

# PUFFERMAS® 3

HEATING WATER BUFFER TANK WITH 2 FIXED HEAT EXCHANGERS AND MACS® MODULE FOR IMMEDIATE D.H.W. PRODUCTION



### APPLICATION

Stratified storage of technical water and instantaneous production of domestic hot water (DHW) with high flow rates.

### MATERIAL

Mild steel painted on the outside. Buffer intended for closed circuit installation, so no anti-corrosion treatment is provided.

### DHW HEAT EXCHANGER

External MACS® module with Stainless steel 316L brazed plate exchanger for immediate D.H.W. production.

### HEATING WATER HEAT EXCHANGER

N° 2 fixed heat exchangers suitable for solar thermal systems and other heat source.

### TECHNICAL DESCRIPTION

The immediate and fast production of D.H.W. granted by the MACS® module allows the following benefits:

- to reduce dimensions of the water heater needed
- easy maintenance
- maximum hygiene for anti-legionellosis bacteria's
- to produce more DHW than the quantity obtained by boiler with similar capacity because hot water is stored at a higher temperature than DHW.

### INSULATION

**Buffer tank:** High thermal insulation with ecological hard polyurethane foam. Models 800-1000 available with dismantlable hard foam insulation

**MACS® module:** insulating PPE cover.

Grey PVC external lining.

### WARRANTY

5 years (tank). See general sales conditions and warranty for electrical parts.

### ACCESSORIES AND SPARE PARTS

See Accessories section for the entire list.



## PUFFERMAS® 3 VB

| Model       | MACS® module model | HARD FOAM INSULATION<br>Art. Nr. | SLB heat exchanger<br>model / plates nr. | HEAT EXCHANGER SURFACE |       | ENERGY EFFICIENCY CLASS<br> |
|-------------|--------------------|----------------------------------|--|------------------------|-------|-----------------------------|
|             |                    |                                  |  | Upper                  | Lower |                             |
| <b>500</b>  |                    | 3251162314843                    |  | 1,3                    | 1,9   | <b>C</b>                    |
| <b>600</b>  |                    | 3251162314844                    |  | 1,3                    | 2,1   | <b>C</b>                    |
| <b>800</b>  | 70                 | 3251162314845                    | SLB20 / 34                               | 1,8                    | 2,5   | <b>B</b>                    |
| <b>1000</b> |                    | 3251162314846                    |  | 2,5                    | 3,1   | <b>C</b>                    |
| <b>1500</b> |                    | 3251162314847                    |  | 2,8                    | 3,8   | <b>C</b>                    |
| <b>1000</b> | 120                | 3251162314848                    | SLB40/ 40                                | 2,5                    | 3,1   | <b>C</b>                    |
| <b>1500</b> |                    | 3251162314849                    |  | 2,8                    | 3,8   | <b>C</b>                    |



Electronic MACS® module

PATENTED

| Model       | MACS® module model | DHW production (10-45°C) with accumulation at 80°C | Maximum availability of DHW (10-45°C) with accumulation at 80°C |
|-------------|--------------------|--|---|
|             |                    | [lt/min]   | [lt]  |
| <b>500</b>  |                    | 37   | 680   |
| <b>600</b>  |                    | 37   | 800   |
| <b>800</b>  | 70                 | 37   | 1150  |
| <b>1000</b> |                    | 37   | 1350  |
| <b>1500</b> |                    | 37   | 2080  |
| <b>1000</b> | 120                | 61   | 1680  |
| <b>1500</b> |                    | 61   | 2580  |

## ACCESSORIES

### Thermometer

|               |  |
|---------------|--|
| Art. Nr.      |  |
| 5032240000107 |  |
| 5 units box   |  |

### Recirculation kit

|                         |  |
|-------------------------|--|
| Art. Nr.                |  |
| 5221000000073           |  |
| DHW recirculation group |  |

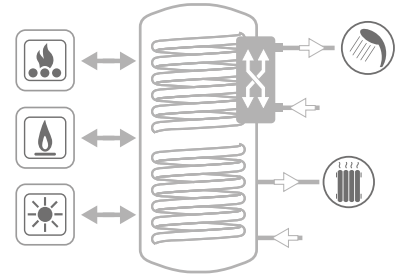
### Buffer tanks connecting kit

|  |            |  |
|--|------------|--|
| Art. Nr.   | Connection |  |
| 5006170001001  | 1" 1/2     |  |
| Stainless steel extensible connecting kit - (200 ÷ 400 mm) |            |  |

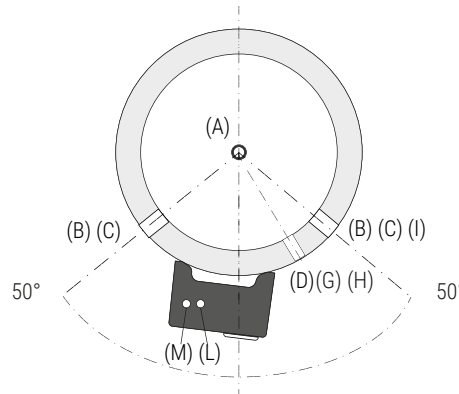
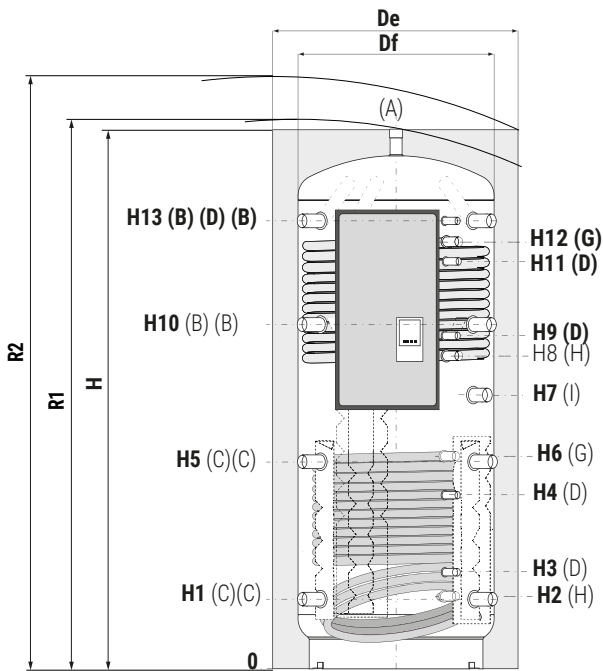
# PUFFERMAS® 3

