



**Enviro Energy Solutions Ltd**  
**Your Gateway to the Sun**



**EBUF, EBUFIN And EBUFTT SERIES**  
**BUFFER TANKS**  
**WITH STAINLESS STEEL COIL OR TANK IN TANK**

**TECHNICAL MANUAL**

**...BECAUSE WITH ENVIROENERGY SOLUTIONS THE SUN SHINES FOR EVERYONE...**



**V1-1.17**

**Before the installation and use of an ENVIROENERGY SOLUTIONS Solar Tank, Buffer Tank, Heat Pump Tank or electric Calorifier please read and observe carefully all the instructions concerning the installation, maintenance and use of the product, in this manual. The non-observance of these instructions may result in the cancelation of the warranty.**

### **GENERAL SAFETY INSTRUCTIONS**

- Attention when lifting the tank and always take precautions in order to avoid possible accidents, injuries and other hazards. During transportation and handling of the tank avoid abrupt movements as they may result in fall and damaging of the Tanks. To avoid damaging the tank, do not remove the packaging, until it reaches the installation location.
- All installations and maintenance must be performed by qualified and certified professionals, following all relevant local norms and regulations (1), industry codes, and according to the manufacturer's instructions.
- Always make sure that the installation site, especially on roof tops, is adapted to the weight and mechanical restraints of Tank when full (and eventually a 30% margin), as well as any further weight expected (snow, rain, etc...). **ENVIROENERGY SOLUTIONS** declines any responsibility that may arise from an improper or defective installation or from incorrect manipulation of the system or accessories composing it.
- Always make sure there is enough space around the Tank for maintenance purposes, as well as for the electric cabling and plumbing. It is recommended to agree with the client for the location of the installation and the routing of pipes and cabling.
- In case the Tank is placed Outdoors in regions with heavy snow fall or strong winds, it may be necessary to further anchor the system to the point of installation. In this case it is up to the installer along with the client to determine the best and safe way to install the Tank. Additional fixing points or equipment may be required.
- Never fill the closed circuit or connect the electric element with an empty tank. The tank must always be filled with water during these operations due to a risk of severe damage to the Tank.
- Before starting the installation or maintenance, the main power supply to the system must always be turned OFF, and the Heat Exchangers in case of Removable Heat Exchangers, must be removed.
- Improper installation and works can contaminate the potable water. Install the Tank hygienically and rinse the Tanks and piping thoroughly with potable water
- Install and use potable water pipes according to current standards and local norms and regulations.
- The use of plastic, PVC or polypropylene piping is not recommended, especially for the closed circuit, due to the very high temperatures developed by the installations. In any case, make sure that all the piping used in contact or close to the systems outlets can withstand minimum temperatures of 100°C, or 180°C if in contact with the primary (closed) circuit.  
**ENVIROENERGY SOLUTIONS** recommends the use of copper or stainless-steel piping for safer and higher performance.
- It is recommended that the Tanks be maintained by a professional, checked and cleaned at least every 2 years. In locations with hard or dirty water an annual maintenance and cleaning is recommended. Please refer to the "Maintenance and Servicing" section of this manual.
- A pressure release and safety valve is mandatory on the cold-water inlet of the tank and a pressure reducing valve is mandatory in case the pressure of the water coming into the tank is above 3 bar.
- A mixing valve is compulsory on the hot water outlet in order to limit risks of burning and Expansion Vessels are recommended in order to limit pressures in the Tank and unnecessary loss of Water.

## **GENERAL INSTALLATION INSTRUCTIONS**

- Always make sure that all the piping of the primary and secondary circuits, going to and coming from the Tank, are very well insulated, even in hot climate regions and treated for UV radiation.
- Avoid leaving the Tanks for long periods without using hot water (holidays, prolonged absences, etc...) due to risks of overheating, or make sure all the heating sources (solar panels, heat pumps, electric elements, burners, etc...) are turned off or inactive during this period.
- In case of use of Electric Heating Elements, the Tanks must be grounded
- It is recommended that the installation location be equipped with functional drainage on the floor
- Hydraulic connections to the tank must be such as to limit the phenomenon of electrolysis
- Every service and maintenance should be recorded in the maintenance book. This record is a key element to the validity of the warranty and should be made available on request
- Under no circumstances should any welding or repairing be made on the tank's metal structure. Risk of deterioration or destruction of the tank and annulation of the warranty.
- The electric heating element is not part of the system but an additional part and it should be installed by a certified electrician. The electric back-up should be used only in case the water temperature in the Tank is under 50°C. The constant and unreasonable use of the electric back-up may cause damage to the tank and cause annulation of the warranty.
- The quality of the water entering the Tanks should be within potable standards and in any case be within the values of the table below. If the quality of the water does not correspond to these values then special filters and water softeners may need to be installed to satisfy these conditions, or the warranty will not be valid.

<b>WATER QUALITY REQUIRMENTS</b>						
<b>Specification</b>	<b>ph</b>	<b>Total Hardness</b>	<b>Chlorides</b>	<b>Free Chlorine</b>	<b>Conductivity</b>	<b>TDS</b>
<b>Value</b>	7-9	<100 mg/1	<0,5 mg/lit	<80 mg/lit	<650 mS/cm 25°C	<600 mg/lit

### **WARNING:**

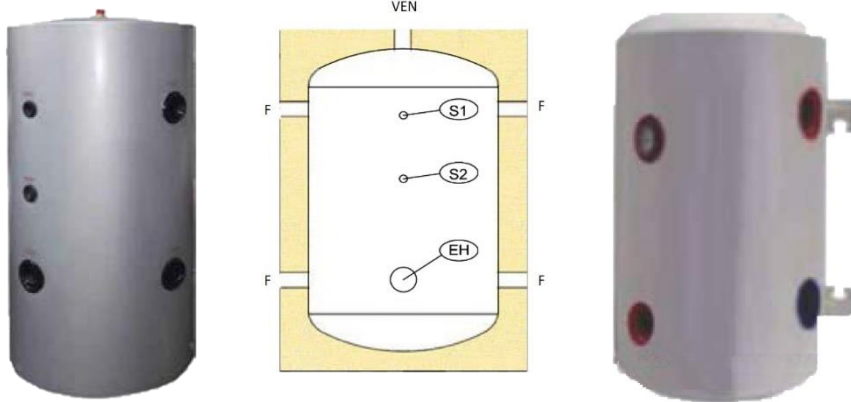
IF THE HOT WATER SYSTEM IS NOT USED FOR TWO WEEKS OR MORE, A QUANTITY OF HIGHLY FLAMMABLE HYDROGEN GAS MAY BE ACCUMULATED IN THE WATER HEATER. TO DISSIPATE THIS GAS SAFELY, IT IS RECOMMENDED THAT A HOT TAP BE TURNED ON FOR SEVERAL MINUTES UNTIL DISCHARGE OF GAS CEASES. USE A SINK, BASIN, OR BATH OUTLET, BUT NOT A DISHWASHER, CLOTHES WASHER OR OTHER APPLIANCE. DURING THE PROCEDURE THERE MUST BE NO SMOKING, OPEN FLAME OR ANY ELECTRICAL APPLIANCE OPERATING NEARBY. IF HYDROGEN IS DISCHARGED THROUGH THE TAP, IT WILL PROBABLY MAKE AN UNUSUAL SOUND AS WITH AIR ESCAPING.

- The safety of the Tanks and validity of the warranty are conditioned by the use of genuine **ENVIROENERGY SOLUTIONS** spare parts and accessories. Please only use genuine **ENVIROENERGY** spare parts and accessories from your nearest **ENVIROENERGY SOLUTIONS** dealer or contact the manufacturer.

**ENVIROENERGY SOLUTIONS declines any responsibility that may arise from the non-observance of the installation, maintenance and use instructions herein, non-observance of relevant local norms, regulations and industry codes, improper or defective installation, or incorrect manipulation of the system or the accessories composing it.**

## A. EBUF SERIES BUFFER TANKS FROM 40Lt. TO 2000Lt. WITH 0, 1 or 2 FIXED COILS

### 1. Technical Specifications for Tanks From 40Lt. to 300Lt



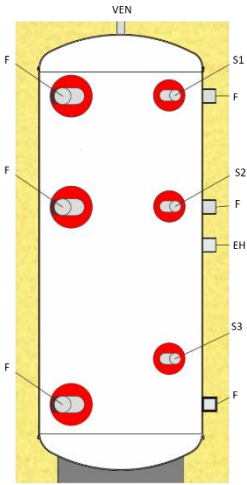
EBUF 40 – EBUF 110

- Internal Tank Material: Steel
- Welding Type: Automatic
- Maximum Working Pressure: 4 bar
- Water Test Pressure: 8 bar
- Maximum Operating Temperature: 95°C
- Insulation: Fixed Polyurethane Foam  
Thickness 50mm, density 52kg/m<sup>3</sup>
- Coil: Steel Tube
- Maximum Coil Test Pressure: 25 bar
- Electric Heater: Optional, Power Output Upon Request
- External Cover: Metallic

