



**Quality Products
Engineered to Last**

VRC-CNG

GAS COMPRESSOR SPECIFICATIONS



ARROW™

ENGINE COMPANY

A Tradition of Excellence

Since 1955

VRC-CNG GAS COMPRESSOR

Compressed Natural Gas

The Arrow VRC-CNG is a two-throw separable reciprocating gas compressor. The horizontally opposed cylinders are accurately balanced for smooth running and long lasting durability at 1800 RPM. Unlike many other reciprocating compressors, the VRC-CNG has a unique three-throw crankshaft configuration that eliminates opposing cylinder off-set and the vibration associated with traditional designs.

The absolute alignment of opposing cylinders provides perfectly balanced weight distribution and symmetry. The elimination of vibration associated with horizontal

couple inherent with traditional designs, along with state-of-the-art engineering design and rugged construction, make the VRC-CNG a truly balanced, high-performance, durable compressor specifically designed for continuous operation at high speed. The 1800 RPM speed design, 150 horsepower rating and 16,000 pound combined rod load capability make the VRC-CNG a perfect fit for direct coupling with today's higher speed gas engines or an electric motor.

The Arrow VRC-CNG is a four stage natural gas compressor with an 8.5" first stage, 4.25" second stage, 2.25" third

stage and an 1.125" fourth stage cylinder. Cylinders are air-cooled which reduces packaging and maintenance costs. As a standard feature, the first stage cylinder has a variable volume clearance pocket for flexibility and adjustment to allow accurate fits for a range of suction pressures.

The use of a pressurized lubrication system, highly efficient Hoerbiger valves, industry proven accessories, innovative engineering design, and close attention to quality make the Arrow VRC-CNG gas compressor unequalled in the industry.

Steeple Cylinder Data

Bore In	Flange Size (Companion flanges are standard)	Valve Type	Lift Area Suct/Disch Sq/In	Valve Lift Suct/Disch In.	Added Clearance Max %	MAWP PSI	RDP PSI
8.5" SACE	3" Weld Neck 3" NPT (optional)	105 CRE	5.82 / 3.98	.079 / .055	11% w/VVCP	250	225
4.25" SACE	2" Weld Neck 2" NPT (optional)	52 CRE	1.36 / 1.36	.071 / .071	N/A	750	675
2.25" SAHE	1.25" NPTF	Concentric	.346/.343	.031/.039	N/A	2500	2250
1.125" SAHE	0.75" NPTF	Concentric	.152/.164	.039/.031	N/A	6000	5400



Cities around the nation are building stations to power their vehicles with compressed natural gas. Arrow has been producing quality products for the oil & gas industry since 1955.



ARROW
COMPRESSION

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VRC-CNG FEATURES

- 150 hp at 1800 rpm
- 3" Stroke
- Combined rod-load capability of 16,000 lbs
- Babbitted cross-heads
- Variable volume clearance pocket
- Pressurized cylinder lubrication
- Hoerbiger's latest valve design
- Carbon-filled Teflon® rings and packing



VRC-CNG SPECIFICATIONS

SPECIFICATIONS

Rated Horsepower Hp (Kw)	150 (112)
Maximum Speed RPM	1800
Number of Throws	2
Rod Load - Tension Lb (Kg)	8000 (3629)
Rod Load - Compression Lb (Kg)	8000 (3629)
Rod Load - Combined Lb (Kg)	16,000 (7257)
Stroke In (mm)	3 (76.2)
Piston Speed Ft/min (M/s)	900 (4.57)
Crankshaft Diameter In (mm)	2.50 (63.50)
Crankshaft Height To CI In (mm)	12.75 (323.85)
Overall Length w/cyls. In (M)	22.5 (.57)
Overall Width w/cyls. In (M)	87 (2.21)
Unit Weight w/cyls. Lb (Kg)	1700 (771)
Oil Pump Capacity (Gpm) (Lpm)	4 (15)
Oil Heat Rejection BTU/hr (Kcal/hr)	3750 (945)
Oil Sump Capacity Gal. (Liter)	4 (15)

COMPONENTS

Crankshaft Main Bearing Diameter In (mm)	3.346 (84.988)
Crankpin Diameter In (mm)	2.447 (62.154)
Main Bearing Type	Spherical Roller
Connecting Rod Length CI-CI In (mm)	7.375 (187.325)
Connecting Rod Bearing Width (Single) In (mm)	1.604 (40.742)
Connecting Rod Bushing Width (Single) In (mm)	1.750 (44.45)
Connecting Rod Bolts (Single)	(Four) 1/2"
Connecting Rod Bearing Width (Double) In (mm)	0.802 (20.371)
Connecting Rod Bushing Width (Double) In (mm)	0.875 (22.225)
Connecting Rod Bolts (Double)	(Two) 1/2"
Crosshead Surface In (mm)	5.25 X 3.5 (133.35 X 88.90)
Floating Crosshead Pin Diam. In (mm)	2.235 (56.769)
Piston Rod Diameter In (mm)	1.125 (28.575)

MATERIALS

Frame	Class 40 Gray Iron
Crankshaft	Forging With Induction Hardened Journals
Connecting Rods	Forging
Connecting Rod Bearings	Tri-metal 65-45-12
Crossheads	Ductile Iron SAE 8620
Crosshead Pins	Carburized
Crosshead Pin Bushings	SAE 660 Bronze
Piston Rods	SAE 4140 Induction Hardened
Packing Rings	Carbon Filled Teflon w/Cast Iron Backup
Pistons	Alum. or Ductile Iron
Piston Rings	Special Material
Cylinders	Duct. Iron & Steel Billet



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