

A detailed close-up photograph of industrial machinery, likely a pump or engine component. The image shows various metal parts, including a large black curved pipe with embossed markings such as "274 200 02 56 JP" and "Q104". A black flexible hose is connected to the machinery. On the right side, a silver-colored metal flange or coupling is visible. A red rectangular box is overlaid on the lower portion of the image, containing the text "EXTERNAL CONNECTIONS" in white, bold, sans-serif capital letters.

# **EXTERNAL CONNECTIONS**



# ZF / EXTERNAL SEALING CONNECTION TOOL

Wide tolerance sealing connection tool for formed tubes.

CONNECTS TO:

Beaded    Barbed    Formed



SPECIFICATIONS

Pressure Rating	Operating Temperatures	Materials of Construction
Vacuum to 300 psi (21 bar)	0°F to +200°F (-17°C to +93°C)	Anodized Aluminum
Termination Port		Seal Material*
1/8 NPT to 3/8 NPT		Main seal: Neoprene Internal seal: Buna-N

\* Additional seal material types available, consult factory.

ACTUATION METHOD

**Manual Sleeve:** Easy, ergonomic sleeve action eliminates repetitive twisting and turning - push to connect, pull to release

INTELLIGENT CONNECTION TECHNOLOGY

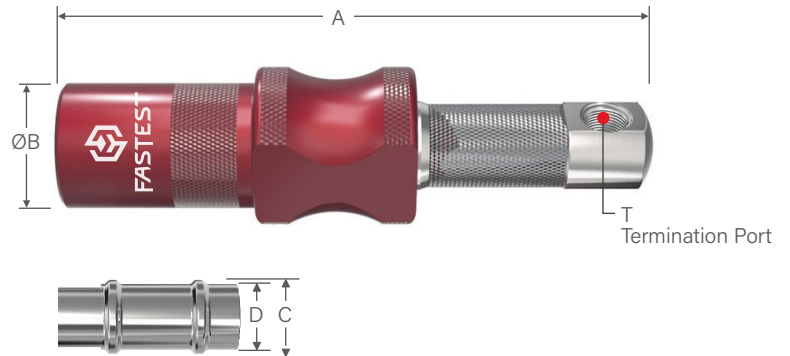
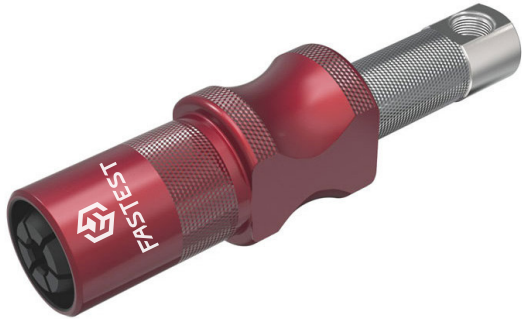
Consult Factory

ACCESSORIES

Visit [fastestinc.com](http://fastestinc.com)

- 1 Wide tolerance seal design provides fit to a range of tube diameters
- 2 Color coded handles to assist operator in proper tool identification
- 3 Self aligning connector requires no operator adjustment
- 4 Quick and easy seal replacement to minimize down time, maintenance, and tool inventory

# ZF / EXTERNAL SEALING CONNECTION TOOL



Ordering Information						Dimensions		
Connects To:		Part Number	Seal Kit	Rebuild Kit	Pressure Rating	A	B	T
Bead Dia. Range (C)	Tube Dia. Range (D)							
0.310 to 0.400 (7.9 to 10.2)	0.25 to 0.34 (6.5 to 8.7)	ZF1	SZF1	RZF1	300 (21)	4.60 (116.8)	0.98 (24.8)	1/8 NPT
0.400 to 0.490 (10.2 to 12.4)	0.34 to 0.44 (8.7 to 11.0)	ZF2	SZF2	RZF2		4.90 (124.5)	1.14 (28.9)	1/8 NPT
0.490 to 0.580 (12.4 to 14.7)	0.44 to 0.52 (11.0 to 13.2)	ZF3	SZF3	RZF3		4.96 (126.0)	1.23 (31.2)	1/4 NPT
0.580 to 0.670 (14.7 to 17.0)	0.52 to 0.61 (13.2 to 15.5)	ZF4	SZF4	RZF4		5.18 (131.6)	1.38 (35.0)	1/4 NPT
0.670 to 0.760 (17.0 to 19.3)	0.61 to 0.70 (15.5 to 17.8)	ZF5	SZF5	RZF5	250 (17)	5.25 (133.0)	1.55 (39.4)	3/8 NPT

Dimensions: inch (mm)  
Pressure Rating: psi (bar)

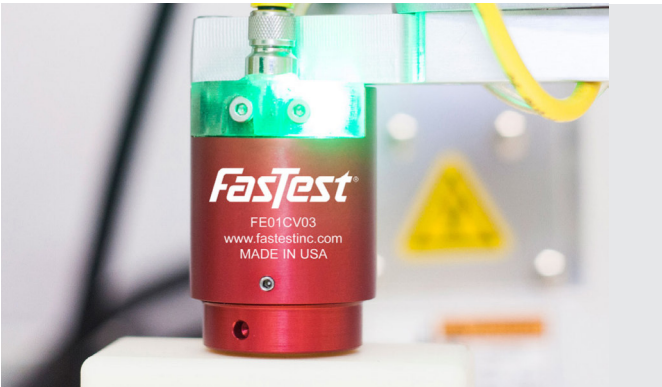


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# FE / EXTERNAL SEALING CONNECTION TOOL

Pneumatic sealing connection tool for external sealing in automated and semi-automated processes.

### CONNECTS TO:



### SPECIFICATIONS

Pressure Rating	Pilot Pressure	Operating Temperatures**
Vacuum to 500 psi (34 bar)	60 psi (4.1 bar)	0°F to +200°F (-17°C to +93°C)
Termination Port	Materials of Construction	Seal Material*
Female 10-32 UNF, M5X8, NPT/BSPP (G): 1/8 to 2 1/2	Anodized Aluminum, Stainless Steel, Potted PCA	Standard: Neoprene, Urethane Optional: FKM, Buna-N, EPDM, FDA White Neoprene

\* Additional seal material types available, consult factory.  
\*\* Operating Temp: 32°F-100°F (0°C-38°C) for ICON™.

**i** Sealing Connection Tool and test part should be rigidly fixtured to prevent separation when under pressure (fixture not required for vacuum applications).

### ACTUATION METHOD

**Pneumatic:** Pilot pressure applied to seals with no metal contact and uniform seal movement seals inside tubes and pipes with no marring.

### ICON™ TECHNOLOGY

- SURE SEAL™
- SEAL LIFE™

ACCESSORIES FOR DETAILS, SEE PG. 64



Pilot Booster

- 1** Automated processes and high volume production testing including pick-and-place and delicate robotic handling applications
- 2** Capable of sealing conventional and unique sealing surfaces including threads with the addition of a pilot booster (see page p. 64)
- 3** Quick change seal sets to accommodate multiple sizes of tubing and easy field maintenance - use neoprene for standard sealing, use urethane for maximum abrasion resistance / high pressure and duty cycle applications



# ICON™

## INTELLIGENT CONNECTION TECHNOLOGY

FasTest's ICON™ adds sensing capabilities to our mechanical Sealing Connection Tools. ICON™ Tools include instant LED visual feedback and data output to improve sealing connection accuracy, maximize production efficiency, and optimize maintenance.



### ICON™ features:



#### SURE SEAL™

Instant LED feedback verifies a good connection prior to starting a test.



#### SEAL LIFE™

Alert when the main seal is at end of life and must be replaced.

### System Overview:

#### CONNECTED

Green indication of a good connection.

#### RECONNECT

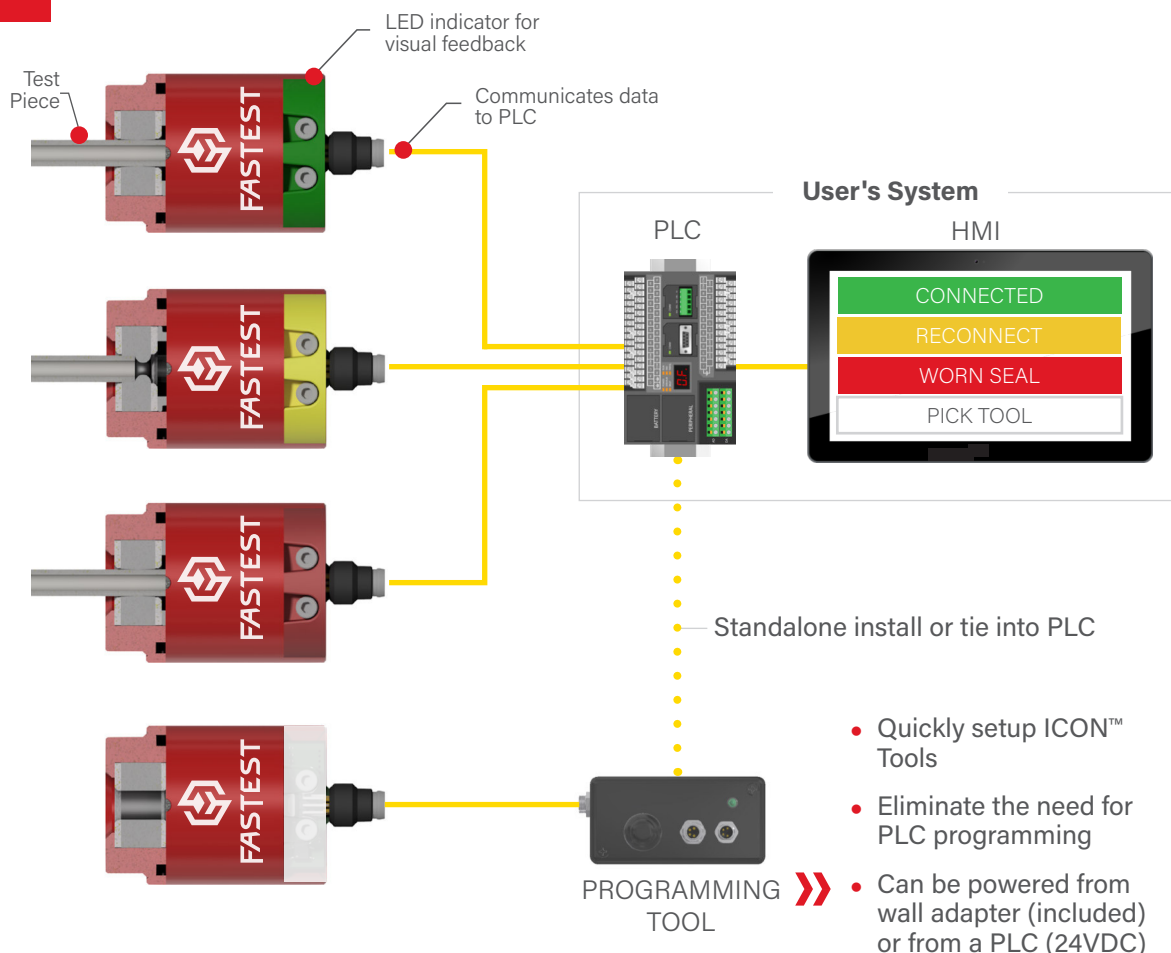
Recognize a connection issue before causing a false failure.

