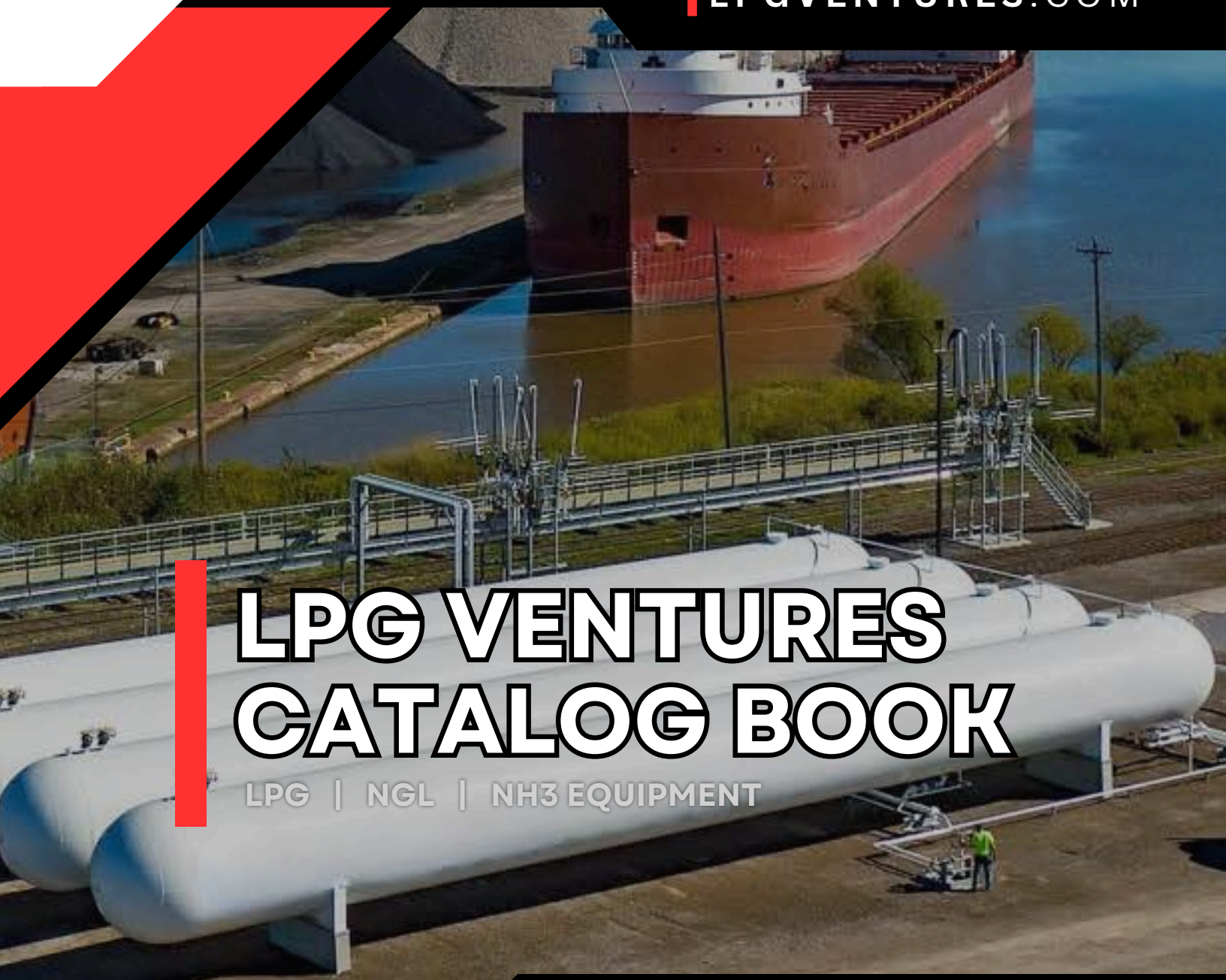
LPGVENTURES.COM



LPG VENTURES CATALOG BOOK

LPG | NGL | NH3 EQUIPMENT

VENTURES

Energy you can count on since 1995

LEARN ABOUT

LPG VENTURES

We're a customer-focused propane supply partner dedicated to helping operations grow safely and efficiently. Since 1995, LPG Ventures has supported the propane, ammonia, and industrial gas industries with expert service, high-quality tanks, and trusted equipment.

Our Mission

Grow Your Operation

Scale your business with custom-built storage tanks, turnkey plant solutions, and expert support.

Manage Your Equipment

We supply reliable piping kits, pumps, valves, and much more, so you can focus on what matters to you.

Ensure Safety & Compliance

We help keep your operation safe, efficient, and up to code with trusted equipment and guidance.

Contact Us

Please give us a call to have a chat about any of our services and how we can help your business!

Phone: 1 816 903 1806 | Toll Free: 888 739 8764

Office
971 N Jefferson St,
Kearney, MO 64060

Office Hours
8:00am - 5:00pm
Monday to Friday

Web
www.LPGVentures.com
info@LPGVentures.com

WHAT WE DO

INTRODUCTION

At LPG Ventures, our strength lies in combining deep industry knowledge with hands-on experience. We're more than just a supplier—we're a long-term partner focused on helping your operation grow with smart solutions, dependable service, and a team that understands what it takes to get the job done right.

A Little of What We Can Do for You!

From planning to execution, LPG Ventures delivers full-service gas storage solutions designed to meet your exact needs.

- Plant Piping Kits
- Pre-Cast Piers
- Design Services
- Full-Code Welding
- Cargo Tank Testing
- ASME R & U Stamp Work
- DOT Certified Repairs
- Turn-Key Solutions
- On-Site Consultation
- New Tank Manufacturing

THE HISTORY OF LPG VENTURES

LPG Ventures, originally founded in March of 1995 and incorporated in April 1998 by John Baanders, who began with 15 years of prior experience in the propane industry.

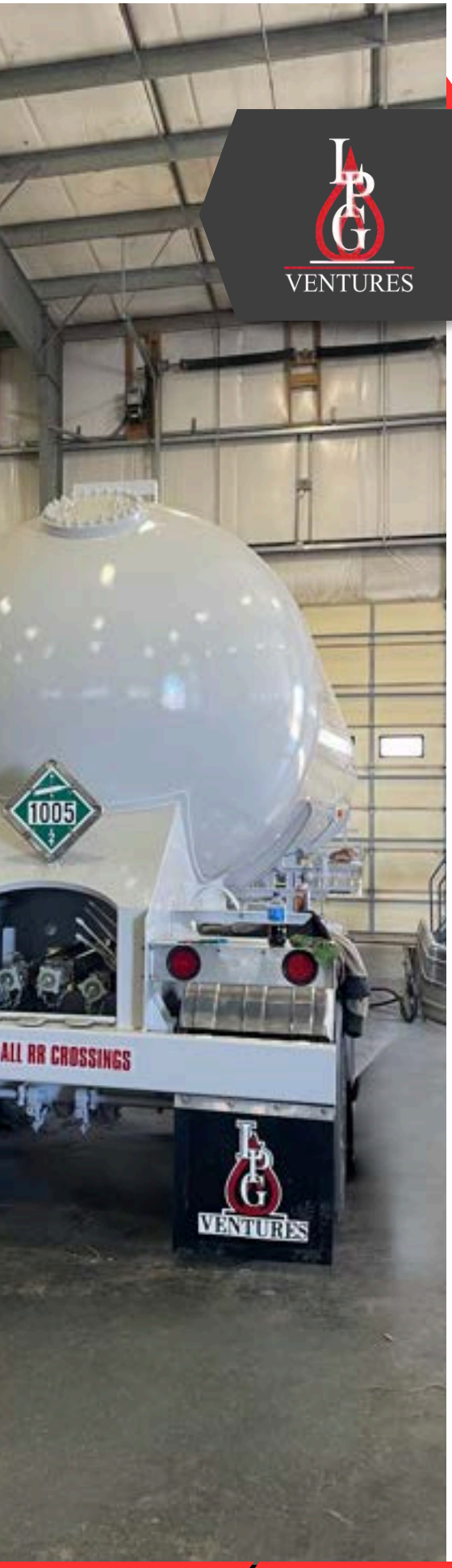
Through a series of small business startups and strategic acquisitions, the company quickly grew into a thriving force in the gas industry. Early operations included plant construction, the installation and manufacturing of pre-cast piers, and the launch of a trucking company.

In the years that followed, LPG Ventures expanded its capabilities and became licensed by the U.S. Department of Transportation for the repair and manufacturing of MC 330 and 331 vessels. The company also broadened its offerings to include pressure vessels and ASME-certified vessels, earning U & R stamps for the alteration, repair, and manufacturing of these specialized units.

What began in a one-room basement office has evolved into a state-of-the-art, 60,000-square-foot facility. This space now features: 8 bays for truck finishing, 3 bays for tank fabrication, a fully enclosed blast and paint system, and a full concrete batch plant for pre-cast piers. In addition to its manufacturing and fabrication services, LPG Ventures is expanding into wholesale parts and equipment distribution, an initiative designed to better serve both domestic and international clients.

The company's success is built on the dedication of its employees and the loyalty of its customers. A significant portion of revenue comes from repeat business, a testament to the trust and satisfaction of its clients. High employee retention ensures that customers work with seasoned professionals who know their equipment inside and out.

Over the past 30+ years, LPG Ventures has grown into a family of experts offering deep industry knowledge and a commitment to excellence. Our mission is to stay fully aligned with our customers' needs and deliver the best solutions, resulting in total customer satisfaction.



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LPG VENTURES

LPG VENTURES

DOT INSPECTIONS & TESTING

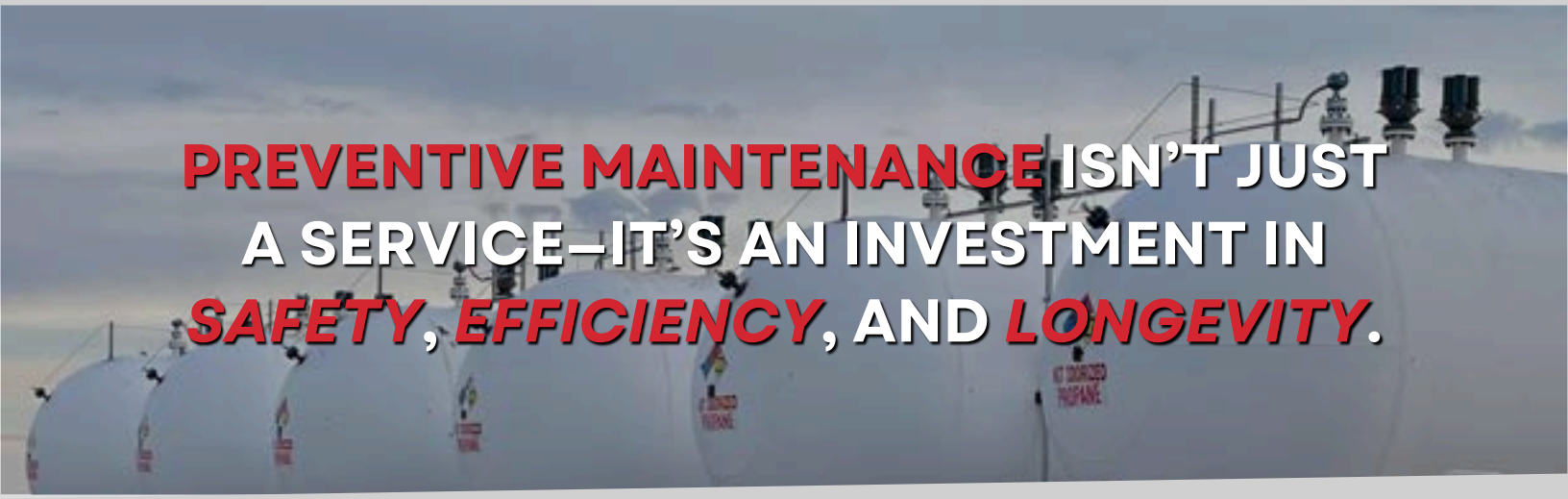
VISUAL, INTERNAL, LEAK, PRESSURE, THICKNESS & UPPER COUPLER INSPECTIONS
WFMPE (WET FLUORESCENT MAGNETIC PARTICLE EXAMINATION)
MOBILE TESTING AVAILABLE UPON REQUEST

REPAIRS & REFURBISHMENTS

BRAKE, LIGHTS & SUSPENSION REPAIRS
VALVE, PUMP & PIPING REPAIRS
BARREL REPAIRS, SANDBLASTING & PAINTING

PARTS & ACCESSORIES

PUMPS, VALVES, SEALS & SMART HOSES
METERS & BOBTAIL ACCESSORIES
FITTINGS, GASKETS & MORE



PREVENTIVE MAINTENANCE ISN'T JUST A SERVICE—IT'S AN INVESTMENT IN *SAFETY*, *EFFICIENCY*, AND *LONGEVITY*.

WITH DECADES OF EXPERTISE, WE HELP YOU:

- **Extend Equipment Life** – Catch minor issues before they become costly problems.
- **Ensure Safety & Compliance** – Stay up to code with ASME & DOT standards.
- **Maximize Efficiency** – Minimize downtime and optimize performance.

DON'T WAIT UNTIL IT'S TOO LATE

SCHEDULE YOUR MAINTENANCE TODAY!

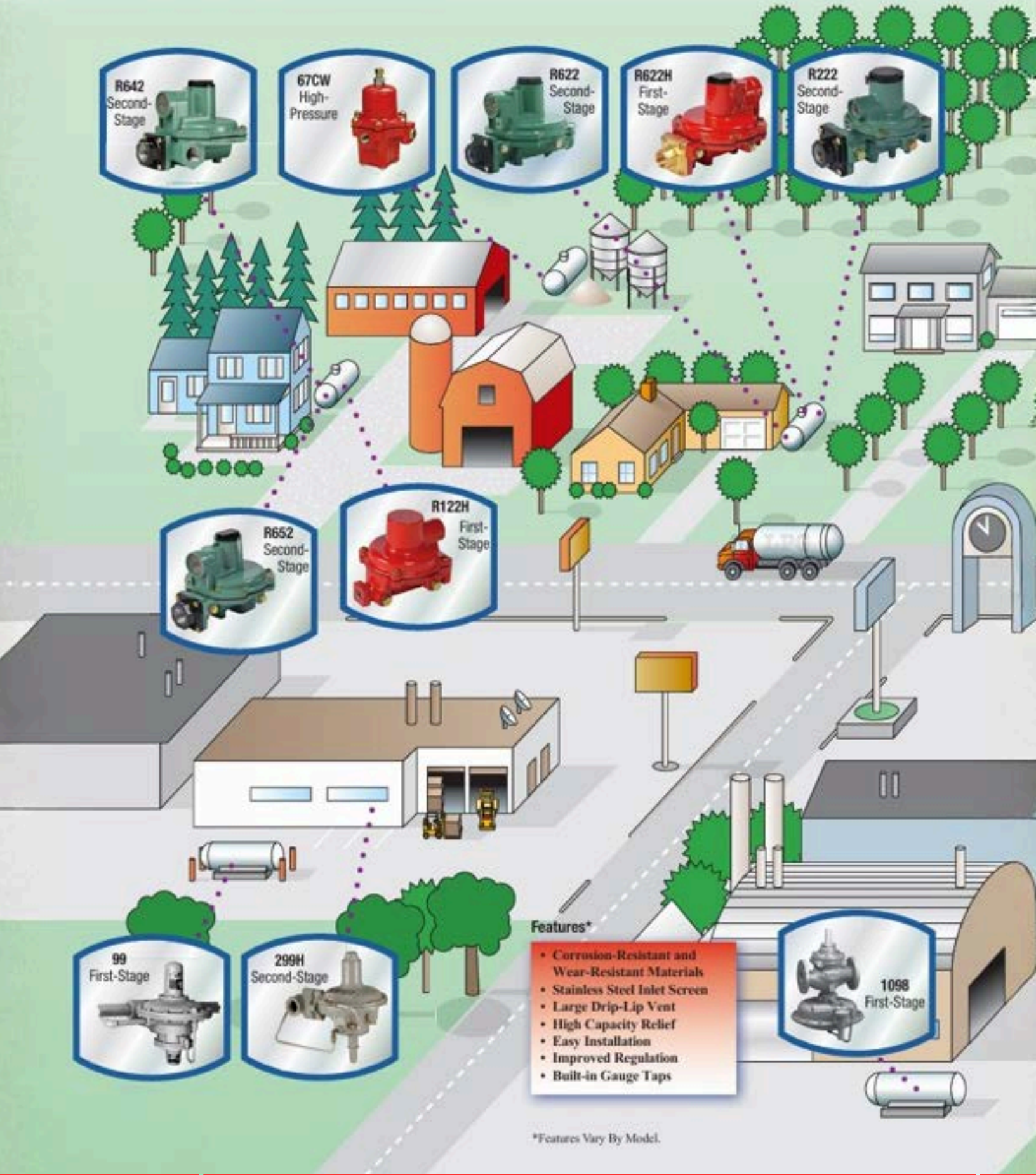
01

SECTION 01

LPG Regulators

Precision pressure control for safe LPG Distribution.

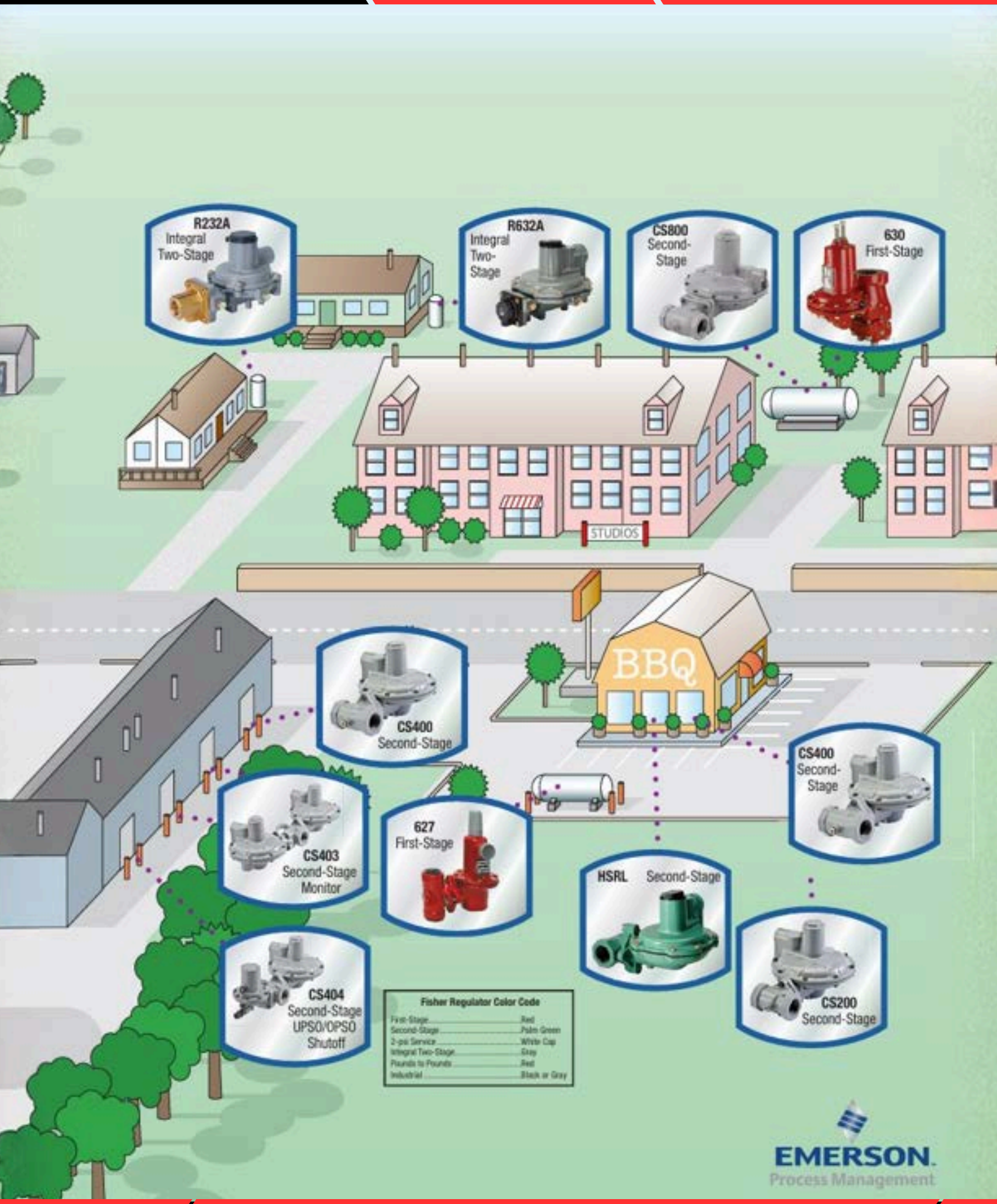
Regulators Application Map



Features*

- Corrosion-Resistant and Wear-Resistant Materials
- Stainless Steel Inlet Screen
- Large Drip-Lip Vent
- High Capacity Relief
- Easy Installation
- Improved Regulation
- Built-in Gauge Taps

*Features Vary By Model.


R232A
Integral
Two-Stage
R632A
Integral
Two-
Stage
CS800
Second-
Stage
630
First-Stage
STUDIOS
BBQ
CS400
Second-Stage
CS400
Second-
Stage
CS403
Second-Stage
Monitor
627
First-Stage
HSRL
Second-Stage
CS404
Second-Stage
UPSO/OPSO
Shutoff
CS200
Second-Stage
Fisher Regulator Color Code
First-Stage Red
Second-Stage Palm Green
2-psi Service White Cap
Integral Two-Stage Gray
Pounds to Pounds Red
Industrial Black or Gray
EMERSON.
Process Management

First-Stage Regulators

First-Stage regulators are vital in the correct function of the two stage system. Painted for easier identification, these red devices are essential in the reduction of pressure (around 10 psig) of a Second-Stage regulator. Vents are screened with a standard orientation over the outlet, allowing the Second-Stage regulator to be easily adjusted to the desired building pressure level.

TYPE R122H

Type	Capacities (Propane)		Inlet Connection (in.)	Outlet Connection (in.)	Outlet Adjustment Range		Outlet Pressure Setting	
	BTU/hr	SCMH			psig	bar	psig	bar
R122H-AAJ	1,100,000	12.4	1/4" FNPT	1/2" FNPT	Non-Adjust	—	10	0.69
R622H-HGJ	2,100,000	23.6	FPOL	1/2" FNPT	8 to 12	0.55 to 0.83	10	0.69
R622H-JGJ	2,250,000	25.3	FPOL	3/4" FNPT	8 to 12	0.55 to 0.83	10	0.69

TYPE R622H

Compact First-Stage Regulators

Fisher introduces the most complete and highest flow compact regulator line in the industry, offering reliable first-stage pressure reduction in a space-saving design. These compact regulators deliver full-size performance while allowing for easier installation in confined spaces. All models include the convenience of full-size mounting hardware and are designed for consistent operation across a wide range of propane system applications.

TYPE R222H

Type	Capacities (Propane)		Inlet Connection (in.)	Outlet Connection (in.)	Outlet Adjustment Range		Outlet Pressure Setting	
	BTU/hr	SCMH			psig	bar	psig	bar
R222H-BGJ	1,800,000	20.3	1/2" FNPT	1/2" FNPT	8–12	0.55–0.83	10	0.69
R222H-BGK	1,700,000	19.1	1/2" FNPT	1/2" FNPT	4–6	0.28–0.41	5	0.34
R222H-DGJ	2,000,000	22.5	3/4" FNPT	3/4" FNPT	8–12	0.55–0.83	10	0.69
R222H-DGK	1,700,000	22.5	3/4" FNPT	3/4" FNPT	4–6	0.28–0.41	5	0.34
R222H-HGJ	1,800,000	20.3	FPOL	1/2" FNPT	8–12	0.55–0.83	10	0.69
R222H-HGK	1,700,000	19.1	FPOL	1/2" FNPT	4–6	0.28–0.41	5	0.34
R222H-JGJ	1,875,000	21.1	FPOL	3/4" FNPT	8–12	0.55–0.83	10	0.69
R222H-JGK	1,875,000	21.1	FPOL	3/4" FNPT	4–6	0.28–0.41	5	0.34

Second-Stage Regulators

Second-Stage regulators are fundamental in the proper function of the two stage system. Painted for easier identification, these palm green devices reduce the pressure (around 10 psig to 11" water column) from the First-Stage regulator. Vents are screened with a standard orientation over the inlet, but can be customized with a stainless steel screen for a greater reduction of debris.

TYPE R652

TYPE R642

Type	Capacities (Propane)		Inlet Connection (in.)	Outlet Connection (in.)	Outlet Adjustment Range		Outlet Pressure Setting	
	BTU/hr	SCMH			in. w.c.	mbar	In. w.c.	mbar
R622-BCF	875,000	9.8	1/2" FNPT	1/2" FNPT	9 to 13	22 to 32	11	27
R622-CFF	1,400,000	15.8	1/2" FNPT	1/2" FNPT	9 to 13	22 to 32	11	27
R622-DFF	1,400,000	15.8	3/4" FNPT	3/4" FNPT	9 to 13	22 to 32	11	27
R642-DFF	920,000	10.4	3/4" FNPT	3/4" FNPT	9 to 13	22 to 32	11	27
R652-CFF	1,000,000	11.3	1/2" FNPT	1/2" FNPT	9 to 13	22 to 32	11	27
R652-DFF	1,000,000	11.3	3/4" FNPT	3/4" FNPT	9 to 13	22 to 32	11	27

Integral Two-Stage Regulators

Integral two-stage regulators combine first- and second-stage regulation into a single compact unit. Designed for simplified installation and reduced piping, these regulators provide reliable pressure control where shorter piping runs are required. Vents are screened and oriented in a standard second-stage configuration. Recommended for installations using 30 feet or less of piping.

TYPE R232A

TYPE R632A

Type	Capacities (Propane)		Inlet Connection (in.)	Outlet Connection (in.)	Outlet Adjustment Range		Outlet Pressure Setting	
	BTU/hr	SCMH			in w.c.	mbar	In. w.c.	mbar
R232A-BBF	550,000	6.2	1/4" FNPT	1/2" FNPT	10.2 – 13	25 to 32	11	27
R232A-HBF	550,000	6.2	FPOL	1/2" FNPT	10.2 – 13	25 to 32	11	27
R632A-BCF	850,000	9.6	1/4" FNPT	1/2" FNPT	9 – 13	22 to 32	11	27
R632A-HCF	850,000	9.6	FPOL	1/2" FNPT	9 – 13	22 to 32	11	27

High-Pressure Regulators

High-pressure regulators are designed for liquid or vapor service and reduce tank pressure from high levels to an intermediate pressure. Precision valve guiding provides close regulation and dependable performance across a wide adjustment range.

Type	Description	Capacities (Propane)		Outlet Pressure Setting		Adjustment Range		Inlet & Outlet Connection
		BTU/hr	SCMH	psig	bar	psig	bar	
67CH-751	Basic Regulator (Handwheel Adjustment)	675,000	7.6	15	1.0	3 to 20	0.21 to 1.4	1/4" FNPT
67CH-743		750,000	8.4	20	1.4	3 to 35	0.21 to 2.4	1/4" FNPT
67CH-742		1,200,000	13.5	40	2.8	30 to 60	2.1 to 4.1	1/4" FNPT
67CH-741		1,000,000	11.3	50	3.4	50 to 120	3.4 to 8.3	1/4" FNPT

Commercial High-Pressure Regulators

64 SERIES

Commercial high-pressure regulators are large-capacity units intended for industrial and commercial applications. These regulators can be used on final-stage (pounds-to-pounds) service and are typically paired with relief valves to protect downstream piping and equipment.

Type	Description	Capacities (Propane)		Outlet Pressure Setting		Adjustment Range		Inlet & Outlet Connection
		BTU/hr	SCMH	psig	bar	psig	bar	
64-33	Basic Regulator	2,625,000	29.6	10	0.69	3 to 15	0.21 to 1.0	1/2" FNPT
64-35		3,600,000	40.5	20	1.4	5 to 35	0.34 to 2.4	1/2" FNPT
64-222		5,250,000	59.1	50	3.4	35 to 100	2.4 to 6.9	1/2" FNPT

Capacities based on inlet pressure 20 psig / 1.4 bar greater than outlet with 20% droop. Liquid capacity: 160 GPH / 606 l/hr.

TYPE 627

Type	Capacities (Propane)		Orifice Size		Inlet / Outlet Connection	Outlet Pressure Setting		Adjustment Range		Max Operating Inlet Presure	
	BTU/hr	SCMH	In.	mm		psig	bar	psig	bar	psig	bar
627-5810	6,080,000	68.4	3/8	9.5	3/4" FNPT	5 to 20	0.34 to 1.4	10	0.69	250	17.2
627-7710	10,773,000	121	1/2	13	1" FNPT			10	0.69	250	17.2

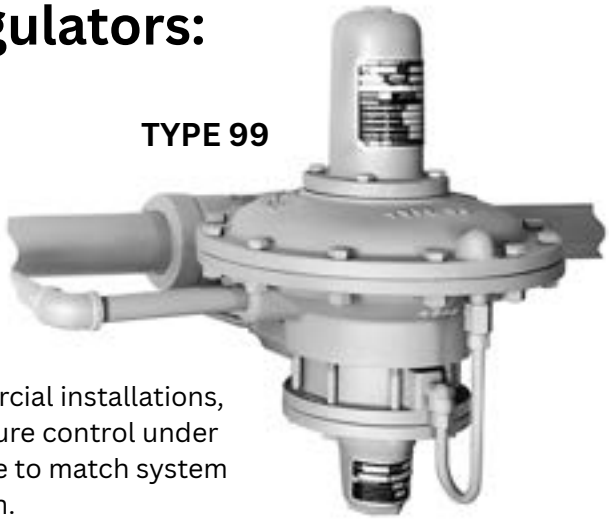
For UL-listed Type 627 configurations, capacity is based on 30 psig / 2.1 bar inlet pressure with internal registration and 20% droop.

TYPE 630

Type	Capacities (Propane)		Orifice Size		Inlet / Outlet Connection	Outlet Pressure Setting		Adjustment Range		Max Operating Inlet Presure	
	BTU/hr	SCMH	In.	mm		psig	bar	psig	bar	psig	bar
630-104-78	14,000,000	158	1/2	13	2" FNPT	8 to 20	0.55 to 1.4	10	0.69	250	17.2

For non-UL listed Types 627 and 630, capacity is based on inlet pressure 20 psig / 1.4 bar greater than outlet pressure, internal registration, and 20% droop.

Pilot-Operated High-Pressure Regulators: Commercial / Industrial



Fisher Type 99 pilot-operated regulators are designed for high-capacity commercial and industrial LPG applications requiring accurate pressure control and stable performance. The pilot-operated design provides precise regulation across a wide range of flow conditions while handling large inlet-to-outlet pressure differentials.

Commonly used in bulk plants, industrial facilities, and large commercial installations, Type 99 regulators offer fast response and dependable outlet pressure control under varying loads. Multiple orifice sizes and pressure ranges are available to match system capacity, with additional configurations offered beyond those shown.

Type	Capacities (Propane)		Orifice Size		Inlet / Outlet Connection	Outlet Pressure Setting		Adjustment Range		Max Operating Inlet Presure	
	BTU/hr	SCMH	In.	mm		psig	bar	psig	bar	psig	bar
99-510P	29,400,000	331	7/8	22	2" FNPT	7 to 2	17 to 0.14	1	69	250	17.2
99-511P	33,206,000	374	7/8	22	2" FNPT	1 to 5	69 to 0.34	5	0.34	250	17.2
99-513P	36,368,000	409	7/8	22	2" FNPT	2 to 10	0.14 to 0.69	10	0.69	250	17.2
99-512P	37,950,000	427	7/8	22	2" FNPT	5 to 15	0.34 to 1.0	15	1.0	250	17.2
99-515P	41,112,000	463	7/8	22	2" FNPT	10 to 20	0.69 to 1.4	20	1.4	250	17.2
99-903P	44,275,000	498	7/8	22	2" FNPT	10 to 65	0.69 to 4.5	30	2.1	250	17.2
99-502PH	50,600,000	570	1-1/8	29	2" FNPT	1 to 5	69 to 0.34	5	0.34	300	20.7
99-503PH	61,668,000	694	1-1/8	29	2" FNPT	2 to 10	0.14 to 0.69	10	0.69	300	20.7
99-504PH	63,250,000	712	1-1/8	29	2" FNPT	5 to 15	0.34 to 1.0	15	1.0	300	20.7
99-505PH	67,993,000	765	1-1/8	29	2" FNPT	10.to 20	0.69 to 1.4	20	1.4	300	20.7
99-901PH	74,318,000	837	1-1/8	29	2" FNPT	10 to 65	0.69 to 4.5	30	2.1	300	20.7

Capacities based on inlet pressure 20 psig / 1.4 bar greater than outlet pressure, external registration, and 20% droop.

Liquid Service Relief Valves

Liquid service relief valves are designed for pressure relief and back-pressure control in LPG liquid transfer, pumping, and vaporization systems. The internal pressure registration design eliminates the need for an external sensing line, simplifying installation while providing reliable, automatic pressure protection. These valves help safeguard system components by relieving excess pressure caused by thermal expansion or operating conditions in liquid service applications.

These valves are commonly used in bulk storage, transport, and processing systems where maintaining proper system pressure is critical. A range of sizes and pressure settings are available to match different system requirements.

MR98 SERIES

Type	Body Size IN.	Relief Pressure Range		Relief Pressure Setting		Propane Relief Capacity GPM / 1/min AT Following Pressure Build-up over Relief Setting									
						5 psig / 0.34 bar		10 psig / 0.69 bar		20 psig / 1.4 bar		30 psig / 2.1 bar		50 psig / 3.4 bar	
		psig	bar	psig	bar	GPM	1/min	GPM	1/min	GPM	1/min	GPM	1/min	GPM	1/min
MR98H-13	1/2" FNPT	25 to 75	1.7 to 5.2	50	3.4	16.9	66.1	26.8	103.4	38.0	140.8	40.8	154.9	49.3	184.5
MR98H-22	3/4" FNPT	70 to 140	4.8 to 9.7	100	6.9	32.4	121.0	53.5	201.4	78.9	300.0	87.3	331.0	104.2	394.4
MR98H-30	1" FNPT	70 to 140	4.8 to 9.7	100	6.9	32.4	121.0	53.5	201.4	78.9	300.0	87.3	331.0	104.2	394.4
MR98H-31	1" FNPT	130 to 200	9.0 to 13.8	175	12.1	29.6	112.4	47.9	178.9	77.5	291.5	90.1	342.3	118.3	446.5
MR98HH-19	1" FNPT	150 to 375	10.3 to 25.9	250	17.2	27.6	104.4	37.7	142.3	61.7	233.8	83.4	315.5	113.0	426.8

Vapor Relief Valves

Liquid service relief valves are designed for pressure relief and back-pressure control in LPG liquid transfer, pumping, and vaporization systems. The internal pressure registration design eliminates the need for an external sensing line, simplifying installation while providing reliable, automatic pressure protection. These valves help safeguard system components by relieving excess pressure caused by thermal expansion or operating conditions in liquid service applications

TYPE 1805

TYPE 289H

TYPE 1808

Type	Body Size, IN.	Start-to-Discharge		Spring Range		Pressure Buildup over Set Pressure		Capacity (Air)	
		psig	bar	psig	bar	psig	bar	SCFH	Nm^3/h
1805-18P	1" FNPT	15	1.03	5 to 35	0.34 to 2.41	15	1.03	6160 at 30 psig	161 at 2.07 bar
1805-51P	2" FNPT	15	1.03	5 to 20	0.34 to 1.38	15	1.03	28,500 at 30 psig	748 at 2.07 bar
1808A-61	2" FNPT, Angle	20	1.4	15 to 40	1.03 to 2.76	10	0.69	78,230 at 30 psig	2053 at 2.07 bar
289H-42	1" FNPT	15	1.03	4 to 15	0.28 to 1.03	15	1.03	33,880 at 30 psig	889 at 2.07 bar
289H-2	2" FNPT	24 in. w.c.	60 mbar	1/2 - 2 1/4	34 to 155 mbar	1.13	78 mbar	15,400 at 2 psig	38 at 138 mbar

02

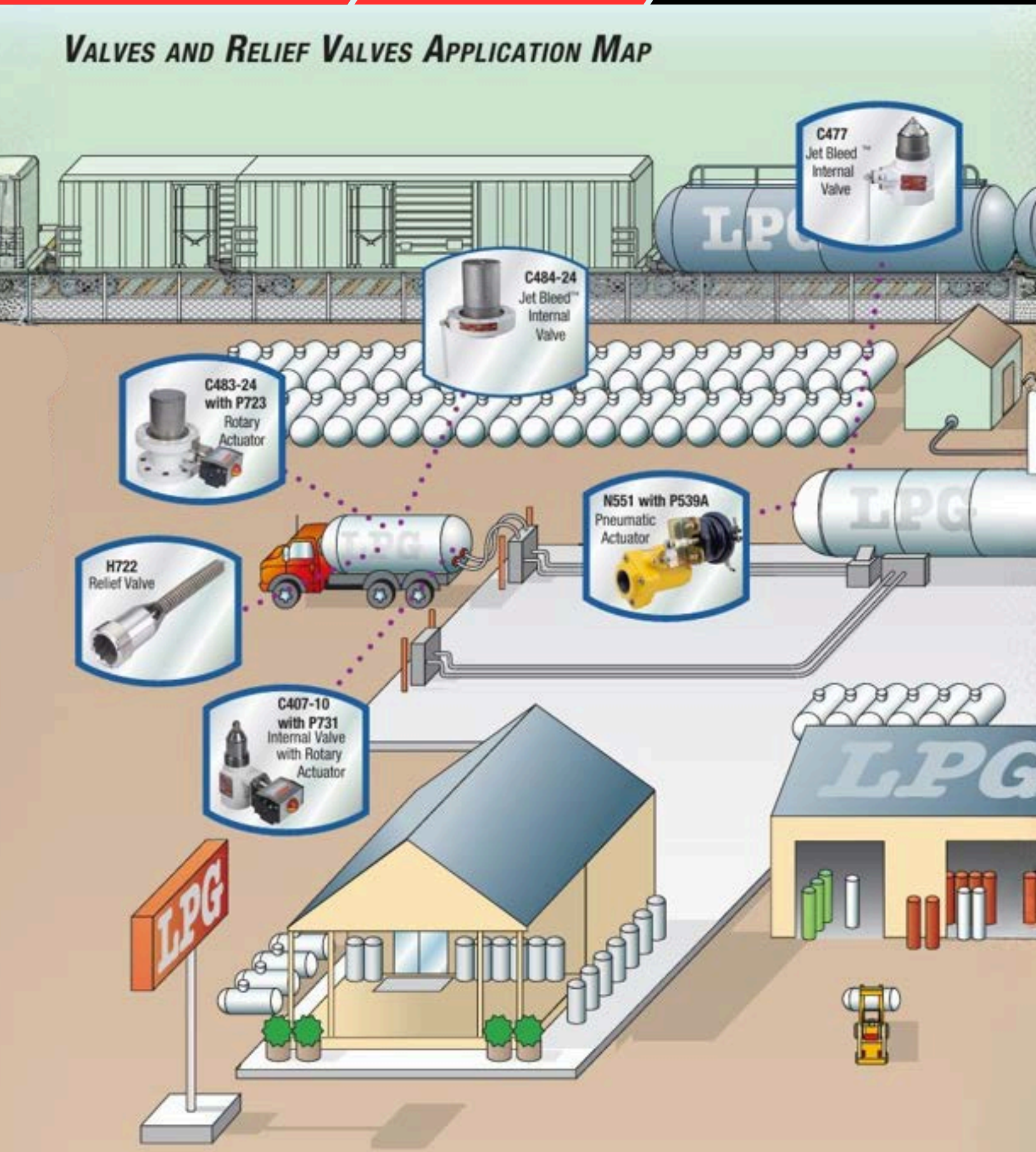
SECTION 02

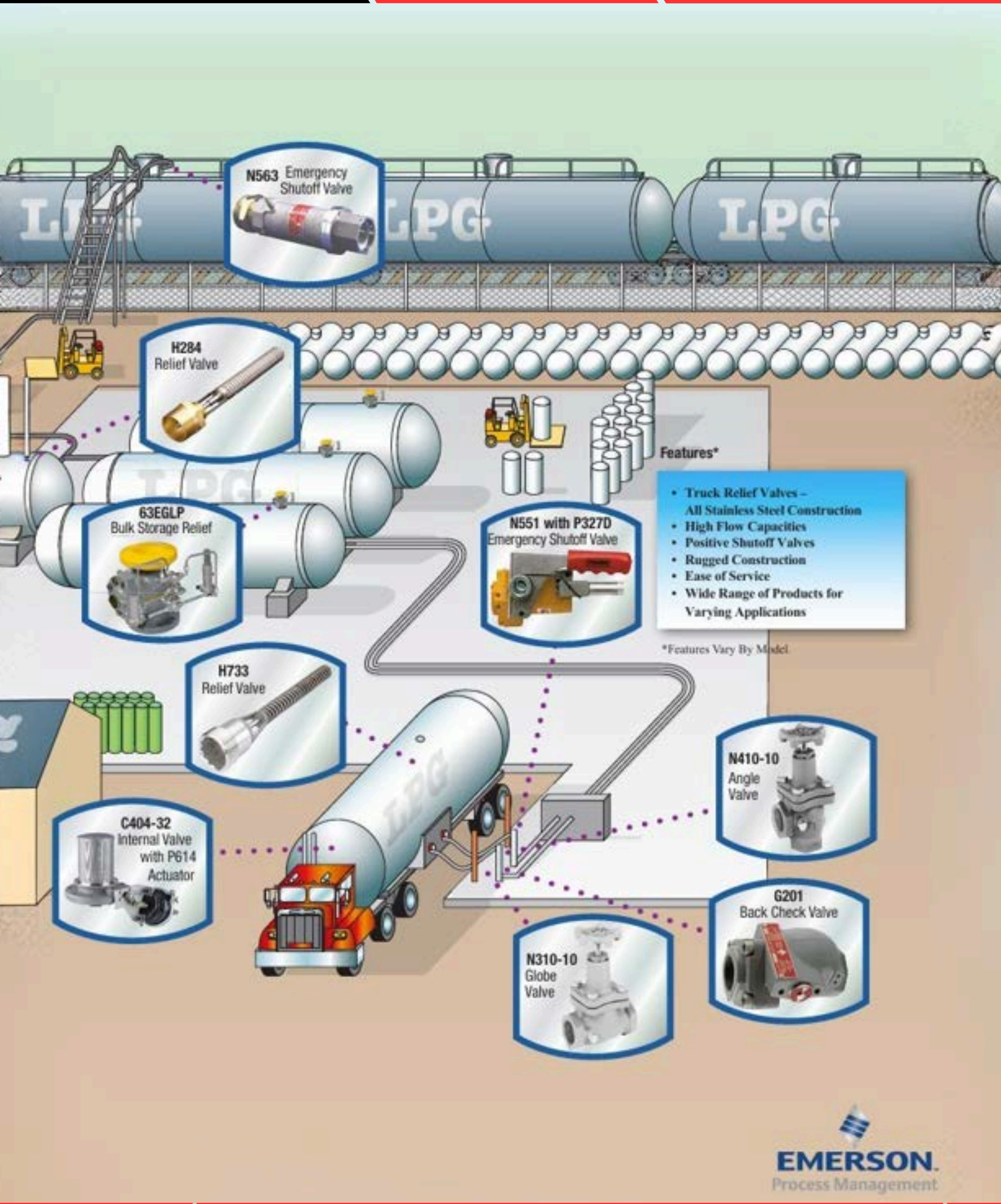
Internal & Emergency Valves for LPG & NH3 Systems

Internal, emergency shutoff, and relief valve solutions for bulk storage and transfer systems.

