

## HOSS™ COMPRESSORS



**DRESSER-RAND**®

Bringing energy and the environment into harmony.™

# HOSS<sup>TM</sup>

## compressors

*The heavy oilfield super  
separable compressor for  
big jobs.*



HOSS compressor frame on test  
in Painted Post, NY.

Dresser-Rand (D-R) brings more than 60 years of separable compressor experience to the heavy-duty HOSS compressor line.

Dresser-Rand specializes in custom design and manufacturing to suit clients' requirements.

These rugged compressors are engineered for high 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 HOSS compressor provides a platform for process applications by offering key design features such as water-cooled cylinders and optional cylinder lining. The lower cost and rapid delivery of packaged HOSS compressors can be applied to hydrogen, nitrogen, syngas, and other process requirements.

With more than 25 years of experience in our closed-loop test facility using a variety of field gases, Dresser-Rand assures the integrity of the HOSS compressor design and performance.

Rated to 8,700 hp (6490 kW) and 1,200 rpm with design pressures up to and exceeding 6,600 psig (455.05 bar), HOSS compressors provide long life because of their heavy-duty construction. We offer two-, four- or six-throw configurations and in cylinder sizes ranging from 3.75" (95.3 mm) to 26.5" (673.1 mm). The cast iron compressor frame is heavily ribbed and reinforced, with integrally cast crosshead extensions for heavy rod load carrying capability and rigidity.

### **CYLINDER CONFIGURATIONS**

The HOSS compressor uses the same cylinders of the high-pressure HOS lineup; the only difference between the two is the size of the piston rod which has been increased to 2.875" (73.0 mm) in the HOSS. (For a given bore size, the packing case and piston rod are the only uncommon components between the two.)

A 16" (406.4 mm) distance piece (similar to that of the HOS design) with its through-bolt, heavy load-carrying design, is standard.

A full line-up of higher pressure, forged steel cylinders is available in sizes 3.75" (95.3 mm) to 6.5" (165.1 mm). In addition, the HOSS cylinders include pipeline cylinders for gas pipeline transmission and storage cylinders for gas injection and withdrawal applications.

The HOSS compressor uses 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**

HOSS compressors offer cost-effective benefits to gas compressor users, whether acquired as standard or customized. Our compressors are available for outright purchase or under rental agreements through authorized packagers.

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

Our goal at Dresser-Rand is for clients to experience reliability, less maintenance, and greater fuel efficiency with the use of HOSS compressors. D-R and its distributors support the HOSS compressor line with a network of computerized parts warehouses. When you purchase or lease a HOSS compressor, we help you protect your investment by overhauling or revamping your compressor at facilities located throughout the U.S. and Canada.

