

TERMOMAS® 3 PDC

HEATING WATER BUFFER TANK FOR HEAT PUMP WITH MACS® MODULE
FOR IMMEDIATE DHW PRODUCTION AND 2 FIXED HEAT EXCHANGERS



APPLICATION

Heating water storage and immediate Domestic Hot Water (DHW) production at high flow rate and performance. Primary storage temperatures can be rather low.

TECHNICAL DESCRIPTION

Expressly designed to be connected to heat pump, Termomas PDC models have the following advantages:

- easy maintenance
- maximum hygiene for anti-legionellosis bacteria
- more DHW production at low primary storage temperatures
- heating water storage optimization.

MATERIAL

Mild steel outside painted. There is no need of any anti-corrosion treatment due to the fact that the buffer is in a closed circuit without any adding air.

D.H.W. HEAT EXCHANGER

Plate to plate stainless steel exchanger in external MACS® module for immediate D.H.W. production.

HEATING WATER HEAT EXCHANGER

The buffer tank is equipped with 2 mild steel fixed heat exchangers to integrate other energy sources such as solar system or traditional boiler, in addition to heat pump.

INSULATION

Buffer tank: High thermal insulation with ecological polyurethane hard foam.

MACS® Module: insulating PPE cover.
Grey PVC external lining

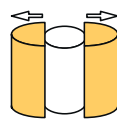
WARRANTY

5 years (tank)


See general sales conditions and warranty for electrical parts.


ACCESSORIES AND SPARE PARTS

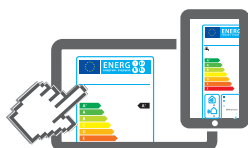
See Accessories section for the entire list.



TERMOMAS® 3 PDC

| Model | HARD FOAM insulation Art. Nr. | Heat pump max output [kW] | HEAT EXCHANGER SURFACE | | SLB heat exchanger model / plates nr. | ENERGY EFFICIENCY CLASS  |
|------------|----------------------------------|---------------------------------|------------------------|-------|--|--|
| | | | Upper | Lower | | |
| 300 | 3251162284362 | 26 | 0,7 | 1,2 | SLB40 / 40 | C |
| 500 | 3251162284363 | 26 | 1 | 3 | SLB40 / 40 | C |

| Model | DISMOUNTABLE HARD FOAM insulation | Heat pump max output | Upper | Lower | SLB heat exchanger model / plates nr. |  |
|-------|--------------------------------------|-------------------------|-------|-------|--|---|
| | | | [kW] | [m²] | | |
| 800 | 3251162284365 | 35 | 1,8 | 2,5 | SLB40 / 40 | C |



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On line ErP label tool

| Model | DHW Station max output (*) [kW] | DHW Station max flow rate (*) [l/min] | Max DHW availability (10-45°C) with storage at 55°C [litres] |
|------------|---------------------------------------|---|--|
| | | | |
| 300 | 120 | 50 | 334 |
| 500 | | 50 | 557 |
| 800 | | 50 | 891 |

(*)Data obtained under the following conditions:

- Primary water at 80°C
- DHW production from 10°C to 45°C.

