



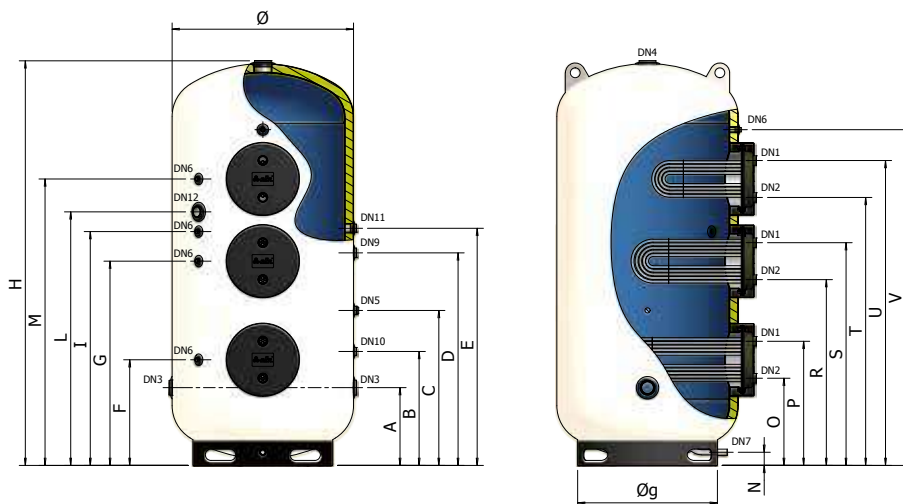
BF3

GLASSLINED CYLINDERS

WITH THREE REMOVABLE STAINLESS STEEL HEAT EXCHANGERS (1.500 - 5.000 LITRES)



BF3 1500 - 2000 - 3000 - 5000



KEYWORD

DN1: Primary fluid inlet (heat exchanger side); **DN2:** Primary fluid outlet (heat exchanger side); **DN3:** Sanitary cold water inlet; **DN4:** Sanitary hot water outlet; **DN5:** Magnesium anode; **DN6:** Probes; **DN7:** Tank drain; **DN8:** Thermo-regulation; **DN9:** Recirculation; **DN10:** Sanitary expansion tank; **DN11:** Extra optional Magnesium Anode; **DN12:** Extra optional heating element;



CYLINDER



FOR SANITARY HOT WATER



SUITABLE FOR SOLAR SYSTEMS



MAGNESIUM ANODE



INTERNAL, GLASSLINING ANTI-CORROSION TREATMENT



POLYURETHANE INSULATION



HEAT EXCHANGER IN STAINLESS STEEL AISI 304



HANDLING BY FORKLIFT



+ 95°C WORKING TEMPERATURE



+110°C HEAT EXCHANGER MAX TEMPERATURE

P_{MAX} 6 bar MAX WORKING PRESSURE

P_{SCA} 12 bar HEAT EXCHANGER MAX PRESSURE

WARRANTY: 5 YEARS

REFERENCE STANDARDS

CYLINDER:

2014/68/UE Directive - ART. 4.3, without CE marking
Ecodesign 2009/125/EC

INTERNAL GLASSLINING:

DIN 4753

The glasslining treatment makes the cylinder suitable to contain hot water for sanitary and hygienic use and resistant to corrosive phenomena.

INSULATION:

Expanded, flexible polyurethane with open cells.

HEAT EXCHANGER:

Removable U pipe stainless steel heat exchanger.

INSTALLATION:

- traditional boilers (wall-hung and/or floor-standing)
- condensing boilers
- solar thermal systems

| MODEL | CODE | LITRES | EXCHANGER | | | | | | mm | mm | NOTES |
|-------------|---------------|--------|----------------|--------|----------------|--------|----------------|--------|------|------|-------|
| | | | LOWER | | CENTRAL | | UPPER | | | | |
| | | | m ² | LITRES | m ² | LITRES | m ² | LITRES | | | |
| BF-3 / 1500 | A380H67 VW050 | 1500 | 4,00 | 18 | 3,00 | 15 | 1,60 | 7,5 | 1100 | 2465 | |
| BF-3 / 2000 | A380H70 VW050 | 2000 | 4,00 | 18 | 4,00 | 18 | 2,50 | 12,5 | 1200 | 2445 | |
| BF-3 / 3000 | A380H74 VW050 | 3000 | 6,00 | 24 | 6,00 | 24 | 3,00 | 15 | 1350 | 2840 | |
| BF-3 / 5000 | A380H80 VW050 | 5000 | 10,00 | 39 | 10,00 | 39 | 5,00 | 21 | 1700 | 3045 | |

