

# BPU 300 - 500



# Heat pump storage tank boiler buffer unit

## BPU 300 - 500

### Application

Buffer and hot water storage tank for classical two-storage-tank solution combined with a heat pump in one component.

### Corrosion protection for parts with drinking water contact

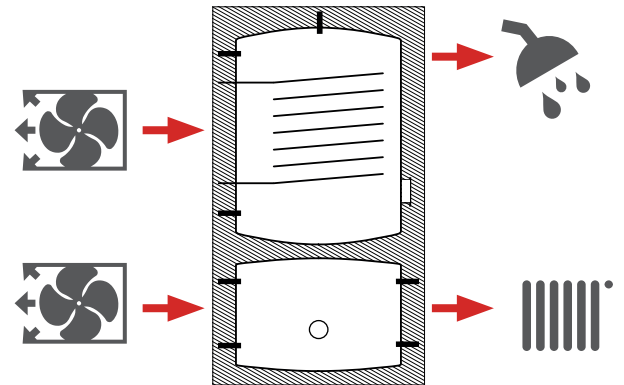
Enamelled as per DIN 4753. A magnesium anode offers additional corrosion protection.

### External corrosion protection

Protective enamelled layers and foam encased

### Heat insulation

50 mm PU rigid foam insulation with soft sleeve



Model overview BPU 300 - 500

| Type    | Article no. | Volume | Height with insulation | Tilt height | Installation diameter | Weight (empty) | Surface HE | Output figure | Efficiency class |
|---------|-------------|--------|------------------------|-------------|-----------------------|----------------|------------|---------------|------------------|
| Unit    | [-]         | [l]    | [mm]                   | [mm]        | [mm]                  | [kg]           | [m²]       | [-]           | [-]              |
| BPU 300 | STD0300BPU  | 298    | 1840                   | 1945        | 610                   | 148            | 3          | 2.2           | C                |
| BPU 400 | STD0400BPU  | 400    | 1750                   | 1900        | 710                   | 174            | 3.5        | 4.2           | C                |
| BPU 500 | STD0500BPU  | 525    | 1900                   | 2080        | 760                   | 212            | 4.4        | 6             | C                |

## Heat pump storage tank

### Technical specifications BPU 300 - 500

| Type                                               | Unit    | BPU300                                     | BPU400     | BPU500     |
|----------------------------------------------------|---------|--------------------------------------------|------------|------------|
| Article no.                                        | [-]     | STD0300BPU                                 | STD0400BPU | STD0500BPU |
| Volume                                             | [l]     | 298                                        | 400        | 525        |
| Content drinking water                             | [l]     | 202                                        | 274        | 371        |
| Content heat exchanger                             | [l]     | 18                                         | 21         | 27         |
| Content heating side                               | [l]     | 78                                         | 105        | 127        |
| Height with insulation                             | [mm]    | 1840                                       | 1750       | 1900       |
| Diameter with insulation                           | [mm]    | 610                                        | 710        | 760        |
| Diameter without insulation                        | [mm]    | 500                                        | 600        | 650        |
| Tilt height                                        | [mm]    | 1945                                       | 1900       | 2080       |
| Installation diameter                              | [mm]    | 610                                        | 710        | 760        |
| Weight (empty)                                     | [kg]    | 148                                        | 174        | 212        |
| Max. operating pressure heating side               | [bar]   | 3                                          | 3          | 3          |
| Test pressure heating side                         | [bar]   | 4.5                                        | 4.5        | 4.5        |
| Max. operating pressure hot drinking water side    | [bar]   | 10                                         | 10         | 10         |
| Test pressure hot drinking water side              | [bar]   | 15                                         | 15         | 15         |
| Max. operating pressure heat exchanger             | [bar]   | 10                                         | 10         | 10         |
| Test pressure heat exchanger                       | [bar]   | 15                                         | 15         | 15         |
| Max. operating temperature heating side            | [°C]    | 95                                         | 95         | 95         |
| Max. operating temperature hot drinking water side | [°C]    | 95                                         | 95         | 95         |
| Max operating temperature heat exchanger           | [°C]    | 95                                         | 95         | 95         |
| Surface heat exchanger                             | [m²]    | 3                                          | 3.5        | 4.4        |
| Insulation thickness                               | [mm]    | 50                                         | 50         | 50         |
| Max. installation length EHP                       | [mm]    | 400                                        | 450        | 500        |
| Max. output EHP                                    | [kW]    | 3.5                                        | 5.5        | 7.5        |
| Output figure                                      | [-]     | 2.2                                        | 4.2        | 6          |
| On-demand heat overhead                            | [kWh/d] | 2.20                                       | 2.40       | 2.60       |
| Holding losses                                     | [W]     | 91                                         | 100        | 108        |
| Efficiency class                                   | [-]     | C                                          | C          | C          |
| Insulation material                                | [-]     | PU rigid foam ( $\lambda=0.024$ W/mK)      |            |            |
| Corrosion protection                               | [-]     | Enamelled as per DIN 4753, magnesium anode |            |            |

