

# BOLLY® 1 ST

POLYWARM® COATED DOMESTIC HOT WATER CALORIFIER WITH 1 FIXED HEAT EXCHANGER



## APPLICATION

Production and storage of domestic hot water (DHW).

## MATERIAL

Mild steel Polywarm® coated (Attestation ACS - SSICA - EN 16421 - WRAS)

## HEAT EXCHANGER

Mild steel Polywarm® coated heat exchanger.

## INSULATION

- HARD: High thermal insulation with ecological polyurethane hard foam.

## CATHODE PROTECTION

Magnesium anode.

## DRAIN

External confluence through drain connection.

## GASKET- FLANGE PLATE

Silicone gaskets suitable for water intended for human consumption (tested according to 98/83/CE), max temperature up to 200°C. Mild steel inspection flange plate with Polywarm®.

## WARRANTY

5 years (See general sales conditions and warranty)

## ACCESSORIES AND SPARE PARTS

See Accessories section for the entire list.



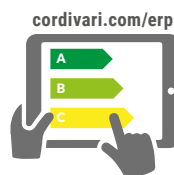
POLYWARM®  
COATED  
DHW STORAGE



POLYWARM®  
COATED  
HEAT EXCHANGER



BIM MODEL  
AVAILABLE



On line ErP label tool



## BOLLY® 1 ST WB

| Model      | HARD FOAM INSULATION<br>Art. Nr. | HEAT EXCHANGER SURFACE<br>[m²] | ENERGY EFFICIENCY CLASS<br>ErP |
|------------|----------------------------------|--------------------------------|--------------------------------|
| <b>150</b> | 3105162321101                    | 0,6                            | <b>B</b>                       |
| <b>200</b> | 3105162321102                    | 0,8                            | <b>B</b>                       |
| <b>300</b> | 3105162321103                    | 1,2                            | <b>B</b>                       |
| <b>400</b> | 3105162321104                    | 1,5                            | <b>C</b>                       |
| <b>500</b> | 3105162321105                    | 1,8                            | <b>C</b>                       |

## ACCESSORIES

### ELECTRIC IMMERSION HEATERS

| Mod.                                                                    | Heated volume by electric immersion heater [lt] | MONOPHASE     |               |               |
|-------------------------------------------------------------------------|-------------------------------------------------|---------------|---------------|---------------|
|                                                                         |                                                 | 1,5 kW        | 2 kW          | 3 kW          |
|                                                                         |                                                 | 5240000000051 | 5240000000052 | 5240000000053 |
| Ignition time from 10 °C to 45 °C with electric immersion heaters [min] |                                                 |               |               |               |
| <b>150</b>                                                              | 39                                              | 70            | 52            | 35            |
| <b>200</b>                                                              | 67                                              | 120           | 90            | 60            |
| <b>300</b>                                                              | 106                                             | 190           | 143           | 95            |
| <b>400</b>                                                              | 159                                             | 285           | 213           | 142           |
| <b>500</b>                                                              | 174                                             | 312           | 234           | 156           |

| THREEPHASE                                                              |               |               |
|-------------------------------------------------------------------------|---------------|---------------|
| 4 kW                                                                    | 5 kW          | 6 kW          |
| 5240000000047                                                           | 5240000000048 | 5240000000049 |
| Ignition time from 10 °C to 45 °C with electric immersion heaters [min] |               |               |
| //                                                                      | //            | //            |
| 45                                                                      | //            | //            |
| 71                                                                      | 57            | //            |
| 107                                                                     | 85            | //            |
| 117                                                                     | 93            | 78            |

### Electric immersion heater flange plate

See Accessories section



### Titanium electronic anode

See Accessories section



### HEAT MANAGER kit + electric resistance with probe and 3m cable

| Art. Nr.      | ELECTRICAL RESISTANCE |
|---------------|-----------------------|
| 5240000000074 | 1,5 kW                |
| 5240000000075 | 2 kW                  |
| 5240000000076 | 3 kW                  |



