Blackmer
Part of Pump Solutions Group
A DOVER COMPANY

Spec Sheet 901-005

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HD/HDS Compressors for Wellhead Oil Production Enhancement & Vapor Recovery







Wherever wellhead gases need to be cost-effectively extracted and efficiently managed, Blackmer® compressors are on the job.









Blackmer's deep oil and gas industry experience has led to its solid reputation for product innovation, quality, and most critical to Wellhead Operators – reliability – especially in rugged and remote unmanned locations. These professionals rely on Blackmer compressors to perform without fail at the wellhead and storage tank batteries for an array of critical applications.

Annulus Reduction

Blackmer compressors reduce wellhead gas pressure improving oil flow into underground formations for more efficient oil production enhancement.

Vapor Control

The wellhead and tank batteries are the two major sources of fugitive methane emissions. Common air compressors lack critical seals to prevent gas leakage and crankcase oil dilution. Condensate can form in the compressor, which will contaminate crankcase oil. Condensate will break down the oil acting like a solvent, stripping bearings of critical lubrication. The result is damaging heat, friction, and equipment damage or breakdown. Blackmer compressors are specially designed to capture and control wellhead gases. The design prevents gas leakage and oil contamination.

Vapor Recovery

Increasingly stringent state and federal clean air rules are promoting the reduction and elimination of gas venting and flaring of fugitive gas emissions. Blackmer compressors are unsurpassed in reducing emissions and the recovery of saleable wellhead gas, thus protecting the environment, supporting regulatory compliance and improving the bottom line.

Product Transfer

Blackmer compressors move wellhead and tank battery vapors into low to medium pressure pipelines where it can be further processed downstream at a gas processing station.

Wellhead operators attest to the importance of equipment reliability and uptime performance, and understand the risks and downtime costs of relying upon less capable, less durable air compressors. They avoid the unnecessary expense of daily and weekly oil changes, and the frequent replacement of these less durable compressors. They recognize the Blackmer product outlasts and outperforms, requiring only routine maintenance. Its ability to remain on 24/7/365 continuous duty for the long haul is testimony to Blackmer reliability and bottom line results.

Talk to Your Local Blackmer Distributor

Your distributor will be glad to discuss with you your wellhead and tank battery needs and develop the appropriate compressor configuration to meet your operational requirements. Ask about how your choice of a Blackmer compressor will pay for itself.

Innovative Solutions to the Challenges of Wellhead Oil Extraction, Gas Transfer, Emissions Control and Vapor Recovery



HD/HDS Series Industrial Gas Compressors



HD Reciprocating Gas Compressors are highly efficient, heavy-duty single and two-stage oil-free compressors. Advanced design technology and materials provide maximum performance with minimum maintenance. The HD Series is specially designed for a wide range of wellhead applications for oil and gas production and storage operations. HDS Sour Gas compressors can handle up to 8% dry H_2S.

Applications

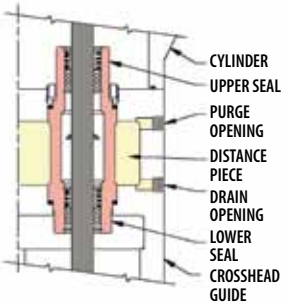
- Wellhead Annulus Gas Pressure Reduction
- Wellhead Vapor Control
- Pressure Boosting
- Tank Battery Vapor Control and Recovery
- Vapor Recovery
- Gas Gathering
- Gas Evacuation
- Gas Blanketing
- Flare Elimination
- Enhanced Recovery

Features & Benefits

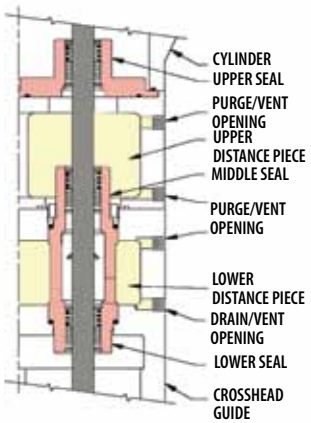
- Ductile iron head and cylinder provide toughness and strength unmatched by cast iron
- O-ring head gaskets provide positive sealing under all operating conditions
- Double-seal with full distance piece provides effective leakage control and oil contamination prevention, and protect the environment from fugitive emissions
- Max. BHP: 50 hp (37 kW)
- MAWP to 1000 psia (69 bara)
- Flow rates to 600 MSCFD
- Two Stage Models available for higher compression ratio requirements

Double & Triple Seal Models

The standard double-seal models are constructed with a single distance piece between two sets of piston rod seals. The distance piece provides leakage control and prevents oil contamination of the compressed gas stream. Triple-seal models use two distance pieces for maximum leakage control and are well suited for handling toxic, hazardous or corrosive gases. Ports are provided in each distance piece chamber for purging, pressurizing or venting. Single-seal models are also available.



