



National Vacuum Equipment

■ Part of Atlas Copco Group



FABRICATED TANK COMPONENTS

PRODUCT CATALOG

Challenger **Series**
VACUUM PUMPS & BLOWERS



Designed. Built. Supported in The USA.

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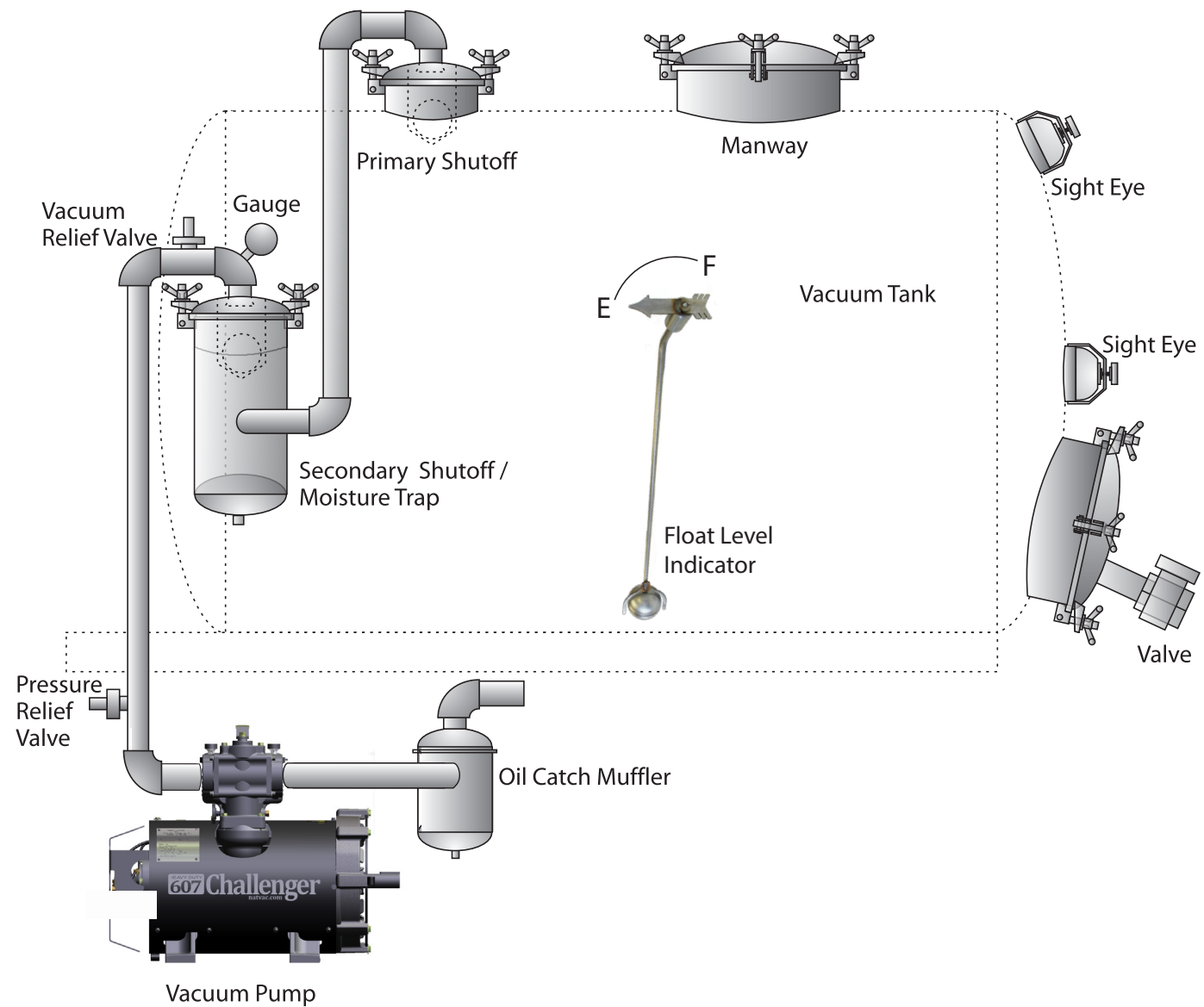
Primary Shutoffs

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Vacuum Pumping System Components | Diagram



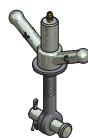
MADE IN THE USA



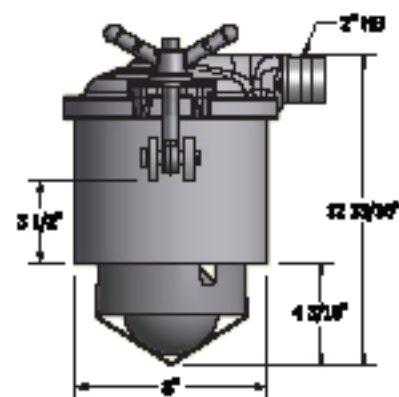
8" Low Profile | Primary Shutoff - Aluminum Lid

Features:

- Weldable neck available in Carbon, Stainless Steel, and Aluminum
- 6" Stainless Steel Ball Cage
- 4" Stainless Steel Float Ball
- 3" Buna Ball Seat
- Low Profile Design
- 2" Hose Barb Connection
- Wingnut Closure
- 5/8" Square Buna Gasket
- Aluminum Lid (CAST IN THE USA)



Available with
Lube Nuts

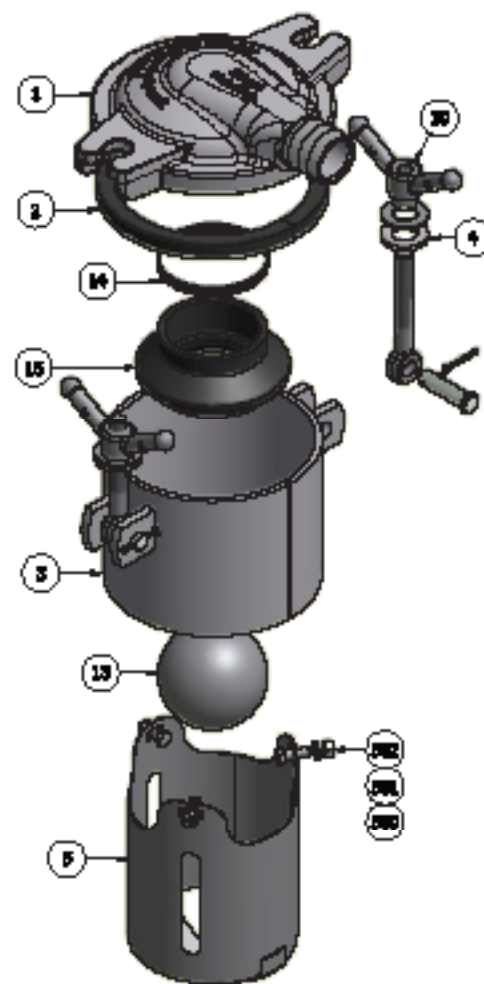


8" Low Profile Primary Shutoff

DESCRIPTION	PART NUMBER	WEIGHT
PSO 8" X 6" CARBON NECK, CAST ALU LID 2" HB	200-0806-2HB	25 lbs
PSO 8" X 6" ALU NECK, CAST ALU LID 2" HB	204-0806-2HB	17 lbs
PSO 8" X 6" SS NECK, CAST ALU LID 2" HB	208-0806-2HB	22 lbs

8" Low Profile Primary Shutoff | Replacement Parts

ITEM	DESCRIPTION	PART NUMBER
1	LID 8" CAST ALU 2" HB	226-800-ALU
2	GASKET 8" LID BUNA	286-706-8L
3	NECK 8" X 6" CARBON	228-0806-C
3	NECK 8" X 6" ALU	228-0806-A
3	NECK 8" X 6" SS	228-0806-S
4	WASHER FLAT ALU 7/8" DIA	280-875-AFW
5	BALL CAGE 6" 304 SS FOR CARBON AND NON CODE	282-600-1S
10	WINGNUT ASSY: WINGNUT, EYEBOLD, CLEVIS COTTER PIN	284-KIT-C
10	WINGNUT ASSY SS304: WINGNUT, EYEBOLT, CLEVIS COTTER PIN	284-KIT-S
13	FLOAT BALL 4" SS	414-400-SS
14	CLAMP WORM 3" BALL SEATS	416-300-1WC
15	BALL SEAT 3" BUNA	416-300-B
300	HHCS 3/8" UNC 1" LG SS	
301	LOCK WASHER, 3/8" SS	
302	HEX NUT - 3/8 UNC SS	



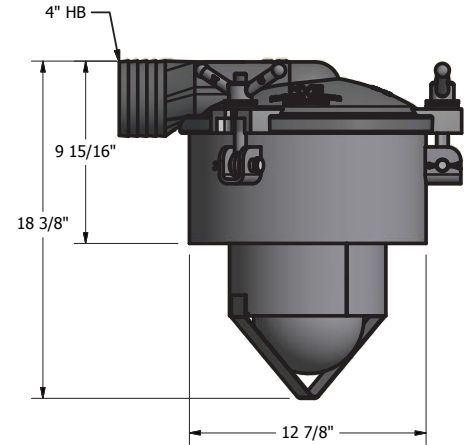
12" Low Profile | Primary Shutoff – Aluminium Lid

Features:

- 4" Buna Ball Seat
- Low Profile Design
- Wingnut Closure
- 5/8" Square Buna Gasket
- 6" or 8" Stainless Float Ball
- 3" or 4" Hose Barb Connection
- Aluminum Lid [CAST IN THE USA]
- 8" or 10" Corrosion Resistant Stainless Steel Ball Cage
- Weldable neck available in Carbon, Stainless Steel, and Aluminum



Available with
Lube Nuts

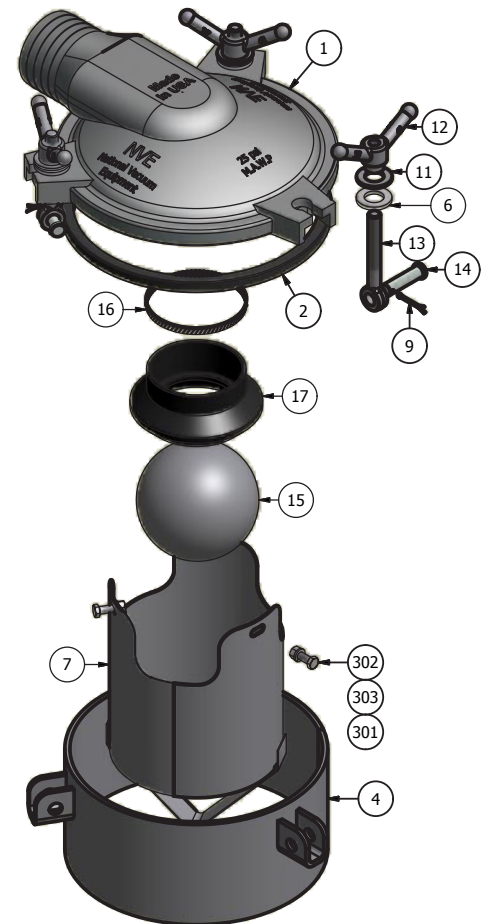


12" Low Profile Primary Shutoff

DESCRIPTION	PART NUMBER	WEIGHT
PSO 12" X 6" CARBON BASE, ALU LID 3" HB	200-1206-3HB	47 lbs
POS 12" X 6" CARBON BASE, ALU LID 4" HB, 10" CAGE	200-1206-4HB-10	49 lbs
PSO 12" X 6" ALU BASE, ALU LID 3" HB	204-1206-3HB	32 lbs
PSO 12" X 6" ALU BASE, ALU LID 4" HB, 10" CAGE	204-1206-4HB-10	41 lbs
POS 12" X 6" SS BASE ALU LID 3" HB	208-1206-3HB	45 lbs
PSO 12" X 6" SS BASE, ALU LID 4" HB, 10" CAGE	208-1206-4HB-10	47 lbs

12" Low Profile Primary Shutoff | Replacement Parts

ITEM	DESCRIPTION	PART NUMBER
1	LID 12" CAST ALU W/4" HOSE BARB	226-120-ALU-4HB
1	LID 12" CAST ALU W/3" HOSE BARB	226-120-ALU-3HB
2	GASKET 12" LID AND NECK BUNA	286-706-12L
4	NECK 12" X 6" CARBON	228-1206-C
4	NECK 12" X 6" ALU	228-1206-1A
4	NECK 12" X 6" SS	228-1206-S
6	WASHER FLAT ALU 7/8" DIA	280-875-AFW
7	BALL CAGE 8" 304 SS	282-800-1S
7	BALL CAGE 10" 304 SS	282-100-1S
9	COTTER PIN .125" X 1.5" SS	280-704-S
7.1	BOLT TAB ADAPTER	740-103-S1
12	WINGNUT ASSY: WINGNUT EYEBOLT CLEVIS COTTER PIN	284-KIT-C
12	WINGNUT ASSY SS 304: WINGNUT EYEBOLT CLEVIS COTTER PIN	284-KIT-S
12	LUBENUT ASSY: LUBENUT EYEBOLT CLEVIS COTTER PIN	284-KIT-CLN
15	FLOAT BALL 6" 304 SS	414-600-SS
15	FLOAT BALL 8" 304 SS	414-800-SS
16	CLAMP WORM 4" BALL SEATS	416-400-1WC
17	BALL SEAT 4" BUNA	416-400-B
301	HHCS 3/8" UNC 1" LG SS	
302	LOCKWASHER 3/8" SS	
303	HEX NUT 3/8" SS	



12" Primary Shutoff

Features:

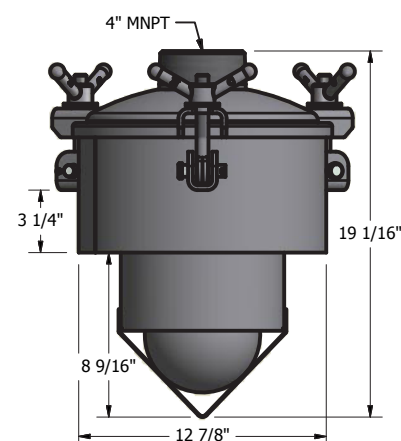
- Weldable neck available in Carbon, Stainless Steel, and Aluminum
- 8" Corrosion Resistant Stainless Steel Ball Cage
- 6" Stainless Steel Float Ball
- 3" or 4" NPT Connection
- Wingnut Closure
- 5/8" Square Buna Gasket



