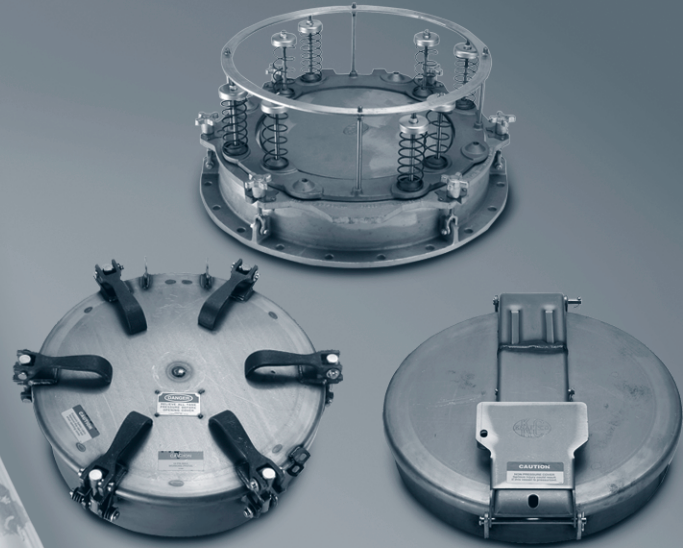




PART OF **opw** FLUID TRANSFER GROUP



Product Catalog

Knappco, part of the OPW Fluid Transfer Group, provides expert solutions for the safe handling, transfer, monitoring, measuring and protection of hazardous bulk products worldwide.



Knappco's Mission

For dry bulk transport products, such as industrial access ports, manholes, hatches, fill covers, pressure vacuum hatches, valves, weld rings and fill covers, Knappco is the brand of choice for keeping a lid on bulk commodities while they're being handled or transported.

Knappco products are precision engineered and manufactured to meet the requirements of a wide range of industries and applications. For more than 50 years, dry bulk tank builders and operators have trusted Knappco.



Introducing Knappco the SLS-1000 Remote Powered Manhole



Knappco™, the largest manufacturer of manholes in the world, introduces the revolutionary new SLS auto-opening manhole. The SLS is durable enough to handle the day-to-day loading of dry bulk products like sand, cement, grain, fly ash, limestone and more, without the need for the operator to climb to the top of the trailer to open the manhole. Just roll up to the loading rack, activate the pneumatic control to open the manhole from ground level and fill 'er up. It's that simple, and that safe. With the injury rate rising from drivers physically opening manholes, doesn't it make sense to protect your employees while saving yourself the expense of liability?

Features

- Keeps operator safely on the ground
- Eliminates the need for the driver to go on top of the tank
- Inflatable gasket ensures the cover has a positive seal at all times
- No welding required for installation
- Trailer's low profile is retained when retrofitted
- Easy to operate controls
- Indicator for open and closed

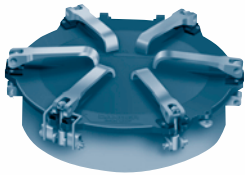
Benefits

- Makes dry bulk trailer loading safer – reduces the liability risks associated with employees physically climbing on top of the dry bulk trailer to open and close the manhole prior to, and after loading
- Long-lasting inflatable gasket inflates thousands of times without fail and ensures that the cover has a positive seal at all times, even after years of encrusted materials like cement can prohibit other manholes from closing properly
- Design is retrofittable – eliminates costly conversion labor by easily installing without any welding on LM, BL, or MM weld rings with only minor modifications - perfect for retrofitting existing fleets of dry bulk trailers while conforming to current stringent standards for newer trailers
- Low profile retained when retrofitted overall height of the trailer will not change when fitted with an SLS-1000
- Reliable, pneumatic control – piston is positioned in a way that guarantees no-fail operation in harsh climates after years of use with dusty materials like cement, limestone and sand

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MANHOLE & FILLCOVER OPTION INFORMATION

