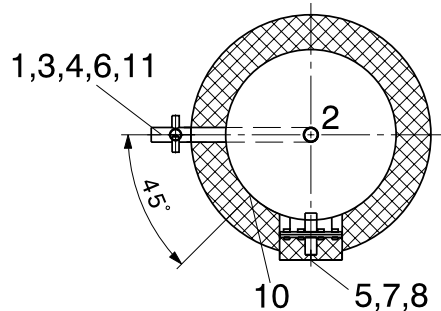
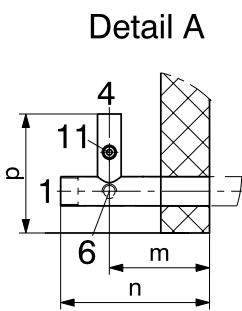
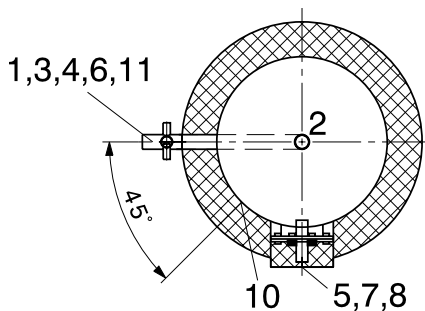
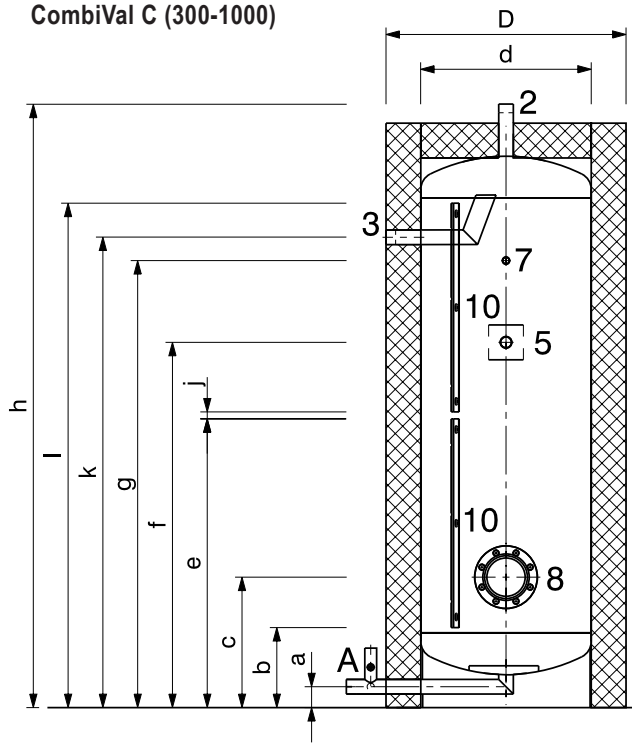
CombiVal E type	D	d	H	h	a	k	e	g	m	n	p	r	s	t	u	v	V**	Tilting dimension
(300)	650	500	1850	-	235	-	945	1160	1584	325	-	-	-	1505	1360	745	785	1961
(500)	750	597	1960	-	238	-	996	1225	1674	275	-	-	-	1500	1360	745	785	2082
(800)	950	750	2030	1938	101	347	-	1150	1893	352	-	-	1336	1505	1400	975	1020	1960
(1000)	1050	850	2060	1968	100	355	-	1158	1910	360	-	-	1331	1500	1400	1075	1120	2000
(1500)	1240	1000	2240	2133	105	375	-	1357	2049	390	890	1167	1521	1657	1450	1265	1310	2370
(2000)	1440	1200	2150	2044	118	406	-	1388	1933	421	921	1118	1248	1498	1350	1465	1510	2350

** when using a flange-mounted electric heating element

CombiVal C (200)
(Dimensions in mm)



CombiVal C (300-1000)



