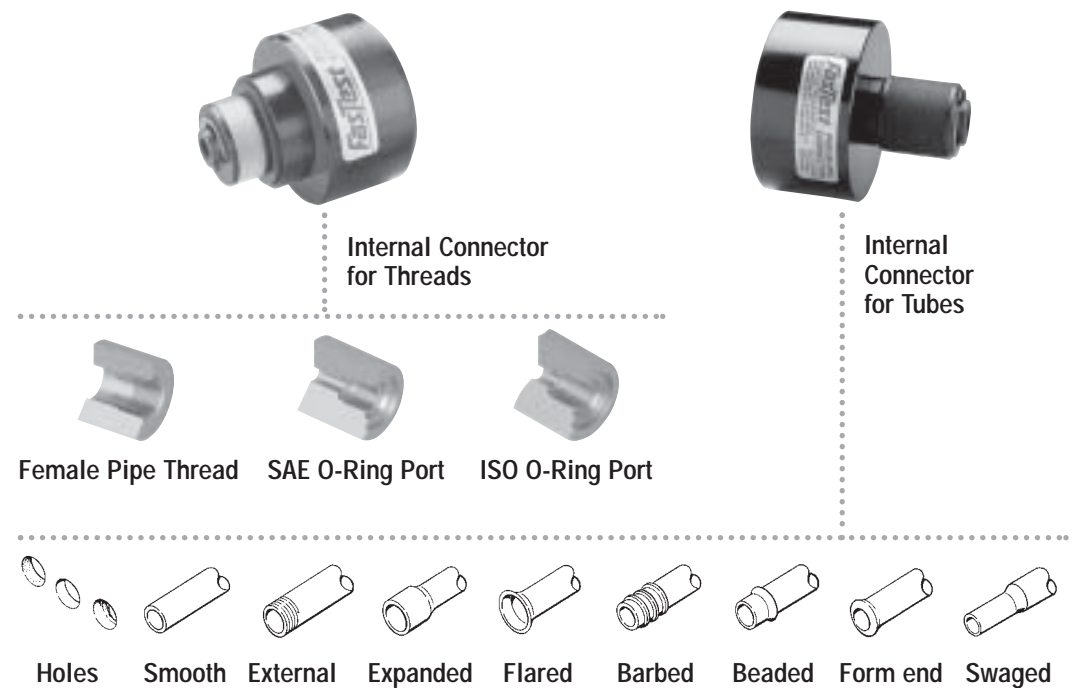


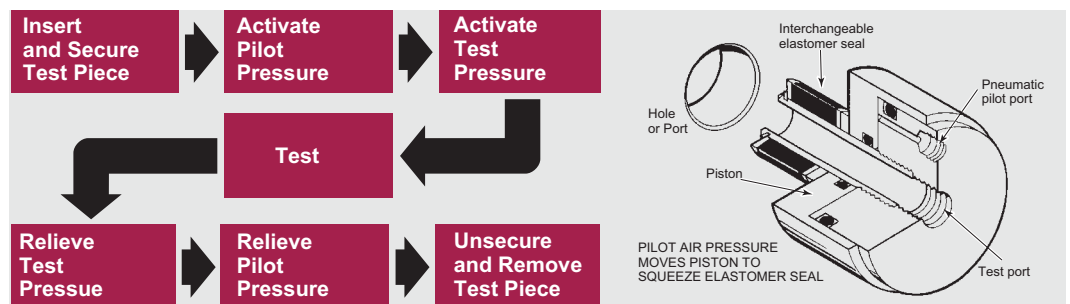


High-speed automated seals provide big gains in productivity.

- Quality in your test and manufacturing processes.
- Excellent for robotics or pick-and-place applications which require delicate handling and/or testing.
- Soft-touch elastomers seal without scratching or otherwise damaging your product.



Operation



Applications

Leak Testing: Pressure decay, water dunk, helium mass spectrometer, etc.

Other Uses: Filling, material handling, pressure and proof testing, manufacturing processes, flushing, etc.

Components: Cylinders, tanks, valves, regulators, meters, plastic containers, plumbing fixtures, pumps, medical devices, filters, pressure vessels, tube assemblies, etc.

Extensions

Connectors are available with extensions to fit in tight locations or to provide closer center-to-center mounting to seal multiple test ports.

Technical Data

Seals: Neoprene or Urethane

Materials: Aluminum and Stainless Steel

Test Pressure: Vacuum to 120 psi.

The connector and test piece should be secured or fixtured to prevent separation at unsafe pressure and to provide the best elastomer life.

Pneumatic Pilot Operation: Requires 60 psi to 90 psi air supply depending on the seal material, surface finish and test pressure. Urethane seals are recommended for high duty or abrasive applications and may require higher pilot pressure to seal rough surfaces.

Refer to the "Engineering and Application Guide" section for important information.

