

Horizontal Industrial Compressors

Features & Benefits

For higher pressures and capacity...

Corken's horizontal 4 stage compressor can build up to 4500 psig (310.3 bar) and supply over 375 scfm (637.5 m³/hr). This balanced opposed gas compressor offers smooth, quiet operation and the versatility of multi-stage compression.

The compressor is offered with various sizes of cylinders. Corken currently offers 8"(203.2mm), 6"(152.4mm), 4"(101.6mm), 3 1/4"(82.6mm), and 2 3/4"(69.9mm) cylinders. These cylinders may be arranged in various combinations of 1-, 2-, 3-, or 4-stages. The horizontal compressors are offered in lubricated and non-lubricated designs. Although these compressors are not classified as oil-free, the potential for oil carry-over is minimized.

Now even lower leakage...

In response to increasingly stringent environmental requirements to reduce emissions of volatile organic compounds and other hazardous gases, Corken offers a purge pak piston rod sealing system for the HG600 series horizontal compressors.

While precise leakage rates cannot be guaranteed due to the many complex factors which affect leakage, the purge pak and rod sealing system substantially reduces leakage compared to conventional segmented piston rod seal configurations. Tests have shown that in many cases, leakage can be reduced below 1 scfh (0.027nm³/hr).

Water cooled cylinders...

To increase the versatility of the horizontal compressor in the process market, Corken offers water cooled cylinders in the 8"(203.2mm), 6"(152.4mm), 4"(101.6mm) and 3 1/4"(82.6mm) bore sizes. These cylinders greatly reduce the operating temperature, allowing the horizontal compressor to be used in applications with diatomic gases such as helium or nitrogen, which have a high 'k' value.

Available Options

Blank valve option...

In addition to the flexibility of reconfiguring the stages and number of cylinders, the capacity may be controlled through the blank valve option, which changes the cylinder to single acting.

Variable clearance heads...

This option is available on all cylinder sizes and allows for pressure and capacity adjustment while the compressor is operating.

External crankcase oil cooler...

Corken compressors are equipped with a force feed lubrication system and external oil filter. An optional external oil cooler is available for applications requiring higher horsepower to assure consistent oil temperature and achieve optimal service life.

Material options...

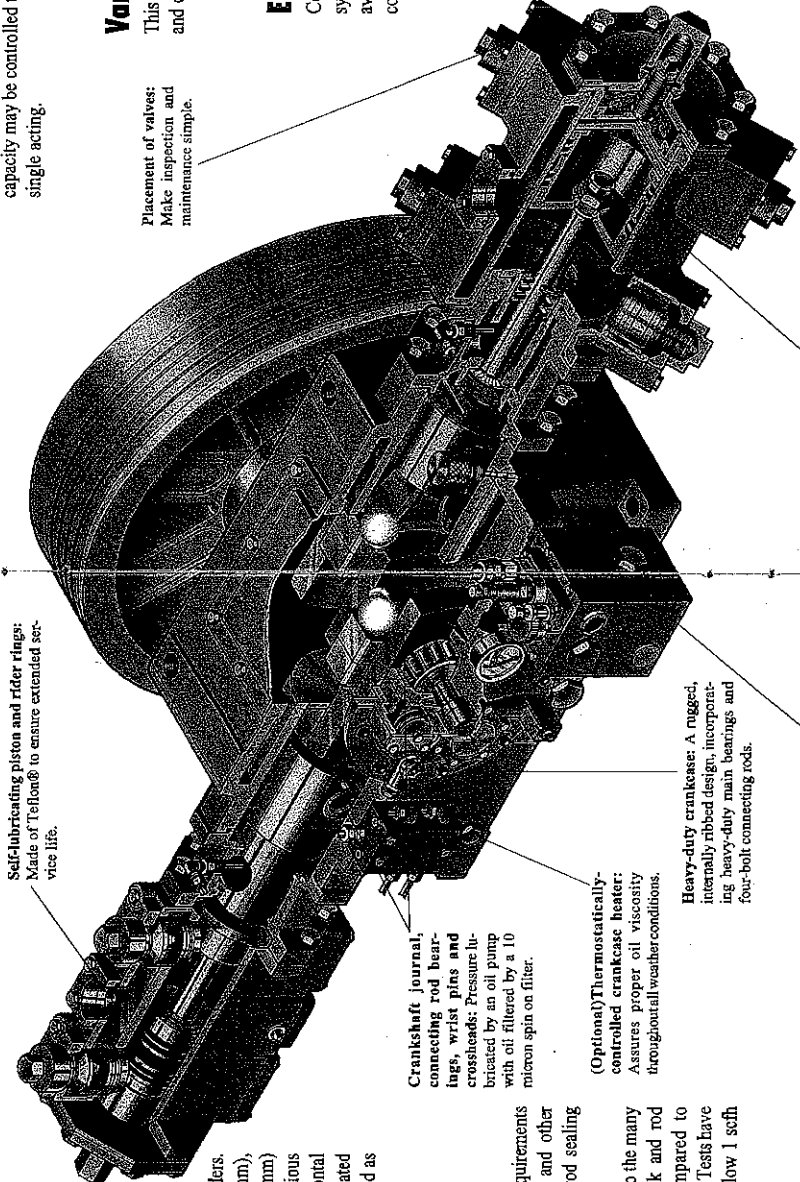
The horizontal compressor line offers many optional materials for parts such as gaskets, piston rings, o-rings, pistons and more. This allows the compressor to be used with a variety of gases. The MCI002 corrosion-resistant coating is also an option.

