

Vapor Recovery Unit (VRU)

A Long Term Solution for the EPA's Quad "O" Compliance



D891-109F single-stage compressor

Solutions beyond products...

CORKEN[®]
IDEX

Minimize Fugitive Emissions with a Multi-Packed Design

Maximize Methane Recovery and Minimize VOC Emissions...

Corken's vapor recovery units (VRUs) are used in the oil and gas market to recover light hydrocarbons dissolved in the crude oil. These light hydrocarbons contain a mix of volatile organic compounds (VOCs) such as methane, propane, butane, and pentane. With the EPA's strict enforcement of 40 CFR (Code of Federal Regulation) 60 Subpart 0000 (a.k.a. Quad "0") in recent years, flaring off unwanted gases is becoming less of an option. In these cases the VOC's are recovered from the wellhead and moved to permanent storage or pumped into the gas lines. Our D-Style compressors have a single distance piece for moderate VOC containment while our T-Styles have a double distance piece that offers maximum VOC containment.

Nearly 70 Years of Experience in Vapor Recovery Applications...

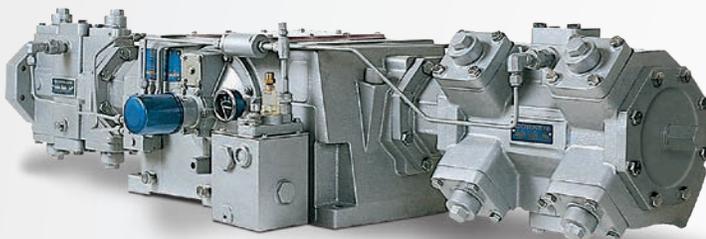
Corken's reciprocating vertical and horizontal compressors have been used in vapor recovery applications for nearly seventy years. Our applications range from emergency tank evacuation, tank maintenance evacuation, tank car unloading, casing gas recovery, and annulus reduction. Over the years, our VRUs have been used in the most demanding services involving toxic, corrosive, and explosive gases like propane, butane, ammonia, methane, chlorine, sulfur dioxide, and many others. When reliability and VOC containment are critical, a Corken compressor is the perfection solution.

Custom Engineered VRU Solutions

Corken offers bare compressor and turn-key solutions. If one of our standard mountings does not fit your application, we will customize one for you. Most custom packages are a modification of our standard mountings; however, if your requirements do not fit within one of our custom packages, we can start from scratch and build a mounting or skid from the ground up.

Applications:

- Tank Battery
- Pipeline Terminals
- Casing Gas Recovery
- Annulus Reduction



Model HG602



Model FD491

Eliminate the Need for Constant Oil Changes

A long term solution for oil field applications requiring strict EPA compliance.

- **Distance Piece Drain Minimizes Maintenance and Maximizes Production**

One of the biggest concerns with vapor recovery applications is the condensate that reaches the crankcase and contaminates the oil. A Corken distance piece eliminates this problem. With a D- and T-Style compressor, you can drain the distance piece before the condensate ever reaches the crankcase. *With up to 8,000 hours of service, operators no longer have to worry about constant oil changes and maintenance concerns common with other compressor technologies and manufacturers.**

- **Excellent Leakage Control**

Corken's D- and T-Style compressors utilize a single and double distance piece between the compressor crankcase and the compression chamber. A D-Style has a single distance piece with two sets of packing while a T-Style has a double distance piece that utilizes three sets of packing.

- **Maximize Your Leakage Control with the Purge and Pad Options**

The purge and pad options provide protection beyond the standard leakage protection offered by our packing sets. Depending on the needs of your application, each distance piece can be purged or padded for maximum leakage protection between the compression chamber and the crankcase.