Available with
Lube Nuts

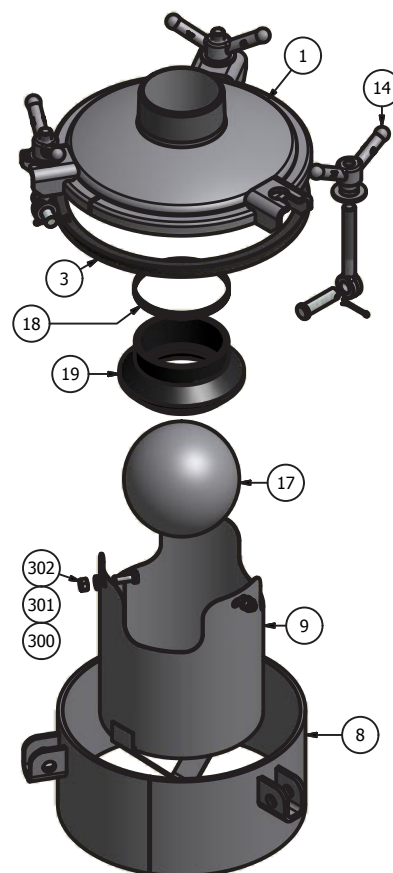
12" Primary Shutoff

DESCRIPTION	PART NUMBER	WEIGHT
PSO 12" X 6" CARBON BASE, CARBON LID 3" NPT	200-1206-3NPT	45 lbs
PSO 12" X 6" CARBON BASE, CARBON LID 4" NPT	200-1206-4NPT-10	50 lbs
PSO 12" X 12" CARBON BASE, CARBON LID 3" NPT	200-1212-3NPT	61 lbs
PSO 12" X 12" CARBON BASE, CARBON LID 4" NPT	200-1212-4NPT-10	66 lbs
PSO 12" X 6" SS BASE, STAINLESS STEEL LID 3" NPT	208-1206-3NPT	45 lbs
PSO 12" X 6" SS BASE, STAINLESS STEEL LID 4" NPT	208-1206-4NPT-10	50 lbs



12" Primary Shutoff | Replacement Parts

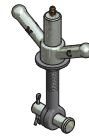
ITEM	DESCRIPTION	PART NUMBER
1	LID 12" 3" NPT W/ GASKET	226-012-300-C
1	LID 12" 4" NPT W/ GASKET	226-012-400-C
1	LID 12" STAINLESS STEEL 3" NPT W/GASKET	226-120-300-S
1	LID 12" STAINLESS STEEL 4" NPT W/GASKET	226-120-400-S
3	GASKET 12" LID AND NECK BUNA	286-706-12L
8	NECK 12" X 6" CARBON	228-1206-C
8	NECK 12" X 12" CARBON	228-1212-C
8	NECK 12" X 6" STAINLESS STEEL	228-1206-S
9	BALL CAGE 8" 304 STAINLESS STEEL	282-800-1S
9	BALL CAGE 10" 304 STAINLESS STEEL	282-100-1S
14	WINGNUT ASSY: WINGNUT EYEBOLT CLEVIS COTTER PIN	284-KIT-C
14	WINGNUT ASSY SS304: WINGNUT EYEBOLT CLEVIS COTTER PIN	284-KIT-S
14	LUBENUT ASSY: LUBENUT EYEBOLT CLEVIS COTTER PIN	284-KIT-CLN
17	FLOAT BALL 6" 304 STAINLESS STEEL	414-600-SS
17	FLOAT BALL 8" 304 STAINLESS STEEL	414-800-SS
18	CLAMP WORM 3" BALL SEATS	416-300-1WC
18	CLAMP WORM 4" BALL SEATS	416-400-1WC
19	BALL SEAT 3" BUNA	416-300-B
19	BALL SEAT 4" BUNA	416-400-B
300	HHCS 3/8" UNC 1" LG SS	
301	LOCKWASHER 3/8" SS	
302	HEX NUT 3/8" SS	



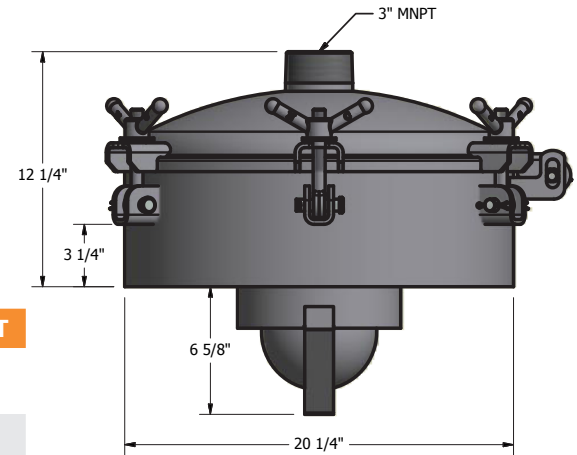
20" Primary Shutoff

Features:

- Weldable neck available in Carbon, Stainless Steel, and Aluminum
- Lid available in Carbon or Stainless Steel
- 6", 8" or 10" Corrosion Resistant SS Ball Cage
- 4", 6" or 8" Stainless Steel Float Ball
- 2", 3", 4" or 6" NPT Connection
- Wingnut Closure
- 5/8" Square Buna Gasket



Available with
Lube Nuts



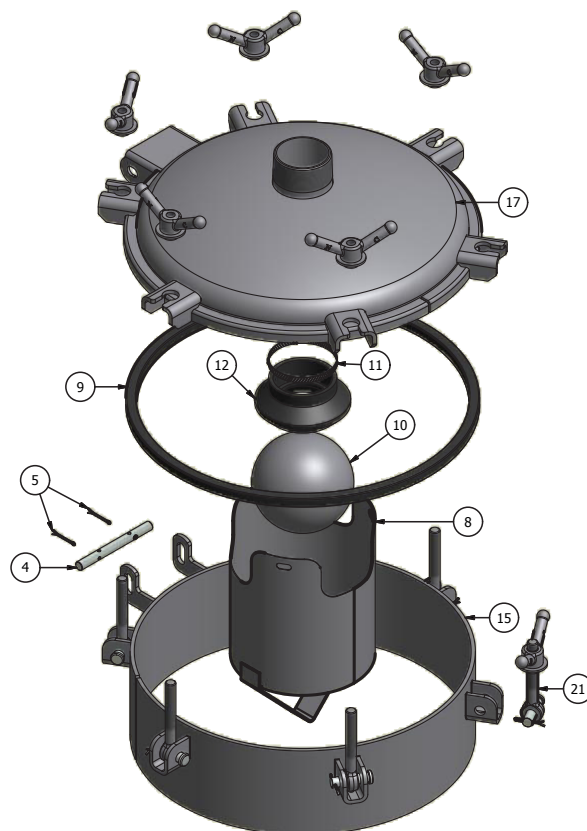
20" Primary Shutoff

DESCRIPTION	PART NUMBER	WEIGHT
PSO 20" X 6" CARBON BASE, CARBON LID 3" NPT	202-2006-3NPT	80 lbs
PSO 20" X 6" CARBON BASE, CARBON LID 4" NPT, 10" CAGE	202-2006-4NPT-10	89 lbs
PSO 20" X 6" CARBON BASE, CARBON LID 6" NPT	202-2006-6NPT	90 lbs
PSO 20" X 12" CARBON BASE, CARBON LID 3" NPT	202-2012-3NPT	66 lbs
PSO 20" X 6" ALU NECK, SS LID 2" NPT	206-2006-2NPT	55 lbs
PSO 20" X 6" ALU NECK, SS LID 3" NPT	206-2006-3NPT	60 lbs
PSO 20" X 6" ALU NECK, SS LID 4" NPT, 10" CAGE	206-2006-4NPT	64 lbs
PSO 20" X 6" ALU NECK, SS LID 6" NPT	206-2006-6NPT	69 lbs
PSO 20" X 6" SS BASE, SS LID 2" NPT	210-2006-2NPT	74 lbs
PSO 20" X 6" SS BASE, SS LID 3" NPT	210-2006-3NPT	80 lbs
PSO 20" X 9" SS BASE, SS LID 2" NPT	210-2009-2NPT	88 lbs
PSO 20" X 12" SS BASE, SS LID 2" NPT	210-2012-2NPT	102 lbs

20" Primary Shutoff

20" Primary Shutoff | Parts List

ITEM	DESCRIPTION	PART NUMBER
4	HINGE PIN CARBON STEEL PLATE	280-703-C
4	HINGE PIN CODE SS	280-703-CS
4	COTTER PIN .125" X 1.5" SS	280-704-S
5	E-CLIP 0.625" DIA ASME SS	284-450-1CS
5	GASKET 19.5" LID BUNA	286-706-20L
8	BALL CAGE 6" 304 SS	282-600-1S
8	BALL CAGE 8" 304 SS	282-800-1S
8	BALL CAGE 10" 304 SS	282-100-1S
8.1	BOLT TAB LID SHUTOFF SS	740-103-CS
10	FLOAT BALL 4" 304 SS	414-400-SS
10	FLOAT BALL 6" 304 SS	414-600-SS
10	FLOAT BALL 8" 304 SS	414-800-SS
11	CLAMP WORM 2" BALL SEATS	416-200-1WC
11	CLAMP WORM 3" BALL SEATS	416-300-1WC
11	CLAMP WORM 4" BALL SEATS	416-400-1WC
11	CLAMP WORM 6" BALL SEATS	416-600-1WC
12	BALL SEAT 2" BUNA	416-200-B
12	BALL SEAT 3" BUNA	416-300-B
12	BALL SEAT 4" BUNA	416-400-B
12	BALL SEAT 6" BUNA	416-600-B
15	NECK 20" X 6" CARBON	228-2006-C
15	NECK 20" X 12" CARBON	228-2012-C
15	NECK 20" X 9" ALU	228-2009-1A
15	NECK 20" X 6" SS	228-2006-S
15	NECK 20" X 12" SS	228-2012-S
17	LID 20" CARBON 3" NPT WITH GASKET	226-200-3NPT-C
17	LID 20" SS 2" NPT WITH GASKET	226-200-2NPT-S
17	LID 20" SS 3" NPT WITH GASKET	226-200-3NPT-S
17	LID 20" SS 4" NPT WITH GASKET	226-200-4NPT-S
21	LUBENUT ASSY: LUBENUT EYEBOLT CLEVIS COTTER PIN	284-KIT-CLN
21	WINGNUT ASSY: WINGNUT EYEBOLT CLEVIS COTTER PIN	284-KIT-C
21	WINGNUT ASSY SS 304: WINGNUT EYEBOLT CLEVIS COTTER PIN	284-KIT-S
300	HHCS 3/8" UNC 1" LG SS	
301	LOCKWASHER 3/8" SS	
302	HEX NUT 3/8" SS	



20" Primary Shutoff

Features:

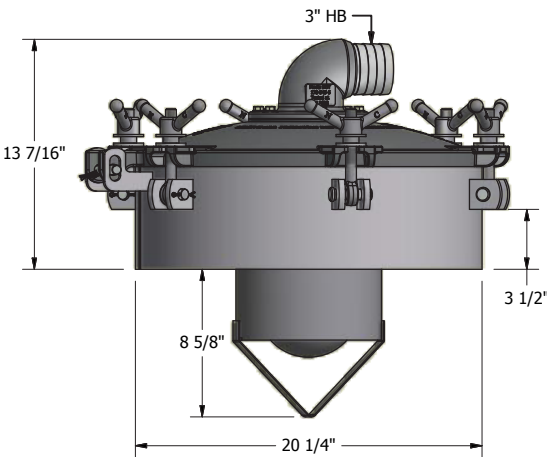
- 8" or 10" Corrosion Resistant Stainless Steel Ball Cage
- 6" or 8" Stainless Steel Float Ball
- 2" or 3" Hose Barb or 4" NPT Connection
- Wingnut Closure
- 5/8" Square Buna Gasket



Available with
Lube Nuts

20" Primary Shutoff | Parts List

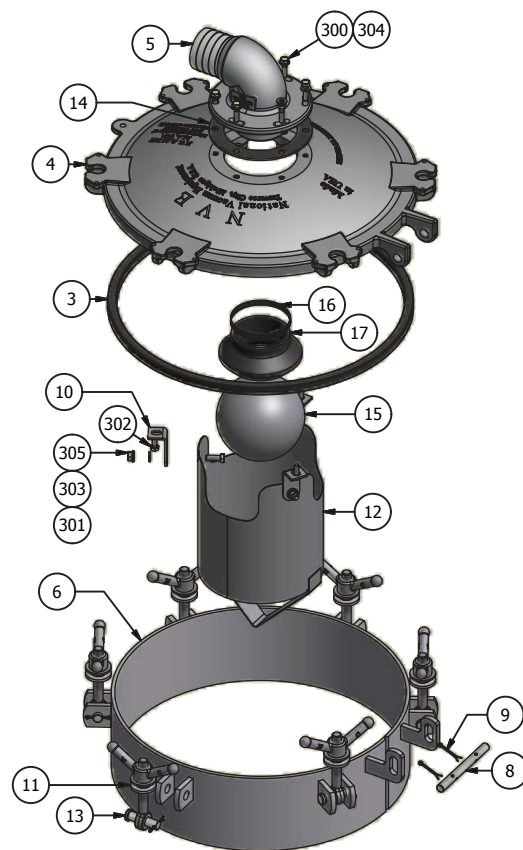
DESCRIPTION	PART NUMBER	WEIGHT
PSO 20" X 6" ALU NECK CAST LID 2" HB	206-2006-2HB-CA	51 lbs
PSO 20" X 6" ALU NECK CAST LID 3" HB	206-2006-3HB-CA	52 lbs
PSO 20" X 6" ALU NECK CAST LID 4" NPT 8" BALL	206-2006-4NPT-8	57 lbs
PSO 20" X 9" ALU NECK CAST LID 2" HB	206-2009-2HB-CA	56 lbs
PSO 20" X 9" ALU NECK CAST LID 3" HB	206-2009-3HB-CA	57 lbs
PSO 20" X 9" ALU NECK CAST LID 4" NPT 8" BALL	206-2009-4NPT-8	58 lbs
PSO 20" X 12" ALU NECK CAST LID 3" HB	206-2012-3HB-CA	60 lbs
PSO 20" X 6" SS NECK CAST LID 2" HB	210-2006-2HB	70 lbs



