



TOOLS & SYSTEMS

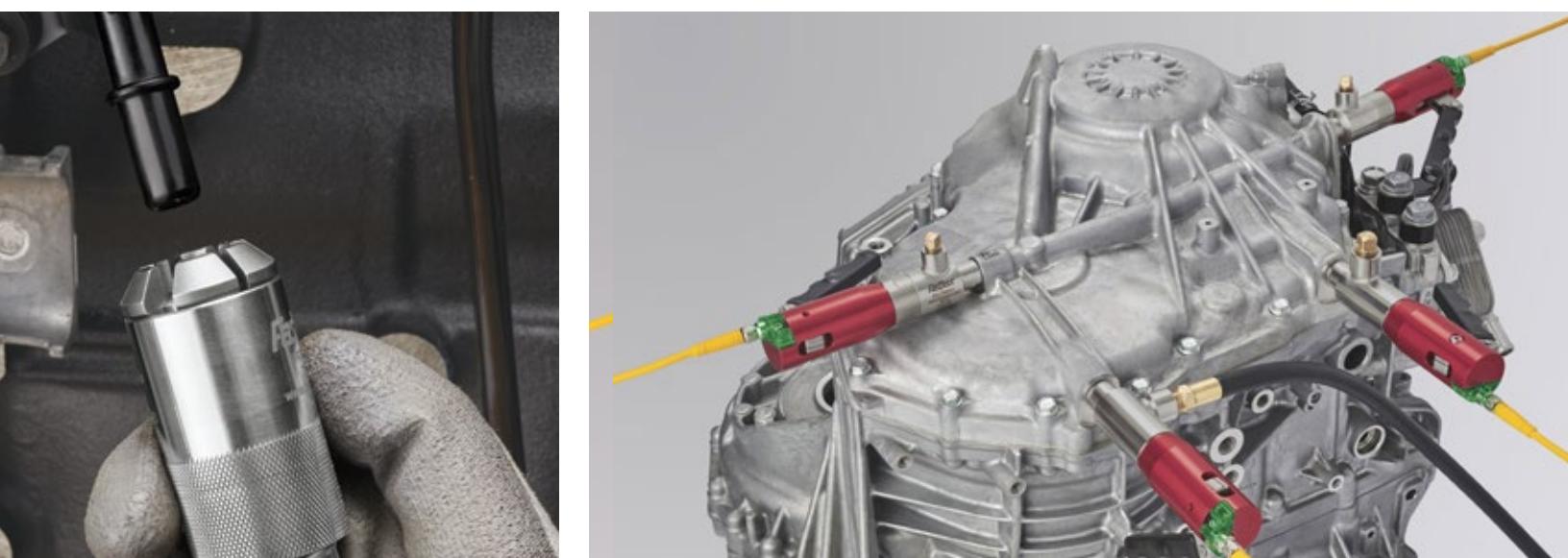
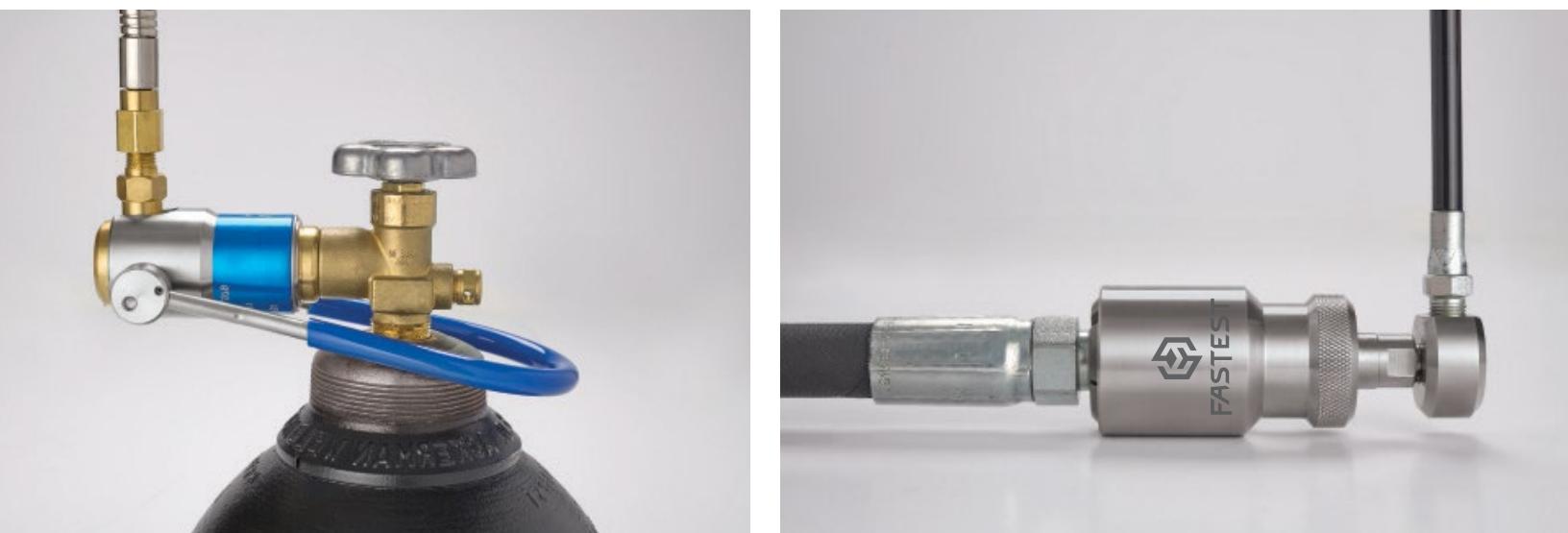
**FASTEST®**

**SAFE.  
RELIABLE.  
FAST.**

SEALING CONNECTION TOOLS



**FASTEST**



# SAFE, RELIABLE, FAST SEALING CONNECTIONS

Enhance Test Safety | Drive Continuous Improvement | Ensure Product Quality

Standard and Custom Sealing Connection Tools for Leak Test and Fluid Transfer Applications.

FasTest is a dedicated manufacturer of advanced engineered Sealing Connection Tools for product testing, fluid transfer, and other processing applications. Our mission is to make your production safe, easy, and more efficient. FasTest tools significantly increase operational throughput to reduce manufacturing costs.

As your sealing and connection solution leader for over 35 years, FasTest is ready to assist you in specifying the optimal sealing connection tools for your application.

## OUR CUSTOMERS

AUTOMOTIVE /  
VEHICLE SYSTEMS

HVAC/  
REFRIGERATION

COMPRESSED GAS

FLUID POWER

APPLIANCES

AEROSPACE

MEDICAL LIFE  
SCIENCES

...AND MORE



### APPLICATION EXPERTS

We work with you to provide the best solution for your application.



### QUALITY

ISO 9001 Certified;  
Robust tools improve the quality of your product.



### BREADTH OF OFFERING

Extensive standard and Custom Engineered Solutions.



### INTELLIGENT TOOLS

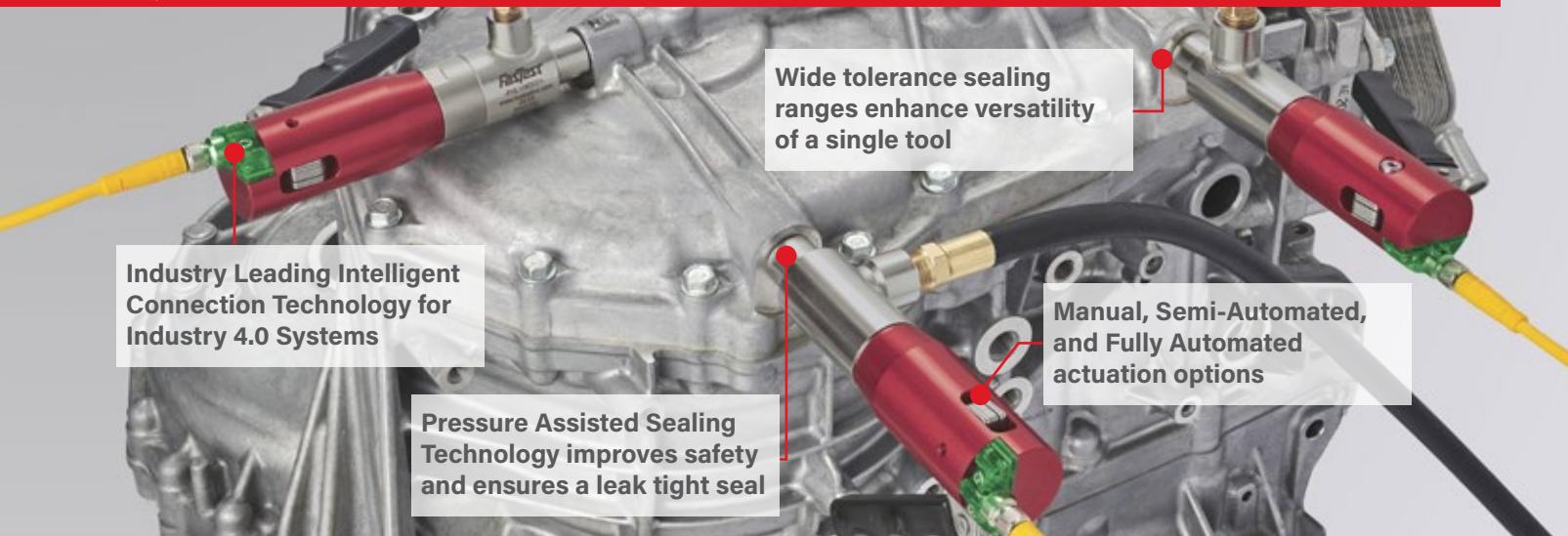
Industry 4.0 sensing & data generating tools



### GLOBAL SUPPORT

Global distribution coverage for local and responsive distribution support.

# INTELLIGENCE AT THE POINT OF CONNECTION



**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.



## FASTEST EXPERTISE

We are the Intelligence at the Point of Connection. We've seen it, we've done it, we live it.

FasTest® Sealing Connection Tool: A high performance device that provides a repeatable, ergonomic, and fast way to attach and seal applications for leak testing and fluid transfer processes.

**Leak Testing**

**Fluid Transfer Testing**

**HVAC/R Processing**

**Compressed Gas Filling**

**CoreMax® Access Valve**

Sealing Connection integrity is imperative to get good leak testing results.

High flow, high pressure, and safe connections.

Extreme leakage requirements for pressure and vacuum.

Robust, secure, and leak free connections.

CoreMax® access valve provides a leak free valve designed for refrigerant.

## Complete Sealing Connection Tool Provider

Single source provider of all Sealing Connection Tools for an entire application. FasTest® Sealing Connection Tools provide consistent connection and sealing for testing variation reduction.

## Customer Intimacy

We work with you to improve your product and manufacturing process.

## Largest Selection of Sealing Connection Tools

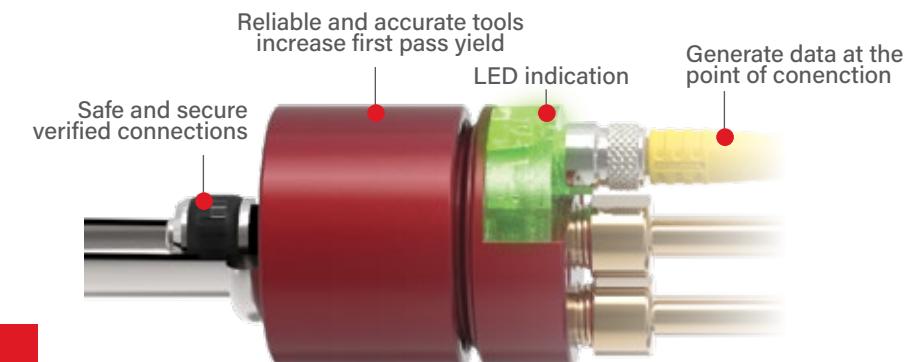
Hundreds of standard designs available along with Custom Engineering Solutions.

## Faster and Better Real Time Decisions

FasTest® sealing connection integrity eliminates wasted time diagnosing leaks, allowing for focus on key process improvements.

## Quick ROI

Improved safety, better ergonomics, and increased throughput.



## 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.

## » Improve safety during functional tests.

SURE SEAL™ provides an instant LED indication of a safe and secure connection. Identify short-connects before media is introduced to prevent spills.

## » Eliminate leak test false failures to improve first pass yield.

With ICON™, if the product fails a test, the connections should not be a source of leaks.

## » Increase throughput and reduce downtime.

Safe, reliable, and consistent connections every cycle - test more, quicker. Reduce rework and the need to retest.

## » Collect tool data.

Gather data on historical use, actuations, and cycle count to get better testing results.

## » Optimize seal maintenance.

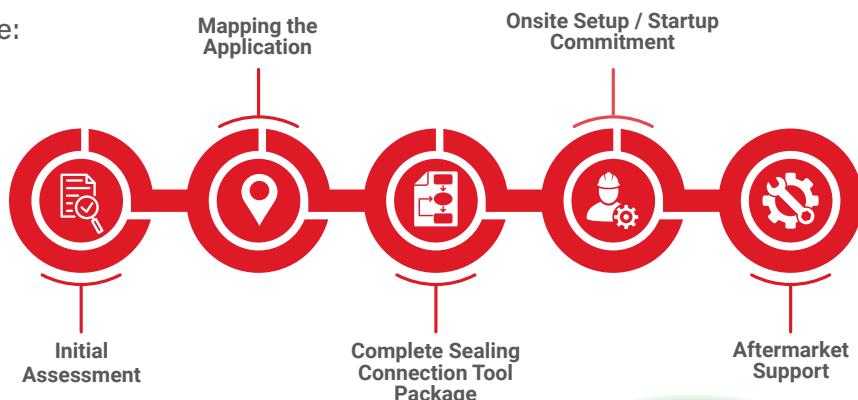
SEAL LIFE™ indicates when the main seal needs to be replaced.

# COMPLETE SYSTEM PROVIDER

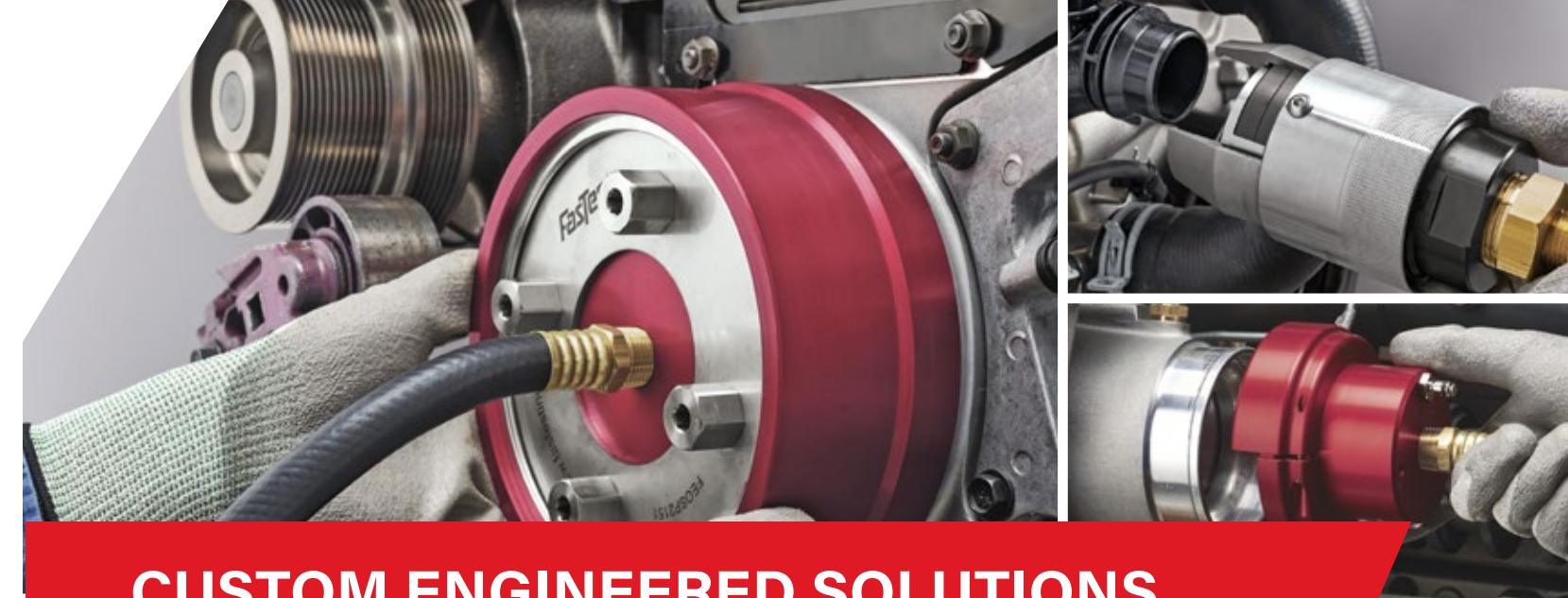
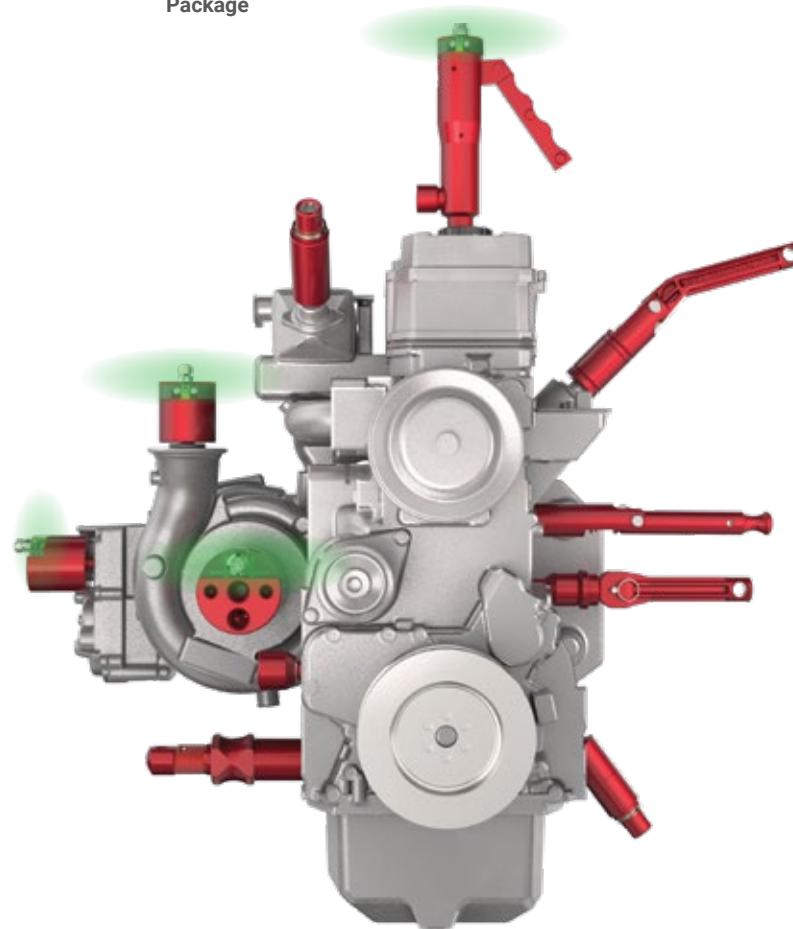
ALL THE SEALING CONNECTION TOOLS FOR YOUR APPLICATION - ACHIEVE CONSISTENT SEALING AND REDUCE TESTING VARIATION

- » Work with our experienced engineers to solve your problems.  
Let your engineers work on your products and leave sealing tools to us.

What we provide:



- » Reduce testing variation with a complete package of FasTest Sealing Connection Tools
- » Ergonomic Sealing Connection Tools with SURE SEAL™ eliminates false failures, improving takt time
- » Multiple data points provides insight for your testing process
- » Leak-tight seals prevents contamination of media and reduces scrap and test damage



## CUSTOM ENGINEERED SOLUTIONS

WE TRANSFORM STANDARDIZED TOOLS INTO TAILOR-MADE SOLUTIONS TO FIT YOUR EXACT REQUIREMENTS.

- » We have a dedicated team of Custom Experts - we have done thousands of custom applications and have likely seen yours.

Custom Sealing Connection Tools for:

### Automotive / Vehicle Systems

- Unique port shapes/sizes
- Turbocharger
- Fuel systems

### Fluid Power

- Hydraulic hose ends
- Hydrostatic drive components
- Cylinder testing

### HVAC/R

- Distribution manifolds
- Compressor run testing
- Coil leak testing

### Compressed Gas

- Pressure vessel proof testing
- Specialty gasses
- Fill plant ergonomics

### Aerospace

- Specialty pressures/materials
- Hydraulic tubing
- Casting porosity

### Appliance

- Washing machine mixing valves
- Coil/compressors
- Water dispensers and filtration

### Medical / Life Science

- Drug delivery systems (insulin pumps/tube sets)
- Medical filtration (kidney dialysis)
- Medical devices (chest drains, angioplasty instruments)

### Telecommunications

- Fiber optic cables
- Cloud server liquid cooling
- Casings



NEED 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.

» We know our customers - Our breadth of product, innovative technologies, and over 35 years of sealing experience makes us sealing connection tool experts for these industries... and more.

## AUTOMOTIVE / VEHICLE SYSTEMS

**Industry Needs:** safety, Industry 4.0, broad offering, repeatable, and durable.

**Common Applications:** Engine testing (leak & hot run test), cooling/braking/fuel systems leak testing, and fluid transfer. Electric vehicle component testing, drive system, and battery cooling.

**Suggested Products:** FE/FI, JN/JX, FN/FX, ZF, ZN, ZGN, FR70, MET/MIT, 60/70, and customized solutions.



## FLUID POWER

**Industry Needs:** safety, Industry 4.0, high pressure, and high flow.

**Common Applications:** Pneumatic/hydraulic hose assembly, cylinders, pumps, motors, hydrostatics, pneumatic components, and valves.

**Suggested Products:** FN/FX, HPB, MET/MIT, ZGN, 60/70, and customized solutions.



## HVAC/R

**Industry Needs:** safety, Industry 4.0, extreme vacuum, current/next-gen refrigerants, safe, stringent leak test, system access valve.

**Common Applications:** Coil test, compressor test, burst test, manifold assembly test, evacuation/charging, furnace burner test, and system run test.

**Suggested Products:** ST, XT, GasMate, SnapMate, JNL/JXL, MBE/MRE, RQD, and customized solutions



**CoreMax® Access Valve System:** High flow OEM refrigerant valves for HVAC-R manufacturers and connectors for testing applications with refrigerant tubing, and process tips.



**DON'T SEE A SOLUTION FOR YOUR INDUSTRY?** Look on p. 6 to see our Custom Engineered Solutions capabilities.

## COMPRESSED GAS

**Industry Needs:** safety, Industry 4.0, high pressure, vacuum capable, robust, and specific for compressed gas / oxygen systems.

**Common Applications:** Cylinder evacuation and fill.

**Suggested Products:** G540, G580, G346, G590, MediMate, High Purity, and Cryovent.



## AEROSPACE

**Industry Needs:** safety, Industry 4.0, high pressure, non-marring, and stringent leak test.

**Common Applications:** Tube assemblies, castings, fuel flow, calibration, and pitot tubes.

**Suggested Products:** HPB, FN/FX, MET/MIT, FE/FI, 60/70, and customized solutions.



## APPLIANCE

**Industry Needs:** safety, Industry 4.0, broad offering, vacuum capable, stringent leak test, high cycle, and easy to maintain.

**Common Applications:** Refrigerant leak test, manifold assembly test, evacuation/charging, furnace burner test, mixing valve tests, plumbing testing, and system run test.

**Suggested Products:** JN/JX, FN/FX, MET/MIT, GasMate, SnapMate, 60/70, ST, XT, and customized solutions.



## MEDICAL / LIFE SCIENCES

**Industry Needs:** safety, Industry 4.0, vacuum capable, certified cleanliness, FDA compliant seals, stringent leak test, high cycle.

**Common Applications:** Angioplasty catheter, battery packs, needle, syringe, Luer testing, dialysis filters and specialty tools.

