

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	
P	T
8 bar	95 °C
Coils	
P	T
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

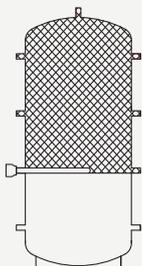
PL/ABS – 50 mm polyester insulation in an ABS plastic casing with plastic latches

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 coil		Upper coil		Energy efficiency class of insulation*
		S coil 1, m <sup>2</sup>	V coil 1, l	S coil 2, m <sup>2</sup>	V coil 2, l	
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  
\*\* For insulation thickness of 100 mm.

ACCESSORIES



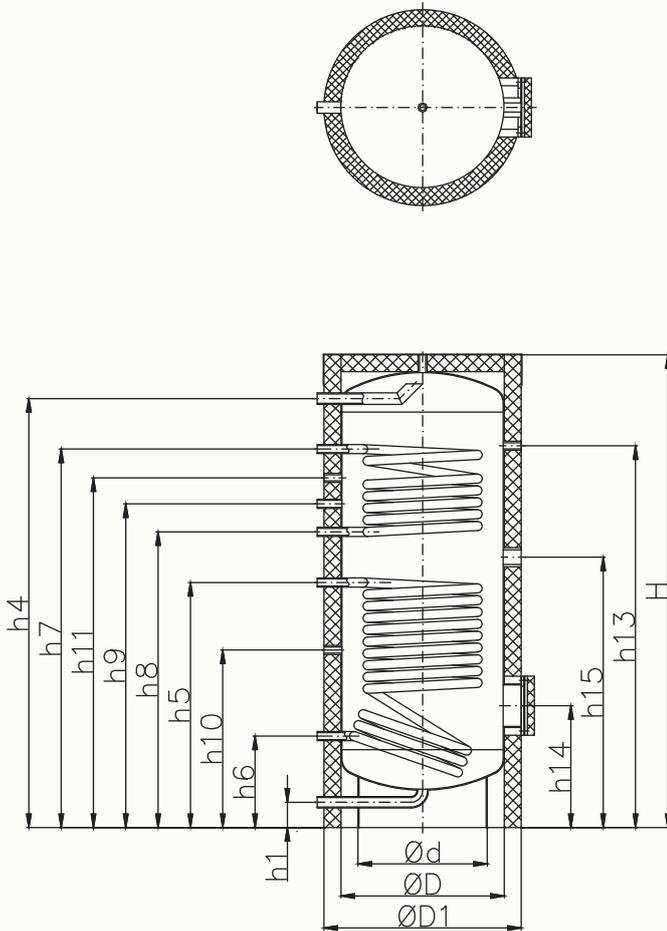
Electric heat elements

Model	Heating zone volume, liters	2 Kw	3 kW	4,5 kW	
		1-220			3-400
		Heating time for ΔT=20°, minutes			
170	91	111	74	49	
200	99	121	80	54	
300	151	184	123	82	