20" Primary Shutoff

20" Primary Shutoff | Parts List

ITEM	DESCRIPTION	PART NUMBER
3	GASKET 19.5" LID BUNA	286-706-20L
4	LID 20" CAST ALU S/O PREP	226-200-ALU-CWP
5	HB 2" FOR CAST ALU LID	226-ALU-2HB
5	HB 3" FOR CAST ALU LID	226-ALU-3HB
5	FLANGE W/ 4" PIPE FOR CAST ALU LID	280-711-F4
6	NECK 20" X 6" CARBON	228-2006-C
6	NECK 20" X 6" ALU	228-2006-1A
6	NECK 20" X 9" ALU	228-2009-1A
6	NECK 20" X 12" ALU	228-2012-1A
6	NECK 20" X 6" SS	228-2006-S
8	HINGE PIN CARBON STEEL PLATE	280-703-C
9	COTTER PIN .125" X 1.5" SS	280-704-S
10	BOLT TAB 8" SS .135"	280-711-8BT
11	WINGNUT ASSY: WINGNUT EYEBOLT CLEVIS COTTER PIN	284-KIT-C
11	WINGNUT ASSY SS304: WINGNUT EYEBOLT CLEVIS COTTER PIN	284-KIT-S
11	LUBENUT ASSY: LUBENUT EYEBOLT CLEVIS COTTER PIN	284-KIT-CLN
11.1	WASHER FLAT ALU 7/8" DIA	280-875-AFW
12	BALL CAGE 8" 304 SS	282-800-1S
12	BALL CAGE 10" 304 SS	282-100-1S
14	GASKET FOR CAST BOLT ON SHUT OFF	286-226-HBG
15	FLOAT BALL 6" 304 SS	414-600-SS
15	FLOAT BALL 8" 304 SS	414-800-SS
16	CLAMP WORM 3" BALL SEATS	416-300-1WC
16	CLAMP WORM 4" BALL SEATS	416-400-1WC
17	BALL SEAT 3" BUNA	416-300-B
17	BALL SEAT 4" BUNA	416-400-B
300	HHCS 5/16" UNC X 1 11/4" LG	
301	HHCS 3/8" UNC 1" LG SS FOR BALL CAGE	
302	HHCS 5/16" UNC 7/8" LG	
303	LOCKWASHER 3/8" SS	
304	5/16" FLATWASHER	
305	HEX NUT 3/8" SS	



Shutoff Assemblies 2", 3", 4" & 6" NPT Connection

FOR INSTALLATION IN ANY NON-CODE MANWAY OR PORTAL.

Features:

- 6", 8" or 10" Corrosion Resistant Stainless Steel Ball Cage
- 4", 6" or 8" Stainless Steel Float Ball
- 2", 3", 4" or 6" Buna Ball Seat
- 2", 3", 4" or 6" NPT Pipe Nipple
- Bolt Tab

Shutoff Assemblies - 2", 3", 4" and 6" NPT Connection

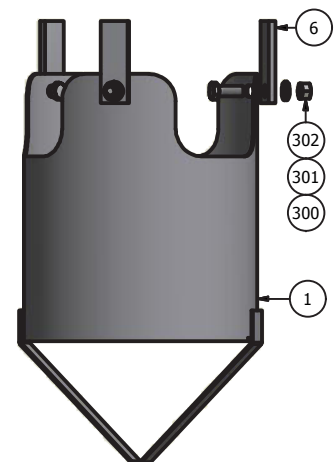
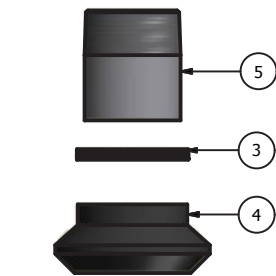
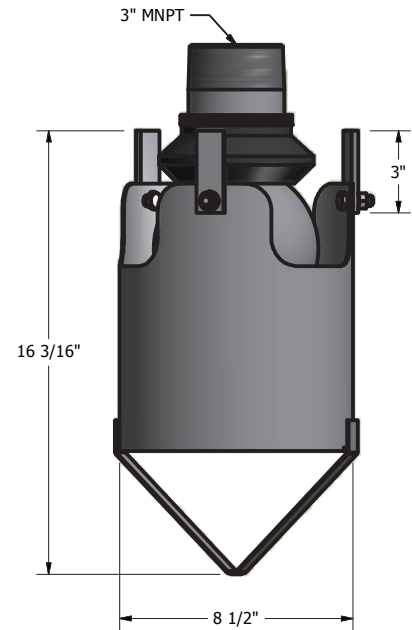
DESCRIPTION	PART NUMBER	WEIGHT
SO ASSY 6" SS CAGE, 2" NPT CARBON	200-000-2NPT	5 lbs
SO ASSY 8" SS CAGE, 3" NPT CARBON	200-000-3NPT	8 lbs
SO ASSY 8" SS CAGE, 4" NPT CARBON	200-000-4NPT	15 lbs
SO ASSY 10" SS CAGE, 4" NPT CARBON	200-000-4NPT-10	21 lbs
SO ASSY 10" SS CAGE, 6" NPT CARBON	200-000-6NPT	25 lbs
SO ASSY W/O PIPE	200-000-800	----

For Installation in Carbon Steel Units

Shutoff Assemblies - 2", 3", 4" and 6" NPT Connection Parts List

ITEM	DESCRIPTION	PART NUMBER
1	BALL CAGE 6" 304 SS	282-600-1S
1	BALL CAGE 8" 304 SS	282-800-1S
1	BALL CAGE 10" 304 SS	282-100-1S
2	FLOAT BALL 4" 304 SS	414-400-SS
2	FLOAT BALL 6" 304 SS	414-600-SS
2	FLOAT BALL 8" 304 SS	414-800-SS
3	CLAMP WORM 2" BALL SEATS	416-200-1WC
3	CLAMP WORM 3" BALL SEATS	416-300-1WC
3	CLAMP WORM 4" BALL SEATS	416-400-1WC
3	CLAMP WORM 6" BALL SEATS	416-600-1WC
4	BALL SEAT 2" BUNA	416-200-B
4	BALL SEAT 3" BUNA	416-300-B
4	BALL SEAT 4" BUNA	416-400-B
4	BALL SEAT 6" BUNA	416-600-B
5	PIPE 2" X 3.5" TOE	428-2035-1C
5	PIPE 2" X 3.5" TOE	428-2035-1S
5	PIPE 3" X 6" TOE	428-304-1C
5	PIPE 4" X 4" TOE	428-404-1C
5	PIPE 6" X 4.5" TOE	428-6045-1C
5	PIPE 3" X 4" TOE 304 SS	428-304-1S
5	PIPE 4" X 4" TOE 304 SS	428-404-1S
6	BOLT TAB LID SHUTOFF	740-103-C
6	BOLT TAB LID SHUTOFF SS	740-103-S
300	HHCS 3/8" UNC X 1" LG SS	
301	LOCK WASHER, 3/8" SS	
302	HEX NUT 3/8" UNF SS	

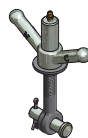
6" Stainless Steel Cage



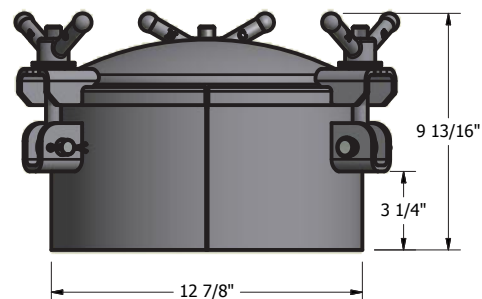
12" Portals | Non-Code

Features:

- Gasket on Lid Design
- Wingnut Closure (3)
- 5/8" Square Buna Gasket
- Available with following Neck materials:
Carbon, Stainless Steel, or Aluminum



Available with
Lube Nuts

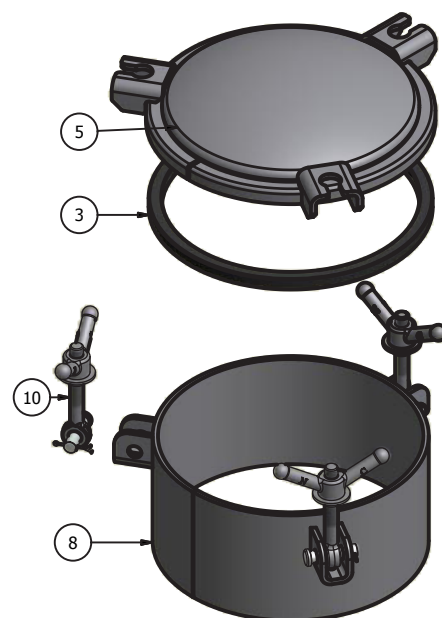


12" Portals - Non-Code

DESCRIPTION	PART NUMBER	WEIGHT
PORTAL 12" X 6" GOL CARBON	200-1206-C	37 lbs
PORTAL 12" X 12" CARBON	200-1212-C	53 lbs
PORTAL 12" X 6" ALU BASE SS LID	204-1206-A	21 lbs
PORTAL 12" X 6" STAINLESS STEEL	208-1206-S	34 lbs
PORTAL 12" X 12" STAINLESS STEEL	208-1212-S	52 lbs

12" Portals - Non-Code | Parts List

ITEM	DESCRIPTION	PART NUMBER
3	GASKET 12" LID BUNA	286-706-12L
5	LID 12" CARBON W/ GASKET	226-012
5	LID 12" SS W/ GASKET	226-120-1S
5	LID 12" SS POLISHED W/ GASKET	226-120-1SP
8	NECK 12" X 6" CARBON	228-1206-C
8	NECK 12" X 12" CARBON	228-1212-C
8	NECK 12" X 6" ALU	228-1206-1A
8	NECK 12" X 6" SS	228-1206-S
8	NECK 12" X 6" SS POLISHED	228-1206-SP
8	NECK 12" X 12" SS	228-1212-S
10	WINGNUT ASSY: WINGNUT EYEBOLT CLEVIS COTTER PIN	284-KIT-C
10	WINGNUT ASSY SS304: WINGNUT EYEBOLT CLEVIS COTTER PIN	284-KIT-S
10	LUBENUT ASSY: LUBENUT EYEBOLT CLEVIS COTTER PIN	284-KIT-CLN



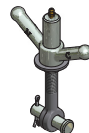


MADE IN THE USA

20" Manways | Non-Code

Features:

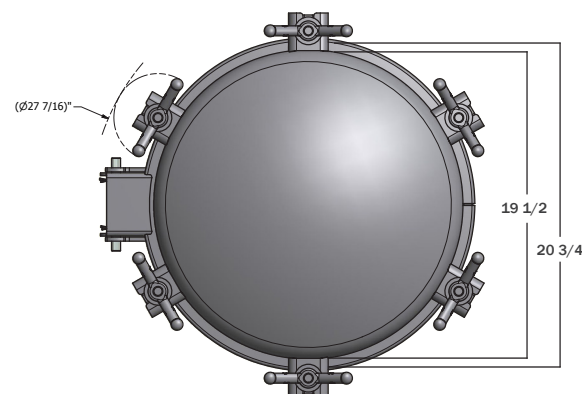
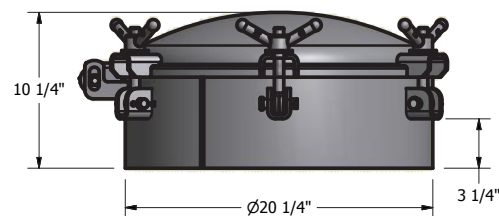
- Gasket on Lid Design
- Lubenut or Wingnut Closure (5 and 6 Wingnut options)
- 5/8" Square Buna Gasket
- Available in Aluminum, Carbon and Stainless Steel Necks
- Stainless Steel Fasteners on Stainless Steel Manways



Available with
Lube Nuts

20" Manways - Non-Code

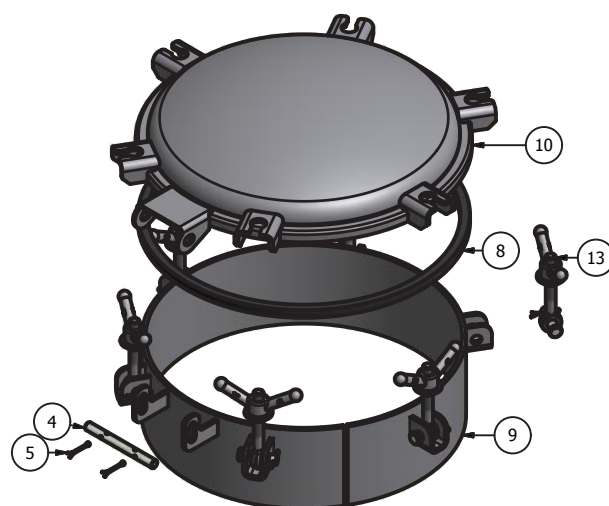
DESCRIPTION	PART NUMBER	WEIGHT
MANWAY 20" X 6" GOL CARBON - 6 WN	202-2006	72 lbs
MANWAY 20" X 12" GOL CARBON - 6 WN	202-2012	88 lbs
MANWAY 20" X 6" ALU NECK SS LID - 6 WN	206-2006-AS	51 lbs
MANWAY 20" X 9" ALU NECK SS LID - 6 WN	206-2009-AS	56 lbs
MANWAY 20" X 12" ALU NECK SS LID - 6 WN	206-2012-AS	59 lbs
MANWAY 20" X 6" STAINLESS STEEL - 6 WN	210-2006-S	71 lbs
MANWAY 20" X 12" SS - 6 WN	210-2012-S	99 lbs
MANWAY 20" X 6" GOL 5 TAB - 5 WN	202-2006-5C	63 lbs
MANWAY 20" X 12" GOL 5 TAB - 5 WN	202-2012-5C	96 lbs
MANWAY 20" X 6" ALU NECK 5 TAB SS LID - 5 WN	206-2006-5A	48 lbs
MANWAY 20" X 9" ALU NECK 5 TAB SS LID - 5 WN	206-2009-5A	52 lbs
MANWAY 20" X 12" ALU NECK 5 TAB SS LID - 5 WN	206-2012-5A	55 lbs
MANWAY 20" X 6" SS 5 TAB - 5 WN	210-2006-5S	95 lbs
MANWAY 20" X 6" SS 5 TAB POLISHED - 5 WN	210-2006-5SP	95 lbs
MANWAY 20" X 12" SS 5 TAB - 5 WN	210-2012-5S	95 lbs