LPG VENTURES

Valves and Relief Valves Application Map



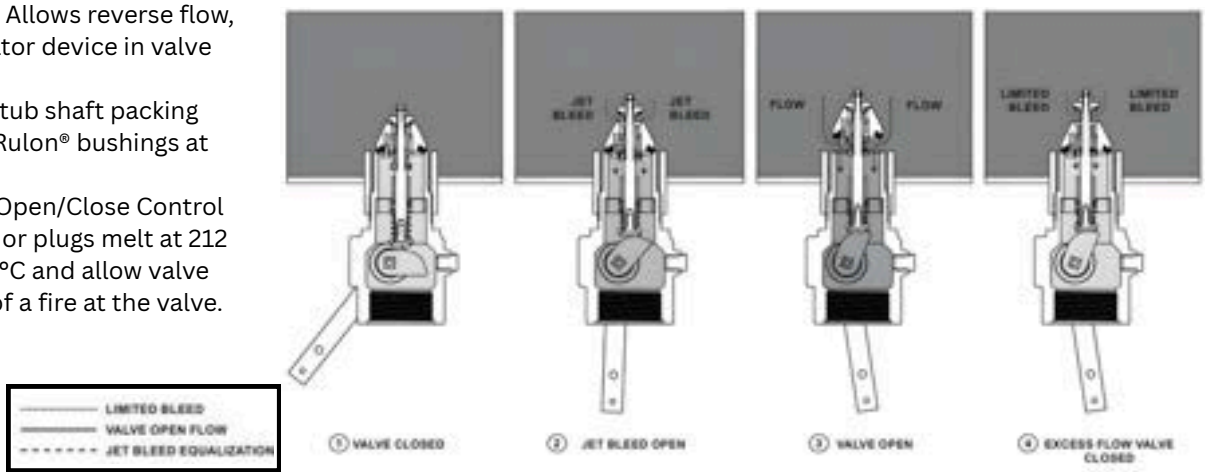

N563 Emergency Shutoff Valve
LPG
LPG
LPG
H284 Relief Valve
Features*
• Truck Relief Valves – All Stainless Steel Construction
• High Flow Capacities
• Positive Shutoff Valves
• Rugged Construction
• Ease of Service
• Wide Range of Products for Varying Applications
*Features Vary By Model
63EGLP Bulk Storage Relief
N551 with P327D Emergency Shutoff Valve
H733 Relief Valve
N410-10 Angle Valve
C404-32 Internal Valve with P614 Actuator
G201 Back Check Valve
N310-10 Globe Valve
EMERSON
Process Management

Fisher Brand Internal Valves

Fisher® brand internal valves have gained wide field acceptance for use as primary shutoff valves, excess flow valves and back check valves. Internal valves are installed in the inlets and outlets (liquid or vapor) of pressure vessels and in piping systems to control the flow of LPG and Anhydrous Ammonia (NH_3). The most frequent application is on bobtail and transport truck tanks, but they may also be used on large stationary storage tanks and on in-line installations. The valves can be used in conjunction with or without pumps and compressors.

Features and Benefits

- **Patented rapid equalization bleed area*** - Provides fast valve response for quick opening by moving the flow area away from the stem and allowing it to flow through the poppet. This not only increases flow rate, but also greatly improves valve cycle life, which directly improves expected service life.
- **Unique Serviceability Features*** - Removable gland packing, stainless trim parts and poppet designed with integral wrench flat for easy maintenance.
- **Durable Design** - Stainless poppet and stem interface smoothly for a long wear life.
- **Excess Flow Closure** - Functions when flow exceeds the valve's rated capacity or piping is sheared off at the valve.
- **Back Check Feature** - Allows reverse flow, with or without actuator device in valve open position.
- Spring-loaded PTFE stub shaft packing
- PTFE wear pads and Rulon® bushings at critical wear points
- Manual, Cable or Air Open/Close Control
- Thermal Fusible links or plugs melt at 212 to 220°F / 100 to 104°C and allow valve closure in the event of a fire at the valve.



Features and Benefits

The operational schematic below depicts threaded valves; however, flanged styles operate in the same manner. For detailed information, refer to the Instruction Manual provided with the valve.

View #1:
The valve is held closed by both tank pressure and the valve's closing spring. There is no leakage past the resilient seats in the poppet to the valve outlet.

View #2:
The valve is opened by moving the operating lever to approximately midpoint in its 70° travel. This allows the cam to place the rapid equalization portion of the valve stem in the pilot opening, permitting a larger amount of product to bleed downstream than if the operating lever were moved to the full open position.

***Unique to the Jet Bleed Internal™ Valve Design only.**

1. Because of the integral back check function of these valves, selective filling of manifold storage tanks requires the use of additional shutoff valves.

View #3:
When tank and downstream pressure are nearly equal after a few seconds, the excess flow spring pushes open the main poppet, and the operating lever can be moved to the fully open position.
If tank pressure is greater than the valve's outlet pressure, the main poppet will remain in the closed position. If valve outlet piping is closed off by other valves, however, product bleeding through the pilot will increase until it nearly equals tank pressure and the main poppet opens.
The main poppet will not open if valve outlet piping is not closed off so that the outlet pressure can approach tank pressure.

View #4:
Once the main poppet opens, a flow greater than the valve's excess flow spring rating or a sufficient surge in flow forces the main poppet closed against the excess flow spring. The pilot valve allows a small amount of product to bleed, but much less than in view #2 where the rapid equalization portion of the stem is placed in the pilot opening.

When the operating lever is moved to the closed position, the valve closes immediately and seals tightly (view #1).

Threaded Internal Valves

Fisher internal valves have gained acceptance as the primary shutoff valve, excess flow valves, and the back check valves. They are installed in the inlets and outlets of pressure vessels and piping systems to control the flow of LPG, NH3 and NGL's. It features a patented rapid equalization bleed area which provides fast valve response for quick opening by moving the flow area away from the stem and through the poppet.

Each threaded internal valve has a compact, single-piece body design for use in liquid and vapor bobtail, transport and bulk plant applications. They can be actuated manually, by cable controls or by use of pneumatic cylinders.

FISHER™ TYPES C471 AND C477 JET BLEED INTERNAL VALVES

C486 SERIES

C407-10 SERIES

Featuring
JET BLEED
Internal™ Valve Technology

Connection	Type		Closing Flow [2]		Vapor Capacity [2]		Closing Flow (NH_3) [3]
	Straight Body	Tee Body	Half Coupling	Full Coupling	25 psig / 1.7 bar inlet	100 psig / 6.9 bar inlet	Half Coupling
			GPM | l/min	GPM | l/min	SCFH / SCMH	SCFH / SCMH	GPM | l/min
1-1/4" MNPT × 1-1/4" FNPT	C407-10-08[1]	—	65 / 246	50 / 189	15,800 / 447	27,600 / 781	72 / 272
2" MNPT × 2" FNPT	C477-16-25	C471-16-25	250 / 946	130 / 492	—	—	227 / 859
3" MNPT × 3" FNPT	C477-24-26	—	265 / 1,003	230 / 871	71,800 / 2,033	127,000 / 3,596	240 / 908
	C477-24-46	C471-24-46	460 / 1,741	380 / 1,438	—	—	418 / 1,582
3" CL300 RF × 3" FNPT	C486-24-46	—	460 / 1,741	380 / 1,438	—	—	418 / 1,582

1. Includes a factory-installed Type P340 / P341 latch.
2. LPG vapor exceeds UL differential requirement of 15 psid / 1.03 bar d.
3. Closing flows and vapor capacities listed are with valve in “bottom of tank” position. See product bulletins for additional data.

Flanged Internal Valves

Flanged internal valves help provide a sturdy and compact means of directly mounting a pump or piping connection using special stud bolts. All flanged valves come standard with an internal screen for pump protection. A built-in excess flow valve reduces the possibility of uncontrolled product discharge when it reaches its maximum capacity.

TYPE C483-24

Closing Flow Rates – Vapor (SCFH / SCMH)					
Size	Type Number	Propane Bottom Single Flanged	Propane Bottom Double Flanged	Propane Top Single Flanged	Propane Top Double Flanged
3" / DN 80	C483-24-16	71,000 / 2011	71,000 / 2011	96,000 / 2718	96,000 / 2718
3" / DN 80	C483-24-40	181,000 / 5125	181,000 / 5125	190,000 / 5380	190,000 / 5380

Closing Flow Rates – Liquid (GPM / LPM)							
Size	Type Number	Propane Bottom Single Flanged	Propane Bottom Double Flanged	Propane Top Single Flanged	Propane Top Double Flanged	NH3 Bottom Single Flanged	NH3 Bottom Double Flanged
3" / DN 80	C483-24-26	250 / 946	265 / 1003	400 / 1514	290 / 1098	239 / 905	226 / 855
3" / DN 80	C483-24-40	400 / 1514	400 / 1514	400 / 1514	400 / 1514	361 / 1366	361 / 1366

- Liquid flow rates are shown in GPM / LPM for propane and anhydrous ammonia service.
- Vapor flow rates are shown in SCFH / SCMH at 100 psig / 6.9 bar inlet pressure.
- Flow rates are based on valve orientation and mounting position at the top or bottom of the tank.
- Listed capacities represent closing flow performance of the internal valve.
- Actual system performance may vary depending on installation, piping configuration, and operating conditions.

Flanged Internal Valves: High Flow

Fisher™ flanged internal valves (Type C404-32) are widely used on transport trucks and large storage tanks. Their stainless steel construction provides exceptional durability and corrosion resistance, helping ensure long service life in demanding applications. These valves are designed for high-flow performance and include built-in protection features to guard against damage during operation.

High-flow flanged valves are suitable for liquid or vapor service and are commonly paired with pumps and piping systems requiring secure mounting through stud-bolt flanges. Every valve includes an internal screen for pump protection and a built-in excess flow mechanism that closes automatically if flow exceeds the rated capacity.

Type Number[1]			Inlet (in. / DN)	Outlet (in. / DN)	Closing Flow (GPM / L/min) [2]	Vapor Capacity: SCFH / SCMH	
						25 psig / 1.7 bar	100 psig / 6.9 bar
	C404A 32-34	C404M 32-34	4" / 100 CL300 ASME RF Modified 5-7/8 in / 149 mm bore	4" / 100 CL300 ASME RF	340 / 1287	61,600 / 1745	104,800 / 2968
	C404A 32-40	C404M 32-40			400 / 1514	63,900 / 1810	108,600 / 3076
	C404A 32-60	C404M 32-60			600 / 2271	83,200 / 2356	141,500 / 4007
C404-32-80	C404A 32-80	C404M 32-80			800 / 3028	259,600 / 7352	356,200 / 10,088
C404-32-100	C404A 32-100	C404M 32-100			1000 / 3785	-	-

1. 4 in. / DN 100 Size available in single flange only
2. Closing flow vertical down.

Bulk Plant Relief Valves

Bulk plant relief valves offer dependable overpressure protection for large storage installations. The 63EGLP series is available in both 4" CL300 flanged and 2" MNPT configurations, each using the same pilot options for consistent performance and simplified maintenance. These pilot-operated designs provide precise relief control and reliable operation, helping protect pressure vessels while limiting product discharge into the environment.

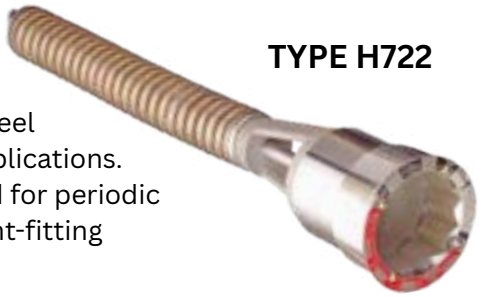
TYPE 63EGLP

TYPE 63EGLP-16

Type	Container Connection IN.	Set Pressure		Replacement Pilot Type	Flow Rate (SCFM/SCMM AIR)	
		PSIG	BAR		PER UL-132 (1)	PED Cat. IV (2)
63EGLP-250	4" CL300 RF FLANGE (3)	250	17.2	6358EBLP-250	38,794 / 1099	N/A
63EGLP-16-250	2" MNPT	250	17.2	6358EBLP-250	10,540	298

(1) Capacity recorded at 20% over set pressure, UL listed for LPG
*(2) Flow Rate (SCFM Air) = 121.5 * Set Pressure (psig) + 1602*
(3) Flange Reducer 4 x 3 in. flange connections available upon request

Internal Relief Valves: Flush Mounted



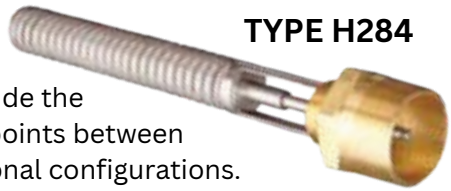
TYPE H722

Flush-mounted internal relief valves are primarily used on trucks transporting LP-Gas, NH_3, and other compressed gases. The Type H722 and H733 stainless steel relief valves are rust- and corrosion-resistant, making them ideal for mobile applications. The compact stainless-steel construction allows the valve to be easily removed for periodic DOT-required testing and fits modern economical standard tank couplings. Tight-fitting protective caps minimize debris obstruction during valve discharge.

Type	Container Connection (in.)	Start-to-Discharge		Flow Capacity (SCFM/SCMH Air)		Tank Area Up To (3) (ft^2 / m^2)	Protective Cap Included
		psig	bar	UL	ASME		
H722-250	2" MNPT(1)	250	17.2	3635 / 6176	3203 / 5136	171 / 15.9	Type P297
H722-265	2" MNPT(1)	265	18.3	3556 / 6042	3386 / 5753	166 / 15.4	Type P297
H733-250	3" MNPT(2)	250	17.2	10,150 / 17,245	9369 / 15,918	598 / 55.6	Type P298
H733-265	3" MNPT(2)	265	18.3	10,940 / 18,587	9904 / 16,827	655 / 60.9	Type P298
H733F-250	3" CL300 RF Flange	250	17.2	10,150 / 17,245	9369 / 15,918	598 / 55.6	Type P298
H733F-265	3" CL300 RF Flange	265	18.3	10,940 / 18,587	9904 / 16,827	655 / 60.9	Type P298

1. *Order Type P304 (1-1/2 in. hex bar) installation wrench.*
2. *Order Type P305 (2-1/2 in. hex bar) installation wrench.*
3. *Based on UL flow capacities.*

Internal Relief Valves: Semi-Internal



TYPE H284

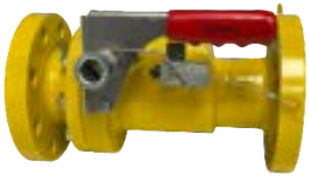
Semi-internal relief valves position only the poppet and part of the main body inside the vessel, with all other components safely positioned externally. Special-order set points between 100–400 psig are available—contact your LPG Ventures representative for additional configurations.

Type	Container Connection (in.)	Service	Material	Start-to-Discharge		Flow Capacity (SCFM/SCMH Air)		Tank Area Up To (3) (ft^2 / m^2)
				psig	bar	UL	ASME	
H284-250	2" MNPT	LPG	Brass	250	17.2	10,530 / 17,891	9724 / 16,521	625 / 58.1
H5114-250	2" MNPT	NH_3 or LPG	Stainless Steel	250	17.2	10,530 / 17,891	9724 / 16,521	625 / 58.1
H5114-265	2" MNPT			265	18.3	11,300 / 19,199	10,280 / 17,466	681 / 63.3

1. *Use with a 3.5 in. hex installation tool.*
2. *Based on UL flow capacities.*

Emergency Shutoff Valves: Bulk Plants

Type N551
(Valve Closed)



N551-24F / 3in
CL300 Flanged ESV

P539A
(Actuator)

P327D
(Actuator)

Snappy Joe™ Emergency Shutoff Valves for Bulk Plants

Snappy Joe™ **Type N551** Emergency Shutoff Valves are designed for in-line installation at bulk plants, typically near transfer points or bulkheads. These valves provide fast, dependable shutdown of LPG, NH_3, or NGL flow in the event of a hose rupture, piping failure, or emergency condition.

Available in FNPT and **CL300** flanged body sizes, **N551** Series ESVs support multiple actuation options including manual, cable-pull, and pneumatic release, making them well suited for demanding bulk plant applications.

High Flow Capacity: The internal poppet fully retracts from the flow stream to minimize restriction and deliver high flow capacity. Larger models, including the **N551-24** and **N551-24F**, are engineered for high-demand propane service..

Operational Ease: Raising the operating lever opens the valve and provides a clear visual indication of open position. A pilot valve pressurizes the hose until pressure equalizes, allowing the poppet to open smoothly. Closing is accomplished by pushing the lever down until latched. All valve sizes operate in the same manner for consistent use.

Safety and Fire Protection: A fusible element at the lever hub melts when exposed to fire, allowing the valve to close automatically even if the lever is not manually operated. Valves are pressure rated to 400 psig and constructed using UL listed materials suitable for low-temperature service.

Rugged Construction: Snappy Joe ESVs are built for continuous, heavy-duty service.

- Protected internal closing spring
- UL listed seals rated to -40°F (-40°C)
- Fire-resistant backup seals on select models, including N551-24F
- Pressure rated to 400 psig (27.6 bar) WOG

Ease of Service: Routine maintenance and seal replacement can be performed without removing the valve from the line. External wear components are easily accessible to minimize downtime.

Cable Release: Standard valves include a release mechanism for cable attachment. The **Type P164B** release assembly provides 50 feet (15 m) of cable housing that eliminates the need for elaborate guiding hardware.

Pneumatic Operation: Remote pneumatic closure is available using the **Type P327D** release.

- Requires 30–70 psig (2.1–4.8 bar) supply pressure
- Valve can be latched open with local manual closure available
- Loss of supply pressure automatically closes the valve
- Max cylinder pressure: 125 psig (8.6 bar)
- Operating range: -40 to 160°F (-40 to 71°C)

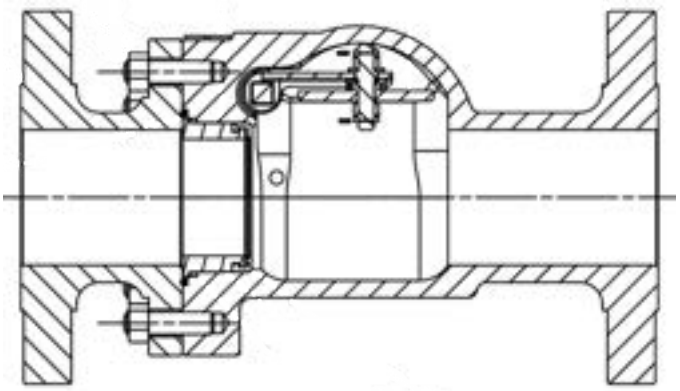
The **Type P539A** actuator enables remote open and close using a pneumatic 4-way valve.

- Opens at 20 psig (1.4 bar)
- Max operating pressure: 30 psig (2.1 bar)
- Spring closes valve immediately on air loss

Type N851 Valves for Special Service

Type N551 valves are available with alternate elastomers for demanding applications.

- Type N851K includes FFKM (Kalrez®-type) elastomers for enhanced chemical resistance
- Additional materials available for specialized service



Type	Body Size, In.	Flow in GPM / L/min Propane		Accessories
		1 psid / 69 mbar d	2 psid / 0.14 bar d	
N551-10	1-1/4" FNPT	110 / 416	150 / 568	• Type P164B Cable Release • Type P327D Pneumatic Release • Type P539A Pneumatic Actuator
N551-16	2" FNPT	190 / 719	295 / 1117	
N551-24	3" FNPT	580 / 2195	850 / 3127	
N551-24F	3" CL300 Flanged	-	850 / 3127	

Emergency Shutoff Valves: Railcar

Designed for dependable performance in demanding applications, this pilot-operated valve integrates excess flow protection, thermal shutoff, and precise pressure control in a compact, UL-listed assembly. Internal components: including a hardened stainless steel poppet, piston, and seat disc; work together to ensure fast response, tight sealing, and long service life. Multiple seal material options support compatibility with a wide range of fluids, while features such as a quick-disconnect nipple, fuse plug, and wrenching hex simplify installation, maintenance, and system safety.

Features:

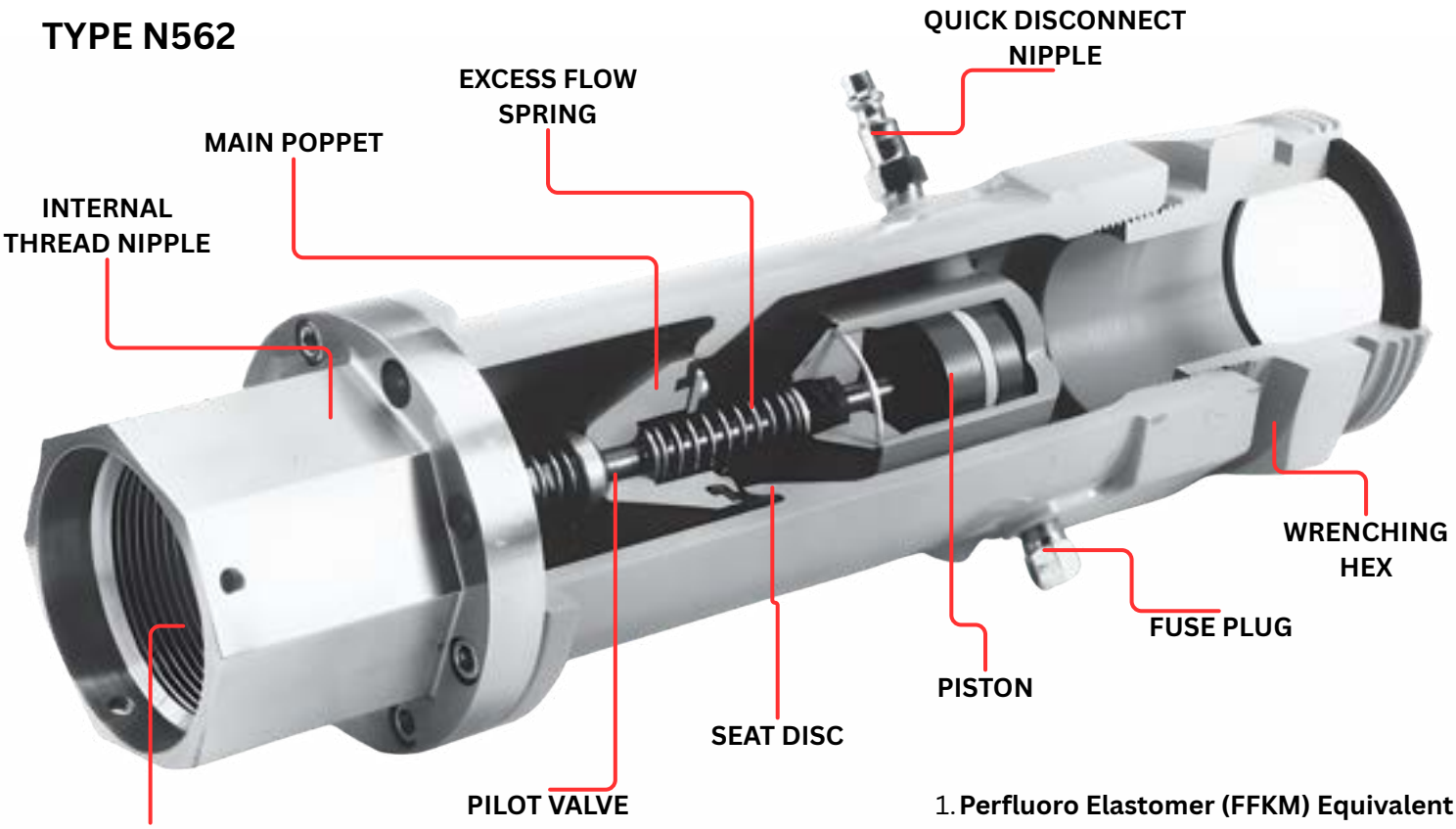
- Available in excess-flow and high-flow models
- Low restriction to flow
- UL listed for LPG service
- Standard Nitrile (NBR) elastomers
- Optional seals: Kalrez, Viton, Neoprene, EPDM, Teflon

COMPACT, PILOT-OPERATED DESIGN COMBINING EXCESS FLOW PROTECTION, THERMAL SHUTOFF, AND RELIABLE PRESSURE CONTROL IN A UL-LISTED ASSEMBLY.

Railcar Emergency Shutoff Valves with Excess Flow				
Type	**Elastomer**	**UL Listed**	**Inlet Connection (in.)**	**Outlet Connection (in.)**
N562-26	Nitrile (NBR)	Yes	2" FNPT	3-1/4" Male Acme
Flow rates are in GPM: Up to 200 GPM				

Railcar High Flow Emergency Shutoff Valves				
Type	**Elastomer**	**UL Listed**	**Inlet Connection (in.)**	**Outlet Connection (in.)**
N563-26	Nitrile (NBR)	Yes	2" FNPT	3-1/4" Male Acme
Flow rates are in GPM: Up to 413 GPM				

TYPE N562



1. **Perfluoro Elastomer (FFKM) Equivalent**
2. **PTFE Equivalent**
3. **Fluorocarbon (FKM) Equivalent**

Internal Valve Accessories

Cable controls can be equipped and installed to remotely open and close all internal valves. The controls can also be utilized in stationary storage tanks at bulk plants and in on-line applications to increase safety.

P313-P340 SERIES

TYPE P164C

TYPE P650

TYPE P341

INTERNAL VALVE SIZE, IN. / DN	PRIMARY CABLE CONTROL	AUXILIARY REMOTE RELEASE	CABLE ASSEMBLY	LATCH/RELEASE MECHANISM
1-1/4", 2", and 3" / 32, 50 and 80 (NPT or Flanged)	Type P650 or P651[1]	Type P163A or P164A	Included with Type P650	Type P341, P342 (C407–10 Series) or Type P340 (C400 Series)
4" / 100 Flanged	Use Alleghey or Wheaton Controls	Type P315	Type P314	Type P313[2]

1. Type P651 is a primary control only, no accessories.
2. Use with Type P315 remote release mechanism.

Pneumatic Actuators

P Series pneumatic actuators can be ordered with internal valves that permit the valve to be opened from a remote location. Upon loss of air pressure, the valve's operating lever returns to the closed position.

BRAKE CHAMBER STYLE

ROTARY STYLE

INTERNAL VALVE TYPE	BRAKE CHAMBER STYLE PNEUMATIC ACTUATOR		ROTARY STYLE PNEUMATIC ACTUATOR	
	Type	Supply Pressure: psig / bar	Type	Supply Pressure: psig / bar
C407-10	P389	60 to 250 / 4.1 to 17.2	P731	50 to 125 / 3.5 to 8.6
C484-24	P613	20 to 125 / 1.4 to 8.6	P713	25 to 125 / 1.7 to 8.6
C483-24	P623	20 to 125 / 1.4 to 8.6	P723	25 to 125 / 1.7 to 8.6
C471 and C477 (2" & 3" NPT Sizes)	P639A	20 to 125 / 1.4 to 8.6	P739	25 to 125 / 1.7 to 8.6
C404-32	P614A	40 to 125 / 2.8 to 8.6	P714	40 to 125 / 2.8 to 8.6

Pneumatic Piping Equipment

Internal valve pneumatic accessories are designed to allow the valves to be controlled from remote locations. All tubing and fittings meet ANSI, NFPA and DOT standards and can be used on bobtails and transports as well as stationary LPG, NH_3 and NGL plants.

Nylon Tubing	
PART NUMBER	**DESCRIPTION**
PN025-100	1/4" – 100' Roll
PN025-500	1/4" – 500'
PN025-1000	1/4" – 1000'

Nylon Tubing x Tube Fittings	
PART NUMBER	**DESCRIPTION**
PN-ELO25	1/4" Tube × Tube Elbow
PN-CPO25	1/4" Tube × Tube Coupling
PN-TE025	1/4" Tube Tee
PN-WY025	1/4" Tube Wye
PN-BKUN025	1/4" Bulkhead Union
PN-CPO25-2	1/4" Tube × 1/4" MPT Coupling
PN-CPO25-3	1/4" Tube × 1/8" MPT Coupling
PN-ELO25-2	1/4" Tube × 1/4" MPT Elbow
PN-ELO25-3	1/4" Tube × 1/8" MPT Elbow

Stainless Steel Tubing	
PART NUMBER	**DESCRIPTION**
PN025-SS	1/4" – 20' Stick

Stainless Steel Tubing x Tube Fittings	
PART NUMBER	**DESCRIPTION**
PN-ELO25-SS	1/4" Tube × 1/4" MPT Elbow
PN-CPO25-SS	1/4" Tube × 1/4" MPT Coupling
PN-BRTE025-SS	1/4" Tube Branch Tee × 1/4" MPT
PN-TE025-SS	1/4" Tube Tee
PN-CPO25-SS	1/4" Tube — Straight Through Compression

Misc Components	
PART NUMBER	**DESCRIPTION**
PN-PL025	1/4" Tube Plug
PN-MF012	1/8" Brass Muffler w/ Cone Screen
PN-MF025	1/4" Brass Muffler w/ Cone Screen
PN-BCTE012	1/8" FPT Tee Check Valve

PN025-100

PN-BKUN025

PN-BRTE025-3

PN-EL025

PN-EL025-2

PN-EL025-SS

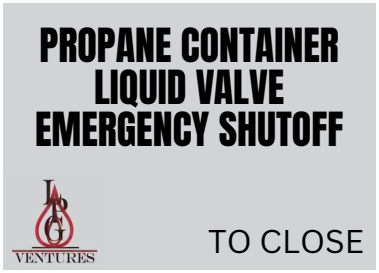
PN-CP025-SS

PN-BRTE025-SS

Continued: Pneumatic Piping Equipment

DE1120 and DE1115 main valves provide reliable pneumatic control of internal valves and emergency shutdown systems. These components are used to open or close liquid and vapor valves quickly and safely during normal operations or emergency situations.

DE1120



DE1115

AQ2000-N02

125V

PART NUMBER	DESCRIPTION
DE1120	Sign-Open/Closed
DE1115	Sign-Emergency
125V	3-Way Dump Valve
3330	3-Way Dump Valve
AQ2000-N02	Quick Vents
8320-Series	ASCO Direct Acting 3-Way Solenoid Valve
8040/124-Y090	E-Stop, Red Mushroom/Key Release, Div 1

3330

8320 SERIES

Nitrogen Regulators

Nitrogen regulators are used to control pneumatic systems that power internal valves and shutdown mechanisms. They provide stable outlet pressure and are compatible with common NH_3 and LPG pneumatic configurations.

PART NUMBER	INLET	OUTLET	OUTLET PRESSURE
N1000	1/4" FNPT	1/4" FNPT	0–250 PSI
N1001	M POL (CGA 580)	1/4" MNPT	—

SECTION 03

LPG & NH3 Service Valves & Flow Control Valves

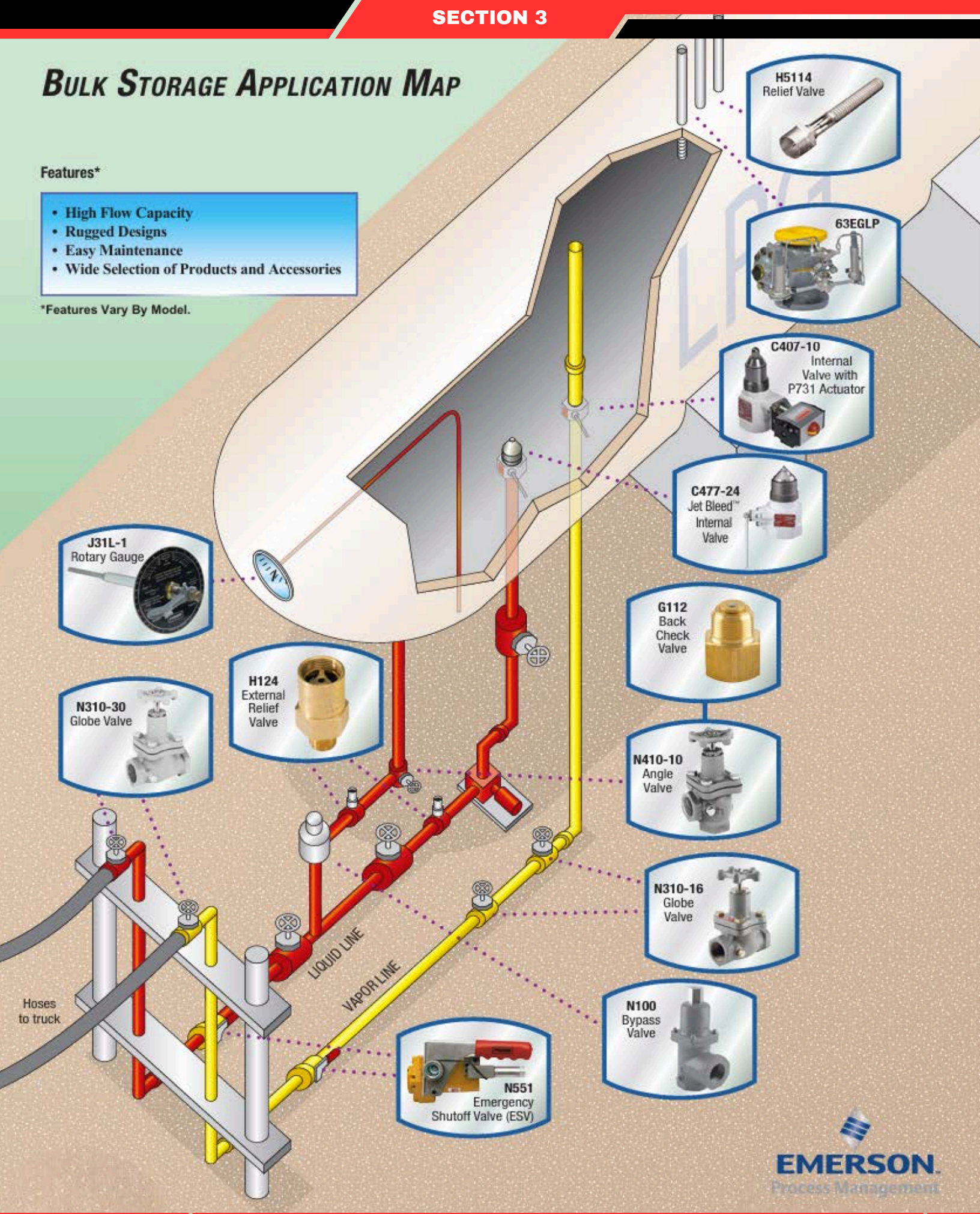
Excess flow, service, relief, and specialty valve solutions for LPG and NH_3 applications.

Bulk Storage Application Map

Features*

- High Flow Capacity
- Rugged Designs
- Easy Maintenance
- Wide Selection of Products and Accessories

*Features Vary By Model.



EMERSON
Process Management

Excess Flow Valves

Excess flow check valves are designed to automatically close when excessive discharge occurs due to a hose or piping failure. These valves help protect cylinders, tanks, and piping systems by limiting uncontrolled product release. Available in a wide range of sizes and configurations for LPG and NH_3 service.

TYPE F138

F100 SERIES

TYPE F190

TYPE	MAT.	APPLICATION	INLET CONNECTION (IN.)	OUTLET CONNECTION (IN.)	UL Rated Closing Flow (Horizontal Position)			DIFFERENTIAL PRESSURE (psid / bar d)	WORKING PRESSURE (psig / bar)
					LIQUID FLOW (GPM / l/min)	Vapor SCFH / SCMH			
						25 psig / 1.7 bar	100 psig / 6.9 bar		
F138	Brass	In-Line	1/4" MNPT	1/4" FNPT	1.8 / 6.8	377 / 10.7	641 / 18.2	1.4 / 0.097	250 / 17.2
F101	Brass	Tanks (Full or Half Coupling)	3/4" MNPT	3/4" FNPT	20 / 76.0	3459 / 97.9	5880 / 167	8.5 / 0.59	
F105	Brass		1-1/4" MNPT	1-1/4" FNPT	55 / 208	9982 / 283	16,967 / 480	10.7 / 0.74	
F107	Brass		2" MNPT	2" FNPT	100 / 379	20,796 / 589	35,349 / 1001	3.6 / 0.25	
F191	Steel	Tanks[1]	2" MNPT	2" MNPT × 1-1/4" FNPT	105 / 397	18,800 / 532	32,000 / 906	8.9 / 0.61	
F195	Steel	Tanks (Full or Half Coupling)	3" MNPT	2" MNPT	260 / 984	50,650 / 1434	86,350 / 2445	6.9 / 0.48	
F199	Steel		3" MNPT	3" MNPT × 2" FNPT	260 / 984	49,500 / 1402	84,350 / 2389	7.1 / 0.49	

1. LPG or NH3 Service

Sight Flow Swing Check

Sight flow swing check valves provide visual confirmation of liquid flow while preventing reverse flow in transfer systems. A heavy-duty ductile iron body and impact-resistant sight glass offer durability and clear visibility in demanding LPG, NH_3, and NGL applications. These valves are commonly used in bulk plants and transport systems where flow verification and safety are critical.

