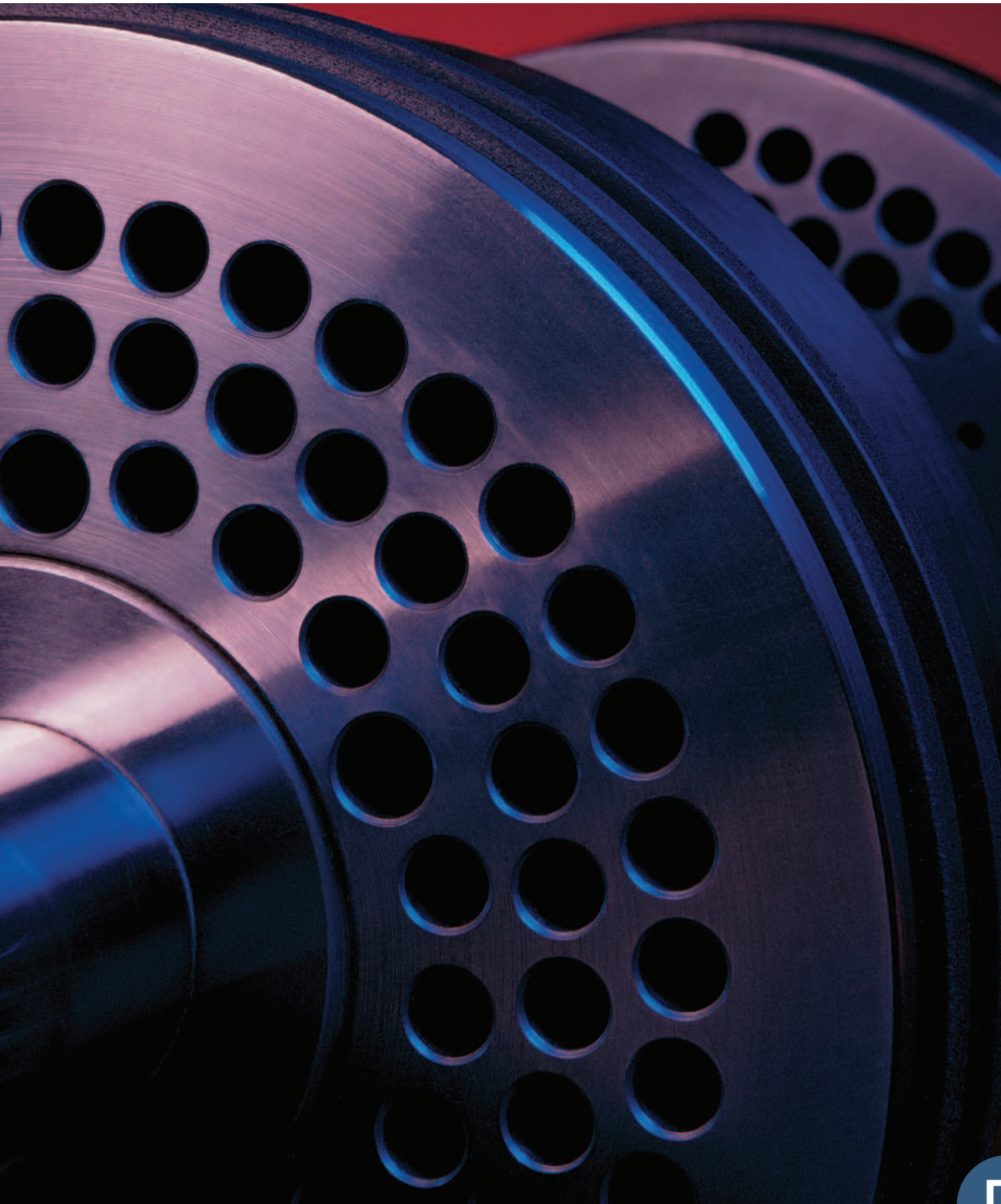


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D

**DRESSER-RAND**

# D-VIP compressors

*With several unique features,  
the D-VIP compressor is one of  
the most versatile compressors  
available today.*



