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MADE IN THE USA

# FABRICATION PRODUCT CATALOG



**NVE**  
National Vacuum Equipment

**Challenger Series**  
VACUUM PUMPS & BLOWERS

## Table Of Contents

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### Non-Code Products

#### Primary Shutoffs

8" Low Profile Lid .....	4
12" Low Profile Lid .....	5
12" Primary .....	6
20" Primary .....	7
20" Primary - Cast Aluminium .....	9
2", 3", 4" and 6" NPT Shutoff Assemblies.....	10

#### Manways & Portals

12" Portals .....	11
20" Manways.....	12
20" Manways - Cast Aluminum Lid.....	14
36" Manways.....	15

#### Secondary Shutoffs

4 Gallon .....	16
4 Gallon Low Profile.....	17
10 & 14 Gallon.....	18
10 & 14 Gallon Low Profile.....	20
25 Gallon .....	21
45 Gallon .....	22

#### Oil Catch Mufflers

8" Oil Catch Mufflers.....	23
8" Oil Catch Mufflers Aluminum.....	23
12" Oil Catch Mufflers Bolt-In Lid.....	23
12" Oil Catch Muffler.....	23

#### Float Level Indicators

Float level indicator .....	24
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### ASME Code Products

#### Float Level Indicators

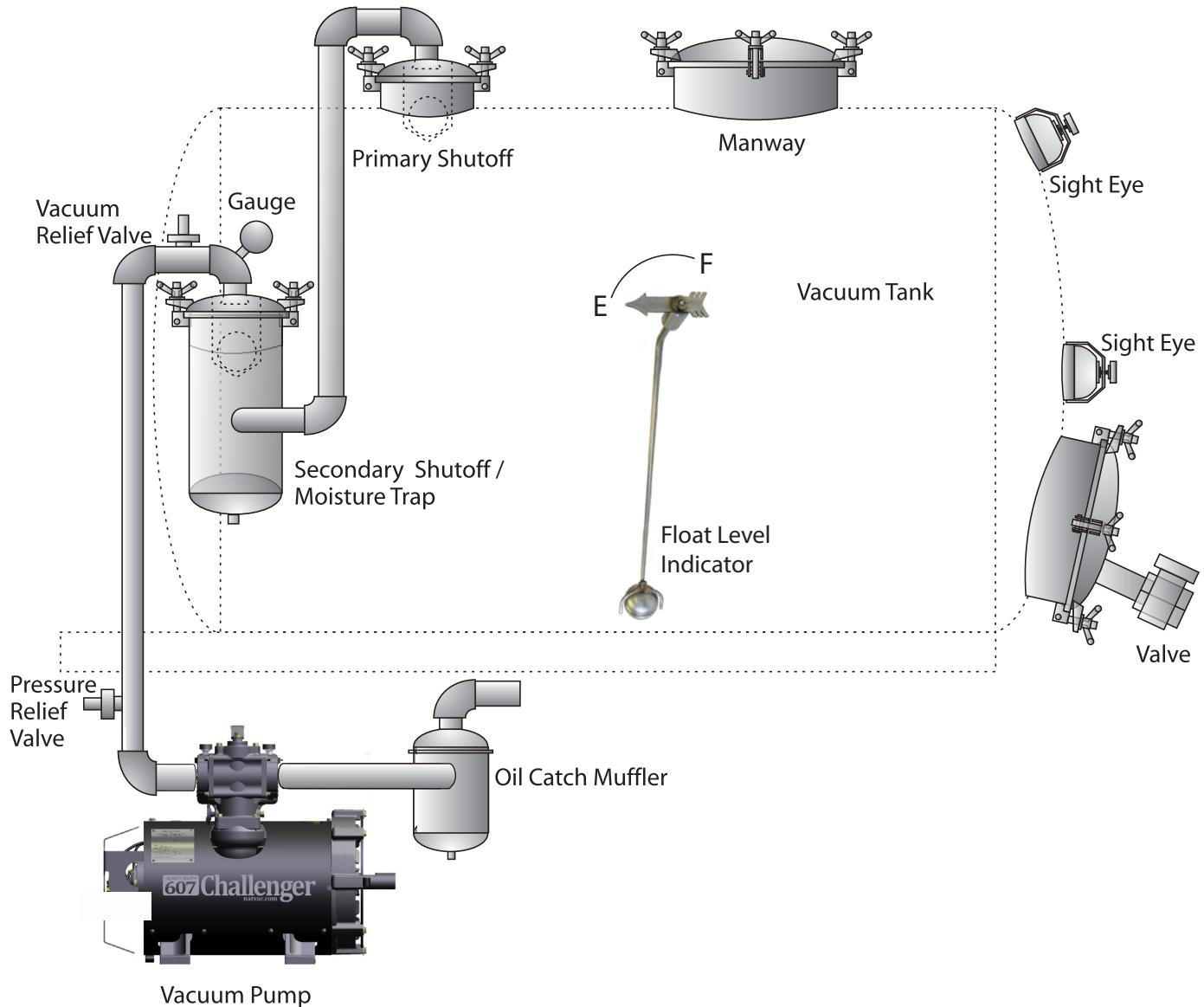
Float level indicator .....	24
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#### Manways & Portals

12" Portals .....	26
20" Manways .....	27

#### Primary Shutoffs

12" Carbon Lid .....	28
20" Carbon Lid .....	29



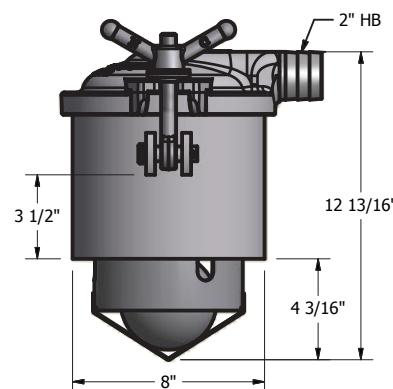
## 8" Low Profile | Primary Shutoff - Aluminum Lid