ME875

Sight Flow Features

- Specially formulated, large-diameter impact-resistant sight glass with O-ring packing seals for maximum safety and visibility
- Durable ductile iron body with cadmium-plated finish
- All steel and stainless steel construction
- Rated up to 400 PSI / WOG
- Hexagon cast ends for ease of installation

Part No.	Inlet & Outlet FNPT	Seal Material	OAL
ME875S-16	2"	Neoprene	5-3/4"
ME875S-24	3"	Neoprene	7-3/8"

Back Check Valves

G100 and G200 Series back check valves are designed to allow flow in one direction while preventing reverse flow in liquid transfer systems. Commonly installed in filling connections, transfer lines, and bulk plant piping, these valves help protect pumps, piping, and storage vessels. The G100 Series is typically used in tank inlet applications, while the G200 Series is built for heavy-duty in-line service at bulk plant transfer areas, with options available with or without flow indicators.

G100 Series

Back check valves permit flow in only one direction and are normally closed. These valves are commonly installed in liquid filling connections on stationary storage tanks, bobtail delivery trucks, and liquid transfer lines. The G100 Series is primarily used in tank inlet connections.

TYPE G102

TYPE G105

G100 Series Back Check Valves						
SEAT CONSTRUCTION	CONTAINER / INLET CONNECTION (IN.)	OUTLET CONNECTION (IN.)	PROPANE FLOW CAPACITY @ 10 psig / 0.69 bar		Type	
			GPM	1/min	Brass	Steel
Metal-to-Metal	3/4" MNPT	3/4" FNPT	21	79.5	G100	—
Metal-to-Metal	1-1/4" MNPT	1-1/4" FNPT	55	208	G101	—
Metal-to-Metal	2" MNPT	2" FNPT	150	568	G102	G112
Metal-to-Metal	2" FNPT	2" FNPT	150	568	G109	—
Metal-to-Metal	3" MNPT	3" FNPT	250	946	—	G104
Soft Seat	2" MNPT	2" MNPT & 1-1/4" FNPT	137.5	520	—	G105
Soft Seat	3" FNPT	2" MNPT	254	961	—	G106
Soft Seat	3" MNPT	3" MNPT & 2" MNPT	254	961	—	G107

G200 Series

The G200 Series Back Check Valves are intended for heavy-duty in-line service at the bulk plant transfer area. These valves allow flow in only one direction and help prevent reverse flow in liquid transfer systems.

TYPE G201

G200 Series Back Check Valves				
Seat Construction	Container or Inlet and Outlet Connection, in.	Flow Capacity (10psig / .69 bar)		Type Ductile Iron Flow Indicator
		GPM	L/min	
Soft Seat	1-1/4" FNPT	190	719	G201-10
Soft Seat	2" FNPT	350	1325	G201-16
Soft Seat	3" FNPT	800	3028	G201-24

Globe and Angle Valves

TYPE N310 GLOBE VALVE

TYPE N310-24 GLOBE VALVE

TYPE N410-24 ANGLE VALVE

TYPE N450 ANGLE VALVE

Globe and angle valves are widely used at bulk plants to control gas flow in piping systems, storage tanks, trucks, pumps, and compressors. The body configuration allows installation in a straight section of pipe using a globe valve or where a change in piping direction is required using an angle valve.

All units include a 1/4 in. FNPT plugged boss on the downstream side of the body. A hydrostatic relief valve (Type H124) or vent valve (Type J402S) can be installed in this outlet as required.

Heavy-duty ductile iron (DI A395) valves are suitable for LPG or Anhydrous Ammonia (NH_3) service. Sizes range from 1/2 to 3 in. (DN 15 to 80). Each valve features spring-loaded PTFE chevron packing for effective sealing and is rated for 400 psig / 27.6 bar WOG with a temperature range of -20 to 160°F (-29 to 71°C).

Valve disc rotation stops as soon as the disc contacts the body seat, minimizing disc wear. Oversized ports across all units provide high flow capacity.

Types N310F and N410F: Heavy-duty globe and angle valves for LPG or NH_3 service with **flanged inlet and outlet connections**. Sizes from 1/2 to 3 in. (DN 15 to 80). A spring-loaded PTFE chevron packing provides a reliable seal. Ball-bearing disc construction on 1-1/4 in. (DN 32) and larger sizes provides a strong stem connection and protection during backflow conditions.

Types N350 and N450: Economy globe and angle valves for LPG service. These valves share many construction features with the N310 and N410 series and are available in 1/2 and 3/4 in. sizes. PTFE spring-loaded packing provides effective sealing throughout the valve's pressure range.

Service	Inlet and Outlet Connection (in. / DN)	Heavy-Duty Globe	Heavy-Duty Angle	Economy Globe	Economy Angle
LPG and NH_3	1" FNPT	N301-08	N401-08	—	—
LPG and NH_3	1-1/4" FNPT	N310-10	N410-10	—	—
LPG and NH_3	1-1/2" FNPT	N310-12	N410-12	—	—
LPG and NH_3	2" FNPT	N310-16	N410-16	—	—
LPG and NH_3	3" FNPT	N310-24	N410-24	—	—
LPG and NH_3	3" 300#	N310F-24	N410F-24	—	—
LPG	1/2" FNPT	—	—	N350-04	N450-04
LPG	3/4" FNPT	—	—	N350-06	N450-06

Ball Valves

Ball valves are straight-through valves that use a round closure element with matching rounded seats to provide uniform sealing stress. They are commonly used where tight shutoff is required and are well suited for handling gases, liquids, and liquids containing suspended solids. These valves are heavy-duty in design and provide reliable performance across a wide range of LPG, NGL, and NH_3 applications.

Standard Ball Valves

Standard ball valves feature a full-port design to minimize pressure drop and allow unrestricted flow. Hot-forged brass construction provides durability, while triple stem seals ensure a blow-out proof stem design. All valves are 100% leak tested and UL listed, with CSA certification available.

Size	Brass	Stainless Steel	Flanged	
			150#	300#
1/4"	100-701	100-967	-	-
3/8"	100-702	100-964	-	-
1/2"	100-703	100-963	-	-
3/4"	100-704	100-964	-	-
1"	100-705	100-965	-	-
1 1/4"	100-706	500-306	600-206	600-226
2"	100-708	500-308	600-208	600-228
3"	100-710	500-310	600-210	600-230
4"	-	-	600-211	600-231
6"	-	-	600-212	600-232
8"	-	-	-	600-233

Carbon Steel Flanged Ball Valves

Carbon steel flanged ball valves are available in a two-piece, full-port configuration with stainless steel trim. These valves utilize flanged connections and body graphite seals for dependable sealing and long service life. Flanged designs are ideal for higher-flow applications and systems requiring Class 300 construction.

Three-Way Ball Valves

Three-way ball valves are available with full or standard port configurations and threaded connections. These valves are rated to 1000 WOG and include an ISO mounting pad for direct actuator mounting. Self-adjusting stem packing and a blow-out proof stem design provide reliable operation and added safety.

T-100NE Ball Valve

The T-100NE series is a two-piece, full-port brass ball valve designed for reliable shutoff in LPG, NH_3, and gas service. Features include a triple-sealing stem, blow-out proof design, and a smooth full-port flow path rated to 600 WOG.

Part Number	Size
100-701	1/4"
100-702	3/8"
100-703	1/2"
100-704	3/4"
100-705	1"
100-706	1-1/4"
100-707	1-1/2"
100-708	2"
100-710	3"

Key Features

- Triple sealing stem with two FKM O-rings and second-generation PTFE seal
- Blow-out proof stem design
- 100 percent leak tested
- 100 percent made in Italy
- Leakproof stem with lifetime warranty
- 29 in-Hg vacuum rating
- Accessories available

VIBRATION PROOF SELF-LOCKING NUT

DOUBLE FKM O-RINGS

T.E.A. COATED BRASS BALL

FL-CS-100-300 Ball Valve

The FL-CS-100-300 series flanged ball valves are full-port Class 300 valves built for higher-pressure LPG and industrial applications. Stainless steel trim and fire-safe graphite seals provide dependable performance and long service life in demanding systems.

Part Number	Size
600-228	2"
600-230	3"
600-231	4"
600-232	6"
600-233	8"

Key Features

- Raised face flange
- Wrench operator
- Locking device comes standard
- Fire-safe stem and body graphite seals
- Air tested seat leakage: 85 PSI
- Hydraulic tested body: 1124 PSI
- 100 percent leak tested
- Wetted surfaces contain less than 0.25 percent lead content
- Repair kits available

T-SS-1000N-4B Ball Valve

The T-SS-1000N-4B stainless steel ball valve is designed for reliable shutoff in LPG, NH_3, and other industrial liquid or vapor service applications. Its full-port design allows unrestricted flow, while stainless steel construction provides corrosion resistance and dependable performance in demanding systems.

Part Number	Size (NPT)
500-301	1/4"
500-306	1-1/4"
500-308	2"
500-310	3"

Key Features

- Latch lock handle can be locked in open or closed position
- 100 percent leak tested
- 29 in-Hg vacuum rating
- Wetted surfaces contain less than 0.25 percent lead content
- Mating flanges available
- Repair kits available

Riser Valves: NH3 Service

Riser valves are designed for dependable liquid withdrawal and pump service in anhydrous ammonia (NH_3) applications. These valves provide controlled excess-flow protection, durable construction, and reliable shutoff performance for riser and transfer systems. All models include a 1/4″ side outlet, typically supplied plugged, with options available for hydrostatic relief where required. Use only with approved fittings and follow all installation guidelines and excess-flow requirements as specified in ANSI Standard CGA 2.1.

AR491NP

AR494NR

ID Tag

Riser Valves						
Part Number	**Application**	**Inlet Connection**	**Outlet Connection**	**Excess Flow Rate**	**1/4″ Side Outlet**	**Repair Kit**
AR491NP-70	Liquid Riser Pump Service	1 1/4" MNPT	1" FNPT	70 GPM	Plugged	310-22
AR492NP-70	Liquid Riser Pump Service	1 1/4" MNPT	1 1/4" FNPT	70 GPM		480-22
AR493NR-95	Liquid Riser Pump Service	2" MNPT	1 1/4" FNPT	95 GPM	Plugged or Hydrostatic Relief	480-22
AR494NR-110	Liquid Riser Pump Service	2" MNPT	1 1/4" FNPT	110 GPM		480-22
ME672D	Withdrawal / Riser Valve	1 1/4" MNPT	1" FNPT	—	Plugged	—

- *Valves must be used with a 2″ forged steel tee or forged steel 90° elbow with extra-heavy hex bushing.*
- *Do not use riser valves in nurse tanks.*
- *For excess-flow verification, refer to ANSI Standard CGA 2.1 or the local authority having jurisdiction.*

Tank Service Valves

Our tank service valves are designed for reliable vapor or liquid withdrawal on NH_3 and LPG storage tanks. Each valve features a durable 3/4" MNPT tank connection and is available with either 1/2" or 3/4" FNPT outlets to match a wide range of installation requirements. Excess-flow models (EP versions) provide built-in flow protection to help reduce the risk of uncontrolled product discharge. All models use the same 407-21 repair kit for simplified service and maintenance, ensuring long-term dependability in demanding applications.

AL409P

AL409EP

Tank Service Valves					
Part Number	**Application**	**Tank Connection**	**Outlet**	**Excess Flow Rate**	**Repair Kit**
AL407P	Vapor or Liquid	3/4" MNPT	1/2" FNPT	N/A	407-21
AL407EP	Vapor or Liquid	3/4" MNPT	1/2" FNPT	12 GPM	407-21
AL409P	Vapor or Liquid	3/4" MNPT	3/4" FNPT	N/A	407-21
AL409EP	Vapor or Liquid	3/4" MNPT	3/4" FNPT	15 GPM	407-21

Nurse Tank Valves: NH3 Service

These valves provide dependable performance for NH_3 nurse tanks, supporting filling, liquid withdrawal, and vapor return applications. Designed for agricultural and industrial ammonia systems, they help ensure safe transfer and controlled flow during tank loading, unloading, and field operations.

Options include MNPT tank connections, Acme or FNPT outlets, excess flow models, back-check designs, and versions with plugged or relief-equipped 1/4" side outlets. Valves are engineered for durability in demanding environments and provide reliable shutoff and flow control for NH_3 handling systems.

All valves are built for rugged agricultural service and offer reliable flow rates at 50 PSI, with higher performance available at increased operating pressures.

Part Number	Application	Tank Connection	Outlet Connection	Excess Flow / Filling Rates	Repair Kit	1/4” FNPT Side Outlet
A525P	Filling	1-1/4" MNPT	1-3/4" Male Acme	45 / 100 GPM(1)	A525P	Plugged
A484N-45	Liquid Withdrawal	1-1/4" MNPT	1-1/4" FNPT	45 GPM	A484N-45	Plugged
A480N-45	Liquid Withdrawal	1-1/2" MNPT	1-1/4" FNPT	45 GPM	A484N-45	Plugged
A480N-60	Liquid Withdrawal	1-1/2" MNPT	1-1/4" FNPT	60 GPM	A484N-60	Plugged
A482N-60	Liquid Withdrawal	1-1/2" MNPT	1-1/2" FNPT	60 GPM	A484N-60	Plugged
A502N-60	Filling / Withdrawal	1-1/2" MNPT	1-1/2" FNPT	60 / 150 GPM(1)	A484N-60	Plugged

(1) Fill rates @ 50 PSI — higher PSI = higher fill rate.

A480N

A482N

A484N

A502N

A525P

Relief Valves & Manifold: NH3 Service

NH_3 relief valves and manifolds are designed to protect anhydrous ammonia systems from overpressure conditions in storage, transport, and piping applications. These components provide reliable pressure relief, are available in multiple sizes and settings, and meet industry standards for safe operation in NH_3 service.

NH3 Relief Valve Manifold			
Part Number	**Includes**	**Tank Connection**	**Relief Setting**
A1416	Manifold	2" FNPT*	————
A1416A	Manifold & 2 A1310A	2" FNPT*	250 PSIG
A1416B	Manifold & 2 A1310B	2" FNPT*	265 PSIG

* Includes 2" close EH seamless nipple
** Packing Kit: 1415-2007 (3 per set)

A1416A

NH3 Relief Valves								
Part Number	**Primary Application**	**Size MNPT**	**Relief Setting**	**Flow Capacity: CFM Air**		**For Tanks w/ Surface Area Up To (Sq. Ft.)**	**Rain Cap**	**Pipeaway Adaptor**
				UL	**ASME**			
A1327	Piping & Hose	1/4"	350 PSI	————	————	————	1325-8	————
A1328		1/4"	450 PSI	————	————	————	————	————
A1301A	Storage & Nurse Tanks	3/4"	250 PSI	1,975	1,884	239	1301-12	————
A1301B		3/4"	265 PSI	2,050	1,937	250	P145*	————
A1310A		1-1/4"	250 PSI	5,759	5,363	882	1310-12	1310-20 (2" FNPT)
A1310B		1-1/4"	265 PSI	5,930	5,924	914	————	————
H722-250	Delivery & Transport Trucks	2"	250 PSI	3,660	3,024	171	P297	————
H722-265		2"	265 PSI	3,555	3,387	166	P297	————
H733-250		3"	250 PSI	10,150	9,369	598	P298	————
H733-265		3"	265 PSI	10,940	9,904	655	P298	————
H5118-250	Bulk Storage	2"	250 PSI	10,530	9,724	625	————	MEP104-24 (3" FNPT)
H5118-265		2"	265 PSI	11,300	10,280	681	————	MEP104-24 (3" FNPT)

* P145 rubber protective cap with strap available as replacement.

A1310A

A1301A

A1327

P145

H722-265

H5118-265

External Relief Valves

External relief valves used on ASME and DOT containers are situated outside of the container connection. They must have protection against mechanical damage, so protection caps are shipped with the external relief valve.

TYPE P206

TYPE P174

TYPE H100

TYPE H173

TYPE H185

Type	Container Type	Container Connection, in.	Start-to-Discharge		Flow Capacity, SCFM / SCMH Air	Pipeaway Adaptor	Protective Cap
			psig	bar			
H185-250[1]	ASME	3/4" MNPT	250	17.2	2223 / 3777	–	P145
H148[1]	DOT or Hydrostatic Relief	1/2" MNPT	375	25.9	903 / 1534[1]	P174 (1/2" FNPT)	P206
H173[1]		3/4" MNPT	375	25.9	903 / 1534[1]	P174 (1/2" FNPT)	P206
H123[1]	Hydrostatic Relief	1/4" MNPT	375	25.9	–	–	–
H124[1]		1/4" MNPT	–	–	–	–	P206
H144[1]		1/2" MNPT	450	31	–	–	–
H174[1]		3/4" MNPT	–	–	–	–	–

1. DOT cylinder water capacity 500 lbs / 227 kg, approved by Bureau of Explosives and CGA.
2. The following are listed under UL® Section 132.

Relief Valve Stacks / Pipe Away Adapter Weather Caps

These accessories are used to redirect discharge flow away from personnel and equipment, while also protecting relief valve outlets from weather and debris.

Item #	Description
RS101	3" × 7" Relief Valve Stack
RS203	3" Metal Stack Cover
P104-24	Pipe Away Adaptor

RS203

P104-24

LPG Transportation Services

“WHEN IT NEEDS TO BE THERE ON TIME”

LPG VENTURES

You can count on LPG Ventures to deliver your tanks, safely, on time, and anywhere in North America. We have the specialized equipment and experienced, courteous drivers to transport oversized loads, pre-cast concrete piers, and more. Our transportation services include:

Our Transportation Capabilities

- **Oversized & Overweight Load Transport**
  Permitted and professionally managed across all required jurisdictions.
- **Tank Delivery up to 120,000 Gallons**
  Safe, secure hauling of large-capacity tanks.
- **Specialized Heavy Haul Carriers**
  Equipment built specifically for large, complex loads.
- **Precision Scheduling & On-Time Delivery**
  When it needs to be there, it’s there.
- **Courteous, Safety-Focused Drivers**
  Experienced professionals who represent your jobsite well.
- **North America–Wide Coverage**
  Reliable delivery anywhere across the U.S. and Canada.
- **Pre-Cast Concrete Pier Delivery**
  Coordinated transport for site-ready installation.
- **Coordinated Tank & Crane Arrival**
  Schedule alignment to keep projects moving.
- **On-Site Unloading with Matched Crane Support**
  Efficient unloading using the same crane as tank placement.

CONTACT US TODAY FOR A QUOTE OR TO SCHEDULE A DELIVERY!

SECTION 04

LPG & NH3 Gauges

Accurate measurement and indication solutions for LPG storage and tank monitoring.

Master Bulk Storage Gauges

The Master Series™ liquid-level gauges are designed to indicate the liquid level contents of LPG, NH_3, and NGL stationary storage tanks. Standard mounting is end or top mounting (special-order angle or straddle mount available) and is designed for a working pressure range from atmospheric to 450 psi. Each gauge comes standard with an 8" dial (4" available) and includes a spiratollic gasket, stud, and nut kit.

The Master Series is available in two basic models:

- **Model A** – Stainless steel senior head mounting to a 2" MNPT senior adaptor
- **Model B** – Stainless steel senior head mounting to a 2-1/2" × 8-bolt flange adaptor

Master Bulk Storage Gauges				
Part Number	**Tank Diameter**	**Tank Opening**	**Model Type**	**Mount**
SG200-96	96"	2"	A	Side / End
SG200-104/108	104"-108"	2"	A	Side / End
SG200-130	130"	2"	A	Side / End
SG250-96	96"	2-1/2"	B	Side / End
SG250-104/108	104" - 108"	2-1/2"	B	Side / End
SG250-130	130"	2-1/2"	B	Side / End

SG250-72

Master Gauge Parts		
Part Number	**Description**	**Model Type**
RM-093	Stud Bolt & Nut Kit (not shown)	–
RM-820	RoadMaster R3D Dial Assembly Complete	–
RM-839	RoadMaster Dial Assembly Complete	–
SG-040	Spirtoallic Gasket	B
SG-076	Sender & cable for RemoteReady dials, Master & RoadMaster	–
SG-206	Master Gasket & Centralizer	B
SG-425	5331 2-1/2" x 8-Bolt Flange Adaptor	B
SG-812	Straddle Mount Adapter w / Screws & Gasket	B

SG-425

SG-405

SG-812

RoadMaster DOT Gauges

The RM Series RoadMaster gauges are designed to withstand the vibration and shock inherent in mobile service. Their service life in over-the-road transports and bobtails carrying LPG, NH_3, and NGL is unsurpassed. These gauges allow continuous readings between 5% and 95% of tank contents.

RoadMaster gauges are installed in the side or end of mobile tanks at the centerline and are equipped with a spring-controlled shock absorber on the float arm to significantly reduce stress caused by vibration. Angle-mount configurations are also available. Standard models mount using an 8-bolt adaptor and incorporate a 4" (100 mm) dial, with an optional 8" (200 mm) dial. Designed for working pressures from atmospheric up to 450 psig (31 bar).

RoadMaster DOT Gauges		
Part Number	**Tank Opening**	**Tank Diameter**
RM250-72	2-1/2"	72"
RM250-74	2-1/2"	74"
RM250-78/79	2-1/2"	78" - 79"
RM250-80	2-1/2"	80"
RM250-82/84	2-1/2"	82" - 84"
RM250-85/86	2-1/2"	85" - 86"
RM250-90	2-1/2"	90"

RM250

Spring Controlled Shock Absorber
Reduces vibration-induced stress on the float arm, extending gauge life in mobile service applications.

Liquid Level Vent Valves

Liquid level vent valves are used to visually verify the maximum liquid fill level in LPG, NH_3, and NGL storage tanks. When opened during filling, these valves release vapor until the liquid level reaches the fixed dip tube, at which point liquid discharge indicates the proper fill level has been achieved. These valves provide a simple, reliable method for preventing overfilling and are commonly used on stationary tanks, nurse tanks, and transport vessels. Available in fixed-level and manual valve configurations, liquid level vent valves are designed for durability, ease of operation, and compliance with applicable industry standards.

FLL025K

FLL025

FLL025-12

FLL075

Liquid Level Vent Valves		
Part Number	**Description**	**Size**
FLL025-12	Fixed Liquid Level Gauge with 12" Dip Tube	1/4" MNPT
FLL025	Liquid Level Valve – Tee Handle	1/4" MNPT
AL404	Liquid Level Valve	3/4" MNPT

Needle Valves

Needle valves provide precise control for pneumatic and instrumentation applications, with a tapered seat and stem for accurate adjustment. Available in brass and stainless steel for bi directional service.

Part Number	Description	Material
V-334	1/4" MNPT x 1/4" FNPT	Brass
V-335	1/4" MNPT x 1/4" FNPT	Stainless Steel

Pressure Gauges

Gauges are designed to measure the pressure of liquid or vapor in LPG, NH_3, and NGL systems. LPG Ventures offers both dry and liquid-filled gauges. Dry gauges are generally more cost-effective, while liquid-filled gauges are recommended where vibration from external sources such as pumps or compressors is expected.

Part Number	Pressure Range	Connection Type	Liquid Filled	Connection Size	Comments
PR100-005	0–5 PSIG	Bottom	No	1/4" MNPT	
PR100-020	0–20 PSIG	Bottom	No	1/4" MNPT	
PR100-035WC	0–35 WC	Bottom	No	1/4" MNPT	
PR100-060	0–60 PSIG	Bottom	No	1/4" MNPT	
PR100-100	0–100 PSIG	Bottom	No	1/4" MNPT	
PR101-400	0–400 PSIG	Bottom	No	1/4" MNPT	Stainless Steel
PR102-400	0–300 PSIG	Bottom	No	1/4" MNPT	4" Dial Face
PR105-030	0–30 PSIG	Bottom	Yes	1/4" MNPT	
PR105-060	0–60 PSIG	Bottom	Yes	1/4" MNPT	
PR105-300	0–300 PSIG	Bottom	Yes	1/4" MNPT	Stainless Steel
PR105-400	0–400 PSIG	Bottom	Yes	1/4" MNPT	
PR105-400-SS	0–400 PSIG	Bottom	Yes	1/4" MNPT	Stainless Steel

To ensure gauge accuracy and long service life, it is recommended that the pressure range of the gauge not exceed twice the normal operating pressure of the system.

Thermometers

These thermometers are designed to provide clear and accurate temperature indication for LPG and NH_3 storage tanks. The rugged construction makes them suitable for outdoor installations, while the sealed design helps protect against dust, moisture, and environmental exposure. The easy-to-read 2" dial allows for quick temp checks during routine inspections and service operations.

Part Number	Dial	Stem	Connection
TH100	2"	6"	1/2" MNPT
TH100-4	2"	4"	1/2" MNPT

Thermowell

Rated for pressures up to 450 PSI, thermowells are intended for use in vessels not equipped with welded wells. They provide protection for thermometer stems while allowing removal or replacement without depressurizing the system.

Part Number	Thermowell Description
TW-6	3/4" × 1/2" × 6" Brass w/ Hex Nut
TW-6-SS	3/4" × 1/2" × 6" Stainless Steel

LPG VENTURES

DOT INSPECTIONS & TESTING

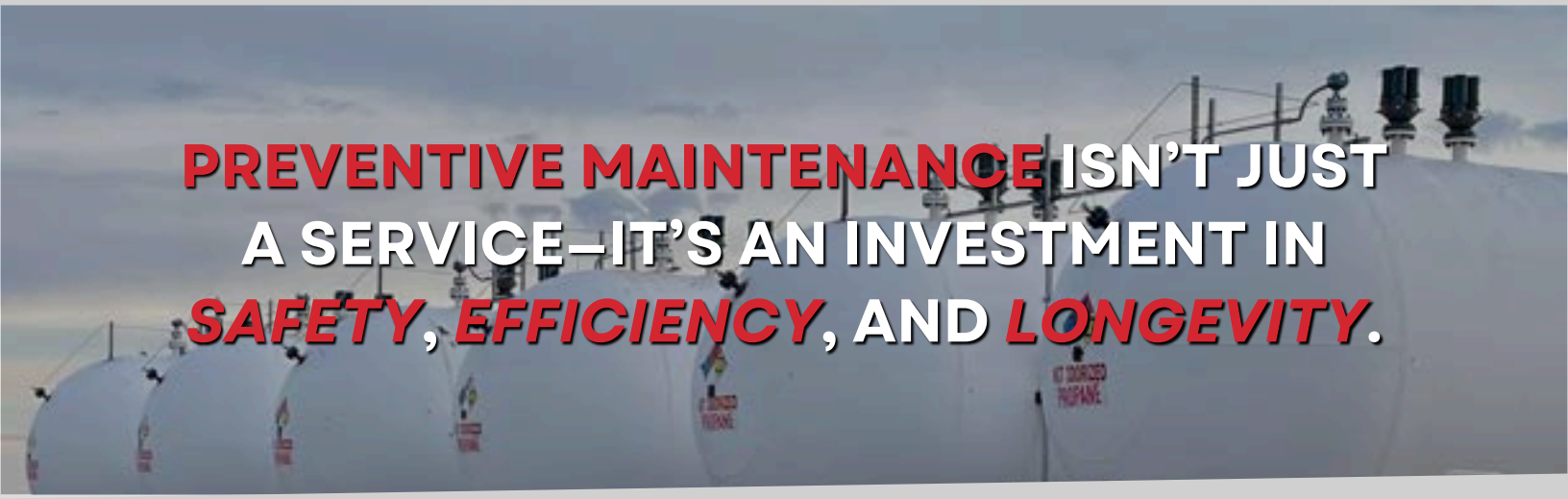
VISUAL, INTERNAL, LEAK, PRESSURE, THICKNESS & UPPER COUPLER INSPECTIONS
WFMPE (WET FLUORESCENT MAGNETIC PARTICLE EXAMINATION)
MOBILE TESTING AVAILABLE UPON REQUEST

REPAIRS & REFURBISHMENTS

BRAKE, LIGHTS & SUSPENSION REPAIRS
VALVE, PUMP & PIPING REPAIRS
BARREL REPAIRS, SANDBLASTING & PAINTING

PARTS & ACCESSORIES

PUMPS, VALVES, SEALS & SMART HOSES
METERS & BOBTAIL ACCESSORIES
FITTINGS, GASKETS & MORE



PREVENTIVE MAINTENANCE ISN'T JUST A SERVICE—IT'S AN INVESTMENT IN *SAFETY*, *EFFICIENCY*, AND *LONGEVITY*.

WITH DECADES OF EXPERTISE, WE HELP YOU:

- **Extend Equipment Life** – Catch minor issues before they become costly problems.
- **Ensure Safety & Compliance** – Stay up to code with ASME & DOT standards.
- **Maximize Efficiency** – Minimize downtime and optimize performance.

DON'T WAIT UNTIL IT'S TOO LATE

SCHEDULE YOUR MAINTENANCE TODAY!

05

SECTION 05

LPG Piping, Flanges & Fittings

Piping components, flanges, gaskets, and hardware for secure LPG system installation.

Piping

Our piping products are available in a wide range of sizes and schedules to support LPG, NGL, and NH_3 installations. Pipe is offered in full 21-foot sticks or cut-to-length, with optional threading services available. Both ERW and seamless pipe options are offered, including coated and fusion-bond coated finishes.

Piping Features

- Sizes available from 3/4" through 12"
- Full 21' lengths or cut to length
- Threading services available
- Available in Schedule 40 or Schedule 80
- ERW or Seamless
- Coated or fusion bond coated

Schedule 40 ERW Pipe							
Part Number	PIPE075-40	PIPE100-40	PIPE125-40	PIPE200-40	PIPE300-40	PIPE400-40	PIPE600-40
Size	3/4"	1"	1-1/4"	2"	3"	4"	6"

Schedule 80 ERW Pipe									
Part Number	PIPE025	PIPE050	PIPE075	PIPE100	PIPE125	PIPE200	PIPE300	PIPE400	PIPE600
Size	1/4"	1/2"	3/4"	1"	1-1/4"	2"	3"	4"	6"

Strut Products & Accessories

Strut systems provide a versatile and durable solution for pipe support and mounting applications. A variety of strut sizes, bases, and pipe clamps are available, with additional sizes and configurations offered upon request.

Strut Clamps	
Part #	**Description**
UNI-050	1/2" I.P. Pipe Clamp
UNI-075	3/4" I.P. Pipe Clamp
UNI-100	1" I.P. Pipe Clamp
UNI-125	1-1/4" I.P. Pipe Clamp
UNI-200	2" I.P. Pipe Clamp
UNI-300	3" I.P. Pipe Clamp
UNI-400	4" I.P. Pipe Clamp
UNI-600	6" I.P. Pipe Clamp

Struts	
Part Number	**Description**
UNI-STRUT	1-5/8" Strut
UNI-BASE 3025	2-Hole Strut Footer
• Larger sizes available • Other styles available	

Piping Accessories & Testing

These piping accessories support long-term protection and monitoring of LPG, NGL, and NH_3 piping systems. Pipe wrap products provide an added layer of corrosion resistance for buried steel pipe, while cathodic protection components help extend system life by reducing the effects of electrolysis in underground installations.

Magnesium anode bags are commonly used in cathodic protection systems to protect vessels and piping from corrosion. Designed for field installation, these anodes are supplied ready for activation and are suitable for a wide range of underground piping applications.

Part Number	Description	Notes
PW100-200	2" Pipe Wrap	100' Roll
PW100-400	4" Pipe Wrap	100' Roll
TEST STATION	Cathodic Protection Test Station	Monitoring Terminal
H1-17#	Anode Bag – Magnesium	-
H1-32#	Anode Bag – Magnesium	-
H1-50#	Anode Bag – Magnesium	-

Additional Notes:

- Cathodic protection is used to help protect underground piping and vessels from corrosion caused by electrolysis
- Magnesium anode bags must be installed per manufacturer recommendations and activated with water
- Each anode bag is supplied with a 10' lead wire to simplify installation and connection

Insulated Flange Kits

Insulated flange kits electrically isolate piping connections to prevent stray current from passing through flanged joints. This isolation helps reduce corrosion caused by electrolysis and supports the effectiveness of cathodic protection systems.

Insulated flange kits electrically isolate piping connections to prevent stray current from passing through flanged joints. This isolation helps reduce corrosion caused by electrolysis and supports the effectiveness of cathodic protection systems.

Part Number	Description
BKI100-150	1" – 150#
BKI100-300	1" – 300#
BKI125-150	1-1/4" – 150#
BKI125-300	1-1/4" – 300#
BKI150-150	1-1/2" – 150#
BKI150-300	1-1/2" – 300#
BKI200-150	2" – 150#
BKI200-300	2" – 300#
BKI300-300	3" – 300#
BKI400-300	4" – 300#
BKI600-300	6" – 300#

Nuts & Bolts not Included

Pipe Nipples

Pipe nipples are manufactured for LPG, NH_3, and NGL service and are available in Schedule 40 or Schedule 80 construction. All nipples are NPT threaded and meet ASTM-A53 specifications. Products are manufactured using ERW construction, with seamless options available upon request.

Schedule 80 (Extra Heavy Black Welded Nipples)								
Size	Close	2"	3"	4"	6"	8"	10"	12"
1/4"	NI025XCL	NI025X2	NI025X3	NI025X4	NI025X6	NI025X8	NI025X10	NI025X12
1/2"	NI050XCL	NI050X2	NI050X3	NI050X4	NI050X6	NI050X8	NI050X10	NI050X12
3/4"	NI075XCL	NI075X2	NI075X3	NI075X4	NI075X6	NI075X8	NI075X10	NI075X12
1"	NI100XCL	NI100X2	NI100X3	NI100X4	NI100X6	NI100X8	NI100X10	NI100X12
1-1/4"	NI125XCL	NI125X2	NI125X3	NI125X4	NI125X6	NI125X8	NI125X10	NI125X12
2"	NI200XCL	NI200X2	NI200X3	NI200X4	NI200X6	NI200X8	NI200X10	NI200X12
3"	NI300XCL	—	NI300X3	NI300X4	NI300X6	NI300X8	NI300X10	NI300X12

Bushings 3000#

Forged steel bushings designed for high-pressure service. All bushings feature NPT tapered threads and meet ASTM specifications, making them suitable for demanding applications requiring durability and reliable performance.

Size ↓ / Outlet →	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	2"
3/8"	BU037X025	—	—	—	—	—	—
1/2"	BU050X025	BU050X037	—	—	—	—	—
3/4"	BU075X025	BU075X037	BU075X050	—	—	—	—
1"	BU100X025	BU100X037	BU100X050	BU100X075	—	—	—
1-1/4"	BU125X025	BU125X037	BU125X050	BU125X075	BU125X100	—	—
2"	BU200X025	BU200X037	BU200X050	BU200X075	BU200X100	BU200X125	—
3"	BU300X025	BU300X037	BU300X050	BU300X075	BU300X100	BU300X125	BU300X200

Swage Nipples

Swage nipples are manufactured from stainless steel and designed for high-pressure LPG, NH_3, and NGL service. These fittings are produced to ASTM A106B specifications and are commonly used for pipe size transitions.

Size	1/2"	3/4"	1"	1-1/4"	2"
1"	SN100X050	SN100X075	–	–	–
1-1/4"	SN125X050	SN125X075	SN125X100	–	–
2"	SN200X050	SN200X075	SN200X100	SN200X125	–
3"	SN300X050	SN300X075	SN300X100	SN300X125	SN300X200

Tees & Elbows

Tees and elbows are available in threaded and butt-weld configurations for a wide range of pressure ratings. Extra-heavy fittings are designed for higher-pressure applications where durability and strength are required.

EXTRA HEAVY 90* STREET ELBOW

EXTRA HEAVY TEES 2000 LB.

EXTRA HEAVY 90* ELBOW

Tees		
Size	Threaded Tee 2000#	Butt Weld Tee Sch 40
1/4"	TE025	TW025
1/2"	TE050	TW050
3/4"	TE075	TW075
1"	TE100	TW100
1-1/4"	TE125	TW125
2"	TE200	TW200
3"	TE300	TW300
4"	–	TW400
6"	–	TW600
8"	–	TW800

Elbows					
Size	Street Elbow 3000#	Threaded Elbow 2000#	Butt Weld Sch 40 Elbow	Threaded 45° Elbow 2000#	Butt Weld 45° Elbow Sch 40
1/4"	SEL025	EL025	–	EL45025	–
1/2"	SEL050	EL050	EW050	EL45050	–
3/4"	SEL075	EL075	EW075	EL45075	EW45075
1"	SEL100	EL100	EW100	EL45100	EW45100
1-1/4"	SEL125	EL125	EW125	EL45125	EW45125
2"	SEL200	EL200	EW200	EL45150	EW45150
3"	SEL300	EL300	EW300	EL45300	EW45300
4"	–	–	EW400	–	EW45400
6"	–	–	EW600	–	EW45600
8"	–	–	EW800	–	EW45800
10"	–	–	EW1000	–	EW451000
12"	–	–	EW1200	–	EW451200

Caps, Plugs & Crosses

Forged steel pipe fittings designed for high-pressure LPG, NH_3, and NGL service. All fittings meet ASTM A53 specifications and are available in threaded and weld configurations for a wide range of installation requirements.

Size	Threaded Cap 2000#	Threaded Plug 3000#	Threaded Cross 3000#	Weld Cap Sch 40
1/4"	CA025	PL025	—	—
1/2"	CA050	PL050	—	—
3/4"	CA075	PL075	CR075	WC075-40
1"	CA100	PL100	CR100	WC100-40
1-1/4"	CA125	PL125	CR125	WC125-40
2"	CA200	PL200	CR200	WC200-40
3"	CA300	PL300	CR300	WC300-40
4"	—	—	—	WC400-40
6"	—	—	—	WC600-40
8"	—	—	—	WC800-40

WELD CAP

THREADED CROSS

THREADED CAP

THREADED PLUG

Couplings & Unions

Couplings and unions are manufactured from forged steel and designed for threaded or socket-weld connections. Available in multiple pressure classes to meet demanding service conditions.

Size	Threaded Coupling 2000# (Sch 80)	Threaded Union 3000#	Threaded Union 150#	Socket Weld Union 3000#
1/4"	CP025	UN025	UN025-40	—
1/2"	CP050	UN050	UN050-40	—
3/4"	CP075	UN075	UN075-40	WU075
1"	CP100	UN100	UN100-40	WU100
1-1/4"	CP125	UN125	UN125-40	WU125
2"	CP200	UN200	UN200-40	WU200
3"	CP300	UN300	UN300-40	WU300

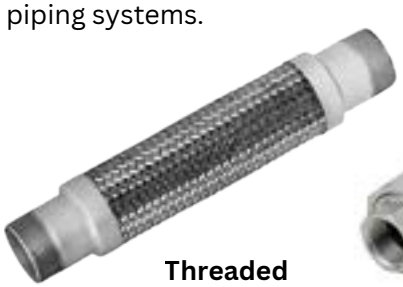
COUPLING FULL

COUPLING SOCKET WELD

SOCKET WELD UNION

Flex Connectors

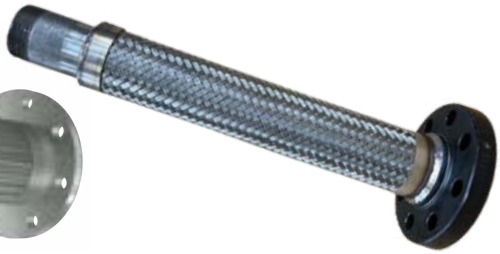
These flex connectors feature braided stainless steel corrugated hose with SCH 80 carbon steel nipples for strength and durability. Assemblies are available in threaded, threaded-with-union, flanged, and flange-by-thread configurations to meet various installation requirements. Optional 3000# union or 300# flange options allow these connectors to handle demanding pressure and vibration conditions commonly found in industrial and commercial piping systems.



Threaded

Threaded with Union

Flanged



Flange x Threaded Flex

Size × Length	Threaded	Threaded w/ Union	Flanged	Flange × Threaded Flange Flex
1 1/4" × 12"	FLX125-12	FLXU125-12	-	FLXFU125-300-12
2" × 12"	FLX200-12	FLXU200-12	-	FLXFU200-300-12
3" × 12"	-	FLXU300-12	-	FLXFU300-300-12
4" × 12"	-	-	FLXF400-300-12	-
1" × 12"	FLX100-12	FLXU100-12	FLXF100-300-12	-
3/4" × 18"	FLX075-18	FLXU075-18	-	-
1" × 18"	FLX100-18	FLXU100-18	FLXF100-300-18	-
1 1/4" × 18"	FLX125-18	FLXU125-18	FLXF125-300-18	FLXFU125-300-18
2" × 18"	FLX200-18	FLXU200-18	FLXF200-300-18	FLXFU200-300-18
3" × 18"	FLX300-18	FLXU300-18	FLXF300-300-18	FLXFU300-300-18
4" × 18"	-	-	FLXF400-300-18	-
6" × 18"	-	-	FLXF600-300-18	-
8" × 18"	-	-	FLXF800-300-18	-

Strainers

Each strainer is designed to protect and extend the life of valves, pumps, traps, pressure regulators, controls, and meters. It prevents foreign objects from entering steam, air, water, oil, and gas lines. The strainer captures debris in the strainer body, which is later removed through the blow-off connection.