DOUBLE SEAL



TRIPLE SEAL

HD/HDS Compressors for Wellhead Oil Production Enhancement & Vapor Recovery

The inside view on why Blackmer compressors are superior in handling wellhead gases and controlling vapor emissions

High efficiency, PEEK valves

Blackmer valves are specifically designed for oil-free gas applications. Standard valve plates are constructed of self-lubricating PEEK (Poly Ether Ketone) material that provides superior sealing characteristics, high efficiency and durability. Optional stainless steel valves are also available. Note: Series HD160 and HD170 have TNT-12 impregnated steel valves.

Live loaded piston rod seals

Filled PTFE seals are wear compensating and maintain a constant sealing pressure around the piston rods with minimum friction. This special seal design prevents crankcase oil contamination and cylinder blow-by.

Single or double-distance piece

Single or double distance pieces (isolation chambers), control contamination of the compressed gas from crankcase lubricant, even at high vacuum inlet conditions. Each isolation chamber may be independently purged, pressurized or vented for maximum containment of toxic or hazardous gases.

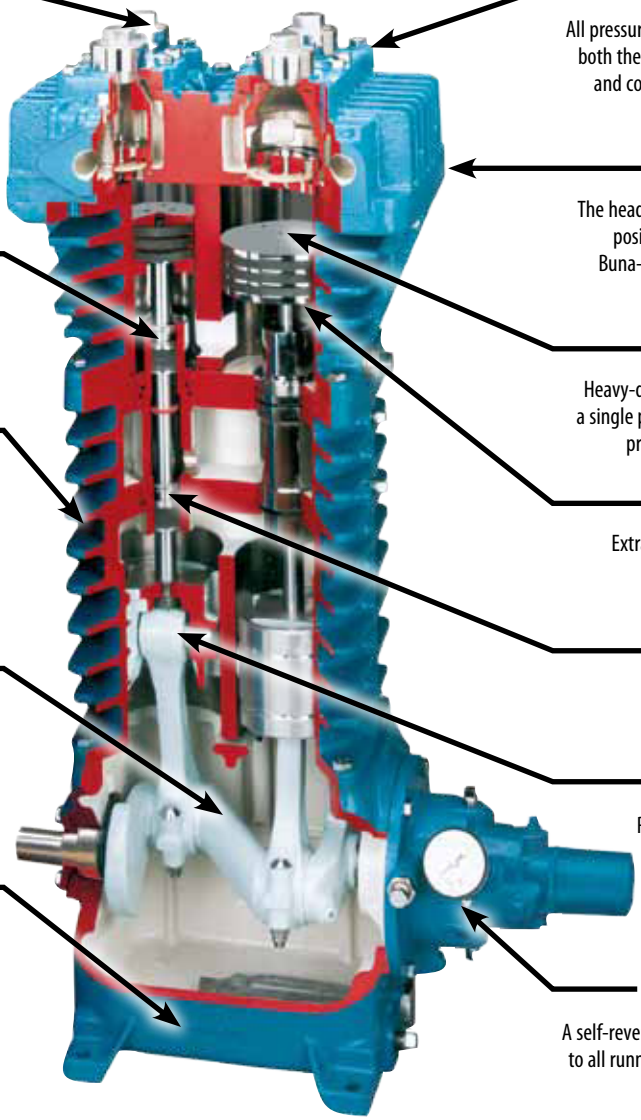
Heavy-duty precision ground crankshaft

The ductile iron crankshaft features roller bearings and integral counterweights for smooth, quiet operation. Rifle drilling ensures positive oil distribution to the wrist pin and connecting rod bearings.

Two-part epoxy paint

ANSI flanges

Many models are available with ANSI flanges for compatibility with CPI and refinery industry standards.



Ductile iron construction

All pressure parts are ductile iron for greater resistance to both thermal and mechanical shock. For extended wear and corrosion resistance, specify the TNT-12 PTFE and Nickel impregnation option.

O-ring seals

The head and cylinder are sealed with O-rings to ensure positive sealing under severe operating conditions. Buna-N, FKM, Neoprene, PTFE or Ethylene-Propylene O-rings are available.

One piece piston

Heavy-duty steel pistons are connected to the rod with a single positive locking nut, which eliminates potential problems associated with multiple piece designs.

Self-lubricating piston rings

Extra-thick, self-lubricating filled PTFE piston rings provide more wear surface for maximum sealing and extended life.

S3R Seal (600/900 Series)

Enhanced oil control providing even greater leakage control.

Wrist pin needle bearings

Roller needle bearings provide longer life under high rod load applications. Superior wrist pin lubrication is assured under all load conditions. All HD/HDL/HDS compressors are free of yellow metals.

Pressure lubricated crankcase

A self-reversing oil pump provides positive oil distribution to all running gear components for long life and minimal wear. A full-flow spin-on oil filter is standard.

Contact your Blackmer Distributor

Our Application Engineers can provide expert assistance in selecting the right compressor, the right options and the right accessories for your specific application.

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