HEATING WATER BUFFER TANK WITH 2 FIXED HEAT EXCHANGERS AND MACS® MODULE FOR IMMEDIATE D.H.W. PRODUCTION

| STORAGE |       | FIXED HEAT EXCHANGER |        | HEAT EXCHANGER STAINLESS STEEL PLATES (MACS®) |       | DHW HARDNESS |
|---------|-------|----------------------|--------|---|-------|--------------|
| Pmax    | Tmax  | Pmax                 | Tmax   | Pmax  | Tmax  | F max        |
| 3 bar   | 99 °C | 12 bar               | 110 °C | 8 bar   | 99 °C | 30 °f        |

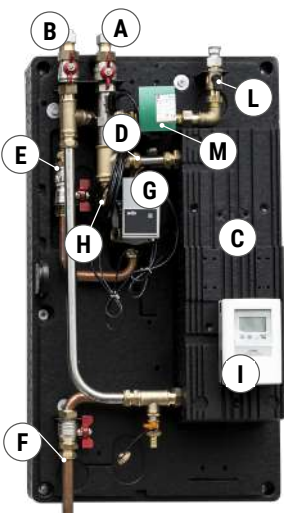


- A** Heating delivery/From generator/Air purge 1"1/2 G F
- B** Heating delivery/From generator 1"1/2 G F
- C** Heating return/to generator 1"1/2 G F
- D** Probe 1/2" G F
- G** Fixed heat exchanger inlet 1" G F
- H** Fixed heat exchanger outlet 1" G F
- I** Connection for electric immersion heater 1"1/2 G F
- L** Domestic hot water outlet 3/4" G M (1" G M for models 120)
- M** Domestic cold water circuit inlet 3/4" G M (1" G M for models with MACS® 120)



| Model       | Volume [lt] | De   | Df  | H    | R1   | R2   | H1  | H2  | H3  | H4  | H5  | H6   | H7   | H8   | H9   | H10  | H11  | H12  | H13  |
|-------------|-------------|------|-----|------|------|------|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
|             |             | [mm] |     |      |      |      |     |     |     |     |     |      |      |      |      |      |      |      |      |
| <b>500</b>  | 478         | 750  | 650 | 1619 | //   | 1785 | 247 | 260 | 360 | 533 | 629 | 744  | 870  | 930  | 1025 | 1011 | 1130 | 1231 | 1343 |
| <b>600</b>  | 560         | 750  | 650 | 1870 | //   | 2015 | 247 | 260 | 360 | 582 | 695 | 855  | 970  | 1090 | 1200 | 1144 | 1485 | 1391 | 1593 |
| <b>800</b>  | 805         | 940  | 790 | 1840 | 1880 | 2067 | 265 | 278 | 378 | 584 | 690 | 762  | 918  | 1003 | 1115 | 1115 | 1442 | 1347 | 1541 |
| <b>1000</b> | 946         | 940  | 790 | 2130 | 2165 | 2329 | 265 | 284 | 384 | 656 | 787 | 953  | 1145 | 1188 | 1388 | 1309 | 1588 | 1661 | 1831 |
| <b>1500</b> | 1454        | 1100 | 950 | 2250 | //   | 2505 | 313 | 336 | 432 | 736 | 845 | 1006 | 1236 | 1286 | 1396 | 1377 | 1783 | 1673 | 1909 |

## MACS® ELECTRONIC MODULE FOR IMMEDIATE D.H.W. PRODUCTION



|          |   |
|----------|---|
| <b>A</b> | Domestic hot water outlet (DHW)             |
| <b>B</b> | Domestic Water inlet                        |
| <b>C</b> | Stainless steel 316L brazed plate exchanger |
| <b>D</b> | Flow rate/ temperature probe                |
| <b>E</b> | Primary Inlet                               |
| <b>F</b> | Primary Outlet                              |
| <b>G</b> | "Energy Savings" Circulation Pump           |
| <b>H</b> | Valves In/Out for DHW                       |
| <b>I</b> | Electronic control unit                     |

| D.H.W. recirculation kit (optional) |  |
|-------------------------------------|--|
| <b>L</b>                            | Connection for D.H.W. recirculation (optional) |
| <b>M</b>                            | D.H.W. recirculation pump (optional)           |

The MACS® module is an external unit that immediately produces D.H.W., using the heat energy stored in the Buffer thanks to the stainless steel plate exchanger, granting safety and comfort with the possibility to regulate outlet temperature. With the new electronic regulation system, the management of the temperature on the DHW side is guaranteed and maintained in an optimal manner and with immediate response times from the electronic control unit on the module.

FOR DHW FLOW RATE CHARTS REFER TO HYDRONIC SECTION - ELECTRONIC MACS® MODULE