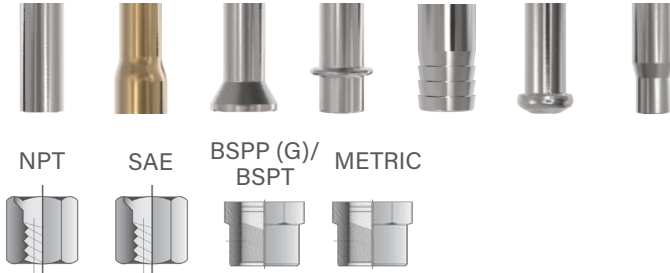


# FI / INTERNAL SEALING CONNECTION TOOL

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

## CONNECTS TO:

Straight Expanded Flared Beaded Barbed Form End Swaged



- 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

## 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

- ✓ SURE SEAL™
- ✓ SEAL LIFE™

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



**Shaft Extension**  
Consult factory.



**Seal Retainer Nut**  
Consult factory.



# 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.

### 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

### System Overview:

CONNECTED

Green indication of a good connection.

RECONNECT

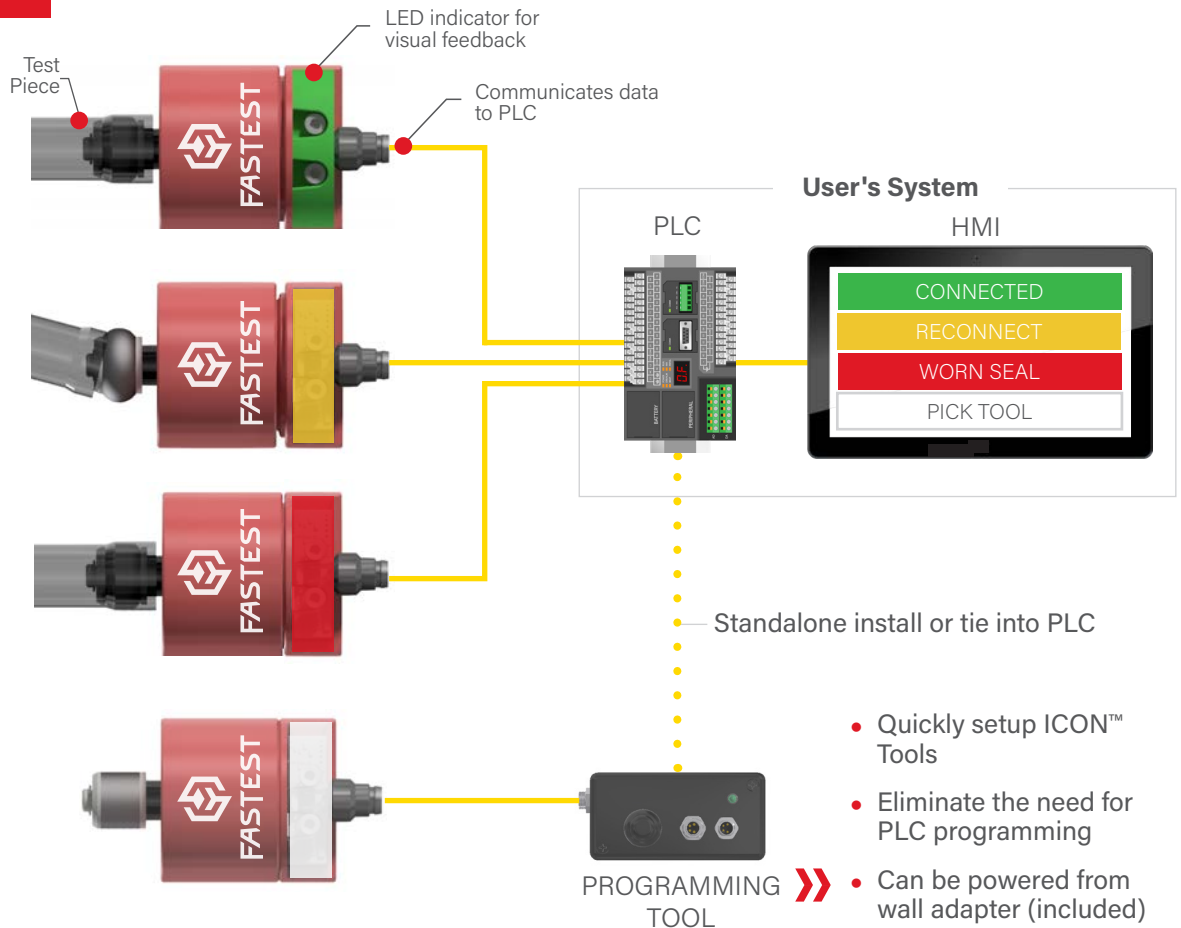
Recognize a connection issue before causing a false failure.