BOLLY®

1 ST

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| STORAGE |       | HEAT EXCHANGER |        |
|---------|-------|----------------|--------|
| Pmax    | Tmax  | Pmax           | Tmax   |
| 10 bar  | 90 °C | 12 bar         | 110 °C |



TÜV Rheinland

certified

—

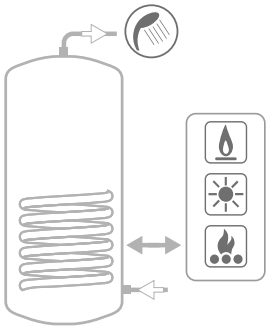
CORDIVARI

Lab

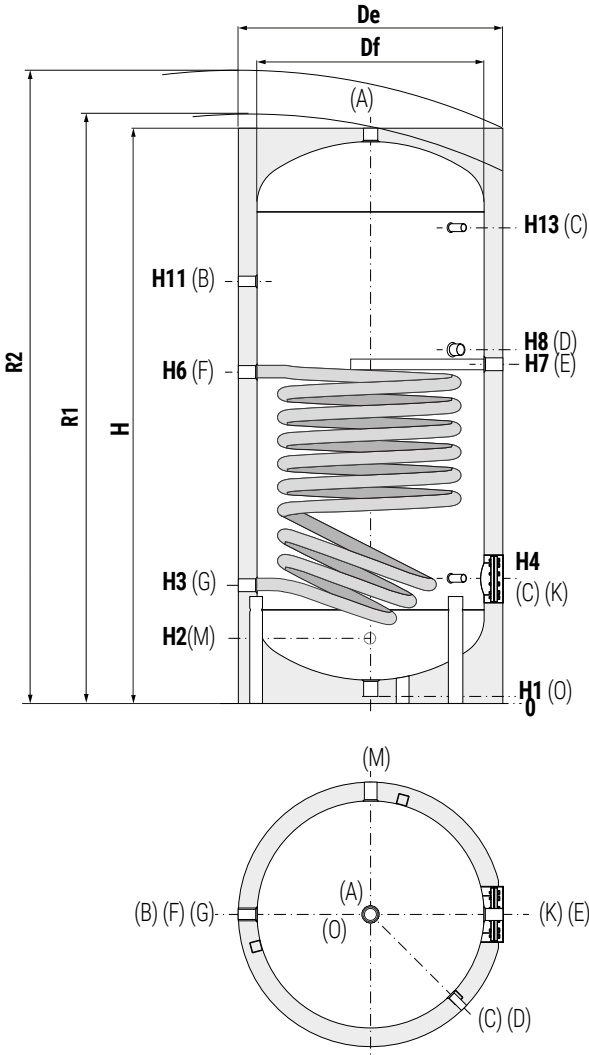
TÜV Rheinland Energie und Umwelt GmbH states that test procedures and Cordivari LAB are certified conforming to European standard EN 15332, as indicated by Ecodesign ErP Directive.

TESTED

ErP



|   |                                          |
|---|------------------------------------------|
| A | Domestic hot water outlet                |
| B | Recirculation                            |
| C | Connection for instrumentation 1/2" G F  |
| D | Connection for electric immersion heater |
| E | Connection for magnesium anode 1"1/4 G F |
| F | Heat exchanger inlet 1"1/4 G F           |
| G | Heat exchanger outlet 1"1/4 G F          |
| K | Flange for inspection                    |
| M | Domestic cold water circuit inlet        |
| O | Drain 1" 1/4 F                           |



