



**Gas Connector
Products Group**

Application Selection Guide



Cylinder Filling Connectors for the Gas Industry

Providing:

- **EFFICIENCY**
- **PRODUCTIVITY**
- **ERGONOMICS**
- **SAFETY**

"ULTIMATE IN FILLING TECHNOLOGY"



FasTest the Ultimate in Filling Technology

FasTest offers the compressed gas industry innovation in design and manufacturing of quick connect products for filling, flushing and vacuum applications. FasTest gas connector products are simple to use with a “no twist, no turn” approach to filling. Simply connect our product into the valve and lock into place with a forward movement of the actuator handle or outer sleeve. You are ready to fill the cylinder in a matter of seconds!

During the cylinder filling cycle, our gas connectors are locked in place by an internal locking mechanism. This prevents accidental disconnect by the operator while under pressure. When the cylinder is full, reverse the procedure by pulling back the actuator handle or outer sleeve on the product. ***That's all!***

FasTest is the Solution

FasTest gas connectors are manufactured to the highest level of quality and reliability to specific CGA product specifications. We offer most common CGA standards, and meet the filling requirements for both conventional and residual pressure valve filling applications (i.e., CGA 580 for inert gases).



MediMates on inverted medical oxygen rack filling application.

Reliability, quality and operator safety are built into every product FasTest manufactures. Aside from our demanding standards, specific products are both BAM and TÜV certified.

Our medical oxygen connectors have undergone testing and evaluation by a testing laboratory of a major compressed gas company.

The Product Selection Guide contains the most common CGA standards available. Several standards are available with either a straight thru (180°), or right angle (90°) inlet port that can be combined with either a 1/4" NPT female or male end hose connection. Our products can be tailored to new or existing fill rack configurations.

Several actuator handles are available for use with various cylinder protective collars, caps and valves common in the marketplace.

FasTest is ISO 9001 Certified 2000 Standard.



Insert connector into valve...flip handle...DONE!

Gain the Edge with FasTest Gas Connectors

FasTest's high-pressure, gas filling connectors have a proven track record with over a decade of service in the field.

FasTest gas connectors offer a "No Twist, No Turn" approach to cylinder filling. Under pressure, a secure, leak-tight seal is established with our patented safety locking mechanism. The advantages of this design give our customers the edge through ergonomic efficiency and increased productivity, resulting in greater profitability. Our connectors will improve your cylinder filling performance, whether it is one cylinder at a time, inverted rack filling, or palletized cylinder filling.

Gas is a commodity! Studies, performed by several compressed gas companies, show increases of 25-30% in productivity in less than a year. It's a proven fact that FasTest gas connectors can cut 20 to 30 seconds off the hook-up and disconnect time cycles of each cylinder. No more "twisting or turning," common with conventional wheelnut connections. No more repetitive stress syndrome.