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

DIMENSIONS AND CONNECTION

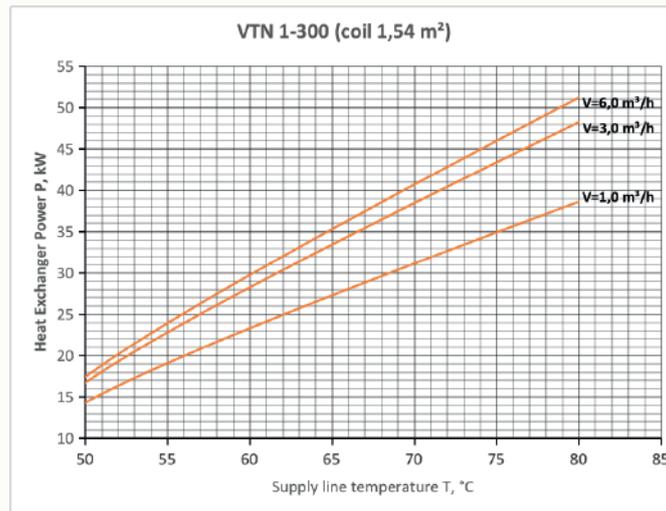
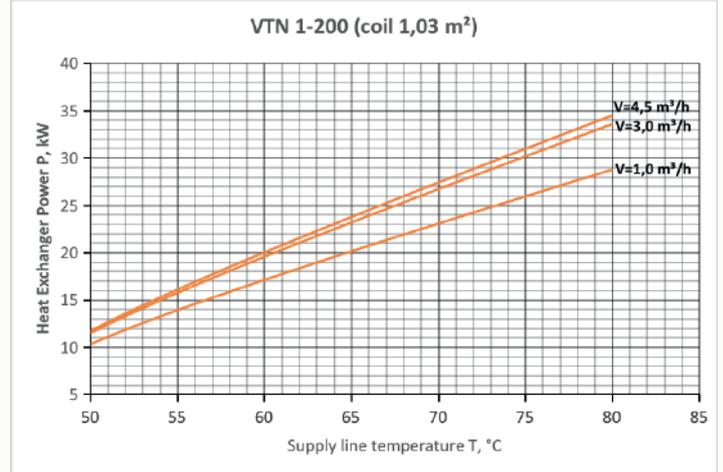
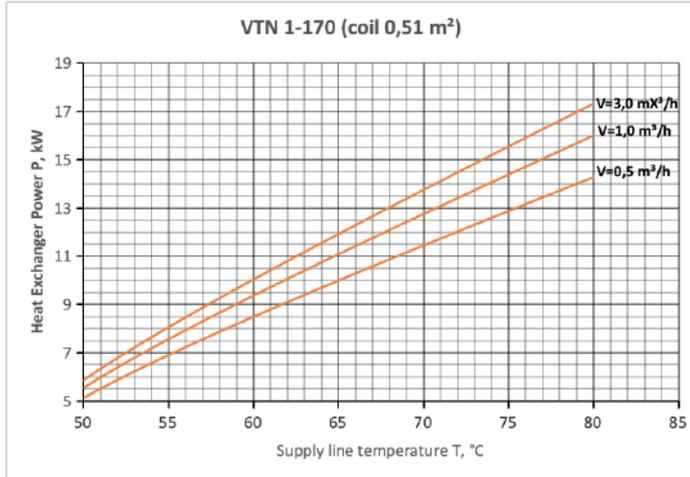


DESIGNATION	
H	Air vent
h1	Cold water supply, drainage
h4	Hot water outlet
h5-h6	Supply and return mains of the lower heat exchanger (Coil 1)
h7-h8	Supply and return mains of the upper heat exchanger (Coil 2)
h9	Recirculation
h10,h11,h13	Connections for control, regulation, and measuring equipment
h14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

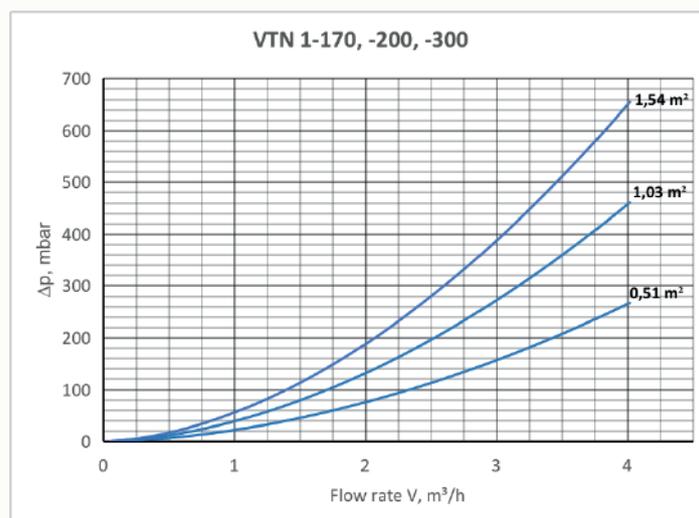
Model	Dimensions, mm				Connection sizes, mm											
	ØD1	ØD	Ød	H	h1	h4	h5	h6	h7	h8	h9	h10	h11	h13	h14	h15
170	580	480	380	1150	75	1011	506	261	901	656	736	356	816	871	321	581
				1/2"	3/4"				1/2"				1 1/2"			
200	580	480	380	1410	75	1271	726	271	1121	876	956	526	1036	1131	361	801
				1/2"	1"	3/4"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