### 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

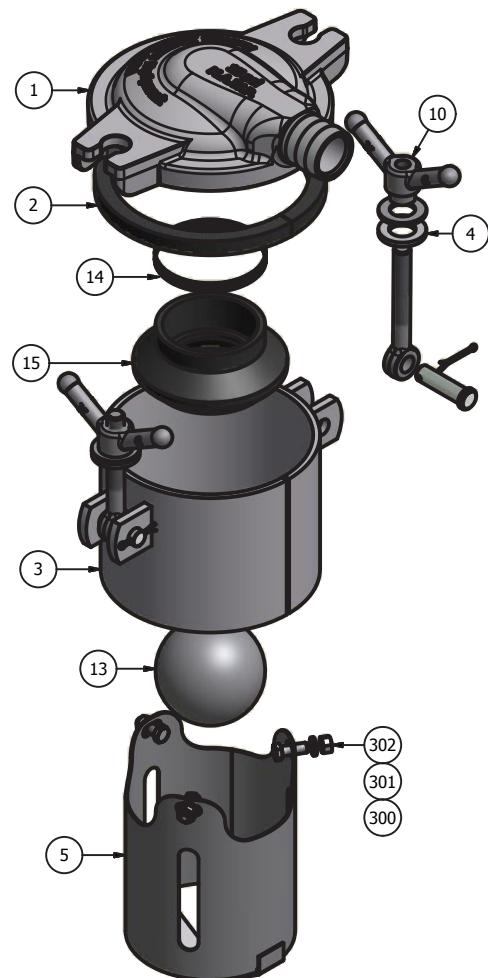


### 8" Low Profile Primary Shutoff

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

### 8" Low Profile Primary Shutoff | Replacement Parts

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

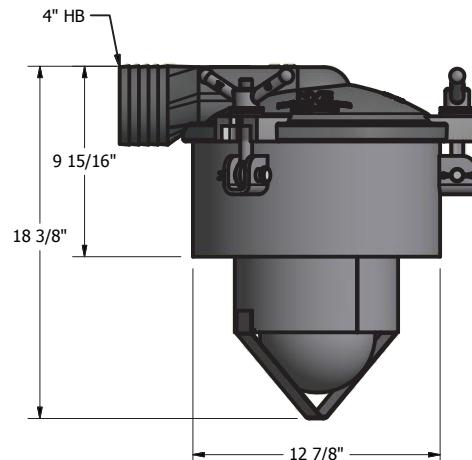


## Features:

- 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

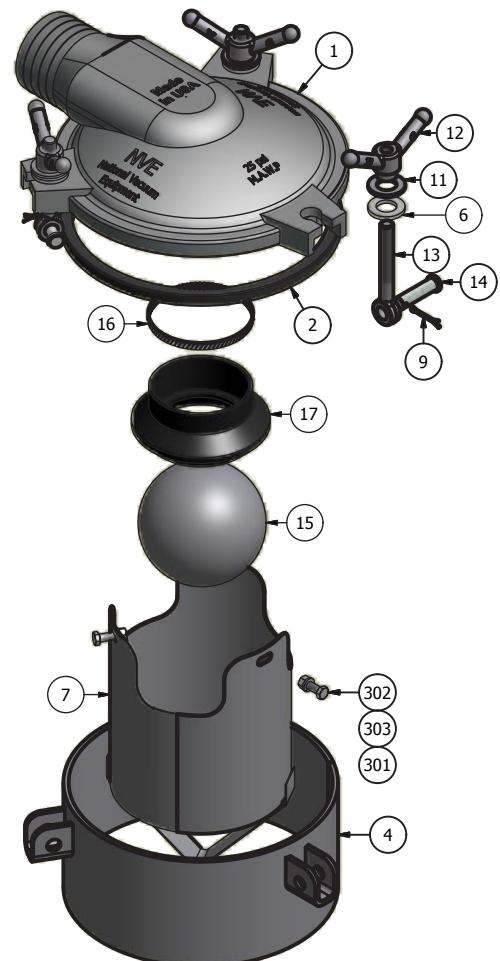


## 12" Low Profile Primary Shutoff

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

## 12" Low Profile Primary Shutoff | Replacement Parts

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



## 12" Primary Shutoff

### Features:

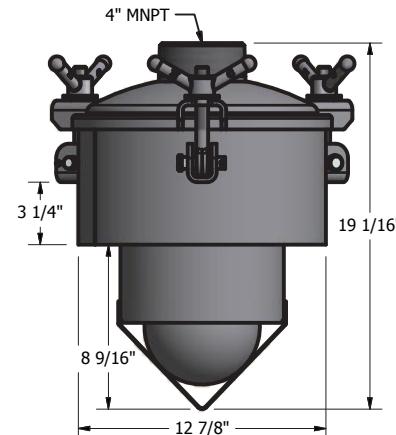
- Weldable neck available in Carbon, Stainless Steel, and Aluminum
- 8" Corrosion Resistant Stainless Steel Ball Cage
- 6" Stainless Steel Float Ball
- 3" or 4" NPT Connection
- Wingnut Closure
- 5/8" Square Buna Gasket



Available with  
Lube Nuts

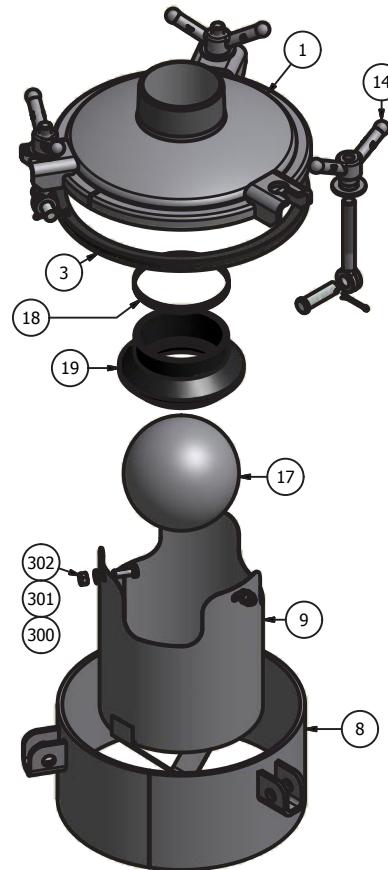
### 12" Primary Shutoff

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



### 12" Primary Shutoff | Replacement Parts

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

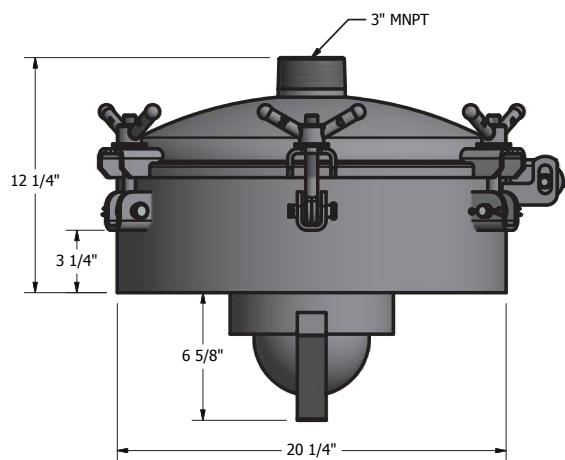


**Features:**

- 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**

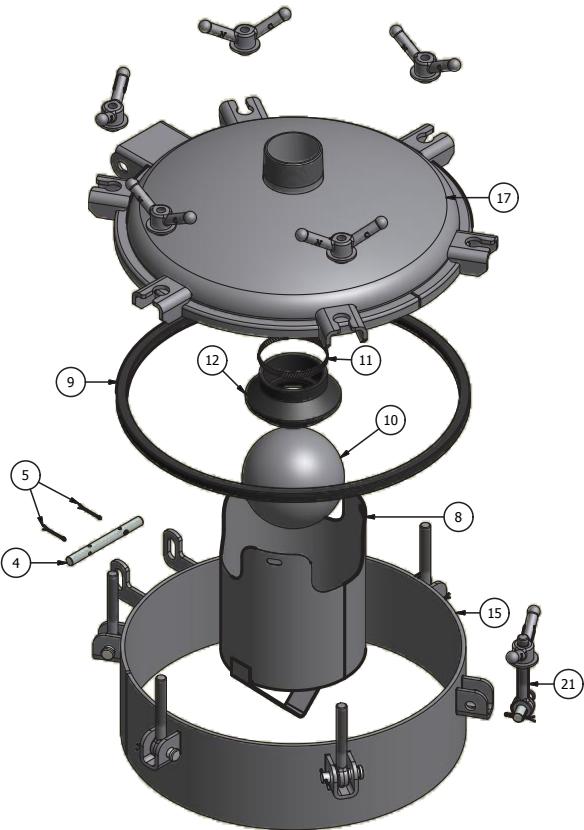
PART NUMBER	DESCRIPTION	WEIGHT
202-2006-3NPT	PSO 20" X 6" CARBON BASE, CARBON LID 3" NPT	80 lbs
202-2006-4NPT-10	PSO 20" X 6" CARBON BASE, CARBON LID 4" NPT, 10" CAGE	89 lbs
202-2006-6NPT	PSO 20" X 6" CARBON BASE, CARBON LID 6" NPT	90 lbs
202-2012-3NPT	PSO 20" X 12" CARBON BASE, CARBON LID 3" NPT	66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



## 20" Primary Shutoff

### 20" Primary Shutoff | Parts List

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



## 20" Primary Shutoff

# Challenger Series



### Features:

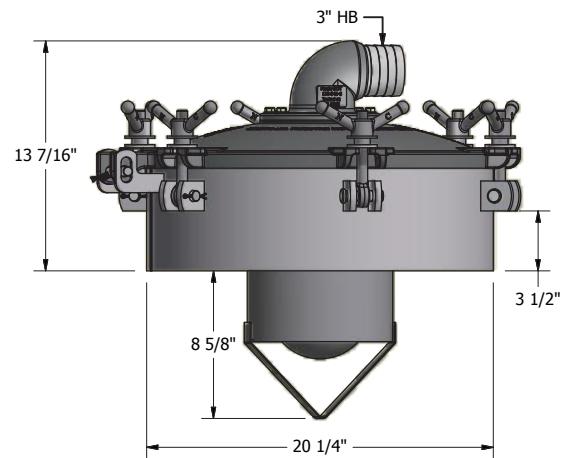
- 8" or 10" Corrosion Resistant Stainless Steel Ball Cage
- 6" or 8" Stainless Steel Float Ball
- 2" or 3" Hose Barb or 4" NPT Connection
- Wingnut Closure
- 5/8" Square Buna Gasket



