SGL Series
Ductile Iron Pumps for Refrigerants and Other Liquefied Gas Service

SGL pumps are designed for the liquid transfer or recirculation of refrigerants and other liquefied gasses. Available in six sizes with capacities of 4 to 300 gpm (15 - 1,135 L/min), constructed of shock-resistant ductile iron and available with a wide variety of seal materials, an SGL pump is the pump to use for almost any liquefied gas application.

The sliding vane, positive displacement design provides excellent priming capability and high performance over a wide range of temperatures and differential pressures. The vanes self-adjust as they wear, maintaining the efficiency of a new pump. The vanes, liner and end discs are all easily replaced, bringing the pump back to like-new specifications.

Replaceable casing liner and end discs
Blackmer SGL models can be economically rebuilt for like-new performance with replaceable end discs and liners, specially designed to suppress cavitation and reduce wear.

Two-piece threaded lock collars
Precisely position the rotor and shaft, allowing the pump to operate under high inlet pressures. In addition, this positive lock thrust control helps prevent premature wear to internal components.

External ball bearings
Low friction grease-lubricated ball bearings are completely isolated from the pumpage by mechanical seals for trouble-free service and long life.

Ductile iron construction
All pressure parts are of ductile iron for greater resistance to both thermal and mechanical shock.

Internal relief valve
Protects the pump from excessive pressure buildup in the event of an obstructed or closed return line.

Nonmetallic Duravanes
Designed to resist wear under non-lubricating conditions. These chemically inert vanes are formulated of a tough resin material for long life and quiet operation.

Blackmer mechanical seals
Specially developed for non-lubricating liquids, Blackmer’s exclusive component type design is field proven to provide long life and reliable service on a wide range of liquefied gas applications.

How sliding vane maintains efficiency
How Blackmer’s sliding vane action works
SGL Series
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Pump Performance Data

<table>
<thead>
<tr>
<th>Pump Model</th>
<th>SGRL1.25</th>
<th>SGL1.25</th>
<th>SGL1.5</th>
<th>SGLD2</th>
<th>SGLD3</th>
<th>SGLD4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed (rpm)</td>
<td>1,750</td>
<td>1,750</td>
<td>1,750</td>
<td>1,750</td>
<td>1,750</td>
<td>1,750</td>
</tr>
<tr>
<td>U.S. gpm</td>
<td>16</td>
<td>21</td>
<td>12</td>
<td>64</td>
<td>21</td>
<td>6</td>
</tr>
<tr>
<td>L/min</td>
<td>61</td>
<td>38</td>
<td>30</td>
<td>121</td>
<td>98</td>
<td>30</td>
</tr>
<tr>
<td>hp</td>
<td>1.3</td>
<td>1.7</td>
<td>1.7</td>
<td>2.2</td>
<td>1.8</td>
<td>0.9</td>
</tr>
</tbody>
</table>

* Approximate data based on handling various liquefied gases at 50 psi (3.45 bar) differential pressure. Refer to characteristic curves for capacities and horsepower at other pressures.

Maximum Operating Limits

<table>
<thead>
<tr>
<th>Pump Model</th>
<th>Nominal Flowrate</th>
<th>Pump Speed</th>
<th>Differential Pressure</th>
<th>Working Pressure</th>
<th>Minimum Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>gpm</td>
<td>L/min</td>
<td>rpm</td>
<td>psi</td>
<td>psi</td>
<td>°F</td>
</tr>
<tr>
<td>SGRL1.25</td>
<td>16</td>
<td>1,750</td>
<td>150</td>
<td>525</td>
<td>-30</td>
</tr>
<tr>
<td>SGL1.25</td>
<td>21</td>
<td>1,750</td>
<td>150</td>
<td>525</td>
<td>-30</td>
</tr>
<tr>
<td>SGL1.5</td>
<td>32</td>
<td>1,750</td>
<td>150</td>
<td>525</td>
<td>-30</td>
</tr>
<tr>
<td>SGLD2</td>
<td>67</td>
<td>640</td>
<td>150</td>
<td>525</td>
<td>-30</td>
</tr>
<tr>
<td>SGLD3</td>
<td>133</td>
<td>640</td>
<td>150</td>
<td>525</td>
<td>-30</td>
</tr>
<tr>
<td>SGLD4</td>
<td>270</td>
<td>1,022</td>
<td>125</td>
<td>525</td>
<td>-30</td>
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</tbody>
</table>

Companion Flanges

<table>
<thead>
<tr>
<th>Pump Model</th>
<th>Standard</th>
<th>Optional</th>
</tr>
</thead>
<tbody>
<tr>
<td>SGRL1.25</td>
<td>1-1/4” NPT Tapped Ports</td>
<td>–</td>
</tr>
<tr>
<td>SGL1.25</td>
<td>1-1/2” NPT Tapped Ports</td>
<td>–</td>
</tr>
<tr>
<td>SGL1.5</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>SGLD2</td>
<td>2” NPT</td>
<td>2” Weld</td>
</tr>
<tr>
<td>SGLD3</td>
<td>3” NPT</td>
<td>3” Weld</td>
</tr>
<tr>
<td>SGLD4</td>
<td>4” x 3” Weld</td>
<td>4” x 4” Weld</td>
</tr>
</tbody>
</table>

Note: Optional materials of construction may be required to meet specific application requirements – refer to Blackmer Material Specification Sheets.

SGL Applications – Typical Products

- Butadiene
- Butene
- Dimethyl Ether
- Ethyl Chloride
- HCFC - 22
- HFC - 23
- HCF – 125
- HCF - 134a
- HCFC – 142b
- HFC – 143
- HFC – 152a
- MAPP Gas
- Methyl Chloride
- n-Pentane
- R11
- R12
- R13
- R22
- R112
- R113
- R114
- R115
- R502
- Refrigerants – MF/TA/TMS/TF
- Most 400 & 500 Series Blends
- Sulfur Dioxide
- ...and others

For Other Applications...

For propane/butane or anhydrous ammonia applications, consider Blackmer’s LGL pumps or LB compressors. For CO₂ applications, consider Blackmer’s CRL pumps or HD compressors. For railcar transfer, or where vapor recovery is desired, consider Blackmer’s HD compressors.

Visit Blackmer’s web site www.blackmer.com for more detailed information on the SGL pumps and other Blackmer products.