| MODEL | ANODE ø x ø conn. x L | DN | DN | DN | DN | DN | DN | DN | DN | DN | DN | DN | DN |
|-------------|--------------------------|--------|--------|--------|----|--------|------|----|----|--------|--------|--------|----|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| BF-3 / 1500 | 32 x 1.1/4" x 670 | 1.1/2" | 1.1/2" | 2.1/2" | 3" | 1.1/4" | 1/2" | 1" | - | 1.1/2" | 1.1/4" | 1.1/4" | 2" |
| BF-3 / 2000 | 32 x 1.1/4" x 670 | 1.1/2" | 1.1/2" | 2.1/2" | 3" | 1.1/4" | 1/2" | 1" | - | 1.1/2" | 1.1/4" | 1.1/4" | 2" |
| BF-3 / 3000 | 32 x 1.1/4" x 700 | 1.1/2" | 1.1/2" | 3" | 3" | 1.1/4" | 1/2" | 1" | - | 1.1/2" | 1.1/4" | 1.1/4" | 2" |
| BF-3 / 5000 | 40 x 1.1/2" x 640 | 1.1/2" | 1.1/2" | 3" | 3" | 1.1/2" | 1/2" | 1" | - | 1.1/2" | 1.1/4" | 1.1/2" | 2" |

| MODEL | A | B | C | D | E | F | G | I | L | M | N | O | P | Q | R | S | T | U | V |
|-------------|-----|-----|------|------|------|-----|------|------|------|------|----|-----|-----|----|------|------|------|------|------|
| | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm |
| BF-3 / 1500 | 475 | 695 | 945 | 1295 | 1445 | 645 | 1245 | 1425 | 1545 | 1745 | 80 | 530 | 755 | - | 1130 | 1355 | 1630 | 1855 | 2045 |
| BF-3 / 2000 | 465 | 685 | 935 | 1285 | 1435 | 635 | 1235 | 1415 | 1535 | 1735 | 80 | 520 | 745 | - | 1120 | 1345 | 1620 | 1845 | 2035 |
| BF-3 / 3000 | 530 | 730 | 980 | 1480 | 1630 | 680 | 1280 | 1520 | 1730 | 1930 | 80 | 565 | 790 | - | 1165 | 1390 | 1815 | 2040 | 2380 |
| BF-3 / 5000 | 635 | 835 | 1085 | 1585 | 1735 | 785 | 1385 | 1625 | 1835 | 2035 | 80 | 670 | 895 | - | 1270 | 1495 | 1920 | 2145 | 2485 |

TECHNICAL CHARACTERISTICS

| HEAT EXCHANGER | CODE | MAXIMUM WORKING PRESSURE / MAXIMUM WORKING TEMPERATURE | | | | PRESSURE DROP OF HEAT EXCHANGERS |
|---------------------|---------------|---|--------------------------------------|--------------------------------------|--------------------------------------|-------------------------------------|
| | | HOT WATER 12 BAR / 110 °C | SATURATED STEAM 1 BAR / 120 °C | SATURATED STEAM 2 BAR / 134 °C | SATURATED STEAM 4 BAR / 152 °C | |
| 1,6 m ² | 2950150 V0010 | ● | ● | ● | ● | 80 mBar |
| 2,5 m ² | 2960250 V0010 | ● | ● | ● | ● | 110 mBar |
| 3,0 m ² | 2950300 V0010 | ● | ● | ● | n.a. | 200 mBar |
| 4,0 m ² | 2950400 V0010 | ● | ● | ● | n.a. | 220 mBar |
| 5,0 m ² | 2960500 V0010 | ● | ● | ● | n.a. | 270 mBar |
| 6,0 m ² | 2960600 V0010 | ● | ● | ● | n.a. | 350 mBar |
| 10,0 m ² | 2961000 V0010 | ● | ● | n.a. | n.a. | 400 mBar |

N.B. If using the heat exchanger with temperatures over 100 °C, ask for steam seals

| MODEL | INSULATION TYPE | INSULATION THICKNESS | INSULATION DENSITY | INITIAL THERMAL CONDUCTIVITY | (*) INSULATION THERMAL LOSS | EXTERNAL FINISH |
|-------------|---|-------------------------|-----------------------|------------------------------------|-----------------------------------|------------------------|
| BF-3 / 1500 | Flexible, expanded polyurethane with open cells | 50 mm | 15 kg/m ³ | 39 mW/m K | 9,969 kWh / 24h | Skay white RAL 9001 |
| BF-3 / 2000 | | | | | 10,865 kWh / 24h | |
| BF-3 / 3000 | | | | | 13,799 kWh / 24h | |
| BF-3 / 5000 | | | | | 18,264 kWh / 24h | |

(*) Thermal loss calculated with an accumulation temperature equal to 65 °C and with an external temperature equal to 20 °C.