Available with  
Lube Nuts

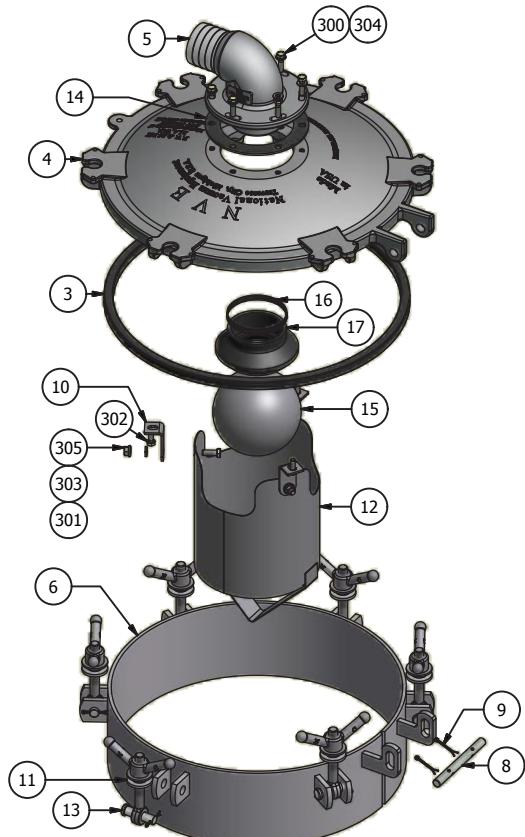
### 20" Primary Shutoff | Parts List

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



### 20" Primary Shutoff | Replacement Parts

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

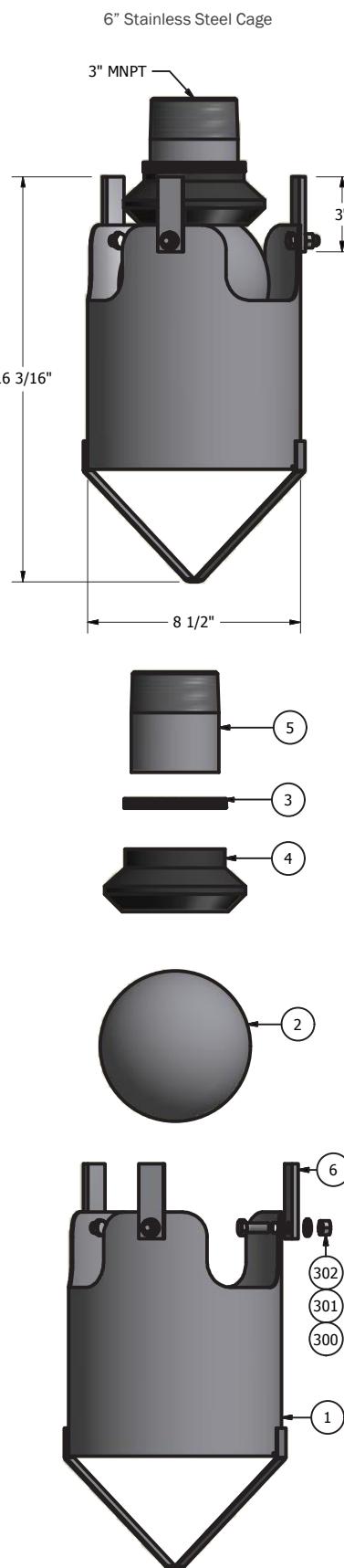
### Shutoff Assemblies - 2", 3", 4" and 6" NPT Connection

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

For Installation in Carbon Steel Units

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

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

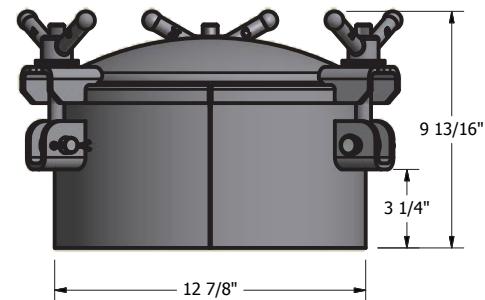


**Features:**

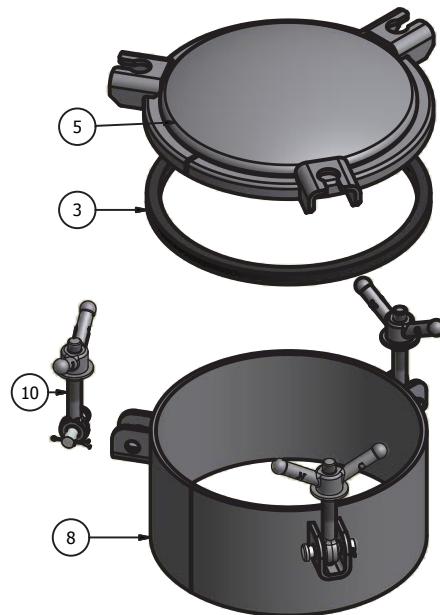
- Gasket on Lid Design
- Wingnut Closure (3)
- 5/8" Square Buna Gasket
- Available with following Neck materials: Carbon, Stainless Steel, or Aluminum

Available with  
Lube Nuts**12" Portals - Non-Code**

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

**12" Portals - Non-Code | Parts List**

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



## 20" Manways | Non-Code

### Features:

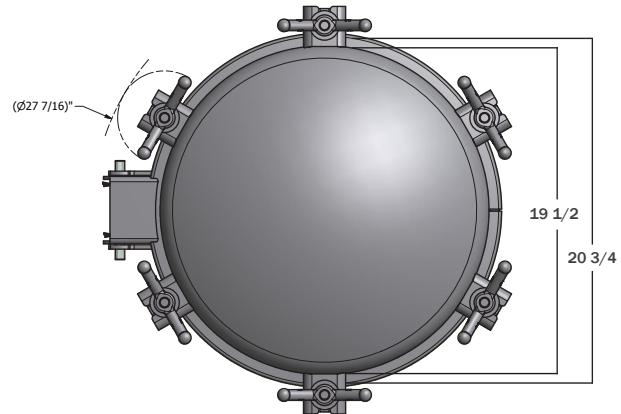
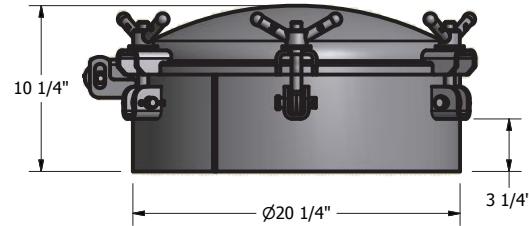
- Gasket on Lid Design
- Lubenut or Wingnut Closure (5 and 6 Wingnut options)
- 5/8" Square Buna Gasket
- Available in Aluminum, Carbon and Stainless Steel Necks
- Stainless Steel Fasteners on Stainless Steel Manways



Available with  
Lube Nuts

### 20" Manways - Non-Code

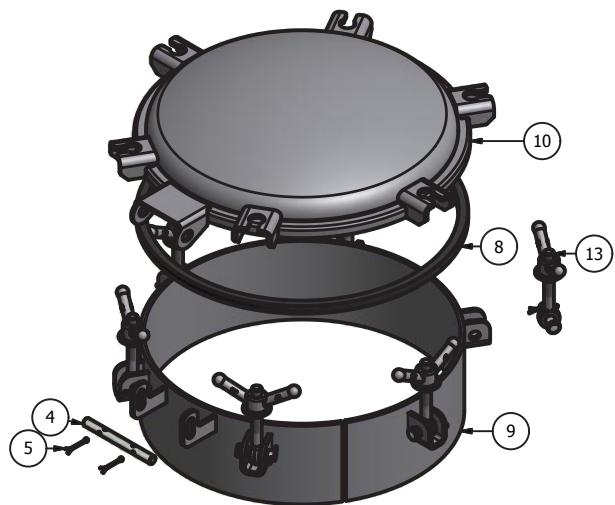
PARTNUMBER	DESCRIPTION	WEIGHT
202-2006	MANWAY 20" X 6" GOL CARBON - 6 WN	72 lbs
202-2012	MANWAY 20" X 12" GOL CARBON - 6 WN	88 lbs
206-2006-AS	MANWAY 20" X 6" ALU NECK SS LID - 6 WN	51 lbs
206-2009-AS	MANWAY 20" X 9" ALU NECK SS LID - 6 WN	56 lbs
206-2012-AS	MANWAY 20" X 12" ALU NECK SS LID - 6 WN	59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





