



The new degree of comfort.®



RHC 1S/2S Series

**DHW WATER HEATERS
WITH FIXED SPIRAL COILS
FOR HEAT PUMP PRIMARY**



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DHW WATER HEATERS

WITH FIXED SPIRAL COILS

FOR HEAT PUMP PRIMARY

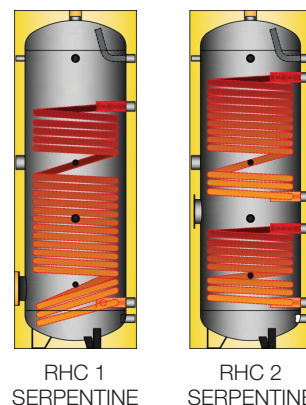
Rheem RHC range tanks are equipped with fixed spiral coils to get the highest heating exchange surface in relation to the storage capacity.

The RHC 1S model is equipped with an oversized single spiral coil; its high heat exchange surface allows the best efficiency of the heat pump connected to it.

The RHC 2S model is equipped with an oversized single spiral coil to be connected to the heat pump and a second spiral coil to be connected to an additional energy source, either conventional or renewable type, serving as a booster to the heat pump or a separate power supply.

Thermal insulation ensures minimal heat loss, keeping the temperature of the water stored inside the tank constant. This results in a reduced number of starts of connected heating generators, leading to savings in operating costs and increased reliability. Insulations are factory made: the external cladding can be chosen between technical fabric -suitable for indoor installation only- and embossed aluminium sheet -suitable for indoor and outdoor installation.

RHC 1S/2S range tanks made entirely of Stainless Steel AISI 316L to meet the most demanding quality requirements.



CONSTRUCTION

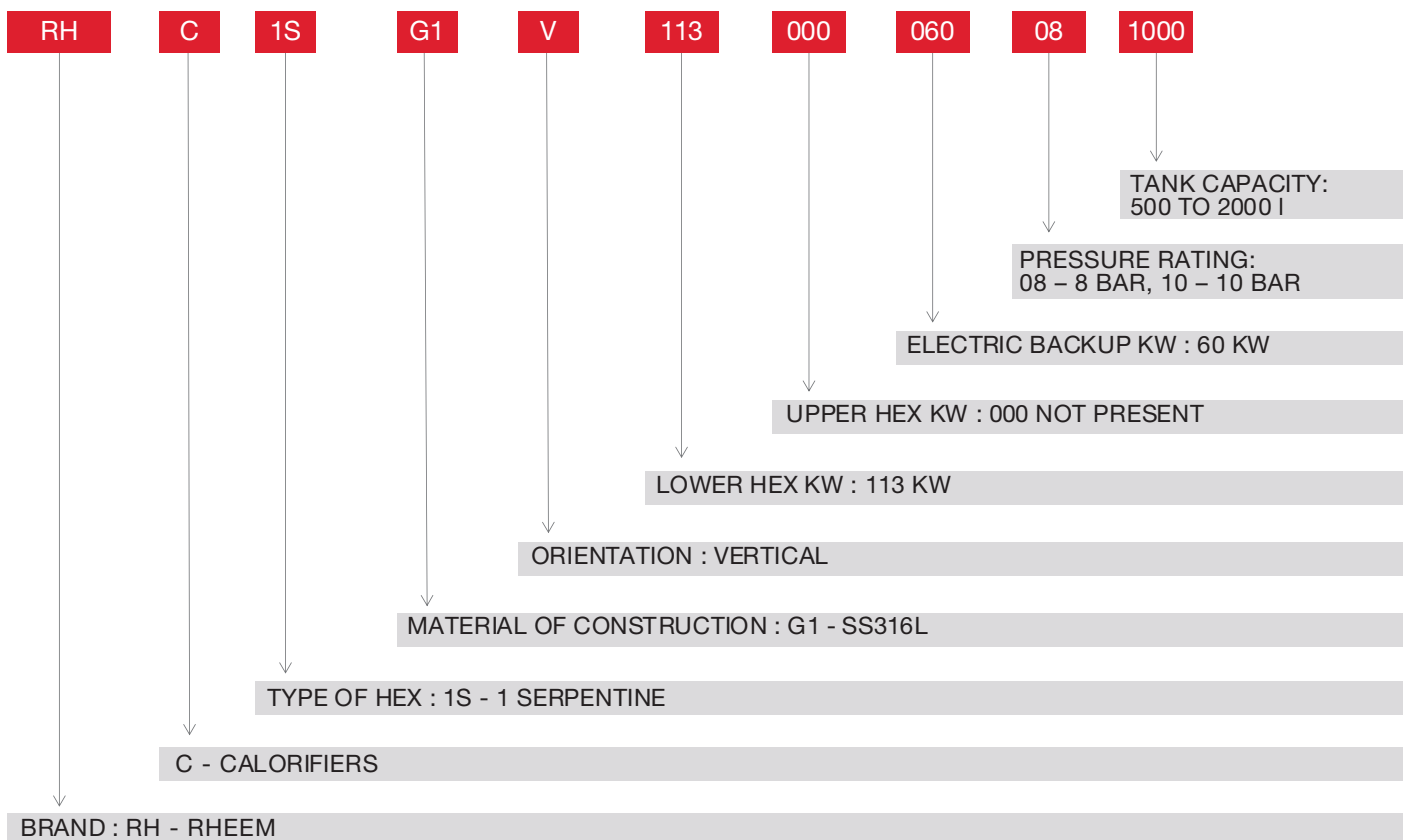
DESCRIPTION	SINGLE SERPENTINE TANK (1S)	DOUBLE SERPENTINE TANK (2S)
TANK MATERIAL	Stainless Steel AISI 316L	Stainless Steel AISI 316L
SPIRAL COIL MATERIAL	Stainless Steel AISI 316L	Stainless Steel AISI 316L
INT. SURFACE STEEL TREATMENT	Pickling and passivation	Pickling and passivation
EXT. SURFACE STEEL TREATMENT	Pickling and passivation	Pickling and passivation
CAPACITY	200 - 2000 L	300 - 2000 L
VERSION	Vertical	Vertical
CONNECTION TYPE	Threaded	Threaded
INSULATION 200 - 500 L	Hard foam polyurethane 55 mm	Hard foam polyurethane 55 mm
INSULATION 800 - 1000 L	Hard foam polyurethane 85 mm removable half-shells	Hard foam polyurethane 85 mm removable half-shells
INSULATION 1500 - 2000 L	PLFH 100 mm High density eco-friendly polyester fiber	PLFH 100 mm High density eco-friendly polyester fiber
CLADDING	Grey PVC - RAL7035	Grey PVC - RAL7036
ANODE TYPE	—	—
ACCESSORIES (factory fitted)	Thermometer	Thermometer

