

**FastTest**<sup>®</sup>

*Your Productivity Connection*

# Leak Test Connector Selection Guide



**FastTest**  
*Your Productivity Connection*

## Introduction to FasTest

### Leak Testing Today ...

Since 1985, **FasTest** advanced engineering creates connecting solutions that are easier, safer and more reliable while dramatically lowering your operating costs. With **FasTest**, you can expect increased operational throughput and a fast return on your investment.

Tens of thousands of satisfied customers have made the switch from their inadequate, unproductive leak test connectors to our engineered testing and filling solutions.

**FasTest** products are used by every major automotive manufacturer, top appliance companies, medical device manufacturers, aerospace, power generation, plus hundreds of other industries throughout the world.

Our complete selection of engineers products combined with extensive experience and expertise allows us to help you specify the right connector for your application. Small differences can diminish the suitability of a connector for your application. At **FasTest** we can modify standard products to fit your specific needs or engineer a total custom test system.

### Helpful Hint ...

Cumbersome leak testing methods using jury-rigged adapters, fittings and test jigs is time-consuming, unreliable and may be unsafe to your workers.

**FasTest** connecting tools are available in many configurations - each precision engineered to perform specific pressure and vacuum test and built to fit your testing and process requirements.

**FasTest** offers extensive expertise to help you arrive at the optimum solution for your application and workflow. With over 50 patents and as the acknowledged expert in the field, chances are we've solved an application like yours, no matter how challenging.

Do as thousands of others have done. Make the switch from older inadequate or homemade jury-rigged adapters to **FasTest** engineered testing and filling solutions.

### Seal Materials ...

Selecting the right seal material is critical to the reliability of the connector and the amount of maintenance required. **FasTest** manufactured seals exhibit superior wear resistance and maintain its sealing properties.

**FasTest** offers neoprene, urethane, Viton, EPDM, Buna-N, and FDA white neoprene. Our seals are manufactured via **FasTest** proprietary process which is why our seals are more durable, longer lasting and create a better leak tight connection.



**"FI" & "FE" Series  
Automated Tube / Thread**



Tech Info Page A4

**FasTest Internal "FI"  
Automated Tube / Thread**



Internal "FI" Pages A11 - A15

**FasTest External "FE"  
Automated Tube / Thread**



External "FE" Pages A16 - A22

**"ME" & "ML" Medical Series  
Automated Tube / Luer**



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**Electronic Tool System - ETS  
Automated Tube / Thread**



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**"MIT" & "MET" TwistMate Series  
Twist to Connect - Threads**



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**"FN" FasMate Series  
for Internal Threads**



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**"JNL" & "JXL" Series, Grip and Seal  
Smooth Tube Connectors**



Pages F1 - F6

**"ST" & "XT" Series, Grip and Seal  
Smooth and Formed Tubes**



Pages G1 - G3

**"60" Series & "HPB" Series  
Sleeve Actuated for Threads**



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**Custom Connector Applications  
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"MBE"  
Series

"70"  
Series

"FIG" Series

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**Web Tools Search Tips:**  
Connectors, Replacement  
Seals and Instructions, etc.

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\*See section pages for  
detailed selection guides

FI - FE

ME - ML

ETS

TwistMate

FasMate

JNL - JXL

ST - XT

60 - HPB

Custom

Index

# “FI” and “FE” - Automated Tube and Thread Connectors

## Technology Overview

The **FasTest “FI” Internal** and **“FE” External** connectors provide fast, leak free connections for pressure and vacuum testing, fluid filling and flushing. The connectors are air-actuated and are ideal for automation to accommodate high volume production testing. Capable of sealing conventional and nonstandard surfaces, connects to any tube or pipe, smooth or thread.

Compressed air activates the elastomeric seals. Uniform seal movement makes a virtually leak-proof connection, even over threaded, rough and oily surfaces. Testing, filling or flushing of the test piece is accomplished by introducing media through the **FasTest** connector.

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**“FI” Connectors for Internal Tubes / Female Threads**



**“FE” Connectors for External Tubes / Male Threads**

## “FI” and “FE” - Automated Tube and Thread Connectors

### Sealing Materials

**FasTest** offers many elastomer materials and durometers for the **FE** and **FI** connectors that are readily available to satisfy a wide variety of testing conditions and seal life requirements. 40 durometer Neoprene is the recommended sealing material for general testing applications. Neoprene provides excellent seal life and sealability for low abrasion applications, has good compression set characteristics and a temperature range

of -40° to 250°F. 60 durometer Urethane seals should be used for high abrasion (threads), high test pressure and high cycle duty applications. Urethane also has good resistance to petroleum oils. Additional elastomer formulations available for special temperature and test requirements are: Buna N, Fluorocarbon (Viton), EPDM and FDA White Neoprene.

### Test Piece Surfaces

**FE** and **FI** connectors are designed to seal various types of surface conditions that may exist on the part or component to be tested. Test piece connection surfaces may be smooth, porous, out-of-round or threaded. In addition, the test connection end may be flared, beaded, swaged or have a formed end profile.



### Test Fixture Requirements

**FasTest** strongly recommends the **FE** and **FI Series** pneumatic operated connector and test piece be secured during pressure testing with a mechanical grip or fixture. The **FE** and **FI Series** are sealing only connectors and possess limited gripping capabilities. For vacuum testing, it is not necessary to secure the test piece or connector.

The **FE** or **FI** connector must be secured to the test piece with a mechanical or other device to assure the connector is not uncoupled from the test piece by the uncoupling force of the test itself. 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.

### Custom Test Connectors

Custom **FE** and **FI** connectors designed to a specific customer's requirements are available from **FasTest** to accommodate limited clearance, various profiles, surface conditions and other application requirements.

Please contact **FasTest** for additional assistance.



