

LifeGuard™ Petroleum and Chemical Assemblies

Standard Hoses

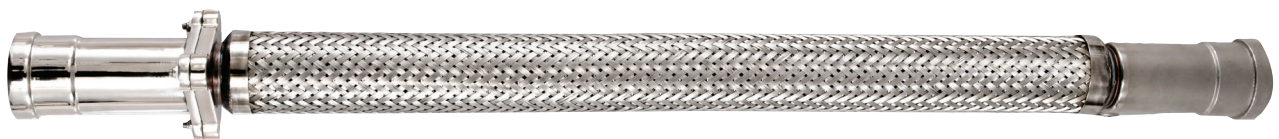
- LifeGuard LPG Transfer Hose
- LifeGuard Safe-Heat Dissipater
- LifeGuard Hydrogen Hoses
- LifeGuard Cryogenic Liquid Cylinder Hoses
- Metal Pigtails
- LifeGuard Compressed Gas Hoses
- LifeGuard Carbon Dioxide Bulk Liquid Transfer Hoses
- LifeGuard Cryogenic Bulk Tank and Truck Loading and Unloading Hoses
- LifeGuard Anhydrous Ammonia Transfer
- LifeGuard Stainless Steel 304 Metal Hose
- LifeGuard Stainless Steel 316 Metal Hose
- LifeGuard Stainless Steel 321 Metal Hose
- LifeGuard Petroleum Transfer Hose
- LifeGuard Rubber Covered Teflon™ Chemical Transfer Hose
- LifeGuard Rubber Covered Teflon Chemical Transfer Hose
- LifeGuard UHMWP Chemical Transfer Hose
- LifeGuard Steam Hose

SIZES:

LifeGuard and Tri-Bolt Safety Hoses are available in sizes from ¼" to 8" diameter

ALL FITTINGS:

Since LifeGuard is an integrated hose system, it can be combined with all flanges connections welded or threaded, Cam-lok, Air fittings, Brass fittings, Boss Ground Joints, Shank fittings, Plastic fittings, all Valves, Tank Truck fittings, Swivel Joints, Pipe and Welding fittings.

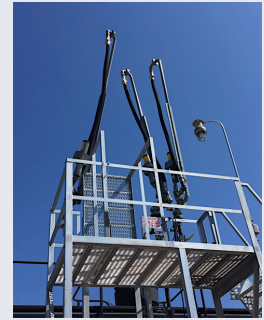


LIFEGUARD[™] SAFETY SYSTEM

HYDROGEN HOSES | CRYOGENIC LIQUID CYLINDER HOSES | METAL PIGTAILS | LIFEGUARD COMPRESSED GAS HOSES | CARBON DIOXIDE BULK LIQUID TRANSFER HOSES

LifeGuard[™] Tri-Bolt Breakaway LPG Hoses

The LifeGuard[™] Tri-Bolt Breakaway Hose is designed to increase the safety of your hose and facility by incorporating protection against the unintended pull-away of tank trucks, railcars, barges and ships. Utilizing a **Engineered Compression Spring** system with two non-return valves installed within each fitting, we have now included a **Tri-Bolt Flange System** with three shear bolts on one fitting that separates under a controlled condition and prevents product loss in the event of an emergency separation. The LifeGuard[™] Tri-Bolt Breakaway Hose is designed to separate at any angle when subjected to a designated pull force. In case of separation, its patent pending design assures that not less than two bolts will separate causing the internal valves to engage and the piping to remain intact with flow stopped on both ends of the hose.



Cover Black: CR with Blue Longitudinal Stripe – abrasion & weather resistant

Reinforcement: Multiple layers of Polyester – min. burst 1750 psi

Tube: Oil resistant – resistant to permeation of Butane/Propane

Branding: LPG Hose UL21 Max. WP, Quarterly/Year, Made in USA.