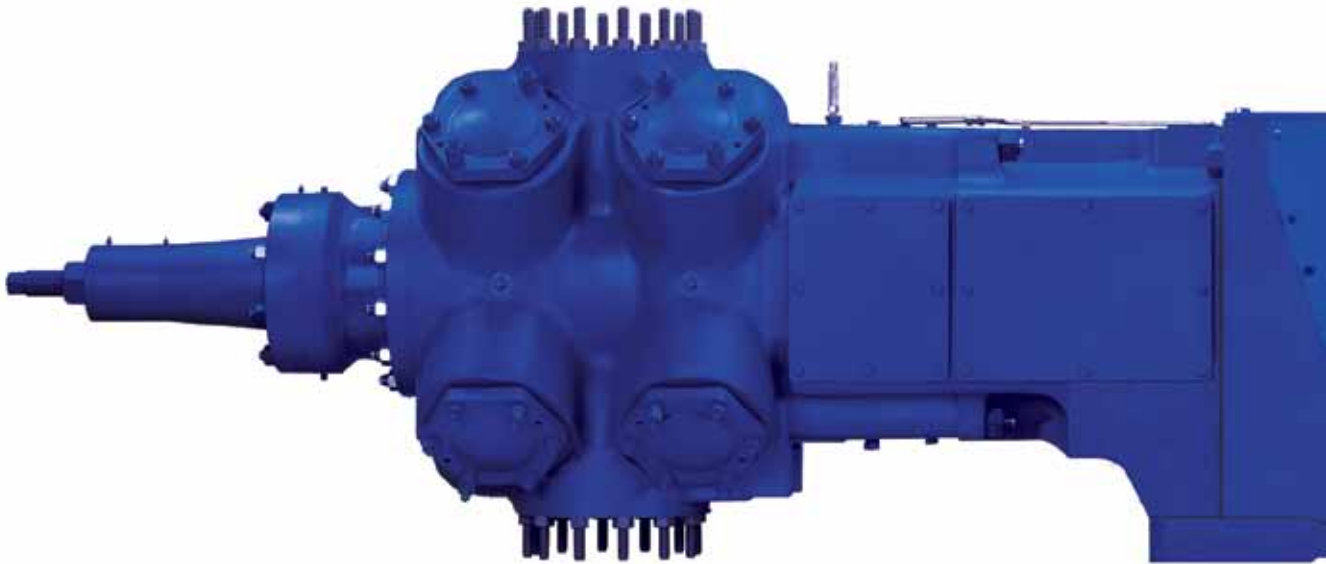
# Rugged design for smooth operation

HOSS compressors are 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.

Heavily ribbed frame walls and bearing saddles, plus integral crosshead guides ensure added strength and rigidity. The open top frame construction and entrance windows on either side of the crosshead guide provide large access areas for easy maintenance and inspection.

Cylinder performance is optimized because valve sizes can be varied without altering cylinder size. 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, capable of "on-the-fly" adjustment, provides clearance for greater capacity control.

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.



High-strength, nodular iron crossheads feature shim-adjustable aluminum shoes at the top and bottom. Surface-hardened crosshead pins are fixed for optimum reliability.



The heavy-duty forged crankshaft is balanced and rifle-drilled for lubrication. The crankshaft is designed for two- and four-throat moments.