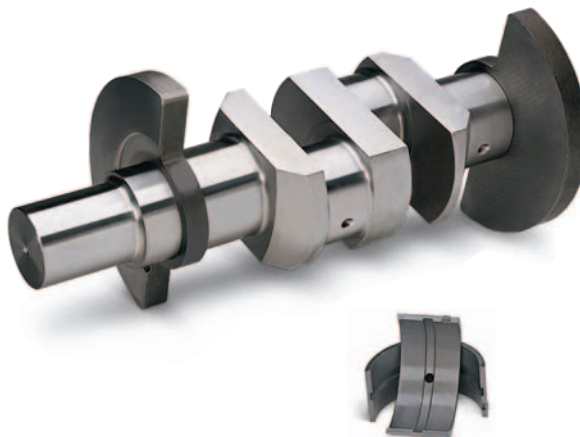
Dresser-Rand's D-VIP compressor uses unique design features of both the HOS and VIP compressors. Like the HOS compressor, the open-frame-top construction of the D-VIP compressor ensures rigidity while providing large access areas for maintenance and inspection. Also featured is the through-bolt distance piece design for improved load-carrying capability. The D-VIP compressor also has some unique unloading features that make it one of the most versatile compressors available today.

Like other VIP cylinders, the outer end suction valve travel is adjustable, so it acts as a variable volume clearance pocket (VVCP). Additionally, the VVCP can be adjusted even further to fully unload the head end of the cylinder. Both these features come standard on the D-VIP compressor.

Flexibility is also available on the cylinder frame end. The frame end suction valve location can be changed during maintenance shutdowns to increase or decrease clearance.

With the D-VIP compressor, you can fine tune your compressor's flow to match operating pressures to keep your driver optimally loaded – minimizing fuel consumption and maintenance. Best of all, you can do all of this in minutes compared to the hours it takes with conventional compressors.

Heavy-duty, forged steel crankshafts are statically balanced (except for the 6-throw which is inherently balanced) and are counterweighted to reduce horizontal moments. Main bearings are precision-insert type to meet the demands of high-speed operation with the D-VIP compressor.



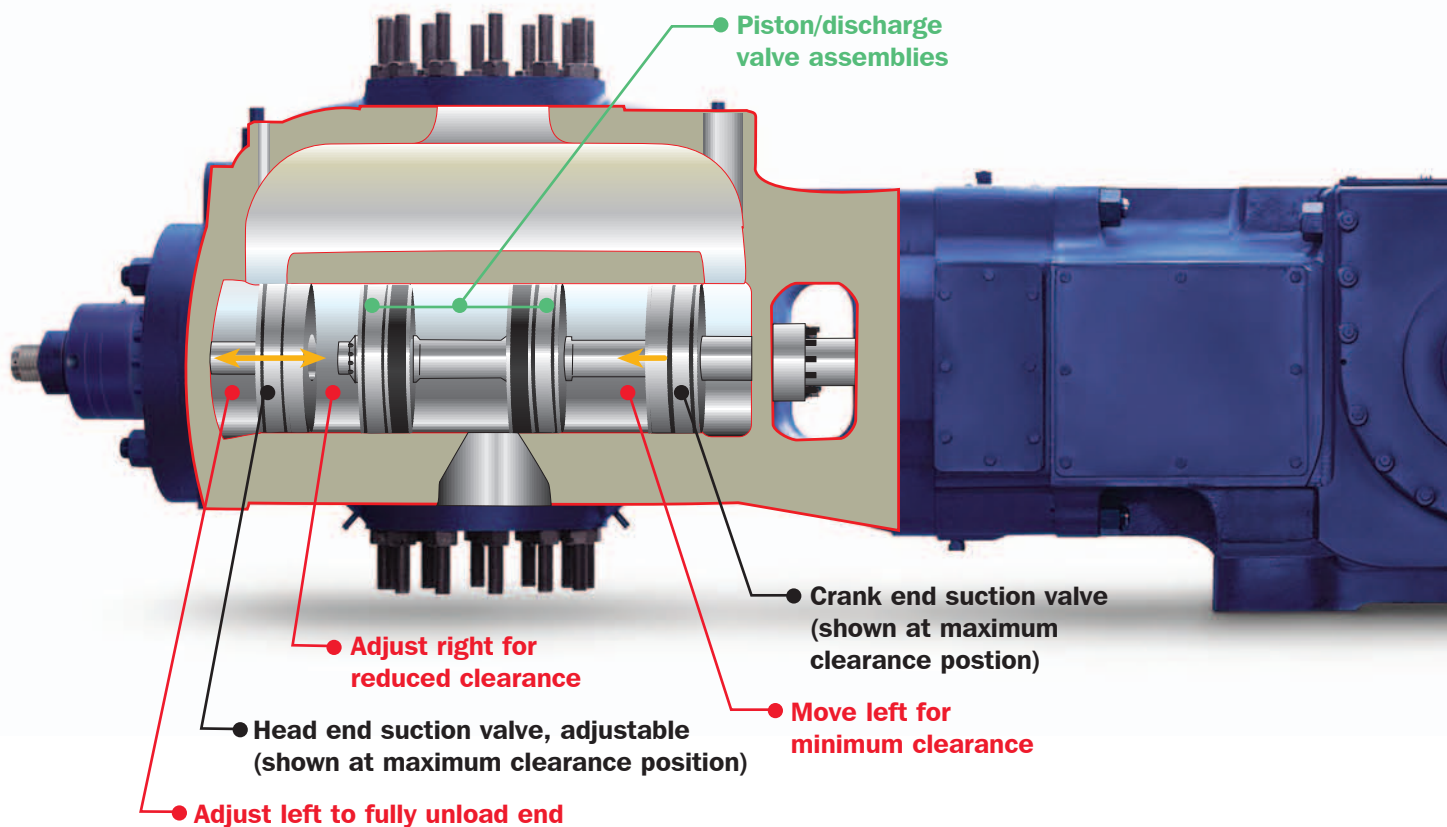
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# Unique unloading features provide

