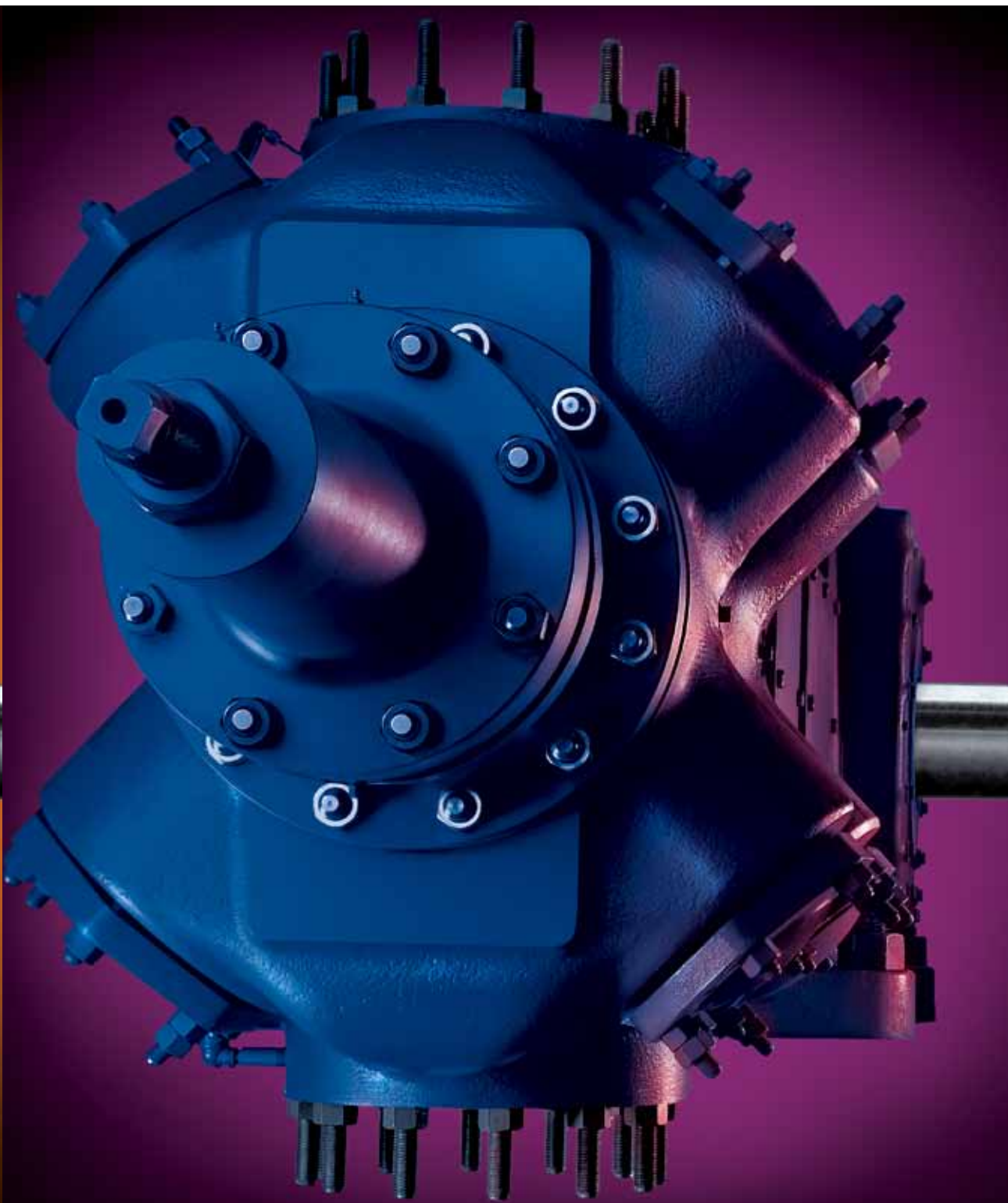


## HOS COMPRESSORS



**DRESSER-RAND**<sup>®</sup>

Bringing energy and the environment into harmony.™

# HOS

## compressors

*The heavy oilfield separable compressor for big jobs.*



Six-throw HOS compressor installed in China.

Dresser-Rand brings more than 60 years of separable compressor operating experience to the heavy-duty HOS compressor line.

These rugged compressors are engineered for higher horsepower gas field applications, including gas lift, gas gathering, pipeline boosting, gas transmission, underground gas storage (injection and withdrawal), fuel gas boosting, landfill

gas recovery, and many other applications. They are suited not only for sweet natural gas services, but can be built to handle sour natural gas, propane, carbon dioxide, air, nitrogen, and most other gases.