STANDARD WORKING CONDITIONS

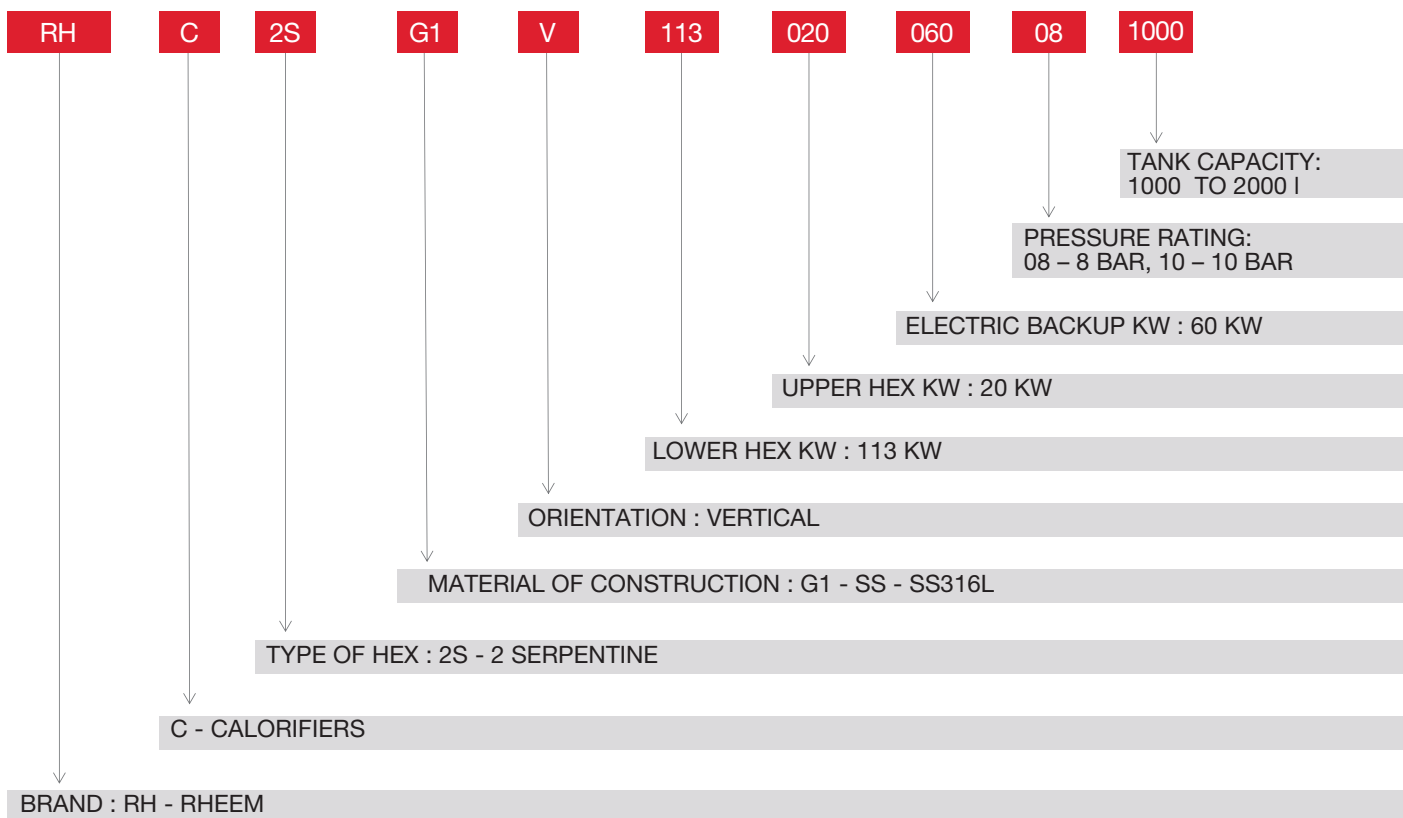
		Capacity - L	200	300	500	800	1000	1500	2000
Working pressure	Stainless Steel tank	bar	ATM-8*	ATM-8*	ATM-8*	ATM-8*	ATM-8*	ATM-8*	ATM-8*
	Spiral coil	bar	ATM-10	ATM-10	ATM-10	ATM-10	ATM-10	ATM-10	ATM-10
Working temperature	Tank	°C	AMB-99	AMB-99	AMB-99	AMB-99	AMB-99	AMB-99	AMB-99
	Spiral coil	°C	AMB-110	AMB-110	AMB-110	AMB-110	AMB-110	AMB-110	AMB-110

