

OPW is Leading the Way in Above Ground Storage Tank Equipment Solutions

Offering the first AST Products Certified* to Meet the World's Most Rigid Vapor Recovery Air Quality Standards

OPW AST products are designed to meet the highest operational performance and air quality standards. In fact, our AST equipment is the **first** solution in the industry actually certified by the California Air Resources Board (CARB) to meet stringent air quality standards. Whether for vapor recovery applications or any other AST application, OPW AST equipment is the best overall solution for longevity, reliability and for maintaining or promoting the well being of the public, employees and consumers through clean air and water.

At OPW, we are committed to the long-term sustainability of our world. Every AST product we build is about enabling operators to provide a safer, cleaner, greener environment for themselves, their families and their customers.

Benefits of an OPW AST Solution include:

- The **first** AST system and components certified by the California Air Resources Board, proving that it can help operators do their most to promote a healthier, sustainable environment for themselves, their families, employees, consumers, their communities and the general public
- Expertly designed products to protect the air we breathe and the water we drink
- Lowest Life Cycle Cost - OPW quality products help to reduce installation and maintenance costs and potential compliance violations and fines by providing reliable long product life and consistently high performance
- Compliance – the **first** system to meet CARB AST EVR Stage 1 Compliance Regulations – if your State adopts the new AST EVR rules, with an OPW AST solution you're covered.

OPW AST products are used in a wide range of applications, including:

- Retail outlets using ASTs
- Fleet / Commercial fueling operations
- Municipalities
- Aviation fueling locations
- Agriculture, Construction, Maintenance and Emergency Response operations
- Any application where the AST operators or local jurisdictions are concerned about maintaining or promoting the well being of the public, employees and consumers

In a class by themselves, OPW AST products ensure that you are in compliance while helping to protect the people and the environment while delivering unmatched durability and reliability.

*As of the printing of this catalog, OPW is the **first** manufacturer offering Above Ground Storage Tank products certified by the California Air Resources Board (CARB) to meet stringent air quality standards.

Above Ground Storage Tank Equipment



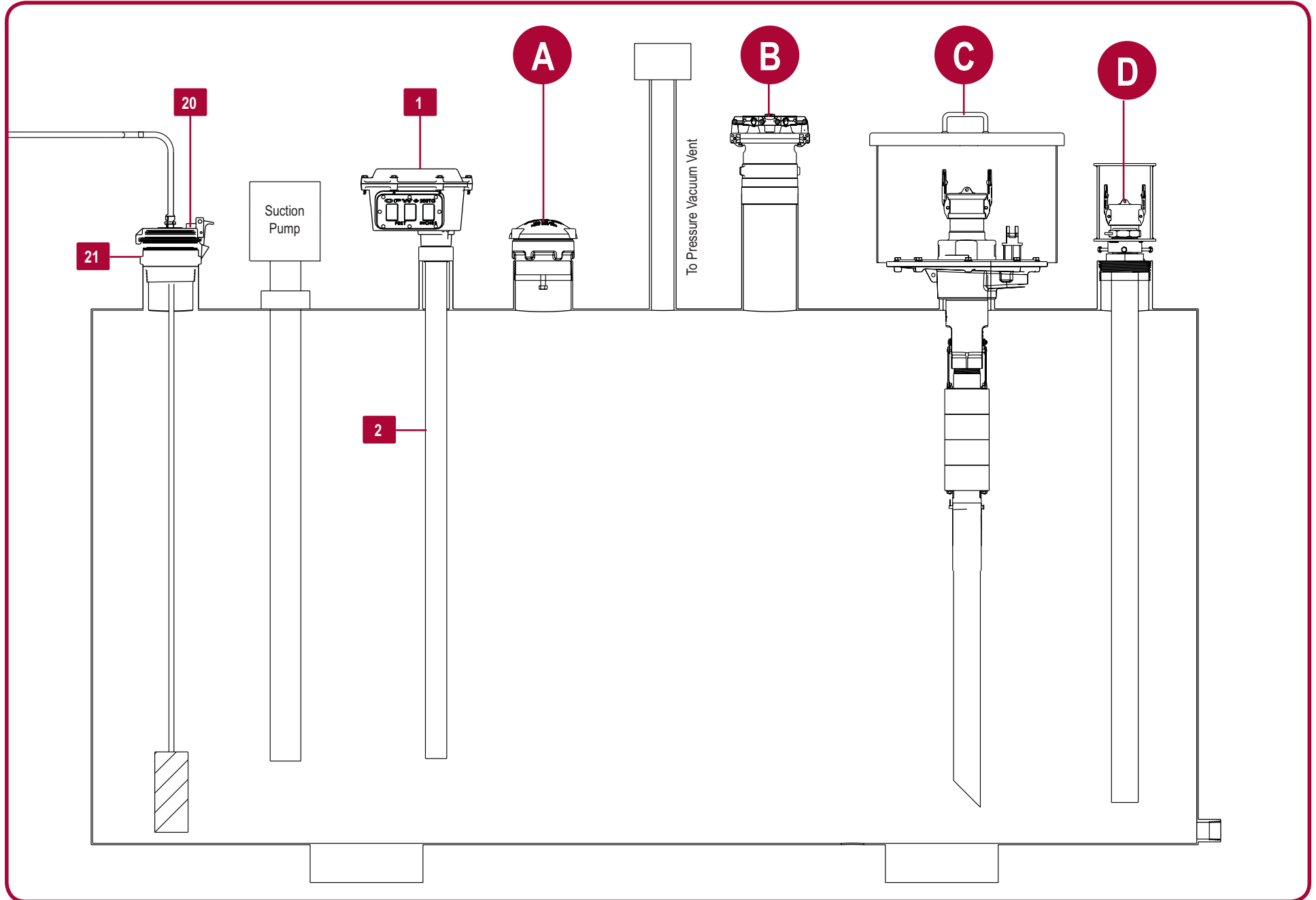
• Above Ground Tank Diagrams

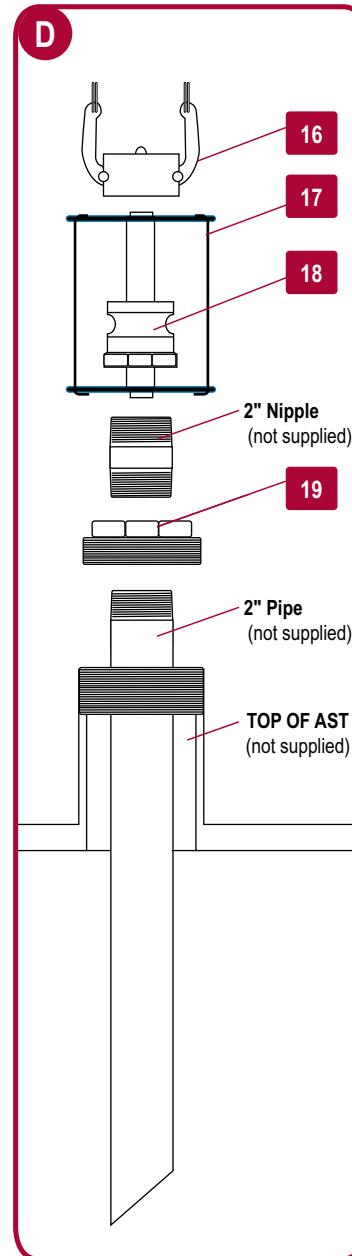
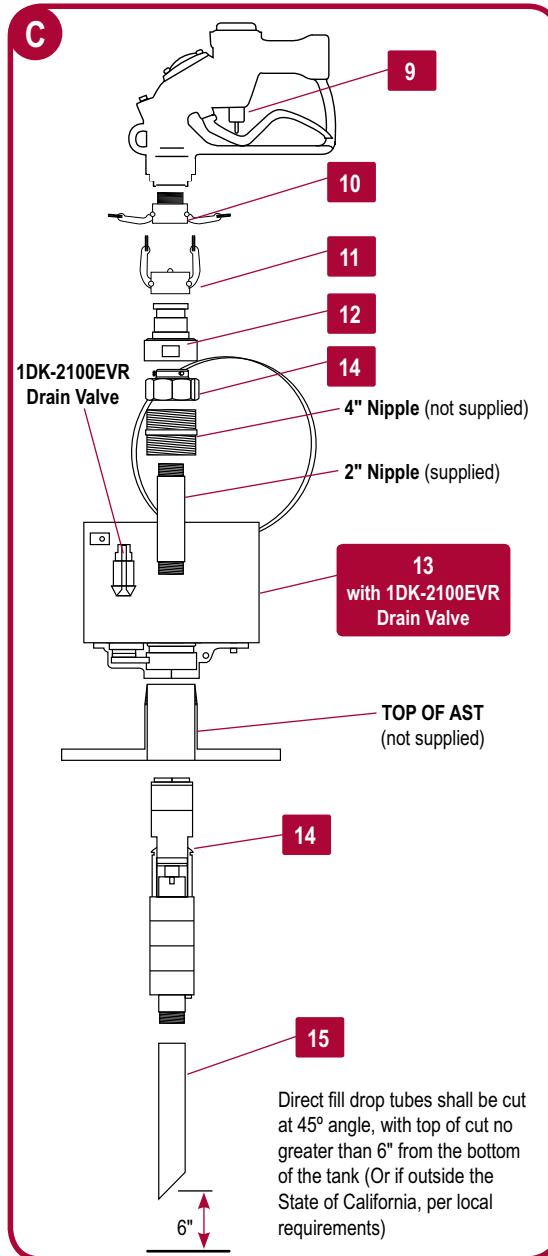
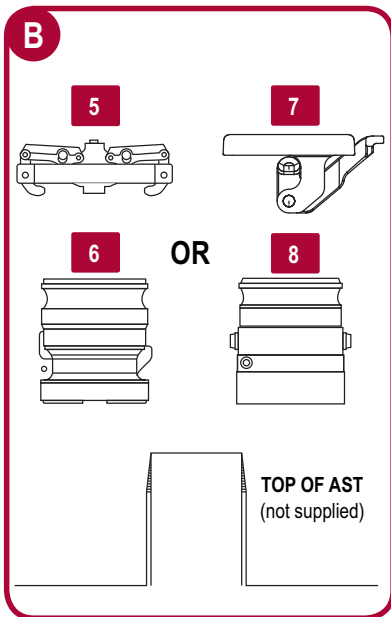
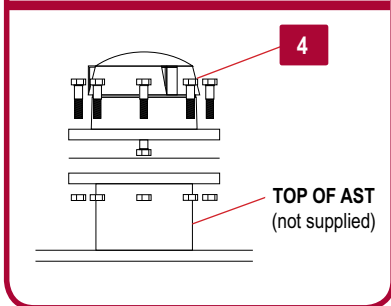
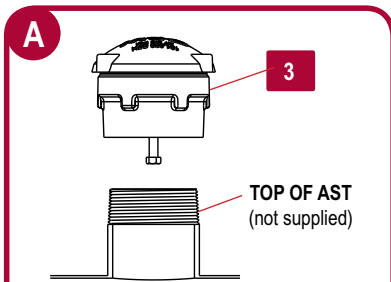
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Above Ground Storage Tank - Direct Fill