The unique piston-valve in the VIP compressor provides a large valve area and straight-through gas passage for increased efficiency. Lower fixed clearances result in higher volumetric efficiencies for higher flows. Lower weight allows higher speeds with reduced inertia forces.

There are only four valves in the D-VIP compressor. The exclusive Dresser-Rand PF valves with Hi-Temp™ plates are used to improve flow and efficiency, and to provide longer operating life.

The D-VIP compressor frame has a direct-drive, positive-displacement, gear-type main oil pump with full-flow oil filter and cooler.





# de unsurpassed versatility.

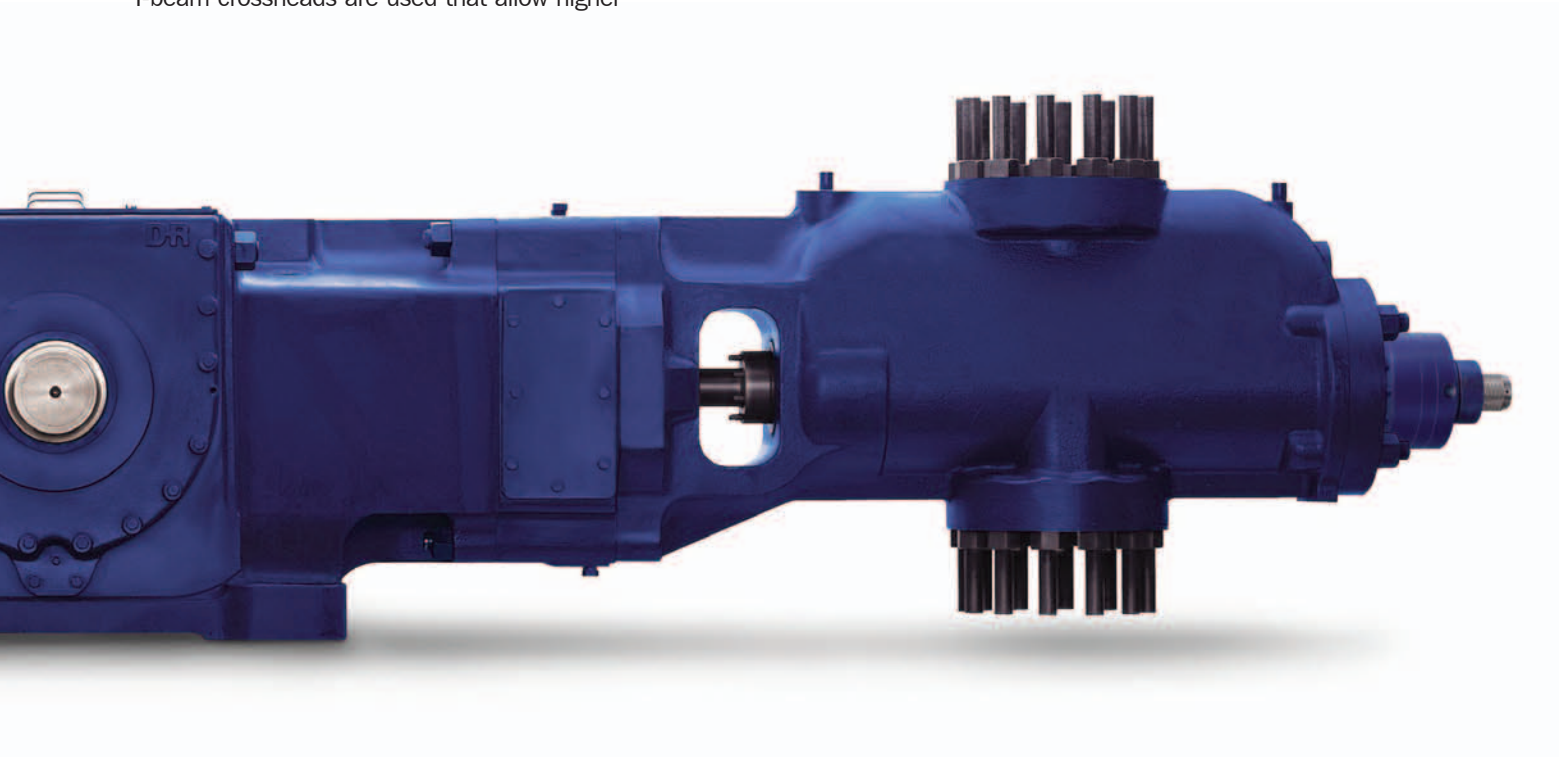


High-strength nodular iron crossheads feature shim-adjustable aluminum shoes at top and bottom. Crosshead pins are full-floating. Integral crosshead guide housings assure positive alignment with the frame.

For certain applications, specially designed I-beam crossheads are used that allow higher

rotation speeds. They are made of nodular iron to balance the reciprocating weight or opposing throws.

Forged steel connecting rods are rifle-drilled for pressure lubrication and feature high-strength bolts with rolled threads.



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## RATINGS

Model	Stroke in. (mm)	Number of Cylinders	Nominal Rated Power hp (kW)	Max. Allowable Rod Load lbs. (kN)	Rated rpm
7D-VIP2	7 (177.8)	2	1800 (1342)	45000 (200)	1000
7D-VIP4	7 (177.8)	4	3600 (2685)	45000 (200)	1000
7D-VIP6	7 (177.8)	6	4800 (3580)	45000 (200)	1000
6D-VIP2	6 (152.4)	2	1500 (1119)	45000 (200)	1200
