

# DRE Plus

## Electric industrial water heater

### DRE Plus - 52/80

- Powerful electric water heater that produces large amounts of hot water in a short time
- DWH capacity from 339 to 1132 litres/hour at 50°C depending on the chosen appliance
- Capacity: 173 – 264 litres
- Because the unit has an external on/off function, you can control when to use external power supply. For example when you have supply from your PV panels
- 3 to 9 incoloy heating elements with a maximum output of 50.4 kW
- Cascade control of the heating elements allows a more even and responsive heating of the water
- All elements and thermostats are fuse-protected
- PermaGlas Ultra Coat second-generation glass coating technology helps to prevent corrosion
- The appliance can be adjusted according to DHW needs via the display, so that the appliance can function as energy-efficiently as possible
- Thanks to the enameled elements, the exchangeable magnesium anode is less stressed
- Targeted maintenance possible thanks to the display of the exact fault diagnosis on the elements



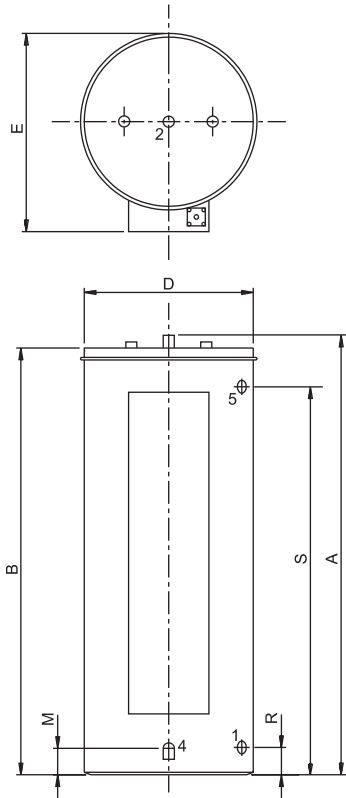
# Technical specifications

|                            |           | DRE Plus 52-9             | DRE Plus 52-18 | DRE Plus 52-36 | DRE Plus 80-9 | DRE Plus 80-18 | DRE Plus 80-36 | DRE Plus 80-54 |
|----------------------------|-----------|---------------------------|----------------|----------------|---------------|----------------|----------------|----------------|
| <b>Electrical data</b>     |           |                           |                |                |               |                |                |                |
| Input                      | kW        | 8,4                       | 16,8           | 33,6           | 8,4           | 16,8           | 33,6           | 50,4           |
| Current                    | A         | 12                        | 24             | 49             | 12            | 24             | 49             | 73             |
| Elements                   | -         | 3                         | 3              | 6              | 3             | 3              | 6              | 9              |
| Power supply               | VAC/Hz    | 400(-15/+10%)/50 (± 1 Hz) |                |                |               |                |                |                |
| <b>General</b>             |           |                           |                |                |               |                |                |                |
| Weight empty               | kg        | 78                        |                |                | 110           |                |                |                |
| Maximum weight             | kg        | 246                       |                |                | 374           |                |                |                |
| Storage capacity           | l         | 173                       |                |                | 264           |                |                |                |
| Max. temperature setting   | °C        | 83                        |                |                | 83            |                |                |                |
| Maximum working pressure   | kPa (bar) | 800 (8)                   |                |                | 800 (8)       |                |                |                |
| <b>Draw-off capacity</b>   |           |                           |                |                |               |                |                |                |
| Tcold = 10°C / Tset = Tmax |           |                           |                |                |               |                |                |                |
| 30 min. ΔT=44°C            | l         | 310                       | 380            | 530            | 430           | 500            | 650            | 800            |
| 60 min. ΔT=44°C            | l         | 390                       | 550            | 860            | 510           | 670            | 980            | 1300           |
| 90 min. ΔT=44°C            | l         | 470                       | 710            | 1200           | 590           | 830            | 1400           | 1800           |
| 120 min. ΔT=44°C           | l         | 550                       | 880            | 1600           | 680           | 1000           | 1700           | 2300           |
| Continuous ΔT=44°C         | l/h       | 170                       | 330            | 660            | 170           | 330            | 660            | 990            |
| Heating-up time ΔT=44°C    | min.      | 63                        | 32             | 16             | 96            | 48             | 24             | 16             |
| 30 min. ΔT=50°C            | l         | 270                       | 340            | 470            | 380           | 440            | 570            | 700            |
| 60 min. ΔT=50°C            | l         | 340                       | 480            | 760            | 450           | 590            | 860            | 1200           |
| 90 min. ΔT=50°C            | l         | 420                       | 630            | 1100           | 520           | 730            | 1200           | 1600           |
| 120 min. ΔT=50°C           | l         | 490                       | 770            | 1400           | 600           | 880            | 1500           | 2000           |
| Continuous ΔT=50°C         | l/h       | 150                       | 290            | 580            | 150           | 290            | 580            | 870            |
| Heating-up time ΔT=50°C    | min.      | 72                        | 36             | 18             | 110           | 55             | 27             | 18             |
| 30 min. ΔT=55°C            | l         | 250                       | 310            | 430            | 340           | 400            | 520            | 640            |
| 60 min. ΔT=55°C            | l         | 310                       | 440            | 690            | 410           | 530            | 780            | 1100           |
| 90 min. ΔT=55°C            | l         | 380                       | 570            | 950            | 480           | 670            | 1100           | 1500           |
| 120 min. ΔT=55°C           | l         | 440                       | 700            | 1300           | 540           | 800            | 1400           | 1900           |
| Continuous ΔT=55°C         | l/h       | 140                       | 270            | 530            | 140           | 270            | 530            | 790            |
| Heating-up time ΔT=55°C    | min.      | 79                        | 40             | 20             | 121           | 60             | 30             | 20             |
| <b>Shipping data</b>       |           |                           |                |                |               |                |                |                |
| Weight incl. packaging     | kg        | 86                        |                |                | 125           |                |                |                |
| Width packaging            | mm        | 680                       |                |                | 770           |                |                |                |
| Height packaging           | mm        | 1570                      |                |                | 1690          |                |                |                |
| Depth packaging            | mm        | 810                       |                |                | 920           |                |                |                |