**Suggested Products:** ME, ML, LuerMate, 60/70, and customized solutions.



# Table of Contents



## Product Selection Guide

Internal Connection Guide -----	12
External Connection Guide -----	14
Industry-Specific Connections -----	16

## Internal Connection Tools

EZ Connect™ ZN -----	20
FI -----	22
EZ Connect™ ZGN -----	28
JNL -----	32
FasMate® FN -----	36
TwistMate® MIT -----	46

## External Connection Tools

EZ Connect™ ZF -----	56
FE -----	58
60 -----	66
70 -----	70
JXL -----	72
FasMate® FX -----	74
HPB -----	78
TwistMate® MET -----	80

## Industry-Specific Tools

FIG -----	88
FEG -----	90
70 FR -----	92
GasMate™ GZNV -----	94
GasMate™ G60V -----	96
ME -----	98
ML -----	102
60M -----	104

## Accessories

Product Accessories -----	106
ICON™ Accessories -----	107

- 1 Identify Cavity/Tube/Thread type for application
- 2 Select tool(s) that fit size requirements
- 3 Verify operating/test pressure meets requirements
- 4 Select actuation method - lever/sleeve for manual, pneumatic for automation
- 5 Identify desired ICON™ features

**Connect and seal  
on the inside of the  
cavity, tube, or thread**

Industry Specific Selection  
Guide on p. 15



PRODUCT SERIES	EZ Connect™ ZN	FI	EZ Connect™ ZGN
<b>Page</b>	p. 19	p. 21	p. 27
<b>3 Pressure Rating</b>	Vacuum to 50 psi (3.5 bar)	Vacuum to 120 psi (8.3 bar)	Vacuum to 120-300 psi (8.3-20.7 bar)
<b>4 Application Type</b>	Manual	Semi-Automated or Fully Automated	Manual / Semi-Automated / Fully Automated
<b>Actuation Method</b>	Lever	Pneumatic	Lever / Pneumatic
<b>Grip Method</b>	Seal Friction	Fixturing / Seal friction	Grip Collets
<b>5 ICON™ Technology</b>		SURE SEAL™ SEAL LIFE™	SURE SEAL™ SEAL LIFE™
<b>CAVITIES</b>	<b>2</b>	0.375" to 1.339" 9.53 mm to 34.01 mm	0.310" to 3.005" 7.87 mm to 76.33 mm
STRAIGHT			
SWAGED			
EXPANDED		0.375" to 1.339" 9.53 mm to 34.01 mm	0.310" to 3.005" 7.87 mm to 76.33 mm
FLARED			
BEADED			
BARBED		0.375" to 1.339" 9.53 mm to 34.01 mm	0.310" to 3.005" 7.87 mm to 76.33 mm
FORMED			
<b>1 TUBES</b>			
NPT		N/A	1/8 to 2 1/2
BSPT/BSPP (G)		N/A	1/8 to 2 1/2
O-RING BOSS / FLARE PORTS		N/A	7/16-20 to 2 1/2-12 M10 to M60
JIC 37° FLARE SWIVEL NUT		N/A	N/A
ORFS SWIVEL NUT		N/A	N/A
<b>THREADS</b>			



JNL	FasMate® FN	TwistMate® MIT
p. 31	p. 35	p. 45
Vacuum 10 mtorr (micron) to 1,000 psi (68.9 bar)	Vacuum to 5,000 psi (344.7 bar)	Vacuum to 10,000 psi (689.5 bar)
Manual	Manual	Manual
Lever	Lever / Pneumatic / Thumb Valve	Manual Twist
Grip Collets	Thread Collets	Continuous Thread
	SURE SEAL™	
0.375" to 1.625" 9.53 mm to 41.275 mm	N/A	N/A
0.375" to 1.625" 9.53mm to 41.275mm	N/A	N/A
N/A	N/A	N/A
N/A	1/8 to 3/4	1/8 to 4
N/A	1/8 to 3/4	1/8 to 1
N/A	7/16-20 to 1 1/16-16 M10 to M22	1/8-24 to 1 1/8-12 M10 to M22
N/A	N/A	7/16-20 to 3-12 (-4 to -40)
N/A	N/A	9/16-18 to 2 1/2-12 (-4 to -32)



## EXTERNAL CONNECTIONS

- 1 Identify Cavity/Tube/Thread type for application
- 2 Select tool(s) that fit size requirements
- 3 Verify operating/test pressure meets requirements
- 4 Select actuation method - lever/sleeve for manual, pneumatic for automation
- 5 Identify desired ICON™ features

Connect and seal on the outside of the cavity, tube, or thread

Industry Specific Selection Guide on p. 15



PRODUCT SERIES	EZ Connect™ ZF	FE	60	70
<b>Page</b>	p. 55	p. 57	p. 65	p. 69
<b>3 Pressure Rating</b>	Vacuum to 300 psi (20.7 bar)	Vacuum to 500 psi (34.5 bar)	Vacuum to 750 psi (51.7 bar)	Vacuum to 750 psi (51.7 bar)
<b>4 Application Type</b>	Manual	Semi-Automated or Fully Automated	Manual	Manual
<b>Actuation Method</b>	Lever	Pneumatic	Sleeve	Sleeve
<b>Grip Method</b>	Grip Collets	Fixturing / Seal Friction	Grip Collets	Grip Collets
<b>5 ICON™ Technology</b>		SURE SEAL™ SEAL LIFE™	SURE SEAL™	Consult Factory
<b>TUBES</b>				
STRAIGHT		2		
SWAGED				
EXPANDED		N/A	0.030" to 5.040" 0.76 mm to 128.02 mm	N/A
FLARED			0.236" to 2.040" 6 mm to 51.8 mm	
BEADED		1		
BARBED			Beaded & Formed ONLY 0.310" to 0.760" 7.87 mm to 19.30 mm	0.030" to 5.040" 0.76 mm to 128.02 mm
FORMED				N/A
<b>THREADS</b>				
NPTF		N/A	1/8 to 2 1/2	1/8 to 1
JIC 37° FLARE		N/A	7/16-20 to 1 7/8-12	7/16 to 1 5/16-12 (-4 to -16)
METRIC		N/A	M10 to M60	M10 to M33
45° FLARE		N/A	7/16-20 to 1 1/16-14	7/16-20 to 1 3/8-12 (-4 to -16)
BSPT/BSPP (G)		N/A	1/8 to 2 1/2	Consult Factory

JXL	FasMate® FX	HPB	TwistMate® MET
p. 71	p. 73	p. 77	p. 79
Vacuum 10 mtorr (micron) to 1,000 psi (68.9 bar)	Vacuum to 5,000 psi (344.7 bar)	Vacuum to 6,000 psi (413.7 bar)	Vacuum to 10,000 psi (689.5 bar)
Manual	Manual	Manual	Manual
Lever	Lever / Pneumatic/ Thumb Valve	Sleeve	Twist
Grip Collets	Threaded / Grip Collets	Threaded / Grip Collets	Continuous Thread
	SURE SEAL™		
0.25" to 0.875" 6.3 mm to 22.2 mm	N/A	N/A	N/A
N/A	0.38" to 0.75" 9.7 mm to 19.2 mm	N/A	N/A
N/A	1/8 to 1/2	1/4 to 3/4	1/8 to 3
N/A	3/8-24 to 3/4-16	7/16 to 3/4-16	7/16-20 to 2 1/2-12 (-4 to -32)
N/A	M10 to M20	N/A	Consult Factory
N/A	3/8-24 to 3/4-16	N/A	7/16-20 to 1 1/16-14 (-4 to -12)
N/A	1/8 to 1/2	1/4 to 3/4	1/8 to 1



- 1 Identify Cavity/Tube/Thread type for application
- 2 Select tool(s) that fit size requirements
- 3 Verify operating/test pressure meets requirements
- 4 Select actuation method - lever/sleeve for manual, pneumatic for automation
- 5 Identify desired ICON™ features

Connect and seal  
specific tubes or  
threads



DESIGNED FOR	Straight Cast or Rough Surface	Turbos or Flanged Ports
PRODUCT SERIES	FIG	FEG
Page	p. 87	p. 89
Pressure Rating	Vacuum to 120 psi (8.3 bar)	Determined by Application
Connects To	Straight Cast or Rough Surface	Turbos or Flanged Ports
Sealing Range	1.102" to 3.005"	Determined by Application
Application Type	Manual / Semi-Automated	Manual
Actuation Method	Pneumatic	Pneumatic
Grip Method	Grip Collets	Grip Cradle
ICON™ Technology	SURE SEAL™ and SEAL LIFE™	SURE SEAL™



DESIGNED FOR	MEDICAL-LIFE SCIENCES		
PRODUCT SERIES	ME	ML	60M
Page	p.97	p.101	p.103
Pressure Rating	Vacuum 10 mtorr (micron) to 500 psi (34.5 bar)	Vacuum 10 mtorr (micron) to 500 psi (34.5 bar)	Vacuum 10 mtorr (micron) to 750 psi (51.7 bar)
Connects To	Tubing and Luers (full or partial thread)	Luers (full thread)	Luers (full or partial thread)
Sealing Range	0.015" to 0.510" (0.38 mm to 13 mm)	Luer	Luer
Application Type	Semi-Automated or Fully Automated	Semi-Automated or Fully Automated	Manual
Actuation Method	Pneumatic	Pneumatic	Manual Sleeve
Grip Method	Fixturing / Seal Friction	Fixturing / Collar	Collets
ICON™ Technology	SURE SEAL™ and SEAL LIFE™		



DESIGNED FOR	FUEL RAILS	GAS BURNER TESTING	
PRODUCT SERIES	70 FR	GZNV	G60V
Page	p. 91	p. 93	p. 95
Pressure Rating	Vacuum to 750 psi (51.7 bar)	Vacuum to 5 psi (0.4 bar)	Vacuum to 30 psi (2.1 bar)
Connects To	SAE J2044 fuel lines	Natural gas and propane regulators	Natural gas and propane regulator extension pipes
Sealing Range	1/4", 5/16", 3/8", 1/2"	3/8, 1/2, 3/4 Female NPT/BSPP (G)	3/8, 1/2, 3/4 Male NPT/BSPP (G)
Application Type	Manual	Manual	Manual
Actuation Method	Sleeve	Lever	Sleeve
Grip Method	Jaws	Seal Friction	Thread Collets

## » INDUSTRY LEADING RESPONSIVENESS

MAJORITY OF PRODUCTS SHIP WITHIN 2 DAYS.

CUSTOMER ENGINEERED SOLUTIONS INCLUDING DESIGN, SHIP IN WEEKS VS. MONTHS.

AT FASTEST, WE TAKE PRIDE IN BEING RESPONSIVE TO ALL OUR CUSTOMER'S NEEDS, INCLUDING PRODUCT AVAILABILITY.



# INTERNAL CONNECTIONS



# ZN™ / INTERNAL SEALING CONNECTION TOOL

Manual sealing connection tool for tubes and bores with broad tolerance and low pressures (<50 psi/3.4 bar).

Straight Expanded Flared Beaded Barbed Formed Swaged



## SPECIFICATIONS

Pressure Rating	Operating Temperatures	Materials of Construction
Vacuum to 50 psi (3.5 bar)	0°F to +200°F (-17°C to +93°C)	Anodized Aluminum, Stainless Steel, Acetal (POM)
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

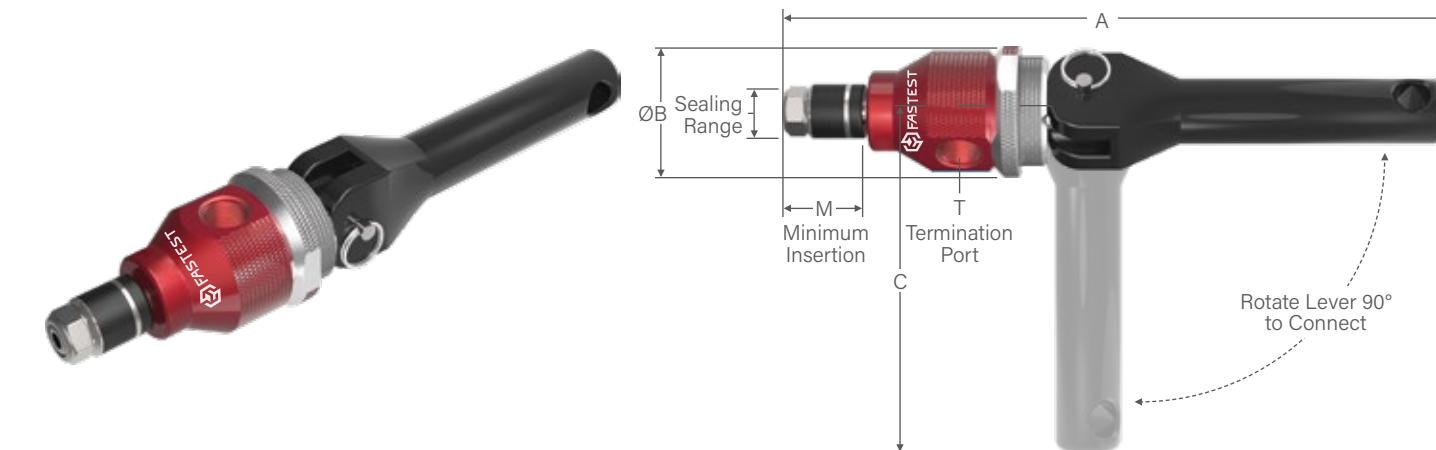
**Lever Handle:** Two way actuation handle is simple and ergonomic for production applications

## ICON™ TECHNOLOGY

Consult Factory

- 1 Lockable collar to keep sealing pressure consistent, handle hole for safety cable as needed
- 2 Adjustment ring to accommodate the widest sealing range in the industry; set preload and maximize seal life
- 3 High flow design can be quickly adapted for plug style applications
- 4 Quick change seal sets to accommodate multiple sizes of tubing and easy field maintenance

# ZN / INTERNAL SEALING CONNECTION TOOL



Ordering Information			Dimensions				
Sealing Range	Part Number	Replacement Seals Bulk Pack (5)	A	B	C	M	T
0.38 to 0.39 (9.5 to 10.0)	ZN101	ZNB10360	7.30 (185.4)	1.20 (30.5)	4.09 (103.9)	0.57 (14.5)	1/8 NPT
0.39 to 0.47 (10.0 to 12.0)	ZN111	ZNB111					
0.47 to 0.55 (12.0 to 14.0)	ZN112	ZNB112					
0.55 to 0.63 (14.0 to 16.0)	ZN113	ZNB113					
0.63 to 0.71 (16.0 to 18.0)	ZN221	ZNB221					
0.71 to 0.79 (18.0 to 20.0)	ZN222	ZNB222					
0.79 to 0.87 (20.0 to 22.0)	ZN223	ZNB223	7.50 (190.5)	1.50 (38.1)	4.09 (103.9)	0.78 (19.8)	1/4 NPT
0.87 to 0.95 (22.0 to 24.0)	ZN331	ZNB331					
0.95 to 1.02 (24.0 to 26.0)	ZN332	ZNB332					
1.02 to 1.10 (26.0 to 28.0)	ZN333	ZNB333					
1.10 to 1.18 (28.0 to 30.0)	ZN441	ZNB441					
1.18 to 1.26 (30.0 to 32.0)	ZN442	ZNB442					
1.26 to 1.34 (32.0 to 34.0)	ZN443	ZNB443	8.18 (207.8)	1.63 (41.4)	4.09 (103.9)	1.25 (31.8)	3/8 NPT

Dimensions: inch (mm)



# FI / INTERNAL SEALING CONNECTION TOOL

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

## CONNECTS TO:

Straight Expanded Flared Beaded Barbed Form End Swaged



NPT SAE BSPP (G)/BSPT METRIC



## SPECIFICATIONS

Pressure Rating	Pilot Pressure	Operating Temperatures
Vacuum to 120 psi (8.3 bar)	60 to 120 psi (4.1 to 8.3 bar)	0°F to +200°F (-17°C to +93°C)
Termination Port	Materials of Construction	Seal Material*
Female 10-32 UNF, M5 x 0.8, NPT/BSPP (G): 1/8 to 3/4	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).

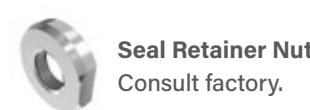
## ACTUATION METHOD

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

## ICON™ TECHNOLOGY



## ACCESSORIES



- 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 smooth, porous, out of round, and threaded
- 3 Quick change seal sets to accommodate multiple sizes of tubing and easy field maintenance
- 4 Available with Shaft Extensions for accessibility to seal remote ports or multiple ports with close center to center distances - consult factory for further information

# 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.



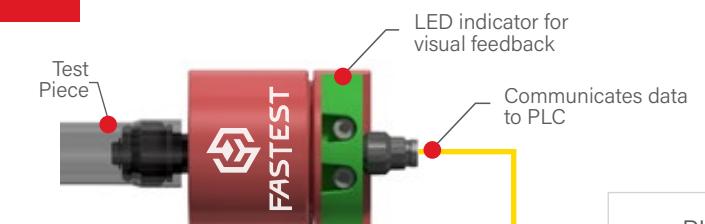
### SEAL LIFE™

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.



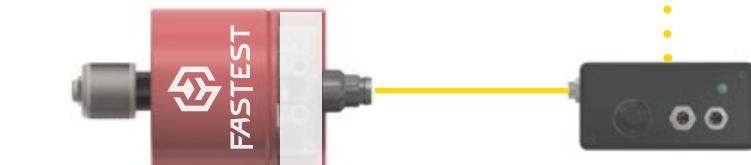
### WORN SEAL

Alert when main seals should be replaced.



### PICK TOOL

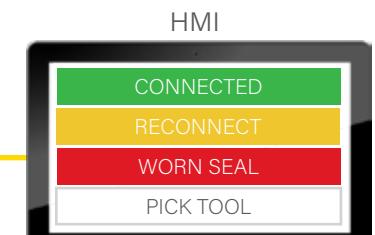
Controllable LED signals operator to use specific tool.



## How To Add ICON™ to FI

Signal Output	Part Number Suffix	Example
FI without ICON™	None	FI01
FI with ICON™: Analog Output Signal	CV04ANA	FI01CV04ANA
FI with ICON™: Solid State Relay	CV04SSR	FI01CV04SSR

## User's System



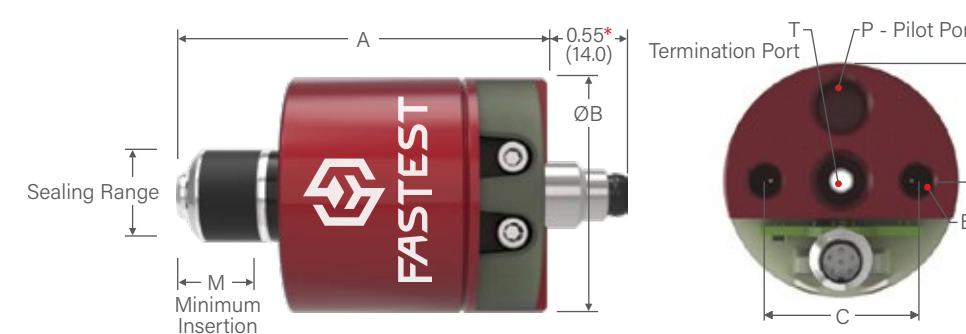
Standalone install or tie into PLC

- Quickly setup ICON™ Tools
- Eliminate the need for PLC programming

• Can be powered from wall adapter (included) or from a PLC (24VDC)

**NOTE:** Solid State Relay and Analog output options available.

## FI / INTERNAL SEALING CONNECTION TOOL / STRAIGHT TUBES & BORES



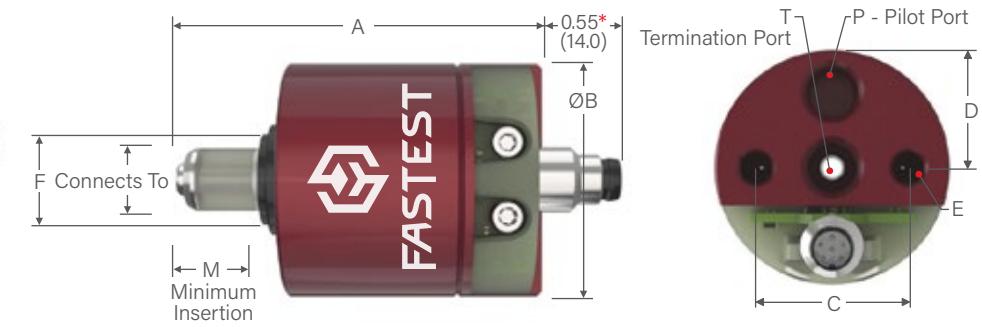
\*Dimension only applies to FI with ICON™ Technology  
(Base Part Numbers that include "CV04ANA" or "CV04SSR").

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
0.310 to 0.330	FIS010300	FI01 FI01CV04ANA FI01CV04SSR	FIB010300 FIB0101	FIR01 FIR01CV04ANA FIR01CV04SSR	1.98 (50.3)	1.25 (31.7)	0.80 (20.3)	0.40 (10.2)	10-32 UNF	0.48 (12.2)	10-32 UNF	
0.330 to 0.394	FIS0101											
0.394 to 0.472	FIS111	FI1 FI1CV04ANA FI1CV04SSR	FIB111 FIB112 FIB113	FIR1 FIR1CV04ANA FIR1CV04SSR	2.44 (62.0)	1.57 (39.9)	1.02 (25.9)	0.51 (12.9)	1/4-28 UNF	0.57 (14.5)	1/8 NPT	
0.472 to 0.551	FIS112											
0.551 to 0.630	FIS113											
0.630 to 0.709	FIS221	FI2 FI2CV04ANA FI2CV04SSR	FIB221 FIB222 FIB223	FIR1 FIR1CV04ANA FIR1CV04SSR	2.44 (62.0)	1.57 (39.9)	1.02 (25.9)	0.51 (12.9)	1/4-28 UNF	0.57 (14.5)	1/8 NPT	
0.709 to 0.787	FIS222											
0.787 to 0.866	FIS223											
0.866 to 0.945	FIS331	FI3 FI3CV04ANA FI3CV04SSR	FIB331 FIB332 FIB333	FIR3 FIR3CV04ANA FIR3CV04SSR	2.61 (66.3)	2.36 (59.9)	1.60 (40.6)	0.80 (20.3)	1/4-28 UNF	1.07 (27.2)	1/8 NPT	
0.945 to 1.024	FIS332											
1.024 to 1.102	FIS333											
1.102 to 1.181	FIS441	FI4 FI4CV04ANA FI4CV04SSR	FIB441 FIB442 FIB443	FIR3 FIR3CV04ANA FIR3CV04SSR	2.61 (66.3)	2.36 (59.9)	1.60 (40.6)	0.80 (20.3)	1/4-28 UNF	1.07 (27.2)	1/8 NPT	
1.181 to 1.260	FIS442											
1.260 to 1.339	FIS443											
1.339 to 1.457	FIS551	FI5 FI5CV04ANA FI5CV04SSR	FIB551 FIB552 FIB553	FIR6 FIR6CV04ANA FIR6CV04SSR	3.68 (93.5)	3.49 (88.6)	2.31 (58.7)	1.16 (29.5)	1/4-28 UNF	1.60 (40.6)	1/8 NPT	1/2 NPT
1.457 to 1.575	FIS552											
1.575 to 1.693	FIS553											
1.693 to 1.850	FIS661	FI6 FI6CV04ANA FI6CV04SSR	FIB661 FIB662 FIB663	FIR6 FIR6CV04ANA FIR6CV04SSR	3.68 (93.5)	3.49 (88.6)	2.31 (58.7)	1.16 (29.5)	1/4-28 UNF	1.60 (40.6)	1/8 NPT	1/2 NPT
1.850 to 2.008	FIS662											
2.008 to 2.165	FIS663											
2.165 to 2.305	FIS771	FI7 FI7CV04ANA FI7CV04SSR	FIB771 FIB772 FIB773	FIR7 FIR7CV04ANA FIR7CV04SSR	3.36 (85.3)	4.20 (106.7)	3.00 (76.2)	1.50 (38.1)	1/4-28 UNF	1.62 (41.1)	1/8 NPT	3/4 NPT
2.305 to 2.445	FIS772											
2.445 to 2.585	FIS773											
2.585 to 2.725	FIS881	FI8 FI8CV04ANA FI8CV04SSR	FIB881 FIB882 FIB883	FIR7 FIR7CV04ANA FIR7CV04SSR	3.36 (85.3)	4.20 (106.7)	3.00 (76.2)	1.50 (38.1)	1/4-28 UNF	1.62 (41.1)	1/8 NPT	3/4 NPT
2.725 to 2.865	FIS882											
2.865 to 3.005	FIS883											

Dimensions: inch (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: FIS010300UR

## FI / INTERNAL SEALING CONNECTION TOOL / NPT, BSPP (G), & BSPT THREADS

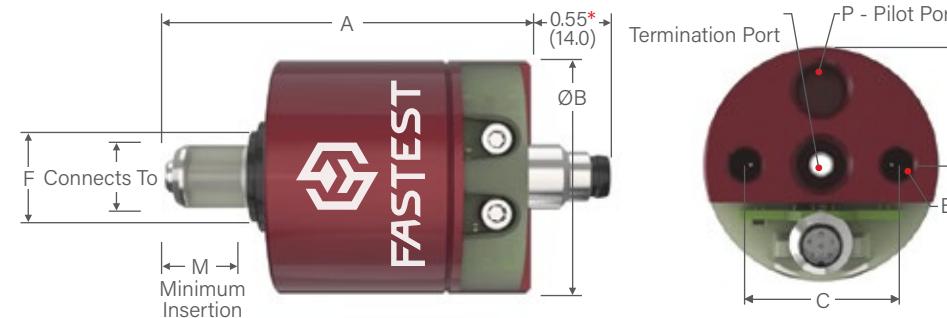


\*Dimension only applies to FI with ICON™ Technology  
(Base Part Numbers that include "CV04ANA" or "CV04SSR").

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	F	M	P	T
<b>FI   Connectors for NPT, BSPP (G), and BSPT Threads</b>													
1/8	FIS011/8NPT	FI1 FI1CV04ANA FI1CV04SSR	FIB011/8NPT	FIR01 FIR01CV04ANA FIR01CV04SSR	1.98 (50.3)	1.25 (31.7)	0.80 (20.3)	0.40 (10.2)	10-32 UNF	0.62 (15.7)	0.48 (12.2)	10-32 UNF	
1/4	FIS11/4NPT	FI1 FI1CV04ANA FI1CV04SSR	FIB11/4NPT	FIR1 FIR1CV04ANA FIR1CV04SSR	2.44 (62.0)	1.57 (39.9)	1.02 (25.9)	0.51 (12.9)	1/4-28 UNF	0.76 (19.3)	0.57 (14.5)	1/8 NPT	
3/8	FIS23/8NPT	FI2 FI2CV04ANA FI2CV04SSR	FIB23/8NPT	FIR1 FIR1CV04ANA FIR1CV04SSR	2.44 (62.0)	1.57 (39.9)	1.02 (25.9)	0.51 (12.9)	1/4-28 UNF	0.88 (22.3)	0.57 (14.5)	1/8 NPT	
1/2	FIS21/2NPT	FI2 FI2CV04ANA FI2CV04SSR	FIB21/2NPT	FIR3 FIR3CV04ANA FIR3CV04SSR	2.61 (66.3)	2.36 (59.9)	1.60 (40.6)	0.80 (20.3)	1/4-28 UNF	1.07 (27.2)	1/8 NPT		
3/4	FIS33/4NPT	FI3 FI3CV04ANA FI3CV04SSR	FIB33/4NPT	FIR3 FIR3CV04ANA FIR3CV04SSR	2.61 (66.3)	2.36 (59.9)	1.60 (40.6)	0.80 (20.3)	1/4-28 UNF	1.26 (32.0)	.71 (18.0)	1/8 NPT	
1	FIS41NPT	FI4 FI4CV04ANA FI4CV04SSR	FIB41NPT	FIR3 FIR3CV04ANA FIR3CV04SSR	2.61 (66.3)	2.36 (59.9)	1.60 (40.6)	0.80 (20.3)	1/4-28 UNF	1.57 (39.9)	.71 (18.0)	1/8 NPT	
1-1/4	FIS511/4NPT	FI5 FI5CV04ANA FI5CV04SSR	FIB511/4NPT	FIR6 FIR6CV04ANA FIR6CV04SSR	3.68 (93.5)	3.49 (88.6)	2.31 (58.7)	1.16 (29.5)	1/4-28 UNF	1.88 (47.8)	1.24 (31.5)	1/8 NPT	1/2 NPT
1-1/2	FIS611/2NPT	FI6 FI6CV04ANA FI6CV04SSR	FIB611/2NPT	FIR6 FIR6CV04ANA FIR6CV04SSR	3.68 (93.5)	3.49 (88.6)	2.31 (58.7)	1.16 (29.5)	1/4-28 UNF	2.13 (54.1)	1.24 (31.5)	1/8 NPT	1/2 NPT
2	FIS72NPT	FI7 FI7CV04ANA FI7CV04SSR	FIB72NPT	FIR7 FIR7CV04ANA FIR7CV04SSR	3.36 (85.3)	4.20 (106.7)	3.00 (76.2)	1.50 (38.1)	1/4-28 UNF	2.75 (69.9)	1.33 (33.8)	1/8 NPT	3/4 NPT
2-1/2	FIS721/2NPT	FI7 FI7CV04ANA FI7CV04SSR	FIB721/2NPT	FIR7 FIR7CV04ANA FIR7CV04SSR	3.36 (85.3)	4.20 (106.7)	3.00 (76.2)	1.50 (38.1)	1/4-28 UNF	2.75 (69.9)	1.33 (33.8)	1/8 NPT	3/4 NPT

Dimensions: inch (mm)

## FI / INTERNAL SEALING CONNECTION TOOL / SAE O-RING BOSS PORT THREADS



\*Dimension only applies to FI 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)	Repair Kit	A	B	C	D	E	F	M	P	T	