6D-VIP4	6 (152.4)	4	3000 (2237)	45000 (200)	1200
6D-VIP6	6 (152.4)	6	4500 (3356)	45000 (200)	1200
5D-VIP2	5 (127)	2	1875 (1398)	45000 (200)	1500
5D-VIP4	5 (127)	4	3750 (2797)	45000 (200)	1500
5D-VIP6	5 (127)	6	5625 (4195)	45000 (200)	1500

Size in. (mm)	MAWP psig (kg/cm <sup>2</sup> )	7" (177.8 mm) Stroke @ 1000 rpm CFM (m <sup>3</sup> /hr.)	Piston Displacement 6" (152.4 mm) Stroke @ 1200 rpm CFM (m <sup>3</sup> /hr.)	5" (127 mm) @ 1500 rpm CFM
4.625 (117.5)	2800 (196.9)	120 (204)	123 (209)	129 (220)
5 (127.0)	2800 (196.0)	143 (244)	147 (250)	153 (261)
5.5 (139.7)	2500 (175.8)	176 (300)	181 (308)	189 (322)
6 (152.4)	2500 (175.8)	213 (363)	219 (373)	228 (388)
6.75 (171.5)	2500 (175.8)	274 (467)	282 (480)	293 (499)
7.25 (184.2)	2500 (175.8)	318 (542)	327 (557)	341 (581)
8 (203.2)	2000 (140.6)	391 (666)	402 (685)	419 (714)
8.75 (222.3)	2000 (140.6)	471 (802)	485 (826)	505 (860)
9.75 (247.7)	1500 (105.5)	589 (1003)	606 (1032)	631 (1075)
10.5 (266.7)	1500 (105.5)	685 (1167)	705 (1201)	734 (1250)
11.75 (298.5)	1050 (73.8)	862 (1468)	887 (1511)	924 (1574)
12.5 (317.5)	1050 (73.8)	978 (1666)	1006 (1713)	1048 (1785)
14 (355.6)	650 (45.7)	1231 (2096)	1266 (2156)	1319 (2246)
14.75 (374.7)	650 (45.7)	1368 (2330)	1407 (2396)	1466 (2497)
16.5 (419.1)	350 (24.6)	1716 (2922)	1765 (3006)	1839 (3132)
17.25 (438.2)	350 (24.6)	1877 (3197)	1931 (3288)	2011 (3425)
19.25 (489.0)	205 (14.4)	2342 (3988)	2409 (4103)	2509 (4273)
20 (508.0)	205 (14.4)	2529 (4307)	2601 (4430)	2710 (4615)
22.5 (571.5)	175 (12.3)	3134 (5337)	3224 (5490)	3358 (5719)
23 (584.2)	175 (12.3)	3350 (5705)	3446 (5869)	3589 (6112)

