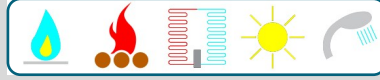


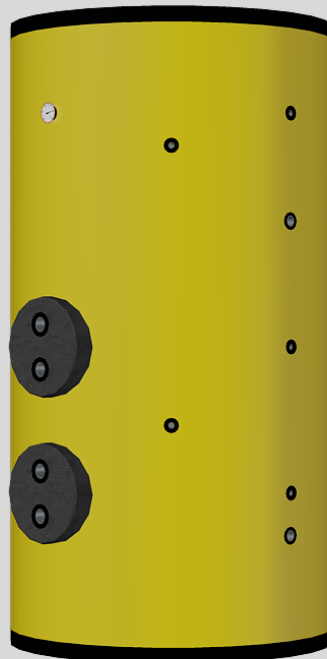
dal 1968



SCAMBIATORI - BOLLITORI - SERBATOI



# BT2H-X - BT2-X



STAINLESS STEEL DHW CALORIFIER EQUIPPED WITH TWO  
REMOVABLE TUBE BUNDLE HEAT EXCHANGERS

# STAINLESS STEEL DHW CALORIFIER EQUIPPED WITH TWO REMOVABLE TUBE BUNDLE HEAT EXCHANGERS

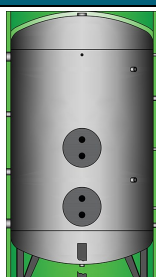
Calorifiers made of Stainless Steel AISI 316L pickled and passivated with two removable tube bundle heat exchangers for production and storage of DHW. Designed for connection to one or two different primary energy sources.

The two heat exchangers, with equal heating surface area, are positioned in the lower and middle areas of the tank and allow the use of a single energy source by connecting them together; This allows double the yield compared to a calorifier equipped with one tube bundle heat exchanger, so that the connected source can be exploited to the full. This solution is particularly recommended with Heat Pump or low-temperature primary source. In the case of two different energy sources the configuration of **BT2H-X** | **BT2-X** guarantees high thermal output for both, ensuring the production of a large quantity of DHW.

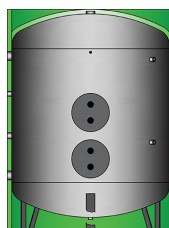
The calorifiers of the **BT2H-X** | **BT2-X** range stand out for the wide choice of capacities, from 1000 to 5000 L as standard and over upon request. They are available, in the larger sizes, in vertical-low and vertical extra-low versions to allow them to be installed in circumstances where the available height is not sufficient for the standard measurement. The two tube bundle heat exchangers, made of Stainless Steel AISI 316L as standard.

The possibility of selecting between various operating pressures - up to 10 bar - and the availability of different external claddings for indoor or outdoor installation, extends their use to all the possible applications.

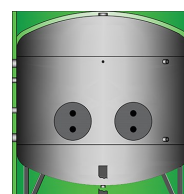
## CONSTRUCTION



**BT2H-X | BT2-X**



**BT2H-RX | BT2-RX**



**BT2-XX**

TANK MATERIAL	Stainless steel AISI 316L	Stainless steel AISI 316L	Stainless steel AISI 316L
INTERNAL SURFACE TREATMENT	Pickling and passivation	Pickling and passivation	Pickling and passivation
EXTERNAL SURFACE TREATMENT	Pickling and passivation	Pickling and passivation	Pickling and passivation
CAPACITY	1000 ÷ 5000 L	1500 ÷ 5000 L	3000 ÷ 5000 L
VERSION	Vertical	Vertical LOW-height	Vertical EXTRA-LOW height
CONNECTIONS	Threaded	Threaded	Threaded
REMOVABLE TUBE BUNDLE HEAT EXCHANGER MATERIAL	Stainless steel AISI 316L	Stainless steel AISI 316L	Stainless steel AISI 316L
PRIMARY CHEST MATERIAL	Stainless steel AISI 316L	Stainless steel AISI 316L	Stainless steel AISI 316L
INSULATION   1000 L	<b>Hard Polyurethane</b> 85mm removable shells	—	—
INSULATION   1500-2000 L	<b>PLFH</b> 120 mm High density eco-friendly polyester fiber	<b>PLFH</b> 120 mm High density eco-friendly polyester fiber	—
INSULATION   2500 ÷ 5000 L	<b>PLF</b> 50 mm Eco-friendly polyester fiber	<b>PLF</b> 50 mm Eco-friendly polyester fiber	<b>PLF</b> 50 mm Eco-friendly polyester fiber
CLADDING	<ul style="list-style-type: none"> <li>• Yellow PVC RAL1023</li> <li>• Aluminium</li> </ul>	<ul style="list-style-type: none"> <li>• Yellow PVC RAL1023</li> <li>• Aluminium</li> </ul>	<ul style="list-style-type: none"> <li>• Yellow PVC RAL1023</li> <li>• Aluminium</li> </ul>
ANODE TYPE	Electronic (optional)	Electronic (optional)	Electronic (optional)
ACCESSORIES	Thermometer	Thermometer	Thermometer

## Energy efficiency class - Regulation 812/2013 & 814/2013 | European Directive 2009/125/CE

		Capacity		1000	1500	2000
<b>BT2H-X</b>	Energy efficiency class			<b>C</b>	<b>C</b>	<b>C</b>
	Standing loss	S	W	127	166	189
	Storage volume	V	L	918	1483	1983
<b>BT2H-RX</b>	Energy efficiency class				<b>C</b>	<b>C</b>
	Standing loss	S	W		165	187
	Storage volume	V	L		1515	1978