**FI** | Connectors for SAE O-Ring Boss Port (ORB) Threads

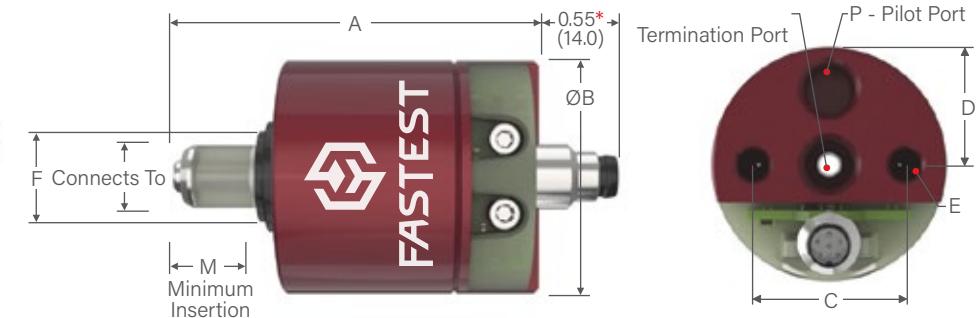
-4 [7/16-20]	FIS01SAE	FI01 FI01CV04ANA FI01CV04SSR	FIB01SAE	FIR01 FIR01CV04ANA FIR01CV04SSR	1.98 (50.3)	1.25 (31.7)	0.80 (20.3)	0.40 (10.2)	10-32 UNF	0.62 (15.7)	0.48 (12.2)	10-32 UNF	
-5 [1/2-20]	FIS15SAE	FI1 FI1CV04ANA FI1CV04SSR	FIB15SAE	FIR1 FIR1CV04ANA FIR1CV04SSR	2.44 (62.0)	1.57 (39.9)	1.02 (25.9)	0.51 (12.9)	1/4-28 UNF	0.76 (19.3)	0.57 (14.5)	1/8 NPT	
-6 [9/16-18]	FIS16SAE	FI2 FI2CV04ANA FI2CV04SSR	FIB16SAE	FIR1 FIR1CV04ANA FIR1CV04SSR	2.44 (62.0)	1.57 (39.9)	1.02 (25.9)	0.51 (12.9)	1/4-28 UNF	0.88 (22.3)	0.57 (14.5)	1/8 NPT	
-8 [3/4-16]	FIS28SAE	FI3 FI3CV04ANA FI3CV04SSR	FIB28SAE	FIR3 FIR3CV04ANA FIR3CV04SSR	2.44 (62.0)	1.57 (39.9)	1.02 (25.9)	0.51 (12.9)	1/4-28 UNF	0.88 (22.3)	0.57 (14.5)	1/8 NPT	
-10 [7/8-14]	FIS310SAE	FI4 FI4CV04ANA FI4CV04SSR	FIB310SAE	FIR4 FIR4CV04ANA FIR4CV04SSR	2.61 (66.3)	2.36 (59.9)	1.60 (40.6)	0.80 (20.3)	1/4-28 UNF	1.26 (32.0)	1.07 (27.2)	1/8 NPT	
-12 [11/16-12]	FIS312SAE	FI5 FI5CV04ANA FI5CV04SSR	FIB312SAE	FIR5 FIR5CV04ANA FIR5CV04SSR	2.61 (66.3)	2.36 (59.9)	1.60 (40.6)	0.80 (20.3)	1/4-28 UNF	1.57 (39.9)	1.07 (27.2)	1/8 NPT	
-14 [13/16-12]	FIS414SAE	FI6 FI6CV04ANA FI6CV04SSR	FIB414SAE	FIR6 FIR6CV04ANA FIR6CV04SSR	2.61 (66.3)	2.36 (59.9)	1.60 (40.6)	0.80 (20.3)	1/4-28 UNF	1.88 (47.8)	1.60 (40.6)	1/8 NPT	1/2 NPT
-16 [15/16-12]	FIS416SAE	FI7 FI7CV04ANA FI7CV04SSR	FIB416SAE	FIR7 FIR7CV04ANA FIR7CV04SSR	3.68 (93.5)	3.49 (88.6)	2.31 (58.7)	1.16 (29.5)	1/4-28 UNF	2.75 (69.9)	1.62 (41.1)	1/8 NPT	3/4 NPT
-20 [15/8-12]	FIS520SAE	FI8 FI8CV04ANA FI8CV04SSR	FIB520SAE	FIR8 FIR8CV04ANA FIR8CV04SSR	3.68 (93.5)	3.49 (88.6)	2.31 (58.7)	1.16 (29.5)	1/4-28 UNF	3.00 (76.2)	1.50 (38.1)	1/4-28 UNF	1/4-28 UNF
-24 [17/8-12]	FIS624SAE	FI9 FI9CV04ANA FI9CV04SSR	FIB624SAE	FIR9 FIR9CV04ANA FIR9CV04SSR	3.68 (93.5)	3.49 (88.6)	2.31 (58.7)	1.16 (29.5)	1/4-28 UNF	3.36 (85.3)	2.00 (70.0)	1/4-28 UNF	1/4-28 UNF
-32 [21/2-12]	FIS732SAE	FI10 FI10CV04ANA FI10CV04SSR	FIB732SAE	FIR10 FIR10CV04ANA FIR10CV04SSR	3.68 (93.5)	3.49 (88.6)	2.31 (58.7)	1.16 (29.5)	1/4-28 UNF	3.68 (106.7)	2.00 (70.0)	1/4-28 UNF	1/4-28 UNF

Dimensions: inch (mm)

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

**Port Specifications:** SAE J1926 or ISO 11926

## FI / INTERNAL SEALING CONNECTION TOOL / METRIC ISO O-RING PORT THREADS



\*Dimension only applies to FI 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)	Repair Kit	A	B	C	D	E	F	M	P	T	

**FI** | Connectors for Metric ISO O-Ring Port Threads

M10 x 1.0	FIS01M10	FI01 FI01CV04ANA FI01CV04SSR	FIB01M10	FIR01 FIR01CV04ANA FIR01CV04SSR	1.98 (50.3)	1.25 (31.7)	0.80 (20.3)	0.40 (10.2)	10-32 UNF	0.62 (15.7)	0.48 (12.2)	10-32 UNF	
M12 x 1.5	FIS1M12	FI1 FI1CV04ANA FI1CV04SSR	FIB1M12	FIR1 FIR1CV04ANA FIR1CV04SSR	2.44 (62.0)	1.57 (39.9)	1.02 (25.9)	0.51 (12.9)	1/4-28 UNF	0.76 (19.3)	0.57 (14.5)	1/8 NPT	
M14 x 1.5	FIS1M14	FI2 FI2CV04ANA FI2CV04SSR	FIB1M14	FIR2 FIR2CV04ANA FIR2CV04SSR	2.44 (62.0)	1.57 (39.9)	1.02 (25.9)	0.51 (12.9)	1/4-28 UNF	0.88 (22.3)	0.57 (14.5)	1/8 NPT	
M16 x 1.5	FIS2M16	FI3 FI3CV04ANA FI3CV04SSR	FIB2M16	FIR3 FIR3CV04ANA FIR3CV04SSR	2.44 (62.0)	1.57 (39.9)	1.02 (25.9)	0.51 (12.9)	1/4-28 UNF	0.88 (22.3)	0.57 (14.5)	1/8 NPT	
M18 x 1.5	FIS2M18	FI4 FI4CV04ANA FI4CV04SSR	FIB2M18	FIR4 FIR4CV04ANA FIR4CV04SSR	2.61 (66.3)	2.36 (59.9)	1.60 (40.6)	0.80 (20.3)	1/4-28 UNF	1.26 (32.0)	1.07 (27.2)	1/8 NPT	
M20 x 1.5	FIS2M20	FI5 FI5CV04ANA FI5CV04SSR	FIB2M20	FIR5 FIR5CV04ANA FIR5CV04SSR	2.61 (66.3)	2.36 (59.9)	1.60 (40.6)	0.80 (20.3)	1/4-28 UNF	1.57 (39.9)	1.07 (27.2)	1/8 NPT	
M22 x 1.5	FIS2M22	FI6 FI6CV04ANA FI6CV04SSR	FIB2M22	FIR6 FIR6CV04ANA FIR6CV04SSR	2.61 (66.3)	2.36 (59.9)	1.60 (40.6)	0.80 (20.3)	1/4-28 UNF	1.88 (47.8)	1.60 (40.6)	1/8 NPT	
M24 x 1.5	FIS3M24	FI7 FI7CV04ANA FI7CV04SSR	FIB3M24	FIR7 FIR7CV04ANA FIR7CV04SSR	2.61 (66.3)	2.36 (59.9)	1.60 (40.6)	0.80 (20.3)	1/4-28 UNF	2.00 (50.8)	1.26 (32.0)	1/8 NPT	
M26 x 1.5	FIS3M26	FI8 FI8CV04ANA FI8CV04SSR	FIB3M26	FIR8 FIR8CV04ANA FIR8CV04SSR	2.61 (66.3)	2.36 (59.9)	1.60 (40.6)	0.80 (20.3)	1/4-28 UNF	2.12 (53.3)	1.07 (27.2)	1/8 NPT	
M27 x 2	FIS3M27	FI9 FI9CV04ANA FI9CV04SSR	FIB3M27	FIR9 FIR9CV04ANA FIR9CV04SSR	2.61 (66.3)	2.36 (59.9)	1.60 (40.6)	0.80 (20.3)	1/4-28 UNF	2.28 (58.4)	1.07 (27.2)	1/8 NPT	
M28 x 1.5	FIS3M28	FI10 FI10CV04ANA FI10CV04SSR	FIB3M28	FIR10 FIR10CV04ANA FIR10CV04SSR	2.61 (66.3)	2.36 (59.9)	1.60 (40.6)	0.80 (20.3)	1/4-28 UNF	2.44 (62.0)	1.07 (27.2)	1/8 NPT	
M30 x 1.5	FIS4												

# ZGN / INTERNAL SEALING CONNECTION TOOL

Wide tolerance grip and seal connection tool for multiple sizes / types - fits any internal thread.

**CONNECTS TO:**

NPT	SAE	BSPP (G)/ BSPT	METRIC
			



- 1 Pressure assisted sealing and gripping of threaded port to safely grip under pressure
- 2 Patented design allows for each tool to connect to multiple thread sizes / styles
- 3 Self aligning sleeve for repeatable / reliable connections, even with miss-alignment
- 4 Compact size fits into tight spaces and tightly spaced bores
- 5 Pneumatic operation can be used for automated testing or end of arm grip and hold - lever operation for manual applications

## SPECIFICATIONS

Pressure Rating	Pilot Pressure	Operating Temperatures
<b>ZGNL:</b> Vacuum to 120 psi (8.3 bar)	N/A	-40°F to +250°F (-40°C to +121°C)
<b>ZGNP:</b> Vacuum to 300 psi (20.7 bar)	60 psi (4.1 bar) minimum	
Termination Port	Materials of Construction	Seal Material*
1/8 NPT, 1/4 NPT	Anodized Aluminum, Stainless Steel, Handles PVC Dipped	Standard: Buna-N

\*Additional seal material types available, consult factory.

## ACTUATION METHOD

**ZGNL Lever Handles:** Lever operation for manual applications.

**ZGNP Pneumatic:** Pneumatic operation can be used for automated testing or end of arm grip and hold.

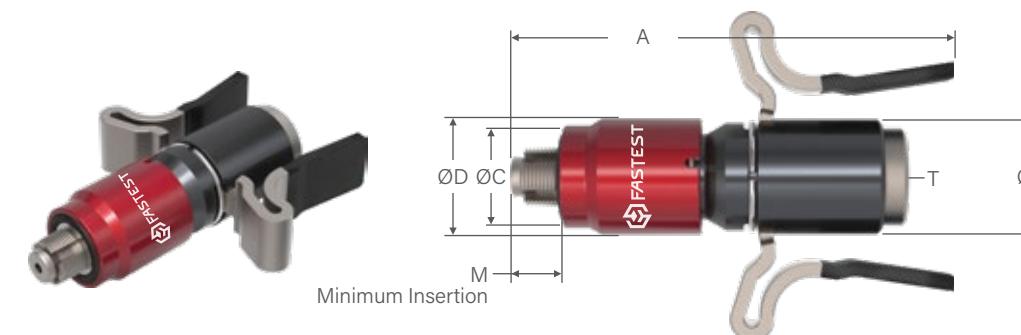
## ICON™ TECHNOLOGY

Consult Factory

## ACCESSORIES

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

# ZGNL / MANUAL INTERNAL SEALING CONNECTION TOOL

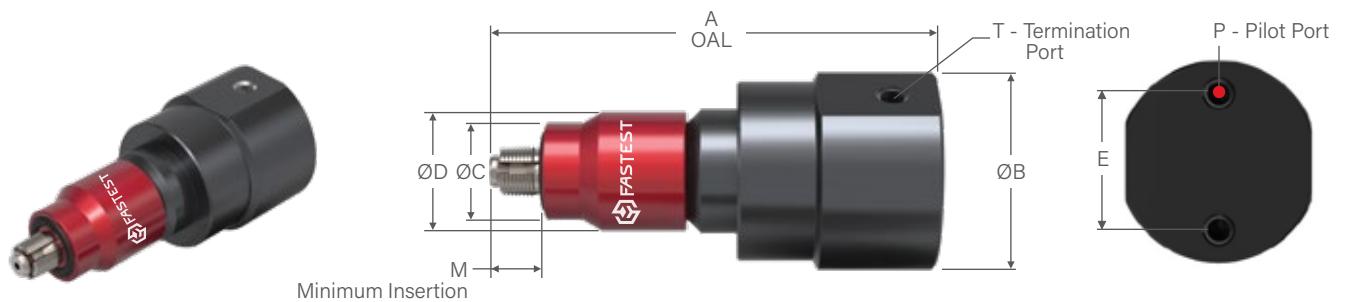


Ordering Information				Dimensions						
Connects To	Part Number	Main Seal Set	Rebuild Kit	A	B	C	D	Thread Minor Ø Range	M	T
<b>ZGNL</b>   Wide Tolerance Manual Sealing Connection Tool for Internal Threads										
1/8 NPT 3/8-24 SAE 1/8 BSPP (G) 1/8 BSPT M10x1.0 M10x1.25 M10x1.5	ZGNL1	S1110B60	RZGNL1	3.25 (82.6)	0.88 (22.4)	0.64 (16.3)	0.78 (19.8)	0.34 to 0.36 (8.5 to 9.1)	0.32 (8.1)	1/8 NPT
7/16-20 UNF	ZGNL1A	S21030391B70	RZGNL1			0.67 (17.0)		0.38 to 0.40 (9.7 to 10.2)		
1/4 NPT 1/4 BSPP (G) 1/4 BSPT M14x1.5 1/2-20 SAE 9/16-18 SAE	ZGNL2	S1112B60	RZGNL2	3.34 (82.8)	0.87 (22.1)	0.77 (19.6)	0.87 (22.1)	0.45 to 0.50 (11.4 to 12.7)	0.40 (10.2)	1/8 NPT
M12x1.0 M12x1.5	ZGNL2A	S21030456B70	RZGNL2			0.74 (18.8)		0.42 to 0.44 (10.7 to 11.2)		
3/8 NPT 3/8 BSPP (G) 3/8 BSPT	ZGNL3	S1114B60	RZGNL3	3.61 (91.7)	1.12 (22.4)	0.90 (22.9)	0.99 (25.1)	0.59 to 0.61 (15.0 to 15.5)	0.45 (11.4)	1/4 NPT
M16x1.5 5/8-24 SAE	ZGNL3A	S1114B60	RZGNL3					0.56 to .58 (14.2 to 14.7)		
1/2 NPT 1/2 BSPP (G) 1/2 BSPT M20x1.5	ZGNL4	S1116B60	RZGNL4	3.62 (91.9)	1.32 (33.5)	1.06 (26.9)	1.22 (31.0)	0.71 to 0.74 (18.0 to 18.8)	0.50 (12.7)	1/4 NPT
M18x1.5	ZGNL4A	S1115B60	RZGNL4			1.03 (26.2)		0.65 to 0.67 (16.5 to 17.0)		
3/4-16 SAE	ZGNL4B	S1116B60	RZGNL4			1.06 (26.9)		0.68 to 0.71 (17.3 to 18.0)		

Dimensions: inch (mm)



# ZGNP / PNEUMATIC INTERNAL SEALING CONNECTION TOOL



Ordering Information				Dimensions								
Connects To	Part Number	Main Seal Set	Rebuild Kit	A	B	C	D	E	Thread Minor Ø Range	M	P	T

**ZGNP** | Wide Tolerance Pneumatic Sealing Connection Tool for Automated Testing of Internal Threads

1/8 NPT 3/8-24 SAE 1/8 BSPP (G) 1/8 BSPT M10x1.0 M10x1.25 M10x1.5	ZGNP1	S1110B60	RZGNP1	2.92 (74.2)	1.30 (33.0)	0.64 (16.3)	0.78 (19.8)	0.88 (22.4)	0.34 to 0.36 (8.5 to 9.1)	0.32 (8.1)	10-32 UNF	1/8 NPT
7/16-20 SAE	ZGNP1A	S21030391B70	RZGNP1			0.67 (17.0)			0.38 to 0.40 (9.7 to 10.2)			
1/4 NPT 1/4 BSPP (G) 1/4 BSPT M14x1.5 1/2-20 SAE 9/16-18 SAE	ZGNP2	S1112B60	RZGNP2	3.08 (78.2)	1.30 (33.0)	0.77 (19.6)	0.87 (22.1)	0.88 (22.4)	0.45 to 0.50 (11.4 to 12.7)	0.40 (10.2)	10-32 UNF	1/8 NPT
M12x1.0 M12x1.5	ZGNP2A	S21030456B70	RZGNP2			0.74 (18.8)			0.42 to 0.44 (10.7 to 11.2)			
3/8 NPT 3/8 BSPP (G) 3/8 BSPT	ZGNP3	S1114B60	RZGNP3	3.52 (89.4)	1.75 (44.5)	0.90 (22.9)	0.99 (25.1)	1.13 (28.7)	0.59 to 0.61 (15.0 to 15.5)	0.45 (11.4)	1/8 NPT	1/4 NPT
M16x1.5 5/8-24 SAE	ZGNP3A	S1114B60	RZGNP3			0.90 (22.9)			0.56 to .58 (14.2 to 14.7)			
1/2 NPT 1/2 BSPP (G) 1/2 BSPT M20x1.5	ZGNP4	S1116B60	RZGNP4	3.60 (91.4)	1.75 (44.5)	1.06 (26.9)	1.22 (31.0)	1.13 (28.7)	0.71 to 0.74 (18.0 to 18.8)	0.50 (12.7)	1/8 NPT	1/4 NPT
M18x1.5	ZGNP4A	S1115B60	RZGNP4			1.03 (26.2)			Contact Factory			
3/4-16 SAE	ZGNP4B	S1116B60	RZGNP4			1.06 (26.9)			Contact Factory			

Dimensions: inch (mm)

## Product Comparison Guide



Product Comparison Guide	TwistMate® (MIT)	ZGN™ (ZGNL / ZGNP)	FasMate® (FNL / FNP / FNV)
Low Pressure < 300 psi (20.7 bar)		✓	✓
Low Volume Production < 100 units/day	✓		✓
Difficult Interference		✓	✓
High Pressure and High Volume > 500 units/day			✓
Prevent False Failures or High First Pass Yield			✓

# JNL / INTERNAL SEALING CONNECTION TOOL

Manual lever actuated internal grip and seal connection tool for straight tubes / bores.

## CONNECTS TO:

Straight



## SPECIFICATIONS

Pressure Rating*	Operating Temperatures	Materials of Construction
JNL0 / JNL1: 10 mtorr (micron) to 1000 psi (68.9 bar)	-40°F to +250°F (-40°C to +121°C)	Aluminum Stainless Steel Acetal (POM) Urethane Collet Retainer
JNL2: 10 mtorr (micron) to 750 psi (51.7 bar)		
Termination Port	Seal Material**	
1/8 NPT	Neoprene®	

\* Pressure rating based on the test piece having a surface finish greater than 16 rms and a hardness of no more than 95 Rb to grip and seal at the rated pressure. A surface finish of 8 rms may be acceptable if the test piece has a hardness no greater than 40 Rb.

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

## ACTUATION METHOD

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

## ICON™ TECHNOLOGY

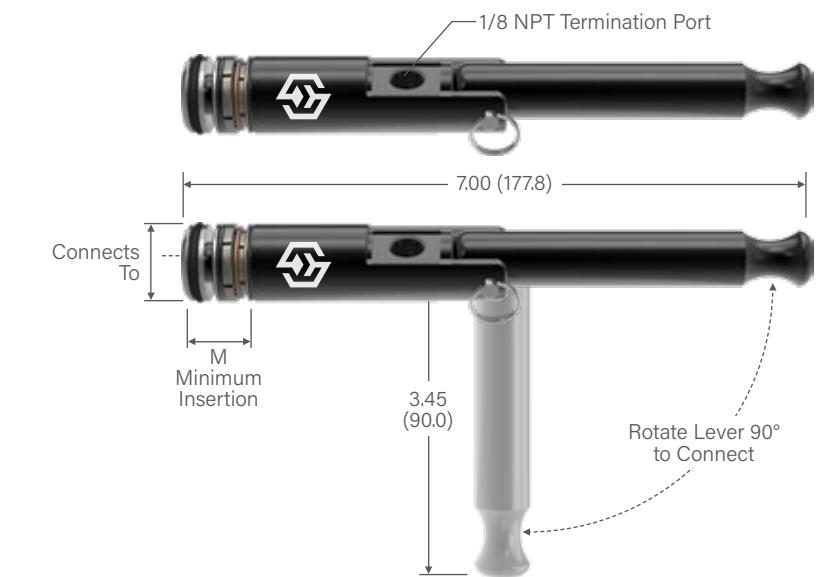
Consult Factory

## ACCESSORIES

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

- 1 Pressure assisted sealing and gripping with internal safety lock feature prevents accidental disconnection under 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

# JNL / INTERNAL SEALING CONNECTION TOOL



Ordering Information			Dimensions
Connects To	Part Number	Replacement Seals Bulk Pack (5)	M

**JNL0 and JNL1** | Lever Actuated Connectors for Internal Tubes / Bores

0.375 (9.5)	JNL00375H	SN00375H	0.53 (13.5)
0.500 (12.7)	JNL00500H	SN00500H	
0.590 (15.0)	JNL10590	SN10590	
0.625 (15.9)	JNL10625	SN10625	
0.750 (19.1)	JNL10750	SN10750	
0.785 (19.9)	JNL10785	SN10785	0.63 (16.0)
0.875 (22.2)	JNL10875	SN10875	

**JNL0 and JNL1** | Lever Actuated Connectors for Metric Internal Tubes / Bores

10mm ± 0.25mm	JNL0M10H	SN00395H	13.5 (0.53)
11mm ± 0.25mm	JNL0M11H	SN00435H	
12mm ± 0.25mm	JNL0M12H	SN00470	
13mm ± 0.25mm	JNL0M13H	SN00515H	
14mm ± 0.25mm	JNL0M14H	SN00550H	
15mm ± 0.25mm	JNL1M15	SN10590	
16mm ± 0.25mm	JNL1M16	SN10630	16.0 (0.63)
18mm ± 0.25mm	JNL1M18	SN10710	
20mm ± 0.25mm	JNL1M20	SN10785	

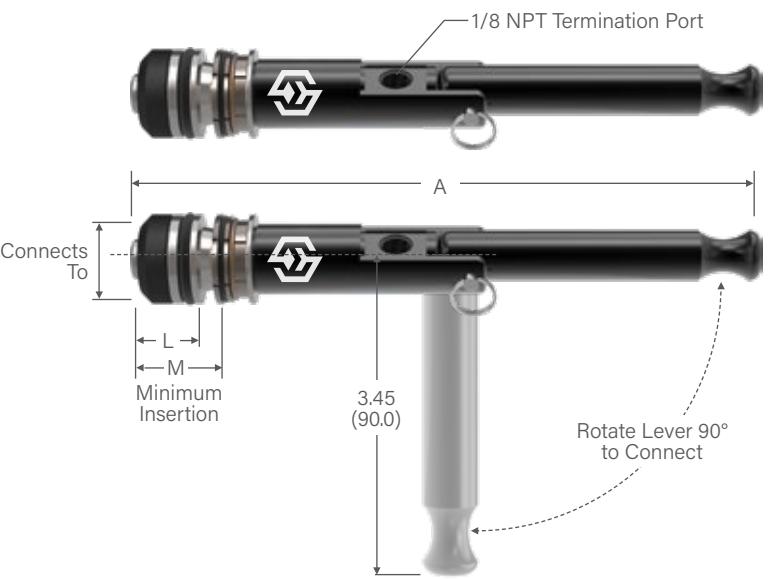
Dimensions: inch (mm)

**i** NOTE: JNL sizes available in .005" (.13 mm) increments per customer request. Consult factory.



# CUSTOM ENGINEERED SOLUTIONS

## JNL / INTERNAL SEALING CONNECTION TOOL



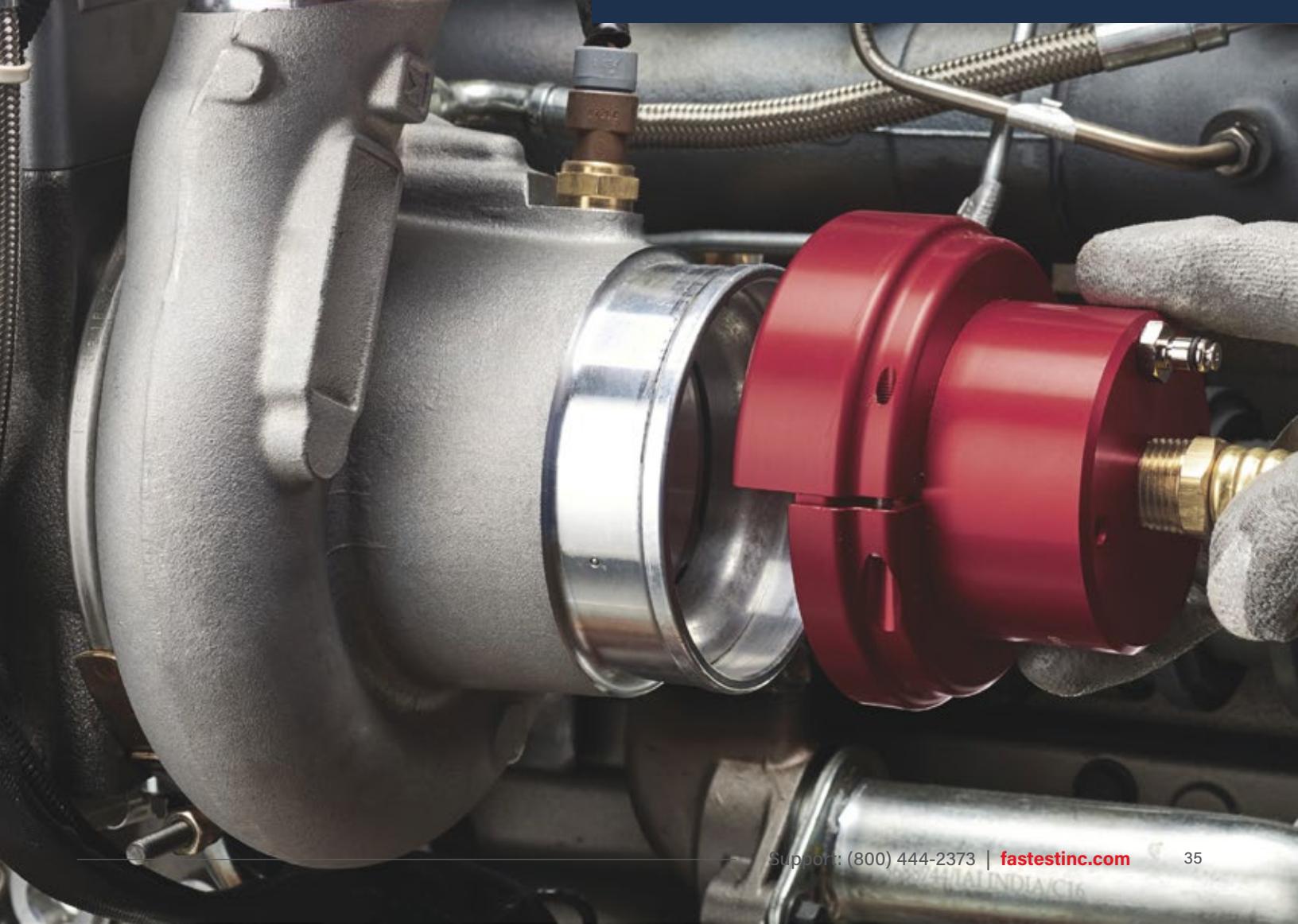
Ordering Information			Dimensions		
Connects To +0.030/-0.010 (+0.76/-0.25)	Part Number	Replacement Seals Bulk Pack (5)	A	L	M

**JNL2** | Lever Actuated Connectors for Internal Tubes / Bores

1.000 (25.4)	JNL21000	SN21000	7.71 (195.8)	1.31 (33.3)	1.39 (35.4)
1.125 (28.6)	JNL21125	SN21125			
1.250 (31.8)	JNL21250	SN21250	7.71 (195.8)	1.44 (36.6)	1.51 (38.4)
1.375 (34.9)	JNL21375	SN21375	7.84 (199.1)	1.56 (39.7)	2.05 (52.1)
1.500 (38.1)	JNL21500	SN21500	7.96 (202.2)	1.69 (43.0)	2.12 (53.9)
1.625 (41.3)	JNL21625	SN21625	8.09 (205.5)	1.81 (46.0)	2.30 (58.5)

Dimensions: inch (mm)

**NOTE:** Additional JNL2 sizes available per customer request. Consult factory.



**WE TRANSFORM  
STANDARDIZED  
TOOLS INTO  
TAILOR-MADE  
SOLUTIONS TO  
FIT YOUR EXACT  
REQUIREMENTS.**

## FN / INTERNAL SEALING CONNECTION TOOL

Internal thread grip and seal tool that uses threaded collets to grip threaded bores for high pressures.