WORN SEAL

Alert when main seals should be replaced.

PICK TOOL

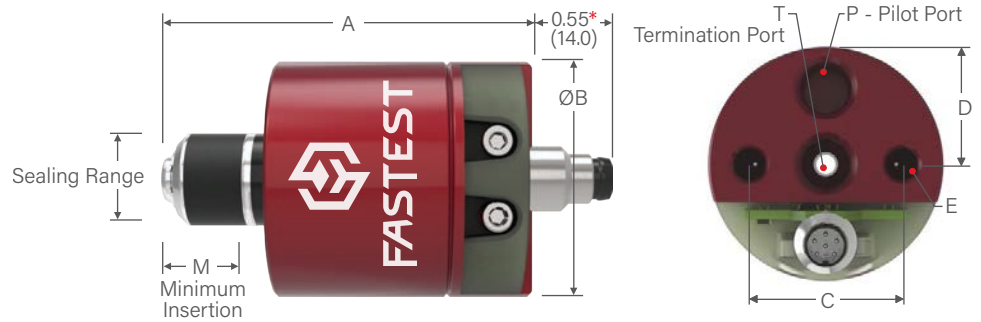
Controllable LED signals operator to use specific tool.



- 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



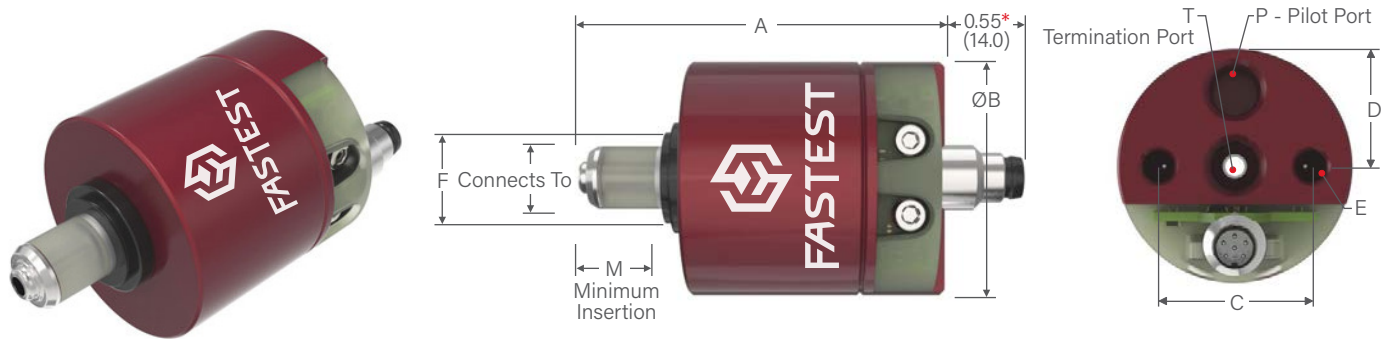
\*Dimension only applies to FI with ICON™ Technology (Base Part Numbers that include "CV04ANA" or "CV04SSR").

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	FIB010300	FIR01	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	FI01CV04ANA FI01CV04SSR	FIB0101	FIR01CV04ANA FIR01CV04SSR								
0.394 to 0.472	FIS111	FI1	FIB111	FIR1	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	FI1CV04ANA FI1CV04SSR	FIB112	FIR1CV04ANA FIR1CV04SSR								
0.551 to 0.630	FIS113		FIB113									
0.630 to 0.709	FIS221	FI2	FIB221	FIR1	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	FI2CV04ANA FI2CV04SSR	FIB222	FIR1CV04ANA FIR1CV04SSR								
0.787 to 0.866	FIS223		FIB223									
0.866 to 0.945	FIS331	FI3	FIB331	FIR3	2.61 (66.3)	2.36 (59.9)	1.60 (40.6)	0.80 (20.3)	1/4-28 UNF	0.71 (18.0)	1/8 NPT	
0.945 to 1.024	FIS332	FI3CV04ANA FI3CV04SSR	FIB332	FIR3CV04ANA FIR3CV04SSR								
1.024 to 1.102	FIS333		FIB333									
1.102 to 1.181	FIS441	FI4	FIB441	FIR3	2.61 (66.3)	2.36 (59.9)	1.60 (40.6)	0.80 (20.3)	1/4-28 UNF	0.71 (18.0)	1/8 NPT	
1.181 to 1.260	FIS442	FI4CV04ANA FI4CV04SSR	FIB442	FIR3CV04ANA FIR3CV04SSR								
1.260 to 1.339	FIS443		FIB443									
1.339 to 1.457	FIS551	FI5	FIB551	FIR6	3.68 (93.5)	3.49 (88.6)	2.31 (58.7)	1.16 (29.5)	1/4-28 UNF	1.24 (31.5)	1/8 NPT	1/2 NPT
1.457 to 1.575	FIS552	FI5CV04ANA FI5CV04SSR	FIB552	FIR6CV04ANA FIR6CV04SSR								
1.575 to 1.693	FIS553		FIB553									
1.693 to 1.850	FIS661	FI6	FIB661	FIR6	3.68 (93.5)	3.49 (88.6)	2.31 (58.7)	1.16 (29.5)	1/4-28 UNF	1.24 (31.5)	1/8 NPT	1/2 NPT
1.850 to 2.008	FIS662	FI6CV04ANA FI6CV04SSR	FIB662	FIR6CV04ANA FIR6CV04SSR								
2.008 to 2.165	FIS663		FIB663									
2.165 to 2.305	FIS771	FI7	FIB771	FIR7	3.36 (85.3)	4.20 (106.7)	3.00 (76.2)	1.50 (38.1)	1/4-28 UNF	1.33 (33.8)	1/8 NPT	3/4 NPT
2.305 to 2.445	FIS772	FI7CV04ANA FI7CV04SSR	FIB772	FIR7CV04ANA FIR7CV04SSR								
2.445 to 2.585	FIS773		FIB773									
2.585 to 2.725	FIS881	FI8	FIB881	FIR7	3.36 (85.3)	4.20 (106.7)	3.00 (76.2)	1.50 (38.1)	1/4-28 UNF	1.33 (33.8)	1/8 NPT	3/4 NPT
2.725 to 2.865	FIS882	FI8CV04ANA FI8CV04SSR	FIB882	FIR7CV04ANA FIR7CV04SSR								
2.865 to 3.005	FIS883		FIB883									

