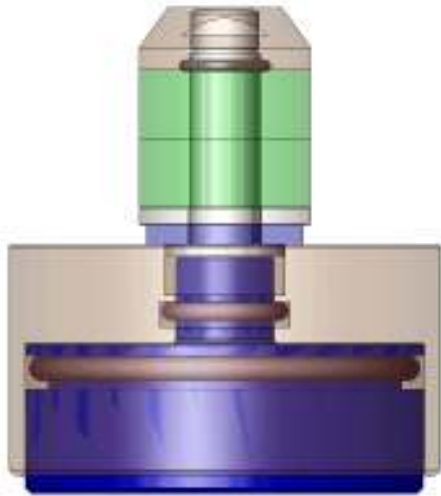


# CTS Connect

## CI CONNECTOR



### SEAL ASSEMBLY AND INSTALLATION

1. Check CI connector assembly for the proper seal size, seal material, number of seals, spacers, and washer in the connector assembly.
2. There are eleven basic connector bodies with multiple seal sizes and materials available. See table 1.
3. To replace the seals, loosen the nose piece on tip of the seal shaft using the wrench flats on the nose piece and spanner wrench holes on the piston.
4. Remove the nose piece from the shaft.
5. There are a number of seals (depending on the connector body size detailed in Table 1), a washer, and a spacer.
6. CI Connectors for NPT, SAE, and M thread seals have a flat face seal and seal holder in place of
7. the spacer. Check for correct nose, seal and washer size and that the OD dimensions are the same.
8. Re-assemble the connector components onto the stem per the diagram.
9. Tighten nose piece to the stem using the wrench flats and a spanner wrench. Do not over-tighten.

### CI Pneumatic Actuated Connectors

CTS Connect air actuated CI connectors effectively seal inside smooth, rough, and threaded circular features of a part for either pressure or vacuum testing, filling or flushing.

The connectors consist of an air-driven internal piston that compresses seal material against the surface of the part, creating a tight seal that meets all test pressure requirements.

Assembly Body	Seal Set	Range	Number of seals
CI30	AA	0.310"-0.330"	1
	AB	0.330"-0.394"	1
	AC	1/8" NPT	1
CI31	AA	0.394"-0.474"	1
	AB	1/4" NPT	1
	AC	0.472"-0.551"	1
	AD	0.551"-0.630"	1
CI32	AA	3/8" NPT	1
	AB	0.630"-0.709"	1
	AC	1/2" NPT	1
	AD	0.709"-0.787"	1
	AE	0.787"-0.866"	1
CI33	AA	0.866"-0.945"	2
	AB	3/4" NPT	1
	AC	0.945"-1.024"	2
	AD	1.024"-1.102"	2
CI34	AA	1.102"-1.181"	2
	AB	1" NPT	1
	AC	1.181"-1.260"	2
	AD	1.260"-1.339"	2
CI35	AA	1.339"-1.457"	3
	AB	1.457"-1.575"	3
	AC	1-1/4" NPT"	1
	AD	1.575"-1.693"	3
CI36	AA	1.693"-1.850"	3
	AB	1-1/2" NPT	1
	AC	1.850"-2.008"	3
	AD	2.008"-2.165"	3
CI37	AA	2.165"-2.305"	3
	AB	2" NPT	1
	AC	2.305"-2.445"	3
	AD	2.445"-2.585"	3
CI38	AA	2.585"-2.725"	3
	AB	2.725"-2.865"	3
	AC	2.865"-3.005"	3
CI39	AA	3.005"-3.145"	3
	AB	3.145"-3.285"	3
	AC	3.285"-3.425"	3
	AD	3.425"-3.565"	3
CI40	AA	3.565"-3.705"	3
	AB	3.705"-3.845"	3
	AC	3.845"-3.985"	3
	AD	3.985"-4.124"	3

TABLE 1: SEAL SIZE & NUMBER

## CI Connector Operation and Integration

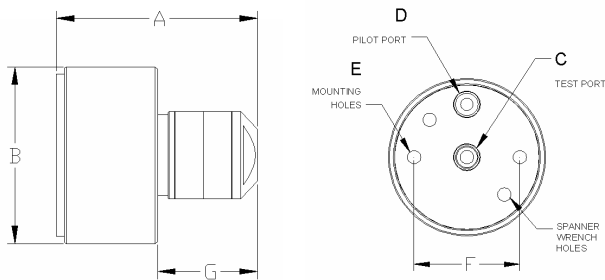
For safe operation in pressure applications, the CI Connector must be restrained or secured in the test part to counteract the test pressure force and to prevent blow out while under pressure in case of premature pilot pressure release.

Maximum test pressure is 120 psi with typical pilot pressure of 60-90 psi.

The CI connector should be secured in the hole to be sealed by a clamp, cylinder, or other fixture device with sufficient coupling force to overcome the test force (area of opening times the test pressure).

