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# RHC 1U

SS316L CALORIFIER WITH  
1 UTUBE BUNDLE COIL



## CONSTRUCTION



RHC 1U

TANK MATERIAL	STAINLESS STEEL AISI 316L
INTERNAL SURFACE TREATMENT	PICKLING AND PASSIVATION
EXTERNAL SURFACE TREATMENT	PICKLING AND PASSIVATION
CAPACITY	500-10000 L
VERSION	VERTICAL
CONNECTIONS	THREADED
PRIMARY CHEST MATERIAL	STAINLESS STEEL AISI 316L
SPIRAL COIL MATERIAL	STAINLESS STEEL AISI 316L
INSULATION   500 L	HARD POLYURETHANE 80 MM INJECTED
INSULATION   800 - 2000 L	• PLFH 100 MM • HIGH DENSITY ECO-FRIENDLY POLYESTER FIBER
INSULATION   2500 - 5000 L	• PLF 50 MM • ECO-FRIENDLY POLYESTER FIBER
CLADDING	• LIGHT GREY RAL7035 • ALUMINIUM
ANODE TYPE	—
ACCESSORIES (FACTORY FITTED)	THERMOMETER

## STANDARD WORKING CONDITIONS

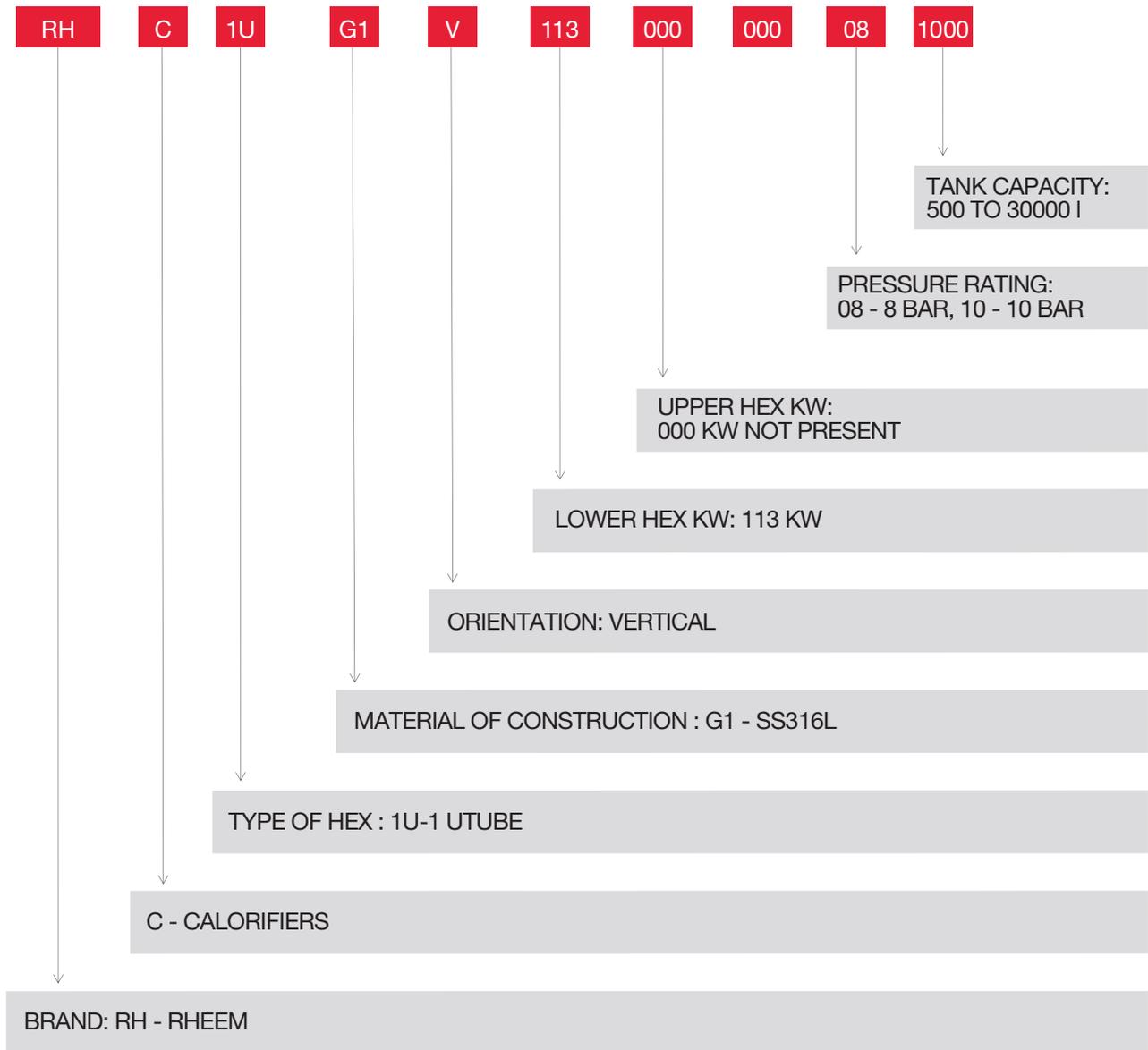
	Capacity-L	500	800	1000	1500	2000	2500	3000	4000	5000
Tank working pressure	bar	ATM-8*								
Coil working pressure	bar	ATM-12								
Tank working temperature	°C	AMB-99								
Coil working temperature	°C	AMB-99								

