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	
P	T
6 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/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**

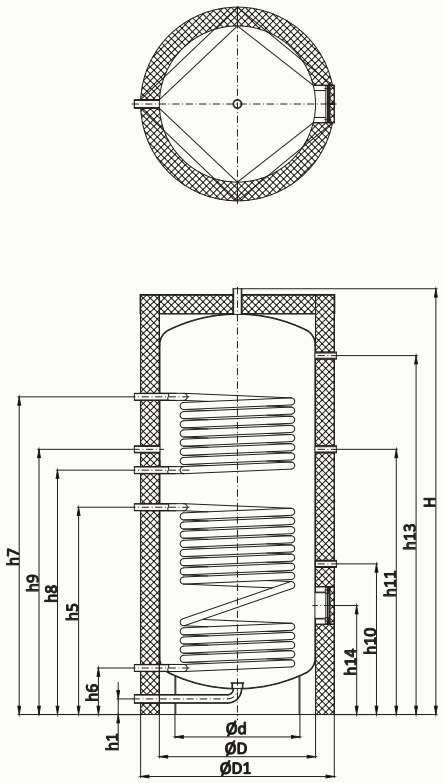
Model	Tank volume, l	Lower coil		Upper coil		Energy efficiency class of insulation*
		S coil 1, m²	V coil 1, l	S coil 2, m²	V voil 2, l	
400	413	1,48	11,0	1,00	8,0	B
500	483	1,84	14,0	1,00	8,0	B
750	773	2,24	18,0	1,40	10,0	C
1000	1008	3,0	29,0	2,00	19,0	C
1500	1449	4,10	37,0	2,62	26,0	C

*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.

DIMENSIONS AND CONNECTION

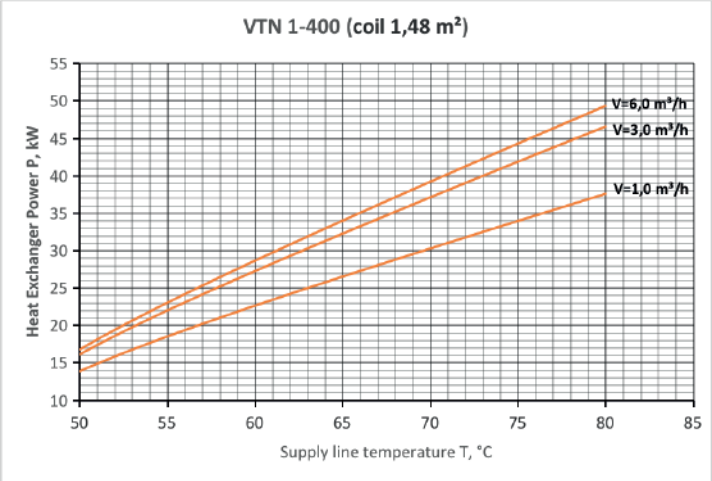


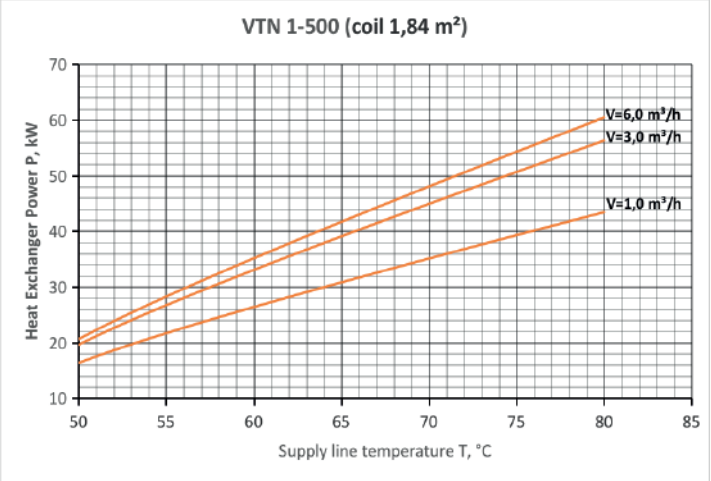
DESIGNATION	
H	Air vent
h1	Cold water supply, drainage
h5-h6	Supply and return mains of the lower heat exchanger (Coil 1)
h7-h8	Supply and return mains of the upper heat exchanger (Coil 2)
h9	Recirculation
h10,h11,h13	Connections for control, regulation, and measuring equipment
h14	Flange, Ø115 мм