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

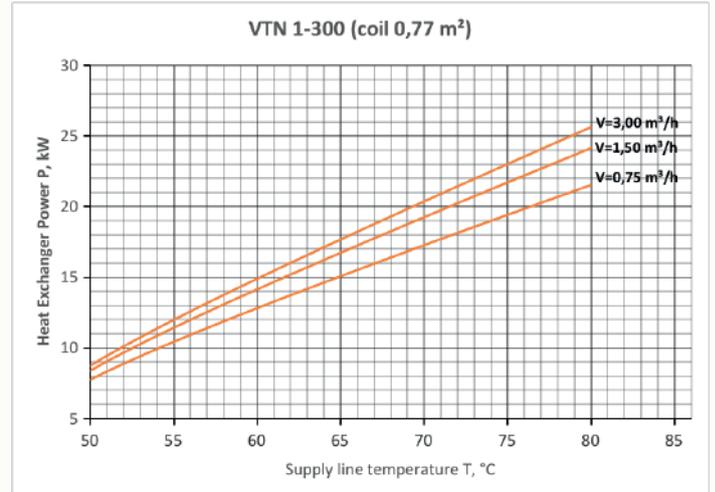
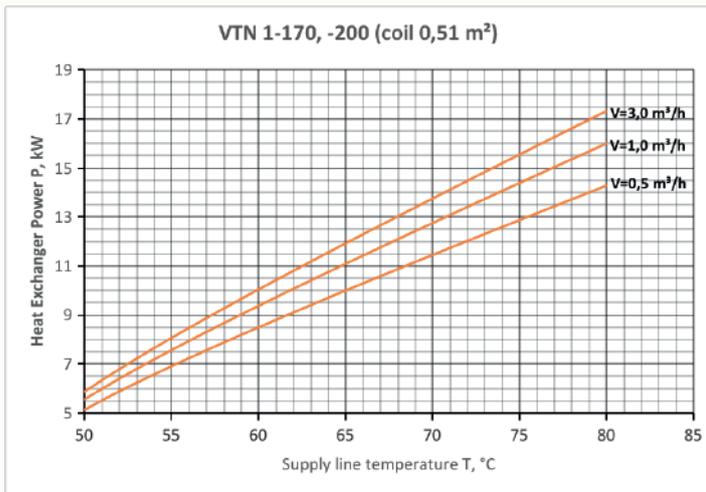


DHW OUTPUT (LOWER HEAT EXCHANGER)

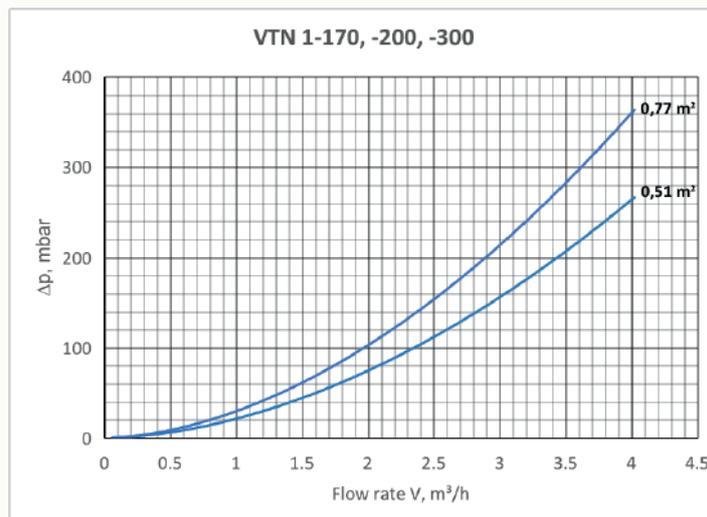
Model	Area of the lower coil m <sup>2</sup>	Usable volume of the tank l	Circulation of the heat transfer fluid in the lower coil m <sup>3</sup> /h	Power of the lower coil at the supply heat transfer fluid temperature T, under the condition of heating water in the tank from 10 to 45°C with its continuous consumption				Maximum DHW output at constant continuous load (heating DHW from 10 to 45°C) at the supply heat transfer fluid temperature T into the lower coil, with the heating source activated (lower coil only)				Maximum DHW output at 45°C with the tank heated to t, with the heating sources turned off			
				kW				l/h				l			
				T, °C				T, °C				t, °C			
				55	65	70	80	55	65	70	80	55	60	65	70
170	0,51	145	0,5	6,9	10,0	11,4	14,3	170	246	281	352	187	207	228	249
			1,0	7,5	11,1	12,7	16,0	185	273	313	394				
200	1,03	187	1,0	13,9	20,1	23,0	28,7	342	495	567	707	240	267	294	320
			3,0	15,7	23,1	26,7	33,5	387	569	658	825				
300	1,54	273	1,0	19,0	27,3	31,1	38,6	468	672	766	951	350	389	428	467
			3,0	22,8	33,4	38,4	48,2	562	823	946	1187				

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, m<sup>3</sup>/h, in the latter.