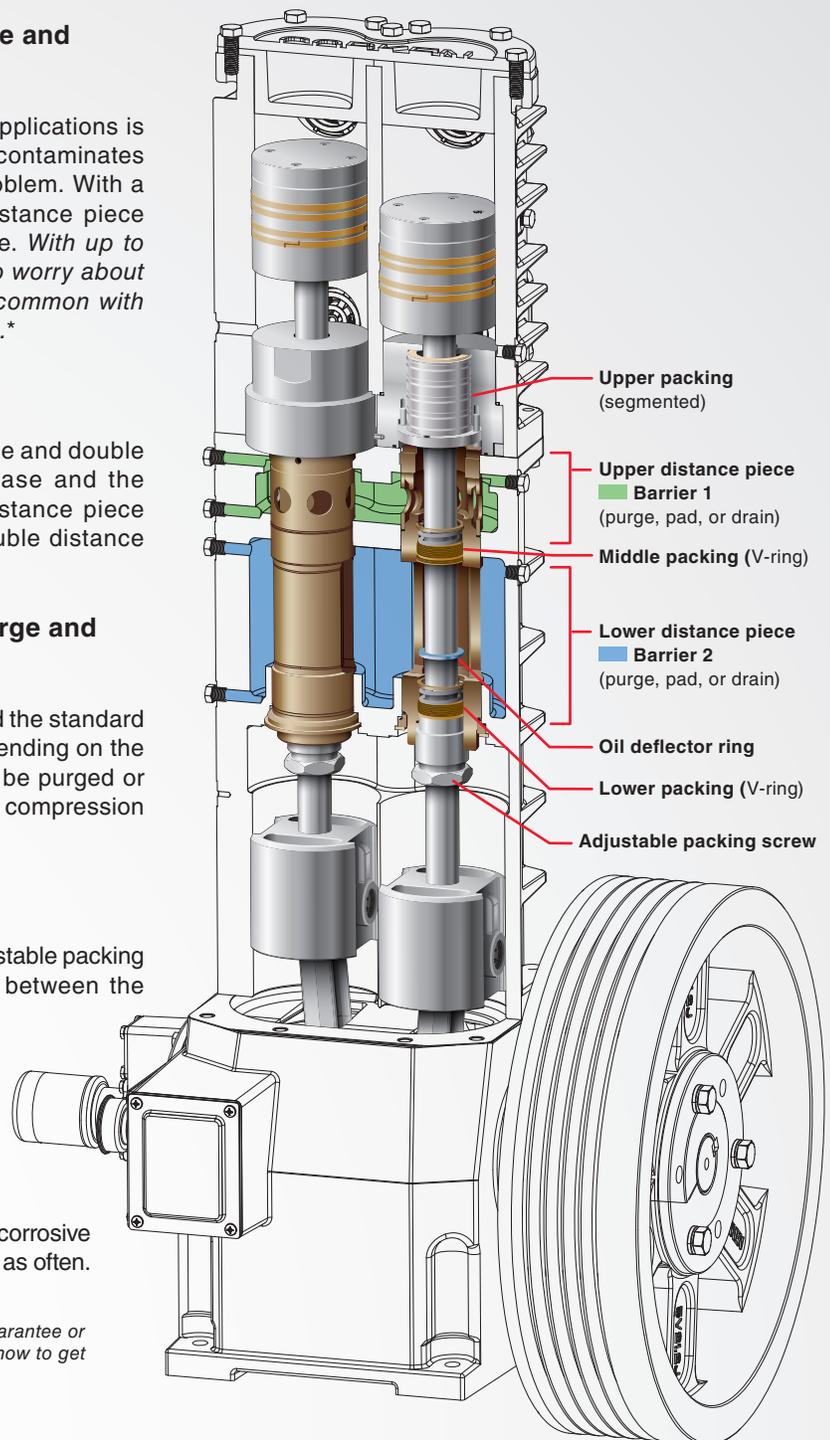
- **Adjustable Packing Compensates for Wear**

On most models the bottom set of packing has an adjustable packing screw that allows you to maintain a suitable seal between the crankcase and the distance piece throughout the life of the packing.

- **Heavy Duty, Industrial Design**

Corken compressors are built to last and meet some of the toughest quality standards around the world. Unlike many of our competitors, the D- and T-Style compressors are designed to withstand the rigors of corrosive and toxic gases, and do not require maintenance nearly as often.