Engineered packages...

Custom engineered skid mounted units can be supplied with control panels, wiring, pulsation dampeners, receiver tanks and other special accessories as required.

Solutions beyond products...

CORKEN®



Self-lubricating piston and rider rings: Made of Teflon® to ensure extended service life.

Placement of valves: Make inspection and maintenance simple.

Crankshaft journal, connecting rod bearings, wrist pins and crossheads: Pressure lubricated by an oil pump with oil filtered by a 10 micron spin on filter.

(Optional)Thermostatically-controlled crankcase heater: Assures proper oil viscosity throughout all weather conditions.

Heavy-duty crankcase: A rugged, internally ribbed design, incorporating heavy-duty main bearings and four-bolt connecting rods.

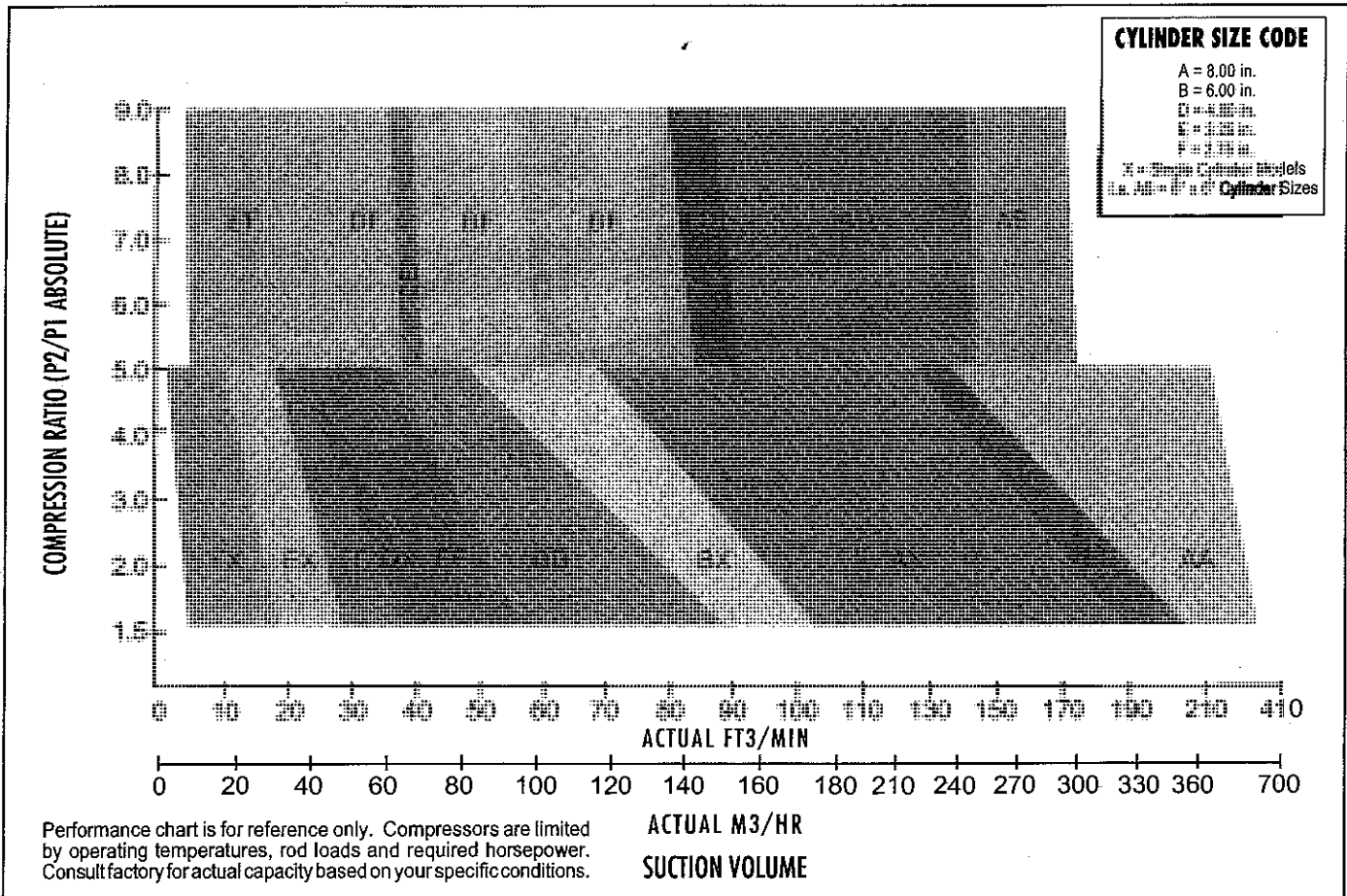
(Optional)Force feed lubricator: Assures proper lubrication of cylinders and packing when required.

Heavy-duty cylinder design: Each cylinder is hydrostatically tested to 1 1/2 times the rated working pressure for maximum strength. MCI002 coating is available on all cylinders, providing longer piston ring life.

