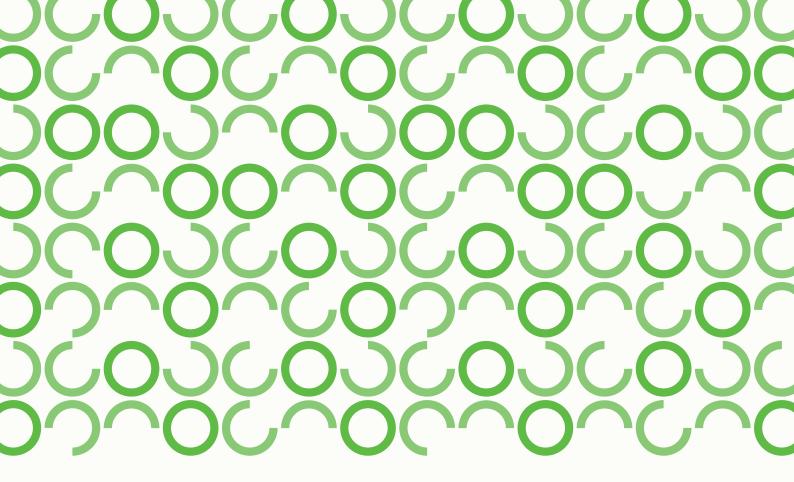




TECHNICAL CATALOG







The name of our company, Teplobak is derived from two words – «teplo» (heat) and «bak» (tank). It fully encapsulates the essence of our work. Rational fuel use, reduction of CO_2 emissions, and the utilization of renewable energy through its accumulation are our core priorities. We believe our goals align with yours.

We have expanded the functional capabilities of our tanks by implementing new structural materials, coatings, and insulation types. Our product range includes tanks with capacities from 50 to 10,000 liters. We are always ready to collaborate with you in designing and manufacturing a custom solution tailored to your needs.

TO ENSURE QUALITY:

- our company has implemented a product management system (pms) that enables process control at all stages of production
- all manufactured tanks undergo testing on hydraulic test benches
- insulation quality is examined in accordance with directive EnP2009/125/EC using our in-house laboratory
- the company operates a quality management system certified to ISO 9001
- our products are certified according to EN 12897

We understand that our tanks are an essential part of an engineering system, which is why we pay close attention to their appearance.



TEPLOBAK STANDS FOR:



over 30 years of expertise in thermal energy accumulation



15 years of manufacturing excellence



10 years of successful European partnerships

STORE, MANAGE, AND SAVE WITH TEPLOBAK!

CLASSIFICATION TABLE

							DHW						
							2 11111		VINO			VTE 4	
	VTP1	VTP 2	VTP 3	VTP 4	VTP 5	VTP 6	VTN 1	VTN 2	VTN 2 PLUS	VTN 3	VTE 1	VTE 1- PLUS	VTE
					O					9			
Carbon steel with an internal polyceramic coating Stainless steel enamel coating													
	200-10000	200-10000	200-10000	400-2000 ²	400-2000 ²	400-2000 ²	Volumes	120-1500 ²	120-1500 ²	80-3000 ²	160-500	200-500	200-5
						Working	pressure of	the tank					
	6, (8-10) ¹	6, (8-10) ¹	6, (8-10) ¹	6, (8-10) ¹	6, (8-10) ¹	6, (8-10) ¹	6, (8-10) ¹	6, (8-10) ¹	6, (8-10) ¹	6, (8-10) ¹	10	10	10
				4	4	Number 2	of heat exc	_	4		4		2
				1	1	2	Inner tank	1	1		1	1	2
						Ther	mal insula	ation					
	PL/PVC	PL/PVC	PL/PVC	PL/PVC	PL/PVC	PL/PVC	PL/PVC	PL/PVC	PL/PVC	PL/PVC			
	PU/PVC	PU/PVC PL/ABS	PU/PVC PL/ABS	PU/PVC PL/ABS	PU/PVC PL/ABS	PU/PVC PL/ABS	PU/PVC PL/ABS	PU/PVC PL/ABS	PU/PVC PL/ABS	PU/PVC PL/ABS			
	PL/ABS PS/ABS	PS/ABS	PS/ABS	PS/ABS	PS/ABS	PS/ABS	PS/ABS	PS/ABS	PS/ABS	PS/ABS			
											PUH/PVC	PUH/PVC	PUH/
	p. 9	p. 12	p. 15	p. 18	p. 24	p. 29	p. 38 and dest	p. 49	p. 58	p. 67	p. 71	p. 74	p. 7
						Sources	and dest	inations					
	0	0	0	0	0	0	0	0	0	0	0	0	e e
	0	0	O .	0	0	0	0	0	0	0	0	0	· ·
	o ⁵	o ⁵	o ⁵	0	0	0	0	0	0	o ⁵	0	0	•
	o ⁵	o ⁵	o ⁵	0	0	0	0	0	0	o ⁵	0	0	6
er	O						0	0	0	o ⁵	0	0	•
	⊙ ⁵	o ⁵	o ⁵	0	0	0							
ler		⊙ ⁵	⊙ ⁵	••	•	0	0	0	0	o ⁵	0	0	0
iler - em)	⊙ ⁵							0	••	o ⁵	0	00	•
er iler 	⊙ ⁵	o ⁵	o ⁵	0	0	0		0			0		C

- 1 Manufactured to order
- 2 Custom tank manufacturing is possible in other volumes upon request
- 3 Not available in all versions (see details in the ...)
- 4 Special execution
 5 Connection is possible via an external heat exchanger module/heat exchanger

		Heating	j + DHW				Heating		Hea	nting+Coo	ling	Heating+(Chilled wate	
VTA/N 1	VTA/N 1 SOLAR PLUS	VTA/N 2	VTA 1	VTA 1 SOLAR PLUS	VTA 2	VTA 3	VTA 4	VTA 4 ECONOM	VTA 4 (for heat pumps)	CWT CS	CWT ZN	CWT PC	CWTSS
	steel and st eel (inner tar		(Carbon steel	Í		Carbon stee	ı	Carbo	n steel	Galvanized carbon steel	Carbon steel with an internal polyceramic coating	Stainless steel
2	2	200-2000/	2	2	2		lumes						2
400-2000 ²	750-2000	200-2000/ 400-2000 ²	400-2000 ²	400-2000 ²	400-2000 ²		200-10000 ssure of the		50-300	200-10000	200-3000	200-10000	200-3000 ²
3,(6-10) ¹	3,(6-10)	3,(6-10) ¹	3,(6-10) ¹	3,(6-10) ¹	3,(6-10) ¹	3,(6-10) ¹	3,(6-10) ¹	3,(6-10) ¹	6	3-10 ¹	3-10 ¹	3-10 ¹	3-10 ¹
					ı	Number of h	eat exchanç	jers					
1	1		2	2	1	1							
1						Inn	er tank						
	1	1											
						Therma	l insulatio	n					
PL/PVC	PL/PVC	PL/PVC	PL/PVC	PL/PVC	PL/PVC	PL/PVC	PL/PVC	PL/PVC					
PU/PVC PL/ABS	PU/PVC PL/ABS	PU/PVC PL/ABS	PU/PVC PL/ABS	PU/PVC PL/ABS	PU/PVC PL/ABS	PU/PVC PL/ABS	PU/PVC PL/ABS	PU/PVC PL/ABS					
PS/ABS	PS/ABS	PS/ABS	PS/ABS	PS/ABS	PS/ABS	PS/ABS	PS/ABS	PS/ABS					
									PUH/PVC				
									PUH/ABS	RS	RS	RS	RS
										RS/ABS	RS/ABS	RS/ABS	RS/ABS
										RS+PL/ABS	RS+PL/ABS	RS+PL/ABS	RS+PL/ABS
p. 80	p. 84	p. 88	p. 93	p. 101	p. 106	p. 113	p. 117	p. 120	p. 123	p. 129	p. 129	p. 130	p. 130
					Sc	ources an	d destina	tions					
0	0	0	0	0	0	0	0	0	0	0	0	0	0
									0	0	0	0	0
0	0	0	0	0	0								
												0	0
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									0	0	0	0	0
0		© 3	0	0	0	0	0	0	0	0	0	0	0



PREMIUM-CLASS EFFECTIVE HEAT RETENTION



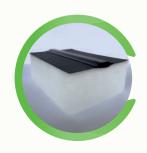
PS/ABS

MATERIAL:

Graphitized polystyrene foam 90 mm, λ=0.033 W/m•K

CASING:

ABS plastic, secured with three-position plastic locks



PL/ABS

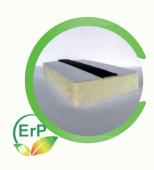
MATERIAL:

Polyester fiber 100 mm, λ=0.037 W/m•K

CASING:

ABS plastic, secured with three-position plastic locks

RIGID FOAM - ADVANCED INSULATION TECHNOLOGY



PUH/ABS

MATERIAL:

Closed-cell rigid polyurethane foam 35-50 mm, λ=0.022 W/m•K

CASING

ABS plastic, secured with Velcro fastener



PUH/PVC

MATERIAL:

Closed-cell rigid polyurethane foam 35-50 mm, λ=0.022 W/m•K

CV6ING.

PVC or "skai" with a zipper-type fastener

SMART HEAT LOSS PREVENTION AT AN AFFORDABLE PRICE



PL/PVC

MATERIAL:

Polyester fiber 100 mm, λ=0.037 W/m•K

CASING:

PVC, secured with plastic ties



PU/PVC

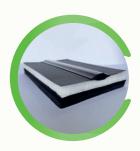
MATERIAL:

Soft polyurethane foam 90 mm, λ=0.040 W/m•K

CASING:

PVC, secured with plastic ties

YOUR COLD IN SAFE HANDS



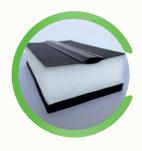
RS/ABS

MATERIAL

Foamed synthetic rubber 12-24 mm, λ =0.032 W/m•K

CASING:

ABS plastic, secured with three-position plastic locks



RS+PL/ABS

MATERIAL:

Foamed synthetic rubber 12-24 mm, λ =0.032 W/m•K **Additional layer** of polyester fiber 50 mm (λ =0.037 W/m•K) for effective thermal retention in reversible systems (cold-heat)

CASING:

ABS plastic, secured with three-position plastic locks



The insulation complies with all requirements of ErP Directive 2009/125/EC

CLASSIF	FICATION TABLE		4
THERMA	AL INSULATION		6
VTP			8
	VTP1	THERMAL STORAGE TANKS FOR DHW	9
	VTP 2	THERMAL STORAGE TANKS FOR DHW	12
	VTP 3	THERMAL STORAGE TANKS FOR DHW	15
	VTP 4	WATER HEATERS FOR DHW	18
	VTP 5	WATER HEATERS FOR DHW	24
	VTP 6	WATER HEATERS FOR DHW	29
VTN			37
	VTN 1 (170-300)	WATER HEATERS FOR DHW	38
	VTN 1 (400-1500)	WATER HEATERS FOR DHW	43
	VTN 2 (120-300)	WATER HEATERS FOR DHW	49
	VTN 2 (400-1500)	WATER HEATERS FOR DHW	53
	VTN 2 PLUS (120-300)	WATER HEATERS DHW FOR HEAT PUMP	58
	VTN 2 PLUS (400-1500)	WATER HEATERS DHW FOR HEAT PUMP	62
	VTN 3	THERMAL STORAGE TANKS FOR DHW	67
VTE			70
	VTE 1	WATER HEATERS FOR DHW	71
	VTE 1 PLUS	WATER HEATERS DHW FOR HEAT PUMP	74
	VTE 2	WATER HEATERS FOR DHW	76
VTA/N			79
	VTA/N 1	COMBINED WATER HEATER FOR HEATING SYSTEM WITH AN INTERNAL DHW TANK AND A HEAT EXCHANGER FOR AN EXTERNAL HEATING CIRCUIT	80
	VTA/N1SOLAR PLUS	COMBINED WATER HEATER FOR HEATING SYSTEM WITH AN INTERNAL DHW TANK AND A HEAT EXCHANGER FOR AN EXTERNAL HEATING CIRCUIT	84
	VTA/N 2	COMBINED WATER HEATER FOR HEATING SYSTEM WITH AN INTERNAL DHW TANK	88
VTA			92
	VTA 1	COMBINED WATER HEATER FOR HEATING SYSTEMS WITH HEAT EXCHANGERS FOR EXTERNAL HEATING CIRCUIT AND DHW	93
	VTA 1 SOLAR PLUS	COMBINED WATER HEATER FOR HEATING SYSTEMS EQUIPPED WITH 2 HEAT EXCHANGERS: DHW AND ONE FOR AN EXTERNAL HEATING CIRCUIT	10
	VTA 2	COMBINED WATER HEATER FOR HEATING SYSTEMS EQUIPPED WITH A HEAT EXCHANGER FOR DHW	10
	VTA 3	COMBINED WATER HEATER FOR HEATING SYSTEMS EQUIPPED WITH A HEAT EXCHANGER FOR AN EXTERNAL HEATING CIRCUIT	113
	VTA 4	STORAGE TANKS AND BUFFER TANKS FOR HEATING SYSTEMS VTA 4 ECONOM	117
	VTA 4 ECONOM	STORAGE TANKS AND BUFFER TANKS FOR HEATING SYSTEMS	120
	VTA 4 (FOR HEAT PUMP) 50-80	BUFFER TANKS FOR HEATING AND COOLING SYSTEMS	12:
	VTA 4 (FOR HEAT PUMP) 100-300	BUFFER TANKS FOR HEATING AND COOLING SYSTEMS	12
CWT			128
	CWT CS/ZN	THERMAL STORAGE TANKS AND BUFFER TANKS FOR COOLING SYSTEMS AND REVERSIBLE SYSTEMS	129
	CWT PC/SS	THERMAL STORAGE TANKS, BUFFER TANKS FOR COOLING SYSTEMS AND	130





ACCUMULATION OF PREHEATED WATER FOR DHW NEEDS















TECHNICAL DESCRIPTION

The DHW thermal storage tank is designed for the accumulation and storage of water preheated in an external heat exchanger for domestic hot water needs. The tank's design includes a flanged inspection hatch with a cover, intended for periodic service maintenance of the tank and for installing a flanged heat exchanger, enabling connection to an additional heating source. To protect the internal coating, one or more magnesium anodes are provided.

MATERIAL

The tank is made of S235JR (DIN 1.0038) carbon structural steel with an internal polycaramic coating that offers high adhesion to metal and elasticity, preventing microcracking due to thermal deformation of the tank walls. The external coating provides enhanced resistance to mechanical impacts and aggressive environments.

Tank					
Р	Т				
6 bar	95 °C				



WARRANTY

5 years

THERMAL INSULATION

PL/PVC - 100 mm polyester insulation in a zippered PVC casing

PU/PVC - 90 mm elastic polyurethane foam insula in a PVC casing secured with straps

PL/ABS - 100 mm polyester insulation in an ABS plastic casing with plastic latches

PS/ABS - 100 mm high-efficiency rigid graphite polystyrene insulation in an ABS plastic casing. Premium-class insulation – comwith all requirements of the ErP 2009/125/EC Directive

Water heaters can be designed and manufactured according to customer requirements, allowing for modifications in dimensions and connection configurations.

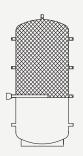
ation	
nplies	

*Energy	efficiency	class	specified	for P	S/ARS	insulation

Model	Tank volume, l	Energy efficiency class of insulation*
400	413	В
500	483	В
750	773	С
1000	1008	С
1500	1449	С
2000	2158	С

ACCESSORIES

CUSTOM DRAW



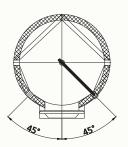
Electric heat elements

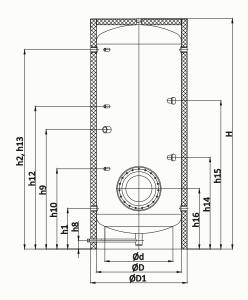
		2 kW	3 kW	4,5 kW	6 kW	7,5 kW	9 kW	12 kW	15 kW	
Model	Heating zone volume,	1~2	220	3~400						
	liters			i	Heating time	for $\Delta T=20^{\circ}$,	minutes			
400	208	254	169	113	85	68	56	-	-	
500	247	301	201	134	100	80	67	-	-	
750	398	485	323	216	162	129	108	81	-	
1000	519	633	422	281	211	169	141	105	84	
1500	746	909	606	404	303	243	202	152	121	
2000	1110	1353	902	601	451	361	301	226	180	
3000	1567	1910	1274	849	637	509	425	318	255	
4000	2080	2536	1691	1127	845	676	564	423	338	
5000	2572	3136	2090	1394	1045	836	697	523	418	
For tanks with a capa	acity of 3000 liters and abo	ve, a transiti	on piece is r	equired for o	connecting t	he electric h	eat element.			

For alternative mounting of the electric heat element, a flange adapter is used



DIMENSIONS AND CONNECTION



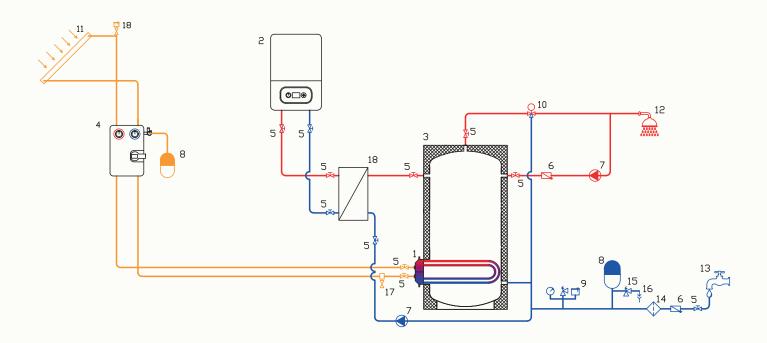


DESIGNATION Hot water supply Н Cold water supply h1 Recirculation. Alternative hot water supply or connection to another water heater h2 Drainage h8 Connection for electric heat element h9 h10,h12, h13 Connections for control, regulation, and measuring equipment Connections for magnesium anode h14,h15 h16 Flanges for heat exchangers

		Dimensions, mm				Connection sizes, mm									
Model	ØD1	ØD	Ød	Н	h1	h2	h8	h9	h10	h12	h13	h14	h15	h16	
400	800	600	450	1730	331	1481	75	921	681	1081	1481	781	-	456	
400	800	000	450		11/4"		3/4"	11/2"		1/2"		1"		Ø210	
500	800	600	450	1980	331	1731	75	1026	681	1231	1731	781	-	456	
300	000	000	450		11/4"		3/4"	11/2"		1/2"		1"		Ø210	
750	950	750	600	2035	357	1757	75	1052	707	1257	1757	807	-	532	
730	730	730	000		11/4"		3/4''	11/2"		1/2'		1"		Ø300	
1000	1050	850	700	2085	390	1790	75	1085	740	1290	1790	840	-	565	
1000	1030	000	700		11/2"		3/4"	11/2"		1/2"		1"		Ø300	
1500	1200	1000	850	2170	430	1830	75	1125	780	1330	1830	880	1380	605	
1500	1200	1000	030	550		11/2"		3/4''	11/2"		1/2"		1	"	Ø300
2000	1400	1200	1000	2260	471	1871	75	1166	821	1371	1871	921	1421	671	
2000	1400	1200	1000		2"		1"	11/2"		1/2"		1	"	Ø350	
3000	1600	1400	1150	2365	526	1926	75	1221	876	1426	1926	976	1476	726	
3000	1000	1400	1100		2"		1"	11/2"		1/2"		1	"	Ø350	
4000	1800	1600	1300	2425	557	1957	75	1252	907	1457	1957	1007	1507	757	
4000	1000	1000	1500		2"		1"	11/2"		1/2"		1	"	Ø350	
5000	1800	1600	1300	2925	557	2457	75	1507	907	1770	2457	1007	1957	757	
3000	1000	1000	1500		2"		1"	11/2"		1/2"		1	"	Ø350	
6300	2100	1900													
8000	2100	1900			Co	nfiguration	and dimer	nsions of co	nnections	available u	pon custor	mer reques	t.		
10000	2100	1900													

EXAMPLE OF A SCHEMATIC DIAGRAM

The schematic diagram does not replace qualified installation: during design, relevant standards and regulations must be followed.



- 1 U-shaped flanged heat exchanger
- 2 Gas/electric boiler
- **3** VTP 1 storage tank
- 4 Circulation pump
- 5 Ball valve
- 6 Check valve

- 7 Circulation pump
- 8 Expansion tank
- 9 Safety group
- 10 Three-way mixing valve
- 11 Solar collector (solar circuit)
- 12 Domestic hot water system

- 13 Water supply system
- 14 Mesh filter
- 15 Safety valve
- **16** Drainage
- 17 Solar circuit air vent
- 18 Automatic solar circuit air vent
- 19 External heat exchanger

ACCUMULATION OF PREHEATED WATER FOR DHW NEEDS















TECHNICAL DESCRIPTION

The DHW thermal storage tank is designed for the accumulation and storage of water preheated in an external heat exchanger for domestic hot water needs. The tank's design includes two flanged inspection hatches, each with a cover, intended for periodic service maintenance of the tank and for installing flanged heat exchangers, enabling connection to additional heating sources. To protect the internal coating, one or more magnesium anodes are provided.

Та	ank
Р	Т
6 bar	95 °C



MATERIAL

The tank is made of S235JR (DIN 1.0038) carbon structural steel with an internal polycaramic coating that offers high adhesion to metal and elasticity, preventing microcracking due to thermal deformation of the tank walls. The external coating provides enhanced resistance to mechanical impacts and aggressive environments.

WARRANTY

5 years

O THERMAL INSULATION

PL/PVC - 100 mm polyester insulation with a PVC cover and zipper closure.

PU/PVC - 90 mm flexible polyurethane foam i nsulation with a PVC cover, secured with straps.

PL/ABS - 100 mm polyester insulation with an ABS plastic cover and plastic locks.

PS/ABS - 100 mm high-efficiency rigid graphite-expanded polystyrene insulation with an ABS plastic cover. Premium-class insulation – fully complies with ErP 2009/125/EC Directive.

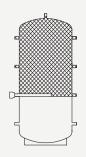
CUSTOM DRAW

Water heaters can be designed and manufactured according to customer requirements, allowing for modifications in dimensions and connection configurations.

Model	Tank volume, l	Energy efficiency class of insulation*
400	413	В
500	483	В
750	773	С
1000	1008	С
1500	1449	С
2000	2158	С

^{*}Energy efficiency class specified for PS/ABS insulation

ACCESSORIES



Electric heat elements

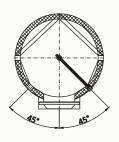
		2 kW	3 kW	4,5 kW	6 kW	7,5 kW	9 kW	12 kW	15 kW				
Model	Heating zone volume,	1~2	20	3~400									
	liters		Heating time for ΔT=20°, minutes										
400	121	148	98	66	49	39	33	-	-				
500	149	182	121	81	61	48	40						
750	242	295	197	131	98	79	66	49	-				
1000	318	388	258	172	129	103	86	65	52				
1500	467	569	380	253	190	152	127	95	76				
2000	708	863	575	384	288	230	192	144	115				
3000	1020	1244	829	553	415	332	276	207	166				
4000	1366	1665	1110	740	555	444	370	278	222				
5000	1969	2401	1600	1067	800	640	533	400	320				
For tanks with a cons	oity of 7000 liters and abou	o a trancitio	on niono ic re	auired for a	annoating th	o alaatria ha	at alamant						

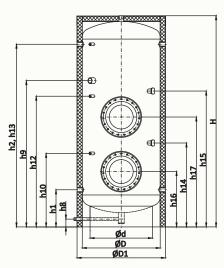
For alternative mounting of the electric heat element, a flange adapter is used





DIMENSIONS AND CONNECTION





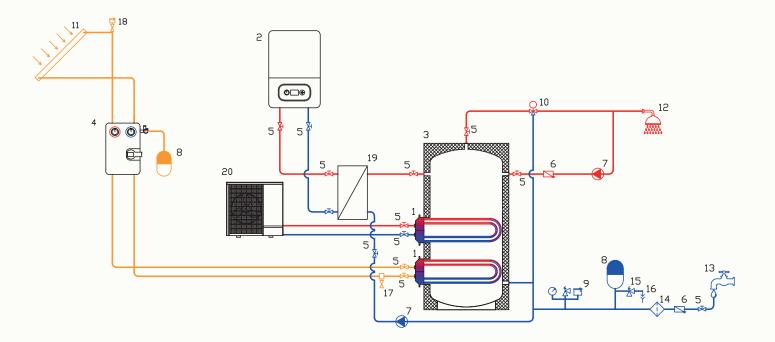
DESIGNATION Hot water supply Н h1 Cold water supply Recirculation. Alternative hot water supply or connection to another water heater h2 Drainage h8 h9 Connection for electric heat element h10,h12, h13 Connections for control, regulation, and measuring equipment Connections for magnesium anode h14,h15 Flanges for heat exchangers h16, h17

		Dimensi	ions, mm						Connecti	on sizes, r	nm				
Model	ØD1	ØD	Ød	Н	h1	h2	h8	h9	h10	h12	h13	h14	h15	h16	h17
400	800	600	450	1730	331	1481	75	1231	681	1081	1481	781	-	456	906
400	800	600	450		1 1/4"		3/4"	11/2"		1/2"		1"		ø:	210
500	800	600	450	1980	331	1731	75	1381	681	1231	1731	781	-	456	1031
300	800	000	430		1 1/4"		3/4"	11/2"		1/2"		1"		Ø2	210
750	950	750	600	2035	357	1757	75	1407	707	1257	1757	807	-	532	1057
730	730	730	000		1 1/4"		3/4"	11/2"		1/2'		1"		Ø3	300
1000	1050	850	700	2085	390	1790	75	1440	740	1290	1790	840	-	565	1090
1000	1030	830	700		11/2"		3/4"	11/2"		1/2"		1"		Ø3	300
1500	1200	1000	850	2170	430	1830	75	1480	780	1330	1830	880	1380	605	1130
1300	1200	1000	830		11/2"		3/4"	11/2"		1/2"		1	"	Ø3	300
2000	1400	1200	1000	2260	471	1871	75	1521	821	1371	1871	921	1421	671	1171
2000	1400	1200	1000		2"		1"	11/2"		1/2"		1	"	Ø3	350
3000	1600	1400	1150	2365	526	1926	75	1576	876	1426	1926	976	1476	726	1226
3000	1000	1400	1150		2"		1"	11/2"		1/2"		1	"	Ø3	350
4000	1800	1600	1300	2425	557	1957	75	1607	907	1457	1957	1007	1507	757	1257
4000	1000	1000	1300		2"		1"	11/2"		1/2"		1	"	Ø3	350
5000	1800	1600	1300	2925	557	2457	75	1807	907	1770	2457	1007	1957	757	1507
3000	1000	1000	1300		2"		1"	11/2"		1/2"		1	"	Ø3	350
6300	2100	1900													
8000	2100	1900				Configurat	ion and din	nensions of	connectio	ns availabl	e upon cus	tomer requ	uest.		
10000	2100	1900													

VTP

EXAMPLE OF A SCHEMATIC DIAGRAM

The schematic diagram does not replace qualified installation: during design, relevant standards and regulations must be followed.



- 1 U-shaped flanged heat exchanger
- 2 Gas/electric boiler
- 3 VTP 2 storage tank
- 4 Circulation pump
- 5 Ball valve
- 6 Check valve
- 7 Circulation pump

- 8 Expansion tank
- 9 Safety group
- 10 Three-way mixing valve
- 11 Solar collector (solar circuit)
- 12 Domestic hot water system
- 13 Water supply system
- 14 Mesh filter

- 15 Safety valve
- **16** Drainage
- 17 Solar circuit air vent
- 18 Automatic solar circuit air vent
- 19 External heat exchanger
- 20 Heat pump

ACCUMULATION OF PREHEATED WATER FOR DHW NEEDS











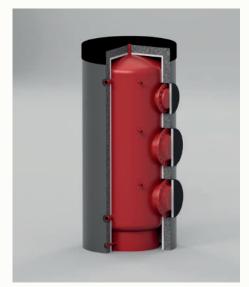




TECHNICAL DESCRIPTION

The DHW thermal storage tank is designed for the accumulation and storage of water preheated in an external heat exchanger for domestic hot water needs. The tank's design includes three flanged inspection hatches, each with a cover, intended for periodic service maintenance of the tank and for installing flanged heat exchangers, enabling connection to additional heating sources. To protect the internal coating, one or more magnesium anodes are provided.

Tank							
Р	Т						
6 bar	95 °C						



MATERIAL

The tank is made of S235JR (DIN 1.0038) carbon structural steel with an internal polycaramic coating that offers high adhesion to metal and elasticity, preventing microcracking due to thermal deformation of the tank walls. The external coating provides enhanced resistance to mechanical impacts and aggressive environments.

WARRANTY

5 years

THERMAL INSULATION

- PL/PVC 100 mm polyester insulation with a PVC cover and zipper closure.
- PU/PVC 90 mm flexible polyurethane foam insulation with a PVC cover, secured with straps.
- PL/ABS 100 mm polyester insulation with an ABS plastic cover and plastic locks.
- PS/ABS 100 mm high-efficiency rigid graphite-expanded polystyrene insulation with an ABS plastic cover. Premium-class insulation – fully complies with ErP 2009/125/EC Directive.

Model	Tank volume, I	Energy efficiency class of insulation*
400	413	В
500	483	В
750	773	С
1000	1008	С
1500	1449	С
2000	2158	С

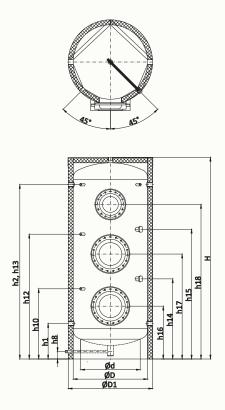
^{*}Energy efficiency class specified for PS/ABS insulation

CUSTOM DRAW

Water heaters can be designed and manufactured according to customer requirements, allowing for modifications in dimensions and connection configurations.



DIMENSIONS AND CONNECTION

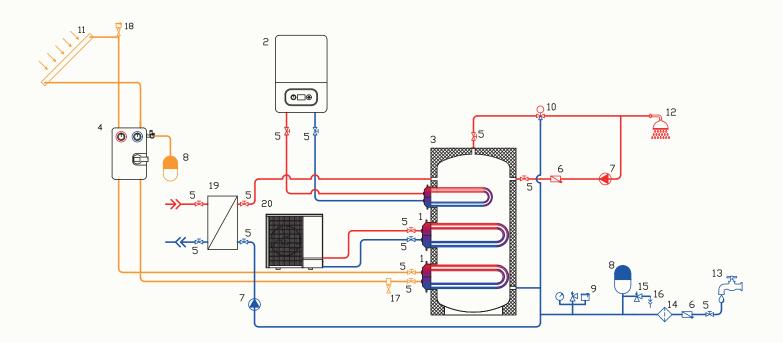


DESIGNATION Hot water supply Н h1 Cold water supply Recirculation. Alternative hot water supply h2 or connection to another water heater Drainage h8 Connection for electric heat element h9 h10,h12, h13 Connections for control, regulation, and measuring equipment h14,h15 Connections for magnesium anode Flanges for heat exchangers h16-h18

Madal		Dimens	ions, mm						Connection	on sizes, ı	mm				Connection sizes, mm											
Model	ØD1	ØD	Ød	Н	h1	h2	h8	h10	h12	h13	h14	h15	h16	h17	h18											
400	800	600	450	1730	331	1481	75	681	1081	1481	781	-	456	906	1306											
400	800	800	450		11/4"		3/4"		1/2"		1"			Ø210												
500	800	600	450	1980	331	1731	75	681	1231	1731	781	-	456	1031	1531											
300	000	000	400		11/4"		3/4"		1/2"		1"			Ø210												
750	950	750	600	2035	357	1757	75	707	1257	1757	807	-	532	1057	1557											
730	730	730	000		1 1/4"		3/4"		1/2'		1"		Ø3	300	Ø210											
1000	1050	850	700	2085	390	1790	75	740	1290	1790	840	-	565	1090	1590											
1000	1000	000	700		11/2"		3/4"		1/2"		1"			Ø300												
1500	1200	1000	850	2170	430	1830	75	780	1330	1830	880	1380	605	1130	1630											
1000	1200	1000	000		11/2"		3/4"		1/2"		1	"		Ø300												
2000	1400	1200	1000	2260	471	1871	75	821	1371	1871	921	1421	671	1171	1671											
2000	1400	1200	1000		2"		1"		1/2"		1	"	Ø3	350	Ø300											
3000	1600	1400	1150	2365	526	1926	75	876	1426	1926	976	1476	726	1226	1726											
3000	1000	1400	1100		2"		1"		1/2"		1	! "	Ø3	350	Ø300											
4000	1800	1600	1300	2425	557	1957	75	907	1457	1957	1007	1507	757	1257	1757											
4000	1000	1000	1300		2"		1"		1/2"		1	! "		Ø350												
5000	1800	1600	1300	2925	557	2457	75	907	1770	2457	1007	1957	757	1507	2257											
3000	1000	1000	1500		2"		1"		1/2"		1	! "		Ø350												
6300	2100	1900																								
8000	2100	1900		Configuration and dimensions of connections available upon customer request.																						
10000	2100	1900																								

EXAMPLE OF A SCHEMATIC DIAGRAM

The schematic diagram does not replace qualified installation: during design, relevant standards and regulations must be followed.



- Flanged U-shaped heat exchanger
- Gas/electric boiler 2
- VTP 3 storage tank 3
- Circulation pump 4
- Ball valve 5
- Check valve
- Circulation pump

- Expansion tank 8
- Safety group
- Three-way mixing valve 10
- Solar collector (solar circuit) 11
- Domestic hot water system 12
- Water supply system 13
- 14 Mesh filter

- Safety valve 15
- Drainage
- Automatic solar circuit air vent
- Solar circuit air vent
- External plate heat exchanger
- 20 Heat pump

VTP



HEATING AND ACCUMULATION OF WATER FOR DHW NEEDS















TECHNICAL DESCRIPTION

The water heater is designed to heat water using a lower coiled heat exchanger from various sources, as well as to accumulate and store it for DHW. The tank's design includes a flanged inspection hatch with a cover, intended for periodic service maintenance of the tank. Above the heat exchanger, a fitting is provided for installing an electric heat element. To protect the internal coating, one or more magnesium anodes are included.

MATERIAL

The tank is made of S235JR (DIN 1.0038) carbon structural steel with an internal polycaramic coating that offers high adhesion to metal and elasticity, preventing microcracking due to thermal deformation of the tank walls. The external coating provides enhanced resistance to mechanical impacts and aggressive environments.

- 1	
a	HEAT EXCHANGER
C	TILAT LACTIANOLA

The heat exchanger is made of AISI 304L (DIN 1.4307) stainless steel.

WARRANTY

5 years

O THERMAL INSULATION

PL/PVC - 100 mm polyester insulation with a PVC cover and zipper closure.

PU/PVC - 90 mm flexible polyurethane foam insulation with a PVC cover, secured with straps.

PL/ABS - 100 mm polyester insulation with an ABS plastic cover and plastic locks.

PS/ABS - 100 mm high-efficiency rigid graphite-expanded polystyrene insulation with an ABS plastic cover. Premium-class insulation - fully complies with ErP 2009/125/EC Directive.

CUSTOM DRAW

Water heaters can be designed and manufactured according to customer requirements, allowing for modifications in dimensions and connection configurations.