Features

- 600# ductile iron
- SS-20 mesh screens
- NPT taper thread

Size	Threaded	Flanged
3/4"	ST075	—
1"	ST100	—
1-1/4"	ST125	—
2"	ST200	STF200
3"	ST300	STF300
4"	—	STF400
6"	—	STF600
8"	—	STF800

Flanges

Flanges are used to create secure, bolted connections between piping, valves, and vessels in LPG, NH_3, and NGL service. Available in multiple pressure classes and connection styles to meet a wide range of installation and maintenance requirements. All flanges are manufactured for strength, durability, and reliable sealing in above-ground and buried piping systems.

Size	Blind 150#	Blind 300#	Weld Neck 150#	Weld Neck 300#	Threaded 150#	Threaded 300#
1"	BL100-150	BL100-300	WN100-150	WN100-300	TH100150-100	TH100300-100
1 1/4"	BL125-150	BL125-300	WN125-150	WN125-300	TH125150-125	TH125300-125
2"	BL200-150	BL200-300	WN200-150	WN200-300	TH200150-200	TH200300-200
3"	BL300-150	BL300-300	WN300-150	WN300-300	TH300150-300	TH300300-300
4"	BL400-150	BL400-300	WN400-150	WN400-300	TH400150-400	TH400300-400
6"	BL600-150	BL600-300	WN600-150	WN600-300	TH600150-600	TH600300-600
8"	BL800-150	BL800-300	WN800-150	WN800-300	TH800150-800	TH800300-800

Blind Flanges

Blind flanges are solid flanges used to terminate or isolate the end of a piping system. They allow for future expansion, inspection, or pressure testing without permanent closure.

Threaded Flanges

Threaded flanges are designed for applications where welding is not practical. They screw directly onto threaded pipe and are commonly used in low-pressure or maintenance-sensitive installations.

Weld Neck Flanges

Weld neck flanges provide a strong, long-term connection by welding directly to the pipe. The tapered hub reduces stress concentration, making these flanges ideal for high-pressure and high-temperature applications.

Features & Availability

- **Sizes available from 1" through 12"**
- **150# and 300# pressure classes**
- **Blind, weld neck, and threaded styles**
- **Suitable for LPG, NGL, and NH_3 service**
- **Compatible with standard gasket and bolting arrangements**

Spiral Wound Metal Gaskets (ANSI 150 lb & 300 lb)

Spiral wound metal gaskets provide a durable, high-pressure seal for ANSI 150 lb and 300 lb flange connections. They offer excellent resistance to temperature, pressure, and vibration, making them ideal for steam, chemical, and industrial piping systems.

Spiral Wound Metal Gaskets		
Size	**150# Spiral Wound**	**300# Spiral Wound**
1"	FLXG100-150	FLXG100-300
1-1/4"	FLXG125-150	FLXG125-300
1-1/2"	FLXG150-150	FLXG150-300
2"	FLXG200-150	FLXG200-300
3"	FLXG300-150	FLXG300-300
4"	FLXG400-150	FLXG400-300
6"	FLXG600-150	FLXG600-300
8"	FLXG800-150	FLXG800-300
10"	FLXG10-150	FLXG10-300
12"	FLXG12-150	FLXG12-300
14"	FLXG14-150	FLXG14-300
16"	FLXG16-150	FLXG16-300
18"	FLXG18-150	FLXG18-300
20"	FLXG20-150	FLXG20-300
24"	FLXG24-150	FLXG24-300

Inorganic / Aramid Fiber Gaskets (150 lb & 300 lb)

Inorganic fiber and aramid fiber gaskets deliver a reliable, non-metallic sealing option for ANSI 150 lb and 300 lb flanges. They provide strong chemical resistance, good temperature performance, and dependable sealing for general-purpose industrial applications.

Fibrous Gaskets		
Size	**Fibrous 150#**	**Fibrous 300#**
1"	GAR100-150	GAR100-300
1-1/4"	GAR125-150	GAR125-300
1-1/2"	GAR150-150	GAR150-300
2"	GAR200-150	GAR200-300
3"	GAR300-150	GAR300-300
4"	GAR400-150	GAR400-300
6"	GAR600-150	GAR600-300
8"	GAR800-150	GAR800-300
10"	GAR10-150	GAR10-300
12"	GAR12-150	GAR12-300
14"	GAR14-150	GAR14-300
16"	GAR16-150	GAR16-300
18"	GAR18-150	GAR18-300
20"	GAR20-150	GAR20-300
24"	GAR24-150	GAR24-300

Bolt Kits

Bolt kits include Grade 5, zinc-plated hardware for secure flange assembly in LPG, NH_3, and light liquid piping systems. Designed for ANSI Class 150 and Class 300 flanges, these kits provide proper bolt sizing and strength for reliable sealing and simplified installation.

Features:

- Grade 5 carbon steel hardware
- Zinc-plated for corrosion resistance
- Compatible with ANSI 150 lb and 300 lb flanges
- Sized for standard flange bolt patterns

Size	150# Flange	300# Flange
1"	BK100-150	BK100-300
1-1/4"	BK125-150	BK125-300
2"	BK200-150	BK200-300
3"	BK300-150	BK300-300
4"	BK400-150	BK400-300
6"	BK600-150	BK600-300
8"	BK800-150	BK800-300
10"	BK10-150	BK10-300
12"	BK12-150	BK12-300

Studs

B7 grade studs are designed for high-strength, high-temperature service in flanged piping systems used for LPG, NH_3, and other light liquid applications. These studs feature precision machine-cut threads and beveled ends for easy installation and proper nut engagement. Rated for WOG 600#, they provide dependable clamping force and long service life in demanding pressure and temperature conditions.

Size	2-1/2"	4"	5"	6"	7"	8"
5/8"	ST058×2.5	ST075×4	ST075×5	ST075×6	ST075×7	-
3/4"	ST075×2.5	ST078×4	ST078×5	ST078×6	ST078×7	-
7/8"	-	ST087×4	ST087×5	ST087×6	ST087×7	-
1"	-	ST100×4	ST100×5	ST100×6	ST100×7	-
1-1/8"	-	-	ST118×5	ST118×6	ST118×7	ST118×8
1-1/4"	-	-	-	ST125×6	ST125×7	ST125×8

HD Nuts

Heavy-duty nuts are manufactured to pair with standard flange studs, providing secure, reliable fastening in high-pressure piping assemblies. Designed for consistent thread engagement and proper load distribution, these nuts help maintain flange integrity under thermal cycling and vibration. Suitable for use in industrial LPG and NH_3 systems, they support safe, long-term operation when used with matching stud materials.

Size	5/8"	3/4"	7/8"	1"	1-1/8"	1-1/4"
Part #	NT058	NT075	NT078	NT100	NT118	NT125

Forged Steel Pipe Flanges: ANSI B16.5

Bolt kits include Grade 5, zinc-plated hardware for reliable flange assembly. Designed for ANSI 150 lb and 300 lb flanges, these kits provide durable fastening for a wide range of piping connections.

Forged Flanges — Class 150

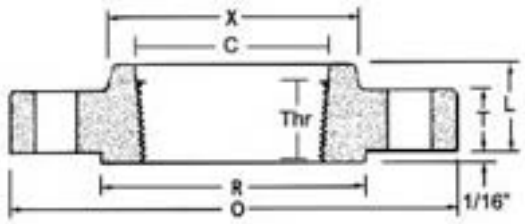
ANSI B16.5 Class 150 forged flanges provide dependable sealing for low-pressure piping systems. Available in weld neck, threaded, socket weld, and blind configurations.

Size	O	T	R	X	#/Dia. of Holes
1/2"	3.5	0.38	1.38	1.19	4–0.62
3/4"	3.88	0.44	1.69	1.5	4–0.62
1"	4.25	0.5	2	1.94	4–0.62
1-1/4"	4.88	0.56	2.19	2.12	4–0.75
1-1/2"	5	0.62	2.88	2.56	4–0.75
2"	6	0.69	3.62	3.06	4–0.75
2-1/2"	7	0.81	4.19	3.62	4–0.75
3"	7.5	0.88	5	4.25	4–0.75
3-1/2"	8.5	0.88	5	4.81	8–0.75
4"	9	0.94	5.62	5	8–0.75
5"	10	0.88	7.31	6.44	8–0.88
6"	11	0.94	8.5	7.56	8–0.88
8"	13.5	1.12	10.62	9.69	8–0.88
10"	16	1.12	12.75	12	12–1.00
12"	19	1.19	15	14.38	12–1.00
14"	21	1.25	15.75	15.75	12–1.00
16"	23.5	1.38	18.5	18	16–1.12
18"	25	1.5	20	19.88	16–1.12
20"	27.5	1.62	22	22	20–1.25
24"	32	1.81	26.12	26.12	20–1.38

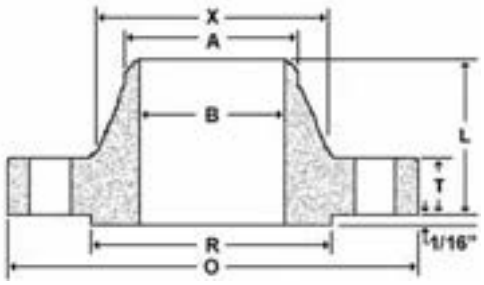
Forged Flanges — Class 300

ANSI B16.5 Class 300 forged flanges are designed for higher-pressure applications, offering increased thickness and bolt circle dimensions for demanding industrial systems.

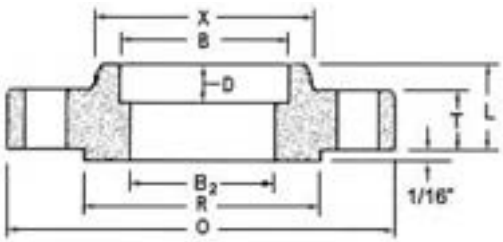
Size	O	T	R	X	#/Dia. of Holes
1/2"	3.75	0.56	1.56	1.5	4–0.63
1"	4.62	0.56	2	1.88	4–0.75
1-1/4"	4.88	0.62	2	2.12	4–0.75
1-1/2"	5.25	0.69	2.75	2.75	4–0.88
2"	6.5	0.81	3.62	3.31	8–0.75
2-1/2"	7.5	0.94	4.5	4.62	8–0.88
3"	8.25	1.06	4.5	4.62	8–0.88
3-1/2"	9	1.12	5.5	5.25	8–0.88
4"	10	1.12	6.62	6.19	8–0.88
5"	11	1.31	7.31	7	8–0.88
6"	12.5	1.38	8.5	8.12	12–0.88
8"	15	1.62	10.75	10	12–1.00
10"	17.5	1.81	12.75	12.62	16–1.12
12"	20.5	1.94	15	14.75	16–1.25
14"	22	2	15.75	15.75	16–1.25
16"	25.5	2.19	18	19	20–1.25
18"	28	2.31	21	21	20–1.38
20"	30.5	2.5	23	23	24–1.38
24"	36	2.69	27	27	24–1.63



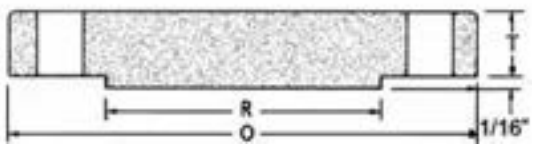
Threaded Flanges



Weld Neck Flanges



Socket Weld Flanges



Blind Flanges

LPG Transportation Services

“WHEN IT NEEDS TO BE THERE ON TIME”

LPG VENTURES

You can count on LPG Ventures to deliver your tanks, safely, on time, and anywhere in North America. We have the specialized equipment and experienced, courteous drivers to transport oversized loads, pre-cast concrete piers, and more. Our transportation services include:

Our Transportation Capabilities

- **Oversized & Overweight Load Transport**
  Permitted and professionally managed across all required jurisdictions.
- **Tank Delivery up to 120,000 Gallons**
  Safe, secure hauling of large-capacity tanks.
- **Specialized Heavy Haul Carriers**
  Equipment built specifically for large, complex loads.
- **Precision Scheduling & On-Time Delivery**
  When it needs to be there, it’s there.
- **Courteous, Safety-Focused Drivers**
  Experienced professionals who represent your jobsite well.
- **North America–Wide Coverage**
  Reliable delivery anywhere across the U.S. and Canada.
- **Pre-Cast Concrete Pier Delivery**
  Coordinated transport for site-ready installation.
- **Coordinated Tank & Crane Arrival**
  Schedule alignment to keep projects moving.
- **On-Site Unloading with Matched Crane Support**
  Efficient unloading using the same crane as tank placement.

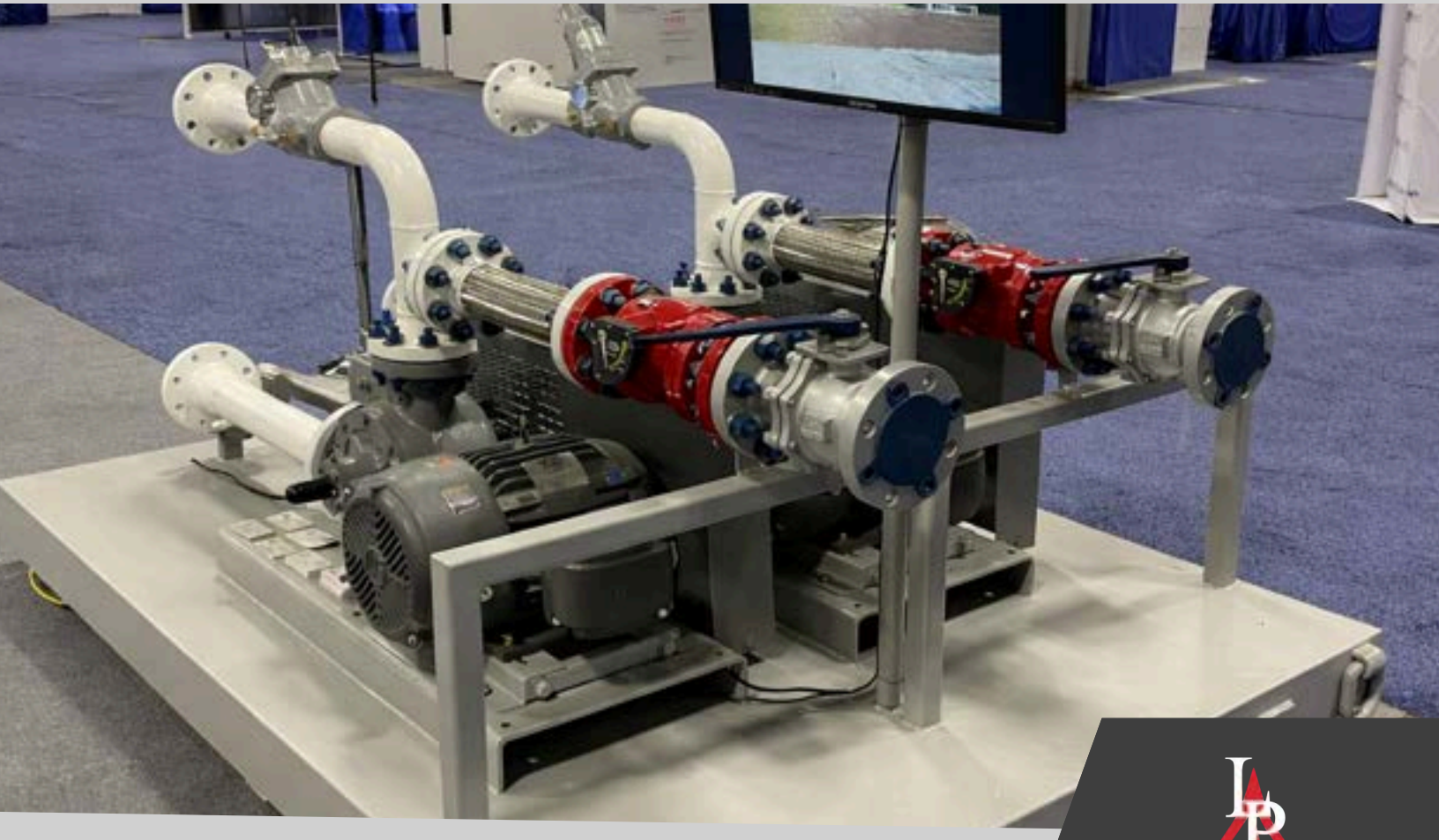
CONTACT US TODAY FOR A QUOTE OR TO SCHEDULE A DELIVERY!

06

SECTION 06

LPG & NH3 Pumps & Compressors

Pump and compressor solutions for LPG, NH_3, and light liquid transfer systems.



LPG-Series Compression & Pumping Systems

Engineered for LPG, NH_3, and Light Liquid Transfer Applications

The LPG-Series includes a full range of Corken® stationary compressors and pumps designed for reliable transfer, vapor recovery, and pressure control in LPG, NH_3, and light liquid applications. These units are built for continuous-duty service and are commonly used in bulk plants, terminals, industrial facilities, and agricultural installations.

Corken compressors and pumps are known for their durability, efficiency, and serviceability, making them a trusted solution for demanding stationary applications.

Model 491 Compressor

Model SC24 Pump

Model C12 Pump

Model Z4500 Pump

Model HG602 Compressor

Solutions beyond products...
CORKEN
IDEX

Coro-Vane® Pumps

Sliding vane positive displacement liquid pump

Coro-Vane® pumps are sliding vane, positive displacement pumps designed for dependable liquid transfer in high-demand LPG and NH_3 applications. These pumps provide consistent flow, long service life, and reliable performance across a wide range of operating conditions.

Applications

- Propane/butane bulk transfer
- Truck/delivery applications
- Barge unloading
- Tank/railcar unloading
- Agricultural ammonia

Coro-Flow® Pumps

Regenerative turbine liquid pump

Coro-Flo® pumps are regenerative turbine pumps engineered for smooth, efficient liquid movement where steady flow and pressure are required. These pumps are well suited for cylinder filling, standby systems, and specialty applications requiring reliable low-flow performance.

Applications

- Propane cylinder filling
- Bottle filling
- Stand-by systems
- Asphalt plants
- Autogas pumping
- Agricultural ammonia
- LP-Gas vaporizer feed

Gas Compressors

Single-stage, lube, non-lube gas compressor

Corken gas compressors are designed for vapor transfer, recovery, and pressure control in LPG, NH_3, and light gas systems. Available in lubricated and non-lubricated configurations, these compressors are built for durability, efficiency, and continuous-duty operation.

Applications

- Propane cylinder filling
- Bulk transfer
- Truck, barge, and railcar unloading
- Liquid transfer / vapor recovery
- Tank evacuation for maintenance
- LPG / butane / ammonia service
- Inert gas pad

FEATURES AND BENEFITS FOR CORO-FLO® STATIONARY PUMPS

Designed specifically for LPG...

The Corken Coro-Flo® pump was designed for LPG, NH_3, and other light liquids. For low-capacity, medium-head pumping, the Coro-Flo pump is the pump of choice. Extremely quiet and free of vibration and pulsation, the Coro-Flo pump provides trouble-free service and long life for volatile liquids such as LPG. The exclusive turbine construction provides smooth continuous flow through the pump case, resulting in higher efficiency and greater capacity and pressure for the same size motor. The one moving part, the impeller, floats on the shaft without contacting adjacent surfaces, thus extending pump life.

Simple to service...

The Coro-Flo® pump has been designed for simplicity of inspection and service. The cover can be removed and the impeller and seal serviced without disturbing the piping. The balanced mechanical seal is furnished with its own sleeve, providing extremely reliable service.

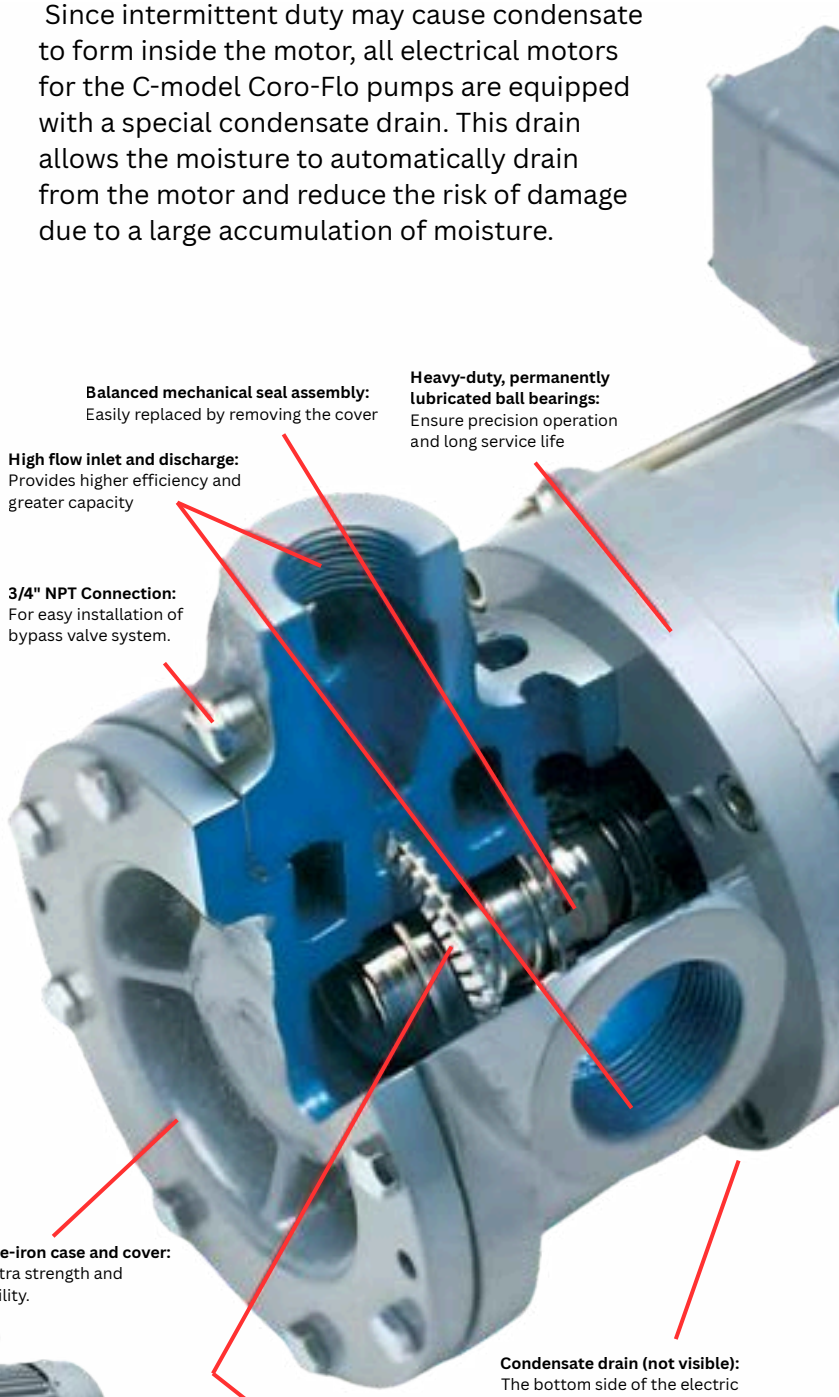
Suitable for many applications...

Although the Corken Coro-Flo® pump was originally developed to fill propane cylinders, it has found its way into many other applications, especially where volatile liquid transfer is involved. It is commonly used to feed industrial vaporizing and aerosol filling systems, and to transfer liquefied gases like NH_3, CO_2, SO_4, and refrigerant gases. In process plants, the Coro-Flo pump is used as a boiler feed pump and for handling condensate.

Every Corken Coro-Flo® pump is thoroughly inspected and tested to assure its quality and performance. The Coro-Flo pump is listed by Underwriters' Laboratories, Inc. for use in LP-Gas and anhydrous ammonia service.

Equipped with a condensate drain...

Since intermittent duty may cause condensate to form inside the motor, all electrical motors for the C-model Coro-Flo pumps are equipped with a special condensate drain. This drain allows the moisture to automatically drain from the motor and reduce the risk of damage due to a large accumulation of moisture.



F-Model 101 Direct Drive

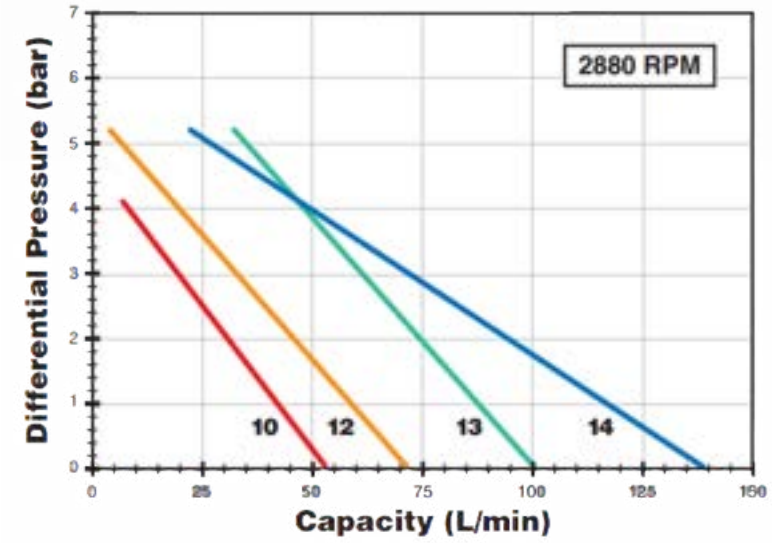
C-Model w/ Close-Coupled Motor

FF-Model w/ ANSI Flange Connections

DS/DL - Model Diirect Mounted

Vaporizer Feed, Cylinder & Automotive Filling

Continuous-duty motors: Fan-cooled motors with permanently lubricated ball bearings ensure years of trouble-free service



Specifications & Performance

Specifications	Model		
	10	12	13
Inlet	1-1/4" NPT	1-1/2" NPT	1-1/2 NPT
Outlet	1" NPT	1" NPT	1" NPT
RPM — 50 Hz	2,880	2,880	2,880
RPM — 60 Hz	3,450	3,450	3,450
Max. differential press. 2880 RPM @ 50 Hz. psi (bar) 3450 RPM @ 60 Hz. psi (bar)	60 (4.1) 70 (4.8)	75 (5.2) 100 (6.9)	75 (5.2) 125 (8.6)
Mounting options Close coupled Direct driven (101) V-belt (103)	Yes	Yes	Yes
Direct mounted frame (DS/DL)	Yes	Yes	Yes
Double seal option (except C-model)	Yes	Yes	Yes
Flange option 1-1/2" x 1" — 300# (except C-model)	Yes	Yes	Yes
Impeller material options	Bronze (standard), ductile iron, stainless steel		
O-ring material options	Buna-N (standard), Neoprene®[1], PTFE, Viton®[1], ethylene-propylene		
Seal seat material options	Cast iron (standard), Ni-Resist, stainless steel, tungsten carbide, ceramic		
Minimum/maximum temperature °F (°C)	-25/225 (-32/107)	-25/225 (-32/107)	-25/225 (-32/107)
Maximum driver hp (kW)	5 (3.7)	10 (7.5)	10 (7.5)

(a) Not suitable for 2880 R.P.M.
1 Registered trademark of the DuPont Company.

Model Number	Differential Pressure (PSI)	RPM/HZ	GPM
C-10	50	3450/60	7
	70	3450/60	3.5
C-12	50	3450/60	15
	70	3450/60	12.5
C-13	50	3450/60	22
	70	3450/60	16

Features & Benefits for Coro-Vane Stationary Pumps

High pumping efficiencies...

The positive displacement, sliding-vane design of the Coro-Vane® pump is commonly found in the LPG industry because its pumping efficiencies remain high throughout the life of the pump. The sliding vane pump is unique because it can handle small amounts of vapor formed at the pump suction, and the vanes are self-adjusting for wear. These design characteristics help the pumping efficiencies remain high throughout the life of the pump.

Long life and maintenance made simple...

The pump housing and rotors are constructed of ductile iron for high strength. The pump design includes removable pump casing liners in all models. Worn liners and vanes can be replaced in minutes. All models incorporate reversible sidesplates which double their service life. Seal maintenance can be easily performed by simply removing the head assembly.

Several models to match your needs...

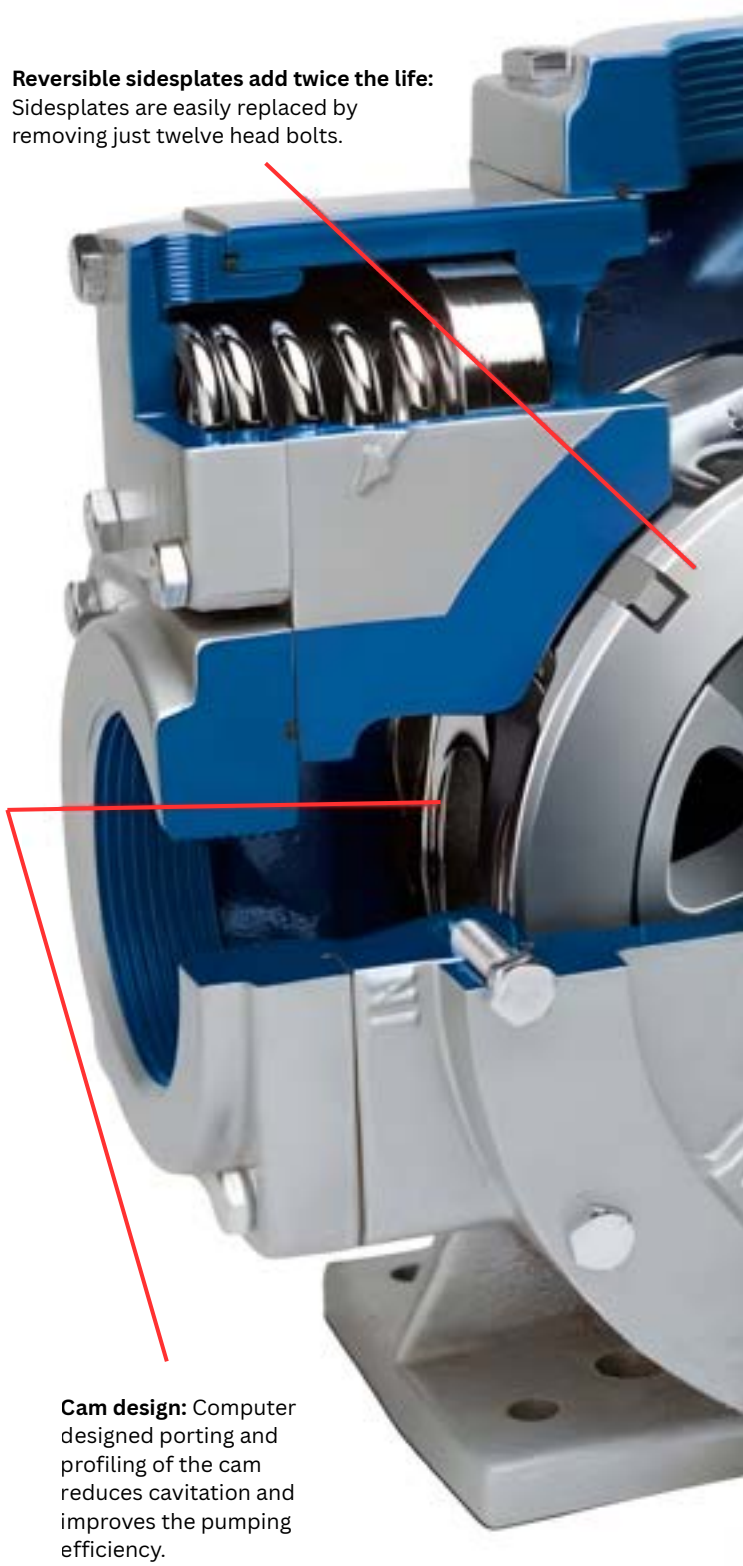
Corken manufactures four sizes of stationary pumps ranging from 1 gpm to 382 gpm (3.78 to 1,446 L/min). Each pump is available with a V-belt or direct-drive mounting option.

Models C51 and F51:
The model 51 is a one-inch stationary pump designed for small bottle filling applications ranging from 1 to 6 gpm (3.785 to 23 L/min). The model C51 is a closed-coupled mounting while the model F51 is a direct-coupled mounting.

Model Z2000:
The Z2000 pump is a two-inch, foot mounted, stationary pump designed for smaller LPG plant applications such as cylinder filling and bulk filling. In some regions of the world, the model Z2000 doubles as a truck pump.

Model Z3500:
The model Z3500 is a three-inch, foot mounted, stationary pump designed for medium sized LPG applications such as bulk filling and bobtail trucks. It is ideal for loading and unloading applications for single or dual bobtails. The Z3500 was designed to replace and retrofit Corken's model 1021 pump, so no changes in the piping are necessary. You simply remove the model 1021 and install the new Z3500. In some regions of the world, the Z3500 doubles as a truck pump.

Model Z4500:
The model Z4500 is a four-inch, ANSI flanged, stationary pump designed for large sized LPG applications. It's ideal for transport and multiple bobtail loading applications. If you have two or more bulkheads to load transports or multiple bobtails and would like to shorten your fill times, then the Z4500 is the stationary pump for you.

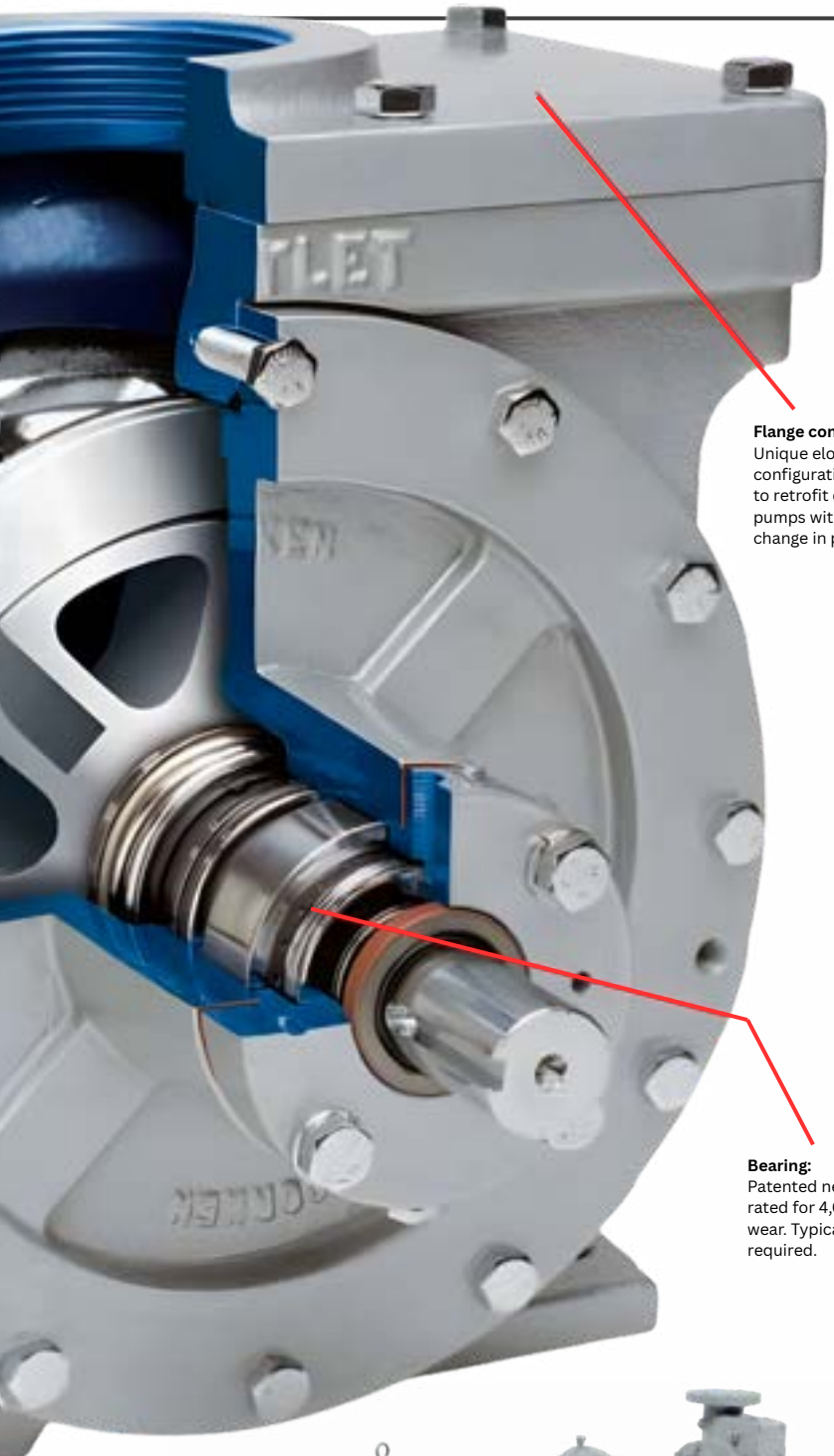


Reversible sidesplates add twice the life: Sidesplates are easily replaced by removing just twelve head bolts.

Cam design: Computer designed porting and profiling of the cam reduces cavitation and improves the pumping efficiency.

All of the Z-Series Coro-Vane® stationary pumps come with an internal relief valve for added pump protection, relieving the pressure from the pump discharge back to the suction. All pumps must have an external bypass valve to comply with NFPA & UL requirements.

Bulk Filling, Carousel Filling & Cylinder Filling



Flange connection:
Unique elongated flange configuration enables you to retrofit other three-inch pumps with little or no change in piping.

Bearing:
Patented needle roller thrust bearings rated for 4,000 lbs minimizes sideplate wear. Typically, no field adjustment is required.

Specifications & Performance

Specifications	Model		
	Z2000	Z3500	Z4500
Suction flange	2"	3“	3" ANSI
Discharge flange	2"	3"	3" ANSI
Minimum RPM	780	800	800
Maximum RPM	780	800	800
Minimum temperature	-25°F (-32°C)		
Maximum temperature	225°F (107°C)		
Max. working pressure psig (bar)	400 (28.6)	400 (28.6)	400 (28.6)
Max. differential pressure psig (bar)	125 (8.6)	125 (8.6)	125 (8.6)
Internal relief	Yes	Yes	Yes
O-ring material options:	Buna-N (standard), PTFE, Viton® Neoprene®[1]		
Seal seat material options:	Cast iron (standard), stainless steel, Ni-Resist		
Suction flange option	Yes	Yes	No
Discharge flange option	Yes	Yes	No
Maximum driver hp (kW)	10 (7.5)	20 (15.0)	25 (18.5)
[1]Registered trademark of the DuPont Company.			

Z-Series Performance			
Model Number	Differential Pressure (PSI)	RPM	GPM
Z2000	100	750	70
Z3500	100	750	125
Z4500	100	750	310

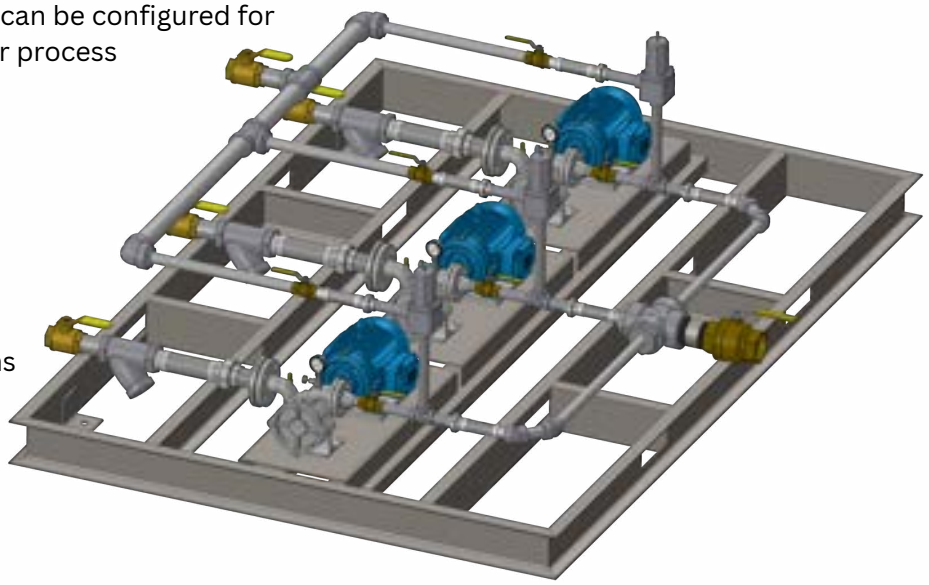
Z4500-101GRC Mounting with Gear Reducer

C51 Direct-Coupled Mounting

LPG Ventures Custom Engineered Pump Skid Packages

LPG Ventures designs and fabricates custom pump skid packages built to meet the specific performance and layout requirements of your facility. Each skid is engineered for LPG, NH_3, and other light liquid applications, combining pumps, motors, piping, valves, and controls into a compact, ready-to-install system.