*ATM -10 optional

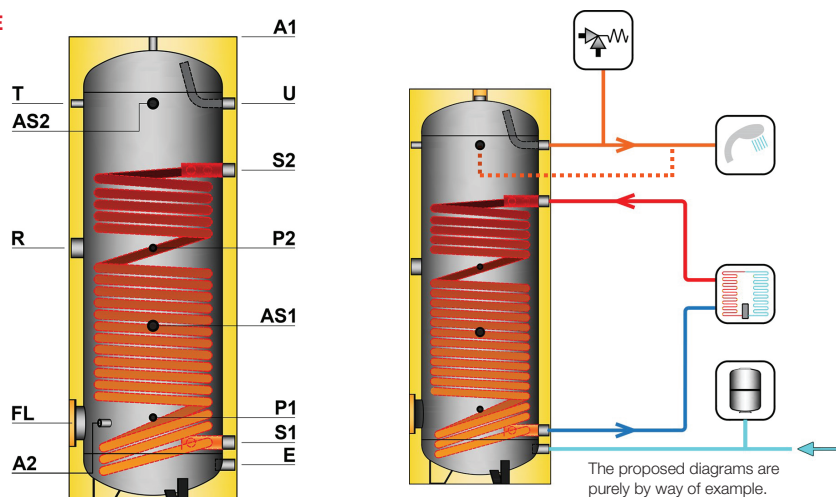
1S Nomenclature - 50HZ



2S Nomenclature - 50HZ



INSTALLATION EXAMPLE

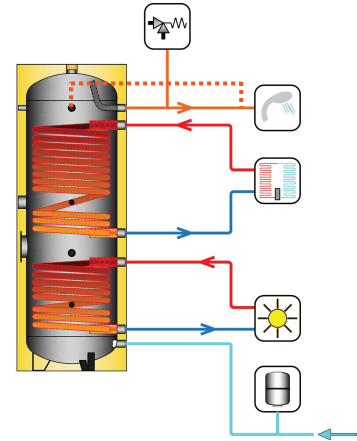
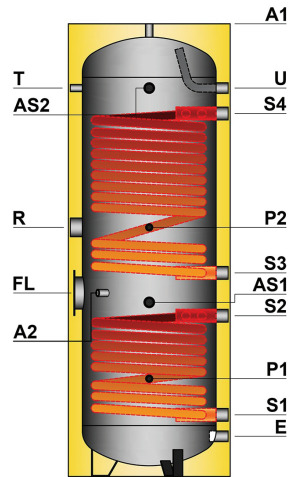