# Ecodesign specifications

|                                      |            | DRE Plus 52-9 | DRE Plus 52-18 | DRE Plus 52-36 | DRE Plus 80-9 | DRE Plus 80-18 | DRE Plus 80-36 | DRE Plus 80-54 |
|--------------------------------------|------------|---------------|----------------|----------------|---------------|----------------|----------------|----------------|
| Load Profil                          | -          | XL            | XL             | XL             | XL            | XL             | XL             | XL             |
| Energy labeling                      | -          | C             | C              | C              | C             | C              | C              | C              |
| Efficiency                           | %          | 38,0          | 38,5           | 38,7           | 38,0          | 38,5           | 39,1           | 38,1           |
| Annual Electricity Consumption (AEC) | kWh        | 4412          | 4352           | 4329           | 4403          | 4350           | 4290           | 4394           |
| Daily Electricity Consumption        | kWh        | 20.161        | 20.161         | 20.161         | 20.120        | 20.120         | 20.120         | 20.120         |
| Annual Fuel Consumption (AEC)        | GJ GCV     | 0.0           | 0.0            | 0.0            | 0.0           | 0.0            | 0.0            | 0.0            |
| Daily Fuel Consumption               | kWh GCV    | 0.0           | 0.0            | 0.0            | 0.0           | 0.0            | 0.0            | 0.0            |
| Nitrogen Dioxide Emission (NO2)      | mg/kWh GCV | 0.0           | 0.0            | 0.0            | 0.0           | 0.0            | 0.0            | 0.0            |
| Mixed Water of 40°C (according V40)  | ltr.       | 270           | 270            | 270            | 460           | 430            | 430            | 430            |
| Sound Power Level                    | dB         | 15            | 15             | 15             | 15            | 15             | 15             | 15             |