Accessories on request

Thermometer

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



Recirculation kit

| |
|--|
| Art. Nr. |
| 5221000000054 |
| Control display + pump (for D.H.W.) |

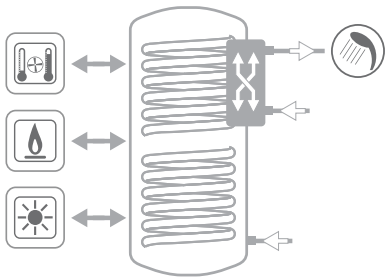


TERMOMAS® 3 PDC

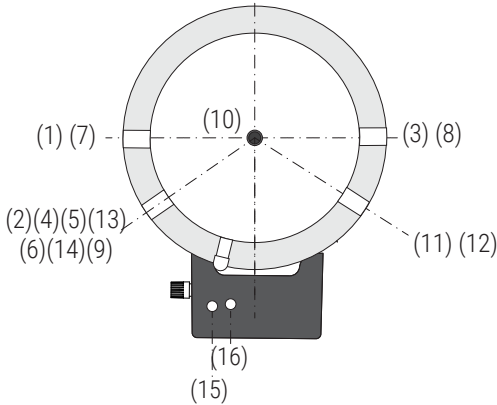
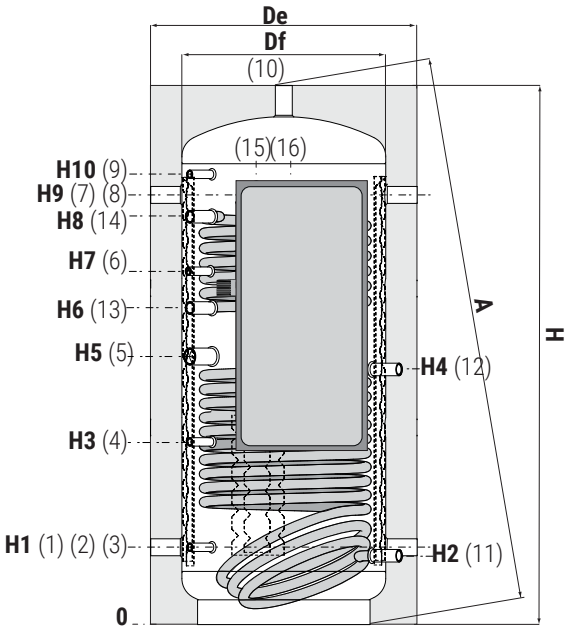
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| STORAGE | | INOX PLATE HEAT EXCHANGER (MACS®) | D.H.W. HARDNESS |
|---------|-------|--------------------------------------|--------------------|
| Pmax | Tmax | Pmax | Tmax |
| 3 bar | 99 °C | 6 bar | 99 °C |
| | | | 30 °f |

CORDIVARI®Lab
TÜV Rheinland Energie
und Umwelt GmbH states
that test procedures and
Cordivari LAB are certified conforming
to European standard EN 15332, as
indicated by Ecodesign ErP Directive.



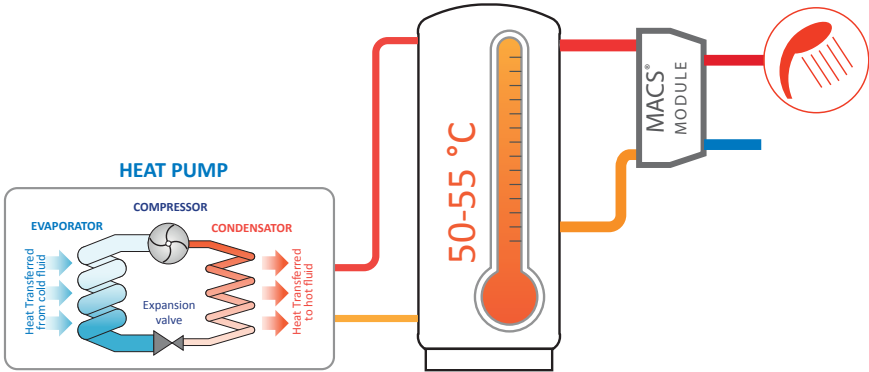
- 1-3 Heating return / To Generator 1"1/2 Gas F
- 2-4-5-8 Connection for instrumentation 1/2" Gas F
- 6 Electrical immersion 1"1/2 Gas F
- 7-9 Heating return Heating delivery 1"1/2 Gas F
- 10 Heating delivery 1"1/2 Gas F
- 15 Domestic hot water inlet 1" GAS M
- 16 Domestic hot water outlet (ACS) 1" GAS M



| Model | Volume | Weight | Df | De | H | A | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 |
|-------|----------|--------|-----|-----|------|------|-----|-----|-----|-----|-----|------|------|--------|------|------|
| | [litres] | [Kg] | | | | | | | | | | | | | | |
| 300 | 278 | 106 | 550 | 650 | 1310 | 1344 | 232 | 195 | 425 | 604 | 645 | 762 | 870 | 1002 | 1048 | 1085 |
| 500 | 456 | 162 | 650 | 750 | 1669 | 1666 | 247 | 260 | 583 | 854 | 904 | 1010 | 1124 | 1301 | 1393 | 1430 |
| 800 | 775 | 205 | 790 | 950 | 1836 | 1885 | 265 | 265 | 613 | 749 | 898 | 1020 | 1138 | 1346,5 | 1541 | 1578 |

EXPRESSLY DESIGNED FOR HEAT PUMP

DHW PRODUCTION MAXIMIZATION COMBINED WITH HEAT PUMP GENERATOR



Thanks to heating water storage optimization and MACS® modules design, TERMOMAS ® PDC buffers allow a high efficiency in DHW production at low storage temperature, as peculiar for heat pumps.