Temperature: -40°F to 180°F

Maintenance: See LifeGuard Safety-Hose Proper Use, Care, and Maintenance Booklet – 2009

LifeGuard LPG and NH3	
GPS-AU-LP-32-15-F	2" x 15' Lifeguard Rubber Transport Hose, UL-21 LPG with Hi-break Tri-Bolt Breakaway (female) Safety fitting X standard (female) NPT Safety fitting-350 PSI WP-1750 PSI burst-525 PSI test. Electrically conductive
GPS-AU-LP-32-18-F	2" x 18' Lifeguard Rubber Transport Hose, UL-21 LPG with Hi-break Tri-Bolt Breakaway (female) NPT Safety fitting X standard (female) NPT Safety fitting-350 PSI WP-1750 PSI burst-525 PSI test. Electrically conductive
GPS-LP-32-20-F	2" x 20' Lifeguard Rubber Transport Hose, UL-21 LPG with Hi-break Tri-Bolt Breakaway (female) NPT Safety fitting X standard (female) NPT Safety Fitting-350 PSI WP-1750 PSI burst-525 PSI test. Electrically conductive
GPS-LP-32-25-F	2" x 25' Lifeguard Rubber Transport Hose, UL-21 LPG with Hi-break Tri-Bolt Breakaway (female) NPT Safety fitting X standard (female) NPT Safety fitting-350 PSI WP-1750 PSI burst-525 psi test. electrically conductive
GPS-LP-32-30-F	2" x 30' Lifeguard Rubber Transport Hose, UL-21 LPG with Hi-break Tri-Bolt Breakaway (female) NPT safety fitting X standard (female) NPT Safety fitting-350 PSI WP-1750 PSI burst-525 PSI test. Electrically conductive



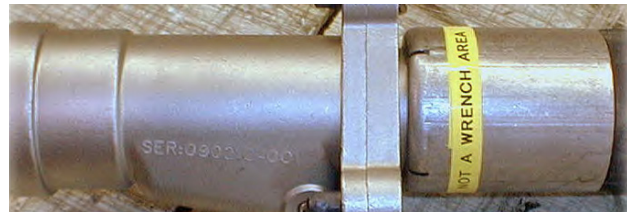
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LifeGuard[™] Tri-Bolt Bulkhead Breakaway Units

- A unique need for LifeGuard[™] Tri-Bolt Bulkhead Breakaway Unit is for Bulk Installations in which piping systems are not protected from being pulled apart by standard or Safety Hoses.
- The LifeGuard[™] Tri-Bolt Bulkhead Breakaway Unit is designed to increase the safety of your hose and facility by incorporating protection against the unintended pull-away of tank trucks, railcars, barges and ships.
- Utilizing a **Engineered Compression Spring** system with two non-return valves installed within each fitting, we have now included a **Tri-Bolt Flange System** with three shear bolts on one fitting that separates under a controlled condition and prevents product loss in the event of an emergency separation.
- The LifeGuard[™] Tri-Bolt Bulkhead Breakaway Unit is designed to separate at any

angle when subjected to a designated pull force. In case of separation, its patent pending design assures that not less than two bolts will separate causing the internal valves to engage and the piping to remain intact with flow stopped on both ends of the hose.



GPS-BBB-LP-32-4	2" x 4', LifeGuard Tri-Bolt Bulkhead Breakaway
GPS-BBB-LP-32-5	2" x 5', LifeGuard Tri-Bolt Bulkhead Breakaway
GPS-BBB-LP-32-6	2" x 6', LifeGuard Tri-Bolt Bulkhead Breakaway
GPS-BBB-LP-32-7	2" x 7', LifeGuard Tri-Bolt Bulkhead Breakaway
GPS-BBB-LP-32-8	2" x 8', LifeGuard Tri-Bolt Bulkhead Breakaway
GPS-BBB-LP-32-9	2" x 9', LifeGuard Tri-Bolt Bulkhead Breakaway
GPS-BBB-LP-32-10	2" x 10', LifeGuard Tri-Bolt Bulkhead Breakaway
GPS-BBB-LP-32-11	2" x 11', LifeGuard Tri-Bolt Bulkhead Breakaway
GPS-BBB-LP-32-12	2" x 12', LifeGuard Tri-Bolt Bulkhead Breakaway