Та	nk
Р	Т
6 bar	95 °C
Co	oil
Р	Т
10 bar	95 °C



Model	Tank volume, I	Lower	coil	Energy efficiency class of insulation*
		Scoil1, m²	Vcoil1, I	
400	413	1,95	13,0	В
500	483	1,95	13,0	В
300	400	2,60	18,0	, and the second
750	773	2,05	15,0	С
,,,,		2,95	21,0	,
1000	1008	2,75	25,5	С
.000	1000	3,50	32,5	,
1500	1449	4,40	42,0	С
2000	2158	5,55	53,0	С

^{*}Energy efficiency class specified for PS/ABS insulation

ACCESSORIES

2 kW 3 kW 4,5 kW 6 kW 7.5 kW 9 kW 12 kW 15 kW Heating zone volume S coil 1, m² 1~220 3~400 Model liters ΔТ=20°, хв 1,95 1,95 2,60 2,05 2,95 2,75 3,50 4,40 5,55

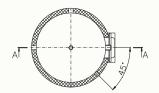
Electric heat elements

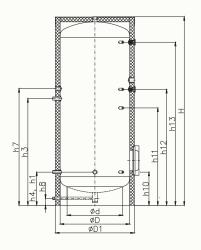


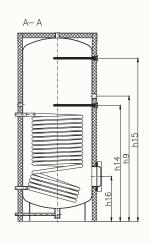




DIMENSIONS AND CONNECTION







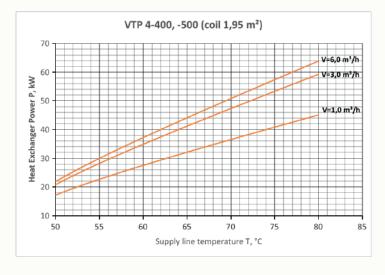
DESIGNATION Hot water supply Н Cold water supply h1 Supply and return lines of the lower heat exchanger (Coil 1) h3,h4 h7 Recirculation Drainage h8 Connection for electric heat element h9 Connections for control, regulation, and measuring equipment h10-h13 Connections for magnesium anode h14,h15 h16 Flange

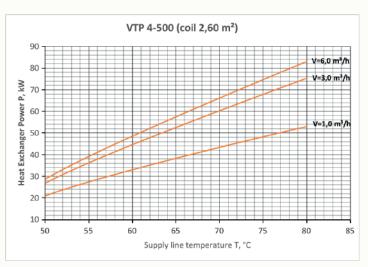
Model	Scoil 1, m²		Dimens	sions, m	m		Connection sizes, mm											
Model	Scoil I, III	ØD1	ØD	Ød	Н	h1	h3	h4	h7	h8	h9	h10	h11	h12	h13	h14	h15	h16
400	1,95	800	600	450	1730	331	991	331	1231	75	1191	331	891	1091	1481	1091	-	456
400					11/	/4"	1	"	3/-	4''	11/2"		1/:	2''		1"		Ø210
	1,95	800	600	450	4000	774	991	331	1231	75	1191	774	891	1091	4774	1091		45.0
500	2,60	800	600	450	1980	331	1211	331	1331	75	1411	331	1111	1311	1731	1311	-	456
					11/	/4"	1	"	3/-	4"	11/2"		1/.	2''		1"		Ø210
	2,05	950	750	600	2035	357	929	357	1257	75	1129	357	829	1029	1757	1029		402
750	2,95	950	750	800	2035	357	1149	357	1257	75	1349	357	1049	1249	1/5/	1249	-	482
					11/	/4"	1	"	3/-	4''	11/2"		1/.	2''		1"		Ø210
	2,75	4050	050	700	0005	700	940	700	4000	75	1140	390	840	1040	4700	1040		F4F
1000	3,5	1050	850	700	2085	390	1090	390	1290	75	1290	390	990	1190	1790	1190	-	515
					11/	/2"		11/4"		3/4"	11/2"		1/.	2"		1"		Ø210
1500	4,4	1200	1000	850	2170	430	1130	430	1330	75	1330	430	1030	1230	1830	1230	1830	555
1500					11/	/2"		11/4"		3/4"	11/2"		1/.	2"		1	"	Ø210
2000	5,55	1400	1200	1000	2260	471	1171	471	1372	75	1371	471	1071	1271	1871	1271	1871	596
2000					2			11/4"		3/4"	11/2"		1/	2''		1	"	Ø210

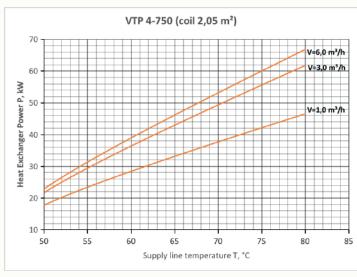


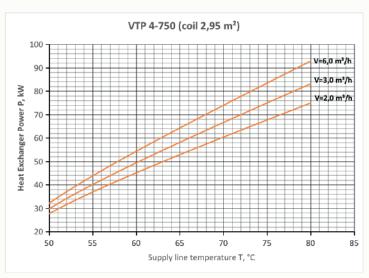
LOWER HEAT EXCHANGER POWER

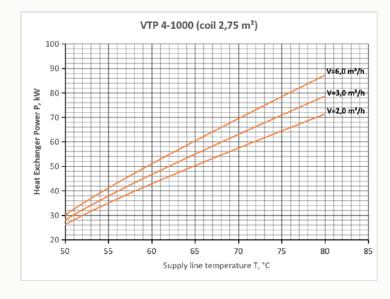
The power of the lower heat exchanger P, kW, is presented as dependent on the heat transfer fluid temperature T, °C, of the supply line to the heat exchanger at a specific circulation rate of the heat transfer fluid V, m³/h, in the latter.

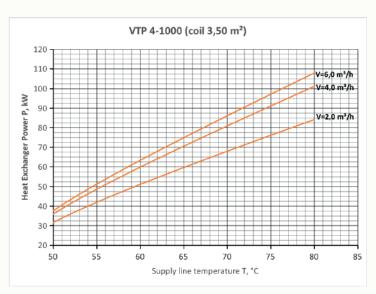




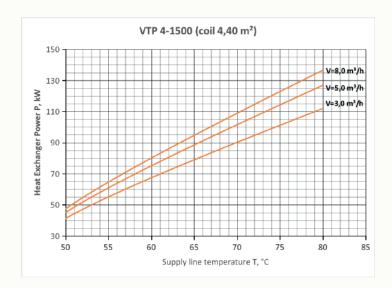


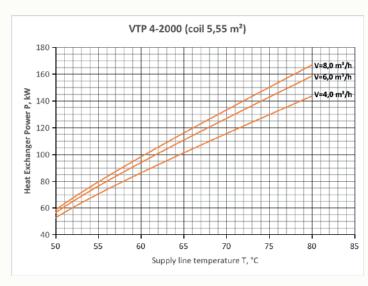




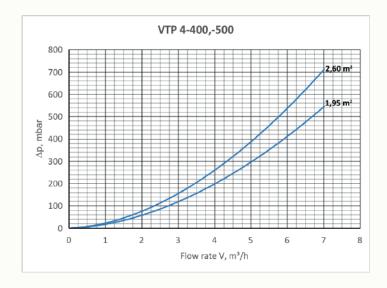


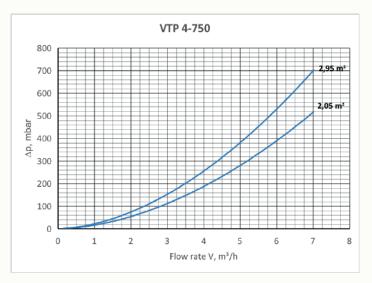


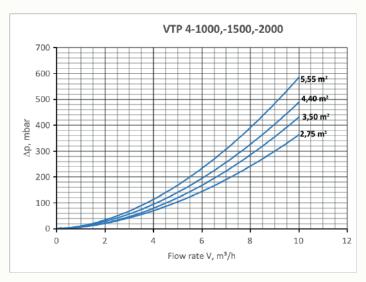




PRESSURE LOSSES OF THE LOWER HEAT EXCHANGER







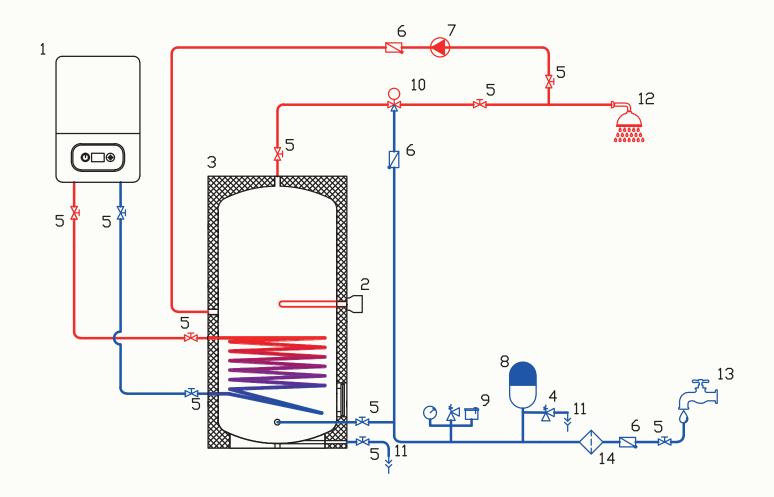


DHW OUTPUT (LOWER HEAT EXCHANGER)

Model	Area of the lower heat exchanger	Usable volume of the tank				Heat exchanger power at the supply heat transfer fluid temperature T into the heat exchanger, under the condition of heating water in the tank from 10 to 45°C with its continuous consumption			oum DHW ou ous load (he at the supp ature T into the heating	from 10 sfer fluid changer,	Maximum DHW output at 45°C with the tank heated to T, with the heating source turned off				
				T, °C			I/h T,℃				T, °C				
	m²	I	m³/h	55	65	70	80	55	65	70	80	55	60	65	70
400	1,95	367	1,0	22,6	32,0	36,4	45,0	557	788	897	1108	472	525	577	630
400	1,70	307	3,0	28,1	41,1	47,2	59,2	692	1012	1163	1458	772	020	077	
500	1,95	437	1,0	22,6	32,0	36,4	45,0	557	788	897	1108	562	625	687	750
			3,0	28,1	41,1	47,2	59,2	692	1012	1163	1458				
500	2,6	432	1,0	27,3	38,2	43,2	52,9	672	941	1064	1303	555	617	678	740
			3,0	36,1	52,4	60,1	75,2	889	1291	1480	1852				
750	2,05	701	1,0	23,4	33,1	37,6	46,5	576	815	926	1145	901	1001	1101	1201
			3,0	29,4	42,9	49,3	61,7	724	1057	1214	1520				
750	2,95	693	2,0	36,9	52,8	60,3	74,9	909	1300	1485	1845	891	990	1089	1188
			3,0	40,1	58,1	66,6	83,1	988	1431	1640	2048				
1000	2,75	900	2,0	39,4	57,5	66,1	82,7	970	1416	1628	2037	1157	1286	1414	1543
			3,0	37,8	54,9	63,0	78,6	931	1352	1552	1936				
1000	3,5	892	2,0	41,8	59,6	67,9	84,1	1030	1468	1672	2071	1147	1274	1402	1529
			4,0	48,5	70,5	80,8	101,0	1195	1736	1990	2488				
1500	4,4	1266	3,0	55,1	78,9	90,2	111,9	1357	1943	2222	2756	1628	1809	1990	2171
			5,0	60,9	88,5	101,5	126,8	1500	2180	2500	3123				
2000	5,55	1867	4,0	70,4	101,1	115,5	143,5	1734	2490	2845	3534	2401	2668	2934	3201
			6,0	76,2	110,6	126,8	158,4	1877	2724	3123	3901				

EXAMPLE OF A SCHEMATIC DIAGRAM

The schematic diagram does not replace qualified installation: during design, relevant standards and regulations must be followed.



- 1 Gas/electric boiler
- 2 Electric heat element
- 3 VTP 4 water heater
- 4 Safety valve
- 5 Ball valve

- 6 Check valve
- 7 Circulation pump
- 8 Expansion tank
- 9 Safety group
- 10 Three-way mixing valve

- 11 Drainage
- 12 Domestic hot water system
- 13 Water supply system
- 14 Mesh filter

HEATING AND ACCUMULATION OF WATER FOR DHW NEEDS















TECHNICAL DESCRIPTION

The water heater is designed to heat water using a lower coiled heat exchanger from various sources, as well as to accumulate and store it for domestic hot water needs. The tank's design includes a flanged inspection hatch with a cover, intended for periodic service maintenance of the tank. Above the heat exchanger, an additional flanged hatch with a cover is provided, designed for installing a flanged heat exchanger, enabling connection to an additional heating source. To protect the internal coating, one or more magnesium anodes are included.

Tank								
Р	Т							
6 bar	95 °C							
Со	il							
Р	Т							
10 bar	95 °C							



MATERIAL

The tank is made of S235JR (DIN 1.0038) carbon structural steel with an internal polycaramic coating that offers high adhesion to metal and elasticity, preventing microcracking due to thermal deformation of the tank walls. The external coating provides enhanced resistance to mechanical impacts and aggressive environments.

• HEAT EXCHANGER

The heat exchanger is made of AISI 304L (DIN 1.4307) stainless steel.

WARRANTY

5 years

THERMAL INSULATION

PL/PVC - 100 mm polyester insulation with a PVC cover and zipper closure.

PU/PVC - 90 mm flexible polyurethane foam insulation with a PVC cover, secured with straps.

PL/ABS - 100 mm polyester insulation with an ABS plastic cover and plastic locks.

PS/ABS - 100 mm high-efficiency rigid graphite-expanded polystyrene insulation with an ABS plastic cover. Premium-class insulation - fully complies with ErP 2009/125/EC Directive.

Model	Tank volume, I	Lower	coil	Energy efficiency class of insulation*
		Scoil1, m²	Vcoil1, I	or msdiation
400	413	1,95	13,0	В
500	483	1,95	13,0	В
000	400	2,60	18,0	J
750	773	2,05	15,0	С
,,,,	,,,	2,95	21,0	Ü
1000	1008	2,75	25,5	С
1000	1000	3,50	32,5	G
1500	1449	4,40	42,0	С
2000	2158	5,55	53,0	С

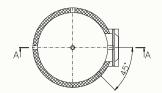
^{*}Energy efficiency class specified for PS/ABS insulation

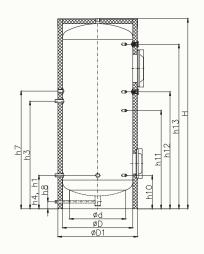
CUSTOM DRAW

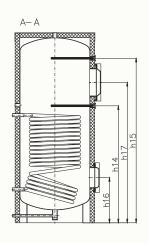
Water heaters can be designed and manufactured according to customer requirements, allowing for modifications in dimensions and connection configurations.



DIMENSIONS AND CONNECTION







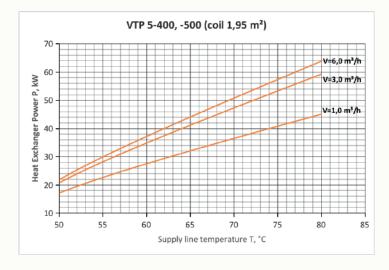
Н	Hot water supply
h1	Cold water supply
h3,h4	Supply and return lines of the lower heat exchanger (Coil 1)
h7	Recirculation
h8	Drainage
h9	Connection for electric heat element
h10-h13	Connections for control, regulation, and measuring equipment
h14,h15	Connections for magnesium anode
h16	Flange
h17	Flange for additional heat exchanger

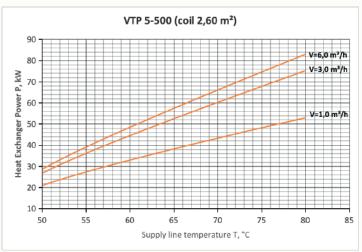
Model	Scoil 1. m²	I	Dimensi	ons, mm	1	Connection sizes, mm												
модеі	Scoll I, III-	ØD1	ØD	Ød	Н	h1	h3	h4	h7	h8	h10	h11	h12	h13	h14	h15	h16	h17
400	1,95	700	600	450	1730	331	991	331	1231	75	331	891	1091	1481	1091	-	456	1291
400					11/4"	11/4"	1	1"		4"		1/:	2''		1"		Ø2	10
	1,95	700	600	450	1980	331	991	331	1231	75	331	891	1091	1731	1091	_	456	1341
500	2,60	700	800	450	1960	331	1211	331	1331	75	551	1111	1311	1/51	1311	_	430	1511
					11/4"	11/4"	1	1"		3/4"		1/2"			1"		Ø2	10
	2,05	850 750	750	600	2035	357	929	357	1257	75	357	829	1029	1757	1029		482	1279
750	2,95	650	750	000	2033	337	1149	337	1237	73	337	1049	1249	1/3/	1249	_	402	1449
					11/4"	11/4"	1		3/4"		1/2"				1"		Ø210	Ø300
	2,75	950	850	700	2085	390	940	390	1290	75	390	840	1040	1790	1040		515	1390
1000	3,50	730	830	700	2003	390	1090	370	1290	75	370	990	1190	1790	1190	_	313	1490
					11/2"	11/2"		11/4"		3/4"		1/:	2''		1"		Ø210	Ø300
1500	4,4	1100	1000	850	2170	430	1130	430	1330	75	430	1030	1230	1830	1230	1830	555	1430
1300					11/2"	11/2"		11/4"		3/4"		1/:	2''		1	"	Ø210	Ø300
2000	5,55	1300	1200	1000	2260	471	1171	471	1372	75	471	1071	1271	1871	1271	1871	596	1471
2000					2"	2"		11/4"		3/4"		1/:	2''		1	"	Ø210	Ø350

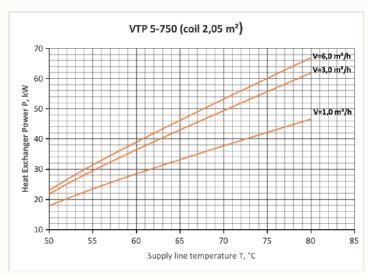
LOWER HEAT EXCHANGER POWER

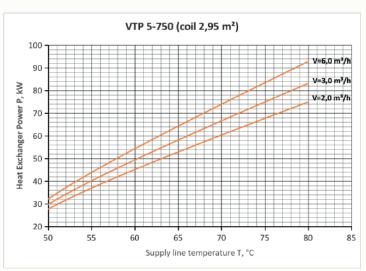
TEPLOBAK®

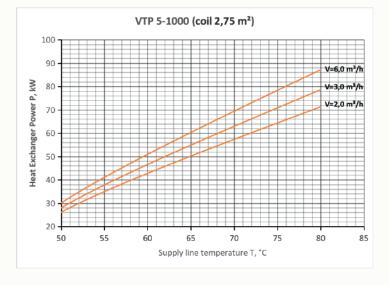
The power of the lower heat exchanger P, kW, is presented as dependent on the heat transfer fluid temperature T, °C, of the supply line to the heat exchanger at a specific circulation rate of the heat transfer fluid V, m³/h, in the latter.

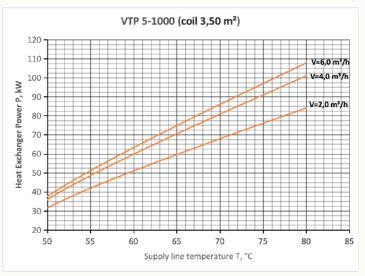




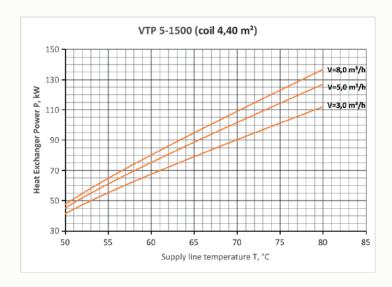


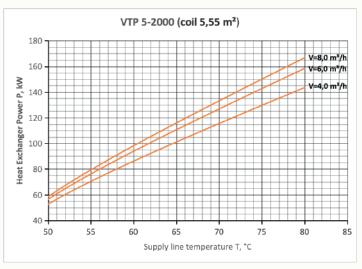




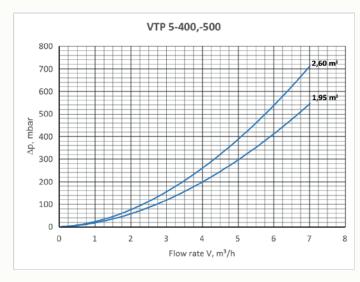


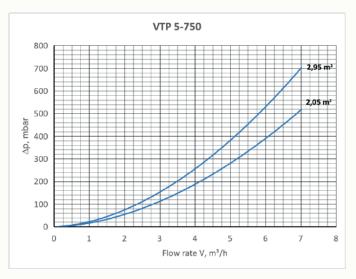


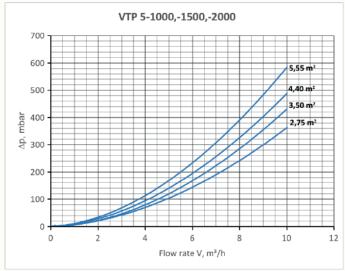




PRESSURE LOSSES OF THE LOWER HEAT EXCHANGER





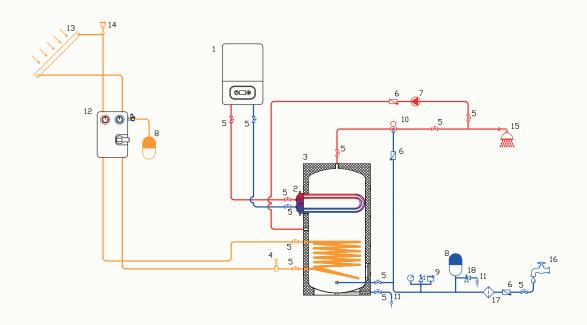


DHW OUTPUT (LOWER HEAT EXCHANGER)

Model	Area of the lower heat exchanger	Usable volume of the tank	Circulation of the heat transfer fluid in the heat exchanger	transfe exchang	r fluid tem ger, under n the tank	perature T the conditi	e supply heat into the heat on of heating 45°C with its ption	load (hea supply hea	OHW output a ting DHW fro at transfer flu xchanger, wi activa	om 10 to 45°0 uid temperat th the heatir	C) at the ure T into	Maximum DHW output at 45°C with the tank heated to T , with the heating source turned off				
			¥ /I-			kW			I/							
	m² I		m³/h			T, °C			Τ, '					°C		
				55	65	70	80	55	65	70	80	55	60	65	70	
400	1,95	367	1,0	22,6	32,0	36,4	45,0	557	788	897	1108	472	525	577	630	
			3,0	28,1	41,1	47,2	59,2	692	1012	1163	1458					
500	1,95	437	1,0	22,6	32,0	36,4	45,0	557	788	897	1108	562	625	687	750	
			3,0	28,1	41,1	47,2	59,2	692	1012	1163	1458					
500	2,6	432	1,0	27,3	38,2	43,2	52,9	672	941	1064	1303	555	617	678	740	
			3,0	36,1	52,4	60,1	75,2	889	1291	1480	1852					
750	2,05	701	1,0	23,4	33,1	37,6	46,5	576	815	926	1145	901	1001	1101	1201	
			3,0	29,4	42,9	49,3	61,7	724	1057	1214	1520					
750	2,95	693	2,0	36,9	52,8	60,3	74,9	909	1300	1485	1845	891	990	1089	1188	
			3,0	40,1	58,1	66,6	83,1	988	1431	1640	2048					
1000	2,75	900	2,0	39,4	57,5	66,1	82,7	970	1416	1628	2037	1157	1286	1414	1543	
			3,0	37,8	54,9	63,0	78,6	931	1352	1552	1936					
1000	3.5	892	2,0	41,8	59,6	67,9	84,1	1030	1468	1672	2071	1147	1274	1402	1529	
			4,0	48,5	70,5	80,8	101,0	1195	1736	1990	2488					
1500	500 4.4 1260	1266	3,0	55,1	78,9	90,2	111,9	1357	1943	2222	2756	1628	1809	1990	2171	
		1200	5,0	60,9	88,5	101,5	126,8	1500	2180	2500	3123					
2000	5,55	1867	4,0	70,4	101,1	115,5	143,5	1734	2490	2845	3534	2401	2668	2934	3201	
	2000 5,55		6,0	76,2	110,6	126,8	158,4	1877	2724	3123	3901					

EXAMPLE OF A SCHEMATIC DIAGRAM

The schematic diagram does not replace qualified installation: during design, relevant standards and regulations must be followed.



- Gas/electric boiler
- Flanged U-shaped 2 heat exchanger
- VTP 5 water heater 3
- Automatic solar circuit air vent
- 5 Ball valve
- Check valve

- Circulation pump
- Expansion tank 8
- 9 Safety group
- Three-way mixing valve
- Drainage 11
- Circulation pump

- 13 Solar collector (solar circuit)
- Solar circuit air vent
- Domestic hot water system
- Water supply system
- Mesh filte 17
- 18 Safety valve

HEATING AND ACCUMULATION OF WATER FOR DHW NEEDS















TECHNICAL DESCRIPTION

The water heater is designed for heating water in bivalent systems, as well as for its accumulation and storage for DHW. The lower heat exchanger is i ntended for connection to low-temperature heat sources (e.g., solar collectors, heat pumps). The upper heat exchanger is designed for connection to high-temperature sources (primarily used for additional heating). The tank's design includes a flanged inspection hatch with a cover, intended for periodic service maintenance of the tank. Above the lower heat exchanger, a fitting is provided for installing an electric heat element. To protect the internal coating, one or more magnesium anodes are included.

Tank												
Р	Т											
6 bar	95 °C											
C	oil											
Р	Т											
10 bar	95 °C											



MATERIAL

The tank is made of S235JR (DIN 1.0038) carbon structural steel with an internal polycaramic coating that offers high adhesion to metal and elasticity, preventing microcracking due to thermal deformation of the tank walls. The external coating provides enhanced resistance to mechanical impacts and aggressive environments.

HEAT EXCHANGERS

The heat exchangers are made of AISI 304L (DIN 1.4307) stainless steel.

WARRANTY

5 years

THERMAL INSULATION

PL/PVC - 100 mm polyester insulation with a PVC cover and zipper closure.

PU/PVC - 90 mm flexible polyurethane foam insulation with a PVC cover, secured with straps.

PL/ABS - 100 mm polyester insulation with an ABS plastic cover and plastic locks.

PS/ABS - 100 mm high-efficiency rigid graphite-expanded polystyrene insulation with an ABS plastic cover. Premium-class insulation - fully complies with ErP 2009/125/EC Directive.

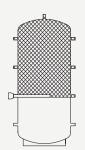
Model	Tank	Lower	coil	Uppe	r coil	Energy efficiency
	volume, l	Scoil1, m²	Vcoil1, I	Scoil2, m²	Vvoil2, I	class of insulation*
400	413	1,95	13,0	1.00	6,5	В
500	483	1,95	13,0	1,25	8,5	В
500	403	2,60	18,0	1,00	6,5	D
750	773	1,90	14,0	1,05	7,5	С
750	773	2,95	21,0	1,40	10,0	C
1000	1008	2,50	23,0	1,25	11,5	С
1000	1000	3,50	32,5	2,00	18,5	C
1500	1449	2,80	26,5	1,55	14,5	С
1500	1747	4,40	42,0	2,50	24,0	O
2000	2158	5,55	53,0	3,15	30,0	С

^{*}Клас енергоефективності вказаний для ізоляції PS/ABS

CUSTOM DRAW

Water heaters can be designed and manufactured according to customer requirements, allowing for modifications in dimensions and connection configurations.

ACCESSORIES



Electric heat elements

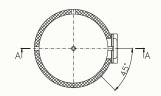
	Coi	ile		2 kW	3 kW	4,5 kW	6 kW	7,5 kW	9 kW	12 kW	15 kW
Model	Col	115	Heating zone volume, liters	1~2	220			3~4	100		
	Scoil1, m ²	Scoil2, m ²	voidino, iitors			·	час нагріву н	на ΔТ=20°, х	В		
400	1,95	1.00	153	187	124	83	62	50	41	-	-
500	1,95	1,25	224	273	182	121	91	73	61	-	-
500	2,60	1,00	162	198	132	88	66	53	44	-	-
750	1,90	1,05	417	508	339	226	169	136	113	85	-
750	2,95	1,40	300	366	244	163	122	98	81	61	-
1000	2,50	1,25	558	680	454	302	227	181	151	113	91
1000	3,50	2,00	445	543	362	241	181	145	121	90	72
1500	2,80	1,55	840	1024	683	455	341	273	228	171	137
1500	4,40	2,50	644	785	523	349	262	209	174	131	105
2000	5,55	3,15	963	1174	783	522	391	313	261	196	157
For tanks w	ith a capacit	y of 3000 li	iters and above	, a transition	n piece is req	uired for con	necting the	electric heat	element.		

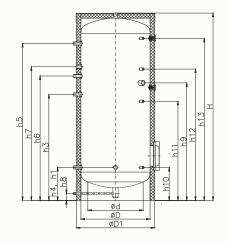
For alternative mounting of the electric heat element, a flange adapter is used

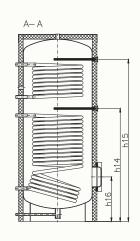




DIMENSIONS AND CONNECTION







DESIGNATION Hot water supply Н h1 Cold water supply Supply and return lines of the lower heat exchanger (Coil 1) h2 Supply and return lines of the lower heat exchanger (Coil 2) h5,h6 Recirculation h7 Drainage h8 h9 Connection for electric heat element Connections for control, regulation, and h10-h13 measuring equipment Connections for magnesium anode h14,h15

Model	Heat exc	hangers		Dimens	sions, n	nm						Con	nectio	n sizes,	mm															
Model	S coil 1, m ²	S coil 2, m²	ØD1	ØD	Ød	Н	h1	h3	h4	h5	h6	h7	h8	h9	h10	h11	h12	h13	h14	h15	h16									
400	1,95	1,00	800	600	450	1730	331	991	331	1449	1141	1241	75	1116	331	916	1216	1481	1066	-	456									
400						11/	/ 4''		1"		3/4"		11/2"		1/.	2"		1"												
	1,95	1,25	000	400	450	1000	774	991		1687	1291	1391		1116	774		1366		1066		456									
500	2,60	1,00	800	600	450	1980	1211			1719		1511		1336	331	1136	1486		1286	- '	450									
						11/	′ 4"		1"			3/	'4 ''	11/2"		1/:	2"		1"											
	1,90	1,05	950	750	400	0075	757	885	357	1449	1185	1285	75	1010				4757			400									
750	2,95	1,40	750 750	/50	600	2035	357	1149		1701	1349	1449		1274		1074*	1424		1224	-	482									
						11/	/ 4"		1"			3/4"		11/2"		1/:	2"		1"											
	2,50	1,25		050	700	0005	700			1440		1290		1015			1265		965		545									
1000	3,50	2,00	1050	850	700	2085	390	390 390 1090				1390	75	1215	390		1365	1790	1165	-	515									
						11/	′2''			11/4"			3/4"	11/2"		1/:	2"		1"											
	2,80	1,55		4000	050	0470	470			1430				1005	470		1255		955	4070										
1500	4,40	2,50	1200	1000	850	21/0	430	1130	430	1730				1255	430		1405		1205	1830	555									
						11/	′2''	11/4"					3/4"	11/2"	11/2" 1/2"			1	"											
2000	5,55	3,15	1400	1200	1000	2260	472	1171	471	1871	1471	1571	75	1296	471	1096	1546	1871	1246	1871	596									
2000						2	"	11/4"				3/4"	11/2"	1/2"			1"													

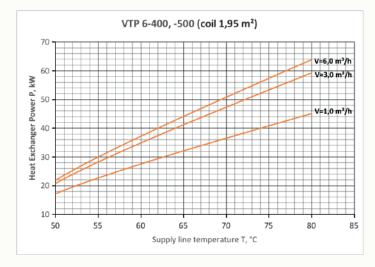
h16

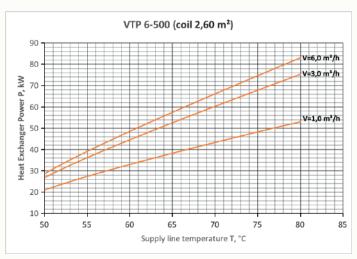
Flange

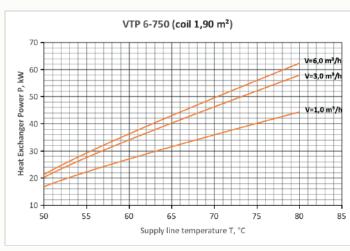


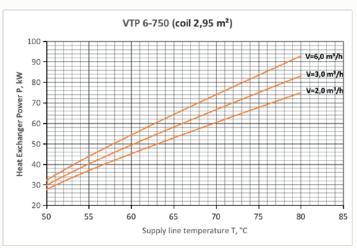
LOWER HEAT EXCHANGER POWER

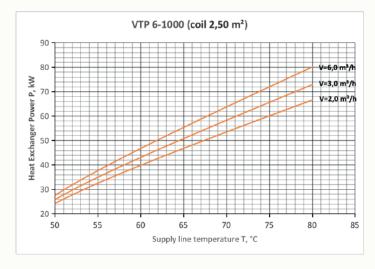
The power of the lower heat exchanger P, kW, is presented as dependent on the heat transfer fluid temperature T, °C, of the supply line to the heat exchanger at a specific circulation rate of the heat transfer fluid V, m³/h, in the latter.