## “FI” and “FE” - Automated Tube and Thread Connectors

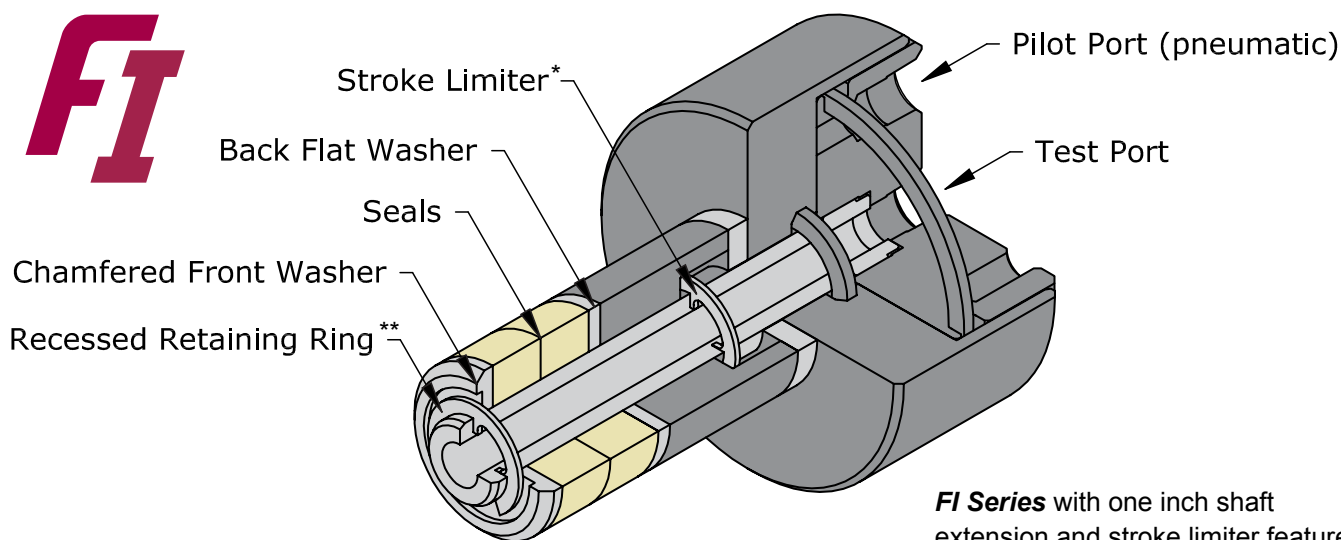
### Features and Benefits - “FI Series”

- Automated sealing inside holes and ports 0.310” to 3.005”. Up to 6.00” on request
- Automated sealing of threaded ports 1/8” to 2-1/2” NPT, including BSPP, BSPT, Metric and UNF straight threaded ports
- Vacuum to 120 psi
- Replaceable seals in a range of sizes and materials
- Neoprene and Urethane as standard seal material. Buna N, Fluorocarbon, EPDM and FDA White Neoprene available
- Adaptable for pick and place and delicate robotic material handling applications
- Delicate touch seals thin wall material and will not scratch or mar test piece
- Expert help can evaluate and adapt to your special requirements
- Extended shaft configurations available

**Note:**

Connectors with extended shafts are designed for sealing remote ports or for applications requiring connectors to be offset rather than side-by-side mounted which may be required when multiple test ports have close center to center distances. The extended shaft increases the distance of the seal from the connector body. 1” and 2” extended shafts are common sizes. The shaft is one piece and must be factory installed. Other size extensions are available per request.

### The Technology - “FI Series”



**How to Operate:**

Step 1 - Insert connector into test piece and secure test piece and connector.

Step 2 - Introduce pilot pressure to active seal.  
 Generally, 60 to 90 psi pneumatic pilot pressure.  
 Use of minimum required pilot pressure will prolong seal life.

Step 3 - Introduce test pressure:  
 Maximum rated test pressure for FI Series models is 120 psi.

\* Stroke limit standard feature with 1” and 2” shaft extension option.  
 \*\* Recessed retaining ring standard feature for FI01 thru FI4’s.



For threaded retaining nut option consult factory

# “FI” and “FE” - Automated Tube and Thread Connectors

## “FI Series” Part Number Key



**Series**

FI = FasTest Internal  
 FIG = FasTest Internal Grip\*  
 FIH = FasTest Internal Hose\*

**Metric Version**

Blank = NPT ports and UNF mounting  
 M = BSPP ports and metric mounting

**Replacement Seals**

Blank = No replacement seals  
 S = Seal set  
 B = Bulk pack

**Body Size**

01 thru 8. See specific part numbers for details

**Body Seal Material**

Blank = Standard Buna-N  
 V = Viton  
 E = EPDM

**Retainer Style**

Blank = Spring retainer  
 TR = Threaded retainer

**Project Number**

Blank = Standard model  
 5 digits # = Made to order

**Extended Shaft**

Blank = Standard model. No shaft extension, no stroke limit.  
 0100 = Standard model with 1" shaft extension and stroke limit  
 0100NPT = Standard model with 1" shaft extension and stroke limit for threaded port sealing  
 0200 = Standard model with 2" shaft extension and stroke limit  
 0200NPT = Standard model with 2" shaft extension and stroke limit for threaded port sealing

**Seal Material**

Blank = Neoprene  
 UR = Urethane  
 BN = Buna-N  
 V = Viton  
 S = Silicon  
 EP = EPDM

**Sealing Range**

Blank = Connector without seal set  
 0.310" to 3.005". See specific part numbers for details

**Notes:**

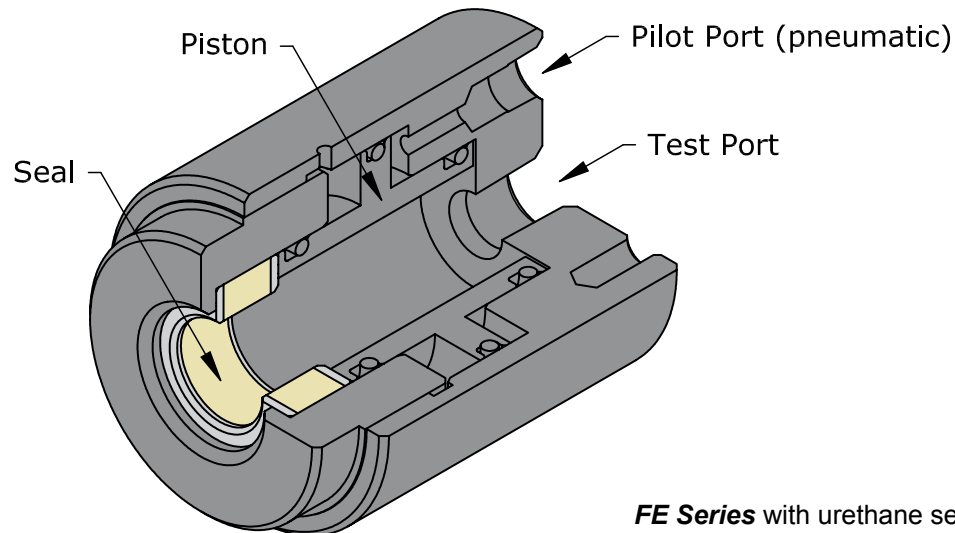
Part Number Keys are to assist in IDENTIFICATION ONLY.  
 Verify new part numbers with factory; some configurations are not possible.  
 \* FIG and FIH - Contact factory for sizing and application assistance.