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	

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

1/8	FIS011/8NPT	FI01 FI01CV04ANA FI01CV04SSR	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	F1 F1CV04ANA F1CV04SSR	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	F2 F2CV04ANA F2CV04SSR	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		FIB21/2NPT							1.07 (27.2)			
3/4	FIS33/4NPT	F3 F3CV04ANA F3CV04SSR	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)	0.71 (18.0)	1/8 NPT	
1	FIS41NPT	F4 F4CV04ANA F4CV04SSR	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)	0.71 (18.0)	1/8 NPT	
1-1/4	FIS511/4NPT	F5 F5CV04ANA F5CV04SSR	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	F6 F6CV04ANA F6CV04SSR	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	F7 F7CV04ANA F7CV04SSR	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		FIB721/2NPT										

Dimensions: inch (mm)

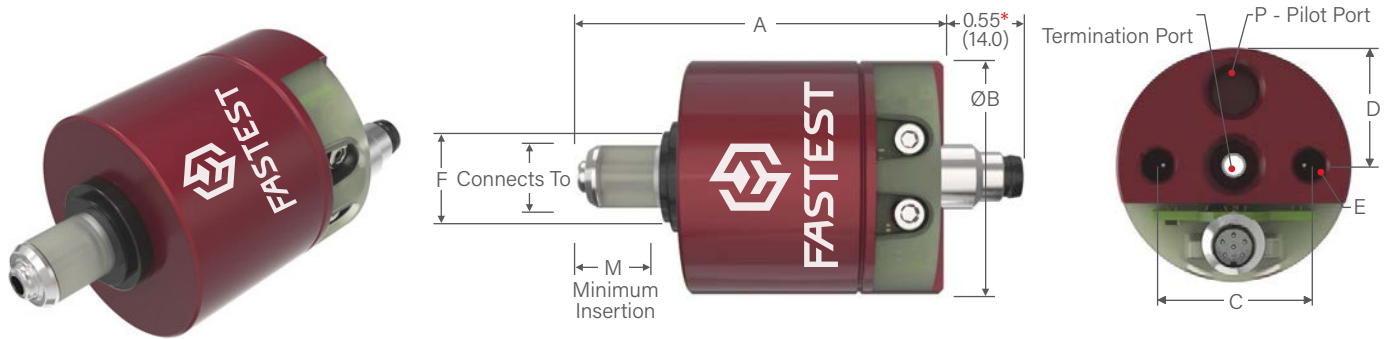
\*Includes seals(s) and metal parts for one complete seal set. Urethane seals are standard.

