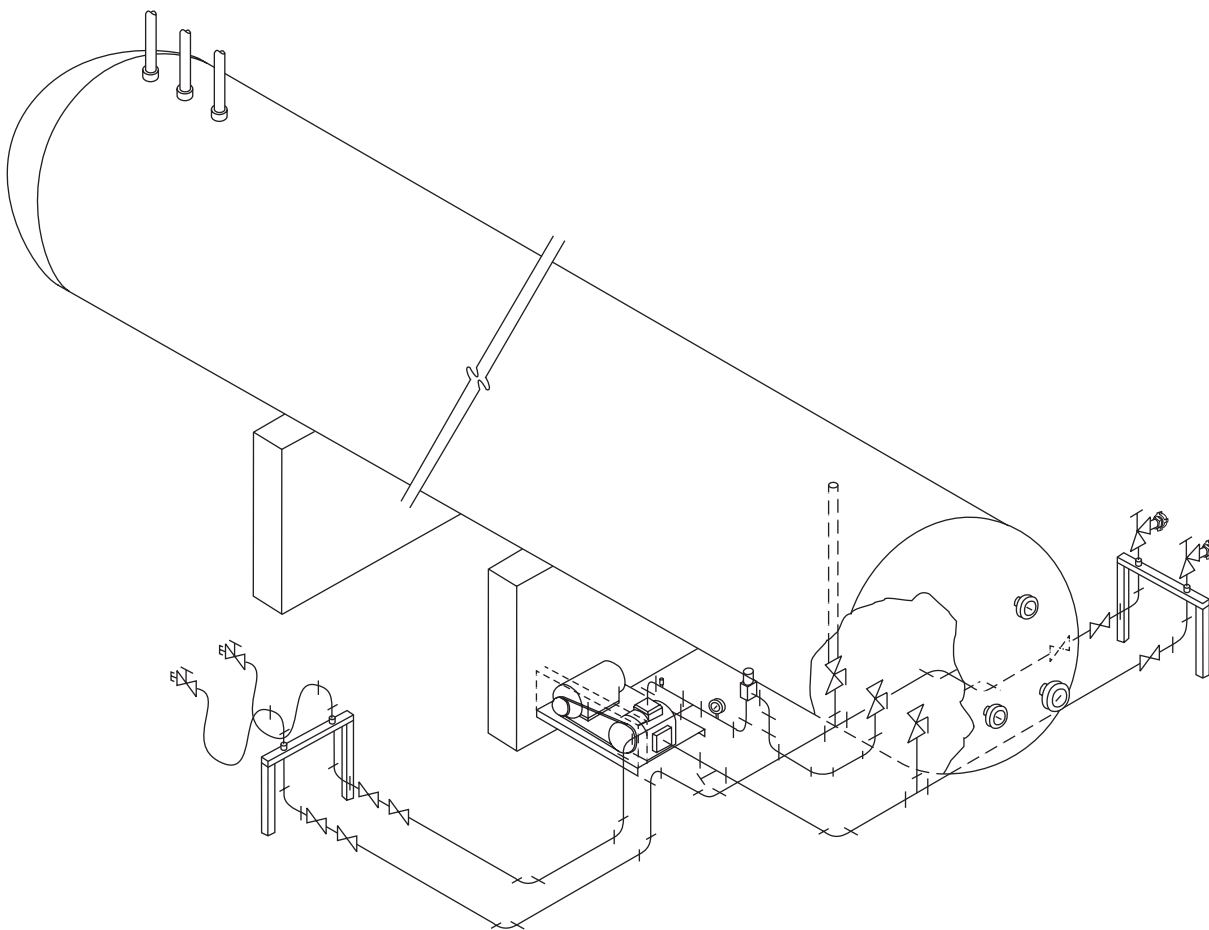


Propane Bulk Storage

2011 Requirements



Master Distributor



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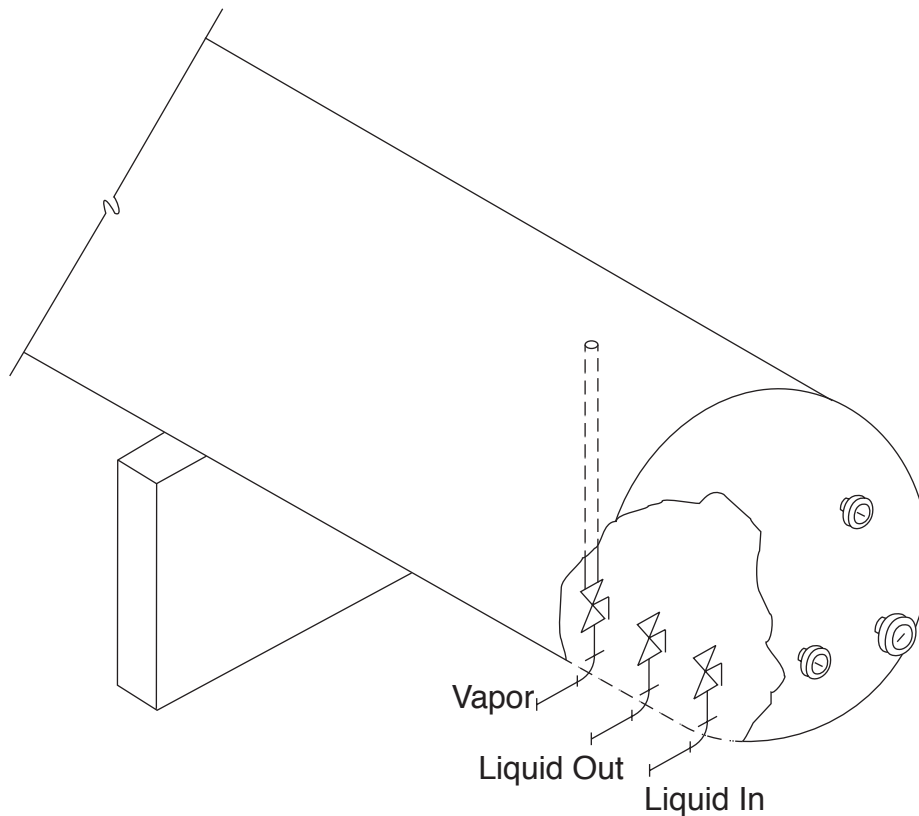
881 HERSEY STREET
ST. PAUL, MN 55114

PHONE (651) 646-1177
FAX (651) 646-1676

Propane Container Connection requirements for containers over 4000 gal W.C.

The container connection requirements have changed dramatically starting with the 2001 edition of NFPA 58. Prior to this edition of NFPA 58, both liquid and vapor tank connections were fitted with excess flow valves and manually operated shutoff valves with no remote control capabilities. The "spirit" of the new requirements is to provide remote closure and automatic thermal (fire) closure AT THE CONTAINER CONNECTIONS. The new valving and controls must be installed by July 1, 2011.

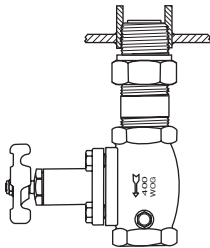
The following lists the permissible options for the various container openings and provides illustrations of the valves that may be used for compliance.*