## “FI” and “FE” - Automated Tube and Thread Connectors

### Features and Benefits - “FE Series”

- Automated sealing over tubes and pipes 0.030” to 5.040”
- Automated sealing over threads 1/8” to 2-1/2” NPT including BSPP, BSPT, Metric and UNF straight threads
- Vacuum to 500 psi
- Replaceable seals in a range of sizes and materials
- Neoprene and Urethane as standard seal material. Buna N, Fluorocarbon, EPDM and FDA White Neoprene available
- Adaptable for pick and place and delicate robotic material handling applications
- Delicate touch seals thin wall material and will not scratch or mar test piece
- Off-the-shelf sealing solutions
- Expert help can evaluate and adapt to your special requirements

### The Technology - “FE Series”

**FE Series** with urethane seal.

#### How to Operate:

**Step 1** - Insert test piece into connector and secure test piece and connector.

**Step 2** - Introduce pilot pressure to active seal. Generally, 60 to 90 psi pneumatic pilot pressure for smooth tube applications. 90 to 120 psi for rough case and out-of-round parts. 300 to 600 psi for threaded applications. Use of minimum required pilot pressure will prolong seal life.

**Step 3** - Introduce test pressure: Maximum rated test pressure for FE Series models is 500 psi.



# “FI” and “FE” - Automated Tube and Thread Connectors

FI - FE

## “FE Series” Part Number Key



**Series**

FE = FasTest Internal  
FEG = FasTest External Grip\*

**Metric Version**

Blank = NPT ports and UNF mounting  
M = BSPP ports and metric mounting

**Replacement Seals**

Blank = No replacement seals  
S = Seal set  
B = Bulk pack

**Body Size**

01 thru 6. See specific part numbers for details

**Project Number**

Blank = Standard model  
5 digits # = Made to order

**Seal Material**

Blank = Neoprene  
UR = Urethane  
BN = Buna-N  
V = Viton  
S = Silicon  
EP = EPDM

**Sealing Range**

Blank = Connector without seal set  
0.015" to 3.005". See specific part numbers for details

**Body Seal Material**

Blank = Standard Buna-N  
V = Viton  
E = EPDM

**Notes:**

Part Number Keys are to assist in IDENTIFICATION ONLY.  
Verify new part numbers with factory; some configurations are not possible.

\* FEG - Contact factory for sizing and application assistance.

# “FI” and “FE” - Automated Tube and Thread Connectors

## Pilot Booster for Multiple FE Series Connector Applications



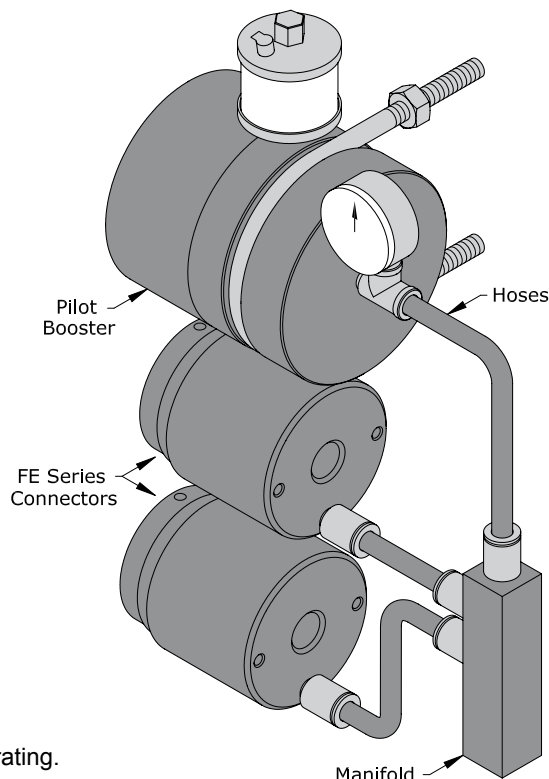
**Pilot Booster with Accessory Kit PBA-02**

- Uses 30 - 65 psi regulated compressed air to produce up to 600 psi hydraulic pressure
- Simple in-line installation with standard FE Series Connectors
- Safe air over oil pressure intensifier with limited displacement
- Multiple FE Series connector capacity
- Compact, lightweight design 4-1/2" x 4-1/4" body size weighs less than 5 pounds

The PB-1015 Pilot Pressure Booster is a pressure intensifier designed to provide the 400 - 600 psi hydraulic pressure for sealing external threads and irregular surfaces with the FE Series Connectors. A sealing system consisting of an FE Connector, urethane main seal and PB-1015 Pressure Booster can produce the seal movement and long life performance needed in production testing applications.

Urethane sealing material is superior to neoprene material in high pressure, high abrasion and high cycle applications. The increased elastomer movement required for sealing irregular shapes or into threads requires urethane seal material. Up to 600 psi pilot pressure is needed to seal deep root external threads. Production testing of threads and hard to seal surfaces can now be automated using the Pilot Pressure Booster and a proper sized urethane seal set in a FE Series Connector.