## 20" Manways - Non-Code | Parts List

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



## 20" Manways - Cast Aluminum Lid | Non-Code

### Features:

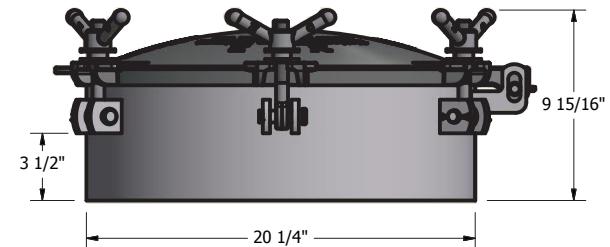
- Cast Aluminum Lid assemblies available with;
  - Lubenut Fasteners
  - Wingnut Fasteners
- Gasket on Lid Design
- 5/8" Square Buna Gasket
- Weldable 20" Necks Available In Aluminum, Carbon And Stainless Steel Necks



Available with  
Lube Nuts

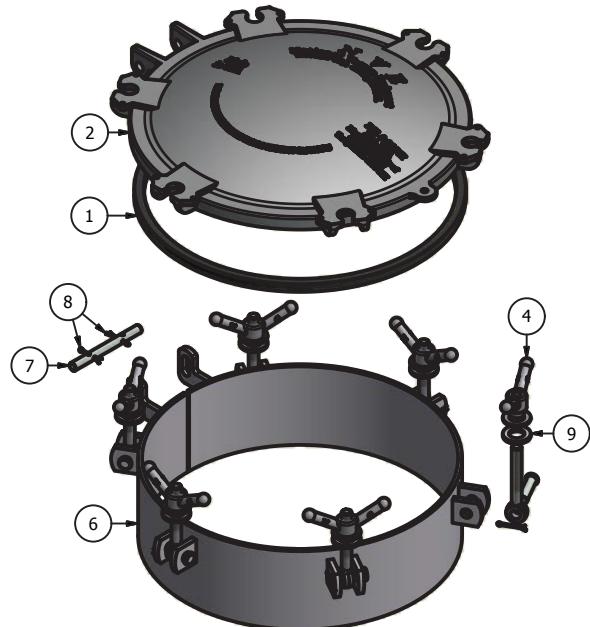
### 20" Manways Cast Aluminum Lid - Non-Code | Parts List

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



### 20" Manways - Non-Code | Parts List

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

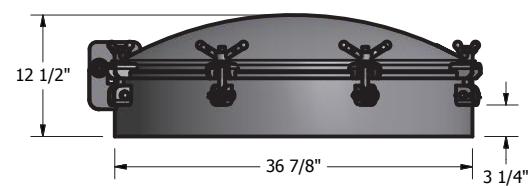


**Features:**

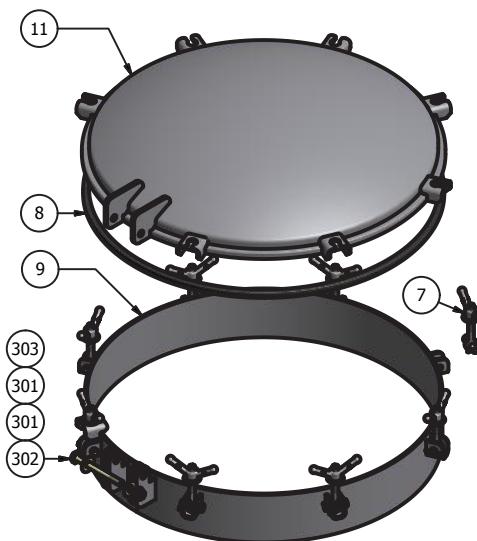
- Gasket on Lid (GOL) Wingnut Closure (8 Wingnut)
- 5/8" Square Buna Gasket
- Available With Carbon Or Aluminum Neck

Available with  
Lube Nuts**36" Manways - Non-Code**

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

**36" Manways - Non-Code | Parts List**

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



## Secondary Shutoffs | 4 Gallon Moisture Traps

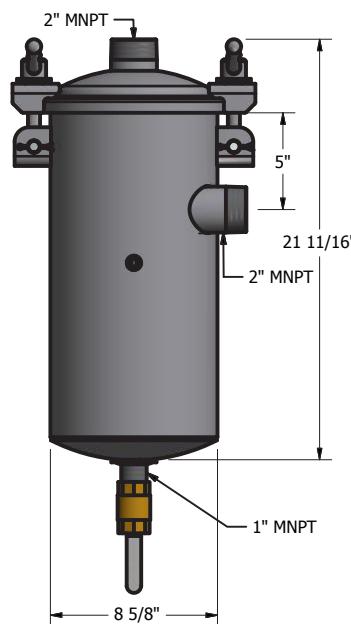
### FEATURES:

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



Available with  
Lube Nuts

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



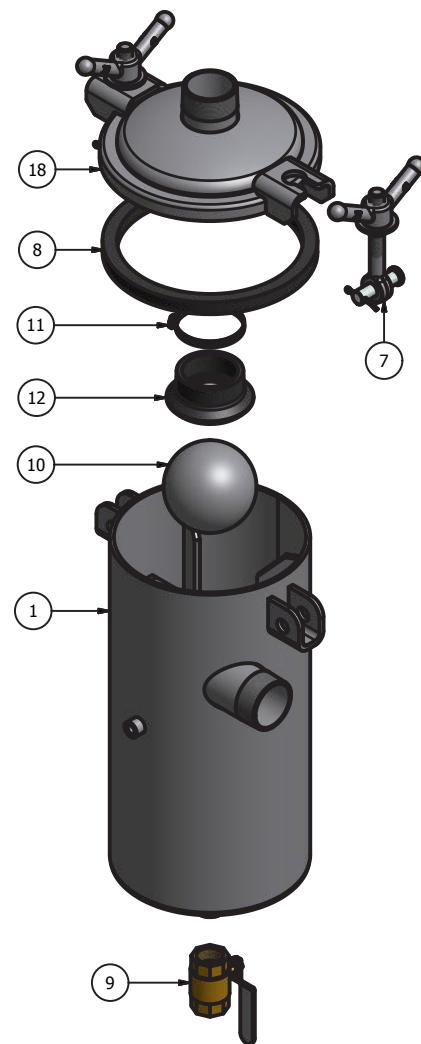
### Secondary Shutoff - 4 Gallon Moisture Traps

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

### Secondary Shutoff - 4 Gallon Moisture Traps

#### Parts List

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



## Secondary Shutoffs | 4 Gal. Low Profile Moisture Traps

**Challenger Series**



### 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]

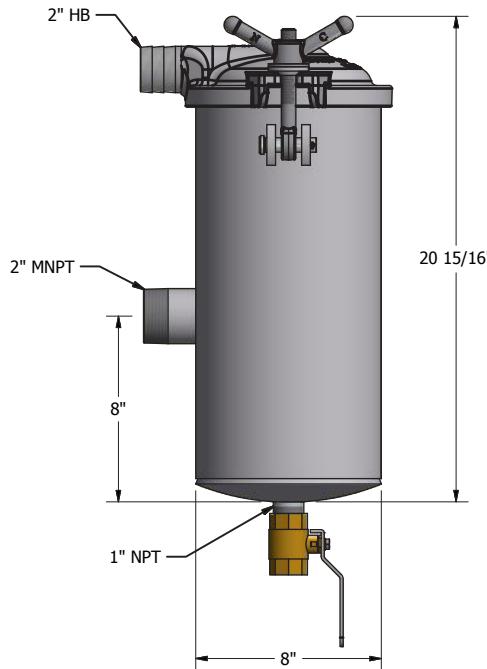
\*\*\*WARNING\*\*\* CFM RATINGS VARY WITH THE VOLATILITY OF THE PRODUCT BEING PUMPED  
\*\* 4 GALLON - TO 200 CFM