LIFEGUARD SAFETY SYSTEM

LifeGuard™ Tri-Bolt Breakaway Metallic Dual Service LPG/NH3 Hose



Metallic Hose with Available Exterior Scuff Guard for Long Lasting

The LifeGuard safety system is built into a metallic hose assembly that uses a 316L Stainless Steel Tube and 304 Stainless Steel Reinforced braid. Utilizing a Engineered Compression Spring system with two non-return valves installed within each fitting, we have now included a Tri-Bolt Flange System with three shear bolts on one fitting that separates under a controlled condition and prevents product loss in the event of an emergency separation. The LifeGuard™ Tri-Bolt Breakaway Hose is designed to separate at any angle when subjected to a designated pull force. In case of separation, its patent pending design assures that not less than two bolts will separate causing the internal valves to engage and the piping to remain intact with flow stopped on both ends of the hose.

Hose Data Construction:

- T321 and T316L stainless steel hose
- Series 300 stainless steel braid
- Direct braided 1/4" through 2" on reels
- Annular construction

Sizes: 1/4" through 3"

Maximum Working Pressure: Full vacuum up to 3190 psig depending on size and braid configuration

Temperature: Cryogenic to 1250°F

Model of Hose Material: UFBXO Unbraided/
UFBX1 One Braid/UFBX2 Two Braid

The UFBX product is designed and certified to ISO 10380 specifications.



Transport Applications



Lab Tested



Internal Compression Spring

LifeGuard LPG and NH3	
M30-016-33-222-SG-BR	2" x 18'6" NH3/LPG Dual Service Hose-Hi-break Tri-Bolt Breakaway (female) NPT Safety fitting X standard (female) NPT safety fitting-316L S/S corrugated tube with 304 S/S braid-350 PSI WP-1750 PSI burst -525 PSI test-with special heat bend restrictors and scuff guard



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LIFEGUARDTM SAFETY SYSTEM

The **ONLY** US-D.O.T. and OSHA Approved
DUAL SERVICE LPG/NH3 Hose

LifeGuardTM Tri-Bolt Breakaway Stainless Steel
Metallic Dual Service LPG/NH3 Hose