**DO NOT** use the booster with the FI Series connectors due to lower pressure rating.



### Pilot Booster, Accessories and Technical Data

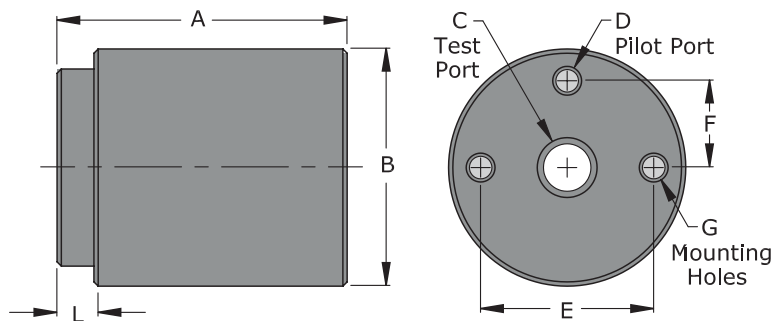
Part Number	Description
<b>PB-1015</b>	Pilot Pressure Booster
<b>PBH32</b>	1 quart hydraulic oil, 60 SSU petroleum based
<b>A02M3</b>	Manifold - 1/8" NPT inlet with three 1/8" NPT outlets
<b>A02M4</b>	Manifold - 1/8" NPT inlet with four 1/8" NPT outlets
<b>A02M5</b>	Manifold - 1/8" NPT inlet with five 1/8" NPT outlets
<b>AT021R</b>	Run Tee - 1/8" NPT
<b>H012X036</b>	Hose - 10-32 male x 1/8" NPT male - 36" length
<b>H012X072</b>	Hose - 10-32 male x 1/8" NPT male - 72" length
<b>H022X018</b>	Hose - 1/8" NPT male x 1/8" NPT male - 18" length
<b>H022X036</b>	Hose - 1/8" NPT male x 1/8" NPT male - 36" length
<b>H022X072</b>	Hose - 1/8" NPT male x 1/8" NPT male - 72" length
<b>PBA-01</b>	Accessory Kit for FE01 Connectors 1 qt. oil, 0-600 psi gauge, run tee, 10-32 male x 1/8" NPT male - 72" hose
<b>PBA-02</b>	Accessory Kit for FE1-FE6 Connectors 1 qt. oil, 0-600 psi gauge, run tee, 1/8" NPT male x 1/8" NPT male - 72" hose

Booster Guidelines
<b>FE01</b> - 8 Connectors
<b>FE1</b> - 4 Connectors
<b>FE2</b> - 2 Connectors
<b>FE3</b> - 1 Connector
<b>FE4</b> - 1 Connector

Booster Technical Data
<b>Seals:</b> Nitrile
<b>Material:</b> Aluminum
<b>Inlet Pressure:</b> 65 psi max.
<b>Outlet Pressure:</b> 600 psi max.
<b>Pressure Ratio:</b> 9.2 to 1
<b>Displacement:</b> 1.5 in. <sup>3</sup>
<b>Inlet Port:</b> 1/4" NPT

# “FI” and “FE” - Automated Tube and Thread Connectors

## FasTest External “FE” - Connectors for External Tubes



### External (FE) Connectors for Smooth Tubes - Neoprene Seals\*\*

Part Number	Sealing Range	Dim A	Dim B	Dim C	Dim D	Dim E	Dim F	Dim G	Dim L	Repair Kit	Main Seal Set*	Main Seals Package (5)
FE001-0050	0.030"-0.050"	1.72"	0.84"	1/8" NPT	10-32" UNF	0.63"	N/A	4-40" UNC	0.16"	FER001	FES001-0050	FEB001-0050
FE001-001	0.050"-0.080"										FES001-001	FEB001-001
FE001-002	0.080"-0.130"										FES001-002	FEB001-002
FE01-01	0.100"-0.180"	2.05"	1.49"	1/8" NPT	10-32" UNF	1.10"	0.55"	10-32" UNC	0.58"	FER01	FES01-01	FEB01-01
FE01-02	0.180"-0.260"										FES01-02	FEB01-02
FE01-03	0.260"-0.340"										FES01-03	FEB01-03
FE01-04	0.340"-0.420"										FES01-04	FEB01-04
FE01-05	0.420"-0.510"										FES01-05	FEB01-05
FE1-15	0.433"-0.512"	2.72"	2.22"	1/4" NPT	1/8" NPT	1.62"	0.81"	1/4-28" UNC	0.61"	FER1	FES1-15	FEB1-15
FE1-16	0.512"-0.591"										FES1-16	FEB1-16
FE1-17	0.591"-0.669"										FES1-17	FEB1-17
FE1-18	0.669"-0.750"										FES1-18	FEB1-18
FE1-19	0.750"-0.827"										FES1-19	FEB1-19
FE2-21	0.787"-0.866"	3.50"	3.11"	1/2" NPT	1/8" NPT	2.50"	1.25"	1/4-28" UNC	1.06"	FER2	FES2-21	FEB2-21
FE2-22	0.866"-0.945"										FES2-22	FEB2-22
FE2-23	0.945"-1.024"										FES2-23	FEB2-23
FE2-24	1.024"-1.102"										FES2-24	FEB2-24
FE2-25	1.102"-1.181"										FES2-25	FEB2-25
FE2-26	1.181"-1.260"										FES2-26	FEB2-26
FE2-27	1.260"-1.339"										FES2-27	FEB2-27
FE2-28	1.339"-1.417"										FES2-28	FEB2-28
FE2-29	1.417"-1.510"										FES2-29	FEB2-29
FE3-31	1.496"-1.614"	4.48"	4.23"	1" NPT	1/8" NPT	3.25"	1.63"	1/4-28" UNC	1.64"	FER3	FES3-31	FEB3-31
FE3-32	1.614"-1.732"										FES3-32	FEB3-32
FE3-33	1.732"-1.850"										FES3-33	FEB3-33
FE3-34	1.850"-1.969"										FES3-34	FEB3-34

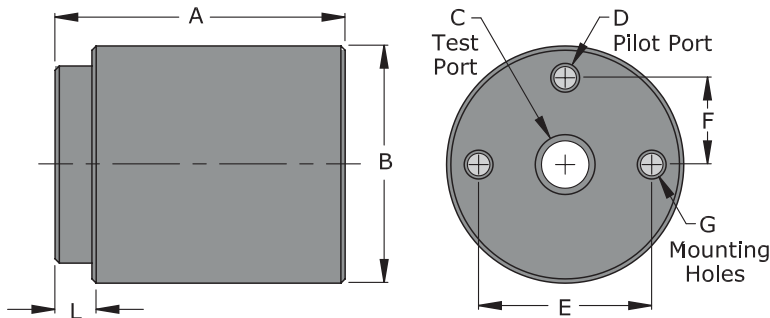
\*Includes seals(s) and metal parts for one complete seal change.