#### WORN SEAL

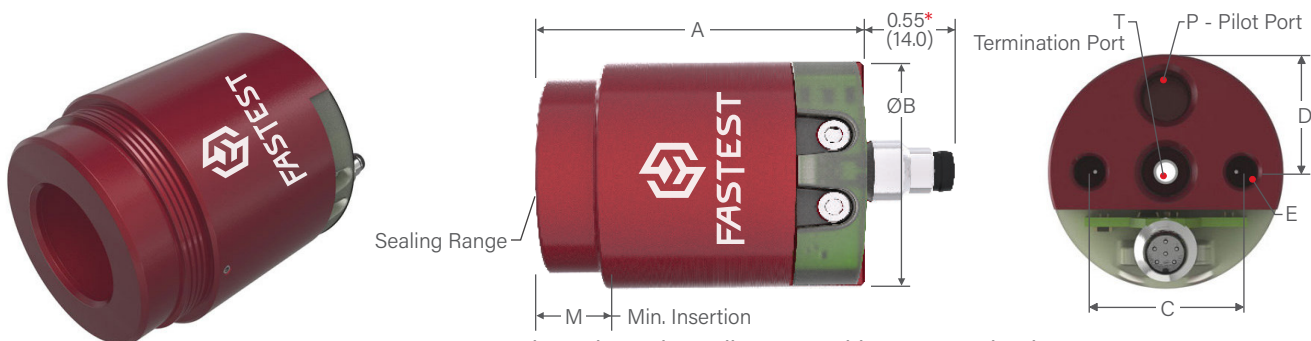
Alert when main seals should be replaced.

#### PICK TOOL

Controllable LED signals operator to use specific tool.



# FE / EXTERNAL SEALING CONNECTION TOOL / STRAIGHT TUBES & BORES



\*Dimension only applies to FE with ICON™ Technology  
(Base Part Numbers that include "CV04ANA" or "CV04SSR").

Ordering Information (Complete Connector = Main Seal Set + Base Part Number)					Dimensions							
Sealing Range	Main Seal Set*	Base Part Number	Replacement Seals Pack (5)	Rebuild Kit	A	B	C	D	E	M	P	T

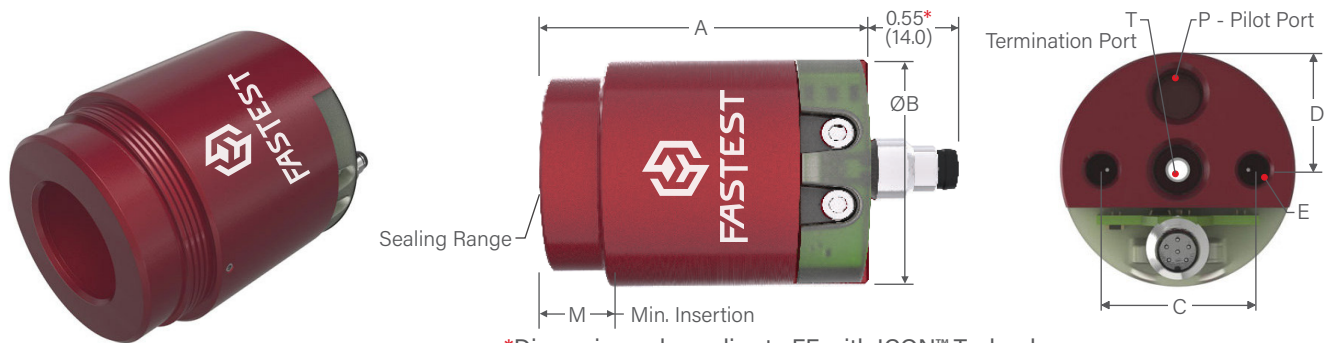
FE | Connectors for Straight Tubes

0.030 to 0.050	FE0010050		FEB0010050	FER001	1.72 (43.7)	0.84 (21.3)	0.63 (16.0)	N/A	4-40 UNC	0.16 (4.1)	10-32 UNF	1/8 NPT
0.050 to 0.080	FE001001		FEB001001									
0.080 to 0.130	FE001002		FEB001002									
0.100 to 0.180	FES0101	FE01 FE01CV04ANA FE01CV04SSR	FEB0101	FER01 FER01CV04ANA FER01CV04SSR	2.05 (52.1)	1.49 (37.8)	1.10 (27.9)	0.55 (14.0)	10-32 UNF	0.58 (14.7)	10-32 UNF	1/8 NPT
0.180 to 0.260	FES0102		FEB0102									
0.260 to 0.340	FES0103		FEB0103									
0.340 to 0.420	FES0104		FEB0104									
0.420 to 0.510	FES0105		FEB0105									
0.433 to 0.512	FES115	FE1 FE1CV04ANA FE1CV04SSR	FEB115	FER1 FER1CV04ANA FER1CV04SSR	2.72 (69.1)	2.22 (56.4)	1.62 (41.1)	0.81 (20.6)	1/4-28 UNF	0.61 (15.5)	1/8 NPT	1/4 NPT
0.512 to 0.591	FES116		FEB116									
0.591 to 0.669	FES117		FEB117									
0.669 to 0.750	FES118		FEB118									
0.750 to 0.827	FES119		FEB119									
0.787 to 0.866	FES221	FE2 FE2CV04ANA FE2CV04SSR	FEB221	FER2 FER2CV04ANA FER2CV04SSR	3.50 (88.9)	3.11 (79.0)	2.50 (63.5)	1.25 (31.8)	1/4-28 UNF	1.06 (26.9)	1/8 NPT	1/2 NPT
0.866 to 0.945	FES222		FEB222									
0.945 to 1.024	FES223		FEB223									
1.024 to 1.102	FES224		FEB224									
1.102 to 1.181	FES225		FEB225									
1.181 to 1.260	FES226		FEB226									
1.260 to 1.339	FES227		FEB227									
1.339 to 1.417	FES228		FEB228									
1.417 to 1.510	FES229		FEB229									
1.496 to 1.614	FES331	FE3 FE3CV04ANA FE3CV04SSR	FEB331	FER3 FER3CV04ANA FER3CV04SSR	4.48 (113.8)	4.23 (107.4)	3.25 (82.6)	1.63 (41.4)	1/4-28 UNF	1.64 (41.7)	1/8 NPT	1 NPT
1.614 to 1.732	FES332		FEB332									
1.732 to 1.850	FES333		FEB333									
1.850 to 1.969	FES334		FEB334									

Dimensions: inch (mm). Sealing Range listed in inches (1 in = 25.4 mm).

\*Includes seals(s) and metal parts for one complete seal set. Neoprene® seals are standard.  
For Urethane seals, add "UR" suffix to Main Seal Set Part Number. Example: FES0101UR

# FE / EXTERNAL SEALING CONNECTION TOOL / STRAIGHT TUBES & BORES



\*Dimension only applies to FE with ICON™ Technology  
(Base Part Numbers that include "CV04ANA" or "CV04SSR").

Ordering Information (Complete Connector = Main Seal Set + Base Part Number)					Dimensions							
Sealing Range	Main Seal Set*	Base Part Number	Replacement Seals Package (5)	Repair Kit	A	B	C	D	E	M	P	T
<b>FE   Connectors for Straight Tubes</b>												
1.969 to 2.087	FES441	FE4 FE4CV04ANA FE4CV04SSR	FEB441	FER4 FER4CV04ANA FER4CV04SSR	4.60 (116.8)	5.48 (139.2)	4.25 (108.0)	2.13 (54.1)	1/4-28 UNF	1.64 (41.7)	1/8 NPT	1 1/2 NPT
2.087 to 2.205	FES442		FEB442									
2.205 to 2.323	FES443		FEB443									
2.323 to 2.441	FES444		FEB444									
2.441 to 2.559	FES445		FEB445									
2.559 to 2.677	FES446		FEB446									
2.677 to 2.795	FES447		FEB447									
2.795 to 2.913	FES448		FEB448									
2.913 to 3.032	FES449	FE5 FE5CV04ANA FE5CV04SSR	FEB449	FER5 FER5CV04ANA FER5CV04SSR	4.60 (116.8)	6.98 (177.3)	5.50 (139.7)	2.25 (57.15)	3/8-24 UNF	1.64 (41.7)	1/8 NPT	2 NPT
2.970 to 3.100	FES551		FEB551									
3.100 to 3.230	FES552		FEB552									
3.230 to 3.360	FES553		FEB553									
3.360 to 3.490	FES554		FEB554									
3.490 to 3.620	FES555		FEB555									
3.620 to 3.750	FES556		FEB556									
3.750 to 3.880	FES557		FEB557									
3.880 to 4.010	FES558	FE6 FE6CV04ANA FE6CV04SSR	FEB558	FER6 FER6CV04ANA FER6CV04SSR	4.97 (126.2)	7.48 (190.0)	6.12 (155.4)	3.06 (77.7)	3/8-24 UNF	1.64 (41.7)	1/8 NPT	2 1/2 NPT
4.010 to 4.130	FES559		FEB559									
4.130 to 4.260	FES661		FEB661									
4.260 to 4.390	FES662		FEB662									
4.390 to 4.520	FES663		FEB663									
4.520 to 4.650	FES664		FEB664									
4.650 to 4.780	FES665		FEB665									
4.780 to 4.910	FES666		FEB666									
4.910 to 5.040	FES667		FEB667									

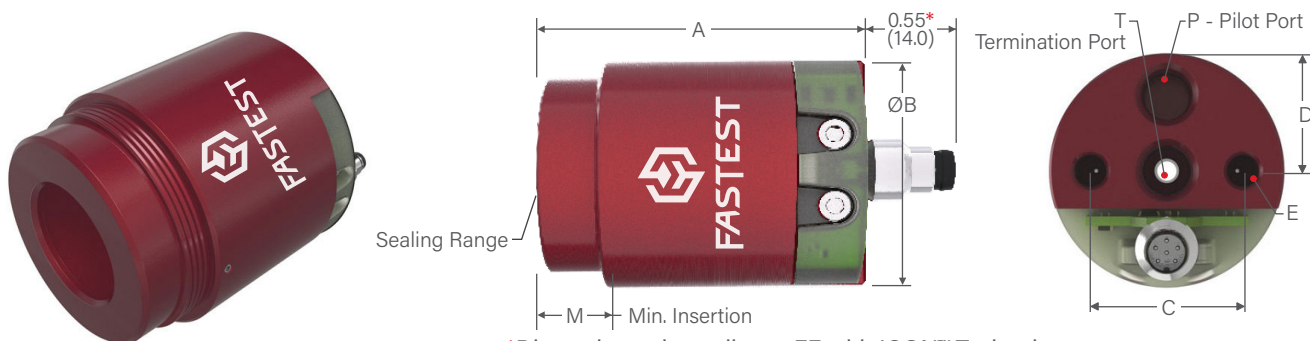
Dimensions: inch (mm). Sealing Range listed in inches (1 in = 25.4 mm).

\*Includes seals(s) and metal parts for one complete seal set. Neoprene seals are standard. For Urethane seals, add "UR" suffix to Main Seal Set Part Number. Example: FES0101UR



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# FE / EXTERNAL SEALING CONNECTION TOOL / NPT, BSPP (G), & BSPT THREADS



\*Dimension only applies to FE with ICON™ Technology (Base Part Numbers that include "CV04ANA" or "CV04SSR").

