### Specifications: Standard P2K Pumping Systems

<table>
<thead>
<tr>
<th>bore x stroke</th>
<th>in</th>
<th>1.25, 1.50 x 1.50</th>
<th>1.75 x 1.50</th>
<th>2.00 x 1.50</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mm</td>
<td>(32, 38 x 38)</td>
<td>(44.5 x 38)</td>
<td>(50.8 x 38)</td>
</tr>
<tr>
<td>Flow Rate</td>
<td>gpm</td>
<td>1.13 – 3.10</td>
<td>2.20 – 4.20</td>
<td>2.87 – 5.53</td>
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<tr>
<td></td>
<td>lpm</td>
<td>4.27 – 11.73</td>
<td>8.32 – 15.89</td>
<td>10.90 – 20.93</td>
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<tr>
<td>Pump Design Rating</td>
<td>hp</td>
<td>7.5 – 20</td>
<td>10 – 20</td>
<td>15 – 20</td>
</tr>
<tr>
<td></td>
<td>kw</td>
<td>5.6 – 15</td>
<td>7.5 – 15</td>
<td>11.2 – 15</td>
</tr>
<tr>
<td>Maximum Discharge Pressure</td>
<td>psi</td>
<td>6,000</td>
<td>4,500</td>
<td>3,500</td>
</tr>
<tr>
<td></td>
<td>bar</td>
<td>414</td>
<td>310</td>
<td>241</td>
</tr>
<tr>
<td>NPSPR</td>
<td>psi</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>bar</td>
<td>0.14</td>
<td>0.14</td>
<td>0.14</td>
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<tr>
<td>Maximum Suction Pressure</td>
<td>psi</td>
<td>300</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td>bar</td>
<td>20.7</td>
<td>20.7</td>
<td>20.7</td>
</tr>
</tbody>
</table>

* Contact ACD for additional P2K pump ratings

### Features & Benefits
- Vertical pump installation eliminates gravitational loading on the piston, provides smoother suction valve operation, and makes for a more compact system footprint
- Motor positioned on the backside of the pumping skid, eliminates possible fire or explosion or hazard in case of a liquid oxygen leak
- V-band clamp secures the sump to the intermediate allowing for quick and easy access to the cold end assembly
- Relubrication fittings for the roller bearings and crosshead provide extended service life
- Spring energized pushrod shaft seals are contained in cartridge housings for fast and easy replacement—takes about twenty minutes without removing the cold end
- Replaceable crosshead wearband eliminates crosshead piston wear and reduces maintenance costs
- Vacuum jacketed cold end minimizes heat leak to reduce product loss and increase system efficiency
- Pump assembly and spare parts are interchangeable with the PD3000 pump

### Applications
- Heavy duty cylinder filling pump
- Medium duty storage filling pump
- Unattended, automatic storage filling

### Liquids Pumped
- N₂, O₂, Ar, CO₂, Methane (LNG), Ethylene
**OVERALL DIMENSIONS**

**PUMP PERFORMANCE MAP**

**Maximum Capacity Rating:**
- 2.55 gpm (9.6 lpm) @ 6,000 psi (414 bar)
- 3.47 gpm (13.1 lpm) @ 4,500 psi (310 bar)
- 4.54 gpm (17.2 lpm) @ 3,500 psi (241 bar)

Lower flows are available by running the pump slower. Contact ACD Engineering for recommendations for flow/pressure specifications not listed.

**TYPICAL SCOPE OF SUPPLY**
- Grease lubricated drive assembly and vacuum jacketed cold end
- Electric motor with belt drive and guard
- Hot dipped galvanized steel skid frame
- Over pressure switch gauge (shipped loose)
- Control panel with combination motor starter and running time meter (shipped loose), relay logic
- Vent line with manual valve and low pressure relief valve
- Monel suction strainer
- High pressure relief valve with discharge line and surge chamber

**OPTIONAL ACCESSORIES**
- PLC control panel
- Automatic control panel
- Loss of prime detector
- Discharge check valve
- Cavitation detector
- Shaft seal leak detector
- Flex sections for suction and tank return lines
- Cool down temperature detector
- Cool down detector
- Auto unloader valve
- Extended cool down lock-up
- Drive purge
- ASME high pressure relief valve
- Monel cold end – for 4,500+ psig oxygen

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