\*ATM -10 optional

Calorifiers made of Stainless Steel AISI 316L pickled and passivated with one removable tube bundle coil for production and storage of DHW. Designed for connection to a single primary energy source.

The calorifiers of the RHC 1U range stand out for the wide choice of capacities, from 500L to 10,000L as standard and over upon request.

# 1U Nomenclature - 60HZ



# CALORIFIER -1 UTUBE BUNDLE

## GENERAL CHARACTERISTICS - VERTICAL STANDARD VERSION

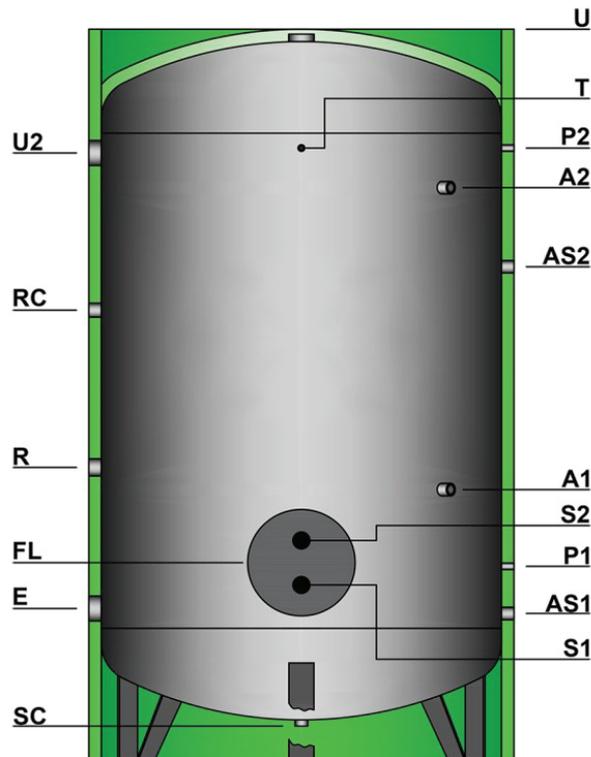
	Capacity-L	500	800	1000	1500
<b>DIMENSIONS</b>					
Diameter without insulation	mm	650	800	800	1000
Diameter with insulation	mm	810	1000	1000	1200
Overall height	mm	1844	1950	2200	2245
Overturning height with   without insulation	mm	2014   —	2080   1918	2316   2166	2415   2240
<b>CONNECTIONS</b>					
E Cold water supply	mm   Ø	384   1½"	420   2"	420   2"	480   2½"
U DHW return	mm   Ø	1844   1½"	1950   2"	2200   2"	2245   2½"
U2 DHW additional return	mm   Ø	—	—	—	—
RC Recirculation	mm   Ø	1259   1½"	1370   1½"	1405   1½"	1395   1½"
R Immersion electric heater	mm   Ø	804   2"	1010   2"	1010   2"	950   2"
P1 Sensor	mm   Ø	504   ½"	610   ½"	608   ½"	650   ½"
P2 Sensor	mm   Ø	1534   ½"	1550   ½"	1698   ½"	1680   ½"
T Thermometer	mm   Ø	1534   ½"	1550   ½"	1800   ½"	1840   ½"
A1 Anode	mm   Ø	884   ½"	920   ½"	608   ½"	860   ½"
A2 Anode	mm   Ø	—	—	—	1680   ½"
AS1 Spare	mm   Ø	384   1¼"	420   1¼"	418   1¼"	450   1¼"
AS2 Spare	mm   Ø	1184   1¼"	1220   1¼"	1818   1¼"	1850   1¼"
FL Heat exchanger manhole	mm   Ø	504   220x300	610   300x380	610   300x380	650   300x380
S1 Heat exchanger return	mm   Ø	444   1"	535   2"	535   2"	575   2"
S2 Heat exchanger supply	mm   Ø	564   1"	685   2"	685   2"	725   2"
SC Drain	mm   Ø	99   1¼"	95   1¼"	95   1¼"	130   1¼"

