

# IMPORTANT INSTRUCTIONS

## INSTALLATION: PURGE KITS-4094-1X

If you are adding a purge kit to your existing Corken Gas compressor, follow the drawing details as outlined on Sales Bulletin No. 233.

If you purchased a new compressor with the purge kit option, it will be mounted as outlined in the drawings on Sales Bulletin No. 233. If you are installing your purge kit in the field, it is recommended that you follow a similar installation method.

Because Corken compressors are used in so many varied applications, you may find an alternative purge method that works better for your application. Please contact your distributor or the factory with any specific questions you have about your purge kit installation and operation.

## OPERATION:

There are two basic purge kit functions: Pressure purging and padding. Depending on your compressor construction, you can do either or both operations.

**“D” Style** gas compressors have only one compartment, so they must be either padded or purged.

**“T” Style** units have two compartments and can be both purged and padded.

**Padding** of the distance piece consists of putting a dry nitrogen positive pressure into the distance piece to minimize unwanted process gas from leaking into the crankcase area, where it could vent to atmosphere or possibly damage oil or running gear components.

**Purging** is similar to padding described above, except that it requires a constant low flow of nitrogen gas through the distance piece compartment. In all purging applications the discharged nitrogen gas is typically carrying off small amounts of process gas which must be routed to a proper disposal area or flare.

Proper handling/disposal of purged gas is the responsibility of the end user.

**Padding** and **Purging** pressures vary with almost every application. In general for most applications, pad and purge pressures will be in the 5 - 50 psig range. Applications with inlet pressures in the 100 - 200 psig range will require purge pressures in the 40 - 50 psig range. Inlet pressures below 100 psig can usually be purged with pressures of 30 psig and less.

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**“D” Style** single distance piece machines will have only one purge or pad pressure.

**“T” Style** two compartment distance piece machines will utilize a higher pressure in the lower distance piece (closer to crankcase) and a slightly lower pressure in the upper distance piece (closer to cylinder.)

Pressures in each compartment should be determined by the general rules outlined above regarding compressor inlet pressure.

The following guidelines can be used as a general guide. Specific applications could vary from those listed. Consult your Corken distributor or Corken if you need specific application help.

COMPRESSOR INLET PRESSURE PSIG (BAR)	PURGE PRESSURE, PSIG (BAR)		
	“T” DISTANCE PIECE		“D” STYLE
	LOWER	UPPER	SINGLE COMPARTMENT
0 (0)	10 (.7)	5 (.35)	10 (.7)
5 (.35)	10 (.7)	5 (.35)	10 (.7)
10 (.70)	10 (.7)	5 (.35)	10 (.7)
20 (1.4)	15 (1.03)	10 (.7)	10 (.7)
30 (2.1)	20 (1.4)	15 (1.03)	15 (1.03)
50 (3.5)	25 (1.7)	20 (1.4)	20 (1.4)
75 (5.3)	30 (2.1)	25 (1.7)	25 (1.7)
100 (7.0)	35 (2.4)	30 (2.1)	30 (2.1)
150 (10.3)	40 (2.8)	35 (2.4)	35 (2.4)
200 (13.8)	50 (3.5)	40 (2.8)	40 (2.8)

**NOTE: PRESSURES ABOVE 200 PSIG - CONSULT THE FACTORY!**

**FLOW RATES:**

Purge gas flow rate should be as low as possible to conserve the nitrogen consumption. Generally, a flow rate of 1 SCFH (.43 <sup>lit</sup>/<sub>min</sub>) is plenty for a unit with rod seals in good condition. As rod seals wear, an increased flow rate may be necessary to maintain proper leakage control of purge system. The maximum purge gas flow rate allowable is more difficult to establish. It may require as much as 10 SCFH (4.6 <sup>lit</sup>/<sub>min</sub>) to maintain proper leakage control.

Since process leakage into the distance piece is directly related to the condition of the rod seals, the user must ultimately determine when corrective maintenance should be performed.

A variety of flow monitoring devices are available if monitoring flow rates is desired. They are not provided in Corken’s standard purge kit offerings.

**CONNECTION DETAILS:** (Refer to Figure 1)

1. Connect supply nitrogen to purge gas inlet connection on compressor. (Supply nitrogen should have its own pressure regulator to control nitrogen from the supply source.) This is a must if nitrogen source is a high pressure cylinder.
2. Adjust nitrogen pressure in each distance piece with the regulator provided in the purge kit. (D-Style units will have one regulator, T-Style will have two regulators.)
3. Control nitrogen flow rate by adjusting the needle valve at the purge gas outlet connection.
4. Connect the 1/4” NPT purge gas outlet connection to your flare or disposal system with steel tubing, pipe, etc., as required for proper disposal. (NOTE: This line should be installed and constructed such that it will have a minimal chance of becoming clogged, bent, kinked or restricted in any way.)
5. Test your purge system prior to starting the compressor to ensure purge pressures are set and nitrogen is flowing as required. (NOTE: You may want to do this prior to making your final connection to the flare/disposal line.)
6. Make adjustments to purge gas pressures as needed to keep your unit in safe working order. Remember: Use the lowest purge pressures and flows possible to maintain safe operation in your specific application.

**FIGURE 1**