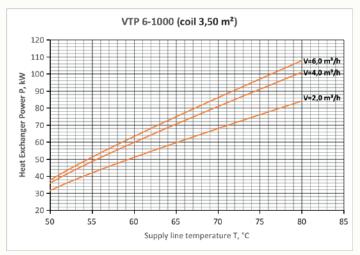




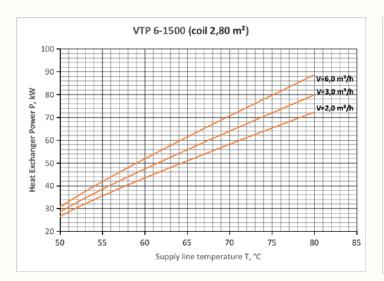


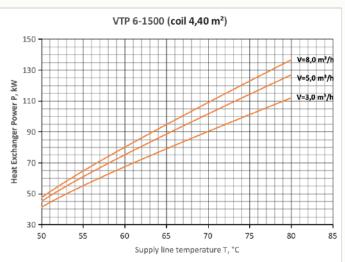


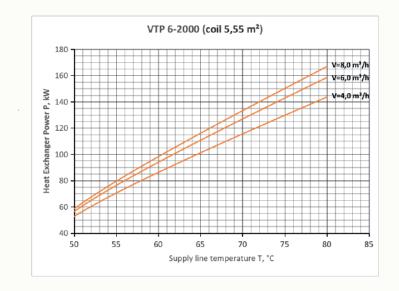




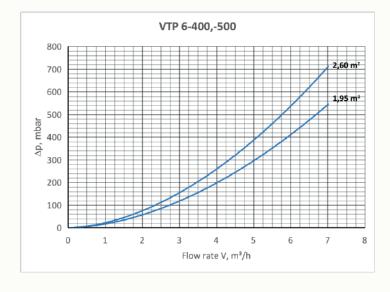


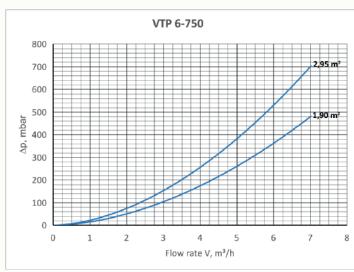


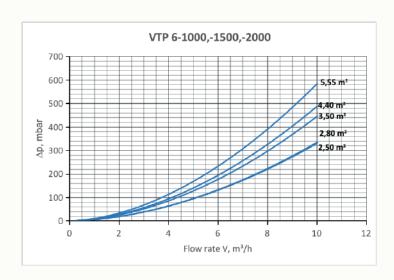




PRESSURE LOSSES OF THE LOWER HEAT EXCHANGER





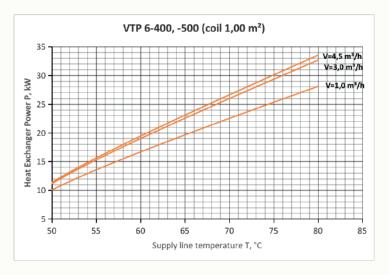


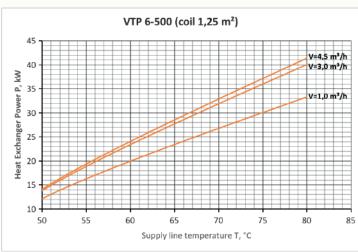
DHW OUTPUT (LOWER HEAT EXCHANGER)

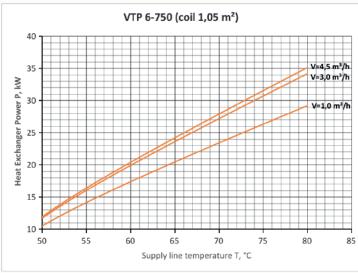
Model	Area of the lower heat exchanger	Usable volume of the tank	Circulation of the heat transfer fluid in the lower heat exchanger	at the temper of hea	of the low supply hea rature T , ui ating water 45°C with i consum	at transfer nder the co r in the tan ts continu	fluid ondition ik from	load (hear supply hear the lower h	ting DHW fro t transfer flu neat exchang	at constant m 10 to 45°C id temperati ger, with the heat exchai	c) at the ure T into heating	Maximum DHW output at 45°C with the tank heated to t, with the heating sources turned off				
					k۱	N			l/h				ı			
	m²	I	m³/h		T,				T,°					°C		
			1,0	55 22,6	65 32,0	70 36,4	80 45,0	55 557	65 788	70 897	80 1108	55	60	65	70	
400	1,95	359	3,0	28,1	41,1	47,2	59,2	692	1012	1163	1458	462	513	565	616	
			1,0	22,6	32,0	36,4	45,0	557	788	897	1108					
500	1,95	427	3,0	28,1	41,1	47,2	59,2	692	1012	1163	1458	549	610	671	732	
500	2,60	424	1,0	27,3	38,2	43,2	52,9	672	941	1064	1303	545	605	666	726	
	2,00		3,0	36,1	52,4	60,1	75,2	889	1291	1480	1852	0.0	000	333	,20	
750	1,90	693	1,0	22,2	31,5	35,8	44,3	547	776	882	1091	891	990	1089	1188	
			3,0	27,5	40,2	46,2	57,9	677	990	1138	1426					
750	2,95	682	2,0	36,9	52,8	60,3	74,9	909	1300	1485	1845	876	974	1071	1168	
			3,0	40,1	58,1	66,6	83,1	988	1431	1640	2048					
1000	2,50	889	2,0	32,5	46,7	53,5	66,5	800	1150	1318	1638	1143	1270	1397	1524	
			3,0	34,9	50,7	58,2	72,8	860	1249	1433	1793					
1000	3,50	870	2,0	41,8	59,6	67,9	84,1	1030	1468	1672	2071	1119	1243	1368	1492	
			4,0	48,5	70,5	80,8	101,0	1195	1736	1990	2488					
1500	2,80	1267	2,0	35,4	50,9	58,1	72,2	872	1254	1431	1778	1629	1810	1991	2172	
			3,0	38,4	55,7	63,9	79,8	946	1372	1574	1966					
1500	4,40	1239	3,0	55,1	78,9	90,2	111,9	1357	1943	2222	2756	1593	1770	1947	2125	
			5,0	60,9	88,5	101,5	126,8	1500	2180	2500	3123					
2000	5,55	1834	4,0	70,4	101,1	115,5	143,5	1734	2490	2845	3534	2357	2619	2881	3143	
	JO 5,55	5 1834	6,0	76,2	110,6	126,8	158,4	1877	2724	3123	3901					

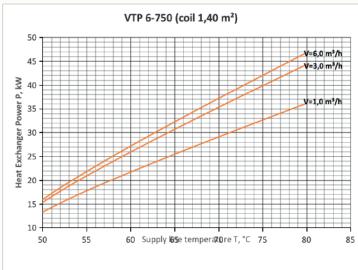
POWER OF THE UPPER HEAT EXCHANGER

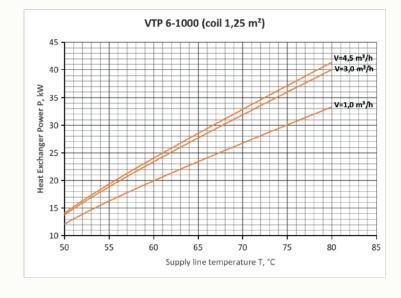
The power of the upper heat exchanger P, kW, is presented as dependent on the heat transfer fluid temperature T, °C, of the supply line to the heat exchanger at a specific circulation rate of the heat transfer fluid V, m³/h, in the latter.

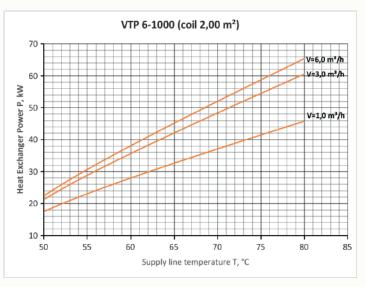




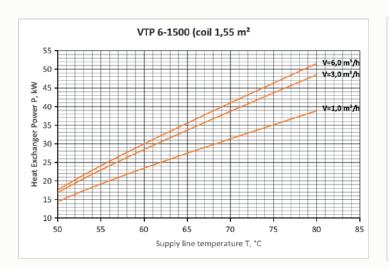


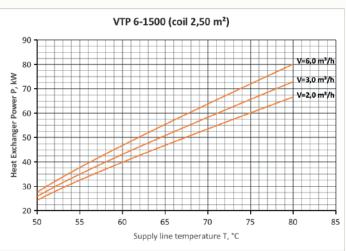


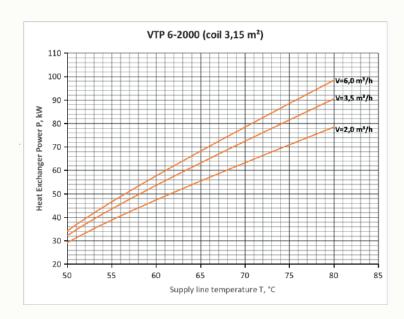




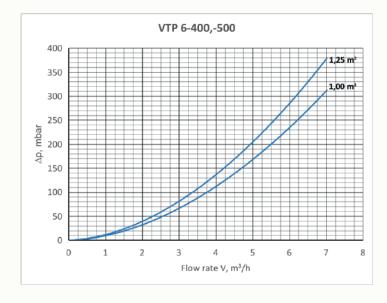


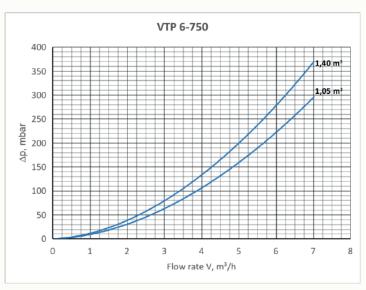






PRESSURE LOSSES OF THE UPPER HEAT EXCHANGER





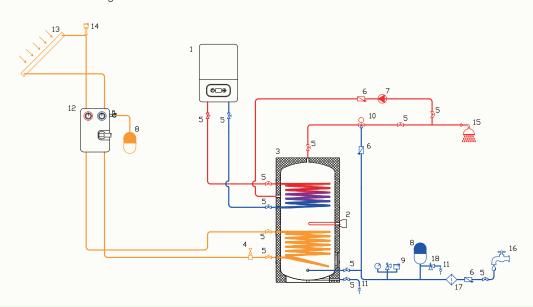


DHW OUTPUT (UPPER HEAT EXCHANGER)

Model	Area of the lower heat exchanger	Usable volume of the tank	Circulation of the heat transfer fluid in the heat exchanger	under water in th	fluid tempe the condit ne tank fro	erature exc ion of hea	hanger, ting °C with its	load (he supply he	ating DHW fr at transfer fl exchanger, w	at constant rom 10 to 45° luid tempera vith the heati vated.	C) at the ture T into	Maximum DHW output at 45°C with the tank heated to T , with the heating source turned off				
		1	- "		kV				I/h							
	m²		m³/h	55	65	℃ 70	80	55	T, '		80			°C	70	
			1.0	13.6	19.6	22.5	28.1	335	65 483	70 554	692	55 170	60 189	65 207	70 226	
400	1,00	132	3,0	15,3	22.5	25.9	32,6	377	554	638	803	170	189	207	226	
			1,0	16.2	23.4	26.7	33.3	399	576	658	820	203	225	248	271	
500	1,25	158	3.0	18.8	27.7	31.8	40.0	463	682	783	985	203	225	248	271	
			1,0	13.6	19.6	22.5	28.1	335	483	554	692	162	180	198	216	
500	1,00	126	3,0	15,3	22.5	25.9	32,6	377	554	638	803	162	180	198	216	
			1,0	14.1	20.4	23.4	29.2	347	502	576	719	413	459	505	551	
750	1,05	321	3.0	16.0	23.6	27.1	34.1	394	581	667	840	413	459	505	551	
			1,0	17.7	25.4	29.1	36.1	436	626	717	889	316	351	386	421	
750	1,40	245	3,0	20.9	30.7	35.3	44.3	515	756	869	1091	316	351	386	421	
4000	4.05	434	1,0	16,2	23,4	26,7	33,0	399	576	658	813	557	619	681	743	
1000	1,25	434	3,0	18,8	27,7	31,8	40,0	463	682	783	985	557	619	681	743	
1000	2.00	369	1,0	23,0	32,5	37,0	45,7	567	800	911	1126	474	526	579	632	
1000	2,00	309	3,0	28,8	42,0	48,3	60,5	709	1034	1190	1490	474	526	579	632	
1500	1.55	668	1,0	19,1	27,4	31,2	38,8	470	675	768	956	859	955	1050	1146	
1500	1,55	000	3,0	22,9	33,6	38,6	48,6	564	828	951	1197	859	955	1050	1146	
1500	2.50	541	2,0	32,5	46,7	53,5	66,5	800	1150	1318	1638	696	773	850	928	
1500	2,50	541	3,0	34,9	50,7	58,2	72,8	860	1249	1433	1793	696	773	850	928	
2000	3,15	706	2,0	38,7	55,4	63,2	78,4	953	1365	1557	1931	908	1009	1110	1210	
2000	5,15	700	3,5	43,4	63,1	72,4	90,4	1069	1554	1783	2227	908	1009	1110	1210	

EXAMPLE OF A SCHEMATIC DIAGRAM

The schematic diagram does not replace qualified installation: during design, relevant standards and regulations must be followed.



- 1 Gas/electric boiler
- 2 Electric heat element
- 3 VTP 6 water heate
- 4 Automatic solar circuit air vent
- 5 Ball valve
- 6 Check valve

- 7 Circulation pump
- 8 Expansion tank
- 9 Safety group
- 10 Three-way mixing valve
- 11 Drainage
- 12 Circulation pump

- 13 Solar collector (solar circuit)
- 14 Solar circuit air vent
- 15 Domestic hot water system
- 16 Water supply system
- 17 Mesh filte
- 18 Safety valve



N L



HEATING AND ACCUMULATION OF WATER FOR DHW













TECHNICAL DESCRIPTION

The water heater is designed for heating water in bivalent systems, as well as for its accumulation and storage for DHW. The lower heat exchanger is intended for connection to low-temperature heat sources (e.g., solar collectors, heat pumps). The upper heat exchanger is designed for connection to high-temperature sources (primarily used for additional heating). The tank's design includes a flanged inspection hatch with a cover, intended for periodic service maintenance of the tank. Above the lower heat exchanger, a fitting is provided for installing a tubular electric heater.

Tank											
Р	Т										
8 bar	95 °C										
Co	pils										
Р	Т										
10 bar	95 °C										



MATERIAL

The tank is made of AISI 316L (DIN 1.4404) stainless steel, meeting the highest hygienic requirements.

HEAT EXCHANGERS

The heat exchangers are made of AISI 304L (DIN 1.4307) stainless steel.

WARRANTY

5 years

THERMAL INSULATION

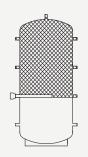
PL/ABS - 50 mm polyester insulation in an ABS plastic casing with plastic latches

PS/ABS - high-efficiency rigid graphite polystyrene insulation in an ABS plastic casing. Premium-class insulation - complies with all requirements of the ErP 2009/125/EC Directive

						(
Model	Tank	Low	er coil	Uppe	er coil	Energy efficiency class of insulation*
	volume, l	S coil 1, m²	V coil 1, I	S coil 2, m²	V voil 2, I	class of insulation
170	169	0,51	2,7	0,51	2,7	A**/B
200	214	1,03	5,5	0,51	2,7	A**/C
300	305	1,54	8,2	0,77	4,1	A**/C

^{*}Energy efficiency class specified for PS/ABS insulation

ACCESSORIES



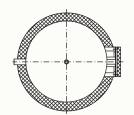
Electric heat elements

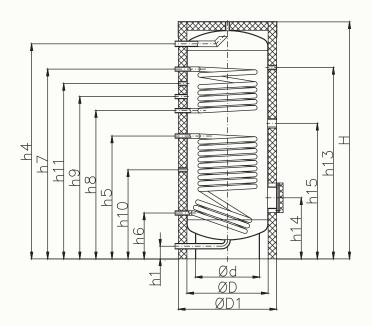
		2 Kw	3 kW	4,5 kW
Model	Heating zone volume, liters	1~2	220	3~400
	volume, inters	Hea	ating time for $\Delta T = 20$	o°, minutes
170	91	111	74	49
200	99	121	80	54
300	151	184	123	82



 $[\]ensuremath{^{**}}$ For insulation thickness of 100 mm.







DESIGNA	TION
н	Air vent
h1	Cold water supply, drainage
h4	Hot water outlet
h5-h6	Supply and return mains of the lower heat exchanger (Coil 1)
h7-h8	Supply and return mains of the upper heat exchanger (Coil 2)
h9	Recirculation
h10,h11,h13	Connections for control, regulation, and measuring equipment
h14	Flange, Ø115 мм
h15	Connection for electric heat element

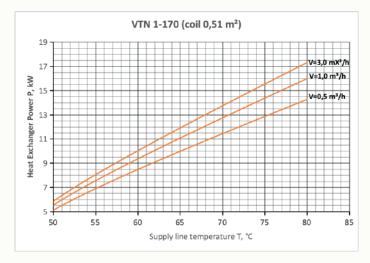
Model		Dimensio	ns, mm		Connection sizes, mm												
Model	ØD1	ØD	Ød	Н	h1	h4	h5	h6	h7	h8	h9	h10	h11	h13	h14	h15	
170	580	480	380	1150	75	1011	506	261	901	656	736	356	816	871	321	581	
170	360	400	360	1/2"				3/4"		1/2"		11/2"					
200	580	480	380	1410	75	1271	726	271	1121	876	956	526	1036	1131	361	801	
200	380	460	360	1/2"	1	"		3/	′ 4''		1"		1/2"			11/2"	
300	580	490	380	1910	75	1771	936	271	1501	1086	1186	636	1286	1631	361	1011	
300	360	480	360	1/2"	1	"		3/	′ 4"		1"		1/2"			1 1/2"	

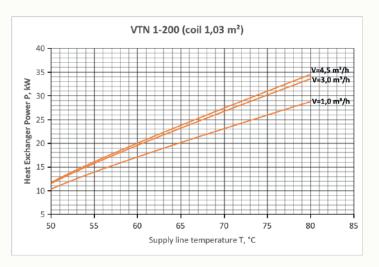


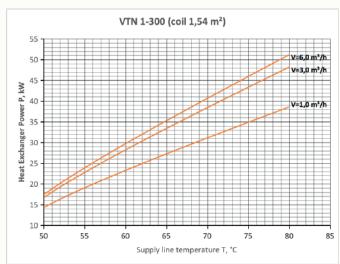
HEAT EXCHANGER SPECIFICATIONS

LOWER HEAT EXCHANGER POWER

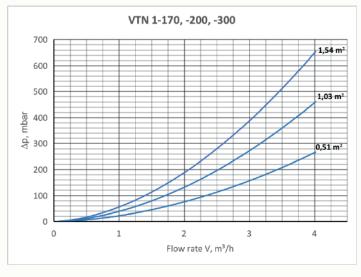
he power of the lower heat exchanger P, kW, is presented as dependent on the heat transfer fluid temperature T, $^{\circ}$ C, of the supply line to the heat exchanger at a specific circulation rate of the heat transfer fluid V, m^3/h , in the latter.







PRESSURE LOSSES OF THE LOWER HEAT EXCHANGER





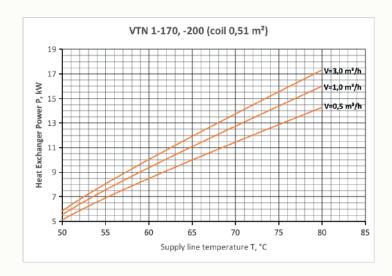


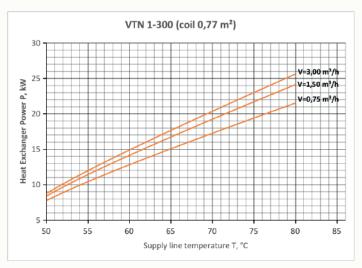
DHW OUTPUT (LOWER HEAT EXCHANGER)

Model	Area of the lower coil	Usable volume of the tank	Circulation of the heat transfer fluid in the lower coil	heat tra the cor	nsfer flui ndition of m 10 to 4	d tempera heating v		continuo 45°C) at temperat	t the suppl ure T into	eating DHV ly heat tra the lower	constant V from 10 to nsfer fluid coil, with the ver coil only)	the tank		utput at 45 t , with the rned off																
	m²					kW				l/h				l																
	m²	1	m³/h	T, °C				T, °C				t,	°C																	
				55	65	70	80	55	65	70	80	55	60	65	70															
170	0.51	145	145	145	145	0,5	6,9	10,0	11,4	14,3	170	246	281	352	107	207	228	249												
1/0	0,51					145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	1,0	7,5	11,1	12,7	16,0	185	273	313	394 187
200	1.03	187	187	187	187	187	187	187	187	187	187	187	187	187	187	187	1,0	13,9	20,1	23,0	28,7	342	495	567	707	240	267	294	320	
200	1,03																187	187	187	187	3,0	15,7	23,1	26,7	33,5	387	569	658	825	240
300	454		077	077	077	077	273	077	077	077	077	077	077	077	1,0	19,0	27,3	31,1	38,6	468	672	766	951	750	700	400	467			
300	1,54	2/3	3,0	22,8	33,4	38,4	48,2	562	823	946	1187	350	389	428	407															

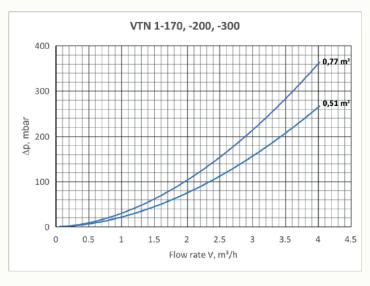
POWER OF THE UPPER HEAT EXCHANGER

The power of the upper heat exchanger P, kW, is presented as dependent on the heat transfer fluid temperature T, °C, of the supply line to the heat exchanger at a specific circulation rate of the heat transfer fluid V, m³/h, in the latter.





PRESSURE LOSSES OF THE UPPER HEAT EXCHANGER



DHW OUTPUT (UPPER HEAT EXCHANGER)

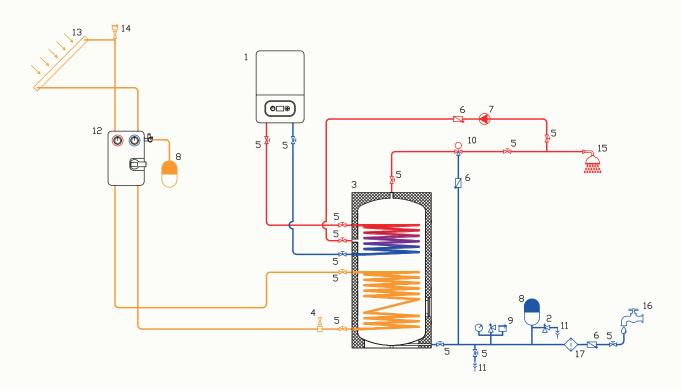
HEAT EXCHANGER SPECIFICATIONS

EXAMPLE OF A SCHEMATIC DIAGRAM

Model	Area of the lower coil	Usable volume of the tank	Circulation of the heat transfer fluid in the lower coil	heat tra the cor	nsfer fluio ndition of m 10 to 4	d tempera heating v	t the supply ature T, under water in the its continuous	continuo 45°C) at temperat	t the suppl ure T into	eating DHV y heat tra the lower	constant V from 10 to nsfer fluid coil, with the ver coil only)	Maximum DHW output at 45°C with the tank heated to t, with the heating sources turned off																	
	m² l		m³/h		kW T. °C					′h г, °С		l t.°C																	
			111711	55	65	70	80	55	65	70	80	55	60	65	70														
			0.5	6.9	10.0	11.4	14.3	170	246	281	352	00	00	00	70														
170	0,51	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	1.0	7.5	11.1	12.7	16.0	185	273	313	352 394	91	101	111	121
200	0.51	78	78	79	78	78	78	78	78	78	78	1 78	1 78	70	0,5	6,9	10,0	11,4	14,3	170	246	281	352	100	111	122	133		
200	0,01			1,0	7,5	11,1	12,7	16,0	185	273	313	394	100		122	100													
			8,0	10,4	15,0	17,2	21,5	256	369	424	530																		
300	0,77	129	1,5	11,4	16,7	19,2	24,1	281	411	473	594	166	184	202	221														

EXAMPLE OF A SCHEMATIC DIAGRAM

The schematic diagram does not replace qualified installation: during design, relevant standards and regulations must be followed.



- Gas/electric boiler 1
- Safety valve 2
- 3 VTN 1 water heater
- Automatic solar circuit air vent 4
- Ball valve 5
- Check valve

- 7 Circulation pump
- 8 Expansion tank
- 9 Safety group
- Three-way mixing valve 10
- Drainage 11
- Circulation pump

- 13 Solar collector
- Solar circuit air vent
- 15 Domestic hot water system
- Water supply system
- Mesh filter



HEATING AND ACCUMULATION OF WATER FOR DHW NEEDS











TECHNICAL DESCRIPTION

The water heater is designed for heating water in bivalent systems, as well as for its accumulation and storage for DHW. The lower heat exchanger is intended for connection to low-temperature heat sources (e.g., solar collectors, heat pumps). The upper heat exchanger is designed for connection to high-temperature sources (primarily used for additional heating). The tank's design includes a flanged inspection hatch with a cover, intended for periodic service maintenance of the tank.

Tank											
Р	T										
6 bar	95 °C										
Co	ils										
Р	Т										
10 bar	95 °C										



MATERIAL

The tank is made of AISI 316L (DIN 1.4404) stainless steel, meeting the highest hygienic requirements.

O HEAT EXCHANGERS

The heat exchangers are made of AISI 304L (DIN 1.4307) stainless steel.

WARRANTY

5 years

THERMAL INSULATION

PL/PVC - 100 mm thick polyester thermal insulation in a PVC fabric casing with a zipper

PU/PVC - 90 mm thick elastic polyurethane foam insulation in a PVC fabric casing secured with straps

PL/ABS - 100 mm thick polyester thermal insulation in an ABS plastic casing with plastic latches

PS/ABS - 100 mm thick high-efficiency rigid thermal insulation made of graphitized polystyrene in an ABS plastic casing. Premium-class insulation - complies with all requirements of the ErP 2009/125/EC Directive

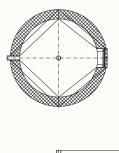
						En
Model	Tank volume, l		er coil V coil 1. l	Uppe S coil 2, m²	er coil V voil 2. I	Energy efficiency class of insulation*
400	413	1,48	11,0	1,00	8,0	В
500	483	1,84	14,0	1,00	8,0	В
750	773	2,24	18,0	1,40	10,0	С
1000	1008	3,0	29,0	2,00	19,0	С
1500	1449	4,10	37,0	2,62	26,0	С

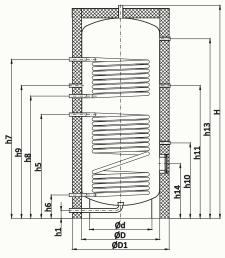
^{*}Energy efficiency class specified for PS/ABS insulation

CUSTOM DRAW

Water heaters can be designed and manufactured according to customer requirements, allowing for modifications in dimensions and connection configurations.







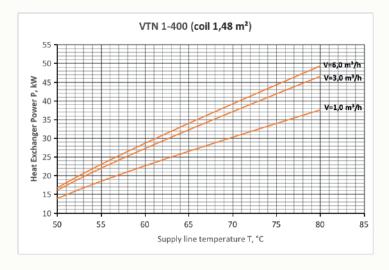
DESIGNATION Air vent Н h1 Cold water supply, drainage Supply and return mains of the lower heat exchanger (Coil 1) h5-h6 Supply and return mains of the upper heat exchanger (Coil 2) h7-h8 Recirculation h9 Connections for control, regulation, and h10,h11,h13 measuring equipment Flange, Ø115 мм h14

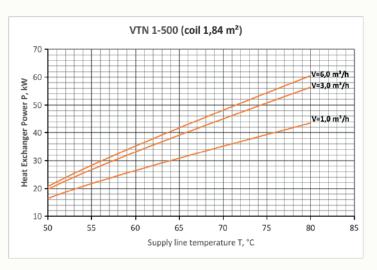
Madal		Dimens	ions, mm		Connection sizes, mm											
Model	ØD1	ØD	Ød	Н	h1	h5	h6	h7	h8	h9	h10	h11	h13	h14		
400	800	600	450	1725	75	821	181	1283	931	1031	631	1031	1431	481		
.00			.00			1	"									
500	800	600	450	1975	75	953	181	1483	1131	1231	681	1231	1681	481		
500	800	600	450			1	"				3/	′ 4''				
750	950	750	600	2045	75	995	223	1525	1173	1273	723	1273	1723	523		
750	950	750	800	11/	/ 4"			1"			3/4"					
4000	4050	050	700	2080	75	990	240	1590	1190	1290	740	1290	1740	540		
1000	1050	850	700			11,	/4"					′ 4''				
4500	1000	1000	050	2200	75	1121	321	1721	1271	1371	821	1371	1821	621		
1500	1200	1000	850	11/	11/2" 11/4"					3/4"						

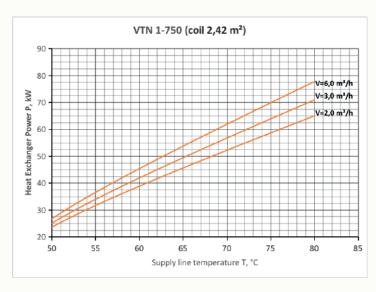


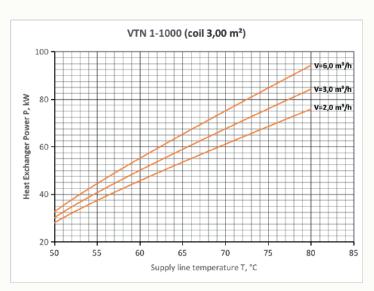
LOWER HEAT EXCHANGER POWER

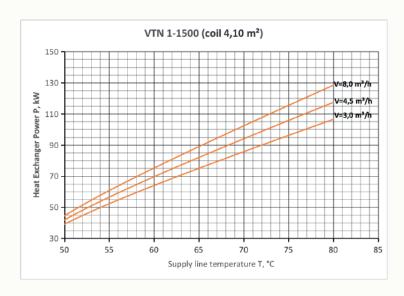
The power of the lower heat exchanger P, kW, is presented as dependent on the heat transfer fluid temperature T, °C, of the supply line to the heat exchanger at a specific circulation rate of the heat transfer fluid V, m³/h, in the latter.





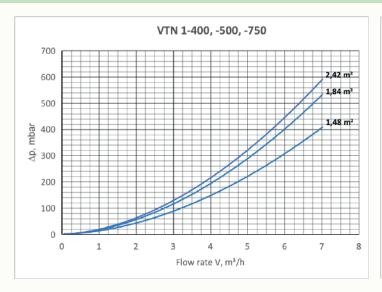


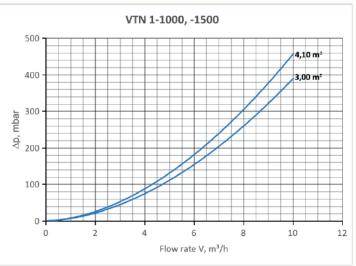






PRESSURE LOSSES OF THE LOWER HEAT EXCHANGER



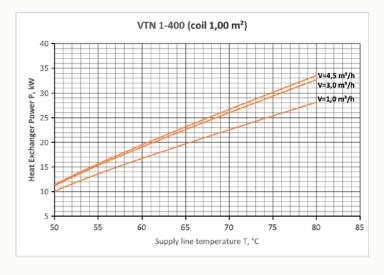


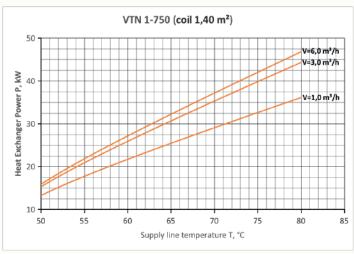
DHW OUTPUT (LOWER HEAT EXCHANGER)

Model	Area of the lower coil	Usable volume of the tank	Circulation of the heat transfer fluid in the lower coil	heat tran	of the lowe nsfer fluid to dition of he n 10 to 45°(consur	emperature ating wate with its c	e T, under er in the	DHW from heat tra into the	imum DH t continuo m 10 to 4 ansfer flui lower coil activated	ous load (5°C) at th id temper I, with the	heating e supply ature T heating	Maximum DHW output at 45°C with the tank heated to t, with the heating sources turned off																								
			7.0		k	•			l/h				ı																							
	m²	1	m³/h	55	T, '	°C 70	80	55	T, 65	°C 70	80	55	60	°C 65	70																					
			1.0	18,5	26.5	30.2	37.5	456	653	744	924	55	00	05	70																					
400	1,48	362	362	3.0	22,0	32.2	37.1	46.5	542	793	914	1145	466	518	569	621																				
			1.0	21.7	30.8	35.1	43.4	534	759	865	1069																									
500	1,84	430	3.0	26.7	39.1	44.9	56.3	658	963	1106	1387	552	614	675	736																					
						•		778																												
750	2,42	686	686	686	686	686	686	686	686	686	686	686	686	686	686	686	2,0	31,6	45,6	52,2	65,0		1123	1286	1601	882	980	1078	1176							
																	230	330	000	000	000	000	000	3,0	33,9	49,4	56,7	70,9	835	1217	1397	1746				
1000	3.00	876	876	876	876	876	876	876	876	876	876	876	876	876	876	876	876	876	876	2,0	37,4	53,5	61,1	75,8	921	1318	1505	1867	1126	1251	1376	1501				
																	3,0	40,7	58,9	67,5	84,2	1002	1451	1663	2074											
1500	4.10	1239	1239	1239	1239	1239	1239	1239	1239	1239	1239	1239	1230	1230	1230	1239	1230	1239	1239	1230	1230	1239	1230	3,0	52,2	75,0	85,7	106,5	1286	1847	2111	2623	1594	1771	1948	2125
1500	4,10												4,5	56,4	81,9	94,0	117,4	1389	2017	2315	2892	1374	1771	1740	2120											

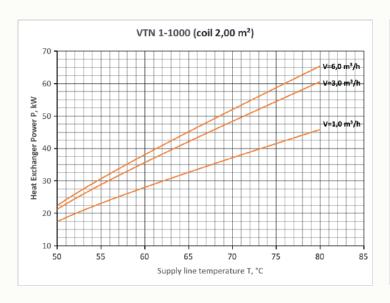
POWER OF THE UPPER HEAT EXCHANGER

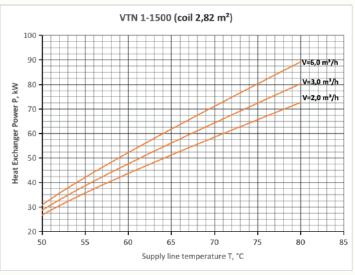
The power of the upper heat exchanger P, kW, is presented as dependent on the heat transfer fluid temperature T, °C, of the supply line to the heat exchanger at a specific circulation rate of the heat transfer fluid V, m³/h, in the latter.



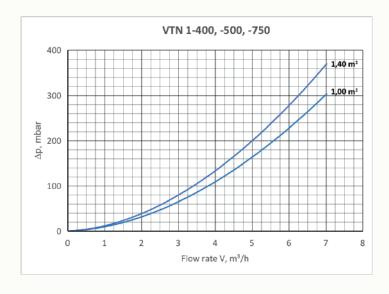


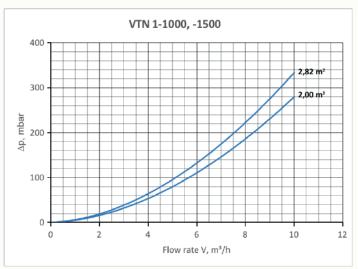
HEAT EXCHANGER SPECIFICATIONS





PRESSURE LOSSES OF THE UPPER HEAT EXCHANGER



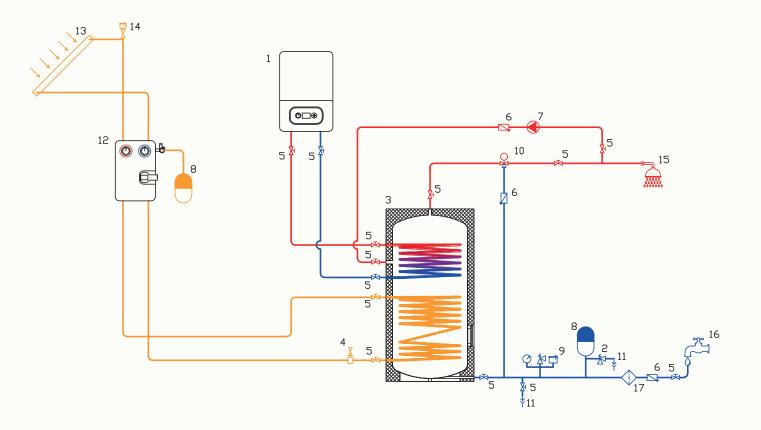


DHW OUTPUT (UPPER HEAT EXCHANGER)

Model	Area of the lower coil	Usable volume of the tank	Circulation of the heat transfer fluid in the lower coil	heat tran	of the lower nsfer fluid to dition of he n 10 to 45°C consun	emperature ating wate C with its c	T, under r in the	constan DHW fro heat tr into the	timum DH t continu m 10 to 4 ansfer flu lower coi activated	ous load (5°C) at th id temper I, with the	heating e supply ature T e heating	the tank heated to t , with the																						
	m²		m³/h		kV T, '	•			I/h T,				 	°C																				
	""	· ·	m³/n	55	65	70	80	55	65	70	80	55	60	65	70																			
400	1.00	177	177	1,0	13,6	19,6	22,5	28,1	335	483	554	692	227	252	278	303																		
400	1,00	.,,	3,0	15,3	22,5	25,9	32,6	377	554	638	803	/	202	270	555																			
500	1.00	191	1,0	13,6	19,6	22,5	28,1	335	483	554	692	245	272	300	327																			
500	1,00	191	3,0	15,3	22,5	25,9	32,6	377	554	638	803	243	2/2	300	32/																			
750	1.40	308	308	308	308	308	308	308	308	308	308	709	709	700	1,0	17,7	25,4	29,1	36,1	436	626	717	889	397	441	485	529							
750	1,40											3,0	20,9	30,7	35,3	44,3	515	756	869	1091	397	441	400	329										
4000	0.00	398	398	398	398	398	398	398	398	398	398	398	398	398	398	398	398	398	398	398	700	1,0	23,0	32,5	37,0	45,7	567	800	911	1126	F44	F40	405	404
1000	2,00																				3,0	28,8	42,0	48,3	60,5	709	1034	1190	1490	511	568	625	681	
4500	0.00	891	891	891	891	891	891	891	004	004	901	901	004	904	901	901	901	2,0	35,6	51,1	58,4	72,6	877	1259	1438	1788	4445	4077	1100	4507				
1500	2,82								3,0	38,6	56,0	64,2	80,2	951	1379	1581	1975	1145	1273	1400	1527													

EXAMPLE OF A SCHEMATIC DIAGRAM

The schematic diagram does not replace qualified installation: during design, relevant standards and regulations must be followed.



