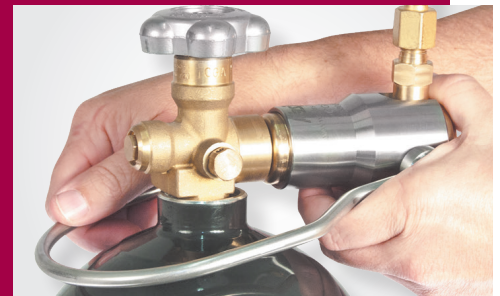
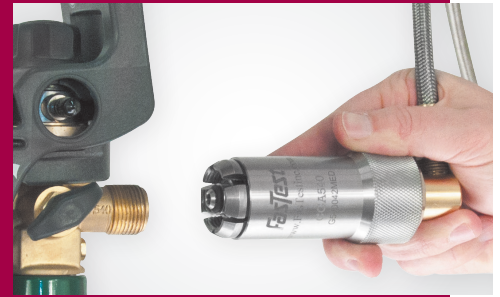


COST, PROCESS & QUALITY IMPROVEMENT

FastTest®
Compressed Gas Products

COMPRESSED GAS FILLING CONNECTORS

- *Improve productivity*
- *Eliminate hand tightening*
- *Safely connect in seconds*
- *Designed and manufactured in the USA*



Cost, Process and Quality Improvement

Since 1985, **FasTest, Inc.** has manufactured quick test connectors and valves that maximize efficiency, productivity and profitability for the Industrial Manufacturing, HVAC-R and Compressed Gas Industries.

Relying on our core engineering skills we have secured over 50 US and International patents. These patents serve as the design platform for innovative products that enable our customers to improve testing, manufacturing processes and productivity.

FasTest connector benefits:

- Quick temporary, leak tight connections, which are consistent and repeatable and standardize operational processes
- Reliable and secure connections under dynamic high pressure conditions
- Increase production throughput and quality while dramatically reducing operating costs
- Eliminate testing bottlenecks, ideal for automation to accommodate high volume production testing
- Ready-to-use tools, so no more jury-rigged or homemade devices that are often leaky, inadequate and cumbersome
- Wide range of standard and custom products for different connection profiles

Widely used in:

- Manufacturing leak test, including pressure decay, tracer gas, mass spectrometer
- Pressure or vacuum tests of gauges, metrological transmitters
- Rapid filling or discharge of coolant in refrigeration systems

The Ultimate in Filling Technology

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 the designs 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.

Table of Contents

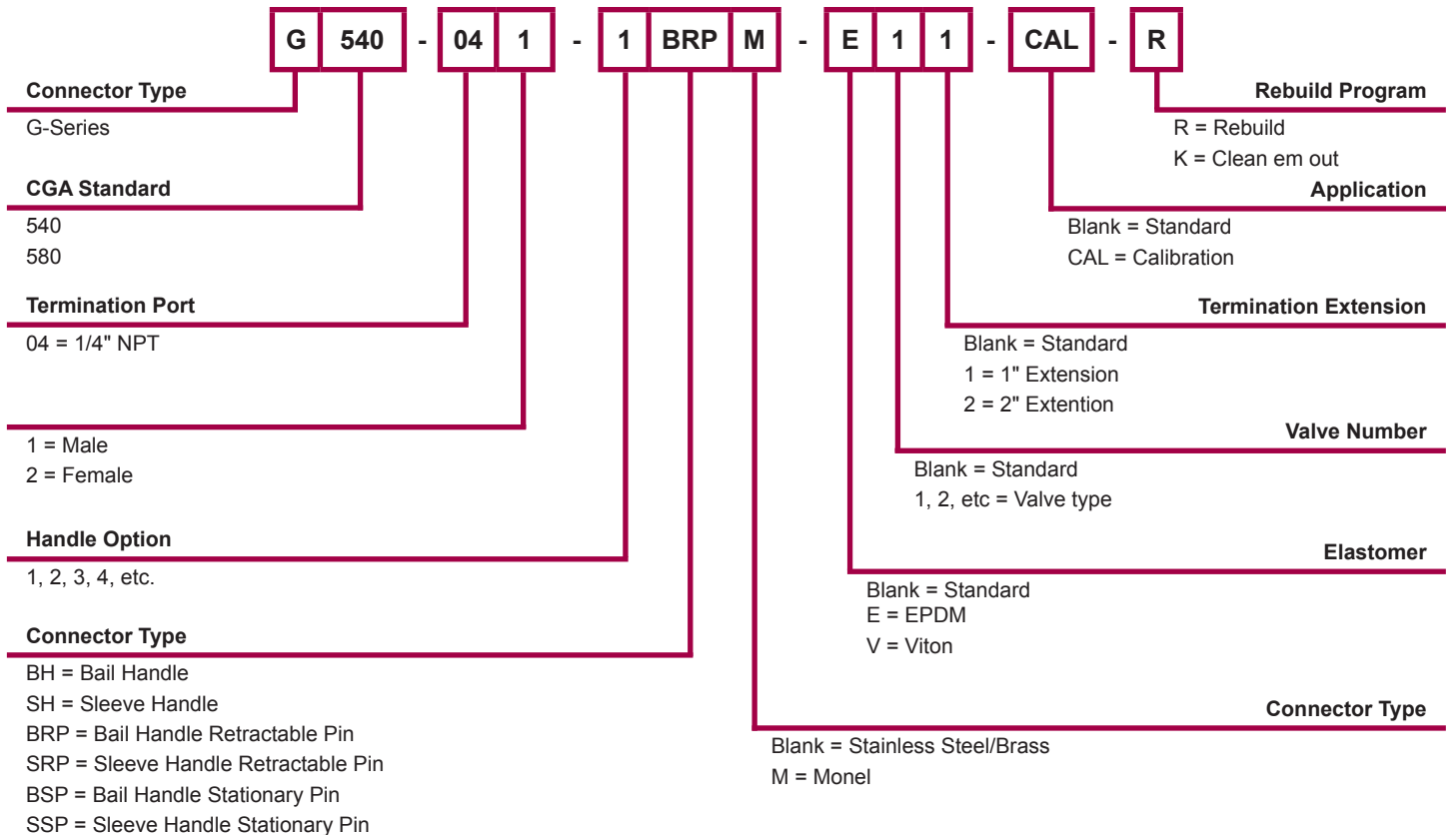
Selection Guide	1
Part Number Keys	2
Reference	3
G540 Industrial Oxygen Series.....	4
G540 RPV Medical and Industrial Oxygen Series	5
G580 Inert Gas Series	6
G580 RPV Inert Gas Series.....	7
G540 Medical and Industrial Oxygen Series	8
G870 Medical Oxygen Series	9
G540 Drawings	11
G540 RPV Drawings.....	14
G580 Drawings	17
G580 RPV Drawings.....	20
G540 Medical and Industrial Drawings	23
G870 Drawings	24
Standard Field Replacement Parts	25
Troubleshooting	26
Notes	28
Warranty	Back Cover

SELECTION GUIDE

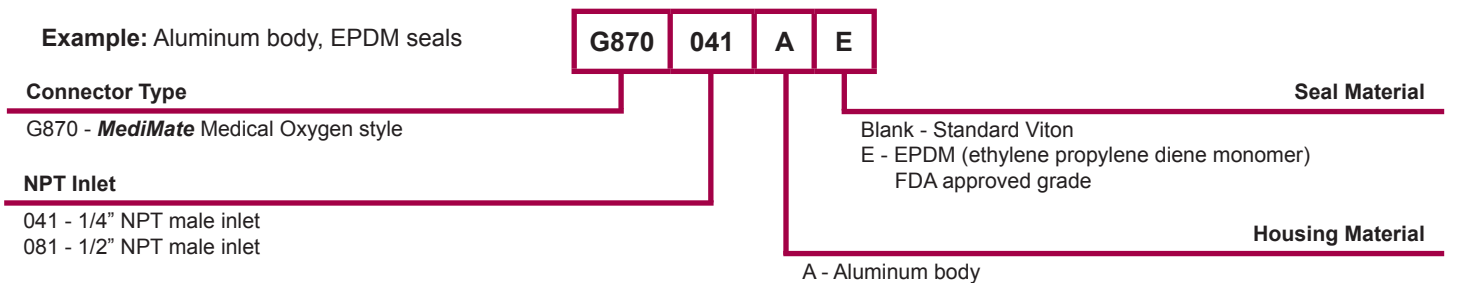
Connector Housing	CGA Standard	Part Number	Application	Pressure Rating (PSI)	Features
	540 Female	G540 Bail Handle Series	Industrial Oxygen	3600	<ul style="list-style-type: none"> Stainless Steel or Monel and Brass Bail handle actuator Viton or EPDM seals Brass & Stainless Steel or Monel wetted components Cleaned for O² service Safety lock
	540 RPV Female	G540 RPV Bail Handle Series	Medical or Industrial Oxygen	3600	<ul style="list-style-type: none"> Designed for residual pressure valve filling Stainless Steel or Monel and Brass Bail handle actuator Viton or EPDM seals Brass & Stainless Steel or Monel wetted components Cleaned for O² Service Safety lock
	580 Male	G580 Bail Handle Series	Inert Gases	3600	<ul style="list-style-type: none"> Stainless Steel and Brass Bail handle actuator Viton or EPDM seals Brass & stainless steel wetted components Safety lock
	580 RPV Male	G580 RPV Bail Handle Series	Inert Gases	3600	<ul style="list-style-type: none"> Designed for residual pressure valve filling Stainless steel and brass Bail handle actuator Brass & stainless steel wetted components Safety lock
	540 Sleeve Oxygen Male	G540 Medical and Industrial Oxygen Series	Medical or Industrial Oxygen	3600	<ul style="list-style-type: none"> Stainless Steel or Monel and Brass Sleeve Activation Safety Locking Mechanism Viton or EPDM Seals Female: 90° Right Angle 1/4" NPT Termination Port Male: Straight 1/4" NPT termination port Specifically designed for self contained 540 medical cylinder and inverted rack filling Cleaned for O² service
	540 Sleeve Oxygen Female				
	870 Yoke	G870 Series	Medical Oxygen	3600	<ul style="list-style-type: none"> Black anodized aluminum or brass body Delrin actuator lever Stainless steel actuator piston Viton or EPDM seals Brass grade 360 wetted components Cleaned for O² service

PART NUMBER KEYS

Compressed Gas Series



MediMate 870 Series



Notes:

Part Number Keys are to assist in IDENTIFICATION ONLY.
Verify new part numbers with factory; some configurations are not possible.

REFERENCE

Termination Ports

FastTest gas connectors are supplied with either a straight-flow or right-angle termination port, depending on the specific CGA standard.

CGA Standard	Standard Termination Port
870	S
540 - 540RPV	S/R
580 - 580RPV	R
(R) Right Angle Termination Port	(S) Straight 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).