**25-30%
Increased
Productivity**

**Documented
Return on
Investment
Less Than
a Year**

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FasTest Gas Connector	CGA Standard Model	FasTest Part Number	Application	Pressure Rating	Product Description
	870 Yoke	G870041	Medical Oxygen	3600 PSI	• Black anodized aluminum body • Delrin actuator lever • Stainless steel actuator piston • Viton elastomer seals • Brass grade 360 wetted components • Cleaned for O2 service • Weight 15.5 oz.
	540 Medical Oxygen Female	521042540 Female Termination	Medical Oxygen	3600 PSI	• Conventional or RPV Applications • Stainless steel and brass body components • Sleeve Activation • Safety Locking Mechanism • Viton or EPDM Elastomer Seals • FEMALE: 90° Right Angle 1/4" NPT Termination Port • MALE: Straight 1/4" NPT Termination Port • Specifically designed for new self contained 540 medical cylinder product and inverted rack filling applications • Weight 22 oz.
	540 Medical Oxygen Female	521041540 Male Termination	Medical Oxygen	3600 PSI	
	580 Male	541041580	Inert Gases	3600 PSI	• Stainless steel and brass body components • Stainless steel bail-style actuator handle • EPDM elastomer seals • Brass and stainless steel wetted components • Standard actuator handle #1 (additional sizes available) • BAM and TÜV Certified • Weight 36 oz.
	540 Female	571041540	Industrial Oxygen	3600 PSI	• Stainless steel and brass body components • Stainless steel bail-style actuator handle • Viton elastomer seals • Brass and stainless steel wetted components • Standard actuator handle #1 (additional sizes available) • BAM and TÜV Certified • Weight 36 oz.
	580 RPV Male	542041580RPV	Inert Gases	3500 PSI	• Designed for residual pressure valve filling • Stainless steel and brass body components • Stainless steel bail-style actuator handle • EPDM elastomer seals • Brass and stainless steel wetted components • Stainless steel actuator pin for RPV • Standard actuator handle #2 (additional sizes available) • BAM and TÜV certified • Weight 36 oz.
	346 Female	571041346	Breathable Air	3500 PSI	• Stainless steel and brass body components • Stainless steel bail-style actuator handle • Viton elastomer seals • Brass and stainless steel wetted components • Standard actuator handle #1 (additional sizes available) • Cleaned for O2 service • Weight 36 oz.
	510 Male	541041510	Acetylene Propane	500 PSI	• Stainless steel and brass body components • Stainless steel bail-style actuator handle • EPDM elastomer seals • Brass and stainless steel wetted components • Actuator handle for filling straight through or 90° terminations • Weight 36 oz.

FasTest Gas Connector	CGA Standard Model	FasTest Part Number	Application	Pressure Rating	Product Description
	320 Female	521041320	CO2	3500 PSI	- Stainless steel and brass body components - Sleeve actuation (designed for ease of operator use) - Safety locking mechanism (prevents accidental disconnect under pressure) - Lightweight, compact design - EPDM elastomer seals 1/4" NPT male termination port - Weight 21 oz.
	320 Female With Venting Valve	521041V320	CO2	2100 PSI	- Combination CGA 320 connector and venting valve - Venting valve actuator handle opens and shuts flow of CO2 supply source by movement of handle forward and back - Venting valve allows exhausting and reclaim of CO2 - Connector and venting valve supplied only in combination EPDM Seals - Connector has safety locking mechanism 1/4" NPT female termination port mates to 1/4" male connection on venting valve - Weight 32 oz
	910 Yoke	491041910	Nitrous Oxide	3500 PSI	- Stainless steel and brass body components - Lever actuated - Viton elastomer seals - Pressure assisted locking mechanism - PIN indexed to CGA 910 - Weight 36 oz.

Termination Ports FasTest gas connectors are supplied with either a straight-flow or right-angle termination port, depending on the specific CGA standard. See chart below for options.

CGA Standard	Standard Termination Port	Optional
870	S	
540	R	S
580	R	S
580 RPV	R	S
346	R	S
510	S/R	
320	S	
540 Medical Oxygen	S/R	
910	S	

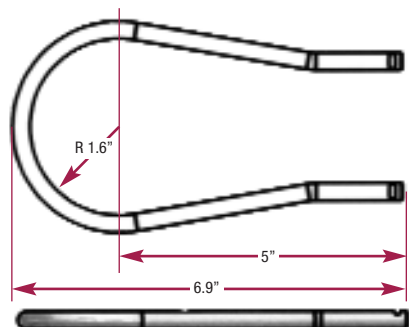
(R) Right angle 90° termination port (S) Straight 180° termination port

ELASTOMER MATERIAL SELECTION

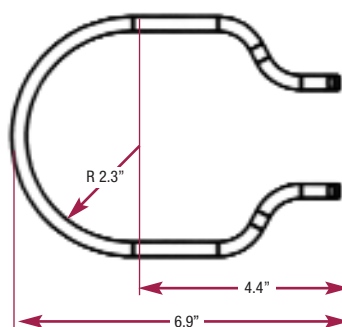
Internal seals and sealing O-ring materials are specific to each CGA standard connector. The elastomer compound used for a given connector is based upon industry approval, or upon performance characteristics (i.e., which compound is best suited for a specific application). FasTest offers other elastomer compounds upon request. However, all changes are subject to FasTest approval. Please refer to the CGA Standard Product Line Selection Guide for clarification of which elastomer compound is provided with each CGA standard.