- 1 Gas/electric boiler
- 2 Safety valve
- 3 VTN 1 water heater
- 4 Automatic solar circuit air vent
- 5 Ball valve
- 6 Check valve

- 7 Circulation pump
- 8 Expansion tank
- 9 Safety group
- 10 Three-way mixing valve
- 11 Drainage
- 12 Circulation pump

- 13 Solar collector
- 14 Solar circuit air vent
- 15 Domestic hot water system
- 16 Water supply system
- 17 Mesh filter



HEATING AND ACCUMULATION OF WATER FOR DHW NEEDS













O TECHNICAL DESCRIPTION

The water heater is designed to heat water using a lower coiled heat exchanger from various sources, as well as to accumulate and store it for domestic hot water needs. The tank's design includes a flanged inspection hatch with a cover, intended for periodic service maintenance of the tank. Above the heat exchanger, a fitting is provided for installing a tubular electric heater (TEN).

Tank									
Р	Т								
8 bar	95 °C								
Co	oils								
Р	Т								
10 bar	95 °C								



MATERIAL

The tank is made of AISI 316L (DIN 1.4404) stainless steel, meeting the highest hygienic requirements.

HEAT EXCHANGERS

The heat exchangers are made of AISI 304L (DIN 1.4307) stainless steel.

WARRANTY

5 years

THERMAL INSULATION

PL/ABS - 50 mm polyester insulation in an ABS plastic casing with plastic latches

PS/ABS - high-efficiency rigid graphite polystyrene insulation in an ABS plastic casing. Premium-class insulation - complies with all requirements of the

ErP 2009/125/EC Directive

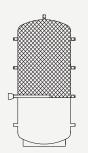
Model	Tank volume, l	Lower	Energy efficiency class of insulation*	
		S coil 1, m²	V coil 1, I	
120	124	0,51	2,7	A**/B
170	169	1,03	5,5	A**/C
200	214	1,03	A**/C	
300	305	1,54	8,2	A**/C

^{*}Energy efficiency class specified for PS/ABS insulation

CUSTOM DRAW

Water heaters can be designed and manufactured according to customer requirements, allowing for modifications in dimensions and connection configurations.

ACCESSORIES



Electric heat elements

	Haakina mana	2 Kw	3 kW	4,5 kW						
Model	Heating zone volume, liters	1~2	1~220							
	volume, mers	Heating time for ΔT=20°, minutes								
120	46	56	37	25						
170	53	65	43	29						
200	99	121	80	54						
300	151	184	123	82						

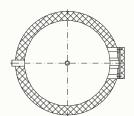
For alternative mounting of the electric heat element, a flange adapter is used

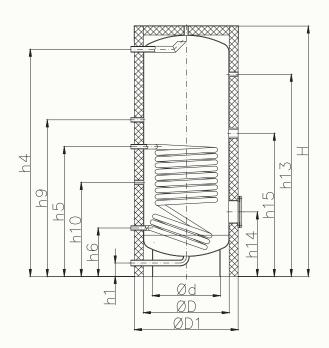




^{**} For insulation thickness of 100 mm.







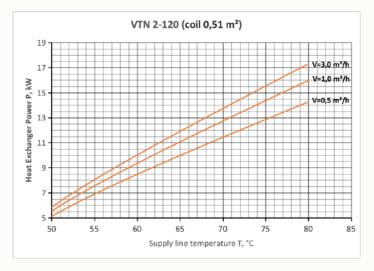
DESIGNA	ATION
н	Air vent
h1	Cold water supply, drainage
h4	Hot water outlet
h5-h6	Supply and return mains of the lower heat exchanger (Coil 1)
h9	Recirculation
h10-h13	Connections for control, regulation, and measuring equipment
h14	Flange, Ø115 мм
h15	Connection for electric heat element

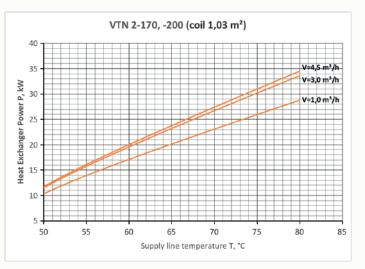
Model		Dimens	sions, mm		Connection sizes, mm									
Model	ØD1	1 ØD Ød		Н	h1	h4	h5	h6	h9	h10	h13	h14	h15	
120	500	400	380	900	75	761	506	261	606	356	621	351	581	
120	580	480	380	1/2"			3/4"		1/	2"		11/2"		
470		700	1150	75	1011	716	261	816	566	871	351	791		
170	580	480	380	1/2"		3/4"					2"		11/2"	
200	580	400		1410	75	1271	726	271	876	526	1131	361	801	
200	580	580 480 380		1/2"	1	"		3/4"		1/	2"		11/2"	
700	580	400	700	1910	75	1771	936	271	1186	636	1631	361	1011	
300	580	480	380	1/2"	1	"	3/4"			1/	2"		11/2"	

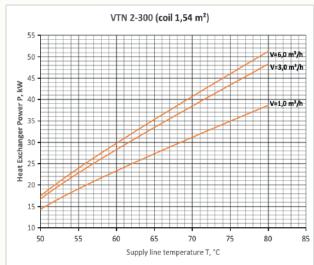


LOWER HEAT EXCHANGER POWER

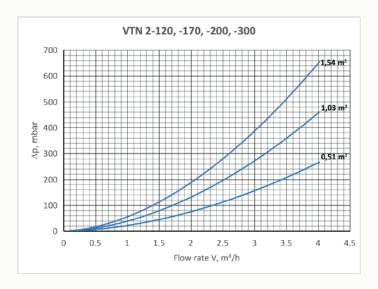
The power of the lower heat exchanger P, kW, is presented as dependent on the heat transfer fluid temperature T, °C, of the supply line to the heat exchanger at a specific circulation rate of the heat transfer fluid V, m³/h, in the latter.







PRESSURE LOSSES OF THE LOWER HEAT EXCHANGER



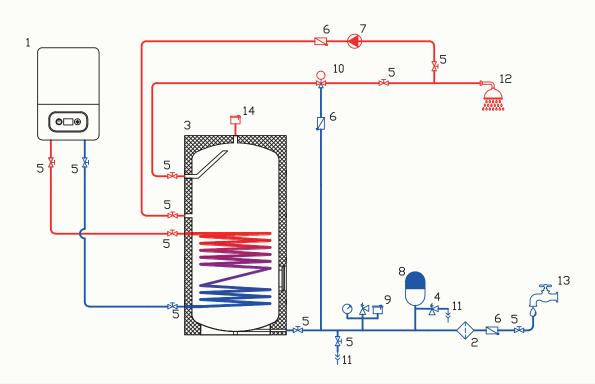


DHW OUTPUT (LOWER HEAT EXCHANGER)

Model	Area of the lower coil	Usable volume of the tank	Circulation of the heat transfer fluid in the lower coil	heat tran	heat transfer fluid temperature T, under the condition of heating water in the tank from 10 to 45°C with its continuous consumption				nt continuom 10 to 4 ansfer flu lower co	15°C) at t uid tempe	(heating he supply erature T ne heating	the tank heated to t , with the																				
			- 4		kW		l/h					I																				
	m²	1	m³/h	T, °C			T, °C					t,	°C																			
				55	65	70	80	55	65	70	80	55	60	65	70																	
120	0.51	104	0,5	6,9	10,0	11,4	14,3	170	246	281	352	133	148	163	178																	
120	0,51	10-4	1,0	7,5	11,1	12,7	16,0	185	273	313	394	155	140	103	170																	
170	1.03	145	145	1,0	13,9	20,1	23,0	28,7	342	495	567	707	187	208	228	249																
170	1,03			145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	3,0	15,7	23,1	26,7	33,5	387	569	658	825	107	200
200	1.03	400	1,0	13,9	20,1	23,0	28,7	342	495	567	707	245	272	200	326																	
200	1,03	190	190	190	190	190	3,0	15,7	23,1	26,7	33,5	387	569	658	825	245	212	299	320													
700	4.54	070	1,0	19,0	27,3	31,1	38,6	468	672	766	951	757	707	477	477																	
300	1,54 278	3,0	22,8	33,4	38,4	48,2	562	823	946	1187	357	397	437	476																		

EXAMPLE OF A SCHEMATIC DIAGRAM

The schematic diagram does not replace qualified installation: during design, relevant standards and regulations must be followed.



- 1 Gas/electric boiler
- 2 Mesh filter
- 3 VTN 2 water heater
- 4 Safety valve
- 5 Ball valve

- 6 Check valve
- 7 Circulation pump
- 8 Expansion tank
- 9 Safety group
- 10 Three-way mixing valve
- 11 Drainage
- 12 Domestic hot water system
- 13 Water supply system
- 14 Air vent

HEATING AND ACCUMULATION OF WATER FOR DHW NEEDS











TECHNICAL DESCRIPTION

The water heater is designed to heat water using a lower coiled heat exchanger from various sources, as well as to accumulate and store it for DHW. The tank's design includes a flanged inspection hatch with a cover, intended for periodic service maintenance of the tank.

MATERIAL

The tank is made of AISI 316L (DIN 1.4404) stainless steel, meeting the highest hygienic requirements.

Tank									
Р	Т								
6 bar	95 °C								
C	oils								
Р	Т								
10 bar	95 °C								



HEAT EXCHANGERS

The heat exchangers are made of AISI 304L (DIN 1.4307) stainless steel.

WARRANTY

5 years

THERMAL INSULATION

PL/PVC - 100 mm polyester insulation in a zippered PVC fabric casing

PU/PVC - 90 mm elastic polyurethane foam insulation in a PVC fabric casing secured with straps

PL/ABS - 100 mm polyester insulation in an ABS plastic casing with plastic latches

PS/ABS - 100 mm high-efficiency rigid graphite polystyrene insulation in an ABS plastic casing. Premium-class insulation - complies with all requirements of the ErP 2009/125/EC Directive

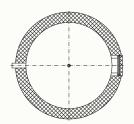
Model	Tank volume, l	Lower S coil 1, m ²	Energy efficiency class of insulation*	
400	413	1,48	V coil 1, l	В
500	483	1,84	В	
750	773	2,42	18,0	С
1000	1008	3,00	29,0	С
1500	1449	4,10	37,0	С

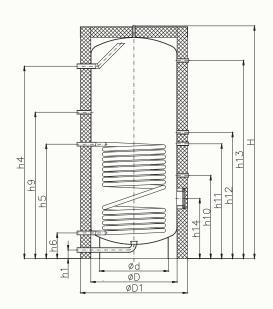
^{*}Energy efficiency class specified for PS/ABS insulation

CUSTOM DRAW

Water heaters can be designed and manufactured according to customer requirements, allowing for modifications in dimensions and connection configurations.







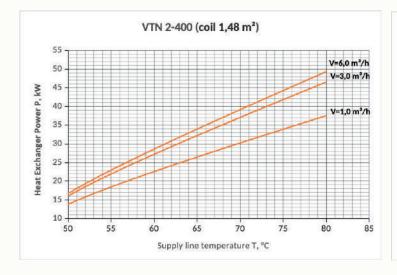
DESIGNAT	TION
Н	Air vent
h1	Cold water supply, drainage
h4	Hot water outlet
h5-h6	Supply and return mains of the lower heat exchanger (Coil 1)
h9	Recirculation
h10,h11,h13	Connections for control, regulation, and measuring equipment
h14	Flange, Ø115 мм

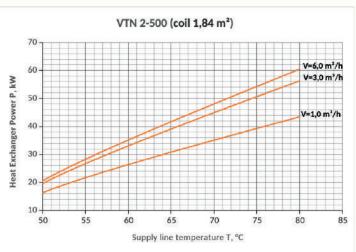
Madal		Dimensi	ions, mm		Connection sizes, mm									
Model	ØD1 ØD	ØD	Ød	Н	h1	h4	h5	h6	h9	h10	h11	h12	h13	h14
400	800	400	450	1705	75	1381	821	181	1031	631	831	931	1431	481
400	800	600	450	1/2"		1	"							
500	800	600	450	1955	75	1631	953	181	1231	681	956	1056	1681	481
300	800	800	450	1/2"		1								
750	950	750	600	2025	75	1673	995	223	1273	723	998	1098	1723	523
730	730	730	000	1/2"	11/4"		1"			3/4"				
1000	1050	850	700	2060	75	1690	990	240	1290	740	1015	1115	1740	540
1000	1030	830	1/2"			11/4"			1"	3/4"				
1500	1200	1000	850	2200	75	1771	1121	321	1371	821	1096	1196	1821	621
1500	1200 1000	850	1/2"	11	11/2" 11/4"				3/	4"				

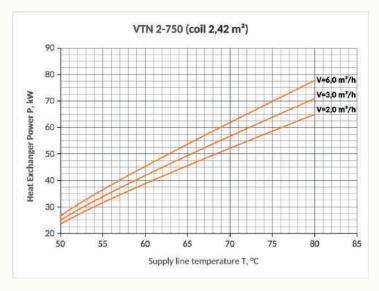


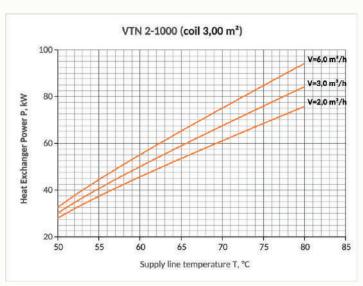
LOWER HEAT EXCHANGER POWER

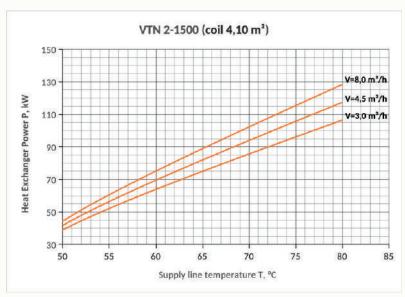
he power of the lower heat exchanger P, kW, is presented as dependent on the heat transfer fluid temperature T, °C, of the supply line to the heat exchanger at a specific circulation rate of the heat transfer fluid V, m³/h, in the latter.



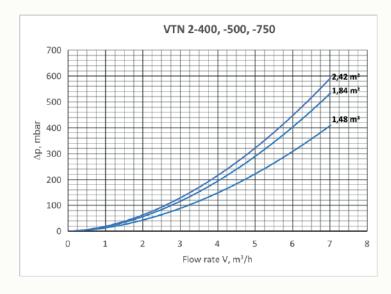


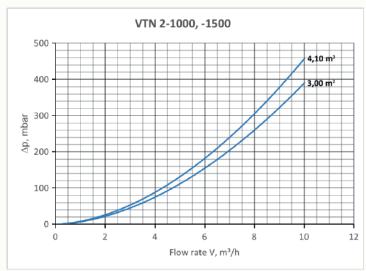






PRESSURE LOSSES OF THE LOWER HEAT EXCHANGER



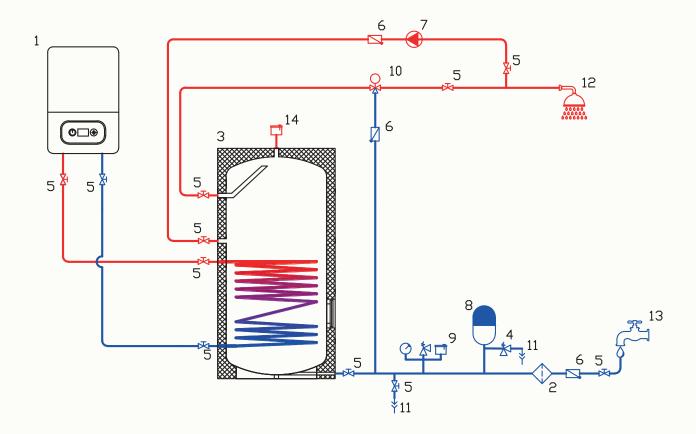


DHW OUTPUT (LOWER HEAT EXCHANGER)

Model	Area of the lower coil	Usable volume of the tank	Circulation of the heat transfer fluid in the lower coil	heat trai	heat transfer fluid temperature T, under the condition of heating water in the tank from 10 to 45°C with its continuous			constant DHW from heat trainto the	t continu m 10 to 4 ansfer flu lower coi	W output ous load (5°C) at th id temper I, with the (lower co	heating e supply ature T heating	the tank heated to t, with the																					
					kV	V			l/h																								
	m²	1	m³/h		T,	°C			T, °C				t, °C																				
				55	65	70	80	55	65	70	80	55	60	65	70																		
400	1.48	371	1,0	18,5	26,5	30,2	37,5	456	653	744	924	477	530	583	636																		
400	400 1,48 3/1		571	3,0	22,0	32,2	37,1	46,5	542	793	914	1145	4//	330	363	030																	
500	1.84	438	1,0	21,7	30,8	35,1	43,4	534	759	865	1069	563	626	688	751																		
300	1,04	430	3,0	26,7	39,1	44,9	56,3	658	963	1106	1387	303		000																			
750	2,42	808	2,0	31,6	45,6	52,2	65,0	778	1123	1286	1601	897	997	1096	1196																		
730	2,42	698	698	698	698	698	698	698	098	070	076	076	698	698	698	698	698	698	698	698	3,0	33,9	49,4	56,7	70,9	835	1217	1397	1746	077	771	1070	1170
1000	3.00	897	2,0	37,4	53,5	61,1	75,8	921	1318	1505	1867	1154	1282	1410	1538																		
1000	3,00 897	077	3,0	40,7	58,9	67,5	84,2	1002	1451	1663	2074	1104	1202	1410	1008																		
1500	4,10	1270	3,0	52,2	75,0	85,7	106,5	1286	1847	2111	2623	1632	1814	1995	2176																		
1000	7,10	12/0	4,5	56,4	81,9	94,0	117,4	1389	2017	2315	2892	1002	1014	1,7,0	2170																		

EXAMPLE OF A SCHEMATIC DIAGRAM

The schematic diagram does not replace qualified installation: during design, relevant standards and regulations must be followed.



- 1 Gas/electric boiler
- 2 Mesh filter
- 3 VTN 2 water heater
- 4 Safety valve
- 5 Ball valve

- 6 Check valve
- 7 Circulation pump
- 8 Expansion tank
- 9 Safety group
- 10 Three-way mixing valve
- **11** Drainage
- 12 Domestic hot water system
- 13 Water supply system
- 14 Air vent



HEATING WATER FROM A HEAT PUMP AND ACCUMULATION FOR DHW















TECHNICAL DESCRIPTION

Due to the increased heat exchanger area, the water heater is ideally suited for operation with a heat pump. The enlarged heat exchanger area also allows connection to high-power sources, ensuring high DHW output with relatively small tank volumes. The tank's design includes a flanged inspection hatch with a cover, intended for periodic service maintenance of the tank. Above the heat exchanger, a fitting is provided for installing an electric heat element.

MATERIAL

The tank is made of AISI 316L (DIN 1.4404) stainless steel, meeting the highest hygienic requirements.

Р	Т						
8 bar 95 °C							
Coil							
Р	Т						
10 bar	95 °C						

Tank



HEAT EXCHANGERS

The heat exchangers are made of AISI 304L (DIN 1.4307) stainless steel.

WARRANTY

5 years

THERMAL INSULATION

PL/ABS - 50 mm polyester insulation in an ABS plastic casing with plastic latches

PS/ABS - high-efficiency rigid graphite polystyrene insulation in an ABS plastic casing.
Premium-class insulation - complies with all requirements of the ErP 2009/125/EC Directive

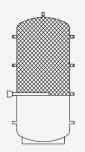
Mode	ı Tank volume, l	Lowe	r coil	Energy efficiency class of insulation*
		S coil 1, m²	V coil 1, I	
120	124	0.73	4.0	A**/B
170	169	1.46	7.9	A**/C
200	214	2.20	11.8	A**/C
300	305	2.90	15.6	A**/C

^{*}Energy efficiency class specified for PS/ABS insulation

CUSTOM DRAW

Water heaters can be designed and manufactured according to customer requirements, allowing for modifications in dimensions and connection configurations.

ACCESSORIES



Electric heat elements

	Haakina mana	2 Kw	3 kW	4,5 kW					
Model	Heating zone volume, liters	1~2	1~220						
		Heating time for ΔT=20°, minutes							
120	62	76	50	34					
170	70	85	57	38					
200	77	94	63	42					
300	129	157	105	70					

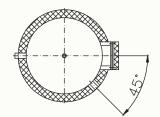
For alternative mounting of the electric heat element, a flange adapter is used

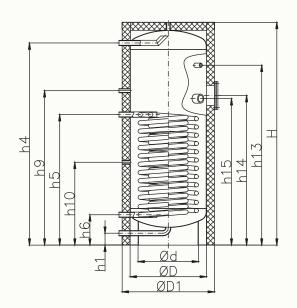




^{**} For insulation thickness of 100 mm.







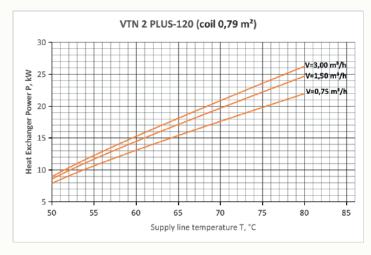
DESIGN	ATION
н	Air vent
h1	Cold water supply, drainage
h4	Hot water outlet
h5-h6	Supply and return mains of the lower heat exchanger (Coil 1)
h9	Recirculation
h10-h13	Connections for control, regulation, and measuring equipment
h14	Flange, Ø115 мм
h15	Connection for electric heat element

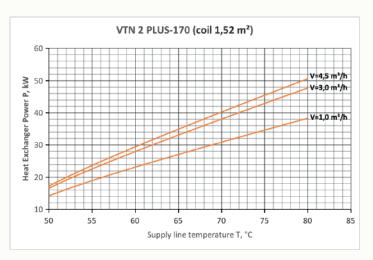
Madal		Dimens	ions, mm		Connection sizes, mm									
Model	ØD1 ØD Ød	Ød	Н	h1	h4	h5	h6	h9	h10	h13	h14	h15		
400	580 480	400	700	900	75	761	391	181	491	291	621	511	491	
120		0 380	1/2"	3/4"	3/4" 1"				1/2"	1/2"		11/2"		
470	500 400	700	1150	75	1011	601	181	701	401	871	721	721		
170	580	80 480 380		1/2"	3/4"		1"		3/4"	1/2"	1/2"		11/2"	
200	580	480	380	1410	75	1271	821	191	971	521	1131	941	921	
200	560	460	360	1/2"		1	"		3/4"	1/2"	1/2"		11/2"	
300	E90		700	1910	75	1771	1031	191	1281	631	1631	1151	1131	
300	580 480 380		360	1/2"		1			3/4"	1/2"	1/2"		11/2"	

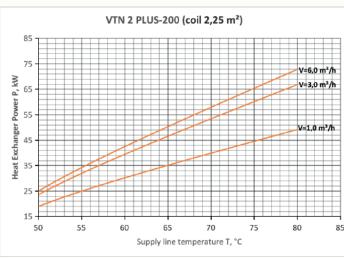


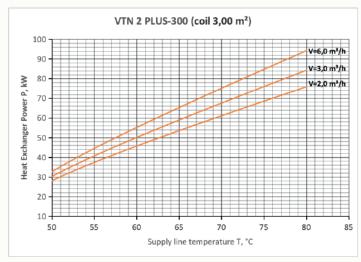
LOWER HEAT EXCHANGER POWER

The power of the lower heat exchanger P, kW, is presented as dependent on the heat transfer fluid temperature T, °C, of the supply line to the heat exchanger at a specific circulation rate of the heat transfer fluid V, m³/h, in the latter.

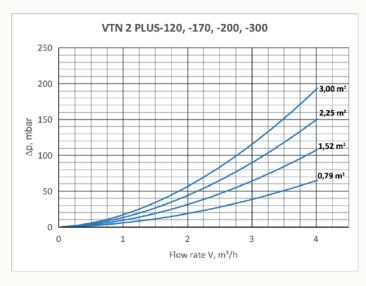








PRESSURE LOSSES OF THE LOWER HEAT EXCHANGER



DHW OUTPUT (LOWER HEAT EXCHANGER)

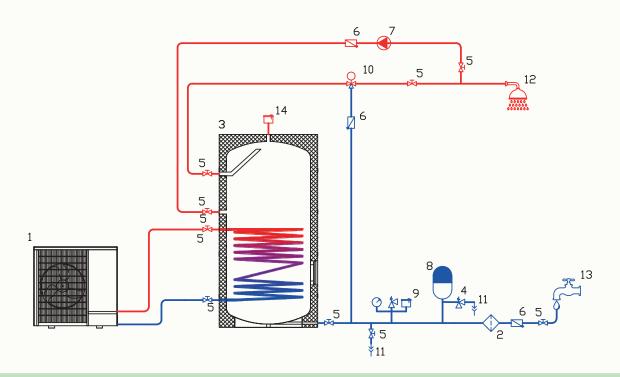
HEAT EXCHANGER SPECIFICATIONS

EXAMPLE OF A SCHEMATIC DIAGRAM

Model	Area of the lower coil	Usable volume of the tank	Circulation of the heat transfer fluid in the lower coil	the condition of heating water in the tank from 10 to 45°C with its continuous consumption			contin from 10 t transfe the low	m DHW o nuous load to 45°C) a or fluid ter ver coil, w activated	d (heating t the sup nperature vith the h	pDHW ply heat Tinto eating																																													
		1	m³/h	kW					I/h				1																																										
	m²			T, °C			T, °C				t, °C																																												
				55	65	70	80	55	65	70	80	55	60	65	70																																								
120	0.79	102	0,8	10,6	15,3	17,6	21,9	261	377	433	539	131	145	160	175																																								
120	0,79	102	1,5	11,6	17,1	19,6	24,7	286	421	483	608	131	140	100																																									
170	4.50	142	440	440	1,0	18,9	27,0	30,8	38,2	466	665	759	941	400	207	007	0.47																																						
1/0	1,52		3,0	22,5	33,0	38,0	47,7	554	813	936	1175	182	203	223	243																																								
200	0.05	400	400	400	400	400	400	400	400	400	400	400	400	100	182	1,0	24,9	35,0	39,8	49,1	613	862	980	1209	074	040	204	740																											
200	00 2,25	182	3,0	31,9	46,5	53,3	66,8	786	1145	1313	1645	234	260	286	312																																								
700	7.00	268	0.40	0.40	242	0/0	040	0/0	040	040	0.40	040	0.40	040	0/0	0/0	0.40	0.40	040	0.40	240	040	040	040	240	040	040	040	040	0.40	040	040	040	040	040	040	0/0	0.40	242	040	0/0	040	2,0	37,4	53,5	61,1	75,8	921	1318	1505	1867	7.45	707	404	4/0
300	3,00 268		3,0	40,7	58,9	67,5	84,2	1002	1451	1663	2074	345	383	421	460																																								

EXAMPLE OF A SCHEMATIC DIAGRAM

The schematic diagram does not replace qualified installation: during design, relevant standards and regulations must be followed.



- Heat pump 1
- Mesh filter 2
- VTN 2 Plus water heater 3
- Safety valve
- Ball valve 5

- Check valve
- Circulation pump
- Expansion tank 8
- Safety group
- Three-way mixing valve
- Drainage 11
- Domestic hot water system
- 13 Water supply system



HEATING WATER FROM A HEAT PUMP AND ACCUMULATION FOR DHW NEEDS













O TECHNICAL DESCRIPTION

Due to the increased heat exchanger area, the water heater is ideally suited for operation with a heat pump. The enlarged heat exchanger area also allows connection to high-power sources, ensuring high DHW output with relatively small tank volumes. The tank's design includes a flanged inspection hatch with a cover, intended for periodic service maintenance of the tank.

MATERIAL

The tank is made of AISI 316L (DIN 1.4404) stainless steel, meeting the highest hygienic requirements.

Tai	nk							
Р	Т							
6 bar	95 °C							
Coil								
Р	Т							
10 bar	95 °C							



O HEAT EXCHANGERS

The heat exchangers are made of AISI 304L (DIN 1.4307) stainless steel.

WARRANTY

5 years

O THERMAL INSULATION

PL/PVC - 100 mm polyester insulation in a zippered PVC fabric casing

PU/PVC - 90 mm elastic polyurethane foam insulation in a PVC fabric casing secured with straps

PL/ABS - 100 mm polyester insulation in an ABS plastic casing with plastic latches

PS/ABS - 100 mm high-efficiency rigid graphite polystyrene insulation in an ABS plastic casing. Premium-class insulation - complies with all requirements of the ErP 2009/125/EC Directive

				(F.,F
Model	Tank volume, l	Lowe S coil 1, m²	r coil V coil 1, I	Energy efficiency class of insulation*
400	413	3.85	28	A**/B
500	483	4.10	30	A**/C
750	773	4.94	33	A**/C
1000	1008	5.1	47	A**/C
1500	1449	6.35	59	A**/C

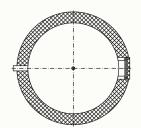
^{*}Energy efficiency class specified for PS/ABS insulation

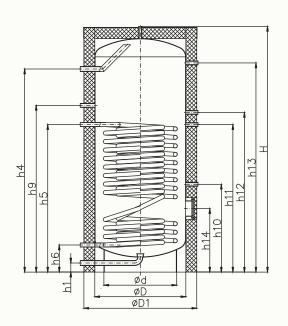
CUSTOM DRAW

Water heaters can be designed and manufactured according to customer requirements, allowing for modifications in dimensions and connection configurations.

^{**} For insulation thickness of 100 mm.





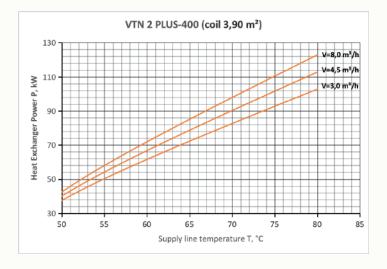


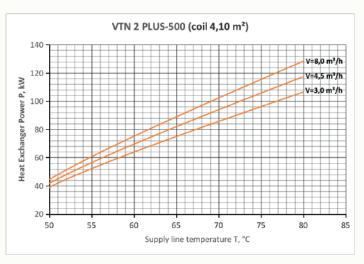
DESIGN	DESIGNATION							
н	Air vent							
h1	Cold water supply, drainage							
h4	Hot water outlet							
h5-h6	Supply and return mains of the lower heat exchanger (Coil 1)							
h9	Recirculation							
h10-h13	Connections for control, regulation, and measuring equipment							
h14	Flange, Ø115 мм							

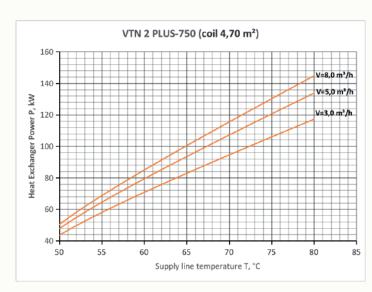
Model	Dimensions, mm						Conr	ection siz	zes, mm					
модеі	ØD1	ØD	Ød	Н	h1	h4	h5	h6	h9	h10	h11	h12	h13	h14
400	800		450	1705	75	1381	1173	181	1281	631	1156	-	1431	481
400	800	800 600 450		1/2"		1	"	3/4"						
500	800	400	450	1955	75	1631	1217	181	1331	681	1217	1317	1681	481
500	800	00 600 450		1/2"		1				3/4"				
750	950			2025	75	1673	1215	223	1373	723	1215	1315	1723	523
750	950	750	600	1/2"	11/4"		1"			3/4"				
1000	1050	850	700	2060	75	1690	1140	240	1390	740	1140	1240	1740	540
1000	1050	650	700	1/2"		11,	/4''		1"	3/4"				
1500		1000		2200	75	1771	1171	321	1471	821	1171	1271	1821	621
1500	1200 1000 850		1/2"	11	/2"	11/4"			3/4"					

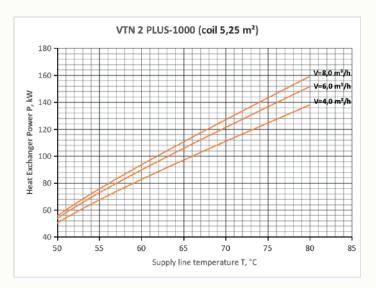
LOWER HEAT EXCHANGER POWER

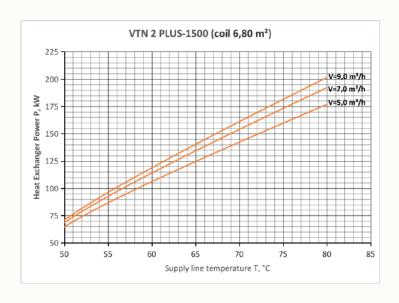
The power of the lower heat exchanger P, kW, is presented as dependent on the heat transfer fluid temperature T, °C, of the supply line to the heat exchanger at a specific circulation rate of the heat transfer fluid V, m³/h, in the latter.





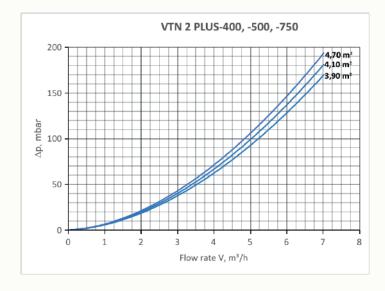


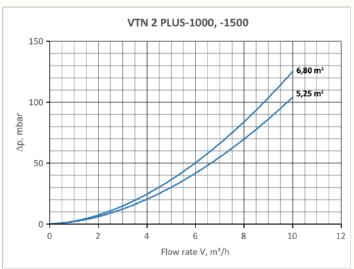






PRESSURE LOSSES OF THE LOWER HEAT EXCHANGER



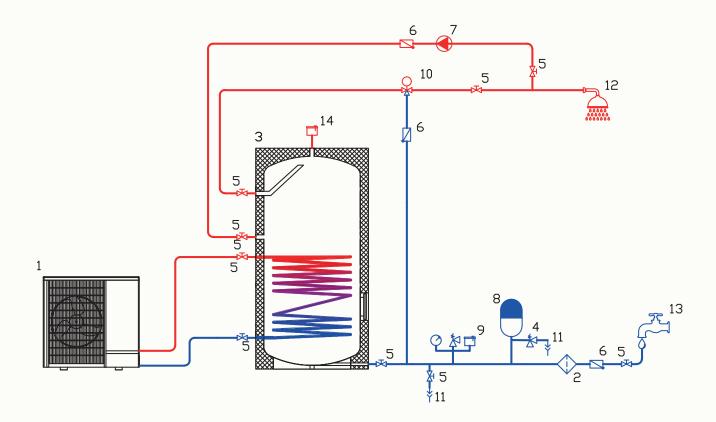


DHW OUTPUT (LOWER HEAT EXCHANGER)

Model	Area of the lower coil	Usable volume of the tank	Circulation of the heat transfer fluid in the lower coil	heat transfer fluid temperature T, under the condition of heating water in the			DHW from heat trainto the	t continuo m 10 to 4: ansfer flui lower coil	W output ous load (I 5°C) at the id temper I, with the (lower co	heating e supply ature T heating	the tank heated to t , with the																				
			m³/h		kw T,				l/h T, °C				l t.°C																		
m²		,	55	65	70	80	55	65	70	80	55	60	65	70																	
400	3.90	350	3,0	50,2	72,2	82,6	102,7	1236	1778	2034	2530	451	501	551	601																
.00	3,70		4,5	54,1	78,6	90,2	112,7	1333	1936	2222	2776		55.	55.	55.																
500	4,10	418	3,0	52,2	75,0	85,7	106,5	1286	1847	2111	2623	538	598	657	717																
			4,5	56,4	81,9	94,0	117,4	1389	2017	2315	2892																				
750	4,70	678	3,0	57,9	82,8	94,4	117,1	1426	2039	2325	2884	871	968	1065	1162																
730	4,70	070	5,0	64,4	93,4	107,1	133,1	1586	2300	2638	3278	071	700	1003	1102																
1000	5.25	873	977	977	4,0	67,4	97,0	110,9	137,9	1660	2389	2732	3397	1123	1247	1372	1497														
1000	1000 5,25		6,0	72,7	105,7	121,5	151,5	1791	2603	2993	3732	1120	1247	1372	1777																
1500	1500 6,80 1241	1241	5,0	86,7	124,5	142,3	176,8	2135	3067	3505	4355	1595	1772	1950	2127																
1000		1241	1241	1241	1241	1241	1241	1241	1241	1241	1241	1241	1241	1241	1241	1241	1241	1241	1241	7,0	92,6	134,3	153,9	192,1	2281	3308	3791	4732	1070	1//2	1700

EXAMPLE OF A SCHEMATIC DIAGRAM

The schematic diagram does not replace qualified installation: during design, relevant standards and regulations must be followed.