SAFETY DEVICES

The cylinders must be protected against the effects of over pressure by installing:

- A **SAFETY VALVE** calibrated to pressure below the max pressure of the cylinder
- A **SANITARY EXPANSION TANK** mod. ELBI **D - DV series**

| MODEL | RECOMMENDED SANITARY EXPANSION TANK (mod. ELBI D-DV series) |
|-------------|--|
| BF-3 / 1500 | DV - 150 |
| BF-3 / 2000 | DV - 150 |
| BF-3 / 3000 | DV - 300 |
| BF-3 / 5000 | n°2 pcs DV - 200 |

Sized using the following parameters: T. accumulation= 85 °C / T. inlet = 15 °C / Pre-charge pressure = 3 bar / Max pressure = 6 bar
The recommended capacity must be verified on the basis of the actual dimensions of the system implemented

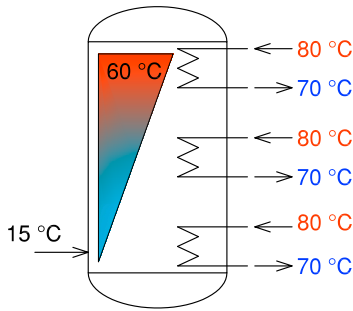
| MODEL | MAGNESIUM ANODE SUPPLIED | CATHODIC PROTECTION APPLICABLE |
|-------------|----------------------------|---|
| BF-3 / 1500 | 1,1/4" x 670 / Cod.8560070 | Cathodic protection for cylinders 1500/2000 l Code 8560180 |
| BF-3 / 2000 | 1,1/4" x 670 / Cod.8560070 | |
| BF-3 / 3000 | 1,1/4" x 700 / Cod.8560080 | Cathodic protection for cylinders 3000/5000 l. Code 8560185 |
| BF-3 / 5000 | 1,1/2" x 640 / Cod.8560100 | |

ACCUMULATION AT 60 °C

HEAT EXCHANGER: T.inlet = 80°C; ΔT = 10°C.

STORAGE WATER HEATER: T.inlet =15°C; T. accumulation = 60°C

OPERATION WITH HOT WATER



| MODEL | HEAT EXCHANGER [m²] | THERMAL POWER [kW] | PUMP CAPACITY [l/hour] | HEATING TIME ⁽¹⁾ [min] | PRODUCTION DHW AT 60°C [l/hour] | QUANTITY DHW AT 45°C in first 10 min. ⁽²⁾ [l] |
|-------------|---------------------|--------------------|------------------------|-----------------------------------|---------------------------------|--|
| BF-3 / 1500 | 1,6 | 40,60 | 3580 | 42 | 775 | 1084 |
| | 3,0 | 72,00 | 6400 | | | |
| | 4,0 | 98,00 | 8500 | 30 | 3203 | 1825 |
| BF-3 / 2000 | 2,5 | 54,00 | 4760 | 38 | 1030 | 1362 |
| | 4,0 | 98,00 | 8500 | | | |
| | 4,0 | 98,00 | 8500 | 32 | 3656 | 2220 |
| BF-3 / 3000 | 3,0 | 72,00 | 6400 | 46 | 1375 | 1895 |
| | 6,0 | 159,30 | 14100 | | | |
| | 6,0 | 159,30 | 14100 | 29 | 6088 | 3592 |
| BF-3 / 5000 | 5,0 | 115,00 | 10150 | 47 | 2197 | 3228 |
| | 10,0 | 250,70 | 22000 | | | |
| | 10,0 | 250,70 | 22000 | 31 | 9580 | 5705 |

(1) Time required to bring the temperature of the cylinder from 15 °C to 60 °C.

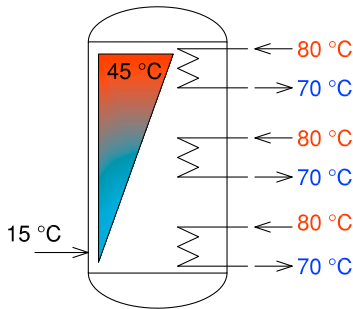
(2) Quantity of DHW (Sanitary Hot Water) at 45°C available in the first 10 minutes with DHW accumulation at 60° C.