\*\*Optional seal materials are Urethane, FKM (Viton), Buna N and EPDM.

Examples: FE1-15UR = Urethane    FE1-15V = FKM (Viton)    FE1-15BN = Buna N    FE1-15EP = EPDM

# “FI” and “FE” - Automated Tube and Thread Connectors

## FasTest External “FE” - Connectors for External Tubes



FI - FE

### External (FE) Connectors for Smooth Tubes - Neoprene Seals\*\*

Part Number	Sealing Range	Dim A	Dim B	Dim C	Dim D	Dim E	Dim F	Dim G	Dim L	Repair Kit	Main Seal Set*	Main Seals Package (5)
FE4-41	1.969"-2.087"	4.60"	5.48"	1-1/2" NPT	1/8" NPT	4.25"	2.13"	1/4-28" UNC	1.64"	FER4	FES4-41	FEB4-41
FE4-42	2.087"-2.205"										FES4-42	FEB4-42
FE4-43	2.205"-2.323"										FES4-43	FEB4-43
FE4-44	2.323"-2.441"										FES4-44	FEB4-44
FE4-45	2.441"-2.559"										FES4-45	FEB4-45
FE4-46	2.559"-2.677"										FES4-46	FEB4-46
FE4-47	2.677"-2.795"										FES4-47	FEB4-47
FE4-48	2.795"-2.913"										FES4-48	FEB4-48
FE4-49	2.913"-3.032"										FES4-49	FEB4-49
FE5-51	2.970"-3.100"	4.60"	6.98"	2" NPT	1/8" NPT	5.50"	2.25"	3/8-24" UNC	1.64"	FER5	FES5-51	FEB5-51
FE5-52	3.100"-3.230"										FES5-52	FEB5-52
FE5-53	3.230"-3.360"										FES5-53	FEB5-53
FE5-54	3.360"-3.490"										FES5-54	FEB5-54
FE5-55	3.490"-3.620"										FES5-55	FEB5-55
FE5-56	3.620"-3.750"										FES5-56	FEB5-56
FE5-57	3.750"-3.880"										FES5-57	FEB5-57
FE5-58	3.880"-4.010"										FES5-58	FEB5-58
FE5-59	4.010"-4.130"										FES5-59	FEB5-59
FE6-61	4.130"-4.260"	4.97"	7.48"	2-1/2" NPT	1/8" NPT	6.12"	3.06"	3/8-24" UNC	1.64"	FER6	FES6-61	FEB6-61
FE6-62	4.260"-4.390"										FES6-62	FEB6-62
FE6-63	4.390"-4.520"										FES6-63	FEB6-63
FE6-64	4.520"-4.650"										FES6-64	FEB6-64
FE6-65	4.650"-4.780"										FES6-65	FEB6-65
FE6-66	4.780"-4.910"										FES6-66	FEB6-66
FE6-67	4.910"-5.040"										FES6-67	FEB6-67

\*Includes seals(s) and metal parts for one complete seal change.

\*\*Optional seal materials are Urethane, FKM (Viton), Buna N and EPDM.

Examples: FE5-51UR = Urethane

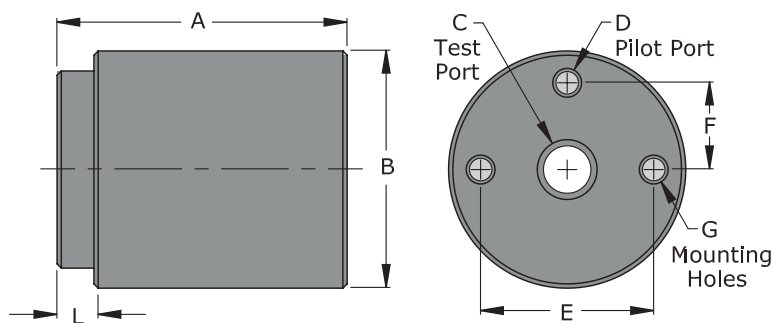
FE5-51V = FKM (Viton)

FE5-51BN = Buna N

FE5-51EP = EPDM

# “FI” and “FE” - Automated Tube and Thread Connectors

## FasTest External “FE” - Connectors for External Tubes



### External (FE) Connectors for Smooth Tubes - Urethane Seals\*\*

Part Number	Sealing Range	Dim A	Dim B	Dim C	Dim D	Dim E	Dim F	Dim G	Dim L	Repair Kit	Main Seal Set*	Main Seals Package (5)
FE001-0050UR	0.030"-0.050"	1.72"	0.84"	1/8" NPT	10-32" UNF	0.63"	N/A	4-40" UNC	0.16"	FER001	FES001-0050UR	FEB001-0050UR
FE001-001UR	FES001-001UR										FEB001-001UR	
FE001-002UR	FES001-002UR										FEB001-002UR	
FE01-01UR	0.100"-0.180"	2.05"	1.49"	1/8" NPT	10-32" UNF	1.10"	0.55"	10-32" UNC	0.58"	FER01	FES01-01UR	FEB01-01UR
FE01-02UR	FES01-02UR										FEB01-02UR	
FE01-03UR	FES01-03UR										FEB01-03UR	
FE01-04UR	FES01-04UR										FEB01-04UR	
FE01-05UR	FES01-05UR										FEB01-05UR	
FE1-15UR	0.433"-0.512"	2.72"	2.22"	1/4" NPT	1/8" NPT	1.62"	0.81"	1/4-28" UNC	0.61"	FER1	FES1-15UR	FEB1-15UR
FE1-16UR	FES1-16UR										FEB1-16UR	
FE1-17UR	FES1-17UR										FEB1-17UR	
FE1-18UR	FES1-18UR										FEB1-18UR	
FE1-19UR	FES1-19UR										FEB1-19UR	
FE2-21UR	0.787"-0.866"	3.50"	3.11"	1/2" NPT	1/8" NPT	2.50"	1.25"	1/4-28" UNC	1.06"	FER2	FES2-21UR	FEB2-21UR
FE2-22UR	FES2-22UR										FEB2-22UR	
FE2-23UR	FES2-23UR										FEB2-23UR	
FE2-24UR	FES2-24UR										FEB2-24UR	
FE2-25UR	FES2-25UR										FEB2-25UR	
FE2-26UR	FES2-26UR										FEB2-26UR	
FE2-27UR	FES2-27UR										FEB2-27UR	
FE2-28UR	FES2-28UR										FEB2-28UR	
FE2-29UR	FES2-29UR										FEB2-29UR	
FE3-31UR	1.496"-1.614"	4.48"	4.23"	1" NPT	1/8" NPT	3.25"	1.63"	1/4-28" UNC	1.64"	FER3	FES3-31UR	FEB3-31UR
FE3-32UR	FES3-32UR										FEB3-32UR	
FE3-33UR	FES3-33UR										FEB3-33UR	
FE3-34UR	FES3-34UR										FEB3-34UR	