FNPT      SAE      BSPP (G)/  
BSPT




### SPECIFICATIONS

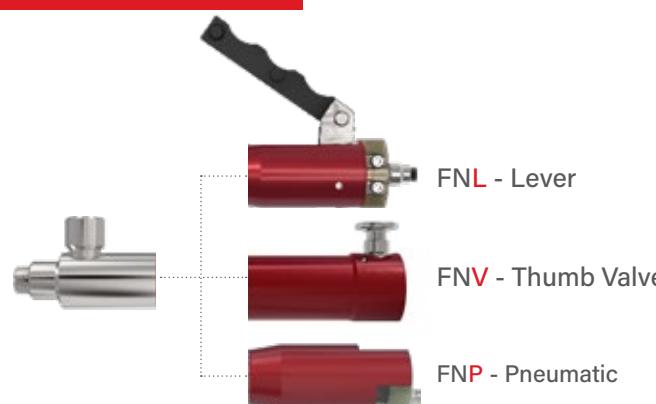
Pressure Rating	Operating Temperatures	Materials of Construction
Per Body Size, see charts	-40°F to +250°F (-40°C to +121°C)	Anodized Aluminum, Stainless Steel, Potted PCA
Termination Port	Seal Material*	
BSPP (G) or FNPT	Buna-N	

\*Additional seal material types available, consult factory.

\*\* Operating Temp: 32°F-100°F (0°C-38°C) for ICON™.

i Side load rating varies depending on size and insertion.

### ACTUATION OPTIONS



### ICON™ TECHNOLOGY

#### SURE SEAL™

- 1 Pressure assisted grip and proprietary design locks the connector securely in the port, even when used in dynamic hydraulic applications
- 2 Instant threaded sealing connection up to 5,000 psig without tape, sealant, or wrenches - significantly reduces process time
- 3 Split collet design locks securely and will not damage threaded ports
- 4 Self aligning connector requires no operator adjustment
- 5 Quick and easy seal replacement to minimize down time, maintenance and tool inventory

### CLAMP KIT (OPTIONAL)

Optional Clamp Kit available for use with Tool Balancers. Available for body sizes 6 & 7 only.

Body Size	Part Number
6	FNX6CK
7	FNX7CK



## 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:

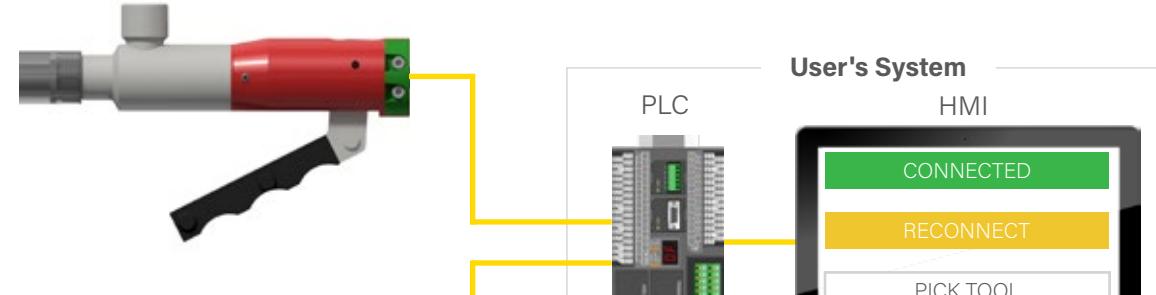


#### SURE SEAL™

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

### System Overview:

CONNECTED Verify connections are good prior to starting a leak test and provide operators instant positive feedback to simplify training.



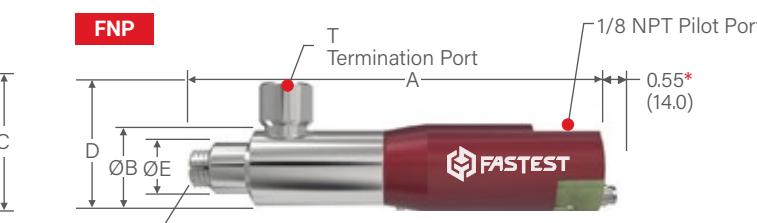
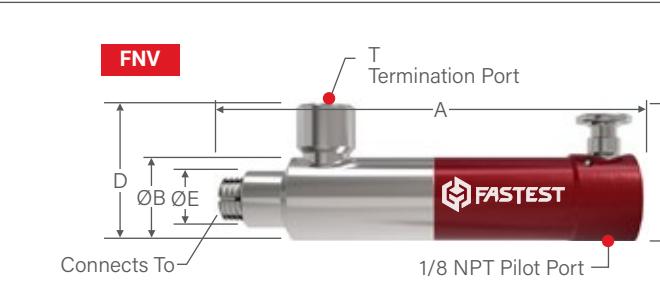
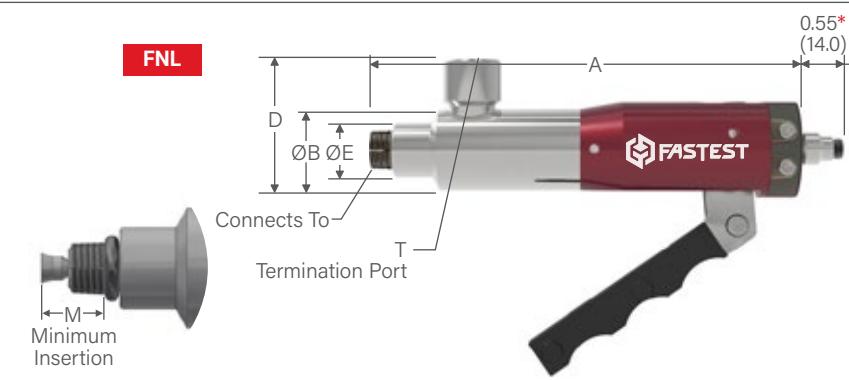
RECONNECT Recognize short connects before hazardous spills occur in functional testing, or prevent wasteful False Positive results in leak testing.

PICK TOOL Controllable LED signals operator to use specific tool.



- Quickly setup ICON™ Tools
- Eliminate the need for PLC programming
- Can be powered from wall adapter (included) or from a PLC (24VDC)

## FN / INTERNAL CONNECTIONS / NPT



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

Ordering Information										
Connects To	Pressure Rating	Body Size	FNL Part Number (with Lever)	FNV Part Number (with Thumb Valve)	FNP Part Number (w/ Pneumatic Pilot)	Replacement Seals Pack (5)	Rebuild Kit	ICON™ Repair Kit (FNL / FNP)		
<b>FasMate® FN   NPT</b>										
1/8 NPT	5000 (345)	1	FNL022021[*]	FNV022021	FNP022021[*]	S1108B70	RFN022021	RFNLBG1CV04ANA RFNLBG1CV04SSR		
	2500 (172)		FNLR022021[*]	FNVR022021	FNPR022021[*]					
	5000 (345)		FNL022025[*]	FNV022025	FNP022025[*]					
1/4 NPT	5000 (345)	2	FNL042041[*]	FNV042041	FNP042041[*]	S21250327B60	RFN042041			
	2500 (172)		FNLR042041[*]	FNVR042041	FNPR042041[*]					
	5000 (345)		FNL042045[*]	FNV042045	FNP042045[*]					
3/8 NPT	5000 (345)	3	FNL062061[*]	FNV062061	FNP062061[*]	S1112B70	RFN062061			
	2500 (172)		FNLR062061[*]	FNVR062061	FNPR062061[*]					
	5000 (345)		FNL062065[*]	FNV062065	FNP062065[*]					
1/2 NPT	5000 (345)	4	FNL082081[*]	FNV082081	FNP082081[*]	S1208B70	RFN082081	RFNLBG4CV04ANA RFNLBG4CV04SSR		
	FNL082085[*]		FNV082085	FNP082085[*]						
3/4 NPT	3500 (241)	5	FNL122121[*]	FNV122121	FNP122121[*]	S1315B50	RFN BG5	RFNLBG5CV04ANA RFNLBG5CV04SSR		
	FNL122125[*]		FNV122125	FNP122125[*]						
1 NPT	2000 (137.9)	6	FNV162161	FNP162161	S1318B70	RFN BG6	N/A	N/A		
1 1/4 NPT			FNV202161	FNP202161	S1323B70					
1 1/2 NPT			FNV242161	FNP242161	S1325B70					

Reduced Thread Connectors [FNxRxxxxx]; The "R" in the part number indicates a shorter collet length for shallow ports.

**Port specifications:** NPT per SAE J476 or ANSI B1.20

Dimensions										
Body Size	A (FNL)	A (FNV)	A (FNP)	B	C (FNL)	C (FNV)	D	E	M	T
1	4.80 (121.9)	5.13 (130.3)	4.90 (124.5)	1.06 (26.9)	3.70 (94.0)	1.58 (40.1)	1.50 (38.1)	0.65 (16.5)	0.55 (14.0)	1/8 NPT
									0.30 (7.6)	
									0.55 (14.0)	1/8 BSPP (G)
2	5.00 (127.0)	5.21 (132.3)	5.00 (127.0)	1.06 (26.9)	4.00 (101.6)	1.58 (40.1)	1.70 (43.2)	0.72 (18.3)	0.67 (17.0)	1/4 NPT
									0.39 (9.9)	
									0.67 (17.0)	1/4 BSPP (G)
3	5.00 (127.0)	5.05 (128.3)	4.80 (121.9)	1.25 (31.8)	3.90 (99.1)	1.58 (40.1)	1.86 (47.2)	0.86 (21.8)	0.67 (17.0)	3/8 NPT
									0.47 (11.9)	
									0.67 (17.0)	3/8 BSPP (G)
4	5.27 (133.9)	5.27 (133.9)	5.34 (135.6)	1.43 (36.3)	4.40 (111.8)	1.85 (47.0)	2.33 (59.2)	1.09 (27.7)	0.76 (19.3)	1/2 NPT
										1/2 BSPP (G)
5	8.17 (207.5)	8.75 (222.2)	8.75 (222.2)	1.78 (45.2)	5.10 (129.5)	2.11 (53.6)	2.93 (74.4)	1.49 (37.8)	0.63 (16.0)	3/4 NPT
										3/4 BSPP (G)
6	8.48 (215.4)	8.17 (207.5)	2.23 (56.6)	N/A		3.63 (92.2)	1.71 (43.4)	N/A	1 NPT	
	8.53 (216.7)	8.21 (208.5)	2.75 (69.9)			2.46 (62.5)	2.07 (52.6)			
7						4.07 (103.4)	2.27 (57.7)			

Dimensions inch (mm)

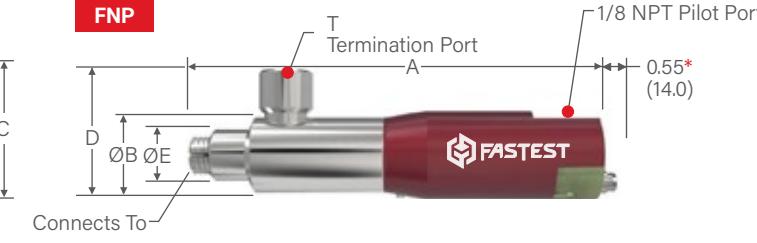
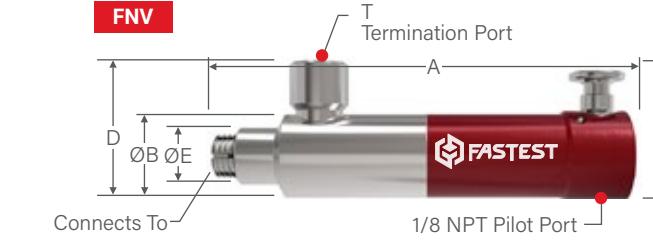
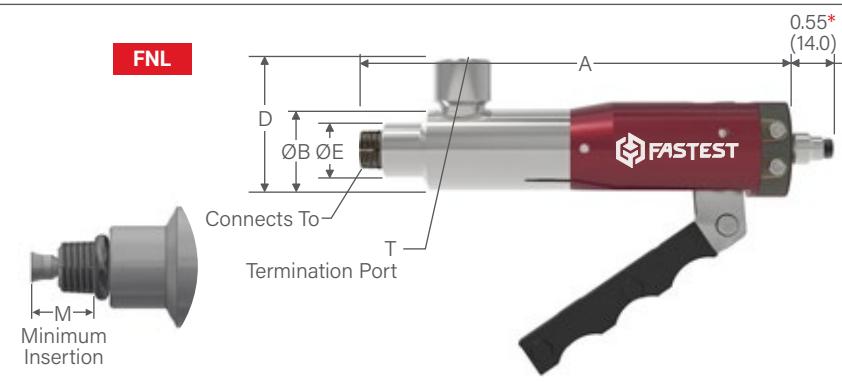
Pressure Rating: psi (bar)

#### \*How To Add ICON™ to FN

Signal Output	Part Number Suffix	Example
FNL Connector without ICON™	None	FNL022021
FNL with ICON™: Analog Output Signal	CV04ANA	FNL022021CV04ANA
FNL with ICON™: Solid State Relay	CV04SSR	FNL022021CV04SSR



## FN / INTERNAL CONNECTIONS / BSPP (G)/T



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

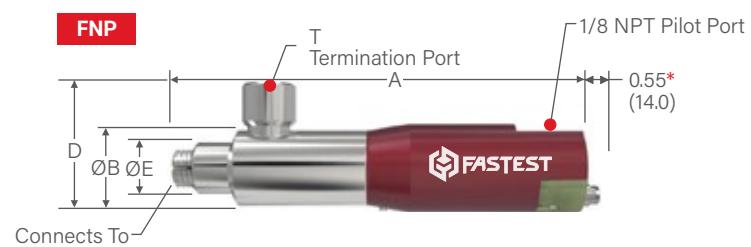
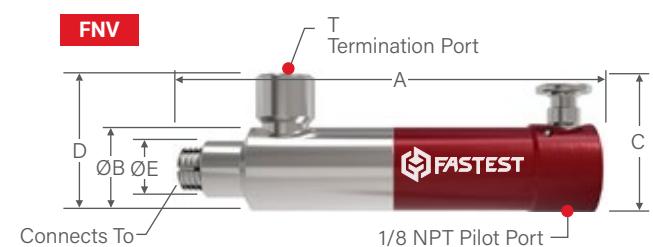
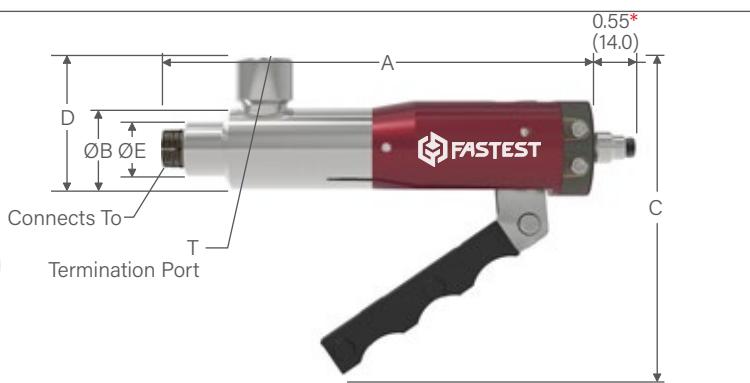
Ordering Information									
Connects To	Pressure Rating	Body Size	FNL Part Number (with Lever)	FNV Part Number (w/ Thumb Valve)	FNP Part Number (w/ Pneumatic)	Replacement Seals Pack (5)	Rebuild Kit	ICON™ Repair Kit (FNL / FNP)	
<b>FasMate® FN   BSPP (G)</b>									
1/8 BSPP (G)	5000 (345)	1	FNL026021[*]	FNV026021	FNP026021[*]	S1108B70	RFN026021	RFNLBG1CV04ANA RFNLBG1CV04SSR	
	2500 (172)		FNL026021[*]	FNV026021	FNPR026021[*]				
	5000 (345)		FNL026025[*]	FNV026025	FNP026025[*]				
	2500 (172)		FNL026025[*]	FNV026025	FNPR026025[*]				
1/8 BSPT	5000 (345)		FNL026T025[*]	FNV026T025	FNP026T025[*]				
1/4 BSPP (G)	5000 (345)	2	FNL046041[*]	FNV046041	FNP046041[*]	S21250327B60	RFN046041	RFNLBG1CV04ANA RFNLBG1CV04SSR	
	2500 (172)		FNL046041[*]	FNV046041	FNPR046041[*]				
	5000 (345)		FNL046045[*]	FNV046045	FNP046045[*]				
	2500 (172)		FNL046045[*]	FNV046045	FNPR046045[*]				
1/4 BSPT	5000 (345)		FNL046T045[*]	FNV046T045	FNP046T045[*]				
3/8 BSPP (G)	5000 (345)	3	FNL066061[*]	FNV066061	FNP066061[*]	S1112B70	RFN066061	RFNLBG1CV04ANA RFNLBG1CV04SSR	
			FNL066065[*]	FNV066065	FNP066065[*]				
			FNL066T065[*]	FNV066T065	FNP066T065[*]				
3/8 BSPT									
1/2 BSPP (G)	5000 (345)	4	FNL086081[*]	FNV086081	FNP086081[*]	S1208B70	RFN086081	RFNLBG4CV04ANA RFNLBG4CV04SSR	
			FNL086085[*]	FNV086085	FNP086085[*]				
1/2 BSPT			FNL086T085[*]	FNV086T085	FNP086T085[*]				
3/4 BSPP (G)	3500 (241)	5	FNL126121[*]	FNV126121	FNP126121[*]	S1315B50	RFNBG5	RFNLBG5CV04ANA RFNLBG5CV04SSR	
			FNL126125[*]	FNV126125	FNP126125[*]				
3/4 BSPT			FNL126T125[*]	FNV126T125	FNP126T125[*]				
1 BSPP (G)			FNV166161	FNP166161					
1 BSPT (G)			FNV166T161	FNP166T161					
1 1/4 BSPP (G)	2000 (137.9)		FNV206161	FNP206161					
1 1/4 BSPT (G)			FNV206T161	FNP206T161					
1 1/2 BSPP			FNV246161	FNP246161					
1 1/2 BSPT			FNV246T161	FNP246T161					

Reduced Thread Connectors [FNxRxxxxxx]; The "R" in the part number indicates a shorter collet length for shallow ports.

**Port Specifications:** BSPP (G) per ISO 228, BS 2779, DIN 3852 Part 2 Type A and B; BSPT per ISO 7 or BS 21

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

# FN / INTERNAL CONNECTIONS / SAE O-RING



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

## Ordering Information

Connects To	Pressure Rating	Body Size	FNL Part Number (with Lever)	FNV Part Number (w/ Thumb Valve)	FNP Part Number (w/ Pneumatic Pilot)	Replacement Seals Pack (5)	Rebuild Kit	ICON™ Repair Kit (FNL / FNP)
-------------	-----------------	-----------	------------------------------	----------------------------------	--------------------------------------	----------------------------	-------------	------------------------------

### FasMate® FN | SAE O-Ring

-3 [3/8-24]	2500 (172)	1	FNL034021[*]	FNVR034021	FNPR034021[*]	S1108B70	RFN022021	RFNLBG1CV04ANA RFNLBG1CV04SSR
			FNL034025[*]	FNVR034025	FNPR034025[*]			
			FNL044021[*]	FNV044021	FNPR044021[*]			
			FNL044021[*]	FNVR044021	FNPR044021[*]			
			FNL044025[*]	FNV044025	FNPR044025[*]			
			FNL044025[*]	FNVR044025	FNPR044025[*]			
			FNL044K021[*]	FNVR044K021	FNPR044K021[*]			
			FNL044K025[*]	FNVR044K025	FNPR044K025[*]			
-4 [7/16-20]	2500 (172)	2	FNL054041[*]	FNV054041	FNPR054041[*]	S21250327B60	RFN054041	RFNLBG4CV04ANA RFNLBG4CV04SSR
			FNL054041[*]	FNVR054041	FNPR054041[*]			
			FNL054045[*]	FNV054045	FNPR054045[*]			
			FNL054045[*]	FNVR054045	FNPR054045[*]			
			FNL064041[*]	FNV064041	FNPR064041[*]			
			FNL064041[*]	FNVR064041	FNPR064041[*]			
			FNL064045[*]	FNV064045	FNPR064045[*]			
			FNL064045[*]	FNVR064045	FNPR064045[*]			
-8 [3/4-16]	5000 (345)	4	FNL084061[*]	FNV084061	FNPR084061[*]	S1207B70	RFN084061	RFNLBG5CV04ANA RFNLBG5CV04SSR
			FNL084065[*]	FNV084065	FNPR084065[*]			
			FNL104081[*]	FNV104081	FNPR104081[*]			
			FNL104085[*]	FNV104085	FNPR104085[*]			
			FNL124121[*]	FNV124121	FNPR124121[*]			
			FNL144161	FNP144161	S1315B50			
			FNV164161	FNP164161	S1316B70			
			N/A	FNP164161	S1318B70			
-12 [1 1/16-12]	3500 (241)	5	FNL124121[*]	FNV124121	FNPR124121[*]	S1315B50	RFNBG5	RFNLBG5CV04ANA RFNLBG5CV04SSR
			FNL144161	FNP144161	S1316B70			
-14 [1 3/16-12]	2000 (137.9)	6	N/A	FNV164161	FNP164161	S1318B70	RFNBG6	N/A
			FNV164161	FNP164161	S1318B70			
-16 [1 5/16-12]	2000 (137.9)	6	N/A	FNV164161	FNP164161			

Reduced Thread Connectors [FNxRxxxxx]; The "R" in the part number indicates a shorter collet length for shallow ports.

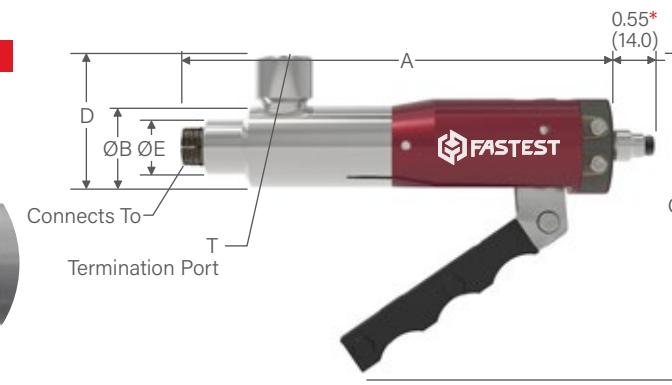
**Port Specifications:** SAE O-Ring per SAE J1926 or ISO 11926



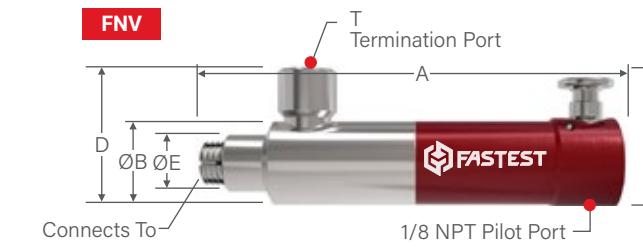
## FN / INTERNAL CONNECTIONS / METRIC



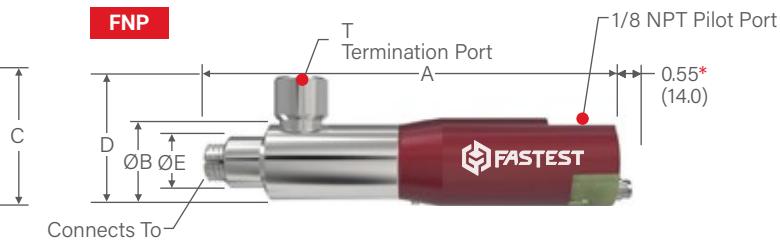
FNL



FNV



FNP



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

## Ordering Information

Connects To	Pressure Rating	Body Size	FNL Part Number (w/ Lever)	FNV Part Number (w/ Thumb Valve)	FNP Part Number (w/ Pneumatic Pilot)	Replacement Seals Pack (5)	Rebuild Kit	ICON™ Repair Kit (FNL / FNP)
-------------	-----------------	-----------	----------------------------	----------------------------------	--------------------------------------	----------------------------	-------------	------------------------------

## FasMate® FN | ISO O-Ring Metric

	5000 (345)	1	FNL108021[*]	FNV108021	FNP108021[*]	S1108B70	RFN108021	RFNLBG1CV04ANA RFNLBG1CV04SSR
M10 x 1.0	2500 (172)		FNLR108021[*]	FNVR108021	FNPR108021[*]			
	5000 (345)		FNL108025[*]	FNV108025	FNP108025[*]			
	2500 (172)		FNLR108025[*]	FNVR108025	FNPR108025[*]			
M10 x 1.25	2500 (172)	2	FNLR108D021[*]	FNVR108D021	FNPR108D021[*]	S1203B60	RFN128041	RFNLBG1CV04ANA RFNLBG1CV04SSR
			FNLR108D025[*]	FNVR108D025	FNPR108D025[*]			
			FNLR108E021[*]	FNVR108E021	FNPR108E021[*]			
			FNLR108E025[*]	FNVR108E025	FNPR108E025[*]			
M12 x 1.0	5000 (345)	2	FNL128C041[*]	FNV128C041	FNP128C041[*]	S1203B60	RFN128041	RFNLBG1CV04ANA RFNLBG1CV04SSR
			FNLR128C041[*]	FNVR128C041	FNPR128C041[*]			
			FNL128C045[*]	FNV128C045	FNP128C045[*]			
			2500 (172)					
M12 x 1.25	2500 (172)	2	FNLR128C045[*]	FNVR128C045	FNPR128C045[*]	S1203B60	RFN128041	RFNLBG1CV04ANA RFNLBG1CV04SSR
			FNLR128D041[*]	FNVR128D041	FNPR128D041[*]			
			FNLR128D045[*]	FNVR128D045	FNPR128D045[*]			
			FNLR128D041[*]	FNVR128D041	FNPR128D041[*]			
M12 x 1.5	2500 (172)	2	FNLR128D045[*]	FNVR128D045	FNPR128D045[*]	S1203B60	RFN128041	RFNLBG1CV04ANA RFNLBG1CV04SSR
			FNLR128D045[*]	FNVR128D045	FNPR128D045[*]			
			FNLR128D041[*]	FNVR128D041	FNPR128D041[*]			
			FNLR128D045[*]	FNVR128D045	FNPR128D045[*]			
M14 x 1.5	5000 (345)	2	FNL148045[*]	FNV148045	FNP148045[*]	S1203B60	RFN148041	RFNLBG1CV04ANA RFNLBG1CV04SSR
			FNLR148041[*]	FNVR148041	FNPR148041[*]			
			FNLR148045[*]	FNVR148045	FNPR148045[*]			
			2500 (172)					
M16 x 1.5	5000 (345)	3	FNL168065[*]	FNV168065	FNP168065[*]	S21200445B70	RFN168061	RFNLBG1CV04ANA RFNLBG1CV04SSR
			FNLR168061[*]	FNVR168061	FNPR168061[*]			
			FNLR168065[*]	FNVR168065	FNPR168065[*]			
M18 x 1.5			FNL188065[*]	FNV188065	FNP188065[*]	S1206B70	RFN188061	RFNLBG4CV04ANA RFNLBG4CV04SSR
M20 x 1.5	5000 (345)	4	FNL208065[*]	FNV208065	FNP208065[*]	S21390576B70	RFN208061	
M22 x 1.5			FNL228X085[*]	FNV228X085	FNP228X085[*]	S1208B70	RHN228081	
M30 x 2.0			N/A	FNV308161	FNP308161	S1316B70	RFNBBG61	
M33 x 2.0	2000 (137.9)	6	N/A	FNV338161	FNP338161	S1318B70	RFNBBG6	N/A
M42 x 2.0			N/A	FNV428161	FNP428161	S1323B70	RFNBBG71	
M48 x 2.0		7	N/A	FNV488161	FNP488161	S1325B70	RFNBBG7	

Reduced Thread Connectors Available up to M16 [FNxRxxxxx]; The "R" in the part number indicates a shorter collet length for shallow ports.

