

Calorifier continuous flow system

Consisting of:

- fresh water module TransTherm® aqua F
- buffer storage tank (option)

Fresh water module TransTherm® aqua F

- Fully installed station with plate heat exchanger for the provision of domestic hot water using the continuous flow principle
- Intended for wall installation
- The primary side (heating side) contains the three-way valve, high-efficiency pump, ventilation, filling/drain valves and 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 and a filling/drain valve. A flow sensor ensures the correct hot water temperature. 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
- Flow sensor
- 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)



Range

Fresh water module

TransTherm® aqua F type	Output kW
(6-10)	50
(6-16)	90
(6-20)	115
(6-30)	175
(6-40)	230
(6-50)	275

Delivery

- The buffer 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

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
- 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.

Fresh water module



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 buffer storage tank is not supplied.

TransTherm® aqua F	Output kW
(6-10)	50
(6-16)	90
(6-20)	115
(6-30)	175
(6-40)	230
(6-50)	275

Part No.

8006 387
8006 388
8006 389
8006 390
8006 391
8006 392

Version with copper-free heat exchanger

TransTherm® aqua F

with copper-free heat exchanger

TransTherm® aqua F	Output kW
(6-10)	50
(6-16)	90
(6-20)	115
(6-30)	175
(6-40)	230
(6-50)	275

8006 521
8006 522
8006 523
8006 524
8006 525
8006 526

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 (also on-site recirculation 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 1/4"
for TransTherm® aqua L, F, FS
Test valve suitable for flame treatment
for hygienic-microbiologic
tests.

Part No.

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 1 1/4"	3.6
MBL DN 40	Rp 1 1/2"	5.0
MBL DN 50	Rp 2"	7.5

Additional sludge separators
see "Various system components"

2062 165
2062 166
2062 167
2062 168



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 1/2" 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 1/2" 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

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.

Part No.

Performance data

TransTherm® aqua F (6-10 to 6-50)

Domestic water secondary			Heating water temperature flow											
			55 °C (6-...)						60 °C (6-...)					
			(10)	(16)	(20)	(30)	(40)	(50)	(10)	(16)	(20)	(30)	(40)	(50)
60/5 °C	T return primary	°C	-	-	-	-	-	-	-	-	-	-	-	-
	Ṽ primary	m³/h	-	-	-	-	-	-	-	-	-	-	-	-
	Q max.	kW	-	-	-	-	-	-	-	-	-	-	-	-
	Ṽ secondary	m³/h	-	-	-	-	-	-	-	-	-	-	-	-
60/10 °C	T return primary	°C	-	-	-	-	-	-	-	-	-	-	-	-
	Ṽ primary	m³/h	-	-	-	-	-	-	-	-	-	-	-	-
	Q max.	kW	-	-	-	-	-	-	-	-	-	-	-	-
	Ṽ secondary	m³/h	-	-	-	-	-	-	-	-	-	-	-	-
60/15 °C	T return primary	°C	-	-	-	-	-	-	-	-	-	-	-	-
	Ṽ primary	m³/h	-	-	-	-	-	-	-	-	-	-	-	-
	Q max.	kW	-	-	-	-	-	-	-	-	-	-	-	-
	Ṽ secondary	m³/h	-	-	-	-	-	-	-	-	-	-	-	-
60/20 °C	T return primary	°C	-	-	-	-	-	-	-	-	-	-	-	-
	Ṽ primary	m³/h	-	-	-	-	-	-	-	-	-	-	-	-
	Q max.	kW	-	-	-	-	-	-	-	-	-	-	-	-
	Ṽ secondary	m³/h	-	-	-	-	-	-	-	-	-	-	-	-
55/5 °C	T return primary	°C	-	-	-	-	-	-	30	30	30	30	30	30
	Ṽ primary	m³/h	-	-	-	-	-	-	1.25	2.04	2.51	3.71	4.76	5.66
	Q max.	kW	-	-	-	-	-	-	43	70	86	127	163	194
	Ṽ 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
	Ṽ primary	m³/h	-	-	-	-	-	-	1.11	2.04	2.51	3.71	4.76	5.63
	Q max.	kW	-	-	-	-	-	-	38	70	86	127	163	193
	Ṽ 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
	Ṽ primary	m³/h	-	-	-	-	-	-	0.76	1.46	1.95	3.06	4.23	5.4
	Q max.	kW	-	-	-	-	-	-	26	50	67	105	145	185
	Ṽ 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
	Ṽ primary	m³/h	-	-	-	-	-	-	0.47	0.9	1.17	1.9	2.63	3.36
	Q max.	kW	-	-	-	-	-	-	16	31	40	65	90	115
	Ṽ 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
	Ṽ 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
	Ṽ 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
	Ṽ 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
	Ṽ 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
	Ṽ 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
	Ṽ 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
	Ṽ 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
	Ṽ 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
45/5 °C	T return primary	°C	19	18	18	18	18	17	17	16	16	16	16	15
	Ṽ primary	m³/h	0.86	1.91	2.9	2.9	3.8	4.61	0.86	1.92	2.91	2.91	3.82	4.63
	Q max.	kW	35	80	123	123	162	199	42	95	145	145	192	235
	Ṽ secondary	m³/h	0.76	1.73	2.65	2.65	3.50	4.27	0.90	2.05	3.13	3.13	4.14	5.05
45/10 °C	T return primary	°C	21	21	20	20	20	20	20	19	19	19	18	18
	Ṽ primary	m³/h	0.86	1.91	2.89	2.89	3.81	4.62	0.86	1.92	2.84	2.84	3.63	4.32
	Q max.	kW	33	74	114	114	151	185	39	89	133	133	172	207
	Ṽ secondary	m³/h	0.81	1.84	2.81	2.81	3.74	4.56	0.97	2.20	3.29	3.29	4.25	5.09
45/15 °C	T return primary	°C	24	23	23	23	23	23	23	22	21	21	21	21
	Ṽ primary	m³/h	0.86	1.91	2.91	2.91	3.81	4.62	0.87	1.8	2.61	2.61	3.33	3.98
	Q max.	kW	30	69	106	106	139	170	37	78	115	115	148	178
	Ṽ secondary	m³/h	0.88	1.99	3.05	3.05	4.02	4.90	1.07	2.26	3.31	3.31	4.26	5.12
45/20 °C	T return primary	°C	27	26	26	26	26	26	25	26	24	24	24	24
	Ṽ primary	m³/h	0.86	1.92	2.91	2.91	3.71	4.41	0.85	1.63	2.36	2.36	3.02	3.61
	Q max.	kW	27	63	96	96	124	148	33	65	96	96	123	148
	Ṽ secondary	m³/h	0.96	2.18	3.33	3.33	4.28	5.13	1.16	2.27	3.32	3.32	4.28	5.14

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 F (6-10 to 6-50)