* Due to a wide variety of operating parameters, Corken cannot guarantee or predict maintenance intervals. Please consult factory to determine how to get the longest run time from your compressor.



T891 single-stage compressor shown above.

Specifications		Single-Stage Compressors							Two-Stage Compressors						
D-style (single-distance piece)	D91	D291	D491	D491-3	D691	D691-4	D891 ^a	FD151	D191	FD351	D391	WFD551	FD591	D791 ^a	
T-style (double-distance piece)	T91	T291	T491	T491-3	T691	T691-4	T891 ^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)	
Second stage							3.0 (76.2)	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)	
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)	
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)
	@ 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)
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)	
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)	
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)	
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)	
ANSI/DIN flange option	Yes	Yes	Yes	Yes	Yes	Yes	CF	Standard	Yes	Standard	Yes	Standard	Standard	–	
Water-cooled option	–	–	–	–	Yes	Yes	–	–	–	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. Neoprene® and Viton® are registered trademarks of the DuPont company.

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.

Single-Stage Horizontal Compressors

Single Cylinder Models - Size	8"	6"	5"	4"	3.25"	2.75"
Plain style	HG601AX	HG601BX	HG601CX	HG601DX	HG601EX	HG601FX
T-style	THG601AX	THG601BX	THG601CX	THG601DX	THG601EX	THG601FX
Displacement cfm (m ³ /hr) @ 400 rpm	68.8 (116.9)	38.4 (65.2)	26.4 (44.9)	16.8 (28.5)	10.8 (18.3)	7.6 (12.9)
Displacement cfm (m ³ /hr) @ 1200 rpm	207.0 (351.7)	115.0 (195.4)	79.2 (134.4)	49.8 (84.6)	32.2 (54.5)	22.8 (56.0)
Two Cylinder Models - Size	8" x 8"	6" x 6"	5" x 5"	4" x 4"	3.25" x 3.25"	2.75" x 2.75"
Plain style	HG601AA	HG601BB	HG601CC	HG601DD	HG601EE	HG601FF
T-style	THG601AA	THG601BB	THG601CC	THG601DD	THG601EE	THG601FF
Displacement cfm (m ³ /hr) @ 400 rpm	138 (234.5)	76.8 (130.5)	52.8 (89.7)	33.2 (56.4)	21.2 (36.0)	14.8 (25.1)
Displacement cfm (m ³ /hr) @ 1200 rpm	414 (704)	231 (393)	158.4 (268.8)	99.6 (169.2)	64 (108.7)	44.4 (75.6)

Two-Stage Horizontal Compressors

Two Cylinder Models - Size	8" x 6"	8" x 5"	8" x 4"	6" x 5"	6" x 4"	6" x 3.25"
Plain style	HG602AB	HG602AC	HG602AD	HG602BC	HG602BD	HG602BE
T-style	THG602AB	THG602AC	THG602AD	THG602BC	THG602BD	THG602BE
Displacement cfm (m ³ /hr) @ 400 rpm	68.8 (116.9)	68.8 (116.9)	68.8 (116.9)	38.4 (65.2)	38.4 (65.2)	38.4 (65.2)
Displacement cfm (m ³ /hr) @ 1200 rpm	207.0 (351.7)	207.0 (351.7)	207.0 (351.7)	115.0 (195.4)	115.0 (195.4)	79.2 (134.4)

Two Cylinder Models - Size (cont.)	5" x 4"	5" x 3.25"	4" x 3.25"	4" x 2.75"	3.25" x 2.75"
Plain style	HG602CD	HG602CE	HG602DE	HG602DF	HG602EF
T-style	THG602CD	THG602CE	THG602DE	THG602DF	THG602EF
Displacement cfm (m ³ /hr) @ 400 rpm	26.4 (44.9)	26.4 (44.9)	16.8 (28.5)	16.8 (28.5)	10.8 (18.3)
Displacement cfm (m ³ /hr) @ 1200 rpm	79.2 (134.4)	79.2 (134.4)	49.8 (84.6)	49.8 (84.6)	32.2 (54.5)

Solutions beyond products...



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