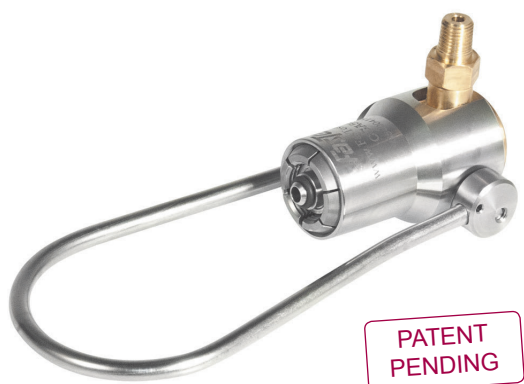
FastTest offers other elastomer compounds upon request. However, all changes are subject to **FastTest** approval. Please refer to the CGA Standard Product Line Selection Guide for clarification of which elastomer compound is provided with each CGA standard.

Bail Actuator Handles

A variety of handles are available for all gas connector products with bail handle actuation.

The rigid style handles (1, 2, 4, 5) are made of stainless steel, 5/16" in diameter. Please refer to the drawings on pages 11-22 for overall connector and handle dimensions.

G540 INDUSTRIAL OXYGEN SERIES



FasTest's G540 gas connector is simple to use with a no twist, no turn approach to filling. Simply connect onto your CGA 540 valve and lock into place with a forward movement of the bail handle roller actuator and you are ready to fill the industrial oxygen cylinder in a matter of seconds.

- Bail handle actuation connects to CGA 540 valve
- Available in Stainless Steel or Monel and brass
- Cleaned for O² service
- Heavy duty handle eliminates common failures
- Simplified design has fewer seals to maintain
- One piece exterior body construction
- Variety of bail handle configurations
- Fast refurbishment or replacement program



Product Family	Connection Type	Connection Method	Application
G-Series	External Threads	Bail Handle	Industrial Oxygen
Connects To	Pressure Rating (psi)	Termination	Weight
CGA 540	3600	1/4" NPT (Male)	40 ounces

Part Number	Handle	Housing	Seals	Replacement Seals	Drawing
G540-0411-BH	1	Stainless Steel and Brass	Viton	SG540	page 11
G540-0412-BH	2				page 11
G540-0414-BH	4				page 12
G540-0415-BH	5				page 13

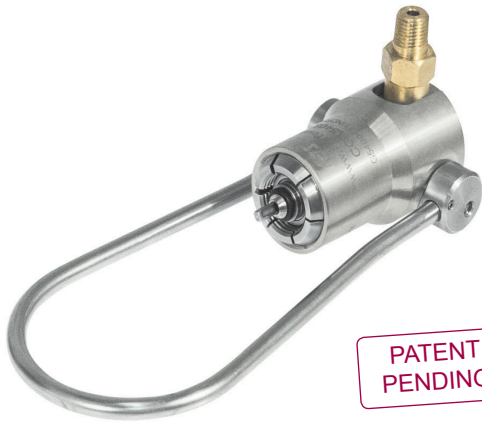
For EPDM seals add "E" to the part number. Example: G540-0411-BHE

G540-0411-BHM	1	Monel / Inconel and Brass	Viton	SG540	page 11
G540-0412-BHM	2				page 11
G540-0414-BHM	4				page 12
G540-0415-BHM	5				page 13

For EPDM seals add "E" to the part number. Example: G540-0411-BHME

Additional configurations available, consult part number key or contact **FasTest**.

G540 RPV MEDICAL & INDUSTRIAL OXYGEN SERIES



FasTest's G540 RPV gas connector is simple to use with a no twist, no turn approach to filling. Simply connect onto your CGA 540 RPV valve and lock into place with a forward movement of the bail handle roller actuator and you are ready to fill the medical or industrial oxygen cylinder in a matter of seconds.

- Bail handle actuation connects to CGA 540 RPV valve
- Available in Stainless Steel or Monel and Brass
- Cleaned for O₂ service
- Heavy duty handle eliminates common failures
- Simplified design has fewer seals to maintain
- One piece exterior body construction
- Variety of bail handle configurations
- Fast refurbishment or replacement program



Product Family	Connection Type	Connection Method	Application
G-Series	External Threads	Bail Handle	Medical/Industrial Oxygen
Connects To	Pressure Rating (psi)	Termination	Weight
CGA 540 RPV	3600	1/4" NPT (Male)	42 ounces

Part Number	Handle	Housing	Seals	Replacement Seals	Drawing
G540-0411-BRP	1	Stainless Steel/ Brass	Viton	SG540RPV	page 14
G540-0412-BRP	2				page 14
G540-0414-BRP	4				page 15
G540-0415-BRP	5				page 16

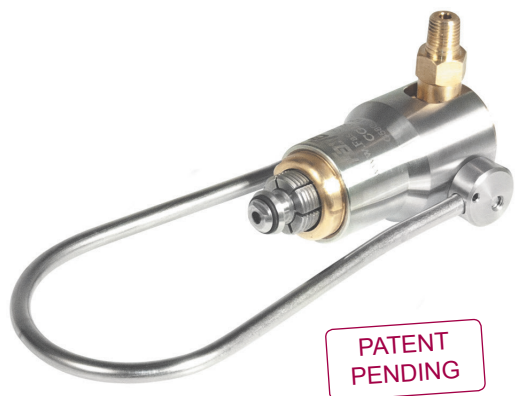
For EPDM seals add "E" to the part number. Example: G540-0411-BRPE

G540-0411-BRPM	1	Monel / Inconel and Brass	Viton	SG540RPV	page 14
G540-0412-BRPM	2				page 14
G540-0414-BRPM	4				page 15
G540-0415-BRPM	5				page 16

For EPDM seals add "E" to the part number. Example: G540-0411-BRPM E

Additional configurations available, consult part number key or contact **FasTest**.

G580 INERT GAS SERIES



FasTest's G580 gas connector is simple to use with a no twist, no turn approach to filling. Simply connect onto your CGA 580 valve and lock into place with a forward movement of the bail handle roller actuator and you are ready to fill the cylinder in a matter of seconds.

- Bail handle actuation connects to CGA 580 valve
- Heavy duty handle eliminates common failures
- Simplified design has fewer seals to maintain
- One piece exterior body construction
- Variety of bail handle configurations
- Fast refurbishment or replacement program



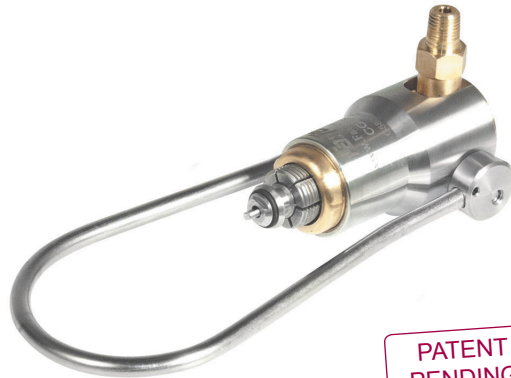
Product Family	Connection Type	Connection Method	Application
G-Series	Internal Threads	Bail Handle	Inert Gas
Connects To	Pressure Rating (psi)	Termination	Weight
CGA 580	3600	1/4" NPT (Male)	46 ounces

Part Number	Handle	Housing	Seals	Replacement Seals	Drawing
G580-0411-BH	1	Stainless Steel/ Brass	Viton	SG580	page 17
G580-0412-BH	2				page 17
G580-0414-BH	4				page 18
G580-0415-BH	5				page 19

For EPDM seals add "E" to the part number. Example: G580-0411-BHE

Additional configurations available, consult part number key or contact **FasTest**.

G580 RPV INERT GAS SERIES



FasTest's G580 RPV gas connector is simple to use with a no twist, no turn approach to filling. Simply connect onto your CGA 580 RPV valve and lock into place with a forward movement of the bail handle roller actuator and you are ready to fill the industrial oxygen cylinder in a matter of seconds.

- Bail handle actuation connects to CGA 580 RPV valve
- Heavy duty handle eliminates common failures
- Simplified design has fewer seals to maintain
- One piece exterior body construction
- Variety of bail handle configurations
- Fast refurbishment or replacement program



Product Family	Connection Type	Connection Method	Application
G-Series	Internal Threads	Bail Handle	Inert Gas
Connects To	Pressure Rating (psi)	Termination	Weight
CGA 580 RPV	3600	1/4" NPT (Male)	46 ounces

Part Number	Handle	Housing	Seals	Replacement Seals	Drawing
G580-0411-BRP	1	Stainless Steel/ Brass	Viton	SG580RPV	page 20
G580-0412-BRP	2				page 20
G580-0414-BRP	4				page 21
G580-0415-BRP	5				page 22

For EPDM seals add "E" to the part number. Example: G580-0411-BRPE

Additional configurations available, consult part number key or contact **FasTest**.

G540 MEDICAL & INDUSTRIAL OXYGEN SERIES



PATENTED

FasTest's G540 medical oxygen and industrial connector is simple to use with a no twist, no turn approach to filling. Simply connect onto your CGA 540 valve and lock into place with a forward movement of the sleeve and you are ready to fill the medical or industrial oxygen cylinder in a matter of seconds.

- Connects to CGA 540 valve
- Available in stainless steel and brass or monel
- Specifically designed for self contained 540 medical cylinder and inverted rack filling
- Simple, one hand operation sleeve actuated
- Simplified design has fewer seals to maintain
- One piece exterior body construction
- Fast refurbishment or replacement program



Product Family	Connection Type	Connection Method	Application
G-Series	External Threads	Sleeve Actuated	Medical/Industrial Oxygen
Connects To	Pressure Rating (psi)	Termination	Weight
CGA 540	3600	see table below	27 ounces

Part Number	Termination	Housing	Seals	Replacement Seals	Drawing
G540-041-SH	Straight Male	Stainless Steel/ Brass	Viton	SG540	page 23
G540-042-SH	Right Angle Female				page 23

For EPDM seals add "E" to the part number. Example: G540-041-SHE

G540-041-SHM	Straight Male	Monel / Inconel and Brass	Viton	SG540	page 23
G540-042-SHM	Right Angle Female				page 23

For EPDM seals add "E" to the part number. Example: G540-041-SHME

Additional configurations available, consult part number key or contact **FasTest**.

G870 MEDICAL OXYGEN GAS SERIES



PATENTED

FasTest's **MediMate** 870 is a yoke style connector used for medical oxygen applications. **MediMate** is simple to use with a no twist, no turn approach to filling. Simply connect our product onto your valve and lock into place with a forward movement of the actuator lever and you are ready to fill the cylinder in seconds. It has an aluminum or brass body and stainless seal actuator piston to maximize product performance and service life. Each **MediMate** is supplied with a straight-flow 180 degree termination port and FDA grade Viton elastomer seals. The elastomer compound used is based upon industry approval and performance characteristics for the application.

