

Redhead

PRODUCTION ENHANCEMENT

MPP Series

MULTIPHASE TRANSFER PUMP

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REDHEADLIFT.COM



MPP Series

THE GEAR DRIVEN MULTIPHASE PUMP SYSTEM FROM REDHEAD ARTIFICIAL LIFT

MPP Redhead provides the transfer of liquids, gas and solids from a wellsite, header or satellite to a battery or process facility without the need for separation.

POWERFUL MULTIPHASE SYSTEM

The MPP Redhead multiphase system provides an effective alternative to the separation of production fluid reducing overall cost of equipment, maintenance and repairs.

- Dramatically increase well performance.
- Pumps all well fluids at once - no separation required.
- Can effectively replace entire satellite facilities.
- Full GLR Capability.

PROVEN GEAR DRIVEN TECHNOLOGY

MPP Readhead features robust gear driven components used in the making of their industry leading conventional pumping units deployed throughout the United States and Canada.

Operating MPP Readhead resembles that of a pumping unit on an oilwell with built in automation through a variable frequency drive (VFD) to operate and monitor the system. The resulting drop in wellhead and flowline pressure enables each well to produce more as the production fluid is pulled towards the inlet of MPP Readhead's double acting multiphase pump and pushed through the outlet downstream. MPP provides several benefits for increased efficiency, performance and reliability in multiphase pump service.

MPP for Increased Production,
MPP for Higher Efficiencies,
MPP for Longer Run Life.

A NEW WAY OF THINKING

MPP Readhead includes a gear driven double acting piston pump capable of 3000m³/d of liquid and 50 e3m³/d of gas or more with higher inlet pressures.

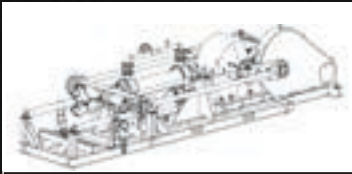
- 1** Compatible with high temperatures and higher concentrations of H₂S.
- 2** Send production fluid with up to 100% gas content.
- 3** Variety of sizes available to suit a wide range of applications.
- 4** Automated with custom built VFD and software for alarms, safety and control.

SAVE CAPITAL, SAVE ENERGY

MPP Readhead is specifically built for use at a header or satellite where production from multiple wells is transferred or collected.

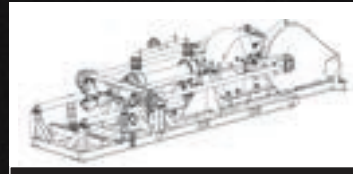
The system provides an abundance of time and cost savings compared to operating high power multiphase systems or even casing gas compressors on each individual well. The automatic gear driven multiphase system offers more production throughput, uses less power and combines lower maintenance and repair costs compared to others used in multiphase pump applications. "Gas" compressors, flares, separators and process control equipment can be eliminated with MPP Readhead. Replace declining and maintenance demanding infrastructure and reduce field operating costs. Experience the benefits of reduced lead times for equipment, parts and repairs along with the potential for less flaring of gas for a smaller carbon footprint.

Redhead MPP Series Multiphase



DIMENSIONAL DATA

Model	MPP850-350
Torque Max (in.lib.)	456,000
Stroke Length (in.)	50
MAWP (PSI)	740
Max DeltaP (PSI)	350
Pump Internal Diameter (in.)	8
Piston Diameter (in.)	4
Inlet/Outlet Flange	4" ANSI 300
Check Valve	4" NS WAFER
Ball Valve	1-1/2" NPT
Sheave size	50"-6C
Volume per Stroke (L)	72.4
Liquid Volume @ 12 SPM	1251m3 per day
Gas Volume @ 12 SPM	25e3m3/d @ 600 PSI + DeltaP = 275
Dimension after Deployed (L x W x H) (mm)	7231X2153X1889



DIMENSIONAL DATA

Model	MPP1250-320
Torque Max (in.lib.)	912,000
Stroke Length (in.)	50
MAWP (PSI)	740
Max DeltaP (PSI)	320
Pump Internal Diameter (in.)	12
Piston Diameter (in.)	4
Inlet/Outlet Flange	4" ANSI 300
Check Valve	4" NS WAFER
Ball Valve	1-1/2" NPT
Sheave size	50"-7C
Volume per Stroke (L)	173
Liquid Volume @ 12 SPM	2989m3 per day
Gas Volume @ 12 SPM	65e3m3/d @ 600 PSI + DeltaP = 275
Dimension after Deployed (L x W x H) (mm)	9031X2453X1945