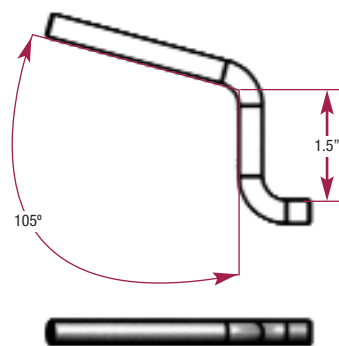
CGA 580 connector filling inert gas.



Handle # 1

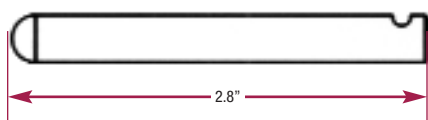
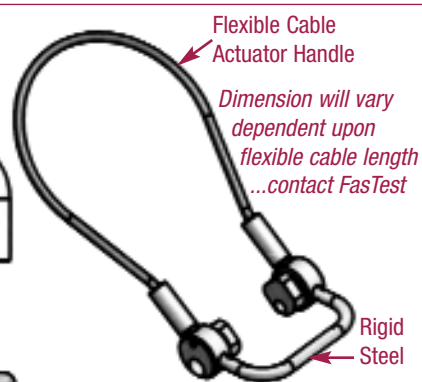
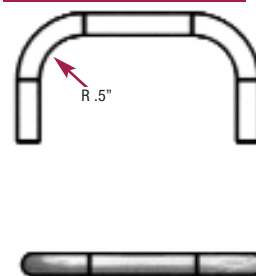


Handle # 2

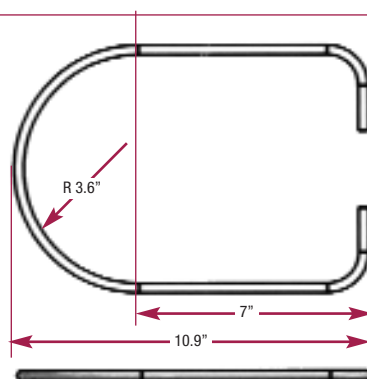


Handle # 5

**Handle #
6, 8, 9, 11, 12,
13, 15, 16, 19**



Handle # 18



Handle # 21

The actuator handles shown on these pages are available to accompany the following gas connector products:

**CGA 540
CGA 580
CGA 580 RPV
CGA 346
CGA 510**

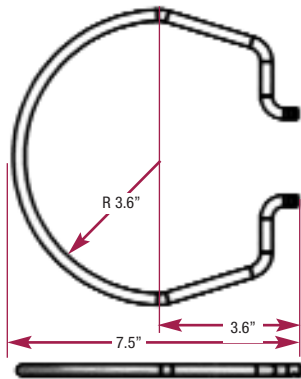
The standard handle supplied with a specific CGA product is identified within the product description (gray) section of the CGA Selection Guide on pages 4 and 5. The actuator handle selected for any given CGA standard is based upon customer and industry demand. Alternative handle choices are available.

Contact your FasTest representative for part numbers, pricing and delivery information for optional actuator handle selections.

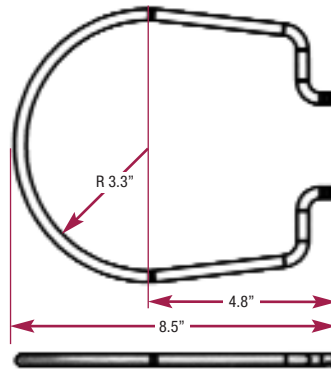
Did you know?

Fact: The first CGA 540 and 580 series connectors were installed in a high-volume filling facility in 1992. Our customers report that these connectors are still in service, exceeding their initial productivity and reliability expectations.