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



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.

# MIT / INTERNAL CONNECTIONS

Manual twist sealing connection tool for internal threaded ports.

**CONNECTS TO:**

FNPT SAE O-Ring BSPP (G)/ BSPT




**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 plug versions

**4** Quick and easy seal replacement to minimize down time, maintenance, and tool inventory

**SPECIFICATIONS**

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, Neoprene, or Buna-N

\*Additional seal material types available, consult factory.

**ACTUATION METHOD**

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

**ICON™ TECHNOLOGY**

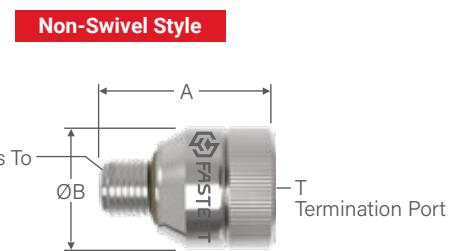
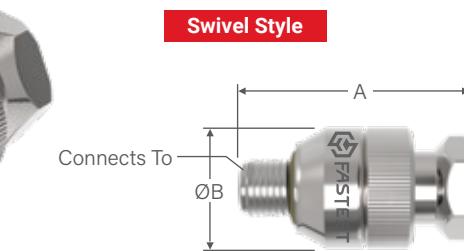
Consult Factory

**ACCESSORIES**

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

# MIT / INTERNAL CONNECTIONS / NPT

Swivel Style  
Non-Swivel Style



Ordering Information					Dimensions		
Connects To	Part Number*	Replacement Seals Bulk Pack (5)	Rebuild Kit	Pressure Rating	A	B	T**

**NPT | Swivel Style**

1/8 NPT	MIT022021	S1109U70	MITR020	5000 (345)	1.68 (42.7)	0.82 (20.8)	1/8 NPT
1/4 NPT	MIT042041	S1111U70	MITR040		1.88 (42.8)	1.00 (25.4)	1/4 NPT
3/8 NPT	MIT062061	S1113U70	MITR060		2.09 (53.1)	1.18 (30.0)	3/8 NPT
1/2 NPT	MIT082081	S1209U70	MITR080		2.57 (65.3)	1.36 (34.5)	1/2 NPT
3/4 NPT	MIT122121	S1213U70	MITR120		2.73 (69.3)	1.68 (42.7)	3/4 NPT
1 NPT	MIT162161	S1216U70	MITR160		3.27 (83.1)	2.00 (50.8)	1 NPT
1 1/4 NPT	MIT202201	S1222U70	MITR200		3.29 (83.6)	2.38 (60.5)	1 1/4 NPT
1 1/2 NPT	MIT242241	S1327U70	MITR240		3.73 (94.7)	3.73 (94.7)	1 1/2 NPT

**NPT | Non-Swivel Style**

1/8 NPT	MIT022021X	S1109U70	MITR02	5000 (345)	1.18 (30.0)	0.82 (20.8)	1/8 NPT
1/4 NPT	MIT042041X	S1111U70	MITR04		1.41 (35.8)	1.00 (25.4)	1/4 NPT
3/8 NPT	MIT062061X	S1113U70	MITR06		1.48 (37.6)	1.18 (30.0)	3/8 NPT
1/2 NPT	MIT082081X	S1209U70	MITR08		1.85 (47.0)	1.36 (34.5)	1/2 NPT
3/4 NPT	MIT122121X	S1213U70	MITR12		1.94 (49.3)	1.68 (42.7)	3/4 NPT
1 NPT	MIT162161X	S1216U70	MITR16		2.07 (52.6)	2.00 (50.8)	1 NPT
1 1/4 NPT	MIT202201X	S1222U70	MITR20		2.13 (54.1)	2.38 (60.5)	1 1/4 NPT
1 1/2 NPT	MIT242241X	S1327U70	MITR24		2.40 (61.0)	2.74 (69.6)	1 1/2 NPT

Dimensions: inch (mm)

Pressure Rating: psi (bar)

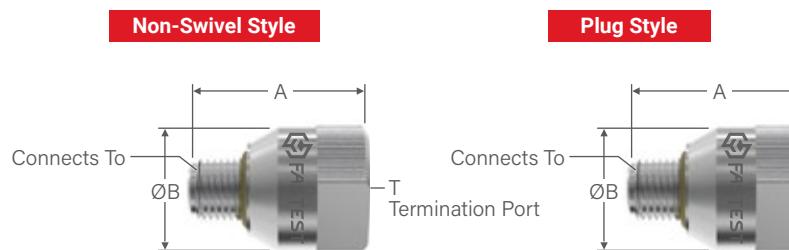
\*Optional seal materials include V = FKM, E = EPDM, and B = Buna-N - Example: MIT022021XV = FKM

\*\*Other terminations in metric / BSPP may be available. Contact factory.

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



# MIT / INTERNAL CONNECTIONS / NPT (HIGH PRESSURE <10,000 PSI)



Ordering Information					Dimensions		
Connects To	Part Number*	Replacement Seals Bulk Pack (5)	Rebuild Kit	Pressure Rating	A	B	T**
<b>NPT</b>   Non-Swivel Style for High Pressure							
1/8 NPT	MITH022021X	S1109U70	MITR02	10000 (689)	1.24 (31.5)	0.82 (20.8)	1/8 NPT
1/4 NPT	MITH042041X	S1111U70	MITR04		1.41 (35.8)	1.00 (25.4)	1/4 NPT
3/8 NPT	MITH062061X	S1113U70	MITR06	10000 (689)	1.48 (37.6)	1.18 (30.0)	3/8 NPT
1/2 NPT	MITH082081X	S1209U70	MITR08	8000 (552)	1.85 (47.0)	1.36 (34.5)	1/2 NPT
3/4 NPT	MITH122121X	S1213U70	MITR12	7500 (517)	1.94 (49.3)	1.68 (42.7)	3/4 NPT
1 NPT	MITH162161X	S1216U70	MITR16	6500 (448)	2.07 (52.6)	2.00 (50.8)	1 NPT
<b>NPT</b>   Plug Style							
1/8 NPT	MIT022P	S1109U70	MITR02	5000 (345)	1.24 (31.5)	0.82 (21.8)	N/A (Plug Style No Termination Port)
1/4 NPT	MIT042P	S1111U70	MITR04		1.41 (35.8)	1.00 (25.4)	
3/8 NPT	MIT062P	S1113U70	MITR06		1.48 (37.6)	1.18 (30.0)	
1/2 NPT	MIT082P	S1209U70	MITR08		1.85 (47.0)	1.36 (34.5)	
3/4 NPT	MIT122P	S1213U70	MITR12		1.94 (49.3)	1.68 (42.7)	
1 NPT	MIT162P	S1216U70	MITR16		2.07 (52.6)	2.00 (50.8)	
1 1/4 NPT	MIT202P	S1222U70	MITR20		2.13 (54.1)	2.38 (60.5)	
1 1/2 NPT	MIT242P	S1327U70	MITR24	3000 (207)	2.40 (61.0)	2.74 (69.6)	
2 NPT	MIT322P	S1331U70	MITR32	2500 (172)	2.68 (68.1)	3.47 (88.1)	
2 1/2 NPT	MIT402P	S1335U70	MITR40	1500 (103)	3.42 (88.9)	3.97 (100.8)	
3 NPT	MIT482P	S1340U70	MITR48		3.68 (93.5)	4.73 (120.1)	
4 NPT	MIT642P	S1348U70	MITR64	1000 (69)	3.68 (93.5)	5.73 (145.5)	

Dimensions: inch (mm)

Pressure Rating: psi (bar)

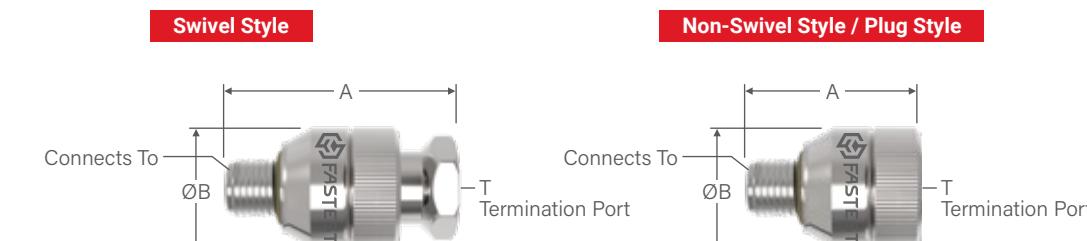
\*Optional seal materials include V = FKM, E = EPDM, and B = Buna-N - Example: MITH022021XV = FKM

\*\*Other terminations in metric / BSPP may be available. Contact factory.

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

Non-Swivel Style for High Pressure  
Plug Style

# MIT / INTERNAL CONNECTIONS / BSPP (G)



Ordering Information					Dimensions		
Connects To	Part Number*	Replacement Seals Bulk Pack (5)	Rebuild Kit	Pressure Rating	A	B	T**
<b>BSPP (G)</b>   Swivel Style							
1/8 BSPP (G)	MIT026021	S1109U70	MITR02	5000 (345)	1.66 (42.2)	0.82 (20.8)	1/8 FNPT
1/4 BSPP (G)	MIT046041	S1111U70	MITR04		1.83 (46.5)	1.00 (25.4)	1/4 FNPT
3/8 BSPP (G)	MIT066061	S1113U70	MITR06	4000 (276)	2.10 (53.4)	1.18 (30.0)	3/8 FNPT
1/2 BSPP (G)	MIT086081	S1209U70	MITR08		2.55 (64.8)	1.36 (34.5)	1/2 FNPT
<b>BSPP (G)</b>   Non-Swivel Style							
1/8 BSPP (G)	MIT026021X	S1109U70	MITR02	5000 (345)	1.20 (30.5)	0.82 (20.8)	1/8 FNPT
1/4 BSPP (G)	MIT046041X	S1111U70	MITR04		1.36 (34.5)	1.00 (25.4)	1/4 FNPT
3/8 BSPP (G)	MIT066061X	S1113U70	MITR06	4000 (276)	1.50 (38.1)	1.18 (30.0)	3/8 FNPT
1/2 BSPP (G)	MIT086081X	S1209U70	MITR08		1.83 (46.5)	1.36 (34.5)	1/2 FNPT
3/4 BSPP (G)	MIT126121X	S1213U70	MITR12		1.94 (49.3)	1.68 (42.7)	3/4 FNPT
1 BSPP (G)	MIT166161X	S1216U70	MITR16		2.07 (52.6)	2.07 (52.6)	1 FNPT
<b>BSPP (G)</b>   Plug Style							
1/8 BSPP (G)	MIT026P	S1109U70	MITR02	5000 (345)	1.24 (31.5)	0.82 (20.8)	N/A (Plug Style No Termination Port)
1/4 BSPP (G)	MIT046P	S1111U70	MITR04		1.41 (35.8)	1.00 (25.4)	
3/8 BSPP (G)	MIT066P	S1113U70	MITR06	4000 (276)	1.48 (37.6)	1.18 (30.0)	
1/2 BSPP (G)	MIT086P	S1209U70	MITR08		1.85 (47.0)	1.36 (34.5)	
3/4 BSPP (G)	MIT126P	S1213U70	MITR12		1.90 (48.3)	1.68 (42.7)	
1 BSPP (G)	MIT166P	S1216U70	MITR16		2.36 (59.9)	2.07 (52.6)	

Dimensions: inch (mm)

Pressure Rating: psi (bar)

\*Optional seal materials include V = FKM, E = EPDM, and B = Buna-N - Example: MIT026021V = FKM

\*\*Other terminations in metric / BSPP may be available. Contact factory.

Port Specifications: BSPP (G) per ISO 228 or BS2779

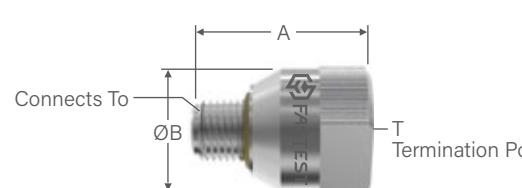


# MIT / INTERNAL CONNECTIONS / SAE ORB

Non-Swivel Style  
Non-Swivel Style for High Pressure



## Non-Swivel Style



Ordering Information					Dimensions		
Connects To	Part Number*	Replacement Seals Bulk Pack (5)	Rebuild Kit	Pressure Rating	A	B	T**

### SAE ORB | Non-Swivel Style

-3 [3/8-24]	MIT034021X	S1109U70	MITR02	5000 (345)	1.29 (32.8)	0.82 (21.8)	1/8 FNPT	
-4 [7/16-20]	MIT044021X				1.29 (32.8)	0.82 (21.8)	1/8 FNPT	
-5 [1/2-20]	MIT054041X	S1111U70	MITR04		1.41 (35.8)	1.00 (25.4)	1/4 FNPT	
-6 [9/16-18]	MIT064041X				1.41 (35.8)	1.00 (25.4)	1/4 FNPT	
-8 [3/4-16]	MIT084081X	S1209U70	MITR08	4000 (276)	1.85 (47.0)	1.36 (34.5)	1/2 FNPT	
-10 [7/8-14]	MIT104081X				1.85 (47.0)	1.36 (34.5)	1/2 FNPT	
-12 [11/16-12]	MIT124121X	S1213U70	MITR12		1.94 (49.3)	1.68 (42.7)	3/4 FNPT	
-14 [1 3/16-12]	MIT144161X	S1216U70	MITR16		2.13 (54.1)	2.00 (50.8)	1 FNPT	
-16 [1 5/16-12]	MIT164161X	S1217U70	MITR16		2.13 (54.1)	2.00 (50.8)	1 FNPT	
-20 [1 5/8-12]	MIT204201X	S1222U70	MITR20		2.13 (54.1)	2.38 (60.5)	1 1/4 FNPT	

### SAE ORB | Non-Swivel Style for High Pressure

-4 [7/16-20]	MITH044021X	S1109U70	MITR02	10000 (689)	1.29 (32.8)	0.82 (21.8)	1/8 FNPT
-6 [9/16-18]	MITH064041X	S1111U70	MITR04		1.41 (35.8)	1.00 (25.4)	1/4 FNPT
-8 [3/4-16]	MITH084081X	S1209U70	MITR08	8000 (552)	1.85 (47.0)	1.36 (34.5)	1/2 FNPT
-10 [7/8-14]	MITH104081X				1.85 (47.0)	1.36 (34.5)	1/2 FNPT
-12 [11/16-12]	MITH124121X	S1213U70	MITR12	7500 (517)	1.94 (49.3)	1.68 (42.7)	3/4 FNPT
-14 [1 3/16-12]	MITH144161X	S1216U70	MITR16		2.13 (54.1)	2.00 (50.8)	1 FNPT
-16 [1 5/16-12]	MITH164161X	S1217U70	MITR16	7000 (483)	2.13 (54.1)	2.00 (50.8)	1 FNPT

Dimensions: inch (mm)

Pressure Rating: psi (bar)

\*Optional seal materials include V = FKM, E = EPDM, and B = Buna-N - Example: MIT034021XV = FKM

\*\*Other terminations in metric / BSPP may be available. Contact factory.

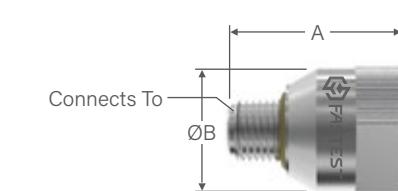
**Port Specifications:** SAE ORB per SAE J1926 or ISO 11926

# MIT / INTERNAL CONNECTIONS / SAE ORB

Plug Style



## Plug Style



Ordering Information					Dimensions		
Connects To	Part Number*	Replacement Seals Bulk Pack (5)	Rebuild Kit	Pressure Rating	A	B	T

### SAE ORB | Plug Style

-4 [7/16-20]	MIT044P	S1109U70	MITR02	5000 (345)	1.29 (32.8)	0.82 (21.8)	N/A (Plug Style No Termination Port)
-5 [1/2-20]	MIT054P	S1111U70	MITR04		1.41 (35.8)	1.00 (25.4)	
-6 [9/16-18]	MIT064P	S1111U70	MITR04	4000 (276)	1.41 (35.8)	1.00 (25.4)	
-8 [3/4-16]	MIT084P	S1209U70	MITR08		1.85 (47.0)	1.36 (34.5)	
-10 [7/8-14]	MIT104P	S1209U70	MITR08	4000 (276)	1.94 (49.3)	1.68 (42.7)	
-12 [1 1/16-20]	MIT124P	S1213U70	MITR12		1.29 (32.8)	0.82 (21.8)	
-14 [1 3/16-12]	MIT144P	S1216U70	MITR16		2.13 (54.1)	2.00 (50.8)	
-16 [1 5/16-12]	MIT164P	S1217U70	MITR16		2.13 (54.1)	2.00 (50.8)	
-20 [1 5/8-12]	MIT204P	S1222U70	MITR20		2.13 (54.1)	2.38 (60.5)	

Dimensions: inch (mm)

Pressure Rating: psi (bar)

\*Optional seal materials include V = FKM, E = EPDM, and B = Buna-N - Example: MIT044PV = FKM

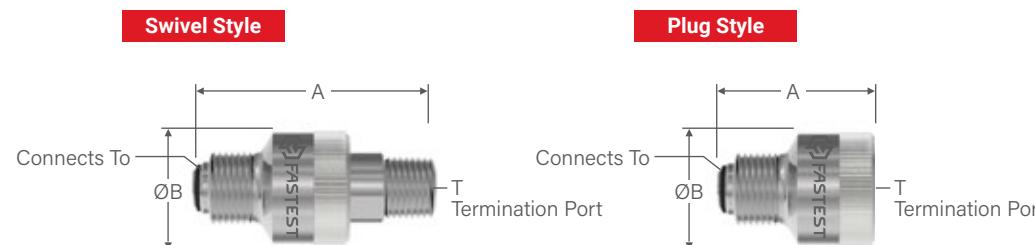
**Port Specifications:** SAE ORB per SAE J1926 or ISO 11926



# MIT / INTERNAL CONNECTIONS / SAE 37° FLARE



Swivel Style  
Plug Style



Ordering Information					Dimensions		
Connects To	Part Number*	Replacement Seals Bulk Pack (5)	Rebuild Kit	Pressure Rating	A	B	T**

## SAE 37° FLARE | Swivel Style

-4 [7/16-20]	MITH040022	S20540158B70	METR02	10000 (689)	2.11 (53.6)	0.80 (20.3)	1/8 NPTF
-6 [9/16-18]	MITH060042	S20640239B70	METR04		2.36 (59.9)	0.97 (24.6)	1/4 NPTF
-8 [3/4-16]	MITH080062	S1012B70	METR06		2.54 (64.5)	1.18 (30.0)	3/8 NPTF
-10 [7/8-14]	MITH100082	S1013B70	METR08		2.94 (76.7)	1.38 (35.1)	1/2 NPTF
-12 [11/16-12]	MITH120122	S20700583B70	METR12		3.30 (83.8)	1.72 (43.7)	3/4 NPTF
-16 [1 5/16-12]	MITH160162	S20800796B70	METR16		3.77 (95.8)	2.13 (54.1)	1 NPTF

## SAE 37° FLARE | Plug Style

-4 [7/16-20]	MITH040P	S20540158B70	METR02	10000 (689)	1.42 (36.1)	0.80 (20.3)	N/A (Plug Style No Termination Port)
-6 [9/16-18]	MITH060P	S20640239B70	METR04		1.51 (38.4)	0.97 (24.6)	
-8 [3/4-16]	MITH080P	S1012B70	METR06		1.65 (41.9)	1.18 (30.0)	
-10 [7/8-14]	MITH100P	S1013B70	METR08		1.86 (47.2)	1.38 (35.1)	
-12 [11/16-12]	MITH120P	S20700583B70	METR12		2.03 (51.6)	1.72 (43.7)	
-16 [1 5/16-12]	MITH160P	S20800796B70	METR16		2.29 (58.2)	2.13 (54.1)	

Dimensions: inch (mm)

Pressure Rating: psi (bar)

\*Optional seal materials include V = FKM, E = EPDM, and B = Buna-N - Example: MITH040022V = FKM

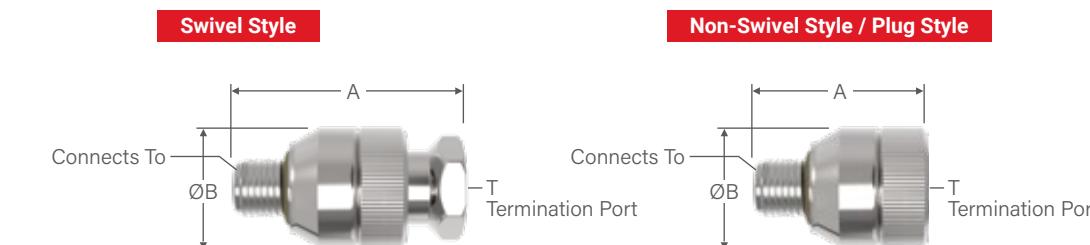
\*\*Other terminations in metric / BSPP may be available. Contact factory.

**Port Specifications:** SAE 37° FLARE per SAE J514

# MIT / INTERNAL CONNECTIONS / ISO O-RING METRIC



Swivel Style  
Non-Swivel Style  
Plug Style



Ordering Information					Dimensions		
Connects To	Part Number	Replacement Seals Bulk Pack (5)	Rebuild Kit	Pressure Rating	A	B	T**

## ISO O-Ring Metric | Swivel Style

M10 x 1.0	MIT108021	S1109U70	MITR020	4000 (276)	1.76 (44.7)	0.82 (21.8)	1/8 FNPT
M12 x 1.5	MIT128041	S1110U70	MITR040		1.95 (49.5)	1.00 (25.4)	1/8 FNPT
M14 x 1.5	MIT148041	S1111U70	MITR040		1.84 (46.7)	1.00 (25.4)	1/4 FNPT
M16 x 1.5	MIT168061	S1113U70	MITR060		2.11 (53.6)	1.18 (30.0)	3/8 FNPT
M18 x 1.5	MIT188061	S1114U70	MITR060		2.16 (54.9)	1.18 (30.0)	3/8 FNPT
M20 x 1.5	MIT208081	S1209U70	MITR080		2.57 (65.3)	1.36 (34.5)	1/2 FNPT
M22 x 1.5	MIT228081	S1116U70	MITR080		2.55 (64.8)	1.37 (34.8)	1/2 FNPT

## ISO O-Ring Metric | Non-Swivel Style

M10 x 1.0	MIT108021X	S1109U70	MITR02	5000 (345)	1.30 (33.0)	0.82 (21.8)	1/8 FNPT
M12 x 1.5	MIT128041X	S1110U70	MITR04		1.37 (34.8)	1.00 (25.4)	1/4 FNPT
M14 x 1.5	MIT148041X	S1111U70	MITR04		1.37 (34.8)	1.00 (25.4)	1/4 FNPT
M16 x 1.5	MIT168061X	S1113U70	MITR06		1.50 (38.1)	1.18 (30.0)	3/8 FNPT
M18 x 1.5	MIT188061X	S1114U70	MITR06		1.56 (39.6)	1.18 (30.0)	3/8 FNPT
M20 x 1.5	MIT208081X	S1209U70	MITR08		1.85 (47.0)	1.36 (34.5)	1/2 FNPT
M22 x 1.5	MIT228081X	S1116U70	MITR08		1.85 (47.0)	1.36 (34.5)	1/2 FNPT

## ISO O-Ring Metric | Plug Style

M10 x 1.0	MIT108P	S1109U70	MITR02	4000 (276)	1.29 (32.8)	0.82 (21.8)	N/A (Plug Style No Termination Port)
M12 x 1.5	MIT128P	S1111U70	MITR04		1.37 (34.8)	1.00 (25.4)	
M14 x 1.5	MIT148P	S1113U70	MITR06		1.37 (34.8)	1.00 (25.4)	
M16 x 1.5	MIT168P	S1209U70	MITR08		1.50 (38.1)	1.18 (30.0)	
M18 x 1.5	MIT188P	S1213U70	MITR12		1.56 (39.6)	1.31 (33.3)	
M20 x 1.5	MIT208P	S1209U70	MITR08		1.85 (47.0)	1.36 (34.5)	
M22 x 1.5	MIT228P	S1216U70	MITR16		1.82 (46.2)	1.37 (34.8)	

Dimensions: inch (mm)

Pressure Rating: psi (bar)

\*Optional seal materials include V = FKM, E = EPDM, and B = Buna-N - Example: MIT108021V = FKM

\*\*Other terminations in metric / BSPP may be available. Contact factory.

**Port Specifications:** ISO O-RING METRIC per ISO 6149 or SAE J2244





# EXTERNAL CONNECTIONS

# ZF / EXTERNAL SEALING CONNECTION TOOL

Wide tolerance sealing connection tool for formed tubes.