- Aluminum or brass body, Delrin actuator lever & Stainless Steel actuator piston
- Brass wetted components
- FDA grade Viton elastomer seals
- Cleaned for O₂ service
- Fast refurbishment or replacement program



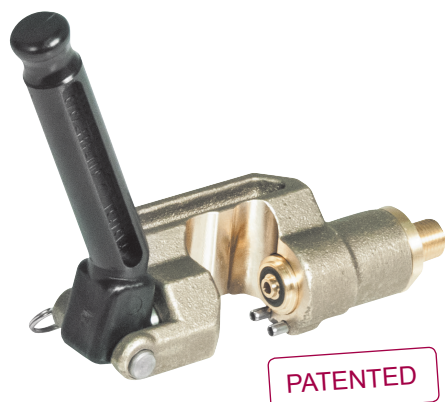
Product Family	Connection Type	Connection Method	Application
G-Series	Pin-Index	Bail Handle	Medical Oxygen
Connects To	Pressure Rating (psi)	Termination	Weight
CGA 870	3600	1/4" NPT (Male)	See table

Part Number	Handle	Housing	Weight	Seals	Replacement Seals	Drawing
G870-041A	Lever	Aluminum	18.4 ounces	Viton	SG870	page 24
G870-041		Naval Brass	42 ounces			page 24

For EPDM seals add "E" to the part number. Example: G870-041A-**E**

Additional configurations available, consult part number key or contact **FasTest**.

G870 MEDICAL OXYGEN GAS SERIES



FasTest's **MediMate** 870 is a yoke style connector used for medical oxygen applications. **MediMate** is simple to use with a no twist, no turn approach to filling. Simply connect onto your CGA 870 valve and lock into place with a forward movement of the actuator lever and you are ready to fill the cylinder in seconds. The lightweight brass body and stainless seal actuator piston maximize product performance and service life. Each **MediMate** is supplied with a straight-flow 180 degree termination port and FDA grade Viton elastomer seals. The elastomer compound used is based upon industry approval and performance characteristics for the application.

- Brass cast body, Delrin actuator lever & Stainless steel actuator piston
- Brass wetted components
- FDA grade Viton elastomer seals
- Cleaned for O₂ service
- Fast refurbishment or replacement program



Product Family	Connection Type	Connection Method	Application
G-Series	Pin-Index	Lever	Medical Oxygen
Connects To	Pressure Rating (psi)	Termination	Weight
CGA 870	3600	1/4" NPT (Male)	22.4 ounces

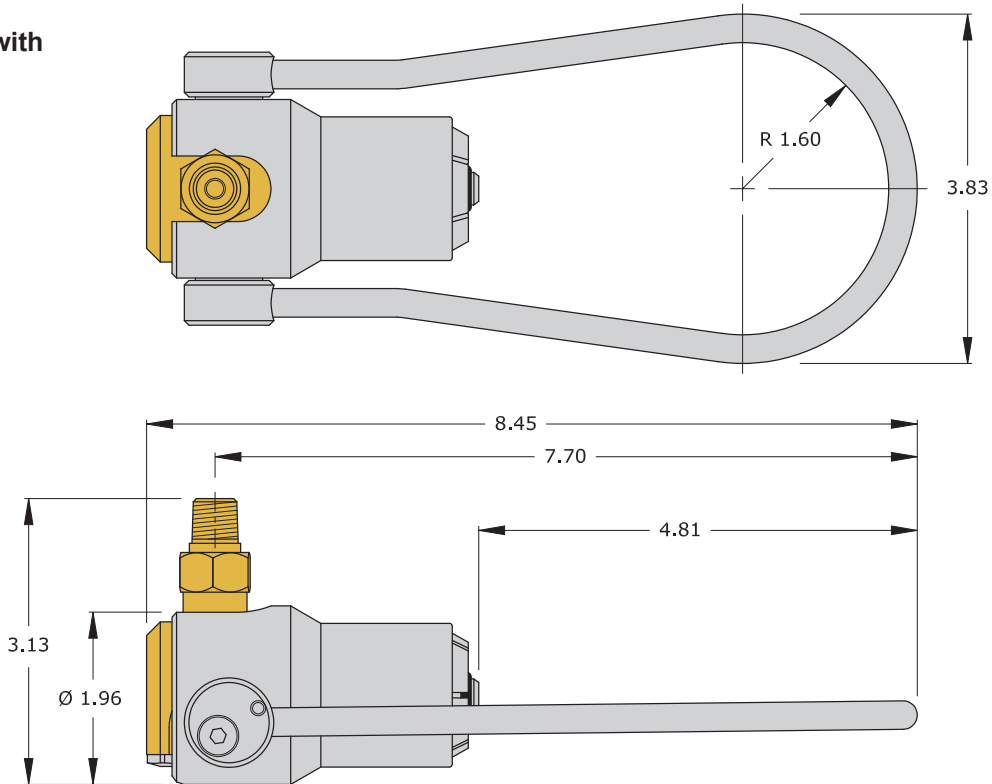
Part Number	Handle	Housing	Seals	Replacement Seals	Drawing
G870-041	Lever	Brass	Viton	SG870	page 24

For EPDM seals add "E" to the part number. Example: G5540-0411-BHE

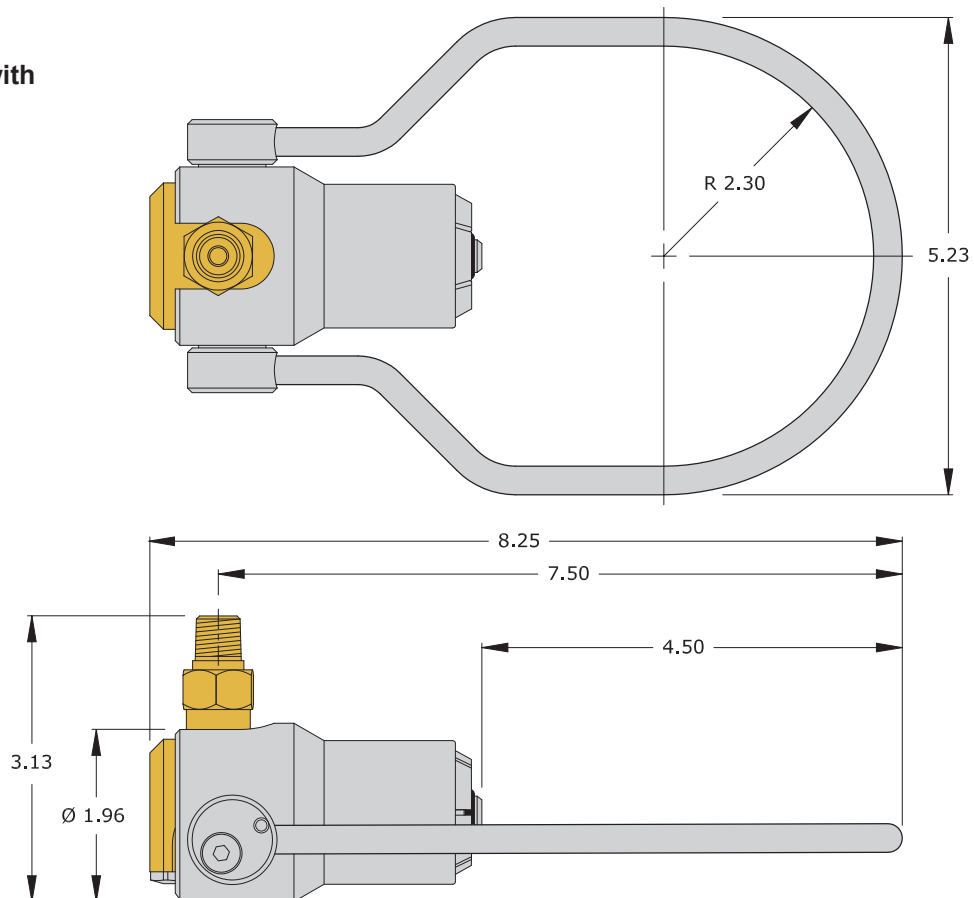
Additional configurations available, consult part number key or contact **FasTest**.