## STANDARD WORKING CONDITIONS

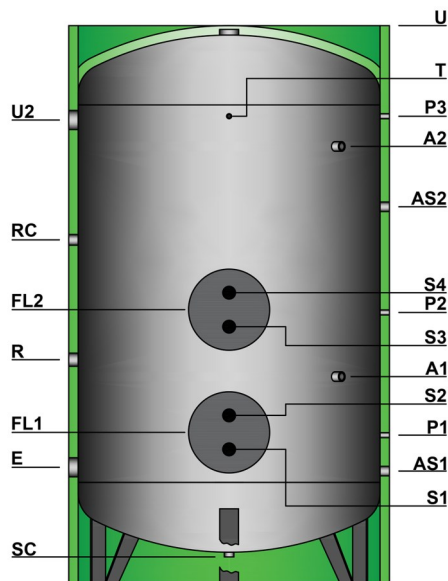
	Capacity	1000	1500	2000	2500	3000	4000	5000
Tank working pressure	bar	ATM ÷ 8	ATM ÷ 8	ATM ÷ 8	ATM ÷ 8	ATM ÷ 6	ATM ÷ 6	ATM ÷ 6
Tank working temperature	°C	AMB ÷ 99	AMB ÷ 99	AMB ÷ 99	AMB ÷ 99	AMB ÷ 99	AMB ÷ 99	AMB ÷ 99
Heat exchangers working pressure	bar	ATM ÷ 12	ATM ÷ 12	ATM ÷ 12	ATM ÷ 12	ATM ÷ 12	ATM ÷ 12	ATM ÷ 12
Heat exchangers working temperature	°C	AMB ÷ 99	AMB ÷ 99	AMB ÷ 99	AMB ÷ 99	AMB ÷ 99	AMB ÷ 99	AMB ÷ 99

## REGULATORY COMPLIANCE

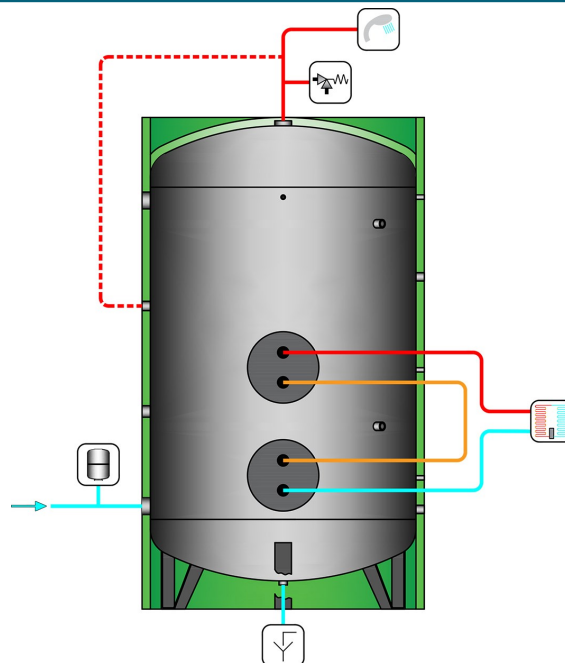
ErP - Reg. 812/2013 & Reg. 814/2013 | CE

European Pressure Equipment Directive (PED) 2014/68/UE | SEP (Sound Engineering Practice) - exclusion from CE marking - Art. 4.3

D.M. 174/04 or Reg. (CE) 1935/04 | Compatible with potable water



INSTALLATION ASSUMPTIONS



The proposed diagrams are purely indicative.

GENERAL CHARACTERISTICS - VERTICAL STANDARD VERSION

	Capacity - L	1000	1500	2000	2500	3000	4000	5000
<b>DIMENSIONS</b>								
Diameter without insulation	mm	800	1000	1200	1200	1250	1400	1600
Diameter with insulation	mm	970	1240	1440	1300	1350	1500	1700
Overall height	mm	2185	2265	2184	2590	2790	2869	2960
Overturning height with   without insulation	mm	2297   2201	2441   2270	2426   2197	2773   2595	2976   2795	3088   2878	3232   2977