Typical Non-EVR Direct Fill AST Application





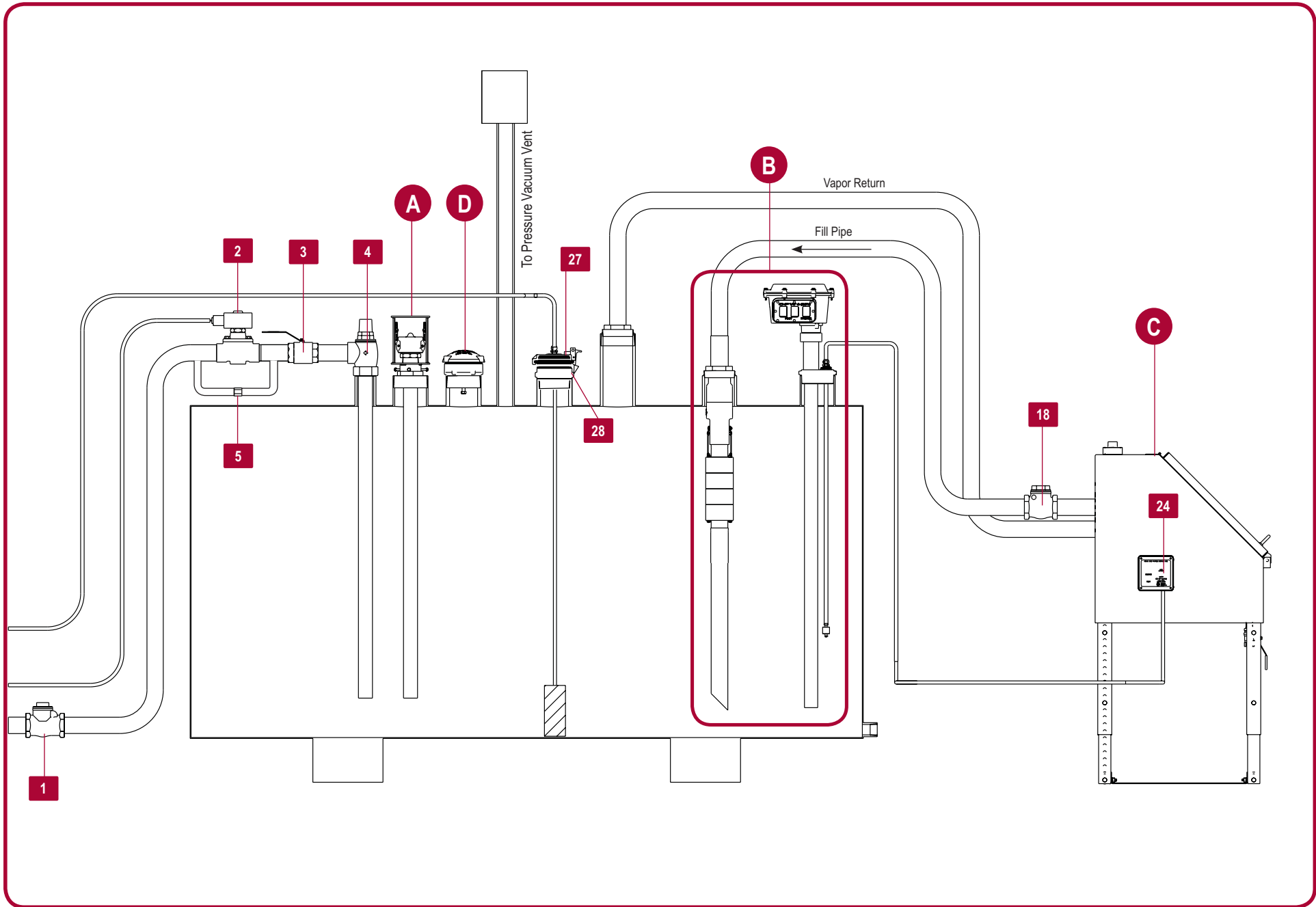
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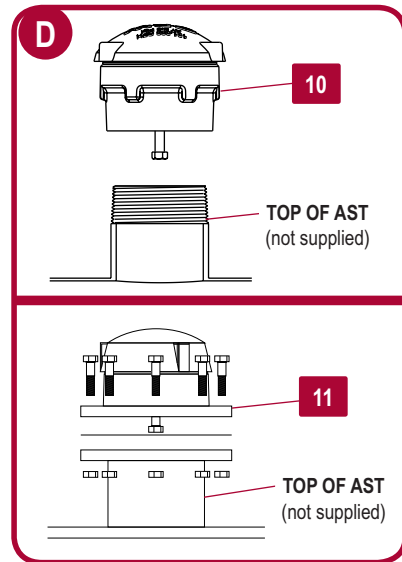
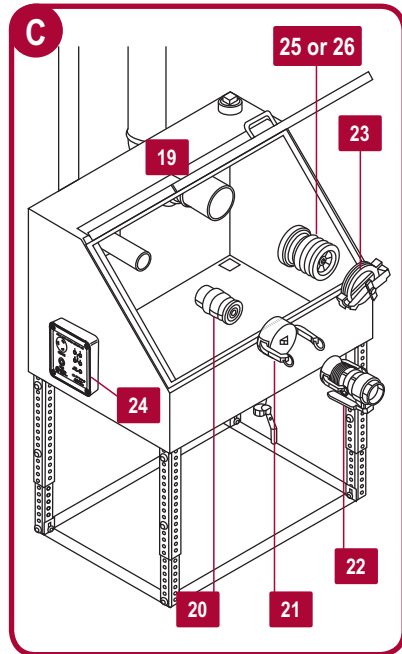
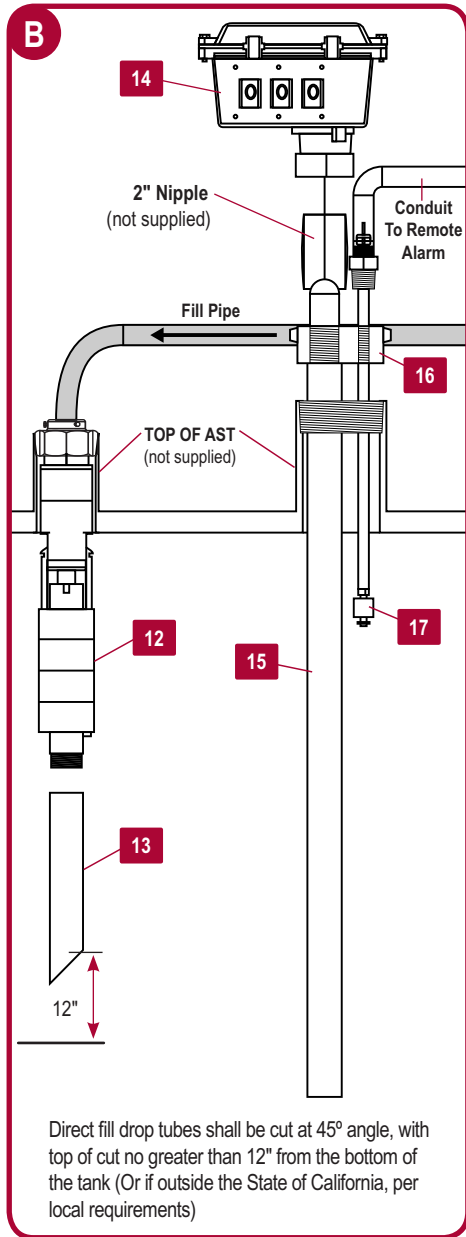
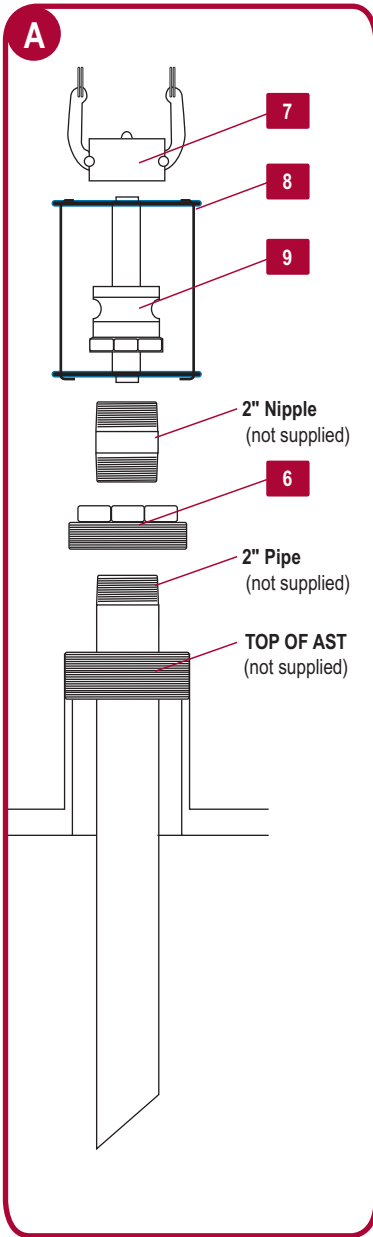
	OPW PART / DESCRIPTION	PAGE
1	200TG-ENG Series Tank Gauge (optional / see Note below)	252
2	61T Series Drop Tube	128
3	301 Series Emergency Vent - NPT Mount (See Vent Size Configuration Guide on page 244)	254
4	301 Series Emergency Vent - Flanged Mount (See Vent Size Configuration Guide on page 244)	254
5	1711T-7085-EVR Cap	113
6	1611AV Series Vapor Recovery Adaptor	112
7	1711LPC-0300 Low Profile Cap	113
8	61VSA Series Vapor Recovery Adaptor	111
9	190 or 210 High-Flow Bulk Nozzle	214 & 218
10	633BD Kamlok™ Coupler	250
11	A) 634B-0150 Dust Cap or 634BK-0090 Lockable Dust Cap fits 633AST-2061 Spout Adaptor B) 634B-0170 Dust Cap or 634BK-0100 Lockable Dust Cap fits 633AST-3061 Spout Adaptor	250
12	633AST-2061 (2" x 2") or 633AST-3061 (3" x 3") - Tank Inlet Spout Adaptor	250
13	331 or 332 Series Spill Container	246
14	61fSTOP-XXXX Series Overfill Prevention Valve	248-249
15	61FT Series Drop Tube	249
16	634B-0150 or 634BK-0090 Cap	250-251
17	204247 Fill Prevention Cage	250
18	633AST-2190 Adaptor	250
19	53-00XX Series Double Tapped Bushing	142
20	62M Series Monitoring Probe Cap & Adaptor	127
21	FSA-400 Face Seal Adaptor	59

