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## NH<sub>3</sub> Regulators

Specifically designed for precise control of NH<sub>3</sub> pressures. Stainless steel stems and bushings, aluminum bodies and bonnets. Performance curves available from RegO.



Part #	When you Require				Vent Location	Capacity Determined at Set Pressure of PSIG**
	Capacity* (CFH NH <sub>3</sub> )	Recommended Delivery Pressure Range, PSIG	Adjustment Method	Inlet & Outlet Connections, FNPT		
AA1582MW	2,100	3-25	Tee Handle	1/4"	N/A	20
AA1582MK	2,100	3-25	Hex Head			20
AA1582ML	2,400	20-50	Tee Handle	1/2"	Over Outlet***	30
AA1582MH	2,600	45-125				60
AA1584VW	4,500	3-25				20
AA1584VL	4,800	20-50				30
AA1584VH	5,100	45-125		60		
AA1586VW	7,000	3-25		3/4"	20	
AA1586VL	7,700	20-50			30	
AA1586VH	8,900	45-125			60	



AA1580 Series

\*Capacities determined at actual delivery pressure 20% less than set pressure with inlet pressure 20 PSI higher than set pressure.

\*\*Set pressure is established with 100 psig inlet pressure setting flow 90 CFH/hr NH<sub>3</sub> for 1582 series; 180 CFH/hr NH<sub>3</sub> for 1584 and 1586 series.

\*\*\*Vent positions can be ordered over the inlet (VI), 3:00 (V3), or 9:00 (V9). Example: AA1584VLV9 = vent @ 9:00

## Quick Acting Shut-Off & Hose-End Valves

Especially designed for safety in operator handling. A7707L & A7708L come equipped with swivel locking handles that must be operator opened to start flow, and may be used with RegO filling connectors A7575L4 and A3175A.

Part #		Hose Connection	Outlet Connection	Stem Seal Type	Locking Handle	Body Material	Flow GPM NH <sub>3</sub> @ 1 PSI Pressure Drop*
Straight	Angle						
A7553A	-	1/4" F.NPT	1/4" F.NPT	O-Ring	No	Ductile Iron	1.8
A7707L**	A7708L**	1" F.NPT	1" F.NPT	TFE V-Ring	Yes	Ductile Iron	(A7707L) 16.2 (A7708L) 19.8



A7707L



A7708L

\*To obtain approximate flow at other than 1 PSI pressure drop, multiply flow in table by square root of pressure drop.

\*\*Built-in vent valve.

## Quick Acting Minimum Loss Hose-End Valves

Designed to vastly reduce the amount of product vented when disconnecting. Provides instant, full-on flow at the flip of the handle. Shut off is instant and the handle locks for added protection. For maximum comfort, safety and speed during operation, the contoured handle swivels 360°. Assures long, leak-free service by incorporating the spring-loaded V-ring seal design used for many years in RegO globe and angle valves. Minimizes product venting when disconnecting by housing the seat disc at the bottom of the built-in ACME filling connector.

Part #	Inlet Connection	Outlet Connection	Stem Seal Type	Locking Handle	Body Material	Flow GPM NH <sub>3</sub> @ 1 PSI Pressure Drop*
A7793A	3/4" F.NPT	1 3/4" F.ACME	TFE V-Ring	Yes	Ductile Iron	14.4
A7797A	1" F.NPT					



A7797A



\*To obtain approximate flow at other than 1 PSI pressure drop, multiply flow in table by square root of pressure drop.

## NH<sub>3</sub> Multipurpose Valves

RegO multipurpose valves for NH<sub>3</sub> filling and liquid withdrawal fulfil a variety of requirements. Their durable construction meets the stringent requirements of liquid transfer service. All have a stainless steel excess flow valve, ductile iron body, steel bonnet and hardened stainless steel stem.

The A8017DH is equipped with a soft seated automatic differential back pressure check valve in the seat disc assembly. This allows any pressure build up in the liquid transfer line in excess of 10-15 psig above the container pressure to flow back in to the container. The transfer hose is protected against excessive liquid or vapor pressure entrapment, which adds materially to the useful life of flexible hose. In addition to increasing hose service life, the equalizing valve adds substantially to the operating safety of liquid transfer systems.

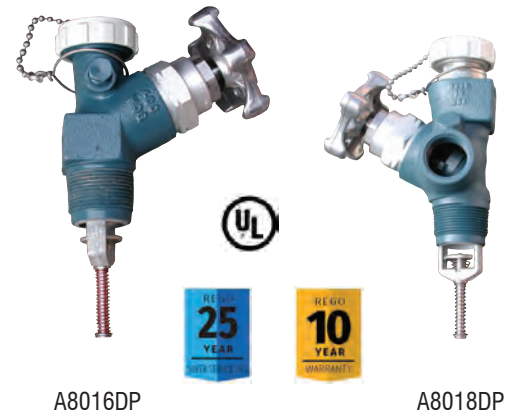
All valves are equipped with a 1/4" plugged opening for attachment of a hydrostatic relief valve or vent valve. All valves incorporate excess flow valves. All valves are UL listed for use with NH<sub>3</sub>.

Part #	Application	Tank Connection M.NPT	Outlet Connection F.NPT	Hose Connection M.ACME	Approximate Excess Flow Closing Flows	
					Liquid* GMP/NH <sub>3</sub>	Vapor** CFH/NH <sub>3</sub>
A8016DP	Filling	1 1/4"	-	1 3/4"	44	24,000
A8017DH***	Withdrawal		1"	-	40	-
A8017DP			-	50	-	
A8017DLP			3/4"	-	44	-
A8018DP	Filling/ Transfer		1"	1 3/4"	50	-

\*Determined at 9.5 to 12 PSIG differential

\*\*Determined at 100 PSIG differential

\*\*\*Automatic back pressure check valve built into shut-off valve, designed to relieve hydrostatic pressure back to tank, eliminating need for separate hydrostatic relief valve.



## External Hydrostatic Relief Valves

Designed especially for the protection of piping and shut-off valves where there is a possibility of trapping liquid LP-Gas or NH<sub>3</sub>. They may be installed in pipelines and hoses located between shut-off valves or in the side boss of RegO shut-off valves.

Part #	Start to Discharge Setting PSIG	Container Connection MNPT	Pipeaway*	Valve Body Material	
SS8001G	250	1/4"	-	Stainless Steel	
SS8002G		1/2"	-		
SS8021G		1/4"	1/4" NPSM Threads		
SS8022G		1/2"	3/8" NPT Threads		
SS8022P	300	1/2"	3/8" NPT Threads		
SS8001J		350	1/4"		-
SS8002J			1/2"		-
SS8021J			1/4"		1/4" NPSM Threads
SS8022J	1/2"		3/8" NPT Threads		
SS8001L	400	1/4"	-		
SS8002L		1/2"	-		
SS8021L		1/4"	1/4" NPSM Threads		
SS8022L		1/2"	3/8" NPT Threads		
SS8001U	450	1/4"	-		
SS8002U		1/2"	-		
SS8021U		1/4"	1/4" NPSM Threads		
SS8022U		1/2"	3/8" NPT Threads		



## Globe & Angle Valves

### “V”-Ring Seal Globe and Angle Valves for Bulk Storage Containers, Transports, Bobtails and Plant Piping

Specifically designed to assure positive shut-off and long, maintenance free 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.