Our skid packages are designed for durability, ease of maintenance, and long service life in bulk plants, terminals, industrial sites, and agricultural installations. Units can be configured for transfer, recirculation, vapor recovery, unloading, or process feed applications.



Available Options Include:

- Corken pumps and compressors
- Direct drive or belt drive configurations
- Electric motor or engine driven systems
- Integrated control panels and safety devices
- Suction and discharge valving
- Custom piping layouts & connection orientations
- Explosion-proof components where required

Every package is built to match your site requirements and can be supplied fully assembled, tested, and ready for installation.

CONTACT YOUR LPG VENTURES REPRESENTATIVE FOR MORE OPTIONS!

Propane Miser™ Railcar Unloading System

Maximum Propane Recovery. Faster Unloading. Reduced Product Loss.

The Propane Miser™ is a fully integrated, PLC-controlled railcar unloading system engineered to recover nearly all remaining propane from railcars. By utilizing a two-stage compression process, the system evacuates railcars down to 0 psig, capturing product that is typically left behind by conventional unloading methods.

Key Features

- Recovers an additional 230 to 400 gallons of propane per railcar
- Evacuates railcars down to 0 psig
- Approximately 25 percent faster unloading than standard compressor systems
- Reduces product loss and improves overall unloading efficiency
- Designed for continuous, heavy-duty bulk plant operation

Two-Stage Compression Advantage

Unlike single-stage systems that leave residual vapor in the railcar, the Propane Miser uses a two-stage, double-acting compression design to safely recover remaining propane vapor. This approach maximizes usable product while maintaining compressor reliability and system longevity.

System Features

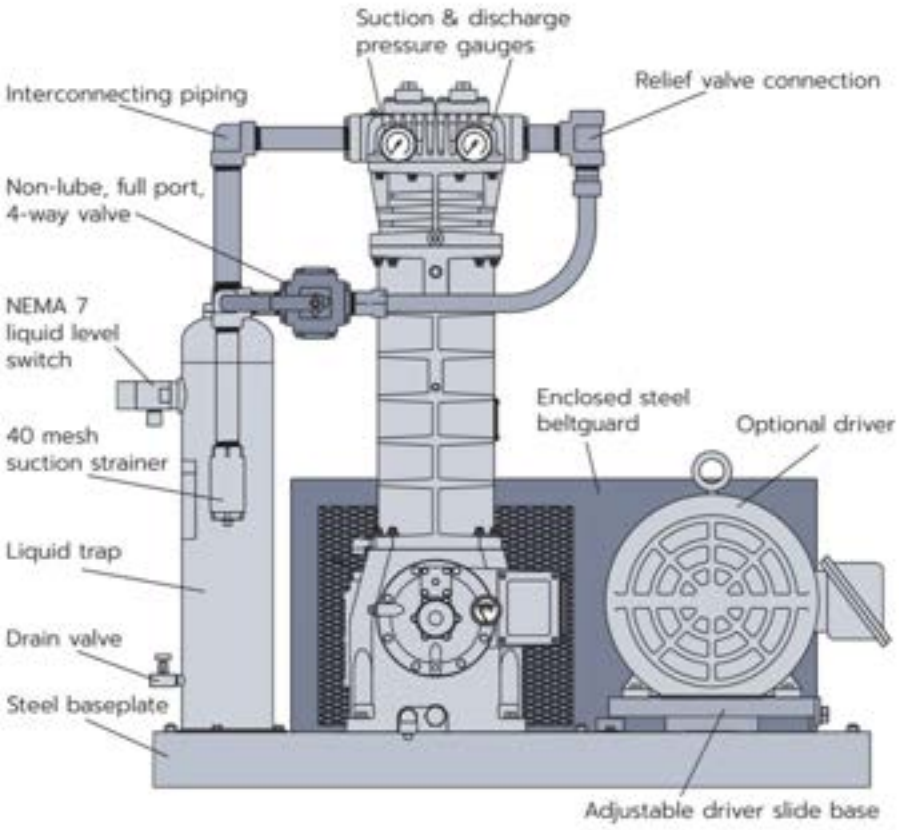
- Two-stage, double-acting vertical compressor
- 60 HP variable-speed motor
- PLC-based touch screen control system
- Division 1 rated electrical components
- Integrated liquid trap for system protection
- Factory-engineered, turn-key compressor skid

LPG VENTURES

PROPANE MISER™

LEAVE NO PROPANE BEHIND™

Standard Compressor Packages



Standard 107 Items

- Steel baseplate
- V-belt drive
- Adjustable driver side base
- Enclosed steel guard
- Suction and discharge pressure gauges
- 40 Micron strainer
- Non-lube 4-way valve
- Interconnecting piping
- Liquid trap as specified below

107 Mounting

- Mechanical liquid trap with ball float

107A Mounting

- Automatic liquid trap with one NEMA 7 liquid level switch

107B Mounting

- Automatic liquid trap with two NEMA 7 liquid level switches

107F Mounting

- 107A or 107B with 300# ANSI flanged components and connections

Vertical Gas Compressors

Operating Specifications

Specifications	Model			
	291	491	691	891[a]
Bore of cylinder: inches (mm)	3.0 (76.2)	4.0 (101.6)	4.5 (114.3)	4.5 (114.3)
Stroke: inches (mm)	2.5 (63.5)	3.0 (76.2)	4.0 (101.6)	4.0 (101.6)
Piston displacement cfm (m^3/hr) minimum @ 400 RPM maximum @ 825 RPM	8.2 (13.9) 16.9 (28.7)	17.5 (29.7) 36.0 (61.2)	29.5 (50.1) 60.8 (103.3)	56.7 (96.3) 117 (198.8)
Maximum working pressure: psig (bar g)	335 (23.1)	335 (23.1)	335 (23.1)	450 (31.0)
Maximum brake horsepower (kW)	15 (11)	15 (11)	35 (26.1)	45 (34)
Maximum rod load lb (kg)	3,600 (1,633)	4,000 (1,814)	7,000 (3,175)	7,000 (3,175)
Maximum outlet temperature °F (°C)	350 (177)			
Minimum inlet temperature °F (°C)	-25 (-32)			
Bare unit weight lb (kg)	210 (95.2)	390 (176.9)	745 (337.9)	900 (408.2)
Maximum flow-propane gpm (m^3/hr)	101 (22.9)[b]	215 (48.8)[b]	361 (82.0)[b]	694 (157.6)[b]
ANSI/DIN flange option	Yes	Yes	Yes	No

[a] Double-acting vertical compressor.
[b] Maximum flow is based on 825 RPM or maximum hp, 30 psi. Capacities shown are based on 100°F (37.8°C) and will vary depending upon piping, fittings, liquid being transferred, and temperature. The factory will supply a detailed compressor analysis if requested.

LPG, NH_3 and Other Light Liquid Compressors

Use this selection table to identify appropriate compressor models for bulk plant, transport, and terminal applications based on flow requirements and operating conditions.

Service	Capacity[1]	Displacement cfm	Compressor		Driver Sheave Size P.D."[2]		Driver Horsepower				Piping Size[3]	
							Liquid Transfer and Residual Vapor Recovery		Liquid Transfer without Residual Vapor Recovery			
			Model	RPM	1,750 RPM	1,450 RPM	100°F	80°F	100°F	80°F	Vapor	Liquid
Small bulk plants	23	4	91	400	A 3.0	A 3.6	5	3	3	3	3/4"	1-1/4"
	29	5	91	505	A 3.8	B 4.6	5	5	5	5	3/4"	1-1/4"
	34	6	91	590	B 4.6	B 5.6	5	5	5	5	1"	1-1/4"
	40	7	91	695	B 5.4	B 6.6	5	5	5	5	1"	1-1/2"
	39	7	290, 291	345	A 3.0	A 3.6	3	3	3	3	1"	1-1/2"
Unloading single tank car or transport	45	8	91	795	B 6.2	B 7.4	7-1/2	7-1/2	7-1/2	7-1/2	1"	1-1/2"
	44	8	290,291	390	A 3.4	B 4.0	5	3	3	3	1"	1-1/2"
	50	9	290,291	435	A 3.8	B 4.6	5	5	3	3	1"	1-1/2"
	56	10	290,291	490	B 4.4	B 5.2	5	5	5	5	1"	2"
	61	11	290,291	535	B 4.8	B 5.8	5	5	5	5	1"	2"
	66	12	290,291	580	B 5.2	B 6.2	7-1/2	5	5	5	1"	2"
	71	13	290,291	625	B 5.6	B 6.6	7-1/2	5	7-1/2	5	1-1/4"	2"
	79	14	290,291	695	B 6.2	B 7.4	7-1/2	7-1/2	7-1/2	7-1/2	1-1/4"	2"
	84	15	290,291	735	B 6.6	B 8.0	10	7-1/2	10	7-1/2	1-1/4"	2-1/2"
	84	15	490,491	345	A 3.0	A 3.6	7-1/2	7-1/2	5	5	1-1/4"	2-1/2"
	89	16	290,291	780	B 7.0	B 8.6	10	10	10	10	1-1/4"	2-1/2"
	89	16	490,491	370	A 3.2	A 3.8	7-1/2	7-1/2	7-1/2	5	1-1/4"	2-1/2"
Unloading two or more tank cars at one time or large transport with excess flow valves of adequate capacity	95	17	490,491	390	A 3.4	B 4.0	7-1/2	7-1/2	7-1/2	7-1/2	1-1/4"	3"
	101	18	490,491	415	A 3.6	B 4.4	10	7-1/2	7-1/2	7-1/2	1-1/4"	3"
	106	19	490,491	435	A 3.8	B 4.6	10	7-1/2	7-1/2	7-1/2	1-1/4"	3"
	108	20	490,491	445	B 4.0	B 4.8	10	7-1/2	7-1/2	7-1/2	1-1/4"	3"
	114	21	490,491	470	B 4.2	B 5.0	10	7-1/2	7-1/2	7-1/2	1-1/4"	3"
	119	22	490,491	490	B 4.4	B 5.2	10	10	7-1/2	7-1/2	1-1/4"	3"
	125	23	490,491	515	B 4.6	B 5.6	10	10	10	7-1/2	1-1/4"	3"
	130	24	490,491	535	B 4.8	B 5.8	15	10	10	10	1-1/4"	3"
	136	25	490,491	560	B 5.0	B 6.0	15	10	10	10	1-1/4"	3"
	141	26	490,491	580	B 5.2	B 6.2	15	10	10	10	1-1/4"	3"
	147	27	490,491	605	B 5.4	B 6.4	15	10	15	10	1-1/4"	3"
	152	28	490,491	625	B 5.6	B 6.6	15	15	15	15	1-1/2"	3"
	158	29	490,491	650	B 5.8	B 7.0	15	15	15	15	1-1/2"	3"
	163	30	490,491	670	B 6.0		15	15	15	15	1-1/2"	3"
	163	30	690,691	400	B 4.4	B 5.2	15	15	10	10	1-1/2"	3"
	168	31	490,491	695	B 6.2	B 7.4	15	15	15	15	1-1/2"	3"
	171	31	690,691	420	B 4.6	B 5.6	15	15	10	10	1-1/2"	3"
	179	32	490,491	740	B 6.6	B 8.0	15	15	15	15	1-1/2"	3"
	178	32	690,691	440	B 4.8	B 5.8	15	15	10	10	1-1/2"	3"
	186	33	690,691	455	B 5.0	B 6.0	15	15	15	10	1-1/2"	3"
	193	34	690,691	475	B 5.2	B 6.2	15	15	15	10	1-1/2"	3"
	200	35	690,691	495	B 5.4	B 6.4	15	15	15	15	1-1/2"	3"
Unloading large tank cars, multiple vessels, barges or terminals	208	38	690,691	510	B 5.6	B 5.6	20	15	15	15	1-1/2"	4"
	215	39	690,691	530	B 5.8	B 5.8	20	15	15	15	1-1/2"	4"
	223	41	690,691	550	B 6.0	B 6.0	20	15	15	15	1-1/2"	4"
	230	42	690,691	565	B 6.2	B 6.2	20	15	15	15	2"	4"
	237	43	690,691	585	B 6.4	B 6.4	20	15	15	15	2"	4"
	245	45	690,691	605	B 6.6	B 6.6	20	15	15	15	2"	4"
	252	46	690,691	620	B 6.8		20	20	15	15	2"	4"
	260	47	690,691	640	B 7.0	A 8.2	20	20	20	15	2"	4"
	275	48	690,691	675	B 7.4	B 8.6	25	20	20	20	2"	4"
	297	54	690,691	730	B 8.0	B 9.4	25	20	20	20	2"	4"
	319	58	690,691	785	B 8.6		25	20	25	20	2"	4"
	334	60	690,691	820	TB 9.0	A 10.6	30	25	25	20	2"	4"
	452	82	D891	580	5V 7.1	5V 8.5	30	30	30	30	3"	6"
	623	113	D891	580	5V 9.75	5V 11.8		40	40	30	3"	6"

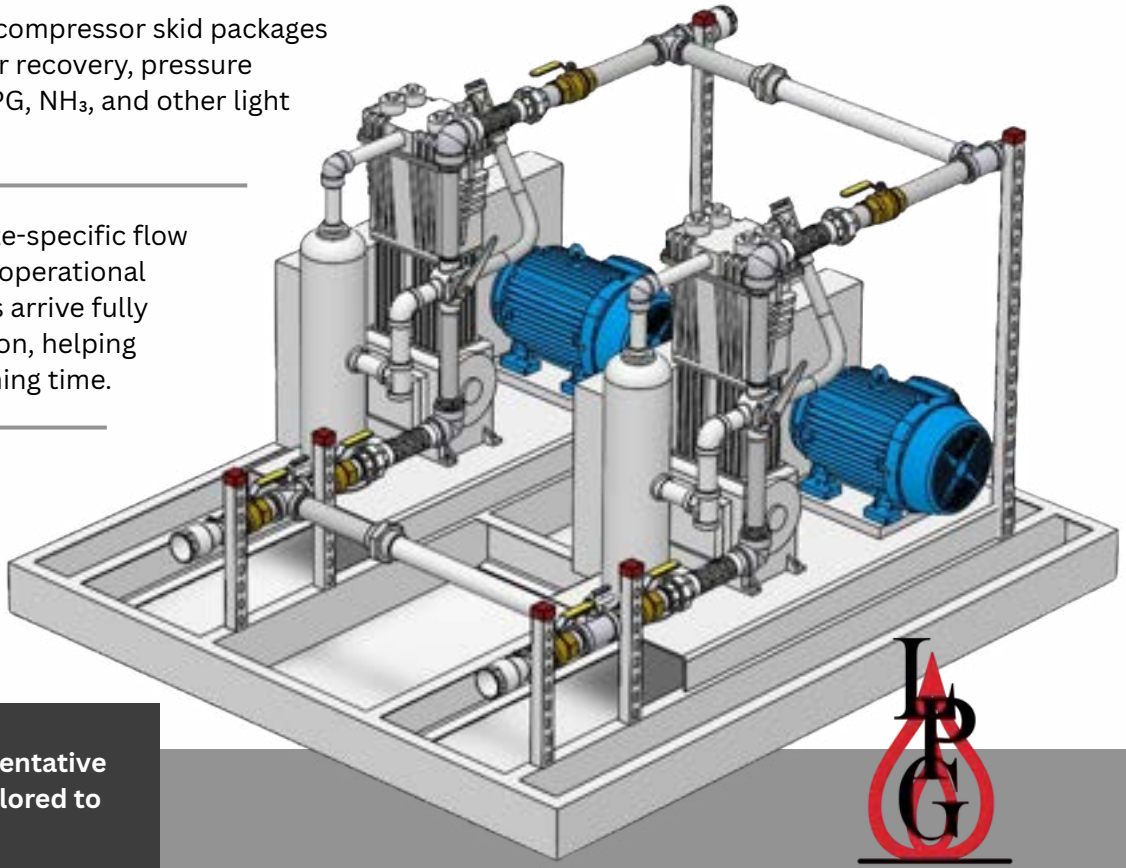
[1]The capacities shown are based on 70°F, but will vary depending upon piping, fittings used, product bring transferred and temperature. The factor can supply a detailed computer analysis if required.
[2]Diver sheaves: 91-2 belts: 290, 291, 490, 491 - 3 belts; 690-691 - 4 belts
[3]The piping sizes shown are considered minimum. If the length exceeds 100 ft., use the next larger size.

LPG Ventures Custom Engineered Compressor Skid Packages

LPG Ventures custom engineered compressor skid packages are designed for dependable vapor recovery, pressure control, and product transfer in LPG, NH_3, and other light liquid applications.

Each skid is engineered to meet site-specific flow rates, pressure requirements, and operational demands. Our integrated packages arrive fully assembled and ready for installation, helping reduce field labor and commissioning time.

Packages may include compressors, electric motors, separators, piping, valving, and instrumentation mounted on a structural steel skid base for reliable long-term operation.



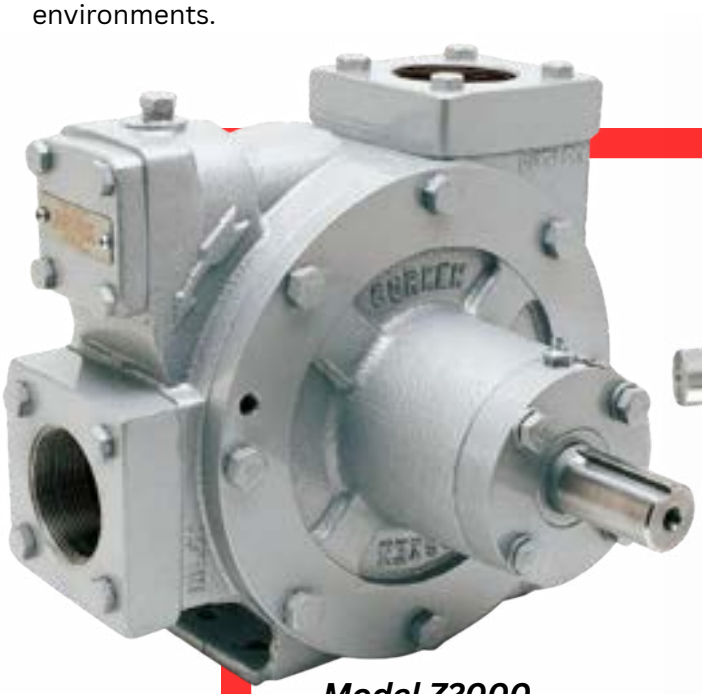
Consult your LPG Ventures representative to configure a compressor skid tailored to your application.

Z-Series Sliding Vane Pump Systems

Engineered for Mobile LPG, NH_3, and Light Liquid Transfer Applications

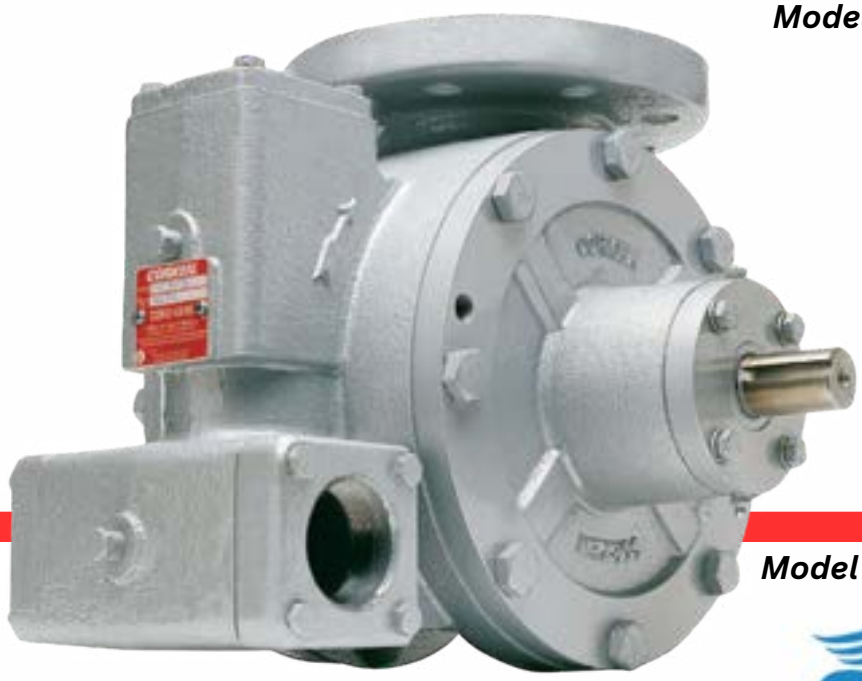
The Z-Series includes a full line of Corken® sliding vane pumps engineered specifically for mobile transfer applications involving LPG, NH_3, and other light liquids. Designed for truck-mounted, transport, and field service use, these pumps deliver smooth, consistent flow and reliable performance under demanding operating conditions.

Z-Series pumps are built for durability, efficiency, and ease of service, making them well suited for bulk delivery trucks, nurse trailers, bobtails, and other mobile systems where dependable liquid transfer is critical. Their compact design and proven sliding vane technology provide long service life and dependable operation in mobile environments.



Model Z2000

Model Z3200



Model Z4200

Solutions beyond products...
CORKEN
IDEX

Performance & Specifications: Z- Series

Z2000 Performance Chart

Pump Speed	Differential Pressure		Approximate Delivery on Propane[1]	
RPM	psi	(kPa)	gpm	(L/min)
750	50	(345)	80	(303)
	100	(689)	70	(265)
650	50	(345)	69	(261)
	100	(689)	61	(231)
600	50	(345)	63	(238)
	100	(689)	55	(208)
500	50	(345)	52	(197)
	100	(689)	46	(174)

Z3200 Performance Chart

Pump Speed	Differential Pressure		Approximate Delivery on Propane[1]	
RPM	psi	(kPa)	gpm	(L/min)
750	50	(345)	112	(424)
	100	(689)	99	(375)
650	50	(345)	95	(360)
	100	(689)	84	(318)
600	50	(345)	86	(326)
	100	(689)	76	(288)
500	50	(345)	70	(265)
	100	(689)	62	(235)

Z4200 Performance Chart

Pump Speed	Differential Pressure		Approximate Delivery on Propane[1]	
RPM	psi	(kPa)	gpm	(L/min)
750	50	(345)	369	(1,397)
	100	(689)	325	(1,230)
650	50	(345)	316	(1,196)
	100	(689)	278	(1,052)
600	50	(345)	289	(1,094)
	100	(689)	254	(961)
500	50	(345)	236	(893)
	100	(689)	208	(787)

[1]The chart shows approximate delivery rates as seen in vapor equalized propane systems at 70°F (21°C) with no pressure loss in pump suction piping. The following will cause increased vaporization of the liquid in the pump suction, adversely affecting the delivery.

1. Restrictions in the suction piping such as internal valves, excess flow valves, elbows, etc.
2. Restriction or lack of a vapor return line.
3. Temperatures below 70°F (21°C).

Operating Specifications

Specifications	Model		
	Z2000	Z3200	Z4200
Suction flange	2" NPT	3" 300# ANSI	4" 300# ANSI
Discharge flange	2" NPT	2" NPT EII	2" Dual NPT
Maximum RPM	800		
Minimum temperature	-25°F (-32°C)		
Maximum temperature	225°F (107°C)		
Maximum working pressure	400 psig (28.6 bar)		
Maximum differential pressure	125 psid (8.6 bar)		
Discharge flange option	No	Yes	No
Internal relief valve	Yes		
Steel slip-on flange option	Yes		

Material Specifications

Part	Material
Case, head, flange, rotor & bearing cap	Ductile iron ASTM A536
Sideplate	Gray iron ASTM A48, Class 30
Cam	Gray iron ASTM A48, Class 30
Welding flange	Steel
Seal seat	Gray iron (standard)
	Stainless steel & Ni-Resist (opt.)
Seal metal parts	Steel
Shaft	8620 steel
Vanes & vane drivers	Advanced polymer
Relief valve	Steel (Z3200)
	Stainless steel (Z2000 & Z4200)
Relief valve spring	Steel, cadmium plated (Z3200)
	Stainless steel (Z2000 & Z4200)
Bearing	Steel
Thrust bearing	Steel
O-rings	Buna N (standard)
	PTFE/Kairez®[2], Viton®[2], Neoprene®[2] (optional)
Retainer rings	Steel

[2]Registered trademark of the DuPont Company.

Autogas Series Regenerative Turbine Pump Systems

Engineered for High Differential Pressure LPG and Liquefied Gas Transfer Applications

The Autogas Series Coro-Flo® regenerative turbine pumps are designed for high differential pressure LPG and liquefied gas transfer applications. They deliver smooth, reliable flow and stable pressure, making them well suited for autogas dispensing systems and demanding liquid transfer environments.

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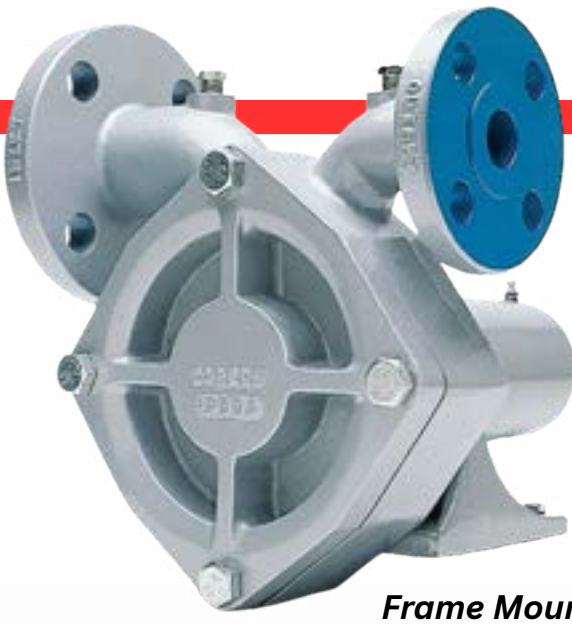
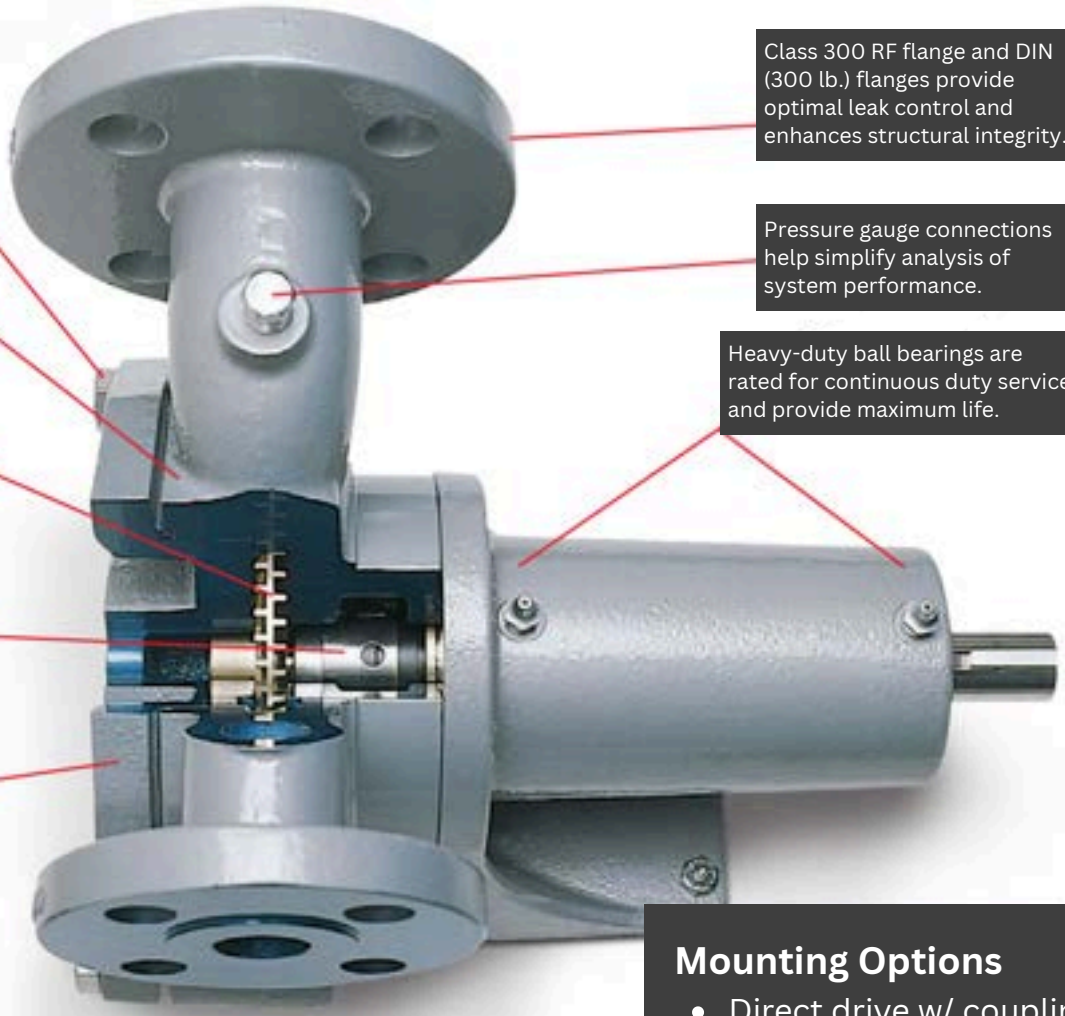


Frame Mount

Direct Mount

Solutions beyond products...
CORKEN
IDEX

Features, Benefits, and Specifications



Specifications	All Models
Inlet	1-1/2" -ANSI 300# R.F. Flange (DIN Optional)
Outlet	1" -ANSI 300# R.F. Flange (DIN Optional)
RPM	3450 at 60 HZ 2880 at 50HZ
Max Working Pressure	400 PSIG
Max Differential Pressure	Model 075 200 PSIG at 60HZ
	Model 150 250 PSIG at 60HZ
Flow Range	Model 075 8.5-40 GPM
	Model 150 11-60 GPM
Max/Min Temperature (F)	225/-25
Impeller Material	Bronze
O-Ring Material	Buna-N
Seal Seat Material	Silicon Carbide
Maximum Driver	20 HP
Type of Electric Motor	Base Mount and C Face

Mounting Options

- Direct drive w/ coupling
- Belt drive
- Direct mounted with C-face electric motor

Applications

- **Autogas dispensing**
- **Cylinder filling**
- **Vaporizer feed**
- **Bulk transfer**
- **Direct burner feed**
- **Aerosol propellant**

Solutions beyond products...
CORKEN
IDEX

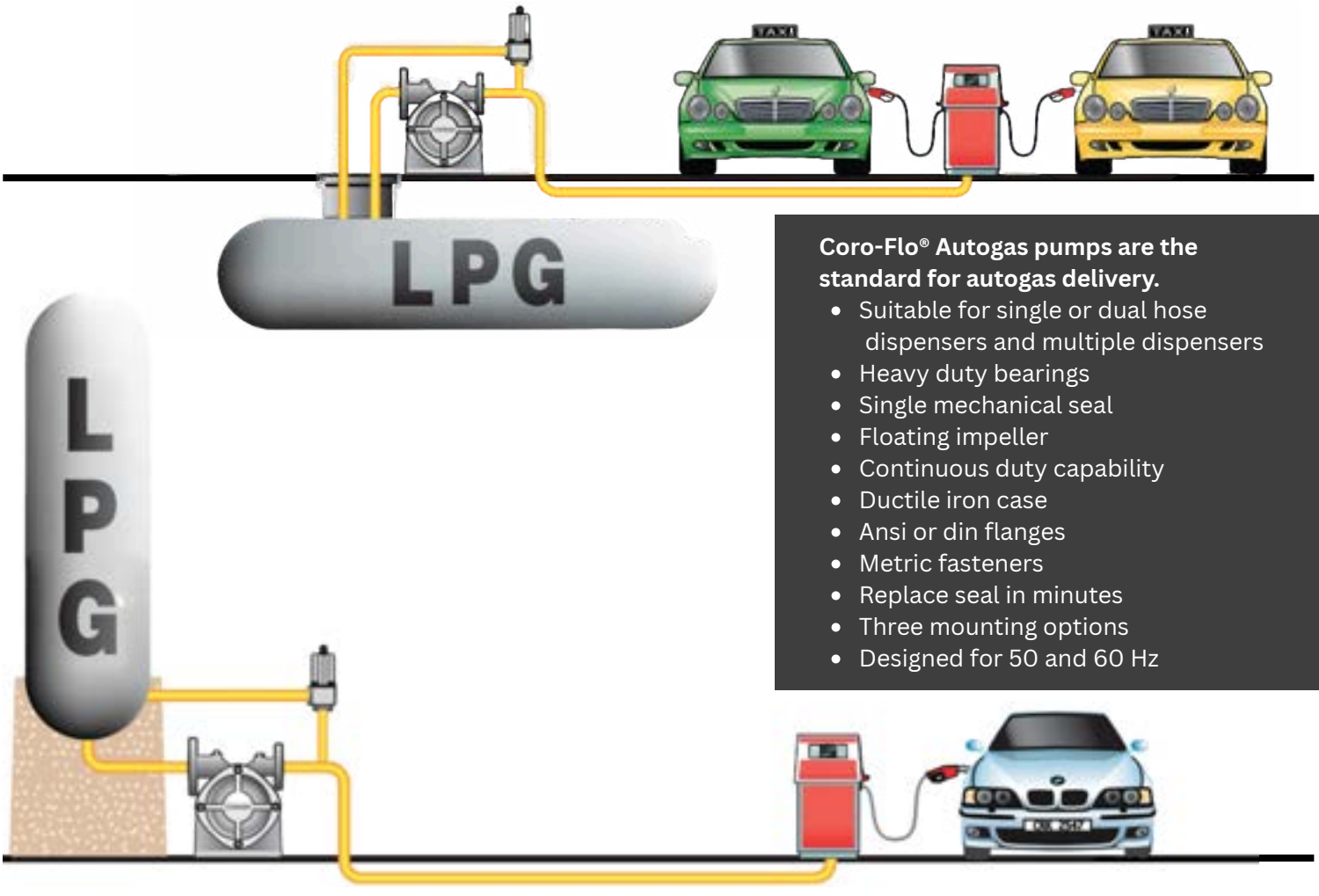
Autogas Pumps

Autogas pumps are built for dependable LPG transfer in vehicle fueling, dispensing, and bulk handling applications. Designed for continuous-duty service, they provide consistent flow and long-term reliability in demanding environments. All models feature ANSI flanged connections, operate at 3450 RPM, and are rated for a maximum working pressure of 400 PSI. Pump-only and direct-drive configurations are available to suit various installation requirements.

All Models have these features:

- ANSI 300# RF flanged inlet (1-1/2") and outlet (1")
- 3450 RPM, 60 Hz operation
- 400 PSI maximum working pressure
- Explosion-proof switch and magnetic starter required for 3-phase motors (not included)
- Direct-drive compatible
- Requires companion flange kit 6133X1

Model Number	Description	Flow rate (GPM)
FF075	Pump Only	22*
FF150	Pump Only	34*
FF075CD6A-101-14	Pump with direct drive mount- no motor	---
FF075CD6A-101-14-7.5HP	Pump with direct drive mount- 7.5HP	---
FF150CD6A-101-14	Pump with direct drive mount- no motor	---
FF150CD6A-101-14-10HP	Pump on direct drive mount- 10HP motor	---
*Flow rate at 145 PSI differential/3450 RPM		



Coro-Flo® Autogas pumps are the standard for autogas delivery.

- Suitable for single or dual hose dispensers and multiple dispensers
- Heavy duty bearings
- Single mechanical seal
- Floating impeller
- Continuous duty capability
- Ductile iron case
- Ansi or din flanges
- Metric fasteners
- Replace seal in minutes
- Three mounting options
- Designed for 50 and 60 Hz

LPG Accessories Bypass Valves

B166B (3/4", 1") Automatic Dual-Purpose Bypass Valve

Typical Application: On all cylinder filling pumps as well as aerosol propellant feed pumps.

A combination bypass and priming valve specifically designed for small cylinder-filling, type pumps, especially of the regenerative turbine type, such as the Corken Coro-Flo pump series. The patented vapor elimination system keeps liquefied gas pumps primed to increase system reliability and decrease pump and seal wear. The B166B is a smooth operating bypass with moderate pressure build-up.

Specs	Model		
	B166B	ZV200	B177
Inlet	3/4"–1"	2" (standard)	2"–2-1/2"
Outlet	3/4"–1"	2" (standard)	2"–2-1/2"
Slip-on flange option	No	Yes	Yes
Differential pressure range (bar)	25–225 (1.7–15.5)	41–150 (2.8–10.3)	10–125 (0.7–8.6)
Max working pressure	400 psig (27.6 bar)		
O-ring material options	Buna-N (standard), Neoprene*, PTFE, Viton®*, ethylene-propylene		
* Registered trademark of the DuPont Company.			

ZV200 (2") Bypass Valve

Typical Application: Used for both truck and stationary application for loading and unloading.

A low-pressure build-up bypass valve designed for application requiring protection for positive displacement pumps. Specifically designed for protecting pumps with capacities up to 250 gpm (56.8 m^3/hr). The continuous internal bleed will assist in the operation of systems with “air” or “electric” operated internal valves.

B177 (2", 2-1/2") Differential Bypass Valve

Typical Application: In liquefied gas bulk-plant installations for loading and unloading pumps.

A low-pressure build-up bypass valve specifically designed for applications requiring protection for positive displacement pumps in the 50 to 350 gpm (11.4 to 79.5 m^3/hr) range. It can also be used as a differential back-pressure valve to assure adequate pressure on meters, etc. To properly function, this valve requires a pressure sensing line from the storage tank.

ZV200 Performance

Differential Pressure psi (bar)	Maximum Rated Flow for Propane gpm (L/min)
70 (4.82)	180 (681)
120 (8.27)	250 (946)

Electric Motors

Electric motors are available for pump and compressor applications in both single-phase and three-phase configurations. Our standard inventory includes TEFC (Totally Enclosed Fan Cooled) motors across a wide horsepower range, with Explosion Proof and alternate RPM options available upon request. Frame sizes and voltage ratings remain consistent across enclosure types to ensure seamless application matching.

Part Number	HP	Phase	RPM	Voltage	Frame	Notes
0501TEFC	5	1PH	1800	115/230	184T	For small pump/compressor applications
0503TEFC	5	3PH	1800	230/460	184T	Standard duty applications
0753TEFC	7.5	3PH	1800	230/460	213T	Moderate duty pump service
1003TEFC	10	3PH	1800	230/460	215T	Standard compressor applications
1503TEFC	15	3PH	1800	230/460	254T	Heavy duty service
2003TEFC	20	3PH	1750	230/460	256T	Heavy duty service
2503TEFC	25	3PH	1750	230/460	284T	High capacity applications
3003TEFC	30	3PH	1750	230/460	286T	High capacity compressor service

Single Phase Motors

Single-phase motors are ideal for installations where three-phase power is not available. These units provide dependable performance for light-duty to moderate-duty LPG and NH_3 applications and are available in TEFC configuration, with Explosion Proof options offered in matching frame and voltage specifications.

Three Phase Motors

Three-phase motors are designed for higher horsepower requirements and continuous-duty performance in LPG and NH_3 pump and compressor service. Standard inventory includes TEFC models in 1750 and 1800 RPM configurations, with Explosion Proof options available in the same frame sizes and voltage ratings.