- 1 Heat pump
- Mesh filter 2
- VTN 2 Plus water heater 3
- Safety valve 4
- Ball valve

- Check valve 6
- 7 Circulation pump
- 8 Expansion tank
- 9 Safety group
- Three-way mixing valve 10
- 11 Drainage
- Domestic hot water system 12
- Water supply system

N L



ACCUMULATION OF PREHEATED WATER FOR DHW















TECHNICAL DESCRIPTION

The DHW thermal storage tank is designed for the accumulation and storage of water preheated in an external heat exchanger for DHW. The tank's design includes a flanged inspection hatch with a cover, intended for periodic service maintenance of the tank.

MATERIAL

The tank is made of AISI 316L (DIN 1.4404) stainless steel, meeting the highest hygienic requirements.

WARRANTY

5 years

Tank								
Р	Т							
6 bar	95 °C							



O THERMAL INSULATION

PL/PVC - 100 mm polyester insulation in a zippered PVC fabric casing

PU/PVC - 90 mm elastic polyurethane foam insulation in a PVC fabric casing secured with straps

PL/ABS - 100 mm polyester insulation in an ABS plastic casing with plastic latches

PS/ABS - 100 mm high-efficiency rigid graphite polystyrene insulation in an ABS plastic casing. Premium-class insulation – complies with all requirements of the ErP 2009/125/EC Directive

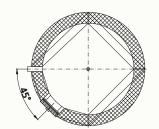
Tank volume, l	Energy efficiency class of insulation*
413	В
483	В
773	С
1008	С
1449	С
2158	С
	413 483 773 1008

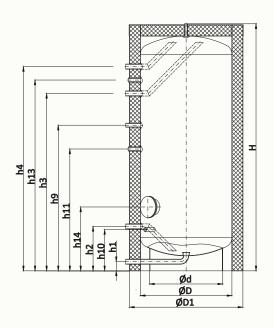
^{*}Energy efficiency class specified for PS/ABS insulation

CUSTOM DRAW

Water heaters can be designed and manufactured according to customer requirements, allowing for modifications in dimensions and connection configurations.





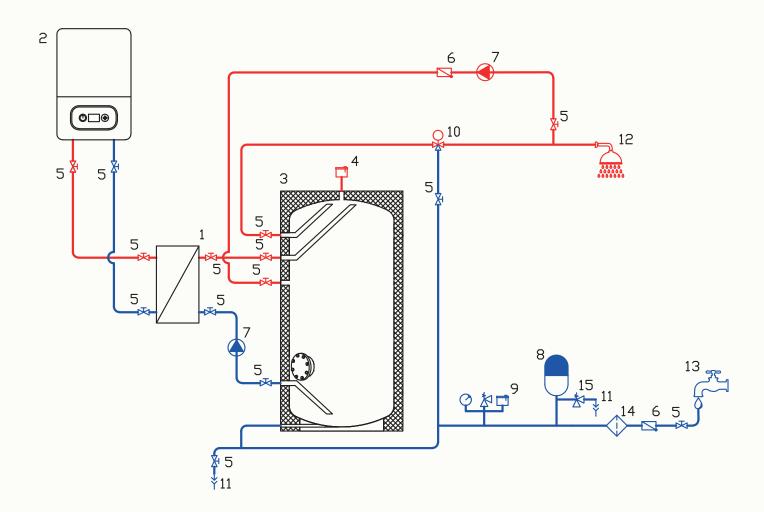


DESIGN	ATION
н	Air vent
h1	Cold water supply, drainage
h2	Return line of the external heat exchanger
h3	Supply line of the external heat exchanger
h4	Hot water outlet
h9	Recirculation
h10-h13	Connections for control, regulation, and measuring equipment
h14	Flange, Ø115 мм

Model		Dimen	sions, mm					Connect	ion sizes, m	ım							
модеі	ØD1	ØD	Ød	Н	h1	h2	h3	h4	h9	h10	h11	h13	h14				
400	400 800	600	450	1705	75	321	1161	1381	1001	296	856	1271	481				
400	000	000	400	1/2"	1"				3/4"								
500	800	600	450	1955	75	321	1411	1631	1131	296	956	1521	481				
300	000	000	450	1/2"		1	! "			3/4"							
750	950	750	600	2025	75	363	1453	1673	1173	338	998	1563	523				
750	950	750	000	1/2"	11/4"				1"	3/4"							
1000	1050	850	050	050	050	050	700	2060	75	380	1470	1690	1190	355	1015	1580	540
1000	1050		700	1/2"	11/4"				1"		3/4"						
1500	1200	1000	850	2200	75	461	1551	1771	1271	436	1096	1661	621				
1500	1200	1000	1000 650	1/2"		11	/2"		11/4"		3/4"						
2000	1400	1200	1000	2300	75	511	1601	1821	1321	486	1146	1711	671				
2000	1400 1200 1000		1000	1/2"		11,	/2"		11/4"		3/4"						
3000	7000 4400	4/00 4400	0 1400	00 1400	1150	2410	75	566	1656	1876	1376	541	1201	1766	726		
3000	1600	1400	1150	1/2"		11	/2"		11/4"		3/4"						

EXAMPLE OF A SCHEMATIC DIAGRAM

The schematic diagram does not replace qualified installation: during design, relevant standards and regulations must be followed.



- External plate heat exchanger 1
- 2 Gas/electric boiler
- VTN 3 water heater 3
- Boiler safety group 4
- Ball valve

- Check valve 6
- Circulation pump 7
- розширювальний бак 8
- 9 Water supply system safety
- Three-way mixing valve 10

- Safety valve 11
- Domestic hot water system
- Water supply system 13
- Mesh filter 14
- 15 Drainage





HEATING AND ACCUMULATION OF WATER FOR DHW













TECHNICAL DESCRIPTION

The calorifier is designed to heat water via a lower coiled heat exchanger from various sources, while providing accumulation and storage for DHW. The tank features a flanged inspection port with a sealed cover for periodic maintenance access. A fitting above the heat exchanger is provided to install an electric heating element. Two magnesium anodes ensure corrosion protection.

MATERIALS

Tank and heat exchanger are constructed from cold-rolled carbon steel with an internal double-layer enamel coating, baked at 860°C by DIN 4753 standards.

Tank										
Р	Р Т									
10 bar	95 °C									
Coil										
Р	Т									
6 bar	95 °C									



WARRANTY

2 years

THERMAL INSULATION

Rigid polyurethane foam insulation, 50 mm thick, encased in a zippered "sky" finish casing, compliant with all requirements of the ErP 2009/125/EC Directive.

				(ErP	
Model	Tank volume, l	Co	Energy efficiency		
	rank volume, i	S coil, m²	V coil, I	class of insulation*	
160	155	0,85	5,10	В	
200	191	0,95	5,74	В	
300	289	1,48	8,93	В	
400	386	1,65	10,21	С	
500	452	2,06	12,44	С	

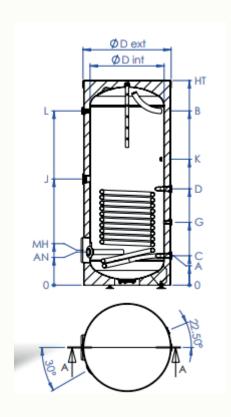
ACCESSORIES

Electric heat elements

Maralal	2 kW	3 kW	4,5 kW	6 kW	7,5 kW	9 kW		
Model	1~2	20	3~400					
160	✓	✓	✓	✓	✓	-		
200	✓	✓	✓	✓	✓	-		
300	✓	✓	✓	✓	✓	-		
400	✓	✓	✓	✓	✓	✓		
500	✓	✓	✓	✓	✓	✓		







DESIGNA	ATION
HT	Height Manhole
MH AN	Magnesium anode
А	Cold water inlet
В	Hot water outlet
С	Lower heat exchanger outlet
D	Lower heat exchanger inlet
G	Sensor pocket 1
J	Heating element
K	Recirculation
L	Thermometer

Model	Dir	mensions,	mm				Co	nnection s	sizes, mm				
	ØD ext	ØD int	нт	А	В	С	D	G	J	K	L	МН	AN
160	600	500	1075	242	787	242	602	422	652	605	787	287	272
100	800	500	1035		1"				11/2"	3/4"	1/2"	Ø180	
200	600	500	1230	242	982	242	647	445	694	735	982	287	272
200	800	500 500	1230	1"				1/2"	11/2"	3/4"	1/2"	Ø180	
300	600	500	1760	242	1512	242	872	557	1012	1088	1512	287	272
300	800	300	1700		1	"		1/2"	11/2"	3/4"	1/2"	Ø180	
400	700	600	1655	238	1408	238	778	508	858	1018	1408	283	268
400	700	800	1033		1	"		1/2"	11/2"	3/4"	1/2"	Ø180	
500	700	600	1900	238	1658	238	913	576	993	1184	1658	283	268
500	700	000	1700		1	"		1/2"	11/2"	3/4"	1/2"	Ø180	

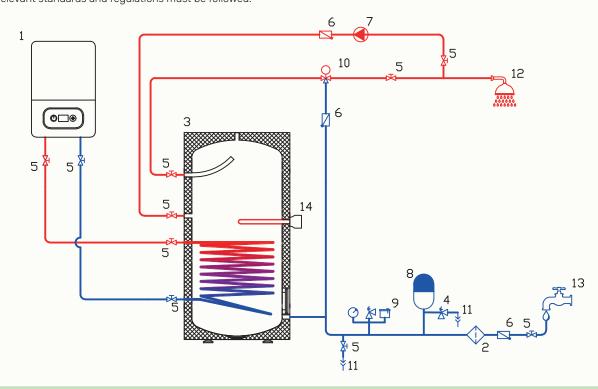


DHW OUTPUT

Model	Area of the lower coi	Usable volume of the tank	Coil power at a supply heat transfer fluid temperature of 80°C (Δ20°C) into the coil, under the condition of heating water in the tank from 10 to 45°C with its continuous consumption	Maximum DHW output under continuous steady load (heating DHW from 10°C to 45°C) with a heat transfer fluid supply temperature of 80°C (ΔΤ 20°C) to the coil, heating source activated	Pressure loss of the heat transfer fluid
	m²	1	kW	l/h	mbar
160	0,85	155	28	639	18
200	0,95	191	32	786	19
300	1,48	289	41	885	24
400	1,65	386	48	1106	28
500	2,06	452	60	1278	62

EXAMPLE OF A SCHEMATIC DIAGRAM

The schematic diagram does not replace qualified installation: during design, relevant standards and regulations must be followed.



- Heat pump
- 2 Mesh filter
- 3 VTE 1 water heater
- 4 Safety valve
- 5 Ball valve

- 6 Check valve
- 7 Circulation pump
- 8 Expansion tank
- 9 Safety group
- 10 Three-way mixing valve

- 11 Drainage
- 12 Domestic hot water system
- 13 Water supply system
- 14 Electric heat element

VTE 1 PLUS

HEATING WATER VIA HEAT PUMP AND ACCUMULATION OF WATER FOR DHW















O TECHNICAL DESCRIPTION

The calorifier's enlarged heat exchanger surface area makes it ideally suited for integration with heat pumps. Additionally, the increased heat exchanger area enables connection to high-capacity heat sources, delivering exceptional DHW output despite the relatively compact tank volume. The tank features a flanged inspection port with a sealed cover for periodic maintenance access. A fitting above the heat exchanger is provided to install an electric heating element. Two magnesium anodes ensure corrosion protection.

MATERIALS

Tank and heat exchanger are constructed from cold-rolled carbon steel with an internal double-layer enamel coating, baked at 860°C by DIN 4753 standards.

WARRANTY

2 years

THERMAL INSULATION

Rigid polyurethane foam insulation, 50 mm thick, encased in a zippered "sky" finish casing, compliant with all requirements of the ErP 2009/125/EC Directive.

Tank							
Р	Т						
10 bar	95 °C						
С	oil						
Р	Т						
6 bar	95 °C						



					IEIF		
	Model	Tank volume, I	Co	oil	Energy efficiency class of insulation*		
		rank volume, i	S coil, m²	V coil, I	Energy efficiency class of insulation		
	200	181	2,62	13,0	В		
	300	276	3,77	18,0	В		
	500	429	6,0	29,0	С		

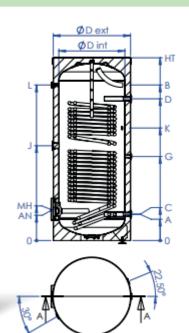
ACCESSORIES

Electric heat elements

	2 Kw	3 kW	4,5 kW	6 kW	7,5 kW		
Model	1~2	220	3~400				
			Heating time for A	∆T=20°, minutes			
200	✓	✓	✓	-	-		
300	✓	✓	✓	-	-		
500	/	/	✓	✓	✓		



DIMENSIONS AND CONNECTION



DESIGNATION

Height Lower heat exchanger inlet D HT Manhole МН Sensor pocket 1 G Magnesium anode Heating element AN J Cold water inlet Recirculation Α Κ Thermometer Hot water outlet В L С Lower heat exchanger outlet

Model	Dimensions, mm			Connection sizes, mm									
Model	ØD ext	ØD int	нт	Α	В	С	D	G	J	K	L	МН	AN
200	600 500	500 1230	242	982	242	982	612	694	735	982	287	272	
200 000	300			1	"		1/2"	1 1/2"	3/4"	1/2"	Ø180		
300		F00	500 1760	242	1512	242	1222	732	1012	1088	1512	287	272
300	600	500		1"				1/2"	1 1/2"	3/4"	1/2"	Ø180	
F00			1000	238	1658	238	1488	863	993	1184	1658	283	268
500	700	600	1900	1"	3/4"	1		1/2"	1 1/2"	1/	2"	Ø180	



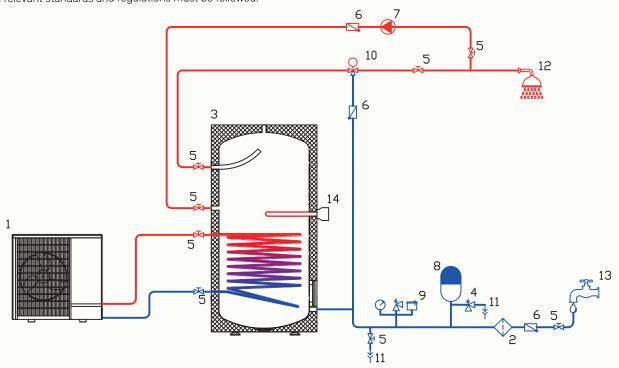


DHW OUTPUT

Model	Area of the lower coil	Usable volume of the tank	Coil power at a supply heat transfer fluid temperature of 80°C (Δ20°C) into the coil, under the condition of heating water in the tank from 10 to 45°C with its continuous consumption	Maximum DHW output under continuous steady load (heating DHW from 10°C to 45°C) with a heat transfer fluid supply temperature of 80°C (ΔT 20°C) to the coil, heating source activated	Pressure loss of the heat transfer fluid
	m²	1	kW	l/h	mbar
200	2,62	181	63	1545	56
300	3,77	276	90	2223	117
500	6,00	429	144	3538	332

EXAMPLE OF A SCHEMATIC DIAGRAM

The schematic diagram does not replace qualified installation: during design, relevant standards and regulations must be followed.



- Heat pump
- 2 Mesh filter
- 3 VTE 1 PLUS water heater
- 4 Safety valve
- 5 Ball valve

- 6 Check valve
- 7 Circulation pump
- 8 Expansion tank
- 9 Safety group
- 10 Three-way mixing valve

- **11** Drainage
- 12 Domestic hot water system
- 13 Water supply system
- 14 Electric heat element



HEATING AND ACCUMULATION OF WATER FOR DHW













TECHNICAL DESCRIPTION

The calorifier is designed for heating water in bivalent systems, as well as for its accumulation and storage for DHW. The lower heat exchanger is intended for connection to low-temperature heat sources (e.g., solar collectors, heat pumps). The upper heat exchanger is optimized for integration with high-temperature sources, primarily used for supplementary heating The tank features a flanged inspection port with a sealed cover for periodic maintenance access. A fitting above the heat exchanger is provided to install an electric heating element. Two magnesium anodes ensure corrosion protection.

Tank								
Tank								
Р	T							
10 bar	95 °C							
Coil								
Р	T							
6 bar	95 °C							



MATERIALS

Tank and heat exchanger are constructed from cold-rolled carbon steel with an internal double-layer enamel coating, baked at 860°C by DIN 4753 standards.

WARRANTY

2 years

THERMAL INSULATION

Rigid polyurethane foam insulation, 50 mm thick, encased in a zippered "sky" finish casing, compliant with all requirements of the ErP 2009/125/EC Directive.

						ErP	
Model	Tank volume, l	Lowe	r coil	Uppe	er coil	Energy efficiency class of insulation*	
		S coil 1, m ²	V coil 1, I	S coil 2, m²	V coil 2, I		
160	153	0,64	3,83	0,42	2,55	В	
200	187	0,85	5,10	0,62	3,83	В	
300	283	1,27	7,66	0,85	5,10	В	
400	378	1,65	10,21	0,97	5,87	С	
500	443	2,06	12,44	0,96	6,06	С	

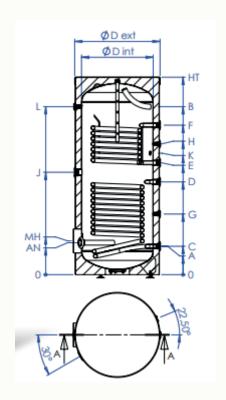
ACCESSORIES

Electric heat elements

	2 kW	3 kW	4,5 kW	6 kW	7,5 kW	9 kW		
Model	1~2	20	3~400					
160	✓	✓	✓	✓	✓	-		
200	✓	✓	✓	✓	✓	-		
300	✓	✓	✓	✓	✓	-		
400	✓	✓	✓	✓	✓	✓		
500	✓	~	✓	✓	✓	✓		







DESIGNA	ATION
нт	Height
МН	Manhole
AN	Magnesium anode
Α	Cold water inlet
В	Hot water outlet
С	Lower heat exchanger outlet
D	Lower heat exchanger inlet
Е	Upper heat exchanger outlet
F	Upper heat exchanger inlet
G	Sensor pocket 1
н	Sensor pocket 2
J	Heating element
K	Recirculation
L	Thermometer

Model	Dim	Dimensions, mm		Connection sizes, mm																
модеі	ØD ext	ØD int	НТ	А	В	С	D	Е	F	G	Н	J	K	L	МН	AN				
140			1075	242	787	242	507	607	787	375	697	557	605	787	287	272				
160	600	500	1035			1	!"			1/	2"	11/2"	3/4"	1/2"	Ø180					
200	600	500	1230	242	982	242	602	712	982	422	847	657	735	982	287	272				
200	600	500	1230	1"						1/	1/2"		3/4"	1/2"	Ø180					
700			500	500	500	500	477.0	242	1512	242	782	942	1302	512	1122	862	1088	1512	287	272
300	600	500	500 1760		1"					1/	2"	11/2"	3/4"	1/2"	Ø180					
400	700	400	4/55	238	1408	238	778	938	1253	508	1096	858	1018	1408	283	268				
400	700	600	600 1655	1055		1"					1/	2"	11/2"	3/4"	1/2"	Ø180				
500	700		4000	238	1658	238	913	1073	1388	576	1231	993	1184	1658	283	268				
500 700	600	1900			1	''			1/	2"	11/2"	3/4"	1/2"	Ø180						

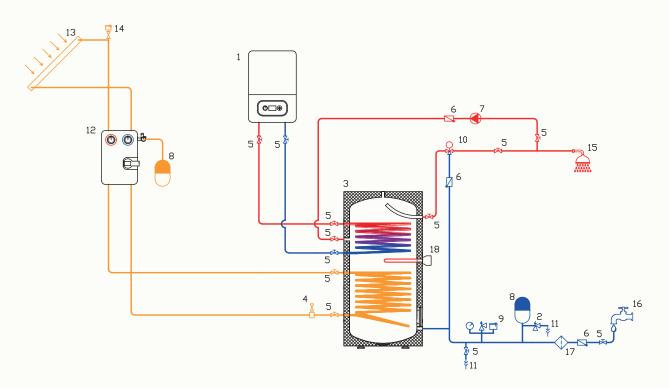


DHW OUTPUT

Model	Area of the coil		Usable volume of the tank	fluid temperature into the coil, unde heating water in to 45°C with	ipply heat transfer e of 80°C (Δ20°C) er the condition of the tank from 10 its continuous imption	steady load (heati to 45°C) with a heat	transfer fluid supply (ΔT 20°C) to the coil,	Pressure loss of the heat transfer fluid		
	Lower coil	Upper coil		Lower coil	Upper coil	Lower coil	Upper coil	Lower coil	Upper coil	
	m²	m²	I	kW	kW	l/h	l/h	mbar	mbar	
200	0,85	0,62	187	26	19	639	393	18	9	
300	1,27	0,85	283	36	26	835	639	27	19	
400	1,65	0,97	378	48	25	1106	614	28	26	
500	2,06	0,96	443	60	31	1278	762	60	26	

EXAMPLE OF A SCHEMATIC DIAGRAM

The schematic diagram does not replace qualified installation: during design, relevant standards and regulations must be followed.



- 1 Gas/electric boiler
- 2 Safety valve
- **3** VTE 2 water heater
- 4 Automatic solar circuit air vent
- 5 Ball valve
- 6 Check valve

- 7 Circulation pump
- 8 Expansion tank
- 9 Safety group
- 10 Three-way mixing valve
- **11** Drainage
- 12 Circulation pump

- 13 Solar collector (solar circuit)
- 14 Solar circuit air vent
- 15 Domestic hot water system
- 16 Water supply system
- 17 Mesh filter
- 18 Electric heat element



HEAT ACCUMULATION FOR HEATING SYSTEM, PREPARATION, AND STORAGE OF DOMESTIC HOT WATER (DHW)

















TECHNICAL DESCRIPTION

The storage tank is designed to accumulate thermal energy from various sources, including solar collectors, via a lower heat exchanger. The internal DHW tank is located in the upper part of the tank, allowing the use of the highest-temperature heat carrier for rapid and efficient heating of DHW, as well as storing it in the required volume. The DHW reserve ensures coverage of peak hot water consumption. Thanks to its corrugated wall design, the internal tank offers sufficient resistance to external pressure fluctuations.

MATERIAL

The tank is made of S235JR (DIN 1.0038) carbon structural steel. The external coating provides enhanced resistance to mechanical impacts and aggressive environments.

INTERNAL TANK

The internal DHW tank with a corrugated/wavy wall is made of AISI316L (DIN 1.4404) stainless steel.

HEAT EXCHANGER

The lower heat exchanger (external heating circuit) is made of C22 (DIN 1.0402) carbon steel.

WARRANTY

5 years

THERMAL INSULATION

PL/PVC - 100 mm thick polyester thermal insulation in a PVC fabric casing with a zipper

PU/PVC - 90 mm thick elastic polyurethane foam insulation in a PVC fabric casing secured with straps

PL/ABS - 100 mm thick polyester thermal insulation in an ABS plastic casing with plastic latches

PS/ABS - 100 mm thick high-efficiency rigid thermal insulation made of graphitized polystyrene in an ABS plastic casing. Premium-class insulation - complies with all requirements of the ErP 2009/125/EC Directive

nk	of the e heating	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
Т	Р	T				
95℃	6 bar 95°C					
DHW	tank					
	1	-				
ar	95	°C				
	95°C	T P 95°C 6 bar DHW tank				



Model	Tank volume, l	Heat exchangexternal heat	Energy efficiency class of insulation*	
		S coil 1, m²	V coil 1, I	modiation
400/80	413	1,5	10,0	В
500/80				
500/115	483	1,5	10,0	В
500/185				
750/115	773	1,5	10,0	С
750/270	773	1,0	10,0	ŭ
1000/115	1008	1,8	15,5	С
1000/270	1000	1,0	10,0	Ü
1500/115	1449	2,3	19,5	С
1500/270	1447	2,0	17,0	ŭ
2000/115	2158	2,3	19,5	С
2000/270	2100	2,0	17,0	ŭ

^{*}Energy efficiency class specified for PS/ABS insulation

CUSTOM DRAW

Water heaters can be designed and manufactured according to customer requirements, allowing for modifications in dimensions, connection configurations, the volume of the DHW inner tank and heat exchanger parameters.

ACCESSORIES

Electric heat elements

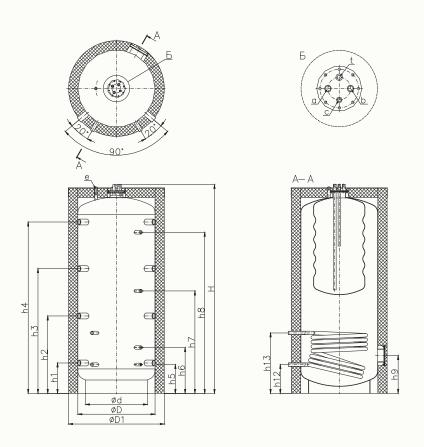
	Haakina mana	2 kW	3 kW	4,5 kW	6 kW	7,5 kW	9 kW	12 kW	15 kW		
Model	Heating zone volume, liters	1~2	220	3-400							
	volume, inters			H	leating time	for ΔT=20°,	minutes				
400/80	212	148	98	66	49	39	33	-	-		
500/80	309	215	144	96	72	57	48	-	-		
500/115	309	215	144	96	72	57	48	-	-		
500/185	309	215	144	96	72	57	48	-	-		
750/115	500	348	232	155	116	93	77	58	-		
750/270	500	348	232	155	116	93	77	58	-		
1000/115	650	453	302	201	151	121	101	75	60		
1000/270	650	453	302	201	151	121	101	75	60		
1500/115	926	645	430	287	215	172	143	108	86		
1500/270	926	645	430	287	215	172	143	108	86		
2000/115	1370	954	636	424	318	255	212	159	127		
2000/270	1770	OE 4	474	424	710	255	212	150	107		

For tanks with a capacity of 3000 liters and above, a transition piece is required for connecting the electric heat element.

For alternative mounting of the electric heat element, a flange adapter is used







DESIGNATION Connections of supply and return lines of heating circuits H,h1-h4 h5 Technological connection h6-h8 Temperature sensor connections Flange, Ø120 мм h9 Connections of supply and return lines h12-h13 of the external heating circuit (Coil 1 - lower heat exchanger) Air vent е а Cold water supply Hot water supply b Recirculation С Temperature sensor connection t

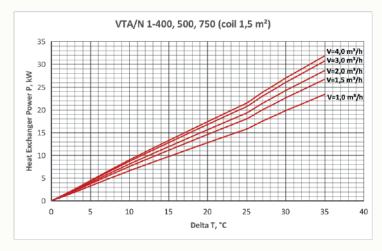
		Dimens	ions, m	m						Co	nnectio	n sizes,	mm						
Model	øD1	øD	ød	Н	h1	h2	h3	h4	h5	h6	h7	h8	h9	h12	h13	е	a,b	С	t
400/80	800	600	450	1720	264	834	-	1406	249	414	-	1256	336	248	668	1/2"	3/4"	1/2"	1/2"
					11/	′2''		11/2"	1/2"	3/4"		3/4"		1	"				
500/80																			
500/115	800	600	450	1970	264	721	1181	1634	249	414	964	1534	336	248	668	1/2"	3/4"	1/2"	1/2"
500/185																			
						11/	/2"		1/2"		3/4"			1	"				
750/115	950	750	600	2030	295	752	1212	1665	280	445	995	1565	367	279	631	1/2"	3/4"	1/2"	1/2"
750/270	950	750	000	2030	295	752	1212	1005	200	445	995	1505	307	219	031	1/2	1"	3/4"	1/2
						11/	/2"		1/2"		3/4"			1	"				
1000/115	1050	850	700	2080	323	780	1240	1693	308	473	1023	1593	395	311	661	1/2"	3/4"	1/2"	1/2"
1000/270	1050	650	700	2000	323	760	1240	1093	300	4/3	1023	1093	393	311	001	1/2	1"	3/4"	1/2
						11/	/2"		1/2"		3/4"			11,	/4"				
1500/115	1200	1000	850	2170	368	825	1285	1738	353	518	1068	1638	440	356	706	1/2"	3/4"	1/2"	1/2"
1500/270	1200	1000	830	21/0	300	023	1200	1/30	303	310	1000	1036	440	330	700	1/2	1"	3/4"	1/2
						11/	/2"		1/2"		3/4"			11,	/4"				
2000/115	1400	1200	1000	2270	419	876	1336	1789	404	569	1119	1689	491	407	707	1/2"	3/4"	1/2"	1/2"
2000/270	1400	1200	1000	22/0	419	670	1330	1/09	404	509	1119	1009	471	407	707	1/2	1"	3/4"	1/2
						11/	/2"		1/2"		3/4"			11,	/4"				

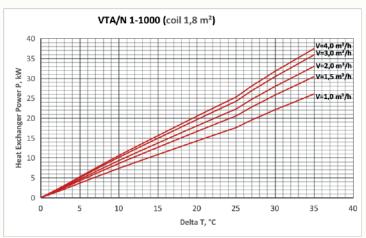


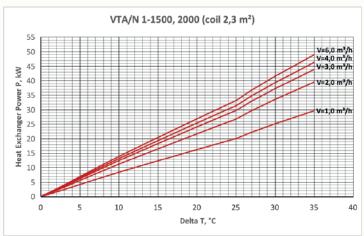
LOWER HEAT EXCHANGER CAPACITY

The capacity of the lower heat exchanger, P (kW), is shown as a function of the temperature difference, ΔT (°C), between the heat carrier supply to the heat exchanger and the average tank temperature in the lower heat exchanger zone, at a specific heat carrier circulation rate, V (m³/h), in the heat exchanger.

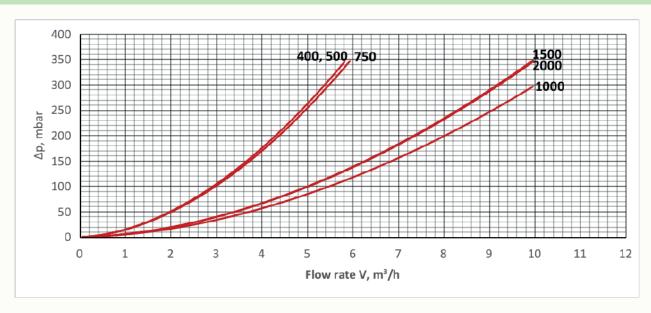
For example, consider a VTA/N 1-750 water heater tank where the average temperature in the lower heat exchanger zone is 40°C, and the heat carrier flowing through the heat exchanger has a temperature of 70°C with a circulation rate of 2 m³/h. In this case, the temperature difference $\Delta T = 70 - 40 = 30$ °C, and the capacity of the lower heat exchanger is approximately 24 kW..







PRESSURE LOSSES OF THE LOWER HEAT EXCHANGER



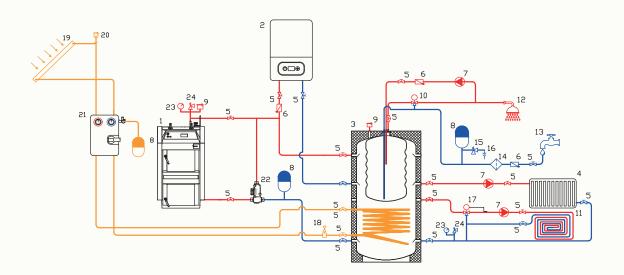


PERFORMANCE OF THE INTERNAL DHW TANK

Model	Volume of the Internal Tank	Surface Area of the Internal Tank	Maximum DHW Perforn Constant Load (Heating Heat Source	DHW from 10°C to 45°C),	Maximum DHW Output (Heating DHW from 10°C to 45°C), Heat Source Off, Tank Not Cooled by Other Loads (e.g., Heating System)				
			Tank Temperature 80°C	Tank Temperature 65°C	Tank Heated to 80°C	Tank Heated to 65°C	Tank Heated to 50°C		
	I	m²	I/min	I/min	I	I	I		
400/80	82	0,87	9,0	5,7	354	224	113		
500/80	82	0,87	9,0	5,7	394	244	117		
500/115	114	1,18	12,3	7,8	439	284	151		
500/185	185	1,62	16,8	10,7	541	376	229		
750/115	114	1,18	12,3	7,8	604	367	168		
750/270	271	2,08	21,5	13,7	829	570	339		
1000/115	114	1,18	12,3	7,8	739	434	181		
1000/270	271	2,08	21,5	13,7	964	637	352		
1500/115	114	1,18	12,3	7,8	991	560	206		
1500/270	271	2,08	21,5	13,7	1216	763	377		
2000/115	114	1,18	12,3	7,8	1396	763	247		
2000/270	271	2,08	21,5	13,7	1621	965	418		

EXAMPLE OF A SCHEMATIC DIAGRAM

The schematic diagram does not replace qualified installation: during design, relevant standards and regulations must be followed.



DESIGNATION

- Solid fuel boiler
 Gas/electric boiler
- 4 Radiator heating circuit

VTA/N 1 water heater

5 Ball valve

3

- 6 Check valve
- 7 Circulation pump
- 8 Expansion tank

- 9 Safety group
- 10 Three-way mixing valve
- 11 Underfloor heating circuit
- 12 Hot water supply system
- 13 Water supply system
- 14 Mesh filter
- 15 Safety valve
- **16** Drainage

- 17 Three-way valve with remote sensor for the underfloor heating system
- 18 Automatic air vent for the solar circuit
- 19 Solar collector (solar circuit)
- 20 Air vent for the solar circuit
- 21 Circulation pump
- 22 Laddomat thermomixing device
- 23 Pressure gauge
- 24 Safety valve

COMBINED WATER HEATER FOR HEATING SYSTEM WITH AN INTERNAL DHW TANK AND A HEAT EXCHANGER FOR AN EXTERNAL HEATING CIRCUIT

HEAT ACCUMULATION FOR HEATING SYSTEM, PREPARATION, AND STORAGE OF DOMESTIC HOT WATER (DHW) WITH INTENSIVE HEAT **EXTRACTION FROM SOLAR COLLECTORS**



















VTA/N

TECHNICAL DESCRIPTION

The storage tank is designed to accumulate thermal energy from various sources, including solar collectors, via a lower heat exchanger. The internal DHW tank, partially located in the lower heat exchanger zone, enhances heat transfer from the solar system, enabling greater energy extraction from the sun. The DHW reserve ensures coverage of peak hot water consumption. Thanks to its corrugated wall design, the internal tank offers sufficient resistance to external pressure fluctuations.

Та	ink	Heat ex of the e heating	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Р	Т	Р	Т
3 bar	95℃	6 bar	95℃
	DHW	tank	
F)	1	Γ
6 b	ar	95	5°C



MATERIAL

The tank is made of S235JR (DIN 1.0038) carbon structural steel. The external coating provides enhanced resistance to mechanical impacts and aggressive environments.

INTERNAL TANK

The internal DHW tank with a corrugated/wavy wall is made of AISI316L (DIN 1.4404) stainless steel.

HEAT EXCHANGER

The lower heat exchanger (external heating circuit) is made of C22 (DIN 1.0402) carbon steel.