		MODEL PREFIX																							
		LH	LA	LW	LB	LS	LD	LE	KF	KG	KN	KM	KA	KB	LT	MN	LM	KS	MJ	LJ	KY	KZ	HA	HC	HH
AVAILABLE SIZES	6"	X																							
	8"		X	X												X							X		
	10"				X															X					
	12"					X																			
	16"						X		X	X															
	16" w/ 10" Fill Opening												X												
	20"							X				X					X	X	X					X	
	20" w/ 10" Fill Opening														X										
	24"										X											X	X		X
30"														X											
PRESSURE TYPE	NON-PRESSURE	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
	PRESSURE														X	X	X	X			X	X			
	PRESSURE RELIEVING																			X					
	PRESSURE/VACUUM																						X	X	X
LATCH TYPE	CLAMP RING							X	X			X	X												
	WING NUT	X		X																					
	STRONGBACK		X		X	X	X	X							X						X				
	STRONGBACK W/ CAMS										X	X				X									
	MULTIPLE CAMS															X	X	X			X	X			
COVER MATERIAL	CARBON STEEL	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X						
	PLATED STEEL																								
	ALUMINUM				O		O	O	O				O			X	X				X	X			
	304SS	O	O	O	O	O	O	O	O	O	O	O	O	O	O			O	O	O					
	316SS	O	O	O	O	O	O	O	O	O	O	O	O	O				O	O						
WELD RING MATERIAL	CARBON STEEL	X	X	X	X	X	X	X	X	X	X	X	X	X	X	O		X	X	X	X	X			
	PLATED STEEL																								
	ALUMINUM				O		O	O	O				O			X	X					O	O		
	304SS	O	O	O	O	O	O	O	O	O	O	O	O	O	O			O	O	O	O	O			
	316SS	O	O	O	O	O	O	O	O	O	O	O	O	O				O	O			O	O		
GASKET TYPE	BUNA	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
	NEOPRENE	O	O	O	O	O	O	O	O	O	O			O	O		O	O	O	O					
	VITON		O		O		O	O			O	O	O	O			O	O							
	EPDM	O			O		O	O	O		O	O													
	HI TEMP	O	O	O	O	O	O	O	O	O	O	O	O					O							
	TEFLON	O	O		O		O	O																	

X = STANDARD PRODUCT O = AVAILABLE OPTION

SOME OPTIONS MAY REQUIRE EXTENDED LEAD TIME. PLEASE CALL FOR SPECIFIC AVAILABILITY.

✦
FOR ADDITIONAL OPTIONS NOT LISTED CONTACT THE FACTORY @ 888-526-5657

Knappco / Civacon
 4304 Mattox Road
 Riverside, MO 64150
 Phone 888-526-5657
 Fax 888-634-1433

AVAILABILITY OF ALL MODELS AND OPTIONS IS SUBJECT TO CHANGE WITHOUT NOTICE.
 BUYER ASSUMES SOLE RESPONSIBILITY FOR DETERMINING APPLICATION SUITABILITY FOR ANY PRODUCT ORDERED.

Pressure Manhole



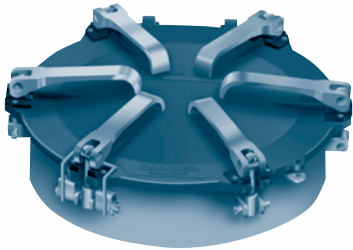
KS 20" full opening pressure manhole for cargo tank/industrial/bulk storage tanks — up to 12PSI

Applications: General purpose access door for non-code applications \leq 12PSI

Features: 6 quick-opening adjustable cam levers; safety catch helps prevent accidents when opening against residual pressure; locking tabs enable contents to be secured with tamper-proof seal

- **KS1110** — Carbon Steel Cover; Plated Steel Hardware; Carbon Steel Weld Ring; Buna Gasket.
- **KS4210** — SS304 Cover; SS304 Hardware; SS304 Weld Ring; Buna Gasket.

Avg. ship weight: 52 lbs **Overall height:** 8 1/4" approximate



LM 20" full opening pressure manhole for rail car/cargo tank/ industrial/intermodal/ bulk containers (IBC) — up to 30 PSI

Applications: Salt, cement, dry food products, sand chemicals, crude oil and other general applications with a working pressure \leq 30PSI

Features: 6 quick-opening adjustable cam levers; open rib cover design provides strength without product hangup; meets MC307 and DOT-407(HM183) requirements

- **LM1151**—Aluminum Cover; Plated Steel Hardware; Nylon Wear Plates Aluminum Weld Ring; White Neo Gasket.

Additional weld ring and gasket material are available on request.