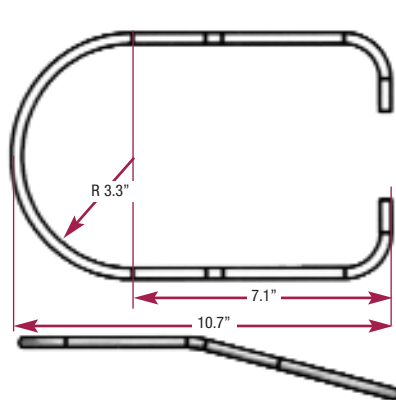




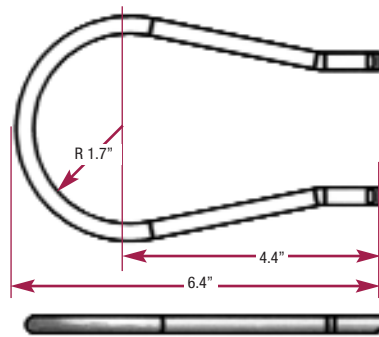
Handle # 3



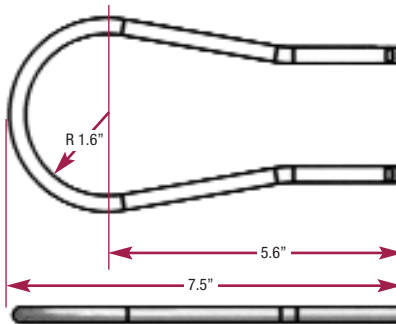
Handle # 4



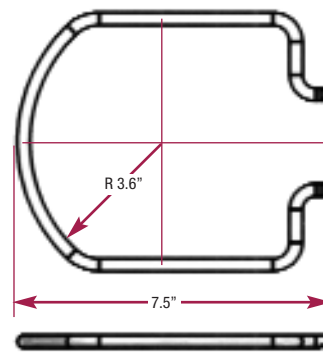
Handle # 10



Handle # 14



Handle # 22



Handle # 23

Rigid Actuator Handles

(Numbers: 1, 2, 3, 4, 5, 10, 14, 18, 21, 22, and 23)

The rigid style handles are made of stainless steel, 5/16" in diameter. Please refer to the drawings above for overall handle dimensions.

Flexible Cable Handles

(Numbers: 6, 8, 9, 11, 12, 13, 15, 16, 19)

The flexible style handles are made of stainless steel aircraft cable, 1/4" in diameter. All flexible cable handles supplied with a rigid steel safety locking mechanism to prevent accidental disconnection under pressure.

Flexible cable handles are required for filling equipment with space restraints. Provide your FasTest representative with a "footprint" of the handle configuration, disclosing the maximum width and length of desired handle. In general, flexible cable handles are available in overall length of 12" - 24".

Field Replacement Parts

Only the gas connector parts and seals listed in this section are available for field replacement. Specific tool kits may be required.

Due to the high pressure of compressed gas filling, as well as the oxygen cleaning requirements of specific CGA standards, FasTest requires you to return gas connector products for maintenance and repair. Specific CGA standards require O2 cleaning before being returned to field service. Please contact FasTest, Inc. for additional information.

Connector	Part #	Description
G870041	SG870 SG870100 SG8700250 G87030 H0021X1 W6805	Replacement Main Seal Set (5 /pkg) Replacement Main Seal Set (100 /pkg) Replacement Main Seal Set (250 /pkg) Replacement Index Pins Replacement Actuator Handle Replacement Handle Screws
571041540	S540041B S540041B100 S540041B250 Contact Factory W6805	Replacement Main Seal Set (5 /pkg) Replacement Main Seal Set (100 /pkg) Replacement Main Seal Set (250 /pkg) Replacement Actuator Handle Replacement Handle Screws
541041580	S580041B S580041B100 S580041B250 Contact Factory W6805	Replacement Main Seal Set (5 /pkg) Replacement Main Seal Set (100 /pkg) Replacement Main Seal Set (250 /pkg) Replacement Actuator Handle Replacement Handle Screws
541041580RPV	R580P R580TK Contact Factory W6805	Replacement Actuator Pin RPV (5/pkg) Tool kit to replace actuator pin for R580P Replacement Actuator Handle Replacement Handle Screws

Product Maintenance

To maximize the service life and efficiency of FasTest gas connectors, a preventative maintenance program and schedule should be implemented. Periodic cleaning and inspection of the product components will insure maximum performance and efficiency.