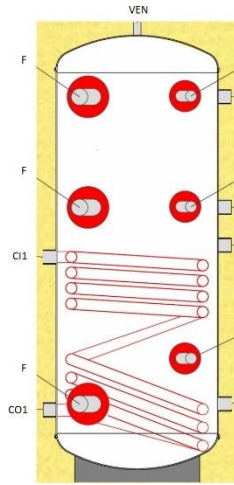
#### EBUF SERIES TANKS WITHOUT COIL or WITH 1 or 2 FIXED COIL HEAT EXCHANGERS

Model	EBUF 40	EBUF 60	EBUF 80	EBUF 110	EBUF 150	EBUF 200	EBUF 300
Nominal Volume (Lt)	40	60	80	110	150	200	300
Actual Volume (Lt)	40	60	80	110	150	186	290
Internal Tank Diameter (mm)	400	400	400	400	430	480	480
External Tank Diameter (mm)	500	500	500	500	530	580	580
Height (mm)	500	665	835	1100	1350	1350	1890
Internal Tank Body Thickness (mm)	2,5	2,5	2,5	2,5	2,5	2,5	2,5
Total Tank Weight Without Coil (Kg)	15	20	25	30	50	56	85
Total Tank Weight With 1 Coil (Kg)	---	---	---	38	62	71	108
Total Tank Weight With 2 Coils (Kg)	---	---	---	---	72	83	123
Maximum Tank Working Temperature (°C)	95						
Maximum Working Pressure (bar)	4						
Maximum Coil Working Temperature (°C)	130						
Maximum Coil Working Pressure (bar)	16						
Lower Coil Heat Exchanger Surface (m <sup>2</sup> )	---	---	---	0,55	0,80	1,00	1,55
Upper Coil Heat Exchanger Surface (m <sup>2</sup> )	---	---	---	---	0,55	0,80	1,00
Lower Coil Heat Exchanger Volume (Lt)	---	---	---	3,10	5,10	6,50	10,00
Upper Coil Heat Exchanger Volume (Lt)	---	---	---	---	3,10	5,10	6,40
Lower Coil Heat Exchanger Diameter (In)	---	---	---	1"			
Upper Coil Heat Exchanger Diameter (In)	---	---	---	---	1"		
Lower Coil Heat Exchanger Output (kW)	---	---	---	10,40	13,10	14,40	22,90
Upper Coil Heat Exchanger Output (kW)	---	---	---	---	10,40	13,60	16,40
Number of Free Outlets (F)	4	4	4	4	6	6	6
Free Outlets Diameter (F)	1½"						
Ventilation Outlet Diameter VEN (In)	½"						
Sensor 1 Outlet (In)	½"	½"	½"	½"	½"	½"	½"
Sensor 2 Outlet (In)	---	---	---	½"	½"	½"	½"
Sensor 3 Outlet (In)	---	---	---	---	½"	½"	½"
Electric Back-up Element Outlet (EH)	1½"						
Tilt Height (mm)	707	832	973	1209	1451	1470	1977
Mounting: On Wall (W) / Floor Standing (F)	W and F	W and F	W and F	Only Floor Standing			

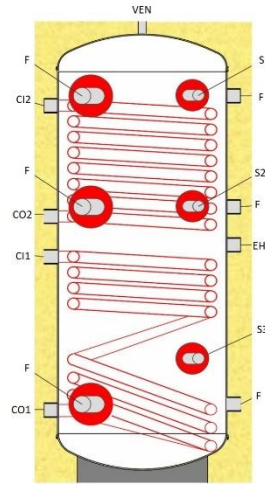
## 2. Technical Specifications for Tanks From 500Lt. to 2000Lt



**EBUF 150-2000  
Without Coils**



**EBUF 150-2000  
With 1 Coil**



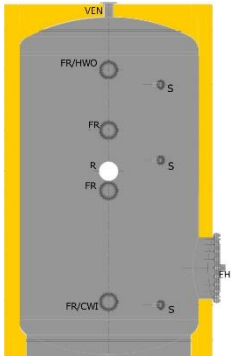
**EBUF 150-2000  
With 2 Coils**

- Internal Tank Material: Steel
- Welding Type: Automatic
- Maximum Working Pressure: 6 bar
- Water Test Pressure: 8 bar
- Maximum Operating Temperature: 95°C
- Insulation: Soft Polyurethane Thickness 100mm
- Coil: Steel Tube
- Maximum Coil Test Pressure: 25 bar
- Electric Heater: Optional, Power Output Upon Request
- External Cover: Metallic or PVC

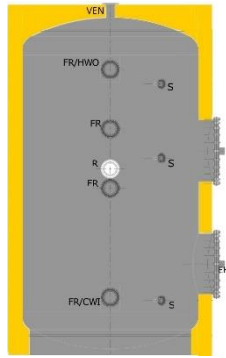
EBUF SERIES TANKS WITHOUT COIL or WITH 1 or 2 FIXED COIL HEAT EXCHANGERS						
Model		EBUF 500	EBUF 800	EBUF 1000	EBUF 1500	EBUF 2000
Nominal Volume (Lt)		500	800	1000	1500	2000
Actual Volume Without Coils (Lt)		520	830	1040	1626	1905
Actual Volume With 1 Coil (Lt)		505	817	1023	1603	1880
Actual Volume With 2 Coils (Lt)		497	800	998	1579	1865
Internal Tank Diameter (mm)		650	850	850	1100	1200
External Tank Diameter (mm)		850	1050	1050	1300	1400
Height (mm)		1800	1800	2000	2000	2000
Total Tank Weight Without Coil (Kg)		117	170	195	267	302
Total Tank Weight With 1 Coil (Kg)		147	215	245	324	362
Total Tank Weight With 2 Coils (Kg)		165	240	275	362	404
Maximum Tank Working Temperature (°C)				95		
Maximum Working Pressure (bar)				6		
Maximum Coil Working Temperature (°C)				130		
Maximum Coil Working Pressure (bar)				16		
Lower Coil Heat Exchanger Surface (m <sup>2</sup> )		1,95	2,36	2,99	3,70	4,00
Upper Coil Heat Exchanger Surface (m <sup>2</sup> )		1,23	1,33	1,99	2,50	2,70
Lower Coil Heat Exchanger Volume (Lt)		12,40	14,90	19,10	27,20	29,40
Upper Coil Heat Exchanger Volume (Lt)		7,80	8,40	12,70	18,40	19,80
Lower Coil Efficiency	kWh	25,80	30,15	38,50	95,30	107,00
	lt/h	900	900	900	1640	1840
Upper Coil Efficiency	kWh	19,20	20,50	25,50	57	65,10
	lt/h	900	900	900	980	1020
Lower Coil Heat Exchanger CI1 Inlet /Outlet (In)				1"		
Upper Coil Heat Exchanger CI2 Inlet /Outlet (In)				1"		
Number of Free Outlets (F)				6		
Free Outlets Diameter (F)			1½"		3"	
Ventilation Outlet Diameter VEN (In)				1"		
Sensor 1 Outlet (In)				½"		
Sensor 2 Outlet (In)				½"		
Sensor 3 Outlet (In)				½"		
Electric Back-up Element Outlet (EH)				1½"		
Tilt Height (mm)		1990	2084	2259	2386	2442

## B. EBUF SERIES BUFFER TANKS FROM 3000Lt. TO 9000Lt. WITH 0, 1 or 2 REMOVABLE COILS

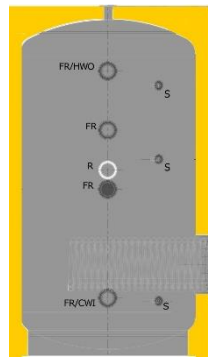
### 1. Technical Specifications



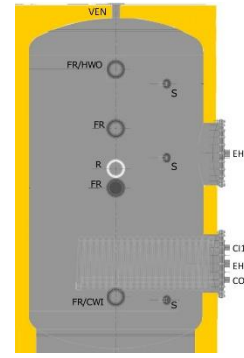
**EBUF 3000-9000**  
Without Coils,  
With 1 Flange



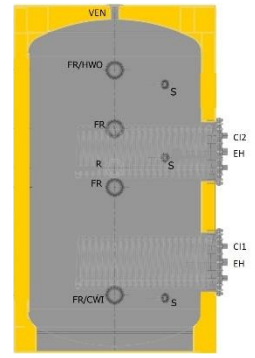
**EBUF 3000-9000**  
Without Coils,  
With 2 Flanges