NOTE: The OPW 200TG and 144TA/444TA are not required for EVR compliance, but if a tank gauge or tank alarm is used on your tank that these two OPW products are the only CARB AST EVR certified tank gauge and alarm.

Above Ground Storage Tank - Remote Fill - Remote Dispensing

Typical Non-EVR Remote Fill / Remote Dispensing AST Application



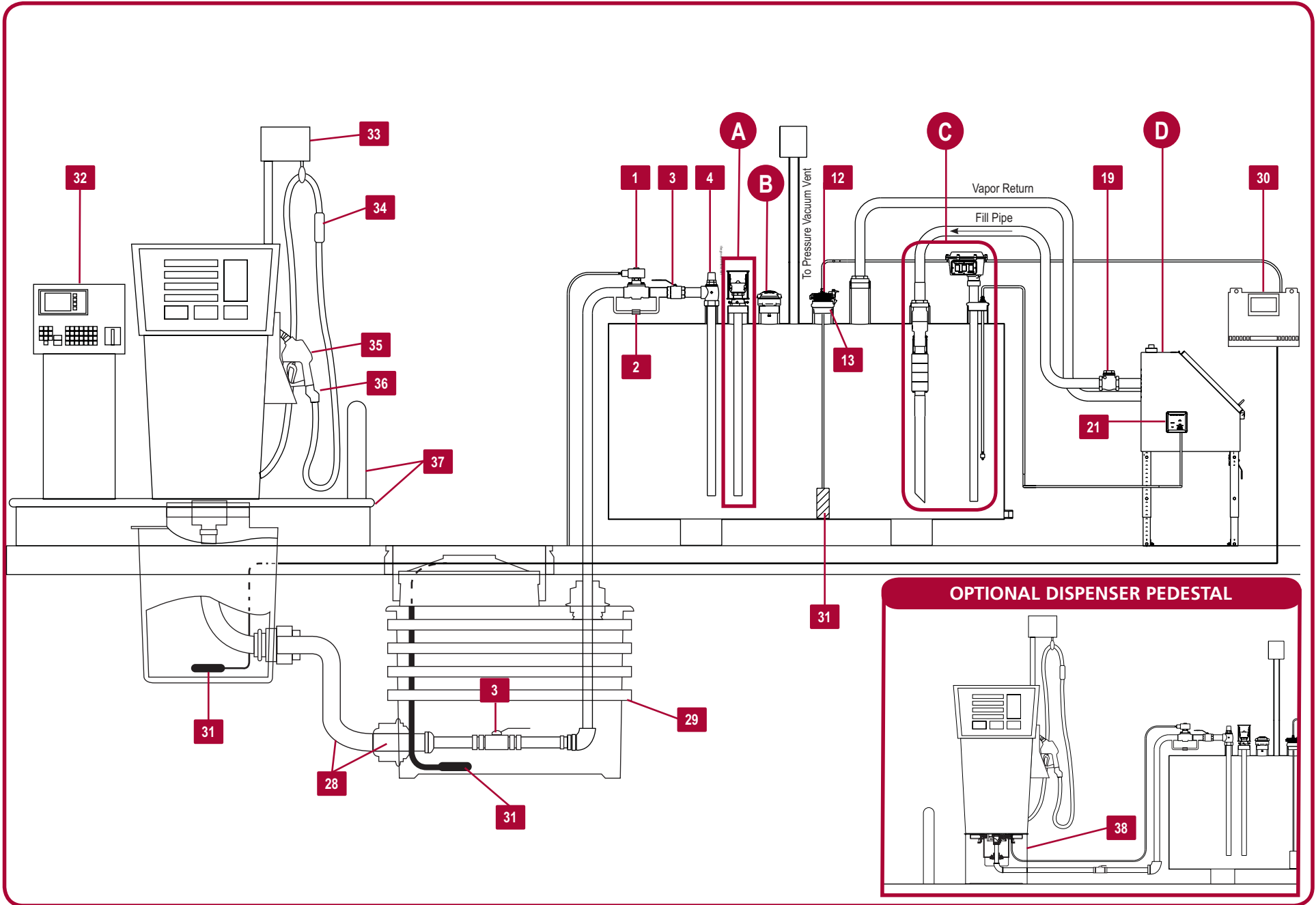


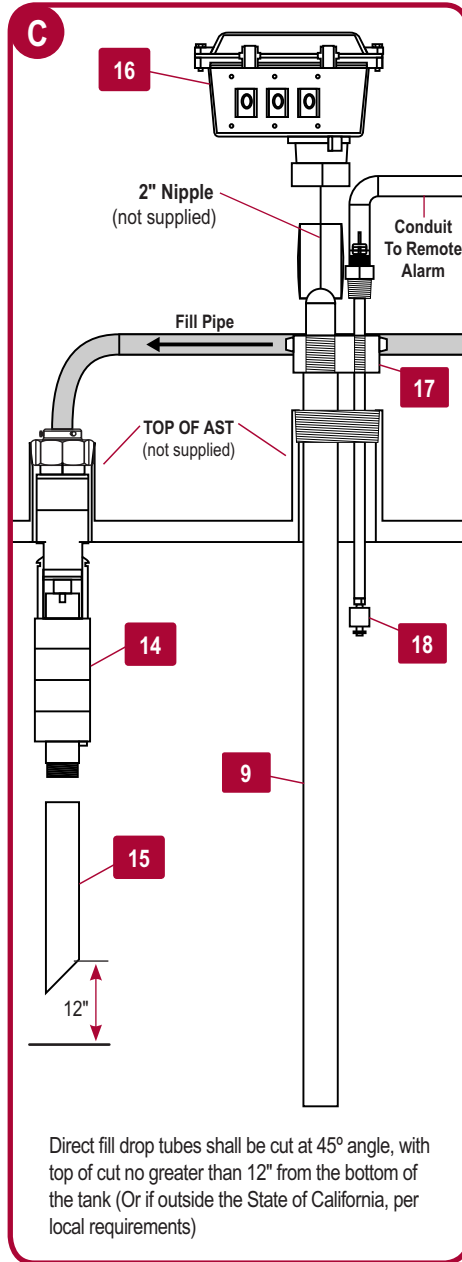
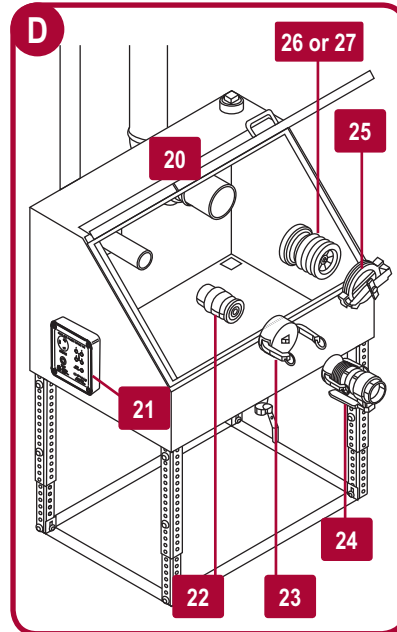
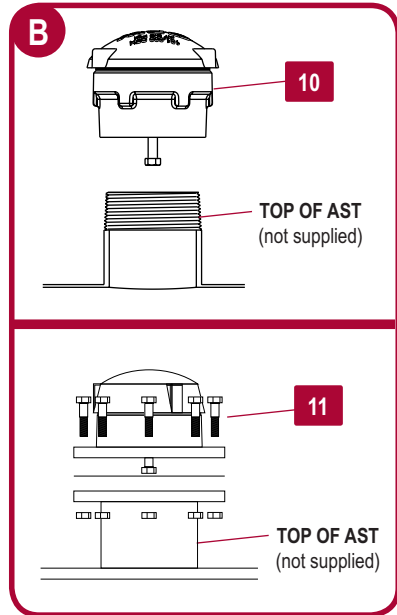
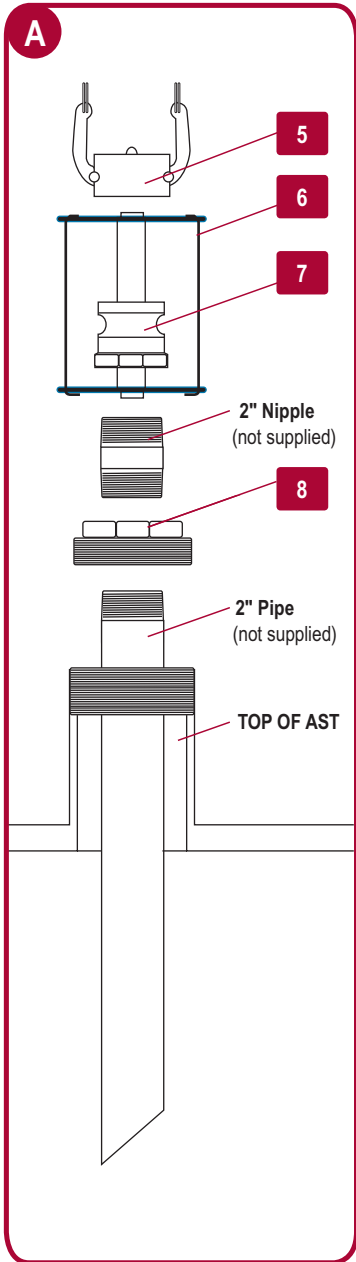
PRODUCT KEY

KEY	OPW PART / DESCRIPTION	PAGE
1	178S Series Emergency Valve	263
2	821 Series Solenoid Valve	261
3	21BV Series Ball Valve	262
4	199ASV Series Anti-Siphon Valve	260
5	82RV Series Pressure Relief Valve	261
6	53-00XX Series Double Tapped Bushing	127
7	634B-0150 or 634BK-0090 Cap	250-251
8	204247 Fill Prevention Cage	250
9	633AST-2190 Adaptor	250
10	301 Series Emergency Vent - Threaded Mount (See Vent Size Configuration Guide on page 244)	254
11	301 Series Emergency Vent - Flanged Mount (See Vent Size Configuration Guide on page 244)	254
12	61fSTOP-XXXX Series Overfill Prevention Valve	248-249
13	61FT Series Drop Tube	249
