Excess Flow Valves

General Information

RegO® Excess Flow Valves have been designed, developed, and manufactured for a wide variety of industry needs for more than three decades.

Throughout the years, those concerned with installing and operating bulk plant facilities have looked to RegO® products with confidence for reliable, long-lasting valves as required by the National Fire Protection Association (NFPA) Standards 58 and 59, as well as any state, provincial, and local regulations.

It is a responsibility we have not taken lightly. RegO® products continue to not only assess the most effective designs, but anticipate and meet the industry's changing requirements. Toward that goal, RegO® products include over fifty different types and sizes of excess flow valves (most of which are listed by Underwriters Laboratories) to meet the needs of the LP-Gas and anhydrous ammonia industries.

An Explanation and Warning

An excess flow valve is a spring-loaded check valve which will close only when the flow of fluid through the valve generates sufficient force to overcome the power of the spring holding it open. Each valve has a closing rating in gallons per minute and CFH/air.

The selection of a proper closing rating is critical. It requires a technical understanding of the flow characteristics of the piping system, including restrictions of the piping and other valves and fittings downstream of the excess flow valve.

System designers and operating people must understand why an excess flow valve, which remains open in normal operations, may fail to close when an accident occurs.

Warning: A downstream break in piping or hoses may not result in sufficient flow to close the valve.

How They Work

Excess flow valves permit the flow of liquid or vapor in either direction. This flow is controlled in only one direction (the direction of the arrow stamped on the valve). If the flow in that direction exceeds a predetermined rate (shown in this catalog for each valve), the valve automatically closes.

The valve disc is held in the open position by a spring. When the flow creates a pressure drop across the valve disc that overcomes the preset load on the spring, the valve disc moves to the closed position. It remains closed until the force on both sides of the valve disc are approximately equal (a small bleed hole in the disc of each valve permits equalization), then the spring automatically reopens the valve. When a line is completely broken, the pressure cannot equalize and the excess flow valve remains closed until the line is repaired. Because the bleed hole in each valve disc permits equalization of pressure, excess flow valves do not provide a 100 percent type shut-off.

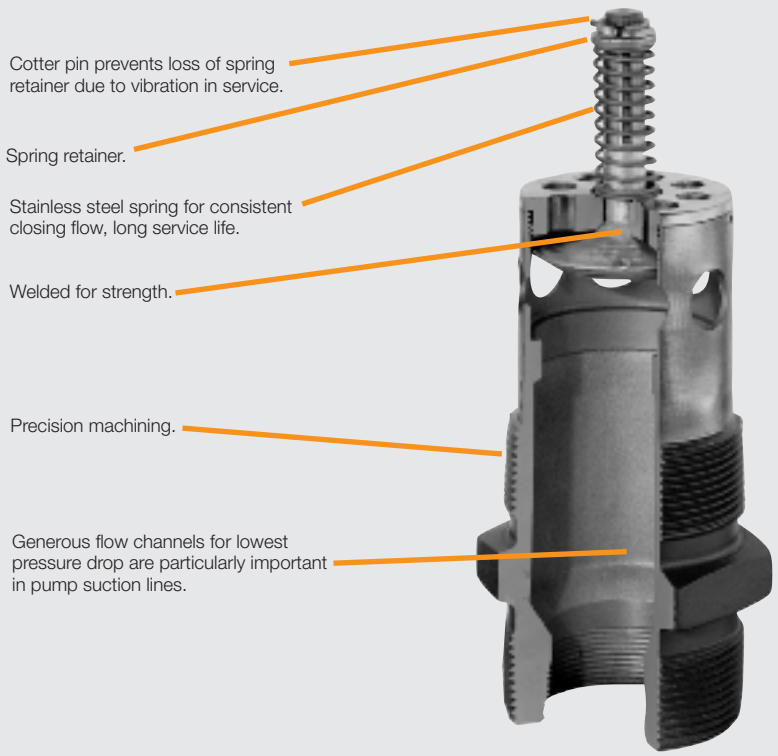
Proper Installation

Since excess flow valves depend on flow in order to close, the line downstream of the excess flow valve should be large enough not to excessively restrict the flow. If the piping is too small, unusually long or restricted by too many elbows, tees and other fittings, consideration should be given to the use of larger size pipe fittings.

An excess flow valve in a pump suction line cannot be expected to close in the case of a clean break in the line beyond the pump, as the pump constitutes too great a restriction, even if running.

Good piping practices dictate the selection of an excess flow valve with a rated closing flow of approximately 50 percent greater than the anticipated normal flow. This is important because valves which have a rated closing flow very close to the normal flow may chatter or slug closed when surges in the line occur during normal operation, or due to the rapid opening of a control valve.

All installations must be in accordance with NFPA Standards 58 and 59, as well as state, provincial and local regulations.



1519C Series

Application

Designed for top mounting in storage tank manhole covers for liquid or vapor applications. The tapped inlet allows for an optional 1" NPT dip pipe connection to withdraw liquid from the top of the tank.

The 1519C4 is designed for installation in long line or branch piping applications.

Features

- Precision machined
- Generous flow channels provide low pressure drop.
- Cotter pin prevents loss of spring retainer due to vibration in service.
- Stainless steel spring provides consistent closing flow and long service life.

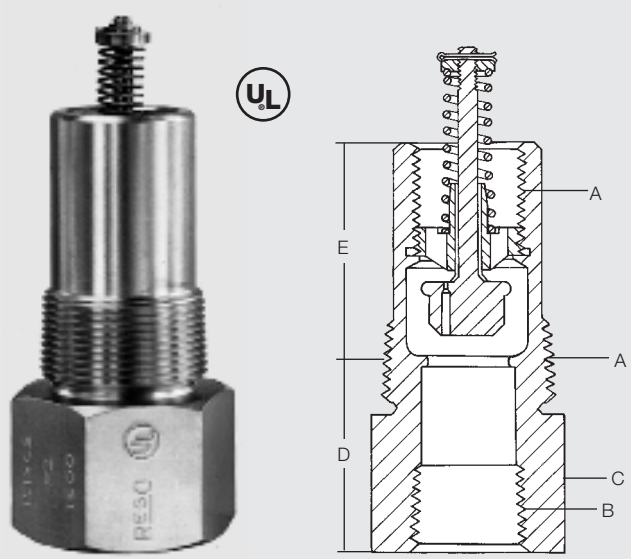
Materials

1519C2

Body	Brass
Valve Poppet w/Stem	Brass
Spring	Stainless Steel
Guide	Brass

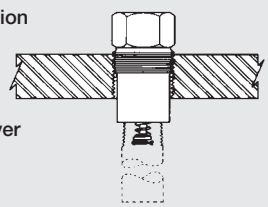
1519C4

Body	Brass
Valve Disc	Cadmium Plated Steel
Stem	Stainless Steel
Spring	Stainless Steel
Guide	Ductile Iron

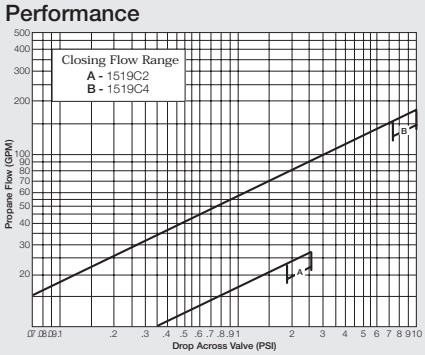


1519C2

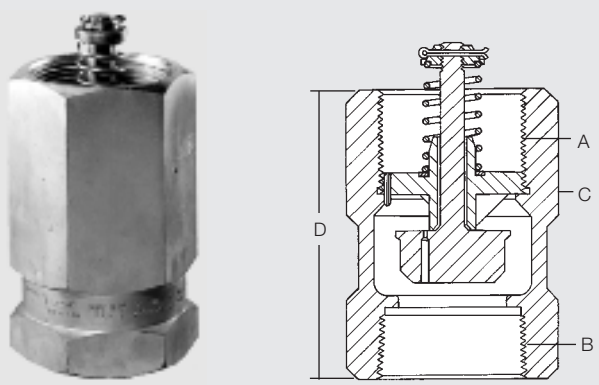
Typical Installation



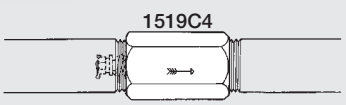
Performance



NOTE: Multiply flow rate by .94 to determine liquid butane flow.