# on, long life, and efficiency.

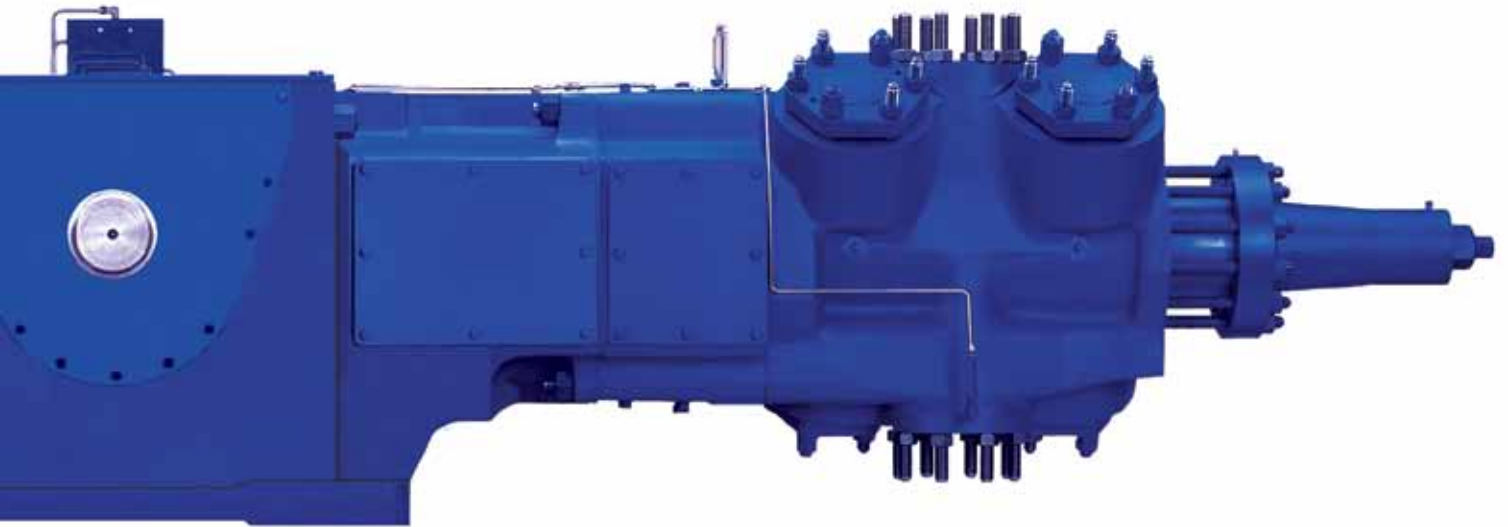


Dresser-Rand PF valve  
(with ported valve sealing plate).

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

Both high-efficiency valves use Dresser-Rand's exclusive Hi-Temp nonmetallic wear parts material.

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.



Alloy steel crankshaft  
rifle-drilled for pressure  
lubrication. Crankshaft is counterweighted  
to reduce horizontal



Bearings are horizontally split precision-type tri-metal bronze with micro-babbitt overlay to ensure better heat dissipation, reliability, and increased life; main bearings are identical to crankpin bearings.



Forged steel connecting rods are rifle-drilled for pressure lubrication and feature high-strength forged ferris head cap screws with rolled threads. Connecting rod pin bushings are solid bronze with a micro-babbitt overlay.

**RATINGS**

Model	Stroke in. (mm)	Number of Cylinders	Nominal Rated Power hp (kW)	Max. Allowable Operating Rod Load lbs. (kN)	Rated rpm
6HOSS2	6 (152.4)	2	3100 (2311)	75,000 (333)	1200
6HOSS4	6 (152.4)	4	6200 (4623)	75,000 (333)	1200
6HOSS6	6 (152.4)	6	8700 (6487)	75,000 (333)	1200
7HOSS2	7 (177.8)	2	2800 (2087)	75,000 (333)	1000
7HOSS4	7 (177.8)	4	5600 (4175)	75,000 (333)	1000
7HOSS6	7 (177.8)	6	7800 (5816)	75,000 (333)	1000

**Standard Features**

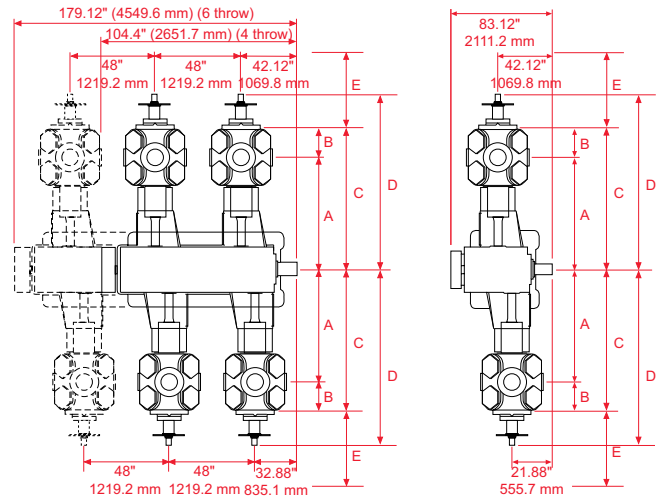
- Rigid cast gray iron frame, heavily ribbed and reinforced with integrally cast crosshead extensions
- Open top frame construction with steel tie rods, cast iron spacers, and an individual cover over each section
- Forged alloy steel crankshaft with passages for pressure lubrication, counterweighted to reduce horizontal moments
- Forged alloy steel connecting rods, rifle-drilled for pressure lubrication
- Nodular iron crossheads with shim-adjustable, pressure-lubricated aluminum shoe
- Horizontally split, precision-type, tri-metal bronze main and crankpin bearings
- Solid bronze connecting rod and crosshead pin bushings
- Bronze thrust bearings
- Crankcase filter-breather
- Metallic oil wiper rings
- Main lube oil pump directly driven from crankshaft complete with relief valve
- Ten-micron, full-flow oil filter with cartridge-type cleanable elements and differential pressure gauge
- Shell-and-tube oil cooler
- Bulls-eye oil level gauge
- Crankshaft (direct) driven force-fed cylinder lubrication system
- Set of special tools consisting of crosshead nut wrench, piston rod entering sleeve, and piston nut adapter; one set provided per frame