LPG VENTURES

DOT INSPECTIONS & TESTING

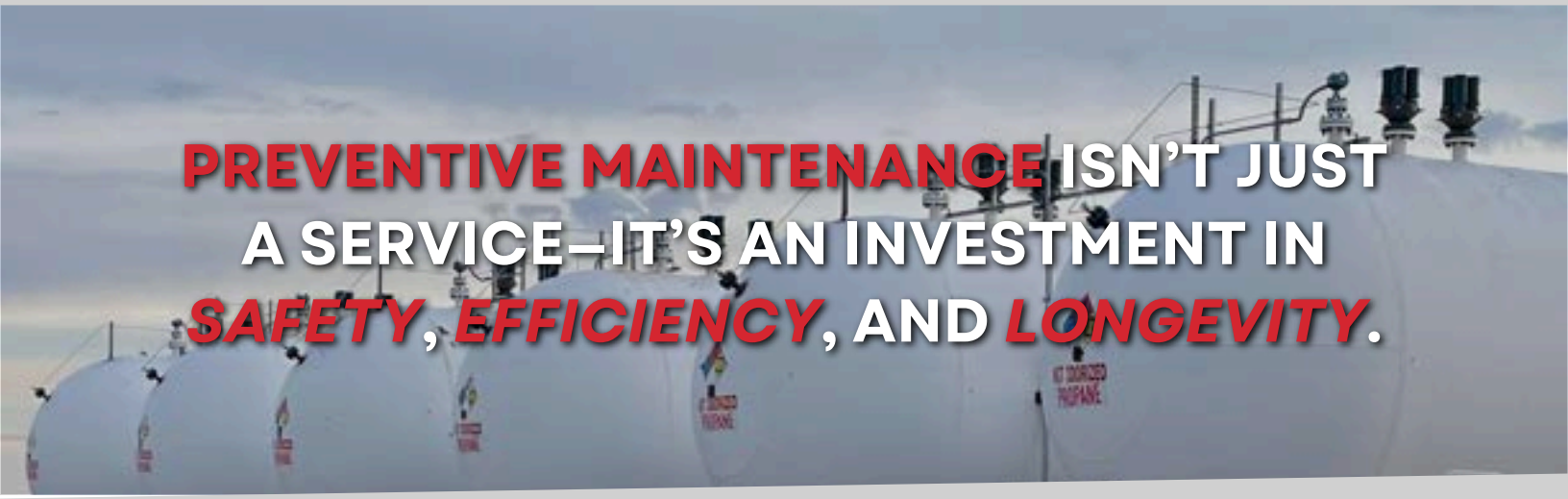
VISUAL, INTERNAL, LEAK, PRESSURE, THICKNESS & UPPER COUPLER INSPECTIONS
WFMPE (WET FLUORESCENT MAGNETIC PARTICLE EXAMINATION)
MOBILE TESTING AVAILABLE UPON REQUEST

REPAIRS & REFURBISHMENTS

BRAKE, LIGHTS & SUSPENSION REPAIRS
VALVE, PUMP & PIPING REPAIRS
BARREL REPAIRS, SANDBLASTING & PAINTING

PARTS & ACCESSORIES

PUMPS, VALVES, SEALS & SMART HOSES
METERS & BOBTAIL ACCESSORIES
FITTINGS, GASKETS & MORE



WITH DECADES OF EXPERTISE, WE HELP YOU:

- **Extend Equipment Life** – Catch minor issues before they become costly problems.
- **Ensure Safety & Compliance** – Stay up to code with ASME & DOT standards.
- **Maximize Efficiency** – Minimize downtime and optimize performance.

DON'T WAIT UNTIL IT'S TOO LATE

SCHEDULE YOUR MAINTENANCE TODAY!

07

SECTION 07

LPG & NH_3 Hose Assemblies

Liquid transfer hose assemblies, fittings, and couplings for LPG and NH_3 applications.

Hose Assemblies

LPGas and NH_3 transfer hose assemblies are engineered for safe, reliable liquid transfer in agricultural, industrial, and bulk plant applications. Assemblies are factory-built to precise specifications and offered in multiple hose I.D. sizes, with standard lengths listed and custom lengths available to meet specific installation requirements.

Assemblies are designed to withstand demanding service conditions while maintaining flexibility, durability, and compatibility with LPG and anhydrous ammonia systems.

LPGas Liquid Transfer Hose Assemblies

LPGas liquid transfer hose assemblies are available in multiple hose I.D. sizes and standard lengths for common liquid transfer applications. Custom hose lengths are also available to accommodate specialized equipment layouts and installation needs.

LP075X3

1/2" Hose I.D.	
PART NUMBER	LENGTH – FT
LP050X6	6'
LP050X8	8'
LP050X10	10'
LP050X12	12'
LP050X15FT	15'
LP050X18FT	18'
LP050X20FT	20'
LP050X25FT	25'
LP050X50FT	50'
LP050X100FT	100'

3/4" Hose I.D.	
PART NUMBER	LENGTH – FT
LP075X1	1'
LP075X3	3'
LP075X10	10'
LP075X12	12'
LP075X15	15'
LP075X18	18'
LP075X20	20'
LP075X25	25'
LP075X100	100'
LP075X125	125'

1" Hose I.D.	
PART NUMBER	LENGTH – FT
LP100X10	10'
LP100X12	12'
LP100X19	19'
LP100X20	20'
LP100X100	100'
LP100X125	125'
LP100X150	150'
LP100X175	175'

1-1/4" Hose I.D.	
PART NUMBER	LENGTH – FT
LP125X6	6'
LP125X10	10'
LP125X12	12'
LP125X25	25'

2" Hose I.D.	
PART NUMBER	LENGTH – FT
LP200X6	6'
LP200X10	10'
LP200X12	12'
LP200X19	19'

NH_3 Hose Assemblies

NH_3 hose assemblies are designed specifically for anhydrous ammonia service and are suitable for both field and stationary applications. Assemblies are available in standard sizes and lengths shown, with custom lengths available for site-specific requirements.

HS100X3

1/2" Hose I.D.	
PART NUMBER	LENGTH
HS050X48	48"

1-1/4" Hose I.D.	
PART NUMBER	LENGTH
HS125X24	24"
HS125X8	8'
HS125X10	10'
HS125X15	15'
HS125X18	18'

1" Hose I.D.	
PART NUMBER	LENGTH
HS100X1.5	8"
HS100X3	36"
HS100X10	10'
HS100X15	15'

2" Hose I.D.	
PART NUMBER	LENGTH
HS200X15	15'
HS200X19	19'

LPGas Bulk Hose

Bulk LPGas hose is supplied by the foot and intended for custom hose assembly fabrication. Available in multiple inside diameters, this heavy-duty hose supports both liquid and vapor transfer and allows assemblies to be built to exact length requirements.

- **Heavy-duty flexible hose for liquid or vapor transfer.**
- **350 PSI working pressure. UL listed.**

LP100

PART NUMBER	HOSE I.D.
LP025	1/4"
LP038	3/8"
LP050	1/2"
LP075	3/4"
LP100	1"
LP125	1-1/4"
LP150	1-1/2"
LP200	2"

Bobtail Hose Assemblies

Bobtail hose assemblies are factory-crimped, tested, and certified for bulk delivery applications. Designed for durability and flexibility, these assemblies are suitable for demanding transfer operations and are available in standard long-length configurations.

LP100X125

PART NUMBER	LENGTH – FT
LP100X100	100'
LP100X125	125'
LP100X150	150'

***NOTE: FACTORY CRIMPED ENDS. TESTED AND CERTIFIED.**

High Pressure Fuel Line Hose & Motor Fuel Fittings

High pressure fuel line hose and motor fuel fittings are designed for small engine and fuel system applications requiring compact size and dependable pressure handling. These hoses and fittings provide secure, leak-resistant connections and reliable performance in tight installations while maintaining consistent working pressure ratings.

HIGH PRESSURE FUEL LINE HOSE		
PART NUMBER	LENGTH	MAX WORKING PRESSURE
LP516MF	5/16"	350 PSI

LP516MF

MOTOR FUEL FITTINGS	
PART NUMBER	DESCRIPTION
541	1/4" MPT X 5/16" HOSE BARB
6-FS	3/8" F. FLARE X 5/16" HOSE END CONNECTOR
6-FS-45	3/8" F. FLARE X 5/16" HOSE END CONNECTOR – 45
6-FS-90	3/8" F. FLARE X 5/16" HOSE END CONNECTOR – 90
4-MP-516	1/4" MNPT X 5/16" HOSE END CONNECTOR

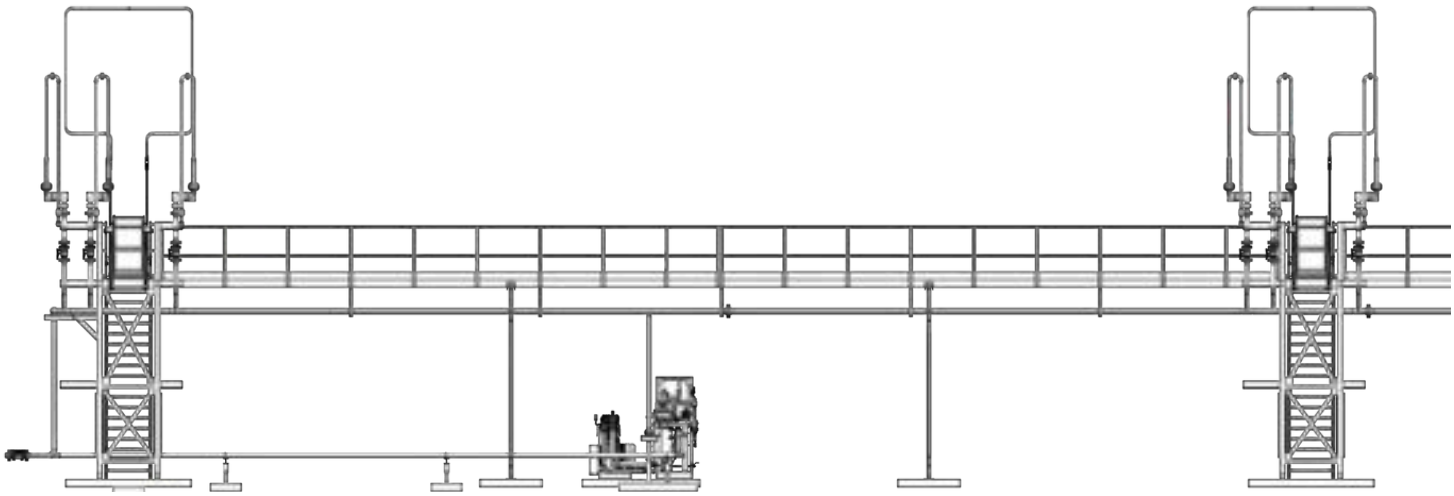
6-FS

6-FS-45

Custom Engineered Railcar Platform / Unloading Packages

LPG Ventures offers custom engineered railcar loading and unloading platforms designed to meet site-specific operational and safety requirements. These systems provide safe, efficient access to railcars for bulk transfer applications and are engineered to integrate seamlessly with existing rail infrastructure.

Platforms can be configured with single or dual-sided gangways, connecting catwalks, stairs, and optional fall protection. Durable construction options include fiberglass or galvanized grating, along with OSHA-compliant railings and toe kicks. Packages are available as tower-only structures or as fully piped unloading systems, with design, fabrication, and installation services available to deliver a complete, code-compliant solution.



- **Built to your specific site requirements**
- **Single or dual sided gangways**
- **Fall protection available**
- **Fiberglass or galvanized grating**
- **Connecting catwalks**
- **Stairs oriented on either side of platform**
- **Sold as tower only or fully piped**
- **Design & installation services available**
- **OSHA approved railings and toe kicks**
- **Expedited assembly onsite**

Item #	Description
Railtower	6' x 6' x 13'6" railcar load/unloading platform
Gangway	Engineered gangway designed to bolt on platform
Fall	Fall protection for gangway
Stairs	36" stairs with OSHA required railings
Catwalk	36" x 70' connecting catwalk with fiberglass tread
Loading arms	Consult your LPG Ventures representative
Piping	Consult your LPG Ventures representative

Loading Systems

OPW loading systems are available in many configurations and sizes. Superior design provides maximum safety, efficiency and operational benefits.

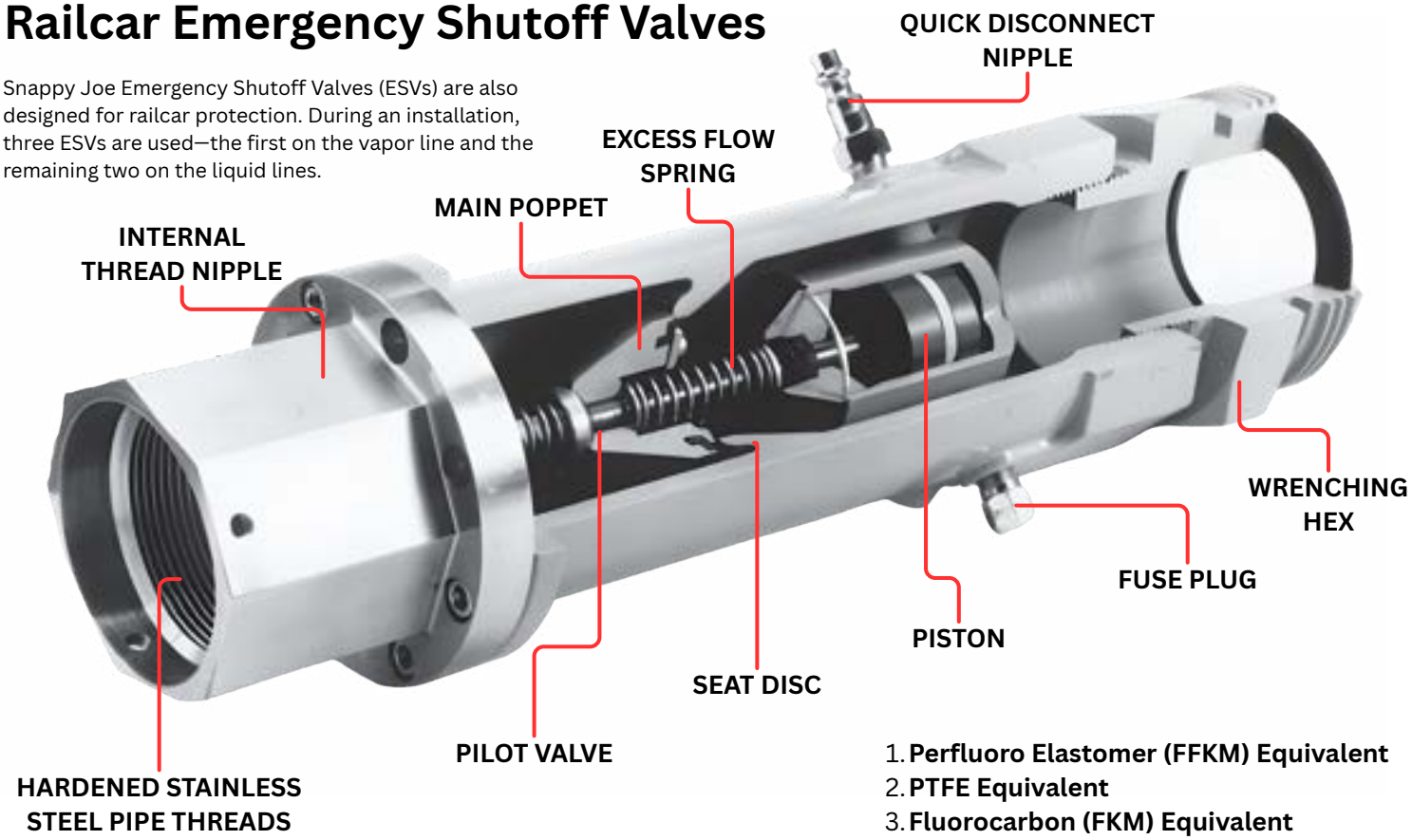
OPW Engineered Systems offers the most complete line of equipment to meet the demands of today's loading and unloading requirements.

- Ease of operation
- Adequate horizontal and vertical range
- Adequate capacity without excessive pressure drop
- Ease of maintenance
- Materials adequate for the service - metals, seals and gaskets that are chemically compatible with the products being handled, as well as transfer temperatures and prevailing climatic conditions

OPW ENGINEERED SYSTEMS
A DOVER COMPANY

Railcar Emergency Shutoff Valves

Snappy Joe Emergency Shutoff Valves (ESVs) are also designed for railcar protection. During an installation, three ESVs are used—the first on the vapor line and the remaining two on the liquid lines.



1. **Perfluoro Elastomer (FFKM) Equivalent**
2. **PTFE Equivalent**
3. **Fluorocarbon (FKM) Equivalent**

Railcar High Flow Emergency Shutoff Valves				
Type	**Elastomer**	**UL Listed**	**Inlet Connection, In.**	**Outlet Connection, In.**
N563-26	Nitrile (NBR)	Yes	2" FNPT	3-1/4" Male Acme
Flow rates in GPM: Up to 413 GPM				

Special Application Seals Available

- Kalrez
- Viton
- Neoprene
- EPDM
- Teflon

Pullaway / Breakaway Couplings

Designed to safely separate during a drive-off or excessive pull, automatically closing internal valves to limit product loss and equipment damage.

Part Number	Connection Size	Flow Rating	Comments
A-53-RSS	1" MNPT	53 GPM	Works great with 50 GPM valves
A-72-RSS	1-1/4" MNPT	72 GPM	Works great with 70 GPM valves
A-98-RSS	1-1/4" MNPT	98 GPM	Works great with 95 GPM valves

Breakaway Couplings

Automatic shutoff couplings that stop flow when subjected to abnormal tension, providing bi-directional protection for high-flow LPG and NH_3 transfer applications.

Part #	Description
TP4	3" MNPT × 3" MNPT × 2" FNPT — 350 GPM
TP7	1-1/4" MNPT × 1-1/4" MNPT — 126 GPM

- **Flow capacity from 25 GPM to 350 GPM**
- **Breakaway protection from either flow direction**
- **500 lb. shea**

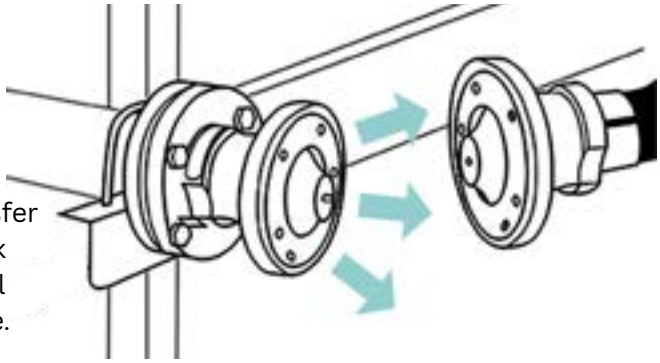
TP4 **TP7**

TODO Breakaway Couplings

TODO NGX Series breakaway couplings are engineered to provide automatic shutoff during accidental drive-offs or hose separation, minimizing product loss and improving safety in LPG, NH_3, and chemical transfer applications.

Key Features

- Automatic dual-poppet shutoff on separation
- Resettable design allows reuse after activation
- High-flow construction with low pressure drop
- Viton (FKM) seals for chemical and temperature resistance
- Suitable for LPG, NH_3, NGL, and compatible liquids



Applications

TODO Breakaway Couplings are ideal for safety-critical fluid transfer systems including LPG, NH_3, chemical handling, bulk transfer, tank trucks, railcar loading, and terminal installations where accidental pull-away could result in hazardous release or equipment damage.

Part #	Nominal Size	Connection Type	Seal Material	Max Working Pressure	Temperature Range	Resettable	Typical Use
3201-4437	2"	NPT	Viton (FKM), 90 Shore	580 PSI	-4°F to 176°F	Yes	LPG / NH_3 transfer
4301G-4437	3"	NPT	Viton (FKM), 90 Shore	580 PSI	-4°F to 176°F	Yes	Bulk loading/unloading

Smart Hose Technologies

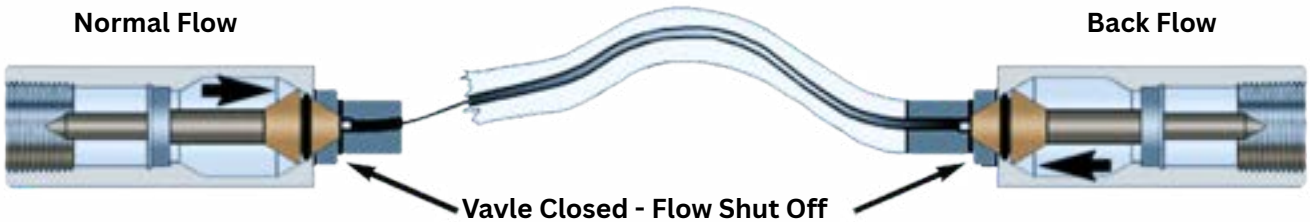
Smart-Hose assemblies feature integrated safety valves at each end fitting that automatically shut off flow in both directions if a hose failure or coupling separation occurs. This passive safety system requires no manual action and helps prevent uncontrolled product release.

Designed for LPG and propane transfer service, Smart-Hose assemblies are built for bulk plant and transport applications, providing added protection while maintaining full flow during normal operation. Hose assemblies through 3 in. I.D. meet UL 21 requirements, while 4 in. and 6 in. assemblies are built to BS 4089-1989 standards. Each Smart-Hose assembly is factory tested and serialized for traceability and long-term service reliability in LPG and NH3 transfer applications.

PART NUMBER	DESCRIPTION
L3-32LP3X19FT	2" X 19' LPG SMART-HOSE
L3-32NHX19FT	2" X 19' NH3 SMART-HOSE

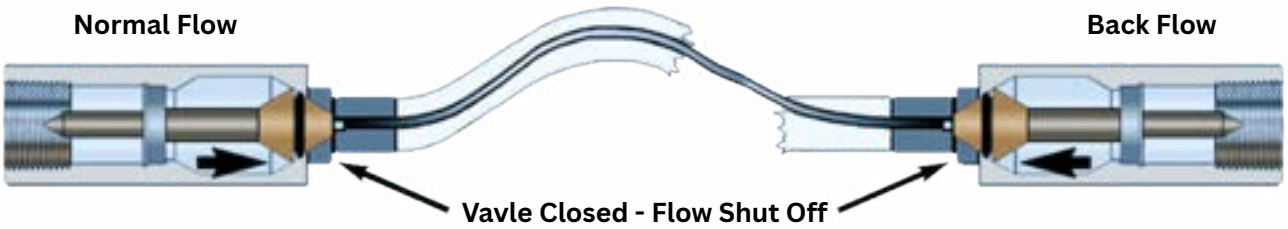
- Each hose is tested under water with dry air or nitrogen to working and test pressure
- Each hose is serial numbered
- Each hose is shipped with a Test Certificate and Operating Booklet
- Each hose meets US Passive Shutoff Mandate for MC330/331 Transports
- Each hose meets NFPA 58 & 59
- 316 Stainless Steel fittings are designed for reuse on new hose

Coupling Ejection



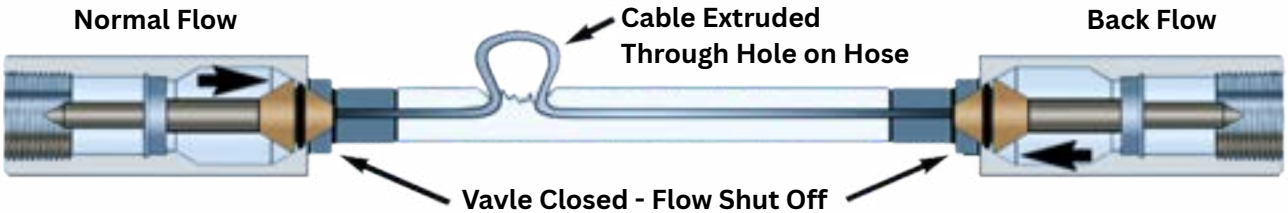
Any hose assembly is subject to experience a coupling ejection, where the fitting separatres from the hose.

Hose Separation



If a hose assembly experiences a complete hose separation during a hazardous chemical transfer operation, an uncontrolled release of hazardous substance can occur.

Hose Rupture



The Smart-Hose® Safety System will engage provided the cable inside the hose assembly extrudes out of the rupture. The energy of the release is the primary factor in driving out the cable. Only the contents of the hose will be spent.

Female ACME Vapor Return Couplings

Female ACME vapor return couplings allow vapor return connections using female ACME threads on one side and male NPT threads on the other. Designed for durability and dependable sealing in vapor service.

Part #	Female ACME, in.	Male NPT, in.	Type
AC175-125	1-3/4"	1-1/4"	Brass or Steel
AC305-325	3-1/4"	2"	

Female ACME Filler Couplings

Female ACME filler couplings connect ACME threads to NPT connections for liquid filling operations. One side features female ACME threads, while the opposite side provides NPT connections for piping or hose assemblies.

AC175-101

Female ACME, in.	Other Connection, in.	Brass	Steel
1-3/4"	3/4" MNPT	AC175-075	AC175-075S
1-3/4"	3/4" MNPT	-	AC175-076
1-3/4"	1" MNPT	AC175-100	AC175-100S
1-3/4"	1" MNPT	-	AC175-101
2-1/4"	1-1/4" MNPT	AC225-125	AC225-125S
3-1/4"	2" MNPT	AC305-325	AC310-325

AC175-075

AC305-325

Male ACME Couplings

Male ACME adapters provide transitions from male ACME threads to various NPT or ACME connections. These adapters are available in brass or steel and can include optional screens or taps depending on application requirements.

AC170-101

AC320-325

With Adapter Screen

Male ACME, In.	Other Connection	Bass	Steel
1-1/4"	3/4" MNPT	AC125-075	-
1-3/4"	1/4" FNPT	AC170-025	-
1-3/4"	3/4" MNPT	AC170-075	-
1-3/4"	1" MNPT	AC170-100	-
1-3/4"	1" MNPT	-	AC170-101
1-3/4"	1-1/4" MNPT	AC170-125	-
1-3/4"	1-1/4" MNPT	-	AC170-180
1-3/4"	1-3/4" M ACME	AC180-175	-
2-1/4"	2" MNPT	AC225-200	-
2-1/4"	1-1/4" MNPT	AC230-225	-
3-1/4"	2" FNPT	AC315-325*	-
3-1/4"	2" MNPT	-	AC318-325*
3-1/4"	2" MNPT	-	AC318-325-P**
3-1/4"	2" MNPT	AC320-325*	-
3-1/4"	3" MNPT	AC325-325*	-
3-1/4"	3-1/4" M ACME	AC325-330*	-
3-1/4"	3" MNPT	-	AC328-325*

* With Screen
** With Tap

ACME Caps

ACME caps of various sizes and materials are used on male ACME threads to keep debris out of piping systems. Smaller sizes are designed for hand tightening. Standard product temperature rating is –20°F to 160°F (–29°C to 71°C).
Larger sizes are intended to be tightened by hand or with the use of the Type P120B spanner wrench.

AC220-225

AC125-100
AC150-175

AC150-176

Female ACME Caps			
Size (Female ACME, in.)	Plastic [1]	Brass	Steel
1-1/4"	AC125-100	—	—
1-3/4"	AC150-175	AC150-176	—
2-1/4"	—	AC220-225	—
3-1/4"	AC300-325N	AC300-325	AC300-325S

1. *For LPG only*

ACME Plugs

ACME plugs are installed in female ACME threads to prevent contamination and protect system connections during storage, transport, or maintenance. Various sizes are available to match common ACME connections.

Size (Male ACME, in.)	Plug
1-1/4"	AC125-100
1-3/4"	AC100-175
2-1/4"	AC200-225
3-1/4"	AC305

AC305

Adapter Caps

Adapter caps are designed to transition between different ACME sizes while sealing the connection when equipment is not in service. These caps provide a secure fit and are available in multiple materials for durability.

AC225-175

Female ACME (in.)	Male ACME (in.)	Type	Part #
2-1/4"	1-3/4"	Brass	AC225-175
3-1/4"	1-3/4"	Brass	AC325-175

Spanner Wrench / J Wrench

Spanner and J wrenches are used to tighten and loosen larger ACME caps and couplings where hand tightening is not sufficient. These tools provide added leverage for safe and secure installation.

SPANNER WRENCH | TYPE P120B

J Wrench | Type AC1000

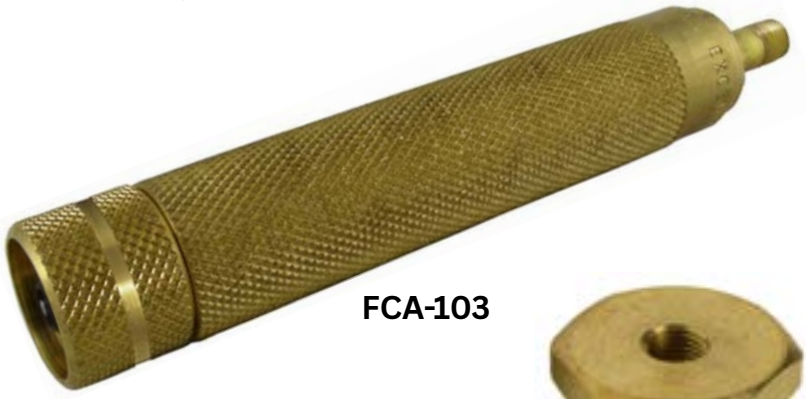
Type	Overall Length (in. / mm)	Construction Material
P120B	18" / 457	Aluminum
AC1000	16" / 457	Aluminum

Filler Couplings & Adapters

Filler couplings and adapters are used to connect hose-end ACME fittings to service valves, fuel lines, and DOT or ASME containers. These components are designed for safe, reliable filling operations and are available in brass, steel, and composite constructions with standard temperature ratings suitable for LPG service.

FCA-101

FCA-102

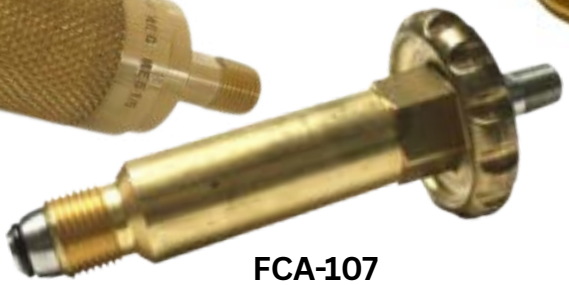


FCA-103

FCA-106

FCA-105

FCA-104



FCA-107

Part Number	Inlet	Outlet	Material	Application
FCA-101	3/8" FNPT	1-1/4" M ACME	Brass	Forklift Cylinder Fill Coupling
FCA-102	1-1/4" F ACME	1/4" FNPT	Brass	Fuel Line
FCA-103	1/4" MNPT	1-1/4" F ACME	Brass	Fork Lift Cylinder Fill
FCA-104	1/4" MNPT	M POL (CGA 510)	Brass / Stainless Steel	DOT Cylinder Fill / POL Connection
FCA-105	1/4" MNPT	1-5/16" F ACME	Brass	DOT Cylinder Fill / Type 1 Connection
FCA-106	1/4" FNPT	Male QCC / Female POL	Brass	QCC Adapter
FCA-107	1/4" MNPT	Male Soft Nose POL	Brass	POL Filler Couplings

Gas Distribution Products

Plastic Pipe

Polyethylene plastic pipe is designed for underground gas distribution applications where durability and corrosion resistance are critical. Lightweight and flexible for easier handling and installation, it is available in multiple IPS sizes, SDR ratings, and coil or stick lengths to suit a wide range of system layouts. Additional sizes and configurations are available upon request.

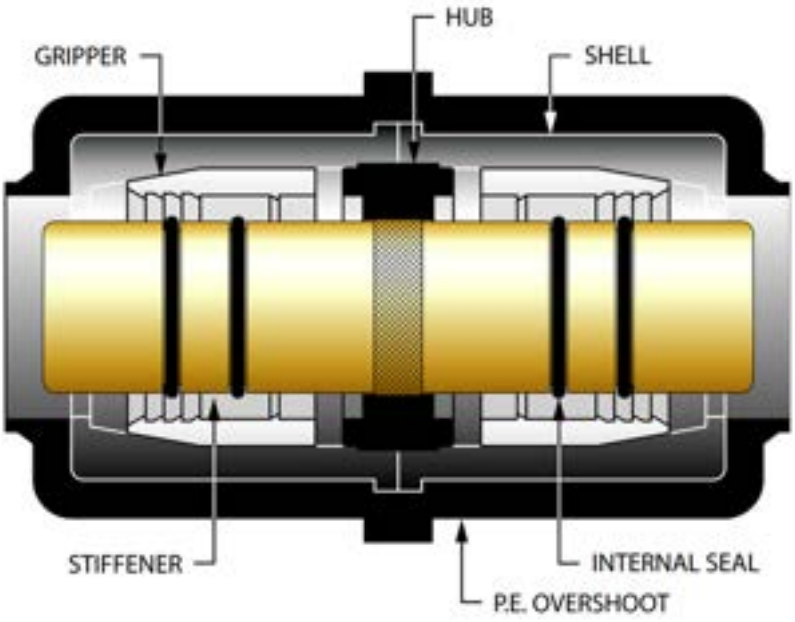
PART NUMBER	DESCRIPTION
PE 100-100	1" IPS-500' ROLL-SDR 11
PE 100-125	1 1/4" IPS-500' ROLL-SDR 10
PE 100-200	2" IPS-250' ROLL-SDR 11
PE100-300	3" IPS - 20' STICKS
PE100-400	4" IPS - 20' STICKS
PE 100-600	6" IPS-STICKS
Other sizes available upon request	

Con-Stab ID Seal® Fittings

Continental's unique ID Seal design enables the seal to be maintained on the smooth inside surface of the polyethylene pipe, regardless of the exterior surface of the piping. This improved seal protection creates the ultimate design for mechanical joints.

The Con-Stab ID Seal® fittings provide the user with the following advantages:

- Cost effective joining method
- Simple assembly
- No additional assembly equipment required for installation (just chamfer pipe and push)
- Expanded product line with various configurations and material options (PE3408/4710 or PE 2406)
- Uni-body design eliminating all external parts
- Pressure rating that meets or exceeds the maximum design pressure of the piping system
- Meets or exceeds all D.O.T., ASTM and NFPA 58 requirements



Each Con-Stab ID Seal® fitting provides the following unique features:

- Two internal seals
- Fixed stiffener
- Self-locking gripper
- Moisture lip

Full Couplings

Con-Stab ID Seal Full Couplings provide a secure, pressure-rated connection for joining polyethylene pipe in straight-through applications. The internal seal design maintains consistent sealing performance on the inside surface of the pipe, independent of exterior conditions. Full couplings are designed for fast assembly, long-term reliability, and use in underground gas distribution systems where durability and leak resistance are critical.

PART NUMBER	DESCRIPTION
1" IPS	3259-52-1014-00
1-1/4" IPS	3259-52-1015-00
2" IPS	3259-52-1017-00

3-Way Tees

Con-Stab ID Seal 3-Way Tees are used to create branch connections in polyethylene gas piping systems while maintaining the same internal sealing and gripping performance as straight couplings. The one-piece, uni-body design ensures proper alignment and load distribution across all outlets, making these tees ideal for service taps and branching installations in underground LPG and natural gas applications.

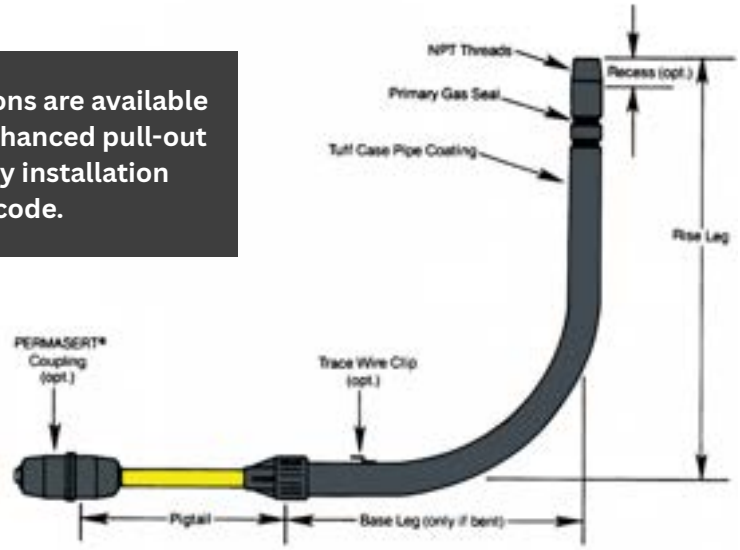
PART NUMBER	DESCRIPTION
1" IPS	3259-50-1014-00
1-1/4" IPS	3259-50-1015-00
2" IPS	3259-50-1017-00

Anodeless Meter Risers

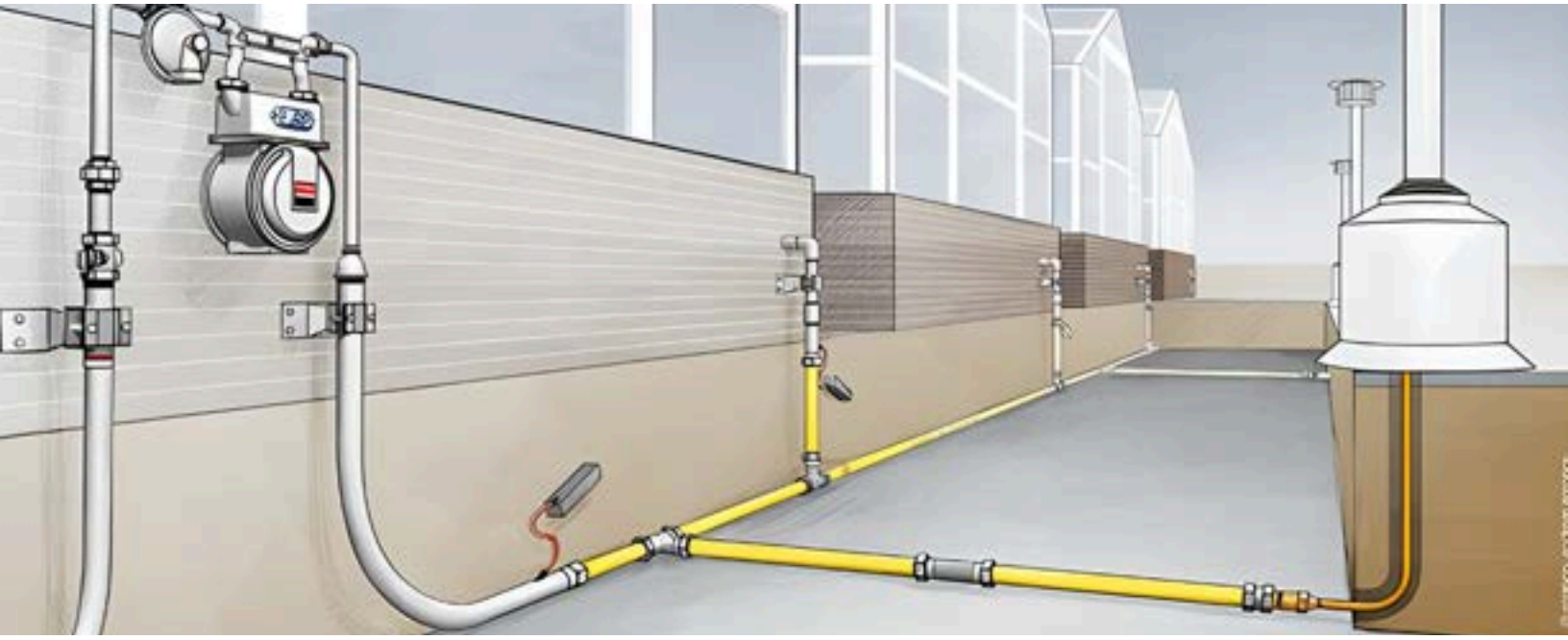
Anodeless meter risers are designed to provide a durable, corrosion-resistant transition between underground polyethylene piping and above-ground threaded steel connections at gas meters. The factory-coated steel riser eliminates the need for external anodes while providing long-term protection in direct burial applications.

These risers are pre-bent for consistent installation geometry, helping reduce stress on piping and fittings while maintaining proper alignment at the meter set. Available in multiple MPT x PE size combinations and standard vertical and horizontal lengths, anodeless meter risers simplify installation and ensure code-compliant transitions from underground service lines to above-grade equipment.

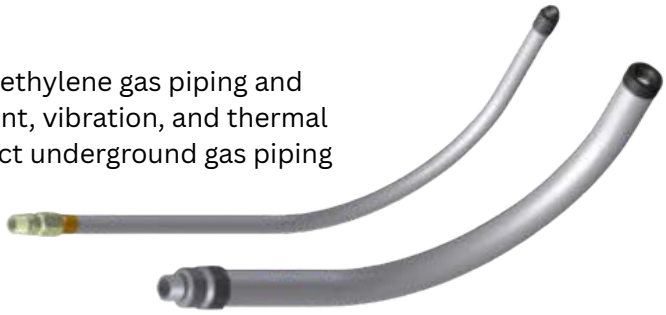
Optional Con-Stab configurations are available for added joint security and enhanced pull-out resistance where required by installation conditions or local code.