1519C4



Typical Installation

F

Ordering Information

Part Number	A Inlet Connection NPT	B Outlet Connection F. NPT	C Wrench Hex Flats	D Effective Length (Approx.)	E Threaded End To Port	Approximate Closing Flows**		
						Liquid (GPM Propane)	Vapor SCFH (Propane)	
							25 PSIG Inlet	100 PSIG Inlet
1519C2	1 1/2" Male*	1"	2 1/4"	2 1/16"	2 11/16"	25	5,000	8,800
1519C4	2" Female	2"	3"	4 9/16"	—	170	28,590	48,600

* 1" Female Dip Pipe Connection

** Based on horizontal installation of excess flow valve.
Flows are slightly more when valves are installed with outlet up; slightly less when installed with outlet down.

NOTE: Multiply flow rate by .94 to determine liquid butane flow.

Excess Flow Valves for Liquid or Vapor Line Service

1519A Series, 1519B Series and A1519 Series

Application

Designed for top installation, in any position, in liquid or vapor service lines. They are intended for long lines or branch piping where tank mounted excess flow valves cannot suffice.

Features

- Precision machined.
- Generous flow channels provide low pressure drop.
- Cotter pin prevents loss of spring retainer due to vibration in service.
- Stainless steel spring provides consistent closing flow and long service life.

Materials

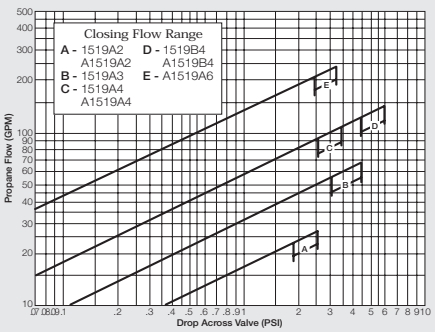
1519A Series and 1519B Series

Body	Brass
Valve Poppet w/Stem	Brass
Spring	Stainless Steel
Guide	Brass

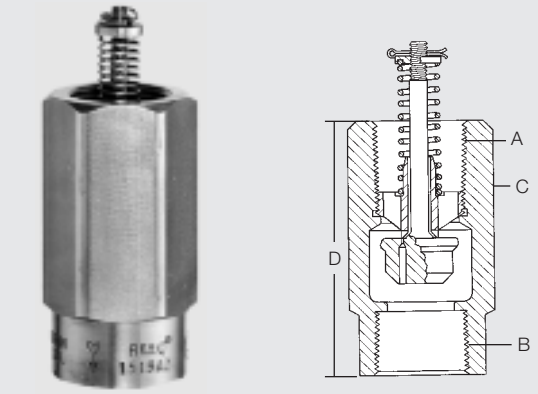
A1519 Series

Body	Cadmium Plated Steel
Valve Disc	Cadmium Plated Steel
Stem	Stainless Steel
Spring	Stainless Steel
Guide	Ductile Iron

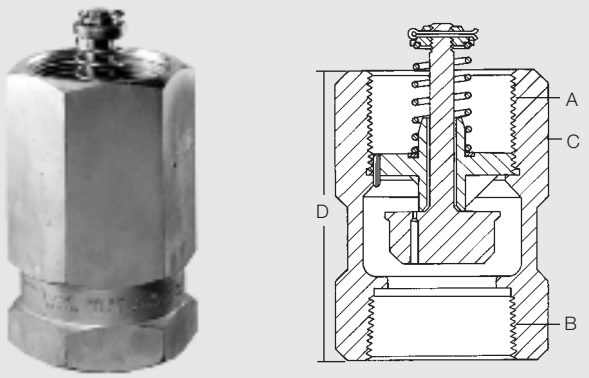
Performance



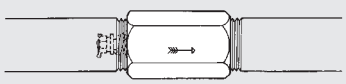
NOTE: Multiply flow rate by .94 to determine liquid butane flow and by .90 to determine liquid anhydrous ammonia flow.



1519A2, 1519A3, 1519A4, 1519B4, A1519A2, A1519A4, A1519B4



A1519A6



Typical Installation

Ordering Information

Part Number	Brass or Steel	A Inlet Connection F. NPT	B Outlet Connection F. NPT	C Wrench Hex Flats	D Effective Length (Approx.)	Approximate Closing Flows*		
						Liquid (GPM Propane)	Vapor SCFH (Propane) 25 PSIG Inlet	Vapor SCFH (Propane) 100 PSIG Inlet
1519A2	Brass	1"	1"	1 3/4"	3 15/16"	25	5,000	8,800
A1519A2	Steel							
1519A3	Brass	1 1/2"	1 1/2"	2 1/4"	4"	60	11,500	20,200
1519A4		2"	2"	3"	4 9/16"	100	19,000	34,500
A1519A4	Steel							
1519B4	Brass					133	27,700	50,300
A1519B4	Steel							
A1519A6		3"	3"	4"	6 17/32"	225	45,000	82,000

* Based on horizontal installation of excess flow valve. Flows are slightly more when valves are installed with outlet up; slightly less when installed with outlet down.

NOTE: Multiply flow rate by .94 to determine liquid butane flow and by .90 to determine liquid anhydrous ammonia flow.

3272 Series, 3282 Series, 3292 Series, A3272 Series, A3282 Series, A3292 Series, 7574 and 12472

Application

Designed for liquid or vapor use for filling, withdrawal and vapor equalizing in container or line applications. They are intended for long lines or branch piping where tank-mounted excess flow valves are inadequate.

Features

- Precision machined.
- Generous flow channels provide low pressure drop.
- Stainless steel spring provides consistent closing flow and long service life.

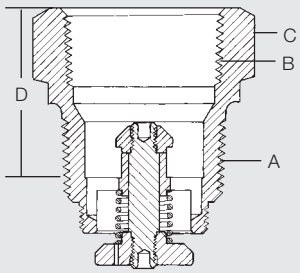
Materials

Series 3272, 3282, 3292, 7574, 12472

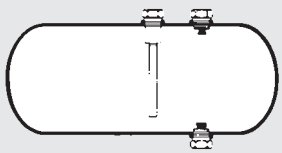
Body	Brass
Seat Disc	Brass
Stem	Brass
Spring	Stainless Steel
Guide (12472 ONLY)	Plastic

Series A3272, A3282, A3292

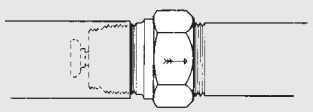
Body	Cadmium Plated Steel
Seat Disc	Cadmium Plated Steel
Stem	Cadmium Plated Steel
Spring	Stainless Steel



Typical Installation

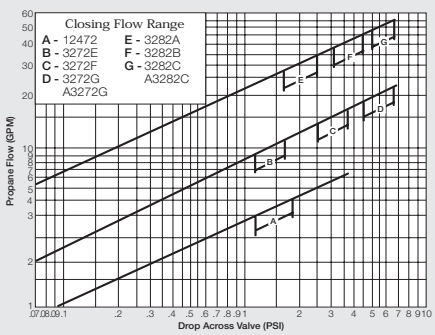


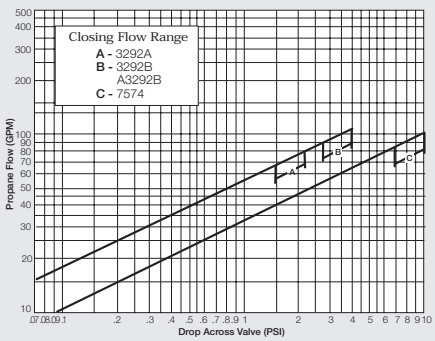
Container Service



Pipe Line Service

Performance





NOTE: Multiply flow rate by .94 to determine liquid butane flow and by .90 to determine liquid anhydrous ammonia flow.

Ordering Information

Part Number	Brass or Steel	A Inlet Connection M. NPT	B Outlet Connection F. NPT	C Wrench Hex Flats	D Effective Length (Approx.)	Approximate Closing Flows*		
						Liquid (GPM Propane)	Vapor SCFH (Propane)	
							25 PSIG Inlet	100 PSIG Inlet
12472	Brass	3/4"	3/4"	1 3/8"	1 3/8"	4	1,050	1,700
3272E						10	2,100	3,700
3272F						15	2,800	5,000
3272G						20	3,700	6,900
A3272G	Steel							
3282A	Brass	1 1/4"	1 1/4"	2"	1 5/16"	30	5,850	10,000
3282B						40	7,600	13,600
3282C						50	9,000	16,300
A3282C	Steel							
7574	Brass	1 1/2"	1 1/2"	2 1/4"	1 3/4"	90	15,200	28,100
7574L						70	14,000	25,000
3292A		2"	2"	2 7/8"	1 7/8"	75	14,200	24,800
A3292A	Steel							
3292B	Brass					100	18,100	32,700
A3292B	Steel							
A3292C						122	22,100	37,600

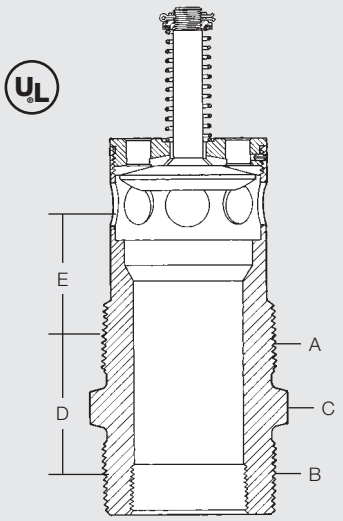
* Based on horizontal installation of excess flow valve. Flows are slightly more when valves are installed with outlet up; slightly less when installed with outlet down.

