Tornado™ Model 602
Installation & Operation Instructions

Safety Warnings

Failure to abide by any of the safety warnings below may result in equipment failure and serious injury or death.

- Valve off the sample flow to depressurize the Tornado™ prior to starting maintenance.
- Do not exceed any equipment pressure ratings.

Tools Required

No special tools are required for element replacement.
<table>
<thead>
<tr>
<th>Technical Specifications</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum pressure rating</td>
<td>1,500 psig (103.4 barg)</td>
</tr>
<tr>
<td>Maximum temperature</td>
<td>300 °F (149 °C)</td>
</tr>
<tr>
<td>Minimum Bypass flow rate</td>
<td>1.5 gal/min</td>
</tr>
<tr>
<td>Port sizes</td>
<td>Inlet, Outlet, &amp; Bypass 1/2&quot; female NPT</td>
</tr>
<tr>
<td>Internal volume</td>
<td>70 cc</td>
</tr>
<tr>
<td>Wetted materials</td>
<td>Machined parts: 316/316L stainless / NACE compliant</td>
</tr>
<tr>
<td></td>
<td>All other metal parts: stainless steel / NACE compliant</td>
</tr>
<tr>
<td></td>
<td>Sealing material: Kynar®</td>
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</tbody>
</table>
**Installation Instructions**

Mount the Tornado vertically as shown in Figure 1.

- Note that the “bypass” port is located at the center-bottom of the body to prevent liquid accumulation.
- The “inlet”, “outlet”, and “bypass” 1/2” NPT ports are conveniently located on the stationary body 90° apart for easy tubing runs.
- Therefore, it will not be necessary to disconnect the sample lines to replace filter elements.
- The four cover bolts have been torqued to 50 ft-lbs at the factory. After the bolts have been loosened or removed, they must be torqued to 50 ft-lbs (or wrench-tight if a torque wrench is not available) to insure proper sealing of the cover.
- The Kynar gasket must be replaced each time the cover is removed from the body.
- The Tornado Model 602 may be utilized to remove micron and sub-micron particles from liquid samples.
- Once flow has begun, establish a “bypass” flow to bring fresh sample to the filter quickly and to provide the self-cleaning action.
- Choose the appropriate element based on the micron size of the particles to be removed.
- Particulate will be swept away from the element’s surface by self-cleaning tornadic action.

**Figure 1 - Mounting Diagrams & Port Locations**

![Mounting Diagrams & Port Locations](image)

**NOTES:**

- Mount bracket to surface with #10 screws
- All ports are 1/2” NPT
- Maximum operating pressure 1500 PSIG (at ambient temperature)
### Model Numbering & Additional Part Numbers

**How to build the model number:**

- **Element rating**
  - 0.5 = 0.5 micron
  - 2 = 2 micron
  - 10 = 10 micron
  - 25 = 25 micron
  - 50 = 50 micron
  - 100 = 100 micron

- **Kit quantity**
  - Blank = Kit of 5
  - 1 = Kit of 1

- **Mounting bracket accessory**
  - Part # 602-509-SS (sold separately)

**How to build the replacement filter element assembly and seal kit part number:**

- **Element rating**
  - 0.5 is porous metal. All others are screens.

- **Kit quantity**
  - Blank = Kit of 5
  - 1 = Kit of 1