**EBUF 3000-9000**  
With 1 Coil,  
No Flange



**EBUF 3000-9000**  
With 1 Coil,  
1 Flange



**EBUF 3000-9000**  
With 2 Coils

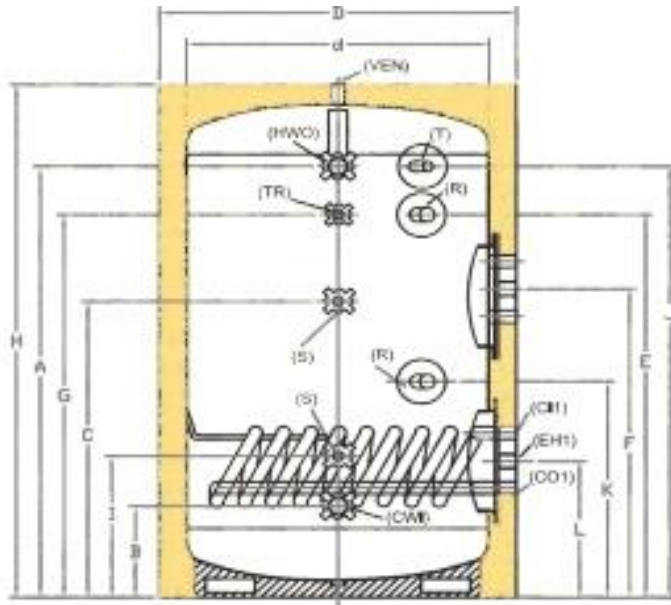
- **Internal Tank Material:** Steel
- **Welding Type:** Automatic
- **Insulation:** Soft Polyurethane Thickness 100mm

- **Coil:** Steel Tube
- **Electric Heating Element:** Optional, Power Output Upon Request
- **External Cover:** Metallic or PVC

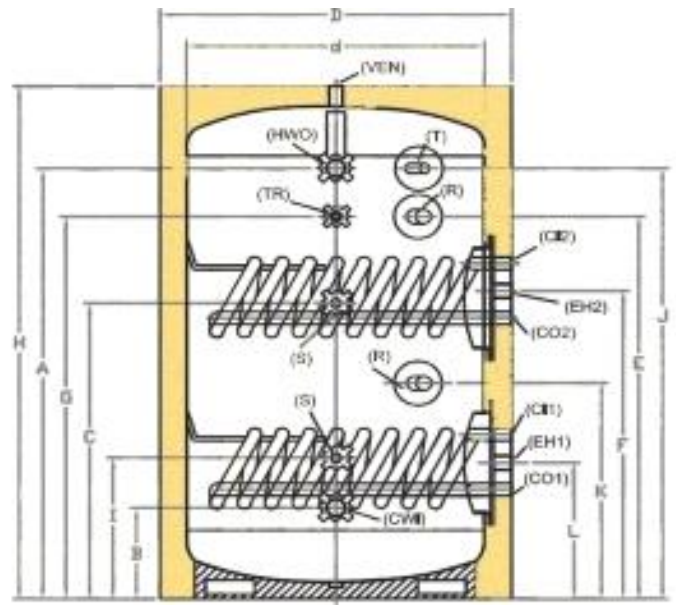
### EBUF SERIES BUFFER TANKS FROM 3000Lt. TO 9000Lt. WITH 0, 1 or 2 REMOVABLE COILS

Model		EBUF 3000	EBUF 4000	EBUF 5000	EBUF 7000	EBUF 9000
Nominal Volume (Lt)		3000	4000	5000	7000	9040
Actual Volume Without Coils (Lt)		2990	4100	4920	7150	1905
Actual Volume With 1 Coil (Lt)		2954	4040	4860	7065	8958
Actual Volume With 2 Coils (Lt)		2918	3986	4800	6995	8880
Total Tank Weight Without Coil (Kg)		615	820	930	1270	1655
Total Tank Weight With 1 Coil (Kg)		705	950	1060	1424	1809
Total Tank Weight With 2 Coils (Kg)		795	1080	1190	1578	1963
Maximum Tank Working Temperature (°C)		95				
Maximum Working Pressure (bar)		10				
Maximum Coil Working Temperature (°C)		100				
Maximum Coil Working Pressure (bar)		25				
Lower Coil Heat Exchanger Surface (m <sup>2</sup> )		3,2	5,4	5,4	7,8	7,8
Upper Coil Heat Exchanger Surface (m <sup>2</sup> )		3,2	5,4	5,4	7,8	7,8
Lower Coil Efficiency	KWh lt/h	64,70kW 5000	97,30kW 5000	97,50kW 5000	130,00Kw 5000	138,60Kw 6000
Upper Coil Efficiency	KWh lt/h	64,90kW 5000	96,80kW 5000	97,90kW 5000	129,60Kw 5000	137,30Kw 6000
3,2m Heat Exchanger Weight (kg)		78	N/A			
5,4m Heat Exchanger Weight (kg)		109			N/A	
7,8m Heat Exchanger Weight (kg)		N/A			154	
External Cover and Insulation Weight (kg)		34	39	45	58	67
Internal Tank Body Thickness (mm)		5	6		7	8
Internal Tank Upper and Lower Caps Thickness (mm)		6	7		8	9

## 2. Dimensions



**EBUF 3000-9000**  
With 1 Coil and 1 Flange



**EBUF 3000-9000**  
With 2 Coils

### EBUF SERIES BUFFER TANKS FROM 3000Lt. TO 9000Lt. WITH 0, 1 or 2 REMOVABLE COILS

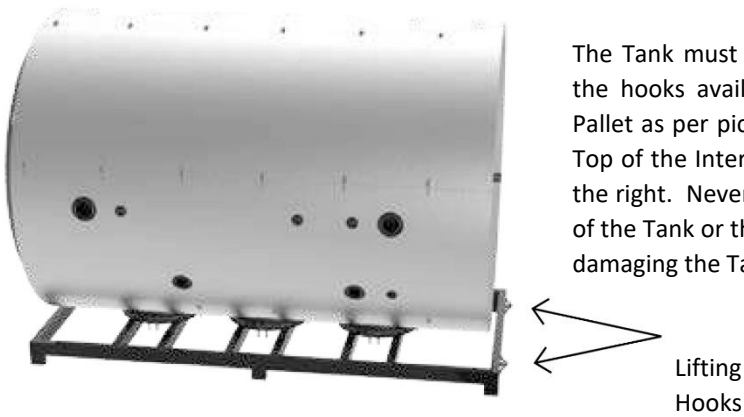
Model	EBUF 3000	EBUF 4000	EBUF 5000	EBUF 7000	EBUF 9000
Lower Coil Heat Exchanger CI1 Inlet /Outlet (In)	2½"			3"	
Upper Coil Heat Exchanger CI2 Inlet /Outlet (In)	2½"			3"	
Free Outlets Diameter (F)			3"		
Ventilation Outlet Diameter VEN (In)			1½"		
Drain (In)			1½"		
Sensor 1 Outlet (In)			½"		
Sensor 2 Outlet (In)			½"		
Sensor 3 Outlet (In)			½"		
Electric Back-up Element Outlet (EH)			1½"		
Flange Ø (mm)			508		
<b>POSITION ON TANK</b>					
A Hot Water Outlet HWO (mm)	2245	2243	2243	2773	2773
B Cold Water Inlet CWI (mm)	365	383	383	413	413
C Sensor S (mm)	1482	1503	1503	1833	1833
D External Diameter (mm)	1500	1700	1800	2000	2200
d Internal Tank Diameter (mm)	1300	1500	1600	1800	2000
E Recirculation R (mm)	2050	2050	2050	2580	2580
F Middle of Upper Flange EH2 (mm) and Coil 2 CI2/CO2	1490	1723	1723	2280	2280
G Thermometer TR (mm)	2050	2050	2050	2580	2580
H Total Height (mm)	2500	2650	2750	3200	3300
I Sensor S (mm)	565	583	583	613	613
J Thermostat T (mm)	2245	2245	2245	2773	2773
K Recirculation R (mm)	1012	1030	1030	1060	1060
L Middle of Lower Flange EH1 (mm) and Coil 1 CI1/CO1	530	565	565	593	593
Tilt Height (mm)	2916	3149	3287	3774	3966

### 3. Installation

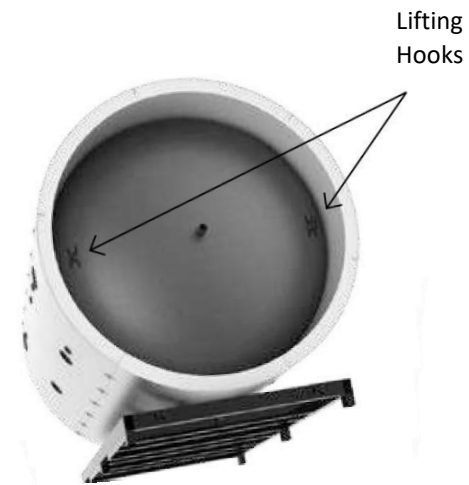
#### a.) Lifting Large Tanks Into Position



Tanks above 5000Lt come on a metallic Pallet for safe and secure transportation, as per picture 1 on the left. First carefully remove the cardboard covers and tape without using sharp tools in order to avoid damage to the tanks external cover and insulation.