G540 DRAWINGS

**G540 Models with
Handle #1**

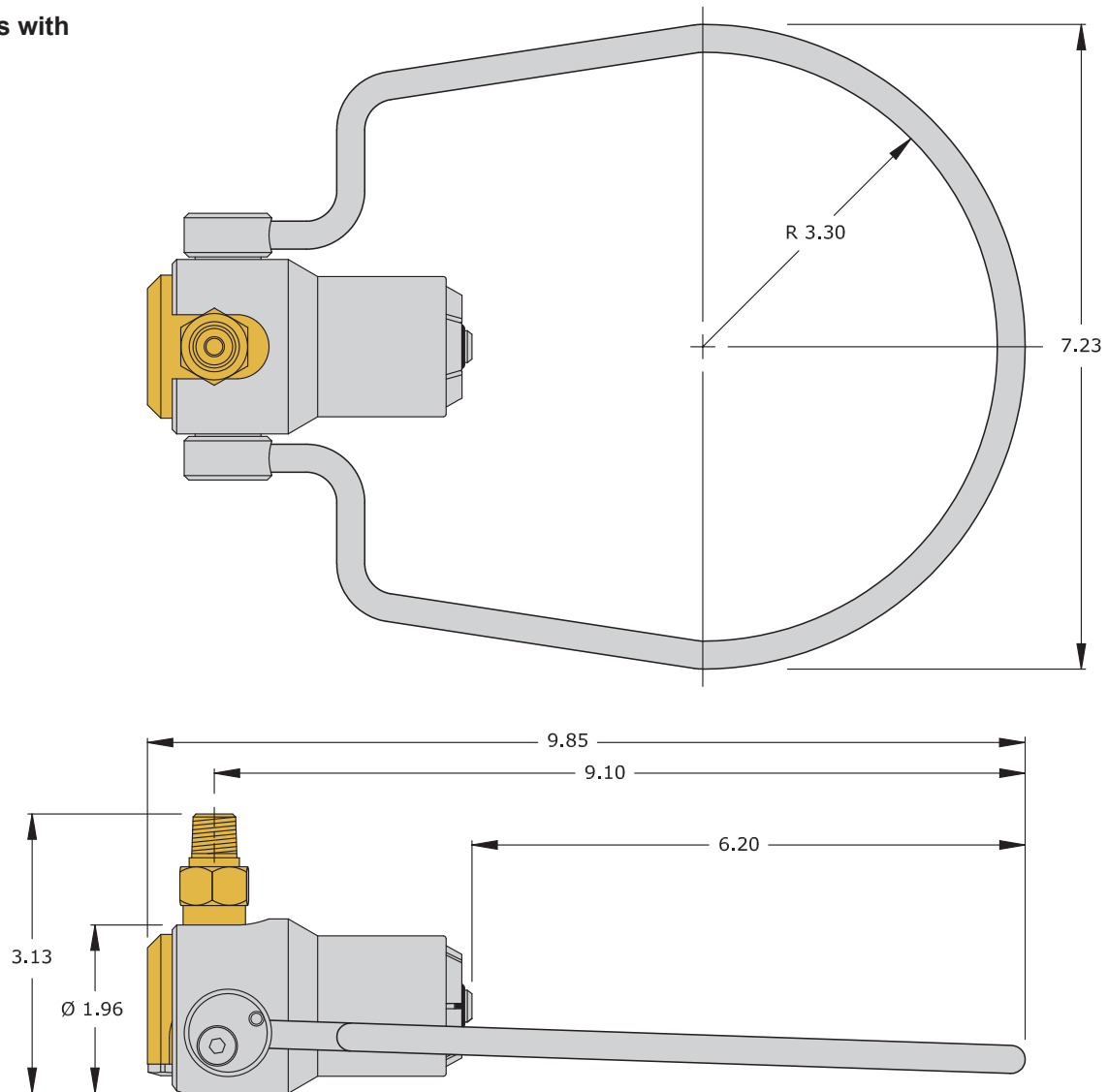


**G540 Models with
Handle #2**



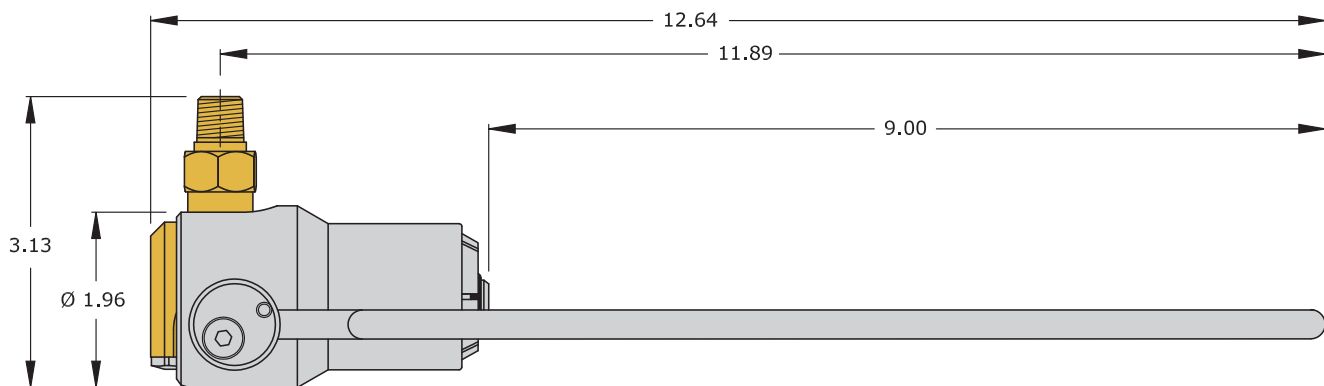
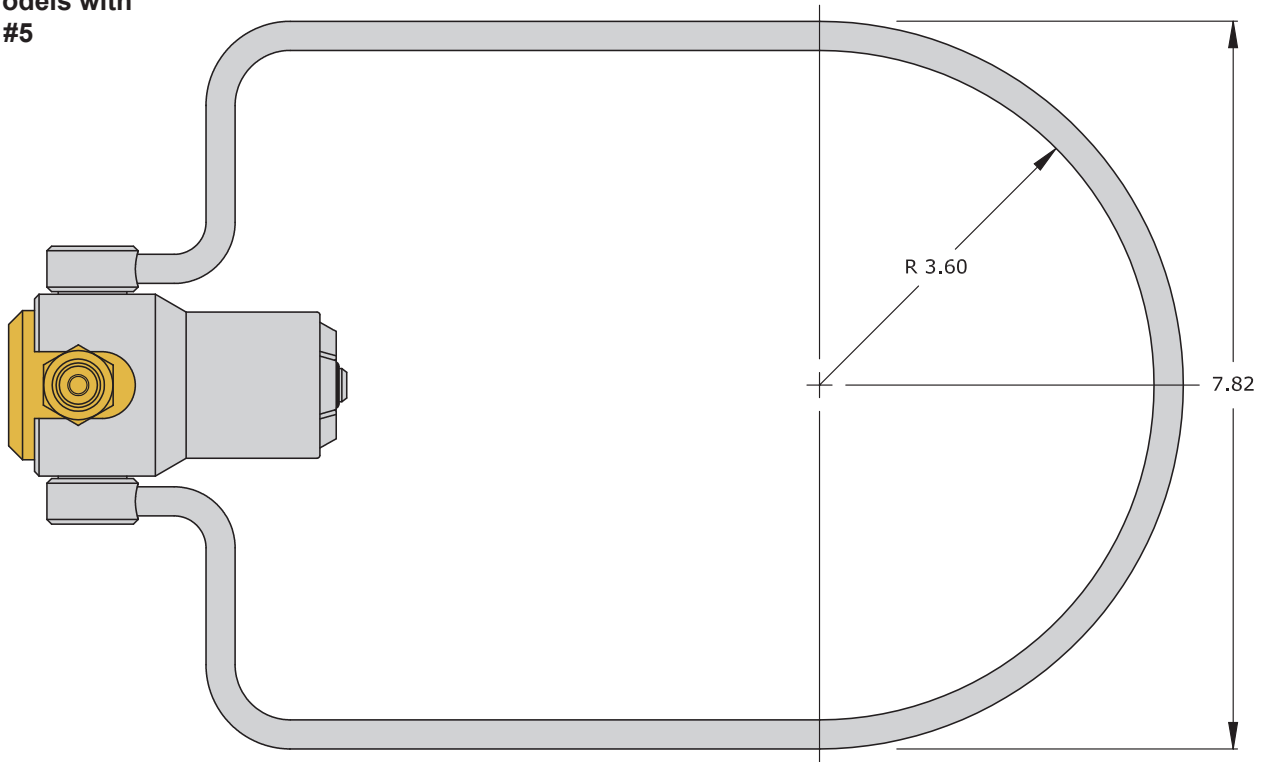
G540 DRAWINGS