Domestic water secondary		TransTherm® aqua F		Heating water temperature flow											
				65 °C (6-...)						70 °C (6-...)					
				(10)	(16)	(20)	(30)	(40)	(50)	(10)	(16)	(20)	(30)	(40)	(50)
60/5 °C	T return primary	°C	30	30	30	30	30	30	30	30	30	30	30	30	
	Ḑ 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	
	Ḑ 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	
60/10 °C	T return primary	°C	30	30	30	30	30	30	30	30	30	30	30	30	
	Ḑ 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	
	Ḑ 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	
60/15 °C	T return primary	°C	30	30	30	30	30	30	30	30	30	30	30	30	
	Ḑ 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	
	Ḑ 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	
60/20 °C	T return primary	°C	30	30	30	30	30	30	30	30	30	30	30	30	
	Ḑ 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	
	Ḑ 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	
55/5 °C	T return primary	°C	30	30	30	30	30	30	30	30	30	30	30	30	
	Ḑ 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	
	Ḑ 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	
55/10 °C	T return primary	°C	30	30	30	30	30	30	30	30	30	30	30	30	
	Ḑ 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	
	Ḑ 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	
55/15 °C	T return primary	°C	30	30	30	30	30	30	30	30	30	30	30	30	
	Ḑ 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	
	Ḑ 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	
55/20 °C	T return primary	°C	30	30	30	30	30	30	30	30	30	30	30	30	
	Ḑ 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	
	Ḑ 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	
50/5 °C	T return primary	°C	30	30	30	30	30	30	30	30	30	30	30	30	
	Ḑ 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	
	Ḑ 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	
50/10 °C	T return primary	°C	30	30	30	30	30	30	30	30	30	30	30	30	
	Ḑ 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	
	Ḑ 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	
50/15 °C	T return primary	°C	30	30	30	30	30	30	30	30	30	30	30	30	
	Ḑ 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	
	Ḑ 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	
50/20 °C	T return primary	°C	30	30	30	30	30	30	30	30	30	30	30	30	
	Ḑ 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	
	Ḑ 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	
45/5 °C	T return primary	°C	16	15	14	14	14	13	15	13	13	13	12	12	
	Ḑ primary	m³/h	0.87	1.83	2.64	2.64	3.38	4.03	0.84	1.62	2.35	2.35	3.01	3.59	
	Q max.	kW	48	104	152	152	196	236	52	104	152	152	196	236	
	Ḑ secondary	m³/h	1.04	2.24	3.27	3.27	4.23	5.07	1.13	2.24	3.28	3.28	4.23	5.07	
45/10 °C	T return primary	°C	19	17	17	17	17	16	17	16	16	16	15	15	
	Ḑ primary	m³/h	0.87	1.69	2.45	2.45	3.13	3.73	0.77	1.49	2.17	2.17	2.78	3.32	
	Q max.	kW	45	91	134	134	172	206	46	91	133	133	172	206	
	Ḑ secondary	m³/h	1.13	2.25	3.30	3.30	4.24	5.09	1.13	2.24	3.29	3.29	4.24	5.09	
45/15 °C	T return primary	°C	21	20	20	20	20	19	20	19	19	19	19	18	
	Ḑ primary	m³/h	0.8	1.55	2.24	2.24	2.87	3.43	0.71	1.36	1.98	1.98	2.54	3.03	
	Q max.	kW	39	78	115	115	148	178	40	78	114	114	148	177	
	Ḑ secondary	m³/h	1.14	2.27	3.31	3.31	4.26	5.11	1.16	2.26	3.30	3.30	4.26	5.10	
45/20 °C	T return primary	°C	24	23	23	23	23	23	23	23	22	22	22	22	
	Ḑ primary	m³/h	0.72	1.4	2.02	2.02	2.59	3.1	0.63	1.22	1.78	1.78	2.29	2.73	
	Q max.	kW	33	66	96	96	123	148	33	65	96	96	124	148	
	Ḑ secondary	m³/h	1.16	2.29	3.32	3.32	4.28	5.13	1.15	2.27	3.32	3.32	4.29	5.13	