20" Manways | Non-Code

20" Manways - Non-Code | Parts List

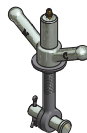
ITEM	DESCRIPTION	PART NUMBER
4	HINGE PIN CODE SS	280-703-CS
4	HINGE PIN CARBON STEEL PLATE	280-703-C
5	COTTER PIN .125" X 1.5" SS	280-704-S
5	E-CLIP 0.625" DIA ASME SS	284-450-1CS
8	GASKET 19.5" LID BUNA	286-706-20L
8	GASKET 20" LID EPDM	286-706-20L-EPD
8	GASKET 20" LID VITON	286-706-20L-V
9	NECK 20" X 6" CARBON	228-2006-C
9	NECK 20" X 12" CARBON	228-2012-C
9	NECK 20" X 6" ALUMINUM	228-2006-1A
9	NECK 20" X 9" ALU	228-2009-1A
9	NECK 20" X 12" ALUMINUM	228-2012-1A
9	NECK 20" X 6" SS	228-2006-S
9	NECK 20" X 9" SS	228-2009-S
9	NECK 20" X 12" SS	228-2012-S
9	NECK 20" X 6" CARBON 5 TAB	228-2006-5C
9	NECK 20" X 6" ALU 5 TAB	228-2006-5A
9	NECK 20" X 12" CARBON 5 TAB	228-2012-5C
9	NECK 20" X 9" ALU 5 TAB	228-2009-5A
9	NECK 20" X 12" ALU 5 TAB	228-2012-5A
10	LID 20" CARBON W/GASKET	226-200-1C
10	LID 20" SS W/GASKET	226-200-1S
10	LID 20" SS POLISHED W/GASKET	226-200-1SP
10	LID 20" CARBON 5 TAB W/GASKET	226-200-5C
10	LID 20" SS 5 TAB	226-200-5S
10	LID 20" SS 5 TAB POLISHED	226-200-5SP
13	WINGNUT ASSY: WINGNUT EYEBOLT CLEVIS COTTER PIN	284-KIT-C
13	LUBENUT ASSY: LUBENUT EYEBOLT CLEVIS COTTER PIN	284-KIT-CLN
13	WINGNUT ASSY SS304: WINGNUT EYEBOLT CLEVIS COTTER PIN	284-KIT-S
13	WINGNUT ASSY ASME SS LO-PRO	284-KIT-CS



20" Manways - Cast Aluminum Lid | Non-Code

Features:

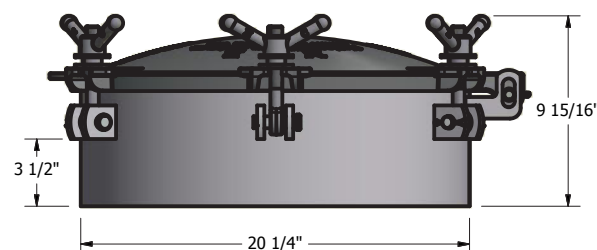
- Cast Aluminum Lid assemblies available with;
 - Lubenut Fasteners
 - Wingnut Fasteners
- Gasket on Lid Design
- 5/8" Square Buna Gasket
- Weldable 20" Necks Available In Aluminum, Carbon And Stainless Steel Necks



Available with
Lube Nuts

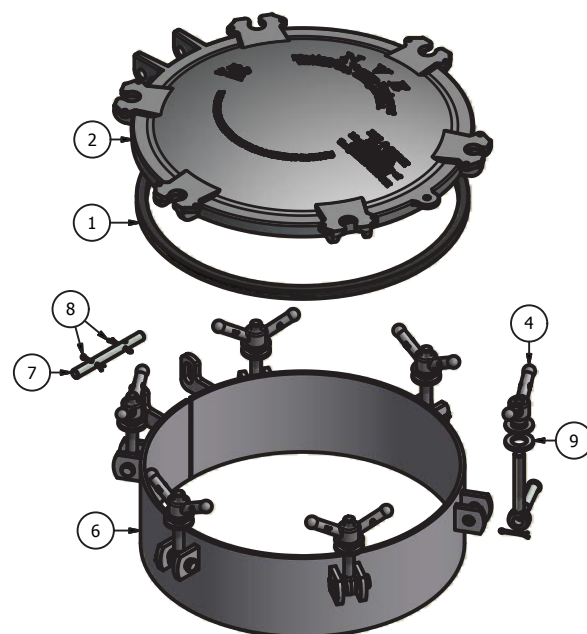
20" Manways Cast Aluminum Lid - Non-Code

DESCRIPTION	PART NUMBER	WEIGHT
MANWAY 20" X 6" ALU NECK CAST LID	206-2006-A	42 lbs
MANWAY 20" X 9" ALU NECK CAST LID	206-2009-A	46 lbs
MANWAY 20" X 12" ALU NECK CAST LID	206-2012-A	51 lbs
MANWAY 20" X 6" SS NECK CAST LID CARBON FASTENERS	210-2006-SA	75 lbs



20" Manways - Non-Code | Parts List

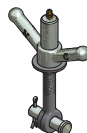
ITEM	DESCRIPTION	PART NUMBER
1	GASKET 19.5" LID BUNA	286-706-20L
1	GASKET 20" LID EPDM	286-706-20L-EPD
1	GASKET 20" LID VITON	286-706-20L-V
2	LID 20" CAST ALU W/GASKET	226-200-ALU
4	LUBENUT ASSY: LUBENUT EYEBOLT CLEVIS COTTER PIN	284-KIT-CLN
4	WINGNUT ASSY SS304: WINGNUT EYEBOLT CLEVIS COTTER PIN	284-KIT-S
14	WINGNUT ASSY: WINGNUT EYEBOLT CLEVIS COTTER PIN	284-KIT-C
4	WINGNUT ASSY ASME SS LO-PRO	284-KIT-CS
6	NECK 20" X 6" CARBON	228-2006-C
6	NECK 20" X 12" CARBON	228-2012-C
6	NECK 20" X 6" ALU	228-2006-1A
6	NECK 20" X 9" ALU	228-2009-1A
6	NECK 20" X 12" ALU	228-2012-1A
6	NECK 20" X 6" SS	228-2006-S
6	NECK 20" X 9" SS	228-2009-S
6	NECK 20" X 12" SS	228-2012-S
7	HINGE PIN CARBON STEEL PLATE	280-703-C
7	HINGE PIN CODE SS	280-703-CS
8	COTTER PIN .125" X 1.5" SS	280-704-S
8	E-CLIP 0.625" DIA ASME SS	284-450-1CS
9	WASHER GALT ALU 7/8" DIA	280-875-*AFW



36" Manways | Non-Code

Features:

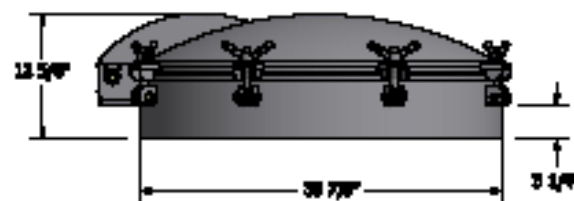
- Gasket on Lid (GOL) Wingnut Closure (8 Wingnut)
- 5/8" Square Buna Gasket
- Available With Carbon Or Aluminum Neck



Available with
Lube Nuts

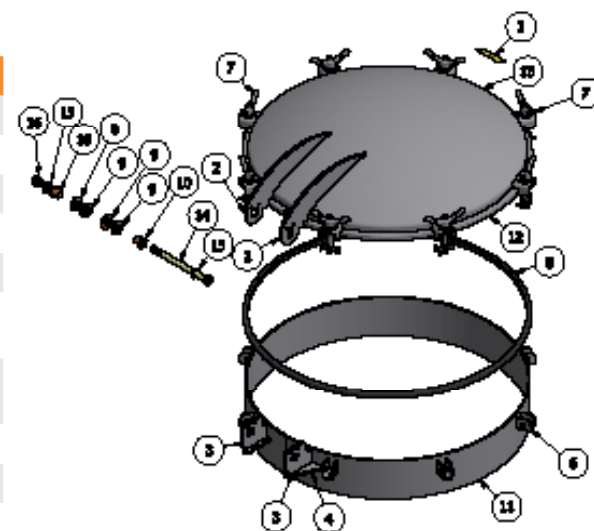
36" Manways - Non-Code

DESCRIPTION	PART NUMBER	WEIGHT
MANWAY 36" X 6" GOL CARBON	202-3606-2C	153 lbs
MANWAY 36" X 12" GOL CARBON	202-3612-2C	201 lbs
MANWAY 36" X 9" ALU NECK CARBON LID CARBON FASTENERS	206-3609-A	118 lbs
MANWAY 36" X 18" ALU NECK CARBON LID CARBON FASTENERS	206-3618-A	147 lbs



36" Manways - Non-Code | Parts List

ITEM	DESCRIPTION	PART NUMBER
8	GASKET 36" LID BUNA	286-706-36L
9	NECK 36" X 6" CARBON	228-3609-A
9	NECK 36" X 12" CARBON	228-3618-A
9	NECK 36" X 9" ALU	228-3609-A
9	NECK 36" X 18" ALU	228-3618-A
7	WINGNUT ASSY: WINGNUT EYEBOLT CLEVIS COTTER PIN	284-KIT-C
7	LUBENUT ASSY: LUBENUT EYEBOLT CLEVIS COTTER PIN	284-KIT-CLN
11	LID 36" CARBON GOL W/GASKET	226-360-1C
302	HEX HEAD CAP SCREW - 5/8-11 UNC X 6.50	
301	FLAT WASHER - 5/8"	
303	NYLOCK NUT - 5/8 UNC	





MADE IN THE USA

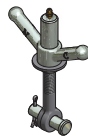
Secondary Shutoffs | 4 Gallon Moisture Traps

Features:

- 4" Stainless Steel Float Ball
- 2" Buna Ball Seat
- 5/8" Square Buna Gasket

WARNING CFM RATINGS VARY WITH THE VOLATILITY OF THE PRODUCT BEING PUMPED

** 4 GALLON - TO 200 CFM



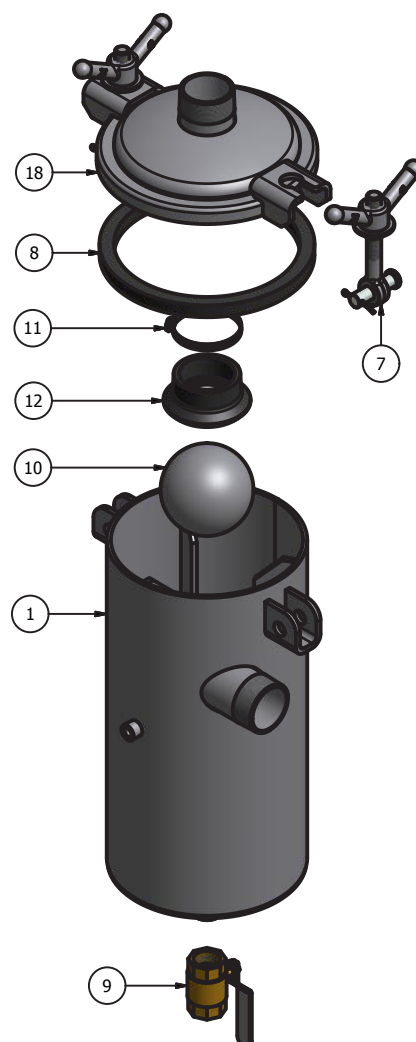
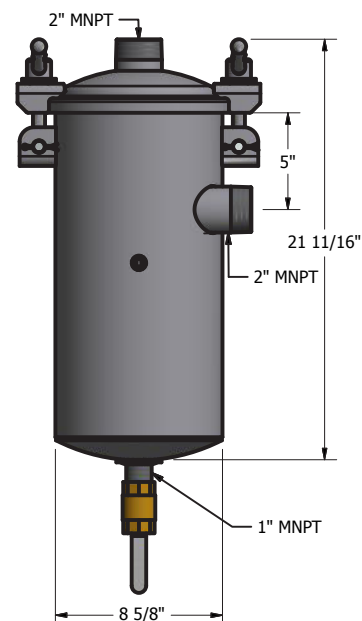
Available with
Lube Nuts

Secondary Shutoff - 4 Gallon Moisture Traps

DESCRIPTION	PART NUMBER	WEIGHT
MT 4 GAL 2" NPT	216-400-2NPT-C1	41 lbs

Secondary Shutoff - 4 Gallon Moisture Traps | Parts List

ITEM	DESCRIPTION	PART NUMBER
1	MT BODY, 4 GALLON 2" NPT	CALL
7	WINGNUT ASSY: WINGNUT EYEBOLT CLEVIS COTTER PIN	284-KIT-C
7	LN ASSY: LN EYEBOLT CLEVIS PIN & CP	284-KIT-CLN
8	GASKET 8" LID ID BUNA	286-706-8L-1
9	DRAIN VALVE BRASS 1" IPS	288-100
9.1	NIPPLE CLOSE 1" BLK	428-100-2C
10	FLOAT BALL 4" SS	414-400-SS
11	CLAMP WORM 3" BALL SEATS	416-300-1WC
12	BALL SEAT 3" BUNA	416-300-B
18	MT LID, 8" WITH 2" NPT	CALL



Secondary Shutoffs | 4 Gal. Low Profile Moisture Traps

Features:

- Corrosion Resistant Carbon, Aluminum Or Stainless Steel Base
- 4" Stainless Steel Float Ball
- 3" Buna Ball Seat
- 5/8" Square Buna Gasket
- Aluminum Lid (CAST IN THE USA)