### PERFORMANCES

HEX surface area	m <sup>2</sup>	1.00	1.50	2.00	3.00
HEX output (Prim. 80/70°C - Sec. 10/45°C)	kW	36	54	72	108
DHW continuous flow 10/45°C	L/h	882	1323	1764	2646

### EMPTY WEIGHTS

Empty weight	kg	105	155	170	240
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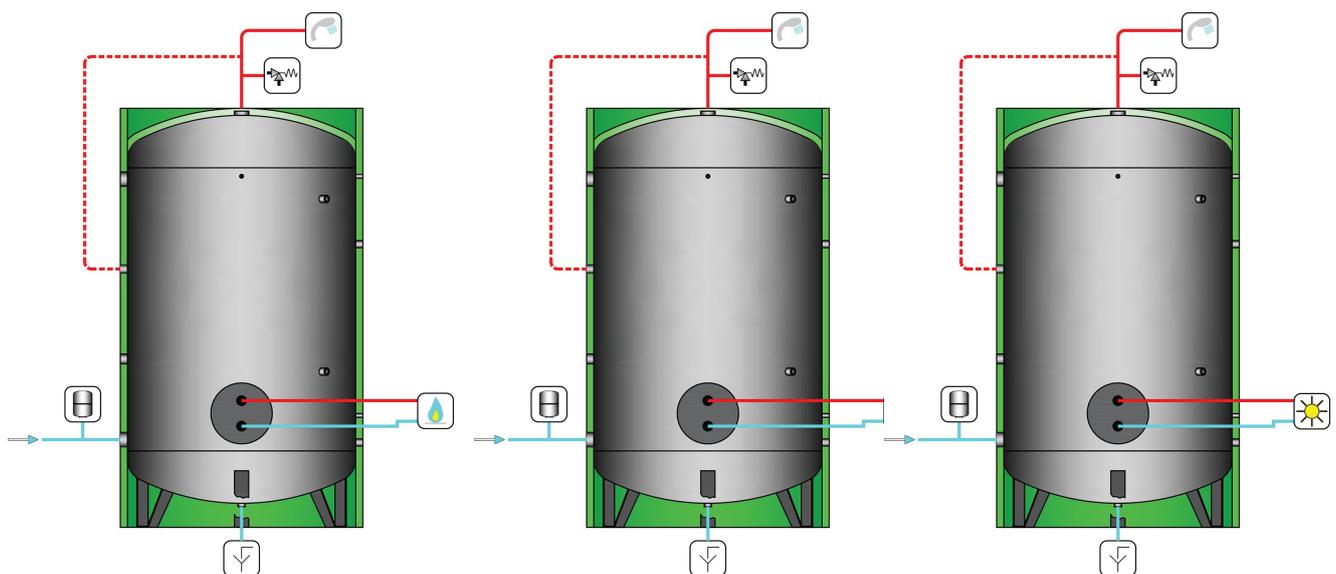
	Capacity		2000	2500	3000	4000	5000
<b>DIMENSIONS</b>							
Diameter without insulation	mm		1200	1200	1250	1400	1600
Diameter with insulation	mm		1400	1300	1350	1500	1700
Overall height	mm		2184	2590	2790	2869	2960
Overturning height with without insulation	mm		2418   2197	2773   2600	2976   2800	3088   2883	3232   2982
<b>CONNECTIONS</b>							
E Cold water supply	mm   Ø		504   2"½	530   3"	525   3"	559   3"	620   3"
U DHW return	mm   Ø		2184   2"½	2590   3"	2790   3"	2869   3"	2960   3"
U2 DHW additional return	mm   Ø		—	—	—	2399   3"	2460   3"
RC Recirculation	mm   Ø		1319   1"½	1645   1"½	1730   1"½	1764   1"½	1825   1"½
R Immersion electric heater	mm   Ø		899   2"	1100   2"	1095   2"	1129   2"	1190   2"