Ordering Information (Complete Connector = Main Seal Set + Base Part Number)					Dimensions							
Connects To	Main Seal Set*	Base Part Number	Replacement Seals Pack (5)	Rebuild Kit	A	B	C	D	E	M	P	T

**FE** | Connectors for NPT, BSPP (G) and BSPT Threads

1/8	FES011/8NPT	FE01 FE01CV04ANA FE01CV04SSR	FEB011/8 NPT	FER01	1.72 (43.7)	0.84 (21.3)	0.63 (16.0)	N/A	10-32 UNF	0.58 (14.7)	10-32 UNF	1/8 NPT
1/4	FES11/4NPT	FE1 FE1CV04ANA FE1CV04SSR	FEB11/4NPT	FER1	2.72 (69.1)	2.22 (56.4)	1.62 (41.1)	0.81 (20.6)	1/4-28 UNF	0.61 (15.5)	1/8 NPT	1/4 NPT
3/8	FES13/8NPT	FE1 FE1CV04ANA FE1CV04SSR	FEB13/8NPT									
1/2	FES21/2NPT	FE2 FE2CV04ANA FE2CV04SSR	FEB21/2NPT	FER2	3.50 (88.9)	3.11 (79.0)	2.50 (63.5)	1.25 (31.8)	1/4-28 UNF	0.89 (22.6)	1/8 NPT	1/2 NPT
3/4	FES23/4NPT	FE2 FE2CV04ANA FE2CV04SSR	FEB23/4NPT									
1	FES21NPT	FE2 FE2CV04ANA FE2CV04SSR	FEB21NPT									
1-1/4	FES311/4NPT	FE3 FE3CV04ANA FE3CV04SSR	FEB311/4NPT	FER3	4.48 (113.8)	4.23 (107.4)	3.25 (82.6)	1.63 (41.4)	1/4-28 UNF	0.89 (22.6)	1/8 NPT	1 NPT
1-1/2	FES311/2NPT	FE3 FE3CV04ANA FE3CV04SSR	FEB311/2NPT									
2	FES42NPT	FE4 FE4CV04ANA FE4CV04SSR	FEB42NPT	FER4	4.60 (116.8)	5.48 (139.2)	4.25 (108.0)	2.13 (54.1)	1/4-28 UNF	0.89 (22.6)	1/8 NPT	1 1/2 NPT
2-1/2	FES421/2NPT	FE4 FE4CV04ANA FE4CV04SSR	FEB421/2NPT									

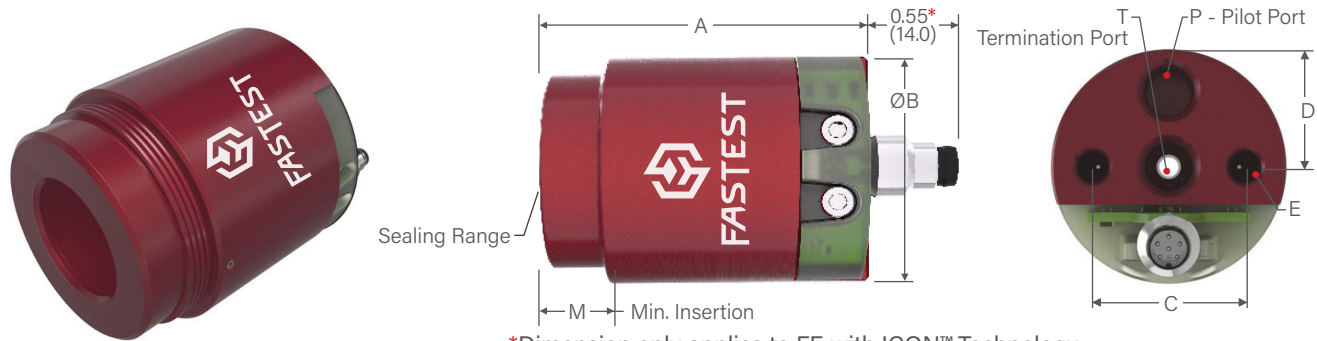
Dimensions: inch (mm)

\*Includes seals(s) and metal parts for one complete seal set. Urethane seals are standard.

**Port Specifications:** NPT per SAE J476; BSPP (G) per ISO 228; BSPT per ISO 7

**NOTE:** For sealing external threads or irregular shapes with the FE connectors, typically 400 to 600 psi (27.6-41.4 bar) pilot pressure is required to seal deep rooted external threads (see pg. 64 Pilot Booster).  
DO NOT use a pilot booster with FI connectors.

# FE / EXTERNAL SEALING CONNECTION TOOL / SAE O-RING BOSS PORT THREADS



\*Dimension only applies to FE with ICON™ Technology  
(Base Part Numbers that include "CV04ANA" or "CV04SSR").

Ordering Information (Complete Connector = Main Seal Set + Base Part Number)					Dimensions							
Connects To	Main Seal Set*	Base Connector Part Number	Replacement Seals Package (5)	Rebuild Kit	A	B	C	D	E	M	P	T

FE | Connectors for Male Inch Straight Threads

7/16	FES010450UR	FE01 FE01CV04ANA FE01CV04SSR	FEB010450UR	FER01 FER01CV04ANA FER01CV04SSR	2.05 (52.1)	1.49 (37.8)	1.10 (27.9)	0.55 (14.0)	10-32 UNF	0.58 (14.7)	10-32 UNF	1/8 NPT
1/2	FES10510UR	FE1 FE1CV04ANA FE1CV04SSR	FEB10510UR	FER1 FER1CV04ANA FER1CV04SSR	2.72 (69.1)	2.22 (56.4)	1.62 (41.1)	0.81 (20.6)	1/4-28 UNF	0.61 (15.5)	1/8 NPT	1/4 NPT
9/16	FES10570UR		FEB10570UR									
5/8	FES10640UR		FEB10640UR									
11/16	FES10700UR		FEB10700UR									
3/4	FES2T0760UR	FE2 FE2CV04ANA FE2CV04SSR	FEB2T0760UR	FER1 FER1CV04ANA FER1CV04SSR	3.50 (88.9)	3.11 (79.0)	2.50 (63.5)	1.25 (31.7)	1/4-28 UNF	0.69 (17.5)	1/8 NPT	1/2 NPT
13/16	FES2T0800UR		FEB2T0800UR									
7/8	FES2T0885UR		FEB2T0885UR									
1	FES2T1010UR		FEB2T1010UR									
1-1/16	FES23/4NPT		FEB23/4NPT									
1-3/16	FES2T1200UR		FEB2T1200UR									
1-1/4	FES2T1260UR		FEB2T1260UR									
1-5/16	FES21NPT		FEB21NPT									
1-3/8	FES2T1385UR		FEB2T1385UR									
1-7/16	FEST1460UR	FE3 FE3CV04ANA FE3CV04SSR	FEBT1460UR	FER3 FER3CV04ANA FER3CV04SSR	4.48 (113.8)	4.23 (107.4)	3.25 (82.6)	1.63 (41.4)	1/4-28 UNF	0.89 (22.6)	1/8 NPT	1 NPT
1-5/8	FEST1640UR		FEBT1640UR									
1-11/16	FEST1710UR		FEBT1710UR									
1-7/8	FEST1890UR		FEBT1890UR									
2	FES4T2020UR	FE4 FE4CV04ANA FE4CV04SSR	FEB4T2020UR	FER3 FER3CV04ANA FER3CV04SSR	4.60 (116.8)	5.48 (139.2)	4.25 (108.0)	2.13 (54.1)	1/4-28 UNF	0.89 (22.6)	1/8 NPT	1 1/2 NPT
2-1/2	FES4T2520UR		FEB4T2520UR									

Dimensions: inch (mm)

\*Includes seals(s) and metal parts for one complete seal set. Urethane seals are standard.

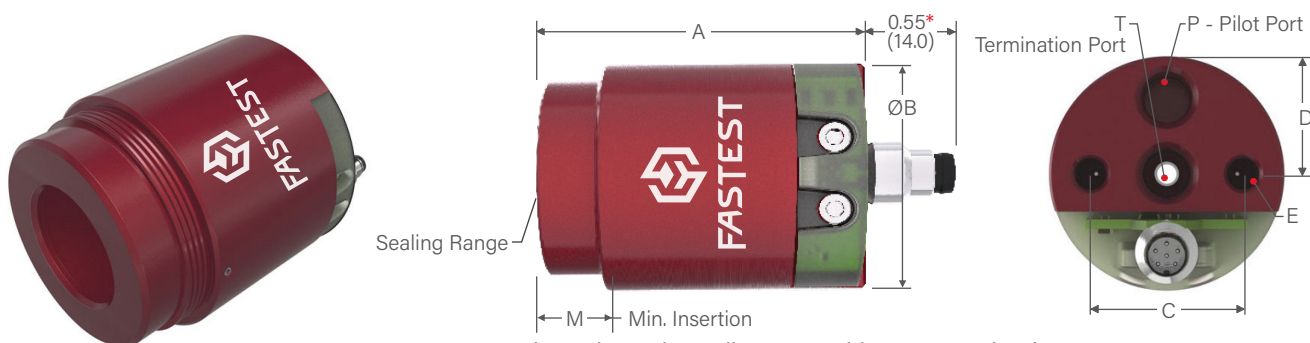
**Port Specifications:** O-Ring Port per SAE J1453; JIC 37° Flare per SAE J514; 45° Flare per SAE J512/513; 24° Cone per SAE J514

**NOTE:** For sealing external threads or irregular shapes with the FE connectors, typically 400 to 600 psi (27.6-41.4 bar) pilot pressure is required to seal deep rooted external threads (see pg. 64 Pilot Booster).  
DO NOT use a pilot booster with FI connectors.



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# FE / EXTERNAL SEALING CONNECTION TOOL / METRIC STRAIGHT THREADS



\*Dimension only applies to FE with ICON™ Technology  
(Base Part Numbers that include "CV04ANA" or "CV04SSR").

Ordering Information (Complete Connector = Main Seal Set + Base Part Number)					Dimensions							
Connects To	Main Seal Set*	Base Connector Part Number	Replacement Seals Package (5)	Rebuild Kit	A	B	C	D	E	M	P	T

FE | Connectors for Metric Straight Threads

M10	FES011/8NPT	FEM01 FEM01CV04ANA FEM01CV04SSR	FEB011/8NPT	FER01 FER01CV04ANA FER01CV04SSR	2.05 (52.1)	1.49 (37.8)	1.10 (27.9)	0.55 (14.0)	M5 x 1.0	0.58 (14.7)	M5 x 1.0	1/8 BSPP (G)
M12	FES10480UR	FEM1 FEM1CV04ANA FEM1CV04SSR	FEB10480UR	FER1 FER1CV04ANA FER1CV04SSR	2.72 (69.1)	2.22 (56.4)	1.62 (41.1)	0.81 (20.6)	M6 x 1.0	0.61 (15.5)	1/8 BSPP (G)	1/4 BSPP (G)
M14	FES10570UR		FEB10570UR									
M16	FES10640UR		FEB10640UR									
M18	FES10720UR	FEM2 FEM2CV04ANA FEM2CV04SSR	FEB10720UR	FER2 FER2CV04ANA FER2CV04SSR	3.50 (88.9)	3.11 (79.0)	2.50 (63.5)	1.25 (31.8)	M6 x 1.0	0.69 (17.5)	1/8 BSPP (G)	1/2 BSPP (G)
M20	FES2T0800UR		FEB2T0800UR									
M22	FES2T21UR		FEB2T21UR									
M24	FES2T22UR		FEB2T22UR									
M26	FES2T23UR		FEB2T23UR									
M27	FES2T1075UR		FEB2T1075UR									
M28	FES2T24UR		FEB2T24UR									
M30	FES2T25UR		FEB2T25UR									
M33	FES2T1320UR		FEB2T1320UR									
M35	FES2T1400UR		FEB2T1400UR									
M36	FEST1440UR	FEM3 FEM3CV04ANA FEM3CV04SSR	FEBT1440UR	FER3 FER3CV04ANA FER3CV04SSR	4.48 (113.8)	4.23 (107.4)	3.25 (82.6)	1.63 (41.4)	M6 x 1.0	0.89 (22.6)	1/8 BSPP (G)	1 BSPP (G)
M40	FEST1595UR		FEBT1595UR									
M42	FEST1675UR		FEBT1675UR									
M45	FEST1790UR		FEBT1790UR									
M48	FES4T1910UR	FEM4 FEM4CV04ANA FEM4CV04SSR	FEB4T1910UR	FER4 FER4CV04ANA FER4CV04SSR	4.60 (116.8)	5.48 (139.2)	4.25 (108.0)	2.13 (54.1)	M6 x 1.0	0.89 (22.6)	1/8 BSPP (G)	1 1/2 BSPP (G)
M52	FES4T2070UR		FEB4T2070UR									
M60	FES4T2380UR		FEB4T2380UR									

Dimensions: inch (mm)

\*Includes seals(s) and metal parts for one complete seal set. Urethane seals are standard.