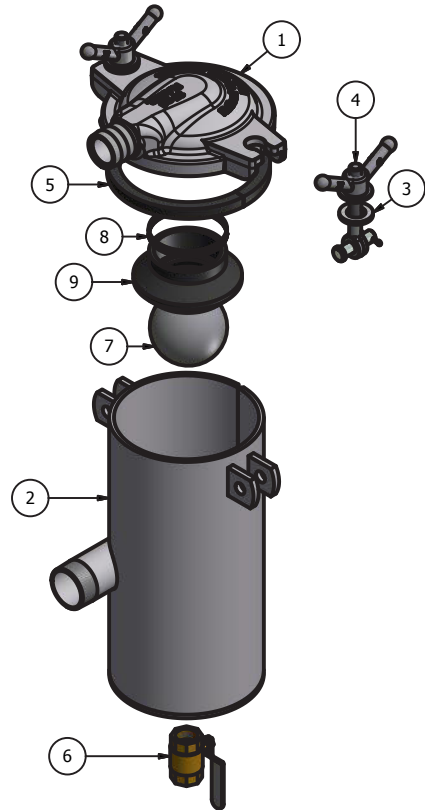
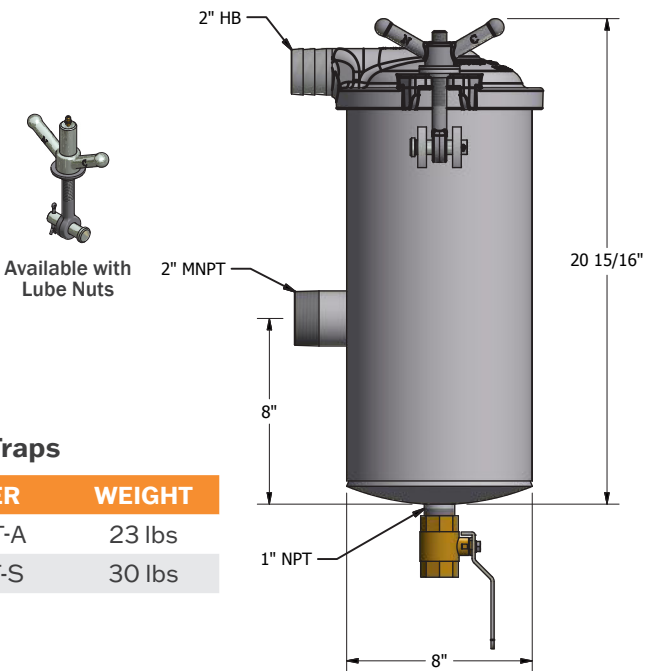
WARNING CFM RATINGS VARY WITH THE VOLATILITY OF THE PRODUCT BEING PUMPED
 ** 4 GALLON - TO 200 CFM

Secondary Shutoff - 4 Gallon Low Profile Moisture Traps

DESCRIPTION	PART NUMBER	WEIGHT
MT 4 GAL ALU 2" HB	216-400-2NPT-A	23 lbs
MT 4 GAL SS ALU LID 2" HB	216-400-2NPT-S	30 lbs

Secondary Shutoff - 4 Gallon Low Profile Moisture Traps | Parts List

ITEM	DESCRIPTION	PART NUMBER
1	LID 8" CAST ALU 2" HB	226-800-ALU
2	MT BODY, 4 GALLON 2" NPT CARBON	CALL
2	MT BODY, 4 GALLON 2" NPT ALU	CALL
2	MT BODY, 4 GALLON 2" NPT SS	CALL
3	WASHER FLAT ALUMINUM 7/8" DIA	280-875-AFW
4	WINGNUT ASSY: WINGNUT EYEBOLT CLEVIS COTTER PIN	284-KIT-C
4	LN ASSY: LN EYEBOLT CLEVIS PIN & CP	284-KIT-CLN
5	GASKET, 8" LID BUNA	286-706-8L
6	DRAIN VALVE BRASS 1" IPS	288-100
6.1	NIPPLE CLOSE 1" BLK	428-100-2C
7	FLOAT BALL 4" SS	414-400-SS
8	CLAMP WORM 3" BALL SEATS	416-300-1WC
9	BALL SEAT 3" BUNA	416-300-B





MADE IN THE USA

Secondary Shutoffs 10 & 14 Gal. Moisture Traps

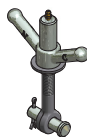
Features:

- Available In Carbon, Stainless And Aluminum Body Materials
- Stainless Steel Deflector Plate
- 6" Stainless Steel Float Ball
- 3" or 4" Buna Ball Seat
- Wingnut Closure
- 5/8" Square Buna Gasket

WARNING CFM RATINGS VARY WITH THE VOLATILITY OF THE PRODUCT BEING PUMPED

** 10 GALLON - TO 400 CFM

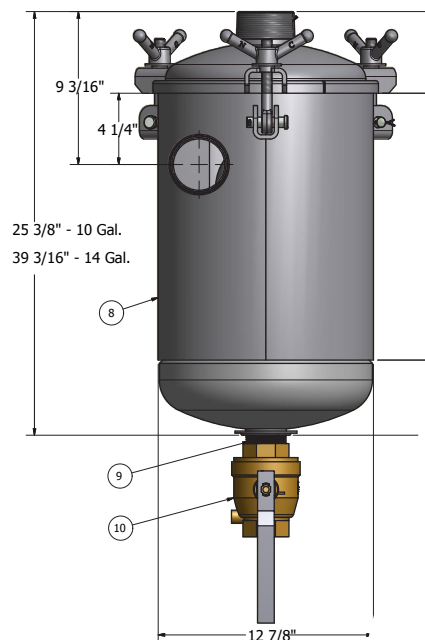
** 14 GALLON - TO 500 CFM



Available with
Lube Nuts

Secondary Shutoff - 10 & 14 Gallon Moisture Trap

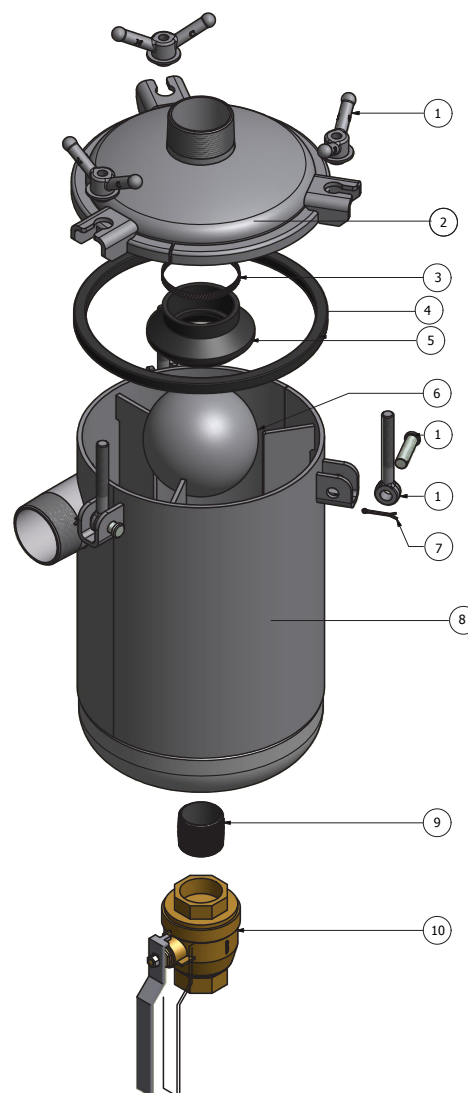
DESCRIPTION	PART NUMBER	WEIGHT
MT 10 GAL 3" NPT 1" DRAIN	216-100-3NPT-C1	93 lbs
MT 10 GAL 3" NPT 2" DRAIN	216-100-3NPT-C	95 lbs
MT 10 GAL ALU 3" NPT SS LID	216-100-3NPT-AS	48 lbs
MT 10 GAL SS 3" NPT	216-100-3NPT-S	60 lbs
MT 10 GAL 4" NPT	216-100-4NPT-C	98 lbs
MT 10 GAL ALU 4" NPT SS LID	216-100-4NPT-AS	50 lbs
MT 10 GAL SS 4" NPT	216-100-4NPT-S	71 lbs
MT 14 GAL 3" NPT	216-140-3NPT-C	127 lbs
MT 14 GAL 4" NPT	216-140-4NPT-C	131 lbs



Secondary Shutoffs 10 & 14 Gal. Moisture Traps

Secondary Shutoff - 10 & 14 Gallon Moisture Trap | Parts List

ITEM	DESCRIPTION	PART NUMBER
1	WINGNUT ASSY: WINGNUT EYEBOLT CLEVIS COTTER PIN	284-KIT-C
1	WINGNUT ASSY SS 304: WINGNUT EYEBOLT CLEVIS COTTER PIN	284-KIT-S
1	LUBENUT ASSY: LUBENUT EYEBOLT CLEVIS COTTER PIN	284-KIT-CLN
1	WINGNUT ASSY ASME SS LO-PRO	284-KIT-CS
2	LID 12" CARBON 3" NPT W/GASKET	226-012-300-C
2	LID 12" SS 3" NPT W/GASKET	226-120-300-S
2	LID 12" CARBON 4" NPT W/GASKET	226-012-400-C
2	LID 12" SS 4" NPT W/GASKET	226-120-400-S
3	CLAMP WORM 3" BALL SEATS	416-300-1WC
3	CLAMP WORM 4" BALL SEATS	416-400-1WC
4	GASKET 12" LID AND NECK BUNA	286-706-12L
5	BALL SEAT 3" BUNA	416-300-B
5	BALL SEAT 4" BUNA	416-400-B
6	FLOAT BALL 6" SS	414-600-SS
7	COTTER PIN .125" X 1.5" SS	280-704-S
7	E-CLIP 0.625" DIA ASME SS	284-450-1CS
8	MT BODY 10 GAL 3" NPT CARBON	CALL
8	MT BODY 10 GAL 3" NPT ALU	280-216-103-A
8	MT BODY 10 GAL 3" NPT SS	280-216-103-S
8	MT BODY 10 GAL 4" NPT CARBON	CALL
8	MT BODY 10 GAL 4" NPT ALU	280-216-104-A
8	MT BODY 10 GAL 4" NPT SS	CALL
8	MT BODY 14 GAL 3" NPT CARBON	CALL
8	MT BODY 14 GAL 4" NPT CARBON	CALL
9	NIPPLE CLOSE 1" BLK	428-100-2C
9	NIPPLE CLOSE 2" BLK	428-200-2C
9	PIPE 2" X 2" TOE SS	428-202-1S
10	DRAIN VALVE BRASS 1"	288-100
10	DRAIN VALVE BRASS 2"	288-200



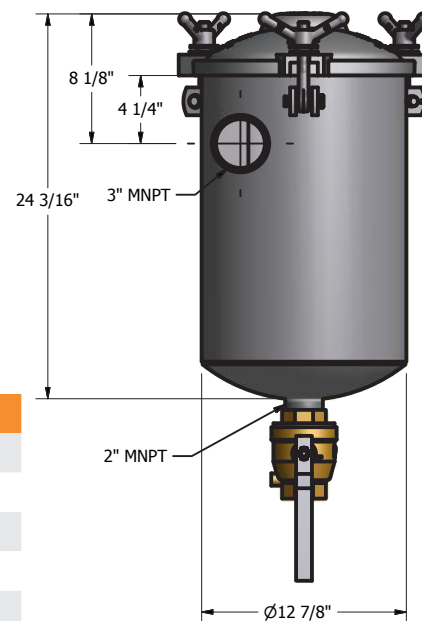
Secondary Shutoffs | 10 & 14 Gal. Low Profile Moisture Traps



Features:

- Stainless Steel Deflector Plate
- 6" Stainless Steel Float Ball
- 4" Buna Ball Seat
- Wingnut Closure
- 5/8" Square Buna Gasket
- 2" Ball Valve Drain
- Aluminum Lid [CAST IN THE USA]

WARNING CFM RATINGS VARY WITH THE VOLATILITY OF THE PRODUCT BEING PUMPED
 ** 10 GALLON - TO 400 CFM

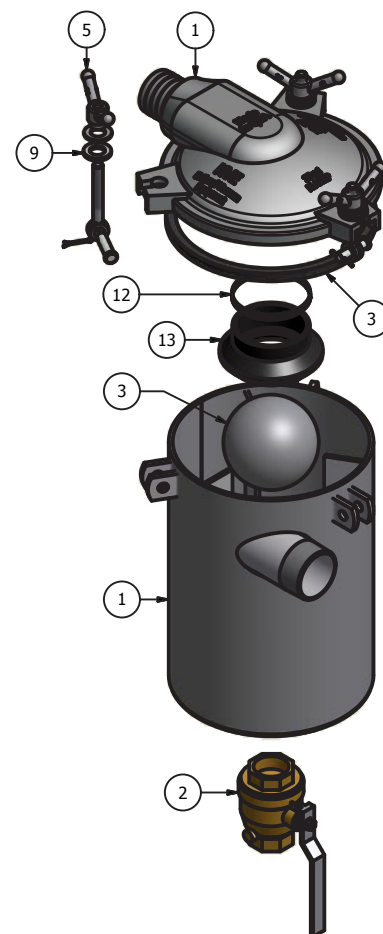


Secondary Shutoff - 10 & 14 Gallon Low Profile Moisture Trap

DESCRIPTION	PART NUMBER	WEIGHT
10 GAL, ALU, 3" NPT	216-100-3HB-A	57 lbs
MT 10 GAL ALU 3" HB LN	216-100-3HB-ALN	52 lbs
MT 10 GAL ALU 4" HB	216-100-4HB-A	57 lbs
MT 14 GAL ALU 3" HB	216-140-3HB-A	61 lbs
MT 14 GAL ALU 4" HB	216-140-4HB-A	64 lbs