HG600 Horizontal Compressors

Specifications & Performance

TWO STAGE		Model	HG602AB	HG602AD	HG602BD	HG602BE	HG602BF	HG602DE	HG602DF	HG602EF	THREE & FOUR STAGE MODELS			
SIZE			8 x 6	8 x 4	6 x 4	6 x 3.25	6 x 2.75	4 x 3.25	4 x 2.75	3.25 x 2.75	Due to a variety of configurations, consult factory for the capacity of three and four stage compressors.			
DISPLACEMENT CFM(M3/HR)			17.2 (29.3)	17.2 (29.3)	9.6 (16.3)	9.6 (16.3)	9.6 (16.3)	4.2 (7.1)	4.2 (7.1)	4.2 (7.1)				
100 RPM			207.0 (351.7)	207.0 (351.7)	115.0 (195.4)	115.0 (195.4)	115.0 (195)	49.8 (84.6)	49.8 (84.6)	49.8 (84.6)				
1200 RPM			207.0 (351.7)	207.0 (351.7)	115.0 (195.4)	115.0 (195.4)	115.0 (195)	49.8 (84.6)	49.8 (84.6)	49.8 (84.6)				
APPROXIMATE WEIGHT LBS.(KG.)			948.0 (430.0)	933.0 (423.2)	853.0 (386.9)	838.0 (380.1)	838.0 (380.1)	823.0 (373.3)	823.0 (373.3)	823.0 (373.3)				
WATER-COOLED OPTION			HG602AB	HG602AD	HG602BD	HG602BE	HG602DE							
SINGLE STAGE		Model	HG601AX	HG601BX	HG601DX	HG601EX	HG601FX	HG601AA	HG601BB	HG601DD	HG601EE	HG601FF		
SIZE			8	6	4	3.25	2.75	8 x 8	6 x 6	4 x 4	3.25 x 3.25	2.75 x 2.75		
DISPLACEMENT CFM(M3/HR)			17.2 (29.3)	9.6 (16.3)	4.2 (7.1)	2.7 (4.5)	1.9 (3.1)	34.5 (58.6)	19.2 (32.7)	8.3 (14.1)	5.3 (9.1)	3.7 (6.3)		
100 RPM			207.0 (351.7)	115.0 (195.4)	49.8 (84.6)	32.2 (54.5)	22.2 (37.7)	414.0 (703.5)	231.0 (392.5)	99.6 (169.2)	64.0 (108.7)	44.4 (75.4)		
1200 RPM			207.0 (351.7)	115.0 (195.4)	49.8 (84.6)	32.2 (54.5)	22.2 (37.7)	414.0 (703.5)	231.0 (392.5)	99.6 (169.2)	64.0 (108.7)	44.4 (75.4)		
APPROXIMATE WEIGHT LBS.(KG.)			933.0 (423.2)	868.0 (393.7)	823.0 (373.3)	803.0 (364.2)	803.0 (364.2)	868.0 (393.7)	828.0 (375.6)	803.0 (364.2)	803.0 (364.2)			