CONNECTIONS

E Cold water supply	mm   Ø	420   2"	480   2"½	504   2"½	590   3"	525   3"	559   3"	620   3"
U DHW return	mm   Ø	2185   2"	2265   2"½	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	1405   1"½	1395   1"½	1319   1"½	1645   1"½	1730   1"½	1764   1"½	1825   1"½
R Immersion electric heater	mm   Ø	885   2"	950   2"	899   2"	1100   2"	1095   2"	1129   2"	1190   2"
P1 Sensor	mm   Ø	610   ½"	650   ½"	649   ½"	700   ½"	695   ½"	729   ½"	790   ½"
P2 Sensor	mm   Ø	1080   ½"	1150   ½"	1099   ½"	1300   ½"	1345   ½"	1379   ½"	1440   ½"
P3 Sensor	mm   Ø	1700   ½"	1680   ½"	1714   ½"	2190   ½"	2385   ½"	2419   ½"	2480   ½"
T Thermometer	mm   Ø	1800   ½"	1840   ½"	1714   ½"	2190   ½"	2385   ½"	2419   ½"	2480   ½"
A1 Anode	mm   Ø	810   ½"	860   ½"	834   ½"	1010   ½"	1005   ½"	1039   ½"	1100   ½"
A2 Anode	mm   Ø	—	1680   ½"	1554   ½"	2030   ½"	2225   ½"	2259   ½"	2320   ½"
AS1 Spare	mm   Ø	420   1"¼	450   1"¼	484   1"¼	510   1"¼	505   1"¼	539   1"¼	600   1"¼
AS2 Spare	mm   Ø	1820   1"¼	1850   1"¼	1284   1"¼	1910   1"¼	1905   1"¼	1939   1"¼	2000   1"¼
FL1 Lower heat exchanger manhole	mm	610	650	649	700	695	729	790
	Ø mm	300×380	300×380	300×380	300×380	300×380	350×430	350×430
FL2 Upper heat exchanger manhole	mm	1080	1150	1099	1300	1345	1379	1440
	Ø mm	300×380	300×380	300×380	300×380	300×380	350×430	350×430
S1 Lower heat exchanger return	mm   Ø	535   2"	575   2"	574   2"	625   2"	620   2"	629   2"	690   2"
S2 Lower heat exchanger supply	mm   Ø	685   2"	725   2"	724   2"	775   2"	770   2"	829   2"	890   2"
S3 Upper heat exchanger return	mm   Ø	1005   2"	1075   2"	1024   2"	1225   2"	1270   2"	1279   2"	1340   2"
S4 Upper heat exchanger supply	mm   Ø	1155   2"	1225   2"	1174   2"	1375   2"	1420   2"	1479   2"	1540   2"
SC Drain	mm   Ø	95   1"¼	130   1"¼	109   1"¼	135   1"¼	125   1"¼	114   1"¼	145   1"¼

TUBE BUNDLE HEAT EXCHANGERS PERFORMANCES

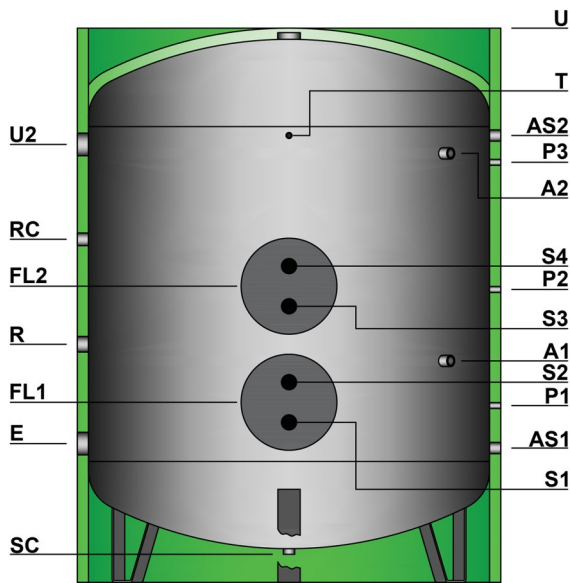
Lower heat exchanger heating surface area	m²	2,00	3,00	4,00	5,00	6,00	8,00	10,00
Lower HEX output (Prim. 80/70°C - Sec. 10/45°C)	kW	72	108	144	180	215	287	359
Upper heat exchanger heating surface	m²	2,00	3,00	4,00	5,00	6,00	8,00	10,00
Upper HEX output (Prim. 80/70°C - Sec. 10/45°C)	kW	72	108	144	180	215	287	359
DHW continuous flow 10/45°C	L/h	3529	5293	7057	8821	10586	14114	17643

EMPTY WEIGHTS

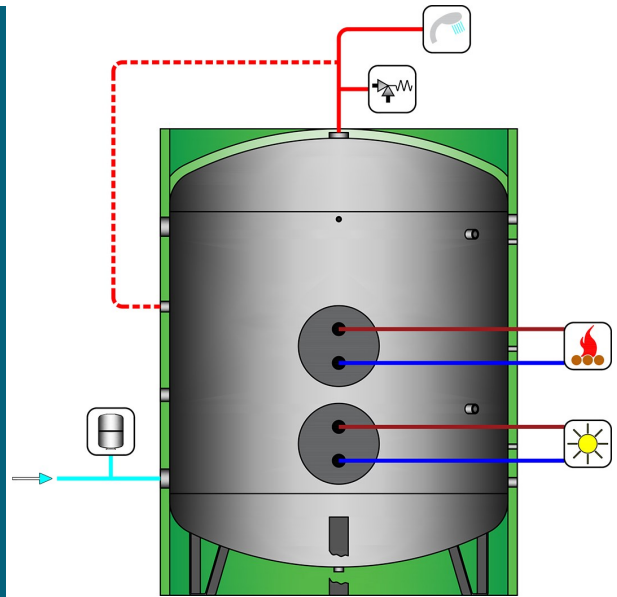
Empty weight	kg	230	305	365	430	525	720	805
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Note: All the measurements of the connections are considered "from the ground". The thread are female GAS type, unless otherwise specified. The tanks higher than 2200mm are packaged horizontally.





INSTALLATION ASSUMPTIONS



The proposed diagrams are purely indicative.