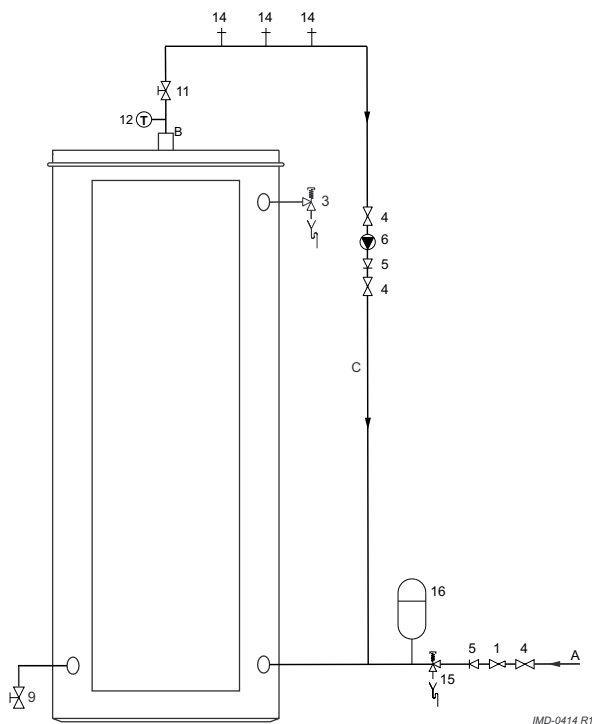
# Dimensions



|   | DRE Plus 52   | DRE Plus 80 |
|---|---------------|-------------|
| A | 1460          | 1580        |
| B | 1420          | 1540        |
| D | 560           | 640         |
| E | 690           | 790         |
| M | 125           | 125         |
| R | 125           | 125         |
| S | 1230          | 1335        |
| 1 | 1.25 - 14 NPT |             |
| 2 | 1.25 - 14 NPT |             |
| 4 | 0.75 - 14 NPT |             |
| 5 | 0.75 - 14 NPT |             |
| 6 | RP 0.75       |             |

*Dimensions in mm.*

# Installation diagram

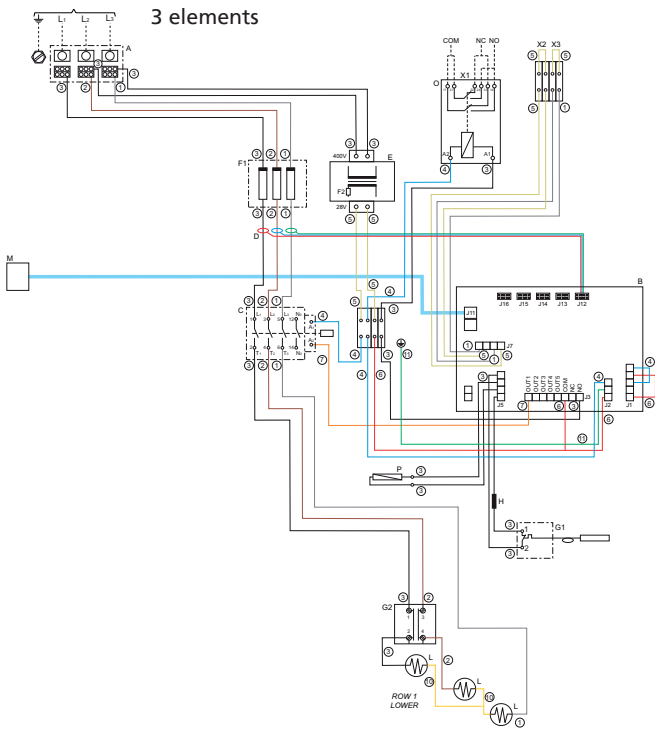


- 1 Pressure reducing valve
- 2 Inlet security group
- 3 T&P valve
- 4 Stop valve
- 5 Non-return valve
- 6 Circulation pump
- 9 Drain valve
- 14 Hot water tap

- A Cold water supply  
 B Hot water outlet  
 C Circulation pipe

Further installation and connection details can be found in the Installation & Commissioning Manual.

# Electrical diagrams



- |    |                                      |    |                         |
|----|--------------------------------------|----|-------------------------|
| A  | Mains connection                     | 1  | Gray                    |
| B  | Control                              | 2  | Brown                   |
| C  | Relays                               | 3  | Black                   |
| D  | Element current sensors              | 4  | Blue                    |
| E  | Transformer 400-28VAC                | 5  | White                   |
| F1 | Element fuse (gG 400VAC/32A)         | 6  | Red                     |
| F2 | Transformer fuse (T1AL250)           | 7  | Orange                  |
| G1 | Main safety thermostat               | 8  | Pink                    |
| G2 | Bank safety thermostat               | 9  | Purple                  |
| H  | Thermal fuse                         | 10 | Yellow                  |
| L  | Electric heating element             | 11 | Yellow/Green            |
| M  | Display                              |    |                         |
| O  | Alarm relay (SPDT - 250VAC/10A max.) |    |                         |
| P  | Temperature sensor                   |    |                         |
| ⊥  | Earth                                | X1 | Alarm relay output      |
| L1 | Phase 1 input                        | X2 | External on/off input 1 |
| L2 | Phase 2 input                        | X3 | External on/off input 2 |
| L3 | Phase 3 input                        |    |                         |

In the instruction manual you will find all the necessary information regarding connection, installation and maintenance of the product; including information on the electrical connections.

Information regarding the recycling or disposal of the product can also be found in the manual. This manual is delivered with the appliance and can also be found on our website; [www.aosmithinternational.com](http://www.aosmithinternational.com).