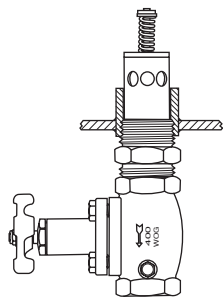
<u>Service</u>	<u>After 2001 Installations</u>	<u>Before 2001 Installations</u>
Vapor inlet	Option A or Option B or Option C	No requirement
Vapor outlet	Option B or Option C	No requirement
Liquid inlet	Option D or Option E	Option D or Option E or Option F or Option G
Liquid outlet	Option E	Option E or Option H

* This document is intended as a conceptual guide for compliance with the new bulk container connection requirements. For a complete description of the various options and timetable for compliance, see NFPA 58 section 5.7.4.2. 2008 ed.

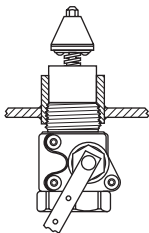
Option A
Positive Shutoff &
Check Valve



Option B
Positive Shutoff &
Excess Flow Valve

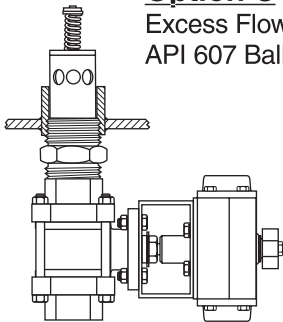


Option C
Internal Valve

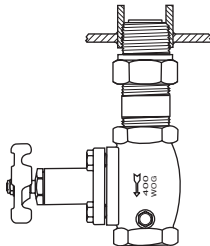


OR

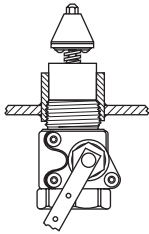
Option C
Excess Flow Valve &
API 607 Ball Valve