P1 Sensor	mm   Ø		649   ½"	700   ½"	695   ½"	729   ½"	790   ½"
P2 Sensor	mm   Ø		1714   ½"	2190   ½"	2385   ½"	2419   ½"	2480   ½"
T Thermometer	mm   Ø		1714   ½"	2190   ½"	2385   ½"	2419   ½"	2480   ½"
A1 Anode	mm   Ø		834   ½"	1010   ½"	1005   ½"	1039   ½"	1100   ½"
A2 Anode	mm   Ø		1554   ½"	2030   ½"	2225   ½"	2259   ½"	2320   ½"
AS1 Spare	mm   Ø		484   1"¼	510   1"¼	505   1"¼	539   1"¼	600   1"¼
AS2 Spare	mm   Ø		1284   1"¼	1910   1"¼	1905   1"¼	1939   1"¼	2000   1"¼
FL Heat exchanger manhole	mm   Ø		649   300x380	700   300x380	695   300x380	729   350x430	790   350x430
S1 Heat exchanger return	mm   Ø		574   2"	625   2"	620   2"	629   2"	690   2"
S2 Heat exchanger supply	mm   Ø		724   2"	775   2"	770   2"	829   2"	890   2"
SC Drain	mm   Ø		109   1"¼	135   1"¼	125   1"¼	114   1"¼	145   1"¼

<b>PERFORMANCES</b>							
HEX surface area	m <sup>2</sup>		4.00	5.00	6.00	8.00	10.00
HEX output (Prim. 80/70°C - Sec. 10/45°C)	kW		144	180	215	287	359
DHW continuous flow 10/45°C	L/h		3529	4411	5293	7057	8821

