"V"-Ring Seal Globe and Angle Valves

General Information

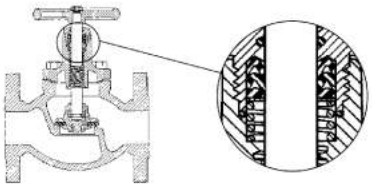
RegO® Globe and Angle Valves are designed and manufactured especially to meet the rigid requirements of the LP-Gas industry. The high quality construction and wide variety of sizes and styles also make them highly suited to many other industries such as anhydrous ammonia, chemical and petrochemical.

These ductile iron valves are available in both threaded and flanged connections. Threaded connections are available in ½" F. NPT to 3" F. NPT sizes. Flanged connections are available in 1½", 2" and 3" pipe sizes.

The ductile iron used in these valves has a 60,000 PSIG tensile strength which closely approaches that of steel castings. Its yield strength of 45,000 PSIG and elongation of 15% is also comparable to that of steel castings. These material features assure the ability of the valve body to withstand impact, wrenching stresses and thermal shock. This ductile iron conforms to ASTM specification A395.

RegO® globe and angle valves are designed for working pressures up to 400 PSIG WOG and for operating temperatures from -40° F. to +160° F.

"V"-Ring Stem Seal



The "V"-ring spring-loaded pressure seal used in these RegO® globe and angle valves is the most effective stem seal yet developed. It should not be confused with conventional valve stem packing where the seal is obtained by compressing the packing around the stem by means of a packing gland with resultant hard operation and frequent packing replacement.

The wax like surface of the teflon "V"-ring seal and consequent low friction assures leak-tight performance for an indefinite period where periodic retightening of the packing is not required and the seal provides extra long service life.

In the RegO® "V"-ring design, the seal is effected by the pressure expanding the "V"-shape of the seal, forcing it against the stem and bonnet surfaces to prevent leakage. The higher the pressure within the valve, the more effective the seal becomes. A spring loaded washer under the "V"-rings keeps them in an expanded position to assure an effective seal under low pressure conditions. A wiper ring, located above the seal, keeps the seal free from grit, and/or other foreign material that may hamper operation.

Installation and Operation Note

Containers and pipe lines should be thoroughly cleaned before globe and angle valves are installed. Large particles of solid foreign matter can permanently damage the seating surface in the valve body, causing the valve to leak. Use a minimum amount of a suitable pipe dope on the male connecting threads as excess amounts may fall off and be carried into the valve, causing damage to the seat or other operating parts.

It is totally unnecessary to use excess force in opening or closing RegO® valves. The type of seat disc material used and the general design of these valves permits them to be opened and closed easily. Proper valve operation insures unusually long life.

> Wrenches must never be used to operate valves equipped with handwheels and designed for hand operation.

Downstream Accessory Boss

These RegO® valves incorporate a plugged ¼" F. NPT boss on the downstream side of the body for attaching either a hydrostatic relief valve or vent valve. Boss size on the 2" and 3" valves has been increased to allow a ¾" drilling for accommodation of a standard by-pass valve or jumper lines.

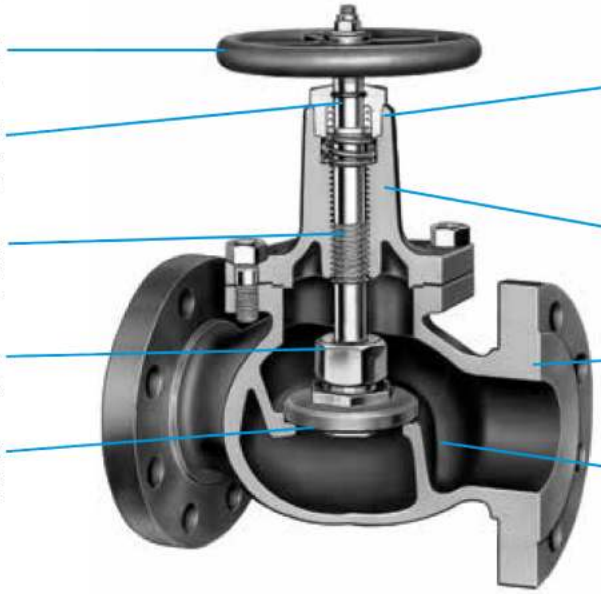
> Hydrostatic Relief—When the design of the piping installation is such that liquid may be locked between two shut-off valves, a hydrostatic relief valve should be installed in the lines between the valves. The pressures which can develop due to temperature increase in a liquidfull line are tremendous and can easily damage the valves or piping unless a hydrostatic relief valve is installed.

> Vent Valve—If the globe or angle valve is used as a shut-off valve on a loading hose, a vent valve should be installed in the downstream boss to allow liquid trapped beyond the shut-off valve to be vented before disconnecting the hose coupling.