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

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

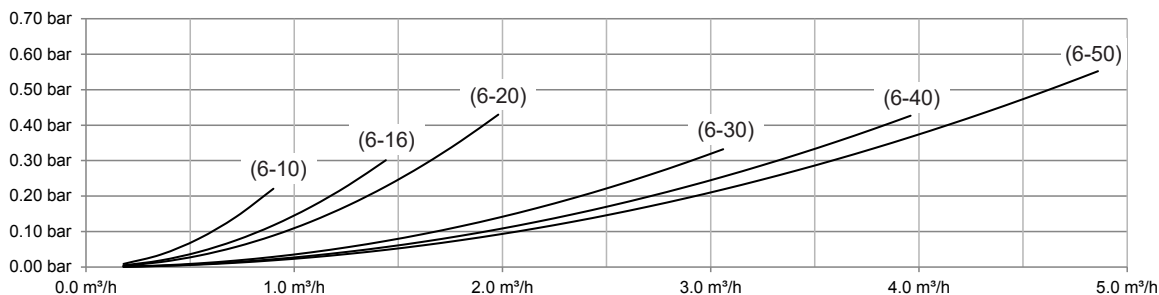
Performance data

TransTherm® aqua F

Residential units standard apartment according to DIN 4708	Peak heat demand standard apartment according to DIN 4708 with preparation 10 min	Sum flow rate domestic hot water calculation flow rate according to DIN 4708	Simultaneity factor according to DIN 4708	Peak flow rate (DHW)	Peak flow rate (DHW)	Peak flow rate (DHW)	Peak output (DHW)	Peak flow rate TransTherm® aqua F (DHW)	Peak flow rate TransTherm® aqua F (DHW)	Peak flow rate TransTherm® aqua F (DHW)	DHW calorifier output TransTherm® aqua F	TransTherm® aqua F	Required hot water volume at 70/30 °C (40 K)	Required hot water buffer storage tank volume at 70/30 °C (40 K)	Hot water buffer storage tank 1 EnerVal	Required recharging capacity	Required recharging capacity	Required recharging capacity
N	Preparation	Σ VR at DHW 60 °C	g	Vs at DHW 60 °C	Vs at DHW 60 °C	Vs at DHW 60 °C		Vs at DHW 60 °C	Vs at DHW 60 °C	Vs at DHW 60 °C	Q at HT 70/30 °C DHW 10/60 °C	Type			Type	Time: 20 min 70/30 °C (40 K)	Time: 30 min 70/30 °C (40 K)	Time: 60 min 70/30 °C (40 K)
	[Wh]	[l/s]		[l/s]	[l/min]	[m³/h]	[kW]	[l/s]	[l/min]	[m³/h]	[kW]		[m³]	[m³]		[kW]	[kW]	[kW]
1	5820	0.17	1.00	0.17	10.01	0.60	35	0.24	14.3	0.86	50	(6-10)	0.13	0.16	(200)	23	15	8
2	11640	0.33	0.680	0.23	13.61	0.82	47	0.24	14.3	0.86	50	(6-10)	0.17	0.22	(200)	31	21	10
3	17460	0.50	0.544	0.27	16.33	0.98	57	0.43	25.8	1.55	90	(6-16)	0.20	0.27	(300)	37	25	12
4	23280	0.67	0.466	0.31	18.66	1.12	65	0.43	25.8	1.55	90	(6-16)	0.23	0.30	(300)	42	28	14
5	29100	0.83	0.415	0.35	20.77	1.25	72	0.43	25.8	1.55	90	(6-16)	0.26	0.34	(500)	47	31	16
6	34920	1.00	0.377	0.38	22.64	1.36	79	0.43	25.8	1.55	90	(6-16)	0.28	0.37	(500)	51	34	17
7	40740	1.17	0.349	0.41	24.45	1.47	85	0.43	25.8	1.55	90	(6-16)	0.31	0.40	(500)	55	37	18
8	46560	1.33	0.349	0.47	27.94	1.68	97	0.55	33.0	1.98	115	(6-20)	0.35	0.45	(500)	63	42	21
9	52380	1.50	0.308	0.46	27.74	1.66	97	0.55	33.0	1.98	115	(6-20)	0.35	0.45	(500)	63	42	21
10	58200	1.67	0.292	0.49	29.23	1.75	102	0.55	33.0	1.98	115	(6-20)	0.37	0.47	(500)	66	44	22
11	64020	1.83	0.279	0.51	30.72	1.84	107	0.55	33.0	1.98	115	(6-20)	0.38	0.50	(500)	70	46	23
12	69840	2.00	0.268	0.54	32.19	1.93	112	0.55	33.0	1.98	115	(6-20)	0.40	0.52	(500)	73	49	24
13	75660	2.17	0.258	0.56	33.57	2.01	117	0.55	33.0	1.98	115	(6-20)	0.42	0.55	(500)	76	51	25
14	81480	2.34	0.249	0.58	34.89	2.09	122	0.84	50.2	3.01	175	(6-30)	0.44	0.57	(500)	79	53	26
15	87300	2.50	0.242	0.61	36.33	2.18	127	0.84	50.2	3.01	175	(6-30)	0.45	0.59	(800)	82	55	27
16	93120	2.67	0.235	0.63	37.63	2.26	131	0.84	50.2	3.01	175	(6-30)	0.47	0.61	(800)	85	57	28
17	98940	2.84	0.228	0.65	38.79	2.33	135	0.84	50.2	3.01	175	(6-30)	0.49	0.63	(800)	88	59	29
18	104760	3.00	0.223	0.67	40.17	2.41	140	0.84	50.2	3.01	175	(6-30)	0.50	0.65	(800)	91	61	30
19	110580	3.17	0.217	0.69	41.27	2.48	144	0.84	50.2	3.01	175	(6-30)	0.52	0.67	(800)	94	62	31
20	116400	3.34	0.212	0.71	42.44	2.55	148	0.84	50.2	3.01	175	(6-30)	0.53	0.69	(800)	96	64	32
21	122220	3.50	0.208	0.73	43.72	2.62	153	0.84	50.2	3.01	175	(6-30)	0.55	0.71	(800)	99	66	33
22	128040	3.67	0.204	0.75	44.92	2.70	157	0.84	50.2	3.01	175	(6-30)	0.56	0.73	(800)	102	68	34
23	133860	3.84	0.200	0.77	46.04	2.76	161	0.84	50.2	3.01	175	(6-30)	0.58	0.75	(800)	104	70	35
24	139680	4.00	0.196	0.78	47.08	2.82	164	0.84	50.2	3.01	175	(6-30)	0.59	0.77	(800)	107	71	36
25	145500	4.17	0.193	0.80	48.29	2.90	168	0.84	50.2	3.01	175	(6-30)	0.60	0.78	(800)	110	73	37
26	151320	4.34	0.190	0.82	49.44	2.97	173	0.84	50.2	3.01	175	(6-30)	0.62	0.80	(800)	112	75	37
27	157140	4.50	0.187	0.84	50.53	3.03	176	0.84	50.2	3.01	175	(6-30)	0.63	0.82	(800)	115	76	38
28	162960	4.67	0.184	0.86	51.56	3.09	180	0.84	50.2	3.01	175	(6-30)	0.64	0.84	(800)	117	78	39
29	168780	4.84	0.181	0.88	52.54	3.15	183	1.10	65.8	3.95	230	(6-40)	0.66	0.85	(800)	119	79	40
30	174600	5.00	0.179	0.90	53.75	3.22	188	1.10	65.8	3.95	230	(6-40)	0.67	0.87	(1000)	122	81	41
31	180420	5.17	0.176	0.91	54.61	3.28	191	1.10	65.8	3.95	230	(6-40)	0.68	0.89	(1000)	124	83	41
32	186240	5.34	0.174	0.93	55.73	3.34	194	1.10	65.8	3.95	230	(6-40)	0.70	0.91	(1000)	126	84	42
33	192060	5.50	0.172	0.95	56.81	3.41	198	1.10	65.8	3.95	230	(6-40)	0.71	0.92	(1000)	129	86	43
34	197880	5.67	0.170	0.96	57.85	3.47	202	1.10	65.8	3.95	230	(6-40)	0.72	0.94	(1000)	131	87	44
35	203700	5.84	0.168	0.98	58.85	3.53	205	1.10	65.8	3.95	230	(6-40)	0.74	0.96	(1000)	133	89	44
36	209520	6.01	0.166	1.00	59.81	3.59	209	1.10	65.8	3.95	230	(6-40)	0.75	0.97	(1000)	136	90	45
37	215340	6.17	0.164	1.01	60.73	3.64	212	1.10	65.8	3.95	230	(6-40)	0.76	0.99	(1000)	138	92	46
38	221160	6.34	0.163	1.03	61.99	3.72	216	1.10	65.8	3.95	230	(6-40)	0.78	1.01	(1000)	141	94	47
39	226980	6.51	0.161	1.05	62.84	3.77	219	1.10	65.8	3.95	230	(6-40)	0.79	1.02	(1000)	143	95	48
40	232800	6.67	0.159	1.06	63.65	3.82	222	1.10	65.8	3.95	230	(6-40)	0.80	1.03	(1000)	144	96	48
41	238620	6.84	0.158	1.08	64.84	3.89	226	1.10	65.8	3.95	230	(6-40)	0.81	1.05	(1000)	147	98	49
42	244440	7.01	0.156	1.09	65.58	3.93	229	1.10	65.8	3.95	230	(6-40)	0.82	1.07	(1000)	149	99	50
43	250260	7.17	0.155	1.11	66.71	4.00	233	1.10	65.8	3.95	230	(6-40)	0.83	1.08	(1000)	151	101	50
44	256080	7.34	0.154	1.13	67.82	4.07	237	1.31	78.8	4.73	275	(6-50)	0.85	1.10	(1500)	154	103	51
45	261900	7.51	0.152	1.14	68.46	4.11	239	1.31	78.8	4.73	275	(6-50)	0.86	1.11	(1500)	155	104	52
46	267720	7.67	0.151	1.16	69.52	4.17	243	1.31	78.8	4.73	275	(6-50)	0.87	1.13	(1500)	158	105	53
47	273540	7.84	0.150	1.18	70.56	4.23	246	1.31	78.8	4.73	275	(6-50)	0.88	1.15	(1500)	160	107	53
48	279360	8.01	0.149	1.19	71.58	4.29	250	1.31	78.8	4.73	275	(6-50)	0.89	1.16	(1500)	162	108	54
49	285180	8.17	0.148	1.21	72.58	4.35	253	1.31	78.8	4.73	275	(6-50)	0.91	1.18	(1500)	165	110	55
50	291000	8.34	0.146	1.22	73.06	4.38	255	1.31	78.8	4.73	275	(6-50)	0.91	1.19	(1500)	166	110	55
51	296820	8.51	0.145	1.23	74.01	4.44	258	1.31	78.8	4.73	275	(6-50)	0.93	1.20	(1500)	168	112	56
52	302640	8.67	0.144	1.25	74.94	4.50	261	1.31	78.8	4.73	275	(6-50)	0.94	1.22	(1500)	170	113	57
53	308460	8.84	0.143	1.26	75.86	4.55	265	1.31	78.8	4.73	275	(6-50)	0.95	1.23	(1500)	172	115	57
54	314280	9.01	0.142	1.28	76.75	4.60	268	1.31	78.8	4.73	275	(6-50)	0.96	1.25	(1500)	174	116	58