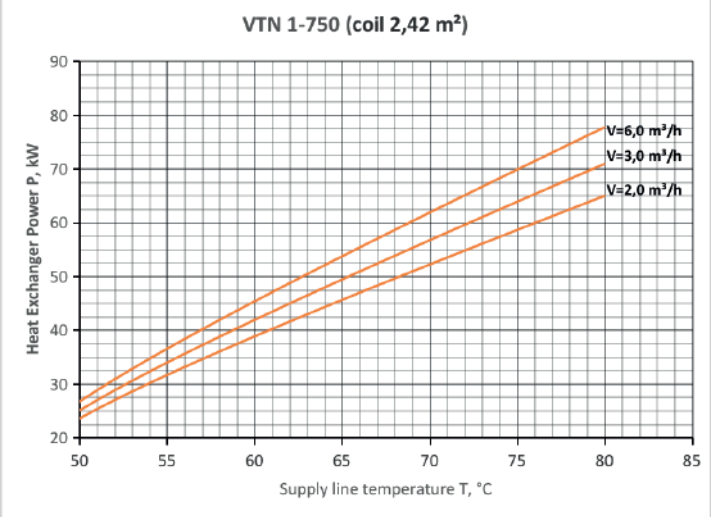
Model	Dimensions, mm				Connection sizes, mm									
	ØD1	ØD	Ød	H	h1	h5	h6	h7	h8	h9	h10	h11	h13	h14
400	800	600	450	1725	75	821	181	1283	931	1031	631	1031	1431	481
					1"					3/4"				
500	800	600	450	1975	75	953	181	1483	1131	1231	681	1231	1681	481
					1"					3/4"				
750	950	750	600	2045	75	995	223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

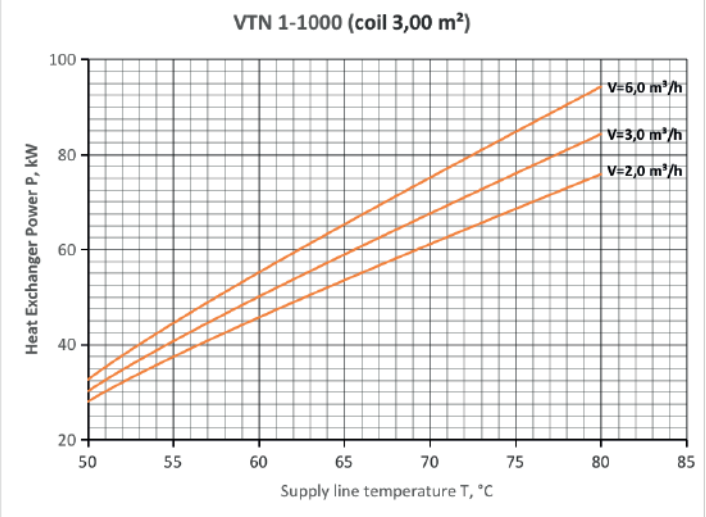
LOWER HEAT EXCHANGER POWER

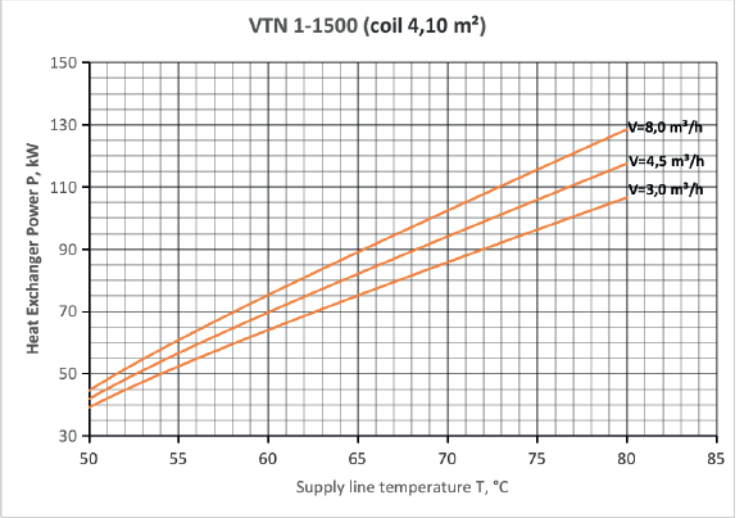
The power of the lower heat exchanger P, kW, is presented as dependent on the heat transfer fluid temperature T, °C, of the supply line to the heat exchanger at a specific circulation rate of the heat transfer fluid V, m³/h, in the latter.