GENERAL CHARACTERISTICS - VERTICAL-LOW VERSION

	Capacity - L	1500	2000	2500	3000	4000	5000
<b>DIMENSIONS</b>							
Diameter without insulation	mm	1100	1250	1400	1400	1600	1800
Diameter with insulation	mm	1340	1490	1500	1500	1700	1900
Overall height	mm	2035	2039	2119	2369	2460	2483
Overturning height with   without insulation	mm	2264   2067	2319   2078	2410   2166	2632   2411	2771   2510	2874   2542

CONNECTIONS

E	Cold water supply	mm   Ø	485   2"½	504   2"½	559   3"	559   3"	620   3"	622   3"
U	DHW return	mm   Ø	2035   2"½	2039   2"½	2119   3"	2369   3"	2460   3"	2483   3"
U2	DHW additional return	mm   Ø	—	—	1649   3"	1899   3"	1960   3"	1962   3"
RC	Recirculation	mm   Ø	1235   1"½	1254   1"½	1309   1"½	1474   1"¼	1535   1"½	1537   1"¼
R	Immersion electric heater	mm   Ø	865   2"	884   2"	939   2"	1004   2"	1065   2"	1067   2"
P1	Sensor	mm   Ø	655   ½"	674   ½"	729   ½"	729   ½"	790   ½"	792   ½"
P2	Sensor	mm   Ø	1065   ½"	1084   ½"	1139   ½"	1199   ½"	1310   ½"	1312   ½"
P3	Sensor	mm   Ø	1595   ½"	1564   ½"	1669   ½"	1819   ½"	1880   ½"	1882   ½"
T	Thermometer	mm   Ø	1595   ½"	1564   ½"	1669   ½"	1939   ½"	2000   ½"	2002   ½"
A1	Anode	mm   Ø	870   ½"	889   ½"	944   ½"	929   ½"	990   ½"	992   ½"
A2	Anode	mm   Ø	1535   ½"	1504   ½"	1609   ½"	1859   ½"	1920   ½"	1922   ½"
AS1	Spare	mm   Ø	465   1"¼	484   1"¼	539   1"¼	539   1"¼	600   1"¼	602   1"¼
AS2	Spare	mm   Ø	1265   1"¼	1284   1"¼	1339   1"¼	1939   1"¼	2000   1"¼	2002   1"¼
FL1	Lower heat exchanger manhole	mm   Ø	655   300×380	674   300×380	729   300×380	729   300×380	790   350×430	792   350×430
FL2	Upper heat exchanger manhole	mm   Ø	1065   300×380	1084   300×380	1139   300×380	1199   300×380	1310   350×430	1312   350×430
S1	Lower heat exchanger return	mm   Ø	580   2"	599   2"	654   2"	654   2"	691   2"	693   2"
S2	Lower heat exchanger supply	mm   Ø	730   2"	749   2"	804   2"	804   2"	891   2"	893   2"
S3	Upper heat exchanger return	mm   Ø	990   2"	1009   2"	1064   2"	1124   2"	1211   2"	1213   2"
S4	Upper heat exchanger supply	mm   Ø	1140   2"	1159   2"	1214   2"	1274   2"	1411   2"	1413   2"
SC	Drain	mm   Ø	123   1"¼	106   1"¼	114   1"¼	114   1"¼	145   1"¼	126   1"¼

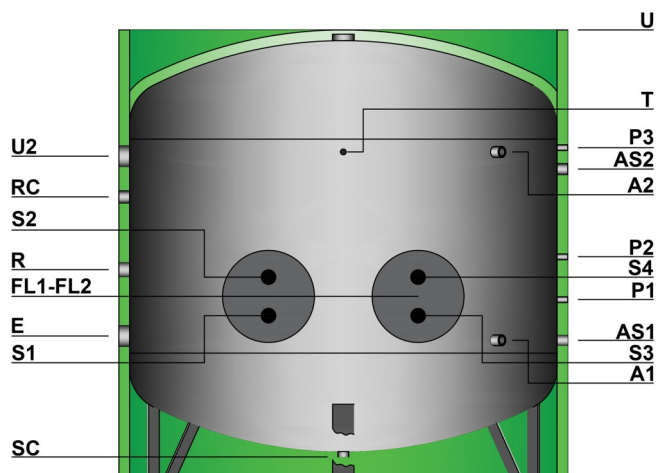
TUBE BUNDLE HEAT EXCHANGERS PERFORMANCES

Lower heat exchanger heating surface area	m²	3,00	4,00	5,00	6,00	8,00	10,00
Lower HEX output (Prim. 80/70°C - Sec. 10/45°C)	kW	108	144	180	215	287	359
Upper heat exchanger heating surface area	m²	3,00	4,00	5,00	6,00	8,00	10,00
Upper HEX output (Prim. 80/70°C - Sec. 10/45°C)	kW	108	144	180	215	287	359
DHW production 10/45°C	L/h	5293	7057	8821	10586	14114	17643

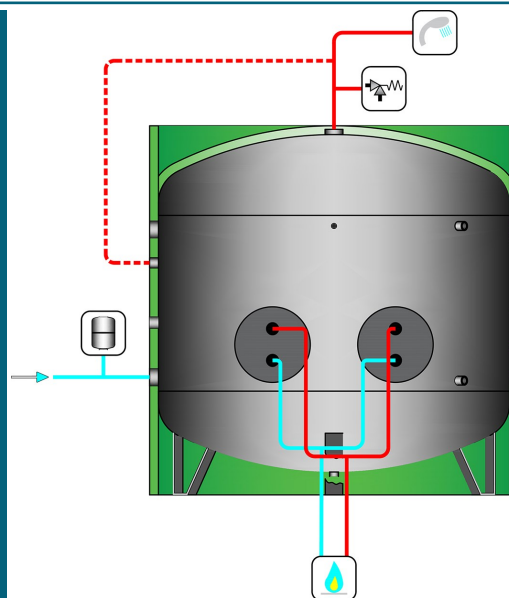
EMPTY WEIGHTS

Empty weight	kg	325	405	505	600	775	915
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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 ASSUMPTIONS



The proposed diagrams are purely indicative.