Residential units standard apartment according to DIN 4708	Peak heat demand standard apartment according to DIN 4708 with preparation 10 min	Sum flow rate domestic hot water calculation flow rate according to DIN 4708	Simultaneity factor according to DIN 4708	Peak flow rate (DHW)	Peak flow rate (DHW)	Peak flow rate (DHW)	Peak output (DHW)	Peak flow rate TransTherm® aqua F (DHW)	Peak flow rate TransTherm® aqua F (DHW)	Peak flow rate TransTherm® aqua F (DHW)	DHW calorifier output TransTherm® aqua F	TransTherm® aqua F	Required hot water volume at 70/30 °C (40 K)	Required hot water buffer storage tank volume at 70/30 °C (40 K)	Hot water buffer storage tank 1 EnerVal	Required recharging capacity	Required recharging capacity	Required recharging capacity
N	Preparation	∑ VR at DHW 60 °C	g	Ṡs at DHW 60 °C	Ṡs at DHW 60 °C	Ṡs at DHW 60 °C		Ṡs at DHW 60 °C	Ṡs at DHW 60 °C	Ṡs at DHW 60 °C	Q at HT 70/30 °C DHW 10/60 °C	Type			Type	Time: 20 min 70/30 °C (40 K)	Time: 30 min 70/30 °C (40 K)	Time: 60 min 70/30 °C (40 K)
	[Wh]	[l/s]		[l/s]	[l/min]	[m³/h]	[kW]	[l/s]	[l/min]	[m³/h]	[kW]		[m³]	[m³]		[kW]	[kW]	[kW]
55	320100	9.17	0.141	1.29	77.62	4.66	271	1.31	78.8	4.73	275	(6-50)	0.97	1.26	(1500)	176	117	59
56	325920	9.34	0.140	1.31	78.47	4.71	274	1.31	78.8	4.73	275	(6-50)	0.98	1.28	(1500)	178	119	59
57	331740	9.51	0.140	1.33	79.87	4.79	279	1.31	78.8	4.73	275	(6-50)	1.00	1.30	(1500)	181	121	60
58	337560	9.67	0.139	1.34	80.69	4.84	282	1.69	101.2	6.07	350	(6-60)	1.01	1.31	(1500)	183	122	61
59	343380	9.84	0.138	1.36	81.49	4.89	284	1.69	101.2	6.07	350	(6-60)	1.02	1.32	(1500)	185	123	62
60	349200	10.01	0.137	1.37	82.27	4.94	287	1.69	101.2	6.07	350	(6-60)	1.03	1.34	(1500)	187	124	62
61	355020	10.18	0.136	1.38	83.03	4.98	290	1.69	101.2	6.07	350	(6-60)	1.04	1.35	(1500)	188	126	63
62	360840	10.34	0.135	1.40	83.77	5.03	292	1.69	101.2	6.07	350	(6-60)	1.05	1.36	(1500)	190	127	63
63	366660	10.51	0.135	1.42	85.12	5.11	297	1.69	101.2	6.07	350	(6-60)	1.06	1.38	(1500)	193	129	64
64	372480	10.68	0.134	1.43	85.83	5.15	299	1.69	101.2	6.07	350	(6-60)	1.07	1.40	(1500)	195	130	65
65	378300	10.84	0.133	1.44	86.52	5.19	302	1.69	101.2	6.07	350	(6-60)	1.08	1.41	(1500)	196	131	65
66	384120	11.01	0.132	1.45	87.19	5.23	304	1.69	101.2	6.07	350	(6-60)	1.09	1.42	(1500)	198	132	66
67	389940	11.18	0.132	1.48	88.52	5.31	309	1.69	101.2	6.07	350	(6-60)	1.11	1.44	(1500)	201	134	67
68	395760	11.34	0.131	1.49	89.16	5.35	311	1.69	101.2	6.07	350	(6-60)	1.11	1.45	(1500)	202	135	67
69	401580	11.51	0.130	1.50	89.78	5.39	313	1.69	101.2	6.07	350	(6-60)	1.12	1.46	(1500)	204	136	68
70	407400	11.68	0.130	1.52	91.08	5.46	318	1.69	101.2	6.07	350	(6-60)	1.14	1.48	(1500)	207	138	69
71	413220	11.84	0.129	1.53	91.67	5.50	320	1.69	101.2	6.07	350	(6-60)	1.15	1.49	(1500)	208	139	69
72	419040	12.01	0.128	1.54	92.24	5.53	322	1.69	101.2	6.07	350	(6-60)	1.15	1.50	(1500)	209	139	70
73	424860	12.18	0.128	1.56	93.52	5.61	326	1.69	101.2	6.07	350	(6-60)	1.17	1.52	(1500)	212	141	71
74	430680	12.34	0.127	1.57	94.06	5.64	328	1.69	101.2	6.07	350	(6-60)	1.18	1.53	(1500)	213	142	71
75	436500	12.51	0.127	1.59	95.33	5.72	333	1.69	101.2	6.07	350	(6-60)	1.19	1.55	(1500)	216	144	72
76	442320	12.68	0.126	1.60	95.84	5.75	334	1.69	101.2	6.07	350	(6-60)	1.20	1.56	(1500)	217	145	72
77	448140	12.84	0.126	1.62	97.10	5.83	339	1.69	101.2	6.07	350	(6-60)	1.21	1.58	(1500)	220	147	73
78	453960	13.01	0.125	1.63	97.58	5.86	340	1.69	101.2	6.07	350	(6-60)	1.22	1.59	(1500)	221	148	74
79	459780	13.18	0.124	1.63	98.04	5.88	342	1.69	101.2	6.07	350	(6-60)	1.23	1.59	(1500)	222	148	74
80	465600	13.34	0.124	1.65	99.29	5.96	346	1.69	101.2	6.07	350	(6-60)	1.24	1.61	(2000)	225	150	75
81	471420	13.51	0.123	1.66	99.72	5.98	348	1.69	101.2	6.07	350	(6-60)	1.25	1.62	(2000)	226	151	75
82	477240	13.68	0.123	1.68	100.95	6.06	352	1.69	101.2	6.07	350	(6-60)	1.26	1.64	(2000)	229	153	76
83	483060	13.85	0.122	1.69	101.35	6.08	354	1.69	101.2	6.07	350	(6-60)	1.27	1.65	(2000)	230	153	77
84	488880	14.01	0.122	1.71	102.57	6.15	358	2.17	130.0	7.80	450	(6-70)	1.28	1.67	(2000)	233	155	78
85	494700	14.18	0.121	1.72	102.94	6.18	359	2.17	130.0	7.80	450	(6-70)	1.29	1.67	(2000)	233	156	78
86	500520	14.35	0.121	1.74	104.15	6.25	363	2.17	130.0	7.80	450	(6-70)	1.30	1.69	(2000)	236	157	79
87	506340	14.51	0.120	1.74	104.49	6.27	365	2.17	130.0	7.80	450	(6-70)	1.31	1.70	(2000)	237	158	79
88	512160	14.68	0.120	1.76	105.69	6.34	369	2.17	130.0	7.80	450	(6-70)	1.32	1.72	(2000)	240	160	80
89	517980	14.85	0.120	1.78	106.89	6.41	373	2.17	130.0	7.80	450	(6-70)	1.34	1.74	(2000)	242	162	81
90	523800	15.01	0.119	1.79	107.19	6.43	374	2.17	130.0	7.80	450	(6-70)	1.34	1.74	(2000)	243	162	81
91	529620	15.18	0.119	1.81	108.38	6.50	378	2.17	130.0	7.80	450	(6-70)	1.36	1.76	(2000)	246	164	82
92	535440	15.35	0.118	1.81	108.65	6.52	379	2.17	130.0	7.80	450	(6-70)	1.36	1.77	(2000)	246	164	82
93	541260	15.51	0.118	1.83	109.83	6.59	383	2.17	130.0	7.80	450	(6-70)	1.37	1.79	(2000)	249	166	83
94	547080	15.68	0.117	1.83	110.07	6.60	384	2.17	130.0	7.80	450	(6-70)	1.38	1.79	(2000)	250	166	83
95	552900	15.85	0.117	1.85	111.25	6.67	388	2.17	130.0	7.80	450	(6-70)	1.39	1.81	(2000)	252	168	84
96	558720	16.01	0.117	1.87	112.42	6.74	392	2.17	130.0	7.80	450	(6-70)	1.41	1.83	(2000)	255	170	85
97	564540	16.18	0.116	1.88	112.62	6.76	393	2.17	130.0	7.80	450	(6-70)	1.41	1.83	(2000)	255	170	85
98	570360	16.35	0.116	1.90	113.78	6.83	397	2.17	130.0	7.80	450	(6-70)	1.42	1.85	(2000)	258	172	86
99	576180	16.51	0.116	1.92	114.94	6.90	401	2.17	130.0	7.80	450	(6-70)	1.44	1.87	(2000)	261	174	87
100	582000	16.68	0.115	1.92	115.10	6.91	402	2.17	130.0	7.80	450	(6-70)	1.44	1.87	(2000)	261	174	87