Part #				Inlet and Outlet Size	Flow GPM NH <sub>3</sub> @1 PSI Pressure Drop*	
Buna N Seats		Teflon Seats**			Globe	Angle
Globe	Angle	Globe	Angle			
-	-	TA7034P	TA7034LP	1/2" F.NPT	9.0	13.3
A7505AP	A7506AP	TA7505AP	TA7506AP	3/4" F.NPT	10.8	15.9
A7507AP	A7508AP	TA7507AP	-	1" FNPT	16.0	19.8
A7509BP	A7510BP	TA7509BP	TA7510BP	1 1/4" FNPT	32.8	48.6
A7511AP	A7512AP	TA7511AP	TA7512AP	1 1/2" FNPT	38.7	50.0
A7511FP	-	TA7511FP	-	1 1/2" 300# ANSI R.F. Flange	41.4	-
A7513AP	A7514AP	TA7513AP	-	2" FNPT	67.5	79.7
A7513FP	A7514FP	TA7513FP	TA7614FP	2" 300# ANSI R.F. Flange	70.2	119.7
A7517AP	A7518AP	TA7517AP	-	3" FNPT	177.3	272.7
A7517FP	A7518FP	TA7517FP	-	3" 300# ANSI R.F. Flange	177.3	272.7

\*To obtain approximate flow at other than 1 PSI pressure drop, multiply flow in table by square root of pressure drop.

\*\*Teflon seat on valves built to order.



### Flange Seal Globe and Angle Valves for Bulk Storage Containers, Filling Hoses and Plant Piping

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.

Part #		Inlet & Outlet Connection	Flow GPM NH <sub>3</sub> @ 1 PSIG Pressure Drop*	
Globe	Angle		Globe	Angle
A7704P	A7704LP	1/2" FNPT	6.6	11.1
A7705P	A7706P	3/4" FNPT	10.4	15.9

\* To obtain approximate flow at other than 1 PSIG pressure drop, multiply flow in table by square root of pressure drop.



### Flange Seal Liquid Transfer Angle Valves for Bulk Storage Containers

In NH<sub>3</sub> applicator tanks, may be used as a vapor bleeder valve or as a liquid withdrawal valve when installed in a coupling with a dip pipe. These liquid transfer valves are equipped with an integral excess flow valve for liquid transfer directly from the tank fitting, or without an integral excess flow for LP-Gas transfer through a Check-Lok®.

When equipped with an integral excess flow valve (7550PX), the valve should be mounted in a forged steel 3000 lb. half coupling. When mounted in a 1 1/4" x 3/4" NPT reducing coupling, the 3/4" female thread in this coupling must be full length - equivalent to a forged steel 3000 lb. half coupling. The excess flow valve will not function properly if these specifications are not met.

Part #	Inlet Connection	Outlet Connection	Integral Excess Flow	Flow GPM NH <sub>3</sub> @ 1PSIG Pressure Drop*	Excess Flow Approximate Closing Flow
A7550P	3/4" FNPT	3/4" FNPT	No	12.0	-
A7550PX			Yes	-	14.4
A7551P		1/2" FNPT	No	8.0	-

\* To obtain approximate flow at other than 1 PSIG pressure drop, multiply flow in table by square root of pressure drop.



## Pull-Away Valves for Transfer Operations

Designed especially to provide pull-away protection for LP-Gas and anhydrous ammonia transfer operations including transport and delivery truck loading and unloading, engine fuel container filling and miscellaneous cylinder filling operations. When properly fastened to the inlet end of the discharge hose, the valve is designed to stop gas escape from both upstream and downstream lines in the event of a pull-away. An excessive tension pull causes the valve to automatically separate, closing two internal back pressure checks. Only a few cubic centimeters of gas escape at the instant of separation.

Part #	Inlet & Outlet Connection	Flow Capacity GPM NH <sub>3</sub> @ Various Differential Pressures			
		5 PSIG	10 PSIG	25 PSIG	50 PSIG
A2141A6	3/4" FNPT	9.9	14.4	22.5	32.4
A2141A8	1" FNPT	18.9	27.0	42.3	60.3
A2141A10	1 1/4" FNPT	46.8	67.5	108	153
A2141A16	2" FNPT	225	306	450	585



## Combination Valve for Bulk Storage Containers

Designed for installation on bulk storage containers, this valve combines a pressure gauge mounting and provision for a fixed tube liquid level gauge. The shut-off valve prevents the pressure gauge from being subjected to constant pressure, thereby prolonging its life and accuracy. The valve may be closed, and the vent valve opened to vent pressure from the gauge to permit replacement. For fixed liquid level gauging, the valve can be mounted at the maximum permitted filling level. When equipped with a dip tube threaded 1/8" M.NPT, it can be installed at any convenient level.

Part #	Container Connection	Service Connection	Liquid Level Vent
A2805C	3/4" MNPT	1/4" FNPT for Gauge Mounting	Knurled*

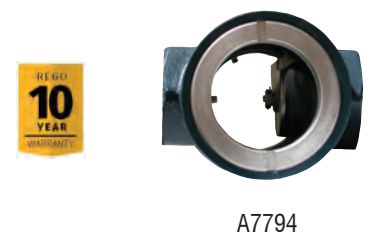
\* Has a 1/8" FNPT opening for installing separate dip tube.



## Sight Flow Indicators for Bulk Plants

Designed to promote maximum pump efficiency, these indicators enable bulk plant operators to visually inspect liquid flow conditions. With glass on both sides of the indicator, flow can be observed from either side, even under some poor light conditions. The integral swing check also serves as a back-check valve to prevent reverse flow and product loss if the hose fails in a loading operation.

Part #	Inlet & Outlet Connection	Length
A7794	2" FNPT	5 3/4"
A7796	3" FNPT	7 3/8"



## Vent Valves

Especially designed to bleed off liquid or vapor pressures trapped in transfer lines. When installed in the down-stream boss of RegO® globe and angle valves used at the end of a liquid transfer hose, the bleeder valve allows for the controlled venting of the product and indicates to the operator that the valves are closed and he can disconnect the coupling. They may also be used as a fixed liquid level gauge where the dip tube is part of the container.

Part #	Connection	Actuation
TSS3169	1/4" MNPT	Tee Handle



## Flomatic® Internal Valves for Bobtail Delivery Trucks, Transports and Large Stationary Storage Tanks

Designed primarily for LP-Gas and NH<sub>3</sub> liquid withdrawal on MC331 bobtail delivery trucks, transports and large stationary storage containers with flanged connections. The valve is fully automatic, opening and closing as the pump is turned on or off.

Part #	Inlet Connection ANSI Flange	Outlet Connection ANSI Flange
A7883FK	3"-300#*	3"-300#

\* With 4 13/16" diameter bore



A7883FK

## 3" Flanged Internal Valves for Bobtail Delivery Trucks, Transports and Large Stationary Storage Containers

Designed primarily for LP-Gas and anhydrous ammonia filling and/or withdrawal on MC331 bobtail delivery trucks, transports and stationary storage tanks with flanged pumps or piping. Installation is quick and easy, and the valve may be operated manually by cable or pneumatically. Lever available on right or left side to allow for installation without the use of an extra pulley.

Part #		Operating Lever Position	Inlet Connection	Outlet Connection	Closing Flow GPM NH <sub>3</sub>
Lever on Right	Lever on Left				
<b>Single Flange</b>					
A3217AR160	A3217AL160	A3217AR Lever on Right	3" 300# ANSI RF Modified Flange*	3" 300# ANSI RF Flange	145
A3217AR210	A3217AL210				190
A3217AR260	A3217AL260				236
A3217AR410	A3217AL410	A3217AL Lever on Left			372
A3217AR510	A3217AL510				459
<b>Double Flange</b>					
A3217DAR160	A3217DAL160	A3217DAR Lever on Right	3" 300# ANSI RF Modified Flange*	3" 300# ANSI RF Flange	145
A3217DAR210	A3217DAL210				190
A3217DAR260	A3217DAL260				236
A3217DAR410	A3217DAL410	A3217DAL Lever on Left			372
A3217DAR510	A3217DAL510				459

Furnished with mounting studs and nuts

\*Modified bore=4 5/8" diameter with 5 3/4" diameter raised face.