NOTE: Multiply flow rate by .94 to determine liquid butane flow and by .90 to determine liquid anhydrous ammonia flow.

F

Excess Flow Valves for Container Service

A7537 Series, A7539 Series, A8523 and A8525



Application

Designed for mounting in threaded full or half couplings in container installations. They may be used for filling, withdrawal or vapor equalizing applications. The exceptionally low pressure drop makes them ideal for pump suction lines. If a riser pipe to the vapor space is used with these valves, the minimum inside diameter of the riser pipe must be at least two times the valve thread size in order not to restrict flow to the side inlet ports.

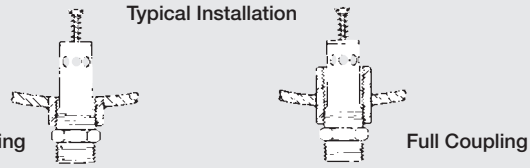
Features

- Precision machined.
- Generous flow channels provide low pressure drop minimizing cavitation in pump suction lines.
- Cotter pin prevents loss of spring retainer due to vibration in service.
- Stainless steel spring provides consistent closing flow and long service life.
- Separate models for installation in either half or full couplings.

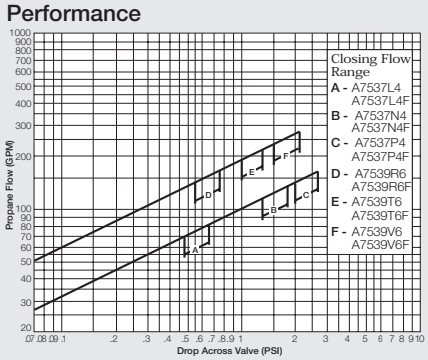
Materials

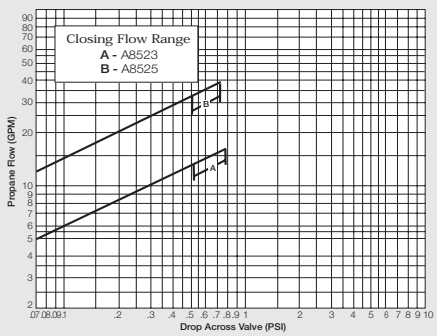
Body ..... Cadmium Plated Steel
Body (A7539 Series Only) ..... Ductile Iron
Seat Disc ..... Cadmium Plated Steel
Stem .....Stainless Steel
Spring ..... Stainless Steel
Guide ..... Cadmium Plated Steel

Typical Installation



Performance





NOTE: Multiply flow rate by .94 to determine liquid butane flow and by .90 to determine liquid anhydrous ammonia flow.

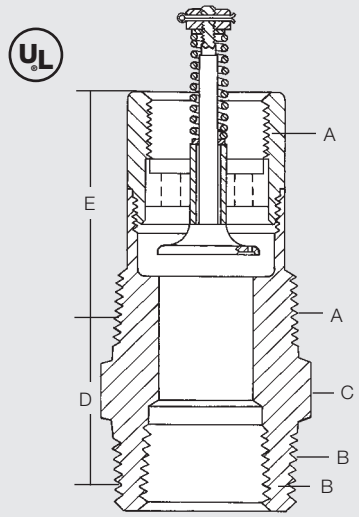
Ordering Information

Part Number	For Use With This Type Coupling	A Inlet Connection M. NPT	B Outlet Connection NPT	C Wrench Hex Flats	D Effective Length (Approx.)	E Threaded End To Port (Approx.)	Approximate Closing Flows*		
							Liquid (GPM Propane)	Vapor SCFH (Propane)	
								25 PSIG Inlet	100 PSIG Inlet
A8523	Half	3/4"	3/4" Male	1 1/8"	1 3/4"	1 3/16"	15	5,170	8,800
A8525	Half	1 1/4"	1 1/4" Male	1 3/4"	2 1/8"	1 9/16"	35	12,540	21,560
A7537L4	Half	2"	2" Male and 1 1/4" Female	2 5/8"	2 1/4"	2"	75	13,000	25,600
A7537L4F	Full					3 11/16"			
A7537N4	Half					2"	125	25,000	42,500
A7537N4F	Full					3 11/16"			
A7537P4	Half					2"	150	30,500	52,000
A7537P4F	Full					3 11/16"			
A7539R6	Half	3"	3" Male and 2" Female	3 3/4"	3 1/8"	2 1/2"	150	32,100	55,500
A7539R6F	Full					4 1/2"			
A7539T6	Half					2 1/2"	200	39,400	68,300
A7539T6F	Full					4 1/2"			
A7539V6	Half					2 1/2"	250	51,100	88,700
A7539V6F	Full					4 1/2"			

* Based on horizontal installation of excess flow valve. Flows are slightly more when valves are installed with outlet up; slightly less when installed with outlet down.

NOTE: Multiply flow rate by .94 to determine liquid butane flow and by .90 to determine liquid anhydrous ammonia flow.

A2137 Series and 2139 Series



Application

Designed especially for filling, withdrawing or vapor equalizing in half and full coupling installations. Ideal for container service where welded-in dip pipes are not provided. For vapor use, mount in the bottom opening with a threaded dip pipe. For liquid use, mount in the top opening with a threaded dip pipe. These may also be installed in pipe lines provided the connection is made to the male inlet thread and not the female dip pipe connection.

Features

- Precision machined.
- Cotter pin helps prevents loss of spring retainer due to vibration in service.
- Stainless steel spring provides consistent closing flow and long service life.
- Generous flow channels provide low pressure drop.

Materials

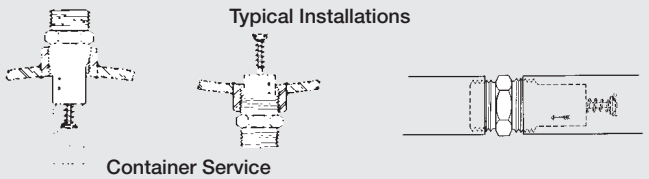
A2137 Series

Body ..... Cadmium Plated Steel
Disc ..... Cadmium Plated Steel
Stem ..... Stainless Steel
Spring ..... Stainless Steel
Guide ..... Cadmium Plated Steel with Stainless Steel Liner

2139 Series

Body ..... Brass
Disc ..... Brass
Stem ..... Stainless Steel
Spring ..... Stainless Steel
Guide ..... Brass

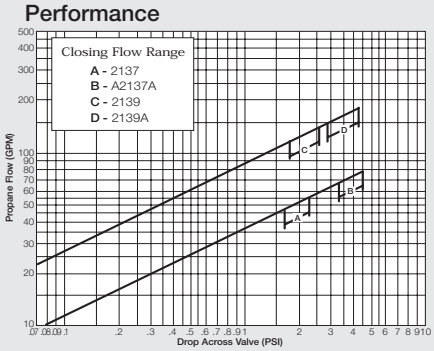
Typical Installations



Container Service

Pipe Line Service

Performance



NOTE: Multiply flow rate by .94 to determine liquid butane flow and by .90 to determine liquid anhydrous ammonia flow.

Ordering Information

Part Number	A Inlet Connection M. NPT	B Outlet Connection NPT	C Wrench Hex Flats	D Effective Length (Approx.)	E Threaded End To Port	Approximate Closing Flows***		
						Liquid (GPM Propane)	Vapor SCFH (Propane) 25 PSIG Inlet	Vapor SCFH (Propane) 100 PSIG Inlet
A2137	2"*	2" Male and $1\frac{1}{4}$" Female	$2\frac{7}{16}$"	$1\frac{9}{16}$"	$3\frac{1}{16}$"	50	10,000	17,000
A2137A						70	14,000	25,000
2139	3"**	3" Male and 2" Female	$3\frac{1}{2}$"	$2\frac{5}{16}$"	$4\frac{3}{8}$"	125	26,500	46,000
2139A						160	32,700	57,200

* 1¼" F. NPT Dip Pipe Connection
** 2" F. NPT Dip Pipe Connection
*** Based on horizontal installation of excess flow valve. Flows are slightly more when valves are installed with outlet up; slightly less when installed with outlet down.