| Model | Volume | Weight | De  | H    | R1 | R2   | H1 | H2  | H3  | H4  | H6   |
|-------|--------|--------|-----|------|----|------|----|-----|-----|-----|------|
|       | [lt]   | [kg]   |     |      |    |      |    |     |     |     |      |
| 150   | 148    | 49     | 500 | 1414 | -  | 1505 | 71 | 210 | 275 | 315 | 888  |
| 200   | 189    | 55     | 550 | 1434 | -  | 1540 | 71 | 220 | 285 | 325 | 811  |
| 300   | 291    | 67     | 650 | 1486 | -  | 1630 | 71 | 246 | 311 | 381 | 832  |
| 400   | 422    | 88     | 700 | 1766 | -  | 1905 | 71 | 261 | 326 | 396 | 988  |
| 500   | 498    | 120    | 750 | 1786 | -  | 1945 | 71 | 271 | 346 | 411 | 1036 |

| Model | H6   | H7   | H8   | H11  | H13  | K           | M    |  | B    |  |
|-------|------|------|------|------|------|-------------|------|--|------|--|
|       |      |      |      |      |      |             |      |  |      |  |
| 150   | 888  | 956  | 1011 | 1065 | 1185 | Øi120/Øe180 | 3/4" |  | 3/4" |  |
| 200   | 811  | 855  | 915  | 1089 | 1195 | Øi120/Øe180 | 3/4" |  | 3/4" |  |
| 300   | 832  | 871  | 931  | 1101 | 1221 | Øi120/Øe180 | 1"   |  | 1"   |  |
| 400   | 988  | 1033 | 1091 | 1286 | 1486 | Øi120/Øe180 | 1"   |  | 1"   |  |
| 500   | 1036 | 1076 | 1144 | 1331 | 1476 | Øi120/Øe180 | 1"   |  | 1"   |  |

# BOLLY® 1 ST / 1 ST FB

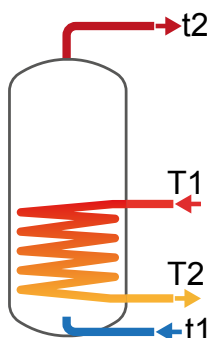
## HEAT EXCHANGERS TECHNICAL DATA



Data have been calculated on following basis:

- 1) Primary circuit at T1 and proper energy source;
- 2) Production of DHW in continuous from 10 °C to t2;
- 3) DHW that can be taken in the first 10' and in the first hour from storage at 60°C, input 10°C and output 45°C;
- 4) Sanitary water according to UNI CTI 8065.

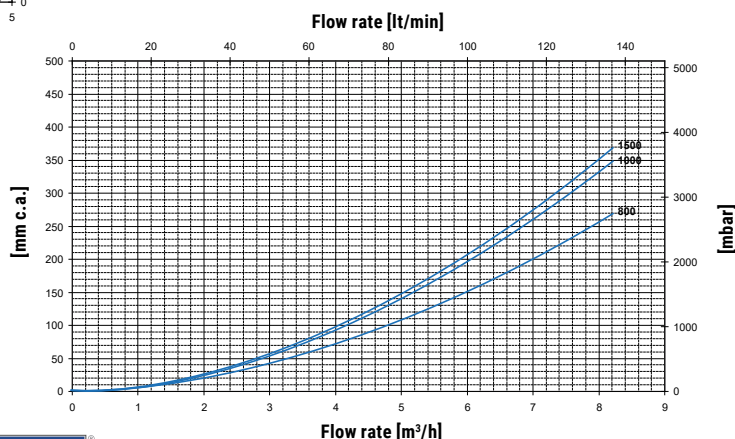
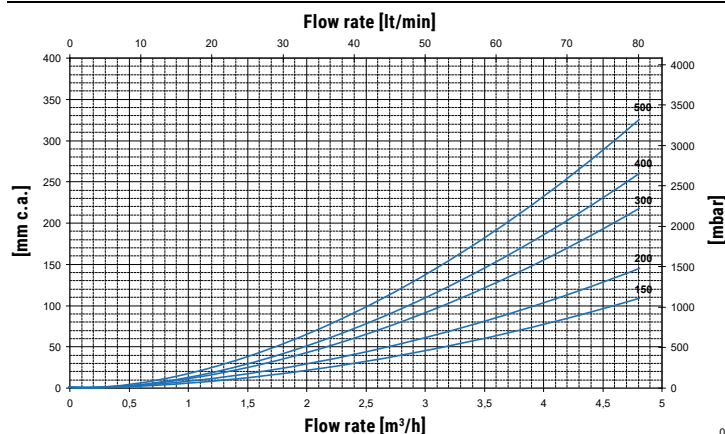
LOWER  
HEAT EXCHANGER