**GENERAL CHARACTERISTICS - VERTICAL EXTRA-LOW VERSION**

	Capacity- L	3000	4000	5000
<b>DIMENSIONS</b>				
Diameter without insulation	mm	1500	1700	2000
Diameter with insulation	mm	1600	1800	2100
Overall height	mm	2130	2190	2100
Overturning height with  without insulation	mm	2450   2158	2578   2249	2628   2179

<b>CONNECTIONS</b>			3000	4000	5000
E	Cold water supply	mm   Ø	558   3"	590   3"	670   3"
U	DHW return	mm   Ø	2130   3"	2190   3"	2100   3"
U2	DHW additional return	mm   Ø	1650   3"	1680   3"	1510   3"
RC	Recirculation	mm   Ø	1308   1"½	1370   1"½	1320   1"½
R	Immersion electric heater	mm   Ø	938   2"	1060   2"	1070   2"
P1	Sensor	mm   Ø	728   ½"	790   ½"	850   ½"
P2	Sensor	mm   Ø	1138   ½"	1010   ½"	1050   ½"
P3	Sensor	mm   Ø	1668   ½"	1700   ½"	1530   ½"
T	Thermometer	mm   Ø	1668   ½"	1700   ½"	1530   ½"
A1	Anode	mm   Ø	943   ½"	570   ½"	650   ½"
A2	Anode	mm   Ø	1668   ½"	1620   ½"	1530   ½"
AS1	Spare	mm   Ø	538   1"¼	570   1"¼	650   1"¼
AS2	Spare	mm   Ø	1337   1"¼	1370   1"¼	1450   1"¼
FL1	Lower heat exchanger manhole	mm   Ø	728   300×380	790   350×430	850   350×430
FL2	Upper heat exchanger manhole	mm   Ø	1138   300×380	790   350×430	850   350×430
S1	Lower heat exchanger return	mm   Ø	653   2"	691   2"	751   2"
S2	Lower heat exchanger supply	mm   Ø	803   2"	891   2"	951   2"
S3	Upper heat exchanger return	mm   Ø	1063   2"	691   2"	751   2"
S4	Upper heat exchanger supply	mm   Ø	1213   2"	891   2"	951   2"
SC	Drain	mm   Ø	103   1"¼	105   1"¼	105   1"¼

<b>TUBE BUNDLE HEAT EXCHANGERS PERFORMANCES</b>				
Lower heat exchanger heating surface area	m <sup>2</sup>	6,00	8,00	10,00
Lower HEX output (Prim. 80/70°C - Sec. 10/45°C)	kW	215	287	359
Upper heat exchanger heating surface area	m <sup>2</sup>	6,00	8,00	10,00
Upper HEX output (Prim. 80/70°C - Sec. 10/45°C)	kW	215	287	359
DHW continuous flow 10/45°C	L/h	10586	14114	17643