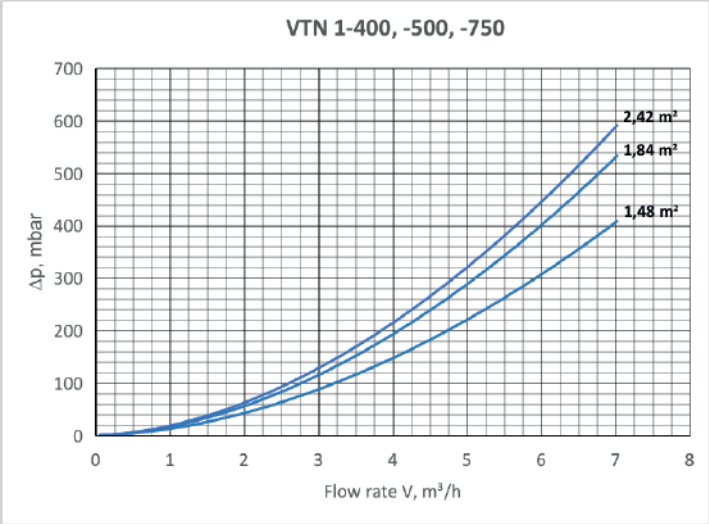


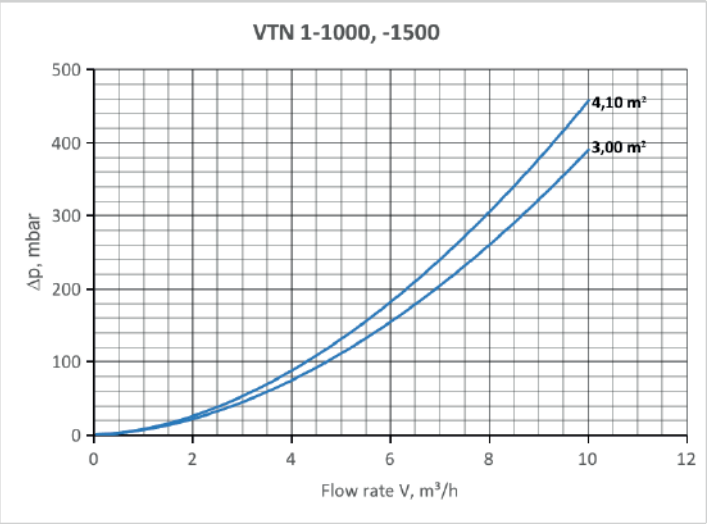






PRESSURE LOSSES OF THE LOWER HEAT EXCHANGER



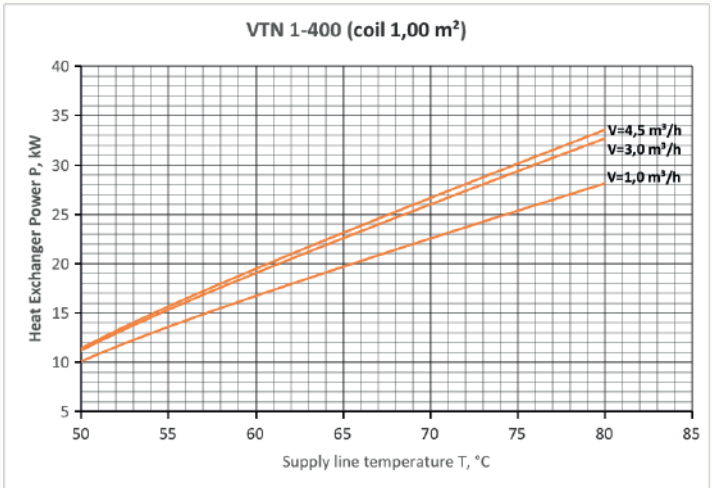


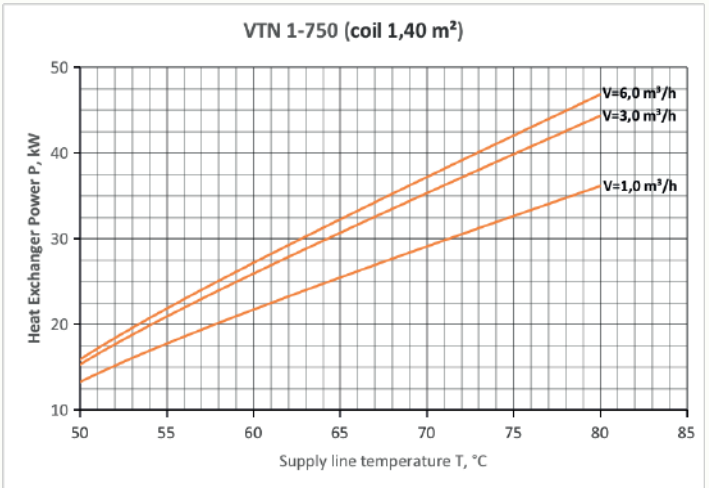
DHW OUTPUT (LOWER HEAT EXCHANGER)

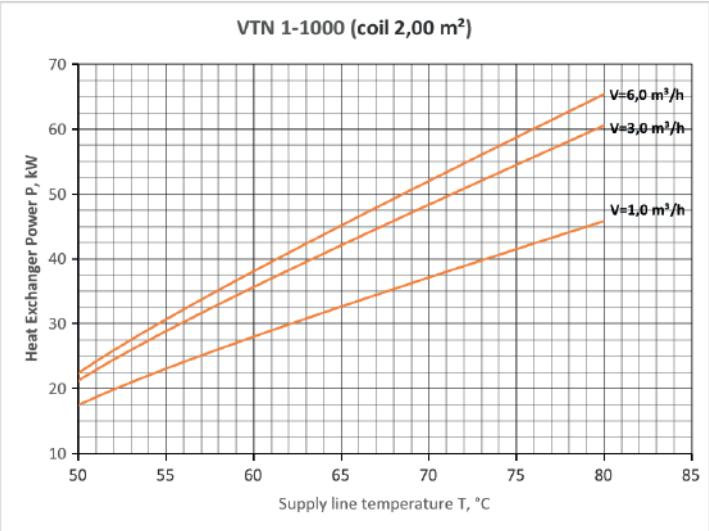
Model	Area of the lower coil	Usable volume of the tank	Circulation of the heat transfer fluid in the lower coil	Power of the lower coil at the supply heat transfer fluid temperature T, under the condition of heating water in the tank from 10 to 45°C with its continuous consumption				Maximum DHW output 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			
	m²	l	m³/h	kW				l/h				l			
				T, °C				T, °C				t, °C			
				55	65	70	80	55	65	70	80	55	60	65	70
400	1,48	362	1,0	18,5	26,5	30,2	37,5	456	653	744	924	466	518	569	621
			3,0	22,0	32,2	37,1	46,5	542	793	914	1145				
500	1,84	430	1,0	21,7	30,8	35,1	43,4	534	759	865	1069	552	614	675	736
			3,0	26,7	39,1	44,9	56,3	658	963	1106	1387				
750	2,42	686	2,0	31,6	45,6	52,2	65,0	778	1123	1286	1601	882	980	1078	1176
			3,0	33,9	49,4	56,7	70,9	835	1217	1397	1746				
1000	3,00	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	3,0	52,2	75,0	85,7	106,5	1286	1847	2111	2623	1594	1771	1948	2125
			4,5	56,4	81,9	94,0	117,4	1389	2017	2315	2892				