\*Includes seals(s) and metal parts for one complete seal change.

\*\*Optional seal materials are Urethane, FKM (Viton), Buna N and EPDM.

Examples: FE1-15 = Neoprene

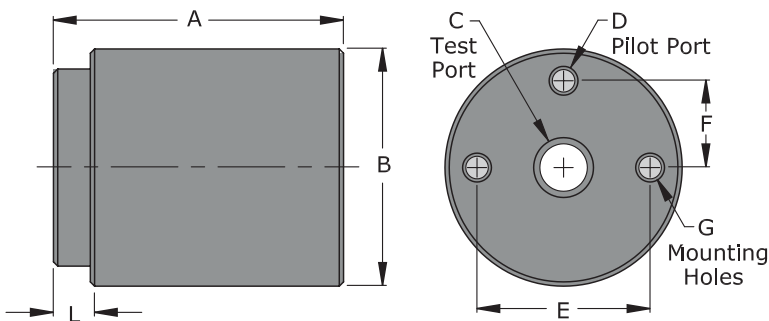
FE1-15V = FKM (Viton)

FE1-15BN = Buna N

FE1-15EP = EPDM

# “FI” and “FE” - Automated Tube and Thread Connectors

## FasTest External “FE” - Connectors for External Tubes



FI - FE

### External (FE) Connectors for Smooth Tubes - Urethane Seals\*\*

Part Number	Sealing Range	Dim A	Dim B	Dim C	Dim D	Dim E	Dim F	Dim G	Dim L	Repair Kit	Main Seal Set*	Main Seals Package (5)
FE4-41UR	1.969"-2.087"	4.60"	5.48"	1-1/2" NPT	1/8" NPT	4.25"	2.13"	1/4-28" UNC	1.64"	FER4	FES4-41UR	FEB4-41UR
FE4-42UR	2.087"-2.205"										FES4-42UR	FEB4-42UR
FE4-43UR	2.205"-2.323"										FES4-43UR	FEB4-43UR
FE4-44UR	2.323"-2.441"										FES4-44UR	FEB4-44UR
FE4-45UR	2.441"-2.559"										FES4-45UR	FEB4-45UR
FE4-46UR	2.559"-2.677"										FES4-46UR	FEB4-46UR
FE4-47UR	2.677"-2.795"										FES4-47UR	FEB4-47UR
FE4-48UR	2.795"-2.913"										FES4-48UR	FEB4-48UR
FE4-49UR	2.913"-3.032"										FES4-49UR	FEB4-49UR
FE5-51UR	2.970"-3.100"	4.60"	6.98"	2" NPT	1/8" NPT	5.50"	2.25"	3/8-24" UNC	1.64"	FER5	FES5-51UR	FEB5-51UR
FE5-52UR	3.100"-3.230"										FES5-52UR	FEB5-52UR
FE5-53UR	3.230"-3.360"										FES5-53UR	FEB5-53UR
FE5-54UR	3.360"-3.490"										FES5-54UR	FEB5-54UR
FE5-55UR	3.490"-3.620"										FES5-55UR	FEB5-55UR
FE5-56UR	3.620"-3.750"										FES5-56UR	FEB5-56UR
FE5-57UR	3.750"-3.880"										FES5-57UR	FEB5-57UR
FE5-58UR	3.880"-4.010"										FES5-58UR	FEB5-58UR
FE5-59UR	4.010"-4.130"										FES5-59UR	FEB5-59UR
FE6-61UR	4.130"-4.260"	4.97"	7.48"	2-1/2" NPT	1/8" NPT	6.12"	3.06"	3/8-24" UNC	1.64"	FER6	FES6-61UR	FEB6-61UR
FE6-62UR	4.260"-4.390"										FES6-62UR	FEB6-62UR
FE6-63UR	4.390"-4.520"										FES6-63UR	FEB6-63UR
FE6-64UR	4.520"-4.650"										FES6-64UR	FEB6-64UR
FE6-65UR	4.650"-4.780"										FES6-65UR	FEB6-65UR
FE6-66UR	4.780"-4.910"										FES6-66UR	FEB6-66UR
FE6-67UR	4.910"-5.040"										FES6-67UR	FEB6-67UR

\*Includes seals(s) and metal parts for one complete seal change.

\*\*Optional seal materials are Urethane, FKM (Viton), Buna N and EPDM.

Examples: FE5-51 = Neoprene

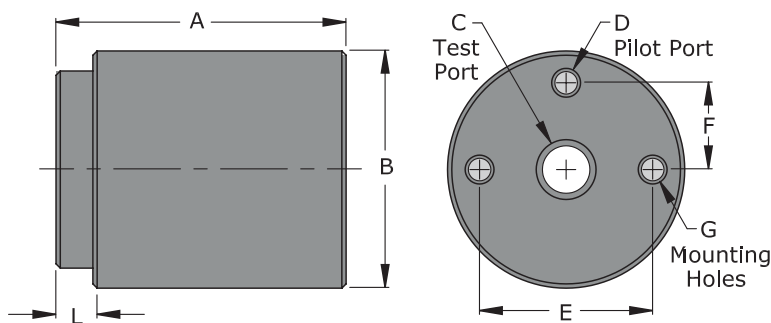
FE5-51V = FKM (Viton)