NOTE: Multiply flow rate by .94 to determine liquid butane flow and by .90 to determine liquid anhydrous ammonia flow.

F

Excess Flow Valves for Flange Mounting in Container Service

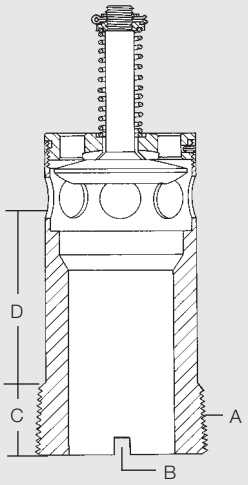
A3500 Series and A4500 Series

Application

Designed for mounting in flanged tank connections with internal threads in the bottom of a container. They may be used in filling, withdrawal or vapor equalizing application. They provide high flow capacity with low pressure drop to minimize pump inlet line cavitation.

If a riser pipe to the vapor space is used with these excess flow valves, the minimum inside diameter of the riser pipe must be at least two times the valve thread size in order not to restrict flow to the side inlet ports.

Flange mounted excess flow valves are readily accessible for servicing and completely enclosed and protected in event of fire. Because there is no direct connection between external piping and the valve, stresses imposed on piping will not affect the excess flow valve.



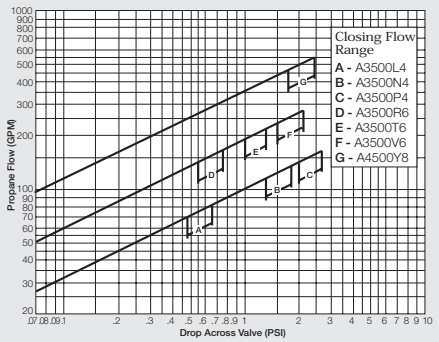
Features

- Precision machined.
- Generous flow channels provide low pressure drop minimizing cavitation in pump suction lines.
- Cotter pin prevents loss of spring retainer due to vibration in service.
- Stainless steel spring provides consistent closing flow and long service life.

Materials

Body ..... Cadmium Plated Steel
Seat Disc ..... Cadmium Plated Steel
Stem .....Stainless Steel
Spring ..... Stainless Steel
Guide ..... Cadmium Plated Steel

Performance



NOTE: Multiply flow rate by .94 to determine liquid butane flow and by .90 to determine liquid anhydrous ammonia flow.

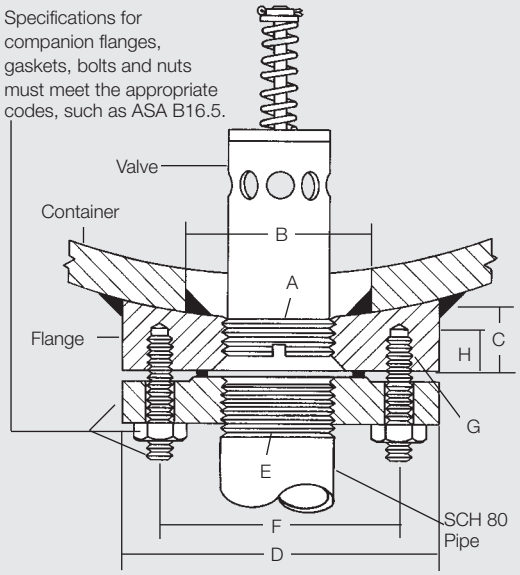
Ordering Information

Part Number	A Inlet Connection M. NPT	B For Installation	C Effective Thread (Approx.)	D Threaded End To Port	Approximate Closing Flows*		
					Liquid (GPM Propane)	Vapor SCFH (Propane) 25 PSIG Inlet	Vapor SCFH (Propane) 100 PSIG Inlet
A3500L4	2"	Slotted Body	3/4"	1 15/16"	75	13,000	22,500
A3500N4					125	25,000	42,500
A3500P4					150	30,500	52,000
A3500R6	3"		1"	1 9/16"	150	32,100	55,500
A3500T6					200	39,400	68,300
A3500V6					250	51,100	88,700
A4500Y8	4"		1 1/16"	1 15/16"	500	89,000	154,000

* Based on horizontal installation of excess flow valve. Flows are slightly more when valves are installed with outlet up; slightly less when installed with outlet down.

NOTE: Multiply flow rate by .94 to determine liquid butane flow and by .90 to determine liquid anhydrous ammonia flow.

Specifications for companion flanges, gaskets, bolts and nuts must meet the appropriate codes, such as ASA B16.5.



Flanged Installation In Container

NOTE: The opening in the tank flange should be machined with a ¼"-45° chamfer at the outer edge. The thread should be tapped one or two turns large as checked by a plug gauge. This and the undersize thread on the valve should permit the valve to be installed so that its outer face is at least flush with the outer edge of the flange.

The valve is screwed into this opening by fitting a ¼" flat metal piece into the slot and turning until *hand tight*. A lubricant may be used, but a luting compound is not necessary since this joint does not have to be gas tight.

If any difficulty is experienced in "making up" the valve to fit flush, as indicated, the thread in the tank flange can be tapped.

Design and construction of tank and flange must be in accordance with the appropriate section of the ASME Pressure Vessel Code.

Dimension Specifications

Key No.	Description	A3400L4, A3500L4 A3500N4, A3500P4	A3400L6, A3500R6 A3500T6, A3500V6	A4500Y8
A	Valve Size (NPT)	2"	3"	4"
B	Tank Opening	3 1/2"	4 1/2"	5 1/2"
C	Thickness(min.)	1"	1 1/4"	1 3/8"
D	Outside Diameter	6 1/2"	8 1/4"	10"
E	Pipe Thread (NPT)	2"	3"	4"
F	Bolt Circle Dia.	5"	6 5/8"	7 1/8"
	Number of Bolt Holes	8	8	8
G	Bolt Hole Thread	5/8" — 11NC — 2	3/4" — 10NC — 2	3/4" — 10NC — 2
H	Bolt Hole Depth (min. eff.)	3/4"	1"	1 1/8"

2723C and A8013D Series

Application

These valves are designed for bottom mounting in consumer storage tanks for liquid service. They may also be top mounted for vapor service. These valves are designed especially for use with RegO® globe and angle valves.

Features

- 2723C provides a ¾" dip pipe inlet connection for top-mounted liquid or bottom-mounted vapor requirements.
- A8013D Series features a 2-position floating valve disc for faster, more efficient container filing.
- Precision machined.
- Stainless steel spring provides consistent closing flow and long service life.
- Generous flow channels provide low pressure drop.

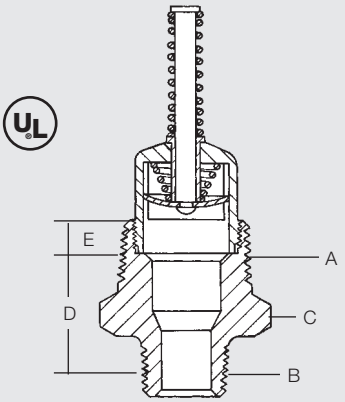
Materials

A8013D Series

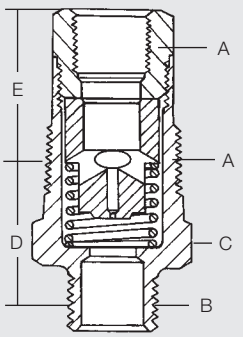
Body ..... Cadmium Plated Steel
Disc ..... Stainless Steel
Stem ..... Stainless Steel
Spring ..... Stainless Steel
Guide ..... Cadmium Plated Steel
Insert .....Stainless Steel

2723C

Body ..... Brass
Valve Poppet ..... Brass
Retainer ..... Brass
Spring ..... Stainless Steel

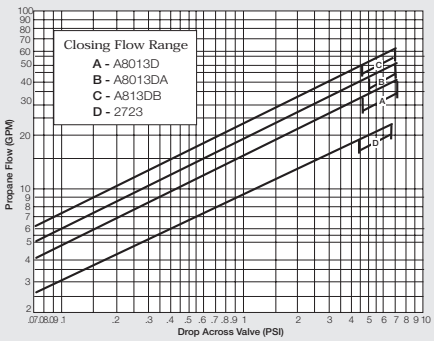


A8013D



2723C

Performance



NOTE: Multiply flow rate by .94 to determine liquid butane flow and by .90 to determine liquid anhydrous ammonia flow.