## 4" Flanged Internal Valve for Transports and Large Stationary Storage Tanks

Designed primarily for LP-Gas and anhydrous ammonia service on MC331 transport pressure vessels and large stationary storage tanks. Installation is quick and easy, and it fits in most existing tank flanges. The valve may be actuated manually or pneumatically.

Use of the A3219RT Remote Thermal Release with this valve is suggested to provide a remote means of mechanical closure along with thermal protection, as required by DOT.

Part # *	Inlet Connection	Outlet Connection	Closing Flow GPM NH <sub>3</sub>
A3219FA400L	4" 300# ANSI RF Modified Flange**	4" 300# ANSI RF Flange	360
A3219FA600L			540

\* Valve supplied with 16 nuts and 8 studs for mounting.

\*\* Modified bore = 5 7/8" diameter with 7" diameter raised face





## 2" Internal Valves For Delivery Trucks, Transports and Stationary Storage Tanks

Designed primarily for use with anhydrous ammonia for liquid withdrawal; vapor transfer or vapor equalization of delivery trucks, transports, stationary storage tanks, and in-line installations. The valve may be operated manually by cable or pneumatically.

Part #	Inlet Connection MNPT	Outlet Connection FNPT	Closing Flow GPM	
			Half Coupling	Full Coupling
A3212R105	2"	2"	95	59
A3212RT105		T-body		
A3212R175		2"	158	90
A3212RT175		T-body		
A3212R250		2"	225	117
A3212RT250		T-body		



A3212R Series

## 3" Internal Valves For Delivery Trucks, Transports and Stationary Storage Tanks

Designed primarily for use with anhydrous ammonia for liquid withdrawal; vapor transfer or vapor equalization of delivery trucks, transports, stationary storage tanks, and in-line installations. The valve may be operated manually by cable or pneumatically.

Part #	Inlet Connection M-NPT	Outlet Connections F-NPT	Closing Flow Half Coupling (GPM) NH <sub>3</sub>	Closing Flow Full Coupling (GPM) NH <sub>3</sub>	Accessories	
					Pneumatic Actuator	Thermal Latch
A3213D150	3"	3"	135	113	A3213PA	A3213TL
A3213D200			180	144		
A3213D300			270	225		
A3213D400			360	293		
A3213DT150			135	113		
A3213DT200			180	144		
A3213DT300			250	225		
A3213DT400			325	293		



## 1 1/4" Threaded Internal Valve for Small Capacity Pumping Systems and Bobtail Vapor Equalization

Designed primarily for use with LP-Gas and anhydrous ammonia as a main valve on small capacity pumping systems, NH<sub>3</sub> nurse tanks and in-line installations. It may also be installed in the vapor equalizing opening on bobtail delivery trucks. Installation is quick and easy, and it fits in both full and half couplings, as well as, in-line applications. The valve may be actuated manually by hand or cable.

Part #	Inlet Connection MNPT	Outlet Connection FNPT	Closing Flow NH <sub>3</sub>	NH <sub>3</sub> Vapor Capacity	
				25 PSIG	100 PSIG
A3209D050	1 1/4"	1 1/4"	45	11,970	20,610
A3209D080			72	14,130	24,030
A3209DT050			45	11,970	20,610
A3209DT080			72	14,130	24,030



## Swing-Check Emergency Shut-Off Valves for Bulk Plants

Designed for installation in liquid or vapor transfer lines at LP-Gas or NH<sub>3</sub> bulk plants to provide for quick shut-off of liquid or vapor flow in the event of an accidental pull-away, line break, or hose rupture.

Part #	Inlet & Outlet Connections FNPT	Liquid Flow Capacity GPM @ 10 PSIG Pressure Drop
AA6010	1 1/4"	233
AA6016	2"	640
AA6024	3"	1173



## 6016RA Rotary Actuator Kit

Features: Easy installation • Compact design • Factory preset for open/close operation no field adjustment required • Long operating life • Open/Close indicator • Operates on compressed air or nitrogen • Operating pressure range 25-125 PSIG • Thermal fuse included • One kit fits all three sizes

Part #	For Use On
6016RA	AA6010 AA6016 AA6024



6016RA Rotary Actuator Kit shown with 6024 ESV

## 1" Rotogages® for Large Mobile and Stationary Containers

Rotogages® are designed to provide an accurate determination of LP-Gas or NH<sub>3</sub> container contents. They mount in a standard 1" NPT coupling on large mobile or stationary containers. To operate the Rotogages®, the vent valve is opened and the dip tube rotated slowly from the container vapor space to the liquid space. The difference in appearance of the discharge indicates when the liquid level is reached. Dial readings then indicate the percentage of product in the container.

Part #		For Container Inside Diameter			
For Mobile or Stationary Containers	For Stationary Containers Only	Ellipsoidal Heads		Hemispherical Heads	
		Side Mounted	End Mounted	Side Mounted	End Mounted
A9091R	-	30"-45"	30"-75"	30"-45"	30"-45"
A9091-M24	-				
A9092R	-	46"-61"	76"-108"	46"-61"	46"-61"
A9091-M36	-				
A9093TS	A9093RS	62"-79"	109"-147"	62"-79"	62"-79"
A9091-M48*	A9091-M48				
A9094TS	A9094RS	80"-99"	-	80"-99"	80"-99"
A9091-M60*	A9091-M60				
A9095TS	A9095RS	100"-147"	-	100"-147"	100"-147"
A9091-M72*	A9091-M72				

\* Supported design. NOTE: The dip tube must be cut to the required length (1/2 of container inside diameter minus 5 3/4")



Rotogage Assembly



Rotogage Dial  
Part #A9091-18N

## Pressure Relief Valves

### Inspection, Testing and Replacement of Relief Valves

All relief valves should be inspected regularly for contamination and corrosion. If any debris in the valve cannot be totally and safely removed or if there is any evidence of contamination, the valve must be replaced. Always wear eye protection and never look directly into a relief valve under pressure while inspecting

### Protective Caps

All relief valves must be protected by properly fitting protective caps. Ice, mud, debris and contamination can prevent the valve from opening and/or prevent it from resealing properly.

### Fully Internal "Pop-Action" Pressure Relief Valves

Designed specifically for use as a primary relief valve in ASME transports and delivery trucks with 2" and 3" NPT couplings. All functioning parts are located below the level of the container connection to reduce the possibility of damage or tampering. Valve stems are made of stainless steel to reduce corrosion hazard.

Part #	Start to Discharge Setting PSIG	Container Connection	Flow Capacity SCFM Air @ 120% of Set Pressure		Protective Cap (included)
			UL	ASME	
A8434N	265	2" M.NPT	3,700	3659	A8434-11B
A8434G	250			3456	
A8436N	265	3" M.NPT	10,210	9839	A8436-11B
A8436G	250			9598	



A8434 Series

### External Relief Valves

Primarily for use on stationary storage tanks. Provide maximum safety with minimum product loss. The functioning components are located outside the container connection and require protection against damage. Weep hole deflector included in A3149 series.