Size (MPT X PE)	Vertical Length	Horizontal Length	Part Number	Part Number with Con-Stab
1/2" MPT x 1/2" CTS (5/8" OD) PE	30"	15"	1253-91-4604-00	1253-91-4604-25
3/4" MPT x 1/2" CTS (5/8" OD) PE	30"	17"	1353-91-4604-00	1353-91-4604-25
3/4" MPT x 3/4" IPS PE	30"	16"	1353-91-4613-00	1353-91-4613-25
1" MPT x 1" IPS PE	30"	16"	1453-91-4614-00	1453-91-4614-25
1-1/4" MPT x 1-1/4" IPS PE	30"	22"	1553-91-4615-00	1553-91-4615-25
2" MPT x 2" IPS PE	36"	30"	1752-91-4617-00	1752-91-4617-25



Conflex Risers



Conflex Risers provide a flexible, reliable transition between polyethylene gas piping and threaded steel connections. Designed to absorb ground movement, vibration, and thermal expansion, they help reduce stress at transition points and protect underground gas piping systems from damage. The pre-assembled design simplifies installation, improves long-term reliability, and supports clean, code-compliant transitions in residential, commercial, and light industrial gas applications.

Size (MPT X PE)	Vertical Length	Horizontal Length	Size (MPT X PE)
1/2" MPT x 1/2" CTS (5/8" OD) PE	30"	15"	1/2" MPT x 1/2" CTS (5/8" OD) PE
3/4" MPT x 1/2" CTS (5/8" OD) PE	30"	17"	3/4" MPT x 1/2" CTS (5/8" OD) PE
3/4" MPT x 3/4" IPS PE	30"	16"	3/4" MPT x 3/4" IPS PE

Plastic Pipe Accessories

Butt fusion and socket fusion fittings also available.

Plastic pipe accessories support safe identification and long-term service of underground gas piping. Tracer tape, tracer wire, and markers help meet code requirements and allow buried lines to be easily located after installation.

TRACER TAPE

TRACER WIRE

Part Number	Description
Tracer Tape	1000' Roll metal tracer tape, Silver with yellow stripes
Tracer Wire	2500' roll Tracer Wire 14 AWGUF 600V heavy insulation Yellow
Tracer Wire 500	500' roll Tracer Wire 14 AWGUF 600V heavy insulation Yellow
Marker	5' yellow pipeline marker withCAUTION decal

SECTION 08

Bulk Storage Tanks & Skid Systems

ASME tanks, skid packages, and bulk handling equipment for LPG and NH_3 service.

ASME Bulk Storage Tanks

ASME bulk storage tanks are engineered for long term LPG storage in commercial, industrial, and bulk plant applications. These tanks are manufactured to ASME code standards and designed for durability, safety, and reliable performance in demanding service conditions.

Available in a wide range of capacities, ASME bulk tanks can be fully customized to meet specific site requirements, including working pressure, saddle configuration, coatings, and underground installations. Transportation and delivery options are available to support project timelines and simplify installation.

All tanks are ASME and DOT certified and offered with multiple paint and finish options to suit environmental and corrosion protection needs.

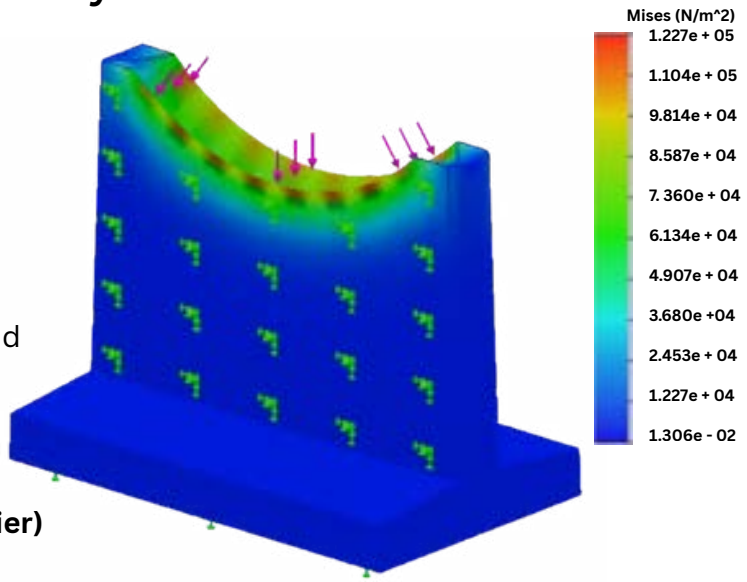
Main Features

- Sizes up to 118,000 gal
- Full customizable
- 250–350 psi MAWP
- Custom saddles available
- ASME & DOT certified
- Various paint options
- Underground Tanks Available
- Transportation available

Item #	Description	Diameter	Length	WP
LPN06-100	6,000 gal ASME storage tank	100"	21'	250
LPN12-100	12,000 gal ASME storage tank	100"	35'	250
LPN18-100	18,000 gal ASME storage tank	100"	47'	250
LPN18-109	18,000 gal ASME storage tank	109"	41'	250
LPN30-109	30,000 gal ASME storage tank	109"	66'	250
LPN30-131	30,000 gal ASME storage tank	131"	47'	250
LPN45-131	45,000 gal ASME storage tank	131"	70'	250
LPN60-131	60,000 gal ASME storage tank	131"	92'	250
LPN90-131	90,000 gal ASME storage tank	131"	130'	250
LPN118-131	118,000 gal ASME storage tank	131"	172'	250

Pre-Cast Tank Piers

Designed & Manufactured the Professional Way!

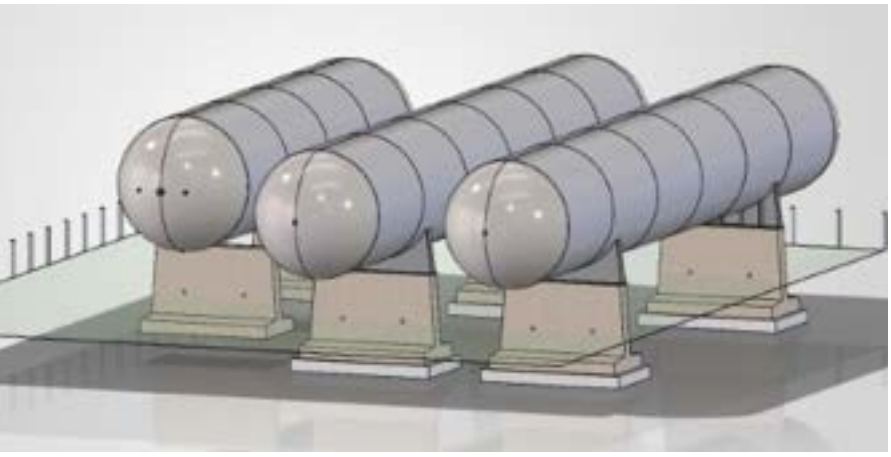


FEATURES

- Compatible with most horizontal storage tanks
- Manufactured with 5,000 psi structural concrete
- Reinforced with ½" rebar on 12" centers
- Precision-cast in a single monolithic pour
- Engineered to support tanks of many sizes
- Easy installation with integrated lifting points
- Available in Standard, Heavy Duty (HD), Super, and Anhydrous (NH3) configurations
- Custom radius sizes available upon request

PRODUCT CATEGORIES

- **RADIUS POURED PIERS (Standard Size, No Modifier)**
  Designed for horizontal tanks. The model number corresponds to the outside diameter of the tank.
- **FLAT & SUPER FLAT PIERS**
  For tanks with Steel Saddles.
- **NH3 / ANHYDROUS PIERS**
  Models 105A & 109A are designed to encompass ⅓ of the vessel to meet CGA code. Other sizes are also available upon request.
- **HEAVY DUTY (HD) MODELS**
  Twice the rebar. Rebar is on 6" Centers for larger and heavier tanks.



TRANSPORTATION

- Delivery available throughout North America
- Loading assistance available at the plant
- Stocking programs available for high-volume customers

NOTES FOR ORDERING

- Please specify if piers are for LPG or NH3
- Lifting rods and felt to go between the tank and pier available
- Custom piers available upon request (Super, HD, etc.)

Standard Pier Sizes

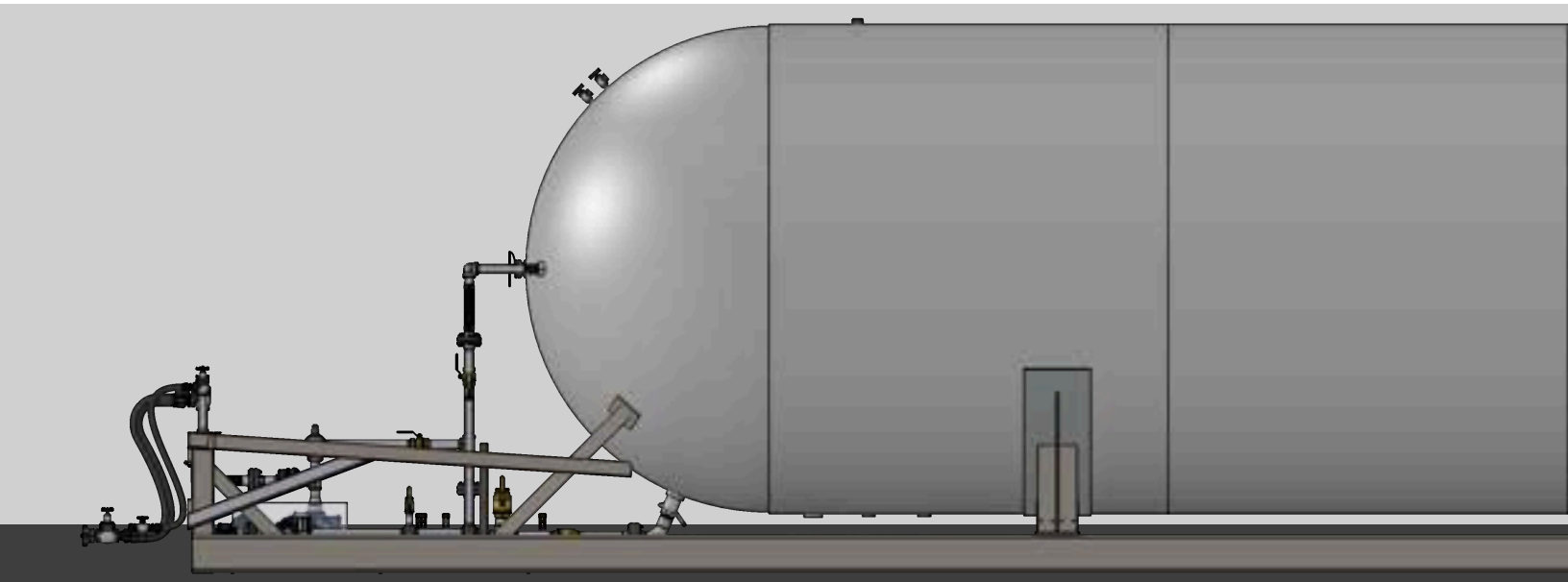
Model	Description
60	60" Radius Pier Assembly
72	72" Radius Pier Assembly
78	78" Radius Pier Assembly
84	84" Radius Pier Assembly
92	92" Radius Pier Assembly
96	96" Radius Pier Assembly
102	102" Radius Pier Assembly
105	105" Radius Pier Assembly
106	106" Radius Pier Assembly
105A	105A NH3 Pier 10' top × 11' base
109	109" Round Pier Assembly
109A	109A NH3 Pier 10' top × 11' base
114	114" Radius Pier Assembly
120	120" Radius Pier Assembly
126	126" Radius Pier Assembly
132	132" Radius Pier Assembly
132HD	132" Heavy Duty Radius Pier
132A	132A" Radius Pier Assembly
132AHD	132A" Heavy Duty Radius Pier

Flat & Super Flat Piers

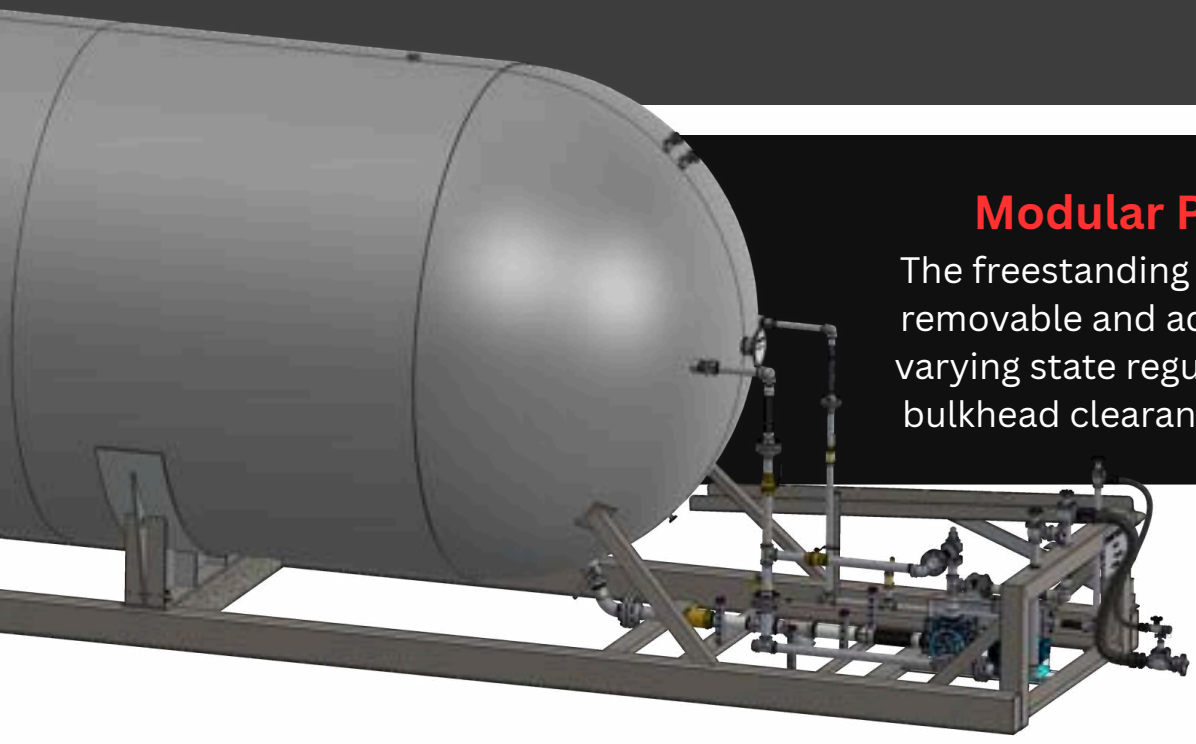
Model	Description
FLAT	Flat Top Pier Assembly
FLAT HD	Flat Top Heavy Duty Pier Assembly
FLAT 11×7	11×7 Flat Top Pier Assembly
FLAT 11×7HD	11×7 Flat Heavy Duty Pier Assembly
FLAT 11×8	11×8 Flat Top Pier Assembly
FLAT 11×8HD	11×8 Flat Heavy Duty Pier Assembly

REV 3 SERIES

SKID TANKS



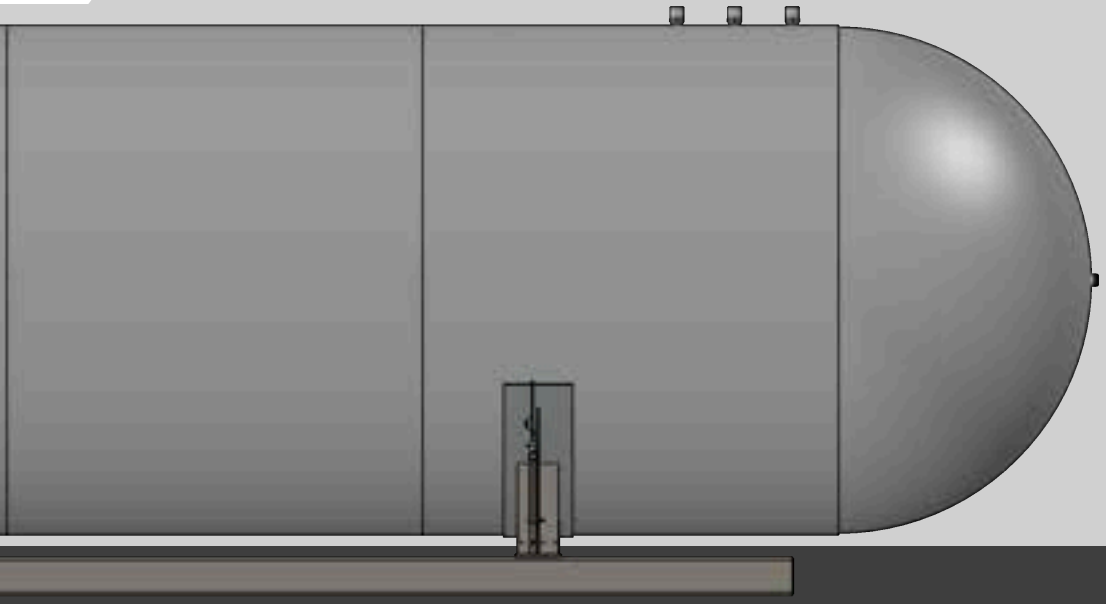
The REV3 represents a major leap forward in skid tank design—engineered with smarter layouts, rugged construction, and future-focused flexibility. Every element was reimagined to improve compliance, serviceability, and long-term value.



Modular Pump Skid

The freestanding pump skid is fully removable and adjustable to meet varying state regulations, including bulkhead clearance requirements.

Engineered for Safety, Strength and Versatility



LPG VENTURES

REV3 Skid Tank Specifications

Tank Capacity 6,000 to 30,000 Gallons (WC)	**Pressure Rating** Engineered for 250 PSI Working Pressure	**Fuel Capability** Supports LPG, NH_3, & NGL Applications
Application Use Designed for Vapor Service, Bulk Storage, & Vaporizer Systems	**Industry Standards** Manufactured to Meet CGA 2.1 & NFPA 58 Compliance	**Custom Fit** Modular Build Allows for Project-Specific Configurations

Item #	Description	WC
SKD1000-6	ASME Code Skid Tank 250 PSI WP, Vapor Service	6,000 gal
SKD1000-12		12,000 gal
SKD1000-18		18,000 gal
SKD1000-30		30,000 gal
SKD1025-18	ASME Code Skid Tank 250 PSI WP, with 3" Pump	18,000 gal
SKD1025-30		30,000 gal

KEY FEATURES & ENHANCEMENTS

REV - 3 SKID TANKS

Built Smarter. Stronger. Future-Ready.

Concrete Base Saddles
Meets NFPA 58 and removes the need for unsightly fireproof coatings.

Protected Pneumatic System
Internally routed ESD lines prevent UV and physical damage.

6" x 10" Skid Frame
30% stronger than traditional I-beam designs.

Slotted Rear Saddle
Allows thermal expansion without stressing connections.

Spray Fill Unloading
Faster, more efficient offloading during transport.

Swivel Hose Tray
Hose installs in the shop and swings out easily on-site —no extra steps.

Removable Tank Design
Skid tank can be lifted and relocated to piers for permanent plant builds.

Head Valve Access
Openings around valves improve access and serviceability.

Dual-Side ESD Sign Mounts
Mountable on either side for flexible installation.

Top-Tier Components
Equipped with Fisher Components & Corken Systems.

SKID TANK

ANHYDROUS AMMONIA

Built for Safety. Designed for Practicality.

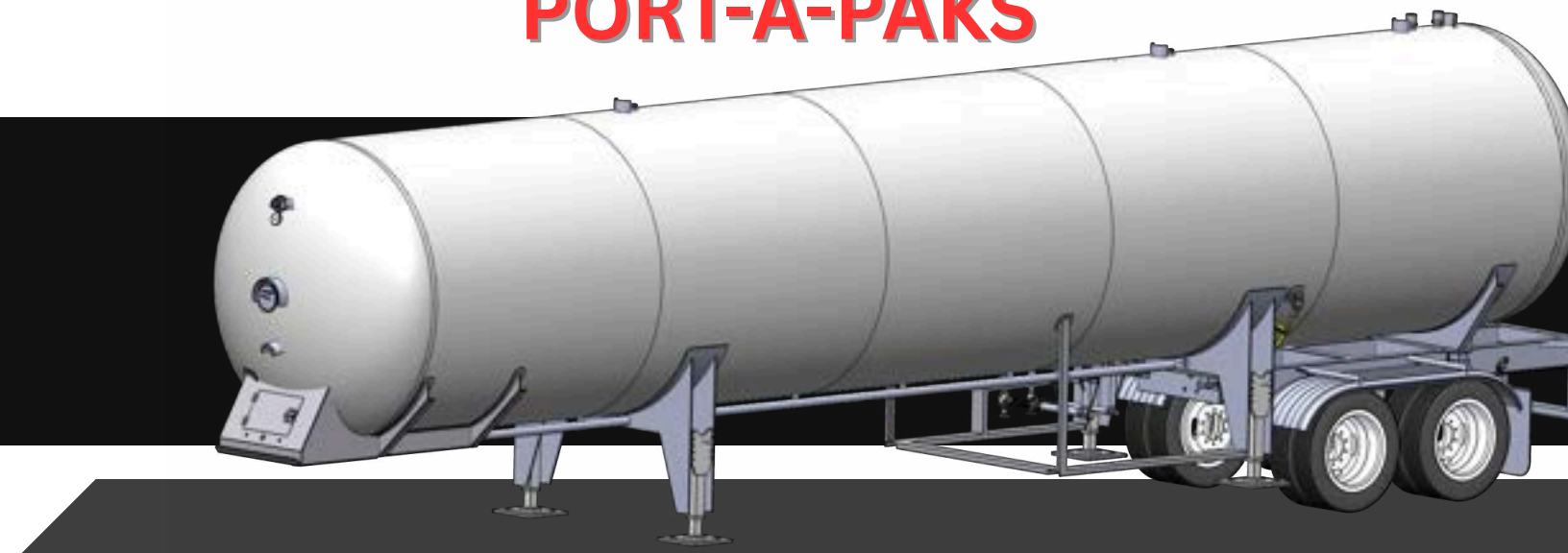
Our NH_3 skid tanks combine rugged construction with smart safety features, delivering dependable performance in the field.

NH3 | Key Features

- Liftable Platforms for Safe Transport & Easy Access
- Heavy-Duty Skid for Stability & Easy Relocation
- Compact Design Less Space wtih Higher Capacity
- Efficient Access Points Smooth Operation & Maintenance
- Custom Options to Meet Specific State Requirements

PORTABLE STORAGE TANKS

PORT-A-PAKS



Portable Power & Precision in the Field.

Engineered for demanding remote applications, our rugged Port-A-Pak storage tanks provide safe, flexible fuel storage for projects like asphalt paving, soil reclamation, flare gas capture, and mobile generator fueling. Built tough and designed for easy mobility, these units are tailored to meet the unique needs of your on-site operations.

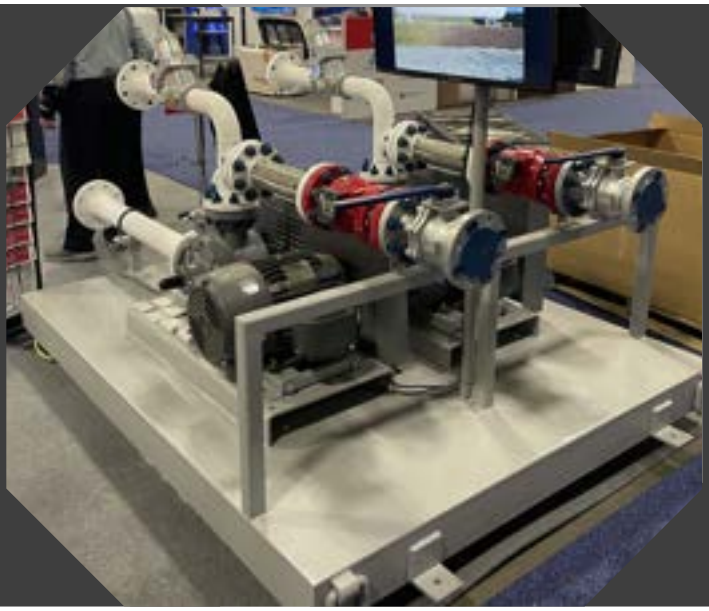
Port-A-Pak Specifications

Capacity 12,000 to 26,500 Gal WC	**Construction** ASME Code-Compliant
Configuration Semi-Custom Builds are Available	**Safety** Bulkhead Equipped with Breakaway Couplings
Usability Simple Transport, Setup & Relocation	**Mobility** Removable Running Gear (NFPA 6.6.5.2 Compliant)

CUSTOM ENGINEERED

PUMPS, METER SKIDS & CABINET ACCESSORIES

We offer robust, reliable systems tailored to your operation. Our accessory line includes Pump & Meter Skids—featuring integrated pumps, meters, quick-connect fill guns, and support for registers and load computers—as well as durable diamond plate cabinets in multiple ready-to-install configurations.

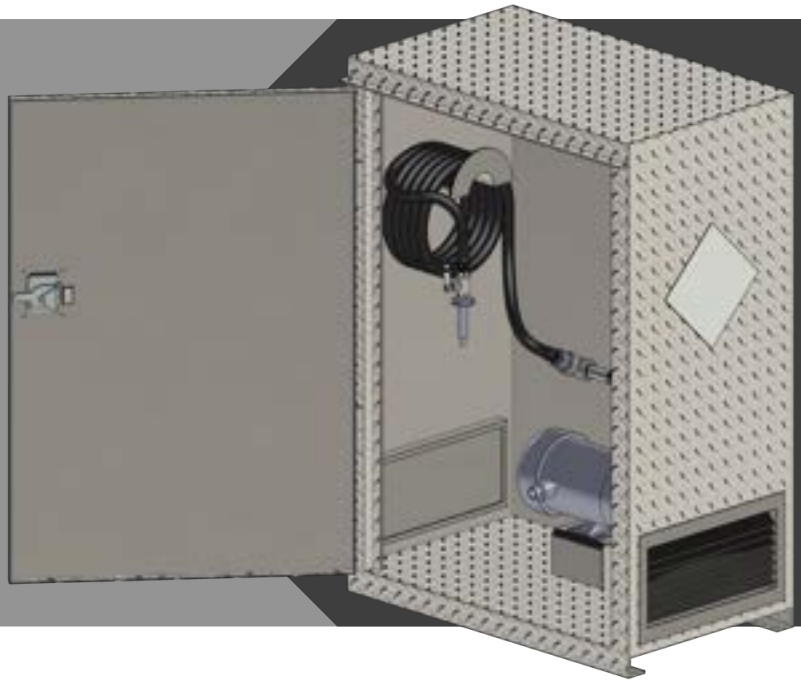


Pump & Meter Skids

- Supports all Key Components: Strainers, Air Eliminators, Valves, & Registers.
- Works with Mechanical or Electronic Registers & Load Computers.
- Fully Piped and Assembled for Easy installation & Calibration.
- Optional Prover Systems for Accurate Measurement & Verification.
- Customizable Configurations to Match System Needs

Diamond Plate Cabinets

- Small units for pump and meter assemblies
- Larger models to house scales or additional equipment
- Ready-to-connect designs for fast installation



Dispenser Accessories

Dispenser accessories are designed to support accurate, safe, and efficient LPG dispensing operations. These components are commonly used in cylinder filling and bulk plant environments to improve reliability, consistency, and ease of use during daily filling procedures.

Fairbanks Portable Beam Scale

The Fairbanks portable beam scale is built for precise, repeatable cylinder weighing in LPG filling applications. Its rugged mechanical design delivers dependable performance without the need for electrical power, making it well suited for bulk plants, filling stations, and field use. The portable configuration allows the scale to be easily positioned where needed, while maintaining stable, accurate readings during filling operations. Designed for long service life, the beam scale is a trusted solution for weight-based cylinder filling systems.

Specifications:

- Capacity: Rated for up to 1,000 lbs, suitable for most cylinder filling applications.
- Platform Size: 17-3/4" × 23-1/2" steel platform provides stable, accurate cylinder support.
- Overall Height: 43-3/4" height allows easy access to beam and scale adjustments during filling.
- Shipping Weight: Approximately 175 lbs, offering stability while remaining portable within filling areas.

Cylinder Filling Valve

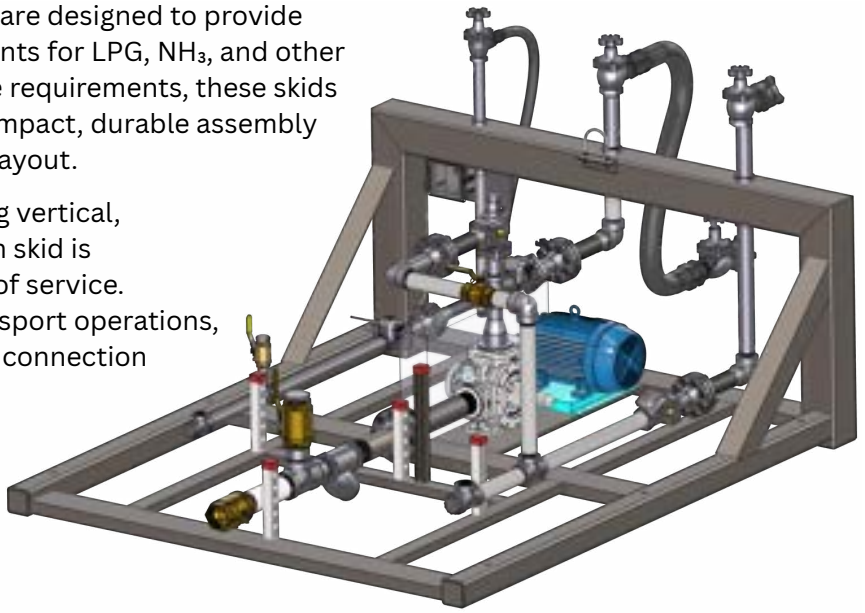
The Type N201 cylinder filling valve fills DOT cylinders by weight and automatically shuts off gas flow when the preset fill weight is reached. Operated by air pressure, this valve is designed for use with beam-type scales and requires no electrical or mechanical power.

The assembly is fully piped and includes components that allow the scale slide weight to return to zero after each fill. A visual indicator on the valve confirms when the target fill weight has been reached. Standard operating temperature range is -20°F to 160°F (-29°C to 71°C).

LPG Ventures Custom Engineered Bulkhead Skids

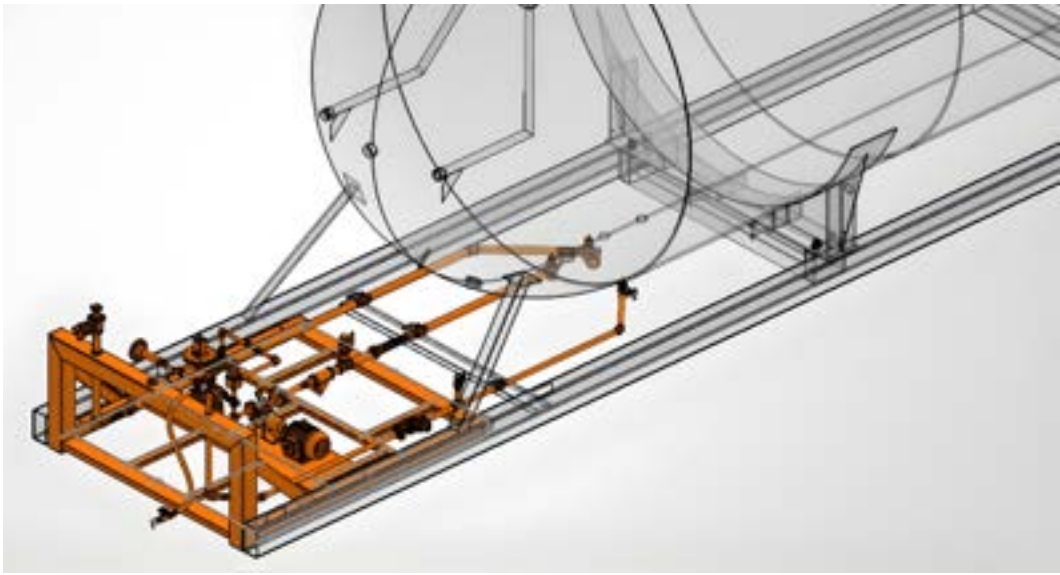
LPG Ventures custom engineered bulkhead skids are designed to provide organized, safe, and efficient tank connection points for LPG, NH_3, and other light liquid installations. Built to your specific site requirements, these skids integrate bulkheads, valving, and piping into a compact, durable assembly that simplifies installation and improves system layout.

Available in multiple size configurations, including vertical, horizontal, extended, and combo bulkheads, each skid is engineered for long-term performance and ease of service. Whether for bulk plants, storage facilities, or transport operations, LPG Ventures bulkhead skids deliver dependable connection solutions tailored to your operation.



Bulkhead #	Description
BUK1000	2" × 1-1/4" Vertical Bulkhead
BUK1005	2" × 1-1/4" Horizontal Bulkhead
BUK1010	3" × 1-1/4" Bulkhead
BUK1015	3" × 1-1/4" Horizontal Bulkhead
BUK1020	2" × 1-1/4" × 48" Bulkhead
BUK1022	3" × 2" × 48" Bulkhead
BUK1025	3" × 1-1/4" × 48" Bulkhead
BUK1030	2" × 2" & 1-1/4" Combo Bulkhead
BUK1035	3" × 2" × 1-1/4" Combo Bulkhead
BUK1038	3" × 3" × 1-1/4" Combo Bulkhead

LPG VENTURES



LPG Transportation Services

“WHEN IT NEEDS TO BE THERE ON TIME”

LPG VENTURES

You can count on LPG Ventures to deliver your tanks, safely, on time, and anywhere in North America. We have the specialized equipment and experienced, courteous drivers to transport oversized loads, pre-cast concrete piers, and more. Our transportation services include:

Our Transportation Capabilities

- **Oversized & Overweight Load Transport**
  Permitted and professionally managed across all required jurisdictions.
- **Tank Delivery up to 120,000 Gallons**
  Safe, secure hauling of large-capacity tanks.
- **Specialized Heavy Haul Carriers**
  Equipment built specifically for large, complex loads.
- **Precision Scheduling & On-Time Delivery**
  When it needs to be there, it’s there.
- **Courteous, Safety-Focused Drivers**
  Experienced professionals who represent your jobsite well.
- **North America–Wide Coverage**
  Reliable delivery anywhere across the U.S. and Canada.
- **Pre-Cast Concrete Pier Delivery**
  Coordinated transport for site-ready installation.
- **Coordinated Tank & Crane Arrival**
  Schedule alignment to keep projects moving.
- **On-Site Unloading with Matched Crane Support**
  Efficient unloading using the same crane as tank placement.

CONTACT US TODAY FOR A QUOTE OR TO SCHEDULE A DELIVERY!

09

SECTION 09

Safety Decals, Signs & Service

Regulatory decals, safety signage, and service equipment for DOT, plant, and dispenser applications.

LPG VENTURES

DOT: Decals & Signs

Item#	Description
DE-MPH-69	Placard Holder
DE1028	1075, Flip Placard Assembly w/ Metal Frame
DE1028-1	1005, Flip Placard Assembly w/ Metal Frame
DE1029	1075, Magnetic Placard
DE1030	1075, Vinyl Placard Decal
DE1035	“We Stop at ALL RR Crossings” 4″ × 36″ Vinyl Decal
DE1055	Liquified Petroleum Gas Vinyl Decal 6″
DE1056	Liquified Petroleum Gas Vinyl Decal 2″
DE1075	NQT Vinyl Decal
DE1076	QT Vinyl Decal
DE1080	HM-183 5-Year Inspection Vinyl Decal Kit
DE1081	HM-183 Annual Inspection Vinyl Decal Kit
DE1085	Complete Valve ID Label Vinyl Decal Set
DE1106	Emergency Shutoff — Pull to Close — 5″ × 6″ Vinyl Decal
DE1107	Emergency Shutoff — Push to Close — 5″ × 6″ Vinyl Decal
DE1125	DOT Red/White Reflector Tape, 2″ × 150′ Roll

DE1028-1

DE1028

DE1075

DE1029
DE1030

DE1076

DE1085

DE1106 & DE1107

DE1055 & DE1056

DE1035

PLANT: Decals & Signs

Item#	Description
DE1015	No Smoking or Open Flames Within 25′, 12″ × 18″ Vinyl Decal
DE1016	No Smoking or Open Flames Within 25′, 12″ × 18″ Metal Sign
DE1051	Propane 4″ Vinyl Decal
DE1053	Propane 6″ Vinyl Decal
DE1055	Liquefied Petroleum Gas 4″ Vinyl Decal
DE1057	Flammable Gas 4″ Vinyl Decal
DE1058	Flammable Gas 6″ Vinyl Decal
DE1062	No Smoking 6″ Vinyl Decal
DE1063	No Smoking 4" Vinyl Decal
DE1065	OSHA 2-4-0 Hazard Warning Vinyl Decal, 15″ × 15″
DE1070	OSHA 2-4-0 Hazard Warning Vinyl Decal, 7.5″ × 7.5″
DE1090	Vapor 1″ × 4″ Vinyl Decal, Five per Sheet
DE1095	Liquid 1″ × 4″ Vinyl Decal, Five per Sheet
DE1105	Emergency Shutoff, Push to Close, 10″ × 12″ Plastic Sign
DE1110	Emergency Shutoff, Pull to Close, 10″ × 12″ Plastic Sign
DE1115	Emergency Shutoff, Pull/Push to Close, 10″ × 12″ Metal Sign
DE1120	Main Valve Open/Close Sign, 10″ × 12″ Metal Sign
DE1121	Main Valve Open/Close Sign, 10″ × 12″ Metal Sign
DE1130	Flow Arrow Vinyl Decal 4″, Yellow/Black
DE1131	Flow Arrow Vinyl Decal 4″, Red/White
DE1135	Fire Extinguisher 4″ × 12″ Vinyl Decal

DE1131

DE1015 & DE1016

DE1051 & DE1053

DE1130

DE1055

DE1115

DE1120

DE1095

DE1090

DE1057 & DE1058

DE1105 & DE1110

DE1121

DE1062 & DE1063

DE1065 & DE1070

Ammonia Nurse Tank: Decals & Signs

Proper identification and warning signage are critical for the safe handling, transport, and operation of anhydrous ammonia nurse tanks. Decals and placards provide clear visual warnings to personnel and emergency responders, helping communicate hazards quickly and effectively in the field.

These labels are designed for outdoor use and are suitable for agricultural and industrial NH_3 applications. Available in multiple letter sizes and formats, they support compliance with common safety and regulatory requirements while maintaining visibility on tanks, trailers, and related equipment.