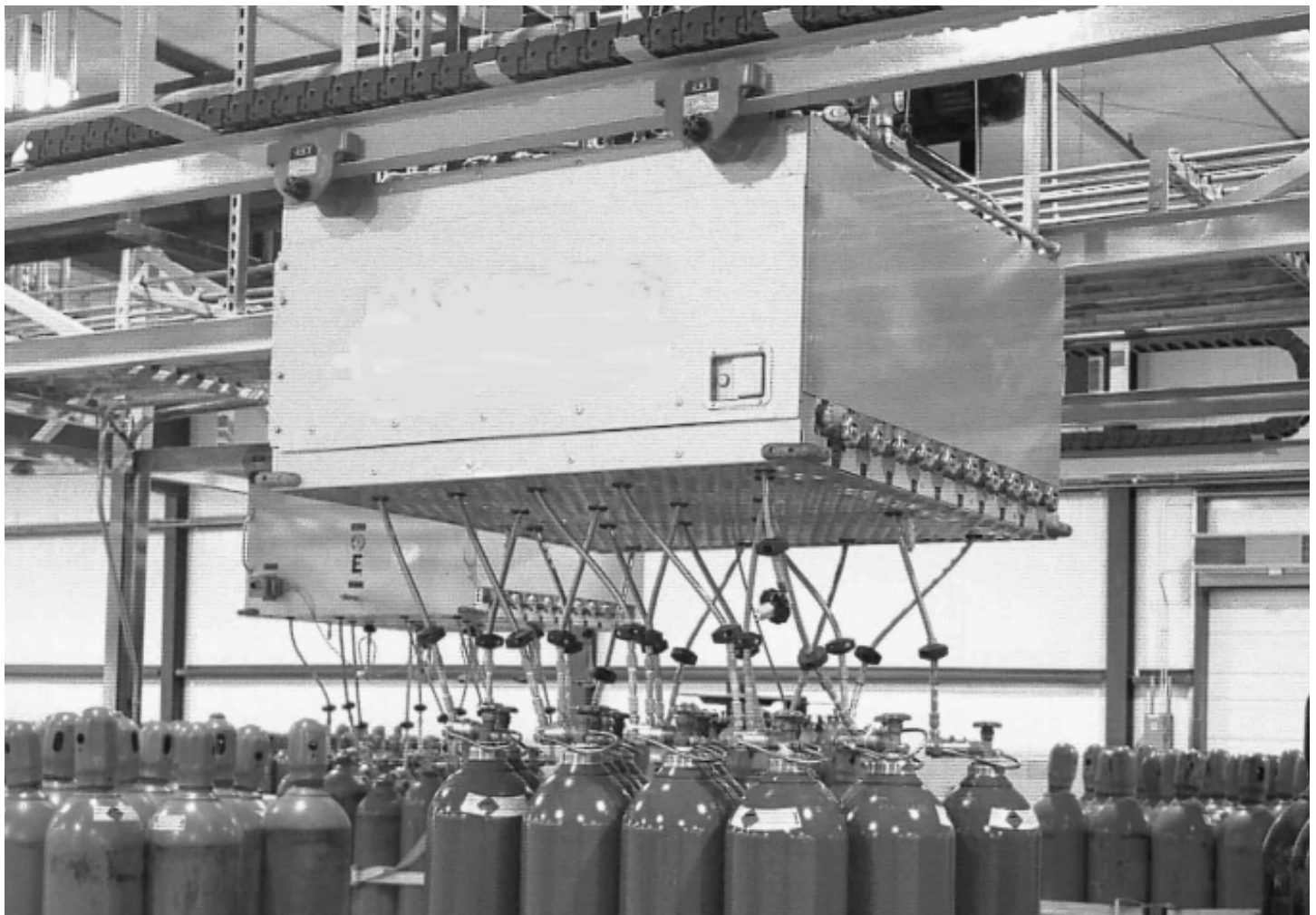
The following maintenance is recommended:

- 1) A daily visual inspection of the sealing O-ring, located at the tip of the filling nozzle. Inspect for tears or cracks in the surface of the O-ring. Replace O-ring if tears or cracks are verified.
- 2) Replace sealing O-ring every 1000 fill cycles regardless of daily visual inspection results.
- 3) Periodic tightening of actuator handle screws on applicable CGA standards. Check index pins on CGA yoke style connectors. Do not remove index pins except for reason of immediate pin replacement.
- 4) CGA standards utilized for medical oxygen filling may require periodic lubrication. Krytox or approved equivalent only.
- 5) Return product to FasTest for complete maintenance every 3-year period.
- 6) Minimize use of "soap solutions" for leak testing during filling cycles.

How to Order

Refer to the CGA Standard Product Line Selection Guide found on pages 4 and 5. Standard part numbers are provided in the third column to the right. When ordering, the standard part numbers coincide with a standard termination port and actuator handle (if applicable). See Product Description for connector details. Optional actuator handles and straight in-line termination ports are available for CGA standards 346, 510, 540, 580, and 580 RPV. The following example will assist you when ordering.

Connector Part Number		
Standard 571041540	Standard CGA 540 Connector with standard #1 actuator handle and right angle 90° termination port.	For additional assistance in product ordering, please contact your FasTest gas products representative.
Optional 575041540S	CGA 540 connector with option #5 actuator handle and straight in-line termination port.	Additional CGA standard products are quoted upon request and subject to a minimum quantity order. Contact FasTest for details.



Palletized cylinder filling with FasTest connectors.

Did you know?

Fact: Our medical oxygen connectors are subject to independent ignition and burn testing and have successfully passed all testing requirements.

Problem	Recognized By	Probable Cause	Recommended Action
Gas leakage at initiation of filling cycle, leakage decreasing as pressure increases.	Sound of escaping gas.	(a) Improper connection. (b) Side load to filling connector due to rigid supply line.	(a) Terminate filling cycle and repeat connection. (b) Replace supply line with swivel and/or flexible pigtail.
Gas leakage increases as pressure increases.	Sound of escaping gas. Blow off.	Valve threads damaged Seat area of valve scored or damaged.	Terminate filling cycle and replace damaged or worn valve.
Actuator Style Connectors* Safety pin does not activate during filling cycle.	Safety pin at rear of connector not extended outward from connector body. Filling pressure must exceed 250 psi for pin actuation.	(a) Damaged or bent pin. (b) Lack of lubrication and/or dirt contamination.	(a) Field replacement of actuator pin assembly. (b) Remove safety pin assembly, clean and lubricate with approved lubricant.
Actuator Style Connectors* Safety pin does not retract upon completion of filling cycle.	Visual inspection of safety pin at rear of connector body. Activated and not retracted into connector body.	(a) Damaged or bent pin. (b) Lack of lubrication and/or dirt contamination. (c) System under pressure.	(a) Field replacement of actuator pin assembly. (b) Remove safety pin assembly, clean and lubricate with approved lubricant. (c) Vent or exhaust system of gas before attempting disconnection.
Actuator Style Connectors* Actuator handle loose.	Ability to move handle side to side and/or any loose movement when connected to valve.	Loose or missing actuator handle screws.	Replace missing screw(s) or remove existing screws. Apply thread lock to screw threads. Reinsert and tighten to 7ft lbs. Do not over tighten screws.
Damage, deformation or distortion to connector body, sleeve, and collet threads. Possible internal leakage.	Visual inspection of connector. Difficult operation of connector.	Improper operation.	Remove connector from filling operation immediately. Return to FastTest to determine probable cause.
Connecting collet(s) missing or difficult to connect to valve. Front outer sleeve loose.	Visual inspection of socket head screw on front of outer sleeve or connector body.	Loose or missing.	Discontinue use of connector until socket head screw is tightened to 7 ft. lbs. or replaced.

