Parallel Compressor Operation
Subject: Parallel Compressor Operation

The demand for a flexible, higher efficient and lower cost unit has OEM’s applying more parallel compressor systems. This type system uses multiple compressors with one common discharge line and one common suction line.

Parallel compressors have some potential operating problems, one of them is maintaining a correct oil level at all operating conditions when only one compressor is running. The other is liquid floodback caused by one or more compressors cycling on and off. To protect the compressors from liquid floodback, an adequate size suction line accumulator is required.

The Bristol H2DA series interconnected dual models have had extensive testing to prove their reliability. They are sold as one unit mounted on rails with one common suction line, one common discharge line, pressure equalization tube and oil equalization tube.

When the compressor displacement increases, the method of equalization becomes more critical because of the limitations on the size of the equalizing lines. Because of the extensive testing necessary to prove the reliability of parallel compressors, Bristol (with only one exception) does not recommend field construction of parallel systems.

The one exception which Bristol does recommend for parallel systems is on the "G" series compressors manufactured with a sight glass. For this application, an oil control system manufactured and distributed by AC&R Components is needed. The Bristol sight glass is removed and replaced with an AC&R adapter kit that is used with an individual oil level control. Each compressor must have an oil level controller which is fed by a common reservoir and oil separator. These components have been thoroughly tested to provide a reliable means of oil equalization.

Field experience has shown that major compressor problems can occur because of improper parallel system design. For this reason, such applications should be restricted to properly designed and tested systems.
<table>
<thead>
<tr>
<th>Revisions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Z27301</td>
<td>10/2/15</td>
</tr>
</tbody>
</table>