ACCUMULATION AT 45 °C

HEAT EXCHANGER: T.inlet = 80°C; ΔT = 10°C.

STORAGE WATER HEATER: T.inlet =15°C; T. accumulation = 45°C

OPERATION WITH HOT WATER



| MODEL | HEAT EXCHANGER [m²] | THERMAL POWER [kW] | PUMP CAPACITY [l/hour] | HEATING TIME ⁽¹⁾ [min] | PRODUCTION DHW AT 45°C [l/hour] |
|-------------|---------------------|--------------------|------------------------|-----------------------------------|---------------------------------|
| BF-3 / 1500 | 1,6 | 59,20 | 5230 | 20 | 1690 |
| | 3,0 | 92,00 | 8100 | | |
| | 4,0 | 131,60 | 11600 | 16 | 6135 |
| BF-3 / 2000 | 2,5 | 78,00 | 6900 | 18 | 2230 |
| | 4,0 | 131,60 | 11600 | | |
| | 4,0 | 131,60 | 11600 | 16 | 7540 |
| BF-3 / 3000 | 3,0 | 91,90 | 8140 | 24 | 2635 |
| | 6,0 | 223,60 | 19710 | | |
| | 6,0 | 223,60 | 19710 | 14 | 12820 |
| BF-3 / 5000 | 5,0 | 160,00 | 14000 | 23 | 4580 |
| | 10,0 | 339,00 | 29900 | | |
| | 10,0 | 339,00 | 29900 | 16 | 19440 |

(1) Time required to bring the temperature of the cylinder from 15 °C to 45 °C.

TABLE OF HEATING ELEMENT APPLICABILITY TO CYLINDERS

| Heating element model* | | | | | Water heating time from 15° C to 60 °C (expressed in minutes) <i>The heating times outlined are approximate</i> | | | |
|------------------------|------------|----------------|------------|-------------|---|-----------|-----------|------------|
| CODE | Power (kW) | Voltage (Volt) | Connection | Length (mm) | BF-3 1500 | BF-3 2000 | BF-3 3000 | BF-3 5000 |
| 8601000 | 1 | 220 V / MF | G 1.1/4" | 295 | 4720 min. | 6300 min. | 9420 min. | 15750 min. |
| 8601650 | 1.65 | 220 V / MF | G 1.1/4" | 450 | 2870 min. | 3820 min. | 5740 min. | 9550 min. |
| 8602000 | 2 | 220 V / MF | G 1.1/4" | 515 | 2370 min. | 3150 min. | 4740 min. | 7875 min. |
| 8602600 | 2.6 | 220 V / MF | G 1.1/4" | 675 | 1830 min. | 2450 min. | 3660 min. | 6125 min. |
| 8602601 | 2.6 | 220 V / MF | G 1.1/4" | 360 | 1830 min. | 2450 min. | 3660 min. | 6125 min. |
| 8603300 | 3.3 | 220 V / MF | G 1.1/4" | 825 | 1450 min. | 1940 min. | 2900 min. | 4850 min. |
| 8603301 | 3.3 | 220 V / MF | G 1.1/4" | 435 | 1450 min. | 1940 min. | 2900 min. | 4850 min. |
| 8604001 | 4 | 220 V / MF | G 1.1/4" | 510 | 1200 min. | 1600 min. | 2400 min. | 4000 min. |
| 8705000 | 5 | 380 V / TF | G 1.1/2" | 445 | 950 min. | 1300 min. | 1900 min. | 3250 min. |
| 8706000 | 6 | 380 V / TF | G 1.1/2" | 510 | 800 min. | 1060 min. | 1600 min. | 2650 min. |
| 8708000 | 8 | 380 V / TF | G 1.1/2" | 670 | 610 min. | 800 min. | 1220 min. | 2000 min. |
| 8710000 | 10 | 380 V / TF | G 1.1/2" | 820 | 490 min. | 640 min. | 980 min. | 1600 min. |
| 8712000 | 12 | 380 V / TF | G 1.1/2" | 970 | 410 min. | 540 min. | 820 min. | 1350 min. |

n.a. =Heating element not applicable

SEE TABLE OF SYMBOLS
IN THE SHUTTER OF THE
COVER