**Port Specifications:** 24° Cone Flareless per ISO 8434-1 and -4, JIS B2353, DIN3902/3853/3861. 60° Cone per DIN 7831/7647.

**NOTE:** For sealing external threads or irregular shapes with the FE connectors, typically 400 to 600 psi (27.6-41.4 bar) pilot pressure is required to seal deep rooted external threads (see pg. 64 Pilot Booster).  
DO NOT use a pilot booster with FI connectors.

## FE / ACCESSORIES

### Pilot Booster PBA02

The Pilot Pressure Booster is an air over oil pressure intensifier. It uses 30-65psi (2.1-4.5bar) air pressure to generate 400-600psi (27.6-41.4bar) hydraulic pressure for sealing external threads and irregular surfaces with the FE Sealing Connection Tool. A sealing system consisting of an FE with a urethane main seal and the PB1015 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 an FE.

**DO NOT USE WITH FI.**



### SPECIFICATIONS

Ordering Information	
Part Number	Description
PB1015	Pilot Pressure Booster
PBH32	1 quart hydraulic oil, 60 SSU petroleum based
A02M3	Manifold - 1/8" FNPT inlet with three 1/8" FNPT outlets
A02M4	Manifold - 1/8" FNPT inlet with four 1/8" FNPT outlets
A02M5	Manifold - 1/8" FNPT inlet with five 1/8" FNPT outlets
AT021R	Run Tee - 1/8" NPT
H012X036	Hose - 10-32 male x 1/8" NPT male - 36" length
H012X072	Hose - 10-32 male x 1/8" NPT male - 72" length
H022X018	Hose - 1/8" NPT male x 1/8" NPT male - 18" length
H022X036	Hose - 1/8" NPT male x 1/8" NPT male - 36" length
H022X072	Hose - 1/8" NPT male x 1/8" NPT male - 72" length
PBA01	1 quart hydraulic oil, 0-600 psi Gauge, Run Tee, Hose - 10-32 male by 1/8" MNPT - 72" length
PBA02	1 quart hydraulic oil, 0-600 psi Gauge, Run Tee, Hose - 1/8" MNPT by 1/8" MNPT - 72" length

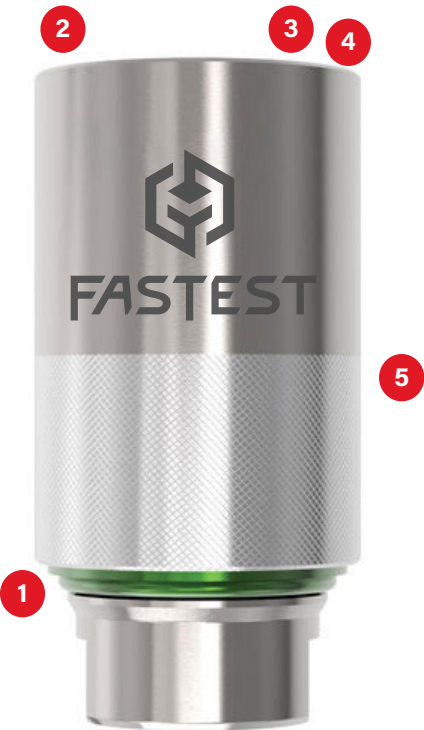
Seals	Material	Inlet Port	
Buna-N	Aluminum	1/4 NPT	
Inlet Pressure	Outlet Pressure	Pressure Ratio	Displacement
65 psi max.	600 psi (41.4 bar)	9.2 to 1	1.5 in. <sup>3</sup>

Booster Guidelines
FE01 - 8 Connectors
FE1 - 4 Connectors
FE2 - 2 Connectors
FE3 - 1 Connector
FE4 - 1 Connector

# 60 / EXTERNAL SEALING CONNECTION TOOL

Sleeve actuated external grip and seal connection tool for threaded applications.

**CONNECTS TO:**



**SPECIFICATIONS**

Pressure Rating	Operating Temperatures	Materials of Construction
Vacuum to 750 psi (51 bar)	-40°F to +250°F (-40°C to +121°C)	Stainless Steel, Anodized Aluminum
Termination Port		Seal Material*
NPT, BSPP (G)		Buna-N

\* Additional seal material types available, consult factory.

**ACTUATION METHOD**

**Manual Sleeve:** Easy, ergonomic sleeve action eliminates repetitive twisting and turning - push to connect, pull to release

**ICON™ TECHNOLOGY**

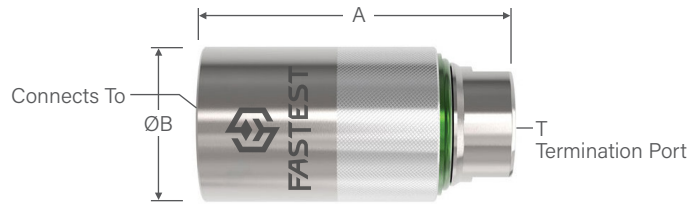
Consult Factory

**ACCESSORIES**

Visit [Fastestinc.com](http://Fastestinc.com)

- 1 SurConnect™ - Green to go visible indicator to ensure complete connection
- 2 Instant external threaded connection with floating piston to ensure proper face / ID sealing position
- 3 Collet design locks securely into external threads or behind the threads
- 4 Connect and seal to compression fittings, NPT, SAE 37° "AN" and 45° flare male threads - custom sizes also available
- 5 Internal shut-off valve option stops flow upon disconnection

# 60 / EXTERNAL SEALING CONNECTION TOOL



Ordering Information				Dimensions		
Connects To	Part Number	Replacement Seals Bulk Pack (5)	Rebuild Kits	A	B	T

## 60 Series | Sleeve Actuated for NPT Threads

1/8 NPT	60G1T02	S1105B70	R60G03	2.95 (74.9)	1.19 (30.2)	1/8 NPT/BSPP (G)
1/4 NPT	60G1T04	S1109B70	R60GBG3			1/4 NPT/BSPP (G)
3/8 NPT	60G1T06	S1110B70	R60GBG4	3.15 (80.0)	1.38 (35.0)	3/8 NPT/BSPP (G)
1/2 NPT	60G1T08	S1112B70	R60GBG5		1.58 (40.1)	1/2 NPT/BSPP (G)
3/4 NPT	60G1T12	S1115B70	R60GBG6	3.54 (89.9)	1.78 (45.2)	3/4 NPT/BSPP (G)
1 NPT	60G1T16	S1212B70	R60GBG7		1.97 (50.0)	

## 60 Series | Sleeve Actuated for AN SAE 37° Flare Threads

-4 [7/16-20]	60G049	S1010B70	R60GBG2	2.95 (74.9)	0.99 (25.2)	1/8 NPT/BSPP (G)
-6 [9/16-18]	60G069	S1012B70	R60GBG3		1.19 (30.2)	1/4 NPT/BSPP (G)
-8 [3/4-16]	60G089	S1014B70	R60GBG4	3.15 (80.0)	1.38 (35.0)	3/8 NPT/BSPP (G)
-10 [7/8-14]	60G109	S1016B70	R60G05		1.58 (40.1)	1/2 NPT/BSPP (G)
-12 [1-1/16-12]	60G129	S1116B70	R60GBG6	3.54 (89.9)	1.78 (45.2)	3/4 NPT/BSPP (G)
-16 [1-5/16-12]	60G169	S1120B70	R60GBG7		1.97 (50.0)	3/4 NPT/BSPP (G)

## 60 Series | Sleeve Actuated for SAE 45° Flare Threads

-4 [7/16-20]	60GA04	S1010B70	R60GBG2	2.95 (74.9)	0.99 (25.2)	1/8 NPT/BSPP (G)
-6 [5/8-18]	60GA06	S1012B70	R60GBG4	3.15 (80.0)	1.38 (35.0)	3/8 NPT/BSPP (G)
-8 [3/4-16]	60GA08	S1014B70	R60GBG4			
-10 [7/8-14]	60GA10	S1016B70	R60GBG5	3.15 (80.0)	1.58 (40.1)	1/2 NPT/BSPP (G)
-12 [1-1/16-14]	60GA12	S1117B70	R60GBG6	3.54 (89.9)	1.78 (45.2)	3/4 NPT/BSPP (G)
-14 [1-1/4-12]	60GA14	Consult Factory				
-16 [1-3/8-12]	60GA16					

Dimensions: inch (mm)

**NOTE:** Table above shows common connections. Additional sizes available for 60 Series connectors. Consult factory for details.

**Port Specifications:** NPT per SAE J476; SAE 37° Flare per SAE J514; SAE 45° Flare per SAE J512/513

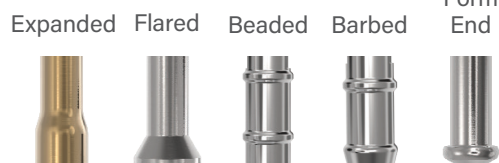


**DON'T SEE A SOLUTION FOR YOUR APPLICATION?** Submit a custom application form and drawing to [fastsales@fastestinc.com](mailto:fastsales@fastestinc.com) or to your local distributor.

# 70 / EXTERNAL SEALING CONNECTION TOOL

Custom sleeve actuated external grip and seal connection tool for formed tube applications.

## CONNECTS TO:



## SPECIFICATIONS

Pressure Rating	Operating Temperatures	Materials of Construction
Vacuum to 750 psi (51 bar)	-40°F to +250°F (-40°C to +121°C)	Stainless Steel, Anodized Aluminum
Termination Port		Seal Material*
NPT, BSPP (G)		Buna-N

\* Additional seal material types available, consult factory.

## ACTUATION METHOD

**Manual Sleeve:** Easy, ergonomic sleeve action eliminates repetitive twisting and turning - push to connect, pull to release

## ICON™ TECHNOLOGY

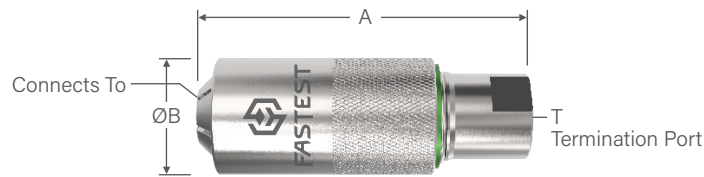
Consult Factory

## ACCESSORIES

Visit website: [fastestinc.com](http://fastestinc.com)

- 1 SurConnect™ - Green to go visible indicator to ensure complete connection
- 2 Instant external threaded connection with floating piston to ensure proper OD / face / ID sealing position
- 3 Collet design locks securely into external threads or behind the threads
- 4 Connect and seal to expanded, flared, beaded, barbed and formed end tubing - custom built per application
- 5 Internal shut-off valve option stops flow upon disconnection

# 70 / EXTERNAL SEALING CONNECTION TOOL



Ordering Information			Dimensions		
Sealing Range	Part Number	Main Seal Package	A	B	T
Up to 0.32 (8.0)	Determined by Application Consult Factory	Determined by Application Consult Factory	2.91 (74.0)	0.87 (22.0)	1/8 NPT/BSPP (G)
0.32 to 0.43 (8.0 to 11.0)				0.99 (25.0)	1/8 NPT/BSPP (G)
0.43 to 0.59 (11.0 to 15.0)				1.19 (30.0)	1/4 NPT/BSPP (G)
0.59 to 0.79 (15.0 to 20.0)			3.15 (80.0)	1.38 (35.0)	3/8 NPT/BSPP (G)
0.79 to 0.98 (20.0 to 25.0)				1.58 (40.0)	1/2 NPT/BSPP (G)
0.98 to 1.18 (25.0 to 30.0)			3.54 (90.0)	1.78 (45.0)	3/4 NPT/BSPP (G)
1.18 to 1.42 (30.0 to 36.0)				1.97 (50.0)	3/4 NPT/BSPP (G)
1.42 to 1.65 (36.0 to 42.0)				2.17 (55.0)	3/4 NPT/BSPP (G)
1.65 to 1.85 (42.0 to 47.0)			4.28 (109.0)	2.36 (60.0)	1 NPT/BSPP (G)
1.85 to 2.04 (47.0 to 52.0)			3.92 (100.0)	2.75 (70.0)	1 1/4 NPT/BSPP (G)

Dimensions: inch (mm)

**NOTE:** Dimensions for reference.

## How to Order

The 70 Series connectors are designed, engineered and manufactured to your specific application requirements.