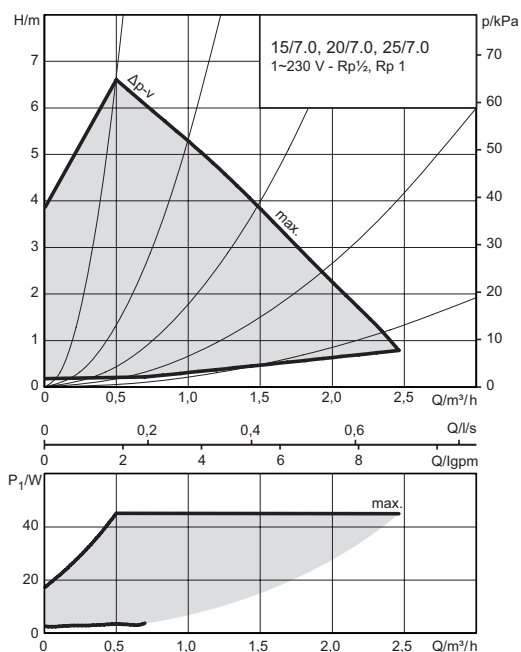
Pressure drop ($\Delta P / Q$ max) - domestic water side (secondary)



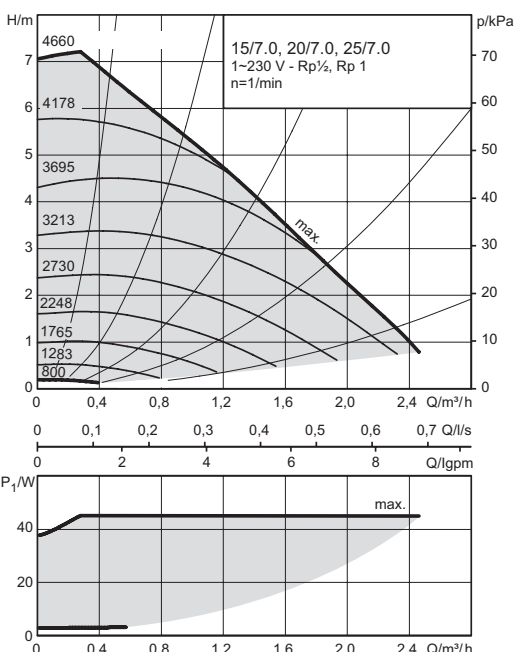
Circulating pumps characteristic curves

for circulation set 3/4"

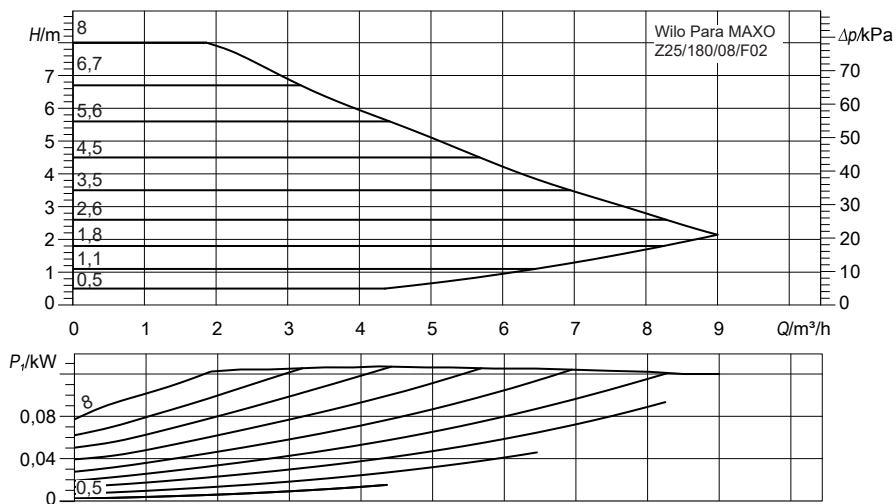
$\Delta p-v$ (variable)