| Model | Primary Flow rate<br>[m³/h] | Ignition time (minutes) from 10 °C to t2 and primary at T1 |       |       |       | Maximum power exchange (kW) with primary at T1, secondary within 10-45 °C and constant use of DHW production |      |      |      | DHW continuous production lt/h within 10-45 °C and primary at T1 |      |      |      |
|-------|-----------------------------|------------------------------------------------------------|-------|-------|-------|--------------------------------------------------------------------------------------------------------------|------|------|------|------------------------------------------------------------------|------|------|------|
|       |                             | T1/t2                                                      |       |       |       | T1                                                                                                           |      |      |      | T1                                                               |      |      |      |
|       |                             | 55/50                                                      | 65/60 | 70/60 | 80/60 | 55                                                                                                           | 65   | 70   | 80   | 55                                                               | 65   | 70   | 80   |
| 150   | 2                           | 99                                                         | 102   | 71    | 46    | 6,6                                                                                                          | 10   | 11,7 | 15,2 | 162                                                              | 246  | 288  | 371  |
|       | 1                           | 111                                                        | 116   | 81    | 53    | 6,1                                                                                                          | 9,1  | 10,6 | 13,2 | 149                                                              | 223  | 260  | 336  |
| 200   | 2,5                         | 92                                                         | 95    | 66    | 43    | 9                                                                                                            | 13,5 | 15,8 | 20,5 | 220                                                              | 332  | 389  | 506  |
|       | 1,25                        | 103                                                        | 107   | 75    | 49    | 8,3                                                                                                          | 12,3 | 14,4 | 18,5 | 203                                                              | 303  | 354  | 456  |
| 300   | 3                           | 97                                                         | 101   | 70    | 45    | 13,5                                                                                                         | 20,2 | 23,6 | 30,6 | 331                                                              | 498  | 583  | 756  |
|       | 1,5                         | 106                                                        | 111   | 78    | 51    | 12,5                                                                                                         | 18,5 | 21,5 | 27,5 | 307                                                              | 455  | 529  | 680  |
| 400   | 3,5                         | 105                                                        | 110   | 76    | 50    | 16,9                                                                                                         | 25,4 | 29,6 | 38,3 | 416                                                              | 625  | 731  | 947  |
|       | 1,75                        | 117                                                        | 122   | 86    | 57    | 15,4                                                                                                         | 23,2 | 26,9 | 34,5 | 387                                                              | 571  | 664  | 853  |
| 500   | 3,5                         | 111                                                        | 116   | 81    | 53    | 20,2                                                                                                         | 30,1 | 35,1 | 45,3 | 496                                                              | 742  | 867  | 1121 |
|       | 1,75                        | 126                                                        | 131   | 93    | 61    | 18,7                                                                                                         | 27,3 | 31,7 | 40,6 | 459                                                              | 674  | 782  | 1000 |
| 800   | 6                           | 116                                                        | 120   | 84    | 55    | 30,3                                                                                                         | 45,4 | 53   | 68,6 | 746                                                              | 1120 | 1309 | 1695 |
|       | 3                           | 131                                                        | 136   | 96    | 64    | 28,2                                                                                                         | 41,4 | 48,1 | 61,6 | 692                                                              | 1021 | 1186 | 1521 |
| 1000  | 6                           | 114                                                        | 119   | 84    | 56    | 38,9                                                                                                         | 57,9 | 67,5 | 87   | 958                                                              | 1429 | 1667 | 2151 |
|       | 3                           | 132                                                        | 138   | 98    | 65    | 35,5                                                                                                         | 52,2 | 60,4 | 77   | 882                                                              | 1288 | 1492 | 1903 |
| 1500  | 6                           | 162                                                        | 168   | 119   | 78    | 41                                                                                                           | 61   | 71   | 91,5 | 1009                                                             | 1504 | 1753 | 2261 |
|       | 3                           | 189                                                        | 197   | 139   | 92    | 37,7                                                                                                         | 54,9 | 63,4 | 80,7 | 927                                                              | 1352 | 1564 | 1993 |

