Technical Index

Pump ID Meaning

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<th>Pump ID Meaning</th>
<th>Technical Details</th>
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<td><strong>MRP 40/40 or 55</strong></td>
<td>(piston Ø in mm) / (piston stroke in mm)</td>
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<td>Applications</td>
<td>Cylinder and buffer tank filling</td>
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<td>Liquids pumped</td>
<td>LOX, LIN, LAr, LCO₂, LN₂O, LNG, LH₂</td>
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<td>Drive type</td>
<td>Oil or grease lubricated crank drive</td>
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<td>Design pressure</td>
<td>420 bar / 6100 PSI</td>
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Test Procedure

Each pump manufactured by CRYOSTAR is mechanically and cryogenically tested prior to shipment in our state-of-the-art testing facility to ensure that performance meets customer specification. The precision of measuring devices provides essential results: differential head, flow rate, seal gas consumption, pump efficiency, NPSH, noise and vibration levels – all documented and submitted to the customer.

Quality

Designed in compliance with guidelines like IGC 11/82 norm
**Features**

1. Small mass of the suction chamber (faster/better cool down)
2. Large suction chamber volume
3. Direct degassing at the highest point of the cold end (further improved by a 45° slope of the discharge line)
4. Improved vacuum volume
5. Suction valve optimized to reduce pressure drops
6. Optimized design and position of the vacuum connection
7. Waved line on the cylinder to avoid stresses resulting from cold contraction (extends cylinder life)
8. Increased number of piston rings for higher volumetric efficiency
9. Optimized sealing and guidance of the monel piston
10. PT100 probe for seal leak detection
11. Open intermediate piece → no need for purge
12. Following features offer an extended lifetime:
   - Crosshead guided by wear segments
   - Sealing package with interchangeable cartridge → no need to disassemble entire crank drive
   - Rigid and auto-centred coupling of the piston
13. Oil splash lubricated crank drive with autonomous lubricating system independent of rotating directions

PT100 probe for anti-cavitation and leak detection included in standard scope of supply.

**Options**

- 2 different types of Low Pressure seals: set or adjustable through tightening
- PT100 probe for crank drive temperature control
- PT100 probe in gas return line for cool-down protection
- Low Pressure seals heater for cold standby periods over 3 hours
- Crank drive purge connection

For more details please contact your local Cryostar representative