U.S. Patent No. 4,345,783

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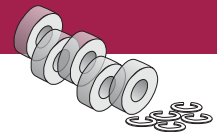
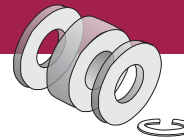
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FI Series

Automated Internal Sealing to 120 psi.












Extended shaft connector for sealing close center to center ports.



Ordering Information

| Sealing Range | Connector | Connector and Main Seal Set | Main Seal Set Includes seal(s) and metal parts for one complete seal change | Bulk Pack Includes 5 seal changes per package |
|---------------|-----------|-----------------------------|--|--|
| .310-.330 | FI01 | FI01-0300 | FIS01-0300 | FIB01-0300 |
| .330-.394 | FI01 | FI01-01 | FIS01-01 | FIB01-01 |
| .394-.472 | FI1 | FI1-11 | FIS1-11 | FIB1-11 |
| .472-.551 | FI1 | FI1-12 | FIS1-12 | FIB1-12 |
| .551-.630 | FI1 | FI1-13 | FIS1-13 | FIB1-13 |
| .630-.709 | FI2 | FI2-21 | FIS2-21 | FIB2-21 |
| .709-.787 | FI2 | FI2-22 | FIS2-22 | FIB2-22 |
| .787-.866 | FI2 | FI2-23 | FIS2-23 | FIB2-23 |
| .866-.945 | FI3 | FI3-31 | FIS3-31 | FIB3-31 |
| .945-1.024 | FI3 | FI3-32 | FIS3-32 | FIB3-32 |
| 1.024-1.102 | FI3 | FI3-33 | FIS3-33 | FIB3-33 |
| 1.102-1.181 | FI4 | FI4-41 | FIS4-41 | FIB4-41 |
| 1.181-1.260 | FI4 | FI4-42 | FIS4-42 | FIB4-42 |
| 1.260-1.339 | FI4 | FI4-43 | FIS4-43 | FIB4-43 |
| 1.339-1.457 | FI5 | FI5-51 | FIS5-51 | FIB5-51 |
| 1.457-1.575 | FI5 | FI5-52 | FIS5-52 | FIB5-52 |
| 1.575-1.693 | FI5 | FI5-53 | FIS5-53 | FIB5-53 |
| 1.693-1.850 | FI6 | FI6-61 | FIS6-61 | FIB6-61 |
| 1.850-2.008 | FI6 | FI6-62 | FIS6-62 | FIB6-62 |
| 2.008-2.165 | FI6 | FI6-63 | FIS6-63 | FIB6-63 |
| 2.165-2.305 | FI7 | FI7-71 | FIS7-71 | FIB7-71 |
| 2.305-2.445 | FI7 | FI7-72 | FIS7-72 | FIB7-72 |
| 2.445-2.585 | FI7 | FI7-73 | FIS7-73 | FIB7-73 |
| 2.585-2.725 | FI8 | FI8-81 | FIS8-81 | FIB8-81 |
| 2.725-2.865 | FI8 | FI8-82 | FIS8-82 | FIB8-82 |
| 2.865-3.005 | FI8 | FI8-83 | FIS8-83 | FIB8-83 |

NOTE: Neoprene seal material is recommended for smooth port applications. 60-90 psi pilot pressure is required for sealing. Urethane seal material will require slightly higher pilot pressure. Neoprene seals are the standard for these seal ranges with urethane seals optional. To order urethane seals please add the "UR" designation to the part numbers at right. Add "-0100" suffix to the part numbers for 1" extended shaft or "-0200" for 2" extended shaft to reach into difficult locations.

-  **Holes**
-  **Smooth Tube**
-  **External Tube**
-  **Expanded Tube**
-  **Flared Tube**
-  **Barbed Tube**
-  **Beaded Tube**
-  **Form end Tube**
-  **Swaged Tube**

Selection Examples

FI2-23 seals a range from .787 to .866 ID with neoprene seals. FI2-23UR seals the same range with urethane seals.

FI1-12. Fastest FI1 internal connector with FIS1-12 seal set included. Sealing range .472-.551 ID

FIS1-13UR. Seal set to convert an FI1 connector to a sealing range of .551-.630 ID Includes urethane seal, back-up washers and retaining ring

FIB1-12. Package of 5 seal changes for the FI1-12 connector. Includes neoprene seals and retaining rings

FIS1-1/4 NPT. Seal set specifically designed for sealing a 1/4" NPT threaded port. Seal set includes elastomer seals and metal parts needed to assemble onto an FI1 connector

FI3-31UR-0100. Fastest internal connector with urethane seals and a one inch extended shaft. Shaft is one piece and factory installed. Sealing range is .866-.945 ID.



Automated sealing for production leak testing.

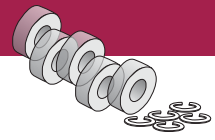
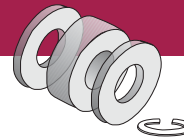
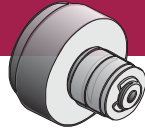
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FI Series

Automated sealing of threaded ports.



