OPERATING INSTRUCTIONS

Installation of Seals:
- For seal install or replacement loosen set screw on side of housing.
- Unscrew counters clockwise and remove seal casing. NOTE: A spanner wrench hole is provided for breaking the seal casing loose if required.
- Seal sets contain elastomer seals and backup washers per Chart 1. For complete listing of seal set sizes see catalog.
- Verify that seals and washers are the same size.
- Assemble seal set into seal casing. See Chart 1.
- Reassemble and tighten seal casing and seal set to housing.
- Retighten set screw.

*Seal Set Parts Required

**CHART 1**

<table>
<thead>
<tr>
<th>Connector</th>
<th>Number of Seals</th>
<th>Number of Washers</th>
</tr>
</thead>
<tbody>
<tr>
<td>FE1, FE1M</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>FE2, FE2M</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>FE3, FE3M</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>FE4, FE4M</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>FE5, FE5M</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>FE6, FE6M</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

- Use of less than the listed number of seals (for less insertion depth) requires a spacer. See Fastest catalog. Seal installation instructions included with seal sets.
- WARNING: Seals and washers must have the same size outside and inside diameters. Use of the incorrect size seals or washers will result in loss of seal ability.

Attachment of Pilot Pressure and Test Media Supply Line:
- **FE MODEL CONNECTOR**
  - Attach pilot pressure line to pilot port “E” from Diagram 2.
  - A pneumatic regulated source is required to maximize seal life and assure optimum seal ability for the application. The pilot pressure should be minimized to maintain sealing on the test piece without excessive compression of the seal.
  - Attach test media line to test port “D” from Diagram 2.

Mounting of Connector:
- The **FE Connector** must be SECURED to the test piece by a mechanical device before proceeding.
  - The test connector must be secured with a mechanical or other device to assure the connector is not uncoupled from the test piece. The test itself will provide an uncoupling force. The securing or holding device may be a fixture, clamp, cylinder or other appropriate means that prevents ejection of the test piece from the connector.
  - Uncoupling force example:
    - If the test piece has a 1/2” O.D. and is tested at 400 psi maximum. The uncoupling force = area x (psi) x pressure) = \( \pi \times 25.4 \times 400 = 79 \) lbs.
    - Secure device should be designed to withstand this force and include an adequate margin for safety.
    - Do not activate the connector without an adequate and safe securing mechanism.
    - Mount the Fastest FE connector to the fixture or appropriate device using either threaded mounting holes on the rear of the connector body. (C) Diagram 2, or appropriate adapter.

**FE Connector Dimensions**

**DIAGRAM 2**

Maximum test pressure: Vacuum to 500 psi
Flow capability: Limited by “D” below

**CHART 2**

<table>
<thead>
<tr>
<th>FE</th>
<th>A</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>L**</th>
</tr>
</thead>
<tbody>
<tr>
<td>FE1</td>
<td>2.05</td>
<td>1.49</td>
<td>1/8 NPTF</td>
<td>1/8 BSPP</td>
<td>1/4 BSPP</td>
<td>1/4 BSPP</td>
<td>1/4 BSPP</td>
</tr>
<tr>
<td>FEM</td>
<td>2.72</td>
<td>2.22</td>
<td>1/8 NPTF</td>
<td>1/8 BSPP</td>
<td>1/4 BSPP</td>
<td>1/4 BSPP</td>
<td>1/4 BSPP</td>
</tr>
<tr>
<td>FE2</td>
<td>3.50</td>
<td>3.11</td>
<td>1/8 NPTF</td>
<td>1/8 BSPP</td>
<td>1/4 BSPP</td>
<td>1/4 BSPP</td>
<td>1/4 BSPP</td>
</tr>
<tr>
<td>FEM</td>
<td>4.48</td>
<td>4.23</td>
<td>1/8 BSPP</td>
<td>1/4 BSPP</td>
<td>1/4 BSPP</td>
<td>1/4 BSPP</td>
<td>1/4 BSPP</td>
</tr>
<tr>
<td>FE3</td>
<td>5.48</td>
<td>5.04</td>
<td>1/2 BSPP</td>
<td>1/4 BSPP</td>
<td>1/4 BSPP</td>
<td>1/4 BSPP</td>
<td>1/4 BSPP</td>
</tr>
<tr>
<td>FEM</td>
<td>6.60</td>
<td>6.00</td>
<td>1/2 BSPP</td>
<td>1/4 BSPP</td>
<td>1/4 BSPP</td>
<td>1/4 BSPP</td>
<td>1/4 BSPP</td>
</tr>
<tr>
<td>FE4</td>
<td>7.48</td>
<td>7.00</td>
<td>2 BSPP</td>
<td>2 BSPP</td>
<td>2 BSPP</td>
<td>2 BSPP</td>
<td>2 BSPP</td>
</tr>
<tr>
<td>FEM</td>
<td>8.56</td>
<td>8.06</td>
<td>2 BSPP</td>
<td>2 BSPP</td>
<td>2 BSPP</td>
<td>2 BSPP</td>
<td>2 BSPP</td>
</tr>
</tbody>
</table>