G540 Models with Handle #4



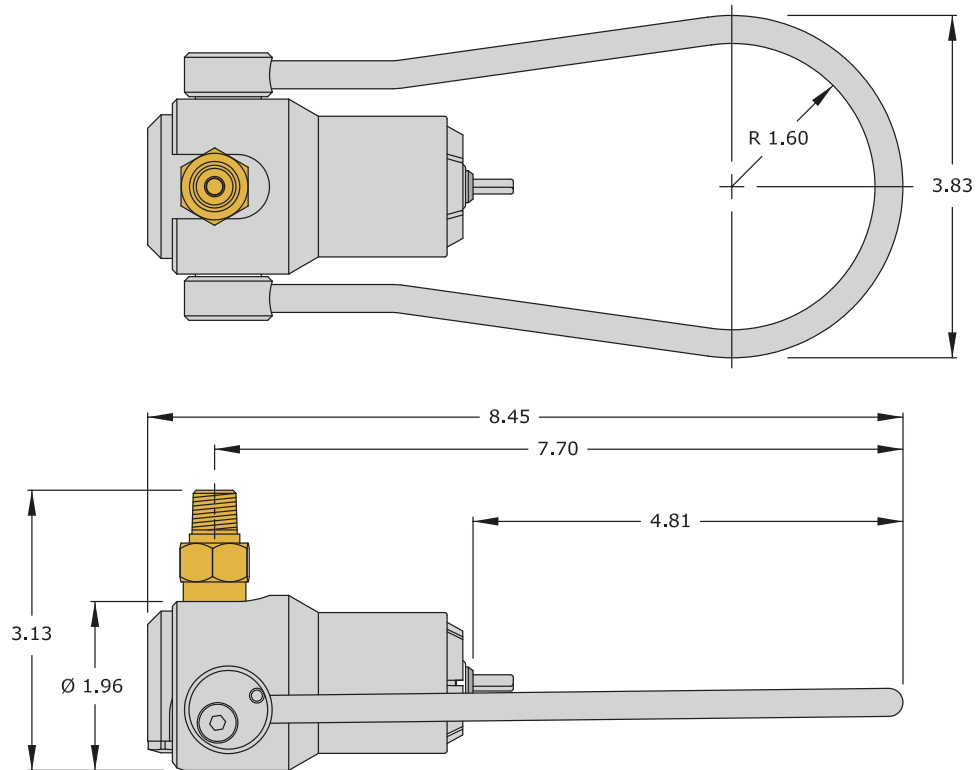
G540 DRAWINGS

**G540 Models with
Handle #5**

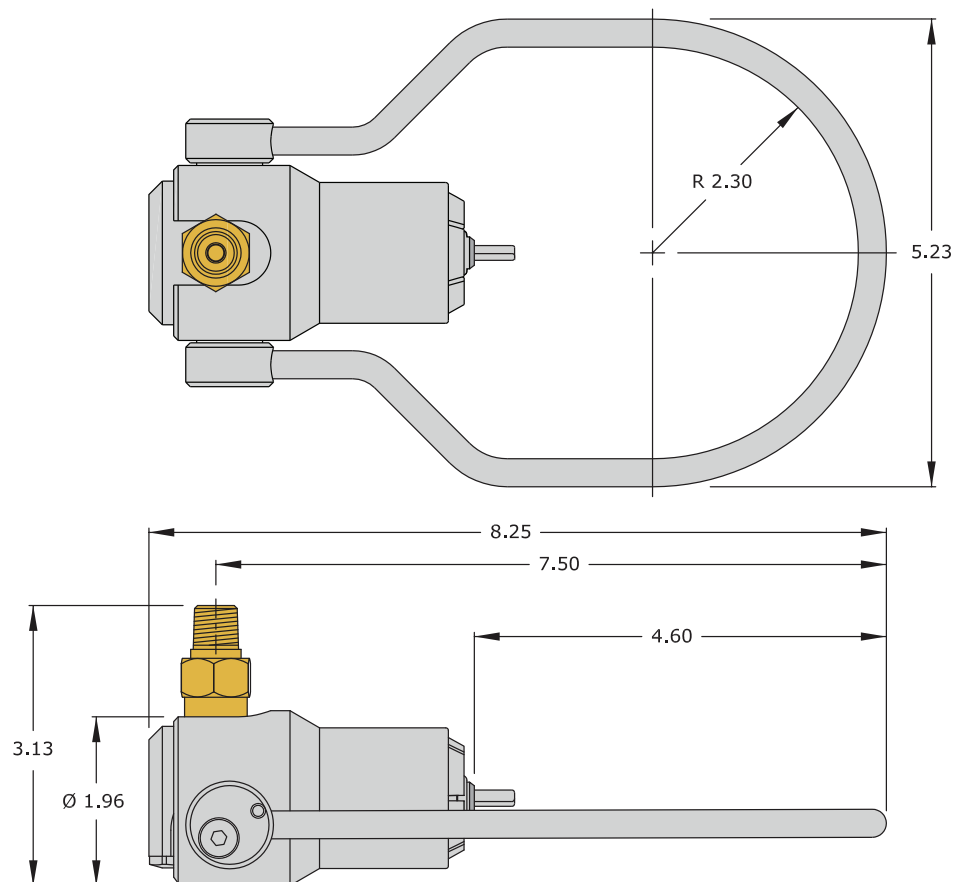


G540 RPV DRAWINGS

G540 RPV Models with Handle #1

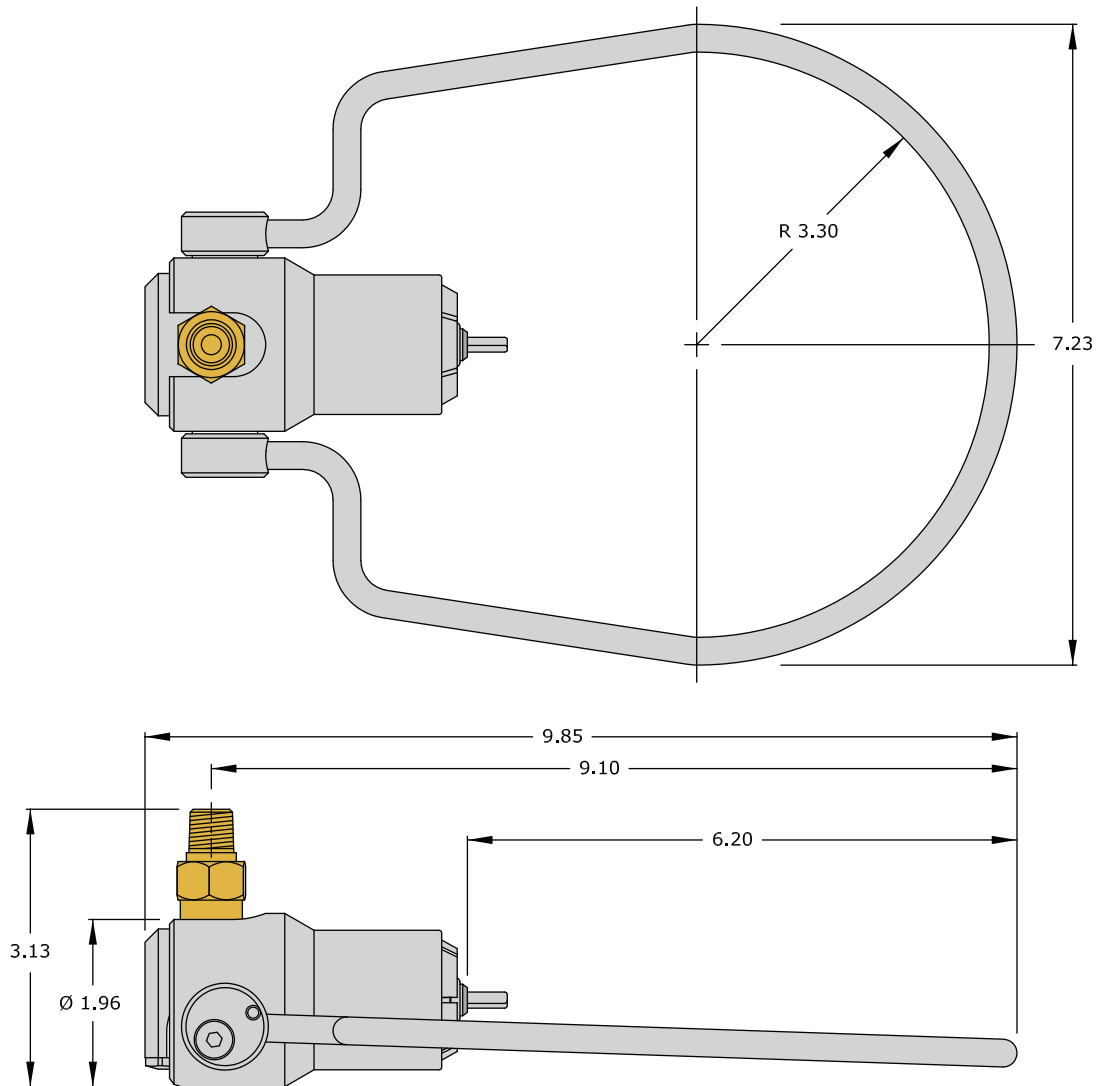


540 RPV Models with Handle #2



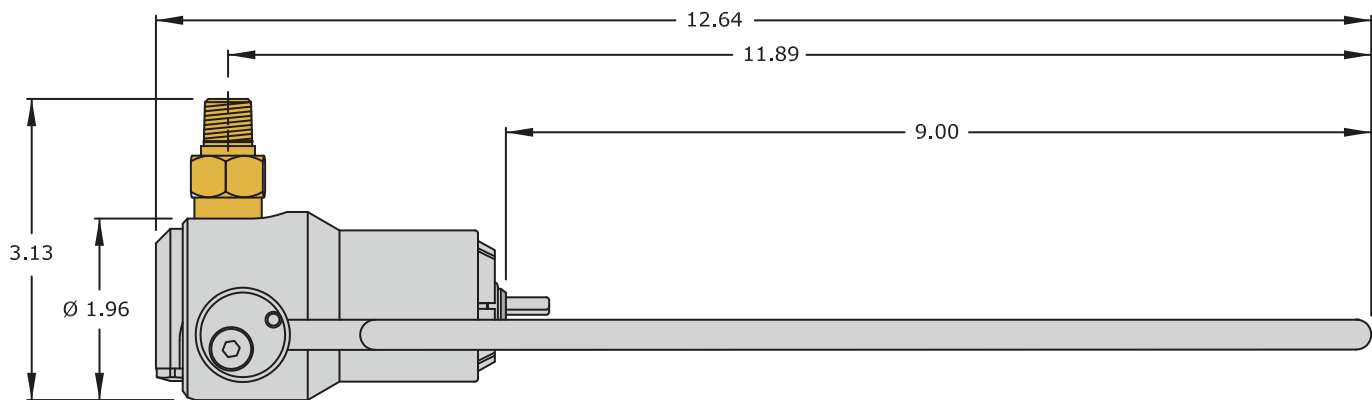
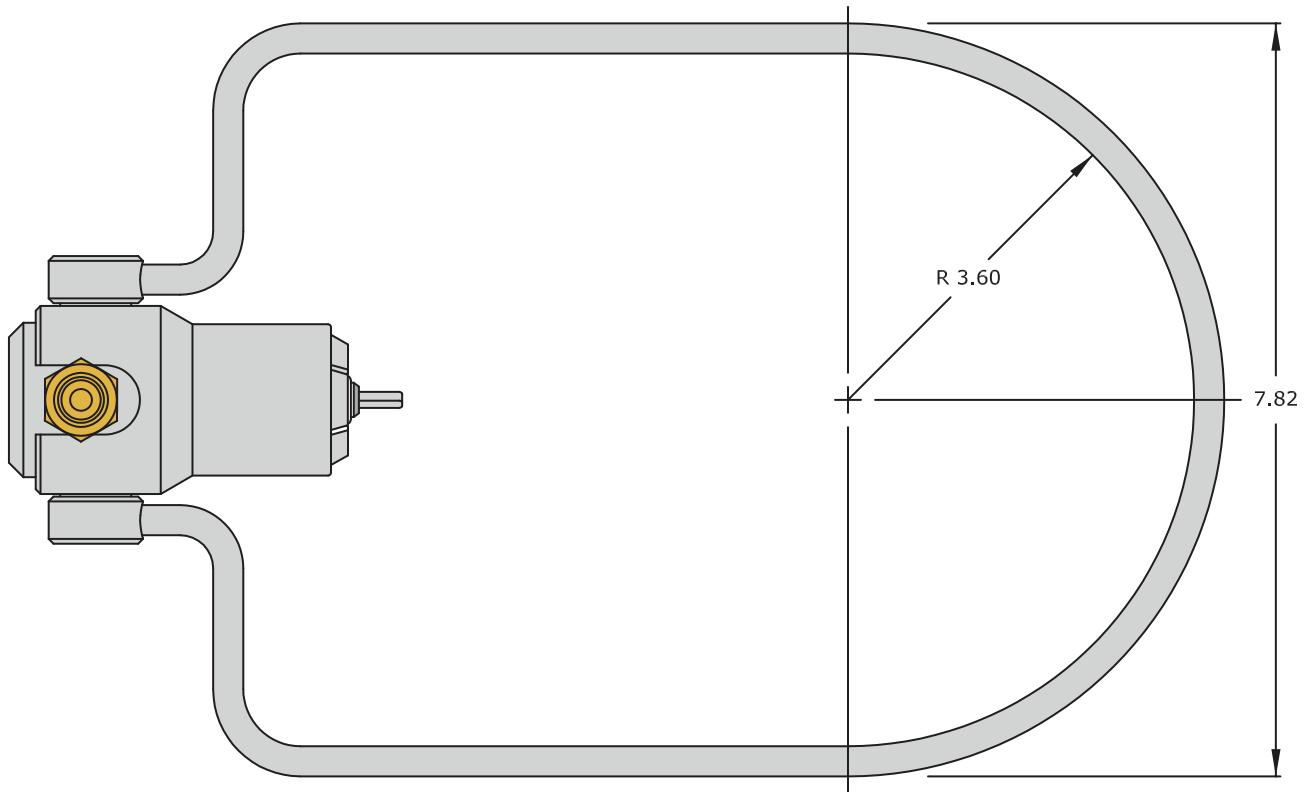
G540 RPV DRAWINGS

