• **Seal-less construction ideal for OEM applications** - Leak-free and seal-less, MDG pumps are ideal for incorporation into equipment. The magnet drive mechanism eliminates the troublesome shaft seal replacement.

• **Outstanding corrosion resistance** - Liquid end parts are manufactured from SUS316, PTFE, PPS and PEEK. This combination of materials offers extremely high levels of corrosion resistance thus making MDG capable of transferring many different aggressive chemical solutions.

• **High pressure gear rotary system** - MDG pumps are characterized by high pressure and low flow rate. Despite its small size, it can attain high pressure to 87 PSI and vacuum of 1.57inHg.

• **Excellent thermal resistance** - Precision machining coupled with Iwaki’s innovative technology is used in the gear and body manufacturing process. Because only the most heat-resistant materials are used, pumping problems due to thermal expansion are eliminated. Standard MDG series pumps are rated for 95°C operation.
Construction and materials

<table>
<thead>
<tr>
<th>No.</th>
<th>Name of Part</th>
<th>Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pump head</td>
<td>GFRPPS</td>
</tr>
<tr>
<td>2</td>
<td>Gear</td>
<td>PPS</td>
</tr>
<tr>
<td>3</td>
<td>Shaft</td>
<td>SUS316</td>
</tr>
<tr>
<td>4</td>
<td>Bearing</td>
<td>(CF+PTFE) PPS</td>
</tr>
<tr>
<td>5</td>
<td>Plate</td>
<td>SUS316</td>
</tr>
<tr>
<td>6</td>
<td>Gear case</td>
<td>SUS316</td>
</tr>
<tr>
<td>7</td>
<td>Gasket seal</td>
<td>FKM</td>
</tr>
<tr>
<td>8</td>
<td>O ring</td>
<td>FKM</td>
</tr>
<tr>
<td>9</td>
<td>Magnet capsule</td>
<td>SUS316, GFRPPS</td>
</tr>
<tr>
<td>10</td>
<td>Rear casing</td>
<td>SUS316</td>
</tr>
<tr>
<td>11</td>
<td>Retaining spring</td>
<td>equivalent to SUS316</td>
</tr>
<tr>
<td>12</td>
<td>Adjusting screw</td>
<td>SUS316</td>
</tr>
<tr>
<td>13</td>
<td>Valve</td>
<td>(CF+PTFE) PPS</td>
</tr>
</tbody>
</table>

Identification

**MDG** - **R2** **R** **V** **B** **24H**

1. Model  
2. Temp. range  
   - R : 0 - 50˚C, B : 0 - 95˚C  
3. Relief valve  
   - V : with relief valve, no symbol : without relief valve  
4. Connection  
   - B : 1/8NPT  
5. Motor  
   - 24 : DC24V, 10W, 24H : DC24V, 14W

Note: Other connections (Rc1/8, G1/4) are also available on special request but for "-24H" models only.

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Connection size</th>
<th>Max. capacity L/min</th>
<th>Max. discharge pressure PSI (MPa)</th>
<th>Max. vacuum inHg (kPa)</th>
<th>Liquid temp. range °F (°C)</th>
<th>Viscosity limit mPa•s</th>
<th>Motor*</th>
<th>Mass kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>MDG-R2BB24</td>
<td>Rc1/8, 1/8NPT, G1/4</td>
<td>1.7</td>
<td>22 PSI (0.15 MPa)</td>
<td>1.57 inHg (5.3 kPa)</td>
<td>32 - 203°F (0 - 95°C)</td>
<td>10</td>
<td>DC24V, 10W</td>
<td>1.2 (2.6 lbs)</td>
</tr>
<tr>
<td>MDG-R2RV24H</td>
<td>Rc1/8, 1/8NPT, G1/4</td>
<td>1.8</td>
<td>22 PSI (0.15 MPa)</td>
<td>1.57 inHg (5.3 kPa)</td>
<td>32 - 122°F (0 - 50°C)</td>
<td>10</td>
<td>DC24V, 10W</td>
<td>1.2 (2.6 lbs)</td>
</tr>
<tr>
<td>MDG-R2BB24</td>
<td>Rc1/8, 1/8NPT, G1/4</td>
<td>1.7</td>
<td>44 PSI (0.3 MPa)</td>
<td>32 - 203°F (0 - 95°C)</td>
<td>10</td>
<td>DC24V, 14W</td>
<td>1.2 (2.6 lbs)</td>
<td></td>
</tr>
</tbody>
</table>

• * shows connection size. Please refer above table.  
• Pump performance will change depending on kind of liquid. Further information will be provided on request.  
• When handling pure water and solvent, please contact us.  
• When viscosity of handling liquid exceeds limitation of pump, please contact us.  
• Models marked with * are manufactured to order only.

Dimensions in mm

<table>
<thead>
<tr>
<th>Model</th>
<th>W</th>
<th>H</th>
<th>L</th>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
<th>e</th>
<th>f</th>
<th>g</th>
</tr>
</thead>
<tbody>
<tr>
<td>MDG-R2BB24</td>
<td>106</td>
<td>83</td>
<td>202</td>
<td>101.5</td>
<td>44</td>
<td>90</td>
<td>45</td>
<td>10</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>MDG-R2BB24</td>
<td>90</td>
<td>80.5</td>
<td>154</td>
<td>81</td>
<td>44</td>
<td>75</td>
<td>45</td>
<td>10</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>MDG-R2BB24</td>
<td>90</td>
<td>80.5</td>
<td>161</td>
<td>81</td>
<td>44</td>
<td>75</td>
<td>45</td>
<td>10</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

Note: Models marked with * are manufactured to order only.  
• Dimensions of models fitted with IEC motors differ from above.