Avg. ship weight: 55 lbs (steel) **Overall height:** 8 3/4" approximate



MJ 20" full opening pressure manhole for cargo tank/industrial/bulk storage tanks — up to 18PSI

Applications: General purpose access door for non-code applications \leq 18PSI

Features: 6 quick-opening adjustable cam levers; safety catch helps prevent accidents when opening against residual pressure; locking tabs enable contents to be secured with tamper-proof seal

- **MJ1110** — Carbon Steel Cover; Plated Steel Hardware; Carbon Steel Weld Ring; Buna Gasket.

Avg. ship weight: 55 lbs (steel) **Overall height:** 8 3/4" approximate



MZ 20" full opening pressure manhole for cargo tank/industrial — up to 25PSI

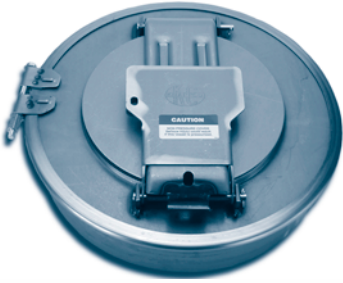
Applications: Hot oil, asphalt, general purpose access door with working pressure \leq 25PSI

Features: 6 quick-opening adjustable cam levers; safety catch helps prevent accidents when opening against residual pressure; locking tabs enable contents to be secured with tamper-proof seal

- **MZ1110** — Carbon Steel Cover; Plated Steel Hardware; Carbon Steel Weld Ring; Buna Gasket.

Avg. ship weight: 75 lbs **Overall height:** 8 3/4" approximate

Non-Pressure Manholes



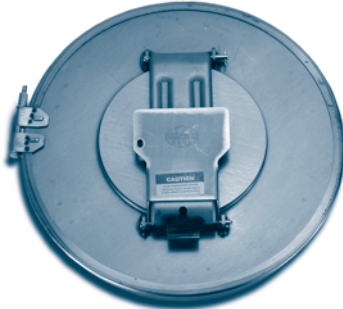
KA 16" non-pressure manhole with 10" fill opening for industrial/storage tanks/agriculture

Applications: Fill opening, cleanout, inspection cover, sampling port

Features: Durable, lightweight, locking latch

- KA1110 — Carbon Steel Cover; Carbon Steel Hardware; Carbon Steel Weld Ring; Buna Gasket.
 - KA4310 — SS304 Cover; SS304 Hardware; SS304 Weld Ring; Buna Gasket.
- Additional materials of construction and gasket material are available on request.

Avg. ship weight: 18 lbs (with steel weld ring) **Overall height:** 5 ¼" approximate



KB 20" non-pressure manhole with 10" fill opening for industrial/storage tanks/agriculture

Applications: Fill opening, cleanout, inspection cover, sampling port

Features: Durable, lightweight, locking latch

- KB1110 — Carbon Steel Cover; Carbon Steel Hardware; Carbon Steel Weld Ring; Buna Gasket.
 - KB3310 — SS304 Cover; SS304 Hardware; SS304 Weld Ring; Buna Gasket.
- Additional materials of construction and gasket material are available on request.

Avg. ship weight: 20 lbs (with steel weld ring) **Overall height:** 5 ¼" approximate



KF 16" non-pressure manhole for industrial/storage tanks

Applications: Cleanout, inspection cover, sampling port

Features: Durable construction, easy removal and maintenance; gasket is held in place by retainer clips welded to the cover; Buna N gaskets are standard, easy to replace

- KF1110 — Carbon Steel Cover; Carbon Steel Ring Clamp; Carbon Steel Weld Ring; Buna Gasket.
 - KF4310 — SS304 Cover; SS304 Ring Clamp; SS304 Weld Ring; Buna Gasket.
- Additional materials of construction and gasket material are available on request.

Avg. ship weight: 14 lbs (with steel weld ring) **Overall height:** 3 7/8" approximate



KG 20" non-pressure manhole for industrial/storage tanks

Applications: Cleanout, inspection cover, sampling port

Features: Durable construction, easy removal and maintenance; gasket is held in place by retainer clips welded to the cover; Buna N gaskets are standard, easy to replace

- KG1110 — Carbon Steel Cover; Carbon Steel Ring Clamp; Carbon Steel Weld Ring; Buna Gasket.
 - KG3310 — SS304 Cover; SS304 Ring Clamp; SS304 Weld Ring; Buna Gasket.
- Additional materials of construction and gasket material are available on request.