Secondary Shutoff - 10 & 14 Gallon Low Profile Moisture Trap | Parts List

ITEM	DESCRIPTION	PART NUMBER
1	MT BODY, 10 GAL, 3" NPT	280-010-320-C
1	MT BODY, 10 GAL, 3" NPT, ALU	280-216-103-A
1	MT BODY, 10 GAL, 4" NPT, ALU	280-216-104-A
1	MT BODY, 14 GAL, 3" NPT, ALU	280-216-143-A
1	MT BODY, 14 GAL, 4" NPT, ALU MT	CALL NVE
1	LID 12" CAST ALU W/3" HOSE BARB	226-120-ALU-3HB
1	LID 12" CAST ALU W/4" HOSE BARB	226-120-ALU-4HB
1	LID 12" 3" NPT SS POLISHED	226-120-300-SP
1	LID 12" 4" NPT SS POLISHED	226-120-400-SP
2	DRAIN VALVE BRASS 1" IPS	288-100
2.1	NIPPLE CLOSE 2" BLK	428-200-2C
2.1	PIPE 2" X 2" SS	428-202-1S
3	FLOAT BALL 6" 304 SS	414-600-SS
3	GASKET, 12" LID, AND NECK BUNA	286-706-12L
5	WINGNUT ASSY: WINGNUT, EYEBOLD, CLEVIS COTTER PIN	284-KIT-C
5	LN ASSY: LN, EYEBOLT CLEVIS PIN & CP	284-KIT-CLN
5	WINGNUT KIT SS	284-KIT-S
9	WASHER FLAT ALU 7/8" DIA	280-875-AFW
13	BALL SEAT 4" BUNA	416-400-B
12	CLAMP WORM 4" BALL SEATS	416-400-1WC

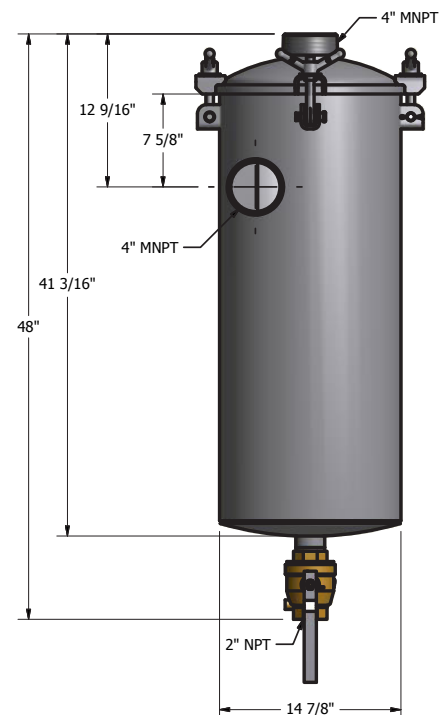


Secondary Shutoffs | 25 Gal. Moisture Trap

Features:

- Stainless Steel Deflector Plate
- 6" or 8" Stainless Steel Float Ball
- Wingnut Closure
- 5/8" Square Buna Gasket
- 2" Ball Valve Drain

WARNING CFM RATINGS VARY WITH THE VOLATILITY OF THE PRODUCT BEING PUMPED
 **25 GALLON TO 1000 CFM

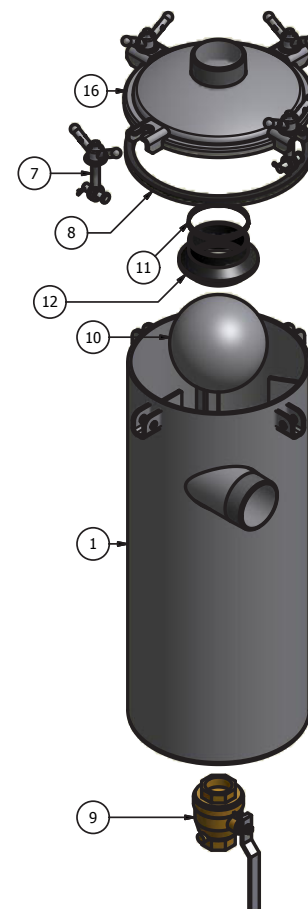


Secondary Shutoff - 25 Gallon Moisture Trap

DESCRIPTION	PART NUMBER	WEIGHT
MT 25 GAL ALU 4" NPT CARBON LID	216-250-4NPT-A	93 lbs
MT 25 GAL 4" NPT CARBON	216-250-4NPT-C	172 lbs
MT 25 GAL 4" NPT SS	216-250-4NPT-S	172 lbs
MT 25 GAL 6" NPT CARBON	216-250-6NPT-C	186 lbs
MT 25 GAL 6" NPT SS	216-250-6NPT-S	186 lbs

Secondary Shutoff - 25 Gallon Moisture Trap | Parts List

ITEM	DESCRIPTION	PART NUMBER
1	MT BODY 25 GAL 4" NPT CARBON	CALL
1	MT BODY 25 GAL 6" NPT CARBON	CALL
1	MT BODY 25 GAL 4" NPT ALU	CALL
7	WINGNUT ASSY: WINGNUT EYEBOLT CLEVIS COTTER PIN	284-KIT-C
7	WINGNUT ASSY SS 304: WINGNUT EYEBOLT CLEVIS COTTER PIN	284-KIT-S
7	LUBENUT ASSY: LUBENUT EYEBOLT CLEVIS COTTER PIN	284-KIT-CLN
8	GASKET 14" LID BUNA	286-706-14L
9	DRAIN VALVE BRASS 2"	288-200
9.1	NIPPLE CLOSE 2" BLK	428-200-2C
10	FLOAT BALL 8" SS	414-800-SS
11	CLAMP WORM 4" BALL SEATS	416-400-1WC
11	CLAMP WORM 6" BALL SEATS	416-600-1WC
12	BALL SEAT 4" BUNA	416-400-B
12	BALL SEAT 6" BUNA	416-600-B
16	LID 14" CARBON 4" NPT	CALL
16	LID 14" SS 4" NPT	CALL
16	LID 14" CARBON 6" NPT	CALL
16	LID 14" SS 6" NPT	CALL

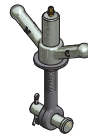


Secondary Shutoffs | 45 Gal. Moisture Trap

Features:

- Stainless Steel Deflector Plate
- 8" Stainless Steel Float Ball
- 6" Buna Ball Seat
- Wingnut Closure
- 5/8" Square Buna Gasket
- 2" Ball Valve Drain

WARNING CFM RATINGS VARY WITH THE VOLATILITY OF THE PRODUCT BEING PUMPED
** 45 GALLON - TO 1500 CFM



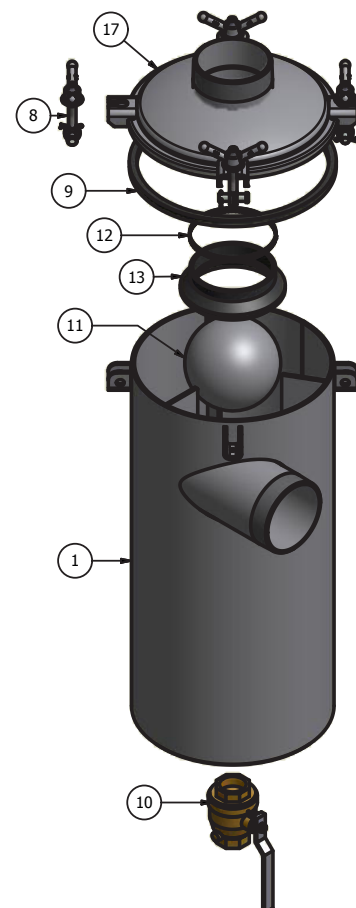
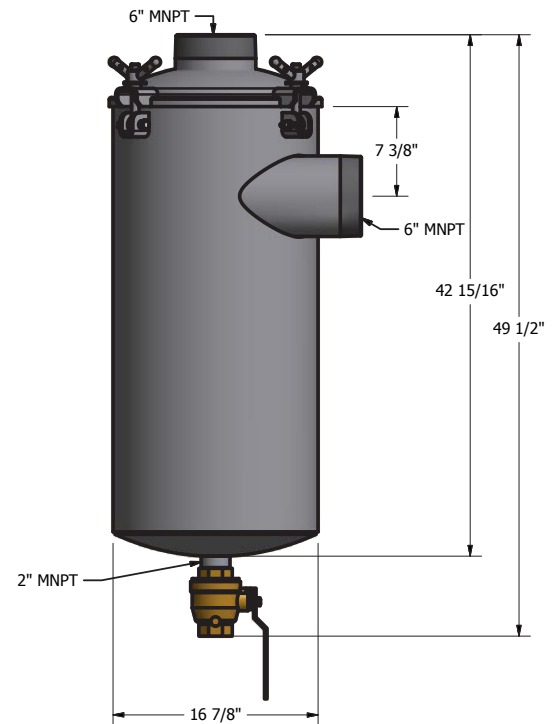
Available with
Lube Nuts

Secondary Shutoff - 45 Gallon Moisture Trap

DESCRIPTION	PART NUMBER	WEIGHT
MT 45 GAL 6" NPT CARBON	216-450-6NPT-C	179 lbs

Secondary Shutoff - 45 Gallon Moisture Trap | Parts List

ITEM	DESCRIPTION	PART NUMBER
1	MT BODY 45 GAL 6" NPT CARBON	CALL
8	WINGNUT ASSY: WINGNUT EYEBOLT CLEVIS COTTER PIN	284-KIT-C
8	WINGNUT ASSY SS 304: WINGNUT EYE-BOLT CLEVIS COTTER PIN	284-KIT-S
8	LUBENUT ASSY: LUBENUT EYEBOLT CLEVIS COTTER PIN	284-KIT-CLN
8	WINGNUT ASSY ASME SS LO-PRO	284-KIT-CS
9	GASKET 17" LID BUNA	286-706-17L
10	DRAIN VALVE BRASS 2"	288-200
10.1	NIPPLE CLOSE 2" BLK	428-200-2C
11	FLOAT BALL 8" STAINLESS STEEL	414-800-SS
12	CLAMP WORM 6" BALL SEATS	416-400-1WC
13	BALL SEAT 6" BUNA	416-600-B
17	LID 17" CARBON 6" NPT	CALL
17	LID 17" SS 6" NPT	CALL



Oil Catch Mufflers

Features:

- Pleated Stainless Steel Filter
- Carbon Steel Or Aluminum
- Bolted Closure On The 8" And 12" Carbon OCM
- 1" Drain Valve

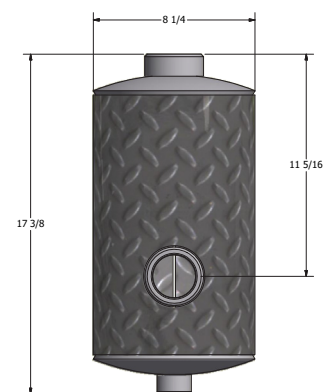
** 8-12" Diameter - TO 250-500 CFM

8" and 12" Oil Catch Mufflers - Vertical Orientation

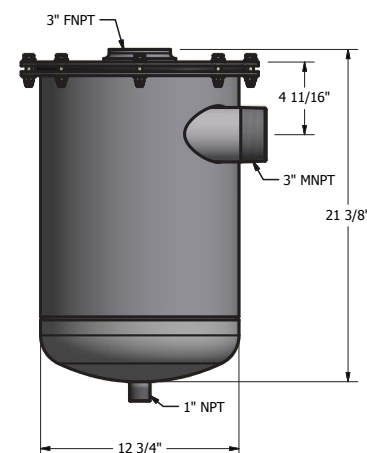
DESCRIPTION	PART NUMBER	WEIGHT
OCM 8" DIA 2" FPT ALU TREAD	212-800-2FP-A	13 lbs
OCM 12" DIA 3" NPT CARBON WITH BOLTED LID	212-120-3NPT	71 lbs
OCM 10" DIA X 17.5" NPT W/ HB	212-100-3NPT-4	65 lbs
OCM 12" DIA 4" NPT CARBON WITH BOLTED LID	212-120-4NPT	74 lbs

8" and 12" Oil Catch Mufflers - Vertical Orientation | Parts List

DESCRIPTION	PART NUMBER
GASKET BUNA 3/8" ROUND FOR 8" AND 12" OCM	286-375-RND-PF
DRAIN VALVE 1"	288-100



212-800-2FP-A



212-120-3NPT
212-120-4NPT

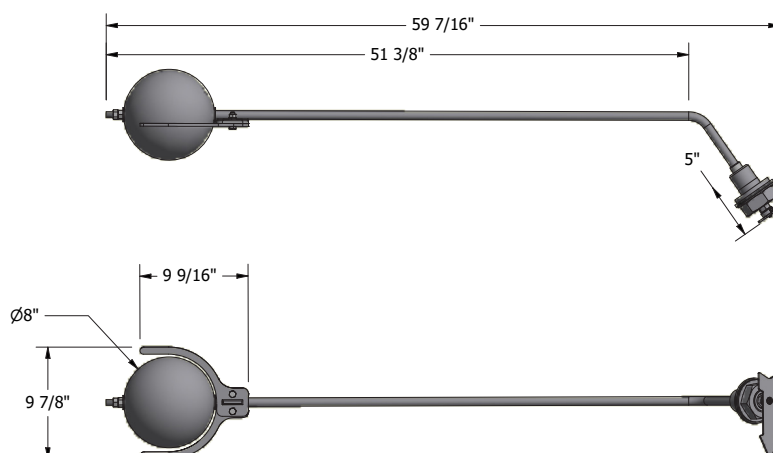
Float Level Indicators | ASME CODE & NON CODE

Features:

- High quality components and design keeps the product in the tank where it belongs, not leaking out the sides of your indicator.
- Available in carbon, aluminum and stainless steel weldable bases or available with a carbon thread in base.
- External indicator arrow.

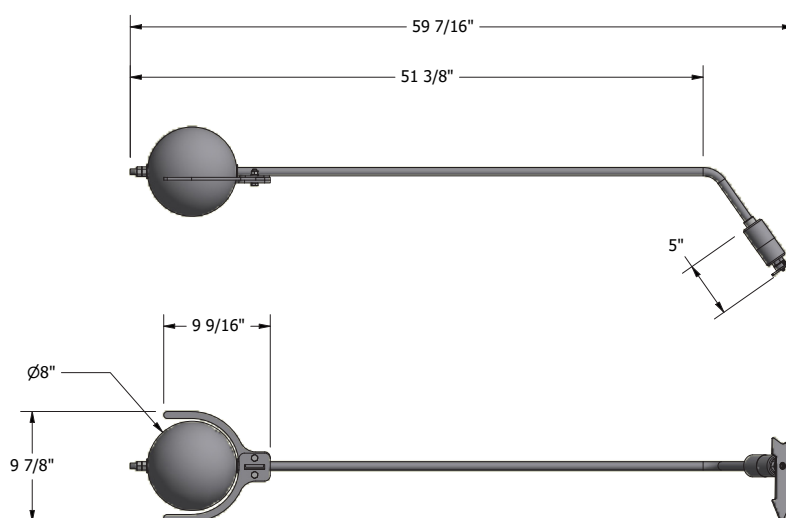
WARNING: The Float level indicator with the carbon steel, stainless steel and/or aluminum weld sleeve must be disassembled before installation. Failure to do so will cause heat damage to the internal components of the float level indicator.