Female Pipe Threads



Seals these thread styles:
NPTF per SAE J476a
BSPP per ISO 228
BSPT per ISO 7
JIS B8363 and B2351

Ordering Information

FI Connector

FIS Seal Set

FIB Bulk Seals

| Connector Thread Size | Connector and Main Seal Set | Main Seal Set Includes seal(s) and metal parts for one complete seal change | Bulk Pack Includes 5 seal changes per package |
|-----------------------|-----------------------------|--|--|
| 1/8" | FI01-1/8NPT | FIS01-1/8NPT | FIB01-1/8NPT |
| 1/4" | FI1-1/4NPT | FIS1-1/4NPT | FIB1-1/4NPT |
| 3/8" | FI2-3/8NPT | FIS2-3/8NPT | FIB2-3/8NPT |
| 1/2" | FI2-1/2NPT | FIS2-1/2NPT | FIB2-1/2NPT |
| 3/4" | FI3-3/4NPT | FIS3-3/4NPT | FIB3-3/4NPT |
| 1" | FI4-1NPT | FIS4-1NPT | FIB4-1NPT |
| 1 1/4" | FI5-1 1/4NPT | FIS5-1 1/4NPT | FIB5-1 1/4NPT |
| 1 1/2" | FI6-1 1/2NPT | FIS6-1 1/2NPT | FIB6-1 1/2NPT |
| 2" | FI7-2NPT | FIS7-2NPT | FIB7-2NPT |
| 2 1/2" | FI7-2 1/2NPT | FIS7-2 1/2NPT | FIB7-2 1/2NPT |

SAE O-Ring Port



O-Ring Port per SAE J1926 or ISO 11926

| | | | |
|-----------------|-----------|------------|------------|
| -4 (7/16-20) | FI01-4SAE | FIS01-4SAE | FIB01-4SAE |
| -5 (1/2-20) | FI1-5SAE | FIS1-5SAE | FIB1-5SAE |
| -6 (9/16/18) | FI1-6SAE | FIS1-6SAE | FIB1-6SAE |
| -8 (3/4/16) | FI2-7SAE | FIS2-7SAE | FIB2-7SAE |
| -10 (7/8/14) | FI3-8SAE | FIS3-8SAE | FIB3-8SAE |
| -12 (1 1/16-12) | FI3-9SAE | FIS3-9SAE | FIB3-9SAE |
| -14 (1 3/16-12) | FI4-10SAE | FIS4-10SAE | FIB4-10SAE |
| -16 (1 5/16-12) | FI4-11SAE | FIS4-11SAE | FIB4-11SAE |
| -20 (1 5/8-12) | FI5-12SAE | FIS5-12SAE | FIB5-12SAE |
| -24 (1 7/8-12) | FI6-13SAE | FIS6-13SAE | FIB6-13SAE |
| -32 (2 1/2-12) | FI7-14SAE | FIS7-14SAE | FIB7-14SAE |

ISO O-Ring Port



O-Ring Port per ISO 6149

Metric Flat Face Port per DIN 3852 Part 1 (ISO 9974)

| | | | |
|-----------|----------|-----------|-----------|
| M10 X 1.0 | FI01-M10 | FIS01-M10 | FIB01-M10 |
| M12 X 1.5 | FI1-M12 | FIS1-M12 | FIB1-M12 |
| M14 X 1.5 | FI1-M14 | FIS1-M14 | FIB1-M14 |
| M16 X 1.5 | FI1-M16 | FIS1-M16 | FIB1-M16 |
| M18 X 1.5 | FI2-M18 | FIS2-M18 | FIB2-M18 |
| M20 X 1.5 | FI2-M20 | FIS2-M20 | FIB2-M20 |
| M22 X 1.5 | FI2-M22 | FIS2-M22 | FIB2-M22 |
| M24 X 1.5 | FI3-M24 | FIS3-M24 | FIB3-M24 |
| M26 X 1.5 | FI3-M26 | FIS3-M26 | FIB3-M26 |
| M27 X 2 | FI3-M27 | FIS3-M27 | FIB3-M27 |
| M28 X 1.5 | FI3-M28 | FIS3-M28 | FIB3-M28 |
| M30 X 1.5 | FI4-M30 | FIS4-M30 | FIB4-M30 |
| M33 X 2 | FI4-M33 | FIS4-M33 | FIB4-M33 |
| M36 X 2 | FI4-M36 | FIS4-M36 | FIB4-M36 |
| M42 X 2 | FI5-M42 | FIS5-M42 | FIB5-M42 |
| M48 X 2 | FI6-M48 | FIS6-M48 | FIB6-M48 |
| M60 X 2 | FI7-M60 | FIS7-M60 | FIB7-M60 |

NOTE: Please contact your Sales Representative for pricing, delivery, replacement seals, accessories and your custom requirements.



Sealing of multiple port products.

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