Part #	Start to Discharge Setting PSIG	Container Connection M.NPT	Flow Capacity SCFM Air*		Accessories		
			UL	ASME	Pipeaway Adapter		Protective Cap
					Part #	Outlet - NPT	
AA3126L030	30	1/2"	****	-	AA3126-10	1/2" Male	7545-40
AA3126L250	250		277**	-			
AA3130UA250		3/4"	2,045	1,838	AA3131-10	1" Female	AA3130-40P
AA3135UA250		1 1/4"	6,430	6,341	AA3135-10	2" Female	AA3135-40PR
A3149G		2 1/2"	10,390	9,153	***	***	3149-40
AA3130UA265	265	3/4"	2,125	1,912	AA3131-10	1" Female	AA3130-40P
AA3135UA265		1 1/4"	6,615	6,703	AA3135-10	2" Female	AA3135-40PR
AA3126L312	312	1/2"	330**	-	AA3126-10	1/2" Male	7545-40
AA3126L350	350		388**	-			



A3149G

\*Flow rates shown are for relief valves only. Adapters and pipeaways will reduce flow rates.

\*\*Not rated by UL or ASME. RegO rated @ 120% of set pressure.

\*\*\*Outlet 3 1/2-8N(F) thread, will accept pipe thread 3" M.NPT.

\*\*\*\*Not UL or ASME rated. .059 square inch effective area.

## Industrial Refrigeration Relief Valves

RegO Anhydrous Ammonia Pressure Relief Valves are designed for use on ASME pressure vessels for industrial refrigeration systems. These include high pressure receivers., pump receivers, oil separators, heat exchangers, condensers and liquid subcoolers and other ASME vessels. The pop-action design permits the pressure relief valves to open slightly to relieve moderately excessive pressures, and “pop” open to full discharge capacity when pressure increases beyond a predetermined point. Use Series AA3130 and AA3135 with the RegO Duoport Manifold for valve replacement during operation.

Valve Part #	Set Pressure PSIG	Size M.NPT	ASME Flow Capacity @ 110% of Set Pressure		Pipeaway Adapter**		Protective Cap #
			Lbs/Min Air	SCFM Air	Outlet Size F.NPT	Pipeaway #	
AA3130A150P	150	3/4"	77	1,021	1"	AA3131-10	AA3131-40
*AA3135A150P		1 1/4"	223	2,969	2"	AA3135-10	AA3135-40
*AA3130A250P	250	3/4"	128	1,706	1"	AA3131-10	AA3131-40
AA3135A250P		1 1/4"	381	5,080	2"	AA3135-10	AA3135-40
AA3130A300P	300	3/4"	136	1,805	1"	AA3131-10	AA3131-40
*AA3135A300P		1 1/4"	431	5,733	2"	AA3135-10	AA3135-40



AA3135 Series

\*ASME rated and approved by the National Board of Boiler and Pressure Vessel Inspectors.

\*\*Outlet piping must not restrict pressure relief valve flow and must not cause excessive stress in the relief valve and/or pipeaway adapter.

## Pressure Relief Valve Manifolds

### Duoport and Multiport

The duoport and multiport are designed for installation in NH<sub>3</sub> storage tanks. They offer continuous, uninterrupted service and provide greater safety. One relief valve may be removed and inspected at a time without the need to evacuate the container.

Manifold Part #	Start to Discharge Setting PSIG	Container Connection	Relief Valves Included			Flow Capacity SCFM Air @ 120% of set pressure**	
			Quantity	Valve Part #	Inlet M.NPT	UL	ASME
AA8542UA250	250	2" M.NPT	2	AA3135MUA250	1 1/4"	(1) 6,430	(1) 6,341
A8563G		3"-300#*	3	A3149MG	2 1/2"	(2) 18,500	-
A8564G			4			(3) 27,750	-
AA8573G		4"-300#	3	AA3135MUA250	1 1/4"	(2) 11,400	-
A8573G					A3149G	2 1/2"	(2) 18,500
A8574G				4		(3) 27,750	-
AA8542UA265	265	2" M.NPT	2	AA3135MUA265	1 1/4"	(1) 6,615	(1) 6,703

\*For use with modified 300# ANSI Flange with 4" port.

\*\*Flow capacity based on flow from number of relief valves indicated in parentheses ( ).

Flow rates shown are for relief valves only. Adapters and pipeaways will reduce flow rates.



AA8542 Series



A8574 Series

## Pressure Gauges

Part #	Maximum Pressure	Size	Increment Divisions	Case Material
A8060	60 psig	2 1/2"	5 lb.	Steel
A8150	150 psig			
A8400	400 psig			

Stainless steel movements. Designed for trouble-free operation in all NH<sub>3</sub> applications when used to measure vapor pressure. All have a 1/4" M.NPT bottom mount connection.



## Excess Flow Valves

### Excess Flow Valves for Liquid or Vapor Withdrawal

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.

Part #	Inlet Connection MNPT	Outlet Connection NPT	Approximate Closing Flow*		
			Liquid GPM NH3	Vapor SCFH NH3	
				25 PSIG Inlet	100 PISG Inlet
A8013D	1 1/4"	3/4"	35	7,830	13,230
A8013DA		1"			
A8013DB		1 1/4"	50	9,810	17,370

\*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.



A8013D Series

### Excess Flow Valves for Vapor or Liquid

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.

Part #	Inlet Connection NPT	Outlet Connection NPT	Approximate Closing Flow**		
			Liquid GPM NH3	Vapor SCFH NH3	
				25 PSIG Inlet	100 PISG Inlet
A2137	2"*	2" Male and 1 1/4" Female	45	9,000	15,300
A2137A			63	12,600	22,500

\* 1 1/4" FNPT 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.



A2137

### Excess Flow Valves for Flange Mounting in Container Service

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 are 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.

Part #	Inlet Connection NPT	For Installation	Approximate Closing Flow*		
			Liquid GPM NH3	Vapor SCFH NH3	
				25 PSIG Inlet	100 PISG Inlet
A3500L4	2"	Slotted Body	68	11,700	20,250
A3500N4			113	22,500	38,250
A3500P4			135	27,450	46,800
A3500R6	3"		135	28,890	49,950
A3500T6			180	35,460	61,470
A3500V6			225	45,990	79,830
A4500Y8			4"	450	80,100

\*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.



A3500 / A4500 Series

## Excess Flow Valves (cont'd)

### Excess Flow Valves for Container Service

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.

Part #	For Use With This Type Coupling	Inlet Connection MNPT	Outlet Connection NPT	Approximate Closing Flow*		
				Liquid GPM NH3	Vapor SCFH NH3	
					25 PSIG Inlet	100 PSIG Inlet
A8523	Half	3/4"	3/4" Male	14	4,653	7,920
A8525	Half	1 1/4"	1 1/4" Male	32	11,286	19,404
A7537L4	Half	2"	2" Male and 1 1/4" Female	68	11,700	23,040
A7537L4F	Full					
A7537N4	Half					
A7537N4F	Full					
A7537P4	Half					
A7537P4F	Full					
A7539R6	Half	3"	3" Male and 2" Female	135	28,890	49,950
A7539R6F	Full					
A7539T6	Half					
A7539T6F	Full					
A7539V6	Half					
A7539V6F	Full					

\*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.

### Excess Flow Valves for Liquid or Vapor Line Service

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.

Part #	Inlet Connection NPT	Outlet Connection FNPT	Approximate Closing Flows*		
			Liquid GPM NH3	Vapor SCFH NH3	
				25 PSIG Inlet	100 PSIG Inlet
A1519A2	1"	1"	23	4,500	7,920
A1519A4	2"	2"	90	17,100	31,050
A1519B4			120	24,930	45,270
A1519A6	3"	3"	203	40,500	73,800

\*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.