The float level Indicator should be installed in the center line of the tank.



Weld In & Thread In Float Level Indicators

DESCRIPTION	PART NUMBER	WEIGHT
FLOAT LEVEL INDICATOR 8" CARBON - THREADED - NON CODE	400-319-8CT	14 lbs
FLOAT LEVEL INDICATOR 8" CARBON - WELD - NON CODE	400-319-8CW	15 lbs
FLOAT LEVEL INDICATOR 8" ALU - WELD - NON CODE	400-319-8AW	14 lbs
FLOAT LEVEL INDICATOR 8" SS- WELD - NON CODE	400-319-8SW	15 lbs
REPAIR KIT FLOAT LEVEL INDICATOR INCLUDES: GASKET, SEALS, BEARINGS, O-RINGS, & GREASE FITTING	400-319-0	.30 lbs
PARTS KIT, FLOAT LEVEL INDICATOR 8" INCLUDES: ARROW, SNAP RINGS AND BEARINGS	400-319-KIT	1



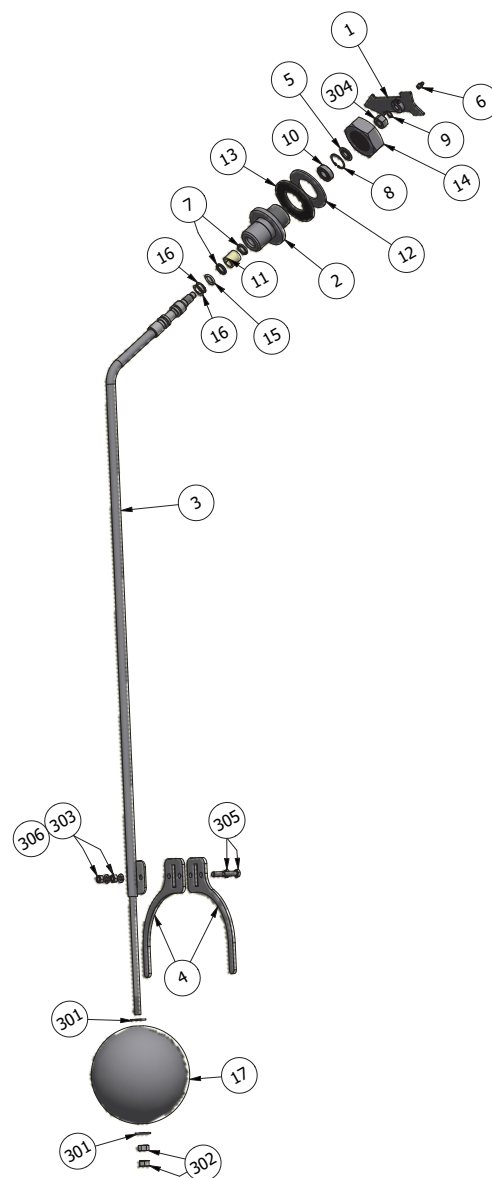
Weld In Float Level Indicators - ASME Code

DESCRIPTION	PART NUMBER	WEIGHT
FLOAT LEVEL INDICATOR 8" CARBON - WELD - ASME CODE	400-320-8CW	15 lbs
FLOAT LEVEL INDICATOR 8" ALU - WELD - ASME CODE	400-320-8AW	14 lbs
FLOAT LEVEL INDICATOR 8" SS - WELD - ASME CODE	400-320-8SW	15 lbs
REPAIR KIT FLOAT LEVEL INDICATOR INCLUDES: GASKET, SEALS, BEARINGS, O-RINGS, & GREASE FITTING	400-319-0	.30 lbs
PARTS KIT, FLOAT LEVEL INDICATOR 8" INCLUDES: ARROW, SNAP RINGS AND BEARINGS	400-319-KIT	1

Float Level Indicators | NON CODE

Float Level Indicators | Replacement Parts List

ITEM	DESCRIPTION	PART NUMBER
1	FLOAT ARM ARROW SS	400-002-319
2	FLOAT LEVEL HOLDER, CARBON THREADED	400-006-319-CT
	FLOAT LEVEL HOLDER, CARBON WELDED	400-006-319-CW
	FLOAT LEVEL HOLDER, ALUMINUM WELDED	400-006-319-AW
	FLOAT LEVEL HOLDER, STAINLESS WELDED	400-006-319-SW
3	FLOAT LEVEL INDICATOR 8" SS WELD TELESCOPIC	400-011-319
4	FLOAT BALL GUARD	400-014-319-8B
5	WASHER 5/8 STEPPED SS	400-016-319
6	GREASE FITTING 5/16-24 UNF	400-020-319
7	SEAL, .75 ROD, U-CUP	400-022-319
8	SNAP RING INTERNAL 1.378 BORE	400-024-319
9	SNAP RING EXTERNAL .500 SHAFT	400-026-319
10	BEARING 6003 2RS 35MM X 17MM X 10	400-028-319
11	BEARING, SLEEVE	400-030-319
12	FLOAT LEVEL WASHER 3.75" SS	400-008-319
13	GASKET THD'D INSERT VITON	400-018-319
14	NUT JAM 2" - 12UN PLAIN	400-038-319
15	ORING, 2-210 VITON	400-040-319
16	BACKUP RING, SCARF CUT	400-042-319
17	FLOAT BALL 8" SS THRU TUBE 5/8" ID 3/4 OD FOR 1/2" ROD	414-800-TT
301	FLAT WASHER - 1/2" SS	FW - 1/2 SS
302	HEX NUT - 1/2 UNC - SS	HEX NUT - 1/2 UNC - SS
303	HEX NUT - 3/8 UNC - SS	HEX NUT - 3/8 UNC - SS
304	HEX NUT - 5/8 UNC - SS	HEX NUT - 5/8 UNC - SS
305	HEX HEAD CAP SCREW - 3/8-16 UNC X 1.25" SS	HHCS - 3/8-16 UNC X 1.25 SS
306	LOCK WASHER, 3/8 SS	LW - 3/8 SS

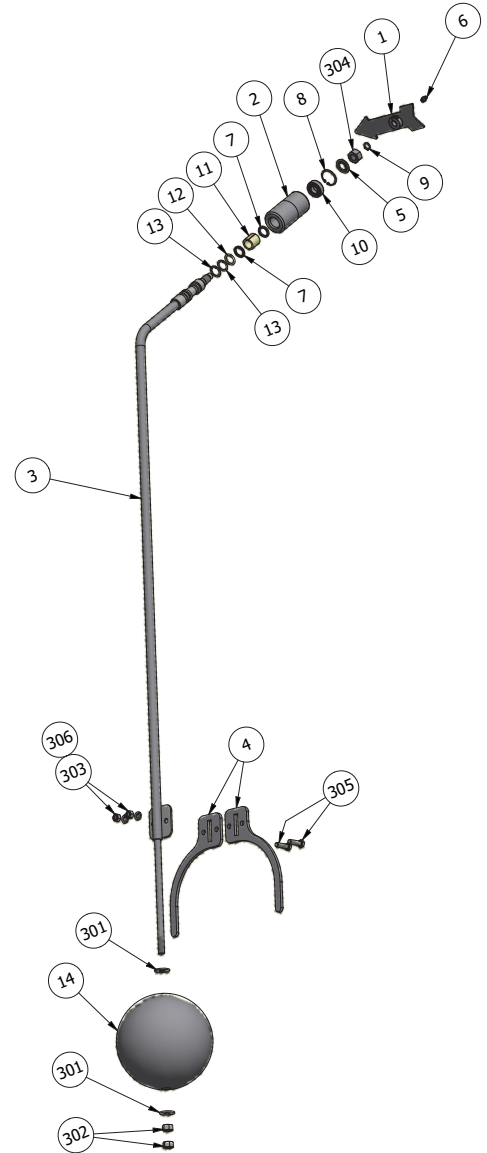


Float Level Indicators | ASME CODE



Float Level Indicators | Replacement Parts List

ITEM	DESCRIPTION	PART NUMBER
1	FLOAT ARM ARROW SS	400-002-319
2	FLOAT LEVEL HOLDER, CARBON	400-006-320-CW
	FLOAT LEVEL HOLDER, STAINLESS	400-006-320-AW
	FLOAT LEVEL HOLDER, ALUM	400-006-320-SW
3	FLOAT LEVEL INDICATOR 8" SS WELD TELESCOPIC	400-011-319
4	FLOAT BALL GUARD	400-014-319-8B
5	WASHER 5/8 STEPPED SS	400-016-319
6	GREASE FITTING 5/16-24 UNF	400-020-319
7	SEAL, .75 ROD, U-CUP	400-022-319
8	SNAP RING INTERNAL 1.378 BORE	400-024-319
9	SNAP RING EXTERNAL .500 SHAFT	400-026-319
10	BEARING 6003 2RS 35MM X 17MM X 10	400-028-319
11	BEARING, SLEEVE	400-030-319
12	ORING, 2-210 VITON	400-040-319
13	BACKUP RING, SCARF CUT	400-042-319
14	FLOAT BALL 8" SS THRU TUBE 5/8" ID 3/4 OD FOR 1/2" ROD	414-800-TT
301	FLAT WASHER - 1/2" SS	FW - 1/2 SS
302	HEX NUT - 1/2 UNC - SS	HEX NUT - 1/2 UNC - SS
303	HEX NUT - 3/8 UNC - SS	HEX NUT - 3/8 UNC - SS
304	HEX NUT - 5/8 UNC - SS	HEX NUT - 5/8 UNC - SS
305	HEX HEAD CAP SCREW - 3/8-16 UNC X 1.25" SS	HHCS - 3/8-16 UNC X 1.25 SS
306	LOCK WASHER, 3/8 SS	LW - 3/8 SS



12" Portals | ASME Code

Features:

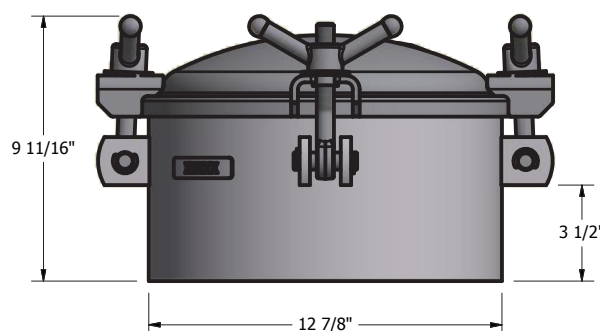
- Gasket on Lid Design
- Wingnut Closure
- 5/8" Square Buna Gasket



Meets requirements of DOT Spec. 178.345.5

12" Portals - ASME Code

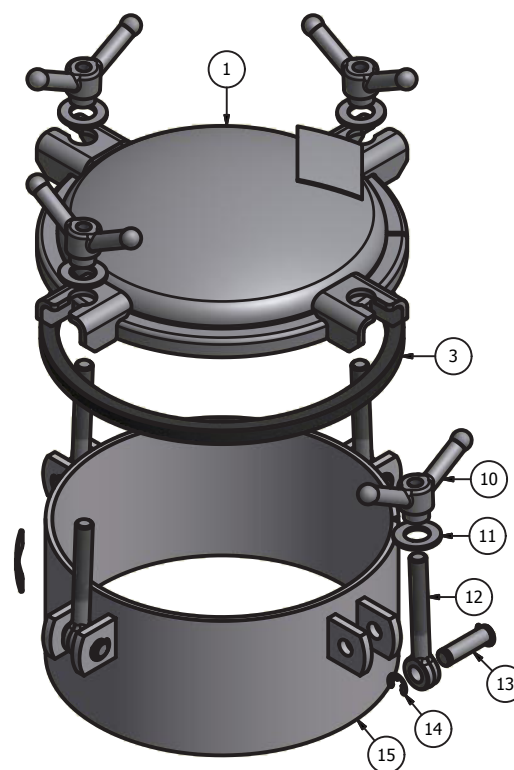
DESCRIPTION	PART NUMBER	WEIGHT
PORTAL 12" X 6" ASME CODE CARBON	240-1206	42 lbs
PORTAL 12" X 10" ASME CODE CARBON	240-1210	51 lbs
PORTAL 12" X 12" ASME CODE CARBON	240-1212	58 lbs
PORTAL 12" X 6" ASME CODE ALU NECK SS LID	244-1206	25 lbs
PORTAL 12" X 6" ASME CODE SS	248-1206	37 lbs
PORTAL 12" X 12" ASME CODE SS	248-1212	54 lbs



12" Portals - ASME Code | Parts List

ITEM	DESCRIPTION	PART NUMBER
1	LID 12" ASME CODE	252-120-CC
1	LID 12" SS ASME CODE	252-120-CS
10	WINGNUT ASME CODE PLATED W/ WASHER	284-101-CCP
5	WINGNUT ASME CODE LO-PRO SS POLISHED	284-100-CSP
12	EYEBOLT 6.0" X 0.625" ASME CARBON PLATED	284-351-1CC
12	EYEBOLT 4.5" X 0.625" ASME SS POLISH	284-350-1SP
13	CLEVIS PIN ASME SS	284-400-1CS
14	E-CLIP 0.625" DIA ASME SS	284-450-1CS
3	GASKET 12" LID AND NECK BUNA	286-706-12L

*Necks sold ONLY as complete manway.