14	200TG-ENG Series Tank Gauge (optional / see Note below)	252
15	61T Series Drop Tube	128
16	TGTA-0400 4" Gauge/Alarm Combo Fitting (optional)	253
17	44TA-LLFS Liquid Level Float Switch	253
18	175 Series Swing Check Valve	264
19	6211R Series Remote Spill Container	247
20	1611AN-0200 or 1612AN-0200 - 2" Remote Fill or 1611AN-0300 or 1612AN-0300 - 3" Remote Fill Kamvalok Adaptor	251
21	A) 634B-0140 Dust Cap fits 633AST-0150 Adaptor B) 634B-0150 Dust Cap fits 633AST-2061 or 633AST-0200 Adaptor C) 634B-0160 Dust Cap fits 1611AN-0200 or 633ST-0250 or 1611AN-2040 or 1612AN-2040 Adaptors D) 634B-0170 Dust Cap fits 1611AN-3060 or 1612AN-3060 Adaptors	250
22	1711D / 1712D Series Kamvalok Coupler	251
23	1711T-7085-EVR Cap or 1711LPC-0300 Low Profile Cap	113
24	144TA/444TA Series Tank Alarm (optional / see Note below)	253
25	1611AV Vapor Recovery Adaptor	112
26	61VSA Series Vapor Recovery Adaptor	111
27	62M Series Monitoring Probe Cap & Adaptor	114
28	FSA-400 Face Seal Adaptor	59

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Above Ground Storage Tank - Remote Fill - Remote Dispensing Typical Non-EVR Remote Fill / Remote Dispensing AST Fleet Application