RHC 1 SERPENTINE

RHC 1 Serpentine	Capacity	200	300	500	800	1000	1500	2000
DIMENSIONS								
Diameter without insulation	mm	500	500	650	790	790	1000	1200
Diameter with insulation	mm	610	610	760	970	970	1200	1400
Maximum height	mm	1290	1650	1740	1835	2085	2225	2315
Overturning height with/without insulation	mm	1427 —	1759 —	1899 —	1970 1852	2202 2096	2397 2245	2540 2343
CONNECTIONS								
E Cold water inlet	mm Ø	150 1"	150 1"	195 1"	235 1 1/4"	235 1 1/4"	320 2"	370 2"
U Hot water outlet	mm Ø	1035 1"	1395 1"	1440 1"	1470 1 1/4"	1720 1 1/4"	1825 2"	1865 2"
R Immersion electric heater	mm Ø	675 2"	920 2"	920 2"	915 2"	1095 2"	1180 2"	1135 2"
P1 Sensor	mm Ø	335 1/2"	325 1/2"	375 1/2"	435 1/2"	435 1/2"	640 1/2"	615 1/2"
P2 Sensor	mm Ø	675 1/2"	920 1/2"	920 1/2"	915 1/2"	1095 1/2"	1180 1/2"	1135 1/2"
AS1 Spare	mm Ø	235 1"	595 1"	640 1"	680 1"	930 1"	1025 1"	1035 1"
AS2 Spare / Recirculation	mm Ø	1035 1"	1395 1"	1440 1"	1480 1"	1730 1"	1825 1"	1835 1"
T Thermometer	mm Ø	1035 1/2"	1395 1/2"	1440 1/2"	1480 1/2"	1730 1/2"	1825 1/2"	1865 1/2"
A1 Anode	mm Ø	1290 1/2"	1650 1/2"	1740 1/2"	1835 1/2"	2085 1/2"	2225 1/2"	2315 1/2"
A2 Anode	mm Ø	—	—	—	—	—	640 1/2"	710 1/2"
S1 Spiral coil primary outlet	mm Ø	230 1 1/4"	235 1 1/4"	295 1 1/4"	325 1 1/4"	325 1 1/4"	480 2"	570 2"
S2 Spiral coil primary inlet	mm Ø	965 1 1/4"	1215 1 1/4"	1285 1 1/4"	1295 1 1/4"	1600 1 1/4"	1670 2"	1625 2"
FL Inspection opening	mm	305	305	340	405	405	570	660
	Ø mm	120x180	120x180	120x180	120x180	120x180	220x300	220x300
PERFORMANCE								
Spiral coil surface area	m ²	3,0	4,2	6,0	7,5	10,0	12,0	13,0
Spiral coil output (Primary 50/45°C - Secondary 10/45°C)	kW	21	29	42	52	70	84	91
DHW continuous flow 10/45°C	l/h	516	720	1029	1286	1714	2057	2229
WEIGHT								
Empty weight	kg	125	134	186	277	331	398	471

NOTE: All the measurements of the hydraulic connections are considered "from the ground" - All the threads are female GAS type, unless otherwise specified. Tanks higher than 2200mm are packaged horizontally.

INSTALLATION EXAMPLE



The proposed diagrams are purely by way of example.