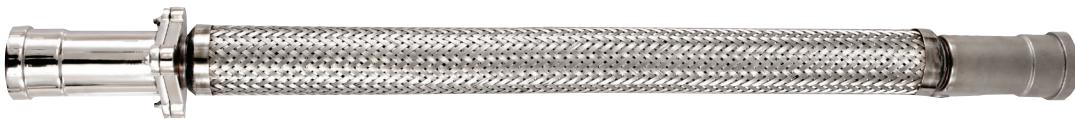
Option Bumper Guard



Lab Tested



Internal Compression Spring

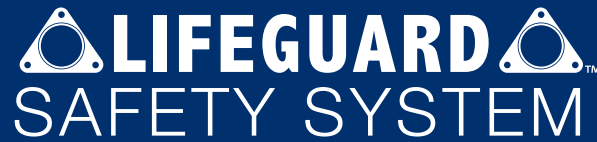


LifeGuard LPG and NH3	
GPS-LP-32-15-F	2" x 15' Lifeguard Rubber Transport Hose, UL-21 LPG with Hi-break Tri-Bolt Breakaway (female) Safety fitting X standard (female) NPT Safety fitting-350 PSI WP-1750 PSI burst-525 PSI test. Electrically conductive
GPS-LP-32-18-F	2" x 18'6" Lifeguard Rubber Transport Hose, UL-21 LPG with Hi-break Tri-Bolt Breakaway (female) NPT Safety fitting X standard (female) NPT Safety fitting-350 PSI WP-1750 PSI burst-525 PSI test. Electrically conductive
GPS-LP-32-20-F	2" x 20' Lifeguard Rubber Transport Hose, UL-21 LPG with Hi-break Tri-Bolt Breakaway (female) NPT Safety fitting X standard (female) NPT Safety Fitting-350 PSI WP-1750 PSI burst-525 PSI test. Electrically conductive
GPS-LP-32-25-F	2" x 25' Lifeguard Rubber Transport Hose, UL-21 LPG with Hi-break Tri-Bolt Breakaway (female) NPT Safety fitting X standard (female) NPT Safety fitting-350 PSI WP-1750 PSI burst-525 PSI test. electrically conductive
GPS-LP-32-30-F	2" x 30' Lifeguard Rubber Transport Hose, UL-21 LPG with Hi-break Tri-Bolt Breakaway (female) NPT safety fitting X standard (female) NPT Safety fitting-350 PSI WP-1750 PSI burst-525 PSI test. Electrically conductive
GPS-NH3-32-18-F	2" x 18'6" Lifeguard Rubber Transport Anyhdrous Hose (NH3) with Hi-break Tri-Bolt Break-away (female) NPT Safety fitting X standard (female) NPT Safety fitting - 350 PSI WP-1750 PSI burst- 525 PSI test. Electrically conductive
M30-016-33-222-SG-BR	2" x 18'6" NH3/LPG Dual Service Hose-Hi-break Tri-Bolt Breakaway (female) NPT Safety fitting X standard (female) NPT safety fitting-316L S/S corrugated tube with 304 S/S braid-350 PSI WP-1750 PSI burst -525 PSI test-with special heat bend restrictors and scuff guard



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LIFEGUARD SAFETY SYSTEM

Governmental Approval



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, C.C. 20590

In accordance with § 173.315(n)(2), for a cargo tank motor vehicle in other than metered delivery service, there are no specific HMR provisions dictating the material from which a delivery hose must be comprised. However, Pipeline and Hazardous Materials Safety Administration (PHMSA) does specify in § 178.337-9 the requirements (burst pressures, weights, damage protection, free from leaks, etc.) for piping, valves, hoses, and fittings on 331 cargo tanks intended to contain compressed gases. Further, the hose identification, inspection, and testing requirements for a delivery hose assembly on a cargo tanks used to transport liquefied compressed gases are specified in § 180.416 of the HMR, including the rejection criteria in paragraph (g). Additionally, it is the responsibility of the person offering hazardous material for transportation to ensure that the packaging and its appurtenances (piping, valves, hoses, fittings, etc.) are compatible with its lading. [As such the use of the GPSS TRI-BOLT DUAL SERVICE SAFETY HOSE design complies with the above regulations]

**U.S. Department of Labor
Administration**

**Occupational Safety and Health
Washington, D.C.
2210**

1910.111(b)(1)(v)

For the purposes of this paragraph (b)(1), the word “listed” means that equipment is of a kind mentioned in a list which is published by a nationally recognized laboratory which makes periodic inspection of the production of such equipment, and states such equipment meets nationally recognized standards or has been tested and found safe for use in a specified manner. “Labeled” means there is attached to it a label, symbol, or other identifying mark of a nationally recognized testing laboratory which, makes periodic inspections of the production of such equipment, and whose labeling indicates compliance with nationally recognized standards or tests to determine safe use in a specified manner. “Certified” means it has been tested and found by a nationally recognized testing laboratory to meet nationally recognized standards or to be safe for use in a specified manner, or is of a kind whose production is periodically inspected by a nationally recognized testing laboratory, and it bears a label, tag, or other record of certification. [As such the use of the CSA approved GPSS TRI-BOLT DUAL SERVICE SAFETY HOSE design complies with the above regulations]



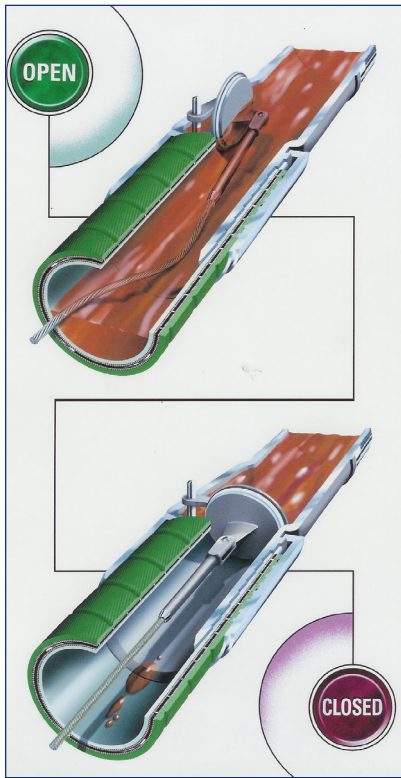
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LifeGuard[™] Tri-Bolt Breakaway Rubber SS NH3 Hoses