P.E.D. product designed and produced in conformity to the article 4.3 of directive 2014/68/UE - ErP Ecodesign directive 2009/125/CE

EXTRA-BOLLY®
CALORIFIERS

BOLLYTERM®
CALORIFIERS

STAINLESS STEEL
CALORIFIERS

CALORIFIERS FOR
HEAT PUMP

MULTIFUEL ENERGY
CYLINDERS - PUFFER

HYDRONIC

INERTIAL
TANKS

WATER PRESSURE
TANKS

COMPRESSED AIR
RECEIVERS

ACCESSORIES
AND SPARE PARTS

TECHNICAL
SUPPORT

TERMOMAS® PDC - OUTPUT AND PERFORMANCES

PERFORMANCES DURING DHW PRODUCTION PHASE

Q = Flow rate collection in litres per minute

P = Power in kW of the connected heat pump

V = Max quantity of DHW production under expressed conditions

EXIT TEMPERATURE Secondary 42,6 °C

| Model | | P = 0 kW | | P = 5 kW | | P = 10 kW | | P = 15 kW | | P = 20 kW | | P = 25 kW | |
|-------|-------------------|-----------|-------|-----------|-------|-----------|-------|-----------|-------|-----------|-------|-----------|------------|
| | | Q [l/min] | V [l] | Q [l/min] | V [l] | Q [l/min] | V [l] | Q [l/min] | V [l] | Q [l/min] | V [l] | Q [l/min] | V [l] |
| 300 | DHW 10°C/45°C | 10 | 334 | 10 | 420 | 10 | 565 | 10 | 865 | 10 | 1845 | 10 | continuous |
| | Storage initial T | 20 | 334 | 20 | 372 | 20 | 420 | 20 | 482 | 20 | 565 | 20 | 684 |
| | 55°C | 26,3 | 334 | 26,3 | 362 | 26,3 | 395 | 26,3 | 435 | 26,3 | 485 | 26,3 | 547 |
| | DHW 10°C/45°C | 10 | 264 | 10 | 331 | 10 | 447 | 10 | 684 | 10 | 684 | 10 | continuous |
| | Storage initial T | 20 | 264 | 20 | 294 | 20 | 331 | 20 | 381 | 20 | 381 | 20 | 540 |
| | 50°C | 21 | 264 | 21 | 292 | 21 | 327 | 21 | 373 | 21 | 373 | 21 | 515 |

| Model | | P = 0 kW | | P = 15 kW | | P = 20 kW | | P = 25 kW | | P = 30 kW | | P = 35 kW | |
|-------|-------------------|-----------|-------|-----------|-------|-----------|-------|-----------|------------|-----------|------------|-----------|------------|
| | | Q [l/min] | V [l] | Q [l/min] | V [l] | Q [l/min] | V [l] | Q [l/min] | V [l] | Q [l/min] | V [l] | Q [l/min] | V [l] |
| 500 | DHW 10°C/45°C | 10 | 557 | 10 | 1444 | 10 | 3078 | 10 | continuous | 10 | continuous | 10 | continuous |
| | Storage initial T | 20 | 557 | 20 | 803 | 20 | 943 | 20 | 1141 | 20 | 1444 | 20 | 1966 |
| | 55°C | 26,3 | 557 | 26,3 | 726 | 26,3 | 808 | 26,3 | 912 | 26,3 | 1045 | 26,3 | 1224 |
| | DHW 10°C/45°C | 10 | 441 | 10 | 1143 | 10 | 2437 | 10 | continuous | 10 | continuous | 10 | continuous |
| | Storage initial T | 20 | 441 | 20 | 636 | 20 | 746 | 20 | 903 | 20 | 1143 | 20 | 1556 |
| | 50°C | 21 | 441 | 21 | 623 | 21 | 722 | 21 | 860 | 21 | 1062 | 21 | 1389 |

| Model | | P = 0 kW | | P = 15 kW | | P = 20 kW | | P = 25 kW | | P = 30 kW | | P = 35 kW | |
|-------|-------------------|-----------|-------|-----------|-------|-----------|-------|-----------|------------|-----------|------------|-----------|------------|
| | | Q [l/min] | V [l] | Q [l/min] | V [l] | Q [l/min] | V [l] | Q [l/min] | V [l] | Q [l/min] | V [l] | Q [l/min] | V [l] |
| 800 | DHW 10°C/45°C | 10 | 891 | 10 | 2310 | 10 | 4923 | 10 | continuous | 10 | continuous | 10 | continuous |
| | Storage initial T | 20 | 891 | 20 | 1285 | 20 | 1508 | 20 | 1825 | 20 | 2310 | 20 | 3144 |
| | 55°C | 26,3 | 891 | 26,3 | 1162 | 26,3 | 1293 | 26,3 | 1458 | 26,3 | 1672 | 26,3 | 1958 |
| | DHW 10°C/45°C | 10 | 705 | 10 | 1827 | 10 | 3896 | 10 | continuous | 10 | continuous | 10 | continuous |
| | Storage initial T | 20 | 705 | 20 | 1017 | 20 | 1193 | 20 | 1444 | 20 | 1827 | 20 | 2488 |
| | 50°C | 21 | 705 | 21 | 996 | 21 | 1155 | 21 | 1375 | 21 | 1698 | 21 | 2220 |