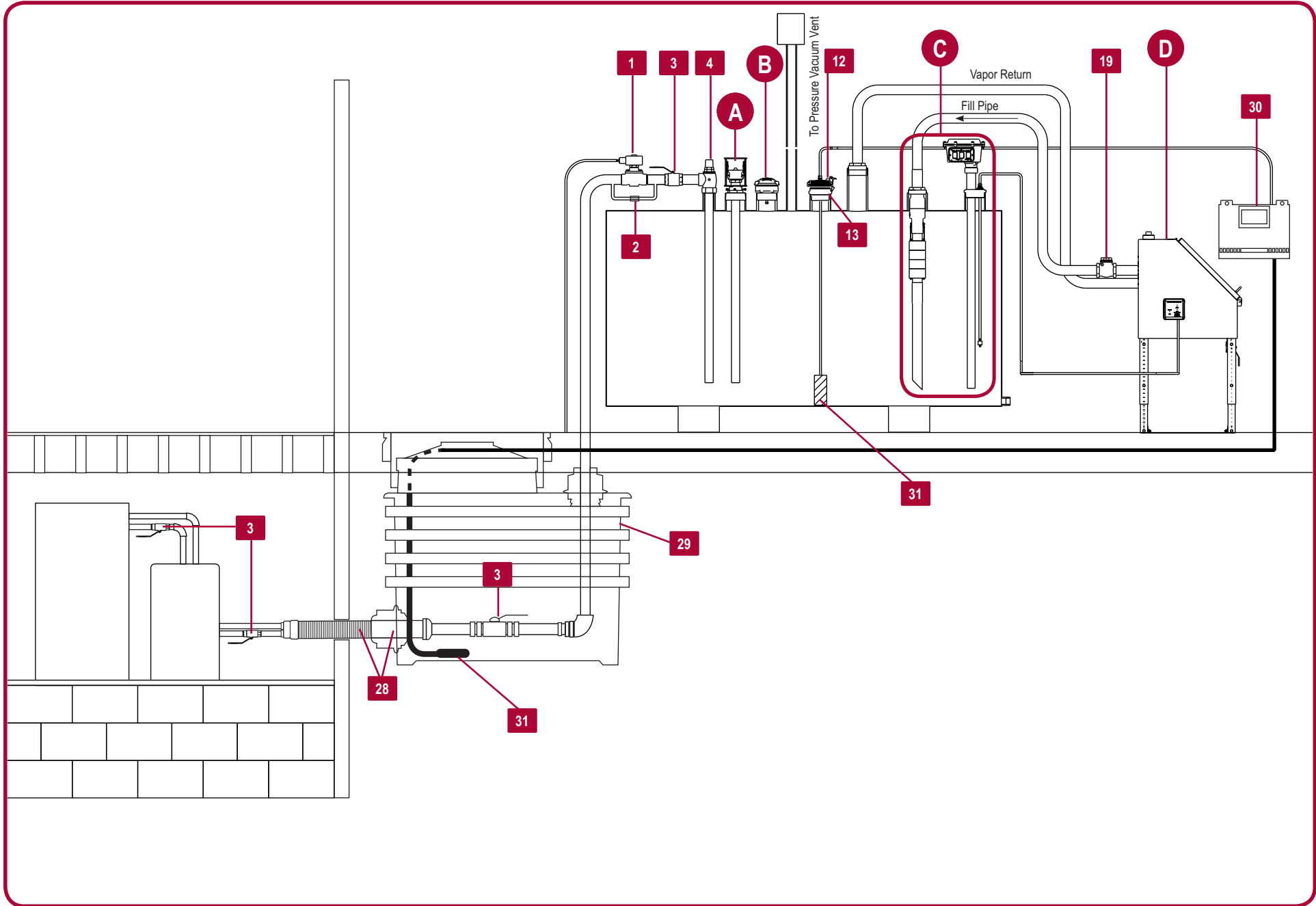
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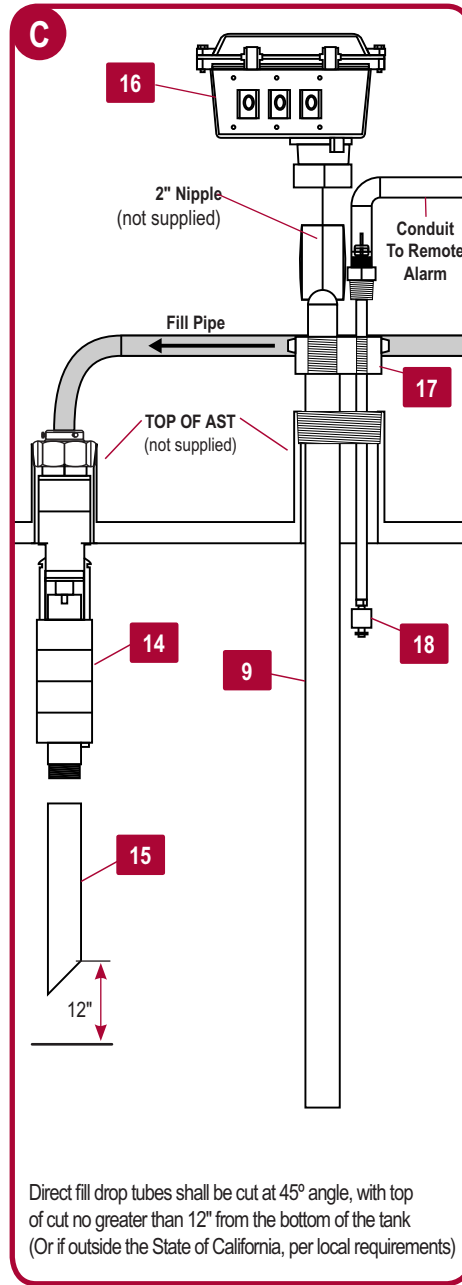
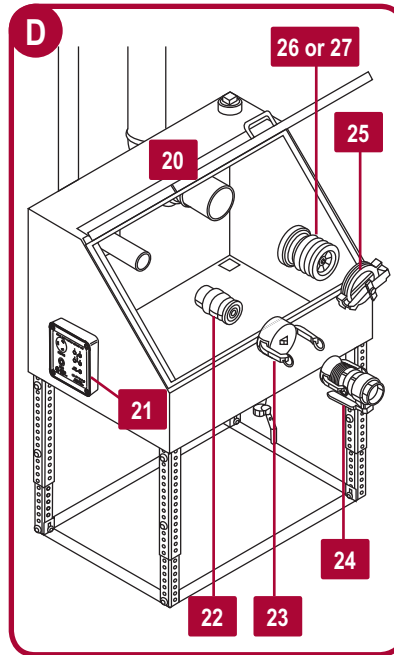
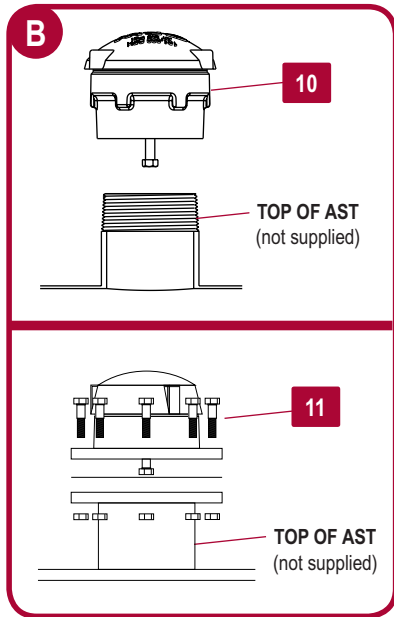
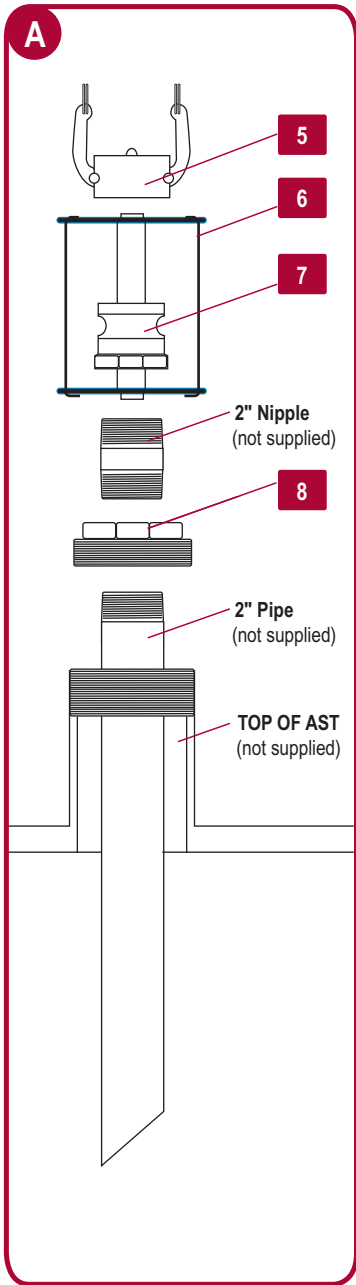
	OPW PART / DESCRIPTION	PAGE
1	821 Series Solenoid Valve	261
2	82RV Series Pressure Relief Valve	261
3	21BV Series Ball Valve	262
4	199ASV Series Anti-Siphon Valve	260
5	634B-0150 or 634BK-0090 Cap	250-251
6	204247 Fill Prevention Cage	250
7	633AST-2190 Adaptor	250
8	53-00XX Series Double Tapped Bushing	142
9	61T Series Drop Tube	128
10	301 Series Emergency Vent - NPT Mount (See Vent Size Configuration Guide on page 244)	250
11	301 Series Emergency Vent - Flanged Mount (See Vent Size Configuration Guide on page 244)	250
12	62M Series Monitoring Probe Cap & Adaptor	114
13	FSA-400 Face Seal Adaptor	59
14	61fSTOP-XXXX Series Overfill Prevention Valve	248-249
15	61FT Series Drop Tube	249
16	200TG-ENG Series Tank Gauge (optional / see Note below)	252
17	TGTA-0400 4" Gauge/Alarm Combo Fitting	253
18	44TA-LLFS Liquid Level Float Switch	253
19	175 Series Swing Check Valve	264
20	6211R Series Remote Spill Container	247
21	144TA/444TA Series Tank Alarm (optional / see Note below)	253
22	1611AN-0200 or 1612AN-0200 - 2" Remote Fill or 1611AN-0300 or 1612AN-0300 - 3" Remote Fill Kamvalok Adaptor	251
23	A) 634B-0140 Dust Cap fits 633AST-0150 Adaptor B) 634B-0150 Dust Cap fits 633AST-2061 or 633AST-0200 Adaptor C) 634B-0160 Dust Cap fits 1611AN-0200 or 633ST-0250 or 1611AN-2040 or 1612AN-2040 Adaptors D) 634B-0170 Dust Cap fits 1611AN-3060 or 1612AN-3060 Adaptors	250
24	1711D / 1712D Series Kamvalok Coupler	251
25	1711T-7085-EVR Cap or 1711LPC-0300 Low Profile Cap	113
26	1611AV Vapor Recovery Adaptor	112
27	61VSA Series Vapor Recovery Adaptor	111
28	Flexible Piping Systems for Fuel Oil & Generator Applications	41
29	Underground Containment Systems	42

