**POWERflow**

**UNVENTED COPPER CYLINDER**

### Specifications

<table>
<thead>
<tr>
<th>Nominal Capacity (litres)</th>
<th>75</th>
<th>120</th>
<th>150</th>
<th>165</th>
<th>180</th>
<th>210</th>
<th>250</th>
<th>300</th>
<th>400</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height (mm)</td>
<td>950</td>
<td>950</td>
<td>1150</td>
<td>1250</td>
<td>1350</td>
<td>1550</td>
<td>1550</td>
<td>1850</td>
<td>1700</td>
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<tr>
<td>Diameter (mm)</td>
<td>450</td>
<td>550</td>
<td>550</td>
<td>550</td>
<td>550</td>
<td>550</td>
<td>600</td>
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<td>700</td>
</tr>
<tr>
<td>Insulation Thickness (mm)</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
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<tr>
<td>Immersion heater rating (kW)</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Weight empty (kg)</td>
<td>26</td>
<td>37</td>
<td>44</td>
<td>50</td>
<td>55</td>
<td>61</td>
<td>70</td>
<td>86</td>
<td>104</td>
</tr>
<tr>
<td>Weight full (kg)</td>
<td>101</td>
<td>157</td>
<td>194</td>
<td>215</td>
<td>235</td>
<td>271</td>
<td>320</td>
<td>386</td>
<td>504</td>
</tr>
<tr>
<td>Coil Rating (kW)</td>
<td>13</td>
<td>21</td>
<td>26</td>
<td>27</td>
<td>31</td>
<td>37</td>
<td>44</td>
<td>52</td>
<td>70</td>
</tr>
<tr>
<td>Reheat Time (min)</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
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</tbody>
</table>

### Technical Specifications

- Maximum incoming pressure to pressure reducing valve (supplied): 12 Bar
- Minimum recommended supply pressure and flow rate: 1.5 Bar – 20 litres per minute
- Incoming pressure (standard): 2.1 Bar
- Material: Copper
- Insulation material (nominal thickness 50mm): CFC/HCFC free, fire retardant expanded polyurethane foam (ODP) = 0. Global warming potential (GWP) = 3.1. Cased Units 0.1
- Pressure relief valves fitted: 3.5 Bar + PTRV 4.5 Bar
- Immersion heater/s: 3kW at 240V
- Connections: 22mm compression. Secondary return 180L and above
- Domestic hot water expansion: Nitrogen filled expansion vessel appropriately sized for capacity of cylinder

### ERP / Heat Loss Data

<table>
<thead>
<tr>
<th>Capacity (litres)</th>
<th>75</th>
<th>120</th>
<th>150</th>
<th>165</th>
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<tr>
<td>Insulation Thickness (mm)</td>
<td>50</td>
<td>50</td>
<td>50</td>
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<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
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<tr>
<td>Standing loss (W)</td>
<td>43</td>
<td>57</td>
<td>64</td>
<td>65</td>
<td>66</td>
<td>71</td>
<td>75</td>
<td>81</td>
<td>98</td>
</tr>
<tr>
<td>Standing loss (kWh/24h)</td>
<td>1.2</td>
<td>1.37</td>
<td>1.51</td>
<td>1.56</td>
<td>1.61</td>
<td>1.7</td>
<td>1.85</td>
<td>2.04</td>
<td>2.35</td>
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<td>Water heating energy efficiency class</td>
<td>B</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>C</td>
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</tbody>
</table>

Other Insulation options & thicknesses are available.

### ERP Data (Direct Units)

<table>
<thead>
<tr>
<th>Capacity (litres)</th>
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<tbody>
<tr>
<td>Water heating energy efficiency class</td>
<td>C</td>
<td>C</td>
<td>C</td>
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<td>C</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td>Load Profile</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>L</td>
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<tr>
<td>Annual Elec. Consumption (kWh/annum)</td>
<td>1490</td>
<td>1450</td>
<td>2101</td>
<td>2171</td>
<td>2779</td>
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<td>2908</td>
<td>3145</td>
<td>4193</td>
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<tr>
<td>Annual Elec. Consumption (GJ/annum)</td>
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<td>5</td>
<td>8</td>
<td>8</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>Sound Level (dB)</td>
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<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
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</tbody>
</table>

### Components

The following components are supplied as standard with POWERflow Cylinder

- **Immersions**: Factory fitted Immersion heater/s with combined control + limit stat
- **Cold Water**: 22mm Pressure Reducing Valve + Strainer
  | 22mm Check Valve
- **Safety**
  | Factory fitted Temperature and Pressure relief valve at 90°C & 4.5Bar
  | Factory fitted Expansion Relief Valve set at 3.5Bar
  | 15 x 22mm Tundish
  | Combined control and limit stat
- **Electrical**: 22mm 2 port motorised valve
**Codes of Practice/Legislation**

**Legislation**
- Building Regulations Part G and Part L
- Scottish Building Standards: Section 4 and Section 6.
- Building Regulations (Northern Ireland): Part F1, F2 & P
- Water Supply (Water Fittings) Scotland Byelaws 2014
- The Water Supply (Water Fittings) Regulations 1999
- The Water Supply (Water Fittings) Regulations (Northern Ireland) 2009

**Standards**
- BS 1566-1 2002 + A1 2011 "Copper Indirect Cylinders for domestic purposes. Requirements and test methods."

**Materials chosen, adhering to:**
- BS EN 1254:1998 (1 - 5) "Copper and copper alloys. Plumbing fittings."

**Factory manufactured, adhering to:**
- BS EN ISO 9001:2015 "Quality management systems. Requirements."

**ERP Regulations:**

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Production Manager  
McDonald Water Storage

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