WATER-COOLED OPTION			HG601AX	HG601BX	HG601DX	HG601EX		HG601AA	HG601BB	HG601DD	HG601EE			
CYLINDER DATA Bore inches(mm)			8.0 (203.2)		6.0 (152.4)		4.0 (101.6)		3.25 (82.6)		2.75 (69.9)			
MAXIMUM WORKING PRESSURE			315.0 (21.7)		365.0 (25.2)		1015.0 (70.0)		1215.0 (83.8)		1665.0 (114.8)			
PSI(BAR G)			315.0 (21.7)		365.0 (25.2)		1015.0 (70.0)		1215.0 (83.8)		1665.0 (114.8)			
HEAD END VARIANCE CLEARANCE			38.7		35.8		36		29.7		37			
MAXIMUM % (HE)			38.7		35.8		36		29.7		37			
% PER TURN (HE)			2.1		1.9		1.7		1.5		1.7			
DISPLACEMENT CFM(M3/HR)			8.5 (14.4)		4.7 (8.0)		2.0 (3.4)		1.2 (2.1)		0.8 (1.4)			
CRANK END PER 100 RPM			8.5 (14.4)		4.7 (8.0)		2.0 (3.4)		1.2 (2.1)		0.8 (1.4)			
HEAD END 100 RPM			8.7 (14.8)		1.9 (8.3)		2.2 (3.7)		1.4 (2.4)		1.0 (1.7)			
TOTAL PER 100 RPM			17.2 (29.3)		9.6 (16.3)		4.2 (7.1)		2.7 (4.6)		1.9 (3.2)			
APPROXIMATE MAXIMUM DIFFERENTIAL PRESSURE PSI(BAR)			145.0 (10.0)		265.0 (18.3)		590.0 (40.7)		900.0 (62.1)		1200.0 (82.8)			
FRAME DATA			STROKE INCHES(MM)		3.0 (76.2)		MAXIMUM GAS ROD LOAD LBS.(KG.)		7000.0 (3175.2)		MAXIMUM MOTOR HP(KW.)		60.0 (44.7)	
MAXIMUM DISCHARGE TEMPERATURE °F(°C)			350.0 (176.7)		SPEED RANGE		400-1200 rpm							



SPECIFICATIONS

APRIL
SUPERSEDES

1995
VJ205

SINGLE STAGE / TWO CYLINDER MODELS

MODEL	HG601AA	HG601BB	HG601DD	HG601EE	HG601FF
SIZE	8 X 8	6 X 6	4 X 4	3.25 X 3.25	2.75 X 2.75
DISPLACEMENT CFM (M ³ /HR)					
100 RPM	34.5 (58.6)	19.2 (32.7)	8.3 (14.1)	5.3 (9.1)	3.7 (6.3)
1200 RPM	414 (703)	231 (393)	99.6 (169)	64 (109)	44.4 (75.4)
APPROX. WEIGHT (LBS.)	1028	868	828	803	803