WARRANTY

5 years

THERMAL INSULATION

PL/PVC - 100 mm thick polyester thermal insulation in a PVC fabric casing with a zipper

PU/PVC - 90 mm thick elastic polyurethane foam insulation in a PVC fabric casing secured with straps

PL/ABS - 100 mm thick polyester thermal insulation in an ABS plastic casing with plastic latches

PS/ABS - 100 mm thick high-efficiency rigid thermal insulation made of graphitized polystyrene in an ABS plastic casing. Premium-class insulation - complies with all requirements of the ErP 2009/125/EC Directive

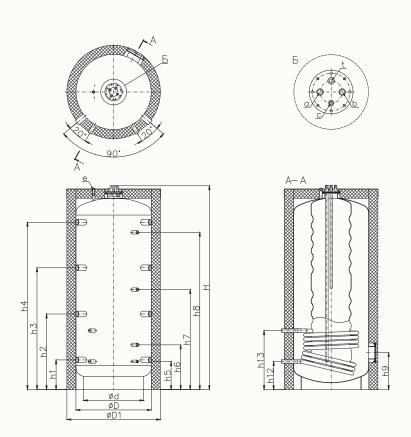
Model	Tank volume, I	Heat excha external he S coil 1, m ²	nger of the ating circuit V coil 1, I	Energy efficiency class of insulation*
750/200	773	1,5	10,0	С
1000/200	1008	1,8	15,5	С
1000/300	1008	1,0	15,5	C
1500/200				
1500/330	1449	2,3	19,5	С
1500/480				
2000/200				
2000/330	2158	2,3	19,5	С
2000/480				

^{*}Energy efficiency class specified for PS/ABS insulation

CUSTOM DRAW

Water heaters can be designed and manufactured according to customer requirements, allowing for modifications in dimensions and connection configurations.





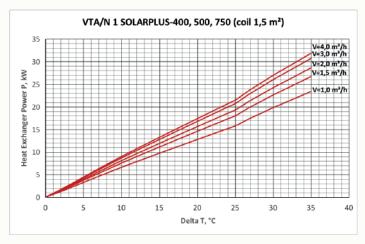
DESIGNATION Connections of supply and return H,h1-h4 lines of heating circuits Technological connection h5 h6-h8 Temperature sensor connections h9 Flange, Ø120 мм Connections of supply and return lines h12-h13 of the external heating circuit (Coil 1 - lower heat exchanger) Air vent е Cold water supply а b Hot water supply Recirculation С t Temperature sensor connection

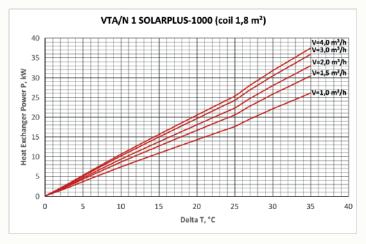
	ı	Dimens	ions, m	m						Coi	nnectio	n sizes,	mm						
Model	øD1	øD	ød	Н	h1	h2	h3	h4	h5	h6	h7	h8	h9	h12	h13	е	a,b	С	t
750/200	950	750	600	2030	295	752	1212	1665	280	445	995	1565	367	279	631	1/2"	3/4"	1/2"	1/2"
						11/	/2"		1/2"		3/4"			1	"				
1000/200	4050	050	700	0000	707	700	40.40	4/07	700	477	4007	4507	705	744	///	1/2"	3/4"	1/2"	4/011
1000/330	1050	850	700	2080	323	780	1240	1693	308	473	1023	1593	395	311	661	1/2	1"	3/4"	1/2"
						11/	/2"		1/2"		3/4"			11,	/4"				
1500/200																	3/4"	1/2"	
1500/330	1200	1000	850	2170	368	825	1285	1738	353	518	1068	1638	440	356	706	1/2"	1"	7 / 411	1/2"
1500/480																	1	3/4"	
						11/	/2"		1/2"		3/4"			11,	/4"				
2000/200																	3/4"	1/2"	
2000/330	1400	1200	1000	2270	419	876	1336	1789	404	569	1119	1689	491	407	707	1/2"	411	7 / 411	1/2"
2000/480																	1"	3/4"	
						11,	/2''		1/2"		3/4"			11,	/4"				

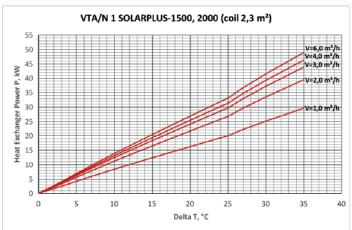
LOWER HEAT EXCHANGER CAPACITY

The capacity of the lower heat exchanger, P (kW), is presented as a function of the temperature difference, ΔT (°C), between the heat carrier supply to the heat exchanger and the average tank temperature in the lower heat exchanger zone, at a specific heat carrier circulation rate, V (m³/h), through the heat exchanger.

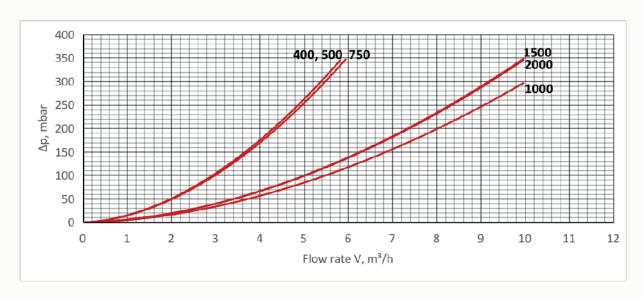
For example, consider a VTA/N 1 SOLARPLUS-750 water heater tank where the average temperature in the lower heat exchanger zone is 40° C, and the heat carrier flowing through the heat exchanger has a temperature of 70° C with a circulation rate of 2 m³/h. In this case, the temperature difference $\Delta T = 70 - 40 = 30^{\circ}$ C, and the capacity of the lower heat exchanger is approximately 24 kW.







PRESSURE LOSSES OF THE LOWER HEAT EXCHANGER



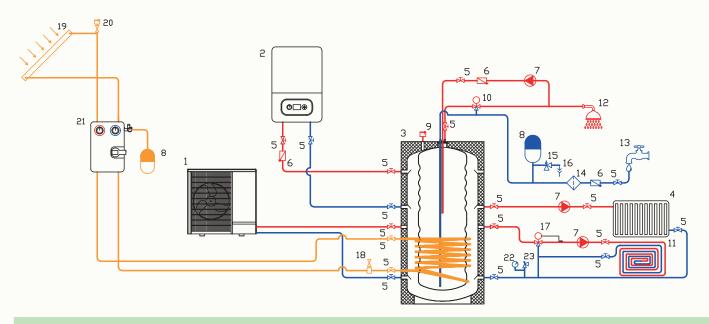


PERFORMANCE OF THE INTERNAL DHW TANK

Model	Volume of the Internal Tank	Surface Area of the Internal Tank	Maximum DHW Perforr Constant Load (Heating Heat Source	DHW from 10°C to 45°C),	Maximum DHW Output (Heating DHW from 10°C to 45°C), Heat Source Off, Tank Not Cooled by Other Loads (e.g., Heating System)					
			Tank Temperature 80°C	Tank Temperature 65°C	Tank Heated to 80°C	Tank Heated to 65°C	Tank Heated to 50°C			
	1	m²	I/min	I/min	1	1	1			
750/200	208	2,13	22,0	14,0	737	487	270			
1000/200	208	2,13	22,0	14,0	873	555	283			
1000/330	332	2,80	29,0	18,5	1051	715	418			
1500/200	208	2,13	22,0	14,0	1125	681	309			
1500/330	332	2,80	29,0	18,5	1303	841	444			
1500/480	483	3,49	36,1	23,0	1518	1035	608			
2000/200	208	2,13	22,0	14,0	1530	884	349			
2000/330	332	2,80	29,0	18,5	1708	1044	484			
2000/480	483	3,49	36,1	23,0	1924	1238	648			

EXAMPLE OF A SCHEMATIC DIAGRAM

The schematic diagram does not replace qualified installation: during design, relevant standards and regulations must be followed.



- Heat pump
- 2 Gas/electric boiler
- 3 VTA-N 1 Solar Plus water heater
- 4 Radiator heating circuit
- 5 Ball valve
- 6 Check valve
- 7 Circulation pump
- 8 Expansion tank

- 9 Safety group
- 10 Three-way mixing valve
- 11 Underfloor heating circuit
- 12 Hot water supply system
- 13 Water supply system
- 14 Mesh filter
- 15 Safety valve
- 16 Drainage

- 17 Three-way valve with remote sensor for the underfloor heating system
- 18 Automatic air vent for the solar circuit
- 19 Solar collector (solar circuit)
- 20 Air vent for the solar circuit
- 21 Circulation pump
- 22 Pressure gauge
- 23 Safety valve



HEAT ACCUMULATION FOR HEATING SYSTEM, PREPARATION, AND STORAGE OF DOMESTIC HOT WATER (DHW)

















TECHNICAL DESCRIPTION

The storage tank is designed to accumulate thermal energy from various heat sources. The internal DHW tank is positioned in the upper part of the tank, enabling the use of the highest-temperature heat carrier for rapid and efficient heating of DHW, as well as storing it in the required volume. Models with an internal tank occupying nearly the entire space of the outer tank are suitable for operation with heat pumps. The DHW reserve ensures coverage of peak hot water consumption. Thanks to its corrugated wall design, the internal tank offers sufficient resistance to external pressure fluctuations.

MATERIAL

The tank is made of S235JR (DIN 1.0038) carbon s tructural steel. The external coating provides enhanced resistance to mechanical impacts and aggressive environments.

INTERNAL TANK

The internal DHW tank with a corrugated/wavy wall is made of AISI316L (DIN 1.4404) stainless steel.

INTERNAL TANK

The internal DHW tank with a corrugated/wavy wall is made of AISI316L (DIN 1.4404) stainless steel.

WARRANTY

5 years

O THERMAL INSULATION

- PL/PVC 100 mm thick polyester thermal insulation in a PVC fabric casing with a zipper
- PU/PVC 90 mm thick elastic polyurethane foam insulation in a PVC fabric casing secured with straps
- PL/ABS 100 mm thick polyester thermal insulation in an ABS plastic casing with plastic latches

PS/ABS - 100 mm thick high-efficiency rigid thermal insulation made of graphitized polystyrene in an ABS plastic casing. Premium-class insulation - complies with all requirements of the ErP 2009/125/EC Directive



Ta	ank	of the e	changer external g circuit
Р	Т	Р	Т
3 bar	95 °C	6 bar	95 °C
	DHW	tank	
P	,	٦	Ī
6 h	or	05	°C

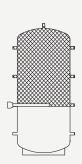
CUSTOM DRAW

Water heaters can be designed and manufactured according to customer requirements, allowing for modifications in dimensions, connection configurations and the volume of the DHW inner tank.

Model Volume, I Energy efficiency class of insulation* 200/80			(ErF
214 A 200/115 300/80 300/15 300/200 400/80 400/15 413 B 400/230 500/80 500/115 500/330 750/115 750/330 750/480 1000/15 1000/350 1000/770 1500/15 1500/200 1500/580 1500/770 2000/115 2000/200	Model		Energy efficiency class of insulation*
200/115 300/80 300/150 300/150 300/200 400/80 400/115 413 8 400/230 500/80 500/115 500/330 750/115 750/185 773 750/480 1000/135 1008 C 1000/330 1000/770 1500/15 1500/580 1500/770 2000/115 2000/200	200/80	214	Δ
300/115 300/150 300/200 400/80 400/115 413 400/185 400/230 500/80 500/115 500/330 750/115 750/185 773 750/480 1000/115 1000/185 1000/330 1000/770 1500/15 1500/580 1500/770 2000/115 2000/200	200/115	214	, and the second
300/150 300/200 400/80 400/115 413 B 400/185 400/230 500/80 500/115 500/330 750/115 750/185 773 C 750/330 750/480 1000/115 1000/330 1000/770 1500/115 1500/200 1500/580 1500/770 2000/115 2000/200	300/80		
300/150 300/200 400/80 400/115 413 B 400/185 400/230 500/80 500/115 500/330 750/115 750/185 773 750/480 1000/115 1000/330 1000/770 1500/115 1500/200 1500/580 1500/770 2000/115 2000/200	300/115	305	А
400/80 400/115 400/185 400/230 500/80 500/115 500/185 500/330 750/115 750/185 773 750/480 1000/115 1000/185 1000/330 1000/770 1500/115 1500/200 1500/580 1500/770 2000/115 2000/200	300/150		
400/115 400/185 400/230 500/80 500/115 500/185 500/330 750/115 750/185 773 750/480 1000/115 1000/185 1000/330 1000/770 1500/115 1500/200 1500/330 1449 C	300/200		
400/185 400/230 500/80 500/115 500/115 500/330 750/115 750/185 773 750/330 750/480 1000/115 1000/330 1000/770 1500/115 1500/200 1500/580 1500/770 2000/115 2000/200	400/80		
400/185 400/230 500/80 500/115 483 B 500/185 500/330 750/115 750/185 773 C 750/480 1000/115 1000/330 1000/770 1500/115 1500/200 1500/580 1500/770 2000/115 2000/200	400/115	413	В
500/80 500/115 483 B 500/185 500/330 750/115 750/185 773 C 750/330 750/480 1000/115 1000/330 1000/770 1500/115 1500/200 1500/330 1449 C 1500/580 1500/770 2000/115 2000/200	400/185		
500/115 483 B 500/185 500/330 750/115 750/185 750/330 750/480 1000/115 1000/185 1000/330 1000/770 1500/115 1500/200 1500/330 1449 C 1500/580 1500/770 2000/115 2000/200	400/230		
500/185 500/330 750/115 750/185 773 750/480 1000/115 1000/330 1000/770 1500/200 1500/330 1449 1500/580 1500/770 2000/115 2000/200	500/80		
500/185 500/330 750/115 750/185 750/330 750/480 1000/115 1000/330 1000/770 1500/115 1500/200 1500/330 1449 C 1500/580 1500/770 2000/115 2000/200	500/115	483	R
750/115 750/185 750/330 750/480 1000/115 1000/185 1000/330 1000/770 1500/115 1500/200 1500/330 1449 C 1500/580 1500/770 2000/115 2000/200	500/185	400	5
750/185 750/330 750/480 1000/115 1000/185 1000/330 1000/770 1500/115 1500/200 1500/330 1449 C 1500/580 1500/770 2000/115 2000/200	500/330		
750/330 750/480 1000/115 1000/330 1000/770 1500/115 1500/200 1500/580 1500/770 2000/115 2000/200	750/115		
750/330 750/480 1000/115 1000/185 1000/330 1000/770 1500/115 1500/200 1500/330 1449 C 1500/580 1500/770 2000/115 2000/200	750/185	773	C
1000/115 1000/185 1000/330 1000/770 1500/115 1500/200 1500/330 1449 C 1500/580 1500/770 2000/115 2000/200	750/330	,,,0	S
1000/185 1000/330 1000/770 1500/115 1500/200 1500/330 1449 C 1500/580 1500/770 2000/115 2000/200	750/480		
1000/330 1000/770 1500/115 1500/200 1500/330 1449 C 1500/580 1500/770 2000/115 2000/200	1000/115		
1000/330 1000/770 1500/115 1500/200 1500/330 1449 C 1500/580 1500/770 2000/115 2000/200	1000/185	1008	С
1500/115 1500/200 1500/330 1449 C 1500/580 1500/770 2000/115 2000/200	1000/330	.000	J
1500/200 1500/330 1449 C 1500/580 1500/770 2000/115 2000/200	1000/770		
1500/330 1449 C 1500/580 1500/770 2000/115 2000/200	1500/115		
1500/580 1500/770 2000/115 2000/200	1500/200		
1500/770 2000/115 2000/200	1500/330	1449	С
2000/115 2000/200	1500/580		
2000/200	1500/770		
0450	2000/115		
2000/330 2158 C	2000/200		
	2000/330	2158	С
2000/580	2000/580		
2000/770	2000/770		

ACCESSORIES

Flectric heat elements



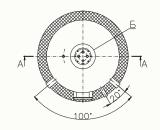
		E	ectric nea	at elemei	าเร				
		2 kW	3 kW	4,5 kW	6 kW	7,5 kW	9 kW	12 kW	15 kW
Model	Heating zone volume, liters	1~:	220			3~4	400		
	voidino, incoro				Heating time	for ΔT=20°, n	ninutes		
400/80	212	148	98	66	49	39	33		
500/80	314	219	146	97	73	58	49	-	-
500/115	314	219	146	97	73	58	49		
500/185	314	219	146	97	73	58	49		
750/115	500	348	232	155	116	93	77	58	
750/185	500	348	232	155	116	93	77	58	
1000/115	650	453	302	201	151	121	101	75	60
1000/185	650	453	302	201	151	121	101	75	60
1000/330	650	453	302	201	151	121	101	75	60
1500/115	926	645	430	287	215	172	143	108	86
1500/200	926	645	430	287	215	172	143	108	86
1500/330	926	645	430	287	215	172	143	108	86
1500/580	926	645	430	287	215	172	143	108	86
2000/115	1370	954	636	424	318	255	212	159	127
2000/200	1370	954	636	424	318	255	212	159	127
2000/330	1370	954	636	424	318	255	212	159	127
2000/580	1370	954	636	424	318	255	212	159	127

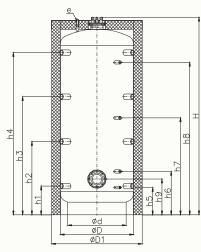
For tanks with a capacity of 3000 liters and above, a transition piece is required for connecting the electric heat element.

For alternative mounting of the electric heat element, a flange adapter is used

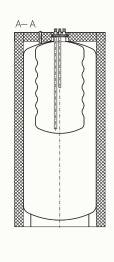








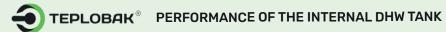




DESIGNATION

Connections of supply and return lines of heating circuits H,h1-h4 Technological connection h5 h6-h8 Temperature sensor connections h9 Flange, Ø120 мм Air vent е Cold water supply а Hot water supply b Recirculation С t Temperature sensor connection

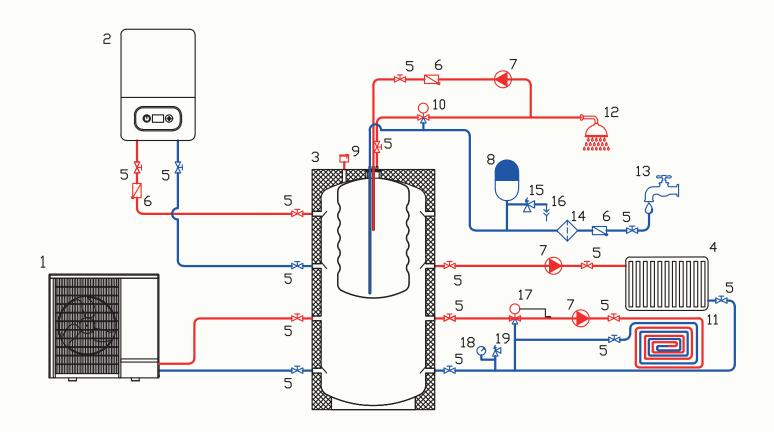
	Dimensions, mm				Connection sizes, mm												
Model	ø D1	øD	ød	Н	h1	h2	h3	h4	h5	h6	h7	h8	h9	е	a,b	С	t
200/80 200/115	700	500	400	1330	251	647	-	1043	236	401	-	921	323	1/2"	3/4"	1/2"	1/2"
300/80 300/115 300/150 300/200	700	500	400	1940	251	647	1168	1621	236	401	951	3/4" 1521	323	1/2"	3/4"	1/2"	1/2"
						11/	′2''		1/2"		3/4"						
400/80 400/115 400/185 400/230	800	600	450	1720	264	834	-	1406	249	414	-	1256	336	1/2"	3/4"	1/2"	1/2"
					11,	/2''		11/2"	1/2"	3/4"		3/4"				-	
500/80 500/115 500/185	800	600	450	1970	264	721	1118	1634	249	414	964	1534	336	1/2"	3/4"	1/2"	1/2"
500/330															1"	3/4"	
750/445						11/	′2''		1/2"		3/4"						
750/115 750/185 750/330	950	750	600	2030	295	752	1212	1665	280	445	995	1565	367	1/2"	3/4"	1/2"	1/2"
750/330															1"	3/4"	
						11/	′2''		1/2"		3/4"						
1000/115 1000/185	1050	850	700	2080	323	780	1240	1693	308	473	1023	1593	395	1/2"	3/4"	1/2"	1/2"
1000/330 1000/770	1030	650	700	2000	323			1073		473		1373	373	1/ 2	1" 1 1/4"	3/4" 1"	1/2
4500/445						11/	′2"		1/2"		3/4"						
1500/115 1500/200															3/4"	1/2"	
1500/330 1500/580	1200	1000	850	2170	368	825	1285	1738	353	518	1068	1638	440	1/2"	1"	3/4"	1/2"
1500/700															11/4"	1"	
						11/	′2"		1/2"		3/4"						
2000/115 2000/200															3/4"	1/2"	
2000/330	1400	1200	1000	2270	419	876	1336	1789	404	569	1119	1669	491	1/2"	1"	3/4"	1/2"
2000/580 2000/700															11/4"	1"	
						11/	′2''		1/2"		3/4"						



Model	Volume of the Internal Tank	Surface Area of the Internal Tank	Maximum DHW Perforr Constant Load (Heating Heat Source	DHW from 10°C to 45°C),	Maximum DHW Output (Heating DHW from 10°C to 45°C), Heat Source Off, Tank Not Cooled by Other Loads (e.g., Heating System)				
	Tallk		Tank Temperature 80°C	Tank Temperature 65°C	Tank Heated to 80°C	Tank Heated to 65°C	Tank Heated to 50°C		
	I I	m²	l/min	I/min	T.	1	I		
200/80	82	0,87	9,0	5,7	240	167	102		
200/115	114	1,18	12,3	7,8	285	207	136		
300/80	82	0,87	9,0	5,7	292	193	107		
300/115	114	1,18	12,3	7,8	337	233	141		
300/150	145	1,50	15,5	9,9	382	274	175		
300/200	208	2,13	22,0	14,0	471	355	243		
400/80	82	0,87	9,0	5,7	354	224	113		
400/115	114	1,18	12,3	7,8	399	264	147		
400/185	185	1,62	16,8	10,7	501	356	225		
400/230	234	2,02	20,9	13,3	571	419	278		
500/80	82	0,87	9,0	5,7	394	244	117		
500/115	114	1,18	12,3	7,8	439	284	151		
500/185	185	1,62	16,8	10,7	541	376	229		
500/330	332	2,80	29,0	18,5	751	565	388		
750/115	114	1,18	12,3	7,8	604	367	168		
750/185	185	1,62	16,8	10,7	706	459	245		
750/330	332	2,80	29,0	18,5	917	648	405		
750/480	483	3,49	36,1	23,0	1132	842	569		
1000/115	114	1,18	12,3	7,8	739	434	181		
1000/185	185	1,62	16,8	10,7	841	526	259		
1000/330	331	2,26	23,5	15,0	1049	714	417		
1000/770	773	4,62	47,9	30,5	1680	1282	897		
1500/115	114	1,18	12,3	7,8	991	560	206		
1500/200	201	1,61	16,6	10,6	1115	672	301		
1500/330	331	2,26	23,5	15,0	1301	840	442		
1500/580	582	3,42	35,4	22,6	1660	1163	715		
1500/770	773	4,62	47,9	30,5	1932	1408	922		
2000/115	114	1,18	12,3	7,8	1396	763	247		
2000/200	201	1,61	16,6	10,6	1520	875	341		
2000/330	331	2,26	23,5	15,0	1706	1042	483		
2000/580	582	3,42	35,4	22,6	2065	1365	755		
2000/770	773	4,62	47,9	30,5	2337	1610	962		

EXAMPLE OF A SCHEMATIC DIAGRAM

The schematic diagram does not replace qualified installation: during design, relevant standards and regulations must be followed.



- Heat pump
- Gas or electric boiler 2
- VTA-N 2 water heater 3
- Radiator heating circuit
- 5 Ball valve
- Check valve

- Circulation pump 7
- 8 Expansion tank
- 9 Safety group
- Three-way mixing valve 10
- Underfloor heating circuit 11
- Hot water supply system 12

- Water supply system 13
- Mesh filter
- Safety valve 15
- Drainage 16
- Three-way valve with remote sensor for the underfloor heating system
- 18 Pressure gauge
- Safety valve 19



HEAT STORAGE FOR HEATING SYSTEMS AND DHW PRODUCTION



















TECHNICAL DESCRIPTION

TEPLOBAK®

The storage tank is designed for accumulating thermal energy from various sources, including solar collectors via the lower heat exchanger. The DHW heat exchanger is located in the upper part of the tank, allowing the highest-temperature heat carrier to be used for quick and efficient DHW heating in the required volume.

MATERIAL

The tank is made of carbon structural steel S235JR (DIN 1.0038). The external coating provides enhanced resistance to mechanical impact and aggressive environments.

HEAT EXCHANGERS

Lower heat exchanger (external heating circuit): Made of carbon steel C22 (DIN 1.0402). DHW heat exchanger: Made of stainless steel AISI 304L (DIN 1.4307).

WARRANTY

5 years

THERMAL INSULATION

PL/PVC - 100 mm polyester insulation with a PVC fabric cover and zipper closure.

PU/PVC - 90 mm flexible polyurethane foam insulation with a PVC fabric cover, secured with straps.

PL/ABS - 100 mm polyester insulation with an ABS plastic cover and plastic locks.

PS/ABS - 100 mm high-efficiency rigid graphite-expanded polystyrene insulation with an ABS plastic cover. Premium-class insulation - fully complies with ErP 2009/125/EC Directive

CUSTOM DRAW

Design and production of water heaters tailored to customer specifications are available, including modifications to dimensions, connection configurations, and heat exchanger parameters.

Та	nk	Heat exchanger of the external heating circuit					
Р	Т	Р	T				
3 bar	95°C	6 bar 95°C					
	DHW	coil coil					
F)	Т					
10	bar	95℃					



Model	V tank, I	Heat exchar		DHW (Coil	Energy efficiency class of insulation*
		S coil 1, m ²	V coil 1, I	S coil 2, m ²	V coil 2, I	
400	413	1,5	10	1,4	10	В
500	483	1,5	10	1,4	10	В
300	403	1,0	10	2,2	15	5
				1,55	11	
750	773	1,5	10	2,1	15	С
730	773	1,5	10	3,1	22	C
				3,8	27	
				1,55	14	
				2,3	21,5	
1000	1008	1,8	15,5	3,1	28,5	С
				3,9	35,5	
				4,6	42,5	
				1,99	18	
				2,9	27	
1500	1449	2,3	19,5	3,85	36,5	С
				4,8	45,5	
				5,7	45,5	
				2,3	22	
				3,45	32,5	
2000	2158	2,3	19,5	4,56	43,5	С
		2,0		5,7	54,5	
				6,9	65	

^{*}Energy efficiency class specified for PS/ABS insulation

ACCESSORIES

	Heating zone	2 kW	3 kW	4,5 kW	6 kW	7,5 kW	9 kW	12 kW	15 kW		
Model	volume, liters	1~2	1~220 3~400								
				Heating time for ΔT=20°, minutes							
400	212	148	98	66	49	39	33	-	-		
500	309	215	144	96	72	57	48	-	-		
750	500	348	232	155	116	93	77	58	-		
1000	650	453	302	201	151	121	101	75	60		
1500	926	645	430	287	215	172	143	108	86		
2000	1370	954	636	424	318	255	212	159	127		

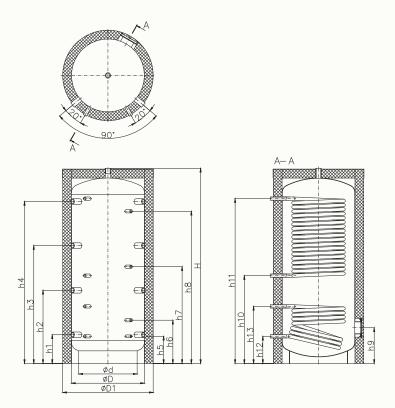
Electric heat elements

For alternative mounting of the electric heat element, a flange adapter is used









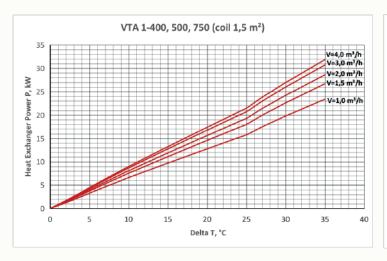
DESIGNATION Supply and return connections of heating circuits H, h1-h4 h5 Process connection Temperature sensor connections h6-h8 Flange, Ø120 mm h9 h10-h11 Cold and hot water connections (Coil 1 - upper heat exchanger) Supply and return connections of the h12-h13 external heating circuit (Coil 1 - lower heat exchanger)

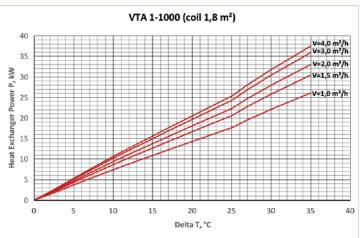
Madal	0		Dimen	sions, mr	n					С	onnectio	ın sizes, ı	mm								
Model	S coil 2, m²	Ø D1	ØD	ød	Н	h1	h2	h3	h4	h5	h6	h7	h8	h9	h10	h11	h12	h13			
400	1,4	800	600	450	1700	264	834	-	1406	249	414	-	1256	336	930	1414	248	688			
400		800	000	450			11/2"			1/2"		3/4"				1	! "				
	1,4	800	600	450	1995	264	721	1181	1634	249	414	964	1534	336	1180	1664	248	688			
500	2,2	800	000	450	1773	204	721	1101	1034	247	414	704	1554	330	872	1004	240	000			
							11/2"			1/2"		3/4"				1	"				
	1,55														1299						
	2,1	950	750	600	2010	295	752	1212	1665	280	445	995	1565	367	1167	1695	279	631			
750	3,1	750	750	000	2010	275	752	1212	1005	200	770	773	1505	307	903	1075	2//	051			
	3,8														903						
							11/2"			1/2"		3/4"				1	l''				
	1,55														1419						
	2,3														1269						
1000	3,1	1050	850 700	850	700	2060	323	780	1240	1693	308	473	1023	1593	395	1119	1719	311	661		
1000	3,9																			969	
	4,6														819						
							11/2"			1/2"		3/4"				11,	/4"				
	1,99														1464						
	2,9														1314						
1500	3,85	1200	1000	850	2150	368	825	1285	1738	353	518	1068	1638	440	1164	1764	356	706			
1000	4,8														1014						
	5,7														864						
							11/2"			1/2"		3/4"				11,	/4"				
	2,3														1515						
	3,45														1365						
2000	4,56	1400	1200	1000	2250	419	876	1336	1789	404	569	1119	1689	491	1215	1815	407	707			
2000	5,7														1065						
	6,9														915						
							11/2"			1/2"		3/4"				11,	/4"				

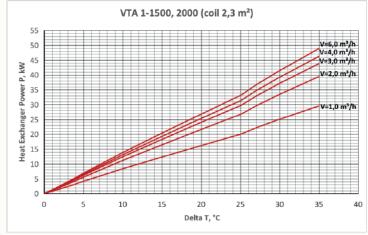
LOWER HEAT EXCHANGER POWER OUTPUT

The power output P, kW of the lower heat exchanger is shown as a function of the temperature difference ΔT , °C between the supply temperature of the heat carrier entering the heat exchanger and the average tank temperature in the lower heat exchanger zone, at a given heat carrier circulation rate V, m³/h.

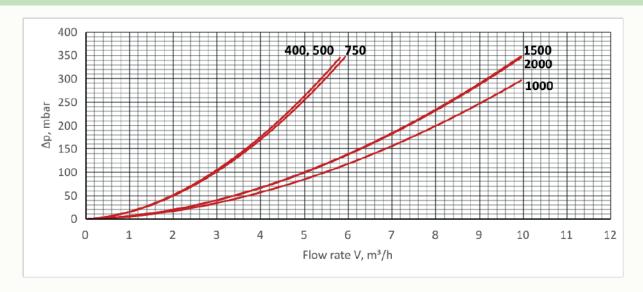
For example, in the VTA 1750 water heater, if the average temperature in the lower heat exchanger zone is 40° C, and the heat carrier flows through the heat exchanger at 70° C with a circulation rate of 2 m³/h, then the temperature difference is Δ T = 70 - 40 = 30°C, and the approximate power output of the lower heat exchanger is 24 kW.



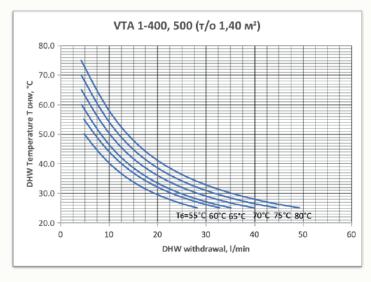


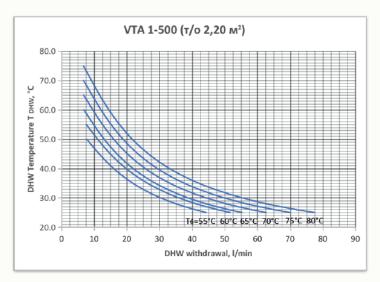


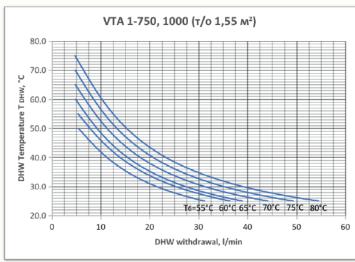
PRESSURE LOSSES OF THE LOWER HEAT EXCHANGER

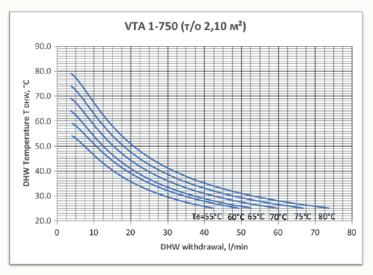


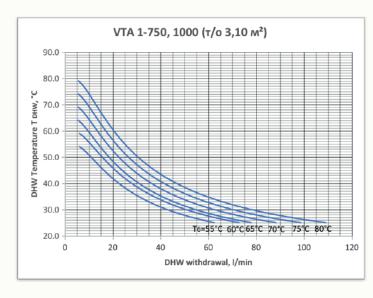
The performance of the DHW heat exchanger is expressed as the dependence of the heated water temperature TDHW, °C, on its flow rate V, I/min, through the heat exchanger for different values of the heat carrier temperature Tb, °C, in the water heater tank.