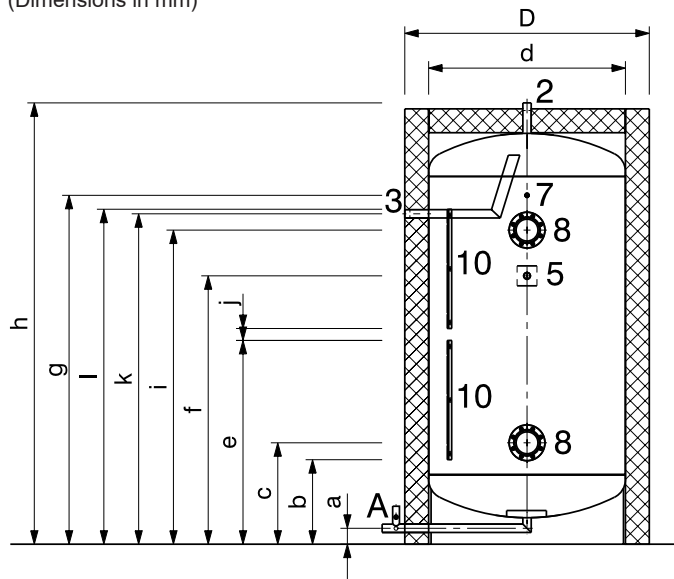
- 1 Cold water with baffle plate
type (200,300) Rp 1 1/4" (IT)
type (400,500) Rp 1 1/2" (IT)
type (750,1000) Rp 2" (IT)
- 2 Hot water
type (200,300) Rp 1 1/4" (IT)
type (400,500) Rp 1 1/2" (IT)
type (750,1000) Rp 2" (IT)
- 3 Charging flow - hot
type (200-500) Rp 1" (IT)
type (750,1000) Rp 1 1/4" (IT)
- 4 Charging return - cold
type (200-500) Rp 1" (IT)
type (750,1000) Rp 1 1/4" (IT)
- 5 Circulation with baffle plate
type (200-500) Rp 1" (IT)
type (750,1000) Rp 1 1/4" (IT)
- 6 Drain
type (200-500) Rp 1/2" (IT)
type (750,1000) Rp 3/4" (IT)

- 7 Sleeve (Rp 1/2" (IT)) for mountable immersion sleeve and thermometer (L = 100 mm, inner Ø = 8 mm)
- 8 Hand-hole flange (17.7 Nm)
Ø 180/120 mm, pitch circle 150 mm, 8 x M10 or optional:
- flange-mounted electric heating element or
- impressed current anode set with flange cover, 180 - 1 1/2" (IT)
- 10 Sensor terminal bar 600 x 30 mm
1 x type (200), 2 x type (300-1000)
- 11 Immersion sleeve M16 x 1.5 for sensor/thermostat