SINGLE STAGE / SINGLE CYLINDER MODELS

MODEL	HG601AX	HG601BX	HG601DX	HG601EX	HG601FX
SIZE	8	6	4	3.25	2.75
DISPLACEMENT CFM (M ³ /HR)					
100 RPM	17.2 (29.3)	9.6 (16.3)	4.2 (7.1)	2.7 (4.5)	1.9 (3.1)
1200 RPM	207 (352)	115 (195)	49.8 (84.6)	32.0 (54.5)	22.2 (37.7)
APPROX. WEIGHT (LBS.)	933	868	823	803	803

TWO STAGE / TWO CYLINDER MODELS

MODEL	HG602AB	HG602AD	HG602BD	HG602BE	HG602BF	HG602DE	HG602DF	HG602EF
SIZE	8 X 6	8 X 4	6 X 4	6 X 3.25	6 X 2.75	4 X 3.25	4 X 2.75	3.25 X 2.75
DISPLACEMENT CFM (M ³ /HR)								
100 RPM	17.2 (29.3)	17.2 (29.3)	9.6 (16.3)	9.6 (16.3)	9.6 (16.3)	4.2 (7.1)	4.2 (7.1)	4.2 (7.1)
1200 RPM	207 (352)	207 (352)	115 (195)	115 (195)	115 (195)	49.8 (84.6)	49.8 (84.6)	49.8 (84.6)
APPROX. WEIGHT (LBS.)	948	933	853	838	838	823	823	823

CYLINDER DATA

	8 (203)	6 (152)	4 (101.6)	3.25 (83)	2.75 (70)
BORE IN. (MM)					
WORKING PSIG (BAR G)	300 (21)	350 (24)	1000 (69)	1200 (83)	1650 (114)
CLEARANCE %					
CRANK END	12.6	14.5	20.3	17.4	16.0
HEAD END	11.6	12.6	15.6	10.8	14.5
HEAD END VAR. CLEARANCE					
MAXIMUM % (HE)	38.7	35.8	36.0	29.7	37.0
% PER TURN (HE)	2.13	1.93	1.70	1.48	1.66
PISTON AREA IN ² (CM ²)					
CRANK END	49.0 (316)	27.0 (174)	11.3 (73)	7.1 (45.6)	4.7 (30.4)
HEAD END	50.3 (324)	28.3 (182)	12.6 (81)	8.3 (53.5)	5.9 (38.3)
DISPLACEMENT CFM (M ³ /HR)					
CRANK END PER 100 RPM	8.51 (14.46)	4.70 (7.99)	1.97 (3.35)	1.23 (2.09)	0.82 (1.39)
HEAD END PER 100 RPM	8.73 (14.83)	4.91 (8.34)	2.18 (3.70)	1.44 (2.45)	1.03 (1.75)
TOTAL PER 100 RPM	17.24 (29.29)	9.61 (16.33)	4.15 (7.05)	2.67 (4.54)	1.85 (3.14)
VALVE AREA PER CORNER IN ² (CM ²)	3.58 (23.1)	2.70 (17.4)	1.35 (8.7)	0.61 (3.9)	0.44 (2.8)
APPROXIMATE MAXIMUM DIFF. PRESS. PSI (BAR)	145 (10)	265 (18)	590 (41)	900 (62)	1200 (83)

FRAME DATA

STROKE IN. (MM)	3 (76)
MAX. GAS ROD LOAD LB (KG)	7000 (3175)
MAX. MOTOR HP (KW)	75 (56)
MAX. DISCHARGE TEMP. F (C)	350 (177)
SPEED RANGE	400 - 1200 RPM

NOTE: Single Cylinder Units Are Limited To 35 HP.

HG602BD 6 X 4 TWO STAGE