Avg. ship weight: 16 lbs (steel) **Overall height:** 3 7/8" approximate



LD 16" non-pressure manhole for cargo tank/industrial/storage tanks

Applications: Fill opening, cleanout, inspection cover, sampling port

Features: Durable, lightweight, locking latch to secure contents

- LD1110 — Carbon Steel; Carbon Steel Hardware; Carbon Weld Ring; Buna Gasket.
 - LD3310 — SS304 Cover; SS304 Hardware; SS304 Weld Ring; Buna Gasket.
 - LD4410 — SS316 Cover; SS304 Hardware; SS316 Weld Ring; Buna Gasket.
- Additional materials of construction and gasket material are available on request.

Avg. ship weight: 25 lbs (with steel weld ring) **Overall height:** 4 5/8" approximate

Non-Pressure Manholes



LE 20" non-pressure manhole for cargo tanks/industrial/storage silos

Applications: Fill opening, cleanout, inspection cover, sampling port

Features: Durable, lightweight, locking latch to secure contents

- LE1110 — Carbon Steel Cover; Carbon Hardware; Carbon Weld Ring; Buna Gasket.
 - LE1140 — Carbon Steel Cover; Carbon Hardware; Carbon Weld Ring; Viton Gasket.
 - LE3310 — SS304 Cover; SS304 Hardware; SS304 Weld Ring; Buna Gasket.
 - LE3330 — SS304 Cover; SS304 Hardware; SS304 Weld Ring; EPDM Gasket.
- Additional materials of construction and gasket material are available on request.

Avg. ship weight: 29 lbs (with steel weld ring) **Overall height:** 4 5/8" approximate



LT 30" full opening non-pressure manhole

Applications: General purpose access door

Features: Braced cover; 9 quick-opening adjustable cam levers

- LT1110 — Carbon Steel Cover; Carbon Hardware; Carbon Steel Weld Ring; Buna Gasket.

Avg. ship weight: 90 lbs (steel) **Overall height:** 6 1/8" approximate



KM 20" non-pressure manhole for cargo tank/industrial/storage tanks

Applications: Fill opening, cleanout, inspection cover, sampling port, access door, manway

Features: Two additional cam levers for tighter seal; locking latch; lightweight, easy to maintain

- KM1110 — Carbon Steel Cover; Carbon Steel Hardware; Carbon Steel Weld Ring; Buna Gasket.
 - KM2210 — SS304 Cover; SS304 Hardware; SS304 Weld Ring; Buna Gasket.
- Additional materials of construction and gasket material are available on request.

Avg. ship weight: 42 lbs (steel) **Overall height:** 4 3/8" approximate



KN 24" non-pressure manhole for industrial/storage tanks/storage silos

Applications: Fill opening, cleanout, inspection cover, sampling port, access door, manway

Features: Two additional cam levers for tighter seal; locking latch; lightweight, easy to maintain

- KN1110 — Carbon Steel Cover; Carbon Steel Hardware; Carbon Steel Weld Ring; Buna Gasket.
 - KN2210 — SS304 Cover; SS304 Hardware; SS304 Weld Ring; Buna Gasket.
 - KN3310 — SS316 Cover; SS304 Hardware; SS316 Weld Ring; Buna Gasket.
- Additional materials of construction and gasket material are available on request.

Avg. ship weight: 52 lbs (steel) **Overall height:** 5 3/8" approximate

Non-Pressure Fill Covers and Access Ports



LH 6" non-pressure fill cover for cargo tanks/conveying systems/industrial/storage silos

Applications: Fill opening, cleanout, inspection cover, sampling port

Features: Wingnut hatch provides tight, secure closure; durable, lightweight construction

- LH1110 — Carbon Steel Cover; Carbon Steel Hardware; Carbon Steel Weld Ring; Buna Gasket.
- LH1120 — Carbon Steel Cover; Carbon Steel Hardware; Carbon Steel Weld Ring; Hi Temp Gasket.
- LH2210 — *SS304 Cover; Plated Steel Hardware; SS304 Weld Ring; Buna Gasket.
- LH3310 — **SS316 Cover; Plated Steel Hardware; SS316 Weld Ring; Buna Gasket.
- LH5210 — SS304 Cover; SS304 Hardware; SS304 Weld Ring; Buna Gasket.

Additional materials of construction and gasket material are available on request.

*Wet contact parts of cover assembly are SS304.