G540 RPV Models with Handle #4



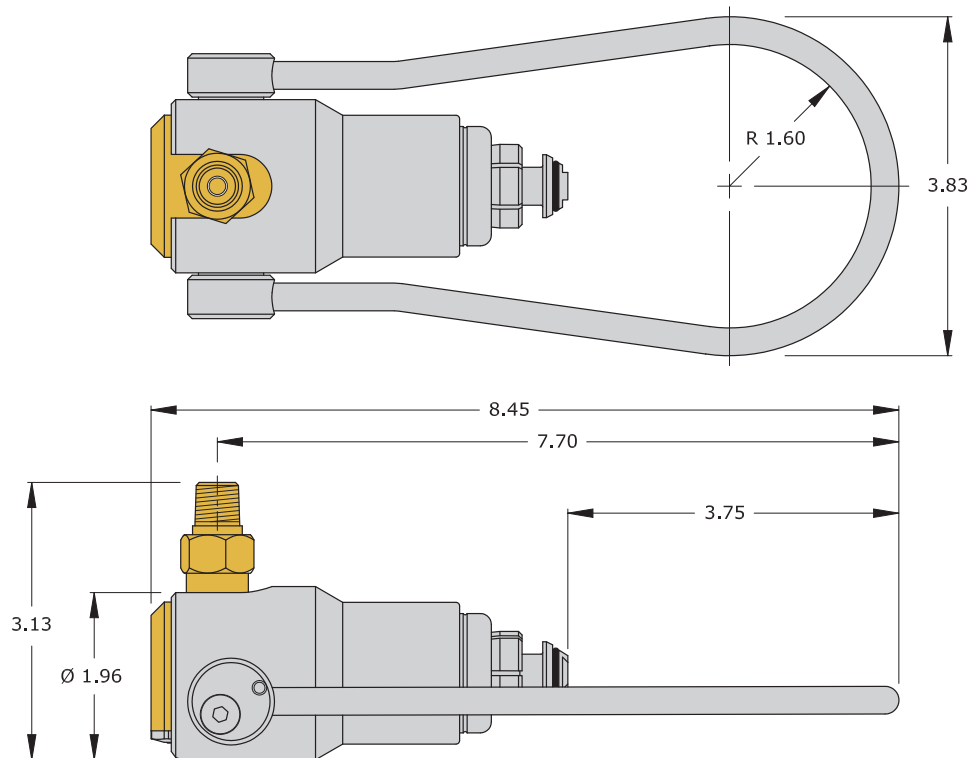
G540 RPV DRAWINGS

G540 RPV Models with Handle #5

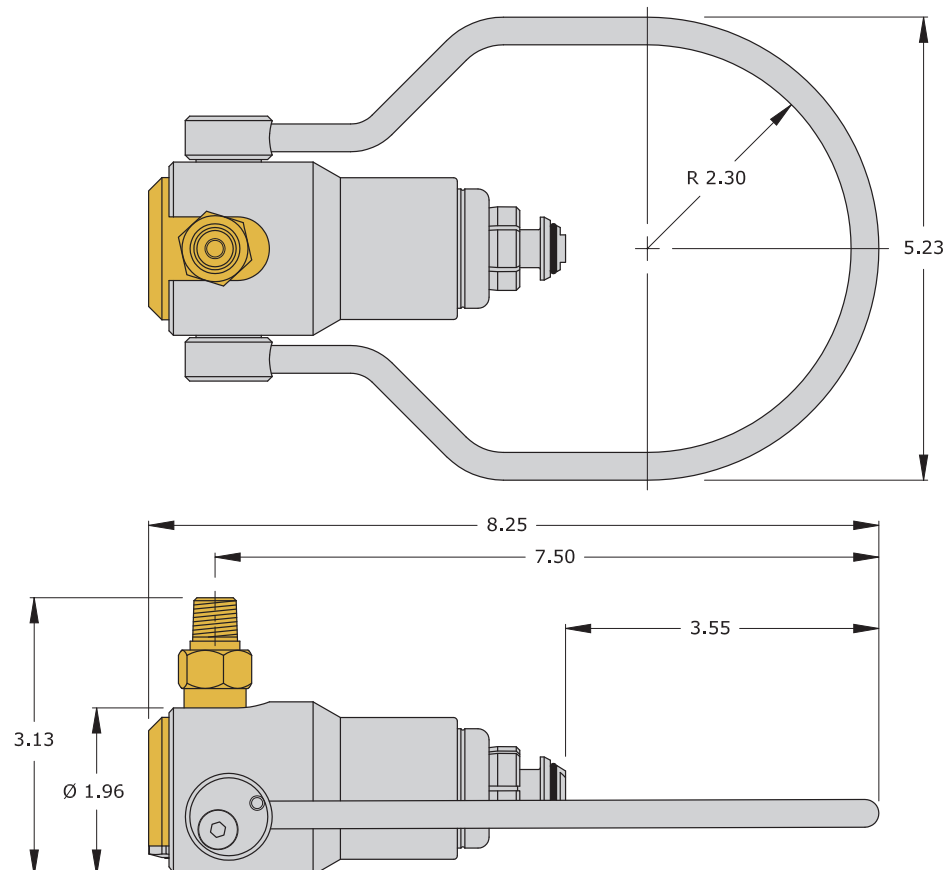


G580 DRAWINGS

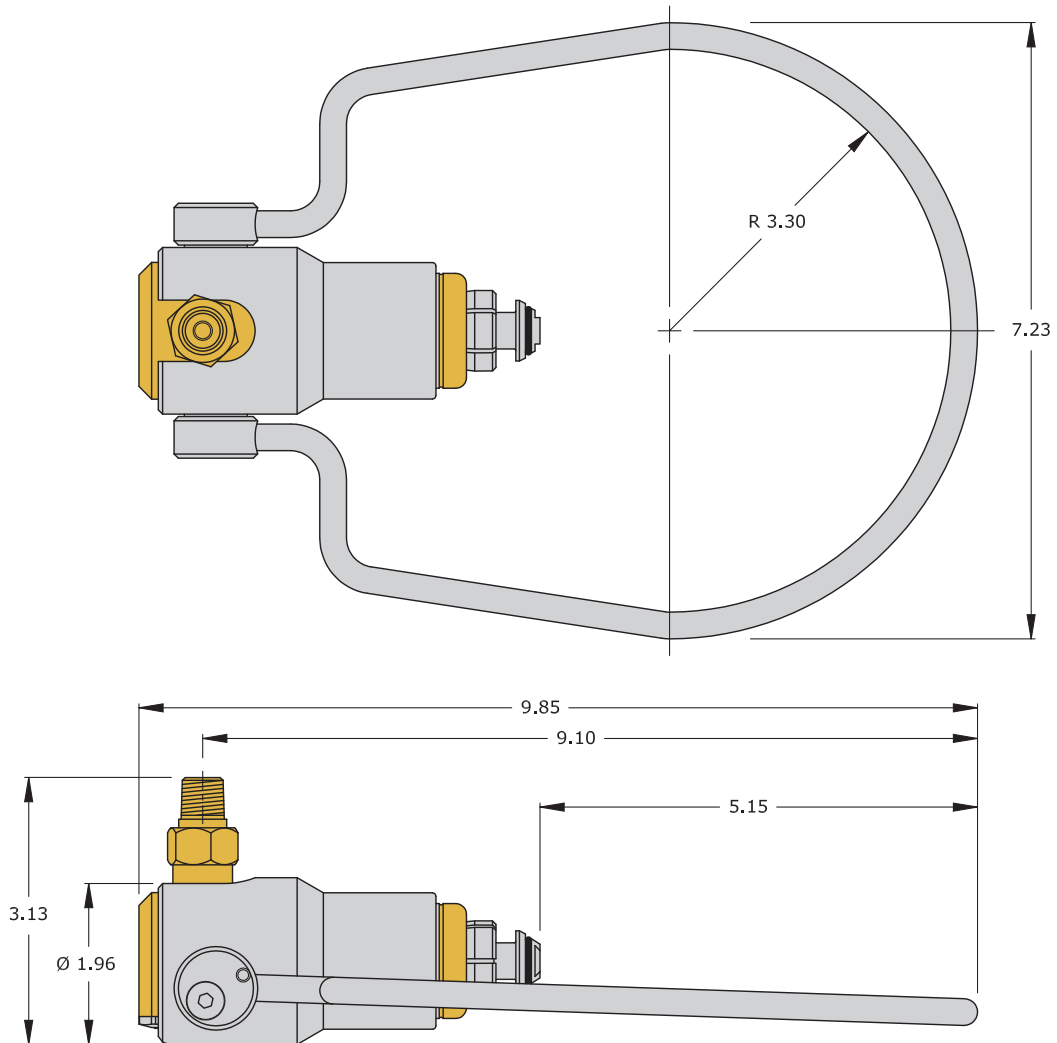
G580 Models with Handle #1



G580 Models with Handle #2

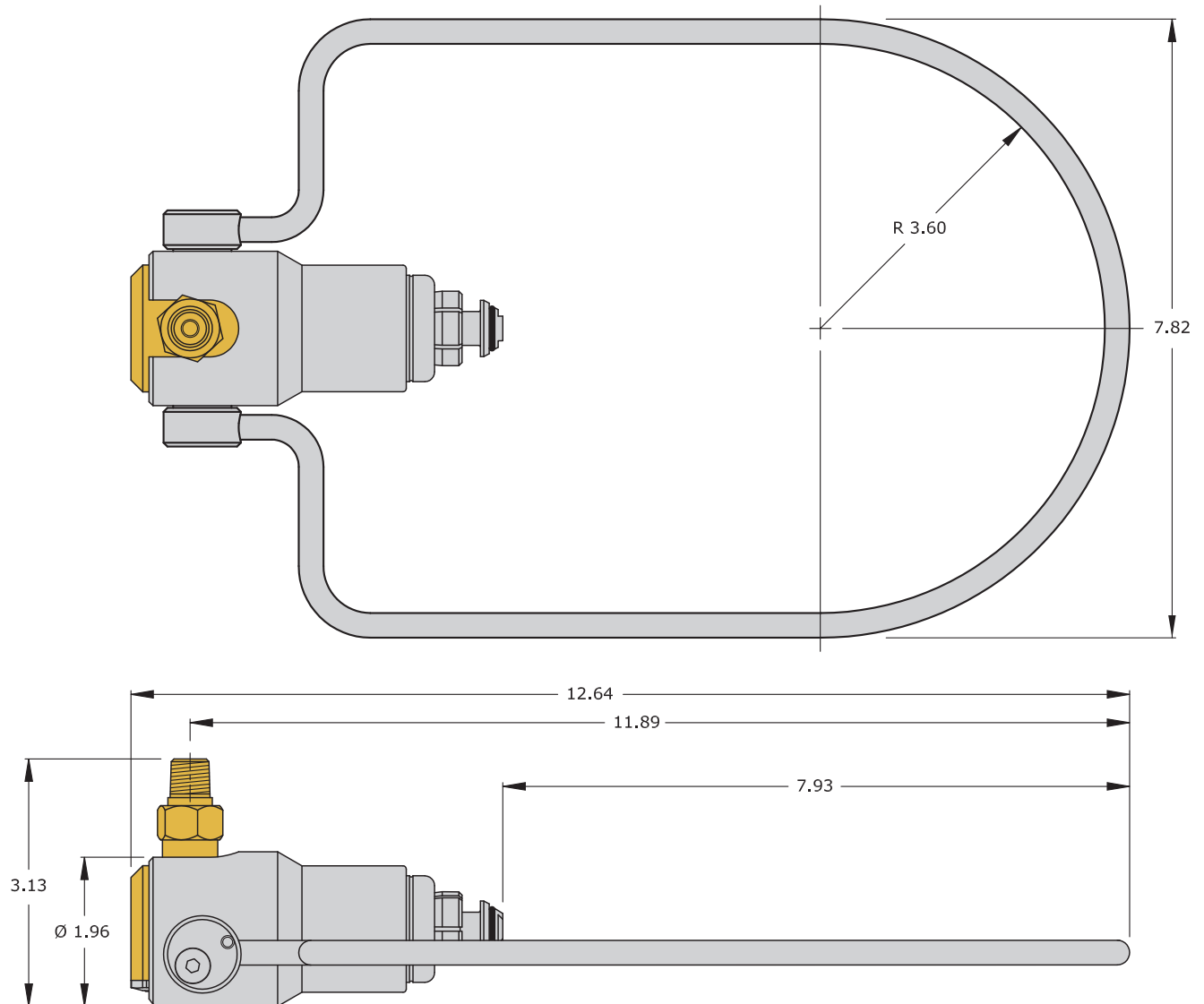


**G580 Models with
Handle #4**



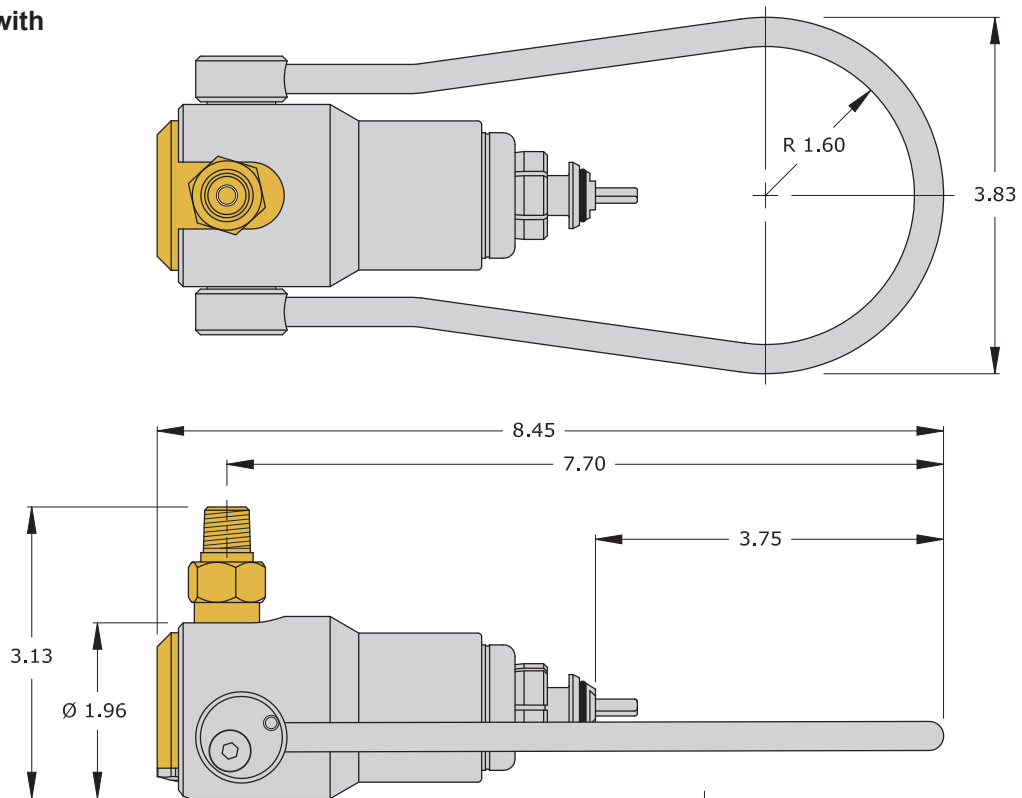
G580 DRAWINGS

**G580 Models with
Handle #5**

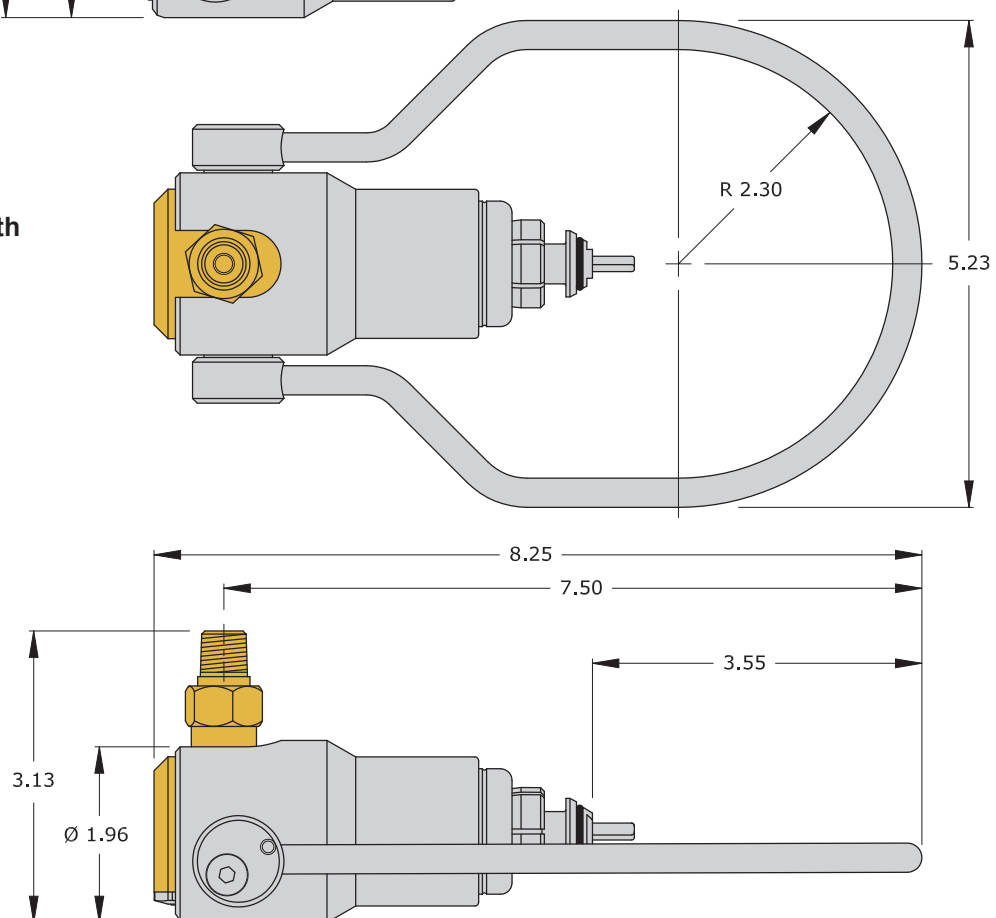


G580 RPV DRAWINGS

G580 RPV Models with Handle #1

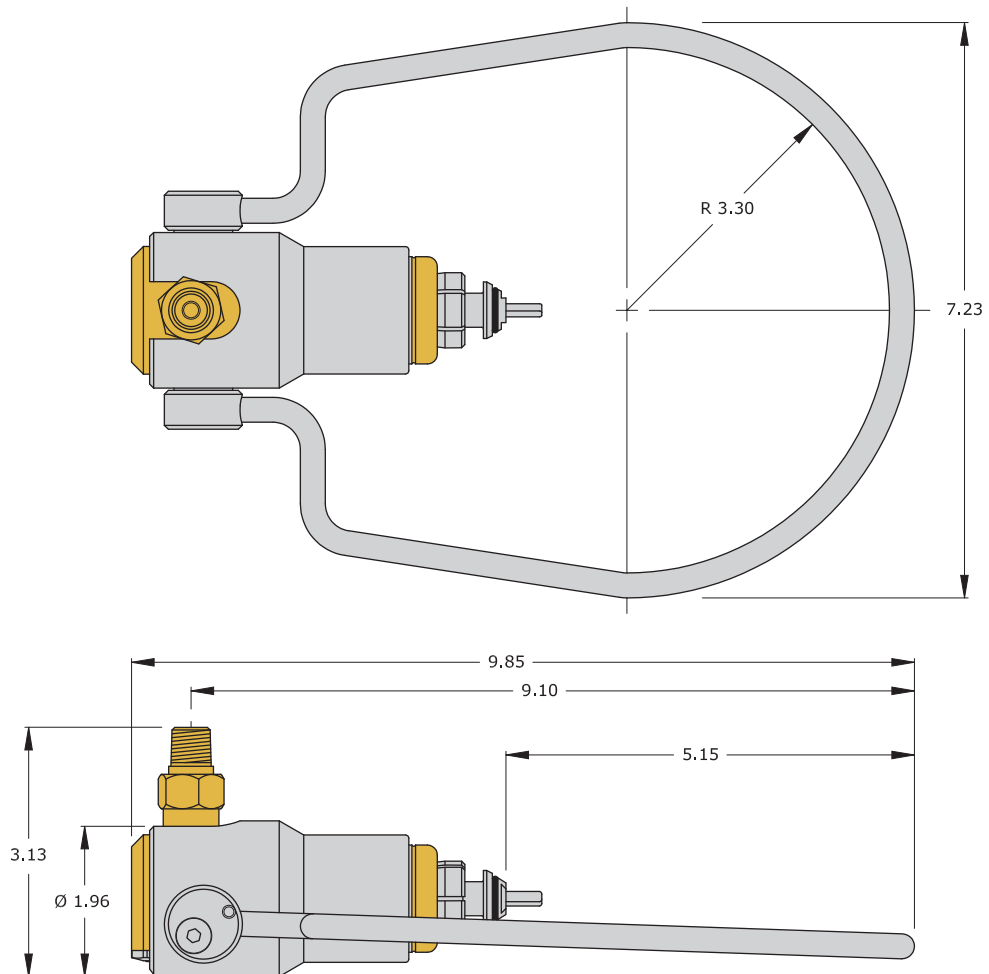


G580 RPV Models with Handle #2



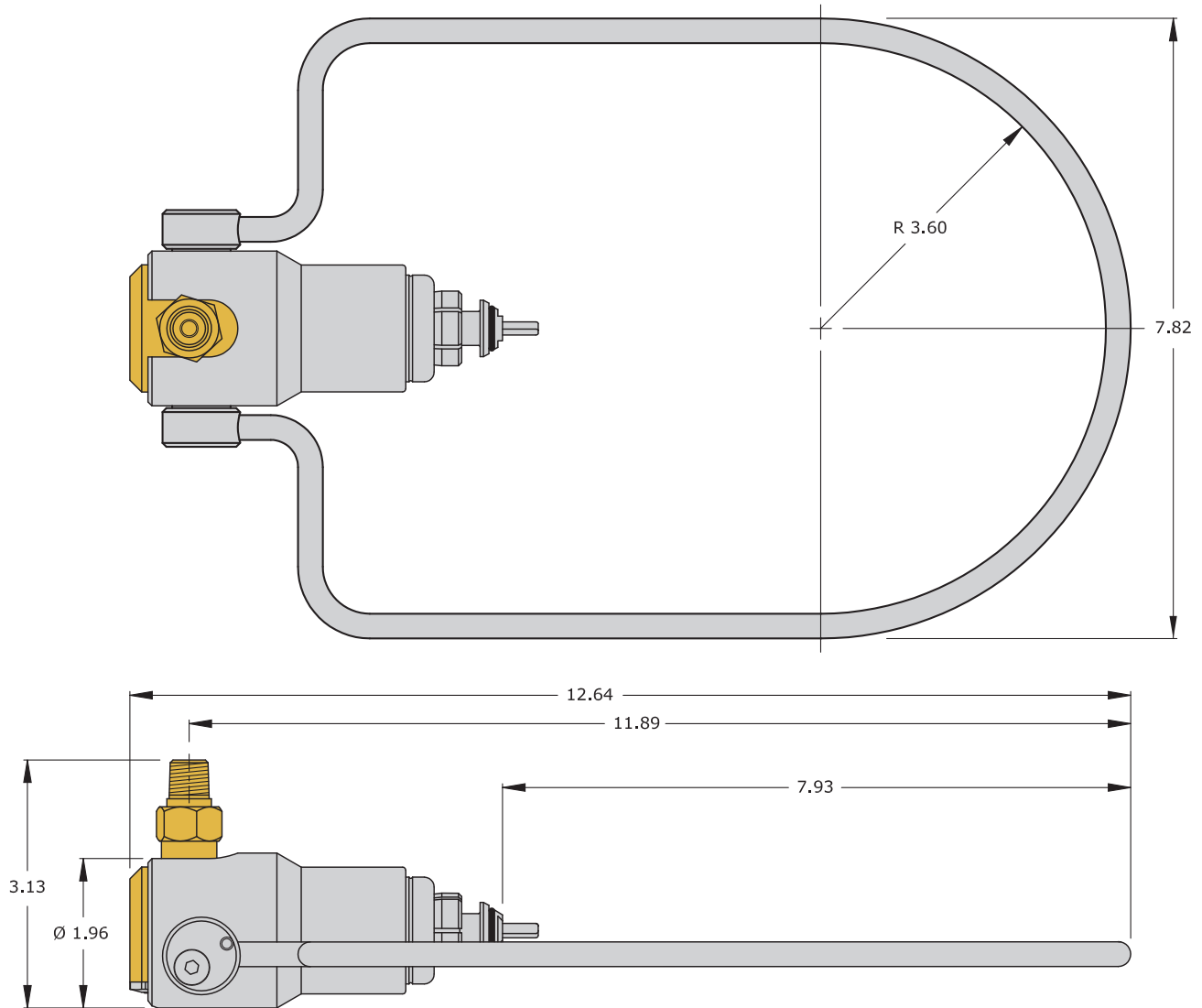
G580 RPV DRAWINGS

G580 RPV Models with Handle #4



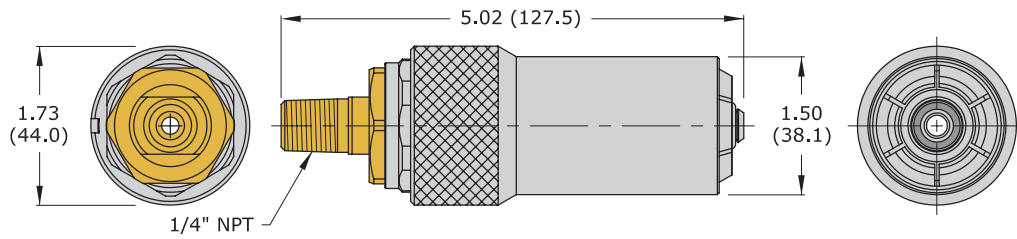
G580 RPV DRAWINGS

G580 RPV Models with Handle #5

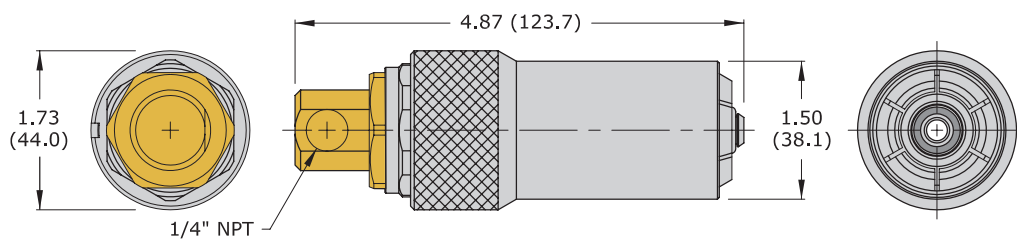


G540 MEDICAL AND INDUSTRIAL DRAWINGS

G540-041-SH



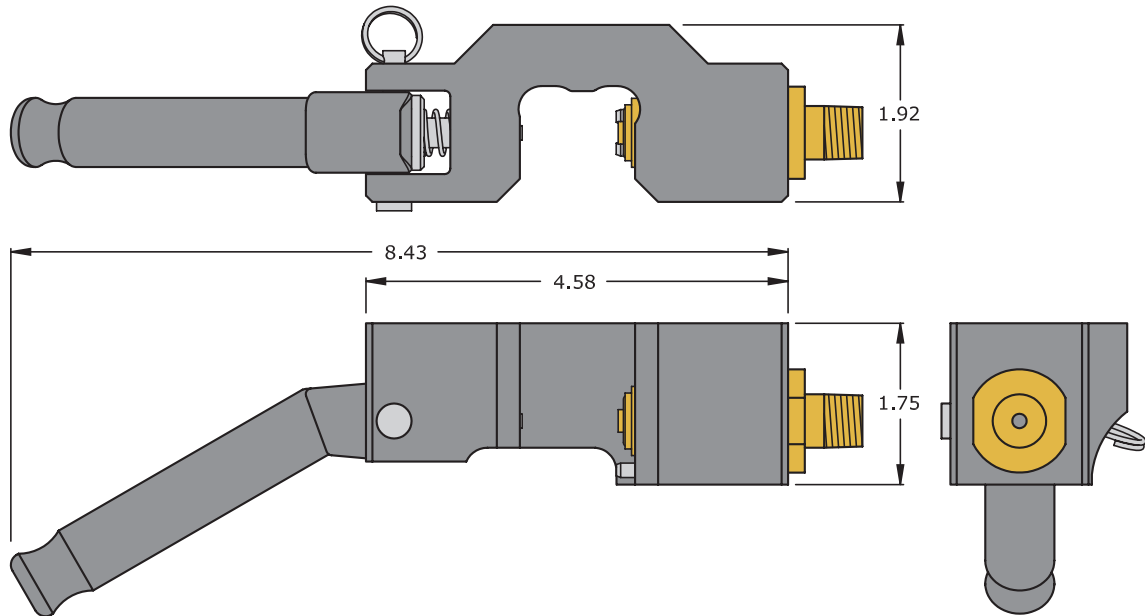
G540-042-SH



G870 DRAWINGS

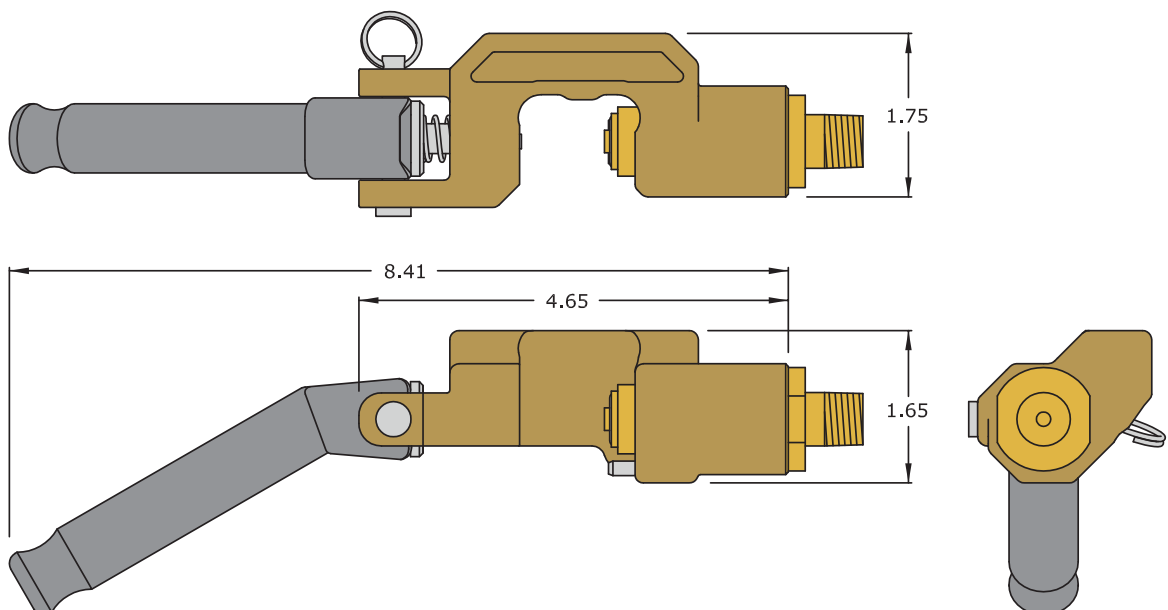
G870 Series

Material: Aluminum or Brass



G870 Series

Material: Brass



STANDARD FIELD REPLACEMENT PARTS

Gas connector standard replacement components listed in this section are immediately available for field replacement. Additional field replacement components such as bail handles are also available by consulting **FastTest**. Remaining components are not offered for field replacement as they typically require special tools and handling precautions during assembly.

Due to the high pressure of compressed gas filling, as well as the Oxygen cleaning requirements of specific CGA standards, **FastTest** 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 **FastTest**, Inc. for additional information.

