

# KNAPPCO



PART OF OPW a **DOVER** company

Products Catalog

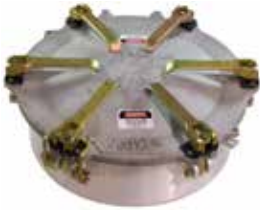


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## MODEL PREFIX

		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		
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
Lacth Type	Clamp-Ring								X	X			X	X											
	Wing Nut	X		X																					
	Strongback		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			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			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	O	X	X	X	X	X	X	X			
	Neoprene	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														
	Hi-Temp	O	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.

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 9393 Princeton-Glendale Road  
 Hamilton, Ohio, USA 45011, USA  
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Availability of all models and options is subject to change without notice.  
 Buyer assumes responsibility for determining application suitability for any product ordered.

## Pressure Manholes



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

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

**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.

**Average 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  $\leq 30$  PSI

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

- **LM1151** — Carbon Steel Cover; Plated Steel Hardware; Carbon Steel Weld Ring; Buna Gasket.

Additional weld ring and gasket materials are available on request.

**Average 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 18 PSI

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

**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.

**Average Ship Weight:** 55 lbs (steel) **Overall height:** 8-3/4" approximate



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

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

**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.

**Average 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 weld ring and gasket materials are available on request.

**Average Ship Weight:** 18 lbs (with steel weld ring) **Overall height:** 5-1/4" 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.

**Average Ship Weight:** 20 lbs (with steel weld ring) **Overall height:** 5-1/4" 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.

**Average 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.

**Average 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.

**Average 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.

**Average Ship Weight:** 9 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.

**Average 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..

**Average 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.

**Average 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.

**Average Ship Weight:** 9.5 lbs **Overall height:** 4-7/8" approximate

\*Wet contact parts of cover assembly are SS304. \*\*Wet contact parts of cover assembly are SS316.



**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.

**Average Ship Weight:** 11 lbs **Overall height:** 4-1/2" approximate

\*Wet contact parts of cover assembly are SS304. \*\*Wet contact parts of cover assembly are SS316.



**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; wingnut 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.

**Average Ship Weight:** 11 lbs **Overall height:** 5-5/8" approximate

\*Wet contact parts of cover assembly are SS304. \*\*Wet contact parts of cover assembly are SS316.



**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.

**Average Ship Weight:** 14 lbs **Overall height:** 4-1/2" approximate

\*Wet contact parts of cover assembly are SS304. \*\*Wet contact parts of cover assembly are SS316.



**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.

**Average Ship Weight:** 17 lbs **Overall height:** 4-5/16" approximate

\*Wet contact parts of cover assembly are SS304. \*\*Wet contact parts of cover assembly are SS316.

## Pressure-Relieving Fill Cover



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

**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 5 PSI

- **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.

**Average Ship Weight:** 16 lbs **Overall height:** 4-3/8" approximate

\*Wet contact parts of cover assembly are SS304.

## Hatch Covers



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

**Applications:** Silos, grain elevators, baghouse 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
1 Steel, weld, straight	1 Plated	1 Plated	0 None
2 Cast iron, flanged, sloped			

**Average 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, baghouse 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
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

**Average 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, baghouse 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. (first two digits indicate pressure setting)	Setting: 0.5 through 9 oz.	1 White Food-Grade (FDA approved)

**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 properly functioning hardware. The weather hood should be inspected for damage. Replace any missing or damaged items.

**Average Ship Weight:** 81 lbs **Overall Height:** 13" approximate

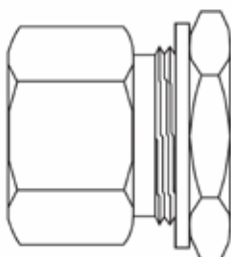
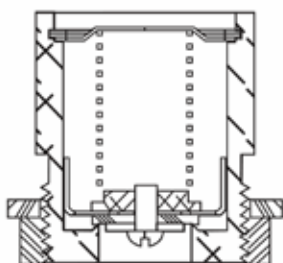


## Vent Options

### 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 @ 1 PSI

Thread size: 1-5/8" — 12N

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