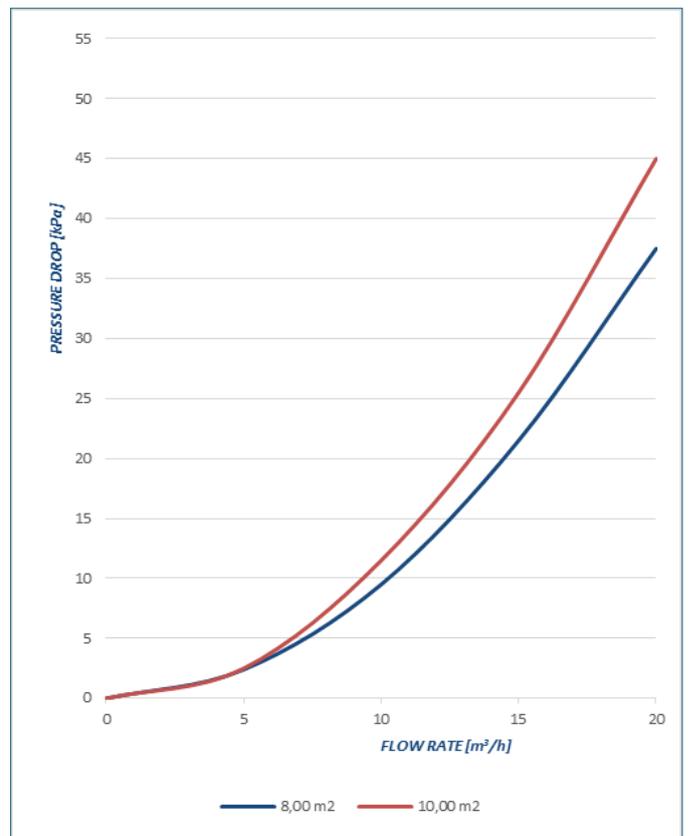
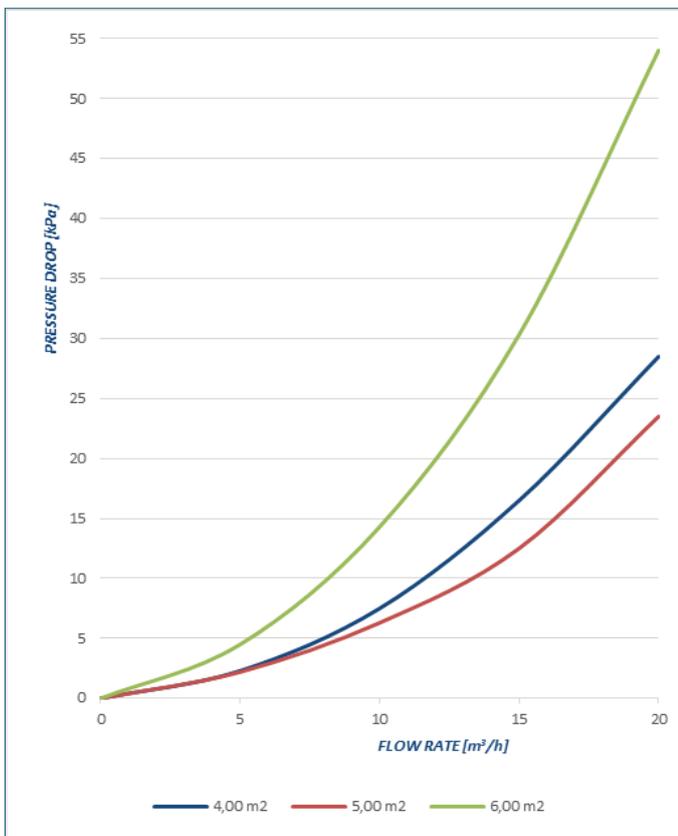
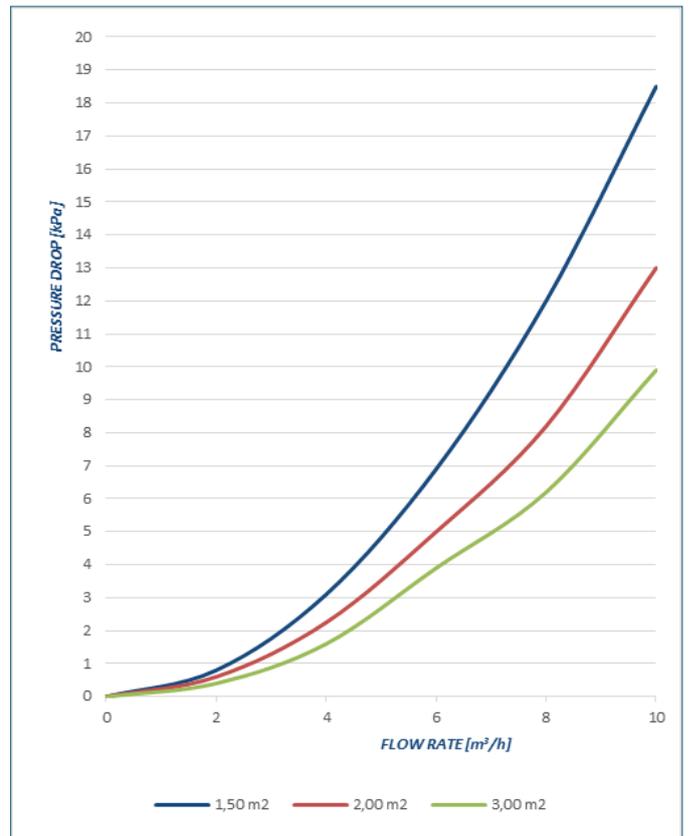