For part number and a price quotation:

- 1) Identify the gripping and sealing areas of your test piece.
- 2) Contact FasTest with information on test pressure, media and provide detailed drawing, including tolerances of test piece.
- 3) Two sample parts will be required at the time of order for final design and testing purposes.



**DON'T SEE A SOLUTION FOR YOUR APPLICATION?** Submit a custom application form and drawing to [fastsales@fastestinc.com](mailto:fastsales@fastestinc.com) or to your local distributor.

# JXL / EXTERNAL SEALING CONNECTION TOOL

Manual lever actuated external grip and seal connection tool for straight tube.

### CONNECTS TO:

Straight Swaged



### SPECIFICATIONS

Pressure Rating*	Operating Temperatures	Materials of Construction
10 mtorr (micron) to 1,000 psi (69 bar)	0°F to +200°F (-17°C to +93°C)	Anodized Aluminum, Stainless Steel, and Acetal (POM)
Termination Port		Seal Material**
1/8 to 1/4 NPT/BSPP (G)		Neoprene®

**i** \*Pressure rating based on metal test piece not exceeding 30 Rockwell C hardness. As a general guideline, surface must be 5 micro inches or greater. Surfaces less than 5 micro inches not recommended.

\*\*Additional seal material types available, consult factory.

### ACTUATION METHOD

**Lever Actuated:** Simply flip the ergonomic handle in either direction for ease of use

### ICON™ TECHNOLOGY

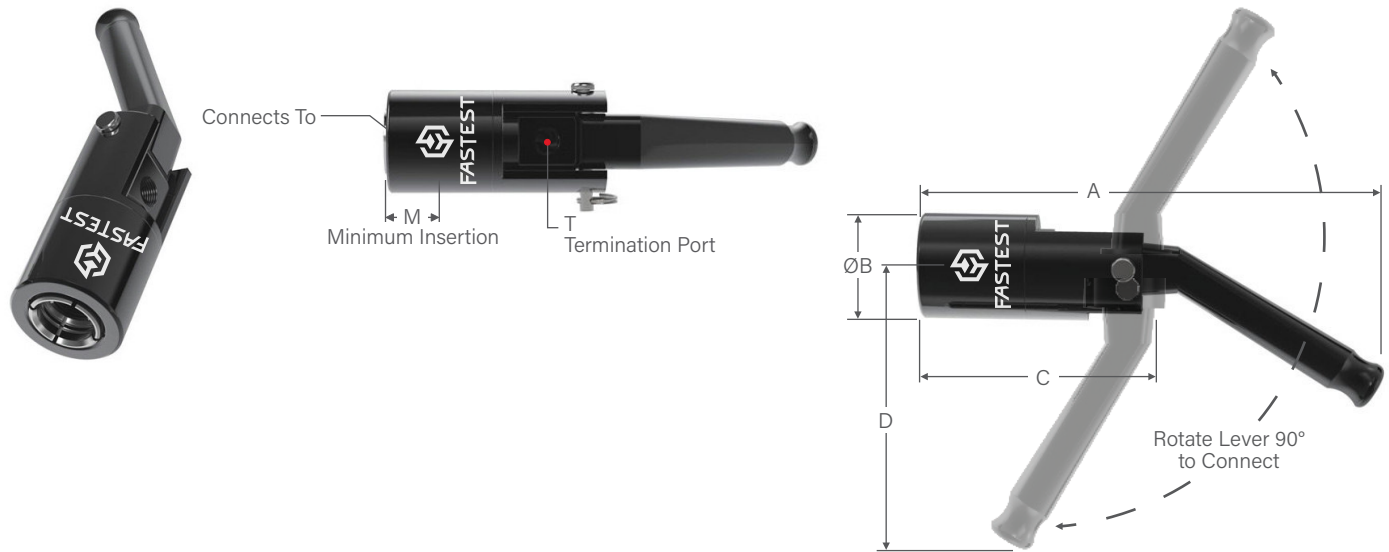
Consult Factory

### ACCESSORIES

Visit [fastestinc.com](http://fastestinc.com)

- 1** Pressure assisted sealing and gripping with internal safety lock feature resists accidental disconnection under high pressure if handle is released
- 2** Instant connection for copper, steel, and aluminum tubes commonly used in refrigeration and other industrial applications
- 3** Stainless steel collets provide maximum grip with minimum distortion of the test piece
- 4** Quick and easy seal replacement to minimize down time, maintenance, and tool inventory
- 5** Self aligning connector requires no operator adjustment

# JXL / EXTERNAL CONNECTION TOOL / IMPERIAL / METRIC EXTERNAL TUBES



Ordering Information			Dimensions						
Sealing Range	Part Number	Main Seal Set	A	B	C	D	M	T	Flow Diameter

## JXL0 and JXL1 | Lever Actuated Connectors for Imperial External Tubes

0.25 ± .010	JXL00250	SXL00250	7.27 (184.7)	1.13 (28.8)	3.65 (92.7)	4.22 (107.2)	0.79 (20.1)	1/8 NPT	0.24 (6.1)
0.312 ± .010	JXL00312	SXL00312							
0.375 ± .010	JXL00375	SXL00375							
0.500 ± .010	JXL00500	SXL00500							
0.625 ± .010	JXL10625	SXL10625							
0.750 ± .010	JXL10750	SXL10750							
0.875 ± .010	JXL10875	SXL10875							
				1.62 (41.2)	3.58 (90.9)		0.85 (21.6)	1/4 NPT	0.27 (6.9)

## JXL0 and JXL1 | Lever Actuated Connectors for Metric External Tubes

6mm ± 0.25mm	JXL0M6	SXL00236	7.27 (184.7)	1.13 (28.8)	3.65 (92.7)	4.22 (107.2)	0.79 (20.1)	1/8 BSPP (G)	0.24 (6.1)
8mm ± 0.25mm	JXL0M8	SXL00312							
10mm ± 0.25mm	JXL0M10	SXL00394							
12mm ± 0.25mm	JXL0M12	SXL00472							
16mm ± 0.25mm	JXL1M16	SXL10630		1.62 (41.2)	3.58 (90.9)		0.85 (21.6)	1/4 BSPP (G)	0.27 (6.9)
18mm ± 0.25mm	JXL1M18	SXL10710							
20mm ± 0.25mm	JXL1M20	SXL10787							
22mm ± 0.25mm	JXL1M22	SXL10865							

Dimensions: inch (mm)

**NOTE:** Table above shows common connections. Additional sizes available for JXL Series connectors. Consult factory or details.



**DON'T SEE A SOLUTION FOR YOUR APPLICATION?** Submit a custom application form and drawing to [fastsales@fastestinc.com](mailto:fastsales@fastestinc.com) or to your local distributor.

# FX / EXTERNAL SEALING CONNECTION TOOL

External grip and seal connection tool that uses collets to grip threads or part feature for high pressures.

**CONNECTS TO:**

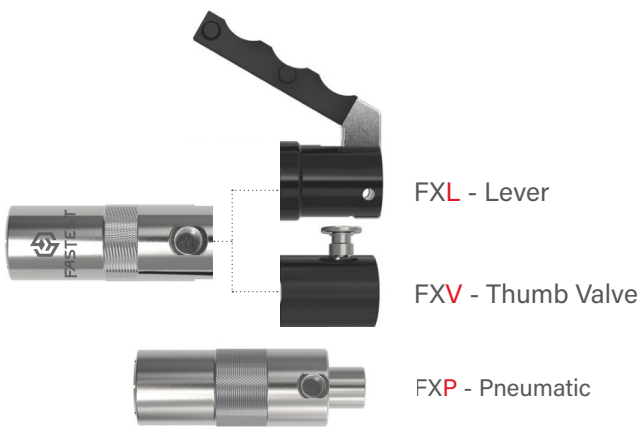


**SPECIFICATIONS**

Pressure Rating	Operating Temperatures	Materials of Construction
Vacuum to 5,000 psi (345 bar)	-40°F to +250°F (-40°C to +121°C)	Anodized Aluminum, Stainless Steel
Termination Port		Seal Material*
BSPP (G) or FNPT		Buna-N

\* Additional seal material types available, consult factory.

**ACTUATION OPTIONS**



- 1 Pressure assisted grip and proprietary design locks the connector securely to the test part under pressure
- 2 Instant threaded sealing connection up to 5000 psig without tape sealant or wrenches - significantly reduces process time
- 3 Stainless steel collets provide maximum grip with minimum distortion of the test piece
- 4 Self aligning connector requires no operator adjustment
- 5 Three ergonomic modular operating methods - lever, thumb valve, and pneumatic (straight through port for remote operation ie. foot valve)

**ICON™ TECHNOLOGY**

Consult Factory

**ACCESSORIES**

Visit [fastestinc.com](http://fastestinc.com)

## FX / MODULAR DESIGN

### FASMATE FX MODULAR DESIGN

The innovative modular design of the connectors allows the technician to change the method of actuation by simply unscrewing the rear portion of the connector and replacing it with the desired form of actuation.

This feature provides flexibility to accommodate changes in the manufacturing processes, production increases and operator use preference. An additional advantage is the ease of field service for these components should they become damaged or require maintenance.



#### LEVER

Simple, straight forward mechanical operation.



#### THUMB VALVE

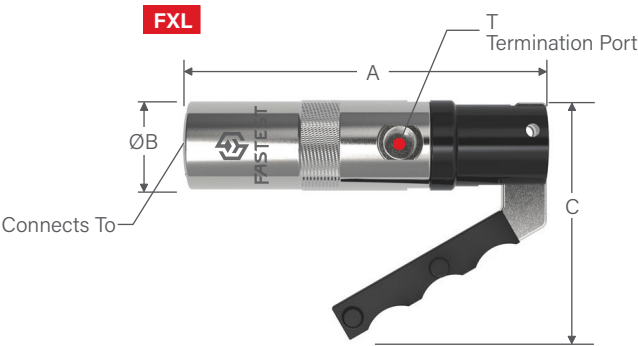
Easy, ergonomic thumb button. When depressed, allows insertion / removal of connector from port.



#### PNEUMATIC

Requires a separate air valve. Desired for applications that require freedom of movement of technician's hands.