The **LifeGuard[™] Tri-Bolt Breakaway Hose** is designed to increase the safety of your hose and facility by incorporating protection against the unintended pull-away of tank trucks, railcars, barges and ships. Utilizing a **Engineered Compression Spring** system with two non-return valves installed within each fitting, we have now included a **Tri-Bolt Flange System** with three shear bolts on one fitting that

separates under a controlled condition and prevents product loss in the event of an emergency separation. The **LifeGuard[™] Tri-Bolt Breakaway Hose** is designed to separate at any angle when subjected to a designated pull force. In case of separation, its patent pending design assures that not less than two bolts will separate causing the internal valves to engage and the piping to remain intact with flow stopped on both ends of the hose.



Cover: Black EPDM with Green stripe – abrasion & weather resistant

Tube: Black Neoprene

Reinforcement: One or multiple stainless steel braids, 1 textile braid

Cover: Perforated Black NBR/PVC w/silver stripe

Temperature: -40° F to +180° F

Packaging: Branding: Side 1: XXXX 7261 SS ANHYDROUS AMMONIA - REMOVE NO LATER THAN 350 PSI MAX WP RMA(BATCH CODE)- CAUTION ANHYDROUS AMMONIA USE ONLY XXXX REMOVE NO LATER THAN XXXX.

Side 2: Solid silver stripe.

Maintenance: See LifeGuard Safety-Hose Proper Use, Care, and Maintenance Booklet – 20XX

All Hoses comply with DOT 49 CFR 173.315 Passive Device Regulations

WP		Hose		Coupling	
ID	psi	Wt/Ft	Weight - plunger	Weight - flapper	Part #
1"	350	.8 lb	1.6 lb		NH306006160000-SS
1 1/4"	350	1 lb	2.5 lb		NH306008160000-SS
1 1/2"	350	1.2 lb	2.9 lb		NH306010140000-SS
2"	350	1.4 lb		3.4 lb	NH306012320000-SS
2"	350	1.77 lb		4.7 lb	NH306016330000-SS

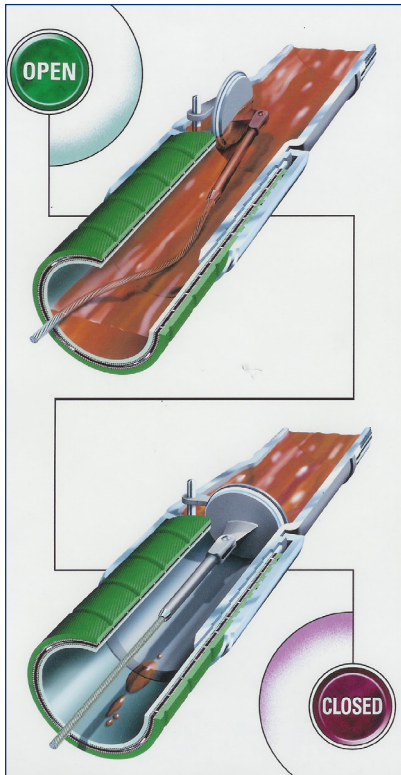


LIFEGUARD SAFETY SYSTEM

LifeGuard™ Tri-Bolt Breakaway Rubber Textile NH3 Hoses

The LifeGuard™ Tri-Bolt Breakaway Hose is designed to increase the safety of your hose and facility by incorporating protection against the unintended pull-away of tank trucks, railcars, barges and ships. Utilizing a **Engineered Compression Spring** system with two non-return valves installed

within each fitting, we have now included a **Tri-Bolt Flange System** with three shear bolts on one fitting that separates under a controlled condition and prevents product loss in the event of an emergency separation. The LifeGuard™ Tri-Bolt Breakaway Hose is designed to separate at any angle when subjected to a designated pull force. In case of separation, its patent pending design assures that not less than two bolts will separate causing the internal valves to engage and the piping to remain intact with flow stopped on both ends of the hose.