Connectors	Part Numbers	Material	Description
G540 .. SH G540 .. BH G540 .. BRP	SG540-* SG540E-*	Viton EPDM	Replacement main seals Replacement main seals
G540 .. BRP - Stainless	G540-BRPP1 G540-BRPN1	Stainless steel Stainless steel	Replacement pins (5/pkg) Replacement pin and nut pin
G540 .. BRP - Monel	G540-BRPPM1 G540-BRPNM1	Monel Monel	Replacement pins (5/pkg) Replacement pin and nut pin
G580 .. BH	SG580-* SG580E-*	Viton EPDM	Replacement main seals Replacement main seals
G580 .. RPV	SG580RPV-* SG580ERPV-*	Viton EPDM	Replacement main seals Replacement main seals
G870	SG580-* G870R	Viton - - - -	Replacement main seals Repair kit
G540 .. BRP G580 .. BRP	G540-BRPPT1 G580-BRPPT1	Stainless steel	Retraction tool / pin nut tool Retraction tool / pin nut tool
All bail handles styles	GBHB2530	Stainless steel	Replacement bolts (5/pkg)

*Replacement seals available in quantities of 100, 250 and 500. Example: SG540-**100** = 100 seals

MAINTENANCE CHECKLIST

Daily

- Inspect for leak-tight seal
- The main seal must be replaced more frequently depending on wear. Dismantling of the connector for this purpose is not required. It is recommended that an O-ring pick be used for removal to avoid damage to the groove
- Clean groove if required and insert new O-ring
- Inspect for correct function
- Does the safety pin properly protrude and lock the connector under pressure?
- Does the safety pin move backwards when the system is depressurized?

Weekly

- Inspect for correct function
- Inspect the correct engagement of the collets
- Check the connector's collet thread with gauge
- Check for any bent or missing components

Periodic

- Inspect that all threaded components are tight and properly torqued
- Check for any bent or missing components
- Check for proper actuation of handle, collets and all moving components
- Check for leaks

TROUBLESHOOTING

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
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
Safety pin does not activate during filling cycle	Safety pin at rear of connector not extended outward from connector body	(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
Safety pin does not retract upon completion of filling cycle	Unable to remove connector	(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 handle loose	Excessive handle movement from side-to-side when connected to valve	Loose or missing actuator handle screws	Replace missing screw or remove existing screw. Apply thread lock to screw threads. Reinsert and tighten to 8-10 ft-lbs. Do not over tighten screw
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

TROUBLESHOOTING

Problem	Recognized By	Probable Cause	Recommended Action
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
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 FasTest to determine probable cause
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
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 (c) Wrong connection for RPV valve	(a) Replace actuator pin (b) Return to FasTest for repair (c) Order proper connector from FasTest
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