# FX / EXTERNAL SEALING CONNECTION TOOL / NPT

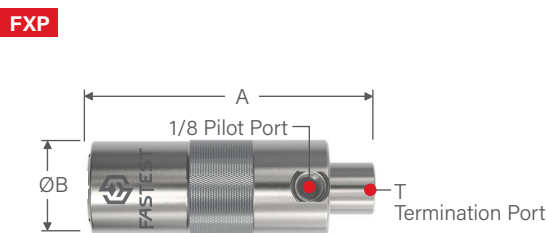
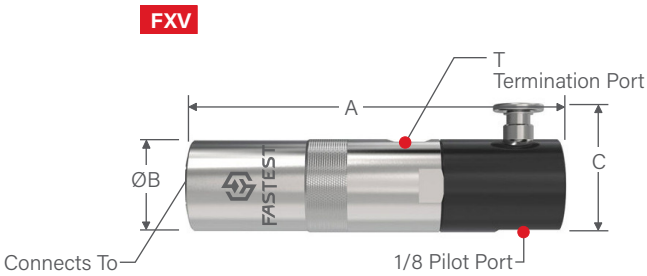


Ordering Information							
Connects To	FXL Part Number (with Lever)	FXV Part Number (with Thumb Valve)	FXP Part Number (with Pneumatic Pilot)	Replacement Seals Bulk Pack (5)	Rebuild Kit (FXL)	Rebuild Kit (FXV and FXP)	Pressure Rating

FasMate® FX   NPT							
1/8 NPT	FXL021041	FXV021041	FXP021041	S1105B70	RFXL021	RFX021	5,000 psi (345 bar)
1/4 NPT	FXL041041	FXV041041	FXP041041	S1108B70	RFXL041	RFX041	
3/8 NPT	FXL061061	FXV061061	FXP061061	S1110B70	RFXL061	RFX061	
1/2 NPT	FXL081061	FXV081061	FXP081061	S1112B70	RFXL081	RFX081	

FasMate® FX   NPT Thin Walled Pipe							
3/8 NPT	FXL061061PT	FXV061061PT	FXP061061PT	METB06PR	RFXL061PT	RFX061PT	750 psi (51 bar)
1/2 NPT	FXL081061PT	FXV081061PT	FXP081061PT	SFX081PT	RFXL081PT	RFX081PT	

Port Specifications: NPT per SAE J476 or ANSI B1.20

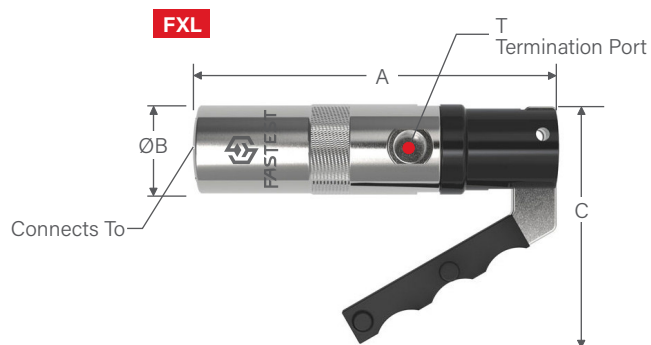


Dimensions						
A (FXL)	A (FXV)	A (FXP)	B	C (FXL)	C (FXV)	T
5.25 (133.4)	5.04 (128.0)	3.78 (96.0)	1.26 (32.0)	3.45 (87.6)	1.77 (45.0)	1/4 NPT
5.27 (133.9)	5.04 (128.0)	3.80 (96.5)	1.26 (32.0)	3.45 (87.6)	1.77 (45.0)	
5.44 (138.2)	5.22 (132.6)	3.87 (98.3)	1.48 (37.6)	3.57 (90.7)	1.87 (47.5)	3/8 NPT
5.45 (138.4)	5.22 (132.6)	3.87 (98.3)	1.48 (37.6)	3.57 (90.7)	1.87 (47.5)	
5.44 (138.2)	5.22 (132.6)	3.87 (98.3)	1.48 (37.6)	3.57 (90.7)	1.87 (47.5)	3/8 NPT
5.45 (138.4)	5.22 (132.6)	3.87 (98.3)	1.48 (37.6)	3.57 (90.7)	1.87 (47.5)	3/8 NPT

Dimensions: inch (mm)  
Pressure Rating: psi (bar)



# FX / EXTERNAL SEALING CONNECTION TOOL / BSPP (G) / BSPT / SAE



## Ordering Information

Connects To	FXL Part Number (with Lever)	FXV Part Number (with Thumb Valve)	FXP Part Number (with Pneumatic Pilot)	Replacement Seals Pack (5)	Rebuild Kit (FXL)	Rebuild Kit (FXV and FXP)	Pressure Rating
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### FasMate® FX | BSPP (G)

1/8 BSPP (G)	FXL025041	FXV025041	FXP025041	S1105B70	RFXL021	RFX021	5,000 psi (345 bar)
1/4 BSPP (G)	FXL045041	FXV045041	FXP045041	S1108B70	RFXL041	RFX041	
3/8 BSPP (G)	FXL065061	FXV065061	FXP065061	S1110B70	RFXL061	RFX061	
1/2 BSPP (G)	FXL085061	FXV085061	FXP085061	S1112B70	RFXL081	RFX081	

### FasMate® FX | BSPT

1/8 BSPT	FXL025T041	FXV025T041	FXP025T041	S1105B70	RFXL021	RFX021	5,000 psi (345 bar)
1/4 BSPT	FXL045T041	FXV045T041	FXP045T041	S1108B70	RFXL041	RFX041	
3/8 BSPT	FXL065T061	FXV065T061	FXP065T061	S1110B70	RFXL061	RFX061	
1/2 BSPT	FXL085T061	FXV085T061	FXP085T061	S1112B70	RFXL081	RFX081	

### FasMate® FX | SAE 37° Flare

-4 [7/16-20]	FXL049041	FXV049041	FXP049041	S20700270B70	RFXL049	RFX049	5,000 psi (345 bar)
-5 [1/2-20]	FXL059041	FXV059041	FXP059041	S20700334B70	RFXL059	RFX059	
-6 [9/16-18]	FXL069041	FXV069041	FXP069041	S1012B70	RFXL069	RFX069	
-8 [3/4-16]	FXL089061	FXV089061	FXP089061	S1015B70	RFXL089	RFX089	

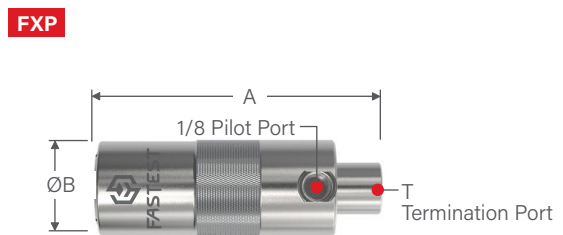
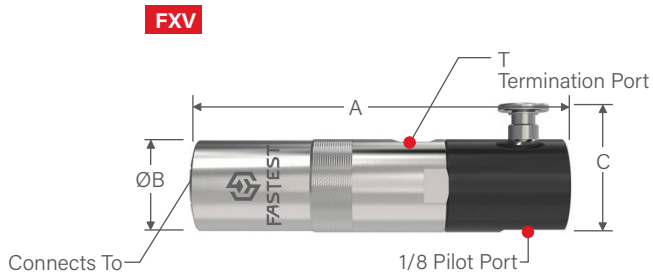
### FasMate® FX | SAE 45° Flare

-4 [7/16-20]	FXL04A041	FXV04A041	FXP04A041	S20600246B70	RFXL04A	RFX04A	5,000 psi (345 bar)
-5 [1/2-20]	FXL05A041	FXV05A041	FXP05A041	S1011B70	RFXL05A	RFX05A	
-6 [5/8-18]	FXL06A061	FXV06A061	FXP06A061	S1012B70	RFXL06A	RFX06A	
-8 [3/4-16]	FXL08A061	FXV08A061	FXP08A061	S1014B70	RFXL08A	RFX08A	

### FasMate® FX | SAE O-Ring Face Seal

-4 [9/16-18]	FXL009041	FXV009041	FXP009041	S1020U70	RFXL009	RFX009	5,000 psi (345 bar)
-6 [11/16-16]	FXL011061	FXV011061	FXP011061	S1023U70	RFXL011	RFX011	
-8 [13/16-16]	FXL013061	FXV013061	FXP013061	S1023U70	RFXL013	RFX013	

**Port Specifications:** BSPP (G) per ISO 228 or BS 2279; BSPT per ISO 7 or BS 21; SAE 37° Flare per SAE J514 or ISO 12151-5; SAE 45° Flare per SAE J512 or J513; SAE O-Ring Face Seal per SAE J1453



Dimensions						
A (FXL)	A (FXV)	A (FXP)	B	C (FXL)	C (FXV)	T
5.25 (133.4)	5.04 (128.0)	3.78 (96.0)	1.26 (32.0)	3.45 (87.6)	1.77 (45.0)	1/4 NPT
5.27 (133.9)	5.04 (128.0)	3.80 (96.5)	1.26 (32.0)	3.45 (87.6)	1.77 (45.0)	
5.44 (138.2)	5.22 (132.6)	3.87 (98.3)	1.26 (32.0)	3.57 (90.7)	1.87 (47.5)	3/8 NPT
5.45 (138.4)	5.22 (132.6)	3.87 (98.3)	1.48 (37.6)	3.57 (90.7)	1.87 (47.5)	
5.25 (133.4)	5.04 (128.0)	3.78 (96.0)	1.26 (32.0)	3.45 (87.6)	1.77 (45.0)	1/4 NPT
5.27 (133.9)	5.04 (128.0)	3.80 (96.5)	1.26 (32.0)	3.45 (87.6)	1.77 (45.0)	
5.44 (138.2)	5.22 (132.6)	3.87 (98.3)	1.26 (32.0)	3.57 (90.7)	1.87 (47.5)	3/8 NPT
5.45 (138.4)	5.22 (132.6)	3.87 (98.3)	1.48 (37.6)	3.57 (90.7)	1.87 (47.5)	
5.25 (133.4)	5.04 (128.0)	3.77 (95.6)	1.26 (32.0)	3.45 (87.6)	1.77 (45.0)	1/4 NPT
5.25 (133.4)	5.04 (128.0)	3.77 (95.6)	1.26 (32.0)	3.45 (87.6)	1.77 (45.0)	
5.25 (133.4)	5.04 (128.0)	3.77 (95.6)	1.26 (32.0)	3.45 (87.6)	1.77 (45.0)	
5.45 (138.4)	5.22 (132.6)	3.87 (98.3)	1.48 (37.6)	3.57 (90.7)	1.87 (47.5)	3/8 NPT
5.25 (133.4)	5.04 (128.0)	3.77 (95.6)	1.26 (32.0)	3.45 (87.6)	1.77 (45.0)	1/4 NPT
5.25 (133.4)	5.04 (128.0)	3.77 (95.6)	1.26 (32.0)	3.45 (87.6)	1.77 (45.0)	
5.36 (136.1)	5.13 (130.3)	3.77 (95.6)	1.48 (37.6)	3.45 (87.6)	1.87 (47.5)	
5.51 (140.0)	5.28 (134.1)	3.92 (99.6)	1.48 (37.6)	3.57 (90.7)	1.87 (47.5)	3/8 NPT
5.25 (133.4)	5.04 (128.0)	3.77 (95.6)	1.26 (32.0)	3.45 (87.6)	1.77 (45.0)	1/4 NPT
5.36 (136.1)	5.13 (130.3)	3.77 (95.6)	1.48 (37.6)	3.57 (90.7)	1.87 (47.5)	3/8 NPT
5.56 (141.2)	5.33 (135.4)	3.97 (100.8)	1.48 (37.6)	3.57 (90.7)	1.87 (47.5)	

Dimensions: inch (mm)  
Pressure Rating: psi (bar)



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# HPB / EXTERNAL SEALING CONNECTION TOOL

Sleeve actuated tool that uses collets to grip threads or part feature for high pressures.