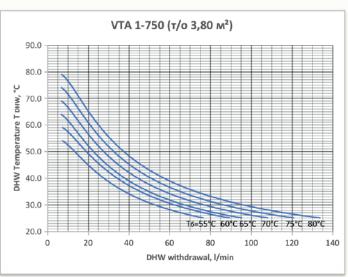


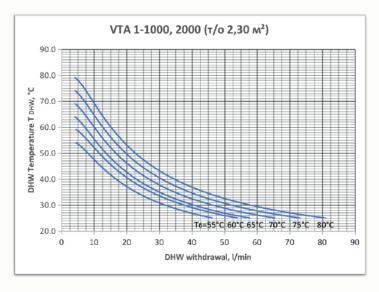


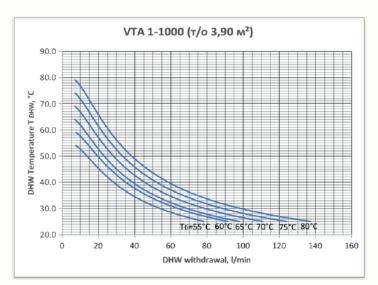


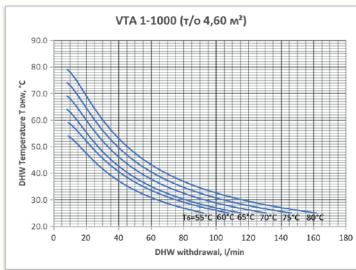


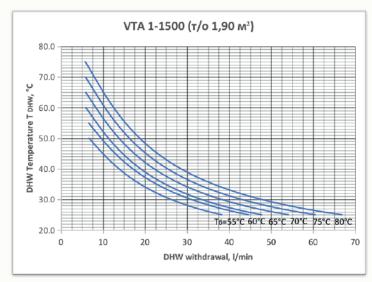


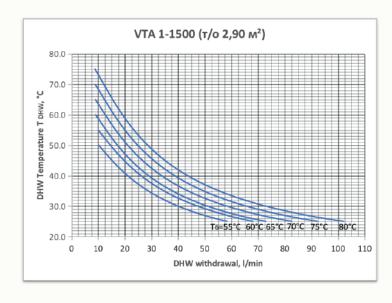


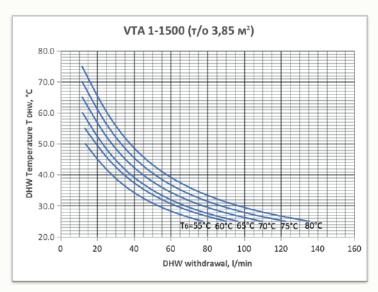


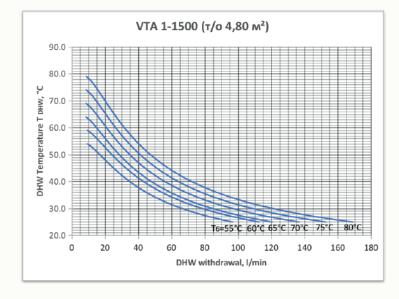


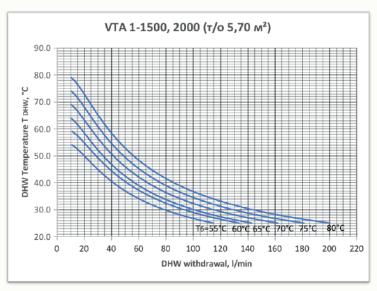


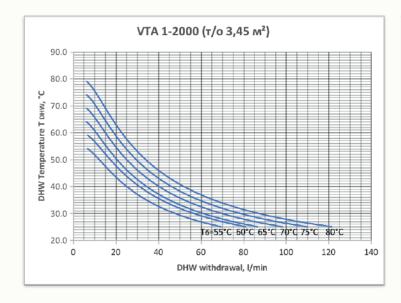


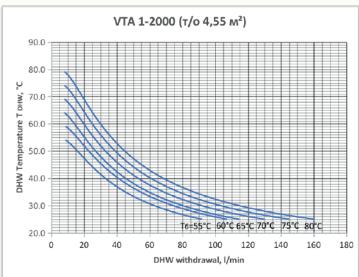


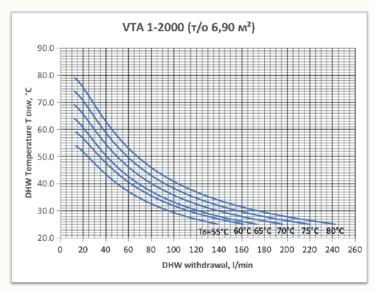






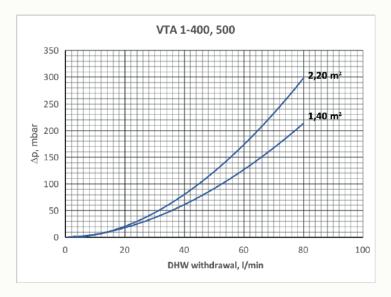


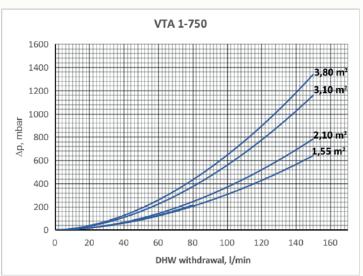


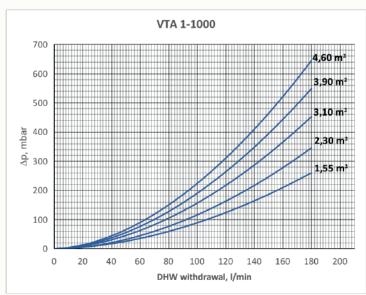


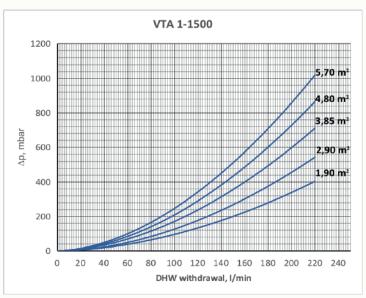


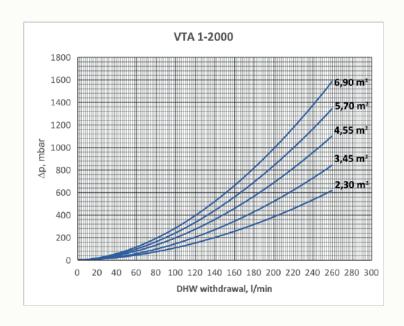
PRESSURE LOSSES OF THE DHW HEAT EXCHANGER







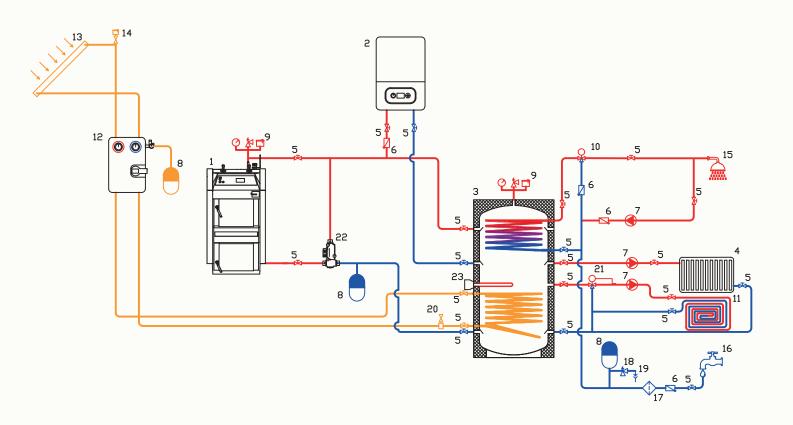






EXAMPLE OF A SCHEMATIC DIAGRAM

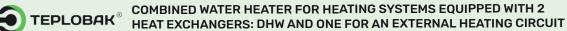
The schematic diagram does not replace qualified installation: during design, relevant standards and regulations must be followed.



- 1 Solid fuel boiler
- 2 Gas or electric boiler
- 3 VTA 1 water heater
- 4 Radiator heating circuit
- 5 Ball valve
- 6 Check valve
- 7 Circulation pump
- 8 Expansion tank

- 9 Safety group
- 10 Three-way mixing valve
- 11 Underfloor heating circuit
- 12 Circulation pump
- 13 Solar collector (solar thermal system)
- 14 Air vent for solar circuit
- **15** Domestic hot water system
- 16 Water supply system

- 17 Mesh filter
- 18 Safety valve
- 19 Drainage
- 20 Automatic air vent for solar circuit
- 21 Three-way valve with remote sensor for underfloor heating system
- 22 Laddomat thermal mixing device
- 23 Electric heat element



DESIGNED FOR HEAT ACCUMULATION IN HEATING SYSTEMS AND DOMESTIC HOT WATER PRODUCTION, WITH INTENSIVE **HEAT EXTRACTION FROM SOLAR COLLECTORS**

















TECHNICAL DESCRIPTION

The storage tank is engineered to accumulate thermal energy from various sources, including solar collectors via the lower heat exchanger. The high-performance DHW heat exchanger, partially positioned in the zone of the lower heat exchanger, enhances heat transfer from the solar system, enabling greater energy utilization directly from solar input.

MATERIAL

The tank is made of carbon structural steel S235JR (DIN 1.0038). The external coating provides enhanced resistance to mechanical impact and aggressive environments.

HEAT EXCHANGERS

The tank is constructed from S235JR (DIN 1.0038) carbon structural steel. The external coating provides enhanced resistance to mechanical impacts and aggressive environments.

WARRANTY

5 years

THERMAL INSULATION

- PL/PVC 100 mm polyester insulation encased in zippered PVC fabric
- PU/PVC 90 mm flexible polyurethane foam insulation encased in PVC fabric secured with straps.
- PL/ABS 100 mm polyester insulation encased in ABS plastic with plastic latches
- PS/ABS 100 mm high-efficiency rigid graphite-expanded polystyrene insulation encased in ABS plastic. Premium-class insulation, fully compliant with ErP 2009/125/EC Directive requirements

CUSTOM DRAW

Design and production of water heaters tailored to customer specifications are available, including modifications to dimensions, connection configurations, and heat exchanger parameters.

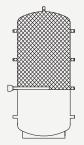
Та	nk	Heat exchanger of the external heating circuit				
Р	T	Р	T			
3 bar	95°C	6 bar 95°C				
	DHW	l coil				
P)	Т				
10 1	oar	95℃				



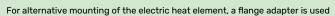
Model	V tank, I	Heat excha external hea	nger of the ating circuit	DHW	Coil	Energy efficiency class of insulation*
		S coil 1, m ²	V coil 1, I	S coil 2, m²	V coil 2, I	
400	413	1,5	10	2,00	14	В
500	483	1,5	10	2,85	20	В
750	773	1,5	10	4,35	38	С
1000	1008	1,8	14	5,10	44	С
1500	1449	2,3	18	6,30	57	С
2000	2158	2,3	18	7,30	67	С

^{*}Energy efficiency class specified for PS/ABS insulation

ACCESSORIES



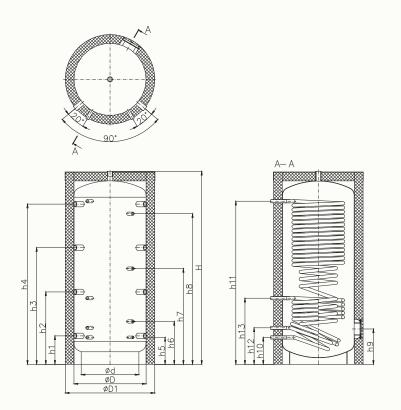
Electric heat elements											
	Haakin a mana	2 kW	3 kW	4,5 kW	6 kW	7,5 kW	9 kW	12 kW	15 kW		
Model	Heating zone volume. liters	1~2	220		3~400						
				Hea	ating time	for ∆T=20	°, minutes	3			
400	206	144	96	64	48	38	32	-	-		
500	278	194	129	86	65	52	43	-	-		
750	480	334	223	149	112	89	74	56	-		
1000	623	434	289	193	145	116	97	73	58		
1500	891	621	414	276	207	166	138	103	83		
2000	1368	953	635	424	317	254	212	159	127		

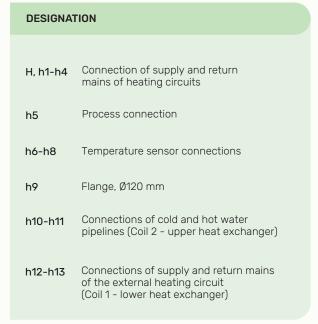












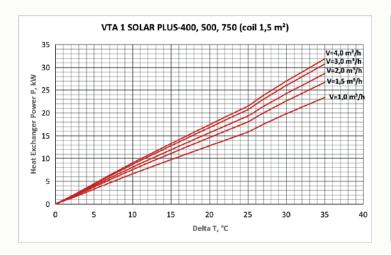
Model		Dimensi	ions, mm						(Connectio	on sizes, r	mm				Connection sizes, mm									
Model	ØD1	ØD	ød	Н	h1	h2	h3	h4	h5	h6	h7	h8	h9	h10	h11	h12	h13								
400	000	400	450	1700	264	853	-	1406	249	414	-	1256	336	248	1414	348	788								
400	800	600	450		11/2"			1/2"	1/2"	3/4"		3/4"			1	"									
500	800	600	450	1995	264	853	1181	1634	249	414	964	1534	336	248	1664	348	788								
300	800	000	430			11/2"			1/2"		3/4"				1	"									
750	950	750	600	2010	295	796	1212	1665	280	445	995	1565	367	279	1695	379	731								
730	730	750 600	000			11/2"			1/2"		3/4"			1"	11/4"	1	"								
1000	1050	850	700	2060	323	826	1240	1693	308	473	1023	1593	395	311	1719	411	761								
1000	1030	830	700			11/2"			1/2"		3/4"			1"		11/4"									
1500	1200	1000	850	2150	368	871	1285	1738	353	518	1068	1638	440	356	1764	456	806								
1300	1200	1000	630			11/2"			1/2"		3/4"				11,	/4''									
2000	1400	1200	1000	2250	419	876	1336	1789	404	569	1119	1689	491	407	1815	507	807								
2000	1400 1200 1000			11/2"			1/2"	1/2" 3/4"					11,	11/4"											

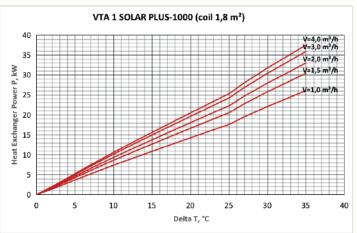


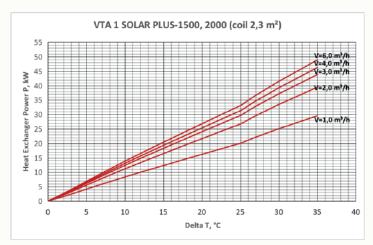
LOWER HEAT EXCHANGER CAPACITY

The capacity of the lower heat exchanger, P (kW), is presented as a function of the temperature difference, ΔT (°C), between the heat transfer fluid supply entering the heat exchanger and the average tank temperature in the lower heat exchanger zone, at a specific circulation rate of the heat transfer fluid, V (m³/h), within the exchanger.

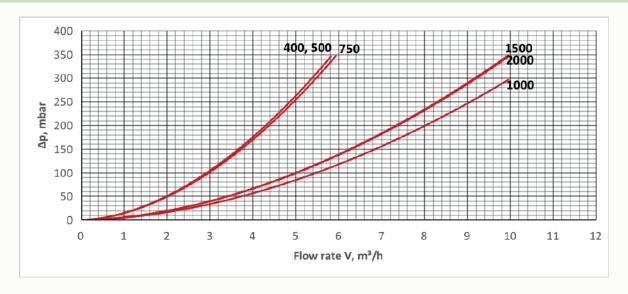
For example, consider a VTA 1 SOLAR PLUS 750 water heater tank where the average temperature in the lower heat exchanger zone is 40°C, and the heat transfer fluid flowing through the exchanger has a temperature of 70°C with a circulation rate of 2 m³/h. In this case, the temperature difference $\Delta T = 70 - 40 = 30$ °C, and the approximate capacity of the lower heat exchanger is 24 kW.





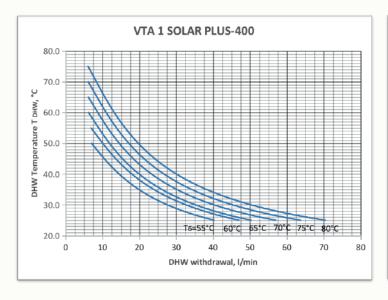


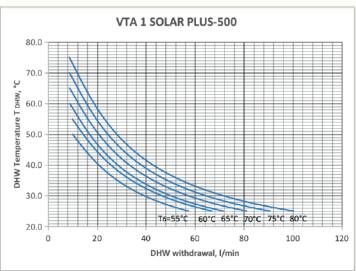
PRESSURE LOSSES OF THE LOWER HEAT EXCHANGER

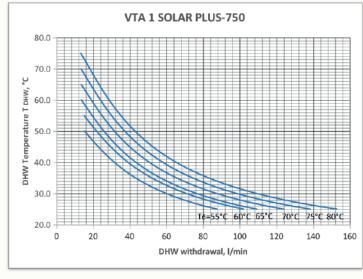


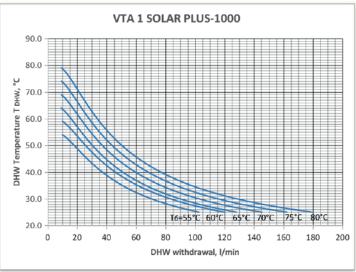


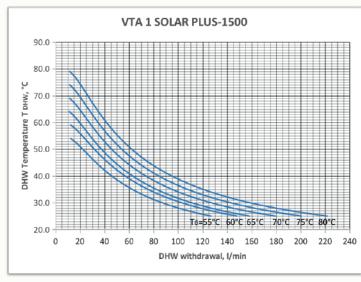
The performance of the DHW heat exchanger is expressed as the dependence of the heated water temperature TDHW, °C, on its flow rate V, I/min, through the heat exchanger for different values of the heat carrier temperature TT, °C, in the water heater tank.

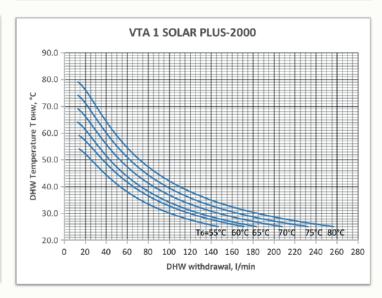






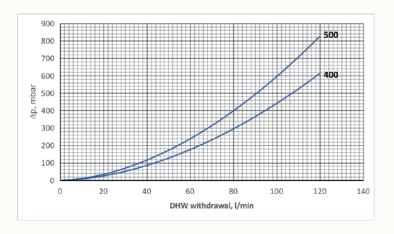


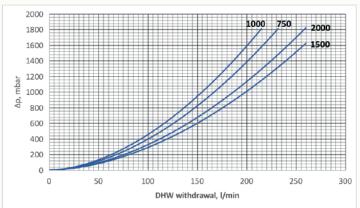






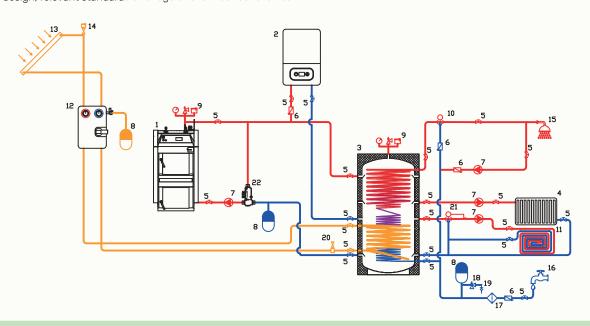
PRESSURE LOSSES OF THE DHW HEAT EXCHANGER





EXAMPLE OF A SCHEMATIC DIAGRAM

The schematic diagram does not replace qualified installation: during design, relevant standards and regulations must be followed.



- 1 Solid fuel boiler
- 2 Gas or electric boiler
- 3 VTA 1 Solar Plus water heater
- 4 Radiator heating circuit
- 5 Ball valve
- 6 Check valve
- 7 Circulation pump
- 8 Expansion tank

- 9 Safety group
- 10 Three-way mixing valve
- 11 Underfloor heating circuit
- 12 Circulation pump
- 13 Solar collector (solar thermal system)
- 14 Air vent for solar circuit
- 15 Domestic hot water system
- 16 Water supply system

- 17 Mesh filter
- 18 Safety valve
- 19 Drainage
- 20 Automatic air vent for solar circuit
- 21 Three-way valve with remote sensor for underfloor heating system
- 22 Laddomat thermal mixing device



DESIGNED FOR HEAT ACCUMULATION IN HEATING SYSTEMS AND DHW PRODUCTION

















TECHNICAL DESCRIPTION

The storage tank is engineered to accumulate thermal energy from various heat sources. The DHW heat exchanger is positioned in the upper part of the tank, enabling the use of the highest-temperature heat transfer fluid for rapid and efficient heating of DHW in the quantities required by the consumer.

MATERIAL

The tank is constructed from S235JR (DIN 1.0038) carbon structural steel. The external coating provides enhanced resistance to mechanical impacts and aggressive environments.

HEAT EXCHANGERS

The DHW heat exchanger is manufactured from AISI 304L (DIN 1.4307) stainless steel.

★ WARRANTY

5 years

O THERMAL INSULATION

PL/PVC - 100 mm polyester insulation encased in zippered PVC fabric

PU/PVC - 90 mm flexible polyurethane foam insulation encased in PVC fabric secured with straps.

PL/ABS - 100 mm polyester insulation encased in ABS plastic with plastic latches

PS/ABS - 100 mm high-efficiency rigid graphite-expanded polystyrene insulation encased in ABS plastic. Premium-class insulation, fully compliant with ErP 2009/125/EC Directive requirements

CUSTOM DRAW

Design and production of water heaters tailored to customer specifications are available, including modifications to dimensions, connection configurations, and heat exchanger parameters.

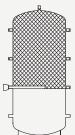
Ta	nk	DHW	Coil
Р	Т	Р	Т
3 bar	95°C	6 bar	95℃



Model	V tank, I	DHW		Energy efficiency class of insulation*	
400	447	S coil 2, m ²	V coil 2, I	n	
400	413	1,4	10	В	
500	483	1,4	10	В	
		2,2	15		
		1,55	11		
750	773	2,1	15	С	
		3,1	22	-	
		3,8	27		
		1,55	14		
		2,3	21,5		
1000	1008			С	
			3,9	35,5	
		4,6	42,5		
		1,99	18		
		2,9	27		
1500	1449	3,85	36,5	С	
		4,8	45,5		
		5,7	45,5		
		2,3	22		
		3,45	32,5		
2000	2158	4,56	43,5	С	
		5,7	54,5		
		6,9	65		

^{*}Energy efficiency class specified for PS/ABS insulation

ACCESSORIES



5	Model	Heating zone volume, liters
OI .	400	212
	500	314
a	750	500
	1000	650
=	1500	926
	2000	1370

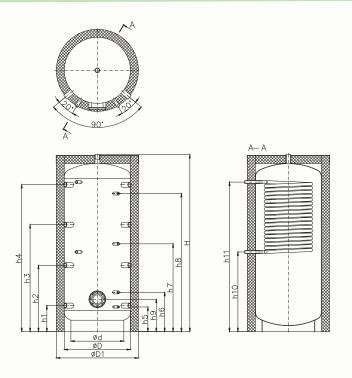
Electric heat elements												
Heating zone volume, liters	2 kW	3 kW	4,5 kW	6 kW	7,5 kW	9 kW	12 kW	15 kW				
	1~2	220	3~400									
	Heating time for ΔT=20°, minutes											
212	148	98	66	49	39	33	-	-				
314	219	146	97	73	58	49	-	-				
500	348	232	155	116	93	77	58					
650	453	302	201	151	121	101	75	60				
926	645	430	287	215	172	143	108	86				
1370	954	636	434	318	255	212	159	127				

For alternative mounting of the electric heat element, a flange adapter is used









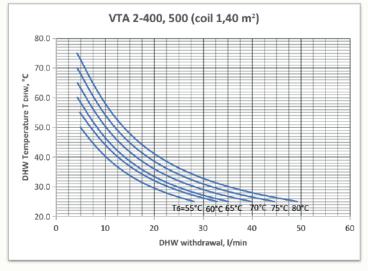
H, h1-h4 Connection of supply and return mains of heating circuits h5 Process connection h6-h8 Temperature sensor connections h9 Flange, Ø120 mm h10-h11 Connections of cold and hot water pipelines (Coil 2 - upper heat exchanger)

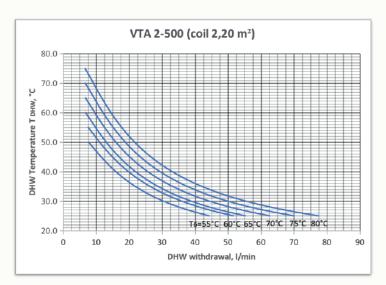
	S coil 2, m²	Dimensions, mm				Connection sizes, mm											
Model		ØD1	ØD	ø d	н	h1	h2	h3	h4	h5	h6	h7	h8	h9	h10	h11	
400	1,4	800	600	450	1700	264	834	-	1406	249	414	-	1256	336	930	1414	
400					11/2"	11/2"		1/2"		3/4"			1"				
	1,4	800	600	450	1995	264	721	1181	1634	249	414	964	1534	336	1180	1664	
500		000	000												872		
					11/2"		11/2"		1/2"		3/4"			1"			
	1,55				2010	295	752	1212	1665	280	445	995	1565	367	1299		
	2,1	950	750	600											1167	1695	
750	3,1														903 903		
	3,8				11/2"		11/	/o"		1/2"		3/4"		903			
	455				1 1/2		1 1/	· Z		1/2		3/4				1"	
	1,55 2,3		850	700	2060	323	780	1240	1693	308	473	1023	1593	395	1419 1269	1719	
	2,3 3,1	1050													1119		
1000	3,9														969		
	4,6														819		
	.,-				11/2"		11/2"		1/2"		3/4"			11/4"			
	1,99	1200 1000		850	2150	368	825	1285	1738	353	518	1068	1638	440	1464	1764	
	2,9		1000												1314		
	3,85														1164		
1500	4,8														1014		
	5,7														864		
					11/2"		11/2"		'2 "		1/2" 3/4"				11/4"		
	2,3	3,45 4,56 1400 5,7	1200	1000	2250		876	1336	1789	404	569	1119	1689	491	1515	1815	
	3,45					419									1365		
2000	4,56														1215		
2000	5,7														1065		
	6,9														915		
					11/2"		11/2"			1/2" 3/4"					11/4"		

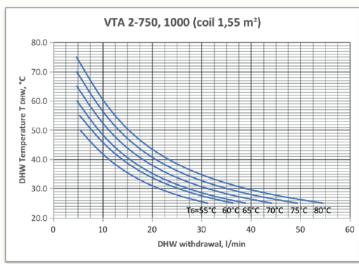


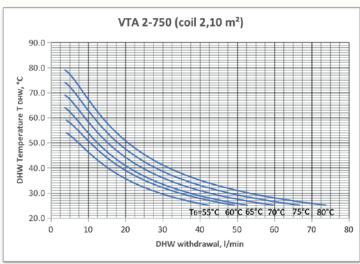
DHW HEAT EXCHANGER PERFORMANCE

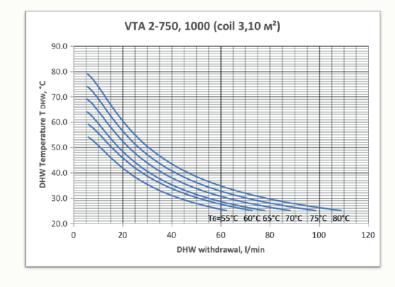
The performance of the DHW heat exchanger is expressed as the temperature of the heated water, TDHW (°C), as a function of its flow rate, V (I/min), through the heat exchanger, for varying temperatures of the heat transfer fluid, $T\tau$ (°C), within the water heater tank.

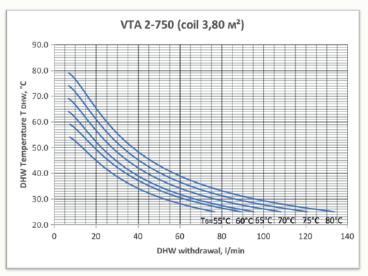






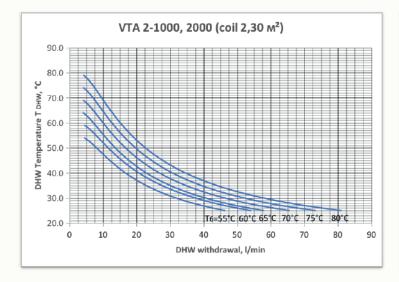


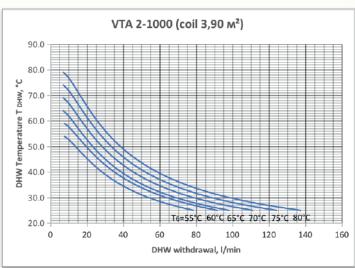


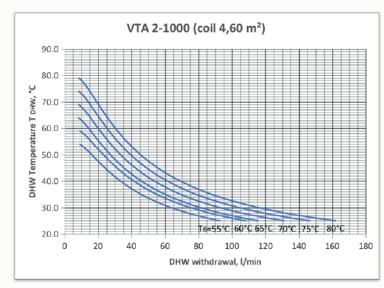


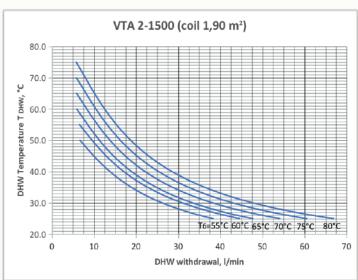


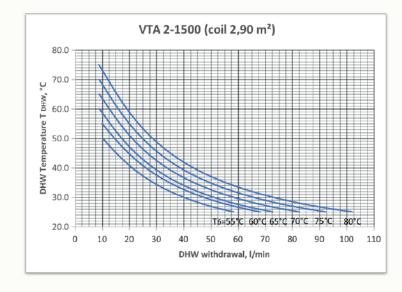
DHW HEAT EXCHANGER PERFORMANCE

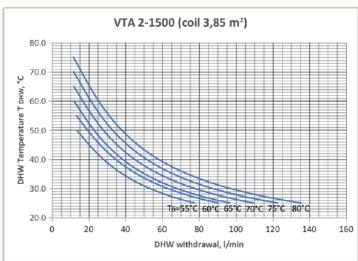






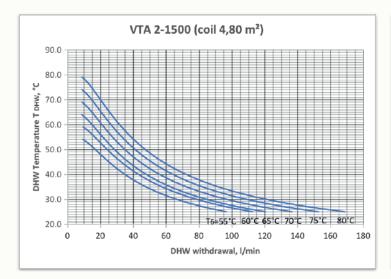


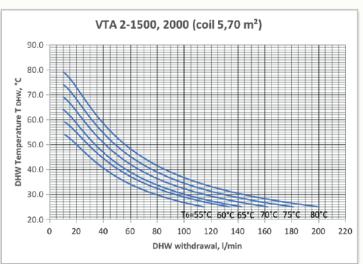


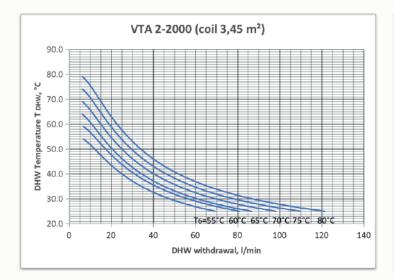


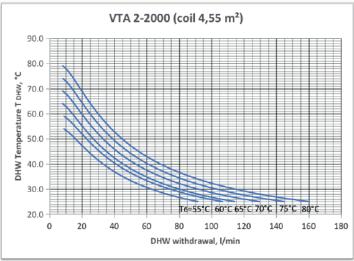


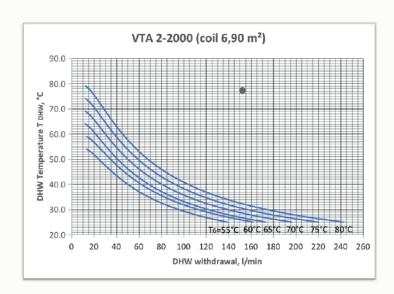
DHW HEAT EXCHANGER PERFORMANCE







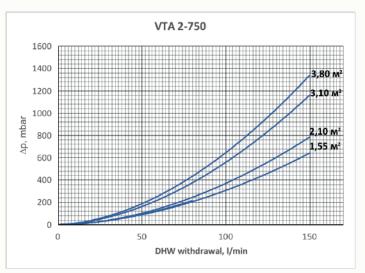


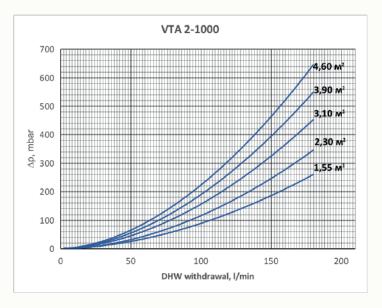


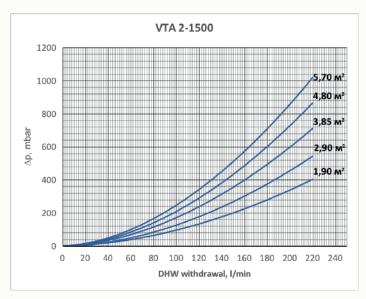
VTA

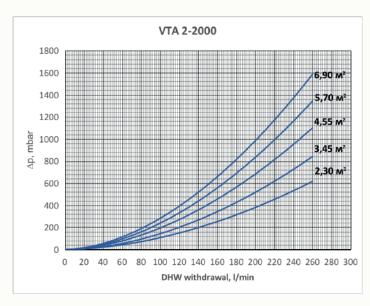
PRESSURE LOSSES OF THE DHW HEAT EXCHANGER





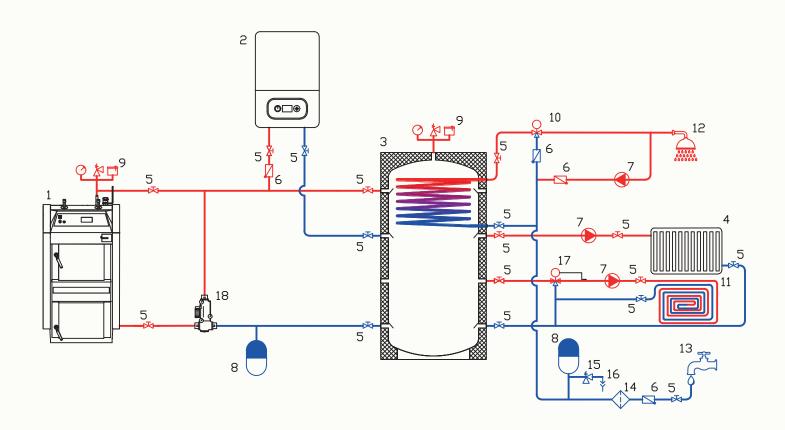








The schematic diagram does not replace qualified installation: during design, relevant standards and regulations must be followed.



- 1 Solid fuel boiler
- Gas or electric boiler 2
- 3 VTA 2 water heater
- Radiator heating circuit 4
- Ball valve 5
- Check valve

- Circulation pump
- 8 Expansion tank
- Safety group 9
- 10 Three-way mixing valve
- "Warm floor" heating circuit 11
- 12 Domestic hot water system

- 13 Water supply system
- Strainer filter 14
- Domestic hot water system 15
- Drainage 16
- Three-way valve with remote sensor for the "warm floor" system



DESIGNED FOR HEAT ACCUMULATION IN HEATING SYSTEMS

















TECHNICAL DESCRIPTION

The storage tank is engineered to accumulate thermal energy from various sources, including solar collectors via the lower heat exchanger.

MATERIAL

The tank is constructed from S235JR (DIN 1.0038) carbon structural steel. The external coating provides enhanced resistance to mechanical impacts and aggressive environments.

Та	ınk	for the E	changer External g Circuit		
Р	Т	Р	T		
3 bar	95℃	6 bar	95℃		



O HEAT EXCHANGERS

Lower Heat Exchanger (External Heating Circuit): Manufactured from C22 (DIN 1.0402) carbon steel.

WARRANTY

5 years

O THERMAL INSULATION

PL/PVC - 100 mm polyester insulation encased in zippered PVC fabric

PU/PVC - 90 mm flexible polyurethane foam insulation encased in PVC fabric secured with straps.

PL/ABS - 100 mm polyester insulation encased in ABS plastic with plastic latches

PS/ABS - 100 mm high-efficiency rigid graphite-expanded polystyrene insulation encased in ABS plastic. Premium-class insulation, fully compliant with ErP 2009/125/EC Directive requirements

Model	V tank, I	Heat exchar external hea	nger of the ating circuit	Energy efficiency class of insulation*
		S coil 1, m ²	V coil 1, I	
400	413	1,5	10	В
500	483	1,5	10	В
750	773	1,5	10	С
1000	1008	1,8	15,5	С
1500	1449	2,3	19,5	С
2000	2158	2,3	19,5	С

^{*}Energy efficiency class specified for PS/ABS insulation

CUSTOM DRAW

Design and production of water heaters tailored to customer specifications are available, including modifications to dimensions, connection configurations, and heat exchanger parameters.