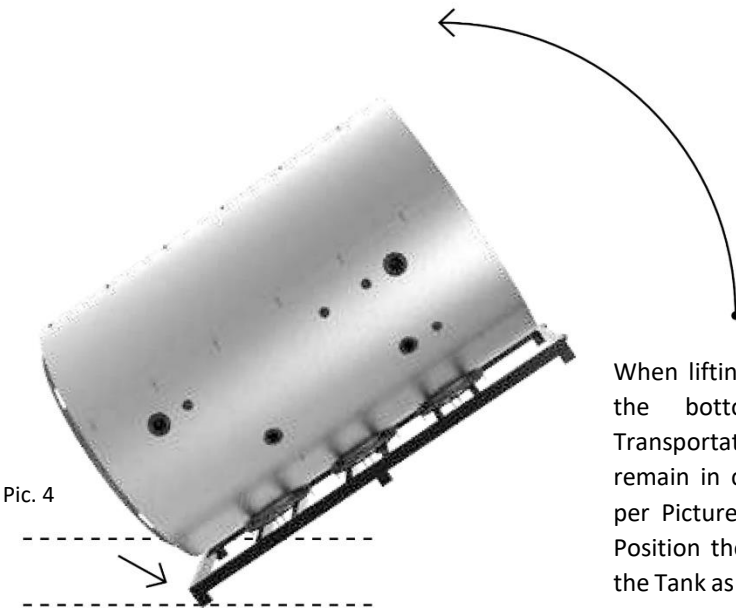


The Tank must be lifted into position using the hooks available either on the Metallic Pallet as per picture 2 on the left, or on the Top of the Internal Tank as per picture 3 on the right. Never lift the tank using the inlets of the Tank or the Heat Exchangers by risk of damaging the Tank.



Pic. 2

Pic. 3



When lifting the Tank into position, the bottom of the metallic Transportation Pallet must always remain in contact with the Floor as per Picture 4 on the Left. When in Position the Pallet remains fixed on the Tank as per picture 5 on the Right.



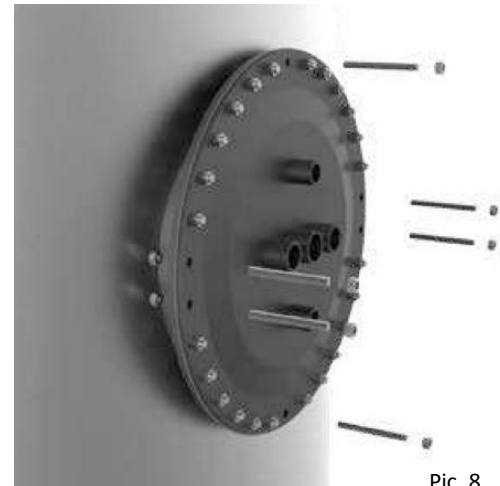




Pic. 6



Pic. 7



Pic. 8

Once the Tank Is placed in its final installation location and positioned properly, unscrew the bolts that fix the Metallic Pallet to the Flanges of the Tank as per picture 6 above left and remove it as per picture 7 above in the middle. Then put the bolts back in place screwing the flanges to the Tank as per picture 8 above on the right.



Pic. 9



Pic. 10

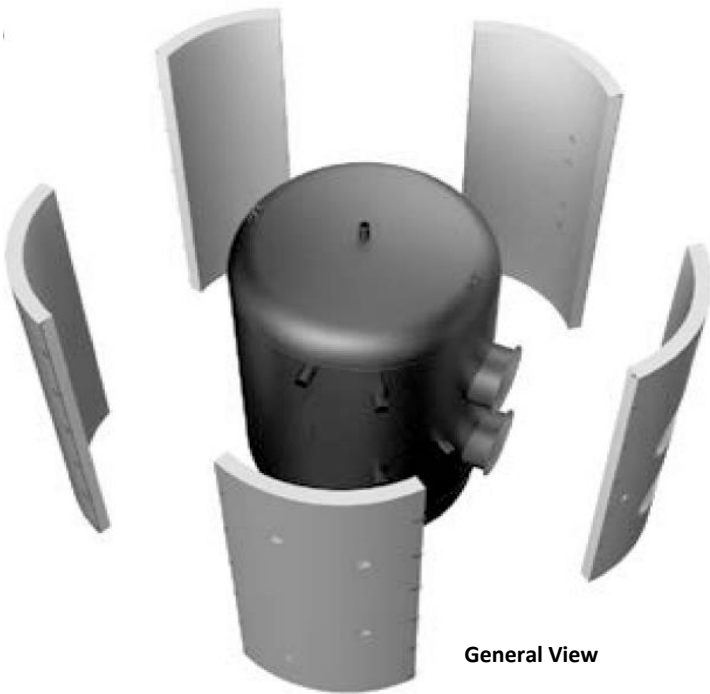


Pic. 11

Place the Insulation of the Top of the Tank and the Top Cover as per picture 9 above left. Then Install the Flanges bolts and Flange Covers as per picture 10 above in the middle and finally install the plastic gaskets on the Flange Covers as per picture 11 above right.

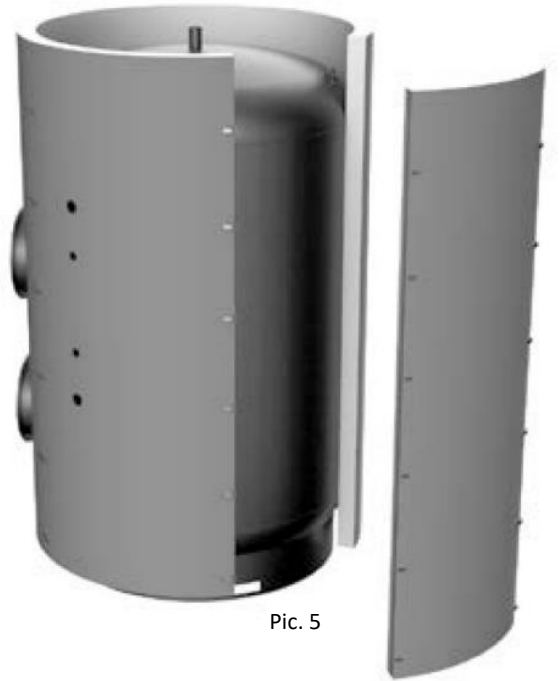
## b.) Installing And Removing The Hard Insulation Shell of EBUF Series Tanks

When Installing or Removing the Hard Insulation Shell, it is Imperative to follow the order 1 to 7 as per the pictures below. The smallest part is placed last.