**Port Specifications:** NPT per SAE J476a; BSPP (G) per ISO 228; BSPT per ISO 7, JIS B8363 and B2351



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# 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

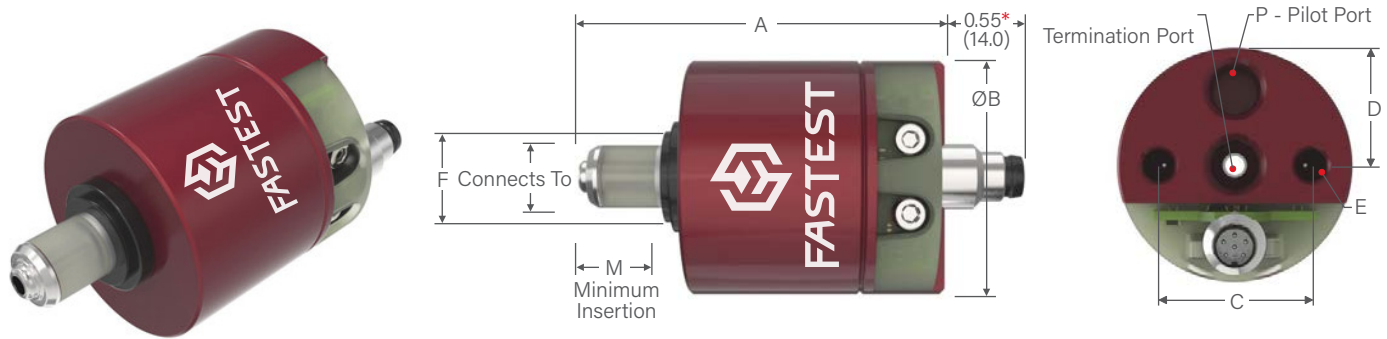
-4 [7/16-20]	FIS014SAE	FI01 FI01CV04ANA FI01CV04SSR	FIB014SAE	FIR01 FIR01CV04ANA FIR01CV04SSR	1.98 (50.3)	1.25 (31.7)	0.80 (20.3)	0.40 (10.2)	10-32 UNF	0.62 (15.7)	0.48 (12.2)	10-32 UNF	
-5 [1/2-20]	FIS15SAE	FI1 FI1CV04ANA	FIB15SAE	FIR1 FIR1CV04ANA	2.44 (62.0)	1.57 (39.9)	1.02 (25.9)	0.51 (12.9)	1/4-28 UNF	0.76 (19.3)	0.57 (14.5)	1/8 NPT	
-6 [9/16-18]	FIS16SAE	FI1CV04SSR	FIR1CV04SSR										
-8 [3/4-16]	FIS28SAE	FI2 FI2CV04ANA FI2CV04SSR	FIB28SAE	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	
-10 [7/8-14]	FIS310SAE	FI3 FI3CV04ANA	FIB310SAE	FIR3 FIR3CV04ANA	2.61 (66.3)	2.36 (59.9)	1.60 (40.6)	0.80 (20.3)	1/4-28 UNF	1.26 (32.0)	0.71 (18.0)	1/8 NPT	
-12 [1 1/16-12]	FIS212SAE	FI3CV04SSR	FIR3CV04SSR										
-14 [1 3/16-12]	FIS416SAE	FI4 FI4CV04ANA	FIB416SAE	FIR3 FIR3CV04ANA	2.61 (66.3)	2.36 (59.9)	1.60 (40.6)	0.80 (20.3)	1/4-28 UNF	1.57 (39.9)	0.71 (18.0)	1/8 NPT	
-16 [1 5/16-12]	FIS416SAE	FI4CV04SSR	FIR3CV04SSR										
-20 [1 5/8-12]	FIS520SAE	FI5 FI5CV04ANA FI5CV04SSR	FIB520SAE	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
-24 [1 7/8-12]	FIS624SAE	FI6 FI6CV04ANA FI6CV04SSR	FIS624SAE	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
-32 [2 1/2-12]	FIS732SAE	FI7 FI7CV04ANA FI7CV04SSR	FIB732SAE	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)

\*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		FIBM14										
M16 x 1.5	FIS2M16	FI2 FI2CV04ANA FI2CV04SSR	FIB1M16	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	
M18 x 1.5	FIS2M18		FIB2M18										
M20 x 1.5	FIS2M20		FIB2M20										
M22 x 1.5	FIS2M22		FIB2M22										
M24 x 1.5	FIS3M24	FI3 FI3CV04ANA FI3CV04SSR	FIB3M24	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)	0.71 (18.0)	1/8 NPT	
M26 x 1.5	FIS3M26		FIB3M26										
M27 x 2	FIS3M27		FIB3M27										
M28 x 1.5	FIS3M28		FIB3M28										
M30 x 1.5	FIS4M30	FI4 FI4CV04ANA FI4CV04SSR	FIB4M30	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)	0.71 (18.0)	1/8 NPT	
M33 x 2	FIS4M33		FIB4M33										
M36 x 2	FIS4M36		FIB4M36										
M42 x 2	FIS5M42	FI5 FI5CV04ANA FI5CV04SSR	FIB5M42	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
M48 x 2	FIS6M48	FI6 FI6CV04ANA FI6CV04SSR	FIB6M48	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
M60 x 2	FIS7M60	FI7 FI7CV04ANA FI7CV04SSR	FIB7M60	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)

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

**Port Specifications:** ISO 6149, DIN 3852 Part 1 (ISO 9974)



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