### Excess Flow Valves for Liquid or Vapor

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.

Part #	Inlet Connection MNPT	Outlet Connection FNPT	Approximate Closing Flows*		
			Liquid GPM NH3	Vapor SCFH NH3	
				25 PSIG Inlet	100 PSIG Inlet
A3272G	3/4"	3/4"	18	3,300	6,210
A3282C	1 1/4"	1 1/4"	45	8,100	14,670
A3292A	2"	2"	68	12,780	23,320
A3292B			90	16,290	29,430
A3292C			110	19,890	33,840

\*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.



A7537N4



A1519A6



## Back Pressure Check Valves for Container or Line Applications

RegO Back Pressure Check Valves are designed to allow flow in one direction only. The check, normally held in the closed position by a spring, precludes the possibility of flow out of the container. When flow starts into the container, the pressure overcomes the force of the spring to open the check. When the flow stops or reverses, the check closes. Metal-to-metal seats will allow slight leakage after closure. These valves will restrict the escape of container contents in the event of accidental breakage of the piping or fittings.

Designed to provide protection of a container opening when desired flow is always into the vessel. May be used in line applications where flow must be limited to one direction. When used with the appropriate single check filler valve, the combination forms a double check filler valve suitable for use in filling of bulk storage tanks.

Part #	Inlet Connection FNPT	Outlet Connection MNPT	NH <sub>3</sub> Liquid Capacity GPM at Various Differential Pressures			
			5 PSIG	10 PSIG	25 PSIG	50 PSIG
A3146	3/4"	3/4"	10	14	23	32
A3176	1 1/4"	1 1/4"	25	36	57	80
A3276BC*			29	41	66	93
A3186	2"	2"	112	158	248	352
A3187S*	2" M & 1 1/4" F	2" M & 1 1/4" F	54	99	203	315
A3196	3"	3"	267	378	598	845

\*Soft seat version



A3276BC



A3187S



## Back Pressure Check Valves for Flanged Installation

Designed to provide high flow capacity and allow more efficient tank filling than conventional designs. The unobstructed throat area reduces flow turbulence through the valve, thereby reducing pressure drop. Large flow channels and spacious side ports assure ample capacity for the most demanding high capacity filling operations. The valve is designed for installation in internally threaded flanges in container bottoms.

Part #	Flange Connection MNPT	NH <sub>3</sub> Liquid Capacity GPM at Various Differential Pressures			
		5 PSIG	10 PSIG	25 PSIG	50 PSIG
A3400L4	2"	201	284	450	636
A3400L6	3"	382	540	854	1,208



A3400L6

## Extended Type Hose Couplings for Vapor and Liquid Service

Designed especially for liquid filling and vapor equalization of LP-Gas and anhydrous ammonia. The limited travel of the handle on the tailpiece minimizes spin-off, encouraging cautious removal to properly bleed off trapped product to assure closure of the filler valve and hose end valve. The ACME threads are machined on a rugged steel insert which is permanently cast in the aluminum handle, providing for durability under repeated use.

Part #	Type of Service	Hose Connection MNPT	Coupling Connection F. ACME	Approximate Length
A7575L2*	Liquid	1/2"	1 3/4"	7"
A7575L3		3/4"		
A7575L4		1"		
A7575L5**		1 1/4"		
A7571LA	Vapor	1/2"	1 1/4"	
A7571LB		3/4"		

\* Includes 7199-33 adapter, shipped loose.

\*\* Includes A7575L5-1 adapter, shipped loose.



A7575 Series

## Short Type Hose Couplings for Vapor and Liquid Service

Part #	Hose Connection MNPT	Coupling Connection F. ACME	Overall Length
A3175	3/4"	1 3/4"	2 7/8"
A3175A	1"		
A3185	1 1/4"	2 1/4"	3 1/8"
A3195	2"	3 1/4"	3 5/8"



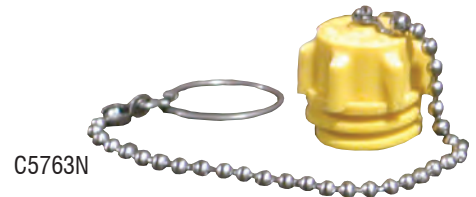
A3185

## ACME Plugs

Specifically designed to withstand the everyday abuse given hose end valves on delivery trucks and hose end couplings on risers in bulk plants. These rugged plugs protect the coupling tip as well as prevent the entrance of dirt, dust, snow and rain. They also prevent possible gas contamination from these same sources. The heavily ribbed outer surface permits hand-tight make-up.

These plugs are available in a choice of four sizes which may be used with liquid as well as vapor type couplings. As a convenience, the nylon plugs have a retaining chain and ring to prevent loss during a transfer operation.

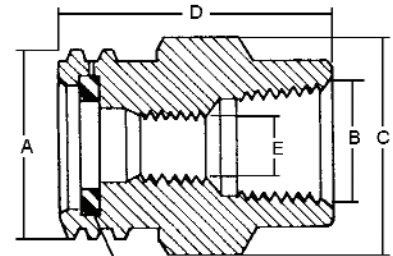
Part #	M. ACME	Chain & Ring Fits Pipe Size Up To
C5763N	1 1/4"	3/4"
C5765N	1 3/4"	1 1/4"
C5767N	2 1/4"	
C5769N	3 1/4"	2"



## ACME Adapters

### ACME x Female NPT

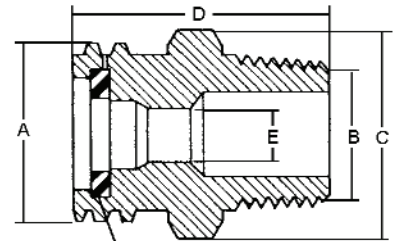
Part #	M. ACME	FNPT
A5764D	1 3/4"	3/4"
A5764E		1"
A5764H	3 1/4"	2"



Gasket (Furnished with adapter)  
ACME x Female NPT

### ACME x Male NPT

Part #	M. ACME	MNPT
A5765C	1 3/4"	1/2"
A5765D		3/4"
A5765E		1"
A5765F		1 1/4"
A5767F	2 1/4"	1 1/4"
A5769H	3 1/4"	2"
A5769K		3"



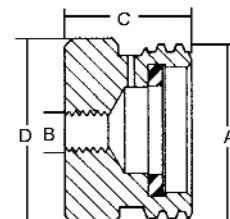
Gasket (Furnished with adapter)

### ACME x Miscellaneous

Recommended for securing hose-end valve when not in use.

Part #	M. ACME	FNPT
A5764W	1 3/4"	3/8"*

\*3/8" -16 UNC Thread



## Caps and Reducers

Cap With Chain & Ring		Cap Only Part #	Material	Thread Connection
Part #	Ring Fits Pipe Size Up To			
A8016-93	1 1/4"	A8016-9P	Nylon	1 3/4" F. ACME
A3184-90	2"	-	Steel	2 1/4" F. ACME
A3194-90	3"			3 1/4" F. ACME
-	-	A5776*		

\*Reduces to 1 3/4" M. ACME





## NH<sub>3</sub> Hose Swivels



### SMAC Series

Hose Reel, Bulk Head, Loading Arm Applications Designed specifically for liquefied gas service. They minimize hose fighting and simplify tank connections. Full bore design eliminates flow restrictions at high delivery rates. Mechanical seal contains no rotating lip seal or o-rings to wear out. Sealed radial contact ball bearings (rated at 6000 lbs) ease rotation and reduce misalignment problems. No lubrication, greasing, adjustment or periodic maintenance is required. All seal components are easily replaceable in the field.