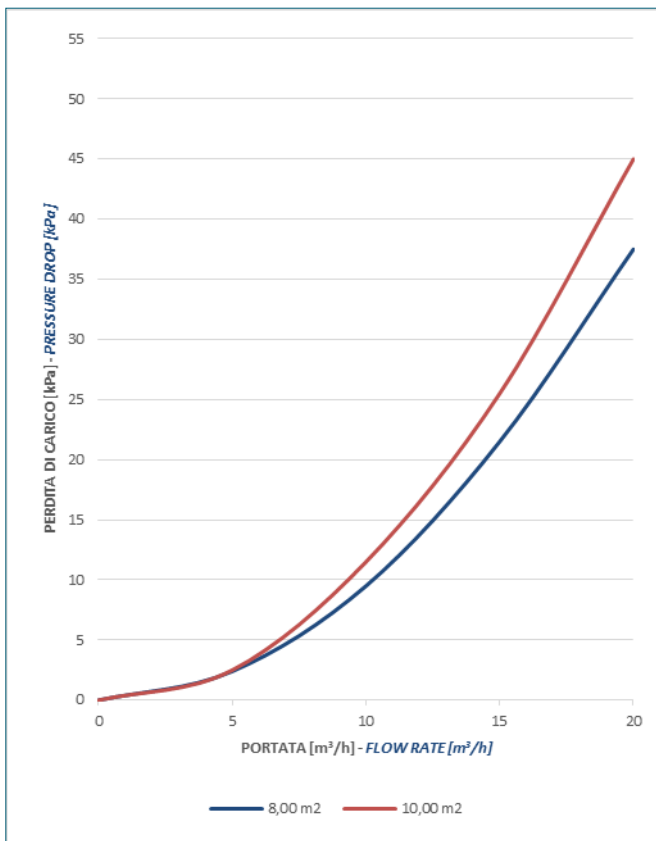
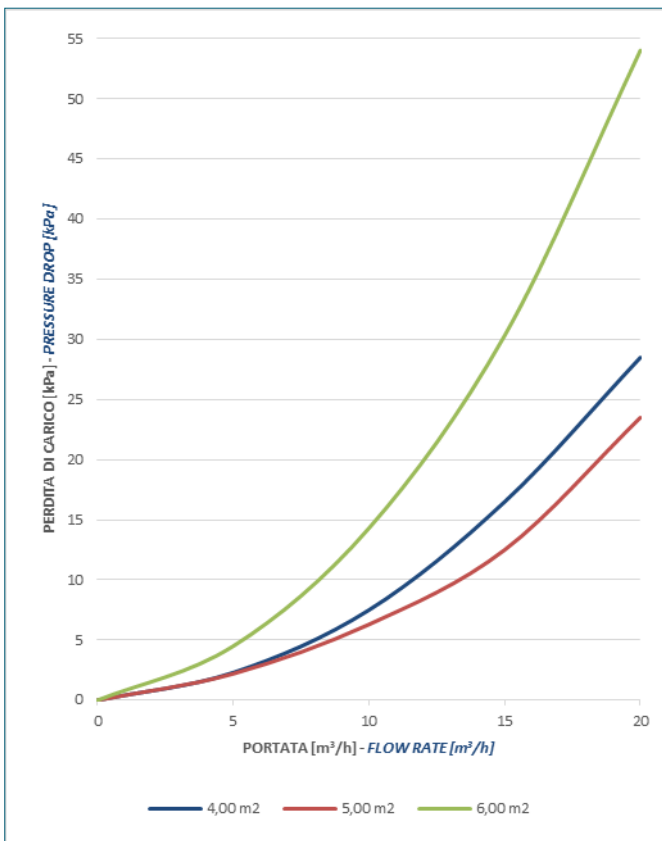
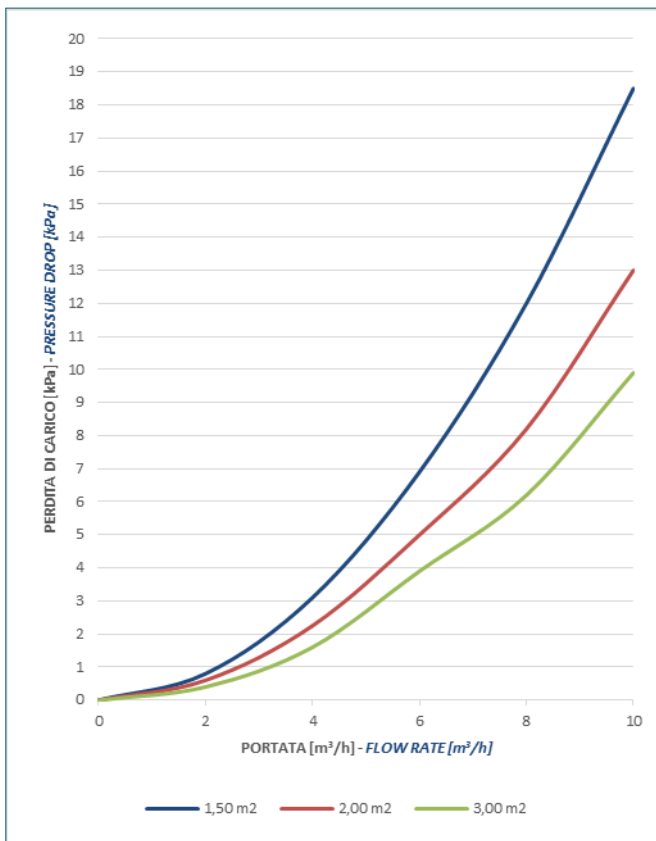
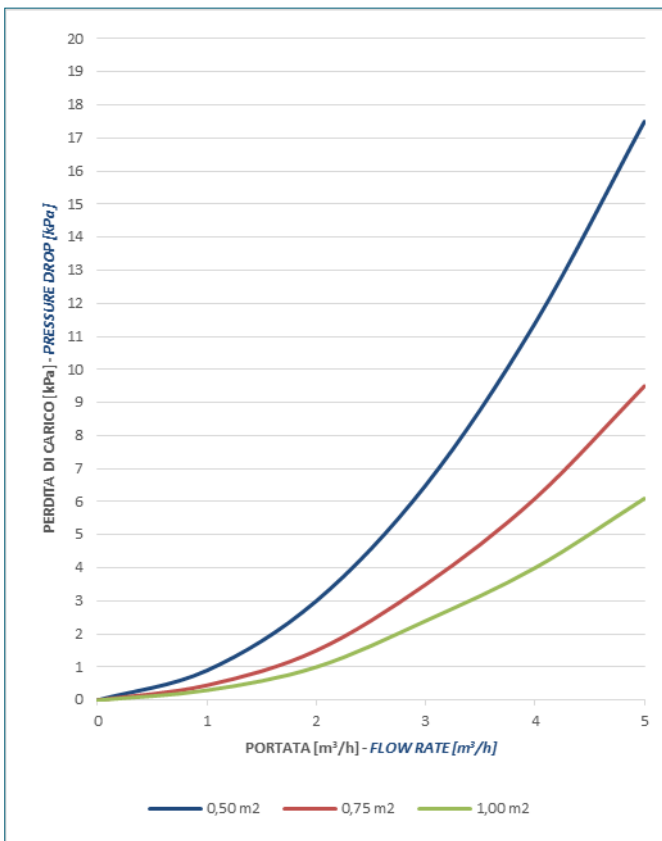
<b>EMPTY WEIGHTS</b>				
Empty weight	kg	600	770	905

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.



