

HOSS Compressor

PROVIDES GREAT FIT

For Higher Horsepower Gas Field Compressor Market

NATURAL GAS CONSUMPTION continues to grow worldwide as countries invest in liquid petroleum gas (LPG), liquefied natural gas (LNG), and gas-to-liquid (GTL) projects. Driven by rising energy prices, environmental pressures, improved technologies, and growing markets, these projects increase the demand for natural gas compressors.

To meet this demand, Dresser-Rand has developed a larger, medium-speed gas field HOSS™ compressor for gas compressor users. Also known as the “super HOS” compressor, it is based on Dresser-Rand’s HOS compressor and can be purchased or leased in standard or custom packages via Dresser-Rand’s authorized distributors.

According to Gary Tas, business development manager for Dresser-Rand’s Separable Reciprocating Business Unit, “The HOSS compressor was developed to meet clients’ needs for larger, higher horsepower gas field compressors that could still be conventionally packaged.”

HOSS compressors are designed for 75,000 lb. (333.6 kN) combined rod load in either tension or compression and 87,000 lb. (387 kN) frame load. The HOSS units are rugged compressors engineered for higher horsepower gas field applications that include gas lift, gas gathering, pipeline boosting, gas transmission, underground gas storage (injection and withdrawal), fuel gas boosting, landfill gas recovery, and many other related applications.

Built to handle sweet natural gas services, sour natural gas, propane, carbon dioxide, air, nitrogen, and most other gases, the HOSS compressor is capable of moving larger volumes of gas. “It’s an excellent fit for large compression projects involving gas gathering, gas storage, and gas transmission,” Tas notes. “And in some applications, it can meet traditional operating requirements with a reduced number of crank throws.”

RUGGED DESIGN FEATURES

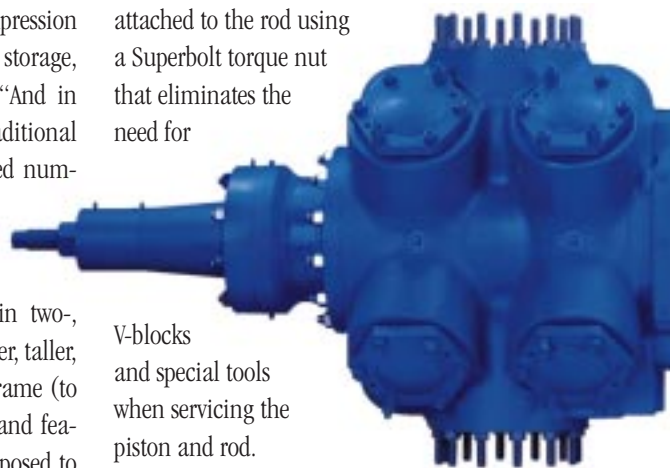
The HOSS compressor is available in two-, four-, and six throws. Its frame is longer, taller, and wider than the HOS compressor frame (to accommodate larger running gear), and features integral crosshead guides (as opposed to

bolt-on extensions) for higher load carrying capability. The heavy-duty, forged steel crankshaft is balanced and rifle-drilled for pressure lubrication and is counterweighted on two- and four-throw frames to minimize horizontal moments.

The horizontally split, precision-type, tri-metal bronze bearings provide optimum heat dissipation, maximize reliability, and increase the life of the HOSS unit. The main and crankpin bearings are also equipped with a micro-babbitt overlay that provides added start-up protection and corrosion resistance.

The forged steel connecting rods are rifle-drilled for pressure lubrication. They feature high-strength, forged ferry head cap screws with rolled threads. The solid bronze connecting rod pin bushings have a micro-babbitt overlay. The crank pin and main bearings are identical for easy stocking and maintenance.

The HOSS compressor uses the high-pressure lineup of HOS cylinders; the only difference is that in the HOSS compressor (as opposed to the HOS compressor), the piston rod size has been increased to 2.875 in. (73 mm), which requires a different piston and rod, packing case, and different machining at the frame end to accommodate both. Pistons are attached to the rod using a Superbolt torque nut that eliminates the need for



V-blocks and special tools when servicing the piston and rod.

Cylinder performance is optimized because multiple valve sizes can be used with the same size cylinder. Gas passages are oversized to reduce losses and, depending on the application, valves can be sized to optimize efficiency. An optional, high-volume, manually operated variable volume clearance pocket (HVVCP) can be adjusted “on-the-fly” and provides clearance for greater capacity and horsepower control.

In addition, Dresser-Rand has added six new intermediate diameter cylinders—12.25 in. (311.1 mm); 14.00 in. (355.6 mm); 16.25 in. (412.7 mm); 19.00 in. (482.6 mm); 22.00 in. (558.8 mm); 24.50 in. (622.3 mm)—that complement both the HOS and HOSS compressors. A new 16-in. (406.4 mm) distance piece, similar to that of the HOS compressor with its through-bolt design, is standard on the HOSS compressor.

Dresser-Rand's high-efficiency PF ported plate valve is standard and the Magnum™ valve (mini-Poppet element) is available as an option. Both valves use Dresser-Rand's exclusive Hi-Temp™ nonmetallic wear parts material.

AFTERMARKET SUPPORT

Changes in operating requirements don't necessarily mean clients need to purchase new

equipment. “A HOSS compressor cylinder can be applied on a HOS compressor frame by a simple piston and rod and packing case change-out while the reverse is true by a simple machining modification,” notes Tas. This cost-effective alternative provides added value when considering revamp opportunities for installed gas compressors.

Tas further emphasizes that “Revamps can increase an installed unit's reliability, availability, and performance—regardless of what nameplate is on the equipment—resulting in extended life and an increase in the value of our clients' installed assets.” Dresser-Rand can service clients' gas field compressors and get them back on-line quickly, efficiently, and safely. Dresser-Rand's integrated teams help clients develop cost-effective, field-proven solutions for repairs, overhauls, upgrades, rerates, and nearly any other challenge involving installed gas field compressors.

“For clients looking for a bigger, faster, higher horsepower gas field compressor that can still be conventionally packaged and that matches up well to the newer, higher horsepower gas engines in today's gas field market, the HOSS compressor is the innovative solution that carries the greatest value,” says Tas. ■

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