Replace Gate Valves with Flanged Valves

Except for standard flange sizes, RegO® Flanged Globe and Angle Valves are smaller and lighter than contemporary valves, thus reducing price and shipping costs and making them far easier to install. RegO® face to face flange dimensions conform to gate valve dimensions, making replacement of most gate or plug valves with RegO® valves simple and easy.

General Features



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"V"-Ring Seal Globe and Angle Valves for Bulk Storage Containers, Transports, Bobtails and Plant Piping A7500 Series and TA7500 Series

Application

Specifically designed to assure positive shut-off and long, maintenancefree service life in liquid or vapor service on bulk storage containers, transports, bobtails, cylinder filling plants and plant piping.

The high quality construction and wide variety of sizes make them highly suited for use with LP-Gas, anhydrous ammonia and in the chemical and petrochemical industries.

Features

"V"-ring spring-loaded pressure stem seal provides for leak-proof operation. No packing to retighten or replace.

- Circular bridge in the globe design and a dropped seat in the angle design achieve greater flow with less pressure drop.
- Swivel seat disc assembly minimizes the seat disc from grinding on the body seat. The seat disc stops rotating as soon as it touches the body seat. This feature provides for good seat alignment and assures long seat life.
- ¼" F. NPT plugged boss on the downstream side of the valve body allows attachment of a hydrostatic relief valve or vent valve.
- "V"-ring stem seal virtually eliminates hard to turn handles frequently encountered with packed type seals.
- Heavy duty rolled ACME stem threads provide quick action and long service life.

Materials

Body	Ductile Iron
Bonnet (7034, 7505-7508)	Steel
Bonnet (7509-7518)	Ductile Iron
Valve Stem	Stainless Steel
Wiper Ring	Synthetic Rubber
Seat Disc	See Ordering Chart
"V"-Rings	Teflon
Handwheel	Ductile Iron
Spring	Stainless Steel

Ordering Information

Part Number				Inlet and Outlet Connection	Port Diameter	Flow at 1 PSIG Pressure Drop (Cv) (GPM/ Propane)***		Accessories	
Buna N Seat Discs		Teflon Seat Discs*						Hydrostatic Relief Valve	Vent Valve
Globe	Angle	Globe	Angle			Globe	Angle		
-	-	TA7034P	TA7034LP	½" F. NPT	¾"	10.0	14.8	SS8001U	TSS3169
A7505AP	A7506AP	TA7505AP	TA7506AP	¾" F. NPT		12.0	17.7		
A7507AP	A7508AP	TA7507AP	-	1" F. NPT	1"	17.8	22.0		
A7509BP	A7510BP	TA7509BP	TA7510BP	1¼" F. NPT	1¼"	36.5	54.0		
A7511AP	A7512AP	TA7511AP	TA7512AP	1½" F. NPT	1½"	43.0	55.5		
A7511FP	-	TA7511FP	-	1½" Flange**		46.0	-		
A7513AP	A7514AP	TA7513AP		2" F. NPT	2"	75.0	88.5		
A7513FP	A7514FP	TA7513FP	TA7614FP	2" Flange**		78.0	133.0		
A7517AP	A7518AP	TA7517AP	-	3" F. NPT	3⅛"	197.0	303.0		
A7517AP	A7518FP	TA7517FP	-	3" Flange**					

* Teflon seat discs on valves built to order.

** 300# ANSI R.F. Flange.

*** To obtain approximate flow at other than 1 PSIG pressure drop, multiply flow in chart by square root of pressure drop. Example: 7514FP @ 9 PSIG = 133 x $\sqrt{9}$ = 399 GPM/propane. For NH_3 flow, multiple propane flow by .90.

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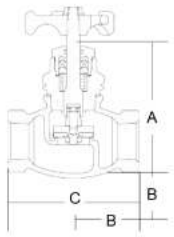
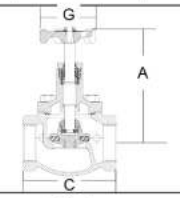
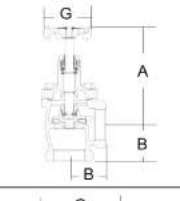
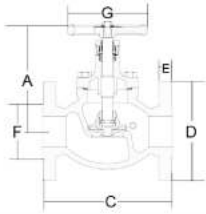
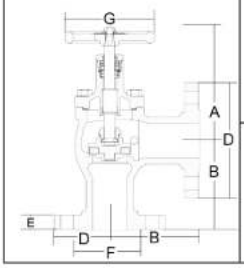
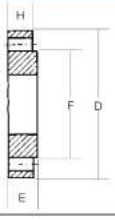
Globe and Angle Valve Dimensions