As an alternative to more costly other competing units, the HOS compressor provides a platform for process applications, but retains key design features like water-cooled cylinders and force-lubrication. The lower cost and rapid delivery of packaged HOS compressors can be applied to hydrogen, nitrogen, and other process requirements.

With more than 15 years of experience in our closed-loop test facility using a variety of field gases, D-R assures the integrity of the HOS compressor design and performance.

Rated to 7,200 hp (5370 kW) and 1,500 rpm with design pressures up to and exceeding 6,600 psig (455.05 bar), HOS compressors provide long life due to their heavy-duty construction. They are available in two-, four- or six-throw configurations and in cylinder sizes ranging from 3.75" (95.3 mm) to 26.5" (673.1 mm). The rigid, cast iron compressor frame is heavily ribbed and reinforced, with integrally cast crosshead extensions to handle almost any gas field requirement.

### AVAILABLE IN GAS OR WATER-COOLED CONFIGURATIONS

HOS compressor cylinders are gas-cooled for most applications. For special applications, the HOS compressor is available with water-cooled cylinders that provide additional protection in higher temperature services. Each system is designed and engineered to

match your operating needs.

Gas-cooled HOS cylinders utilize a solid bore cylinder barrel cast in nodular iron. The 26" (660.4 mm) / 26.5" (673.1 mm) cylinder is a two-piece, valve-in-head type cylinder.

Water-cooled HOS cylinders are of similar construction, but are jacketed for circulating coolant. A full line-up of higher pressure, forged steel cylinders are available in sizes 3.75" (95.3 mm) to 6.5" (165.1 mm).

The line-up also includes a pipeline cylinder for gas pipeline transmission and a storage cylinder for gas injection and withdrawal applications.

The HOS compressor uses either solid or hollow aluminum or cast iron pistons depending on service conditions, balance, and inertia forces. Integral steel pistons and rods may be used in high-pressure applications.

### A SINGLE SOURCE FOR ALL YOUR COMPRESSION NEEDS

HOS compressors offer many benefits to gas compressor users, whether used in a standard or customized package, in rental service, or purchased outright.

Dresser-Rand and its distributors can provide single-source responsibility, including engineering, manufacturing, packaging, installation, parts, and service.

With HOS compressors on the job, you can expect less maintenance and less fuel consumption. D-R and its distributors support the HOS compressor line with a network of computerized parts warehouses, and overhaul/revamp facilities located throughout the U.S. and Canada.

# Rugged design for smooth operation

Every HOS compressor includes components designed to enhance performance. The compressor frame and cylinders are matched to provide years of smooth, reliable, efficient compression service when operated within OEM recommendations.

The open top frame construction ensures rigidity while providing large access areas for maintenance and inspection.

A full-length distance piece with an oversized door also provides easy access. The unique thru-bolt distance piece is designed for improved load carrying ability. Cylinder performance is optimized because multiple valve sizes can be used with the same size cylinder. Large valve areas improve efficiency, and oversized gas passages reduce valve losses. Optional high-volume, manually operated variable volume clearance pockets provide clearance for greater capacity control.

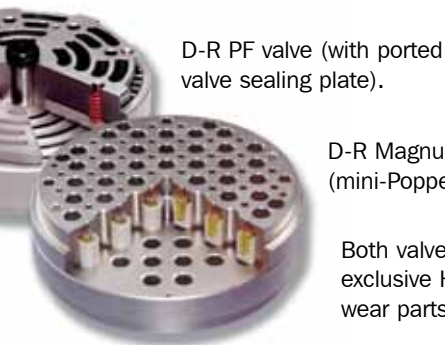


High-strength, nodular iron crossheads feature shim-adjustable aluminum shoes at the top and bottom. Surface-hardened crosshead pins are full floating for optimum reliability. Crosshead pin bushings are tri-metal bronze with babbitt overlay.



The heavy-duty forged crankshaft is balanced and rifle-drilled for lubrication. The crankshaft is designed to reduce horizontal motion and is made of aluminum with mic...

# on, long life, and efficiency.



D-R PF valve (with ported valve sealing plate).

D-R Magnum™ valve (mini-Poppet element).

Both valves use D-R's exclusive Hi-Temp nonmetallic wear parts material.



Forged steel connecting rods are rifle-drilled for pressure lubrication and feature high-strength bolts with rolled threads. Crankpin bearings are tri-metal bronze with a micro-babbitt overlay plate for added start-up protection and corrosion resistance. Connecting rod pin bushings are tri-metal bronze with babbitt overlay.