### 90° Swivels



### Straight-Through Swivels



### JO Series

Allows Hose-End Filler Valve to Rotate 360° - Female x Male

Part #	Description
AA-JO-34LN	Hose-end, 3/4" Female x 3/4" Male
AA-JO-1LN	Hose-end, 1" Female x 1" Male

### Swivels with Same Size Thread for Inlet & Outlet (All Female)

Part #	Description
AA-SMAC-3490N	90°, 3/4" x 3/4"
AA-SMAC-190N	90°, 1" x 1"
AA-SMAC-114N	90°, 1 1/4" x 1 1/4"
AA-SMAC-112N	90°, 1 1/2" x 1 1/2"
AA-SMAC-200N	90°, 2" x 2"
AA-SMAC-34STN	Straight-through, 3/4" x 3/4"
AA-SMAC-1STN	Straight-through, 1" x 1"
AA-SMAC-114STN	Straight-through, 1 1/4" x 1 1/4"
AA-SMAC-112STN	Straight-through, 1 1/2" x 1 1/2"
AA-SMAC-200STN	Straight-through, 2" x 2"

### Swivels with Combination Threads (Inlet x Outlet) Rotating End is Outlet

Part #	Description
AA-SMAC-34-190N	90°, 3/4" x 1"
AA-SMAC-190340N	90°, 1" x 3/4"
AA-SMAC-34114N	90°, 3/4" x 1 1/4"
AA-SMAC-114340N	90°, 1 1/4" x 3/4"
AA-SMAC-190114N	90°, 1" x 1 1/4"
AA-SMAC-114190N	90°, 1 1/4" x 1"
AA-SMAC-112200N	90°, 1 1/2" x 2"
AA-SMAC-200112N	90°, 2" x 1 1/2"
AA-SMAC-341STN	Straight-through, 3/4" x 1"
AA-SMAC-1340STN	Straight-through, 1" x 3/4"
AA-SMAC-34114STN	Straight-through, 3/4" x 1 1/4"
AA-SMAC-114340STN	Straight-through, 1 1/4" x 3/4"
AA-SMAC-1114STN	Straight-through, 1" x 1 1/4"
AA-SMAC-1141STN	Straight-through, 1 1/4" x 1"
AA-SMAC-112200STN	Straight-through, 1 1/2" x 2"
AA-SMAC-200112STN	Straight-through, 2" x 1 1/2"



## Magnetic Liquid-Level Gauges for NH<sub>3</sub> Service

Temperature Range: Standard range is -40°F to 158°F

Accuracy: Dependent on proper sizing of gauge and tank configuration. When equipped with a Junior dial, overall accuracy is +/- 5%. With a Senior dial, +/- 3%

Shock & Vibration: Suitable for mobile service applications

Maximum Pressure: 375 psi

### Junior Models

These Junior gauges are supplied as standard with a direct-reading percentage dial, a Neoprene gasket and four (4) zinc-plated steel head screws (1/4" - 28 x 7/8" long) for attachment to a flange with a 2 1/32" bolt circle.

Model #	Application
A6281	Top mounting. Includes standard magnet to drive direct-reading dials
A6284	Side, end or angle mounting. (Otherwise, same as A6281)

### Senior Models

These Senior gauges are supplied as standard with a Neoprene gasket and four (4) zinc-plated steel head screws (5/16" - 24 x 7/8") for attachment to a flange with a 2 1/2" bolt circle.

Model A6260 Senior gauges are equipped with side-reading percentage dials. Models A6280 and A6283 Senior gauges are equipped with direct-reading percentage dials.

Model #	Application
A6260	Top mounting, side-reading dial
A6280	Top mounting, direct-reading
A6283	Side, end or angle mounting. (Otherwise, same as A6280)

## The Eliminator Rotogauge Replacement for NH<sub>3</sub> Service

The Eliminator direct-reading float gauge is a direct replacement for 1" NPT rotary-type dip-tube gauges in LPG and NH<sub>3</sub> storage tanks. These gauges are designed for larger tanks up to 84" in diameter. The Eliminator™ is not intended for use in filling tanks - its use is restricted to tanks with fixed liquid level gauges, used to determine when the maximum fill level has been reached. It can be used in mobile applications up to 60" in diameter.

Model #	Application	Fits Tank Size I.D.
A6293-R4400	Stationary/Mobile	Up through 44"
A6293-R6000	Stationary/Mobile	44.1" through 60"
A6293-R7200	Stationary	60.1" through 72"
A6293-R8400	Stationary	72.1" through 84"



A6200 Series



## Magnetel™ Liquid-Level Gauges for NH<sub>3</sub> Service

A6300 Series Magnetel™ liquid-level gauges are designed to accurately determine the percentage of total tank volume in stationary-storage applications. Designed for working pressures ranging from atmospheric to 450 [31 Bar] psig. Large, easy to read dials are also easy to remove and replace. Available in four basic models. Many different optional features are available to meet your specific needs.

Model #	Application
A6336	Incorporates 4" dial, designed for top mounting
A6360	Incorporates 8" dial, designed for top mounting
A6339	Incorporates 4" dial, designed for side, end or angle mounting
A6342	Incorporates 8" dial, designed for side, end or angle mounting



A6300 Series

## Magnetel™ Rough Rider™ Liquid-Level Gauges for NH<sub>3</sub>

The A6300M Series Magnetel™ Rough Rider™ gauges are designed to withstand the vibration and shock inherent in mobile service. Their service life in over-the-road and off-road transports is unsurpassed. These gauges allow a continuous reading between 5% and 95% of tank contents.

Equipped with an exclusive spring controlled shock absorber on the float arm which substantially reduces the stress that quickly destroys conventional gauges. Angle mounting gauges are also available.

Model #	Application
A6336M	Mobile - Incorporates 4" dial, designed for top mounting
A6360M	Mobile - Incorporates 8" dial, designed for top mounting
A6339M	Mobile - Incorporates 4" dial, designed for end or side mounting
A6342M	Mobile - Incorporates 8" dial, designed for end or side mounting



A6300M Series

## Magnetic Liquid-Level Gauges for NH<sub>3</sub> with Chemical Additives

The A6400 magnetic liquid-level gauge is especially designed for use in NH<sub>3</sub> with chemical additives. Gauges are available for all tanks and any mounting position. These gauges are built to the highest standards of manufacturing and are thoroughly field tested. The magnetic construction permits the complete sealing off of the inside liquid from the outside gauge head and dial.

Rochester's rugged gear drive is standard with shrouded stainless steel beveled gears especially designed to shed and work out any loose particles which might affect action. From the hermetically sealed dial to the one-piece head, body and fusion welded float, each gauge is especially suitable for additive application and will provide long trouble-free service in even the most severe use. Mounting may be accomplished in all desired positions where circumstances permit.