Cover: Black EPDM with Green stripe – abrasion & weather resistant

Reinforcement: Multi layers of nylon – min. burst 1750 psi

Tube: High grade permeation resistant EPDM rubber

Branding: Anhydrous Ammonia Hose Max. WP 350

Temperature -40°F to +180°F (-40°C to +82°C)

Maintenance: See LifeGuard Safety-Hose Proper Use, Care, and Maintenance

Booklet – 2009

All Hoses comply with DOT 49 CFR 173.315 Passive Device Regulations

	WP	Hose	Coupling		
ID	psi	Wt/Ft	Weight - plunger	Weight - flapper	Part #
1"	350	.8 lb	1.6 lb		NH306006160000-tx
1 1/4"	350	1 lb	2.5 lb		NH306008160000-tx
1 1/2"	350	1.2 lb	2.9 lb		NH306010140000-tx
2"	350	1.4 lb		3.4 lb	NH306012320000-tx
2"	350	1.77 lb		4.7 lb	NH306016330000-tx



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LifeGuard[™] Tri-Bolt Breakaway Chemical Hoses

The LifeGuard[™] Tri-Bolt Breakaway Hose is designed to increase the safety of your hose and facility by incorporating protection against the unintended pull-away of tank trucks, railcars, barges and ships. Utilizing a **Engineered Compression Spring** system with two non-return valves installed within each fitting, we have now included a **Tri-Bolt Flange System** with three shear bolts on one fitting that separates under a controlled condition and prevents product loss in the event of an emergency separation. The LifeGuard[™] Tri-Bolt Breakaway Hose is designed to separate at any angle when subjected to a designated pull force. In case of separation, its patent pending design assures that not less than two bolts will separate causing the internal valves to engage and the piping to remain intact with flow stopped on both ends of the hose. The LifeGuard[™] Tri-Bolt Breakaway Hose is combined with a UHMWP tube chemical transfer hose designed to meet the bulk hauling and chemical industries' most demanding requirements. It is light weight, flexible but also rugged. **Chemical UHMWP will handle chemicals with a phase change to gas down to 60°F.**



Cover: Green EPDM chemical & weather resistant

Reinforcement: Multi layers of polyester with double helix (vacuum 29 in. HG)

Tube: UHMWP polyethylene – chemical resistant

Branding: UHMWP Chemical Transfer Hose, 200 psi WP maximum temperature.

Temperature -40°F to +180°F (-40°C to +82°C)

Maintenance: See LifeGuard Proper Hose Use, Care and Maintenance Booklet

Caution: Hose and couplings should be inspected before each use. Use of damaged assembly could be hazardous.

	WP	Hose	Coupling		
ID	psi	Wt/Ft	Weight - plunger	Weight - flapper	Part #
1/2"	200	.65 lb	.8 lb		CHM06004160000
3/4"	200	.8 lb	1.6 lb		CHM06006160000
1"	200	1 lb	2.5 lb		CHM06008160000
1 1/4"	200	1.2 lb	2.9 lb		CHM06010140000
1 1/2"	200	1.4 lb		3.4 lb	CHM06012320000
2"	200	1.77 lb		4.7	CHM06016330000



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LifeGuard[™] Flexible Rubber Safety Pigtails Suitable for: Liquid or Gaseous phase LPG; Automotive CNG; LNG Applications The Next Generation in Hose Safety!!!