F

Ordering Information

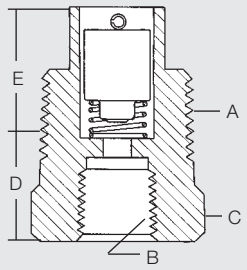
Part Number	A Inlet Connection M. NPT	B Outlet Connection M. NPT	C Wrench Hex Flats	D Effective Length (Approx.)	E Threaded End To Port	Approximate Closing Flows**		
						Liquid (GPM Propane)	Vapor SCFH (Propane)	
							25 PSIG Inlet	100 PSIG Inlet
A8013D	1¼"	¾"	1⅞"	9/16"	—	39	8,700	14,700
A8013DA		1"		21/32"		44		
A8013DB		1¼"		11/16"		55	10,900	19,300
2723C	1¼"*	¾"	1 11/16"	1¼"	3 3/16"	20	3,900	6,900

* ¾" F. NPT Dip Pipe Connection
** Based on horizontal installation of excess flow valve. Flows are slightly more when valves are installed with outlet up; slightly less when installed with outlet down.

NOTE: Multiply flow rate by .94 to determine liquid butane flow and by .90 to determine liquid anhydrous ammonia flow.

Excess Flow Valve for Pressure Gauges

2884D



Application

Designed for container use in pressure gauge installations to minimize excess gas discharge in the event the pressure gauge is sheared. A suitable shut-off valve should be installed between this valve and the pressure gauge to allow convenient gauge replacement.

Features

- Precision machined.
- Suitable for use with all ¼" M.NPT pressure gauges.

Materials

Body ..... Brass
Valve ..... Brass
Spring ..... Stainless Steel
Pin ..... Stainless Steel

Ordering Information

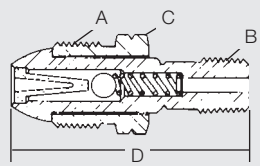
Part Number	A Inlet Connection M. NPT	B Outlet Connection F. NPT	C Wrench Hex Flats	D Effective Length (Approx.)	E Threaded End To Port	Approximate Closing Flows*		
						Liquid (GPM Propane)	Vapor SCFH (Propane)	
							25 PSIG Inlet	100 PSIG Inlet
2884D	¾"	¼"	1 1/16"	1¼"	11/16"	N/A	60	110

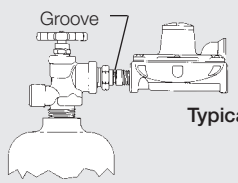
* Based on horizontal installation of excess flow valve. Flows are slightly more when valves are installed with outlet up; slightly less when installed with outlet down.

NOTE: Multiply flow rate by .94 to determine liquid butane flow.

Excess Flow Valve for DOT Cylinders

3199W





Typical Installation

Application

Designed for use on portable systems with vapor or liquid including torches, heaters, lead melting burners, tar and asphalt burners, wallpaper steamers and other applications involving portable DOT cylinders. The POL inlet attaches directly to the cylinder valve and the outlet mounts to the regulator.

Features

- Integral ball check design.
- Machined groove designed to break-off and allow excess flow valve ball to close.

NOTE:

No protection is afforded should break-off occur downstream of the groove. Also, restrictions introduced by the regulator may prevent closing of the valve due to limited flow capacity. The valve's purpose is to protect the cylinder valve outlet should the regulator be broken off of its connection (at the groove), in which case it will close. It must not be depended upon to protect against breaks downstream of the regulator.

Materials

Body ..... Brass
Nut ..... Brass
Ball ..... Stainless Steel
Spring ..... Stainless Steel
Retaining Ring ..... Stainless Steel
Retainer ..... Brass

Ordering Information

Part Number	A Inlet Connection	B Outlet Connection M. NPT	C Wrench Hex Flats	D Effective Length (Approx.)	Approximate Closing Flows*		
					Liquid (GPM Propane)	Vapor SCFH (Propane)	
						25 PSIG Inlet	100 PSIG Inlet
3199W	Male POL	¼"	7/8"	2 7/16"	.95	265	500

* Based on horizontal installation of excess flow valve. Flows are slightly more when valves are installed with outlet up; slightly less when installed with outlet down.

NOTE: Multiply flow rate by .94 to determine liquid butane flow.

Chek-Lok® Excess Flow Valves

Chek-Lok® Excess Flow Valves are designed to provide a convenient means of withdrawing liquid from stationary containers prior to moving the container.

NFPA Pamphlet 58 standards require: 1) containers with 125 gallons water capacity, or more, have a connection for liquid evacuation which is at least ¾" NPT, and 2) containers designed for stationary use, have no more propane than 5% of their water capacity in liquid form during transportation. These rules apply to containers manufactured after July 1, 1961.

The Chek-Lok® permits one transfer shut-off valve with an adapter to be used interchangeably on a number of tanks. With a Chek-Lok® on each tank and a high capacity RegO® 7550P Series transfer valve and adapter on all your service and delivery trucks – the need for individual transfer valves is eliminated. This provides a substantial savings without sacrificing safety.

Chek-Lok® Operation

Instructions to Open Chek-Lok®

1. Loosen cap to vent any accumulated LP-Gas from the Chek-Lok. After venting stops, remove the cap. If venting does not stop, retighten the cap and use other approved means to withdraw liquid from the container.

   NOTE: Use a suitable size wrench when removing the cap and adapter from the Chek-Lok. Do not allow the Chek-Lok to un-thread from the tank during removal. When necessary, use a second wrench to secure the Chek-Lok in position.

2. Before beginning withdrawal, securely connect an ECII® 7550P angle valve or suitable shut-off valve to the adapter. Fully open the shut-off valve – the valve's handwheel must be fully opened before connecting adapter to tank.

3. Completely thread the adapter and shut-off valve assembly onto the Chek-Lok by turning adapter's coupling nut clockwise until it is tight. Immediately close the shut-off valve. Listen for an audible click to signal that the Chek-Lok has opened and is actuated for liquid withdrawal. The flow can now be controlled by the transfer valve.

4. Check the coupling nut and adapter assembly for leaks using a suitable leak detection solution.

   If the Chek-Lok fails to open after following this procedure, the pressure downstream of the shut-off valve should be increased to equalize pressure in the Chek-Lok. It is simple to equalize pressures using vapor from either the vapor return valve or service valve, or from a hose end valve connected to the delivery truck.

Instructions to Close Chek-Lok®

1. To re-lock the Chek-Lok, container pressure must be in excess of 35 PSIG. Close shut-off valve and disconnect the hose or piping.

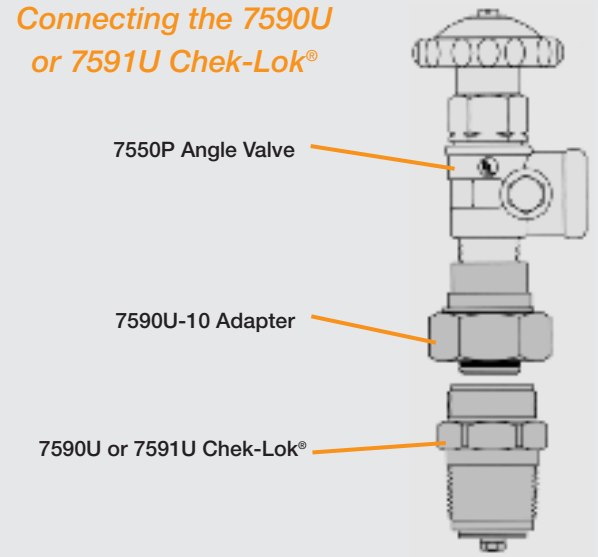
2. Open shut-off valve fully. Liquid discharging to the atmosphere should cause the excess flow feature of the Chek-Lok to close, provided tank pressure is 35 PSIG or more.

   If, for any reason, the excess flow valve does not close, the shut-off valve must be closed immediately and must not be removed until the system can be evacuated and the unit repaired.

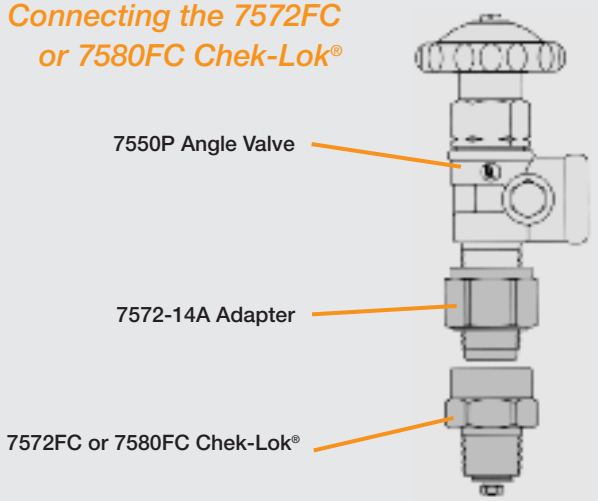
3. After the excess flow valve closes, remove the Adapter and Shut-Off Valve Assembly.