A6400 Series



### Anhydrous Ammonia Pump Specs

- Temp Range: -25°F to +100°F (-32°C to +38°C)
- Maximum Allowable Working Pressure: 400 psi (28 bar)
- Maximum Differential Pressure: 75 psi (5 bar)

Item #	Flow Rate* Varies according to rpm	Pump Inlet Size	Pump Outlet Size	Motor
<b>Small Capacity Pumps</b>				
SQ-1	2.5 - 5 gpm	3/4" or 1"	3/4" or 1"	.25 - .5 HP
SQ-H	3.5 - 7 gpm			.25 - 1 HP
SQ-HH	6 - 13 gpm			.5 - 1.5 HP
SQ-HH8	10 - 13 gpm			
MC-1	2.5 - 5 gpm	3/4"	3/4"	.25 - 1 HP
GC-1	2.5 - 5 gpm			
<b>Medium Capacity Pumps</b>				
MC-1044	10 - 20 gpm	1 1/2"	1 1/2"	1.5 - 2 HP
MC-1044H	18 - 35 gpm			2 - 3 HP
MC-2	25 - 50 gpm	2 1/2"	2 1/2"	3 - 5 HP
MC-2H	25 - 50 GPM			
<b>Large Capacity Pumps</b>				
MC-3	50 - 100 gpm	2 1/2"	2 1/2"	5 - 7 1/2 HP
MC-3H	50 - 100 gpm			
MC-4	75 - 150 gpm	4"	2 1/2"	7 1/2 - 10 HP
MC-4H	75 - 150 gpm			
MC-5	100 - 200 gpm			10 - 20 HP
MC-5H	100 - 200 gpm			
<b>Low RPM Truck Pump</b>				
TC-3	100 gpm	2 1/2"	2 1/2"	PTO

\* Flow Rate assumes 0 psi/bar differential pressure. Flow Rates vary according to rpm. See Smith Pumps CP-1A catalog for specific gpm.



**Note: Request Smith Pumps Catalog CP-1A for full details on each pump model. Or scan the QR code to the right to view or download now.**



## Coro-Vane Pumps- Truck & Transport - Z Series

Z-Series Coro-Vane® truck pumps are designed to perform in severe operating conditions such as high differential pressure, pump over speeding, poor suction conditions and heavy thrust loads associated with a power take-off (PTO) drive system. Its innovative cam design reduces the effects of cavitation. New materials utilized in cam and blades extend pump life. Large diameter non-metallic pins are suitable for higher pump speeds. Locked rotor is factory set with shim adjusted thrust bearings rated in excess of 4,000 lb.

Part #	Description
Z2000	Pump, 41 GPM @ 500 RPM - 85 GPM @ 800 RPM, 2" NPT inlet
Z3200	Pump, 63GPM @ 500 RPM -121 GPM @ 800 RPM, 3" 300# ANSI inlet
Z4200	Pump, 200 GPM @ 500 RPM - 400 GPM @ 800 RPM, 4" 300# ANSI inlet



## Coro-Vane Z3500 and Z4500 Stationary Pumps

The Z3500 is a 3-inch pump designed for stationary and foot mounted truck applications, with the same locked rotor design used in the Corken Z-Series truck pumps to ensure long pump life and excellent performance. With higher flow rates than other 3-inch pumps, the Z3500 retrofits Corken's and other competitive pumps with little or no change in piping.

The Z4500 is a 4-inch stationary pump designed for transport loading and multiple bobtail loading applications. If you have 2 or more bulkheads to load bobtails and transports and would like to shorten fill times, the Z4500 is ideal; filling two 3,000 gallon bobtails in 20 minutes or less at typical operating RPMs.

Part #	Description
Z3500	3-Inch Stationary pump, rated up to 800 RPM
Z3500-103 W/10HP	Pump with 10 HP, 60hz 3 phase explosion-proof motor
Z4500	4-Inch Stationary pump, 197 GPM @ 420 RPM - 382 GPM @ 780 RPM, 4" 300# ANSI inlet

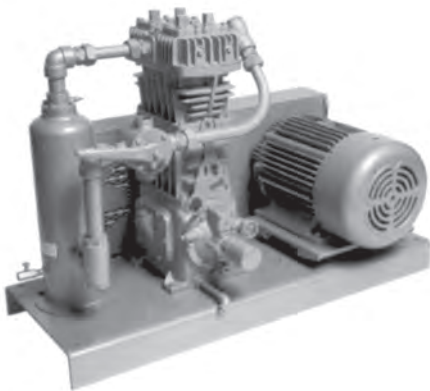


## ZV200 Bypass Valve

Low pressure build-up bypass valve for bob-tail, transport and stationary loading/unloading applications. Protects pumps with capacities up to 250 GPM. Continuous internal bleed Assists in operation of systems with "air" or "electric" operated internal valves. Various spring rates, O-Ring materials and inlet/outlet flanges available.

## Vertical Gas Compressors - Stationary

Applications: Propane Cylinder Filling • Bulk Transfer • Truck/Barge/Railcar Uploading • Liquid Transfer/Vapor Recovery • Tank Evacuation for Maintenance • LPG/Butane/Ammonia



### Compressors

Part #	Description
91	44 GPM, w/flywheel
291	88 GPM, w/flywheel
491	198 GPM, w/flywheel
691	330 GPM, w/flywheel

### Compressor Options

Add Option Style to end of Compressor Part #

Style #	Description
-107	Complete gas compressor bulk plant unit w/pressure gauges, steel baseplate, mechanical liquid trap, 4-way valve, strainer, interconnecting piping, adjustable driver slide base, V-belt drive and enclosed belt guard. Motor not included.
-107A	Same as -107, w/automatic liquid trap
-107B	Same as -107, w/ASME auto liquid trap
-101TR	Gas compressor w/flywheel & extended crankshaft
-100	Gas compressor w/flywheel & pressure gauge

## POWER-AA Anhydrous Ammonia Vaporizer Series

Safely and efficiently vaporizes anhydrous ammonia for commercial, industrial and utility SCR applications. Multiple core designs consist of the proven P-Series electric vaporizer, factory connected in parallel to provide greater vaporization capacity. Waterless electric vaporizer - no corrosion or rust, no refilling, no sediment, no burned out heater elements. Two safety devices to ensure dry, superheated ammonia. Requires only 40-50 seconds to reach operating temperature from a cold start. Complete with all safeties and controls - requires no additional remote mounted controls for operation. Designed to meet the demands of the industrial process industry. 100% Turndown - can operate in dry condition. Available in explosion proof or nonincendive configurations.



Model		P200AA	P400AA	P600AA	P800AA	P1000AA	P1200AA
Vaporization Capacity*	lbs/hr	200	400	600	720	840	950
Heat Exchanger Surface Area	ft <sup>2</sup>	7.1	14.2	21.3	28.4	35.5	42.6
Pressure Vessel Design Pressure	psig	250	250	250	250	250	250
Pressure Vessel Test Pressure	psig	350	350	350	350	350	350
Pressure Vessel Liquid Capacity	gallons	2.3	4.6	6.9	9.2	11.5	13.8
Operating Temperature Range	°F	194-203	194-203	194-203	194-203	194-203	194-203

\*Vaporization Capacity ratings at 100° F saturated liquid ammonia inlet, 15° superheated ammonia outlet. Higher pressures or lower temperatures may decrease capacity.

## TORREXX-AA Anhydrous Ammonia Single Core Electric Vaporizers

Torrex AA Anhydrous Ammonia vaporizers are based on industry leading dry electric technology that provides 100% turn down capability and are made from corrosion-resistant materials. Torrex-AA NH<sub>3</sub> vaporizers are equipped with Stainless Steel flanges on the liquid inlet and vapor outlet valves with no brass fittings to prevent deterioration of Torrex-AA NH<sub>3</sub> components. A fanged stainless steel solenoid Valve also assures the unit will remain corrosion free, eliminating downtime ensuring people can work and services can flow to markets. A robust 135amp rated contactor provides power to the heating elements. The modular temperature controller allows easy maintenance or replacement. In the event of a “high liquid level occurrence,” our proprietary Liqui-Safe Valve™ prevents liquid from passing downstream of the vaporizer. The valve provides visual indication of activation. This allows easy troubleshooting and assures the end user that the device is functioning properly.