FE5-51BN = Buna N

FE5-51EP = EPDM

## “FI” and “FE” - Automated Tube and Thread Connectors

### FasTest External “FE” - Connectors for External Threads



### External (FE) Connectors for NPT, BSPP and BSPT Threads - Urethane Seals

Part Number	Sealing Range	Dim A	Dim B	Dim C	Dim D	Dim E	Dim F	Dim G	Dim L	Repair Kit	Main Seal Set*	Main Seals Package (5)
FE01-1/8 NPT	1/8"	2.05"	1.49"	1/8" NPT	10-32" UNF	1.10"	0.55"	10-32" UNC	0.58"	FER01	FES01-1/8 NPT	FEB01-1/8 NPT
FE1-1/4 NPT	1/4"	2.72"	2.22"	1/4" NPT	1/8" NPT	1.62"	0.81"	1/4-28" UNC	0.61"	FER1	FES1-1/4 NPT	FEB1-1/4 NPT
FE1-3/8 NPT	3/8"			FES1-3/8 NPT	FEB1-3/8 NPT							
FE2-1/2 NPT	1/2"	3.50"	3.11"	1/2" NPT	1/8" NPT	2.50"	1.25"	1/4-28" UNC	0.69"	FER2	FES2-1/2 NPT	FEB2-1/2 NPT
FE2-3/4 NPT	3/4"										FES2-3/4 NPT	FEB2-3/4 NPT
FE2-1 NPT	1"										FES2-1 NPT	FEB2-1 NPT
FE3-1 1/4 NPT	1-1/4"	4.48"	4.23"	1" NPT	1/8" NPT	3.25"	1.63"	1/4-28" UNC	0.89"	FER3	FES3-1 1/4 NPT	FEB3-1 1/4 NPT
FE3-1 1/2 NPT	1-1/2"										FES3-1 1/2 NPT	FEB3-1 1/2 NPT
FE4-2 NPT	2"	4.60"	5.48"	1-1/2" NPT	1/8" NPT	4.25"	2.13"	1/4-28" UNC	0.89"	FER4	FES4-2 NPT	FEB4-2 NPT
FE4-2 1/2 NPT	2-1/2"										FES4-2 1/2 NPT	FEB4-2 1/2 NPT

\*Includes seals(s) and metal parts for one complete seal change.

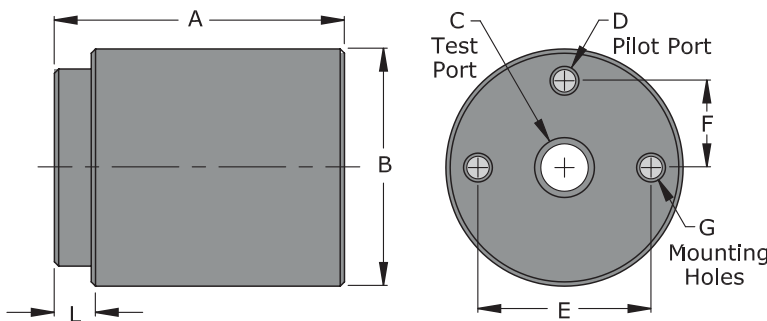
NPT per SAE J476  
 BSPP per ISO 228  
 BSPT per ISO 7

**Note:** For sealing external threads or irregular shapes with the FE connectors, typically 400 to 600 psi pilot pressure is required to seal deep rooted external threads (see page A10).

DO NOT use a pilot booster with FI connectors. Sealing internal threads with FI connectors is accomplished with a specific seal set for threaded ports. See page A13-A15 for more information.

# “FI” and “FE” - Automated Tube and Thread Connectors

## FasTest External “FE” - Connectors for External Threads



### External (FE) Connectors for Male Inch Straight Threads - Urethane Seals

Part Number	Sealing Range	Dim A	Dim B	Dim C	Dim D	Dim E	Dim F	Dim G	Dim L	Repair Kit	Main Seal Set*	Main Seals Package (5)
FE01-0450UR	7/16"	2.05"	1.49"	1/8" NPT	10-32" UNF	1.10"	0.55"	10-32" UNC	0.58"	FER01	FES01-0450UR	FEB01-0450UR
FE1-0510UR	1/2"	2.72"	2.22"	1/4" NPT	1/8" NPT	1.62"	0.81"	1/4-28" UNC	0.61"	FER1	FES1-0510UR	FEB1-0510UR
FE1-0570UR	9/16"										FES1-0570UR	FEB1-0570UR
FE1-0640UR	5/8"										FEB1-0640UR	FEB1-0640UR
FE1-0700UR	11/16"										FEB1-0700UR	FEB1-0700UR
FE2-T0760UR	3/4"	3.50"	3.11"	1/2" NPT	1/8" NPT	2.50"	1.25"	1/4-28" UNC	0.69"	FER2	FES2-T0760UR	FEB2-T0760UR
FE2-T0800UR	13/16"										FES2-T0800UR	FEB2-T0800UR
FE2-T0885UR	7/8"										FES2-T0885UR	FEB2-T0885UR
FE2-T1010UR	1"										FES2-T1010UR	FEB2-T1010UR
FE2-3/4 NPT	1-1/16"										FES2-3/4 NPT	FEB2-3/4 NPT
FE2-T1200UR	1-3/16"										FES2-T1200UR	FEB2-T1200UR
FE2-T1260UR	1-1/4"										FES2-T1260UR	FEB2-T1260UR
FE2-1 NPT	1-5/16"										FES2-1 NPT	FEB2-1 NPT
FE2-T1385UR	1-3/8"	FES2-T1385UR	FEB2-T1385UR									
FE3-T1460UR	1-7/16"	4.48"	4.23"	1" NPT	1/8" NPT	3.25"	1.63"	1/4-28" UNC	0.89"	FER3	FES3-T1460UR	FEB3-T1460UR
FE3-T1640UR	1-5/8"										FES3-T1640UR	FEB3-T1640UR
FE3-T1710UR	1-11/16"										FES3-T1710UR	FEB3-T1710UR
FE3-T1890UR	1-7/8"										FES3-T1890UR	FEB3-T1890UR
FE4-T2020UR	2"	4.60"	5.48"	1-1/2" NPT	1/8" NPT	4.25"	2.13"	1/4-28" UNC	0.89"	FER4	FES4-T2020UR	FEB4-T2020UR
FE4-T2520UR	2-1/2"										FES4-T2520UR	FEB4-T2520UR

\*Includes seals(s) and metal parts for one complete seal change.