4. Clean face of Chek-Lok and install the Cap with a gasket. IMPORTANT: Only use the proper Chek-Lok Cap. Do not use a standard pipe cap.

Connecting the 7590U or 7591U Chek-Lok®



Connecting the 7572FC or 7580FC Chek-Lok®

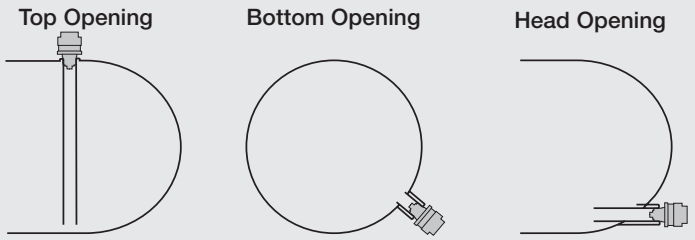


In the absence of a 7550P transfer valve, a ¾" A7505A Globe Valve or A7506AP Angle Valve may be used. Follow the above procedures using the 7572C-15A adapter instead of the 7572C-14A. Use an ECII 7550P without an adapter in an emergency only.

CAUTION: Always wear approved protective gloves when working with the Chek-Lok®. Do not vent LP-Gas near possible source of ignition.

Chek-Lok® Mounting

Chek-Lok® Valves may be either top mounted with a dip tube or bottom mounted. For bottom mounting, it is preferable to position the coupling in the head or slightly off of the bottom. This helps prevent the accumulation of sludge, etc. around the valve which could affect the proper operation of the excess flow valve.



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Chek-Lok® Excess Flow Valves

7590U and 7591U Series

7590U with Cap

Application

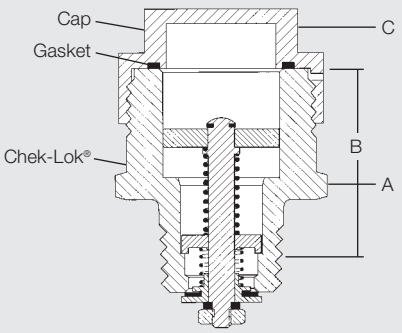
Chek-Lok® Excess Flow Valves are designed to provide a convenient means of withdrawing liquid from stationary containers prior to moving the container. The Chek-Lok® permits one transfer shut-off valve with an adapter to be used interchangeably on a number of tanks.

The 7590U and 7591U Chek-Loks® are also designed for use on permanent installations provided the excess flow valve is sized properly for the system and piping. NOTE: In some cases, it may be necessary to use an in-line excess flow valve to protect the downstream piping.

This valve is not recommended for use as a liquid source for pumps.

Features

- Extra strength connection between body and adapter provides increased strength.
- Weep hole in cap provides indicator to verify Chek-Lok® is closed before cap removal.
- Heavy duty brass cap requires at least 3½ full turns for removal.
- O-ring seal on adapter provides a gas tight seal before the adapter opens the equalizing stem.
- Eliminates need for individual transfer valves at each container.
- UL listed.



Materials

Body..... Brass
Stem..... Brass
Spring.....Stainless Steel
Seals..... Synthetic Rubber
Valve Poppet..... Brass
Gasket..... Nylon

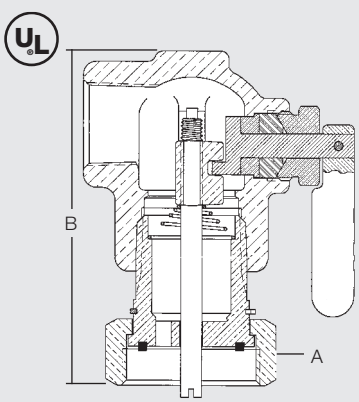
Ordering Information

Chek-Lok® Number	Inlet Connection	Outlet Connection	A Body Wrench Hex Flats	B Approximate Effective Length	C Cap Wrench Hex Flats	Approximate Closing Flow, Liquid GPM (Propane)*
7590U	¾" M. NPT	1⅝" UNF	1⅝"	1 7/16"	1 5/16"	20
7591U	1¼" M. NPT		1¾"	1 11/16"		35

* Based on horizontal installation of excess flow valve. Flows are slightly more when valves are installed with outlet up, and slightly less when installed with outlet down.
Note: Multiply flow rate by .94 to determine liquid butane flow.

Chek-Lok® Liquid Evacuation Adapter for 7590U and 7591U Valves

7590U-20



Application

Designed specifically for use with RegO® 7590U and 7591U Chek-Lok® Excess Flow Valves. Adapter's operating handle opens and closes equalizing stem in the Chek-Lok® valve. Eliminates gas flow through Chek-Lok® valve when installing or removing adapter. Use of RegO® adapter ensures proper connections and opening of the check mechanism.

Features

- Built in nylon gasket provides a gas tight seal.
- Adapter can be installed without depressing the equalizing stem of the Chek-Lok®.
- Design eliminates the need to slug excess flow feature of Chek-Lok® when removing the adapter.
- Built in bleeder valve allows controlled discharge of liquid before removing the adapter.

Ordering Information

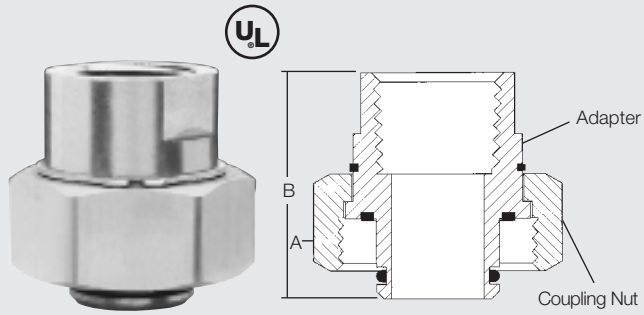
Adapter Number	Inlet Connection	Outlet Connection	A Wrench Hex Flats	B Approximate Length
7590U-20	1⅝" F. UNF	¾" F. NPT	1¾" F. NPT	4⅛" F. NPT

Union Style Adapters for 7590U and 7591U Valves

7590U-10

The 7590U-10 adapter must be used to connect to the 7590U and 7591U Chek-Lok. This insures a proper connection to open the check mechanism. A built in nylon gasket provides a gas tight seal.

Adapter Number	Inlet Connection	Outlet Connection	A Wrench Hex Flats	B Approximate Length
7590U-10	$1\frac{5}{8}$" UNF	$\frac{3}{4}$" F. NPT	$1\frac{3}{4}$"	$1\frac{13}{16}$"



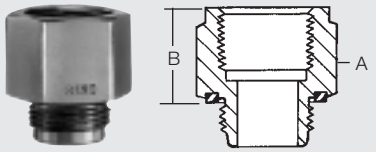
Adapters for 7572FC and 7580FC Valves

7572C-14A and 7572C-15A

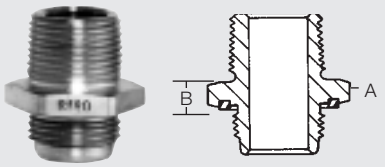
These adapters must be used to connect to the 7572FC and 7580FC Chek Loks to open the check mechanism properly. A built in nylon gasket provides a gas tight seal.

Adapter Number	Inlet Connection	Outlet Connection	A Wrench Hex Flats	B Approximate Effective Length
7572C-14A	$\frac{3}{4}$" M. NPT	$\frac{3}{4}$" F. NPT	$1\frac{3}{8}$"	1"
7572C-15A		$\frac{3}{4}$" M. NPT		$\frac{1}{4}$"

7572C-14A
For Transfer Valves



7572C-15A
For Globe and Angle Valves



F

Double-Check Filler Valves

General Information

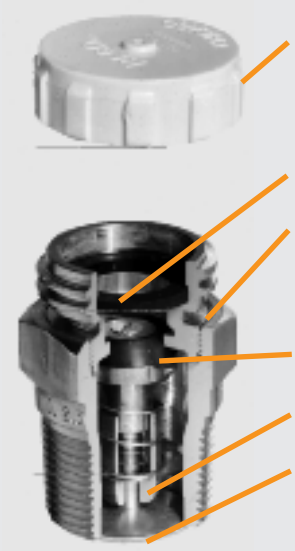
RegO® Double-Check Filler Valves incorporate a resilient upper check valve, normally designated as a filler valve, and a lower check valve, commonly called a back pressure check valve. Available in a range of sizes to cover virtually all LP-Gas storage containers, these valves are UL listed and meet NFPA standards, as well as other safety requirements.

Flow of liquid into the storage container opens both check valves. When flow stops, they both are designed to close automatically to permit the operator to disconnect the hose coupling. The automatic closing action also helps prevent the discharge of container contents in the event of hose failure. The lower back pressure check affords extra protection by restricting the discharge if the upper check fails to function properly due to accidents or other causes.