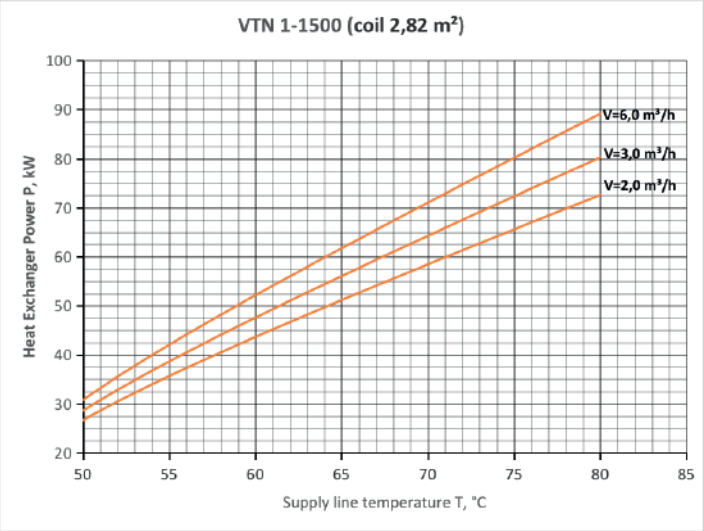
POWER OF THE UPPER HEAT EXCHANGER

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.