| Model | Primary Flow rate<br>[m³/h] | DHW produced in the first 10 minutes in lt/10' input 10 °C output 45 °C, storage at t2 and primary at T1 |       |       |       | DHW produced in the first hour in lt/60' input 10 °C output 45 °C, storage at t2 and primary at T1 |       |       |       | Heat exchanger pressure drop |        |
|-------|-----------------------------|----------------------------------------------------------------------------------------------------------|-------|-------|-------|----------------------------------------------------------------------------------------------------|-------|-------|-------|------------------------------|--------|
|       |                             | T1/t2                                                                                                    |       |       |       | T1/t2                                                                                              |       |       |       | [mm.c.a.]                    | [mbar] |
|       |                             | 55/50                                                                                                    | 65/60 | 70/60 | 80/60 | 55/50                                                                                              | 65/60 | 70/60 | 80/60 |                              |        |
| 150   | 2                           | 195                                                                                                      | 251   | 258   | 272   | 298                                                                                                | 407   | 440   | 507   | 218,85                       | 21,46  |
|       | 1                           | 193                                                                                                      | 247   | 253   | 266   | 287                                                                                                | 388   | 418   | 479   | 60,62                        | 5,95   |
| 200   | 2,5                         | 253                                                                                                      | 325   | 335   | 354   | 392                                                                                                | 536   | 581   | 675   | 441,12                       | 43,26  |
|       | 1,25                        | 250                                                                                                      | 321   | 329   | 346   | 378                                                                                                | 512   | 553   | 635   | 122,19                       | 11,98  |
| 300   | 3                           | 388                                                                                                      | 499   | 513   | 542   | 597                                                                                                | 814   | 882   | 1021  | 927,45                       | 90,95  |
|       | 1,5                         | 384                                                                                                      | 492   | 504   | 529   | 578                                                                                                | 780   | 839   | 960   | 256,91                       | 25,19  |
| 400   | 3,5                         | 550                                                                                                      | 706   | 723   | 759   | 814                                                                                                | 1101  | 1186  | 1359  | 1480,67                      | 145,20 |
|       | 1,75                        | 546                                                                                                      | 697   | 712   | 744   | 791                                                                                                | 1058  | 1133  | 1284  | 410,16                       | 40,22  |
| 500   | 3,5                         | 651                                                                                                      | 834   | 855   | 897   | 965                                                                                                | 1304  | 1404  | 1607  | 1850,84                      | 181,50 |
|       | 1,75                        | 645                                                                                                      | 822   | 840   | 877   | 935                                                                                                | 1249  | 1336  | 1510  | 512,70                       | 50,28  |
| 800   | 6                           | 1026                                                                                                     | 1314  | 1345  | 1410  | 1499                                                                                               | 2023  | 2174  | 2483  | 1538,50                      | 150,87 |
|       | 3                           | 1017                                                                                                     | 1297  | 1325  | 1381  | 1455                                                                                               | 1944  | 2076  | 2344  | 426,18                       | 41,79  |
| 1000  | 6                           | 1345                                                                                                     | 1720  | 1759  | 1840  | 1952                                                                                               | 2625  | 2815  | 3202  | 1994,35                      | 195,58 |
|       | 3                           | 1332                                                                                                     | 1696  | 1730  | 1799  | 1891                                                                                               | 2512  | 2675  | 3004  | 552,45                       | 54,18  |
| 1500  | 6                           | 1870                                                                                                     | 2378  | 2419  | 2504  | 2509                                                                                               | 3330  | 3530  | 3936  | 2108,31                      | 206,75 |
|       | 3                           | 1856                                                                                                     | 2352  | 2388  | 2459  | 2443                                                                                               | 3209  | 3378  | 3722  | 584,02                       | 57,27  |