Drawing	Valve Number (A or TA Prefix)	Inlet & Outlet	Port Diameter	Dimensions						
				A	B	C	Flanges D	Flanges E	Flanges F	G
	7034P	½" F. NPT	¾"	4¾"	-	3 11/16"	-	-	-	-
	7505AP	¾" F. NPT								
	7507AP	1" F. NPT	1"			4 5/16"				
	7034LP	½" F. NPT	¾"		1¾"	-				
	7506AP	¾" F. NPT								
	7508AP	1" F. NPT	1"		2"					
	7509BP	1¼" F. NPT	1¼"	6¾"	-	4⅞"	-	-	-	-
	7511AP	1½" F. NPT	1½"	6 13/16"		5 3/16"				
	7513AP	2" F. NPT	2"	7 3/16"		5⅞"				
	7517AP	3" F. NPT	3⅛"	13¼"		9"				9"
	7510BP	1¼" F. NPT	1¼"	6¾"	2¼"	-	-	-	-	5¼"
	7512AP	1½" F. NPT	1½"	6 13/16"	2 7/16"					
	7514AP	2" F. NPT	2"	7 3/16"	2 11/16"					
	7518AP	3" F. NPT	3⅛"	11¾"	4"					9"
	7511FP	1½" Flange	1½"	7 9/16"	-	7½"	6⅛"	¾"	2⅞"	5¼"
	7513FP	2" Flange	2"	8 7/16"		8½"	6½"	13/16"	3⅝"	
	7517FP	3" Flange	3⅛"	13¼"		11⅛"	8¼"	1⅛"	5"	9"
	7514FP	2" Flange	2"	7½"	5¼"	-	6½"	13/16"	3⅝"	5¼"
	7518FP	3" Flange	3⅛"	11¾"	6¼"		8¼"	1⅛"	5"	9"

NOTE: Regarding 7505AP through 7510BP — the thread used for assembling the bonnet to the body of the valve is a left hand thread. We advise our customers to be cognizant of this assembly design in attempting to remove the bonnets of these valves in order to avoid serious damage to the valves.

Flange Dimensions

	Valve Number (A or TA Prefix)	Size	Flange Drilling		D	E	F	H
	7511FP	1½"		⅞" Bolt Holes on a 4½" Bolt Circle Diameter	6⅛"	13/16"	2⅞"	¾"
	7513FP	2"		¾" Bolt Holes on a 5" Bolt Circle Diameter	6½"	⅞"	3⅝"	13/16"
	7514FP							
	7517FP	3"*		⅞" Bolt Holes on a 6⅝" Bolt Circle Diameter	8¼"	1⅛"	5"	1 1/16"
	7518FP							

* Reducing screwed flanges are available for reducing 1½" flange to 1 or 1¼" pipe thread and 3" flange to 2½" pipe thread. Order from your local piping supplier.

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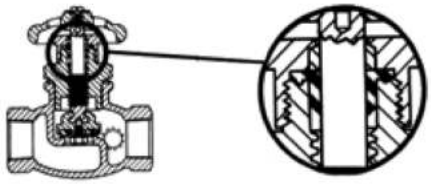
Flange Seal Globe and Angle Valves

General Information

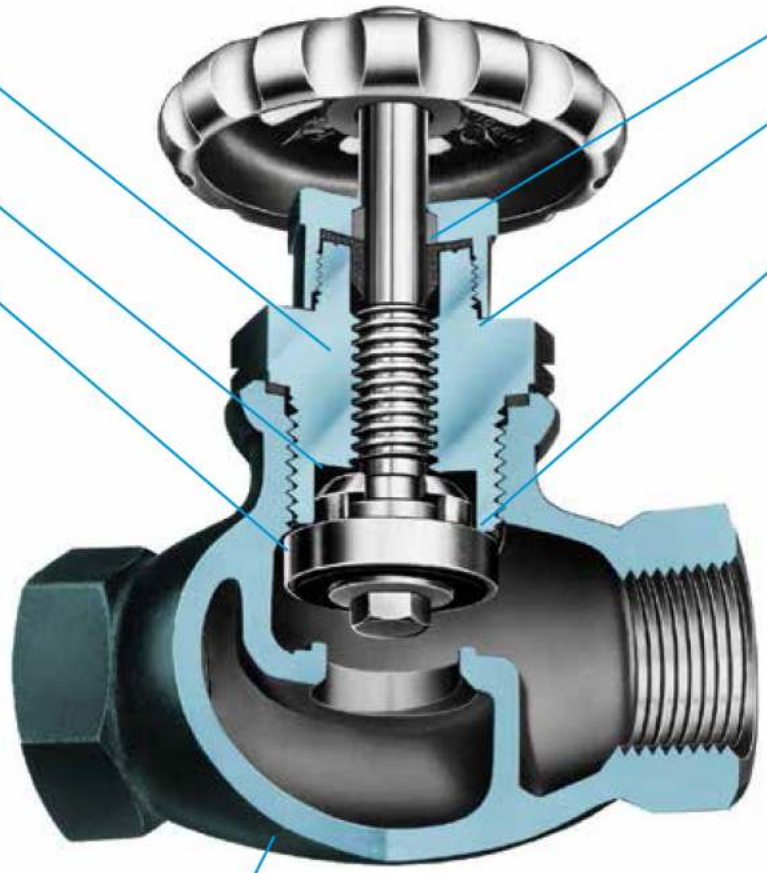
Globe and Angle Valves, incorporating the synthetic rubber flange seal design, operate on the same principle as the "V"-ring valves. Gas pressure in the valve is exerted against the synthetic rubber flange, forcing it tightly against the stem.