Model	A in. (mm)	B in. (mm)	C in. (mm)	D in. (mm)
D-VIP2	69.93 (1776.2)	56.5 (1435.1)	89 (2260.6)	68 (1272.2)
D-VIP4	69.93 (1776.2)	103.75 (2635.3)	89 (2260.6)	68 (1272.2)
D-VIP6	69.93 (1776.2)	148.44 (3770.4)	89 (2260.6)	68 (1272.2)

## Specifications

Frame	One Piece, Cast Gray Iron, High-strength
Crankshaft	Forged Steel
Connecting Rods	Forged Steel
Connecting Rod Pins	Hardened Steel
Connecting Rod Bolts	Alloy Steel, Rolled Threads
Crossheads	Nodular Iron
Bearings – Main	Solid Aluminum Alloy
Bearings – Crankpin	Tri-metal Bronze
Bushings – Connecting Rod	Bronze
Cylinders	Gray and Nodular Iron
Piston Rods	Alloy Steel, Rolled Threads
Piston Rod Packing Rings	Carbon-filled Teflon®
Oil Pump	Positive Displacement Gear-type
Oil Filter	Full-flow, 10-micron
Oil Cooler	Shell-and-tube

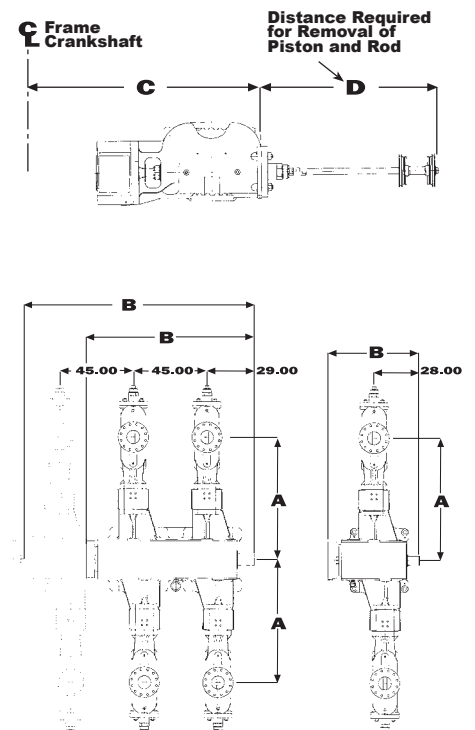
## Optional Features

- Carpenter Custom 450® piston rods with D-R TC3 coating
- Annealed 4142 piston rods with D-R TC3 coating
- "Sour gas" distance piece
- Crankcase and lubricator oil heaters
- Crankcase explosion relief devices

## Compressor Cylinder

- Manually operated variable volume clearance pocket
- AISI 4142 steel piston rods
- AISI 4142 steel suction and discharge valves (piston)
- PF-style plate valves complete with Hi-Temp™, non-metallic PEEK plates and chrome silicon springs with Teflon® spring inserts
- Teflon® piston rings and rider bands for bore sizes 4.625" (117.5 mm) to 9.75" (247.7 mm)
- Carbon glass carbon filled Teflon® rings, for bore sizes 10.5" (266.7 mm) and larger - combination ring type
- Carbon-filled Teflon® piston rod packing rings
- Six sets of parts lists and operating manuals
- One reproducible print of certified outline drawings (or furnished in electronic format)

- Main bearing RTDs
- Torsional studies
- Flywheel (if required)
- Dynamic valve analysis
- Dual oil filter



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