Schlumberger

REDA Multiphase HPS

Aligned with United Nations Sustainable Development Goals:
13—Climate action.

Horizontal multistage surface pump

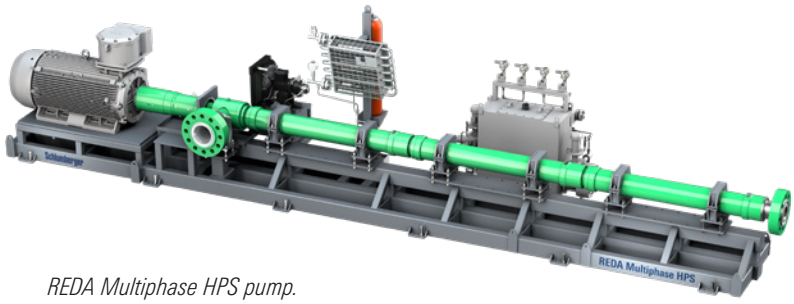
Efficient surface booster pump for pipeline, oil well, and zero-flaring operations without phase separation

Emissions Reduction:
Greenhouse gas reduction of up to 99% by enabling flaring elimination†

Flow capacity:
3,150 to 50,000 bbl/d [500 to 8,000 m^3/d]

Gas volume fraction:
up to 90%

Max. boost pressure:
900 psi [6,200 kPa]



REDA Multiphase HPS pump.

Applications

- Boosting of fluid with high gas volume fraction (GVF)
- Crude gas or liquid effluent transfer
- Well unloading and production boosting
- Zero-flaring well testing operations
- Water-alternating-gas injection

How it improves production economics, sustainably

REDA Multiphase HPS* horizontal multistage surface pump improves the efficiency of boosting and transporting unprocessed crude oil and gas, eliminating the need for phase separation. By eliminating the limitations of conventional surface centrifugal pumps, the REDA Multiphase HPS pump is ideal for zero-flaring operations to enhance production from wells and transfer raw gas and commingled oil fluids to a central processing facility.

In addition to eliminating costs of wellhead equipment and separators, the technology enables wells to produce at a lower wellhead flowing pressure, facilitating more aggressive reservoir drawdown that increases oil production.

How it works

The REDA Multiphase HPS pump design is an enhancement of the reliable REDA HPS* horizontal multistage surface pumping system, using axial stages based on the field-proven MGH* multiphase gas-handling system. The pump efficiently boosts crude oil with gas content up to 90% in continuous operations.

What it replaces

By enabling efficient boosting of multiphase fluids to central processing facilities without the need for conventional gas separation equipment, routine gas flaring can be eliminated. Eliminating gas flaring contributes to a substantial reduction in CO_2 and CH_4 greenhouse gas emissions and enables monetization of the gas.

Additional information

Assembled pumps are delivered to a site, ready for operations. Each pump is instrumented to enable remote monitoring of crucial operating parameters for equipment protection and performance analysis.

REDA Multiphase HPS Pump Specifications	
Flow capacity, bbl/d [m^3/d]	3,150 to 50,000 [500 to 8,000]
Liquid rate at 75% GVF, bbl/d [m^3/d]	700 to 11,400 [110 to 1,800]
Max. GVF for continuous operation, %	90
Max. pump boost pressure, psi [kPa]	900 [6,200]
Max. working pressure, psi [kPa]	2,000 [13,800]
Unit integrity pressure, psi [kPa]	3,000 [21,000]
Process fluid temperature range, degF [degC]	60 to 175 [15 to 80]
Total suspended solids (TSS), ppm	<500
Ambient temperature range, degF [degC]	–40 to 104 [–40 to 40]

All specifications are subject to change without notice.

The pump facilitates rapid maintenance for reduced downtime with improved configuration of pumps, thrust chamber, seal, and motor.

† The qualification is based on well test and well unloading operations in 19 wells with CO_2e emissions reductions up to 99.6% comparing conventional service set up with separator and gas flaring versus REDA Multiphase HPS pump power consumption to boost all liquid and gas to the production line without gas flaring.

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