PRESSURE LOSSES OF THE UPPER HEAT EXCHANGER

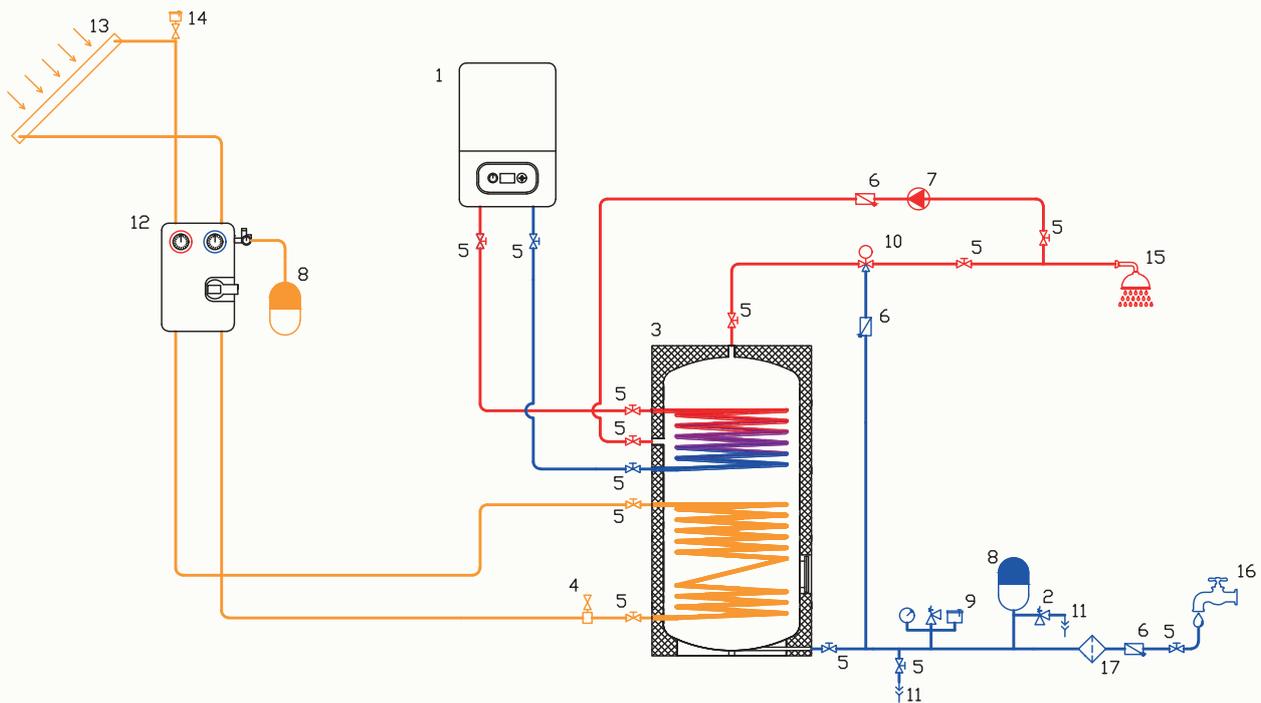


**DHW OUTPUT (UPPER HEAT EXCHANGER)**

Model	Area of the lower coil m <sup>2</sup>	Usable volume of the tank l	Circulation of the heat transfer fluid in the lower coil m <sup>3</sup> /h	Power of the lower coil at the supply heat transfer fluid temperature T, under the condition of heating water in the tank from 10 to 45°C with its continuous consumption				Maximum DHW output at constant continuous load (heating DHW from 10 to 45°C) at the supply heat transfer fluid temperature T into the lower coil, with the heating source activated (lower coil only)				Maximum DHW output at 45°C with the tank heated to t, with the heating sources turned off			
				kW				l/h				l			
				T, °C				T, °C				t, °C			
				55	65	70	80	55	65	70	80	55	60	65	70
170	0.51	71	0.5	6.9	10.0	11.4	14.3	170	246	281	352	91	101	111	121
			1.0	7.5	11.1	12.7	16.0	185	273	313	394				
200	0.51	78	0.5	6.9	10.0	11.4	14.3	170	246	281	352	100	111	122	133
			1.0	7.5	11.1	12.7	16.0	185	273	313	394				
300	0.77	129	0.8	10.4	15.0	17.2	21.5	256	369	424	530	166	184	202	221
			1.5	11.4	16.7	19.2	24.1	281	411	473	594				

**EXAMPLE OF A SCHEMATIC DIAGRAM**

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



**DESIGNATION**

- |                                    |                           |                              |
|------------------------------------|---------------------------|------------------------------|
| 1 Gas/electric boiler              | 7 Circulation pump        | 13 Solar collector           |
| 2 Safety valve                     | 8 Expansion tank          | 14 Solar circuit air vent    |
| 3 VTN 1 water heater               | 9 Safety group            | 15 Domestic hot water system |
| 4 Automatic solar circuit air vent | 10 Three-way mixing valve | 16 Water supply system       |
| 5 Ball valve                       | 11 Drainage               | 17 Mesh filter               |
| 6 Check valve                      | 12 Circulation pump       |                              |