### Secondary Shutoff - 4 Gallon Low Profile Moisture Traps

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

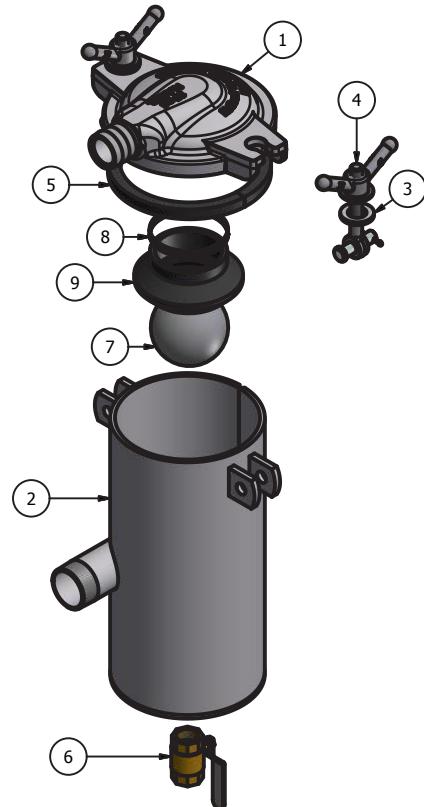


Available with Lube Nuts



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

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



## 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



Available with  
Lube Nuts

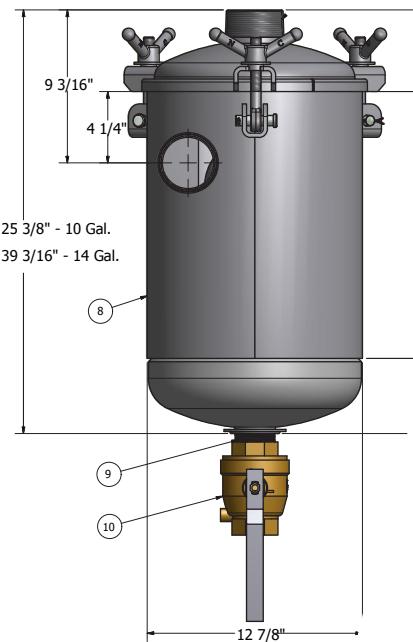
\*\*\*WARNING\*\*\* CFM RATINGS VARY WITH THE VOLATILITY OF THE PRODUCT BEING PUMPED

\*\* 10 GALLON - TO 400 CFM

\*\* 14 GALLON - TO 500 CFM

### Secondary Shutoff - 10 & 14 Gallon Moisture Trap

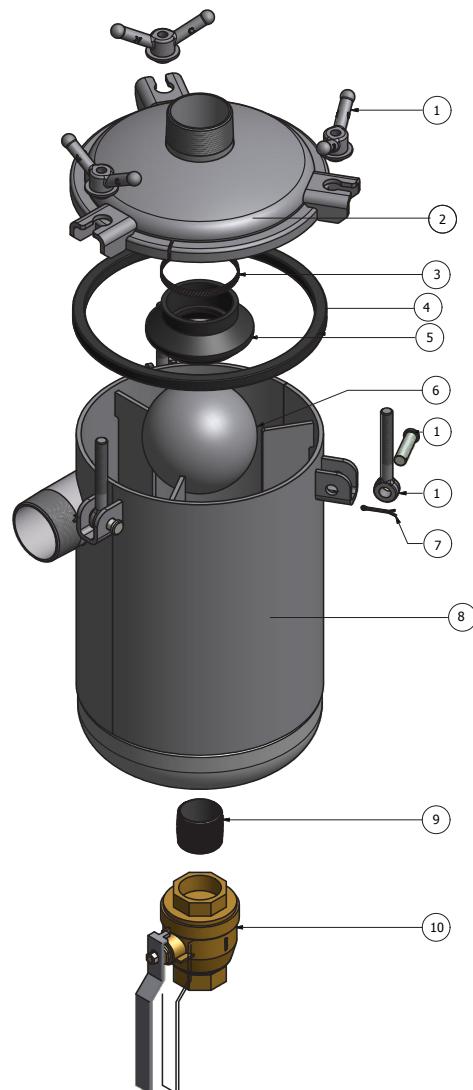
PART NUMBER	DESCRIPTION	WEIGHT
216-100-3NPT-C1	MT 10 GAL 3" NPT 1" DRAIN	93 lbs
216-100-3NPT-C	MT 10 GAL 3" NPT 2" DRAIN	95 lbs
216-100-3NPT-AS	MT 10 GAL ALU 3" NPT SS LID	48 lbs
216-100-3NPT-S	MT 10 GAL SS 3" NPT	60 lbs
216-100-4NPT-C	MT 10 GAL 4" NPT	98 lbs
216-100-4NPT-AS	MT 10 GAL ALU 4" NPT SS LID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





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

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

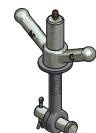


## Secondary Shutoffs | 10 & 14 Gal. Low Profile Moisture Traps

**ARMSTRONG  
EQUIPMENT  
INC.**

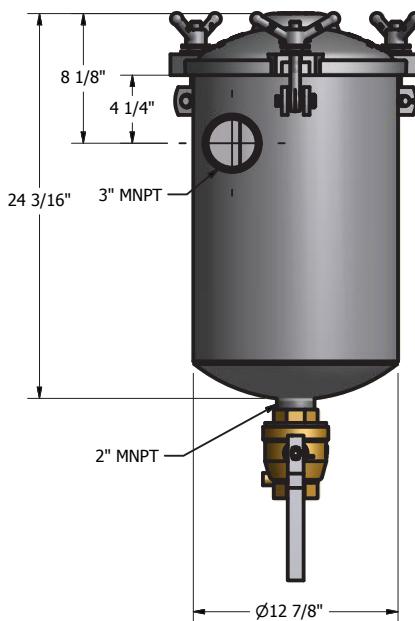
### FEATURES:

- 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]



Available with  
Lube Nuts

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

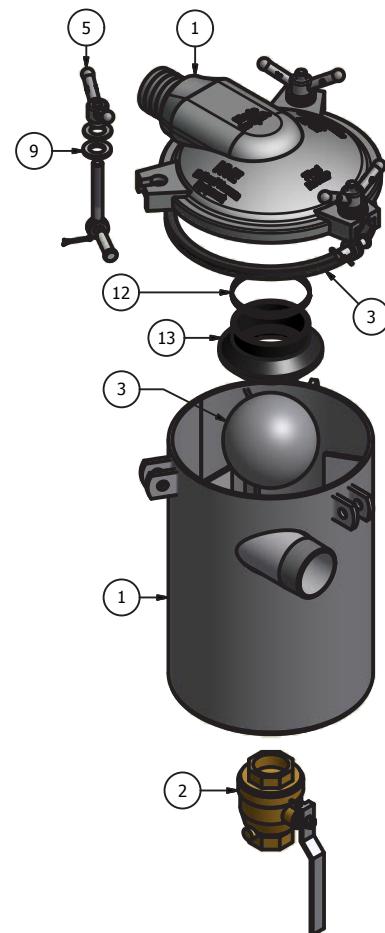


### Secondary Shutoff - 10 & 14 Gallon Low Profile Moisture Trap

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

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

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

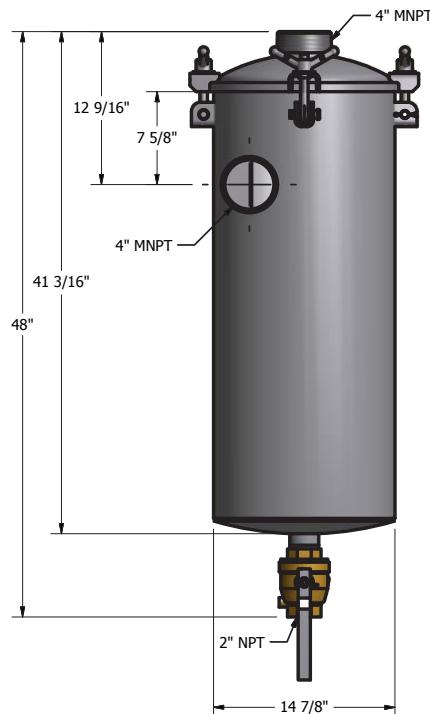


**FEATURES:**

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



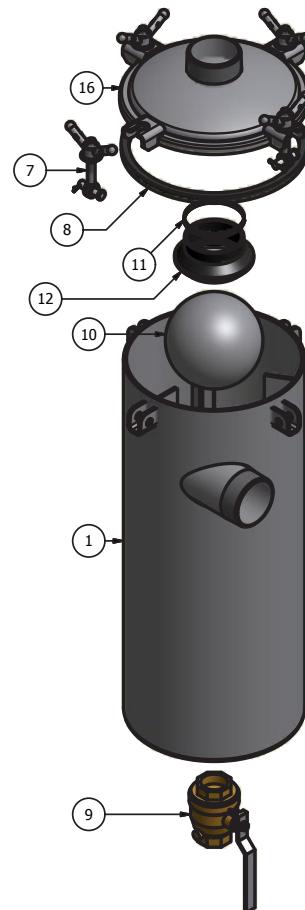
\*\*\*WARNING\*\*\* CFM RATINGS VARY WITH THE VOLATILITY OF THE PRODUCT BEING PUMPED  
\*\*25 GALLON TO 1000 CFM