Option D
Positive Shutoff &
Check Valve

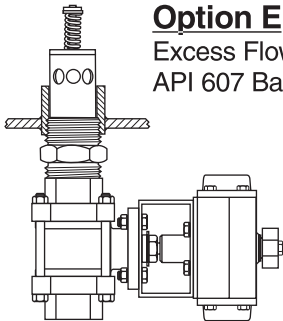


Option E
Internal Valve

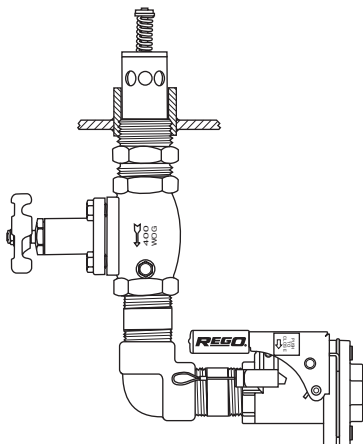


OR

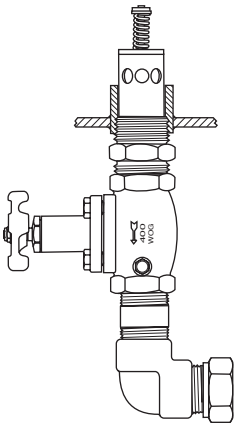
Option E
Excess Flow Valve &
API 607 Ball Valve



**Option F (liquid in) &
Option H (liquid out)**
Positive Shutoff &
Excess Flow Valve &
Emergency Shutoff

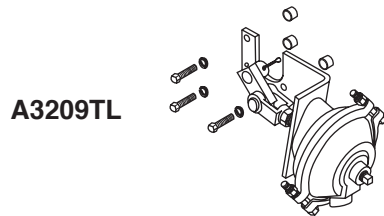
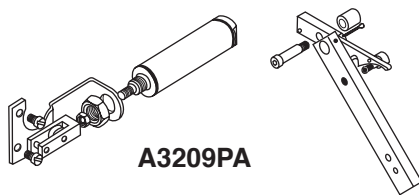
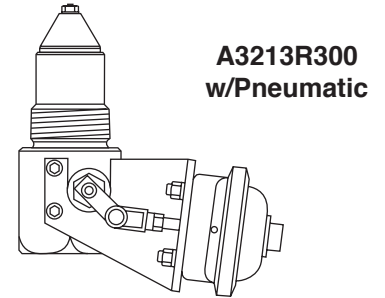
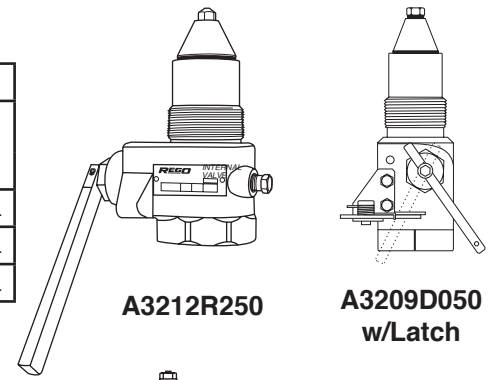


Option G
Positive Shutoff &
Excess Flow Valve &
Check Valve



Internal Valves

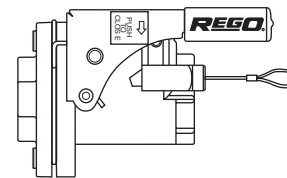
Part Number	Inlet Connection MNPT	Outlet Connection MNPT	Closing Flow (GPM)	Closing Flow (GPM)	Accessories	
			Half Coupling	Full Coupling	Pneumatic Actuator	Thermal Latch
			LP-Gas	LP-Gas		
A3209D050	1-1/4"	1-1/4"	50	----	A3209PA	A3209TL
A3212R250	2"	2"	250	225	A3213PA	A3213TL
A3212R300	3"	3"	300	270	A3213PA	A3213TL



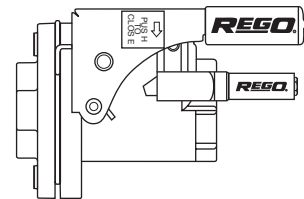
A3213PA

Emergency Shutoff Valves

Part Number	Inlet Connection MNPT	Outlet Connection MNPT	Flow Capacity (GPM)	Accessories	
			10 PSI Drop	Pneumatic Release	Pneumatic Operator
			LP-Gas		
6010	1-1/4"	1-1/4"	259	6016D	6016C
6016	2"	2"	475		
6024	3"	3"	1260		