TUBE BUNDLE HEAT EXCHANGER PRESSURE DROP

BT2H-X - BT2-X



STAINLESS STEEL DHW CALORIFIER EQUIPPED WITH TWO REMOVABLE TUBE BUNDLE HEAT EXCHANGERS

TUBE BUNDLE HEAT EXCHANGER OUTPUT

Primary (80-70)°C | Secondary(10-45)°C

Storage Volume	Heating surface area	Capacity	Primary flow	SECONDARY (DHW)		
				Continuous production	Production first 10'	Production first 60'
<i>L</i>	<i>m<sup>2</sup></i>	<i>kW</i>	<i>L/h</i>	<i>L/h</i>	<i>L</i>	<i>L</i>
1000	2,00	72	6175	3529	1588	4529
	2,00	72	6175			
1500	3,00	108	9263	5293	2382	6793
	3,00	108	9263			
2000	4,00	144	12350	7057	3176	9057
	4,00	144	12350			
2500	5,00	180	15438	8821	3970	11321
	5,00	180	15438			
3000	6,00	215	18525	10586	4764	13586
	6,00	215	18525			
4000	8,00	287	24700	14114	6352	18114
	8,00	287	24700			
5000	10,00	359	30870	17643	7940	22643
	10,00	359	30875			

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

Storage Volume	Heating surface area	Capacity	Primary flow	SECONDARY (DHW)		
				Continuous production	Production first 10'	Production first 60'
<i>L</i>	<i>m<sup>2</sup></i>	<i>kW</i>	<i>L/h</i>	<i>L/h</i>	<i>L</i>	<i>L</i>
1000	2,00	52	4500	2571	1429	3571
	2,00	52	4500			
1500	3,00	78	6750	3857	2143	5357
	3,00	78	6750			
2000	4,00	105	9000	5143	2857	7143
	4,00	105	9000			
2500	5,00	131	11250	6429	3571	8929
	5,00	131	11250			
3000	6,00	157	13500	7714	4286	10714
	6,00	157	13500			
4000	8,00	209	18000	10286	5714	14286
	8,00	209	18000			
5000	10,00	262	22500	12857	7143	17857
	10,00	262	22500			

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

Storage Volume	Heating surface area	Capacity	Primary flow	SECONDARY (DHW)		
				Continuous production	Production first 10'	Production first 60'
<i>L</i>	<i>m<sup>2</sup></i>	<i>kW</i>	<i>L/h</i>	<i>L/h</i>	<i>L</i>	<i>L</i>
1000	2,00	35	3025	1729	1288	2729
	2,00	35	3025			
1500	3,00	53	4538	2593	1932	4093
	3,00	53	4538			
2000	4,00	70	6050	3457	2576	5457
	4,00	70	6050			
2500	5,00	88	7563	4321	3220	6821
	5,00	88	7563			
3000	6,00	106	9075	5186	3864	8186
	6,00	106	9075			
4000	8,00	141	12100	6914	5152	10914
	8,00	141	12100			
5000	10,00	176	15125	8643	6440	13643
	10,00	176	15125			

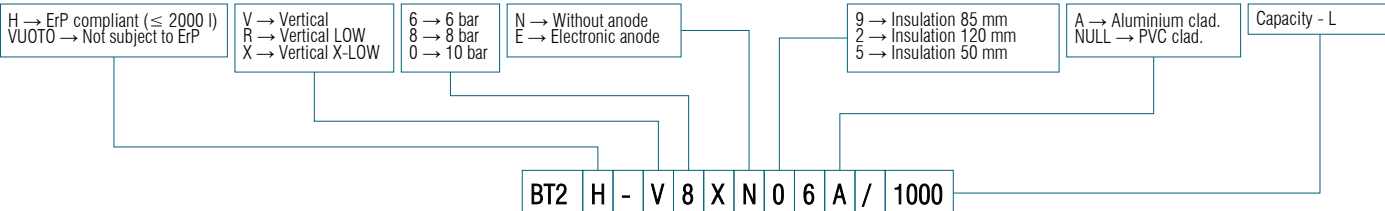
Primary (55-45)°C | Secondary(10-45)°C

Storage Volume	Heating surface area	Capacity	Primary flow	SECONDARY (DHW)		
				Continuous production	Production first 10'	Production first 60'
<i>L</i>	<i>m<sup>2</sup></i>	<i>kW</i>	<i>L/h</i>	<i>L/h</i>	<i>L</i>	<i>L</i>
1000	2,00	21	1800	1029	1171	2029
	2,00	21	1800			
1500	3,00	31	2700	1543	1757	3043
	3,00	31	2700			
2000	4,00	42	3600	2057	2343	4057
	4,00	42	3600			
2500	5,00	52	4500	2571	2929	5071
	5,00	52	4500			
3000	6,00	63	5400	3086	3514	6086
	6,00	63	5400			
4000	8,00	84	7200	4114	4686	8114
	8,00	84	7200			
5000	10,00	105	9000	5143	5857	10143
	10,00	105	9000			