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30	Automatic Tank Monitoring & Leak Detection Equipment	276-295	33	100 & 102 Series Hose Retractors	224-228	36	Swivels	163-166 & 190-191
31	Probes & Sensors for Liquid & Vapors	284-292	34	Breakaways	162-169 & 190-193	37	Island Forms and Bumper Guards	82-86
32	Automated Fuel Control System	298-312	35	Fueling Nozzles	147-160 & 189	38	Dispenser Pedestal	265

Above Ground Storage Tank - Remote Fill Typical Diesel/Fuel Oil/Generator Application





PRODUCT KEY

	OPW PART / DESCRIPTION	PAGE
1	821 Series Solenoid Valve	261
2	82RV Series Pressure Relief Valve	261
3	21BV Series Ball Valve	262
4	199ASV Series Anti-Siphon Valve	260
5	634B-0150 or 634BK-0090 Cap	250-251
6	204247 Fill Prevention Cage	250
7	633AST-2190 Adaptor	250
8	53-00XX Series Double Tapped Bushing	142
9	61T Series Drop Tube	128
10	301 Series Emergency Vent - NPT Mount (See Vent Size Configuration Guide on page 244)	250
11	301 Series Emergency Vent - Flanged Mount (See Vent Size Configuration Guide on page 244)	250
12	62M Series Monitoring Probe Cap & Adaptor	114
13	FSA-400 Face Seal Adaptor	59
14	61fSTOP-XXXX Series Overfill Prevention Valve	248-249
15	61FT Series Drop Tube	249
16	200TG-ENG Series Tank Gauge (optional / see Note below)	252
17	TGTA-0400 4" Gauge/Alarm Combo Fitting	253
18	44TA-LLFS Liquid Level Float Switch	253
19	175 Series Swing Check Valve	264
20	6211R Series Remote Spill Container	247
21	144TA/444TA Series Tank Alarm (optional / see Note below)	253
22	1611AN-0200 or 1612AN-0200 - 2" Remote Fill or 1611AN-0300 or 1612AN-0300 - 3" Remote Fill Kamvalok Adaptor	251
23	A) 634B-0140 Dust Cap fits 633AST-0150 Adaptor B) 634B-0150 Dust Cap fits 633AST-2061 or 633AST-0200 Adaptor C) 634B-0160 Dust Cap fits 1611AN-0200 or 633ST-0250 or 1611AN-2040 or 1612AN-2040 Adaptors D) 634B-0170 Dust Cap fits 1611AN-3060 or 1612AN-3060 Adaptors	250
24	1711D / 1712D Series Kamvalok Coupler	251
25	1711T-7085-EVR Cap or 1711LPC-0300 Low Profile Cap	113
26	1611AV Vapor Recovery Adaptor	112
27	61VSA Series Vapor Recovery Adaptor	111
28	Flexible Piping Systems for Fuel Oil & Generator Applications	41
29	Underground Containment Systems	42
30	Automatic Tank Monitoring & Leak Detection Equipment	276-295
31	Probes & Sensors for Liquid & Vapors	284-292