FEATURES

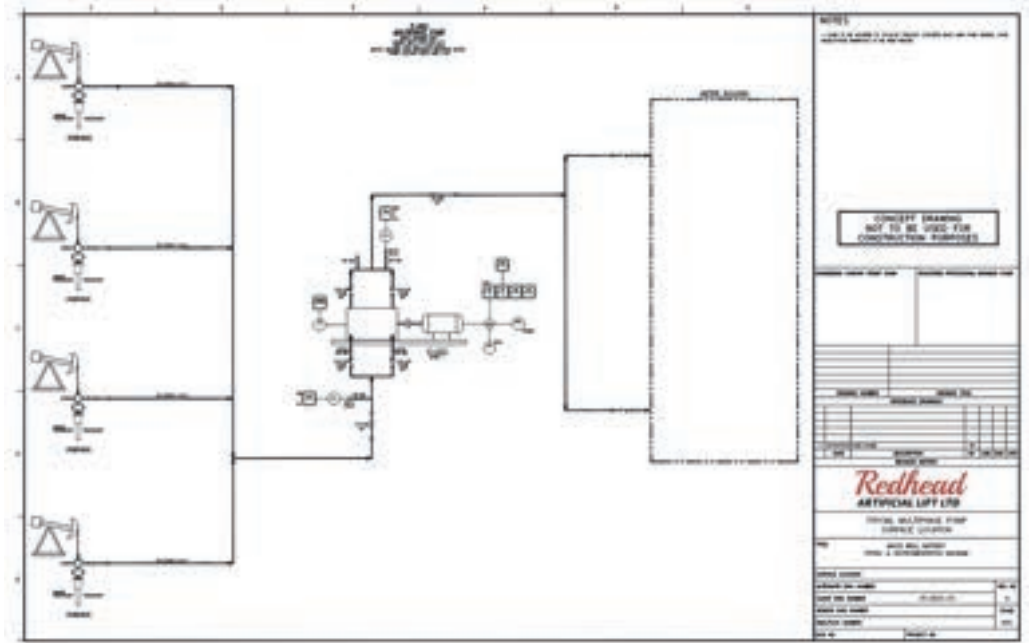
- Pump speed reduction capability 0-100%.
- No minimum liquid volume required.
- Compatible with majority of oil gravity and viscosities.
- Draws gas/liquid ratios from 0 – 100%.
- Fully automated with custom built VFD and software optimized for maximum efficiency.
- User-friendly alarms, control and safety shutdowns with on-screen data centre and events log.
- Rugged design is built for a wide variety of applications and conditions.

BENEFITS

- Pumps oil, water, gas emulsions and slugs including solids from multiple wells directly to the battery without the need for additional equipment.
- Lowers wellhead and flowline pressures for incremental gains and greater capacity.
- Increases downhole equipment run time by relieving pressure on the entire system.
- Designed for 100% flow through during shutdown or loss of operation.
- Eliminates the need for separators, compressors and flares at the satellite.
- Less maintenance with longer intervals and ease of repair.
- Proven gear driven technology for increased uptime.

Redhead MPP Multiphase

APPLICATION DIAGRAM



APPLICATION QUESTIONS

1 Reduce well, casing and field pressures for incremental oil. The pump can be tied into flowlines for individual wells or multi-well pads to lower casing pressures and increase oil production.

- What type of experiences are you having with lower production rates due to high casing pressures in gassy wells?
- Do you currently use gas compression to lower casing pressures or have you considering reducing casing pressures in the future?

2 Reduce flowline pressure to increase overall line capacity and extend the overall life of the flowline.

- Do you experience problems with aging or volatile flowlines that are near maximum operating pressure (MOP)?
- Do you currently have wells shut in due to the flowline nearing MOP?

3 Replace, bypass or omit satellite facilities and significantly lower new facility construction, upgrades and operating costs.

- What type of factors determine a new satellite build or header construction and what are the challenges with cost and approval?
- How often do you maintain, expand or upgrade existing satellites and what type of issues and costs are associated with this type of work?

4 Save on overall cost of repairs and maintenance with increased run life and longer periods between maintenance intervals.

- What types of casing gas compressors or transfer pumps have you used and what are your experiences with them?
- Has equipment cost and downtime associated with design and overall life span of major components ever been an issue?
- What challenges are you having with field service, product support and parts availability?