**CONNECTS TO:**  
NPT    SAE 37°    Compression Fitting    JIC or ORFS Swivel Nut



- 1 Internal ball latch locking mechanism prevents accidental disconnection under pressure
- 2 Instant threaded sealing connection up to 6000 psi without tape sealant or wrenches - significantly reduces process time
- 3 Collet design locks securely into external threads or behind tube features
- 4 Customizable to external threaded ports or any tube feature
- 5 Self aligning connector requires no operator adjustment



## SPECIFICATIONS

Pressure Rating	Operating Temperatures	Materials of Construction
Vacuum to 6,000 psi (414 bar)	-40°F to +250°F (-40°C to +121°C)	Stainless Steel
Termination Port		Seal Material*
1/8 Female NPT		Standard: Buna-N Optional: FKM, EPDM, Neoprene®

\* Additional seal material types available, consult factory.

## ACTUATION METHOD

**Manual Sleeve:** Easy, ergonomic sleeve action eliminates repetitive twisting and turning - push to connect, pull to release

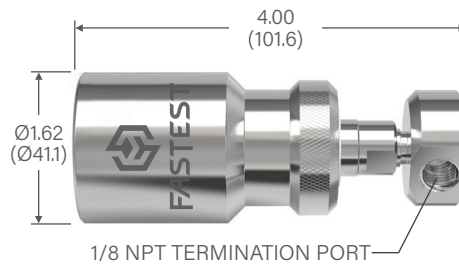
## ICON™ TECHNOLOGY

Consult Factory

## ACCESSORIES

Visit [fastestinc.com](http://fastestinc.com)

# HPB / EXTERNAL SEALING CONNECTION TOOL



## Ordering Information

Connects To	Part Number*	Replacement Seals Bulk Pack (5)	Rebuild Kits
HPB   NPT Thread			
1/4 NPT	HPB041021	S1108B70	HPB0406R
3/8 NPT	HPB061021	S1110B70	HPB0406R
1/2 NPT	HPB081021	S1112B70	HPB08R
HPB   BSPP (G) Thread			
1/4 BSPP (G)	HPB045021	S1108B70	HPB0406R
3/8 BSPP (G)	HPB065021	S1110B70	HPB0406R
1/2 BSPP (G)	HPB085021	S1112B70	HPB08R
HPB   JIC/SAE 37° Flare/AN Male Fitting			
-4 [7/16-20]	HPB049021	S20700270B70	HPB04HR
-6 [9/16-18]	HPB069021	S1012B70	
-8 [3/4-16]	HPB089021	S1015B70	
HPB   JIC/SAE 37° Flare/AN Swivel Nut Fitting			
-4 [7/16-20]	HPB049H021	S20560176B70	HPB04R
-6 [9/16-18]	HPB069H021	S20760266B70	
-8 [3/4-16]	HPB089H021	S20800406B70	
HPB   SAE ORFS Swivel Nut Fitting			
-4 [7/16-20]	HPB009H021	S1107B70	HPB04R
-6 [9/16-18]	HPB011H021	S1109B70	
-8 [3/4-16]	HPB013H021	S1110B70	
HPB   Compression Fitting (Swagelok® or Equivalent)			
1/4 [7/16-20]	HPBCF04021	S1008B70	HPB04HR
3/8 [9/16-20]	HPBCF06021	S1011B70	
1/2 [3/4-20]	HPBCF08021	S1013B70	

\*Buna-N seals are standard. Optional seal materials include V = FKM, E = EPDM. Example: HPB041021**V**. For HPB Ferulok Style Compression Fittings, add suffix of "F" to HPB Compression Fitting Part Number. Example: HPBCF04021**F**

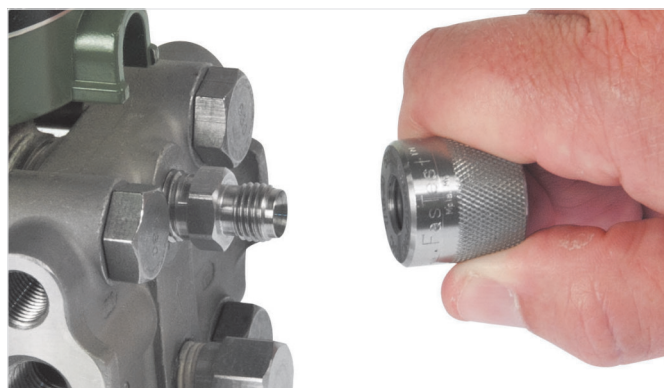
**Port Specifications:** NPT per SAE J476; BSPP (G) per ISO 228; SAE 37° Flare per SAE J514; SAE ORFS per SAE J1453



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- 1 Pressure assisted sealing eliminates leaks and resists movement under pressure
- 2 Leak-tight seal prevents contamination of media and reduces scrap and test damage
- 3 Available in flow or cap versions
- 4 Quick and easy seal replacement to minimize down time, maintenance, and tool inventory



Pressure Rating	Operating Temperatures	Materials of Construction
Vacuum to 10,000 psi (689 bar)	-40°F to +200°F (-40°C to +93°C)	Stainless Steel
Termination Port		Seal Material*
NPT, SAE 37° Flare		Urethane

## ACTUATION METHOD

**Manual Twist:** Finger-tight connection eliminates tape and sealants

**ICON™ TECHNOLOGY**

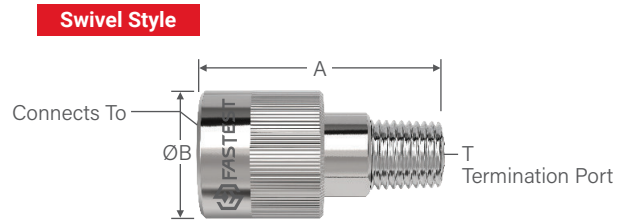
## Consult Factory

## ACCESSORIES

Visit [fastestinc.com](http://fastestinc.com)

# MET / EXTERNAL CONNECTIONS / NPT THREADS

Swivel Style  
Swivel Style for High Pressure



Ordering Information					Dimensions		
Connects To	Part Number*	Main Seal Package (5)	Rebuild Kit	Pressure Rating	A	B	T

## NPT | Swivel Style

1/8 NPT	MET021022	S1105U70	METR02	5000 (345)	1.51 (38.4)	0.80 (20.3)	1/8 MNPT
1/4 NPT	MET041042	S1108U70	METR04		1.74 (44.2)	0.93 (23.6)	1/4 MNPT
3/8 NPT	MET061062	S1110U70	METR06	4000 (276)	1.78 (45.2)	1.20 (30.5)	3/8 MNPT
1/2 NPT	MET081082	S1112U70	METR08		2.05 (52.1)	1.36 (34.5)	1/2 MNPT
3/4 NPT	MET121122	S1115U70	METR12	4000 (276)	2.34 (59.4)	1.68 (42.7)	3/4 MNPT
1 NPT	MET161162	S1212U70	METR16		2.74 (69.6)	1.99 (50.5)	1 MNPT
1-1/4 NPT	MET201202	S1217U70	METR20	2500 (172)	3.27 (83.1)	2.37 (60.2)	1-1/4 MNPT
1-1/2 NPT	MET241161	METB24	METR24	1000 (67)	3.27 (83.1)	2.50 (63.5)	1 FNPT
2 NPT	MET321161	METB32	METR32	750 (52)	2.53 (64.3)	3.00 (76.2)	
2-1/2 NPT	MET401161	METB40	METR40	500 (34)	2.54 (64.5)	3.40 (86.4)	
3 NPT	MET481161	METB48	METR48		2.61 (66.3)	4.25 (108.0)	

## NPT | Swivel Style for High Pressure

1/8 NPT	METH021022	S1105U70	METR02	10,000 (689)	1.51 (38.4)	0.80 (20.3)	1/8 MNPT
1/4 NPT	METH041042	S1108U70	METR04	8000 (522)	1.74 (44.2)	0.93 (23.6)	1/4 MNPT
3/8 NPT	METH061062	S1110U70	METR06		1.78 (45.2)	1.20 (30.5)	3/8 MNPT
1/2 NPT	METH081082	S1112U70	METR08	6000 (414)	2.05 (52.1)	1.36 (34.5)	1/2 MNPT
3/4 NPT	METH121122	S1115U70	METR12	5500 (379)	2.34 (59.4)	1.68 (42.7)	3/4 MNPT
1 NPT	METH161162	S1212U70	METR16	5000 (345)	2.74 (69.6)	1.99 (50.5)	1 MNPT

Dimensions: inch (mm)

Pressure Rating: psi (bar)

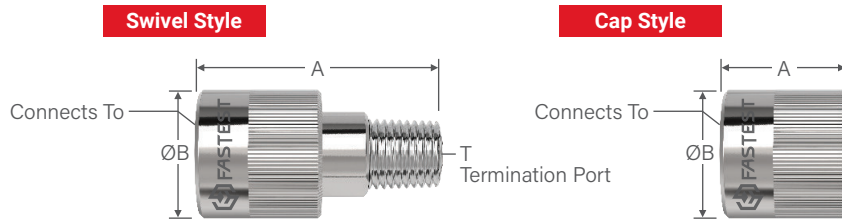
\*Optional seal materials include V = FKM, E = EPDM, and B = Buna-N - Example: MET021022V = FKM

**Port Specifications:** NPT per ISO J476 or ANSI B1.20



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# MET / EXTERNAL CONNECTIONS / NPT THREADS (continued)



Ordering Information					Dimensions		
Connects To	Part Number	Main Seal Package(5)	Rebuild Kit	Pressure Rating	A	B	T

## NPT | Swivel Style for Thin Walled Threaded Pipe

1/4 NPT	MET041042PT	METB04PT	METR04	750 (52)	1.74 (44.2)	0.93 (23.6)	1/4 NPTM
3/8 NPT	MET061062PT	METB06PT	METR06		1.78 (45.2)	1.20 (30.5)	3/8 NPTM
1/2 NPT	MET081082PT	METB08PT	METR08		2.05 (52.1)	1.36 (34.5)	1/2 NPTM
3/4 NPT	MET121122PT	METB12PT	METR12		2.34 (59.4)	1.68 (42.7)	3/4 NPTM
1 NPT	MET161162PT	METB16PT	METR16		2.74 (69.6)	1.99 (50.5)	1 NPTM
1-1/4 NPT	MET201202PT	METB20PT	METR20		3.27 (80.1)	2.37 (60.2)	1 1/4 NPTM
1-1/2 NPT	MET241161*	METB24PT	METR24		3.27 (80.1)	2.50 (63.5)	1 NPTM
2 NPT	MET321161*	METB32PT	METR32	500 (35)	2.53 (64.3)	3.00 (76.2)	
2-1/2 NPT	MET401161*	METB40PT	METR40		2.54 (64.5)	3.40 (86.4)	
3 NPT	MET481161*	METB48PT	METR48		2.61 (66.3)	4.25 (108.0)	

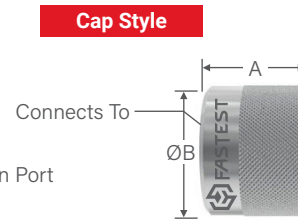
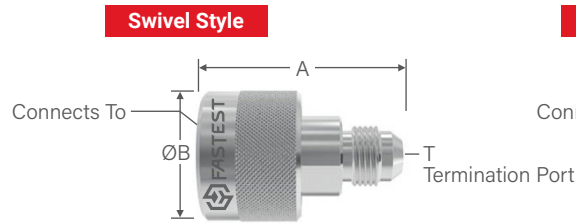
## NPT | Cap Style