**Compressor Cylinder Components**

- Cast nodular iron solid bore cylinder barrel with integral crank-end head
- Forged steel line cylinder for bores 3.75" through 6.50"; high-pressure forged steel cylinders available for bores 3.75" through 6.50"
- Cast gray iron, aluminum, or steel pistons
- Cast gray iron vented distance piece
- Variable volume clearance pockets
- AISI 4142 steel piston rods
- PF-style plate valves complete with Hi-Temp, non-metallic PEEK plates and chrome silicon springs
- Filled Teflon® combination piston rings
- Filled Teflon® piston rod packing rings
- .50 NPT plugged connections for indicator ports on outer end and frame end of all cylinders
- Parts lists and operating manuals in CD format

**Frame Specifications and Dimensions**

Frame	One piece, cast gray iron, high-strength
Crankshaft	Forged steel
Connecting rods	Forged steel
Connecting rod bolts	Alloy steel, rolled threads
Crossheads	Nodular iron, shim-adjustable aluminum shoes
Crosshead pins	Hardened steel
Bearings - main and crankpin	Tri-metal bronze
Bushings - connecting rod	Solid bronze
Cylinders	Nodular iron
Piston rods	Alloy steel, rolled threads
Piston rods packing rings	Filled Teflon®
Oil pump	Positive displacement gear-type
Oil filter	Full-flow, 10 micron



**STANDARD CYLINDER OFFERING AND DIMENSIONS**

Cylinder Size in. (mm)	MAWP psig (kg/cm <sup>2</sup> )	A in. (mm)	B in. (mm)	C in. (mm)	D in. (mm)	E in. (mm)
26.50 (673.1)	280 (19.7)	68 (1727.2)	22.38 (568.4)	90.38 (2295.6)	112 (2844.8)	34.75 (882.6)
26.00 (660.4)	280 (19.7)	68 (1727.2)	22.38 (568.4)	90.38 (2295.6)	112 (2844.8)	34.75 (882.6)
24.50 (622.3)	280 (19.7)	68.75 (1746.2)	23.62 (600.0)	92.88 (2359.1)	114 (2895.6)	51.75 (1314.4)
23.00 (584.2)	350 (24.6)	68.75 (1746.2)	23.12 (587.2)	91.88 (2333.7)	113 (2870.2)	50.75 (1289.0)
22.00 (558.8)	350 (24.6)	68.75 (1746.2)	23.12 (587.2)	91.88 (2333.7)	113 (2870.2)	50.75 (1289.0)
20.50 (520.7)	470 (33.0)	65.75 (1670.0)	20.75 (527.1)	86.50 (2197.1)	108 (2743.2)	43.38 (1101.8)
19.00 (482.6)	470 (33.0)	65.75 (1670.0)	20.75 (527.1)	86.50 (2197.1)	108 (2743.2)	43.38 (1101.8)
17.50 (444.5)	545 (38.3)	65.00 (1651.0)	20 (508.0)	85.50 (2171.7)	107 (2717.8)	42.75 (1085.8)
16.25 (412.7)	600 (42.2)	65.50 (1663.7)	20.50 (520.7)	85.00 (2159.0)	107 (2717.8)	43.75 (1111.2)
15.00 (381.0)	745 (52.3)	64.75 (1644.6)	19.75 (501.7)	84.50 (2146.3)	106 (2692.4)	42.00 (1066.8)
14.00 (355.6)	750 (52.7)	64.75 (1644.6)	19.75 (501.7)	84.50 (2146.3)	106 (2692.4)	42.00 (1066.8)
13.00 (330.2)	855 (60.1)	64.00 (1625.6)	19.25 (489.0)	83.25 (2114.5)	105 (2667)	44.75 (1136.6)
12.25 (311.1)	1050 (73.8)	64.00 (1625.6)	19.25 (489.0)	83.25 (2114.5)	105 (2667)	44.75 (1136.6)
11.50 (292.1)	1265 (89.0)	63.25 (1606.5)	18.19 (462.0)	81.44 (2068.5)	103 (2616.2)	39.75 (1009.6)
10.50 (266.7)	1650 (116)	63.75 (1619.2)	18.62 (472.9)	82.38 (2092.4)	104 (2641.6)	44.25 (1123.9)
9.50 (241.3)	1925 (135.3)	63.75 (1619.2)	18.88 (479.5)	82.62 (2098.5)	104 (2641.6)	40.75 (1035.0)
8.00 (203.2)	2200 (154.7)	65.25 (1657.3)	20.38 (517.6)	85.62 (2174.7)	107 (2717.8)	43.31 (1100.0)
7.00 (177.8)	2750 (193.3)	64.25 (1631.9)	18 (457.2)	82.25 (2089.1)	104 (2641.6)	43.00 (1092.2)
6.00 (152.4)	2750 (193.3)	65.88 (1673.3)	20.62 (523.7)	86.50 (2197.1)	108 (2743.2)	54.25 (1377.9)