Open Flow (Valves Kept Open by Internal Cable)



Coupling Failure (Valves are closed by separation and/or back pressure)

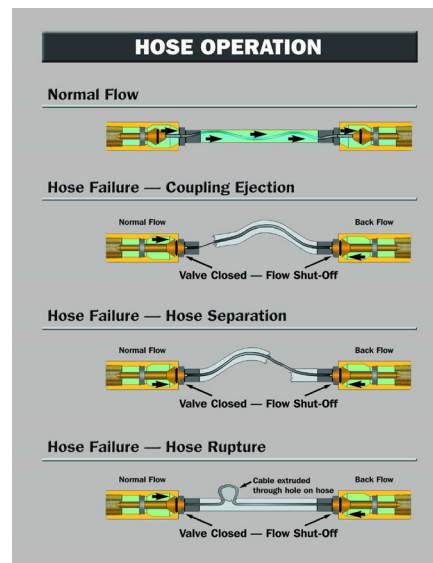
WHAT IS LifeGuard[™]? A Flexible “Passive Safety System” for use in the transfer of high pressure gases and liquids. Protects against the hazardous effects of hose failure from rupture, over tensioning, and pull-apart.



Technical Characteristics

Tube	Synthetic black rubber, not permeable, resistant to gases, heat and ageing
Reinforcement	High strength textile yarn
Cover	Black smooth rubber, resistant to heat, oil, fuel, lubricants, abrasion, ageing, UV and weather. Pin pricked cover
Temperature	- 20 °C + 125 °C
Pressure	Work Pressure: 50Bar (725PSI) Test Pressure: 100Bar (1450PSI)
Marking	Complies to AS/NZS1869:2012
Homologation:	E 13*110R-00 0017 / 67R-01 0145* CLASS 2

All LifeGuard[™] designs utilise the unique, patented and patent pending design, eliminating the potential for disaster through the use of an internal system connecting to specially designed, normally open valves located on each end of the assembly. In the event of **hose separation**, **stretching** to the point of an unsafe condition, or **coupling-to-hose separation**, the valves are immediately released and instantly seat - **stopping the flow in both directions**.



Inner Diameter	Terminations	Working Pressure	Test Pressure	Length	Liner Material
mm	BRASS NPT-F	bar	bar	mm	
8	1/4"	50	100	600	Rubber
8	1/4"	50	100	800	Rubber
8	1/4"	50	100	900	Rubber
10	3/8"	50	100	600	Rubber

Contact your Supplier for more information



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LifeGuardTM LPG Carousel Filling Hoses

The LifeGuard[®] Safety System is specifically designed to stop the flow of product in the case of hose failure. For carousel filling applications where automated filling can inadvertently result in coupling separation, the LifeGuard System can be the difference between safety and disaster.

Hose Data

Cover: Black, perforated neoprene

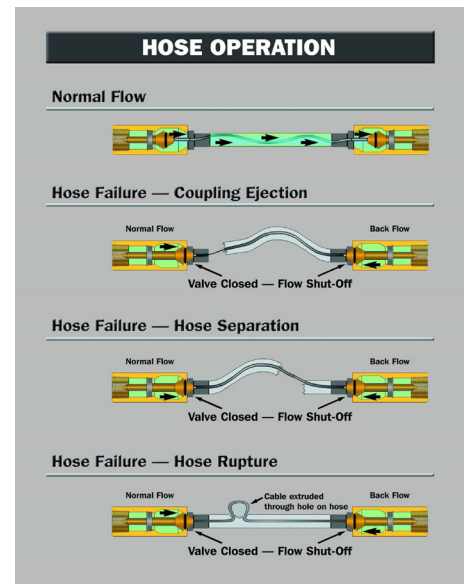
Reinforcement: Multi layers of synthetic fabric

Tube: Black Nitrile

Branding: Blue Mylar- LPG , 350 psi wp with impression brand to CGA

Temperature: -40 to 180 degrees F (-40 to 83 degrees C)

Maintenance: See LifeGuard Proper Use, Care & Maintenance Booklet Form# 2009-1



	WP	Hose	Coupling		
ID	psi	Wt/Ft	Weight - plunger	Weight - flapper	Part #
1/2"	300	.65 lb	.8 lb		LP06004160000
3/4"	300	.8 lb	1.6 lb		LP06006160000
1"	300	1 lb	2.5 lb		LP06008160000



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