20" Manways | ASME Code

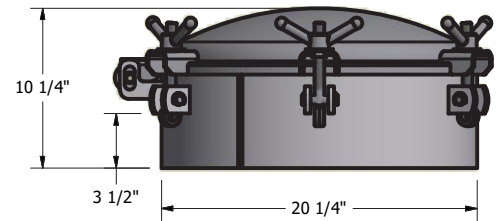
Features:

- Gasket on Lid Design
- 5/8" Square Buna Gasket
- Available in Aluminum, Carbon and Stainless Steel Necks
- Stainless Steel Fasteners on Stainless Steel Manways



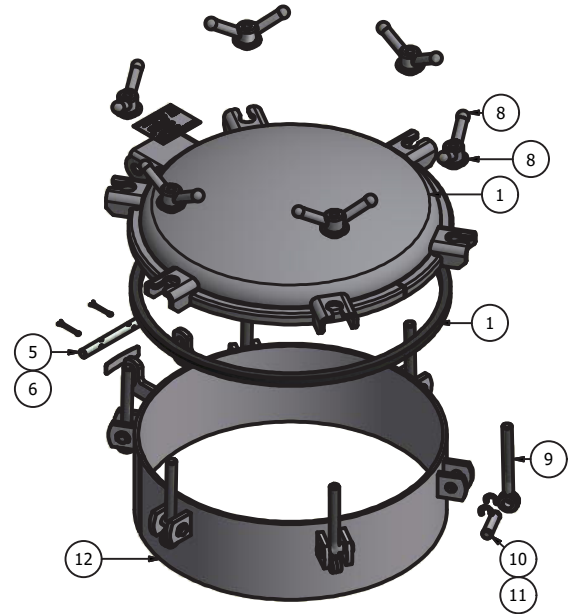
20" Manways - Non-Code

DESCRIPTION	PART NUMBER	WEIGHT
MANWAY 20" X 6" ASME CODE CARBON	242-2006	73 lbs
MANWAY 20" X 10" ASME CODE CARBON	242-2010	89 lbs
MANWAY 20" X 12" ASME CODE CARBON	242-2012	99 lbs
MANWAY 20" X 18" ASME CODE CARBON	242-2018	145 lbs
MANWAY 20" X 6" ASME CODE ALU	246-2006	52 lbs
MANWAY 20" X 9" ASME CODE ALU	246-2009	56 lbs
MANWAY 20" X 6" ASME CODE SS	250-2006	72 lbs
MANWAY 20" X 12" ASME CODE SS	250-2012	98 lbs



20" Manways - Non-Code | Parts List

ITEM	DESCRIPTION	PART NUMBER
1	LID 20" ASME CODE CARBON	252-200-CC
1	LID 20" ASME CODE SS	252-200-1CS
1	GASKET 20" LID AND NECK BUNA	286-706-20L
8	WINGNUT ASME CODE PLATED W/ WASHER CARBON	284-101-CCP
8	WINGNUT ASME CODE LO-PRO SS POLISHED	284-100-CSP
5	HINGE PIN CARBON	280-703-C
5	HINGE PIN CODE SS	280-703-CS
6	COTTER PIN .125" X 1.5" SS	280-704-S
9	EYEBOLT 6.0" X 0.625" ASME CARBON PLATED	284-351-1CC
9	EYEBOLT 4.5" X 0.625" ASME SS POLISHED	284-350-1SP
10	CLEVIS PIN ASME SS	284-400-1CS
11	E-CLIP 0.625" DIA ASME SS	284-450-1CS



12" Primary Shutoff | ASME Code

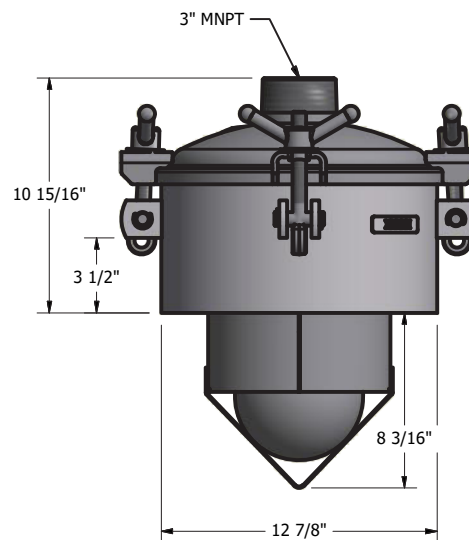


Features:

- 8" Corrosion Resistant Stainless Steel Ball Cage
- 6" Stainless Steel Float Ball
- 3" or 4" Buna Ball Seat
- Wingnut Closure
- 5/8" Square Buna Gasket

12" Primary Shutoff - ASME Code Assemblies

DESCRIPTION	PART NUMBER	WEIGHT
PSO 12" X 6", 3" NPT ASME CODE CARBON	240-1206-3NPT	48 lbs
PSO 12" X 6", 4" NPT ASME CODE CARBON	240-1206-4NPT	49 lbs
PSO 12" X 10", 3" NPT ASME CODE CARBON	240-1210-3NPT	60 lbs
PSO 12" X 12", 4" NPT ASME CODE CARBON	240-1212-4NPT	62 lbs
PSO 12" X 6", 3" NPT ASME CODE ALU NECK SS LID	244-1206-3NPT	35 lbs
PSO 12" X 6", 4" NPT ASME CODE ALU NECK SS LID	244-1206-4NPT	38 lbs
PSO 12" X 6", 3" NPT ASME CODE SS	248-1206-3NPT	46 lbs
PSO 12" X 6", 4" NPT ASME CODE SS	248-1206-4NPT	48 lbs
PSO 12" X 6", 4" STUB ASME CODE SS	248-1206-4STU	48 lbs

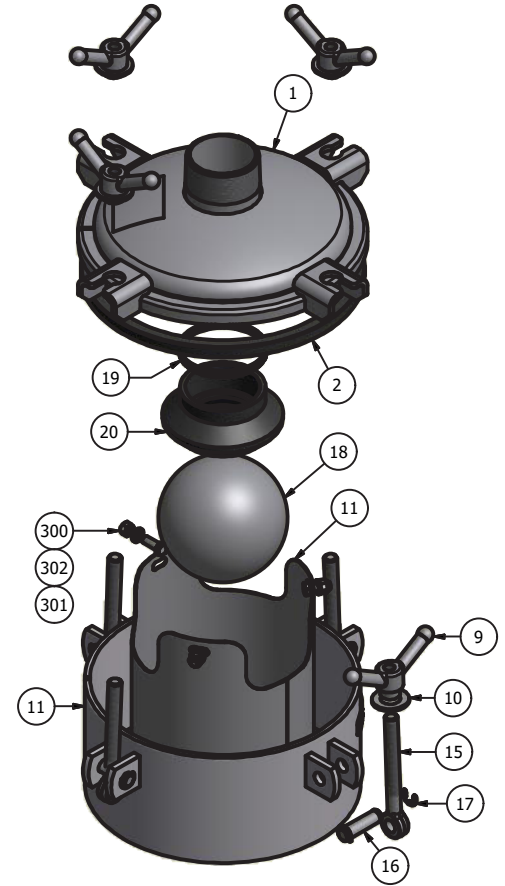


12" Primary Shutoff | ASME Code



12" Primary Shutoff - ASME Code Assemblies | Parts List

ITEM	DESCRIPTION	PART NUMBER
1	LID 12" PSO 3" NPT ASME CODE CARBON	CALL
1	LID 12" PSO 4" NPT ASME CODE CARBON	CALL
1	LID 12" PSO 3" NPT ASME CODE SS	252-120-3NPT-CS
1	LID 12" PSO 4" NPT ASME CODE SS	CALL
1	LID 12" PSO 4" STUB ASME CODE SS	CALL
2	GASKET 12" LID AND NECK BUNA	286-706-12L
9	WINGNUT ASME CODE PLATED W/ WASHER	284-101-CCP
9	WINGNUT ASME CODE LO-PRO SS POLISHED	284-100-CSP
9	EYEBOLT 6.0" X 0.625" ASME CARBON PLATED	284-351-1CC
9	EYEBOLT 4.5" X 0.625" ASME SS POLISHED	284-350-1CSP
16	CLEVIS PIN ASME SS	284-400-1CS
17	E-CLIP 0.625" DIA ASME SS	284-450-1CS
18	FLOAT BALL 6" SS	414-600-SS
19	CLAMP WORM 3" BALL SEATS	416-300-1WC
19	CLAMP WORM 4" BALL SEATS	416-400-1WC
20	BALL SEAT 3" BUNA	416-300-B
20	BALL SEAT 4" BUNA	416-400-B
11	BALL CAGE 8" 304 STAINLESS STEEL	282-800-1S
11.1	BOLT TAB LID SHUTOFF CODE SS	740-103-CS
11.1	BOLT TAB LID SHUTOFF CODE CARBON	740-103-CC
300	HEX NUT 3/8" SS	
301	HEX HEAD CAP SCREW 3/8" X 1" SS	
302	LOCK WASHER 3/8" SS	



20" Primary Shutoff | ASME Code

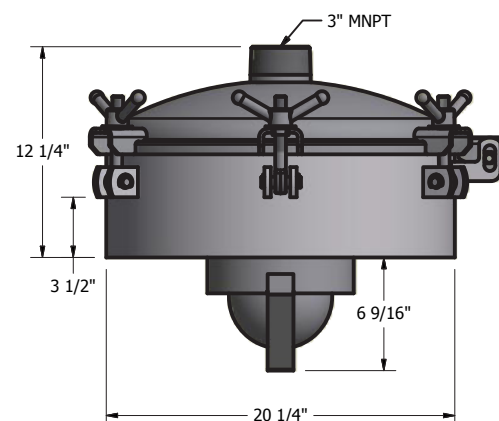


Features:

- Gasket On Lid Design
- Wingnut Closure
- Weldable Neck Available In Carbon, Stainless Steel And Aluminum
- 5/8" Square Buna Gasket
- 8" Or 10" Corrosion Resistant Ss Ball Cage
- 6" Or 8" Stainless Steel Float Ball

20" Primary Shutoff - ASME Code Assemblies

DESCRIPTION	PART NUMBER	WEIGHT
PSO 20" X 6" CARBON NECK, 3" NPT CARBON LID, ASME CODE	242-2006-3NPT	81 lbs
PSO 20" X 6" CARBON NECK, 4" NPT CARBON LID, ASME CODE	242-2006-4NPT	84 lbs
PSO 20" X 6" CARBON NECK, 6" NPT CARBON LID, ASME CODE	242-2006-6NPT	88 lbs
PSO 20" X 12" CARBON NECK, 3" NPT CARBON LID, ASME CODE	242-2012-3NPT	96 lbs
PSO 20" X 6" ALU NECK, 3" NPT SS LID, ASME CODE	246-2006-3NPT	60 lbs
PSO 20" X 9" ALU NECK, 3" NPT SS LID, ASME CODE	246-2009-3NPT	70 lbs
PSO 20" X 9" ALU NECK, 4" STUB SS LID, ASME CODE	246-2009-4STU	71 lbs
PSO 20" X 10" ALU NECK, 6" NPT SS LID, ASME CODE	246-2010-6NPT	77 lbs
PSO 20" X 10" SS NECK, 6" NPT SS LID, ASME CODE	250-2010-6NPT	97 lbs

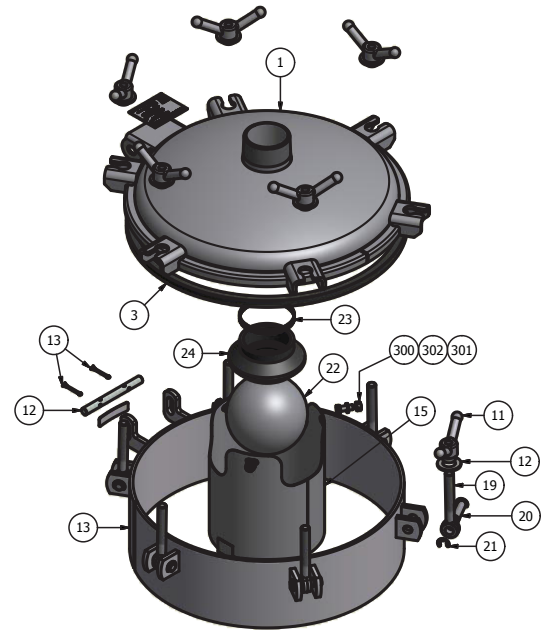


20" Primary Shutoff | ASME Code Continued



20" Primary Shutoff - ASME Code Assemblies | Parts List

ITEM	DESCRIPTION	PART NUMBER
1	LID 20", 3" NPT CARBON, ASME CODE	CALL
1	LID 20", 3" NPT SS, ASME CODE	CALL
1	LID 20", 4" NPT CARBON, ASME CODE	CALL
1	LID 20", 4" NPT SS, ASME CODE	CALL
1	LID 20", 6" NPT CARBON, ASME CODE	CALL
1	LID 20", 6" NPT SS, ASME CODE	CALL
1	GASKET 19.5" LID BUNA	286-706-20L
12	HINGE PIN CARBON	280-703-C
12	HINGE PIN, CODE SS	280-703-CS
13	COTTER PIN .125" X 1.5" SS	280-704-S
15	BALL CAGE 10" 304 SS	282-100-1S
15	BALL CAGE 8" 304 SS	282-800-1S
15.1	BOLT TAB LID SHUTOFF CODE SS	740-103-CS
15.1	BOLT TAB LID SHUTOFF CODE CARBON	740-103-CC
11	WINGNUT ASME CODE LO-PRO SS POLISHED	284-100-CSP
11	WINGNUT ASME CODE PLATED W/ WASHER	284-101-CCP
19	EYEBOLT 4.5" X 0.625" ASME SS POLISHED	284-350-1CSP
19	EYEBOLT 6.0" X 0.625" ASME CARBON PLATED	284-351-1CC
20	CLEVIS PIN ASME SS	284-400-1CS
21	E-CLIP 0.625" DIA ASME SS	284-450-1CS
22	FLOAT BALL 6" SS	414-600-SS
22	FLOAT BALL 8" SS	414-800-SS
23	CLAMP WORM 3" BALL SEATS	416-300-1WC
23	CLAMP WORM 4" BALL SEATS	416-400-1WC
23	CLAMP WORM 6" BALL SEATS	416-600-1WC
24	BALL SEAT 3" BUNA	416-300-B
24	BALL SEAT 4" BUNA	416-400-B
24	BALL SEAT 6" BUNA	416-600-B
300	HEX NUT 3/8" SS	
301	HEX HEAD CAP SCREW 3/8" X 1" SS	
302	LOCK WASHER 3/8" SS	



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Notes

[illegible]

DESIGNED. BUILT. SUPPORTED.

Produced in the USA | Distributed World-Wide

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sales@vacpump.com

NVE
National Vacuum Equipment, Inc.

Challenger **Series**
VACUUM PUMPS & BLOWERS