Constant speed

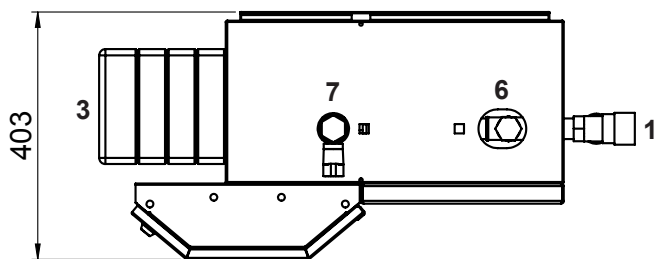
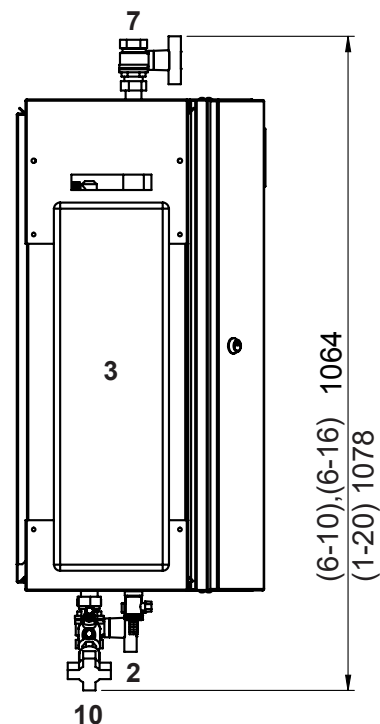
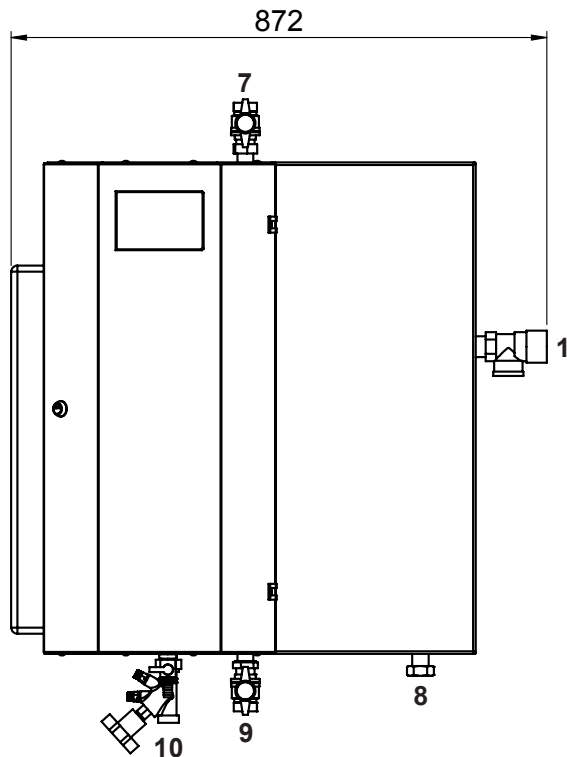


for circulation set 1" and 1 1/4"



Charging module TransTherm® aqua F (6-10 to 6-20)

(Dimensions in mm)



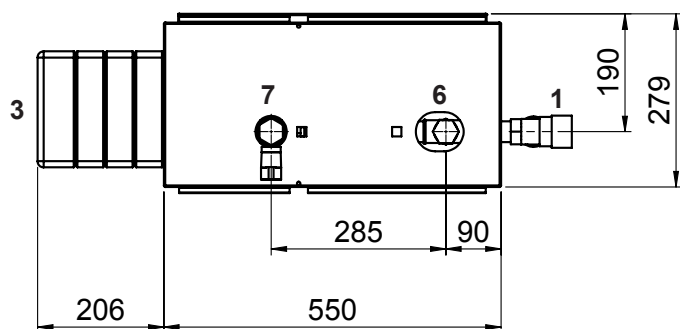
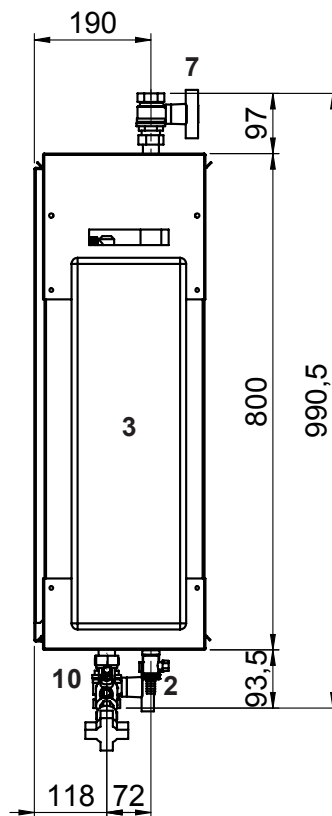
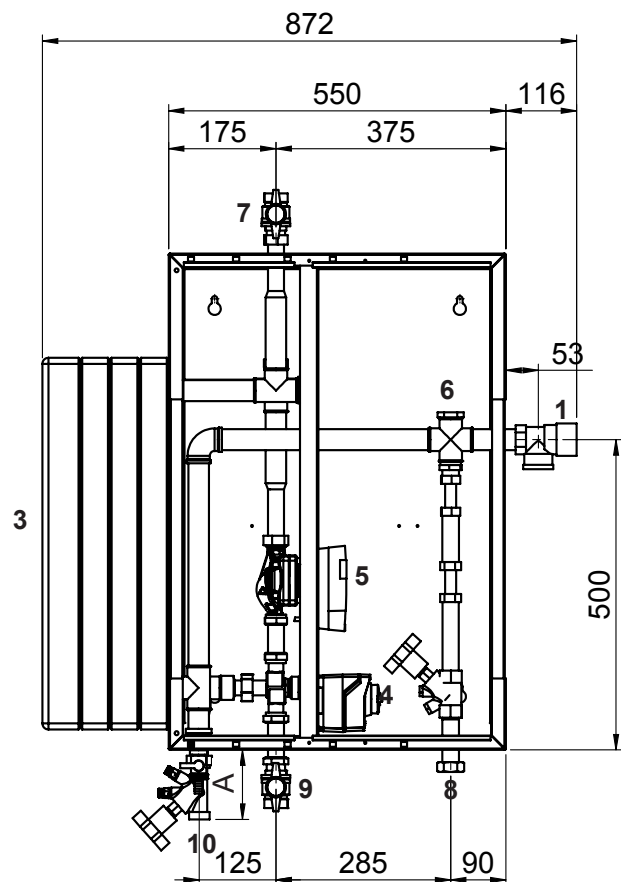
- 1 Safety valve
Hot water 10 bar
- 2 Filling/drain valve
- 3 Heat exchanger

	(6-10)	(6-16)	(6-20)
6 Circulation	DN 25, Rp 1" (20, Rp ¾") (IT)		
7 Hot water	DN 25, Rp 1" (IT)		
8 Cold water	DN 25, Gp 1" (IT)		
9 Flow heating water	DN 25, Rp 1" (IT)		
10 Return heating water	DN 20, Gp 1" (IT)		