RHC 2 SERPENTINE

RHC 2 SERPENTINE	Capacity	300	500	800	1000	1500	2000
DIMENSIONS							
Diameter without insulation	mm	500	650	790	790	1000	1200
Diameter with insulation	mm	610	760	970	970	1200	1400
Maximum height	mm	1650	1740	1835	2085	2225	2315
Overturning height / insulation	mm	1759 —	1899 —	197 852	2202 2096	2397 2245	2540 2343
CONNECTIONS							
E Cold water inlet	mm Ø	150 1"	195 1"	235 1 1/4"	235 1 1/4"	320 2"	370 2"
U Hot water outlet	mm Ø	1395 1"	1440 1"	1470 1 1/4"	1720 1 1/4"	1825 2"	1865 2"
R Immersion electric heater	mm Ø	905 2"	940 2"	1045 2"	1125 2"	1365 2"	1380 2"
P1 Sensor	mm Ø	360 1/2"	430 1/2"	435 1/2"	435 1/2"	595 1/2"	640 1/2"
P2 Sensor	mm Ø	905 1/2"	940 1/2"	1045 1/2"	1125 1/2"	1365 1/2"	1380 1/2"
AS1 Spare	mm Ø	600 1"	640 1"	680 1"	930 1"	1025 1"	1035 1"
AS2 Spare / Recirculation	mm Ø	1400 1"	1440 1"	1480 1"	1730 1"	1825 1"	1835 1"
T Thermometer	mm Ø	1400 1/2"	1440 1/2"	1480 1/2"	1730 1/2"	1825 1/2"	1865 1/2"
A1 Anode	mm Ø	1650 1/2"	1740 1/2"	1835 1/2"	2085 1/2"	2225 1/2"	2315 1/2"
A2 Anode	mm Ø	—	—	—	—	910 1/2"	1035 1/2"
S1 Lower Spiral coil primary outlet	mm Ø	225 1 1/4"	285 1 1/4"	325 1 1/4"	325 1 1/4"	435 1 1/2"	500 1 1/2"
S2 Lower Spiral coil primary inlet	mm Ø	595 1 1/4"	595 1 1/4"	605 1 1/4"	645 1 1/4"	805 1 1/2"	845 1 1/2"
S3 Upper Spiral coil primary outlet	mm Ø	725 1 1/4"	715 1 1/4"	760 1 1/4"	800 1 1/4"	1015 1 1/2"	1080 1 1/2"
S4 Upper Spiral coil primary inlet	mm Ø	1320 1 1/4"	1360 1 1/4"	1365 1 1/4"	1615 1 1/4"	1715 1 1/2"	1680 1 1/2"
FL Inspection opening	mm	665	640	680	725	910	970
	Ø mm	120x180	120x180	120x180	120x180	220x300	220x300
PERFORMANCE							
Lower Spiral coil surface area	m ²	1.7	1.8	2.0	3.0	4.5	5.0
Upper Spiral coil output (Primary 50/45°C - Secondary 10/45°C)	kW	50	53	59	89	133	149
DHW continuous flow 10/45°C	l/h	1239	1311	1457	2186	3279	3649
Upper Spiral coil surface area	m ²	2.5	4.1	6.0	6.0	7.0	8.0
Lower Spiral coil output (Primary 50/45°C - Secondary 10/45°C)	kW	17	29	35	42	49	56
DHW continuous flow 10/45°C	l/h	429	703	857	1029	1200	1371
WEIGHT							
Empty weight	kg	145	196	264	321	389	469

NOTE: All the measurements of the hydraulic connections are considered "from the ground" - All the threads are female GAS type, unless otherwise specified. Tanks higher than 2200mm are packaged horizontally.

RHC 1 SERPENTINE - SINGLE COIL OUTPUT

Primary (60-50)°C | Secondary (10-45)°C

Tank capacity Litres	HP coil surface area m²	Max. output kW	Primary flow Litres/Hour
200	3,0	48	4128
300	4,2	67	5775
500	6,0	96	8256
800	7,5	120	10313
1000	10,0	160	13750
1500	12,0	192	16500
2000	13,0	208	17875

SECONDARY (DHW)

Continuous flow Litres/Hour	Output first 10' Litres	Output first 60' Litres
1180	397	1380
1650	575	1950
2357	893	2857
2946	1291	3746
3929	1655	4929
4714	2286	6214
5107	2851	7107

Primary (55-45)°C | Secondary (10-45)°C

Tank capacity Litres	HP coil surface area m²	Max. output kW	Primary flow Litres/Hour
200	3,0	31	2666
300	4,2	44	3780
500	6,0	63	5400
800	7,5	78	6750
1000	10,0	105	9000
1500	12,0	126	10800
2000	13,0	136	11700

SECONDARY (DHW)

Continuous flow Litres/Hour	Output first 10' Litres	Output first 60' Litres
762	327	962
1080	480	1380
1543	757	2043
1929	1121	2729
2571	1429	3571
3086	2014	4586
3343	2557	5343

Primary (50-45)°C | Secondary (10-45)°C

Tank capacity Litres	HP coil surface area m²	Max. output kW	Primary flow Litres/Hour
200	3,0	21	3612
300	4,2	29	5040
500	6,0	42	7200
800	7,5	52	9000
1000	10,0	70	12000
1500	12,0	84	14400
2000	13,0	91	15600

SECONDARY (DHW)

Continuous flow Litres/Hour	Output first 10' Litres	Output first 60' Litres
516	286	716
720	420	1020
1029	671	1529
1286	1014	2086
1714	1286	2714
2057	1843	3557
2229	2371	4229

RHC 2 SERPENTINE - UPPER COIL OUTPUT (HP)**Primary (65-50)°C | Secondary (10-45)°C**

Tank capacity Litres	HP coil surface area m²	Max. output kW	Primary flow Litres/Hour
300	2,5	44	2500
500	4,1	72	4100
800	5,0	87	5000
1000	6,0	105	6000
1500	7,0	122	7000
2000	8,0	140	8000