Leak-tight performance is assured and periodic adjustment is not required. The synthetic rubber construction provides smooth operating performance with long service life.
These valves all incorporate a plugged ¼" NPT side boss on the downstream side of the valve that can be equipped with a hydrostatic relief valve or vent valve.

Please be familiar with the "Installation and Operation Note" and "Downstream Accessory Boss" section of the "V"-ring valve design general information before ordering these valves.

General Features



Valve body made of shell molded ductile iron. Highly resistant to cracking or fracturing from wrenching, dropping or hammer blows. Bonnet and seal cap are steel on "A" prefix valves.

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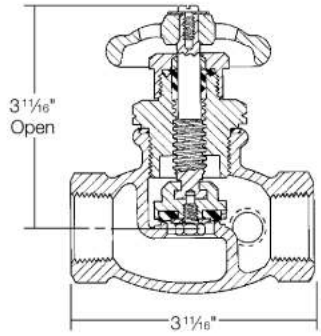
Flange Seal Globe and Angle Valves for Bulk Storage Containers, Filling Hoses and Plant Piping 7704, 7705 and 7706 Series

Application

Designed to assure positive shut-off and long maintenance-free service life in liquid or vapor service. Ideally suited for use on cylinder charging manifolds, truck filling hoses, bulk storage containers and plant piping.

The high quality construction and wide variety of sizes make them highly suited for use with LP-Gas, anhydrous ammonia and in the chemical and petrochemical industries.

A7704P

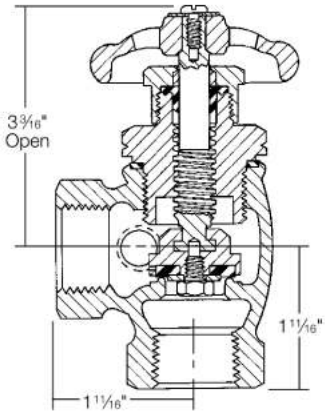


7704 P
A7704 P
7705 P
A7705 P

Features

- Available with either a brass bonnet and bronze stem for LP-Gas service or a steel bonnet and stainless steel stem for combined LP-Gas and anhydrous ammonia service.
- Flange seal stem provides for leak-proof operation. No packing to retighten or replace.
- Metal-to-metal back seat permits replacement of the flange ring with the valve in service.
- Plugged ¼" NPT boss on downstream side of valve accommodates hydrostatic relief valve or vent valve.
- Swivel seat disc minimizes grinding on the body seat and assures longer service life.
- "Dropped seat" body design of the angle valve provides high flow capacity.

A7706 P



7704 LP
A7704 LP
7706 P
A7706 P

Materials

Body	Ductile Iron
Bonnet (7704, 05, 06)	Brass
Bonnet (7704, 05, 06)	Steel
Stem (7704, 05, 06)	Bronze
Stem (7704, 05, 06)	Stainless Steel
Flange Ring	Synthetic Rubber
Seat Disc	Synthetic Rubber

REGO PRODUCTS 10 YEAR WARRANTY

Ordering Information

Part Number		Inlet & Outlet Connection (F. NPT)	Flow at 1 PSIG Pressure Drop (Cv) (GPM/Propane)*		Accessories	
Globe	Angle		Globe	Angle	Hydrostatic Relief Valve	Vent Valve
7704P	7704LP	½"	7.3	12.3	SS8001J or SS8001L	TSS3169
A7704P	A7704LP					
7705P	7706P	¾"	11.5	17.7		
A7705P	A7706P					

* To obtain approximate flow at other than 1 PSIG pressure drop, multiply flow in table by square root of pressure drop. Example: A7704LP @ 9 PSIG =12.3 x $\sqrt{9}$ = 36.9 GPM/propane. For NH_3 flow, multiply propane flow by .90.

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