1/8 NPT	MET021C	S1105U70	METR02	5000 (345)	0.83 (21.1)	0.80 (20.3)	N/A (Cap Style No Termination Port)
1/4 NPT	MET041C	S1108U70	METR04		0.88 (22.4)	0.93 (23.6)	
3/8 NPT	MET061C	S1110U70	METR06	4000 (276)	0.90 (22.9)	1.20 (30.5)	
1/2 NPT	MET081C	S1112U70	METR08		0.97 (24.6)	1.36 (34.5)	
3/4 NPT	MET121C	S1115U70	METR12		1.08 (27.4)	1.68 (42.7)	
1 NPT	MET161C	S1112U70	METR16		1.26 (32.0)	1.99 (50.5)	

Dimensions: inch (mm)  
Pressure Rating: psi (bar)

\*Optional seal materials include V = FKM, E = EPDM, and B = Buna-N - Example: MET041042PTV = FKM

**Port Specifications:** NPT per ISO J476 or ANSI B1.20

**MET** / EXTERNAL CONNECTIONS / SAE 37° & 45° FLARE THREADS

Ordering Information					Dimensions		
Connects To	Part Number*	Main Seal Package (5)	Rebuild Kit	Pressure Rating	A	B	T

**SAE 37° FLARE** | Swivel Style

-6 [9/16-18]	MET069040	S1012B70	METR06	5000 (345)	1.82 (46.2)	1.20 (30.5)	-4 [7/16-20] (male)
-8 [3/4-16]	MET089060	S1015B70	METR08	4000 (276)	1.90 (48.3)	1.38 (35.1)	-6 [9/16-18] (male)
-10 [7/8-14]	MET109080	S1016B70	METR08		2.25 (57.2)	1.51 (38.4)	-8 [3/4-16] (male)
-12 [1-1/16-12]	MET129100	S1018B70	METR12		2.52 (64.0)	1.70 (43.2)	-10 [7/8-14] (male)
-16 [1-5/16-12]	MET169120	S1020B70	METR16	1000 (69)	2.70 (68.6)	1.99 (50.6)	-12 [1-1/16-12] (male)
-20 [1-5/8-12]	MET209160	S1024U70	METR20		3.21 (81.5)	2.37 (60.2)	-16 [15/16-12] (male)
-24 [1-7/8-12]	MET249200	S1029B70	METR24		3.38 (85.9)	2.50 (63.5)	-20 [1-5/8-12] (male)
-32 [2-1/2-12]	MET329240	S1227B70	METR32AN	750 (52)	3.49 (88.6)	3.25 (82.6)	-24 [1-7/8-12] (male)

**SAE 37° FLARE** | Swivel Style for High Pressure

-4 [7/16-20]	METH049040	S120700270B70	METR049	10,000 (689)	1.76 (44.7)	0.95 (24.1)	-4 [7/16-20] (male)
-6 [9/16-18]	METH069060	S1012B70	METR06		1.82 (46.2)	1.20 (30.5)	-6 [9/16-18] (male)
-8 [3/4-16]	METH089080	S1015B70	METR08		2.00 (50.8)	1.38 (35.1)	-8 [3/4-16] (male)
-10 [7/8-14]	METH109100	S1016B70	METR08		2.35 (59.7)	1.51 (38.4)	-10 [7/8-14] (male)
-12 [1-1/16-12]	METH129120	S1018B70	METR12		2.52 (64.0)	1.70 (43.2)	-12 [1-1/16-12] (male)
-16 [1-5/16-12]	METH169160	S1120B70	METR16	6500 (433)	2.74 (69.6)	1.99 (50.6)	-16 [15/16-12] (male)

**SAE 37° FLARE** | Cap Style

-4 [7/16-20]	MET049C	S120700270B70	METR049	5000 (345)	0.88 (22.4)	0.95 (24.1)	N/A
-6 [9/16-18]	MET069C	S1012B70	METR06	4000 (276)	0.90 (22.9)	1.20 (30.5)	(Plug Style No Termination Port)
-8 [3/4-16]	MET089C	S1015B70	METR08		0.97 (24.6)	1.38 (35.1)	

**SAE 45° FLARE** | Swivel Style (per SAE J512 or J513)

-4 [7/16-20]	MET04A042B	S20600246B70	METR049	5000 (345)	1.76 (44.7)	0.95 (24.1)	1/4 MNPT
-6 [5/8-18]	MET06A062N	S1012N70	METR06A		1.80 (45.7)	1.18 (30.0)	3/8 MNPT
-8 [3/4-16]	MET08A082N	S1014N70	METR08A		2.10 (53.3)	1.31 (33.3)	1/2 MNPT
-10 [7/8-14]	MET10A082N	S1015N70	METR10A	4000 (276)	2.26 (57.4)	1.51 (38.4)	
-12 [1-1/16-14]	MET12A122N	S1018N70	METR12A		2.54 (64.5)	1.70 (43.2)	3/4 MNPT

Dimensions: inch (mm)  
Pressure Rating: psi (bar)

\*Optional seal materials include V = FKM, E = EPDM, and B = Buna-N - Example: MET069040V = FKM

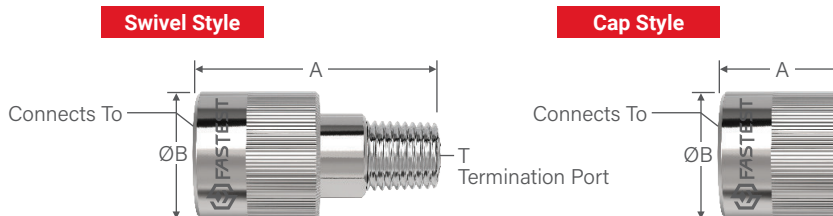
**Port Specifications:** SAE 37° & 45° FLARE THREADS per SAE J514 or ISO 12151-5



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# MET / EXTERNAL CONNECTIONS / BSPP (G) THREADS

Swivel Style (per ISO 228 or BS 2779)  
Cap Style (per ISO 228 or BS 2779)



Ordering Information					Dimensions		
Connects To	Part Number	Main Seal Package (5)	Rebuild Kit	Pressure Rating	A	B	T

## BSPP (G) | Swivel Style

1/8 BSPP (G)	MET025022	S1105U70	METR02	5000 (345)	1.62 (41.1)	0.80 (20.3)	1/8 NPT
1/4 BSPP (G)	MET045042	S1108U70	METR04		1.63 (41.4)	0.93 (23.6)	1/4 NPT
3/8 BSPP (G)	MET065062	S1110U70	METR06	4000 (276)	1.31 (33.3)	1.20 (30.5)	3/8 NPT
1/2 BSPP (G)	MET085082	S1112U70	METR08		1.46 (37.1)	1.36 (34.5)	1/2 NPT
3/4 BSPP (G)	MET125122	S1115U70	METR12		2.35 (59.7)	1.70 (43.2)	3/4 NPT
1 BSPP (G)	MET165162	S1212U70	METR16		2.74 (69.6)	1.99 (50.6)	1 NPT

## BSPP (G) | Cap Style

1/8 BSPP (G)	MET025C	S1105U70	METR02	5000 (345)	0.83 (21.1)	0.80 (20.3)	N/A (Plug Style No Termination Port)
1/4 BSPP (G)	MET045C	S1108U70	METR04		0.88 (22.4)	0.93 (23.6)	
3/8 BSPP (G)	MET065C	S1110U70	METR06	4000 (276)	0.90 (22.9)	1.20 (30.5)	
1/2 BSPP (G)	MET085C	S1112U70	METR08		0.97 (24.6)	1.36 (34.5)	
3/4 BSPP (G)	MET125C	S1116U70	METR12	4000 (276)	1.08 (27.3)	1.68 (42.7)	

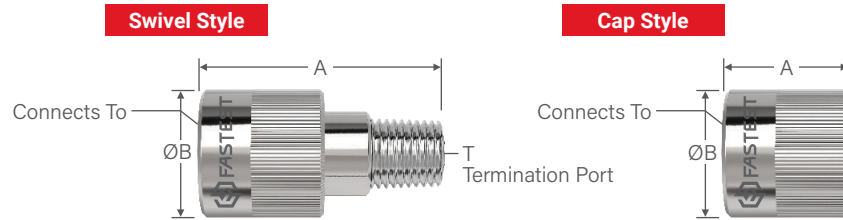
Dimensions: inch (mm)  
Pressure Rating: psi (bar)

\*Optional seal materials include V = FKM, E = EPDM, and B = Buna-N - Example: MET025022V = FKM

**Port Specifications:** BSPP (G) per ISO 228 or BS 2779

# MET / EXTERNAL CONNECTIONS / BSPT THREADS

Swivel Style  
Cap Style



Ordering Information					Dimensions		
Connects To	Part Number	Main Seal Package (5)	Rebuild Kit	Pressure Rating	A	B	T
BSPT   Swivel Style							
1/8 BSPT	MET025T022	S1105U70	METR02	5000 (345)	1.62 (41.1)	0.80 (20.3)	1/8 NPT
1/4 BSPT	MET045T042	S1108U70	METR04		1.63 (41.4)	0.93 (23.6)	1/4 NPT
3/8 BSPT	MET065T062	S1110U70	METR06	4000 (276)	1.31 (33.3)	1.20 (30.5)	3/8 NPT
1/2 BSPT	MET085T082	S1112U70	METR08		1.46 (37.1)	1.36 (34.5)	1/2 NPT
3/4 BSPT	MET125T122	S1115U70	METR12		2.35 (59.7)	1.70 (43.2)	3/4 NPT
1 BSPT	MET165T162	S1212U70	METR16		2.74 (69.6)	1.99 (50.6)	1 NPT
BSPT   Cap Style							
1/8 BSPT	MET025TC	S1105U70	METR02	5000 (345)	0.83 (21.1)	0.80 (20.3)	N/A
1/4 BSPT	MET045TC	S1108U70	METR04		0.88 (22.4)	0.93 (23.6)	
3/8 BSPT	MET065TC	S1110U70	METR06	4000 (276)	0.90 (22.9)	1.20 (30.5)	(Plug Style No Termination Port)
1/2 BSPT	MET085TC	S1112U70	METR08		0.97 (24.6)	1.36 (34.5)	

Dimensions: inch (mm)  
Pressure Rating: psi (bar)

\*Optional seal materials include V = FKM, E = EPDM, and B = Buna-N - Example: MET025T022V = FKM

**Port Specifications:** BSPT per ISO 228 or BS 2779; per ISO 7 or BS 21



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## Product Accessories

### Charge Valve PN: ADM06102



- Use with Charge Coupler to pressure up and hold pilot charge when an affixed airline is not useable
- Manually actuate pneumatic sealing connection tools

### Charge Coupler PN: ADF05102



- Used with Charge Valve to introduce pressure without latching
- Internally valved

### Slide Valve PN: AV1021022



- Used to pressurize and exhaust pilot pressure for manual operation

ICON™  
Accessories

Programming Tool

- Quickly program / calibrate ICON™ Sealing Connection Tools
- Eliminate the need for PLC programming
- LED connection status visual feedback
- Powered from wall adapter (included) or from a PLC (24VDC)

Part Number	Input Signal	Output Signal	Current Limit
SPCT0204	SSR	SSR	max 100 mA load
SPCT0204A	SSR	N/A	N/A



M8 Cable PN: SPCAFS0602AMS06

- Straight Female M8 threaded Connector to straight Male M8 connector (6-wire 2m cable)

M8 Cable PN: SPCAFS0602C

- Straight Female M8 to Flying Leads (6-wire 2m cable)