## HEAT EXCHANGERS PRESSURE DROP

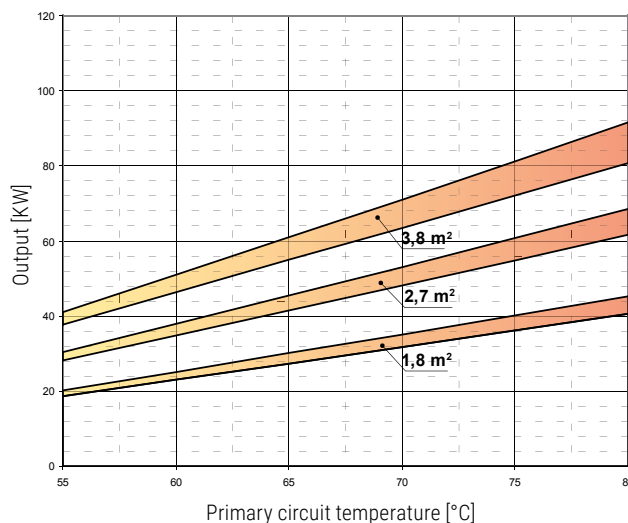
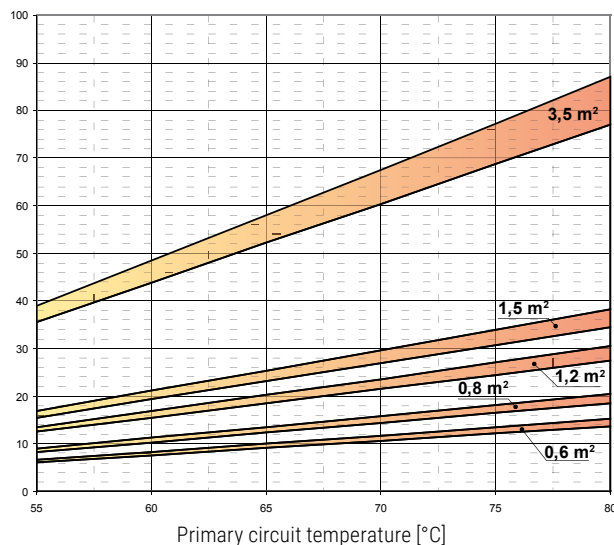