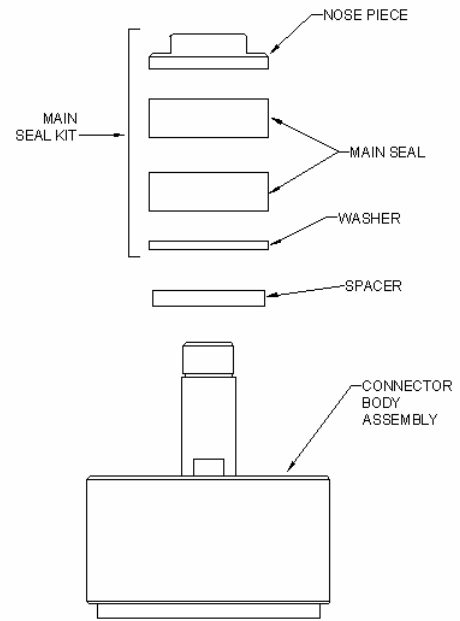
## Mounting the CI Connector

The connector body can be attached directly to a fixture, clamp, or cylinder device via the two or three mounting holes located on the connector body hole E. The hole/port dimensions and locations per connector body are detailed in the table below:



	A	B	C	D	E	F	G
CI30	2.01	1.25	1/16-27 FNPT	1/16-27 FNPT	10-32	0.80	0.55
CI31, CI32	2.44	1.56	1/8-27 FNPT	1/8-27 FNPT	1/4-20	1.02	0.55
CI33, CI34	2.67	2.38	1/2-14 FNPT	1/8-27 FNPT	1/4-20	1.60	1.11
CI35, CI36	4.0	3.5	3/4-14 FNPT	1/8-27 FNPT	1/4-20	2.31	1.50
CI37, CI38 CI39, CI40	3.81	4.25	3/4-14 FNPT	1/8-27 FNPT	1/4-20	3.0	1.50

TABLE 2: DIMENSIONS



## Pressure Connections

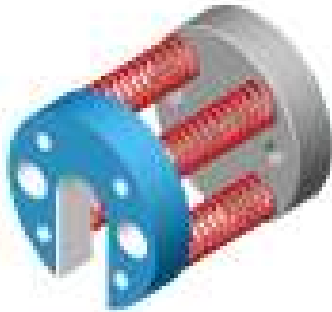
- There are two pressure port connections on the CI body. They are the test port and pilot port. The port dimensions are detailed in Table 2.
- Attach the pilot air to port D. The pneumatic pilot pressure source should be regulated to a consistent pressure to assure reliable sealing.
- The recommended pilot pressure is 60-90 psi. The pressure should be set to the lowest possible pressure while providing consistent sealing to minimize seal wear.
- Attach the test pressure to hole C.

## Operating the CI Connectors

- Provide a control method to advance the CI Connector into the hole.
- Activate the pilot air pressure.
- Apply the test pressure to the connector.
- Test, fill or flush part while assuring that the test pressure will be relieved before the pilot air pressure is relieved.
- Relieve test pressure
- Relieve pilot pressure.
- Withdraw CI Connector from part.

## CI Connector Optional Accessories

### SPRINGMOUNT ADAPTER



Springmount adapters are a great way to solve minor alignment and fixturing issues. The spring mount allows the connector to float in all directions to help ensure proper alignment during the advancement into the seal area.

### MAIN SEAL KIT



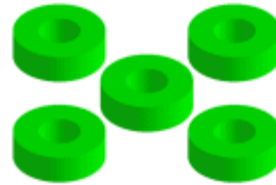
The main seal kit contains seals, threaded nose and washers

### SHAFT EXTENSIONS



The shaft extensions are ordered as an integral part of the CTS Connect CI Assemblies. They are identified by the “-Ex.xx” extension added to the catalog number. An extended shaft and spacer are provided to position the seal away from the connector body and piston.

### SPARE SEALS



Spare seals are available to order in minimum quantities per connector type.

## CINCINNATI TEST SYSTEMS, INC. PRODUCT WARRANTY

Because of the variety of uses for this equipment and because of the differences between this solid state equipment and elec-tromechanical equipment, the user of and those responsible for applying this equipment must satisfy themselves as to the acceptability of each application and use of the equipment. In no event will Cincinnati Test Systems be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

The illustrations, charts, and layout examples shown in this manual are intended solely to illustrate the text of this manual. Because of the many variables and requirements associated with any particular installation, Cincinnati Test Systems cannot assume responsibility or liability for actual use based upon the illustrative uses and applications.

CTS warrants that the Products, under normal and proper use, shall be free from defects in material and workmanship that impair its usefulness, for a period of 1 year from the date of shipment. CTS' obligation under this warranty is limited to repair-ing or replacing, at CTS' option, any defective non-consumable parts. Consumable parts are specifically excluded from this warranty, including elastomers and seals,. This warranty is conditioned upon Buyer furnishing satisfactory evidence that the Products alleged to be defective has been properly maintained and correctly operated under normal conditions with competent supervision and within the operating limits for which such Products are offered and sold.