ACCESSORIES

Electric heat elements

	Heating zone	2 kW	3 kW	4,5 kW	6 kW	7,5 kW	9 kW	12 kW	15 kW			
Model	Heating zone volume, liters	1~2	220	3~400								
			Heating time for ΔT=20°, minutes									
400	212	148	98	66	49	39	33	-	-			
500	309	215	144	96	72	57	48	-	-			
750	500	348	232	155	116	93	77	58	-			
1000	650	453	302	201	151	121	101	75	60			
1500	926	645	430	287	215	172	143	108	86			
2000	1370	954	636	424	318	255	212	159	127			

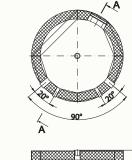
For alternative mounting of the electric heat element, a flange adapter is used

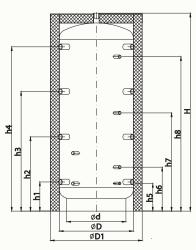


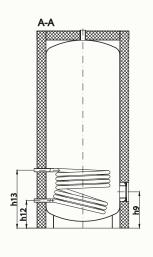




DIMENSIONS AND CONNECTION







H, h1-h4

DESIGNATION

Connection of supply and return mains of heating circuits

Technological connection h5

h6-h8 Connections for temperature sensors

Flange, Ø120 mm h9

onnections for supply and return lines of the external heating circuit h12-h13

(Coil 1 - lower heat exchanger)

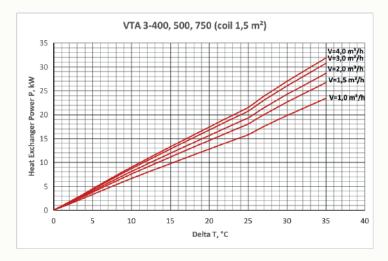
Model		Dimens	ions, mm						Connecti	on sizes, n	nm					
Model	øD1	ø D	ød	Н	h1	h2	h3	h4	h5	h6	h7	h8	h9	h12	h13	
400	800	600	450	1700	264	834	-	1406	249	414	-	1256	336	248	688	
400	800	000	430			11/2"			1/2"		3/4"			1	"	
500	800	600	450	1995	264	741	1181	1634	249	414	964	1534	336	248	688	
						11/2"			1/2"		3/4"			1	"	
750	950	750	600	2010	295	752	1212	1665	280	445	995	1565	367	279	631	
						11/2"			1/2"		3/4"			1	"	
1000	1050	850	700	2060	323	780	1240	1693	308	473	1023	1593	395	311	661	
						11/2"			1/2"		3/4''			11,	/4"	
1500	1200	1000	850	2150	368	825	1285	1738	353	518	1068	1638	440	356	706	
						1 1/2"			1/2"		3/4"			11,	/4"	
2000	1400	1200	1000	2250	419	876	1336	1789	404	569	1119	1689	491	407	707	
						1 1/2"			1/2"		3/4"			11,	/4"	

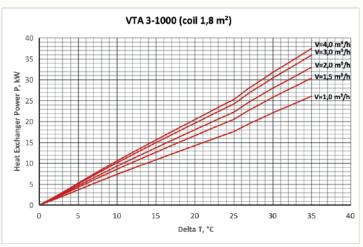


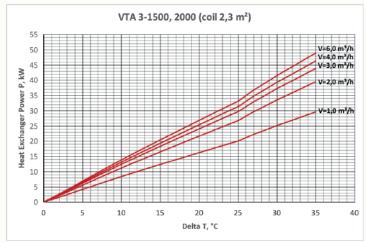
LOWER HEAT EXCHANGER CAPACITY

The capacity of the lower heat exchanger, P (kW), is presented as a function of the temperature difference, ΔT (°C), between the heat transfer fluid supply entering the heat exchanger and the average tank temperature in the lower heat exchanger zone, at a specific circulation rate of the heat transfer fluid, V (m^3/h), within the exchanger

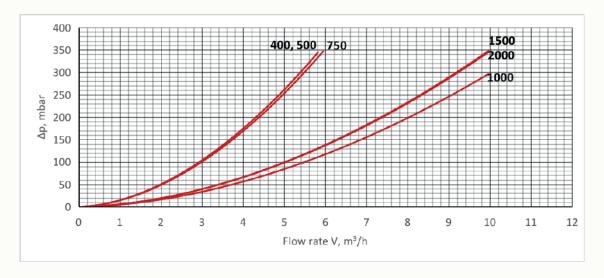
For example, consider a VTA 3-750 water heater tank where the average temperature in the lower heat exchanger zone is 40°C, and the heat transfer fluid flowing through the exchanger has a temperature of 70°C with a circulation rate of 2 m³/h. In this case, the temperature difference $\Delta T = 70 - 40 = 30$ °C, and the approximate capacity of the lower heat exchanger is 24 kW.



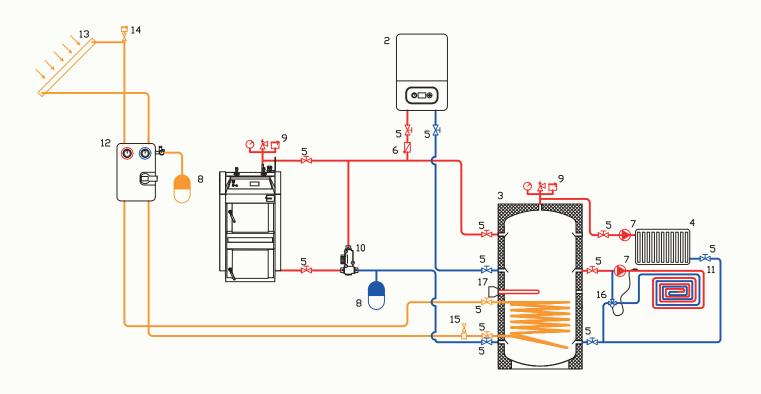




PRESSURE LOSSES OF THE LOWER HEAT EXCHANGER



The schematic diagram does not replace qualified installation: during design, relevant standards and regulations must be followed.



- 1 Solid fuel boiler
- Gas or electric boiler 2
- 3 VTA 3 storage tank
- Radiator heating circuit
- Ball valve 5
- Check valve

- Circulation pump 7
- 8 Expansion tank
- Safety group
- Thermomixing device Laddomat 10
- "Warm floor" heating circuit 11
- Circulation pump 12

- 13 Solar collector (solar circuit)
- Air vent for the solar circuit 14
- Automatic air vent for the 15 solar circuit
- Three-way valve with remote sensor for the "warm floor" system
- Electric heat element

HEAT ACCUMULATION FOR HEATING SYSTEMS















TECHNICAL DESCRIPTION

The storage tank is designed to accumulate and store thermal energy from multiple heat sources for heating systems.

MATERIAL

The tank is constructed from S235JR (DIN 1.0038) carbon structural steel. The external coating provides enhanced resistance to mechanical impacts and aggressive environments.

Tar	nk
Р	Т
3 bar	95℃



WARRANTY

5 years

THERMAL INSULATION

PL/PVC - 100 mm polyester insulation encased in zippered PVC fabric

PU/PVC - 90 mm flexible polyurethane foam insulation encased in PVC fabric secured with straps.

PL/ABS - 100 mm polyester insulation encased in ABS plastic with plastic latches

PS/ABS - 100 mm high-efficiency rigid graphite-expanded polystyrene insulation encased in ABS plastic. Premium-class insulation, fully compliant with ErP 2009/125/EC Directive requirements

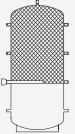
		*
Model	V tank, I	Energy efficiency class of insulation*
200	214	А
300	305	А
400	413	В
500	483	В
750	773	С
1000	1008	С
1500	1449	С
2000	2158	С

^{*}Energy efficiency class specified for PS/ABS insulation

CUSTOM DRAW

Design and production of storage tank tailored to customer specifications are available, including modifications to dimensions, connection configurations, and heat exchanger parameters.

ACCESSORIES



Electric heat elements

	Heating zone	2 kW	3 kW	4,5 kW	6 kW	7,5 kW	9 kW	12 kW	
Model	volume, liters	1~2	220	3~400					
	rolanio, intoro			Heating	time for ΔT	=20°, minu	ıtes		
200	110	77	51	34	26	20	-	-	
300	199	139	92	62	46	37	-	-	
400	212	148	98	66	49	39	33	-	
500	314	219	146	97	73	58	49	-	
750	500	348	232	155	116	93	77	58	
1000	650	453	302	201	151	121	101	75	
1500	926	645	430	287	215	172	143	108	
2000	1370	954	636	424	318	255	212	159	
3000*	1944	1354	903	602	451	361	301	226	
4000*	2552	1778	1185	780	593	474	395	296	
5000*	3229	2250	1500	1000	750	600	500	375	
For tanks with a capac	city of 3000 liters and	above, a tra	nsition piec	e is require	d for connec	ting the ele	ctric heat el	ement	

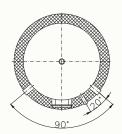
For alternative mounting of the electric heat element, a flange adapter is used

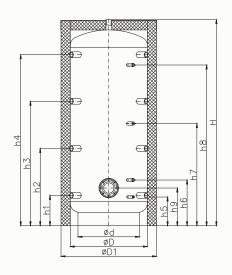






DIMENSIONS AND CONNECTION





DESIGNATION

Connection of supply and return mains of heating circuits H, h1-h4

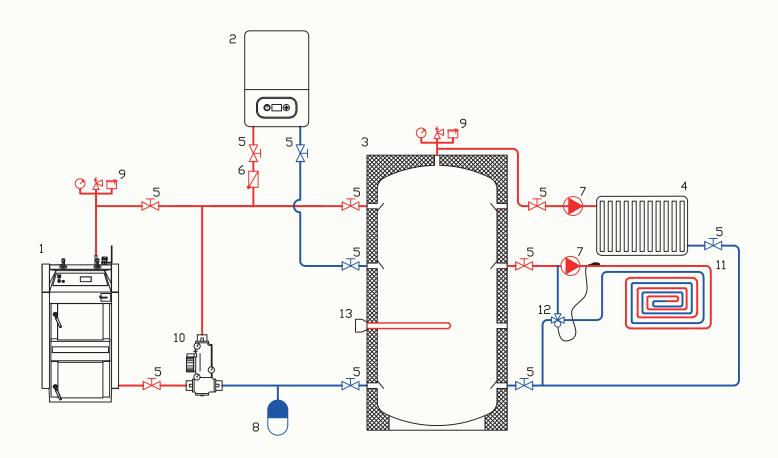
Process connection h5

h6-h8 Connections for temperature sensors

Flange, Ø120 mm h9

Model		Dimens	sions, mm					Connect	ion Dimens	ions, mm			
Model	Ø D1	Ø D	Ø d	Н	h1	h2	h3	h4	h5	h6	h7	h8	h9
200	700	480	400	1410	244	690	-	1136	229	394	-	1014	316
200					11/2"				11/2"			3/4"	
300	700	480	400	1910	244	701	1161	1614	229	394	944	1514	316
300						11,	/2''				3/4"		
400	800	600	450	1700	264	834	-	1406	249	414	-	1256	336
400						11/2"			1/2"		3/4"		
500	800	600	450	1950	264	721	1181	1634	249	414	964	1534	336
500						11/2"			1/2"		3/4"		
750	950	750	600	2010	295	752	1212	1665	280	445	995	1565	367
750						11/2"			1/2"		3/4"		
1000	1050	850	700	2060	323	780	1240	1693	308	473	1023	1593	395
1000						11/2"			1/2"		3/4"		
1500	1200	1000	850	2150	368	825	1285	1738	353	518	1068	1638	440
1500						11/2"			1/2"		3/4"		
2000	1400	1200	1000	2250	419	876	1336	1789	404	569	1119	1689	491
2000						11/2"			1/2"		3/4"		
3000	1600	1400	1150	2340	465	922	1382	1835	450	615	1165	1735	537
3000						2"			1/2"		3/4"		
4000	1800	1600	1300	2400	490	947	1407	1860	475	640	1190	1760	562
4000						2"			1/2"		3/4"		
5000	1800	1600	1300	2900	490	1110	1740	2360	475	640	1450	2260	562
5000						2"			1/2"		3/4"		
6300	2100	1900	-	2850									
8000	2100	1900	-	3600		Co	nfiguration	and Dimen	sions of Pip	es Accordin	g to Custo	mer Reques	t
10000	2100	1900	-	4350									

The schematic diagram does not replace qualified installation: during design, relevant standards and regulations must be followed.



- 1 Solid fuel boiler
- 2 Gas or electric boiler
- 3 VTA 4 storage tank
- 4 Radiator heating circuit
- 5 Ball valve

- 6 Check valve
- 7 Circulation pump
- 8 Expansion tank
- 9 Safety group
- 10 Thermomixing device Laddomat

- 11 "Warm floor" heating circuit
- Three-way valve with remote sensor for the "warm floor" system
- 13 Electric heat element



HEAT ACCUMULATION FOR HEATING SYSTEMS, OPTIMIZED FOR OPERATION WITH SOLID FUEL BOILERS















TECHNICAL DESCRIPTION

The storage tank is designed to accumulate and store thermal energy from various heat sources for heating systems. Its configuration is optimized for operation with solid fuel boilers.

MATERIAL

The tank is constructed from S235JR (DIN 1.0038) carbon structural steel. The external coating provides enhanced resistance to mechanical impacts and aggressive environments.

Та	nk
Р	Т
3 bar	95℃



WARRANTY

5 years

O THERMAL INSULATION

PL/PVC - 100 mm polyester insulation encased in zippered PVC fabric

PU/PVC - 90 mm flexible polyurethane foam insulation encased in PVC fabric secured with straps.

PL/ABS - 100 mm polyester insulation encased in ABS plastic with plastic latches

PS/ABS - 100 mm high-efficiency rigid graphite-expanded polystyrene insulation encased in ABS plastic. Premium-class insulation, fully compliant with ErP 2009/125/EC Directive requirements

Model	V tank, I	Energy efficiency class of insulation*
100	108	А
200	214	А
300	305	А
400	413	В
500	483	В
750	773	С
1000	1008	С
1500	1449	С
2000	2158	С

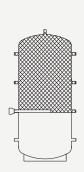
^{*}Energy efficiency class specified for PS/ABS insulation

CUSTOM DRAW

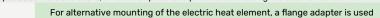
Design and production of storage tank tailored to customer specifications are available, including modifications to dimensions, connection configurations, and heat exchanger parameters.

ACCESSORIES

Electric heat elements



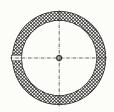
		2 kW	3 kW	4,5 kW	6 kW	7,5 kW	9 kW	12 kW	15 kW				
Model	Heating zone volume, liters	1~2	220	3-400									
	volume, mers		Час нагріву на ∆Т=20°, хв										
100	76	53	35	24	-	-	-	-	-				
200	168	117	78	52	39	31	-	-	-				
300	259	180	120	80	60	48	-	-	-				
400	337	235	157	104	78	63	52	-	-				
500	408	284	189	126	95	76	63	-	-				
750	646	450	300	200	150	120	100	75	-				
1000	837	583	389	259	194	155	130	97	78				
1500	1186	826	551	367	275	220	184	138	110				
2000	1743	1214	810	540	405	324	270	202	162				
3000*	2451	1708	1138	759	569	455	379	285	228				
4000*	3217	2241	1494	996	747	598	498	374	299				
5000*	4222	2941	1961	1307	980	784	654	490	392				
For tanks with a capacity	of 3000 liters and ab	ove, a trans	ition piece i	s required f	or connectir	ng the electi	ric heat elen	nent					

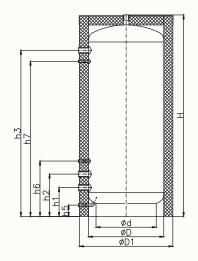






DIMENSIONS AND CONNECTION





DESIGNATION

Connection of supply and return mains of heating circuits H, h1-h3

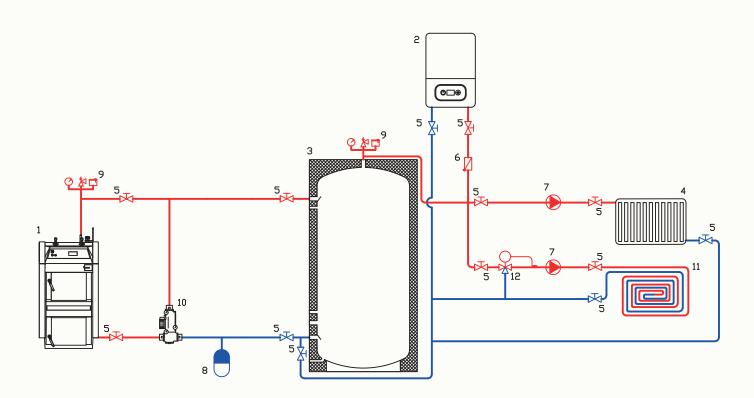
h5 Process connection

Connections for temperature sensors h6-h7

Model		Dimens	sions, mm				Connection Di	mensions, mn	า	
Model	Ø D1	Ø D	Ød	Н	h1	h2	h3	h5	h6	h7
400	600	400	300	1055	211	346	811	95	446	711
100				1'	'	11/2"	1"		1/2"	
200	680	480	400	1410	236	371	1103	94	501	993
200					11	/2"			1/2"	
300	680	480	400	1910	236	371	1603	94	501	1493
300					11	/2"			1/2"	
400	800	600	450	1700	256	390	1373	94	520	1263
400					11	/2"			1/2"	
500	800	600	450	1950	256	390	1623	94	520	1513
300					11	/2"			1/2"	
750	950	750	600	2010	287	421	1654	125	551	1544
730				11/2"					1/2"	
1000	1050	850	700	2060	315	449	1682	143	579	1572
1000					11	/2"			1/2'	
1500	1200	1000	850	2150	360	494	1727	188	624	1617
1500					11	/2"			1/2"	
2000	1400	1200	1000	2250	411	545	1778	200	675	1668
2000					11	/2"			1/2"	
3000	1600	1400	1150	2350	477	592	1825	220	722	1715
3000					2	2"			1/2"	
4000	1800	1600	1300	2400	482	616	1849	240	746	1739
4000					2	2"			1/2"	
5000	1800	1600	1300	2900	482	616	2349	240	746	2239
0000					2	2"			1/2"	
6300	2100	1900	-	2850						
8000	2100	1900	-	3600	Con	figuration and	Dimensions of I	Pipes Accordin	g to Customer	Request
10000	2100	1900	-	4350						



The schematic diagram does not replace qualified installation: during design, relevant standards and regulations must be followed.



- 1 Solid fuel boiler
- 2 Gas or electric boiler
- **3** VTA 4 Economy storage tank
- 4 Radiator heating circuit

- 5 Ball valve
- 6 Check valve
- 7 Circulation pump
- 8 Expansion tank

- 9 Safety group
- 10 Thermomixing device Laddomat
- 11 "Warm floor" heating circuit
- 2 Three-way valve with remote sensor for the "warm floor" system



DESIGNED FOR USE IN SYSTEMS WITH HEAT PUMPS FOR HEATING AND COOLING



BUFFER TANKS FOR HEATING AND COOLING SYSTEMS













TECHNICAL DESCRIPTION

The buffer tank is intended for hydraulic separation of the heat pump circuit and the heating/cooling circuit; for increasing the volume of the heating/cooling system; and for storing heat or cold to ensure proper and stable operation of the heat pump, as well as the heating and cooling system.

MATERIAL

The tank is constructed from S235JR (DIN 1.0038) carbon structural steel.

WARRANTY

5 years

THERMAL INSULATION

PUH/PVC - Rigid polyurethane foam insulation, 35 mm thick, encased in zippered PVC fabric.

PUH/ABS - Rigid polyurethane foam insulation, 35 mm thick, encased in ABS plastic with a latch.

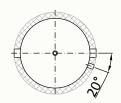
The above insulation types comply with all requirements of the ErP 2009/125/EC Directive

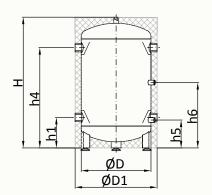
Tank		
Р	Т	
6 bar	-10 + 95 °C	



Model	V tank, I	Energy efficiency class of insulation
50	52	В
80	82	В

ГАБАРИТНІ ПРИЄДНУВАЛЬНІ РОЗМІРИ





ПОЗНАЧЕННЯ

Н

Connections for supply and return lines of heating circuits h1, h4

Technological connection h5

Air vent

Connection for temperature sensors h6

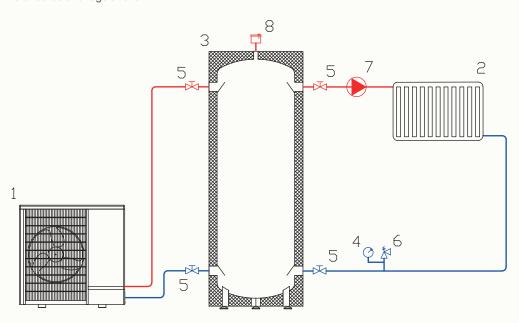
Madal	Dimensions, mm			Connection Dimensions, mm			
Model	Ø D1	ØD	Н	h1	h4	h5	h6
50	480	400	500	175	325	160	250
30		1/2"		11/4"		1/2"	1/2"
80	480	400	750	175	575	160	375
80			1/2"	11/4"		1/2"	1/2"



TEPLOBAK® EXAMPLE OF A SCHEMATIC DIAGRAM

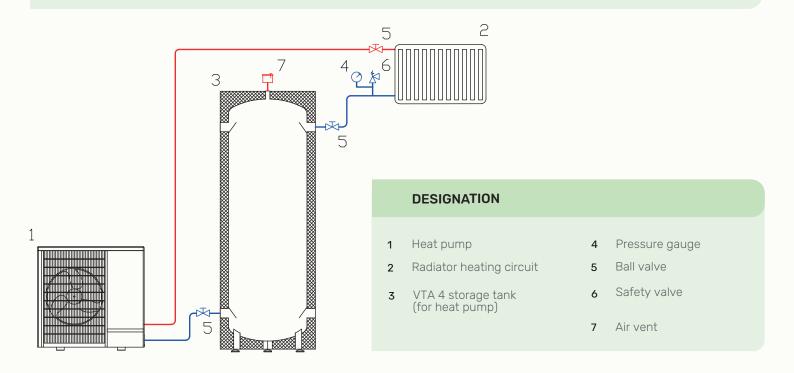
EXAMPLE OF A SCHEMATIC DIAGRAM

The schematic diagram does not replace qualified installation: during design, relevant standards and regulations must be followed.



- Heat pump
- 2 Radiator heating circuit
- 3 VTA 4 storage tank (for heat pump)
- 4 Pressure gauge

- 5 Ball valve
- 6 Safety valve
- 7 Circulation pump





BUFFER TANKS FOR HEATING AND COOLING SYSTEMS

FOR SYSTEMS WITH HEAT PUMPS FOR HEATING/COOLING

















TECHNICAL DESCRIPTION

The buffer tank is designed for hydraulic separation between the heat pump circuit and the heating/cooling circuit; to increase the system volume; to accumulate heat or cold to ensure the correct and stable operation of the heat pump and the heating/cooling system. It allows for the connection of an additional heat source and the installation of an electric heat element.

The tank is made of carbon structural steel S235JR (DIN 1.0038).

Tank		
Р	Т	
6 bar	-10 + 95 °C	



WARRANTY

MATERIAL

5 years

THERMAL INSULATION

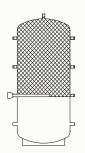
PUH/PVC - Rigid polyurethane foam insulation, 35 mm thick, enclosed in a PVC fabric jacket with a lock.

PUH/ABS - Rrigid polyurethane foam insulation, 35 mm thick, enclosed in an ABS plastic jacket with a lock.

The above insulation types comply with all requirements of the **ErP 2009/125/EC Directive**

Model	V tank, I	Energy Efficiency Class of Insulation
100	108	В
150	145	В
200	214	В
250	260	С
300	305	С

ACCESSORIES



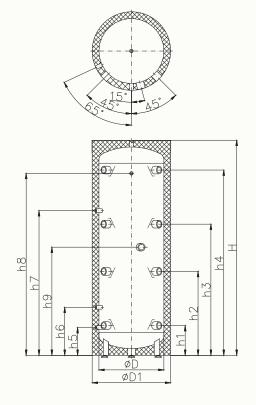
Electric heat elements

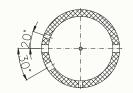
		2 kW	3 kW	4,5 kW
Model	Heating zone volume, liters	1~2	3~400	
		Hea	°, minutes	
100	53	65	43	29
150	72	88	59	39
200	111	135	90	60
250	133	162	108	72
300	147	179	119	80

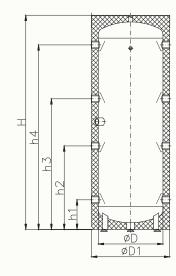


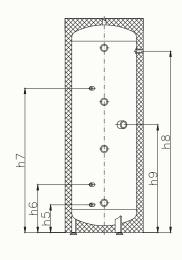


DIMENSIONS AND CONNECTION









DESIGNATION

Air vent

h1-h4 Connections for supply and return lines of heating circuits

Technological connection h5

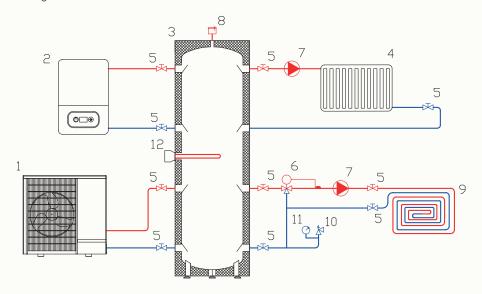
h6-h7 Connections for temperature sensors

h8 Connection for thermometer

Connection for electric heat element

Model	Dimensions, mm			Connection Dimensions, mm								
Model	ØD1	ØD	Н	h1	h2	h3	h4	h5	h6	h7	h8	h9
100	510	400	980	190	390	590	790	175	290	690	765	540
100			1/2"		11/	/4"			1/	'2"		11/2"
150	510	400	1280	190	490	790	1090	175	290	890	1065	640
150			1/2"	11/2"			1/2"			11/2"		
200	590	480	1340	220	545	795	1120	205	355	895	1095	670
200			1/2"	11/2"			1/2"			11/2"		
250	590	480	1590	220	620	970	1370	205	355	1070	1345	800
250			1/2"		11/	′2"			1/	'2"		11/2"
300	590	480	1840	220	700	1140	1620	205	355	1240	1595	970
300			1/2"		11/	′ 2"			1/	' 2"		11/2"

The schematic diagram does not replace qualified installation: during design, relevant standards and regulations must be followed.

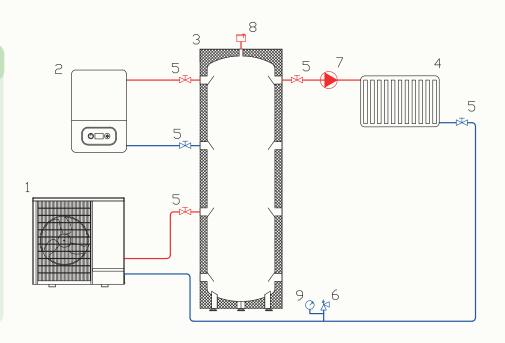


DESIGNATION

- Heat pump
- Gas or electric boiler 2
- Buffer tank VTA 4 3 (for the heat pump)
- Radiator heating circuit
- Ball valve 5
- Three-way valve with a remote sensor for the underfloor heating system
- Circulation pump 7
- Air vent

- Underfloor heating circuit
- Safety valve
- Manometer 11
- Tubular electric heater

- Heat pump 1
- Gas or electric boiler 2
- Buffer tank VTA 4 3 (for the heat pump)
- Radiator heating circuit 4
- Ball valve 5
- Safety valve 6
- 7 Circulation pump
- Air vent 8
- 9 Manometer







COORDINATION OF CHILLER OPERATION WITH COOLING/COOLING-HEATING SYSTEMS

















O TECHNICAL DESCRIPTION

Chilled water tanks are designed to: Provide hydraulic separation between primary and secondary cooling system circuits, ensuring proper operation of the chiller or heat pump; Increase the cooling system's volume, reducing compressor cycling (on/off) to extend the service life of the chiller;

Store chilled water to meet peak load demands. These functions are also applicable in reversible systems (cooling-heating).



MATERIALS

CWT CS - Tank constructed from S235JR (DIN 1.0038) carbon structural steel.

CWT ZN - Tank constructed from S235JR (DIN 1.0038) carbon structural steel with internal and external zinc coating applied via hot-dip galvanizing at 440-460°C.



WARRANTY

5 years

THERMAL INSULATION

 Anti-condensation insulation, 12 or 24 mm thick, made of synthetic foamed rubber with a metallized external coating; suitable for tanks operating solely in cooling systems.

RS/ABS - Anti-condensation insulation, 12 or 24 mm thick, made of synthetic foamed rubber with a metallized external coating, encased in ABS plastic with snap-lock fasteners; suitable for tanks operating solely in cooling systems.

RS+PL/ - Anti-condensation insulation, 12 or 24 mm ABS thick, made of synthetic foamed rubber with a metallized external coating, combined with an additional 50 mm polyester layer, encased in ABS plastic with snap-lock fasteners; suitable for tanks operating in reversible cooling-heating systems.

Tank				
Р	Т			
8 bar	-10/95 °C			

CUSTOM DRAW

Water heaters can be designed and manufactured according to customer requirements, allowing for modifications in dimensions and connection configurations.

Volu	mes, l
CWT CS	200-10000
CWT ZN	200-3000



COORDINATION OF CHILLER OPERATION WITH COOLING/COOLING-HEATING SYSTEMS AND PROVISION OF COLD WATER RESERVE FOR WATER SUPPLY















미





TECHNICAL DESCRIPTION

Chilled water tanks are designed to: provide hydraulic separation between primary and secondary cooling system circuits, ensuring proper operation of the chiller or heat pump; increase the cooling system's volume, reducing compressor cycling (on/off) to extend the service

life of the chiller; store chilled water to meet peak load demands. These functions are also applicable in reversible systems (cooling-heating).

Thanks to carefully selected materials, the tanks can be used for storing cold sanitary water. In the CWT PC series, corrosion protection is provided by one or more magnesium anodes.



MATERIALS

CWT PC -Tank constructed from S235JR (DIN 1.0038) carbon structural steel with an internal polycaramic coating.

CWTSS -Tank constructed from AISI 316L (DIN 1.4404) stainless steel, meeting the highest hygienic requirements.

WARRANTY

5 years

THERMAL INSULATION

RS Anti-condensation insulation, 12 or 24 mm thick, made of synthetic foamed rubber with a metallized external coating; suitable for tanks operating solely in cooling systems.

RS/ABS - Anti-condensation insulation, 12 or 24 mm thick, made of synthetic foamed rubber with a metallized external coating, encased in ABS plastic with snap-lock fasteners; suitable for tanks operating solely in cooling systems.

RS+PL/ - Anti-condensation insulation, 12 or g, cooling-heating systems.

ABS	24 mm thick, made of synthetic foamed
	rubber with a metallized external coating
	combined with an additional 50 mm
	polyester layer, encased in ABS plastic
	with snap-lock fasteners; suitable for
	tanks operating in reversible

CUSTOM DRAW

Water heaters can be designed and manufactured according to customer requirements, allowing for modifications in dimensions and connection configurations.



Tank		
Р	Т	
8 bar	-10/95 °C	

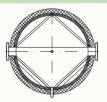
Volu	mes, I
CWT CS	200-10000
CWT ZN	200-3000

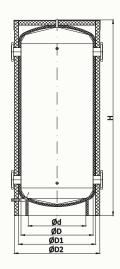


CONFIGURATION TABLE

Version	Description	Schematic illustration		
1. Without internal components	Typically used for hydraulic separation of primary and secondary circuits. It can also be utilized as a pass-through tank to increase system volume.			
2. With vertical partition	Pass-through tank that is installed on the return pipeline to increase the cooling system volume. This ensures the proper operation of the refrigeration unit (chiller, heat pump).			
3. With horizontal partition	Designed for hydraulic separation of primary and secondary circuits with clear delineation of temperature zones.			
4. With through connections	Used in systems with unbalanced generation and cold (cold-heat) consumption. Excess cold accumulates in the tank to compensate for increased load on the refrigeration unit.			
5. With guiding connections	Applied for the accumulation of chilled water (technical cold) to cover peak loads. Guide connections ensure full utilization of the tank volume.			

DIMENSIONS AND CONNECTION

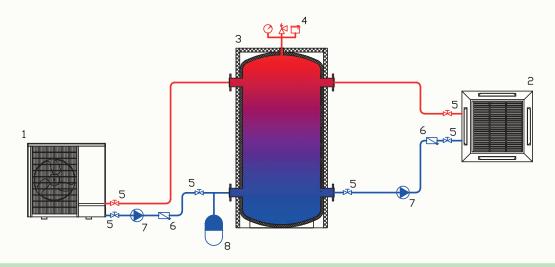




	V tank, I	Dimensions, mm						
Model		H, maximum	Ød	ØD	ØD 1		ØD 2	
					Insulation RS12	Insulation RS24	Insulation RS24/ABS	Insulation RS24+PL/ABS
100	108	1100	300	400	424	448	500	560
200	214	1350	400	480	504	528	580	640
300	305	1940	400	480	504	528	580	640
400	413	1770	450	600	624	648	700	760
500	483	2020	450	600	624	648	700	760
750	773	2090	600	750	774	798	850	910
1000	1008	2130	700	850	874	898	950	1010
1500	1449	2200	850	1000	1024	1048	1100	1160
2000	2158	2340	1000	1200	1224	1248	1300	1360
3000	3050	2440	1150	1400	1424	1448	1500	1560
4000	4051	2450	1300	1600	1624	1648	1700	1760
5000	5055	2950	1300	1600	1624	1648	1700	1760
6300	6241	2850	-	1900	1924	1948	2000	2060
8000	8366	3600	-	1900	1924	1948	2000	2060
10000	10492	4350	-	1900	1924	1948	2000	2060



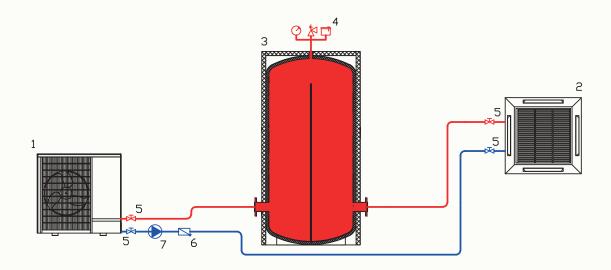
The schematic diagram does not replace qualified installation: during design, relevant standards and regulations must be followed.



DESIGNATION

- 1 Heat pump
- 2 Fan coil
- 3 CWT 1 thermal storage tank
- 4 Safety group
- 5 Ball valve
- 6 Check valve

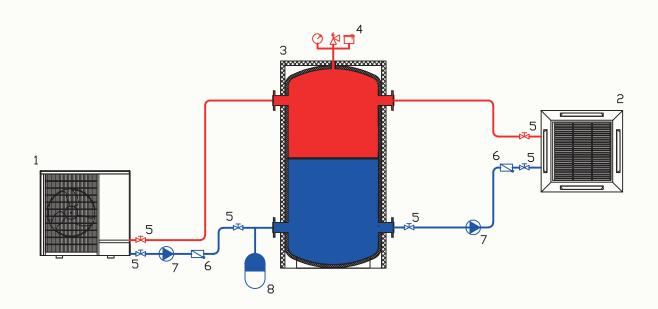
- 7 Circulation pump
- 8 Expansion tank



DESIGNATION

- 1 Heat pump
- 2 Fan coil
- **3** CWT 2 thermal storage tank
- 4 Safety group
- 5 Ball valve
- 6 Check valve

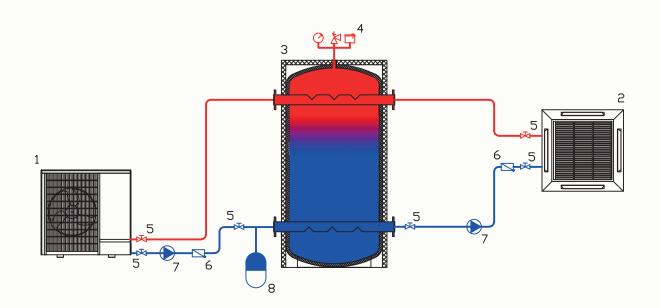
7 Circulation pump



DESIGNATION

- Heat pump 1
- 2 Fan coil
- CWT 3 thermal storage tank
- 4 Safety group
- 5 Ball valve
- Check valve

- 7 Circulation pump
- Expansion tank



- Heat pump 1
- Fan coil 2
- CWT 4 thermal storage tank
- 4 Safety group
- Ball valve 5
- Check valve

- Circulation pump
- Expansion tank





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