**Wet contact parts of cover assembly are SS316.

Avg. ship weight: 9.5 lbs **Overall height:** 4 7/8" approximate



LA 8" non-pressure fill cover for cargo tanks/conveying systems/industrial/storage silos

Applications: Fill opening, cleanout, inspection cover, sampling port

Features: Ideal inspection port for screw/air-operated conveying system; locking hatch, easy-opening cover; durable, lightweight construction

- LA1110 — Carbon Steel Cover; Carbon Steel Hardware; Carbon Steel Weld Ring; Buna Gasket.
- LA3210 — *SS304 Cover; SS304 Hardware; SS304 Weld Ring; Buna Gasket.
- LA4310 — **SS316 Cover; SS304 Hardware; SS316 Weld Ring; Buna Gasket.
- LA4330 — **SS316 Cover; SS304 Hardware; SS316 Weld Ring; Food Grade Gasket.

Additional materials of construction, gasket material & vents are available on request.

*Wet contact parts of cover assembly are SS304.

**Wet contact parts of cover assembly are SS316.

Avg. ship weight: 11 lbs **Overall height:** 4 1/2" approximate



LW 8" non-pressure fill cover for cargo tanks/conveying systems/industrial/storage silos

Applications: Fill opening, cleanout, inspection cover, sampling port

Features: Ideal for sampling port inspection hatch; wing-nut latch provides tight, secure closure; durable, lightweight construction

- LW1110 — Carbon Steel Cover; Carbon Steel Hardware; Carbon Steel Weld Ring; Buna Gasket.
- LW1120 — Carbon Steel Cover; Carbon Steel Hardware; Carbon Steel Weld Ring; Hi Temp Gasket.
- LW2210 — *SS304 Cover; Plated Steel Hardware; SS304 Weld Ring; Buna Gasket.
- LW3310 — **SS316 Cover; SS304 Hardware; SS316 Weld Ring; Buna Gasket.

Additional materials of construction and gasket material are available on request.

*Wet contact parts of cover assembly are SS304.

**Wet contact parts of cover assembly are SS316.

Avg. ship weight: 11 lbs **Overall height:** 5 5/8" approximate



LB 10" non-pressure fill cover for cargo tanks/conveying systems/industrial/storage silos

Applications: Fill opening, cleanout, inspection cover, sampling port

Features: Ideal inspection port for screw/air-operated conveying system; locking hatch, easy-opening cover; durable, lightweight construction; replaceable hinge pins

- LB1110 — Carbon Steel Cover; Carbon Steel Hardware; Carbon Steel Weld Ring; Buna Gasket.
- LB2250 — Aluminum Cover; Plated Steel Hardware; Aluminum weld Ring; Food Grade Gasket.
- LB4310 — *SS304 Cover; SS304 Hardware; SS304 Weld Ring; Buna Gasket.
- LB5410 — **SS316 Cover; SS304 Hardware; SS316 Weld Ring; Buna Gasket.

Additional materials of construction, gasket material & vents are available on request.

*Wet contact parts of cover assembly are SS304.

**Wet contact parts of cover assembly are SS316.

Avg. ship weight: 14 lbs **Overall height:** 4 1/2" approximate



LS 12" non-pressure fill cover for cargo tanks/conveying systems/industrial/storage silos

Applications: Fill opening, cleanout, inspection cover, sampling port

Features: Ideal inspection port for screw/air-operated conveying system; locking hatch, easy-opening cover; durable, lightweight construction; replaceable hinge pins

- LS1110 — Carbon Steel Cover; Carbon Steel Hardware; Carbon Steel Weld Ring; Buna Gasket.
- LS3310 — *SS304 Cover; SS304 Hardware; SS304 Weld Ring; Buna Gasket.
- LS5410 — **SS316 Cover; SS304 Hardware; SS316 Weld Ring; Buna Gasket.

Additional materials of construction and gasket material are available on request.

*Wet contact parts of cover assembly are SS304.