* FE, FE4L, FE5, FE5M, FE6, FE6M have 3 mounting holes.

**L** = Minimum insertion length of test piece.

**Material Specifications**
- **Body, Housing, Piston:** Aluminum
- **Main Seal Washers:** Steel O-ring or Stainless Steel
- **Main Seal:** Neoprene
- **O-rings:** Buna-N

Other materials available on request.

NOTE: All specifications subject to change without notice.

GTek AUTOMATION
26212 Dimencion Drive, Suite 150
Lake Forest, CA 92630
Ph. 949-680-4242
www.gtke-automation.com
OPERATING INSTRUCTIONS

Connector Operation:
1. Insert test piece into the end of the connector and secure. Make sure the test piece is inserted to the required minimum insertion length. This will assure proper location relative to the seals. Make sure the connector and test piece are secure.
2. Apply pilot pressure to seat against the part. Generally, a 60 to 90 psi pneumatic pilot pressure source is required. Additional pilot pressure may be required for contoured surface (i.e., threads etc...). See FastTest catalog for Pneum Pressure Booster.

CAUTION: Do not activate PILOT or TEST PRESSURE without test piece in place.

3. With pilot activated, introduce gas or liquid through the FastTest FE connector until desired testing, filling or flushing is complete. Provide a means whereby test pressure will not be introduced until the pilot pressure required to seal is reached. The means should also provide quick exhaust of test pressure in the event pilot pressure falls below the minimum required to seal.
4. Perform testing operation.
5. Relieve test pressure.
6. Relieve pilot pressure.
7. Remove test piece.

Connector Maintenance:
- A daily, weekly and periodic inspection of the connector by competent person is recommended.
- Lubricate connector on regular intervals. Petroleum jelly is recommended but care should be taken to verify the lubricant is compatible with the application.
- User must establish a regular interval for maintenance as determined by the user and operational environment.
- Inspection should include damage to the body or missing or loose components. Leak tightness, ease of operation, sufficient lubrication, wear, dirt accumulation and damage.
- Use only original FastTest spare parts that are designed for the application and are subject to strict quality control. See warranty.

FE and FExM (Metric Termination)
External Pneumatic Operated Connector.

DESCRIPTION: FE Connectors seal on the outside diameter of tubes and threads.

Please thoroughly read and understand each of the following four steps before operating the connector. The use of pressurised media for seating, testing and filling requires a thorough understanding of the FastTest FE Installation and Operating Instructions.

1. Installation of Seals
2. Attachment of Pilot Pressure and Test Media Supply Lines
3. Mounting Dimensions of Connector

- The connector is designed to mate with a specific application. Verify the application prior to the introduction of pressure or processing.
- Use only in a safe environment.
- Connectors are NOT designed for permanent connections and are for temporary connections only.
- Maximum rated test pressure for standard FE models is 500 psi. DO NOT EXCEED pressure ratings as marked on connector or corresponding literature. Consult your FastTest representative for other requirements.

FastTest FE pneumatic operated connectors are designed for use in SECURED CONDITIONS ONLY.

Note: “FP” designates metric customer interface. See Chart 2, column “G” for thread designations.