Precision aluminum alloy main bearings have micro-babbitt overlay and are pressure lubricated. Bronze thrust shoes and two-piece precision tri-metal bronze crankpin bearings ensure better heat dissipation, reliability, and increased life.

alloy steel crankshaft  
illed for pressure  
haft is counterweighted  
oments. Main bearings  
ro-babbitt overlay.

Induction-hardened AISI 4142 steel piston rods feature rolled threads for optimum fatigue strength. Each piston rod is wet-magnetic-particle inspected. Every piston rod thread form is inspected using Johnson gauging.



**RATINGS**

Model	Stroke in. (mm)	Number of Cylinders	Nominal Rated Power hp (kW)	Max. Allowable Operating Rod Load lbs. (kN)	Rated rpm
5HOS2	5 (127)	2	2,400 (1790)	60,000 (267)	1,500
5HOS4	5 (127)	4	4,800 (3580)	60,000 (267)	1,500
5HOS6	5 (127)	6	7,200 (5370)	60,000 (267)	1,500
6HOS2	6 (152.4)	2	2,000 (1492)	60,000 (267)	1,200
6HOS4	6 (152.4)	4	4,000 (2983)	60,000 (267)	1,200
6HOS6	6 (152.4)	6	6,000 (4475)	60,000 (267)	1,200
7HOS2	7 (177.8)	2	2,200 (1641)	60,000 (267)	1,000
7HOS4	7 (177.8)	4	4,400 (3281)	60,000 (267)	1,000
7HOS6	7 (177.8)	6	6,000 (4475)	60,000 (267)	1,000

**Standard Features**

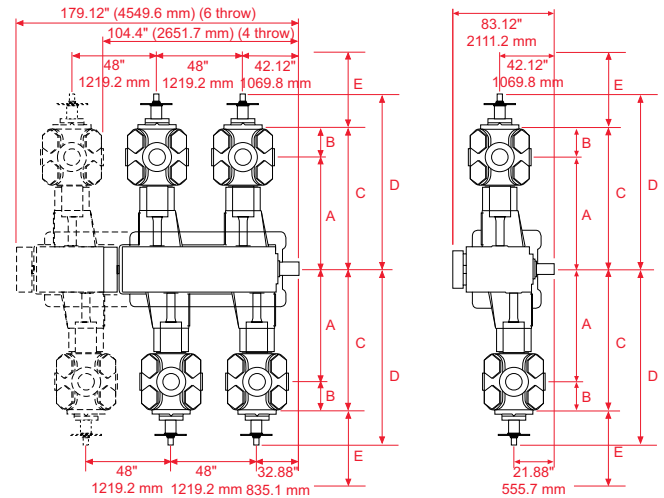
- A direct-drive, positive displacement gear-type frame lube oil pump, with cooler and frame-mounted full-flow oil filter
- Drilled, tapped, and plugged indicator holes on all cylinders
- Vented, full-floating, filled Teflon® packing rings with cast iron back-up rings
- Filled Teflon, multi-piece combination rings, that perform double duty as both compression and rider rings
- Variable volume clearance pocket
- Frame-fed block distribution system
- External frame oil relief valve

**Optional Features**

- Dresser-Rand TC<sub>3</sub> (HVOF) coated piston rods
- 17-4 PH or Carpenter® custom 450 stainless steel piston rods
- Purged packing and purged wiper case
- Two-compartment distance piece
- Crankcase and lubricator oil heaters
- Crankcase explosion relief devices
- Main bearing RTDs
- Torsional studies
- Flywheel (if required)
- Dynamic valve analysis
- Pump-to-point cylinder lubrication
- Electric drive lubricator
- Dual oil filter
- Automatic unloading devices
- Manual frame pre-lube pump

**Frame Specifications and Dimensions**

Frame	One piece, cast iron, high-strength
Crosshead pins	Alloy-steel, hardened, super-finished
Main bearings	Aluminum with micro-babbitt overlay
Crosshead pin bushings	Tri-metal bronze
Crankshaft	Forged steel
Piston rods	Alloy steel, rolled threads
Crankpin bearings	Tri-metal bronze
Connecting rods	Forged steel
Oil pump	Gear-type, direct drive
Connecting rod bolts	Alloy steel, rolled threads
Oil filter	Full-flow, 10 micron
Connecting rod bushings	Tri-metal bronze
Oil cooler	Shell-and-tube
Crossheads	Nodular iron, shim-adjustable aluminum shoes
Lubricator	Flange mounted, direct drive