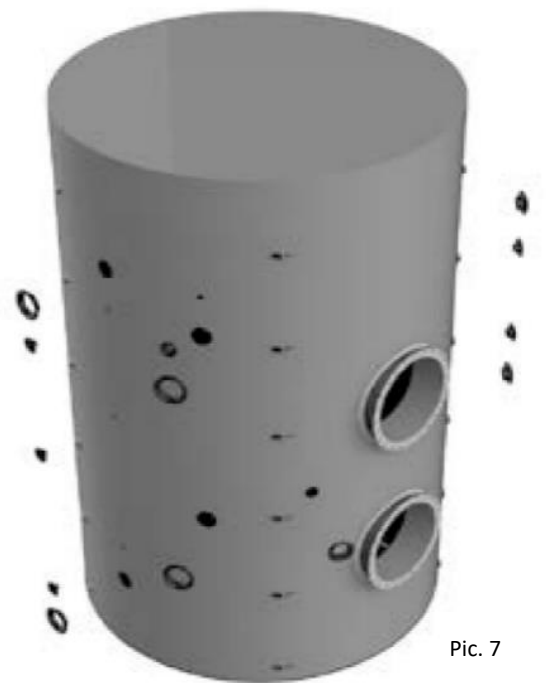
Pic. 4



Pic. 5



Pic. 6



Pic. 7

## C. EBUFIN SERIES TANKS FROM 500Lt. TO 2000Lt. WITH STAINLESS STEEL COIL FOR DHW AND 0, 1 or 2 FIXED COILS

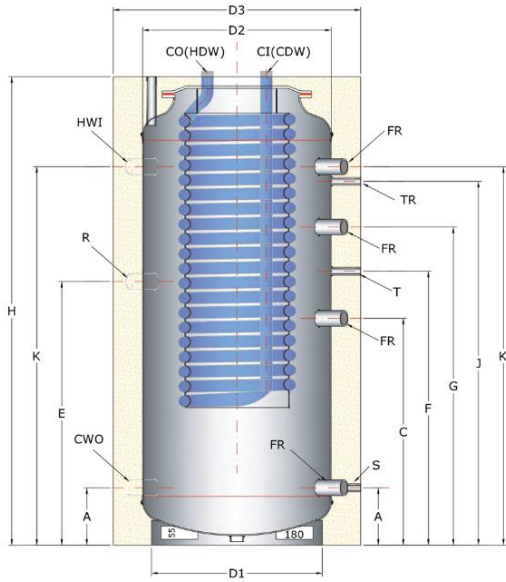
### 1. Technical Specifications

EBUFIN SERIES TANKS FROM 500Lt. TO 2000Lt. WITH STAINLESS STEEL COIL FOR DHW AND 0, 1 or 2 FIXED COILS					
Model	EBUFIN 500	EBUFIN 750	EBUFIN 1000	EBUFIN 1500	EBUFIN 2000
Tank Body Material	Steel Sheet				
Nominal Volume (Lt)	500	750	1000	1500	2000
Actual Volume (Lt)	492	746	882	1539	1831
Tank Body Thickness (mm)	3	3	3	4	4
Soft Removable Insulation Thickness (mm)	100				
Maximum Tank Working Pressure (bar)	6				
Maximum Water Pressure Test (bar)	8				
Maximum Tank Working Temperature (°C)	95				
Tank Weight Without SS or Fixed Coils (kg)	84	117	133	267	302
Fixed Coil Material	Steel Tube				
Lower Fixed Coil Surface (m <sup>2</sup> )	2,2	2,7	3,0	3,7	4,0
Upper Fixed Coil Surface (m <sup>2</sup> )	2,2	2,7	3,0	2,5	2,7
Lower Fixed Coil Volume (Lt)	16,2	19,7	22	27,2	29,4
Upper Fixed Coil Volume (Lt)	16,2	19,7	22	18,4	19,8
Lower Fixed Coil Weight (Kg)	33,35	41,2	46	57,10	60,3
Upper Fixed Coil Weight (Kg)	33,35	41,2	46	38,10	41,3
Maximum Fixed Coil Heat Exchanger Pressure (bar)	16				
Maximum Fixed Coil Heat Exchanger Temperature (°C)	160				
Fixed Coil Test Pressure (bar)	25				
SS Coil Material	Marine Grade 316L Stainless Steel				
Stainless Steel Coil Length (m)*	25 or 30	25 or 30	25 or 30	25 or 30	25 or 30
Stainless Steel Coil Surface (m <sup>2</sup> )*	6,24 or 7,4	6,24 or 7,4	6,24 or 7,4	6,24 or 7,4	6,24 or 7,4
Stainless Steel Coil Volume (Lt)*	28,32 or 33,90	28,32 or 33,90	28,32 or 33,90	28,32 or 33,90	28,32 or 33,90
Stainless Steel Coil Weight (Kg)*	9 or 10,80	9 or 10,80	9 or 10,80	9 or 10,80	9 or 10,80
Maximum SS Coil Working Pressure (bar)	10				
Maximum SS Coil Working Temperature (°C)	95				
SS Coil Test Pressure (bar)	12				
Electric Back-Up heating Element	Optional, Power Output Upon Request				
External Cover	Metallic or Soft PVC, Colour Upon Request				
Tilt Height (mm)	1825	2060	2299	2445	2499

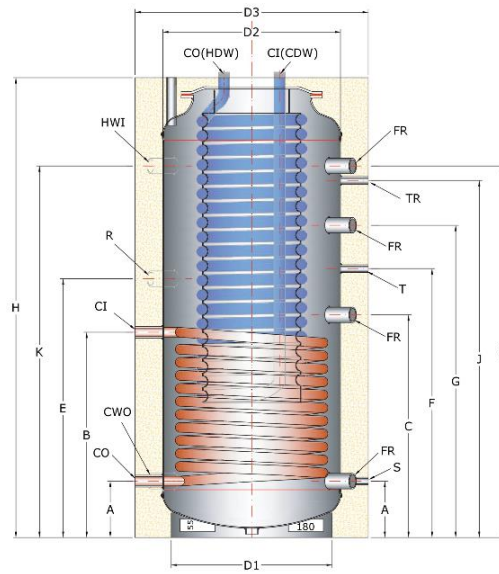
\* There Are 2 different Stainless-Steel Coil Sizes Available

[LARGER TANKS AND TAILOR-MADE PRODUCTS UP TO 9000 Lt. AVAILABLE UPON REQUEST](#)

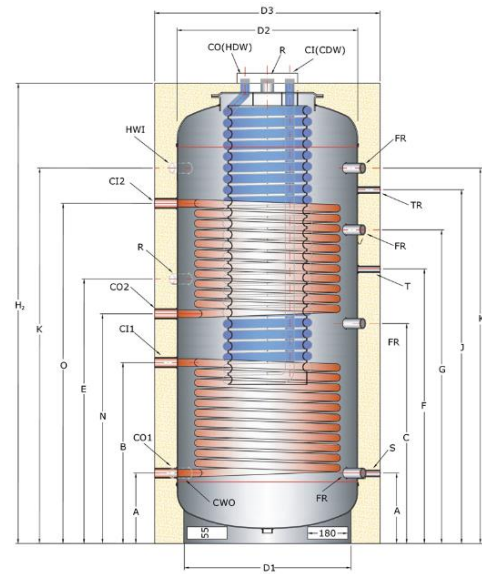
## 2. Dimensions



**EBUFIN 0 500-2000**  
With Stainless Steel Coil  
And Without Fixed Coils



**EBUFIN 1 500-2000**  
With Stainless Steel Coil  
And 1 Fixed Coil



**EBUFIN 2 500-2000**  
With Stainless Steel Coil  
And 2 Fixed Coils

### EBUFIN SERIES TANKS FROM 500lt TO 2000lt WITH STAINLESS STEEL COIL FOR DHW AND 0,1 or 2 FIXED COILS

Model	EBUFIN 500	EBUFIN 750	EBUFIN 1000	EBUFIN 1500	EBUFIN 2000
Lower Coil Heat Exchanger <b>CI1/CO1</b> Diameter (In)	1"				
Upper Coil Heat Exchanger <b>CI2/CO2</b> Diameter (In)	1"				
Free Outlets Diameter <b>FR</b> (In)	1½"		3"		
Recirculation <b>R</b> Outlet Diameter (In)	1½"		3"		
<b>CWI</b> Diameter (In)	1½"		3"		
<b>HWO</b> Diameter (In)	1½"		3"		
Ventilation Outlet Diameter <b>VEN</b> (In)	¾"				
Sensor <b>S</b> Outlets Diameter (In)	½"				
Thermostat <b>T</b> Outlet Diameter (In)	½"				
Thermometer <b>TR</b> Outlet Diameter (In)	½"				
<b>POSITION ON TANK</b>					
<b>A</b> Cold Water Inlet <b>CWI</b> /Coil 1 Outlet <b>CO1</b> /Free Outlet (mm)	235	280	320	320	320
<b>B</b> Coil 1 Inlet <b>CI1</b> (mm)	750	795	940	925	935
<b>C</b> Free Outlet <b>FR</b> (mm)	810	855	1000	990	990
<b>D1</b> Tank Stand Diameter (mm)	Ø580	Ø750	Ø750	Ø1040	Ø1140
<b>D2</b> Internal Tank Diameter (mm)	Ø640	Ø800	Ø800	Ø1100	Ø1200
<b>D3</b> Total Tank Diameter (mm)	Ø840	Ø1000	Ø1000	Ø1300	Ø1400
<b>E</b> Recirculation <b>R</b> (mm)	935	980	1150	1190	1190
<b>F</b> Thermostat <b>T</b> (mm)	970	1015	1235	1235	1235
<b>G</b> Free Outlet <b>FR</b> (mm)	1120	1165	1355	1390	1390
<b>H</b> Height (mm)	1720	1820	2020	2020	2020
<b>J</b> Thermometer <b>TR</b> (mm)	1275	1320	1530	1570	1570
<b>K</b> Hot Water Outlet <b>HWO</b> (mm)	1325	1370	1660	1630	1630
<b>N</b> Coil 2 Outlet <b>CO2</b> (mm)	870	915	1060	1040	1040
<b>O</b> Coil 2 Inlet <b>CI2</b> (mm)	1385	1430	1680	1540	1540

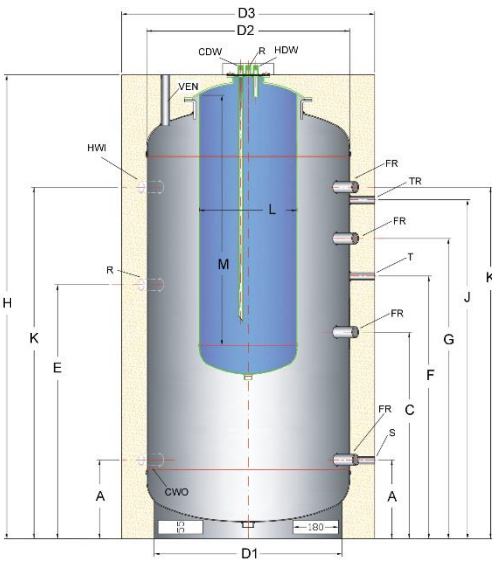
**D. EBUFTT SERIES TANKS FROM 500Lt. TO 2000Lt. WITH TANK IN TANK FOR DHW AND 0, 1 or 2 FIXED COILS**

