



**Operating instructions
for style 75 expansion unit**

The following operating and maintenance instructions are provided to assist in obtaining the best possible performance from the unit.

Instructions for coupling hose

1. Install the correct size of expansion unit for the couplings to be installed.

The drawbar must be fully threaded into the adapter on the end of the piston rod inside the expander. Normally, this can be done with the piston fully extended. Thread segment holder into the nose piece. Tighten by hand only. It may be necessary on some smaller sizes of expansion units to retract the piston slightly. If these parts are not fully threaded into the mating parts, the threads may strip during operation.

2. Adjust the Locating Plate

Turn the locating plate clockwise to move the plate all the way towards the machine. Place the coupling without hose or hose bowl gasket over the segments. Expand the segments until the segments are larger than the waterway but do not touch the hose bowl. Pull the coupling so that the inside face of the segments touches the face of the recess for the hose bowl gasket. While holding the coupling in that position, rotate the locating plate counterclockwise- until it touches the coupling. Rotate the locating plate away from the coupling 3/4 of a turn. Leave the locating plate in this position for all similar couplings. The plate will have to be reset whenever changing from male to female couplings (or vice versa), or when changing sizes or coupling types. Retract the segments and remove the coupling.

3. Set the Pressure

For oilhydraulic expanders, the relief valve pressure must be set. The knob behind the operating handle is used to adjust the pressure. Hold the operating handle until the cylinder reaches either end of the stroke. At that point the sound of the unit will change and there will be a pressure reading on the gauge. Rotating the knob will change the reading on the gauge. Preset the pressure to the nominal value listed as follows for each different application.

		Nominal pressure (PSI)
3/4" – 1-1/4"	Chemical	320
1-1/4"	Single Jacket	530
1-1/2"	Single Jacket	665
1-1/2"	Double Jacket	665
1-3/4"	Single Jacket	640
2"	Single Jacket	640
2"	Double Jacket	665
2-1/2"	Single Jacket	770
2-1/2"	Double Jacket	930
3"	Double Jacket	955

		Nominal pressure (PSI)
3-1/2"	Hard Suction	955
4"	Hard Suction	1015
4-1/2"	Hard Suction	1200
5"	Hard Suction	1200
6"	Hard Suction	1200

NOTE: Some lightweight brass or thin wall aluminum alloy couplings may require reduced pressures to prevent damage to the coupling.

4. Trim the Hose

The end of the hose to be coupled must be cut square and straight. Failure to trim the hose may result in leakage once the coupling is attached. An Akron Style 89 Hose Cutter is recommended.

5. **Position the Expansion Ring and Hose**

- a. If the expansion ring will pass through the waterway of the coupling, place the ring on the segments so it touches the segment holder or lip on the segments (if so equipped). The segments may be expanded slightly to just touch the expansion ring and therefore hold it in place. If this is done, do not expand the ring. Push the hose into the coupling. The hose must touch the hose bowl gasket.
- b. When attaching reducing couplings where the expansion ring will not pass through the waterway, the ring will have to be installed in the coupling before it is placed on the expander. Place the ring in the hose, and push the hose into the coupling. The hose must touch the hose bowl gasket. Adjust the ring until it covers one half of the hose bowl gasket.

6. **Place the Coupling on the Expansion Unit**

Push the hose and coupling onto the expansion unit until it touches the locating plate. Hold it against the plate with one hand so that the operating handle can be operated with the other hand.

7. **Expand the Ring**

Expand the ring until the pressure reaches that as set in Step 3. Retract the drawbar, rotate the coupling and hose 10 to 15 degrees and expand the ring again.

Retract the drawbar, remove the coupling and observe the expansion ring through the waterway. The nearest end of the ring should be indented into and covering part of the hose bowl gasket. The far end should be significantly indented into the hose.

If the ring is not properly expanded, increase the pressure about 10% as outlined in Step 3 and repeat Step 7.

Maintenance Instructions

1. The drawbar must be lubricated at all times. A light coating of white grease or clean oil is recommended. The drawbar should be regularly cleaned of any dirt or grit and relubricated.
2. Scoring of the drawbar can cause damage to the segments and reduce the force applied to the expansion ring. If the drawbar becomes scored, file down the ridges around the score marks until they are flush with the surface of the drawbar.
3. The oil level of oilhydraulic expanders should be checked regularly. It should be kept 1" below the top of the reservoir. Do not overfill. Use BP Energol HLP 100 or equal hydraulic oil.



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PHONE: 330.264.5678 or 800.228.1161 | FAX: 330.264.2944 or 800.531.7335 | akronbrass.com

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