The double back check construction allows emergency inspection, repair, or replacement of the upper fill assembly without removing product from the container. When the upper filler valve body is removed, the lower back check valve provides a seal, permitting only some leakage, allowing a new upper filler valve body to be installed.

Spare Gasket Ordering Information

ACME	Part Number
1¼"	A2797-20R
1¾"	A2697-20R
2¼"	A3184-8R
3¼"	A3194-8R



Seal cap made of tough, resilient molded plastic. Protects threads and internal working parts. Caps are designed to contain normal tank pressures, and must be kept on valves at all times.

Long-wearing gasket permits hand-tight connection of cap and hose coupling.

Safety groove is designed to shear below the ACME thread, leaving the valve seats closed and unaffected if the delivery truck pulls away with the hose connected.

Seat disc of special synthetic composition is extra thick for longer life.

Valve guide is precision machined to assure positive seal.

Exclusive swing-away lower back check valve for extra fast filling is provided on Models 6579 and 6587. Differs from conventional design by swiveling to a vertical position when opened.

Double-Check Filler Valves for Large Motor Fuel and ASME Tanks

6579 Series and 7579 Series

Application

Designed to provide fast filling of large motor fuel and ASME domestic tanks.

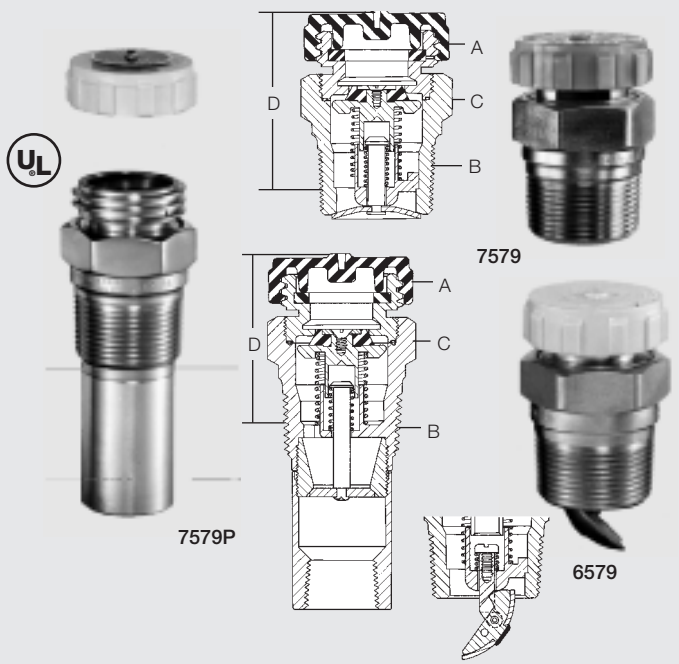
The 6579 Series incorporates a swing-away lower check which greatly reduces pressure drop across the valve. This lower pressure drop promotes faster filling rates and greater efficiency resulting in more profitable operations.

Features

- Double back check provides added system protection.
- Upper filler valve assembly can be easily replaced without evacuating the container.
- Both checks are spring actuated for quick, precise closure when flow into the valve stops or reverses.
- 6579 Series swing-away check promotes faster filling for more profitable operations.
- Specify RegO® Filler Valves on all your original tank purchases to insure quality and dependable performance.

Materials

Upper Body . . . . . Brass
Lower Body . . . . . Brass
Springs . . . . . Stainless Steel
Washer and Seat Disc . . . . . Synthetic Rubber
Cap . . . . . Plastic



Ordering Information

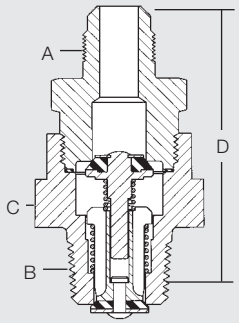
Part Number		A ACME Hose Connection	B Tank Connection M. NPT	C Wrench Hex Flats	D Effective Length (Approx.)	Propane Liquid Capacity at Various Differential Pressures (GPM)				
Cap Only	Cap, Chain and Ring					5 PSIG	10 PSIG	25 PSIG	50 PSIG	75 PSIG
7579	7579C	1¾"	1¼"	1⅞"	2 11/16"	50	70	111	157	192
7579P	—		1¼"*			37	52	82	116	142
6579**	6579C**		1¼"			78	110	174	246	301

* Incorporates ¾" F. NPT dip pipe connection
** Swing-away lower back check valve design for higher filing rate.
NOTE: Multiply flow rate by .94 to determine liquid butane capacity.

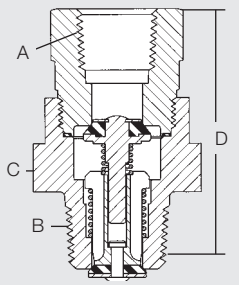
Double Check Filler Valves for Forklift, Motor Fuel and RV Tanks

7647 Series

7647HF

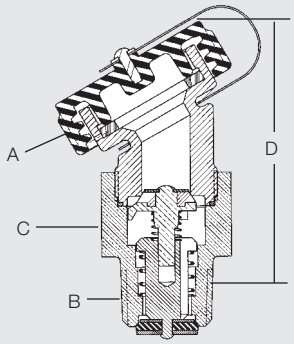


7647H

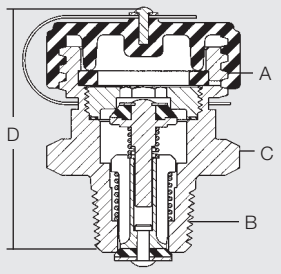


Lanyard and Cap

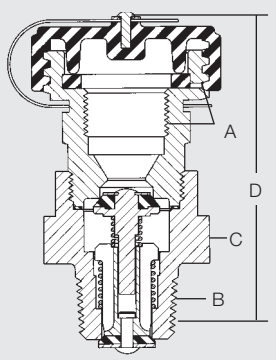
7647SA



7647SC



7647DC



Application

Designed to provide fast filling of forklift, motor fuel, and recreational vehicle tanks.

Features

- Resilient seat disc in lower check designed to provide a gas tight seal without leakage.
- Double back check provides added system protection.
- 7647SA has 30° angle on hose connection. Makes connection and disconnection easier for certain engine fuel applications.
- Large 1¾" wrench flats on 7647SC allow use of socket wrench for easy installation.
- Specify RegO® Filler Valves on all your original tank purchases to insure quality and dependable performance.

Materials

Upper Body ..... Brass
Lower Body ..... Brass
Springs ..... Stainless Steel
Washer & Seat Discs ..... Resilient Synthetic Rubber
Cap ..... Plastic

F

Ordering Information

Part Number		A Hose Connection	B Tank Connection M. NPT	C Wrench Flats	D Effective Length (Approx.)	Propane Liquid Capacity at Various Differential Pressures (GPM)***				
Basic	w/Lanyard and Cap					10 PSIG	20 PSIG	30 PSIG	40 PSIG	50 PSIG
7647H	—	½" F. NPT	¾"	1½"	2 7/16"	14	20	24	27	50
7647HF	—	½" SAE Flare			2 5/8"					
—	7647DC	1¾" ACME & F. POL			3"					
—	7647SA**	1¾" ACME			3 1/16"					
—	7647SC*			1¾"*	2¼"*					

* Large 1¾" hex wrench flats.
** 30° angle on 1-1/4" ACME hose connection.
*** Multiply flow rate by .94 to determine liquid butane capacity.

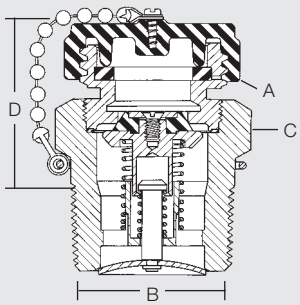
Double Check Filler Valves for Delivery Truck Tanks and Large Storage Containers

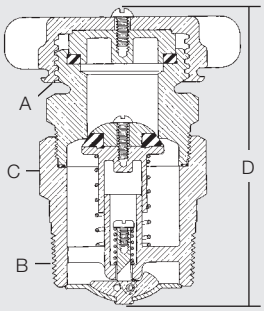
7579S, 6587EC and 3197C

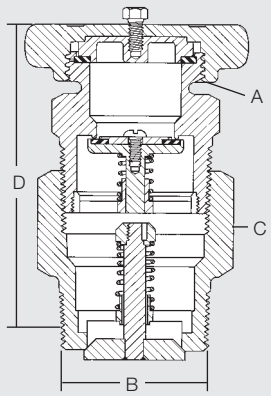
7579S

6587EC

3197C







Application

Designed to provide fast filling of bobtails, transports and large bulk storage tanks.