### Output data BPU 300 - 500

|    |     | Continuous output at supply temperature <sup>1</sup> |       |       |       | Values as per DIN4708 (data relative to output figure) <sup>2</sup> |                                     |         |                                   | Draw-off performance in 60 min <sup>3</sup> |                    |
|----|-----|------------------------------------------------------|-------|-------|-------|---------------------------------------------------------------------|-------------------------------------|---------|-----------------------------------|---------------------------------------------|--------------------|
|    |     | 50 °C                                                |       | 60 °C |       | Output                                                              | Max. draw-off performance in 10 min |         | Draw-off performance after 30 min |                                             | Supply temp. 55 °C |
|    |     | [kW]                                                 | [l/h] | [kW]  | [l/h] |                                                                     | [l]                                 | [l/min] | [l]                               | [l/min]                                     | [l]                |
| HE | 300 | 12.6                                                 | 310   | 36.0  | 884   | 2.2                                                                 | 204                                 | 20.4    | 81                                | 18.5                                        | 561                |
|    | 400 | 14.7                                                 | 361   | 42.0  | 1,032 | 4.2                                                                 | 273                                 | 27.3    | 155                               | 23.3                                        | 724                |
|    | 500 | 18.5                                                 | 454   | 52.8  | 1297  | 6.0                                                                 | 326                                 | 32.6    | 221                               | 27.0                                        | 935                |

1 - Heating from CW 10 °C to WW 45 °C

2 - Heating from CW 10 °C to WW 45 °C; supply 70 °C; storage tank temperature CW + 50 K

3 - Computed data at maximum output; CW 10 °C to WW 45 °C; storage tank temperature 60 °C

## Connections and dimensions BPU 300 - 500

| Connections |                                                | Unit | BPU300          | BPU400          | BPU500          |
|-------------|------------------------------------------------|------|-----------------|-----------------|-----------------|
| AN          | Anode                                          | [mm] | 1840<br>1¼" IT  | 1750<br>1¼" IT  | 1900<br>1¼" IT  |
| WW          | Hot water                                      | [mm] | 1700<br>1¼" IT  | 1595<br>1¼" IT  | 1745<br>1¼" IT  |
| Z           | Circulation                                    | [mm] | 1490<br>½" IT   | 1505<br>½" IT   | 1650<br>½" IT   |
| WNV         | Hot water reheating flow                       | [mm] | 1400<br>1¼" IT  | 1415<br>1¼" IT  | 1505<br>1¼" IT  |
| WNR         | Hot water reheating return                     | [mm] | 720<br>1¼" IT   | 735<br>1¼" IT   | 755<br>1¼" IT   |
| FWWO        | Sensor hot water top                           | [mm] | 1180<br>½" IT   | 1280<br>½" IT   | 1300<br>½" IT   |
| FWWU        | Sensor hot water bottom                        | [mm] | 980<br>½" IT    | 980<br>½" IT    | 1000<br>½" IT   |
| KW          | Cold water                                     | [mm] | 625<br>1¼" IT   | 635<br>1¼" IT   | 645<br>1¼" IT   |
| HZV/WPV     | Heating flow/heat pump flow                    | [mm] | 415<br>1¼" IT   | 390<br>1¼" IT   | 390<br>1¼" IT   |
| HZR/WPR     | Heating return/heat pump return                | [mm] | 115<br>1¼" IT   | 140<br>1¼" IT   | 130<br>1¼" IT   |
| ENT         | Venting/drainage                               | [mm] | 415<br>½" IT    | 390<br>½" IT    | 390<br>½" IT    |
| ENT         | Venting/drainage                               | [mm] | 115<br>½" IT    | 140<br>½" IT    | 130<br>½" IT    |
| FPO         | Buffer sensor top                              | [mm] | 340<br>Ø 17.2   | 320<br>Ø 17.2   | 315<br>Ø 17.2   |
| FPU         | Buffer sensor bottom                           | [mm] | 190<br>Ø 17.2   | 210<br>Ø 17.2   | 205<br>Ø 17.2   |
| EHP         | Electric heating cartridge (optional)          | [mm] | 215<br>1½" IT   | 220<br>1½" IT   | 230<br>1½" IT   |
| FL          | Flange / Electric heating cartridge (optional) | [mm] | 775<br>Ø180/118 | 790<br>Ø180/120 | 810<br>Ø180/120 |
| F/TH        | Sensor/Thermometer                             | [mm] | 1630<br>½" IT   | 1505<br>½" IT   | 1650<br>½" IT   |

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