**1. Technical Specifications**

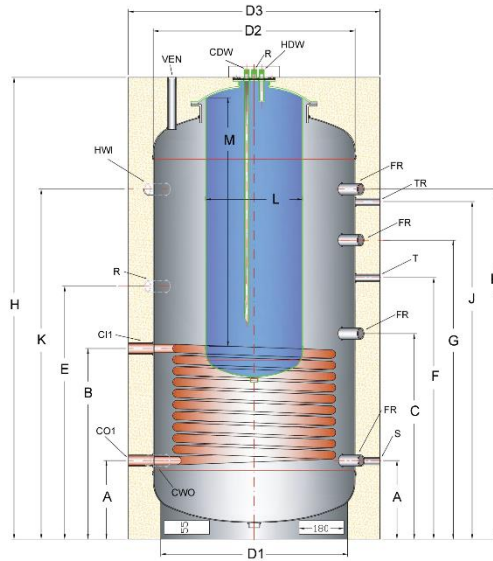
<b>EBUFTT SERIES TANKS FROM 500Lt. TO 2000Lt. WITH TANK IN TANK FOR DHW AND 0, 1 or 2 FIXED COILS</b>					
<b>Model</b>	<b>EBUFTT 500</b>	<b>EBUFTT 750</b>	<b>EBUFTT 1000</b>	<b>EBUFTT 1500</b>	<b>EBUFTT 2000</b>
<b>Tank Body Material</b>	Steel Sheet				
<b>Nominal Volume (Lt)</b>	500	750	1000	1500	2000
<b>Actual Total Volume (Lt)</b>	492	746	882	1539	1831
<b>External Tank Body Thickness (mm)</b>	3	3	3	4	4
<b>Soft Removable Insulation Thickness (mm)</b>	100				
<b>Maximum Tank Working Pressure (bar)</b>	6				
<b>Maximum Water Pressure Test (bar)</b>	8				
<b>Maximum Tank Working Temperature (°C)</b>	95				
<b>Tank Weight Without Internal DHW Tank or Coils (kg)</b>	84	117	133	267	302
<b>Fixed Coil Material</b>	Steel Tube				
<b>Lower Fixed Coil Surface (m<sup>2</sup>)</b>	2,2	2,7	3,0	3,7	4,0
<b>Upper Fixed Coil Surface (m<sup>2</sup>)</b>	2,2	2,7	3,0	2,5	2,7
<b>Lower Fixed Coil Volume (Lt)</b>	16,2	19,7	22	27,2	29,4
<b>Upper Fixed Coil Volume (Lt)</b>	16,2	19,7	22	18,4	19,8
<b>Lower Fixed Coil Weight (Kg)</b>	33,35	41,2	46	57,10	60,3
<b>Upper Fixed Coil Weight (Kg)</b>	33,35	41,2	46	38,10	41,3
<b>Maximum Fixed Coil Heat Exchanger Pressure (bar)</b>	16				
<b>Maximum Fixed Coil Heat Exchanger Temperature (°C)</b>	160				
<b>Fixed Coil Test Pressure (bar)</b>	25				
<b>Internal DHW Tank Material</b>	Steel				
<b>Internal Tank Body Thickness (mm)</b>	3				
<b>Actual Internal DHW Tank Volume (Lt)</b>	150	182	182	182	182
<b>Actual Internal DHW Tank Weight (Kg)</b>	41	46	46	46	46
<b>Maximum Internal DHW Tank Working Pressure (bar)</b>	8				
<b>Maximum Internal DHW Tank Working Temperature (°C)</b>	95				
<b>Internal DHW Tank Inner Lining</b>	Glass Enamel				
<b>Internal DHW Tank Anodic Protection</b>	Magnesium Rod (Anode)				
<b>Electric Back-Up heating Element</b>	Optional, Power Output Upon Request				
<b>External Cover</b>	Metallic or Soft PVC, Colour Upon Request				
<b>Tilt Height (mm)</b>	1825	2060	2299	2445	2499

**LARGER TANKS AND TAILOR-MADE PRODUCTS UP TO 9000 Lt. AVAILABLE UPON REQUEST**

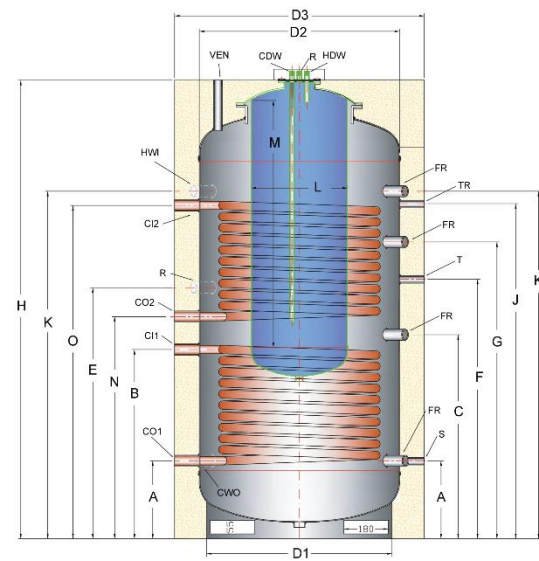
## 2. Dimensions



**EBUFTT 0 500-2000**  
With Internal DHW Tank  
And Without Fixed Coils



**EBUFTT 1 500-2000**  
With Internal DHW Tank  
And 1 Fixed Coil



**EBUFTT 2 500-2000**  
With Internal DHW Tank  
And 2 Fixed Coils

### EBUFTT SERIES TANKS FROM 500Lt. TO 2000Lt. WITH TANK IN TANK FOR DHW AND 0, 1 or 2 FIXED COILS

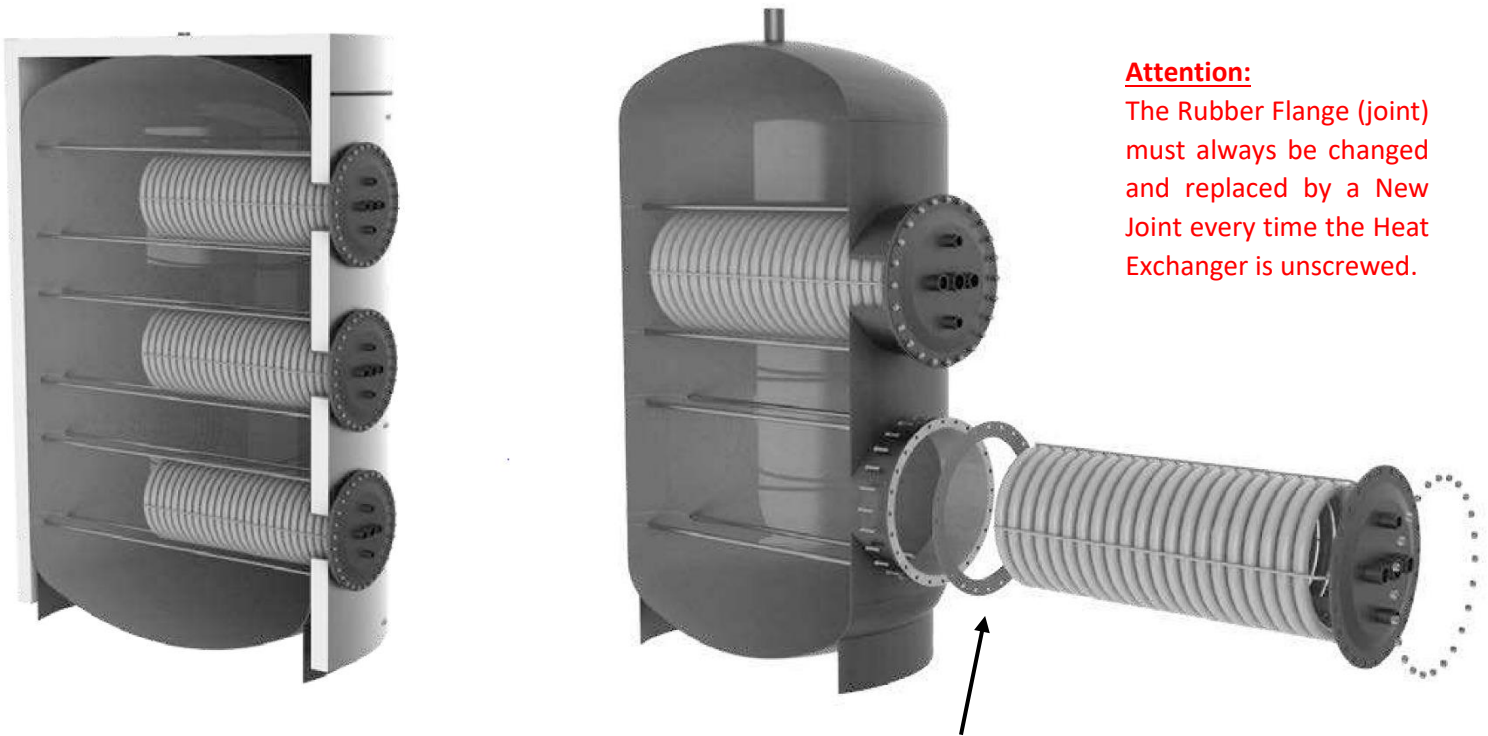
Model	EBUFIN 500	EBUFIN 750	EBUFIN 1000	EBUFIN 1500	EBUFIN 2000
Lower Coil Heat Exchanger <b>CI1/CO1</b> Diameter (In)	1"				
Upper Coil Heat Exchanger <b>CI2/CO2</b> Diameter (In)	1"				
Free Outlets Diameter <b>FR</b> (In)	1½"			3"	
Recirculation <b>R</b> Outlet Diameter (In)	1½"			3"	
<b>CWI</b> Diameter (In)	1½"			3"	
<b>HWO</b> Diameter (In)	1½"			3"	
Ventilation Outlet Diameter <b>VEN</b> (In)	¾"				
Sensor <b>S</b> Outlets Diameter (In)	½"				
Thermostat <b>T</b> Outlet Diameter (In)	½"				
Thermometer <b>TR</b> Outlet Diameter (In)	½"				
<b>POSITION ON TANK</b>					
<b>A</b> Cold Water Inlet <b>CWI</b> /Coil 1 Outlet <b>CO1</b> /Free Outlet (mm)	235	280	320	320	320
<b>B</b> Coil 1 Inlet <b>CI1</b> (mm)	750	795	940	925	935
<b>C</b> Free Outlet <b>FR</b> (mm)	810	855	1000	990	990
<b>D1</b> Tank Stand Diameter (mm)	Ø580	Ø750	Ø750	Ø1040	Ø1140
<b>D2</b> Internal Tank Diameter (mm)	Ø640	Ø800	Ø800	Ø1100	Ø1200
<b>D3</b> Total Tank Diameter (mm)	Ø840	Ø1000	Ø1000	Ø1300	Ø1400
<b>E</b> Recirculation <b>R</b> (mm)	935	980	1150	1190	1190
<b>F</b> Thermostat <b>T</b> (mm)	970	1015	1235	1235	1235
<b>G</b> Free Outlet <b>FR</b> (mm)	1120	1165	1355	1390	1390
<b>H</b> Height (mm)	1740	1840	2040	2040	2040
<b>J</b> Thermometer <b>TR</b> (mm)	1275	1320	1530	1570	1570
<b>K</b> Hot Water Outlet <b>HWO</b> (mm)	1325	1370	1660	1630	1630
<b>L</b> Internal DHW Tank Diameter (mm)	Ø400				
<b>M</b> Internal DHW Tank Height (mm)	1000	1250			
<b>N</b> Coil 2 Outlet <b>CO2</b> (mm)	870	915	1060	1040	1040
<b>O</b> Coil 2 Inlet <b>CI2</b> (mm)	1385	1430	1680	1540	1540