Primary (55-45)°C | Secondary (10-45)°C

Tank capacity Litres	HP coil surface area m²	Max. output kW	Primary flow Litres/Hour
300	2,5	26	2250
500	4,1	43	3690
800	5,0	52	4500
1000	6,0	63	5400
1500	7,0	73	6300
2000	8,0	84	7200

Primary (50-45)°C | Secondary (10-45)°C

Tank capacity Litres	HP coil surface area m²	Max. output kW	Primary flow Litres/Hour
300	2,5	17	3000
500	4,1	29	4920
800	5,0	35	6000
1000	6,0	42	7200
1500	7,0	49	8400
2000	8,0	56	9600

SECONDARY (DHW)

Continuous flow Litres/Hour	Output first 10' Litres	Output first 60' Litres
1071	479	1371
1757	793	2257
2143	1157	2943
2571	1429	3571
3000	2000	4500
3429	2571	5429

SECONDARY (DHW)

Continuous flow Litres/Hour	Output first 10' Litres	Output first 60' Litres
643	407	943
1054	676	1554
1286	1014	2086
1543	1257	2543
1800	1800	3300
2057	2343	4057

SECONDARY (DHW)

Continuous flow Litres/Hour	Output first 10' Litres	Output first 60' Litres
429	371	729
703	617	1203
857	943	1657
1029	1171	2029
1200	1700	2700
1371	2229	3371

RHC 2 SERPENTINE - LOWER COIL OUTPUT (Additional heating source)**Primary (75-65)°C | Secondary (10-45)°C**

Tank capacity Litres	HP coil surface area m²	Max. output kW
300	1,7	50
500	1,8	53
800	2,0	59
1000	3,0	89
1500	4,5	133
2000	5,0	149

SECONDARY (DHW)

Primary flow Litres/Hour	Continuous flow Litres/Hour
4335	1239
4590	1311
5100	1457
7650	2186
11475	3279
12771	3649

Primary (70-60)°C | Secondary (10-45)°C

Tank capacity Litres	HP coil surface area m²	Max. output kW
300	1,7	41
500	1,8	43
800	2,0	48
1000	3,0	72
1500	4,5	108
2000	5,0	120

SECONDARY (DHW)

Primary flow Litres/Hour	Continuous flow Litres/Hour
3506	1002
3713	1061
4175	1179
6188	1768
9281	2652
10313	2946

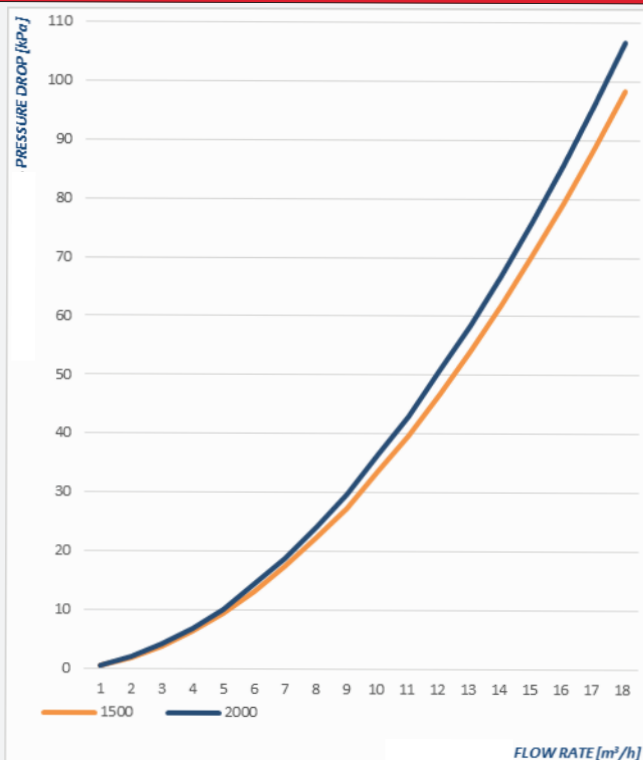
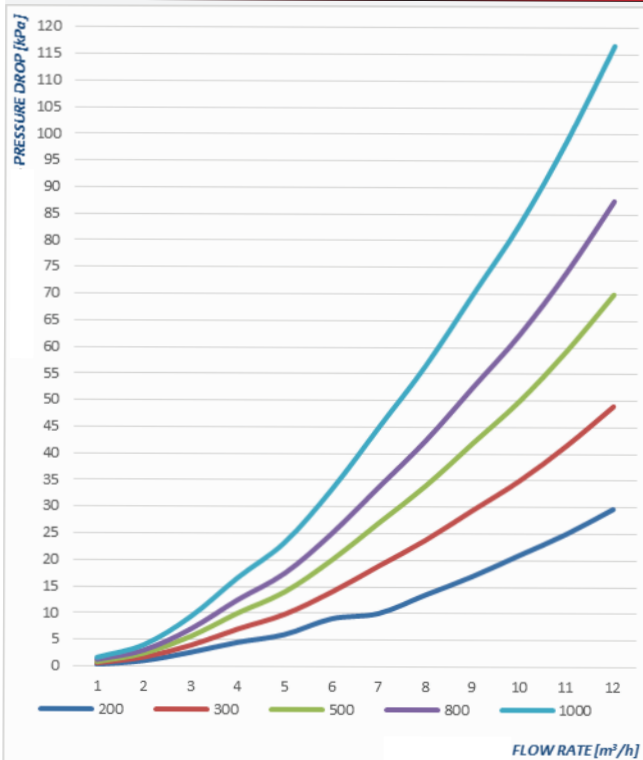
Primary (60-50)°C | Secondary (10-45)°C