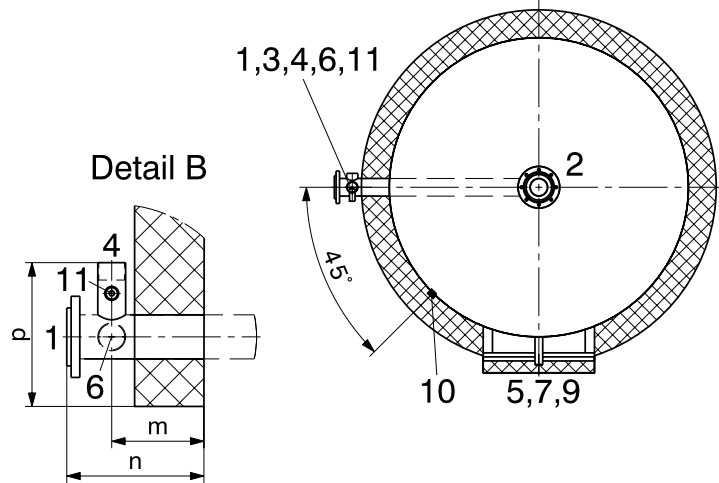
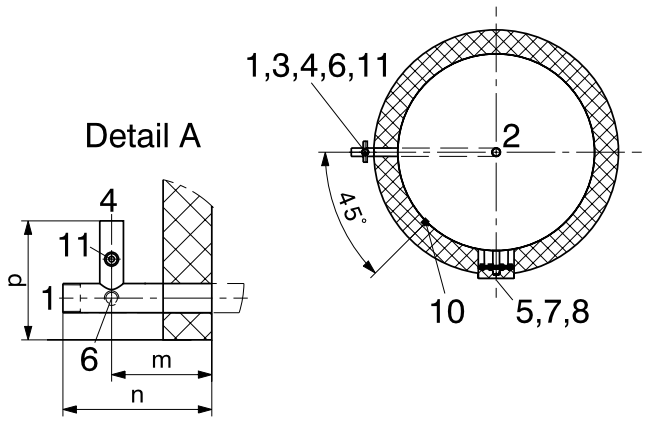
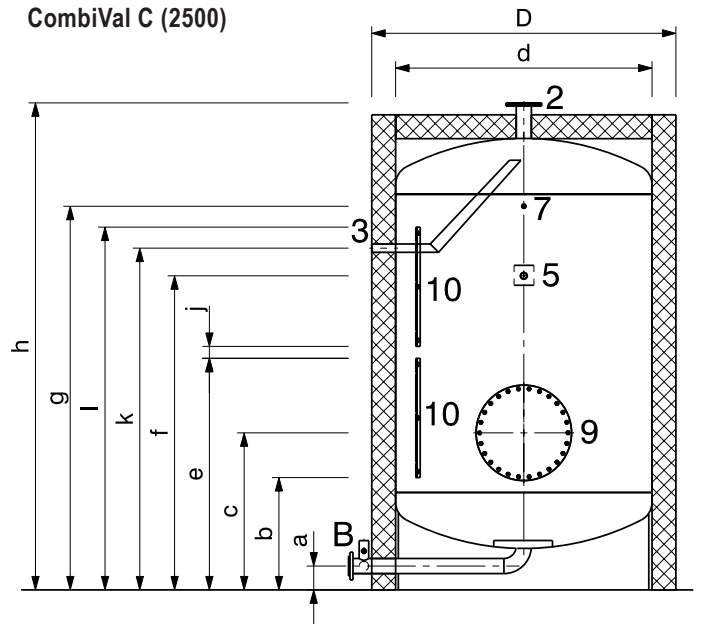
Variation because of the production tolerance possible
Dimension +/- 10 mm

CombiVal C type	a	b	c	d	D	e	f	g	h	j	k	l	m	n	p	Tilting dimension
(200)	60	240	375	490	690	840	885	1035	1485	-	1125	-	130	190	174	1515
(300)	60	240	375	490	690	840	1050	1285	1735	20	1355	1460	135	205	174	1765
(400)	70	285	420	590	790	885	1095	1330	1745	20	1365	1505	135	205	184	1780
(500)	80	295	430	640	840	895	1105	1340	1765	20	1375	1515	130	190	194	1805
(750)	80	335	470	740	940	935	1310	1590	2085	60	1665	1595	135	205	194	2130
(1000)	80	365	500	890	1090	965	1215	1495	1890	20	1384	1585	135	205	203	1950

CombiVal C (1500,2000)
(Dimensions in mm)



CombiVal C (2500)



- 1 Cold water with baffle plate type (1500,2000) Rp 2" (IT)
type (2500) DN 65/PN 10
- 2 Hot water type (1500,2000) Rp 2" (IT)
type (2500) DN 65/PN 10
- 3 Charging flow - hot type (1500-2000) Rp 1 1/2" (IT)
- 4 Charging return - cold type (1500-2000) Rp 1 1/2" (IT)
- 5 Circulation with baffle plate type (1500-2000) Rp 1 1/2" (IT)
- 6 Drain type (1500-2000) Rp 3/4" (IT)
- 7 Sleeve (Rp 1/2" (IT)) for mountable immersion sleeve and thermometer (L = 100 mm, inner Ø = 8 mm)
- 8 Hand-hole flange (17.7 Nm)
Ø 180/120 mm, pitch circle 150 mm, 8 x M10 or optional:
- flange-mounted electric heating element or
- impressed current anode set with flange cover, 180 - 1 1/2" (IT)