* Gas Connector CGA standards 346, 510, 540, 580 and 580RPV series. Gas connector products should be visibly inspected on a routine basis to ensure efficient product performance. Refer to the Product Maintenance section on page 8 for additional information.

Problem	Recognized By	Probable Cause	Recommended Action
Gas leakage at connection of connector to valve.	Continual sound of escaping gas.	Damaged or worn connector sealing O-ring or damaged cylinder valve.	Visual inspection of connector O-ring. Replace as required. Recommended O-ring replacement every 1000 filling cycles.
Connector's thread collets not expanding properly during initial hook-up to cylinder valve.	Visual inspection of connection joint.	Short connection of connector to valve.	Visual inspection of valve. Replace if damaged or worn. Disconnect and reconnect connector to valve. Be sure actuator handle sleeve is fully engaged. If problem is unresolved, contact FasTest.
Loose connection.	Connector is loose despite proper connection.	Worn or damaged threads of cylinder valve.	Replace cylinder valve.
Inability to connect to, or a leakage with, CGA 540 and 580 RPV style connectors and Residual Pressure Valves.	Inability to fully actuate connector actuator handle and/or outer sleeve.	(a) Bent actuator pin. (b) Damaged actuator piston.	(a) Replace actuator pin. (b) Return to FasTest for repair.
Inability to connect or Leakage of RPV version connector to non RPV cylinder valves.	Inability to fully actuate and/or gas leakage at initial filling.	(c) Actuator pin not retracted.	(c) Retract/remove actuator pin according to specific connector operation instructions.
Inability to fully engage actuator handle.	Visually inspect connection with valve to determine if connector threads are exposed.	Short connection to cylinder valve.	Disconnect and reconnect to valve with connector fully seated into valve.
Cylinder connection with MediMate 870 connector loose. Ability to move connector side to side once connection is made.	Disconnect and inspect connector. Check index pins.	Index pins removed.	Replace and/or reinsert index pins properly. Do Not Remove Index Pins!
MediMate 870 leakage.	Hissing or popping off under pressure. Main seal blows out.	Internal connector components are contaminated, which does not allow internal piston to move freely.	Disassemble connector, clean component parts, apply approved lubricant and reassemble.



Limited Express Warranty

FasTest, Inc. warrants its products against defects in workmanship and materials for 12 months from the date of sale by FasTest, Inc. or its authorized distributor. This warranty is void if the product is misused, tampered with or used in a manner that is contrary to FasTest, Inc.'s written recommendations and/or instructions. FasTest, Inc. does not warrant the suitability of the product for any particular application. Determining product application suitability is solely the customer's responsibility. FasTest, Inc. is not liable for consequential or other damages including, but not limited to, loss, damage, personal injury, or any other expense directly or indirectly arising from the use of or inability to use its products either separately or in combination with other products. ALL OTHER WARRANTIES EXPRESS OR IMPLIED, WHETHER ORAL, WRITTEN OR IN ANY OTHER FORM, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY EXCLUDED.

The sole and exclusive remedy under this warranty is limited to replacement of the product or an account credit in the amount of the original selling price, at the option of FasTest, Inc. All allegedly defective products must be returned prepaid transportation to FasTest, Inc., together with information describing the product's performance, unless disposition in the field is authorized in writing by FasTest, Inc.

WARNING

High pressure is potentially dangerous. Do not use Gas Filling connectors without first reading and following the operating instructions included with the product. Additional copies of all gas product instructions may be obtained from FasTest, Inc.

INTENDED USE/ MODIFICATION WARNING

FasTest gas connector products are ONLY intended for use with a specific CGA standard. FasTest assumes no product liability if modifications are made to the product. If modifications are made, the product warranty becomes null and void.

Non-Warranty Claims

FasTest gas connector products which are no longer covered by the original warranty period are subject to a flat rate charge for required product repairs. Flat rate charges will vary depending on CGA standard. Non-warranty connectors, returned to FasTest for repairs, are subject to inspection to determine feasibility of repair.

Contact FasTest, Inc. directly for non-warranty repair and maintenance requests.



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