### 3. Installation

- Always make sure that the tank is placed on a flat surface without any inclination to prevent air concentrating at any point inside the tank or piping.
- For EBUFTT Tanks it is imperative to first fill the Internal DHW Tank (Open Circuit) before filling the external Heating Tank (closed circuit) to avoid eventual damage of the DHW tank from pressure difference. If the external Heating Tank is filled before there is a danger in case of over-pressure that the Internal Tank be crushed due to pressure difference.

## E. MAINTENANCE AND TROUBLESHOOTING

### 1. Removing The Extractible Coil Heat Exchangers of EBUF Series Tanks



**Attention:**

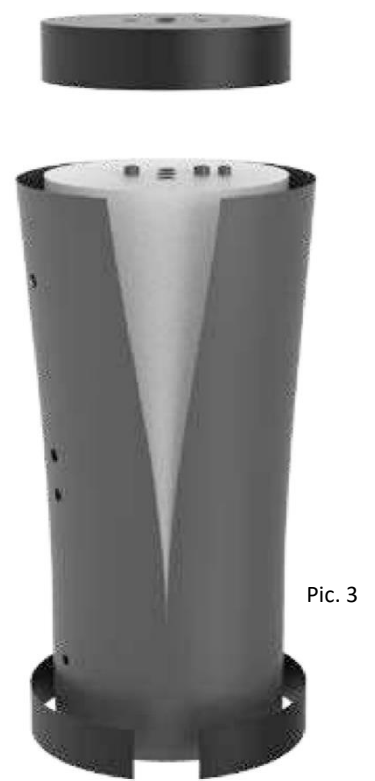
The Rubber Flange (joint) must always be changed and replaced by a New Joint every time the Heat Exchanger is unscrewed.

**Attention:** When placing or removing the Heat Exchangers from the Tank, never drag them or let them come into contact with the inner surface of the Flange Hole. Risk of damaging the Heat Exchanger and the Enamel coating which may result to corrosion.



## 2. Removing The DHW Stainless Steel Coil of EBUFIN Series Tanks

When Removing the Stainless Steel DHW Coil, it is Imperative to follow the order 1 to 7 as per the pictures below, and reverse order when re-installing it.



### **Attention:**

The Rubber Flange (joint) must always be changed and replaced by a New Joint every time the Tank is opened and the Stainless-Steel Coil is unscrewed.





Pic. 6

**Attention:**

The Rubber Flange (joint) must always be changed and replaced by a New Joint every time the Tank is opened and the Stainless-Steel Coil is unscrewed.



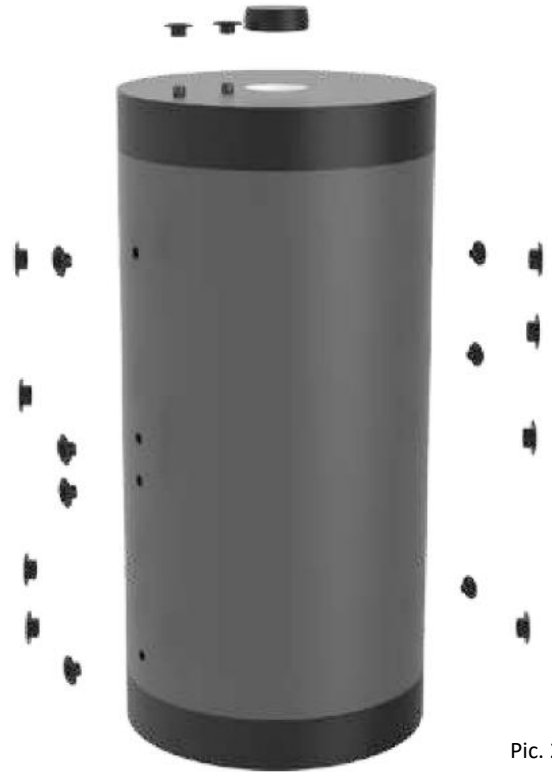
Pic. 7

### 3. Replacing the Anode and Removing The DHW Tank of EBUFTT Series Tanks

When Replacing the Anode (magnesium Rod) it is Imperative to follow the order 1 to 6 as per the pictures below and When Removing the Internal DHW Tank, the order 1 to 8 must be Followed. The reverse Order Must be Followed when re-installing it the Anode and Tank.



Pic. 1



Pic. 2

**Attention:**

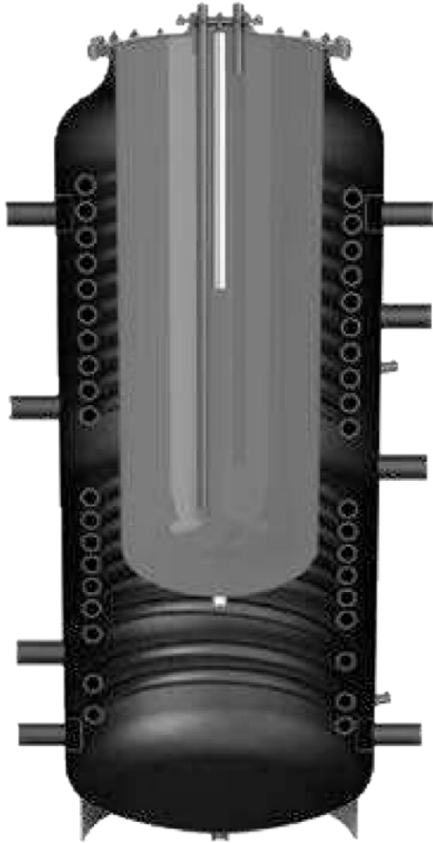
The Rubber Flange (joint) must always be changed and replaced by a New Joint every time the Tank is opened and the DHW Tank is unscrewed.