## CONNECTS TO:

Beaded 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

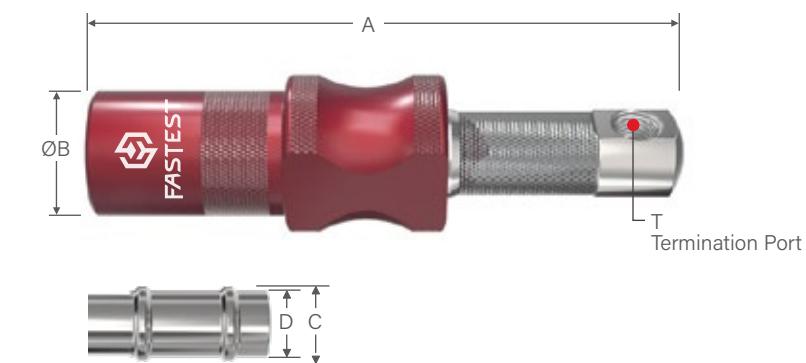
Consult Factory

## 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)	ZF1	SZF1	RZF1	300 (21)	4.60 (116.8)	0.98 (24.8)	1/8 NPT
0.310 to 0.400 (7.9 to 10.2)	0.25 to 0.34 (6.5 to 8.7)					4.90 (124.5)	1.14 (28.9)	1/8 NPT
0.400 to 0.490 (10.2 to 12.4)	0.34 to 0.44 (8.7 to 11.0)					4.96 (126.0)	1.23 (31.2)	1/4 NPT
0.490 to 0.580 (12.4 to 14.7)	0.44 to 0.52 (11.0 to 13.2)					5.18 (131.6)	1.38 (35.0)	1/4 NPT
0.580 to 0.670 (14.7 to 17.0)	0.52 to 0.61 (13.2 to 15.5)					5.25 (133.0)	1.55 (39.4)	3/8 NPT

Dimensions: inch (mm)

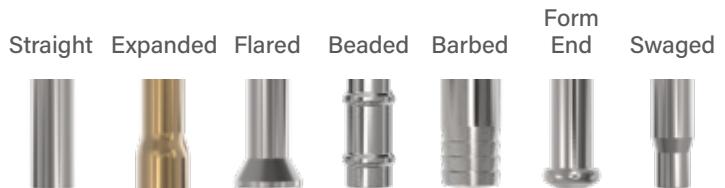
Pressure Rating: psi (bar)

Body Size 1 Body Size 2 Body Size 3 Body Size 4 Body Size 5



## FE / EXTERNAL SEALING CONNECTION TOOL

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



### 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).

**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

### 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™**

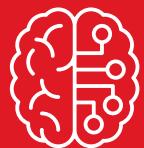


**SEAL LIFE™**

### ACCESSORIES FOR DETAILS, SEE P. 64



Pilot Booster



## 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.



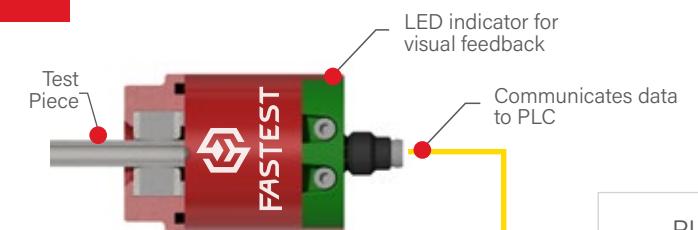
#### SEAL LIFE™

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.



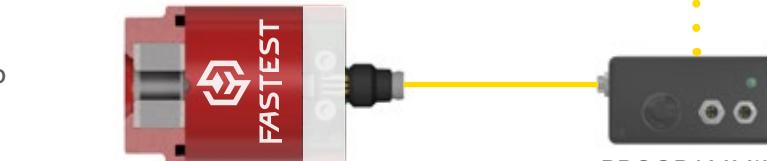
#### WORN SEAL

Alert when main seals should be replaced.

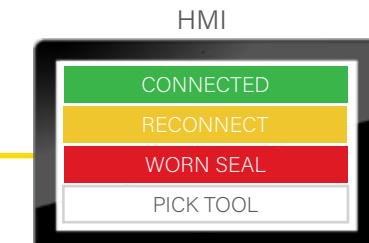


#### PICK TOOL

Controllable LED signals operator to use specific tool.



#### User's System

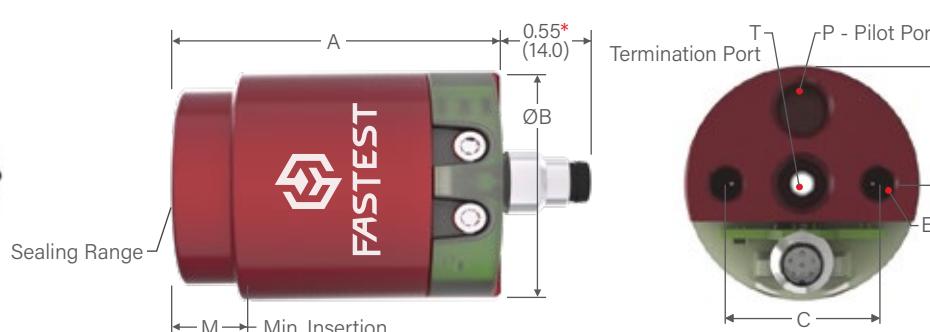


Standalone install or tie into PLC

- Quickly setup ICON™ Tools

- Eliminate the need for PLC programming

- Can be powered from wall adapter (included) or from a PLC (24VDC)



\*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)

Sealing Range	Main Seal Set*	Base Part Number	Replacement Seals Pack (5)**	Rebuild Kit	A	B	C	D	E	M	P	T
<b>FE</b>   Connectors for Straight Tubes												
0.030 to 0.050	FE0010050	FEB0010050										
0.050 to 0.080	FE001001	FEB001001										
0.080 to 0.130	FE001002	FEB001002										
0.100 to 0.180	FES0101	FEB0101										
0.180 to 0.260	FES0102	FEB0102										
0.260 to 0.340	FES0103	FE01 FE1CV04ANA FE1CV04SSR	FER01 FER01CV04ANA FER01CV04SSR	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	
0.340 to 0.420	FES0104	FEB0103										
0.420 to 0.510	FES0105	FEB0104										
0.276-0.354	FES113	FEB0105										
0.354-0.433	FES114	FEB113										
0.433 to 0.512	FES115	FE1 FE1CV04ANA FE1CV04SSR	FER1 FER1CV04ANA FER1CV04SSR	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	
0.512 to 0.591	FES116	FEB114										
0.591 to 0.669	FES117	FEB115										
0.669 to 0.750	FES118	FEB116										
0.750 to 0.827	FES119	FEB117										
0.787 to 0.866	FES221	FEB118										
0.866 to 0.945	FES222	FEB119										
0.945 to 1.024	FES223	FE2 FE2CV04ANA FE2CV04SSR	FER2 FER2CV04ANA FER2CV04SSR	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	
1.024 to 1.102	FES224	FEB221										
1.102 to 1.181	FES225	FEB222										
1.181 to 1.260	FES226	FEB223										
1.260 to 1.339	FES227	FEB224										
1.339 to 1.417	FES228	FEB225										
1.417 to 1.510	FES229	FEB226										
1.496 to 1.614	FES331	FE3 FE3CV04ANA FE3CV04SSR	FER3 FER3CV04ANA FER3CV04SSR	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	
1.614 to 1.732	FES332	FEB331										
1.732 to 1.850	FES333	FEB332										
1.850 to 1.969	FES334	FEB333										
		FEB334										

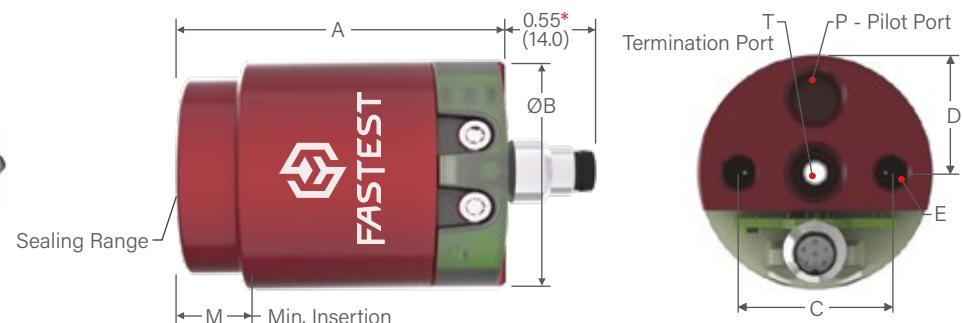
Dimensions: inch (mm). Sealing Range listed in inches (1 in = 25.4 mm).

\*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

\*\*Neoprene® seals are standard.

For Urethane seals, add "UR" suffix to Main Seal Set Part Number. Example: FEB0101UR

**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)

Sealing Range	Main Seal Set*	Base Part Number	Replacement Seals Pack (5)**	Repair Kit	A	B	C	D	E	M	P	T
<b>FE</b>   Connectors for Straight Tubes												
1.969 to 2.087	FES441	FE4 FE4CV04ANA FE4CV04SSR	FEB441									
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	FEB449										
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	FEB558										
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).

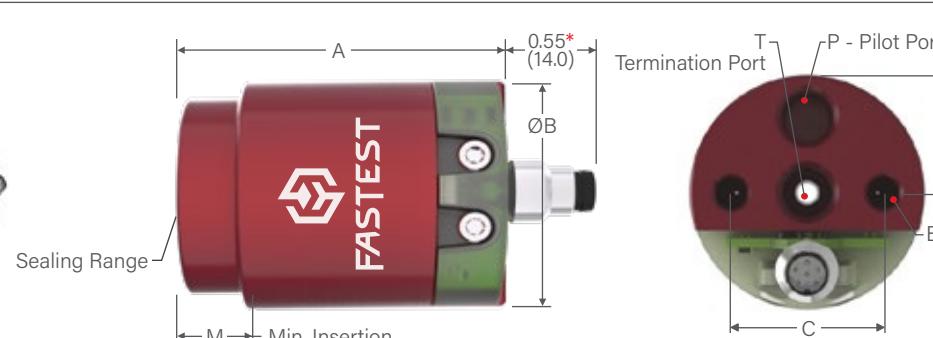
\*Includes seals(s) and metal parts for one complete seal set. Neoprene seals are standard. For Urethane seals, add "UR" suffix to Main Seal Set Part Number. Example: FES441UR

\*\*Neoprene seals are standard.

For Urethane seals, add "UR" suffix to Main Seal Set Part Number. Example: FEB441UR



## 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 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
1/4	FES11/4NPT	FE1 FE1CV04ANA FE1CV04SSR	FEB11/4NPT	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
3/8	FES13/8NPT	FE1 FE1CV04ANA FE1CV04SSR	FEB13/8NPT									
1/2	FES21/2NPT	FE2 FE2CV04ANA FE2CV04SSR	FEB21/2NPT	FER2 FER2CV04ANA FER2CV04SSR								
3/4	FES23/4NPT	FE2 FE2CV04ANA FE2CV04SSR	FEB23/4NPT		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
1	FES21NPT	FE2 FE2CV04ANA FE2CV04SSR	FEB21NPT									
1-1/4	FES311/4NPT	FE3 FE3CV04ANA FE3CV04SSR	FEB311/4NPT		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		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									

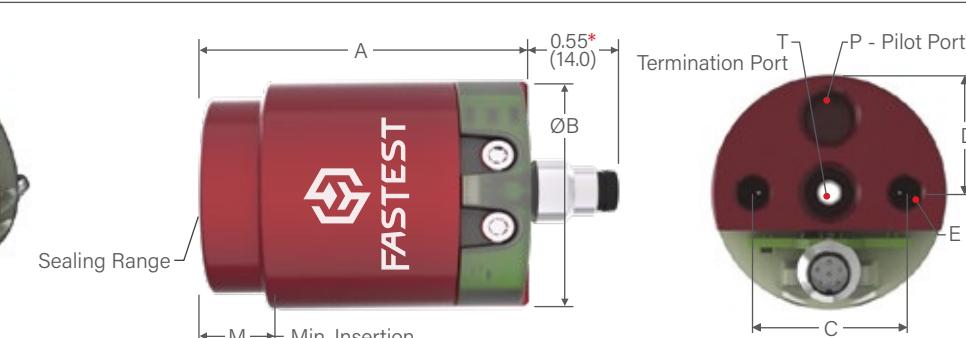
Dimensions: inch (mm)

\*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 p. 62 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	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	FER2 FER2CV04ANA FER2CV04SSR								
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	FES3T1460UR		FEB3T1460UR									
1-5/8	FES3T1640UR	FE3 FE3CV04ANA FE3CV04SSR	FEB3T1640UR	FER3 FER3CV04ANA FER3CV04SSR								
1-11/16	FES3T1710UR		FEB3T1710UR									
1-7/8	FES3T1890UR		FEB3T1890UR									
2	FES4T2020UR		FEB4T2020UR									
2-1/2	FES4T2520UR	FE4 FE4CV04ANA FE4CV04SSR	FEB4T2520UR	FER4 FER4CV04ANA FER4CV04SSR								

Dimensions: inch (mm)

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

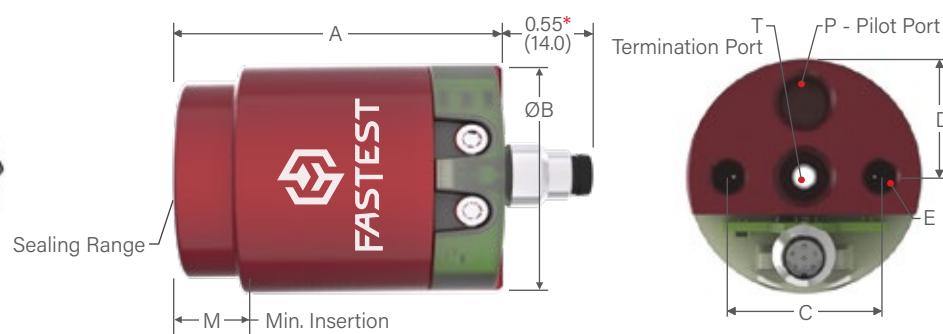
**Port Specifications:** O-Ring Port per SAE J1453; JIC 37° Flare per SAE J514; 45° Flare per SAE J512/513; 24° Cone per SAE J514

**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 p. 62 Pilot Booster).  
DO NOT use a pilot booster with FI connectors.



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.

## 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	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		FEB10720UR									
M20	FES2T0800UR	FEM2 FEM2CV04ANA FEM2CV04SSR	FEB2T0800UR	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)
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	FES3T1440UR	FEM3 FEM3CV04ANA FEM3CV04SSR	FEB3T1440UR	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	FES3T1595UR		FEB3T1595UR									
M42	FES3T1675UR		FEB3T1675UR									
M45	FES3T1790UR		FEB3T1790UR									
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 p. 62 Pilot Booster). **DO NOT use a pilot booster with FI connectors.**

## FE / ACCESSORIES

### Pilot Booster

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

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>

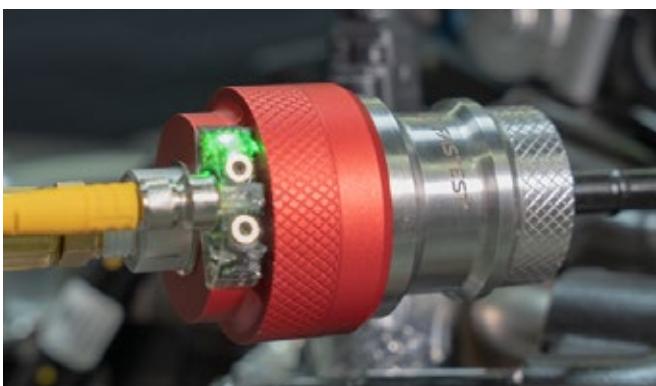
Booster Guidelines			
FE01 - 8 Connectors			
FE1 - 4 Connectors			
FE2 - 2 Connectors			
FE3 - 1 Connector			
FE4 - 1 Connector			

# 60 / EXTERNAL SEALING CONNECTION TOOL

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

## CONNECTS TO:

NPT      SAE 37°      SAE 45°      Compression Fitting



## 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



## ACCESSORIES

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



## Available without ICON™

7 SurConnect™ - Green to go visible indicator to ensure complete connection

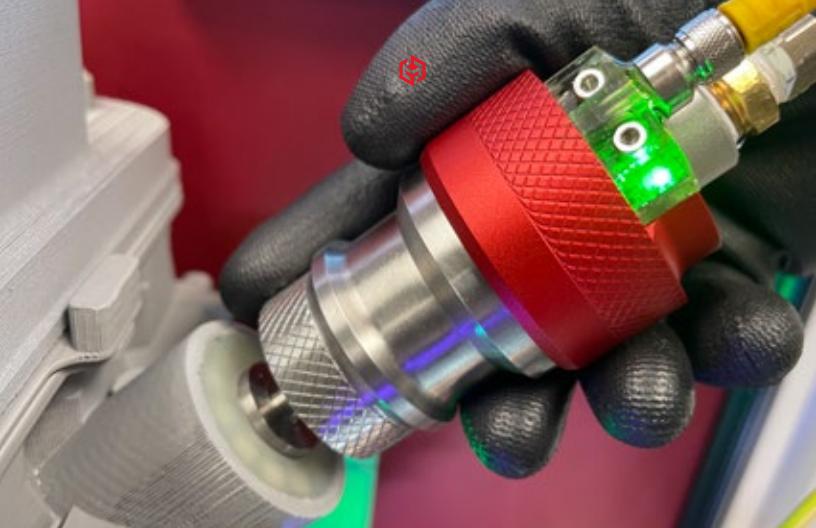
- 1 SURE SEAL™ - Instant LED feedback verifies a good connection onto the threaded port
- 2 Instant external threaded connection with floating piston to ensure proper face / ID sealing position
- 3 Collet design locks securely into external threads or behind the threads
- 4 Connect and seal to compression fittings, NPT, SAE 37° "AN" and 45° flare male threads - custom sizes also available
- 5 Optional internal shut-off valve stops flow upon disconnection (Not available on shortened connectors)
- 6 Standard Shortened length available for space constrained 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.

## System Overview:

### CONNECTED

Verify connections are good prior to starting a leak test and provide operators instant positive feedback to simplify training.



### RECONNECT

Recognize short connects before hazardous spills occur in functional testing, or prevent wasteful False Positive results in leak testing.

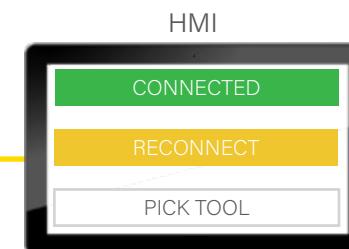


### PICK TOOL

Controllable LED signals operator to use specific tool.



### User's System



Standalone install or tie into PLC

- Quickly setup ICON™ Tools

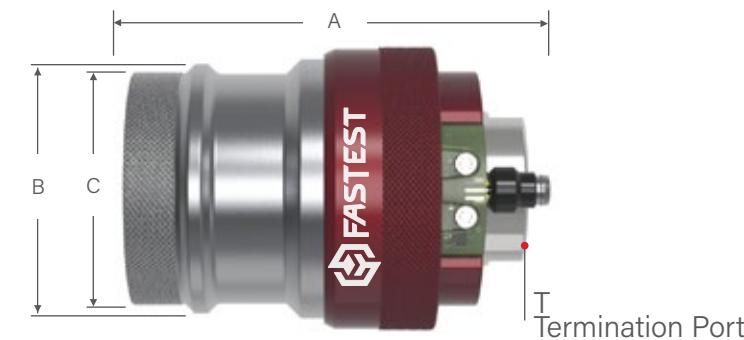
- Eliminate the need for PLC programming

- Can be powered from wall adapter (included) or from a PLC (24VDC)

**NOTE:** Solid State Relay and Analog output options available.



## 60 ICON™ / EXTERNAL SEALING CONNECTION TOOL



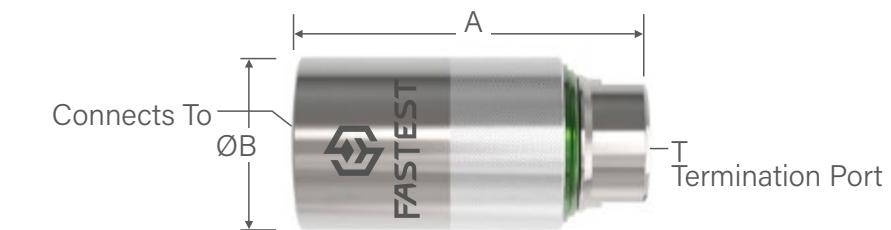
Ordering Information				Dimensions			
Connects To	Part Number*	Replacement Seals Bulk Pack (5)	Rebuild Kits	A	BØ	CØ	T
<b>60 Series   NPT Threads</b>							
1/8 NPT	60G1T02CV04*	S1105B70	R60CVBG1	3.49 (88.6)	1.65 (41.9)	1.47 (37.3)	1/4 NPT/BSPP (G)
1/4 NPT	60G1T04CV04*	S1109B70	R60CVBG1				
3/8 NPT	60G1T06CV04*	S1110B70	R60CV06	3.72 (94.5)	1.92 (48.8)	1.74 (44.2)	3/8 NPT/BSPP (G)
1/2 NPT	60G1T08CV04*	S1112B70	R60CVBG2				
3/4 NPT	60G085CV04*	S1115B70	R60CVBG3	3.72 (94.5)	2.31 (58.7)	2.13 (54.1)	3/4 NPT/BSPP (G)
1 NPT	60G1T16CV04*	S1212B70	R60CV16				
<b>60 Series   SAE 37° Flare for JIC and AN Male Fittings</b>							
-4 [7/16-20]	60G049CV04*	S1010B70	R60CVBG1	3.49 (88.6)	1.65 (41.9)	1.47 (37.3)	1/4 NPT/BSPP (G)
-6 [9/16-18]	60G069CV04*	S1012B70	R60CVBG1				
-8 [3/4-16]	60G089CV04*	S1014B70	R60CVBG2	3.72 (94.5)	1.92 (48.8)	1.74 (44.2)	3/8 NPT/BSPP (G)
-10 [7/8-14]	60G109CV04*	S1016B70	R60CVBG2				
-12 [1-1/16-12]	60G129CV04*	S1116B70	R60CV16	3.72 (94.5)	2.31 (58.7)	2.13 (54.1)	3/4 NPT/BSPP (G)
<b>60 Series   SAE 45° Flare Threads</b>							
-4 [7/16-20]	60GA04CV04*	S1010B70	R60CVBG2	3.49 (88.6)	1.65 (41.9)	1.47 (37.3)	1/4 NPT/BSPP (G)
-6 [5/8-18]	60GA06CV04*	S1012B70	R60CVBG2				
-8 [3/4-16]	60GA08CV04*	S1014B70	R60CVBG2	3.72 (94.5)	1.92 (48.8)	1.74 (44.2)	3/8 NPT/BSPP (G)
-10 [7/8-14]	60GA10CV04*	S1016B70	R60CVBG2				
-12 [1-1/16-14]	60GA12CV04*	S1117B70	R60CV16	3.72 (94.5)	2.31 (58.7)	2.13 (54.1)	3/4 NPT/BSPP (G)

Dimensions: inch (mm)

**NOTE:** \*For Analog Output Signal, add "ANA" to Part Number. For Solid State Relay, add "SSR" to Part Number.  
Table above shows common connections. Additional sizes available for 60 Series connectors.

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

## 60 / EXTERNAL SEALING CONNECTION TOOL



Ordering Information				Dimensions		
Connects To	Part Number	Replacement Seals Bulk Pack (5)	Rebuild Kits	A	B	T
<b>60 Series   NPT Threads</b>						
1/8 NPT	60G1T02	S1105B70	R60G03			1/8 NPT/BSPP (G)
1/4 NPT	60G1T04	S1109B70	R60GBG3			1/4 NPT/BSPP (G)
3/8 NPT	60G1T06	S1110B70	R60GBG4			3/8 NPT/BSPP (G)
1/2 NPT	60G1T08	S1112B70	R60GBG5			1/2 NPT/BSPP (G)
3/4 NPT	60G1T12	S1115B70	R60GBG6			3/4 NPT/BSPP (G)
1 NPT	60G1T16	S1212B70	R60GBG7			1.97 (50.0)
<b>60 Series   SAE 37° Flare for JIC and AN Male Fittings</b>						
-4 [7/16-20]	60G049	S1010B70	R60GBG2			0.99 (25.2)
-6 [9/16-18]	60G069	S1012B70	R60GBG3			1.19 (30.2)
-8 [3/4-16]	60G089	S1014B70	R60GBG4			1.38 (35.0)
-10 [7/8-14]	60G109	S1016B70	R60G05			1.58 (40.1)
-12 [1-1/16-12]	60G129	S1116B70	R60GBG6			1.78 (45.2)
-16 [1-5/16-12]	60G169	S1120B70	R60GBG7			1.97 (50.0)
<b>60 Series   SAE 45° Flare Threads</b>						
-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		1.19 (30.2)	1/4 NPT/BSPP (G)
-8 [3/4-16]	60GA08	S1014B70	R60GBG4	3.15 (80.0)	1.38 (35.0)	3/8 NPT/BSPP (G)
-10 [7/8-14]	60GA10	S1016B70	R60GBG5		1.58 (40.1)	1/2 NPT/BSPP (G)
-12 [1-1/16-14]	60GA12	S1117B70	R60GBG6	3.15 (80.0)	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.

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



# 70 / EXTERNAL SEALING CONNECTION TOOL

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

## CONNECTS TO:

Expanded Flared Beaded Barbed Form End



## 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)

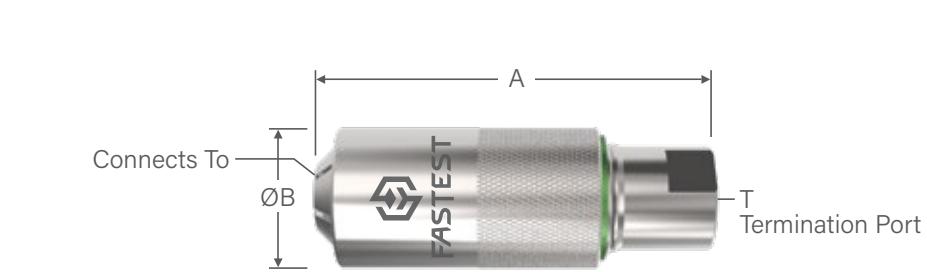
## ICON™ TECHNOLOGY

✓ SURE SEAL™



- 1 SurConnect™ - Green to go visible indicator to ensure complete connection
- 2 Instant external formed tube connection with floating piston to ensure proper OD / face / ID sealing position
- 3 Collet design locks securely over formed tube feature
- 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 (Not available on shortened connectors)
- 6 Shortened body available for space constraint applications

# 70 / EXTERNAL SEALING CONNECTION TOOL



Ordering Information		Dimensions		
Sealing Range	Body Size Determined by Application - Consult Factory	A	B	T
Up to 0.32 (8.0)	1	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)			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)			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)			2.36 (60.0)	1 NPT/BSPP (G)
1.85 to 2.04 (47.0 to 52.0)			2.93 (74.3)	1 1/4 NPT/BSPP (G)

Dimensions: inch (mm)

**i** NOTE: Dimensions for reference.

## How to Order

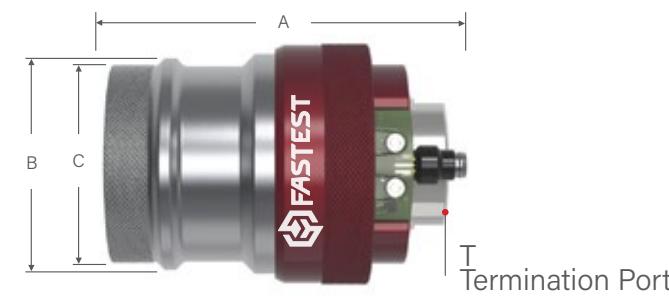
The 70 Series connectors are designed, engineered and manufactured to your specific application requirements.

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) One sample part will be required at the time of order for final design and testing purposes.