The 6587EC incorporates a swing-away lower check which greatly reduces pressure drop across the valve. This lower pressure drop promotes faster filling rates and greater efficiency resulting in more profitable operations.

Materials

Upper Body ..... Brass
Lower Body (7579S and 6587EC) ..... Brass
Lower Body (3197C) ..... Cadmium Plated Steel
Springs ..... Stainless Steel
Washer and Seat Disc ..... Synthetic Rubber
Cap (6587EC and 3197C) ..... Brass
Cap (7579S) ..... Plastic

Features

- Double back check provides added system protection.
- Upper filler valve assembly can be easily replaced without evacuating the container.
- Both checks are spring actuated for quick, precise closure when flow into the valve stops or reverses.
- 6587EC swing-away check promotes up to 65% faster filling rates for more profitable operations. Faster filling rates add longer pump life by reducing chances of cavitation.
- Specify RegO® Filler Valves on all your original tank purchases to insure quality and dependable performance.

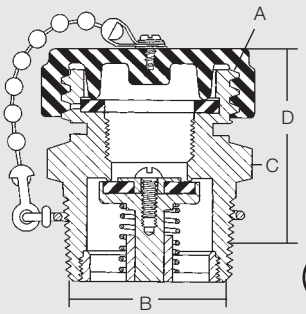
Ordering Information

Part Number	A ACME Hose Connection	B Tank Connection M. NPT	C Wrench Hex Flats	D Effective Length (Approx.)	Propane Liquid Capacity at Various Differential Pressures (GPM)				
					5 PSIG	10 PSIG	25 PSIG	50 PSIG	75 PSIG
7579S	1 3/4"	1 1/2"	2"	2 11/16"	44	62	98	139	170
6587EC*	2 1/4"	2"	2 7/8"	4 3/8"	92	130	206	291	356
3197C	3 1/4"	3"	4"	6 1/2"	148	210	332	470	575

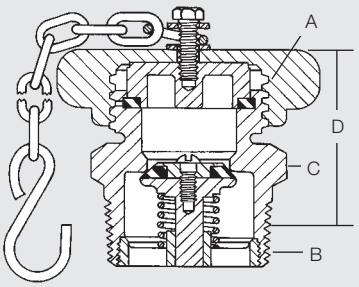
* Swing-away lower back check valve design for higher filling rates.
NOTE: Multiply flow rate by .94 to determine liquid butane capacity.

Single Check Filler Valves for Storage Tanks with Supplementary Back Check Valves

3174C, 3194C and 6584C



3174C



3194C, 6584C

Application

Designed for use with RegO® Back Check Valves to provide fast filling of bulk storage tanks. Also may be used as a spare or replacement part.

These single check filler valves must never be installed directly into container couplings. They must be used with the appropriate back check valve to comply with NFPA Pamphlet #58.

Features

- Specifically for use with RegO® Back Check Valves.
- 6584C stem assembly reduces turbulence during filling and promotes higher filling rates.
- Specify RegO® Filler Valves on all your original tank purchases to insure quality and dependable performance.

Materials

Upper Body ..... Brass
Lower Body ..... Brass
Spring ..... Stainless Steel
Seat Disc ..... Synthetic Rubber
Cap (3194C, 6584C) ..... Brass
Cap (3174C) ..... Plastic

Ordering Information

Part Number	A ACME Hose Connection	B Outlet Connection M. NPT	C Wrench Hex Flats	D Effective Length (Approx.)	Propane Liquid Capacity at Various Differential Pressures (GPM)				For Use With Back Check Valve:
					5 PSIG	10 PSIG	25 PSIG	50 PSIG	
3174C	1 3/4"	1 1/4"	1 3/4"	1 11/16"	23	33	52	74	3176
6584C*	2 1/4"	2"	2 3/8"	2 1/4"	156	220	348	492	A3186
3194C	3 1/4"	3"	3 1/2"	3 7/16"	147	208	329	465	A3196

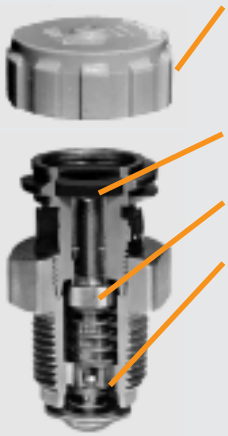
* Stem Assembly designed for higher filling rates.
NOTE: Multiply flow rate by .94 to determine liquid butane capacity.

Vapor Equalizing Valves

General Information

RegO® Vapor Equalizing Valves consist of an upper back check valve and lower excess flow valve. In the closed position, the attachment of a vapor hose coupling with its projecting nozzle, opens the back check valve to permit flow in either direction. The lower excess flow valve is designed to close automatically when flow out of the container being filled exceeds the rated capacity. The valve closes automatically when the coupling is removed. Like the double-check filler valves, the vapor equalizing valves utilize a two-piece body construction. The lower excess flow valve will permit some leakage when the upper back check valve is removed for emergency repairs or replacement.

RegO® Vapor Equalizing Valves are designed for use in both ASME and DOT containers.



Seal cap made of tough, resilient molded plastic. Protects threads and internal working parts. Caps are designed to contain normal tank pressures, and must be kept on valves at all times.

Long-wearing gasket permits hand-tight connection of cap and hose coupling.

Seat disc of special synthetic composition is extra thick for longer life.

Valve guide is precision machined to assure positive seal.

Spare Gasket Ordering Information

ACME	Part Number
1 1/4"	A2797-20R
1 3/4"	A2697-20R

F

Double Check Vapor Equalizing Valves for ASME and DOT Containers

7573 Series and 3183AC

Application

Designed to facilitate loading operations by providing equalization of pressures in the supply and storage containers. The supplementary excess flow valve closes when the flow from the container being filled exceeds a predetermined rate.

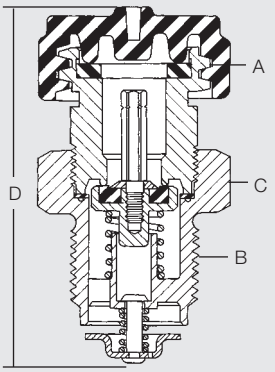
The 7573 Series is designed for use in bulk delivery systems and motor fuel containers. The 3183AC is designed for use in delivery trucks and other large containers.

Materials

Body ..... Brass
Spring ..... Stainless Steel
Upper Check Seat Disc ..... Synthetic Rubber
Seals ..... Synthetic Rubber
Cap ..... Plastic

Features

- Double check provides added system protection.
- Upper back check valve can be easily replaced without evacuating the container.



- Specify RegO® Vapor Equalizing Valves on all your original tank purchases to insure quality and dependable performance.

Ordering Information

Part Number		A ACME Hose Connection	B Tank Connection M. NPT	C Wrench Hex Flats	D Effective Length (Approx.)	Approximate Closing Flow at 100 PSIG Inlet Pressure (SCFH/Propane Vapor)
Basic	With Cap & Chain					
7573A	7573AC	1 1/4"	3/4"	1 1/4"	2 1/16"	4,100
—	3183AC	1 3/4"	1 1/4"	2"	3 1/16"	10,000

Single Check Vapor Equalizing Valves for ASME and DOT Containers with Supplementary Excess Flow Valves

3170 and 3180C

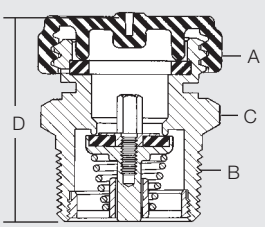
Application

Designed for use with RegO® Excess Flow Valves to facilitate loading operations by providing equalization of pressures in the supply and storage containers. Also may be used as a spare or replacement part.

These vapor equalizing valves must never be installed directly into container couplings. They must be used with the appropriate excess flow valve to comply with NFPA Pamphlet #58.

Materials

Body ..... Brass
Spring ..... Stainless Steel
Seat Disc ..... Synthetic Rubber
Seal ..... Synthetic Rubber
Cap ..... Plastic



Features

- Specifically for use with RegO® Excess Flow Valves.
- Specify RegO® Vapor Equalizing Valves on all your original tank purchases to insure quality and dependable performance.

Ordering Information

Part Number		A ACME Hose Connection	B Tank Connection M. NPT	C Wrench Hex Flats	D Effective Length (Approx.)	Approximate Closing Flow at 100 PSIG Inlet Pressure (SCFH/Propane Vapor)	For Use With Excess Flow Valve:
Basic	With Cap & Chain						
3170	—	1 1/4"	3/4"	1 1/4"	1 9/16"	7,600	3272E
—	3180C	1 3/4"	1 1/4"	1 3/4"	1 11/16"	10,000	3282A

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