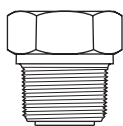


6016 w/Pneumatic Release



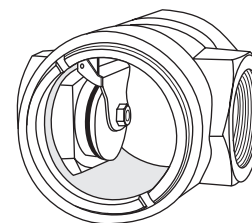
Back Check Valves

Part Number	Inlet Connection MNPT	Outlet Connection MNPT	Flow Capacity (GPM)	Flow Capacity (GPM)
			5 PSI Drop	10 PSI Drop
			LP-Gas	LP-Gas
A3176	1-1/4"	1-1/4"	28	40
A3186	2"	2"	124	175
A3196	3"	3"	297	420



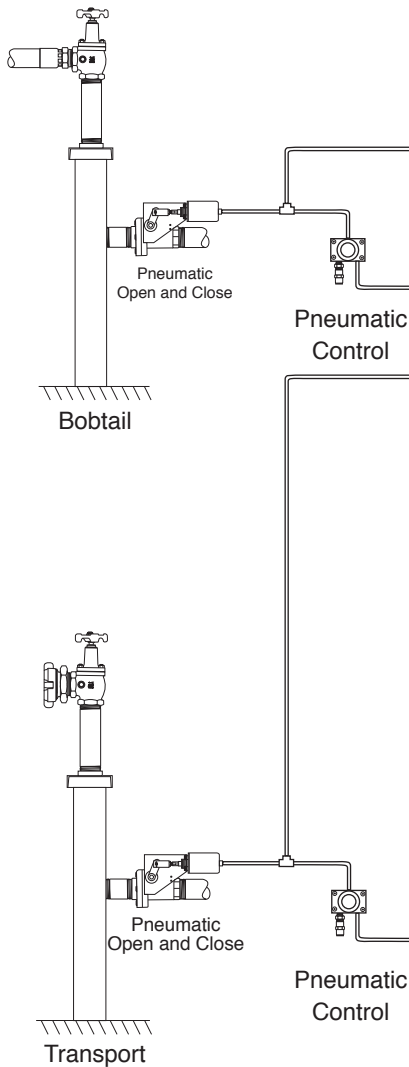
Sight Flow Back Check Valves

Part Number	Inlet Connection MNPT	Outlet Connection MNPT	Flow Capacity (GPM)
			10 PSI Drop
			LP-Gas
A7794	2"	2"	480
A7796	3"	3"	1270



Bobtail Fill

The riser mounted pneumatic control actuates the emergency shutoff at the bulkhead and the liquid withdrawal internal valves at the tank.

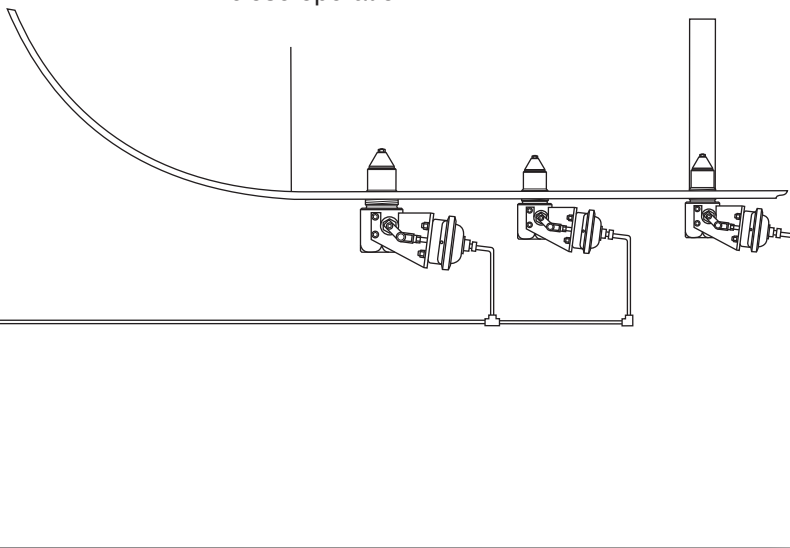


Transport Fill

The riser mounted pneumatic control actuates the emergency shutoff at the bulkhead and the vapor return internal valve at the tank.

