TriScroll™ 300 Dual Flow Dry Scroll Vacuum Pump Installation and Operation Addendum
Instructions for Use

This document is an addendum to the *TriScroll™ 300 Series Dry Scroll Vacuum Pump Installation and Operation Manual* (Vacuum Technologies Manual No. 699904265) and the *Vacuum Pump Isolation Valve Instruction Manual* (Vacuum Technologies Manual No. 699912117). This addendum is intended to address specific differences in the operation and installation of the TriScroll™ 300 Series Dual Flow Dry Scroll Vacuum Pump as compared to a standard TriScroll™ 300 Series Dry Scroll Vacuum Pump.

The TriScroll™ 300 Series Dual Flow Dry Scroll Vacuum Pump is shown in Figure 1.

![TriScroll™ 300 Series Dual Flow Dry Scroll Vacuum Pump](image)

**Figure 1. TriScroll™ 300 Series Dual Flow Dry Scroll Vacuum Pump**

As shown in Figure 1, the Dual Flow Scroll Pump is equipped with an integrated automatic Vacuum Pump Isolation Valve (VPI) and a Secondary Inlet port that is also protected by an automatic isolation valve.

The Secondary Inlet port can be used for additional pumping in conjunction with the primary inlet port. The Secondary Inlet port pumping performance is dependant on the pressure of the Primary Inlet port and the Primary Inlet port performance is slightly degraded when the Secondary Port is in use.
Figure 2 shows a pumping speed curve for the secondary inlet port (60 Hz), with the primary inlet port capped.

Figure 2. Secondary Inlet Port Pumping Speed, Primary Inlet Port Capped

Figure 3 shows the performance of the Secondary Inlet port as a function of the Primary Inlet port. As shown, the Secondary Inlet port only produces a vacuum at Primary Inlet port pressures under approximately 600 mTorr (60 Hz).

Figure 3. Secondary Inlet Port Pressure vs. Primary Inlet Port Pressure, (60 Hz)
Unpacking and Installation

Follow the unpacking instructions in the TriScroll™ 300 Series Dry Scroll Vacuum Pump Installation and Operation Manual.

The VPI Valve is shipped prewired to the pump but not connected to the pump inlet. The VPI Valve must be connected to the pump using the supplied NW25 centering ring and clamp. See the Vacuum Pump Isolation Valve Instruction Manual to ensure that the VPI Valve is installed in the correct flow direction. Ensure that the wiring to the valve is not bound or pulled after valve installation.

See the TriScroll™ 300 Series Dry Scroll Vacuum Pump Installation and Operation Manual for complete pump installation instructions.


NOTE

As with the VPI Solenoid Valve (refer to the Vacuum Pump Isolation Valve Instruction Manual), the Secondary Inlet Solenoid Valve wiring does not change when the pump is reconfigured for 220 V operation.

Operation

Operation of the Dual Flow pump is much the same as a standard TriScroll™ 300 Pump with the following exceptions:

<table>
<thead>
<tr>
<th>Operation of the Secondary Inlet port</th>
<th>Operate the Secondary Inlet port with the performance characteristics defined under “Instructions for Use” on sheet 1 of this addendum.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Ballast System</td>
<td>Addition of the Secondary Inlet port eliminates the Gas Ballast capability of the pump. If moist air is being pumped, purge the pump through the bearing purge port using a purge kit (Vacuum Technologies Part No. PTSPURGEKIT).</td>
</tr>
</tbody>
</table>
**Maintenance**

The required maintenance for the Dual Flow pump is no greater than for a standard TriScroll 300. Refer to the *TriScroll™ 300 Series Dry Scroll Vacuum Pump Installation and Operation Manual* for information and instructions. There are minor differences in the maintenance due to the addition of the Secondary Inlet port and Isolation Valve:

<table>
<thead>
<tr>
<th>Maintenance Item</th>
<th>Changes from Standard Pump Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tip Seal Replacement</td>
<td>No Change From Standard Pump. Refer to <em>TriScroll™ 300 Series Dry Scroll Vacuum Pump Installation and Operation Manual</em> for part numbers.</td>
</tr>
<tr>
<td>Major Maintenance</td>
<td>Remove the Secondary Inlet Solenoid valve from the pump inboard housing to change the inboard housing bearings. All other aspects of the major maintenance protocol are identical. Refer to <em>TriScroll™ 300 Series Dry Scroll Vacuum Pump Installation and Operation Manual</em> for part numbers.</td>
</tr>
<tr>
<td>Exchange Module</td>
<td>Remove the Secondary Inlet Solenoid Valve from the module. Order a special replacement module with internal Secondary Inlet Ports in the scroll geometry. The Vacuum Technologies Part Number for the Advance Exchange TriScroll 300 Dual Flow Dry Scroll Vacuum Pump replacement module is EXPTS0300DFSC.</td>
</tr>
<tr>
<td>Exchange Pump</td>
<td>The Vacuum Technologies Part Number for a complete Advance Exchange TriScroll 300 Dual Flow Dry Scroll Vacuum Pump is EXPTS0300UVPIDF.</td>
</tr>
<tr>
<td>Module Rebuild (Factory Service)</td>
<td>The Vacuum Technologies Part Number for a factory service rebuild of your existing pump module is PTS0300DFSCRIP.</td>
</tr>
<tr>
<td>Complete Pump Rebuild (Factory Service)</td>
<td>The Vacuum Technologies Part Number for a factory service rebuild of your existing pump module is PTS0300DFKMA.</td>
</tr>
</tbody>
</table>
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