Vertical Industrial Gas Compressors

Operating Specifications

Specifications	Single-Stage Compressors							Two-Stage Compressors							
D-style (single-distance piece)	D91	D291	D491	FD491-3	D691	FD691-4	FD891[a]	FD151	D191	FD351	D391	WFD551	FD591	D791[a]	D991[a]
T-style (double-distance piece)	T91	T291	T491	FT491-3	T691	FT691-4	FT891[a]	FT151	T191	FT351	T391	WFT551	FT591	T791[a]	–
Bore of cylinder inches (mm)															
First stage	3.0 (76.2)	3.0 (76.2)	4.0 (101.6)	3.0 (76.2)	4.5 (114.3)	4.0 (101.6)	4.5 (114.3)	2.5 (63.5)	3.0 (76.2)	2.75 (69.9)	4.5 (114.3)	4.0 (101.6)	6.0 (152.4)	6.0 (152.4)	6.375 (161.9)
Second stage								1.25 (31.8)	1.75 (44.5)	1.75 (44.5)	2.5 (63.5)	2.5 (63.5)	3.25 (82.5)	3.25 (82.5)	3.50 (88.9)
Stroke inches (mm)	2.5 (63.5)	2.5 (63.5)	3.0 (76.2)	3.0 (76.2)	4.0 (101.6)	4.0 (101.6)	4.0 (101.6)	2.5 (63.5)	2.5 (63.5)	3.0 (76.2)	3.0 (76.2)	4 (101.6)	4.0 (101.6)	4.0 (101.6)	4.0 (101.6)
Piston displacement CFM (m^3/hr)															
@ 400 rpm	4.1 (7.0)	8.2 (13.9)	17.5 (29.7)	9.8 (16.7)	29.5 (50.1)	23.3 (39.6)	56.7 (96.3)	2.8 (4.76)	4.1 (7.0)	4.1 (7.0)	11.1 (18.9)	11.6 (19.7)	26.2 (44.5)	52.4 (89.0)	58.0 (98.5)
@ 825 rpm	8.4 (14.3)	16.9 (28.7)	36.0 (61.2)	20.3 (34.5)	60.8 (103.3)	48.0 (81.6)	117.0 (198.8)	5.9 (10.0)	8.9 (15.2)	8.5 (14.4)	22.8 (38.7)	24.8 (42.1)	54.0 (91.7)	105.8 (179.8)	128.3[c] (217.9)
Maximum working pressure psig (bar g)	335 (23.1)	335 (23.1)	335 (23.1)	600 (41.4)	335 (23.1)	600 (41.4)	450 (31.0)	1,200 (82.8)	600 (41.4)	1,200 (82.8)	600 (41.4)	1,000 (69.0)	600 (41.4)	600 (41.4)	800 41.3)
Maximum brake horsepower (kW)	7.5 (5.6)	15 (11)	15 (11)	15 (11)	35 (26.1)	35 (26.1)	45 (34)	15 (11)	15 (11)	15 (11)	15 (11)	35 (26.1)	35 (26.1)	45 (34)	100 (73.5)
Maximum rod load lbs (kg)	3,600 (1,633)	3,600 (1,633)	4,000 (1,814)	4,000 (1,814)	7,000 (3,175)	7,000 (3,175)	7,000 (3,175)	3,600 (1,633)	3,600 (1,633)	4,000 (1,814)	4,000 (1,814)	7,000 (3,175)	7,000 (3,175)	7,000 (3,175)	8,500 (3,855)
Maximum discharge temperature °F (°C)[b]	350 (177)	350 (177)	350 (177)	350 (177)	350 (177)	350 (177)	350 (177)	350 (177)	350 (177)	350 (177)	350 (177)	350 (177)	350 (177)	350 (177)	350 (177)
Bare unit weight with flywheel lbs (kg)	150 (68.0)	210 (95.2)	390 (176.9)	390 (176.9)	745 (337.9)	745 (337.9)	900 (408.2)	215 (97.5)	215 (97.5)	340 (154)	350 (158.8)	815 (369.7)	790 (358.8)	930 (421.9)	1425 (646.4)
ANSI/DIN flange option	Yes	Yes	Yes	Standard	Yes	Standard	Yes	Standard	Yes	Standard	Yes	Standard	Standard	–	–
Water-cooled option	–	–	–	–	–	–	–	–	–	Yes	Yes	Standard	Yes	–	–

[a] Double-acting compressor
[b] 350°F discharge temperature requires use of high temperature O-rings, such as PTFE or Viton. Maximum recommended discharge temperature for use with Buna-N or Neoprene O-rings is 250°F.
Note: Specific application conditions may limit a compressor's operating performance to less than the values shown on this page. Contact a Corken distributor or the factory for verification. Specifications may be changed without liability or advance notice.
[c] Actual running speed 885 RPM

Selection Criteria for Vertical and Horizontal Compressors

Corken's industrial vertical compressors offer piston displacement ranging from 2.8 to 117 CFM (4.76–198.8 m^3/hr). Horizontal gas compressors offer piston displacement ranging from 7.6 to 414 CFM (12.9–704 m^3/hr). Sizing and selecting a gas compressor requires many pieces of information. Corken's application engineers have the skills to size and select the best machine for the application.

When sizing a Corken gas compressor, please provide the engineer the following information:

- Gas name (give % composition if a mixture)
- Gas characteristics if not common (material compatibility, toxicity, EPA regulated, etc.)
- Gas suction temperature
- Gas data if not common (critical temperature, critical pressure, specific gravity, and molecular weight)
- Ambient temperatures
- Ambient pressure if above or below sea level
- Gas suction pressure (specify psia or psig, bar a or bar g, and if the compressor will pull a vacuum)
- Gas discharge pressure and any temperature limitations
- Desired flow rate in ACFM, lbs/hr, SCFM, Actual m^3/hr, kg/hr, or Standard m^3/hr
- Description of the application

Corken engineers use this information to size the compressor and select materials and options suitable for the gas. A computer printout with performance data is provided with the quotation.