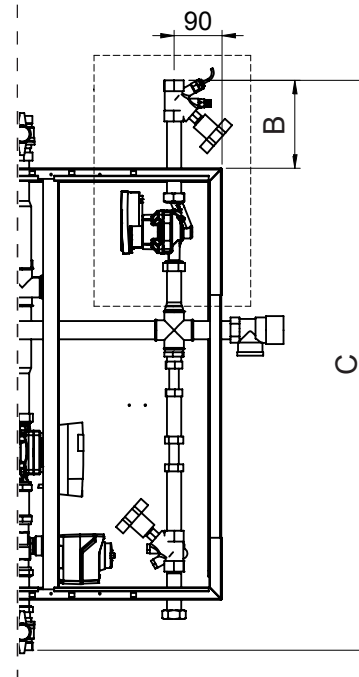
TransTherm® aqua F	Weight in kg
(6-10)	52
(6-16)	54
(6-20)	56

Gp = straight internal thread

Charging module TransTherm® aqua F (6-10 to 6-20)
(Dimensions in mm)



Version incl. circulation set



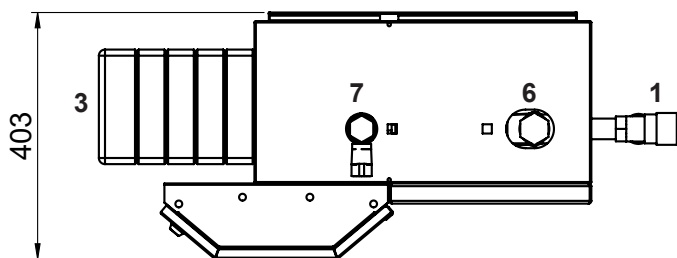
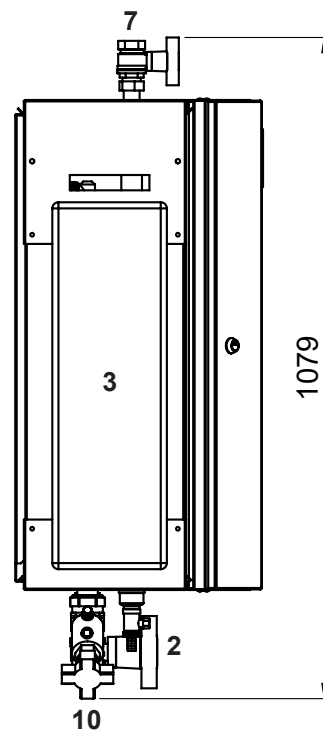
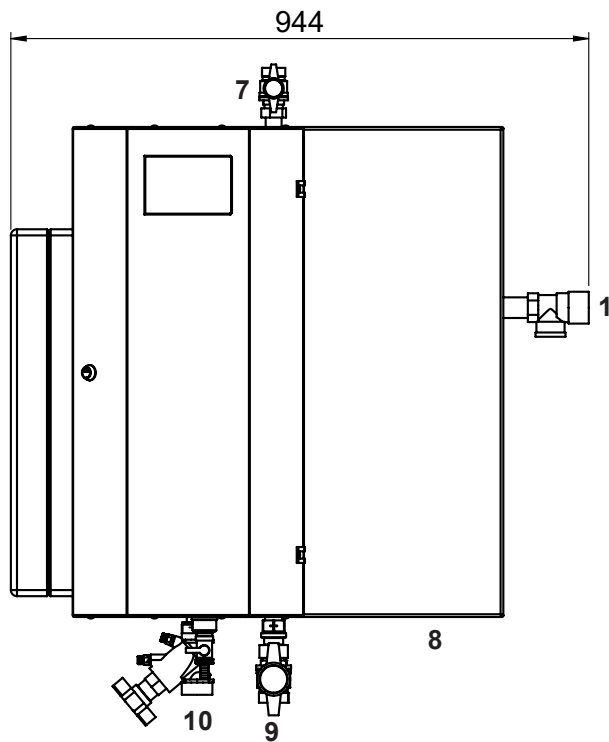
	A	B	C
(6-10)	112	163	1056
(6-16)	112	163	1045
(6-20)	133	246	1143

	(6-10)	(6-16)	(6-20)
1	Safety valve	DN 25, Rp 1" (20, Rp ¾") (IT)	
2	Hot water 10 bar	DN 25, Rp 1" (IT)	
3	Filling/drain valve	DN 25, Rp 1" (IT)	
4	Heat exchanger	DN 25, Gp 1" (IT)	
5	Primary three-way valve	DN 25, Rp 1" (IT)	
6	Primary circulating pump	DN 20, Gp 1" (IT)	
7	Circulation		
8	Hot water		
9	Cold water		
10	Flow heating water		
	Return heating water		

Gp = straight internal thread

Charging module TransTherm® aqua F (6-30 to 6-50)

(Dimensions in mm)



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

(6-30) (6-40) (6-50)

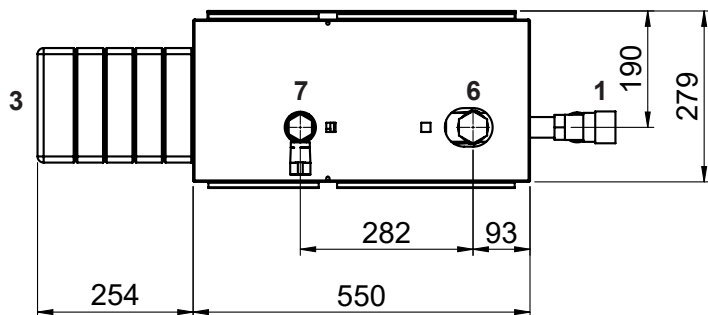
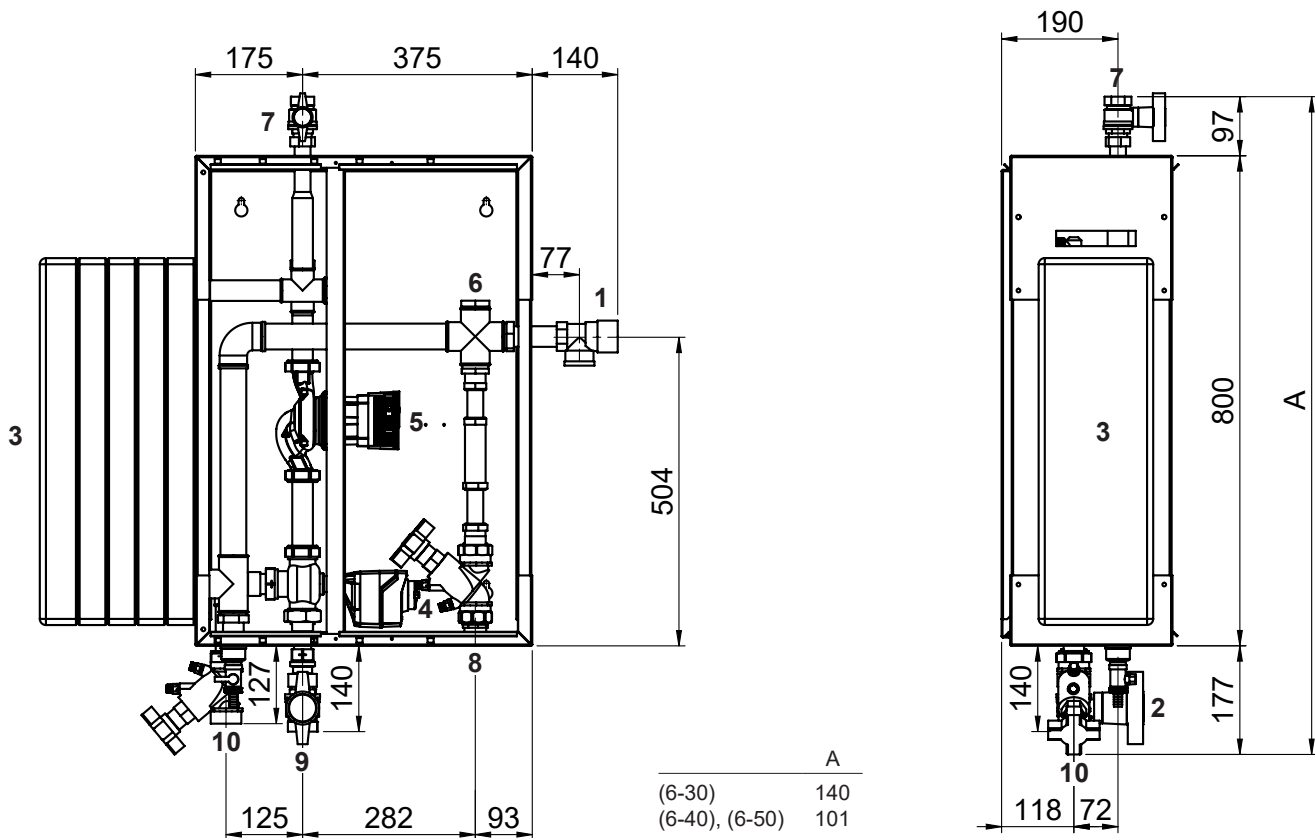
6	Circulation	DN 32, Rp 1 1/4" (25 Rp 1") (20 Rp 3/4") (IT)
7	Hot water	DN 32, Rp 1 1/4" (IT)
8	Cold water	DN 32, Rp 1 1/4" (IT)
9	Flow heating water	DN 32, Rp 1 1/4" (IT)
10	Return heating water	DN 32, Rp 1 1/4" (IT)