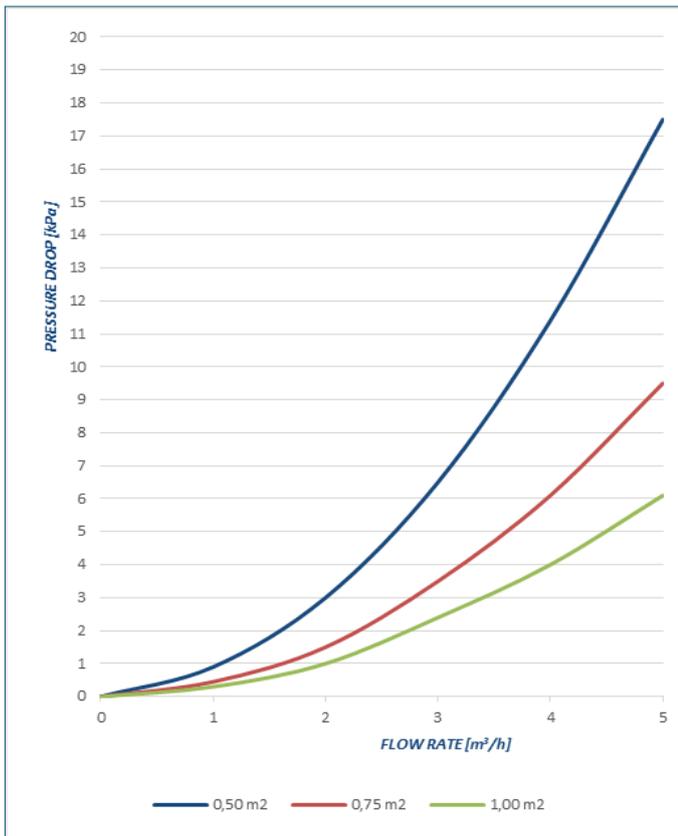
<b>EMPTY WEIGHTS</b>							
Empty weight	kg		295	365	405	580	640