**STANDARD CYLINDER OFFERING AND DIMENSIONS**

Cylinder Size in. (mm)	MAWP psig (kg/cm <sup>2</sup> ) Jacketted	MAWP psig (kg/cm <sup>2</sup> ) No Jacket	A in. (mm)	B in. (mm)	C in. (mm)	D in. (mm)	E in. (mm)	
26.50 (673.1)	280 (19.69)		61.75 (1568.5)	22.38 (568.3)	84.12 (2136.8)	106 (2692.4)	32 (812.8)	
26.00 (660.4)	280 (19.69)		61.75 (1568.5)	22.38 (568.3)	84.12 (2136.8)	106 (2692.4)	32 (812.8)	
24.50 (622.3)	280 (19.69)		62.5 (1587.5)	23.62 (600.1)	85.62 (2174.9)	108 (2743.2)	48 (1219.2)	
23.00 (584.2)	350 (24.61)		62.5 (1587.5)	23.12 (587.4)	85.62 (2174.9)	107 (2717.8)	48 (1219.2)	
22.00 (558.8)	350 (24.61)		62.5 (1587.5)	23.12 (587.4)	85.62 (2174.9)	107 (2717.8)	48 (1219.2)	
20.50 (520.7)	470 (33.04)		59.5 (1511.3)	20.75 (527.1)	80.25 (2038.4)	102 (2590.8)	40.62 (1031.9)	
19.00 (482.6)	470 (33.04)		59.5 (1511.3)	20.75 (527.1)	80.25 (2038.4)	102 (2590.8)	40.62 (1031.9)	
17.50 (444.5)	545 (38.32)		58.75 (1492.3)	20 (508.0)	78.75 (2000.3)	101 (2565.4)	40 (1016.0)	
16.25 (412.7)	600 (42.18)		58.75 (1492.3)	20 (508.0)	78.75 (2000.3)	101 (2565.4)	40 (1016.0)	
15.00 (381.0)	745 (52.38)	495 (34.8)	58.5 (1485.9)	19.75 (501.7)	78.75 (2000.3)	100 (2540)	39.25 (997.0)	
14.00 (355.6)	750 (52.73)		58.5 (1485.9)	19.75 (501.7)	78.75 (2000.3)	100 (2540)	39.25 (997.0)	
13.00 (330.2)	855 (60.1)	644 (45.3)	57.75 (1466.9)	19.25 (489.0)	77 (1955.8)	99 (2514.6)	42 (1066.8)	
12.25 (311.1)	1050 (73.82)		57.75 (1466.9)	19.25 (489.0)	77 (1955.8)	99 (2514.6)	42 (1066.8)	
11.50 (292.1)	1265 (89.0)	855 (60.1)	57 (1447.8)	18.18 (461.9)	75.18 (1909.7)	97 (2463.8)	37 (939.8)	
10.50 (266.7)	1650 (116.0)	1025 (72.1)	57.5 (1460.5)	18.62 (473.1)	76.12 (1933.6)	98 (2489.2)	41.5 (1054.1)	
9.50 (241.3)	1925 (135.4)	1265 (89.0)	57.5 (1460.5)	18.87 (479.4)	76.38 (1939.9)	98 (2489.2)	38 (965.2)	
8.00 (203.2)	2200 (154.7)	1595 (112.2)	59 (1498.6)	20.38 (517.5)	79.38 (2016.1)	101 (2565.4)	40.56 (1030.3)	
7.00 (177.8)	2750 (193.3)	1650 (116.0)	58 (1473.2)	18 (457.2)	76 (1930.4)	98 (2489.2)	40.25 (1022.4)	
6.00 (152.4)	2750 (193.3)	1925 (135.4) & 2750 (193.3)	59.62 (1514.5)	20.62 (523.9)	80.25 (2038.4)	102 (2590.8)	51.5 (1308.1)	
4.75 (120.7)	2750 (193.3)	1925 (135.4)	58 (1473.2)	18.25 (463.6)	76.25 (1936.8)	98 (2489.2)	48.12 (1222.4)	
3.75 to 7.00 (95.3 to 177.8)	6600 to 4000 (422 to 281)		<b>VARY DEPENDING ON PIPING NEEDS</b>					

Lined cylinders are available as well as special purpose cylinders for storage and pipeline applications.

# **DRESSER-RAND®**

Bringing energy and the environment into harmony.™

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