



MRP Modular Reciprocating Pump



★ **DISTRIBUTION**
CRYOSTAR

Technical Index

★ Pump ID Meaning

MRP 40 / 40 or 55
(model) (piston Ø in mm) (piston stroke in mm)

Applications Cylinder and buffer tank filling

Liquids pumped LOX, LIN, LAr, LCO₂, LN₂O, LNG, LH₂

Drive type Oil or grease lubricated crank drive

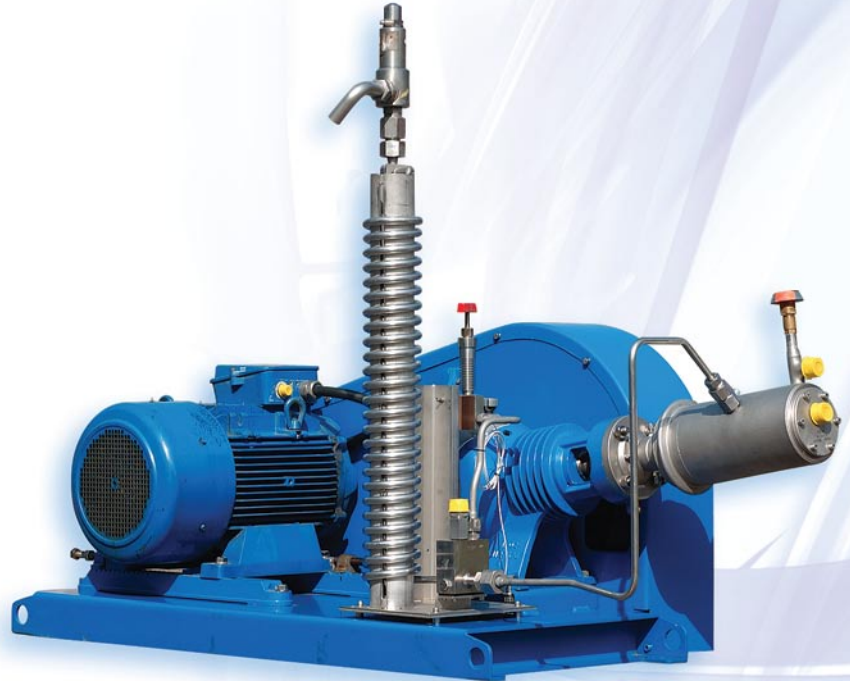
Design pressure 420 bar / 6100 PSI

★ Test Procedure

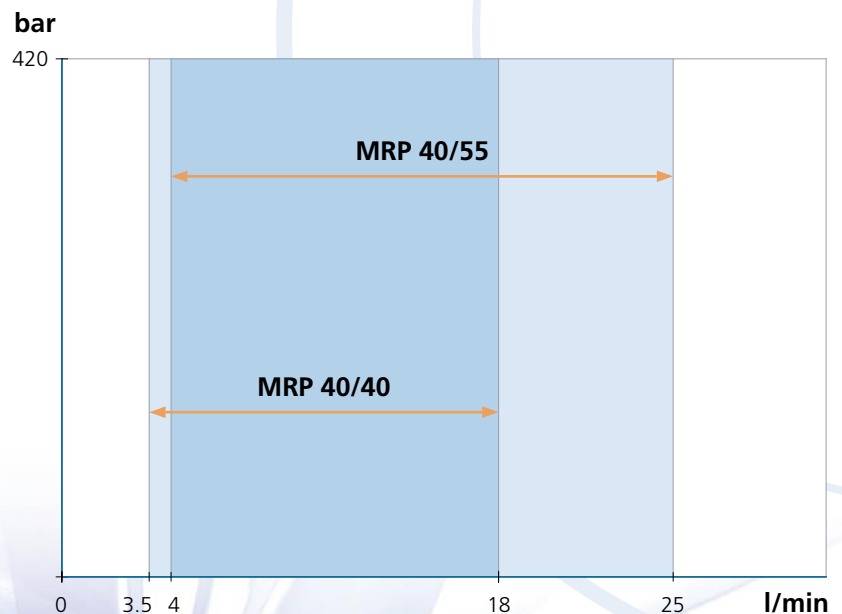
Each pump manufactured by CRYOSTAR is mechanically and cryogenically tested prior to shipment in our state-of-the-art testing facility to ensure that performance meets customer specification. The precision of measuring devices provides essential results : differential head, flow rate, seal gas consumption,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



★ Performance



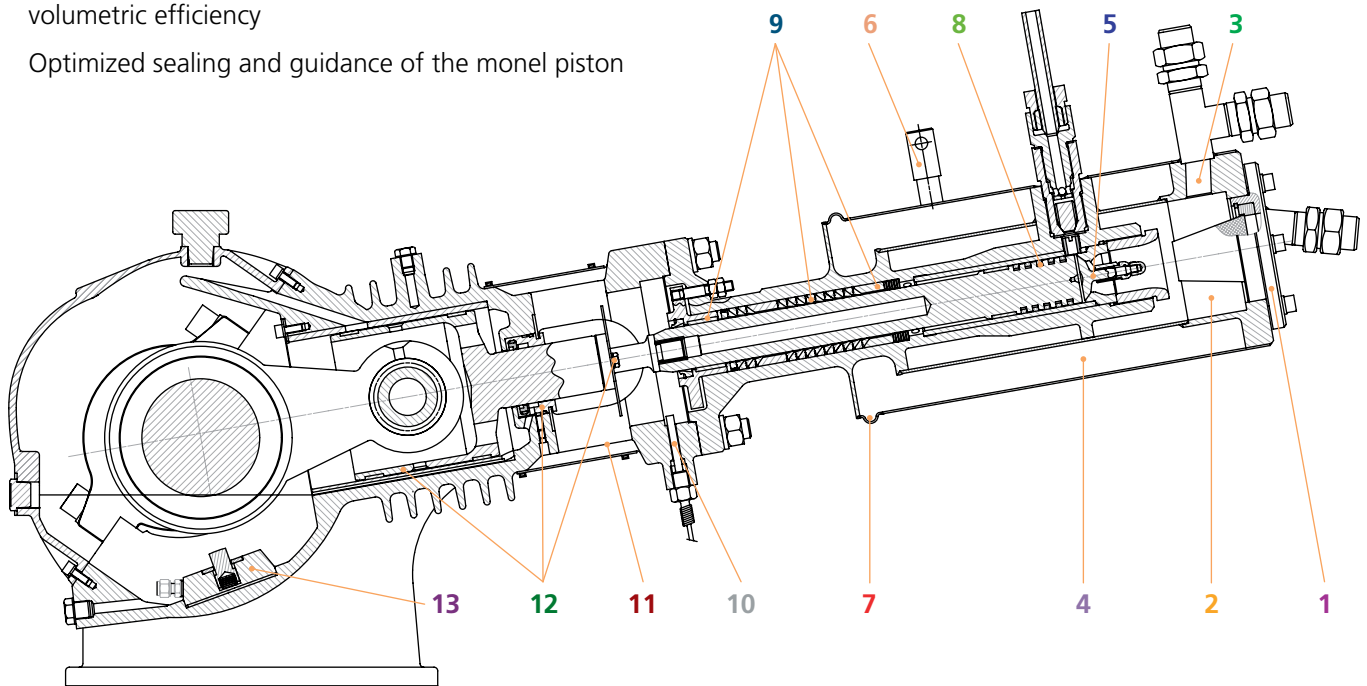


★ Features

- 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



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