**Wet contact parts of cover assembly are SS316.

Avg. ship weight: 17 lbs **Overall height:** 4 5/16" approximate

Pressure Relieving Fill Covers



LJ 10" pressure-relieving fill cover for cargo tank/industrial – up to 5PSI

Applications: Fill cover

Features: Spring-loaded fill cap provides positive seal under normal operation, eliminates flutter during emergency pressure release; additional venting capabilities; rated emergency venting capacity 191,258 CFH at 5PSI

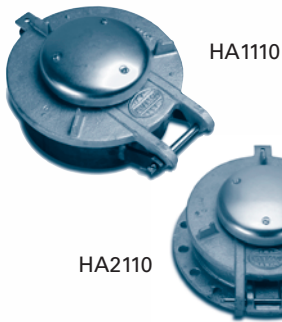
- **LJ1110** – *SS304 Cover; SS304 Hardware; SS304 Weld Ring; Buna Gasket.
- **LJ4340** – *SS304 Cover; SS304 Hardware; Aluminum Weld Ring; White Neoprene Gasket.
- **LJ2210** – Carbon Steel Cover; Carbon Steel Hardware; Carbon Steel Weld Ring; Buna Gasket.

Additional materials of construction, gasket material & vents are available on request.

*Wet contact parts of cover assembly are SS304.

Avg. ship weight: 16 lbs **Overall height:** 4 3/8" approximate

Hatch Covers



HA 8" full opening pressure/vacuum tank hatch for bulk storage tanks

Applications: Silos, grain elevators, baghous for cement, food products, grain, industrial products

Features: Full opening cover can be used for sampling or inspection; available with bolted or weld flange base; dependable design is easy to maintain; relieves pressure at 1.5 oz./sq. in. and vacuum at .5 oz./sq. in. with 46.4 sq. in. free area of pressure relief and 15.9 sq. in. free area of vacuum relief

Base	Cover	Dome	Pressure Option
1 Steel, weld, straight	1 Plated Steel	1 Plated	0 None
2 Cast iron, flanged, sloped			

Avg. ship weight: 14 lbs (flanged base) 19 lbs (weld ring)

HC 20" full opening pressure/vacuum tank hatch for bulk storage tanks

Applications: Silos, grain elevators, baghous for cement, food products, grain, industrial products

Features: Bolted flange base; full opening, dependable design, easy to maintain; 291 sq. in. free area of pressure relief and 78.5 sq. in. free area of vacuum relief; not for use on any hazardous materials – product can be emitted when relieving pressure

Base	Cover	Dome	Pressure Option
1 Cast Aluminum	1 Cast Aluminum	1 Cast Aluminum cover with plated 2 oz. dome	0 1 oz. aluminum dome/ 2 oz. steel dome
		2 Cast Aluminum cover with 1 oz. dome	1 4 oz. steel dome 2 5 oz. steel dome 3 6 oz. steel dome

Avg. ship weight: HC1120 40 lbs • HC1110 60 lbs • HC1111 100 lbs **Overall height:** 4 1/2" approximate

Vacuum Setting: 0.5 oz./sq. in. on all models

HH 24" pressure/vacuum tank hatch for bulk storage tanks

Applications: Silos, grain elevators, baghous for cement, food products, grain, industrial products

Features: All-aluminum contact parts eliminate corrosion; no internal hardware to contaminate product; weather hood provides protection from the elements; palm nuts allow for quick, easy opening; large 24" opening provides higher venting capacity and improved access into the tank

Pressure Setting	Vacuum Setting	Gasket
Settings: 02 through 29 oz.	Setting: 0.5 through 9 oz.	1 White Food Grade (FDA approved)

(first two digits indicate pressure setting) (second two digits indicate vacuum setting)

Part Number Example: HH02051 = 2 oz. pressure, 0.5 oz. vacuum

Warning: Cover should be inspected at least once each month for proper operation and proper functioning hardware. The weather hood should be inspected for damage. Replace any missing or damaged items.