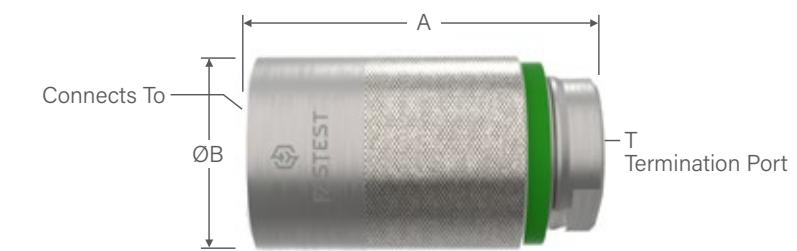
## 70 ICON / EXTERNAL SEALING CONNECTION TOOL



Ordering Information		Dimensions			
Sealing Range	Body Size	A	BØ	CØ	T
Up to 0.67 (17.02)	1	1.47 (37.3)	3.49 (88.6)	2.00 (50.8)	1.65 (41.9)
0.67 to 1.00 (17.02 to 25.40)	2	1.74 (44.2)	3.72 (94.5)	2.205 (56.0)	1.92 (48.8)
1.01 to 1.37 (25.65 to 34.80)	3	2.13 (54.1)	3.72 (94.5)	2.595 (65.9)	2.31 (58.7)

Dimensions: inch (mm)

## 70 - SHORT / EXTERNAL SEALING CONNECTION TOOL



Ordering Information		Dimensions		
Sealing Range	Body Size	A	B	T - Termination Port
Up to 0.43 (10.92)	2	2.14 (54.5)	0.98 (24.9)	1/8 NPT/BSPP
0.43 to 0.55 (10.92 to 13.97)	3	2.27 (57.6)	1.18 (30.0)	1/4 NPT/BSPP
0.55 to 0.75 (13.97 to 19.05)	4	2.26 (57.5)	1.38 (35.1)	3/8 NPT/BSPP
0.75 to 0.86 (19.05 to 21.84)	5	2.4 (61.1)	1.57 (39.9)	1/2 NPT/BSPP
0.86 to 1.15 (21.84 to 29.21)	6	2.5 (63.5)	1.77 (45.0)	1/2 NPT/BSPP
1.15 to 1.35 (29.21 to 34.29)	7	2.57 (65.2)	1.97 (50.0)	3/4 NPT/BSPP
1.35 to 1.5 (34.29 to 38.1)	8	2.92 (74.1)	2.17 (55.1)	3/4 NPT/BSPP

Dimensions: inch (mm)

**NOTE:** Table above shows common connections. Additional sizes available for 70 Series connectors.  
Dimension A can be application dependant for other sizes. Consult factory for details.



# 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

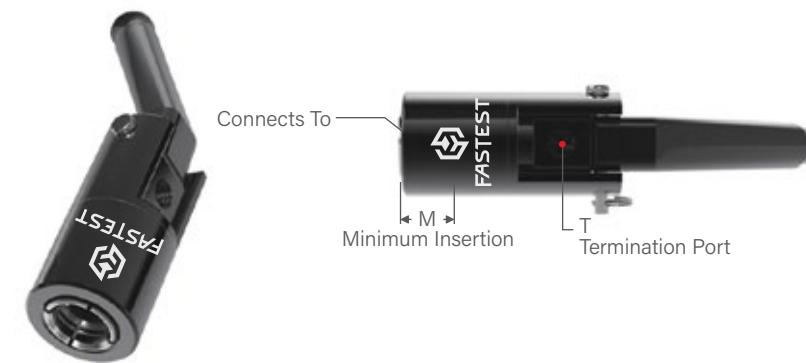
**2** Instant connection for copper, steel, and aluminum tubes commonly used in refrigeration and other industrial applications

**3** Stainless steel collets provide maximum grip with minimum distortion of the test piece

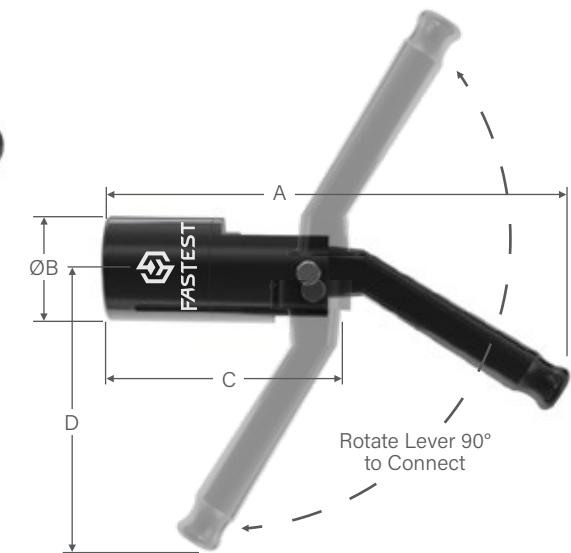
**4** Quick and easy seal replacement to minimize down time, maintenance, and tool inventory

**5** Self aligning connector requires no operator adjustment

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



Connects To  
Minimum Insertion  
Termination Port



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							

### 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							
18mm ± 0.25mm	JXL1M18	SXL10710							
20mm ± 0.25mm	JXL1M20	SXL10787							
22mm ± 0.25mm	JXL1M22	SXL10865							

Dimensions: inch (mm)

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



# 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:

NPT      SAE 37°      SAE 45°      BSPP(G)  
BSPT

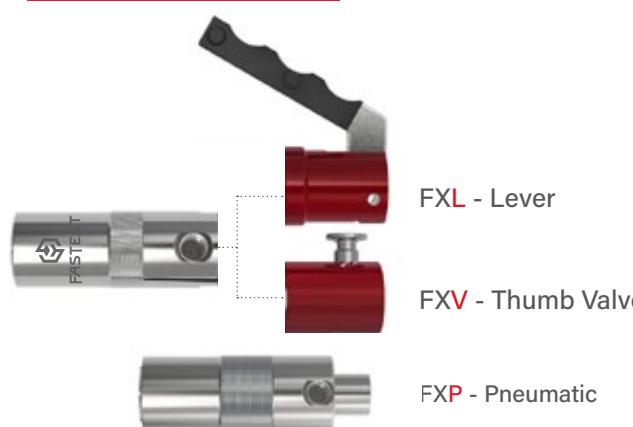


## SPECIFICATIONS

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.



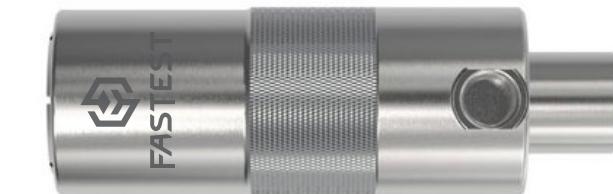
## LEVER

Simple, straight forward mechanical operation.



## THUMB VALVE

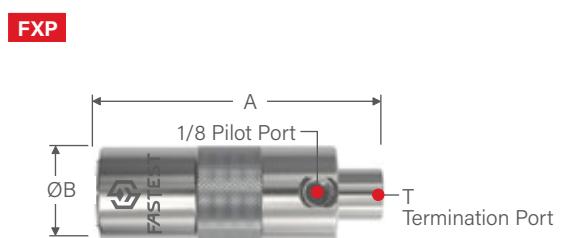
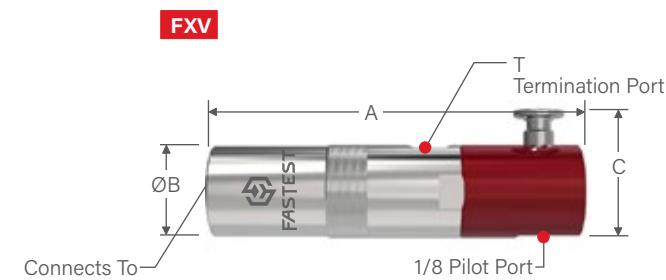
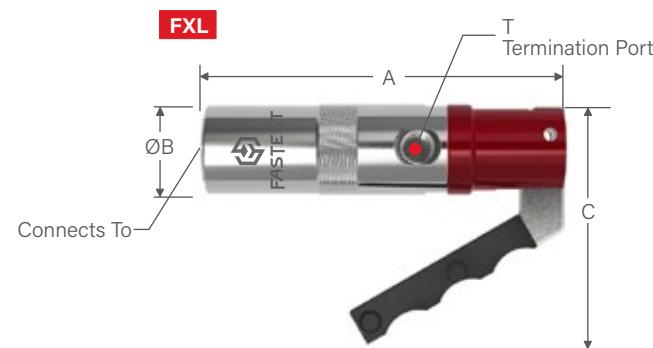
Easy, ergonomic thumb button. When depressed, allows insertion / removal of connector from port.



## PNEUMATIC

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

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



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	METB06PT	RFXL061PT	RFX061PT	750 psi (51 bar)
1/2 NPT	FXL081061PT	FXV081061PT	FXP081061PT	SFX081PT	RFXL081PT	RFX081PT	

**FasMate® FX | BSPP (G)**

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

**F 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	

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

BSPP (G) per ISO 228 or BS 2279

SAE 37° Flare per SAE J514 or ISO 12151-5

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)	
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)	

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)	
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)	

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


# 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



## 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)

1 Internal ball latch locking mechanism prevents accidental disconnection under pressure

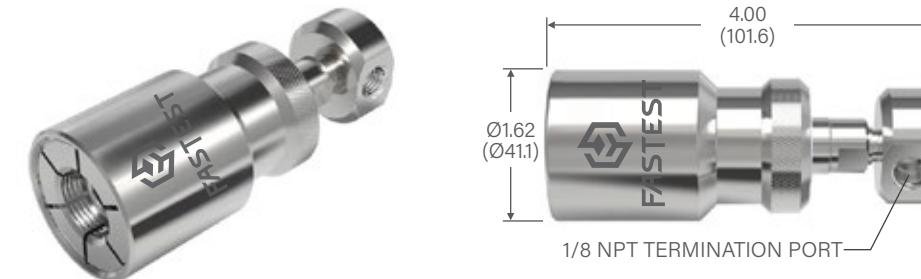
2 Instant threaded sealing connection up to 6000 psi without tape sealant or wrenches - significantly reduces process time

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

# HPB / EXTERNAL SEALING CONNECTION TOOL



## Ordering Information

Connects To	Part Number*	Replacement Seals Bulk Pack (5)	Rebuild Kits
<b>HPB   NPT Thread</b>			
1/4 NPT	HPB041021	S1108B70	HPB0406R
3/8 NPT	HPB061021	S1110B70	HPB0406R
1/2 NPT	HPB081021	S1112B70	HPB08R
<b>HPB   BSPP (G) Thread</b>			
1/4 BSPP (G)	HPB045021	S1108B70	HPB0406R
3/8 BSPP (G)	HPB065021	S1110B70	HPB0406R
1/2 BSPP (G)	HPB085021	S1112B70	HPB08R
<b>HPB   SAE 37° Flare for JIC and AN Male Fittings</b>			
-4 [7/16-20]	HPB049021	S20700270B70	HPB04HR
-6 [9/16-18]	HPB069021	S1012B70	
-8 [3/4-16]	HPB089021	S1015B70	
<b>HPB   SAE 37° Flare for JIC Swivel Nut Fitting</b>			
-4 [7/16-20]	HPB049H021	S20560176B70	HPB04R
-6 [9/16-18]	HPB069H021	S20760266B70	
-8 [3/4-16]	HPB089H021	S20800406B70	
<b>HPB   SAE ORFS Swivel Nut Fitting</b>			
-4 [9/16-18]	HPB009H021	S1107B70	HPB04R
-6 [11/16-16]	HPB011H021	S1109B70	
-8 [[13/16-16]	HPB013H021	S1110B70	
<b>HPB   Compression Fitting (Swagelok® or Equivalent)</b>			
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: HPB041021V. For HPB Ferulok Style Compression Fittings, add suffix of "F" to HPB Compression Fitting Part Number. Example: HPBCF04021F

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



# MET / EXTERNAL SEALING CONNECTION TOOL

Manual twist sealing connection tool for external threads.

## CONNECTS TO:

NPT SAE 37° SAE 45° BSPP(G) BSPT



- 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



## SPECIFICATIONS

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	

\* Additional seal material types available, consult factory.

## 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		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

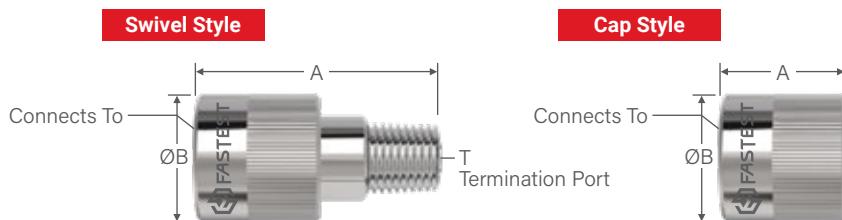
\*\*Other terminations in metric / BSPP may be available. Contact factory.

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



# MET / EXTERNAL CONNECTIONS / NPT THREADS (continued)

Swivel Style for Thin Walled Threaded Pipe  
Cap Style



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	METR08PT		2.05 (52.1)	1.36 (34.5)	1/2 NPTM
3/4 NPT	MET121122PT	METB12PT	METR12PT		2.34 (59.4)	1.68 (42.7)	3/4 NPTM
1 NPT	MET161162PT	METB16PT	METR16PT		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

**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		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	S1212U70	METR16		1.26 (32.0)	1.99 (50.5)	

Dimensions: inch (mm)

Pressure Rating: psi (bar)

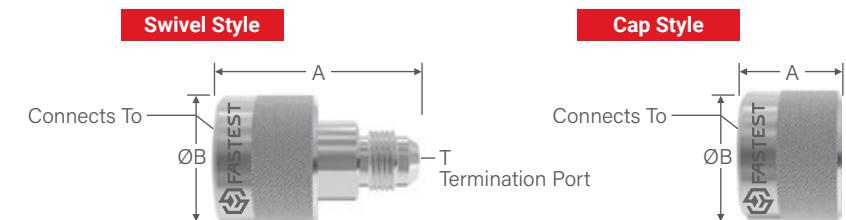
\*Optional seal materials include V = FKM, E = EPDM, and B = Buna-N - Example: MET041042PTV = FKM

\*\*Other terminations in metric / BSPP may be available. Contact factory.

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

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

Swivel Style  
Swivel Style for High Pressure  
Cap Style



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	S1120B70	METR16	1000 (69)	2.70 (68.6)	1.99 (50.6)	-12 [1-1/16-12] (male)
-20 [1-5/8-12]	MET209160	S1124U70	METR20		3.21 (81.5)	2.37 (60.2)	-16 [1-5/8-12] (male)
-24 [1-7/8-12]	MET249200	S1129B70	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	S20700270B70	METR049		1.76 (44.7)	0.95 (24.1)	-4 [7/16-20] (male)
-6 [9/16-18]	METH069060	S1012B70	METR06	10,000 (689)	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 [1-5/16-12] (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		0.90 (22.9)	1.20 (30.5)	(Cap Style No Termination Port)
-8 [3/4-16]	MET089C	S1015B70	METR08	4000 (276)	0.97 (24.6)	1.38 (35.1)	(Cap Style No Termination Port)

**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	4000 (276)	2.10 (53.3)	1.31 (33.3)	1/2 MNPT
-10 [7/8-14]	MET10A082N	S1015N70	METR10A		2.26 (57.4)	1.51 (38.4)	
-12 [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

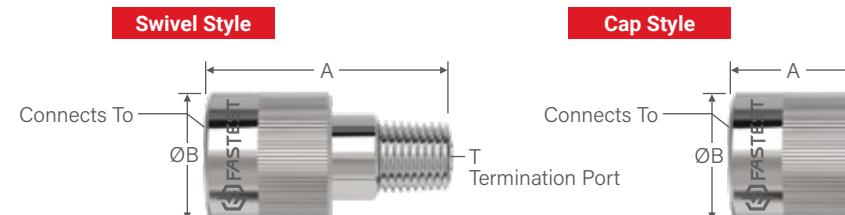
\*\*Other terminations in metric / BSPP may be available. Contact factory.

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



# 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	4000 (276)	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 (Cap 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)

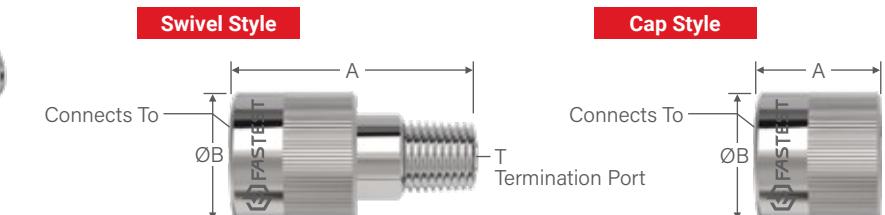
\*Optional seal materials include V = FKM, E = EPDM, and B = Buna-N - Example: MET025022V = FKM

\*\*Other terminations in metric / BSPP may be available. Contact factory.

**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	4000 (276)	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 (Cap Style No Termination Port)
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)	
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

\*\*Other terminations in metric / BSPP may be available. Contact factory.

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



# INDUSTRY-SPECIFIC CONNECTIONS



# FIG / INTERNAL SEALING CONNECTION TOOL

Pneumatic sealing connection tool with gripping collets for manual operated processes.

## CONNECTS TO:

Straight cast or rough surfaces



## SPECIFICATIONS

Pressure Rating	Pilot Pressure	Operating Temperatures
Vacuum to 120 psi (8.3 bar)	60 to 120 psi (4.1 to 8.3 bar)	-40°F to +250°F (-40°C to +121°C)
Termination Port	Materials of Construction	Seal Material*
1/8 NPT, 1/2 NPT, 3/4 NPT	Anodized Aluminum, Stainless Steel, Potted PCA	Standard: FasTest Neoprene®, FasTest 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 Intelligent Connection Technology.

**1** Pressure rating based on test piece having a surface finish greater than 80rms and a material hardness of no more than 97Rb to grip and seal at the rated pressure. If your parameters are outside the specifications, please contact factory

- 1 Gripping collets minimize the need for fixturing
- 2 Improve safety for non-fixture tools due to positive gripping ability
- 3 Consistent sealing force with pneumatic actuation
- 4 Optimized for operator-applied applications on cast or rough surfaces
- 5 ICON™ capable - additional sensing capabilities and visual feedback

## ICON™ - INTELLIGENT CONNECTION TECHNOLOGY



## ACTUATION METHOD

**Pneumatic:** Pilot pressure creates uniform seal movement and consistent sealing force.

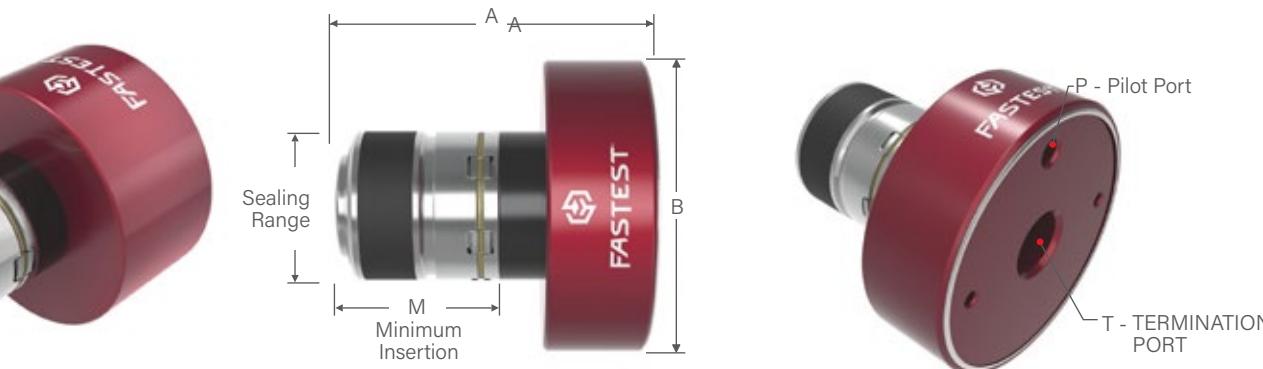
## ACCESSORIES

VISIT [FASTESTINC.COM](http://FASTESTINC.COM)



Shaft Extensions  
Consult Factory

# FIG / INTERNAL GRIP SEALING CONNECTION TOOL



Ordering Information					Dimensions				
Sealing Range	Part Number <sup>1</sup>	Main Seal Set	Grip Cartridge Kit	Rebuild Kit	A	B	M	P	T
1.102-1.181	FIG441	FIS441*	441GC	FIR3					
1.181-1.260	FIG442	FIS442*	442GC	FIR3	3.610	2.360	1.70	1/8 NPT	1/8 NPT
1.260-1.339	FIG443	FIS443*	443GC	FIR3					
1.339-1.457	FIG551	FIS551**	551GC	FIR6					
1.457-1.575	FIG552	FIS552**	552GC	FIR6	4.680	3.485	2.24	1/8 NPT	1/2 NPT
1.575-1.693	FIG553	FIS553**	553GC	FIR6					
1.693-1.85	FIG661	FIS661**	661GC	FIR6					
1.850-2.008	FIG662	FIS662**	662GC	FIR6	4.680	3.485	2.31	1/8 NPT	1/2 NPT
2.008-2.165	FIG663	FIS663**	663GC	FIR6					
2.165-2.305	FIG771	FIS771**	771GC	FIR7					
2.305-2.445	FIG772	FIS772**	772GC	FIR7	4.360	4.200	2.29	1/8 NPT	3/4 NPT
2.445-2.585	FIG773	FIS773**	773GC	FIR7					
2.585-2.725	FIG881	FIS881**	881GC	FIR7					
2.725-2.865	FIG882	FIS882**	882GC	FIR7	4.360	4.200	2.29	1/8 NPT	3/4 NPT
2.865-3.005	FIG883	FIS883**	883GC	FIR7					

Dimensions: inch

<sup>1</sup> Includes seals(s) and metal parts for one complete seal change and one extra seal.

\* Includes enough seals for five seal changes.

\*\* Includes enough seals for 2.5 seal changes.

**1** Secondary safety measures are advisable when tools are under pressure to protect the operator.

**To Order FIG with ICON™, add "CV04ANA" or "CV04SSR" to Part Number.**

**To Order FIG with ICON™ Rebuild Kit, add "CV04ANA" or "CV04SSR" to Rebuild Kit Part Number.**



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.

# FEG / EXTERNAL SEALING CONNECTION TOOL

Pneumatic sealing connection tool with gripping cradle for manual operated processes.

## CONNECTS TO:



## SPECIFICATIONS

Pressure Rating	Pilot Pressure	Operating Temperatures
Determined by Application Consult Factory	80psig min.	-40°F to +250°F (-40°C to +121°C)
Termination Port	Materials of Construction	Seal Material*
NPT (Determined by Application Consult Factory)	Anodized Aluminum, Stainless Steel, Potted PCA	Standard: FasTest Buna-N, FasTest Urethane Optional: FKM, Neoprene®, EPDM, FDA White Neoprene®

\* Additional seal material types available, consult factory.

\*\* Operating Temp: 32°F-100°F (0°C-38°C) for Intelligent Connection Technology.

## ICON™ - INTELLIGENT CONNECTION TECHNOLOGY



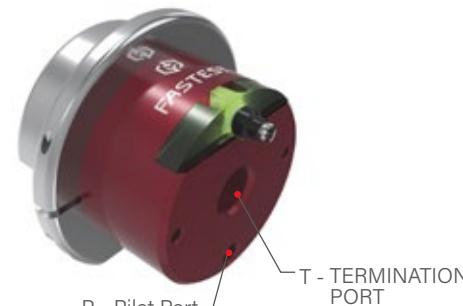
- 1 Gripping cradle minimizes the need for fixturing
- 2 Improved safety by preventing the tool from accidental release under pressure
- 3 Consistent sealing force with pneumatic actuation
- 4 Optimized for operator-applied applications such as turbos and flanged ports
- 5 ICON™ capable - additional sensing capabilities and visual feedback

## ACTUATION METHOD

**Pneumatic:** Pilot pressure creates uniform seal movement and consistent sealing force.

**ACCESSORIES** VISIT [FASTESTINC.COM](http://FASTESTINC.COM)

# FEG / EXTERNAL SEALING CONNECTION TOOL



Ordering Information		Dimensions				
Sealing Range	Part Number	A	B	M	P	T
Determined by Application Consult Factory	Determined by Application Consult Factory					Determined by Application Consult Factory

**i** Secondary safety measures are advisable when tools are under pressure to protect the operator.



# 70FR / EXTERNAL CONNECTIONS TO FUEL RAILS

Custom sleeve actuated external grip and seal connection tool for J2044 fuel rail applications.

## CONNECTS TO:

Fuel Rail



## 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*
Inline NPT termination port		Buna-N/Nitrile

\* 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)

- SurConnect™ - Green to go visible indicator to ensure complete connection and internally valved to prevent gas flow once disconnected
- Instant external formed tube connection with floating piston to ensure proper OD / face / ID sealing position
- Collet design locks securely over formed tube feature
- Connect and seal to standard fuel rail bead /SAE J2044

# 70FR / EXTERNAL CONNECTIONS TO FUEL RAILS



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

### 70FR | Non-Valved

1/4	FR7004X041	S1108B60	RFR04X	750 (51)	3.02 (76.7)	0.99 (25.1)	1/4 NPT
5/16	FR7005X041	S1109B60	RFR05X				
3/8	FR7006X061	S1110B60	RFR06X				
1/2	FR7008X061	S1112B60	RFR08X				

### 70FR | Valved

1/4	FRV7004X041	S1108B60	RFR04X	200 (13.8)	3.02 (76.7)	0.99 (25.1)	1/4 NPT
5/16	FRV7005X041	S1109B60	RFR05X				
3/8	FRV7006X061	S1110B60	RFR06X				
1/2	FRV7008X061	S1112B60	RFR08X				

Dimensions: inch (mm)

Pressure Rating: psi (bar)

**Port Specifications:** SAE J2044



# GZNV / INTERNAL GAS BURNER TESTING

Internally valved manual sealing connection tool for Natural Gas or Propane Burner Testing.

## CONNECTS TO:

FNPT      BSPP (G)/  
BSPT




## SPECIFICATIONS

Pressure Rating	Operating Temperatures	Materials of Construction
Vacuum to 5 psi (0.345 bar)	0°F to +200°F (-17°C to +93°C)	Anodized Aluminum, Brass, Molded Nylon Handle
Termination Port		Seal Material*
1/4, 1/2 NPT		Gripper: Urethane Face Seal: Buna-N Internal: Buna-N

\* Additional seal material types available, consult factory.

## ACTUATION METHOD

**Lever Handle:** Two way actuation handle is simple and ergonomic for production applications.

Insert the connector into the gas valve and then actuate the handle. The gripper seal expands and pulls the face seal against the gas valve body, creating a seal between them and simultaneously opening the internal shutoff valve. This allows the flow of gas into the gas valve.