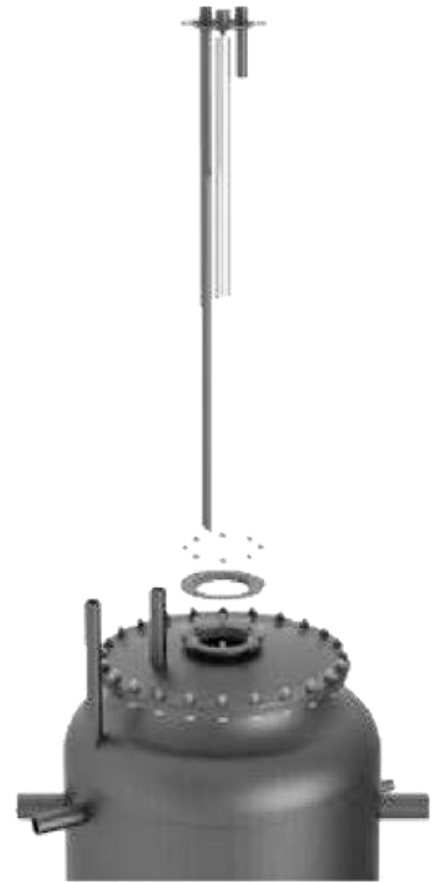
Pic. 3



Pic. 4



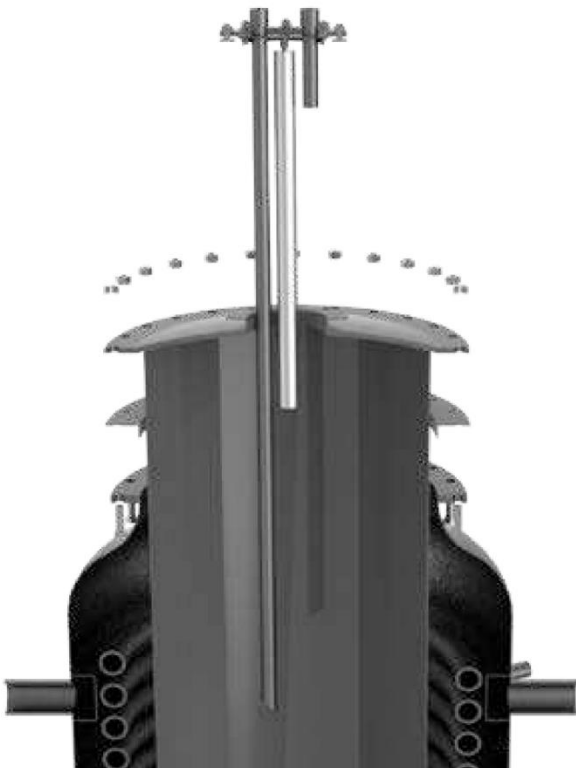
Pic. 5



Pic. 6

**Attention:**

The Rubber Flange (joint) must always be changed and replaced by a New Joint every time the Tank is opened and the DHW Tank is unscrewed.



Pic. 7



Pic. 8

#### 4. General maintenance

In order to ensure the constant well-functioning of the Tanks, they must be reviewed and maintained periodically (see warranty sheet) and the warranty sheet accompanying must be completed accordingly by the installer.

All installations and maintenance must be performed by qualified and certified professionals, following all relevant local norms and regulations (1), industry codes, and according to the manufacturer's instructions.

Before starting any maintenance work, the main power supply to the Tanks and/or system must always be turned OFF, and the Heat Exchangers in case of Removable Heat Exchangers, must be removed.

Revisions consists of:

- The optical and physical inspection of the tightness of all joints and connections (hydraulic and electrical), verification that all safety valves, pressure reducing valves and mixing valves are working properly (safety valves on primary and secondary circuit), that the insulation of all the pipes is in good condition.
- Making sure that scale and salts have not accumulated in the valves or in the Tank. Poor water quality at the water can result in scale formation and may block the safety valves and Tank outlets leaving the tank unprotected against very high temperatures above 90°C and high pressure (greater than 10 bars).
- Making sure the electrical heating elements and thermostats are working properly and do not have scale or salts accumulation.
- Cleaning of the Tanks and removal of scale or deposits inside the Tanks, on the Heat Exchangers and on the electric elements, valves, etc...
- Making sure that the Heat exchanger is in good conditions and perfect working order
- The anode (magnesium rod) must be checked every year and replaced if it has been worn-out or reduced to 50% of its initial size or weight or if it has been covered by the accumulation of salts.
- Verifying that the weight of the thermal fluid in the primary circuit is adapted to local climatic conditions. The thermal fluid must in any case be changed at least every 3 years as it loses its properties through time.
- Verifying that the water quality entering the Tank is within standards as per the requirements in the table in the General Installation Instructions in this manual and the eventual filters and water softeners are in proper working order.

**Attention:** do not use any detergents, acids or any other corrosive products that may damage the Tanks or the enamel lining of the Tanks.

## 5. TROUBLESHOOTING

In case the Tanks or the System do not produce enough hot water, please verify the following:

1. That all hydraulic connections of the system are water tight and there are no leaks.
2. That there are no leaks on the taps or on the piping of the building
3. That the heating sources are working properly.
4. If the level of the thermal fluid in the closed circuit is not too low. Set to level filling with thermal fluid mixture through the fluid inlet where the safety valve or expansion vessel is placed.
5. That the pipes connecting the heating source to the tank are not bent twisted nor have any angles.
6. That there is no air trapped in the closed circuit of the system.
7. That the supply of cold and hot water is connected.
8. That the temperature set on the mixing valve is not too low (below 50°C depending on local regulations)
9. That all eventual pumps are properly sized and dimensioned
10. If the electric back-up is working. In case it is not working please check the following:
  - That the main power supply is ON
  - That the thermostat is not set too low
  - That the back-up element is not on security mode. The security button must be pushed-in
  - That the thermostat and back-up element are not damaged
  - That the back-up element wiring is properly connected and to the relevant terminals

If problems persist, then please consider:

- a) That the weather conditions allow the proper heating of the system
- b) The hot water consumption does not exceed the installation's capacity, or the consumers' expectations of are not above this capacity.
- c) The consumer has understood the use of the electrical back-up

**Note: all verifications and interventions must be carried out by qualified and certified personnel.**



## WARRANTY CONDITIONS

1. The present warranty covers the repair or substitution of the defective parts or part of the products from authorised personnel. The replacement of the complete product can only happen if the repair is not possible. In any case of failure or malfunction of the product, the buyer must immediately inform the company as well as the distributor.
2. The present warranty covers only the supply of spare parts and in any case does not cover any expenses for shipping costs. Dispatch costs as well as any authorized personnel expenses or expenses for replacement of the defective parts are on clients charge.
3. In case of malfunction, the dispatch of the defective parts/products to the company headquarters or place of repair of the defective product is on clients charge. Otherwise, all costs for on-spot repair from authorised personnel at the client's location is at client's expense. The company reserves the right of decision on the type and how the repair will be made according to its judgment. Every repair crew visit, even for just auditing and checking the system is charged with the expenses and fees of the technician.
4. Any warranty claim can only be valid if this original warranty card is presented accompanied with the original purchase receipt edited by the distributor and the Maintenance Book. Furthermore, for the warranty to be valid the buyer must complete and sign both parts of the warranty (clients copy and distributors copy) and send the relative parts to the parties intended within 10 days from the date of installation.
5. All spare parts or parts repaired or replaced have the same benefit of warranty period as the remaining period of the general warranty of the system.
6. The electric parts of the system (electric element, thermostat, etc...) carry only two (2) years warranty from the date of purchase.
7. The warranty does not cover the anode (magnesium rod) or its replacement
8. The manufacturer assumes no responsibility and the present warranty is invalid in the following cases:
  - A. When the product has not been checked, repaired, altered or installed by non-authorized personnel by the manufacturer or the distributor – or his partners
  - B. If the ordinary services of the product have not been performed by authorised by the company personnel and as per Maintenance Recommendations in the product Installation Manual. The 1st service must be conducted within 1 year (12 months) after the date of purchase of the product at the clients care and expense. Proof of service is the signature and stamp of the authorised personnel at the bottom of the present warranty card in combination with the original invoice of the service from the service technician.
  - C. When any damage or malfunction is done to people or thing or the product itself due to accident, mishandling, improper or inappropriate use (intentional or unintentional), negligence, maltreatment or bad installation of the product, lack of servicing of the product, wrong technical intervention on the product or its parts, or to wrong connexions – cabling of the electrical resistance or other electrical parts, other the instructions provides by the manufacturer.
  - D. If damage or malfunction of the system is due to bad weather conditions and natural disasters or vandalism (such as: natural disaster, frost, storms, floods, hail, earthquakes, fires, arson, etc...)
  - E. Damage to the heating element of the tank or the Tank itself due to excessive salt, scale, dirt or other external bodies concentration. Damage of the tank caused by overheating or excessive pressure of the water supply network or generally by extreme operating conditions and extrinsic factors. Damage due to lack of safety equipment installation to protect the Tank or people (such as safety valves, mixing valves, pressure reducing valves, etc...). Damage caused by improper maintenance, or unauthorized third-party intervention.
  - F. In case of normal wear and deterioration (due to time, etc...) of the external parts of the product which do not affect the proper use of the system, or in case of damage to any valves (safety valves, mixing valves, pressure reducing valves, etc...). Or in case water standards do not correspond to the standards and values as these are specified in this manual.
9. Manufacturer retains the right of control of the validity of the warranty at each stage of product repair and to charge the owner for the costs of the repairs (value of the parts included) in this case the conditions described in detail in the present warranty card are not met.
10. The present warranty does not affect the owner's and consumer's rights, as these are foreseen by Cypriot law.

1<sup>st</sup>

2<sup>nd</sup>

3<sup>rd</sup>

4<sup>th</sup>

5<sup>th</sup>

6<sup>th</sup>

7<sup>th</sup>

8<sup>th</sup>

DATE STAMP AND SIGNATURE OF MAINTENANCE PERSON



# Enviro Energy Solutions Ltd

## Your Gateway to the Sun

**We do not inherit the earth  
from our fathers,  
We borrow it  
from our children..."**



**...BECAUSE WITH ENVIROENERGY SOLUTIONS THE SUN SHINES FOR EVERYONE...**



**Head Office:** Enviroenergy Solutions E.S. Ltd  
10, Th. Dervi Str. - 1305 Nicosia - Cyprus



**Factory:** 1<sup>st</sup> Km. Inofyta – St. Thomas Rd  
32011 Inofyta – Viotia - Greece