Avg. ship weight: 81 lbs **Overall height:** 13" approximate

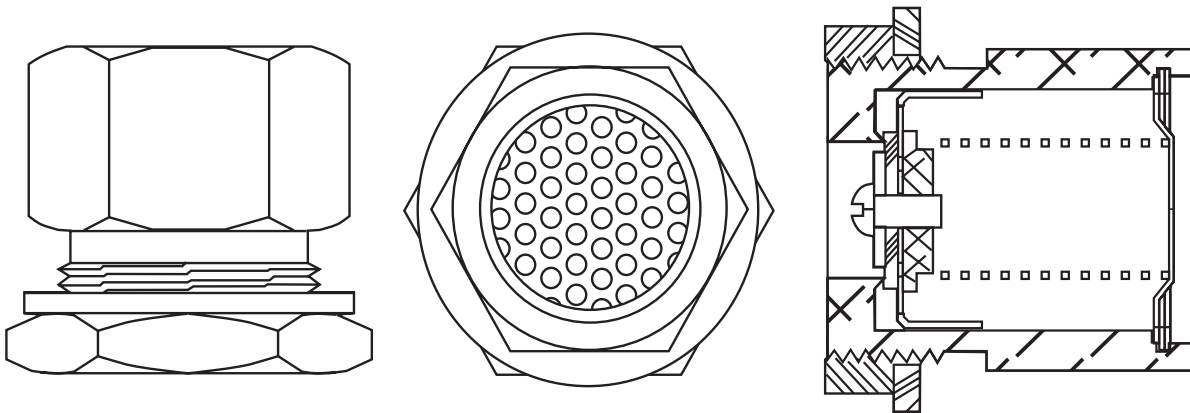


Vent Options

VE 0007 Aluminum Vent

VE 0008 Stainless Steel Vent

Some Manholes / Fill covers may offer a vent option. The most commonly used vents are shown below. Please consult factory for information about alternative vent options.



The VE 0007 Aluminum Vent and the VE 0008 Stainless Steel Vent are designed to fit into a 1-11/16 opening and they relieve vacuum as follows:

Specifications:

Opens @not more than 6 ounces vacuum

Capacity of 2,000 CFH @ 1PSI

Thread size: 1 5/8 – 12N

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HH 24"	8	LA 8"	7	LJ 8"	8
KA 16"	5	LA1110	7	LJ1110.....	8
KA1110.....	5	LA3210	7	LJ2210	8
KA4310.....	5	LA4310.....	7	LJ3140	8
KB 20"	5	LA4330.....	7	LM 20"	3
KB1110.....	5	LB 10"	7	LM1151	3
KB3310.....	5	LB1110	7	LS 12"	7
KF 16"	5	LB2250.....	7	LS1110.....	7
KF1110	5	LB5410	7	LS3310.....	7
KF4310	5	LD 16"	5	LS5410.....	7
KG 20"	5	LD1110.....	5	LT 30"	6
KG1110.....	5	LD3310.....	5	LW 8"	7
KG3310	5	LD4410.....	5	LW1110.....	7
KM 20"	6	LE 20"	6	LW1120.....	7
KM1110.....	6	LE1110.....	6	LW2210	7
KM2210.....	6	LE1140.....	6	LW3310	7
KN 24"	6	LE3310.....	6	MJ 20"	4
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OPW Fluid Transfer Group (OPW-FTG), part of Dover Corporation (NYSE:DOV), comprises five market-leading operating companies, each dedicated to designing, manufacturing and distributing world-class solutions for the safe handling and transporting of hazardous bulk products. In addition to these companies, OPW-FTG has manufacturing plants in North America, Europe, Brazil and India; and sales offices in the United Kingdom, Singapore, Russia, and China.

Throughout the world, OPW-FTG companies are hard at work ensuring the safe processing and transportation of hazardous products and safeguarding against costly petroleum and chemical spills, tank overfills and fugitive vapor emissions. Whether your need is in the chemical plant, at the terminal loading rack, or outfitting a fleet of rail tank cars, cargo tanks or dry-bulk trailers, OPW-FTG systems set the standard for safety, performance and peace-of-mind assurance in the most rigorous and demanding applications. If the safe, profitable handling of hazardous liquids and dry bulk commodities such as gasoline and diesel, chlorine, chlor-alkali products, LPG, acids, cement, flour and starch, among others, is your concern, trust OPW-FTG.

