

## 9.0 *Trouble-Shooting*

<b>Problem</b>	<b>Possible Cause</b>	<b>Remedy</b>
Does not achieve good vacuum	<ol style="list-style-type: none"> <li>1. Loose/open fittings</li> <li>2. Not enough oil</li> <li>3. Dirty/contaminated oil</li> <li>4. Old/dirty/non-vacuum rated hoses</li> <li>5. Gas ballast open in deep vacuum operation</li> <li>6. Pump has reached the end of its useful life</li> </ol>	<ol style="list-style-type: none"> <li>1. Make sure all connections are tight, gas ballast &amp; oil fill cap are closed and unused inlet is not open.</li> <li>2. Add oil to level indicated</li> <li>3. Change oil</li> <li>4. Use new hoses rated for deep vacuum</li> <li>5. Close gas ballast</li> <li>6. Service or replace pump</li> </ol>
Oil discolored	<ol style="list-style-type: none"> <li>1. Excess moisture in oil, or oil burnt</li> </ol>	<ol style="list-style-type: none"> <li>1. Change oil</li> </ol>
Oil leakage	<ol style="list-style-type: none"> <li>1. Loose fittings/connections</li> <li>2. Over-filled with oil</li> </ol>	<ol style="list-style-type: none"> <li>1. Ensure oil drain and related fittings are tight</li> <li>2. Check oil level, drain extra if necessary</li> </ol>
Failure to start	<ol style="list-style-type: none"> <li>1. Power disconnected</li> <li>2. Thermal protection has shut pump down</li> <li>3. Cold start condition</li> <li>4. Operating voltage too low</li> <li>5. Power supply cord too long</li> <li>6. Foreign matter has entered pump</li> <li>7. Blown fuse</li> </ol>	<ol style="list-style-type: none"> <li>1. Connect power</li> <li>2. Allow pump to cool, will re-start on its own</li> <li>3. Subject pump to heat to raise the ambient temperature</li> <li>4. Check operating voltage</li> <li>5. Use shorter power supply cord</li> <li>6. Check and clean pump</li> <li>7. Check fuse (near power receptacle) and replace if necessary.</li> </ol>