TransTherm® aqua F Weight in kg

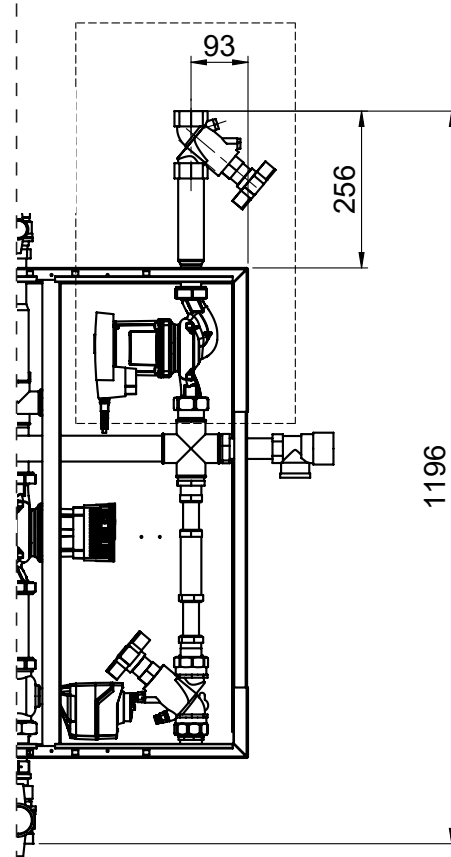
(6-30)	62
(6-40)	64
(6-50)	66

Charging module TransTherm® aqua F (6-30 to 6-50)

(Dimensions in mm)



Version incl. circulation set

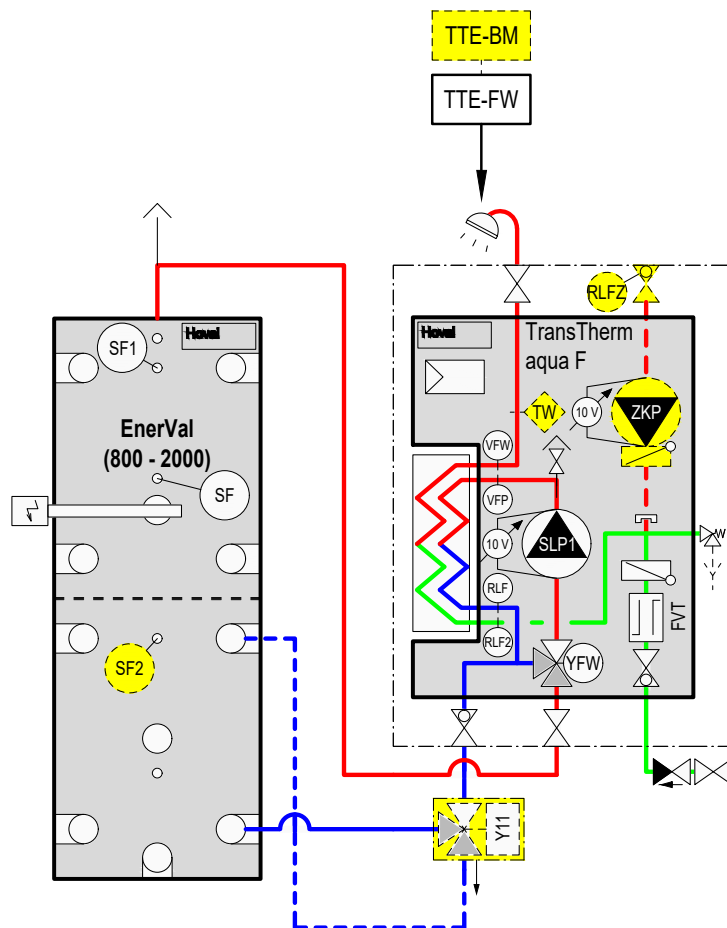


- 1 Safety valve
Hot water 10 bar
- 2 Filling/drain valve
- 3 Heat exchanger
- 4 Primary three-way valve
- 5 Primary circulating pump

(6-30) (6-40) (6-50)

- | | |
|-------------------------|---|
| 6 Circulation | DN 32, Rp 1 1/4" (25 Rp 1") (20 Rp 3/4") (IT) |
| 7 Hot water | DN 32, Rp 1 1/4" (IT) |
| 8 Cold water | DN 32, Rp 1 1/4" (IT) |
| 9 Flow heating water | DN 32, Rp 1 1/4" (IT) |
| 10 Return heating water | DN 32, Rp 1 1/4" (IT) |

Water heating
TransTherm® aqua F



- TTE-FW Basic module district heating/fresh water
- TW Flow temperature monitor (if required)
- VFP Flow sensor primary
- VFW Flow sensor DHW
- RLF Return sensor primary
- RLF2 Return sensor cold water
- SF Calorifier sensor
- SF1 Calorifier sensor 1
- RLFZ Circulation sensor
- SLP1 Calorifier charging pump primary
- FVT Flow rate sensor
- YFW Three-way valve with actuator
- ZKP Recirculation pump
- Y11 Return switching with actuator

Option

- BM TopTronic® E control module
- SF2 Calorifier sensor 2