- O-Ring Port per SAE J1453
- 37° Flare per SAE J514
- 45° Flare per SAE J512/J513
- 24° Cone per SAE J514

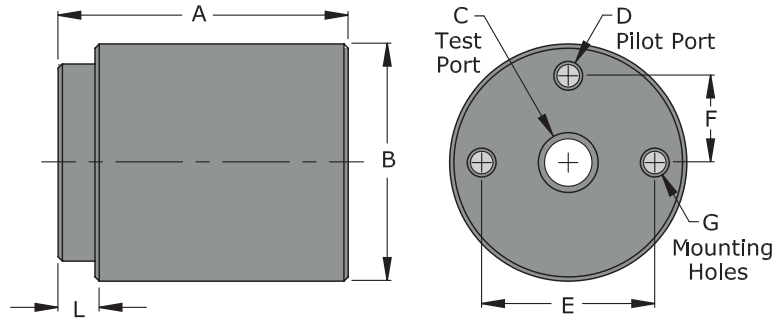
**Note:** For sealing external threads or irregular shapes with the FE connectors, typically 400 to 600 psi pilot pressure is required to seal deep rooted external threads (see page A10).

**DO NOT use a pilot booster with FI connectors.** Sealing internal threads with FI connectors is accomplished with a specific seal set for threaded ports. See page A13-A15 for more information.



# “FI” and “FE” - Automated Tube and Thread Connectors

## FasTest External “FE” - Connectors for External Threads



### External (FE) Connectors for Male Metric Straight Threads - Urethane Seals

Part Number	Sealing Range	Dim A	Dim B	Dim C	Dim D	Dim E	Dim F	Dim G	Dim L	Repair Kit	Main Seal Set*	Main Seals Package (5)
FE01-1/8 NPT	M10	2.05"	1.49"	1/8" NPT	10-32" UNF	1.10"	0.55"	10-32" UNC	0.58"	FER01	FES01-1/8 NPT	FEB01-1/8 NPT
FE1-0480UR	M12	2.72"	2.22"	1/4" NPT	1/8" NPT	1.62"	0.81"	1/4-28" UNC	0.61"	FER1	FES1-0480UR	FEB1-0480UR
FE1-0570UR	M14										FES1-0570UR	FEB1-0570UR
FE1-0640UR	M16										FES1-0640UR	FEB1-0640UR
FE1-0720UR	M18										FES1-0720UR	FEB1-0720UR
FE2-T0800UR	M20	3.50"	3.11"	1/2" NPT	1/8" NPT	2.50"	1.25"	1/4-28" UNC	0.69"	FER2	FES2-T0800UR	FEB2-T0800UR
FE2-T21UR	M22										FES2-T21UR	FEB2-T21UR
FE2-T22UR	M24										FES2-T22UR	FEB2-T22UR
FE2-T23UR	M26										FES2-T23UR	FEB2-T23UR
FE2-T1075UR	M27										FES2-T1075UR	FEB2-T1075UR
FE2-T24UR	M28										FES2-T24UR	FEB2-T24UR
FE2-T25UR	M30										FES2-T25UR	FEB2-T25UR
FE2-T1320UR	M33										FES2-T1320UR	FEB2-T1320UR
FE2-T1400UR	M35	FES2-T1400UR	FEB2-T1400UR									
FE3-T1440UR	M36	4.48"	4.23"	1" NPT	1/8" NPT	3.25"	1.63"	1/4-28" UNC	0.89"	FER3	FES3-T1440UR	FEB3-T1440UR
FE3-T1595UR	M40										FES3-T1595UR	FEB3-T1595UR
FE3-T1675UR	M42										FES3-T1675UR	FEB3-T1675UR
FE3-T1790UR	M45										FES3-T1790UR	FEB3-T1790UR
FE4-T1910UR	M48	4.60"	5.48"	1-1/2" NPT	1/8" NPT	4.25"	2.13"	1/4-28" UNC	0.89"	FER4	FES4-T1910UR	FEB4-T1910UR
FE4-T2070UR	M52										FES4-T2070UR	FEB4-T2070UR
FE4-T2380UR	M60										FES4-T2380UR	FEB4-T2380UR

\*Includes seals(s) and metal parts for one complete seal change.

- 24° Cone Flareless per ISO 8434-1 and -4
- 24° Cone Flareless per JIS B2353
- 24° Cone Flareless per DIN 3902/3853/3861
- 60° Cone per DIN 7831/7647

**Note:** For sealing external threads or irregular shapes with the FE connectors, typically 400 to 600 psi pilot pressure is required to seal deep rooted external threads (see page A10).

DO NOT use a pilot booster with FI connectors. Sealing internal threads with FI connectors is accomplished with a specific seal set for threaded ports. See page A13-A15 for more information.

## Connector Refurbishment Program

### ReConnect



**Extend the service life and warranty of your investment** - Our connector refurbishment and competitor replacement program delivers the latest product improvements and ensures proper connector operation and performance in your application. Connectors routinely maintained can be refurbished or replaced economically relative to the cost of a new connector replacement.

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### Notifications and Copyright

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The **FasCal** complete line of plug and play connectors for lab and field instrument calibration without the use of tapes, sealants and wrenches.



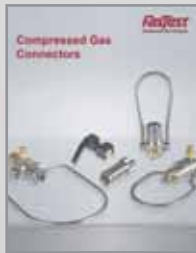
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1646 Terrace Drive • Roseville, MN 55113-1317

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美国FasTest中国区代理商：

深圳市慧烁机电有限公司

深圳市南山大道2019号

福临苑大厦16E (518052)

电话：0755-8621 5125 / 5145

传真：0755-8621 5195

邮箱：[info@wisbay.cn](mailto:info@wisbay.cn)

网站：[www.wisbay.cn](http://www.wisbay.cn)

上海办事处

上海市浦东新区新金桥路1088号

联创国际大厦1514室(201206)

电话：021-6100 5201 / 5202

传真：021-6100 5195

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