**Secondary Shutoff - 25 Gallon Moisture Trap**

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

**Secondary Shutoff - 25 Gallon Moisture Trap | Parts List**

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



## 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



Available with  
Lube Nuts

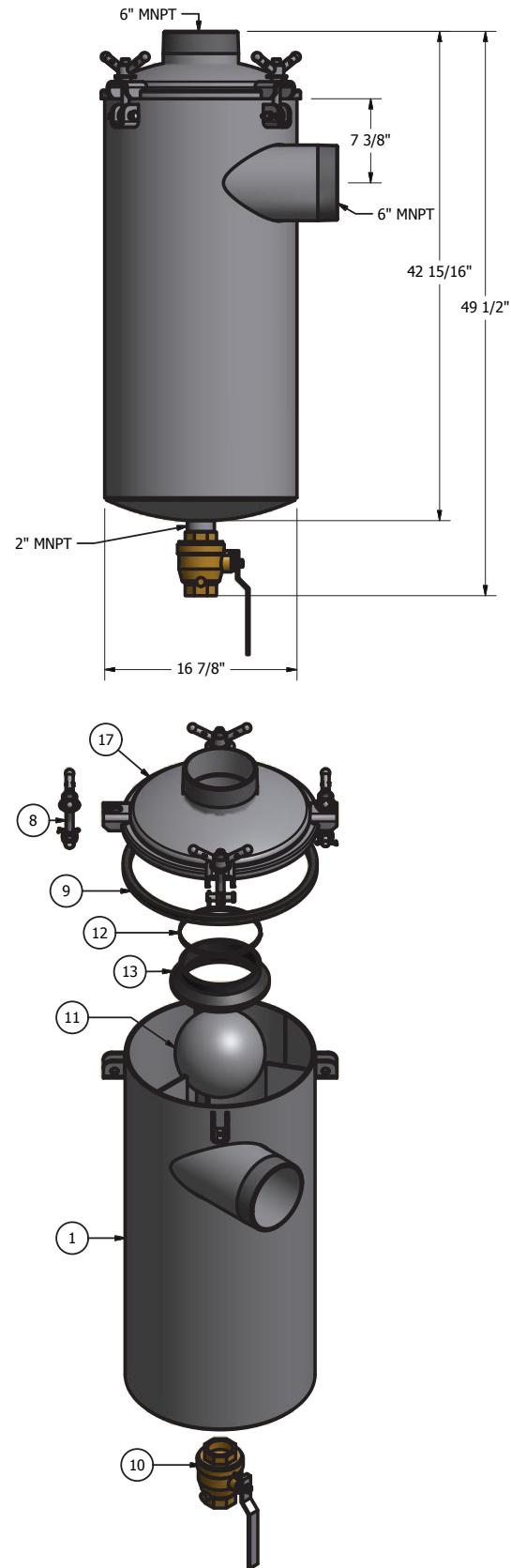
\*\*\*WARNING\*\*\* CFM RATINGS VARY WITH THE VOLATILITY OF  
THE PRODUCT BEING PUMPED  
\*\* 45 GALLON - TO 1500 CFM

### Secondary Shutoff - 45 Gallon Moisture Trap

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

### Secondary Shutoff - 45 Gallon Moisture Trap | Parts List

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



**FEATURES:**

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

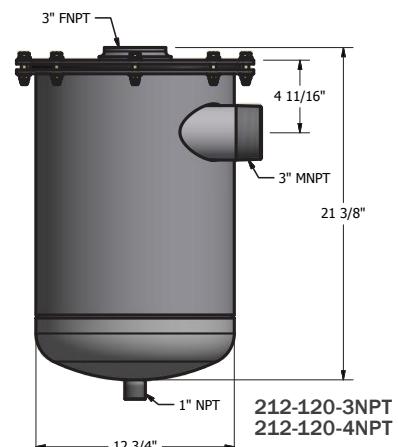
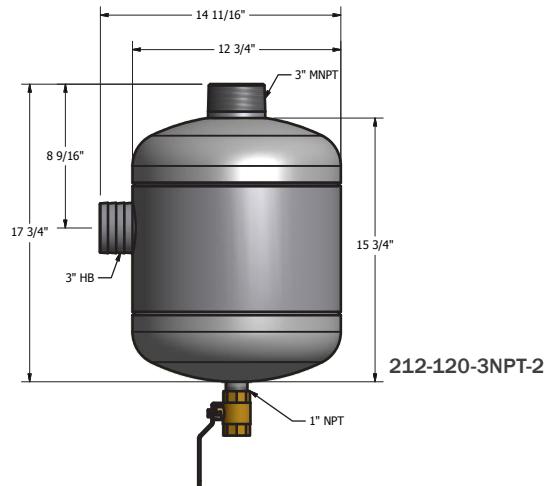
\*\* 8-12" Diameter - TO 250-500 CFM

**8" and 12" Oil Catch Mufflers - Vertical Orientation**

PART NUMBER	DESCRIPTION	WEIGHT
212-800-2FP-A	OCM 8" DIA 2" FPT ALU TREAD	13 lbs
212-120-3NPT-2	OCM 12" DIA X 19.25 3" NPT WITH 3" HOSE BARB CARBON	52 lbs
212-120-3NPT	OCM 12" DIA 3" NPT CARBON WITH BOLTED LID	71 lbs
212-120-4NPT	OCM 12" DIA 4" NPT CARBON WITH BOLTED LID	74 lbs

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

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



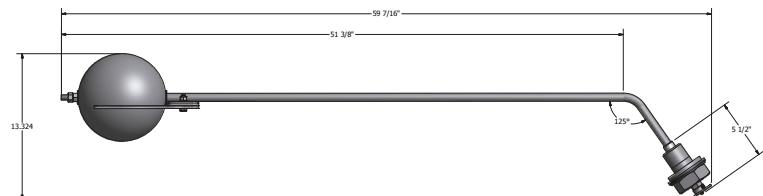
## Float Level Indicators | ASME Code & Non Code

### 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.

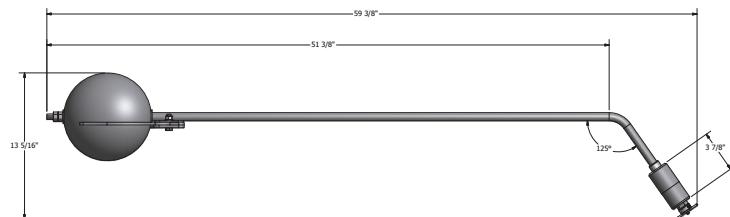
**WARNING:** The Float level indicator with the carbon steel, stainless steel and/or aluminum weld sleeve must be disassembled before installation. Failure to do so will cause heat damage to the internal components of the float level indicator.

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



### Weld In & Thread In Float Level Indicators

PART NUMBER	DESCRIPTION	WEIGHT
400-319-8CT	FLOAT LEVEL INDICATOR 8" CARBON - THREADED - NON CODE	14 lbs
400-319-8CW	FLOAT LEVEL INDICATOR 8" CARBON - WELD - NON CODE	15 lbs
400-319-8AW	FLOAT LEVEL INDICATOR 8" ALU - WELD - NON CODE	14 lbs
400-319-8SW	FLOAT LEVEL INDICATOR 8" SS - WELD - NON CODE	15 lbs



### Weld In Float Level Indicators - ASME Code

PART NUMBER	DESCRIPTION	WEIGHT
400-320-8CW	FLOAT LEVEL INDICATOR 8" CARBON - WELD - ASME CODE	15 lbs
400-320-8AW	FLOAT LEVEL INDICATOR 8" ALU - WELD - ASME CODE	14 lbs
400-320-8SW	FLOAT LEVEL INDICATOR 8" SS - WELD - ASME CODE	15 lbs