EXPERT SOLUTIONS FOR THE SAFE HANDLING & TRANSPORT OF HAZARDOUS BULK PRODUCTS

	Applications	Processing	Load	Transport		Unload
PETROLEUM	<ul style="list-style-type: none"> Gasoline Alcohols/Ethanol Fuel Oil LPG 	<ul style="list-style-type: none"> Bellow Sealed Valves Sample Valves Lined Ball Valves Lined Butterfly Valves Industrial Valves ISO Rings Sight Flow Indicators Globe Valves Swivels 	<ul style="list-style-type: none"> Loading Arms Couplers Rack Monitors Dry Disconnects API Coupler Swivels 	<ul style="list-style-type: none"> Cargo Tanks Manholes Vapor Vents Electronics Internal Valves API Adaptors Sealed Parcel Pneumatic Controls Manifold Systems 	<ul style="list-style-type: none"> Rail Tank Cars Pressure Relief Valves Plug Valves Ball Valves Level Measurement Autoloks Kamvaloks Dryloks Rupture Disc Devices Angle Valves 	<ul style="list-style-type: none"> Drylok Couplers Adaptors Delivery Elbows Vapor Recovery Elbows Swivels
CHEMICALS	<ul style="list-style-type: none"> Ethanol Chlorine Acids & Bases Amines Anhydrous Ammonia Propylene Butadiene Hazardous Liquids 	<ul style="list-style-type: none"> Bellow Sealed Valves Sample Valves Lined Ball Valves Lined Butterfly Valves Industrial Valves ISO Rings Sight Flow Indicators Globe Valves Swivels Dry Disconnects Quick Disconnects 	<ul style="list-style-type: none"> Loading Arms Autoloks Kamvaloks Dryloks Loading Manholes Valves Actuators Swivels 	<ul style="list-style-type: none"> Cargo Tanks Manholes Vapor Vents Electronics Internal Valves Sealed Parcel 	<ul style="list-style-type: none"> Rail Tank Cars Safety Valves Plug Valves Ball Valves Level Measurement Autoloks Kamvaloks Dryloks Rupture Disc Devices Angle Valves 	<ul style="list-style-type: none"> Loading Arms Autoloks Kamvaloks Dryloks Valves Actuators Safety Breakaways Swivels
DRY BULK	<ul style="list-style-type: none"> Cement Flour/Starch Pharmaceuticals 	<ul style="list-style-type: none"> Industrial Valves Sight Flow Indicators Butterfly Valves Swivels 	<ul style="list-style-type: none"> Loading Arms Aerators Hatch Covers Swivels 	<ul style="list-style-type: none"> Cargo Tanks Manholes Check Valves Hopper Tees Butterfly Valves Aerators Weld Rings 	<ul style="list-style-type: none"> Rail Cars Manholes Hatches Access Ports Check Valves Hopper Tees Butterfly Valves Aerators Pressure Vacuum Valves 	<ul style="list-style-type: none"> Aerators Butterfly Valves Tank Hatches Pressure Relief Vacuum Relief Temperature Monitoring
INDUSTRIAL/GENERAL	<ul style="list-style-type: none"> Food Processing Pharmaceuticals Waste Water High-Purity Liquids Breweries Pulp and Paper Steel Processing 	<ul style="list-style-type: none"> Lined Ball Valves Lined Butterfly Valves Sample Systems Sight Flow Indicators ISO Rings Dry Disconnects Swivels Quick Disconnects High-Performance Butterfly Valves 	<ul style="list-style-type: none"> Loading Arms Couplers Rack Monitors Swivels Dry Disconnects Quick Disconnects Butterfly Valves 	<ul style="list-style-type: none"> Cargo Tanks Manholes Vapor Vents Electronics Weld Rings Hopper Tees Pneumatic Controls Sealed Parcel 	<ul style="list-style-type: none"> Rail Tank Cars Safety Valves Plug Valves Ball Valves Level Measurement Autoloks Kamvaloks Dryloks Rupture Disc Devices Angle Valves 	<ul style="list-style-type: none"> Loading Arms Couplers Rack Monitors Swivels Dry Disconnects Quick Disconnects Butterfly Valves

Chemical & Industrial Processing Market Unit

- Food Processing
- Chemical Plants
- Petroleum Loading Stations
- Steel Processing, Pulp & Paper
- Waste Water Treatment
- Pharmaceutical
- Breweries
- High-Purity Liquids

Rail Car Market Unit

- Pressure & General Purpose Rail Tank Cars
- Dry Bulk Rail Cars
- Ethanol Tank Cars

Cargo Tank Market Unit

- Gasoline & Diesel
- Chemical
- Dry Bulk

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Fax: +91 851 73 33

OPW FLUID TRANSFER GROUP - BRAZIL

Rua Manuel Augusto de Alvarenga, 155
São Paulo, São Paulo, Brazil
CEP 04402-050
Telephone/Fax: +55 11 5564 6466

OPW FLUID TRANSFER GROUP - CHINA

Suite 1810, Shartex Plaza
88 Zunyi Nan Road
Shanghai 2000336, China
Telephone: +88 21 62953978 Fax: +88 21 62953977



4304 Mattox Road | Kansas City, MO 64150 USA
Telephone: 816-741-6600 | Fax: 816-741-1061
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