**VARY DEPENDING ON PIPING NEEDS**

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

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Bringing energy and the environment into harmony.™

For more information on the **HOSS compressor**, visit [www.dresser-rand.com/gfc](http://www.dresser-rand.com/gfc) or contact us at:

**Dresser-Rand Gas Field Compressors**  
1354 South Sheridan Road  
Tulsa, Oklahoma 74112-5416 USA  
Tel: (Int'l +1) 918-254-4099  
Fax: (Int'l +1) 918-252-9055  
E-mail: [GFC@dresser-rand.com](mailto:GFC@dresser-rand.com)

**Dresser-Rand Reciprocating Operations**  
100 Chemung Street  
Painted Post, NY 14870 USA  
Tel: (Int'l +1) 607-937-2011  
Fax: (Int'l +1) 607-937-2905

For a complete list of D-R products and services, visit us on the Internet at [www.dresser-rand.com](http://www.dresser-rand.com) or contact us at the following locations:

**Dresser-Rand Corporate Headquarters**  
West8 Tower, Suite 1000  
10205 Westheimer Road  
Houston, Texas 77042  
Tel: (Int'l +1) 713-354-6100  
Fax: (Int'l +1) 713-354-6110  
E-mail: [info@dresser-rand.com](mailto:info@dresser-rand.com)

## **Regional Headquarters**

**The Americas**  
West8 Tower, Suite 1000  
10205 Westheimer Road  
Houston, Texas 77042  
Tel: (Int'l +1) 713-354-6100  
Fax: (Int'l +1) 713-354-6110  
E-mail: [info@dresser-rand.com](mailto:info@dresser-rand.com)

**European Served Areas (ESA)**  
*(Europe, Eurasia, Middle East, Africa)*  
Dresser-Rand S.A.  
31 Boulevard Winston Churchill  
Cedex 7013  
Le Havre 76080 France  
Tel: (Int'l +33) 2-35-25-5225  
Fax: (Int'l +1) 2-35-25-5366 / 5367

**Asia-Pacific**  
Dresser-Rand Asia Pacific Sdn Bhd  
Unit 9-4, 9th Floor  
Bangunan Malaysian Re  
17 Lorong Dungun  
Damansara Heights  
50490 Kuala Lumpur, Malaysia  
Tel: (Int'l +60) 3-2093-6633  
Fax: (Int'l +60) 3-2093-2622

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