Item Number	Description
DE1031-1	1005 Plastic placard
DE1032	1005 Vinyl sticker, diamond
DE1033	Anhydrous Ammonia 2" letters
DE1033-1	Anhydrous Ammonia 4" letters
DE1033-2	Anhydrous Ammonia 6" letters
DE1034	Inhalation Hazard 2" letters
DE1034-2	Inhalation Hazard 6" letters

DE1031-1 & DE1032

DE1034 & DE1034-2

DE1033, DE1033-1, DE1033-2

SERVICE EQUIPMENT

Pipe Thread Sealants	
Item #	**Description**
SS04	Gasoila Soft-Set With Teflon Pipe Thread Sealant, 1/4" Pt
SS16	Gasoila Soft-Set With Teflon Pipe Thread Sealant, 1" Pt
PB04	PLS2 Pipe Thread & Gasket Sealer, 1/4" Pt
PB10	PLS2 Pipe Thread & Gasket Sealer, 1" Pt
TT12	1/2" × 520" Pipe Seal Teflon Tape
TT34	3/4" × 520" Pipe Seal Teflon Tape

SS04

PB04

Scotchrap All-Weather Corrosion Protection Tape 50 & 51

Features

- Scotchrap 50 and 51 tapes are tough, polyvinyl chloride–based tapes with special high-tack adhesives formulated to resist corrosion of metal piping systems above and below ground, fittings, and joints on all mill-coated pipe and electrical conduit systems.
- Color: Black
- Applications: Pipe; Conduit Pipe; Fitting

50 & 51

TT12

Pipe Wrap	
Item #	**Description**
PW100-200	2" × 100' Pipe Wrap
PW100-400	4" × 100' Pipe Wrap
PW100-100	Pipe Wrap Primer

42272

TT34

Cutting Oils & Degreasers	
Item #	**Description**
70833	Ridgid Nu-Clear Thread Cutting Oil, 1 Gal
30820	Heavy Duty Degreaser, 15 Oz Aerosol

Features

- Cools threads and pipe during operation
- Speeds metal removal
- Ridgid thread-cutting oils are free of chlorine and other halogens, PCBs, and heavy metals

70833

Cleaning Products	
Item #	**Description**
42272	Hand Cleaner Towels, 72 Count
SL772	Mechanix Orange Hand Cleaner With Pumice, 16 Oz

SLD

SL772

Leak Detector	
Part #	**Description**
SLD	Low Temperature Leak Detector, 1 Gal

LPG VENTURES

DOT INSPECTIONS & TESTING

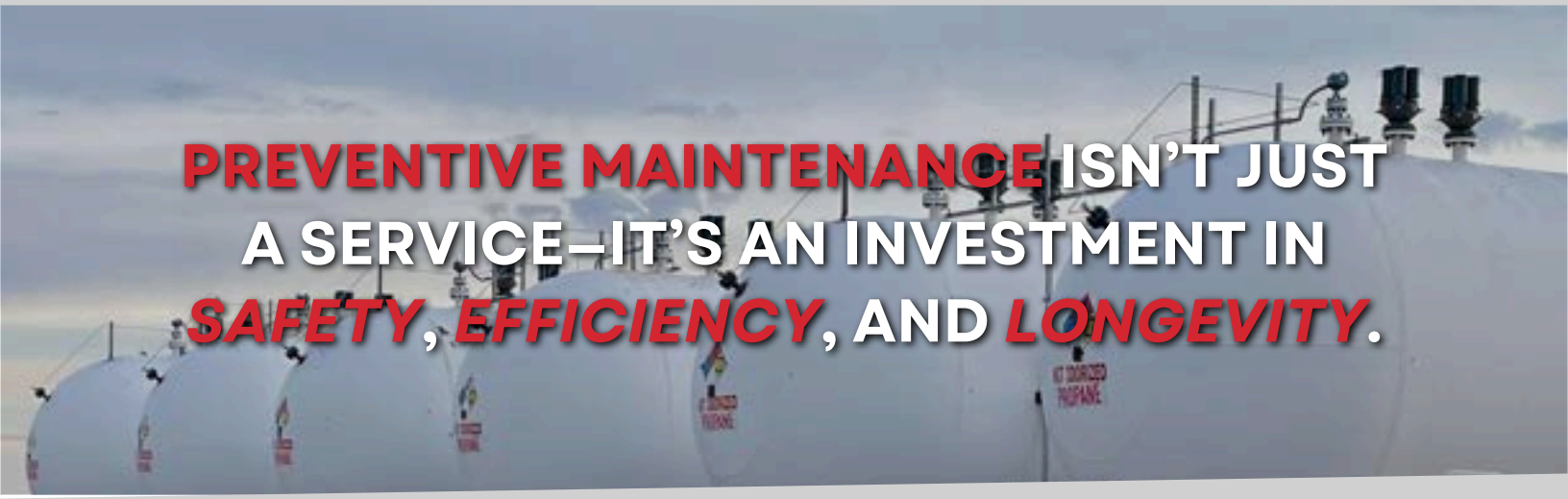
VISUAL, INTERNAL, LEAK, PRESSURE, THICKNESS & UPPER COUPLER INSPECTIONS
WFMPE (WET FLUORESCENT MAGNETIC PARTICLE EXAMINATION)
MOBILE TESTING AVAILABLE UPON REQUEST

REPAIRS & REFURBISHMENTS

BRAKE, LIGHTS & SUSPENSION REPAIRS
VALVE, PUMP & PIPING REPAIRS
BARREL REPAIRS, SANDBLASTING & PAINTING

PARTS & ACCESSORIES

PUMPS, VALVES, SEALS & SMART HOSES
METERS & BOBTAIL ACCESSORIES
FITTINGS, GASKETS & MORE



WITH DECADES OF EXPERTISE, WE HELP YOU:

- **Extend Equipment Life** – Catch minor issues before they become costly problems.
- **Ensure Safety & Compliance** – Stay up to code with ASME & DOT standards.
- **Maximize Efficiency** – Minimize downtime and optimize performance.

DON'T WAIT UNTIL IT'S TOO LATE

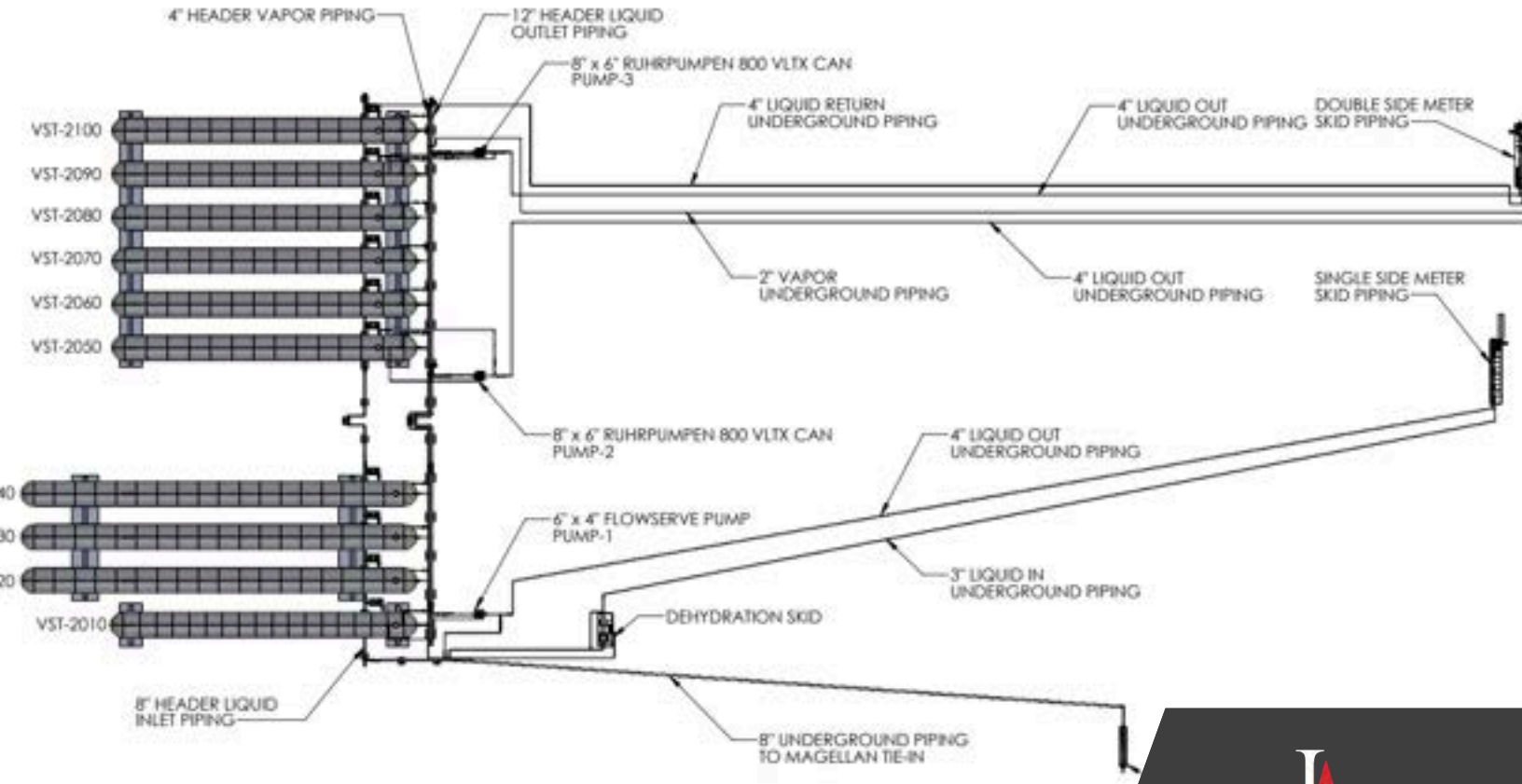
SCHEDULE YOUR MAINTENANCE TODAY!

10

SECTION 10

Technical Data & Reference

Engineering data, sizing guidelines, and reference information for LPG and NH_3 systems.



Physical Properties of Commercial Gases

This chart provides key physical properties of commonly used commercial gases, including propane, butane, ammonia, propylene, ethane, and methane. It summarizes essential characteristics such as boiling point, vapor pressure, specific gravity, BTU content, flammability limits, and ignition temperatures to support accurate system design, safety planning, and equipment selection.

Typical Applications:

Propane and butane are widely used in LPG storage, heating, and fuel systems. Propylene is commonly used in cutting and heating operations, while methane and ethane are key components of natural gas used in residential, commercial, and industrial applications.

Property	Propane	Butane	Ammonia	Propylene	Ethane	Methane
Formula	C3 H8	C4 H10	NH3	C3 H6	C2 H6	CH4
Normal State @ 60°F	Gas	Gas	Gas	Gas	Gas	Gas
Boiling Point (°F)	-44	32	-28	-54	-127	-258
Specific Gravity of Gas @ 60°F (Air = 1)	1.52	2	0.59	1.5	1.05	0.56
Specific Gravity of Liquid @ 60°F (Water = 1)	0.51	0.58	0.68	0.61	0.57	NA
Weight per U.S. Gallon of Liquid @ 60°F (lbs)	4.24	4.85	5.15	4.29	4.76	NA
BTU per U.S. Gallon, Vaporized	91,500	102,600	NA	92,000	69,500	NA
BTU per Cubic Foot, Vaporized	2,520	3,260	NA	2,336	1,783	1,011
Cubic Feet of Gas per Gallon of Liquid @ 60°F	36.5	31	106.9	NA	34.3	NA
Vapor Pressure @ −44°F (psig)	0	0	9	12	NA	NA
Vapor Pressure @ −10°F (psig)	20	0	24	41	203	NA
Vapor Pressure @ 0°F (psig)	28	0	30	49	261	NA
Vapor Pressure @ 10°F (psig)	45	0	38	60	284	NA
Vapor Pressure @ 32°F (psig)	60	0	60	84	346	NA
Vapor Pressure @ 60°F (psig)	100	12	107	107	517	NA
Vapor Pressure @ 100°F (psig)	130	22.5	172	207	725	NA
Vapor Pressure @ 120°F (psig)	190	37	286	297	942	NA
Ignition Temperature (°F)	920–1020	900–1000	1204–1562	851–920	950–975	1070–1090
Flammability Limits (Lower %)	2.40%	1.90%	15.00%	2.00%	2.40%	5.00%
Flammability Limits (Upper %)	9.50%	8.50%	28.00%	11.10%	12.40%	15.00%
Octane Rating	125	91	NA	100	108	130

Safety Reminder: Gas properties change with temperature, pressure, and mixture conditions. Always verify system requirements and follow all NFPA, state, and local regulations when designing or installing gas systems.

Chart A - Minimum Required Rate of Discharge for LP-Gas Pressure Relief Valves Used on ASME Containers

From NFPA Pamphlet #58, Appendix D (1986).

Minimum required rate of discharge in cubic feet per minute of air at 120% of the maximum permitted start-to-discharge pressure for pressure relief valves to be used on containers other than those constructed in accordance with Interstate Commerce Commission specifications.

Surface Area Sq. Ft.	Flow Rate CFM Air	Surface Area Sq. Ft.	Flow Rate CFM Air	Surface Area Sq. Ft.	Flow Rate CFM Air	Surface Area Sq. Ft.	Flow Rate CFM Air	Surface Area Sq. Ft.	Flow Rate CFM	Surface Area Sq. Ft.	Flow Rate CFM Air	Surface Area Sq. Ft.	Flow Rate CFM Air
<= 20	626	85	2050	150	3260	230	4630	360	6690	850	13540	1500	21570
25	751	90	2150	155	3350	240	4800	370	6840	900	14190	1550	22160
30	872	95	2240	160	3440	250	4960	380	7000	950	14830	1600	22740
35	990	100	2340	165	3530	260	5130	390	7150	1000	15470	1650	23320
40	1100	105	2440	170	3620	270	5290	400	7300	1050	16100	1700	23900
45	1220	110	2530	175	3700	280	5450	450	8040	1100	16720	1750	24470
50	1330	115	2630	180	3790	290	5610	500	8760	1150	17350	1800	25050
55	1430	120	2720	185	3880	300	5760	550	9470	1200	17960	1850	25620
60	1540	125	2810	190	3960	310	5920	600	10170	1250	18570	1900	26180
65	1640	130	2900	195	4050	320	6080	650	10860	1300	19180	1950	26750
70	1750	135	2990	200	4130	330	6230	700	11550	1350	19780	2000	27310
75	1850	140	3080	210	4300	340	6390	750	12220	1400	20380	-	-
80	1950	145	3170	220	4470	350	6540	800	12880	1450	20980	-	-

Surface Area = Total outside surface area of the container in square feet.

When the surface area is not stamped on the nameplate or when the marking is not legible, the area can be calculated by using one of the following formulas:

1. Cylindrical container with hemispherical heads. Area (in sq. ft.) = overall length (L) x outside diameter (D) x 3.1416.
2. Cylindrical container with ellipsoidal heads. Area (in sq. ft.) = overall length (L) x outside diameter (D) x 3.1416.
3. Spherical container. Area (in sq. ft.) = outside diameter (D) x outside diameter (D) x 3.1416.

Flow Rate CFM Air = Required flow capacity in cubic feet per minute of air at standard conditions, 60°F, and atmospheric pressure (14.7 psia).

The rate of discharge may be interpolated for intermediate values of surface area. For containers with total outside surface area greater than 200 square feet, the required flow rate can be calculated using the formula, Flow Rate in CFM Air = 56,630 A. Where A = total outside surface area of the container in square feet.

Values not marked "Air" have flow rate markings in cubic feet per minute of liquid petroleum gas. These can be converted to ratings in cubic feet per minute for liquefied petroleum gas by multiplying the liquefied petroleum gas ratings by the factors listed below.

Air Conversion Factors

Container Type	100	125	150	175	200
Air Conversion Factor	1.162	1.142	1.113	1.078	1.010

Chart B - Minimum Required Rate of Discharge for Anhydrous Ammonia Pressure Relief Valves Used on ASME Containers

From ANSI K61.1, Appendix A (1976).

Minimum required rate of discharge in cubic feet per minute of air at 120% of the maximum permitted start-to-discharge pressure for pressure relief valves to be used on containers other than those constructed in accordance with the U.S. Department of Transportation specifications.

Surface Area Sq. Ft.	Flow Rate CFM Air	Surface Area Sq. Ft.	Flow Rate CFM Air	Surface Area Sq. Ft.	Flow Rate CFM Air	Surface Area Sq. Ft.	Flow Rate CFM Air	Surface Area Sq. Ft.	Flow Rate CFM	Surface Area Sq. Ft.	Flow Rate CFM Air	Surface Area Sq. Ft.	Flow Rate CFM Air
20	258	95	925	170	1500	290	2320	600	4200	1350	8160	2100	11720
25	310	100	965	175	1530	300	2380	650	4480	1400	8410	2150	11950
30	360	105	1010	180	1570	310	2450	700	4760	1450	8650	2200	12180
35	408	110	1050	185	1600	320	2510	750	5040	1500	8900	2250	12400
40	455	115	1090	190	1640	330	2570	800	5300	1550	9140	2300	12630
45	501	120	1120	195	1670	340	2640	850	5590	1600	9380	2350	12850
50	547	125	1160	200	1710	350	2700	900	5850	1650	9620	2400	13080
55	591	130	1200	210	1780	360	2760	950	6120	1700	9860	2450	13300
60	635	135	1240	220	1850	370	2830	1000	6380	1750	10090	2500	13520
65	678	140	1280	230	1920	380	2890	1050	6640	1800	10330	-	-
70	720	145	1310	240	1980	390	2950	1100	6900	1850	10560	-	-
75	762	150	1350	250	2050	400	3010	1150	7160	1900	10800	-	-
80	804	155	1390	260	2120	450	3320	1200	7410	1950	11030	-	-
85	845	160	1420	270	2180	500	3620	1250	7660	2000	11260	-	-
90	885	165	1460	280	2250	550	3910	1300	7910	2050	11490	-	-

Surface area = Total outside surface area of container in square feet.

When the surface area is not stamped on the name plate or when the marking is not legible, the area can be calculated by using one of the following formulas:

1. Cylindrical container with hemispherical heads. Area (in sq. ft.) = overall length (L) x outside diameter (D) x 3.1416.
2. Cylindrical container with other than hemispherical heads. Area (in sq. ft.) = overall length (L) - 3 x outside diameter (D) x outside diameter (D) x 3.1416.
3. Spherical container. Area (in sq. ft.) = outside diameter (D) squared x 3.1416.

Flow Rate CFM Air = Required flow capacity in cubic feet per minute of air at standard conditions, 60°F, and atmospheric pressure (14.7 psi).

The rate of discharge may be interpolated for intermediate values of surface area. For containers with total outside surface area greater than 2,500 square feet, the required flow rate can be calculated using the formula:

- Flow Rate in CFM Air = 22.11A^0.82 where A = total outside surface area of the container in square feet.

Conversion Factors:

- ft^3 x 0.092903 = m^2
- CFM x 0.028317 = m^3/min
- ft x 0.3048 = m

Approximate Vaporization Capacities

Various Sized Containers At 0°F With Varying Amounts of Fuel in Tanks

250 Gallon Above Ground Tank				
% of container capacity at 0°F	Propane vaporization capacity at 0°F (in BTU/hr.)	Equivalent in gallons	Equivalent propane ft²	Equivalent natural gas ft²
60	331,200	3.7	134	331
50	298,080	3.2	118	298
40	264,960	2.9	105	285
30	231,640	2.5	90	232
20	198,720	2.2	79	199
10	149,040	1.6	58	149

500 Gallon Above Ground Tank				
% of container capacity at 0°F	Propane vaporization capacity at 0°F (in BTU/hr.)	Equivalent in gallons	Equivalent propane ft²	Equivalent natural gas ft²
60	426,900	4.6	166	426
50	383,376	4.2	152	383
40	341,120	3.7	134	341
30	298,480	3.3	119	298
20	255,840	2.8	109	256
10	191,880	2.1	76	192

1,000 Gallon Above Ground Tank				
% of container capacity at 0°F	Propane vaporization capacity at 0°F (in BTU/hr.)	Equivalent in gallons	Equivalent propane ft²	Equivalent natural gas ft²
60	799,500	8.7	313	780
50	720,000	7.8	116282	720
40	640,000	7.0	254	640
30	560,000	6.1	225	560
20	480,000	5.2	188	480
10	360,000	3.9	141	360

6,000 Gallon Above Ground Tank				
% of container capacity at 0°F	Propane vaporization capacity at 0°F (in BTU/hr.)	Equivalent in gallons	Equivalent propane ft²	Equivalent natural gas ft²
60	2,664,000	29.0	1050	2664
50	2,397,600	26.0	940	2398
40	2,131,200	23.0	830	2131
30	1,864,800	20.0	725	1865
20	1,598,400	17.5	632	1598
10	1,198,000	13.0	470	1199

8,000 Gallon Above Ground Tank				
% of container capacity at 0°F	Propane vaporization capacity at 0°F (in BTU/hr.)	Equivalent in gallons	Equivalent propane ft²	Equivalent natural gas ft²
60	3,159,800	34.3	1240	3159
50	2,850,000	31.0	1120	2850
40	2,530,000	27.5	995	2530
30	2,220,000	24.2	875	2220
20	1,900,000	20.6	745	1900
10	1,420,000	15.5	560	1420

Vaporization Capacities			
Prevailing air temperatures	Multiplier	Prevailing	Equivalent natural gas ft²
-15°	0.25	+05°	1.25
-10°	0.50	+10°	1.50
-05°	0.75	+15°	1.75
0°	1.00	+20	2.00

12,000 Gallon Above Ground Tank				
% of container capacity at 0°F	Propane vaporization capacity at 0°F (in BTU/hr.)	Equivalent in gallons	Equivalent propane ft²	Equivalent natural gas ft²
60	4,628,300	50.2	1820	4628
50	4,160,600	45.3	1640	4160
40	3,700,00	40.3	1460	3700
30	3,240,000	35.2	1274	3240
20	2,700,000	29.3	1060	2700
10	2,080,000	22.6	816	2080

15,000 Gallon Above Ground Tank				
% of container capacity at 0°F	Propane vaporization capacity at 0°F (in BTU/hr.)	Equivalent in gallons	Equivalent propane ft²	Equivalent natural gas ft²
60	5,040,000	54.7	1980	5040
50	4,550,000	49.5	1790	4550
40	4,040,000	44.0	1590	4040
30	3,530,000	38.4	1390	3530
20	3,030,000	33.0	1190	3030
10	2,227,000	25.0	905	2227

18,000 Gallon Above Ground Tank				
% of container capacity at 0°F	Propane vaporization capacity at 0°F (in BTU/hr.)	Equivalent in gallons	Equivalent propane ft²	Equivalent natural gas ft²
60	5,209,750	56.7	2050	5209
50	4,760,000	51.8	1870	4760
40	4,250,000	46.2	1670	4250
30	3,700,000	40.2	1460	3700
20	3,180,000	34.6	1250	3180
10	2,380,000	25.9	936	2380

20,000 Gallon Above Ground Tank				
% of container capacity at 0°F	Propane vaporization capacity at 0°F (in BTU/hr.)	Equivalent in gallons	Equivalent propane ft²	Equivalent natural gas ft²
60	5,931,000	64.5	2340	5931
50	5,350,000	58.1	2102	5350
40	4,750,000	51.5	1860	4750
30	4,150,000	45.0	1630	4150
20	3,560,000	38.7	1390	3560
10	2,680,000	29.0	1050	2680

30,000 Gallon Above Ground Tank				
% of container capacity at 0°F	Propane vaporization capacity at 0°F (in BTU/hr.)	Equivalent in gallons	Equivalent propane ft²	Equivalent natural gas ft²
60	7,471,200	81.2	2940	7471
50	6,700,000	73.0	2640	6700
40	5,990,000	65.0	2360	5990
30	5,220,000	56.7	2050	5220
20	4,470,000	48.6	1770	4470
10	3,360,000	36.7	1320	3360

Vaporization Rate in BTU/HR with a Continuous Draw

These charts provide estimated propane vaporization rates in BTU per hour based on tank size, ambient temperature, and continuous draw conditions. Values are intended to assist with proper tank sizing and system design to ensure adequate vapor supply during peak demand.

Vaporization capacity decreases as temperature drops and increases with larger tank surface area. Multiple-tank installations and long-term high-load applications should be evaluated carefully to avoid pressure loss or fuel starvation during cold weather operation.

Tank Size:	500 G.W.C.	1,000 G.W.C.	18,000 G.W.C.	2,350 G.W.C.	3,360 G.W.C.
Temperature	BTU/Hr.	BTU/Hr.	BTU/Hr.	BTU/Hr.	BTU/Hr.
-20	60,000	127,000	180,000	240,000	300,000
-10	130,000	250,000	430,000	850,000	150,000
0	240,000	400,000	650,000	850,000	1,300,000
+10	300,000	550,000	925,000	1,400,000	1,600,000
+20	380,000	700,000	1,350,000	1,500,000	2,000,000
+30	465,000	850,000	1,450,000	1,800,000	2,400,000
+40	550,000	1,000,000	1,700,000	2,200,000	2,700,000
+50	630,000	1,300,000	1,850,000	2,500,000	3,300,000
+60	700,000	1,400,000	2,200,000	2,700,000	3,700,000

Tank Size:	12,000 G.W.C.	18,000 G.W.C.	30,000 G.W.C.*	30,000 G.W.C.**
Temperature	BTU/Hr.	BTU/Hr.	BTU/Hr.	BTU/Hr.
-20	650,000	750,000	1,100,000	1,200,000
-10	1,500,000	1,700,000	2,500,000	2,800,000
0	2,800,000	2,660,000	3,800,000	4,500,000
+10	3,200,000	3,700,000	5,200,000	6,000,000
+20	4,000,000	4,600,000	6,500,000	7,800,000
+30	4,800,000	5,800,000	8,000,000	9,300,000
+40	5,800,000	6,800,000	9,500,000	11,000,000
+50	6,800,000	7,800,000	11,000,000	13,000,000
+60	7,200,000	9,000,000	13,000,000	14,500,000

***30,000 G.W.C Short: 36 ft., 3 in. Seam-to-Seam 10 ft., 9-5/6 in. I.D.**
****30,000 G.W.C Long: 57 ft., 0 in. Seam-to-Seam 9 ft., 0 in I.D.**

Tank Volume Factors

Tank volume factors are provided to adjust vaporization capacity based on the percentage of liquid propane in the tank. Lower fill levels reduce available vaporization surface area and may limit system performance. These factors help estimate usable output at various fill percentages for more accurate planning.

25% X 1.00	30% X 1.072	35% X 1.15	40% X 1.22	45% X 1.20	50% X 1.35
55% X 1.42	60% X 1.49	65% X 1.57	70% X 1.64	75% X 1.71	80% X 1.79

Pipe Sizing Between First and Second-Stage Regulators

Pipe Sizing between First-Stage and Second-Stage Regulators Capacities in 1,000 BTU/hr (undiluted propane, 10 psig inlet, 1 psig drop)						
Plastic Pipe Length (ft)	**1/2" CTS SDR 7.00 (0.445)**	**3/4" IPS SDR 11.00 (0.860)**	**1" IPS SDR 11.00 (1.077)**	**1-1/4" IPS SDR 10.00 (1.328)**	**1-1/2" IPS SDR 11.00 (1.554)**	**2" IPS SDR 11.00 (1.943)**
30'	762	4290	7744	13416	20260	36402
40'	653	3670	6628	11482	17340	31155
50'	578	3260	5874	10176	15368	27612
60'	524	2950	5322	9220	13924	25019
70'	482	2710	4896	8483	12810	23017
80'	448	2530	4555	7891	11918	21413
90'	421	2370	4274	7404	11182	20091
100'	397	2240	4037	6994	10562	18978
125'	352	1980	3578	6199	9361	16820
150'	319	1780	3242	5616	8482	15240
175'	294	1650	2983	5167	7803	14020
200'	273	1540	2775	4807	7259	13043
225'	256	1440	2603	4510	6811	12238
250'	242	1360	2459	4260	6434	11560
275'	230	1290	2336	4046	6111	10979
300'	219	1235	2228	3860	5830	10474
350'	202	1137	2050	3551	5363	9636
400'	188	1057	1907	3304	4989	8965
450'	176	992	1789	3100	4681	8411
500'	166	937	1690	2928	4422	7945
600'	151	849	1531	2653	4007	7199
700'	139	781	1409	2441	3686	6623
800'	129	726	1311	2271	3429	6161
900'	121	682	1230	2131	3217	5781
1000'	114	644	1162	2012	3039	5461
1500'	92	517	933	1616	2441	4385
2000'	79	443	798	1383	2089	3753

1) Maximum undiluted propane capacities listed are based on a pressure of 10 psig first-stage setting and 1-psi pressure drop. Capacities in 1000 BTU/Hr.
2) Dimensions in parenthesis are inside diameter
***Source**: NFPA® 58 (2020), Liquefied Petroleum Gas Code, Table 16.1(n), TIA 20-4, National Fire Protection Association.*

Pipe Sizing for 2-PSI Service

This chart provides maximum undiluted propane capacities (in 1,000 BTU/hr) for Schedule 40 steel pipe operating between a 2-psi service regulator and a line pressure regulator.

Values are based on: 2-psi regulator setting | 1-psi pressure drop

Use this table to determine proper nominal pipe size for various lengths at 2-PSI service.

Pipe Length (ft)	1/2″ 0.822	3/4″ 0.824	1″ 1.049	1-1/4″ 1.380	1-1/2″ 1.610	2″ 2.067	3″ 3.068	3-1/2″ 3.548	4″ 4.026
10'	2687	5619	10585	21731	32560	62708	176687	258696	360338
20'	1841	3862	7275	14936	22378	43099	121436	177800	247689
30'	1483	3101	5842	11994	17971	34160	97517	142780	198900
40'	1260	2636	5000	10265	15381	29621	83462	122201	170236
50'	1125	2352	4431	9089	13632	26253	73971	108305	150877
60'	1019	2131	4015	8243	12351	23787	67023	98132	136706
70'	936	1967	3694	7584	11363	21884	61660	90280	125767
80'	872	1824	3436	7055	10571	20359	57363	83988	117002
90'	820	1718	3234	6632	9948	19102	53822	78892	109779
100'	773	1727	3224	6498	9740	18043	50840	74437	103697
150'	621	1298	2446	5021	7524	14490	40826	59776	83272
200'	531	1111	2093	4298	6439	12401	34942	51160	71270
250'	471	985	1855	3820	5777	10991	30906	45342	63166
300'	427	892	1681	3451	5171	9959	28062	41083	57233
350'	392	821	1546	3157	4757	9162	25814	37796	52653
400'	363	764	1439	2954	4426	8523	24015	35162	48894
450'	343	721	1350	2771	4169	7997	22533	32991	45752
500'	326	677	1275	2618	3936	7554	21288	31164	43138
600'	293	613	1155	2372	3554	6844	19285	28316	39336
700'	263	564	1056	2182	3270	6297	17472	25977	36138
800'	251	534	998	2060	3092	5908	16506	24167	33548
900'	236	493	928	1905	2854	5496	15487	22675	31588
1000'	225	473	874	1796	2696	5192	14629	21449	29812
1500'	179	374	700	1445	2165	4169	11747	17200	23961
2000'	153	320	602	1237	1853	3568	10054	14721	20507

Note: Maximum undiluted propane capacities listed are based on a 2 spig setting and a 1psi pressure drop. Capacities in 1,000 BTU/HR

Line Sizing for Liquid Propane

This chart provides recommended line sizing for liquid propane based on a 2 psig pressure drop and propane at 60°F. Values shown represent flow in GPM through Schedule 40/80 steel & iron pipe at various pipe sizes & lengths.

Based on 2 psig Pressure Drop							Propane at 60°F				Based on Schedule 40/80 Steel/Iron Pipe							
Pipe Size (ft)	1/2"		3/4"		1"		1-1/4"		1-1/2"		2"		2-1/2"		3"		4"	
	40	80	40	80	40	80	40	80	40	80	40	80	40	80	40	80	40	80
10'	7.1	5	15	11.3	28.3	22.2	58	47.6	87	73	169	143	269	229	475	410	967	846
15'	5.8	4.1	12.2	9.2	23	18.1	47.5	38.8	71	59	137	116	219	187	387	335	689	597
20'	5	3.5	10.6	8	20.1	15.8	41	33.4	62	51	119	100	189	161	335	289	682	596
30'	4.1	2.9	8.5	6.5	16.2	12.7	33.4	27.3	50.1	41.6	97	82	154	131	283	235	556	486
40'	3.5	2.5	7.5	5.6	14.5	11.5	29.5	24	44.2	36.6	86	73	141	119	261	223	521	453
50'	3.1	2.2	6.6	5	13	10.3	26.3	21.3	39.2	32.1	75	63	119	101	211	182	429	376
60'	2.8	2	6	4.6	11.3	9	23.4	19.1	35.2	29.2	68	57	109	92	192	166	391	343
70'	2.6	1.8	5.5	4.2	10.4	8.2	21.8	17.7	32.5	27	63	53	108	89	177	153	362	315
80'	2.4	1.7	5.2	3.9	9.8	7.7	20.2	16.3	30.6	25.2	59	49.3	94	80	166	139	319	279
90'	2.3	1.6	4.8	3.7	9.2	7.2	19	16	28.6	25	55	46.7	88	75	156	138	302	264
100'	2.1	1.5	4.5	3.5	8.6	6.8	18	14.8	27.1	22.5	52	42.5	84	71	149	132	279	250
125'	1.9	1.4	4	3.2	7.8	6.1	16.2	13.2	24.8	20	49	41	137	119	255	230	246	215
150'	1.8	1.2	3.7	2.8	7.1	5.5	14.6	11.9	22	18.2	42.5	35.9	68	58	120	104	246	215
200'	1.5	1.1	3.2	2.4	6	4.8	12.6	10	18.3	15.7	35.7	29.7	56	47.5	100	84	212	185
300'	1.2	0.9	2.7	2	4.9	3.9	10.3	8.3	15.3	12.7	29.7	25.1	47.5	40.4	83	73	172	151
400'	1	0.7	2.2	1.7	4.2	3.3	8.8	7.1	13.2	10.9	25.6	21.6	40.9	34.6	73	66	149	130

Resistance of Valves & Fittings in Equivalent Feet of Pipe

This table lists the equivalent length of pipe added by common valves and fittings. These values help determine friction loss and total effective pipe length when designing liquid propane piping systems.

Valves & Fittings	Pipe Size						
	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
Elbow 90°	4"	4.5"	5"	6"	8"	9"	11"
Elbow 45°	2"	2"	2"	2.5"	3"	4"	5"
Tee (thru side)	6"	8"	9"	12"	14"	17"	22"
Y-Strainer (same size)	25"	25"	25"	42"	42"	42"	60"
Y-Strainer (next size larger)	16"	16"	16"	16"	14"	20"	-
Globe Valve	28"	39"	45"	48"	54"	66"	80"
Angle Valve	18"	25"	28"	32"	38"	50"	57"
Ball Valve	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Quick-Closing Gate	3"	3"	3"	4"	5"	7"	8"

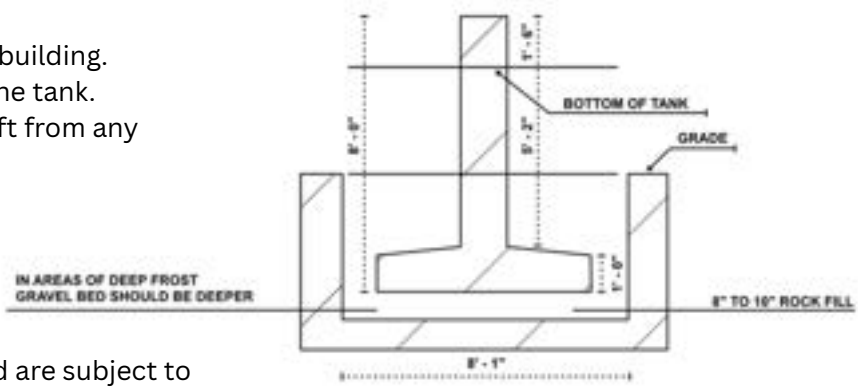
Pier Placement Guidelines for LPG Storage Tanks

Piers must be installed according to the manufacturer's specifications to ensure proper support of the vessel. The recommended excavation size is 8 ft × 12 ft, providing at least one foot of working room around the pier. The typical pier base footprint is approximately 6 ft × 10 ft.

Excavate 6 inches or more below the expected frost line and backfill with 8–10 inches of 1" clean gravel. In the Midwest, frost depth typically ranges from 38" to 40". Use a transit to level the gravel bed in each excavated hole.

Maintain required clearances:

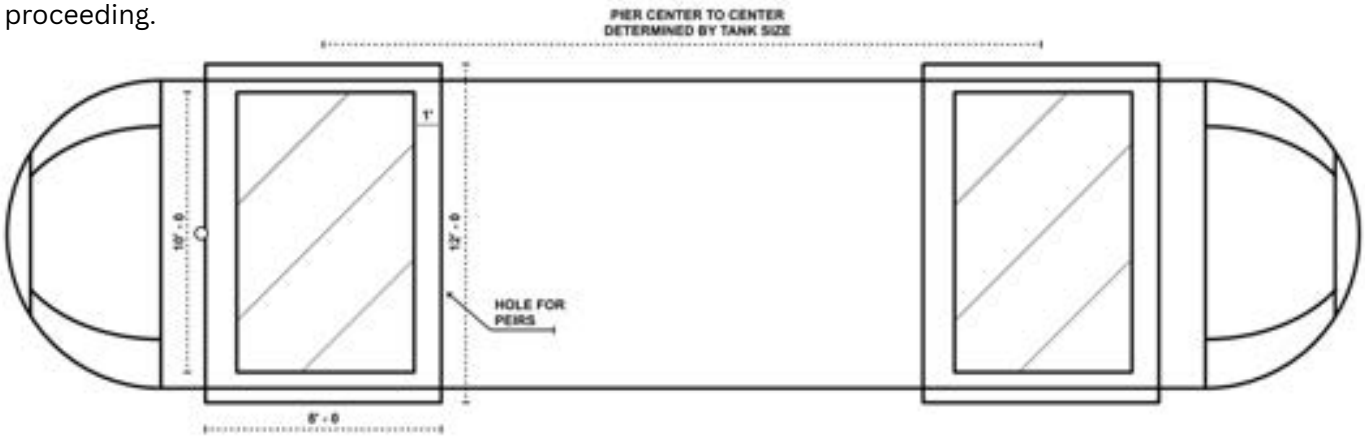
- Tanks must be located at least 50 ft from any building.
- Bulkhead transfer points must be 10 ft from the tank.
- Any transfer points must be a minimum of 25 ft from any sewer or drain opening (50 ft preferred).



Soil compaction testing and specific load calculations are recommended for vessels over 30,000 gallons or for any installation where soil conditions are below standard.

All installations must comply with local codes and are subject to approval by your local authority having jurisdiction.

If the vessel does not rest smoothly within the radius contour of the pier, stop the installation and correct alignment before proceeding.



Tank Size (US Gallons)	Outside Diameter	Overall Length	Pier Spacing	Pier #
3,000	72.876"	16'-2"	8'-2"	Pier 72
4,000	72.876"	21'-0"	9'-4"	Pier 72
5,000	72.876"	26'-8"	13'-8"	Pier 72
6,000	72.876"	30'-5"	18'-3"	Pier 72
7,000	72.876"	35'-0"	17'-6"	Pier 72
8,000	72.876"	40'-0"	26'-0"	Pier 72
10,000	84"	38'-0"	22'-2"	Pier 84
12,000	84"	45'-0"	28'-6"	Pier 84
14,000	84"	52'-0"	36'-0"	Pier 84
18,000	102"	46'-0"	24'-2"	Pier 102
18,000	109.347"	50'-0"	25'-0"	Pier 109
30,000	109.347"	47'-0"	25'-0"	Pier 109
30,000	131.875"	92'-0"	55'-6"	Pier 131
60,000	131.875"	107'-0"	65'-0"	Pier 131
90,000	131.875"	132'-6"	97'-6"	Pier 131

Precast Pier Installation

A. Lay out your site based on local and NFPA 58 setback requirements.
B. Mark the ground where the centerline and center point of each pier will be located (Typically based on previous tank placement or manufacturer recommendations.)
C. Mark an excavation line 4 ft from the previously marked centerline toward the end of the tank closest to the pier.
D. Mark an excavation line 4 ft from the previously marked centerline toward the center of the tank.
E. Mark an excavation line 6 ft from the previously marked center point toward what will be the outer side of the tank.
F. Mark an excavation line 6 ft from the previously marked center point toward the opposite outer side of the tank.

You should now have an excavation “box” marked on the ground measuring 12 ft wide (side-to-side with the tank) and 8 ft long (end-to-end with the tank).
Note: Ensure your centerline and center point markings extend beyond the box to be excavated. You will need those markings to square your pier in the excavated hole.

G. Excavate the area within the marked box to a depth at or below the frost line—48" minimum.
H. Backfill the excavated hole with 8" of clean aggregate, leveled smoothly.
I. Repeat the excavation process for the second pier, adjusting depth as needed to match site slope.
J. Each pier has two 2" lifting holes. Insert a 1-1/2" × 36" steel rod into each hole and attach equal-length chokers to lift the pier upright and level.
(Each pier weighs approximately 20,000 lbs.)
K. Set the first pier in the excavation, aligning the pier’s centerline with the ground centerline mark and the pier’s center point with the ground center point mark. Ensure the pier is plumb and level by placing a level on the radius edge of the pier. Make any needed adjustments by lifting the pier and raking the aggregate.
L. Repeat steps J and K with the second pier. Use a level line or transom to ensure both piers are level and square to each other.
Tip: Some installers prefer the end of the tank without valves to sit slightly higher to help debris drain out.
M. Backfill around the piers and compact.
Tip: If you’re planning to run conduit or piping under the tank, do it now.

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