Note: All the measurements of the connections are considered "from the ground". The thread are female GAS type, unless otherwise specified. The tanks higher than 2200mm are packaged horizontally.

## INSTALLATION ASSUMPTION



# HEAT EXCHANGER PRESSURE DROP



# TUBE BUNDLE COIL OUTPUT

## PRIMARY (80-70)°C | SECONDARY (10-45)°C

Storage Volume <i>L</i>	Heating Surface Area <i>m<sup>2</sup></i>	Max Output <i>kW</i>	Primary Airflow <i>L/h</i>
500	1,00	36	3088
800	1,50	54	4631
1000	2,00	72	6175
1500	3,00	108	9263
2000	4,00	144	12350
2500	5,00	180	15438
3000	6,00	215	18525
4000	8,00	287	24700
5000	10,00	359	30875

## SECONDARY (DHW)

Continuous production <i>L/h</i>	Production First 10' <i>L</i>	Production First 60' <i>L</i>
882	647	1382
1323	1021	2123
1764	1294	2764
2646	1941	4146
3529	2588	5529
4411	3235	6911
5293	3882	8293
7057	5176	11057
8821	6470	13821

## PRIMARY (70-60)°C | SECONDARY (10-45)°C

Storage Volume <i>L</i>	Heating Surface Area <i>m<sup>2</sup></i>	Max Output <i>kW</i>	Primary Airflow <i>L/h</i>
500	1,00	26	2250
800	1,50	39	3375
1000	2,00	52	4500
1500	3,00	78	6750
2000	4,00	105	9000
2500	5,00	131	11250
3000	6,00	157	13500
4000	8,00	209	18000
5000	10,00	262	22500

## SECONDARY (DHW)

Continuous	Production First 10' <i>L</i>	Production First 60' <i>L</i>
643	607	1143
964	961	1764
1286	1214	2286
1929	1821	3429
2571	2429	4571
3214	3036	5714
3857	3643	6857
5143	4857	9143
6429	6071	11429

## PRIMARY (60-50)°C | SECONDARY (10-45)°C

Storage Volume <i>L</i>	Heating Surface Area <i>m<sup>2</sup></i>	Max Output <i>kW</i>	Primary Airflow <i>L/h</i>
500	1,00	18	1513
800	1,50	26	2269
1000	2,00	35	3025
1500	3,00	53	4538
2000	4,00	70	6050
2500	5,00	88	7563
3000	6,00	106	9075
4000	8,00	141	12100
5000	10,00	176	15125

## SECONDARY (DHW)

Continuous production <i>L/h</i>	Production First 10' <i>L</i>	Production First 60' <i>L</i>
432	572	932
648	908	1448
864	1144	1864
1296	1716	2796
1729	2288	3729
2161	2860	4661
2593	3432	5593
3457	4576	7457
4321	5720	9321

## ACCESSORIES & SPARE PARTS

- THERMOMETER Ø65mm | L=150MM | (0-120)°C
- THERMOMETER Ø100mm | L=150 mm | (0-120)°C
- SENSOR SOCKET Ø1½" | L=150 mm | Ø<sub>int</sub> 10mm
- THERMOSTAT Ø1½" (0-90)°C
- ELECTRONIC ANODEKIT 200-500 L
- ELECTRONIC ANODE KIT 800-1000 L
- ELECTRONIC ANODE KIT 1500-5000 L



THERMOMETER



PROBE SOCKET



THERMOSTAT



ELECTRONIC ANODE

## IMMERSION ELECTRIC HEATERS 1/3 PHASE SS316L / INCOLOY

Screw connection 2" | Aluminium box IP55 | V400/230

**TABLE 1: POWER (WATT), TANK CAPACITY (RT) AND LENGTH (MM)**

Power Watt	Tank capacity L	Length mm
2000	500-5000	280
3000	500-5000	380
5000	500-5000	500
6000	500-5000	600
9000	500-5000	680
10000	500-5000	680
12000	500-5000	820



## TUBE BUNDLE HEAT EXCHANGERS

Heating surface area	Dimensions	
	D	L
<i>m</i> <sup>2</sup>	<i>mm</i>	<i>mm</i>
0,50	300	445
0,75	300	445
1,00	300	473
1,50	380	594
2,00	380	594
3,00	380	718
4,00	380	850
5,00	380	1050
6,00	380	1250
8,00	430	1250
10,00	430	1510



## 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.



## INSULATIONS

Insulating material	Removable	Thickness	Density	Thermal conductivity coefficient at 45°C	Operating temperature	Fire reaction class Euroclass EN13501-1
PLF Polyester fibre	✓	50 mm	20 kg/m <sup>3</sup>	$\lambda = 0,037$ W/mK	Amb. / +99°C	B-s2, d0
PLFH High Density Polyester fibre	✓	100 mm	25 kg/m <sup>3</sup>	$\lambda = 0,034$ W/mK	Amb. / +99°C	B-s2, d0
Injected Hard Polyurethane	✗	80 mm	40-42 kg/m <sup>3</sup>	$\lambda = 0,019$ 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.



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