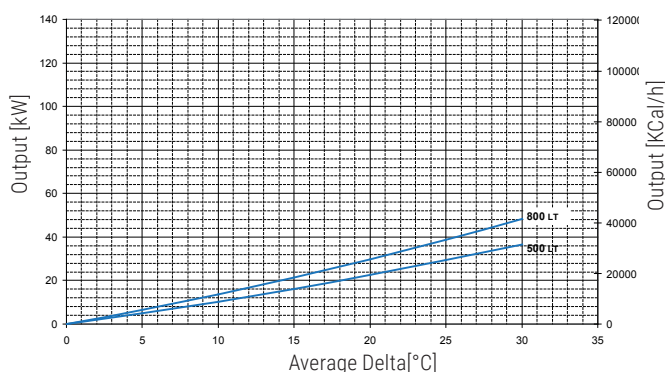
DHW collection data are meant for use with one heat pump connected to the storage, without considering possible contribution of other energy sources.

HEAT EXCHANGER POWER - TERMOMAS 2 PDC

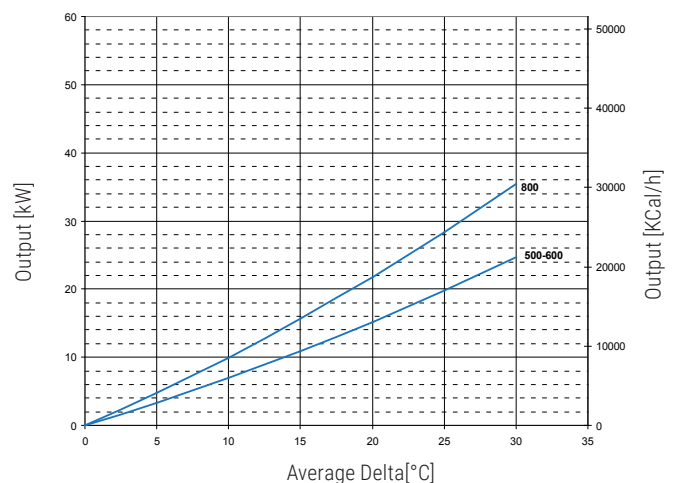
Termomas 2 heat exchangers exchanged power according to average Delta T between primary and storage (flow rate of 3 m³/h circulating in the exchanger)

Exchangeable thermal powers are expressed both in kW and Kcal/h according to the average temperature difference between primary and secondary, having a primary flow rate of 3 m³/h.

LOWER HEAT EXCHANGER



UPPER HEAT EXCHANGER

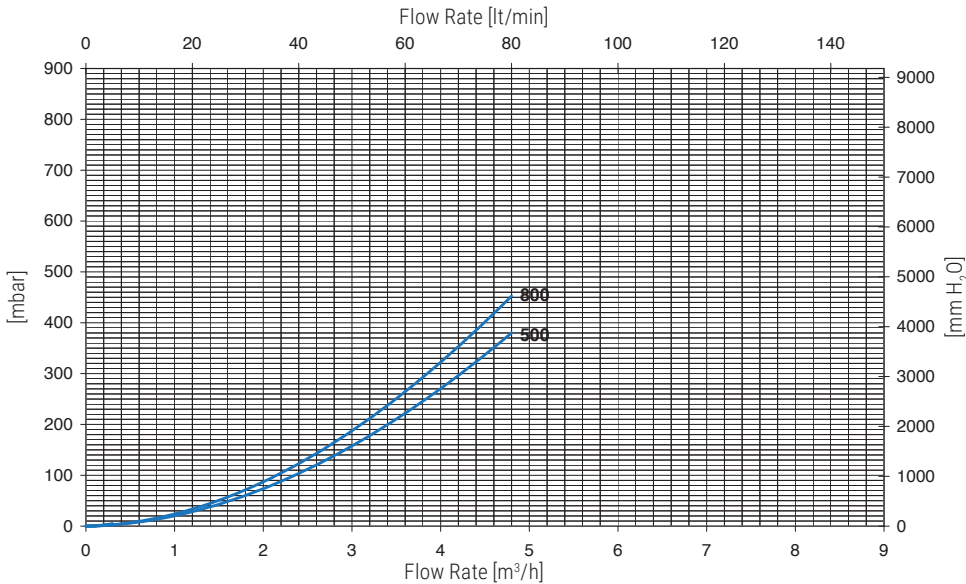


LOWER HEAT EXCHANGER PRESSURE LOSS



LOWER heat exchanger surface [m²]

| | |
|-----|-----|
| 300 | 1,2 |
| 500 | 3 |
| 800 | 2,5 |



UPPER HEAT EXCHANGER PRESSURE LOSS



UPPER heat exchanger surface [m²]

| | |
|-----|-----|
| 300 | 0,7 |
| 500 | 1 |
| 800 | 1,8 |