BT2H-X - BT2-X



**HOW TO ORDER**



**ACCESSORIES & SPARE PARTS**

**ITEM**

	PART NO.			
THERMOMETER Ø65 mm   L=150 mm   (0÷120)°C	TERMOMETRO-D65_L			
THERMOMETER Ø100 mm   L=150 mm   (0÷120)°C	TERMOMETRO-D100			
SENSOR SOCKET Ø½"   L=150 mm   Ø <sub>int</sub> 10 mm	POZZETTO_L			
THERMOSTAT Ø½" (0÷90)°C	TERMOSTATO			
TITANIUM ANODE for SS 316L tanks   1000 L	ANODE_ARTHX1-150/400			
TITANIUM ANODE for SS 316L tanks   1500-5000 L	ANODE_ARTHX2-150/400			

**1-PHASE & 3-PHASE IMMERSION ELECTRIC HEATER - STAINLESS STEEL 316L TUBES**  
 Threaded plug 1.1/2" with brass adapter 1.1/2" to 2" | Aluminium box IP54 | V220/1-V240/1 or V400/3

Capacity	Capacity/L matching	Length	Volt	Plug type	2-THERMOSTAT Temperature regulation & overheating protection		
Watt	L	mm	mm	mm	PART NO.		
2000	1000 ÷ 5000	310	220/1	SHUKO	RES020-L310-6-M-BT		
3000	1000 ÷ 5000	350	240/1		RES030-L350-6-M-BT		
5000	1000 ÷ 5000	375	400/3		RES050-L375-6-T-BT		
6000	1000 ÷ 5000	435			RES060-L435-6-T-BT		
9000	1000 ÷ 5000	610		RES090-L610-6-T-BT			
10000	1000 ÷ 5000	670		RES100-L670-6-T-BT			
12000	1000 ÷ 5000	730		RES120-L727-6-T-BT			
15000	1500 ÷ 5000	870	RES150-L870-6-T-BT	Not supplied			

**PRIMARY CHESTS AND SEALING GASKETS**

Diameter	Capacity	Primary chest made of Stainless Steel	EPDM gasket without cross bar	EPDM gasket with cross bar
Internal × External	L	Part. No.	Part. No.	Part. No.
mm				
300 × 380	1000 ÷ 3000	TESTA380X300X5-X	GUGOMEPDM380X300ST	GUGOMEPDM380X300CT
350 × 430	4000-5000	TESTA430X350X5-X	GUGOMEPDM430X350ST	GUGOMEPDM430X350CT

**TUBE BUNDLE HEAT EXCHANGERS**

Heating surface area	Dimensions		Stainless Steel AISI 316L Tubes & plate
	D	L	
m <sup>2</sup>	mm	mm	PART NO.
2,00	380	594	SFX6020D380-X
3,00	380	718	SFX6030D380-X
4,00	380	850	SFX6040D380-X
5,00	380	1050	SFX6050D380-X
6,00	380	1250	SFX6060D380-X
8,00	430	1250	SFX6080D430-X
10,00	430	1510	SFX6100D430-X

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**PROTECTIVE TREATMENTS FOR STAINLESS STEEL TANKS**

**Pickling and passivation**

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>	$\lambda = 0,037 \text{ W/mK}$	Amb. / +99°C	B-s2, d0
PLFH High Density Polyester fibre	✓	120 mm	25 kg/m <sup>3</sup>	$\lambda = 0,034 \text{ W/mK}$	Amb. / +99°C	B-s2, d0
Hard Polyurethane	✓	85 mm	40 ÷ 42 kg/m <sup>3</sup>	$\lambda = 0,019 \text{ W/mK}$	Amb. / +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



The raw materials consist of polyester fibres and heat-bonded co-polyester fibres, coming mainly from the recycling of plastic bottles obtained from urban waste collection.

It does not contain substances harmful to humans, may be handled and installed in complete safety, does not release powder, is hypoallergenic and cannot be attacked by microorganisms, mould and insects.

PLFH/PLF is a heat insulating product considered environmentally sustainable, even though it is not of natural origin: it is in fact recyclable and the quantity of embodied energy necessary to obtain it is extremely low.

The composition of the polyester fibre makes it an insulating material with an extremely low heat dispersion and its characteristics remain unaltered over time as it is not affected by humidity and its compact, flexible and resistant original structure is not modified.

Thanks to its characteristics, PLFH/PLF is an insulating material with the highest performance characteristics, which allows the requirements set by the severest technical standards to be satisfied, guaranteeing the maximum environmental compatibility for its entire life cycle.

### 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



### PVC

External cladding made of coloured PVC with hinge closing, suitable for installations in locations protected against adverse weather conditions. The standard colours of each product are indicated in their construction characteristics,

but different colours can be requested for each model as shown in the following table.

In the personalised TLR storage tanks the choice of the alternative colour is free of cost and does not incur any surcharge.

### ITEM

### PART NUMBER

PVC COVER YELLOW RAL1023	COVER-RAL1023
PVC COVER ORANGE RAL2004	COVER-RAL2004
PVC COVER RED RAL3000	COVER-RAL3000
PVC COVER BLUE RAL5015	COVER-RAL5015
PVC COVER WHITE RAL9016	COVER-RAL9016
PVC COVER LIGHT GREY RAL7035	COVER-RAL7035
PVC COVER DARK GREY RAL7024	COVER-RAL7024
PVC COVER BLACK RAL9004	COVER-RAL9004



### 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.

[www.pacetti.it](http://www.pacetti.it)



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