Tank capacity Litres	HP coil surface area m²	Max. output kW
300	1,7	30
500	1,8	31
800	2,0	35
1000	3,0	52
1500	4,5	78
2000	5,0	87

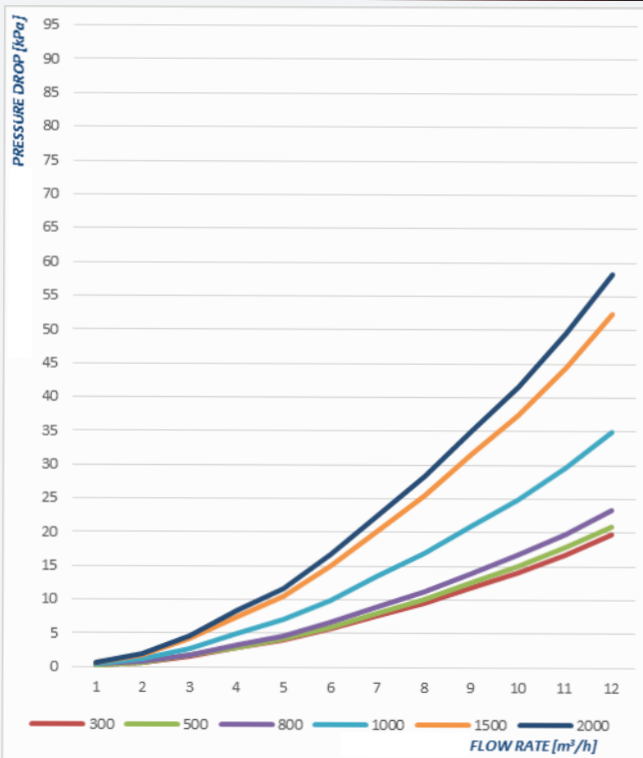
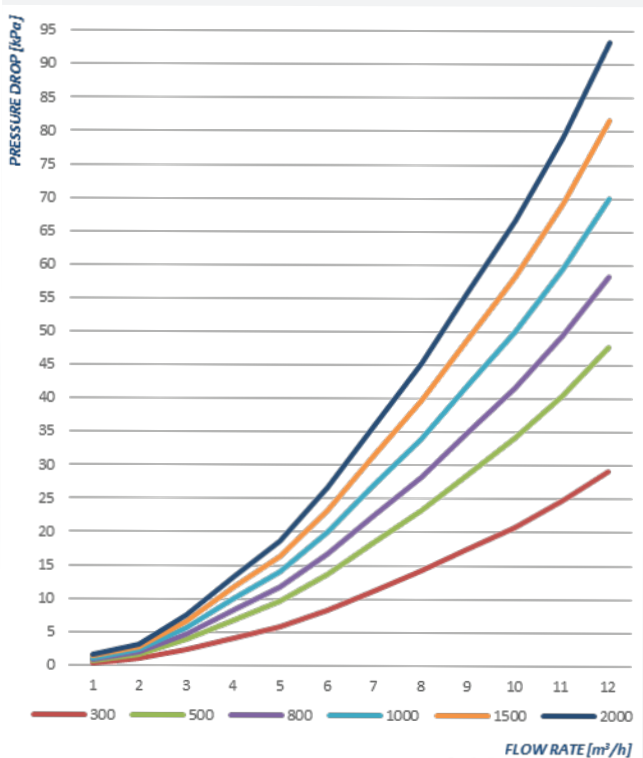
SECONDARY (DHW)