Model		TX19AA	TX38AA	TX75AA	TX120AA	TX180AA	TX240AA
Vaporization Capacity	lbs/hr	19	38	75	120	180	240
Design Pressure	psig	250	250	250	250	250	250
Relief Valve Set Point	psig	250	250	250	250	250	250
Hydrostatic Test Pressure	psig	375	375	375	375	375	375
Electrical Class	Hazardous Area Classification — Class I, Division 1, Group D / ATEX Zone I, EEx d IIB T3 94/9EC						
Vaporizer Approvals	FM (U.S. and Canada), NEMKO, CE, 2 PED Marked, designed per ASME						

### Forged Steel 45° Elbows - 2,000 lb

Part #	Size
1106A	1/4"
1106B	3/8"
1106	1/2"
1107	3/4"
1108	1"
1109	1 1/4"
1110	1 1/2"
1111	2"
1111A	2 1/2"
1111B	3"



### Couplings - 3,000 lb

Part #	Size
1117C	1/4"
1117D	3/8"
1118	1/2"
1119	3/4"
1120	1"
1121	1 1/4"
1122	1 1/2"
1123	2"
1124	2 1/2"
1125	3"



### Forged Steel Bushings - 2,000 lb

Part #	Size
1135C	1/4" X 1/8"
1135D	3/8" X 1/4"
1136	1/2" X 1/4"
1136A	1/2" X 3/8"
1137	3/4" X 1/4"
1137A	3/4" X 3/8"
1137B	3/4" X 1/2"
1138	1" X 1/4"
1138A	1" X 3/8"
1138B	1" X 1/2"
1138C	1" X 3/4"
1139	1 1/4" X 1/4"
1139A	1 1/4" X 1/2"
1139B	1 1/4" X 3/4"
1139C	1 1/4" X 1"
1140	1 1/2" X 1/4"
1140A	1 1/2" X 1/2"
1140B	1 1/2" X 3/4"
1140C	1 1/2" X 1"
1140D	1 1/2" X 1 1/4"
1141	2" X 1/4"
1141A	2" X 3/4"
1141B	2" X 1"
1141C	2" X 1 1/4"
1141D	2" X 1 1/2"
1141G	2 1/2" X 2"
1141H	3" X 1 1/2"
1141I	3" X 2"



### Forged Steel 90° Elbows - 2,000 lb

Part #	Size
1099A	1/4"
1099B	3/8"
1100	1/2"
1101	3/4"
1102	1"
1103	1 1/4"
1104	1 1/2"
1105	2"
1105A	2 1/2"
1105B	3"



### Reducing Couplings -3,000 lb

Part #	Size
1190	1/2" x 1/4"
1191	3/4" x 1/2"
1192	1" x 3/4"
1193	1 1/4" x 3/4"
1193A	1 1/4" x 1"
1194	1 1/2" x 3/4"
1194A	1 1/2" x 1"
1194B	1 1/2" x 1 1/4"
1195	2" x 1 1/4"
1195A	2" x 1 1/2"
1196A	2 1/2" x 2"
1197	3" x 1 1/2"
1197A	3" x 2"
1197B	3" x 2 1/2"



### Forged Steel Tees - 2,000 lb

Part #	Size
1111C	1/4"
1111D	3/8"
1112	1/2"
1113	3/4"
1114	1"
1115	1 1/4"
1116	1 1/2"
1117	2"
1117A	2 1/2"
1117B	3"



### Forged Steel Unions - 2,000 lb

Part #	Size
1198A	1/4"
1198	3/8"
1142	1/2"
1143	3/4"
1144	1"
1145	1 1/4"
1146	1 1/2"
1147	2"
1147A	2 1/2"
1147B	3"



### Forged Steel Handlebar Unions - 2,000 lb

Part #	Size
1165A	1"
1165B	1 1/4"
1165C	1 1/2"
1165D	2"
1165E	2 1/2"
1165F	3"



### Square Head Plugs -2,000 lb

Part #	Size
1128	1/4"
1129	3/8"
1130	1/2"
1131	3/4"
1132	1"
1133	1 1/4"
1134	1 1/2"
1135	2"
1135B	3"



## The Smart-Hose® Safety System integrated into NH<sub>3</sub> transfer hose assemblies is designed to meet the demands of the most rugged applications.



SCAN HERE TO CREATE YOUR PART #



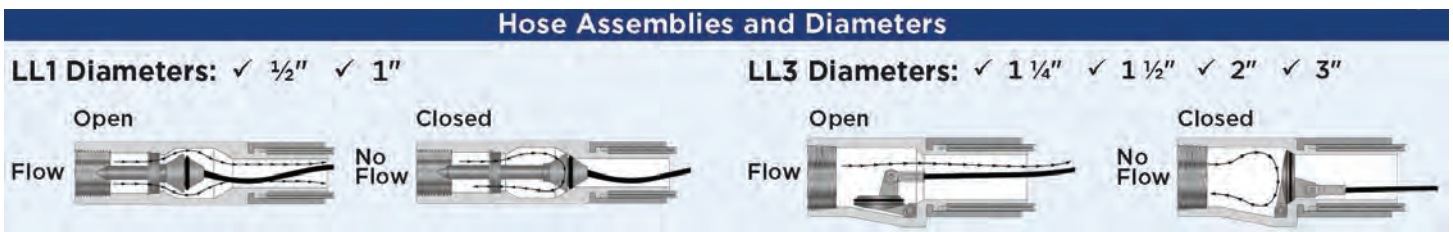
### Features and Benefits

- Meets DOT HM 225 Standards and US Passive Shutoff Mandate for MC330/331 Transports and CRN OD16092.5C.
- Tested under water with CDA or nitrogen to working and test pressure.
- 316 Stainless Steel fittings are designed for reuse on a new hose.

### Hose Data

- Cover: Black EPDM perforated wrapped finish
- Reinforcement: Multiple textile braids
- Tube: Black EPDM
- Temperature: -40°F to 180°F
- Electrically Conductive: Available upon request

**Optional Apparatus:** Flanges, Acmes, Scuff Guard... and more!



## Smart-Hose® Safety System

Integrated valves will instantly stop product flow if a catastrophic failure occurs. No human intervention is needed to activate.



Chart shows sample configurations. Fully customizable solutions are available!

Hose ID	Working Pressure PSI	Burst Pressure PSI	Smart-Hose Hose Assembly Part Number
1/2"	350	1750	RXX-004-1X-XXXX-0-00-00
1"	350	1750	RXX-008-14-XXXX-0-00-00
1 1/4"	350	1750	RXX-010-33-XXXX-0-00-00
1 1/2"	350	1750	RXX-012-32-XXXX-0-00-00
2"	350	1750	RXX-016-3X-XXXX-0-00-00
3"	350	1750	RXX-024-32-XXXX-0-00-00

## NH<sub>3</sub> Break-Away Hose Assemblies:

The Smart-Hose® NH<sub>3</sub> Break-Away Hose Assembly has been designed to protect plant, tank truck, rail car, loading arms and workforce from the potentially hazardous consequences of a pull away incident during transfer.

An engineered break-point is built into the end fitting and works in conjunction with integrated valves to instantaneously stop product flow.

Chart shows sample configurations. Fully customizable solutions are available!

Hose ID	Working Pressure PSI	Burst Pressure PSI	Smart-Hose LL3-B Break-Away Assembly Part Number
1 1/4"	350	1750	RXX-010-80-XXXX-0-00-00
2"	350	1750	RXX-016-8X-XXXX-0-00-00
3"	350	1750	RXX-024-83-XXXX-0-00-00



**LL3-B Break-Away Hose Assembly**  
45° Pull Angle: 1300 lbs Pull Away Force







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