## ICON™ TECHNOLOGY

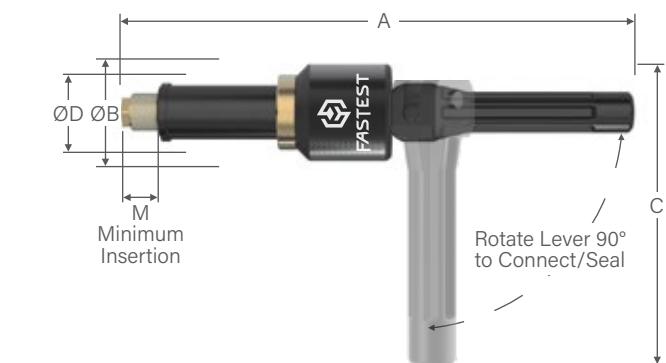
Consult Factory

## ACCESSORIES

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

- 1 Lockable collar to keep sealing pressure consistent and internally valved to prevent gas flow once disconnected
- 2 Adjustable ring to accommodate the widest sealing range in the industry
- 3 Internal shut-off valve to stop the flow of gas when handle is in the disconnected position
- 4 Non-sparking aluminum and brass components

# GZNV / INTERNAL GAS BURNER TESTING



Ordering Information					Dimensions					
Connects To	Part Number	Replacement Seals Bulk Pack	Rebuild Kit	Replacement Shaft	A	B	C	D	M	T

**GZNV** | With 2 in. (51 mm) Extended Shaft

3/8 NPT	GZNV0620410200	GZNVB062	GZNVR062	5ZNV27F380200	9.30 (236.2)	1.88 (47.8)	4.96 (119.1)	1.06 (26.9)	0.63 (16.0)	1/4 NPT
1/2 NPT	GZNV0820410200	GZNVB082	GZNVR082	5ZNV275BR0200						
3/4 NPT	GZNV1220810200	GZNVB122	GZNVR122	5ZNV375BR0200	9.65 (245.1)	2.44 (61.9)	5.21 (132.3)	1.38 (35.1)		1/2 NPT

**GZNV** | Reduced Length Shaft

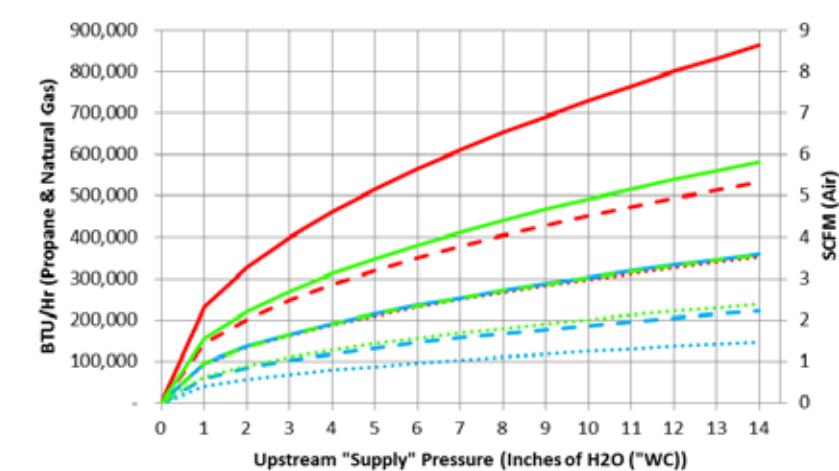
3/8 NPT	GZNV062041*	GZNVB062	GZNVR062	5ZNV27F38BR	7.30 (185.4)	1.88 (47.8)	4.96 (119.1)	1.06 (26.9)	0.63 (16.0)	1/4 NPT
1/2 NPT	GZNV082041*	GZNVB082	GZNVR082	5ZNV275BR						
3/4 NPT	GZNV122081*	GZNVB122	GZNVR122	5ZNV275BR	7.65 (194.3)	2.44 (61.9)	5.21 (132.3)	1.38 (35.1)		1/2 NPT

Dimensions: inch (mm)

\*Consult Factory for availability.

## GasMate™ GZNV Family Flow Capacity

Propane (3/4)	Propane (1/2)	Propane (3/8)
Natural Gas (3/4)	Natural Gas (1/2)	Natural Gas (3/8)
AIR (3/4)	AIR (1/2)	AIR (3/8)



# G60V / EXTERNAL GAS BURNER TESTING

Internally valved sleeve actuated external grip and seal connection tool for Natural Gas or Propane Burner Testing.

## CONNECTS TO:

MNPT



## SPECIFICATIONS

Pressure Rating	Operating Temperatures	Materials of Construction
Vacuum to 30 psi (2.1 bar)	0°F to +200°F (-17°C to +93°C)	Stainless Steel, Brass, Anodized Aluminum
Termination Port		Seal Material*
3/8, 1/2, 3/4 NPT		Main: Neoprene® Internal: 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

**1** SurConnect™ - Green to go visible indicator to ensure complete connection and internally valved to prevent gas flow once disconnected

**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 NPT male threads

**5** Stainless steel components for demanding production environments - brass collets for non-sparking

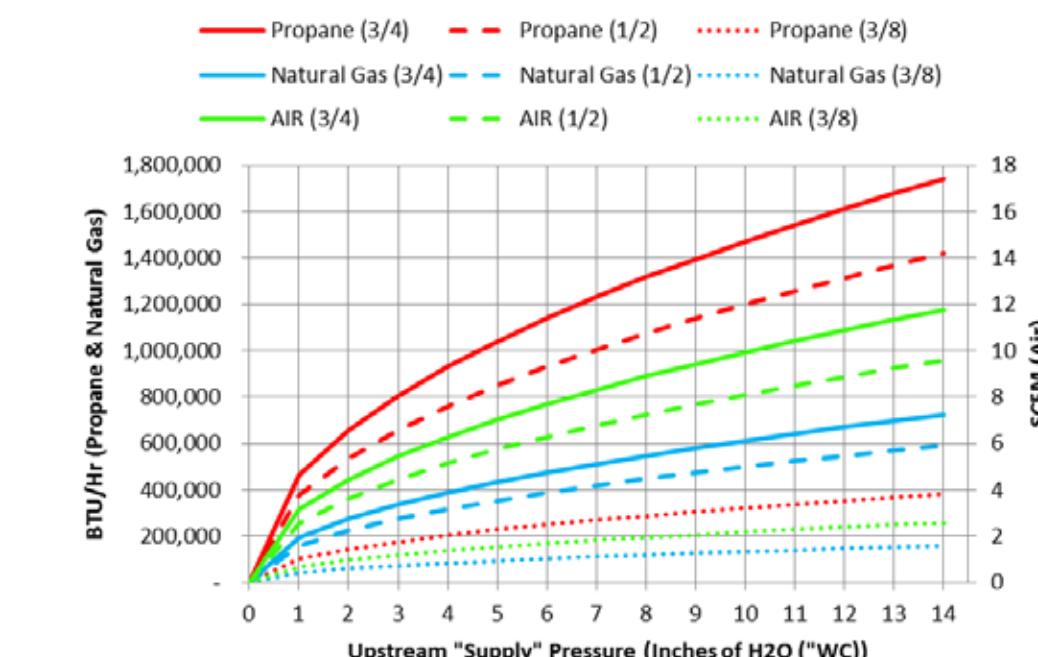
# G60V / EXTERNAL GAS BURNER TESTING



Ordering Information				Dimensions		
Connects To	Part Number	Replacement Seals Bulk Pack (5)	Rebuild Kit	A	B	T
3/8 NPT	G60V1T06	SZF4	G60VR06	3.11 (79.0)	1.38 (35.0)	3/8 NPT
1/2 NPT	G60V1T08	SZF5	G60VR08	3.31 (84.1)	1.58 (40.1)	1/2 NPT
3/4 NPT	G60V1T12	SZF7	G60VR12	3.54 (90.0)	1.78 (45.2)	3/4 NPT

Dimensions: inch (mm)

## GasMate G60V Family Flow Capacity



# ME / MEDICAL-LIFE SCIENCES SEALING CONNECTION TOOL

Pneumatic external sealing of medical devices in automated and semi-automated processes.

## CONNECTS TO:

Catheters      Luers



1 Connector and test part should be rigidly fixtured to prevent separation when under pressure

2 Ideally designed for automated processes and high volume production testing

3 Seals against standard luers, catheter, tubes and other cylindrical components

4 Cleaned and lubricated for oxygen safe environment with FDA approved seals

5 Quick and easy seal replacement to minimize down time, maintenance and tool inventory



## SPECIFICATIONS

Pressure Rating	Pilot Pressure	Operating Temperatures**
Vacuum to 500 psi (34 bar)	60-90 psi (4.1-6.2 bar)	0°F to +200°F (-17°C to +93°C)
Termination Port	Materials of	Seal Material*
1/8 FNPT	Anodized Aluminum	ME001: FDA approved FKM ME01: FDA White Neoprene®

\* Additional seal material types available, consult factory.

\*\* Operating Temp: 32°F-100°F (0°C-38°C) for ICON™

**i** Pilot pressure required.

All parts are washed in an aqueous solution utilizing ultrasonic agitation at a temperature of 140°F. Components are then rinsed in a cascading rinse tank and dried using 99.999% pure nitrogen and assembled in a 100,000ppm level controlled environment. Krytox is the standard lubricant.

White FDA Neoprene seal material is compliant to 21CFR177.2600. Optional material is a FDA listed fluorocarbon..

## ACTUATION METHOD

**Pneumatic:** pilot pressure applied to seals with no metal contact and uniform seal movement seals inside luer

## ICON™ TECHNOLOGY



## ACCESSORIES

See p. 106



## 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

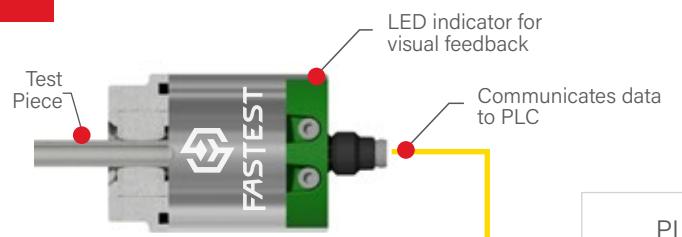
Recognize a connection issue before causing a false failure.

### WORN SEAL

Alert when main seals should be replaced.

### PICK TOOL

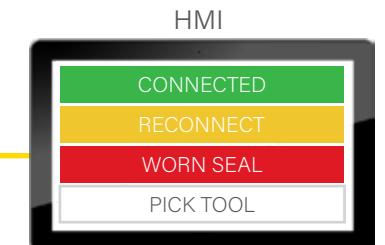
Controllable LED signals operator to use specific tool.



## How To Add ICON™ to ME

Signal Output	Part Number Suffix	Example
ME without ICON™	None	ME01
ME with ICON™: Analog Output Signal	CV04ANA	ME01CV04ANA
ME with ICON™: Solid State Relay	CV04SSR	ME01CV04SSR

## User's System



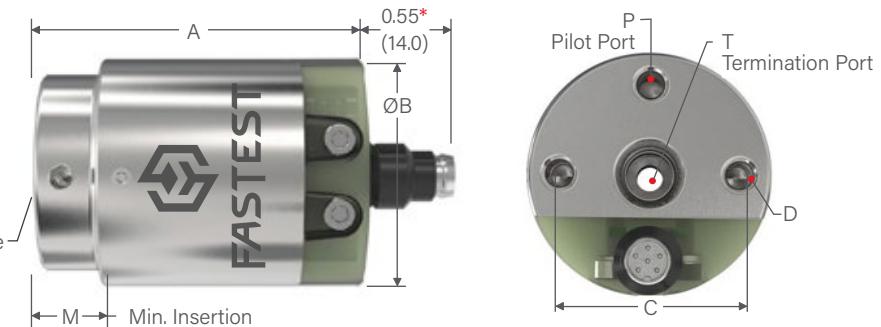
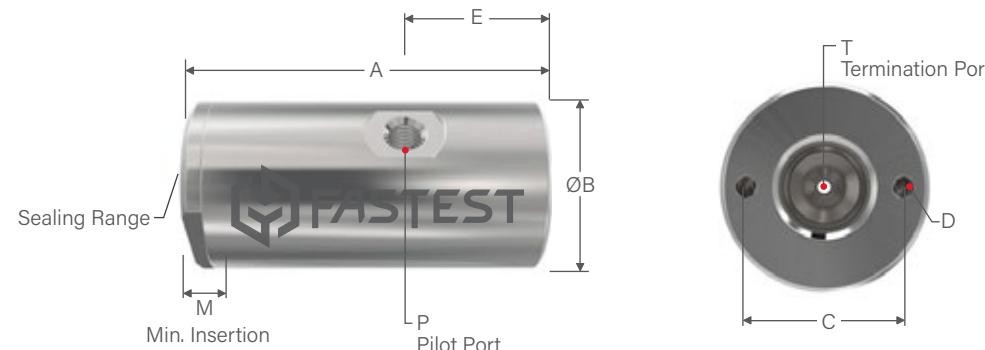
Standalone install or tie into PLC

- Quickly setup ICON™ Tools

- Eliminate the need for PLC programming

- Can be powered from wall adapter (included) or from a PLC (24VDC)

# ME / MEDICAL-LIFE SCIENCES SEALING CONNECTION TOOL



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

Ordering Information				Dimensions							
Sealing Range	Part Number	Replacement Seals Pack (5)	Rebuild Kit	A	B	C	D	E	M	P	T

**ME** | Imperial Mounting Holes and Pilot Ports

0.015 to 0.030 (0.38 to 0.80)	ME0010030	MEB0010030	MER001	1.72 (43.7)	0.84 (21.3)	0.63 (16.0)	4-40 UNC	0.72 (18.3)	0.16 (4.1)	10-32 UNF	1/8 NPT	
0.030 to 0.050 (0.80 to 1.30)	ME0010050	MEB0010050										
0.050 to 0.080 (1.30 to 2.00)	ME001001	MEB001001										
0.080 to 0.130 (2.00 to 3.30)	ME001002	MEB001002										
<b>ME</b>   Metric Mounting Holes and Pilot Ports												
0.015 to 0.030 (0.38 to 0.80)	MEM0010030	MEB0010030	MER001	1.72 (43.7)	0.84 (21.3)	0.63 (16.0)	M2.5	0.72 (18.3)	0.16 (4.1)	M5	1/8 BSPP (G)	
0.030 to 0.050 (0.80 to 1.30)	MEM0010050	MEB000050										
0.050 to 0.080 (1.30 to 2.00)	MEM001001	MEB001001										
0.080 to 0.130 (2.00 to 3.30)	MEM001002	MEB001002										

Dimensions: inch (mm)

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

**ME** | Imperial Mounting Holes and Pilot Ports

0.100 to 0.180 (2.5 to 4.6)	MES0101	ME01 ME01CV04ANA ME01CV04SSR	MEB0101	MER01							
0.180 to 0.260 (4.6 to 6.6)	MES0102		MEB0102								
0.260 to 0.340 (6.6 to 8.6)	MES0103		MEB0103								
0.340 to 0.420 (8.6 to 10.7)	MES0104		MEB0104								
0.420 to 0.510 (10.7 to 13.0)	MES0105		MEB0105								

**ME** | Metric Mounting Holes and Pilot Ports

0.100 to 0.180 (2.5 to 4.6)	MES0101	MEM01 MEM01CV04ANA MEM01CV04SSR	MEB0101	MER01							
0.180 to 0.260 (4.6 to 6.6)	MES0102		MEB0102								
0.260 to 0.340 (6.6 to 8.6)	MES0103		MEB0103								
0.340 to 0.420 (8.6 to 10.7)	MES0104		MEB0104								
0.420 to 0.510 (10.7 to 13.0)	MES0105		MEB0105								

Dimensions: inch (mm)

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

#### \*How To Add ICON™ to ME

Signal Output	Part Number Suffix	Example
ME without ICON™	None	ME0101
ME with ICON™: Analog Output Signal	CV04ANA	ME0101CV04ANA
ME with ICON™: Solid State Relay	CV04SSR	ME0101CV04SSR



# ML / MEDICAL-LIFE SCIENCES SEALING CONNECTION TOOL

Pneumatic nested sealing connection tool for full thread luers in automated and semi-automated processes.

## CONNECTS TO:

Luers



## SPECIFICATIONS

Pressure Rating	Operating Temperatures	Materials of Construction
Vacuum to 500 psi (34.4 bar)	0°F to +200°F (-17°C to +93°C)	Anodized Aluminum
Termination Port	Seal Material*	
1/8 FNPT	FDA approved FKM	

\* Additional seal material types available, consult factory.

## ICON™ TECHNOLOGY

Consult Factory

## ACCESSORIES

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

**1** Specially designed luer nest to contain test part under pressure

**2** Ideally designed for automated processes and high volume production testing

**3** Seals against any full thread standard luers

**4** Cleaned and lubricated for oxygen safe environment with FDA approved seals

# ML / MEDICAL-LIFE SCIENCES SEALING CONNECTION TOOL



Ordering Information				Dimensions					
Sealing Range	Part Number	Main Seal Set	Rebuild Kit	A	B	C	D	P	T

Medical Luer (ML) Connectors | Imperial Mounting Holes and Pilot Ports

Sized to Part	ML00101	Consult Factory	MER001	1.96 (49.8)	0.84 (21.3)	0.63 (16.0)	4-40 UNC	10-32 UNF	1/8 NPT
---------------	---------	-----------------	--------	-------------	-------------	-------------	----------	-----------	---------

Medical Luer (ML) Connectors | Metric Mounting Holes and Pilot Ports

Sized to Part	ML001M01	Consult Factory	MER001	1.96 (49.8)	0.84 (21.3)	0.63 (16.0)	M2.5	M5	1/8 BSPP (G)
---------------	----------	-----------------	--------	-------------	-------------	-------------	------	----	--------------

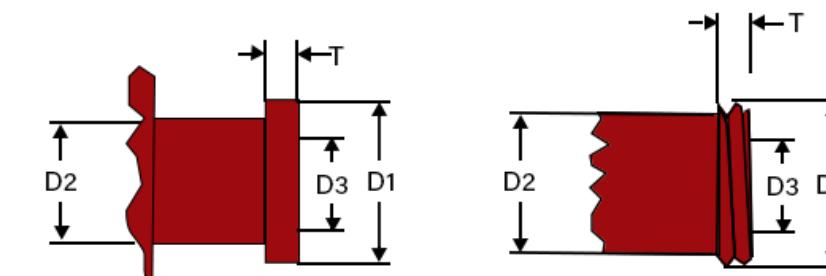
Dimensions: inch (mm)

Luer Specifications: ISO 594 and ISO 80369

**i** **NOTE:** The Medical Luer "ML Series" connectors are designed to your specific application requirements.

**i** All parts are washed in an aqueous solution utilizing ultrasonic agitation at a temperature of 140°F. Components are then rinsed in a cascading rinse tank and dried using 99.999% pure nitrogen and assembled in a 100,000ppm level controlled environment.

Krytox is the standard lubricant.



Luer Tolerances		
DIM	MIN	MAX
T	0.058 (1.47)	0.08 (2.03)
D1	0.29 (7.37)	0.316 (8.03)
D2	0.225 (5.72)	0.247 (6.27)
D3	0.165 (4.19)	0.175 (4.45)

Dimensions: inch (mm)

**i** **NOTE:** If your application falls outside these limits, contact factory for custom product.



# MLL / MEDICAL-LIFE SCIENCES SEALING CONNECTION TOOL

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

## CONNECTS TO:



**1** Pilot operated low pressure expanding seal against luer OD's

**2** Compact design with low particulate generation

**3** Cleaned and lubricated for oxygen safe environment with FDA approved seals

**4** Self aligning connector requires no operator adjustment

**i** All parts are washed in an aqueous solution utilizing ultrasonic agitation at a temperature of 140°F. Components are then rinsed in a cascading rinse tank and dried using 99.999% pure nitrogen and assembled in a 100,000ppm level controlled environment.

Krytox is the standard lubricant.

Optional material is a FDA listed fluorocarbon.

Components are double bagged for shipping integrity.

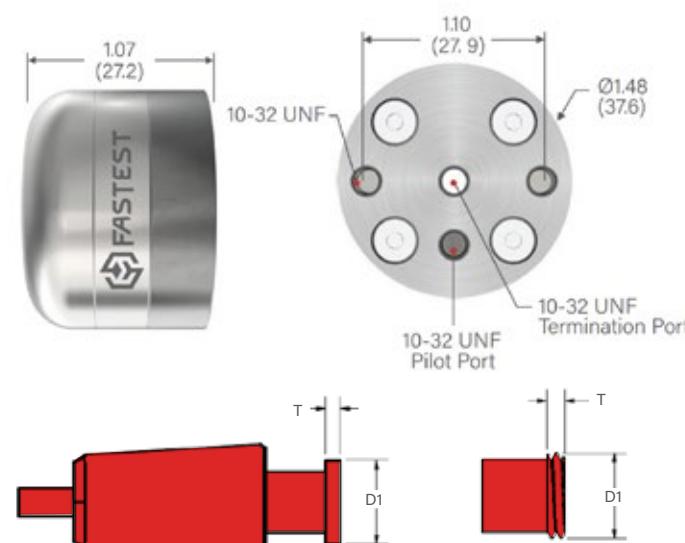


## SPECIFICATIONS

Pressure Rating	Pilot Pressure	Operating Temperatures**
Vacuum to 100 psi (6.9 bar)	60-90 psi (4.1-6.2 bar)	0°F to +200°F (-17°C to +93°C)
Termination Port	Materials of Construction	Seal Material*
1/8 FNPT	Stainless Steel, Anodized Aluminum	Masterflex C-Flex R70

## ACTUATION METHOD

**Pneumatic:** seals to external surface of luer when pilot pressure is applied



Luer Tolerances		
DIM	MIN	MAX
T	0.050 (1.27)	0.080 (2.03)
D1	N/A	0.307 (7.80)

Dimensions: inch (mm)

Ordering Information	
Part Number	Replacement Seals Pack (5)

MLL | Luers

MLL2001	S6LT18120
---------	-----------

# MLH / MEDICAL-LIFE SCIENCES SEALING CONNECTION TOOL

Pneumatic sealing connection tool for sealing luers with full threads.

## CONNECTS TO:



**1** Nest designed for full thread luers

**2** Cleaned and lubricated for oxygen safe environment with FDA approved seals\*

**3** Self aligning connector requires no operator adjustment

**4** Quick and easy seal replacement to minimize down time, maintenance and tool inventory

**i** All parts are washed in an aqueous solution utilizing ultrasonic agitation at a temperature of 140°F. Components are then rinsed in a cascading rinse tank and dried using 99.999% pure nitrogen and assembled in a 100,000ppm level controlled environment.

Krytox is the standard lubricant.

FDA listed fluorocarbon seal material is compliant to 21CFR177.2600.

Optional material is White FDA Neoprene®

Components are double bagged for shipping integrity.

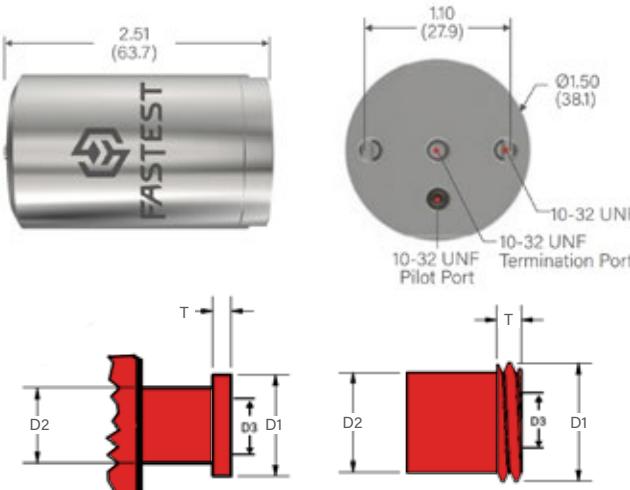


## SPECIFICATIONS

Pressure Rating	Operating Temperatures**	
Vacuum to 500 psi (34.5 bar)	0°F to +200°F (-17°C to +93°C)	
Termination Port	Materials of Construction	Seal Material*
10-32 (M5)	Stainless Steel, Anodized Aluminum	FDA approved FKM seals

## ACTUATION METHOD

**Pneumatic:** seals to external surface of luer when pilot pressure is applied



Luer Tolerances		
DIM	MIN	MAX
T	0.058 (1.47)	0.080 (2.03)
D1	0.29 (7.37)	0.312 (7.92)
D2	N/A	0.242 (6.15)
D3	0.165 (4.19)	0.175 (4.45)

Dimensions: inch (mm)

Ordering Information		
Part Number	Replacement Seals Pack (5)	Rebuild Kit

MLL | Luers with Full Threads

MLH2001	S1001050B70FDA	MLHR2001
---------	----------------	----------



# 60M / MEDICAL-LIFE SCIENCES SEALING CONNECTION TOOL

Sleeve actuated external grip and seal connection tool for medical leuers

## CONNECTS TO:

Luer



## SPECIFICATIONS

Pressure Rating	Operating Temperatures	Materials of Construction
Vacuum to 750 psi (51.7 bar)	0°F to +200°F (0°C to +93°C)	Stainless Steel, Anodized Aluminum
Termination Port		Seal Material*
1/8 FNPT		FDA approved FKM seals

\* Additional seal material types available, consult factory.

## ACTUATION METHOD

**Sleeve Actuated:** 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 ID sealing position
- 3 Seals against any full and partial threaded standard luers
- 4 Cleaned and lubricated for oxygen safe environment with FDA approved seals

# 60M / MEDICAL-LIFE SCIENCES SEALING CONNECTION TOOL



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

60M | Luers

Luer	60MP0340	S60MP0340	R60MP0340	2.92 (74.2)	0.88 (22.5)	1/8 NPT
------	----------	-----------	-----------	-------------	-------------	---------

Dimensions: inch (mm)

**Luer Specifications:** ISO 594

**i** All parts are washed in an aqueous solution utilizing ultrasonic agitation at a temperature of 140°F. Components are then rinsed in a cascading rinse tank and dried using 99.999% pure nitrogen and assembled in a 100,000 ppm level controlled environment.  
 Krytox is the standard lubricant.  
 Components are double bagged for shipping integrity.



## Product Accessories

### Charge Valve



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

Part Number	Termination	Length	Diameter Ø
ADM06102	1/8 NPT (standard)	0.96in (24.38mm)	0.50in (12.7mm)
ADM06502	1/8 BSPP	0.96in (24.38mm)	0.50in (12.7mm)
ADM06M5	M5	1.03in (26.16mm)	0.40in (10.16mm)
ADM061032	10-32	1.03in (26.16mm)	0.40in (10.16mm)

### Charge Coupler PN: ADF05102



- Used with Charge Valve to introduce pressure without latching
- Internally valved
- Thread type: 1/8 NPT
- Dimensions: 1.36in x Ø0.68in (34.54mm x Ø17.27mm)

### Slide Valve PN: AV1021022



- Used to pressurize and exhaust pilot pressure for manual operation
- Thread type: 1/8 NPT
- Dimensions: 2.13in x Ø 0.77in (54.1mm x Ø19.56)

Sophia Picray

## ICON™ Accessories

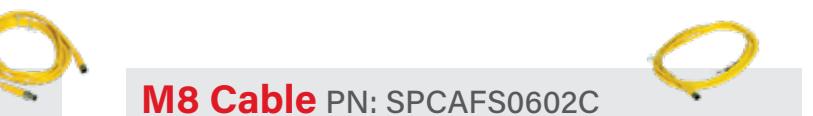
### Programming Tool

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

### ICON™ SSR Calibration Cradle PN: SPCTFNFXSSR



- Cradle tool used to assist calibration of Pneumatic FasMates with discrete (SSR) programming.
- Calibration Cradle for use with ICON (SSR) FNP's, body sizes 1-4
- Calibration Cradle for use with ICON (SSR) FXP's, all body sizes
- Dimensions: 12.19in L x 2.99in H x 1.99in D (309.63mm L x 75.95mm H x 50.55mm D)



## FASTEAST GLOBAL DISTRIBUTION NETWORK



Application Experts



Quality Improvement



Standard and Customs



Intelligent Tools



**FASTEAST**<sup>®</sup>

Designed in the U.S.A.

Headquarters | USA

1646 Terrace Drive, Roseville, MN, 55113-1317

Phone: 651.645.6266 • Fax: +1.651.645.7390 • [www.fastestinc.com](http://www.fastestinc.com)

Shenzhen | China

Room#1013,1015, A9 Building, Tianrui Industrial Park  
No.35 Fuyuan 1st Road, FuHai residential district,  
Baoan Shenzhen, China 518103

(755) 27084905 • [fastsalescn@fastestusa.cn](mailto:fastsalescn@fastestusa.cn)

01/2026