Primary flow Litres/Hour	Continuous flow Litres/Hour
1700	729
1800	771
2000	857
3000	1286
4500	1929
5010	2147

RHC 1 SERPENTINE - UPPER COIL OUTPUT (HP)



RHC 2 SERPENTINE - UPPER COIL OUTPUT (HP)



ACCESSORIES & SPARE PARTS

- THERMOMETER Ø65 mm | L=50 mm | (0÷120)°C
- SENSOR POCKET Ø1/2" | L=50mm | Øint 10mm
- THERMOSTAT Ø1/2" (0-90)°C
- TITANIUM ANODE SET | 200 - 500 L
- TITANIUM ANODE SET | 800 - 1000 L
- TITANIUM ANODE SET | 1500 - 2000 L



THERMOMETER



SENSOR POCKET



THERMOSTAT



TITANIUM ANODE

IMMERSION ELECTRIC HEATERS 3-1 PHASE—SS316L / INCOLOY Screw connection 2" | Aluminium box IP55 | V400/230

Power <i>Watt</i>	Tank capacity <i>L</i>	Lenght <i>mm</i>
2000	200-2000	280
3000	200-2000	380
5000	200-2000	500
6000	300-2000	600
9000	500-2000	680
10000	500-2000	680
12000	800-2000	820



ANTI-CORROSION PROTECTION STEEL TREATMENTS

DHW storage tanks made of Stainless Steel 316L are treated with full immersion pickling procedures and subsequent passivation to ensure the highest hygiene standards.

CATHODIC PROTECTION

The corrosion of a metal structure occurs mainly in areas in which there is the passage of current (oxidation-reduction process) from the structure towards the outside (water or gas) causing a dissolution of the structure itself.

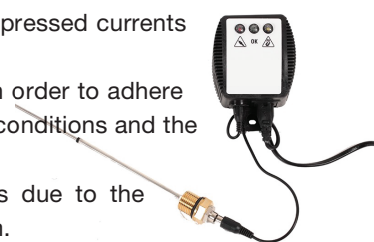
Cathodic protection by means of electronic impressed current system.

As an alternative to the galvanic system (coupling of materials with different potentials) there is a protection method which consists in applying an equal and opposite continuous current to the metallic structure to be protected, neutralising the voltages formed inside the tank.

Thanks to the modern techniques there is an innovative electronic system of cathodic protection with continuous impressed current.

The main advantages are:

- Active protection by means of impressed currents from the outside
- Excellent flexibility of operation in order to adhere to the changeable internal coating conditions and the mass of water
- Reduction of maintenance costs due to the permanent protection of the system.



INSULATION

Insulating material	Removable	Thickness	Density	Thermal conductivity coefficient at 45°C	Operating temperature	Fire reaction class Euroclass EN13501-1
PLFH High density polyester fibre	✓	100 mm	25 kg/m³	$\lambda = 0,034 \text{ W/mK}$	Amb. / +99°C	B-s2, d0
Hard polyurethane shells	✓	75 - 85 mm	40 - 42 kg/m³	$\lambda = 0,019 \text{ W/mK}$	Amb. / +99°C	F
Hard polyurethane injected	✗	55 mm	40 - 42 kg/m³	$\lambda = 0,019 \text{ W/mK}$	-10°C / +99°C	F

PLFH / PLF – Polyester fibre

- 100% recyclable
- Environmental friendly
- Lightweight
- Self-supporting
- Fire-retardant
- Rot-proof
- Resistant to mould, bacteria or rodents
- Hypoallergenic
- Water repellent

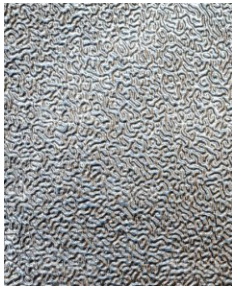


Hard foam Polyurethane

Thermal and anti-condensation insulation made of hard closed cell polyurethane foam (PU), free from CFC and HCFC.

It is available in various thickness and can be injected directly to the shell of the tank to prevent it from condensation and provide the lower thermal dispersion. For some sizes it is pre-formed into half-shells to ease the insulation removal in case the tank has to pass through narrow doors.

CLADDINGS



ALUMINIUM

External cladding made of embossed aluminium sheeting suitable also for outdoor installations. The insulations made with this type of cladding consist of panels joined together by means of rivets and extruded aluminium slats with an exclusive design, specifically designed to facilitate assembly even directly at the installation site.

The coverings and flange covers made of same material securely anchored to the insulation guarantee the same levels of quality in terms of duration and outside appearance and do not risk being damaged by the wind and adverse weather conditions.



The new degree of comfort.®



@rheemmea



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