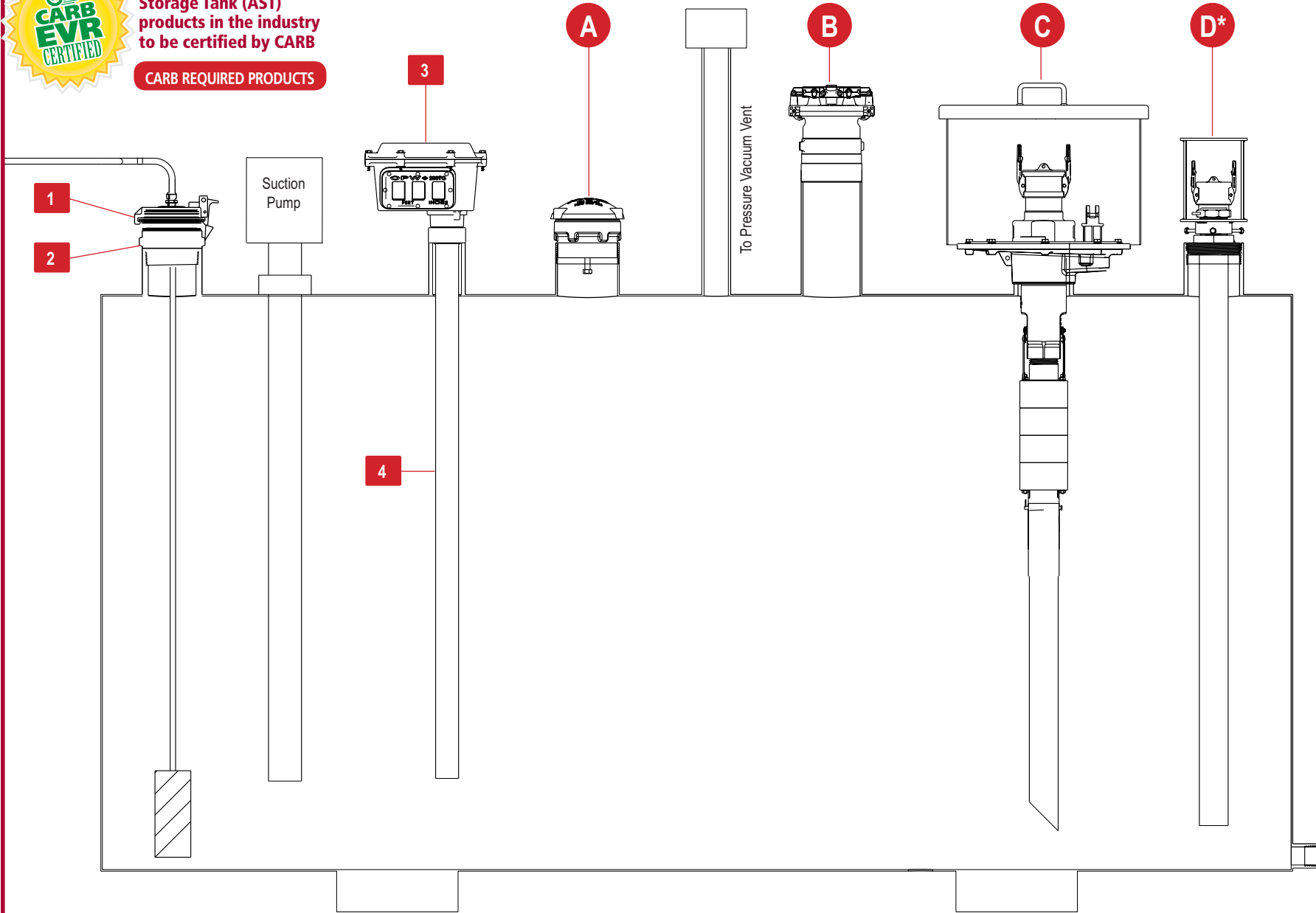
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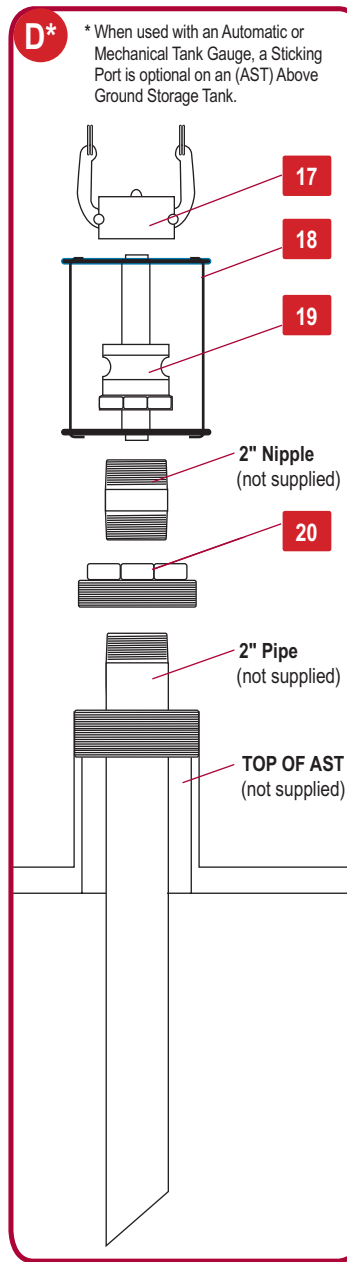
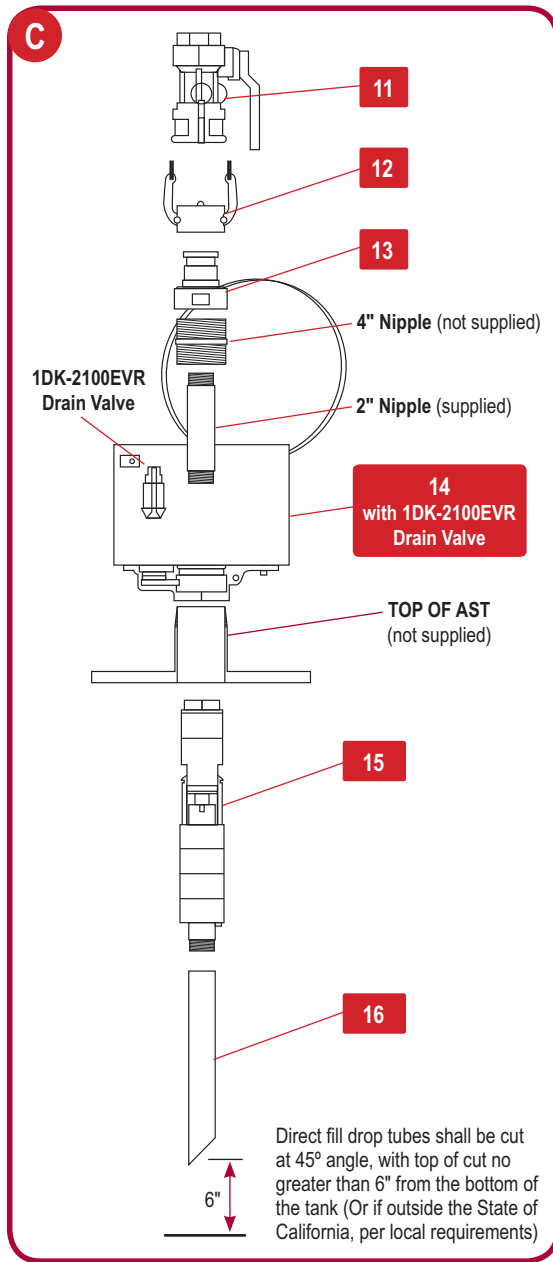
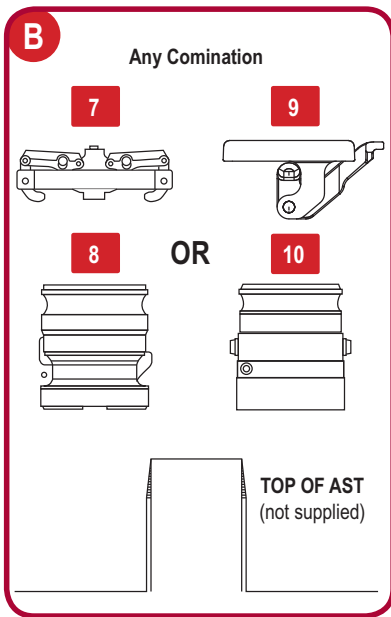
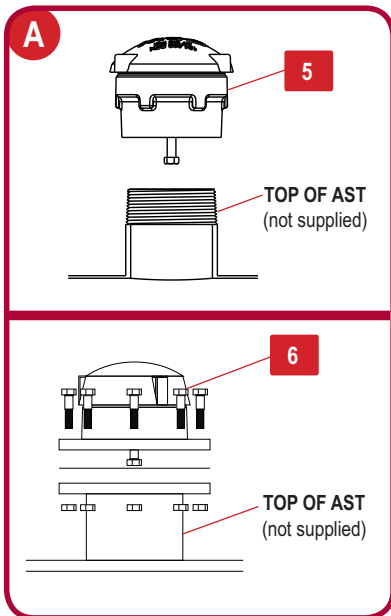
Above Ground Storage Tank - Direct Fill Typical OPW Phase I System for AST



The *first* Above Ground Storage Tank (AST) products in the industry to be certified by CARB

CARB REQUIRED PRODUCTS





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CARB REQUIRED PRODUCTS

OPW PART / DESCRIPTION	PAGE
1 62M Series Monitoring Probe Cap & Adaptor	114
2 FSA-400 Face Seal Adaptor	59
3 200TG-ENG Series Tank Gauge (optional / see Note below)	252
4 61T Series Drop Tube	128
5 301 Series Emergency Vent - NPT Mount (See Vent Size Configuration Guide on page 244)	250
6 301 Series Emergency Vent - Flanged Mount (See Vent Size Configuration Guide on page 244)	250
7 1711T-7085-EVR Cap	113
8 1611AV Vapor Recovery Adaptor	112
9 1711LPC-0300 Low Profile Cap	113
10 61VSA Series Vapor Recovery Adaptor	111
11 1711D / 1712D Series Kamvalok Coupler	251
A) 634B-0140 Dust Cap fits 633AST-0150 Adaptor B) 634B-0150 Dust Cap fits 633AST-2061 or 633AST-0200 Adaptor	250
12 C) 634B-0160 Dust Cap fits 1611AN-0200 or 633ST-0250 or 1611AN-2040 or 1612AN-2040 Adaptors D) 634B-0170 Dust Cap fits 1611AN-3060 or 1612AN-3060 Adaptors	251
13 1611AN-2040 or 1612AN-2040 - 2" Direct Fill or 1611AN-3060 or 1612AN-3060 - 3" Direct Fill Kamvalok Adaptor	251
14 331 or 332 Series Spill Container	246
15 61fSTOP-XXXXT Series Overfill Prevention Valve	248-249
16 61FT Drop Tube	249
17 634B-0150 or 634BK-0090 Cap	250-251
18 204247 Fill Prevention Cage	250
19 633AST-2190 Adaptor	250
20 53-00XX Series Double Tapped Bushing	127