## Float Level Indicators | Replacement Parts List

ITEM	PART NUMBER	DESCRIPTION	WEIGHT
	400-319-0	REPAIR KIT - FLOAT LEVEL INDICATOR	0.3 lbs
1	400-002-319	FLOAT ARM ARROW SS	0.45 lbs
2	400-006-319-CT	FLOAT LEVEL HOLDER - CARBON - THREADED	3 lbs
2	400-006-319-CW	FLOAT LEVEL HOLDER - CARBON - WELDED- NON CODE	3 lbs
2	400-006-319-AW	FLOAT LEVEL HOLDER - ALU - WELDED - NON CODE	2 lbs
2	400-006-319-SW	FLOAT LEVEL HOLDER - STAINLESS - WELDED - NON CODE	3 lbs
2	400-006-320-SW	FLOAT LEVEL HOLDER-STAINLESS- WELDED ASME CODE	3 lbs
2	400-006-320-CW	FLOAT LEVEL HOLDER-CARBON- WELDED ASME CODE	3 lbs
2	400-006-320-AW	FLOAT LEVEL HOLDER-ALU-WELDED ASME CODE	2 lbs
3	400-011-319	FLOAT LEVEL INDICATOR 8" SS WELD TELESCOPIC	6 lbs
4	400-014-319-8B	FLOAT BALL GUARD 8" BOLT ON	1 lbs
5	400-016-319	WASHER 5/8 STEPPED SS	0.01 lbs
6	400-020-319	LUBRICATING NIPPLES - ANGLE HYDRAULIC NIPPLES TYPE A	0.01 lbs
7	400-022-319	SEAL 0.750" ROD U-CUP VITON	0.01 lbs
8	400-024-319	SNAP RING INTERNAL 1.378" BORE	0.01 lbs
9	400-026-319	SNAP RING EXTERNAL 0.500" SHAFT	0.01 lbs
10	400-028-319	BEARING 6003 2RS 35MM X 17MM X 10	0 lbs
11	400-030-319	BEARING .75"ID X 1.0" OD X 1.0"	0.05 lbs
12	400-040-319	O-RING 2-210 VITON 75 DURO	0.01 lbs
13	400-042-319	BACKUP RING 8-210 SPIN PTFE	0.01 lbs
14	414-800-TT	FLOAT BALL 8" SS THRU TUBE 5/8" ID 3/4 OD FOR 1/2" ROD	2 lbs
15	400-008-319	FLOAT LEVEL WASHER 3.75" SS	0.3 lbs
16	400-018-319	GASKET THD`D INSERT VITON	0.15 lbs
17	400-038-319	NUT JAM 2" - 12UN PLAIN	1 lbs
301	FW - 1/2 SS	FLAT WASHER - 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	HHCS - 3/8-16 UNC X 1.25 SS	HEX HEAD CAP SCREW - 3/8-16 UNC X 1.25" SS	
306	LW - 3/8 SS	LOCK WASHER, 3/8" SS	

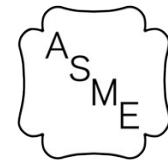


## 12" Portals | ASME Code

### FEATURES:

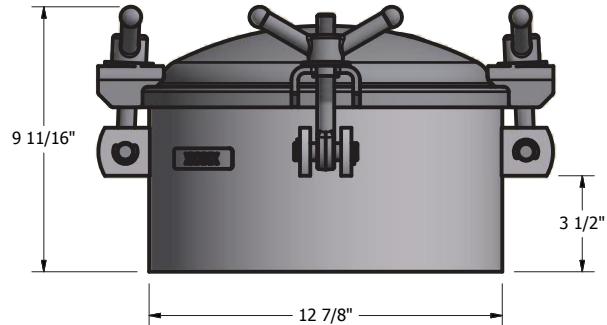
- Gasket on Lid Design
- Wingnut Closure
- 5/8" Square Buna Gasket

Meets requirements of DOT Spec. 178.345.5



### 12" Portals - ASME Code

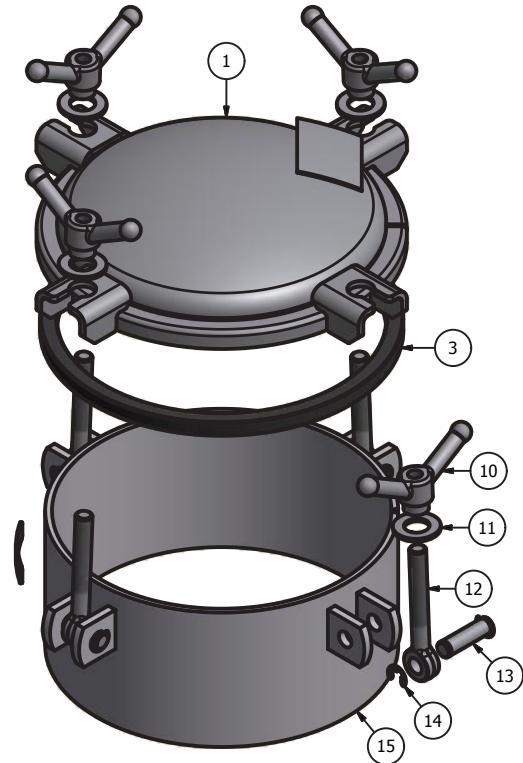
PARTNUMBER	DESCRIPTION	WEIGHT
240-1206	PORTAL 12" X 6" ASME CODE CARBON	42 lbs
240-1210	PORTAL 12" X 10" ASME CODE CARBON	51 lbs
240-1212	PORTAL 12" X 12" ASME CODE CARBON	58 lbs
244-1206	PORTAL 12" X 6" ASME CODE ALU NECK SS LID	25 lbs
248-1206	PORTAL 12" X 6" ASME CODE SS	37 lbs
248-1212	PORTAL 12"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



### 12" Portals - ASME Code | Parts List

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

\*Necks sold ONLY as complete manway.

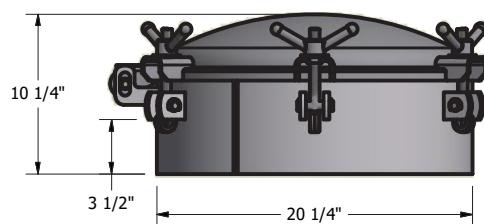


**FEATURES:**

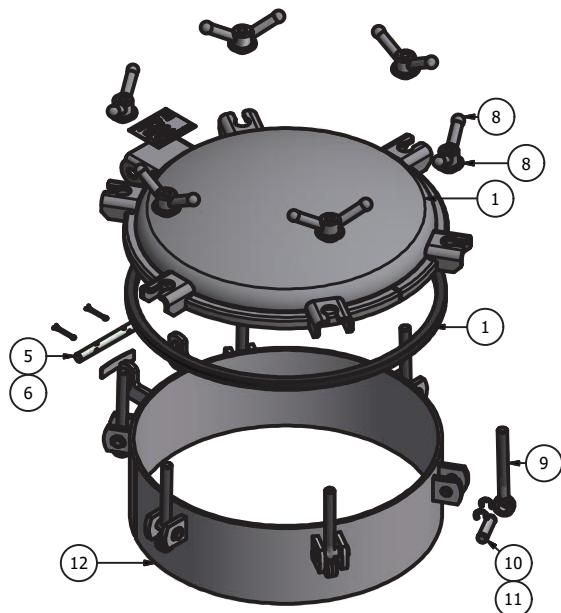
- Gasket on Lid Design
- 5/8" Square Buna Gasket
- Available in Aluminum, Carbon and Stainless Steel Necks
- Stainless Steel Fasteners on Stainless Steel Manways

**20" Manways - Non-Code**

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

**20" Manways - Non-Code | Parts List**

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



## 12" Primary Shutoff | ASME Code

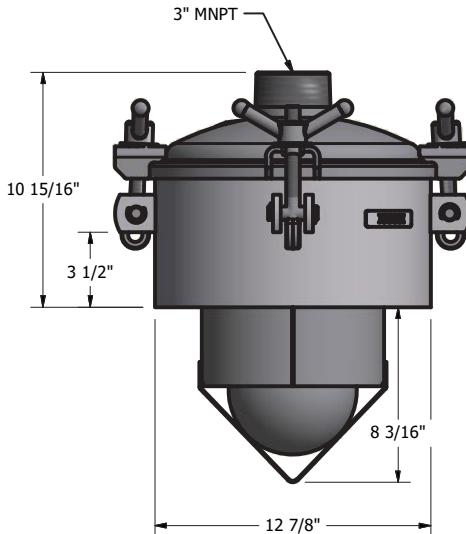
### FEATURES:

- 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



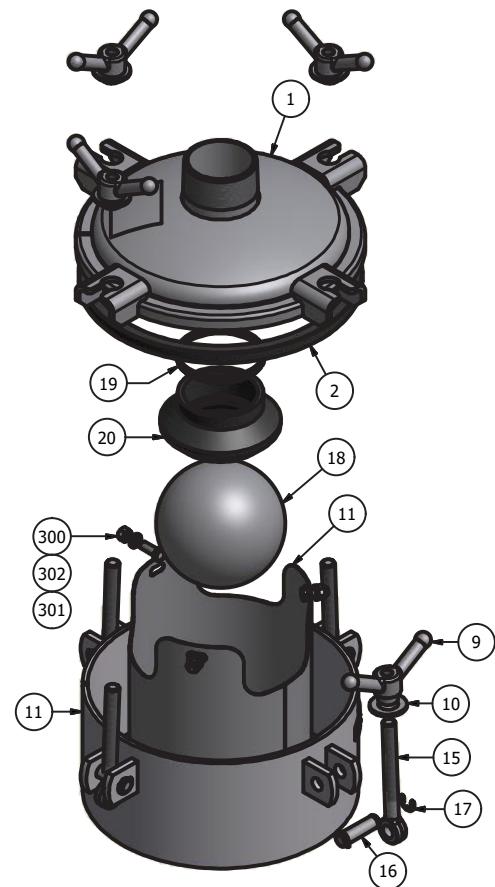
### 12" Primary Shutoff - ASME Code Assemblies

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



### 12" Primary Shutoff - ASME Code Assemblies | Parts List

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

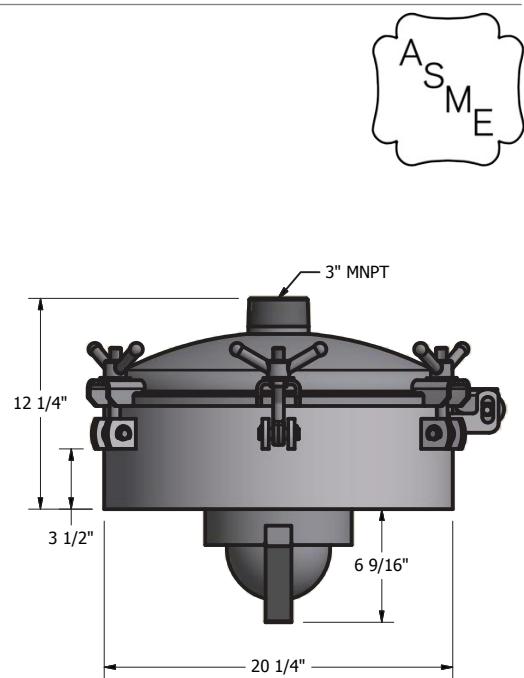


**FEATURES:**

- 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
- 3", 4", Or 6" NPT Connection

**20" Primary Shutoff - ASME Code Assemblies**

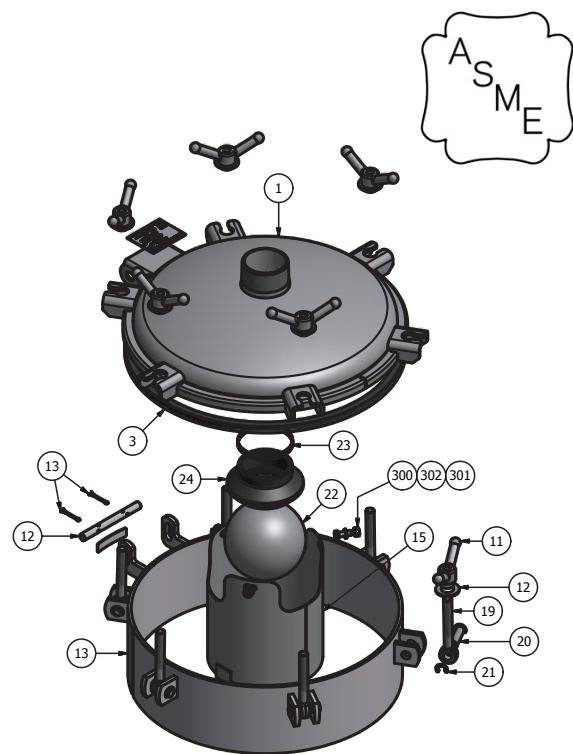
PART NUMBER	DESCRIPTION	WEIGHT
242-2006-3NPT	PSO 20" X 6" CARBON NECK, 3" NPT CARBON LID, ASME CODE	81 lbs
242-2006-4NPT	PSO 20" X 6" CARBON NECK, 4" NPT CARBON LID, ASME CODE	84 lbs
242-2006-6NPT	PSO 20" X 6" CARBON NECK, 6" NPT CARBON LID, ASME CODE	88 lbs
242-2012-3NPT	PSO 20" X 12" CARBON NECK, 3"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



## 20" Primary Shutoff | ASME Code Continued

### 20" Primary Shutoff - ASME Code Assemblies | Parts List

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



**Notes**

**Challenger Series**



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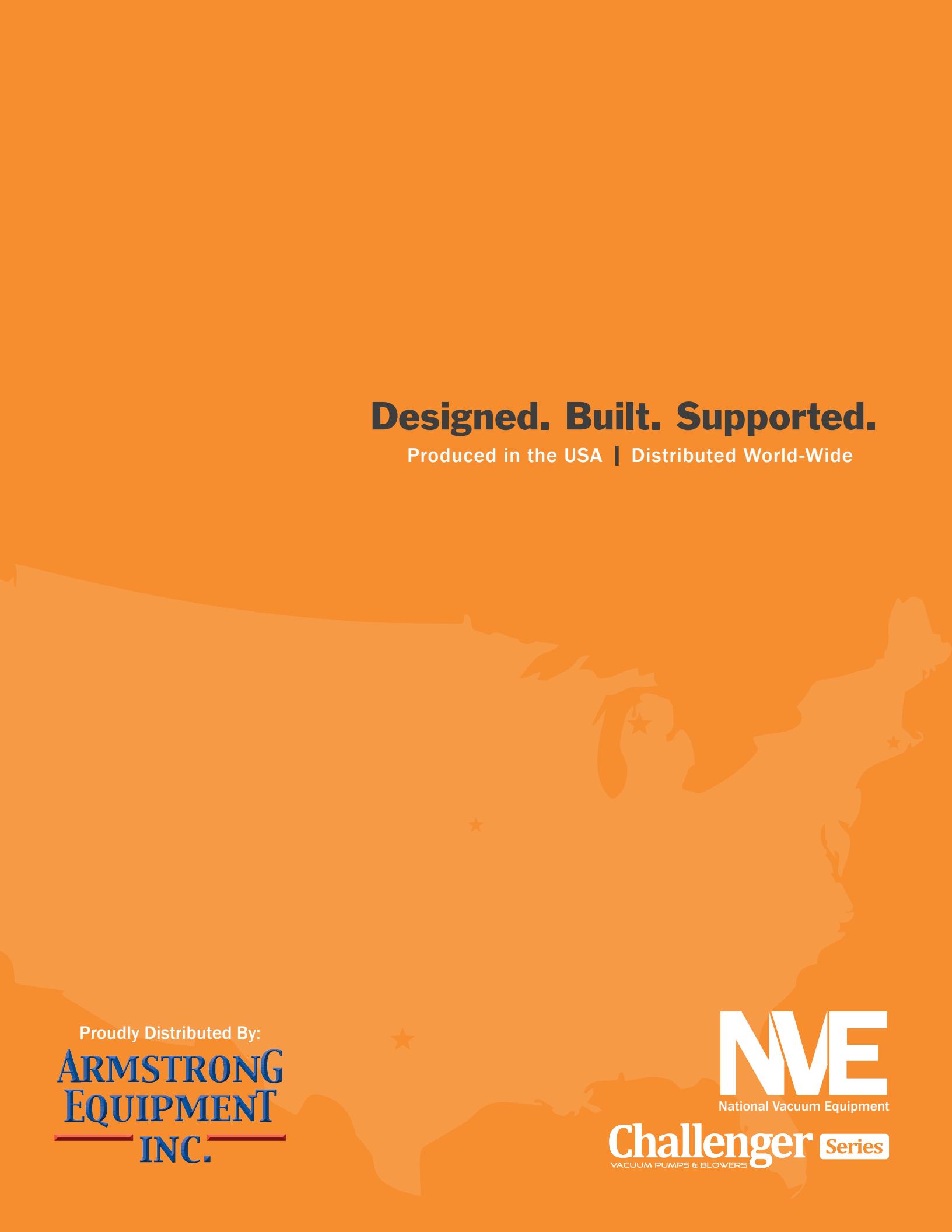
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