- 9 Manhole flange (40 Nm)
Ø 400/480 mm, pitch circle 445 mm, 26 x M14 or optional
Flange adapter:
- for electric heating element or
- for impressed current anode set with flange cover, 180 - 1 1/2" (IT)
- 10 Sensor terminal bar 600 x 30 mm
2 x type (1500-2500)
- 11 Immersion sleeve M16 x 1.5 for sensor/thermostat

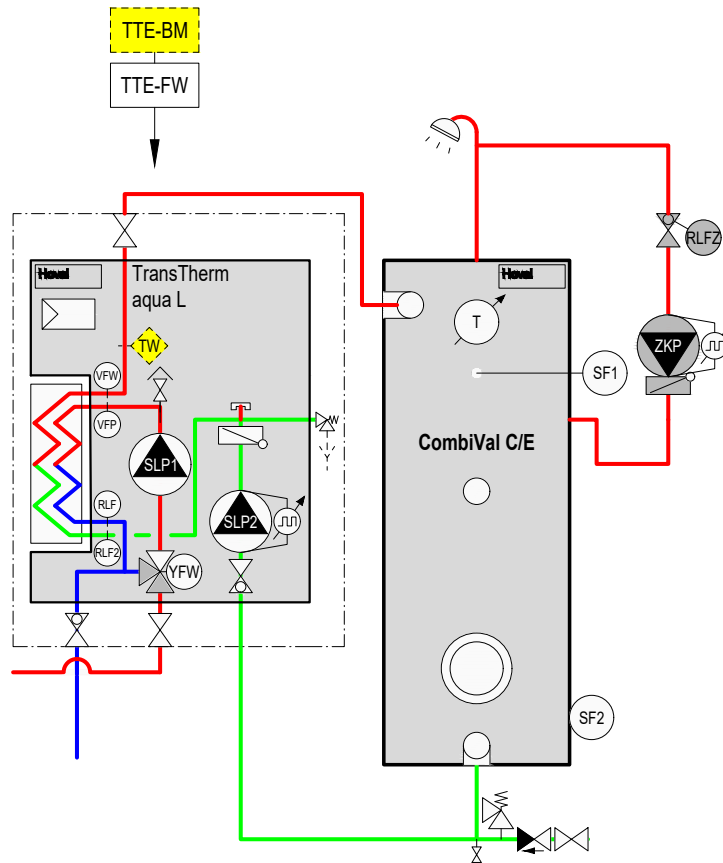
Variation because of the production tolerance possible
Dimension +/- 10 mm

CombiVal C type	a	b	c	d	D	e	f	g	h	i	j	k	m	n	p	Tilting dimension
(1500)	80	375	510	990	1230	975	1350	1755	2220	1580	60	1674	165	235	203	2300
(2000)	80	405	530	1090	1330	1005	1580	2035	2525	1860	165	1909	165	235	203	2610
(2500)	120	515	790	1290	1530	1115	1580	1930	2450	-	60	1719	165	250	243	2570

Water heating

TransTherm® aqua L

- Circulation via storage tank
- Storage tank charging system



- TTE-FW Basic module district heating/fresh water
- TW Flow temperature monitor (if required)
- VFP Primary flow sensor
- VFW Flow sensor hot water
- RLF Primary return sensor
- RLF2 Return sensor cold water
- SF1 Calorifier sensor 1
- SF2 Calorifier sensor 2
- RLFZ Circulation sensor
- SLP1 Calorifier charging pump primary
- SLP2 Calorifier charging pump secondary
- YFW Three-way valve with actuator
- ZKP Recirculation pump

Option

- BM TopTronic® E control module

Notice

A safety valve (6 bar) must be installed in the cold water line. The loading module is already protected with a safety valve (10 bar).