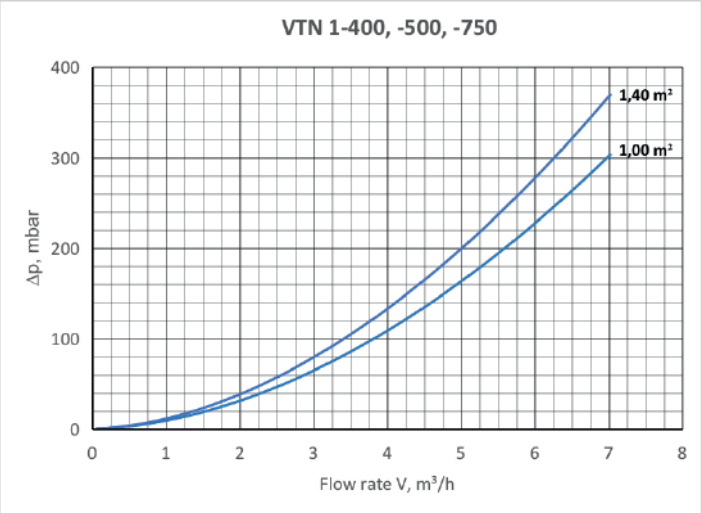


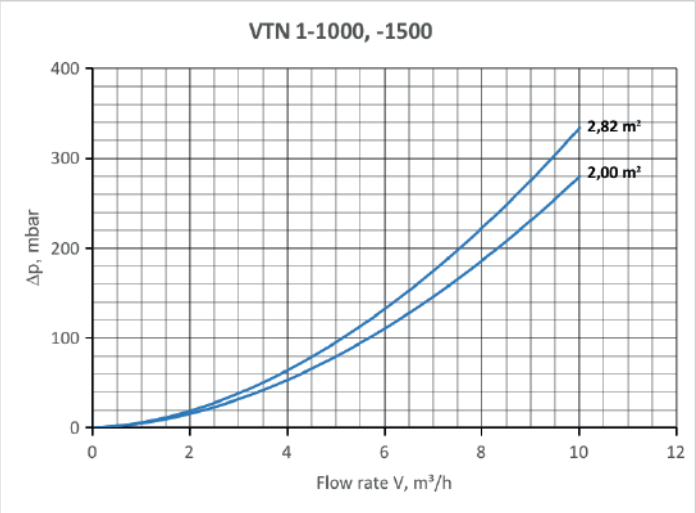






PRESSURE LOSSES OF THE UPPER HEAT EXCHANGER



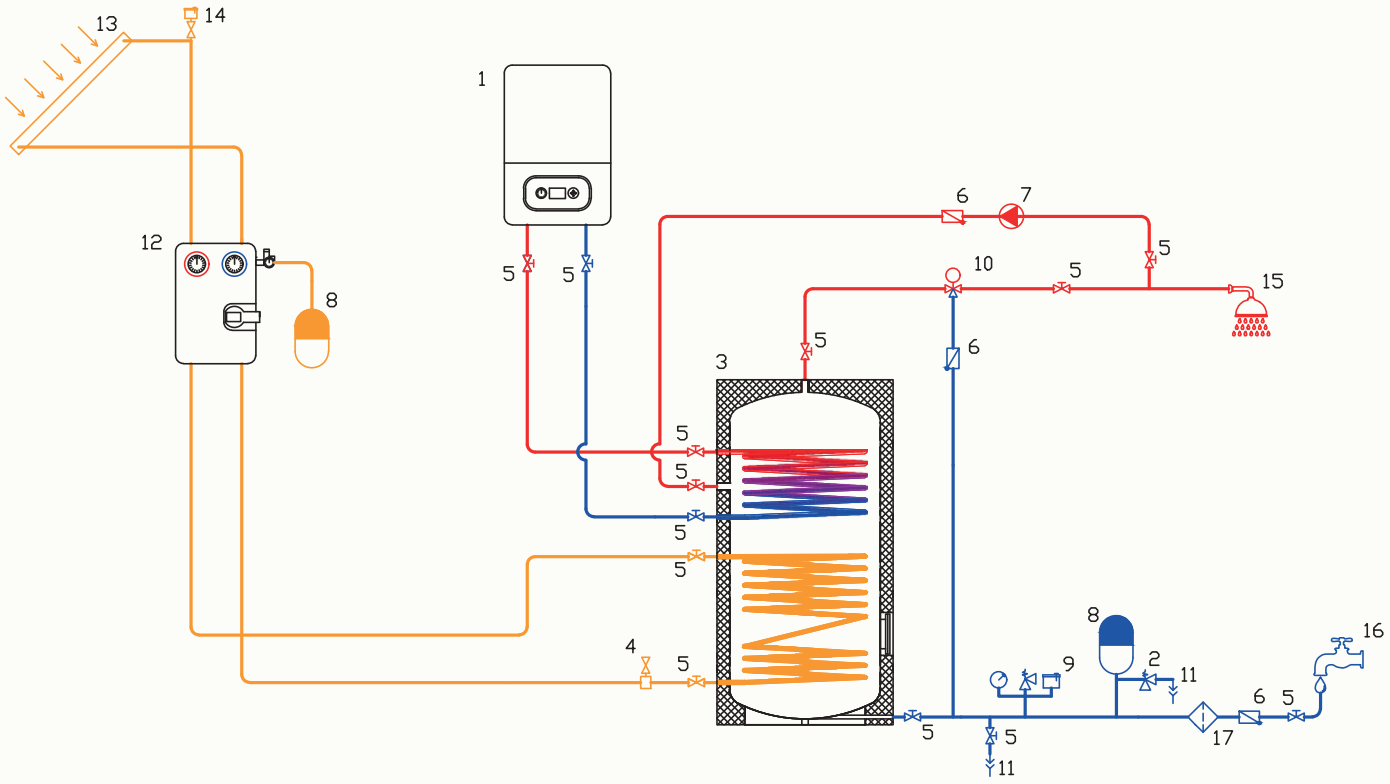


DHW OUTPUT (UPPER HEAT EXCHANGER)

Model	Area of the lower coil	Usable volume of the tank	Circulation of the heat transfer fluid in the lower coil	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			
	m²	l	m³/h	kW T, °C				l/h T, °C				l t, °C			
				55	65	70	80	55	65	70	80	55	60	65	70
400	1,00	177	1,0	13,6	19,6	22,5	28,1	335	483	554	692	227	252	278	303
			3,0	15,3	22,5	25,9	32,6	377	554	638	803				
500	1,00	191	1,0	13,6	19,6	22,5	28,1	335	483	554	692	245	272	300	327
			3,0	15,3	22,5	25,9	32,6	377	554	638	803				
750	1,40	308	1,0	17,7	25,4	29,1	36,1	436	626	717	889	397	441	485	529
			3,0	20,9	30,7	35,3	44,3	515	756	869	1091				
1000	2,00	398	1,0	23,0	32,5	37,0	45,7	567	800	911	1126	511	568	625	681
			3,0	28,8	42,0	48,3	60,5	709	1034	1190	1490				
1500	2,82	891	2,0	35,6	51,1	58,4	72,6	877	1259	1438	1788	1145	1273	1400	1527
			3,0	38,6	56,0	64,2	80,2	951	1379	1581	1975				

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		