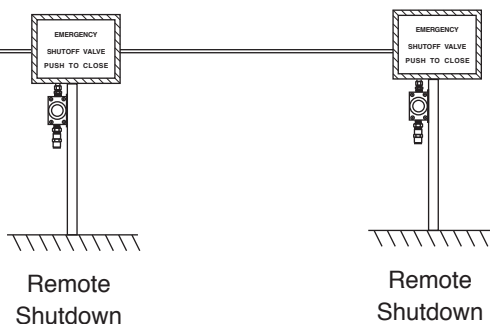
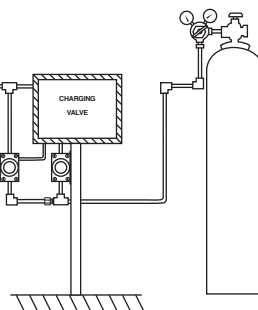
Bulk Tank

The internal valves have pneumatic operators mounted on them for full automatic open and close operation.



Charging Station

The Charging Station incorporates a manual spring return charging valve, a pilot actuated latching valve and a flow limiting feed orifice.



Remote Shutdown

Remote Shutdown

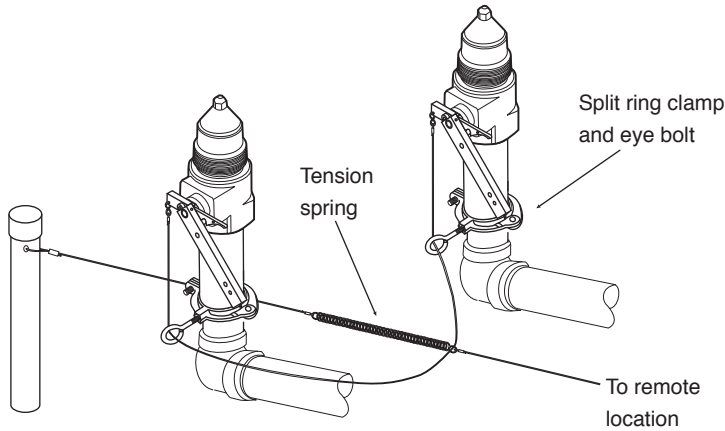
Emergency Shutdown

Two Emergency Shut Down (ESD) stations are depicted. Activating either one will shut off all the valves. The Emergency Shutdown Stations may be located at any convenient location.

Remote Closure Using Cable Control

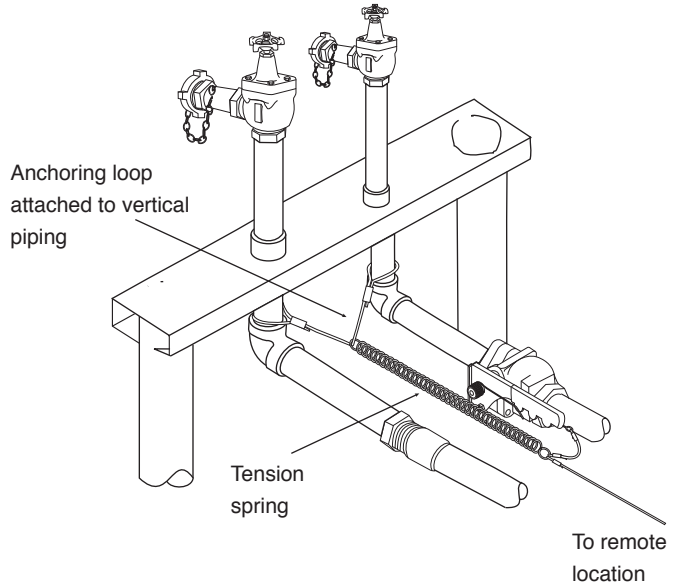
Internal Valve Control

Two internal valves with remote closure controlled by a single taut wire cable. Pulling cable anywhere along its length will trigger both valve release latches.

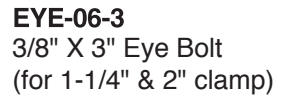
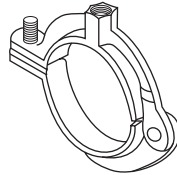
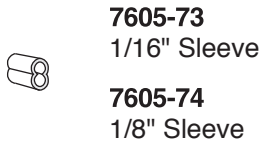


Emergency Valve Control

A single emergency shutoff valve with remote closure controlled by a taut wire cable. Pulling cable anywhere along its length will trigger the valve release latch.



Remote Cabling Accessories



Remote Pneumatic Accessories