# BOLLY® 1 ST / 1 ST FB

## HEAT EXCHANGERS TECHNICAL DATA



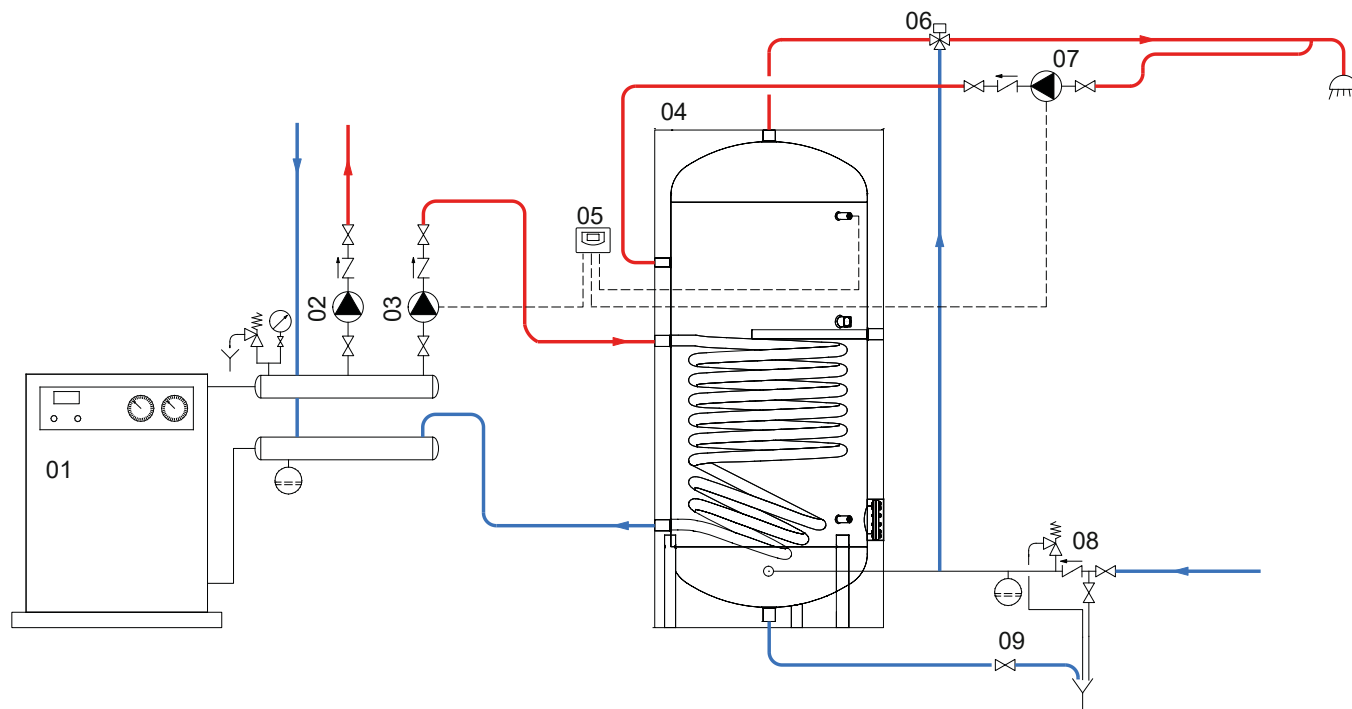
Heat Exchanger output referred to temperature and flow rate of primary circuit and with secondary at 10/45°C at maximum withdrawal of producible DHW (Upper limit of the curves referred to maximum primary flow rate in the heat exchanger, while the lower limit in the curves refer to the minimum primary flow rate).



| Heat exchanger surface        | 0,6 m <sup>2</sup> |     | 0,8 m <sup>2</sup> |      | 1,2 m <sup>2</sup> |     | 1,5 m <sup>2</sup> |      | 3,5 m <sup>2</sup> |     |
|-------------------------------|--------------------|-----|--------------------|------|--------------------|-----|--------------------|------|--------------------|-----|
| Flow rate [m <sup>3</sup> /h] | MAX                | MIN | MAX                | MIN  | MAX                | MIN | MAX                | MIN  | MAX                | MIN |
|                               | 2                  | 1   | 2,5                | 1,25 | 3                  | 1,5 | 3,5                | 1,75 | 6                  | 3   |

| Heat exchanger surface        | 1,8 m <sup>2</sup> |      | 2,7 m <sup>2</sup> |     | 3,8 m <sup>2</sup> |     |
|-------------------------------|--------------------|------|--------------------|-----|--------------------|-----|
| Flow rate [m <sup>3</sup> /h] | MAX                | MIN  | MAX                | MIN | MAX                | MIN |
|                               | 3,50               | 1,75 | 6                  | 3   | 6                  | 3   |

## EXAMPLE OF INSTALLATION WITH BOLLY® 1 ST / 1 ST FB



|    |                                  |    |                                 |    |                            |
|----|----------------------------------|----|---------------------------------|----|----------------------------|
| 01 | Generator                        | 04 | BOLLY® 1 ST / 1 ST FB           | 07 | D.H.W. recirculation group |
| 02 | Heating system circulation group | 05 | Electronic control / thermostat | 08 | Hydraulic safety group     |
| 03 | D.H.W. circulation group         | 06 | Thermostatic mixing valve       | 09 | Blowdown valve             |

The following schemes are purely illustrative. To realize the installation, always refer to a qualified technician.