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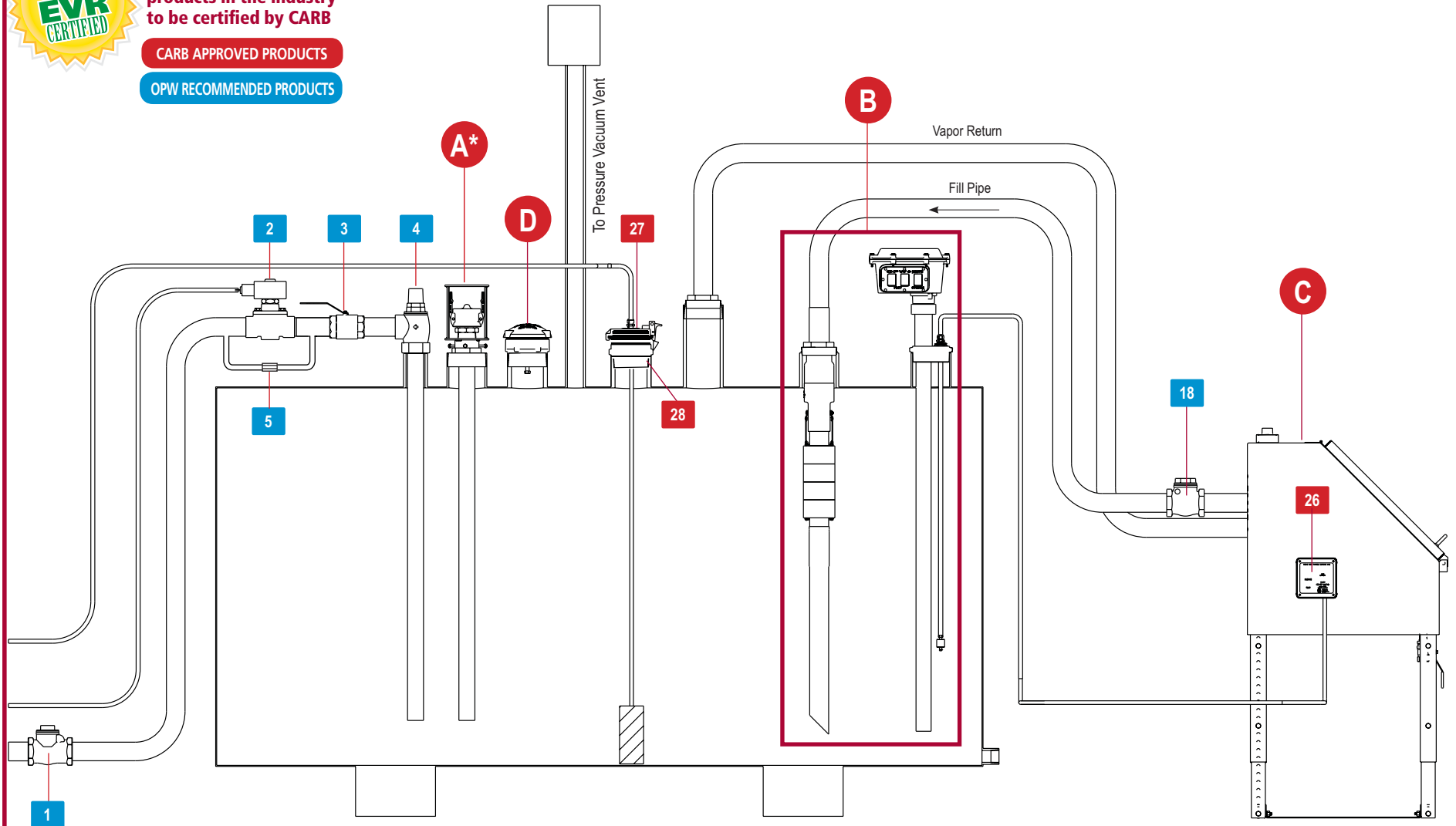
Above Ground Storage Tank - Remote Fill - Remote Dispensing Typical OPW Phase I System for AST



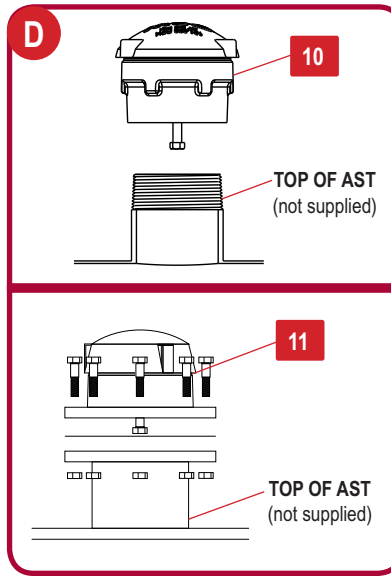
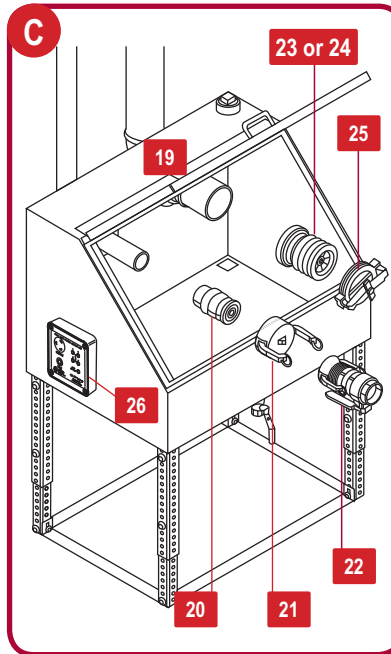
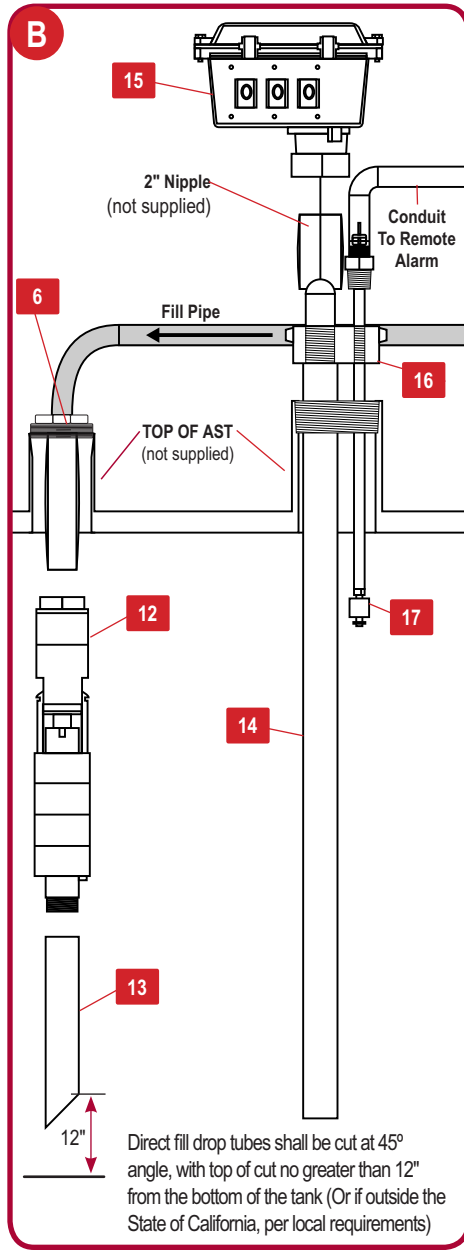
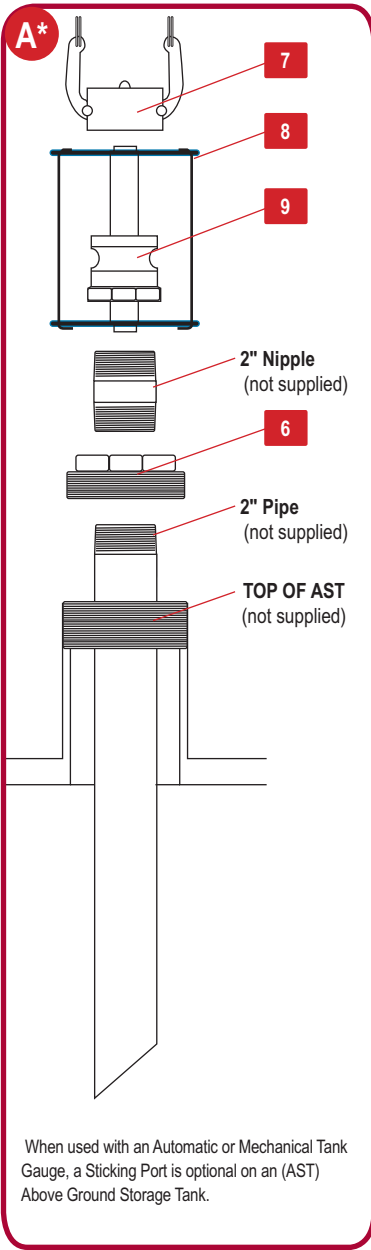
The *first* Above Ground Storage Tank (AST) products in the industry to be certified by CARB

CARB APPROVED PRODUCTS

OPW RECOMMENDED PRODUCTS



* When used with an Automatic or Mechanical Tank Gauge, a Sticking Port is optional on an (AST) Above Ground Storage Tank.



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APPROVED PRODUCTS

RECOMMENDED PRODUCTS

KEY	OPW PART / DESCRIPTION	PAGE
1	178S Series Emergency Valve (optional)	300
2	821 Series Solenoid Valve (optional)	298
3	21BV Series Ball Valve (optional)	298
4	199ASV Series Anti-Siphon Valve (optional)	297
5	82RV Series Pressure Relief Valve (optional)	298
6	53-00XX Series Double Tapped Bushing (optional)	127
7	634B-0150 or 634BK-0900 Cap	250-251
8	204247 Fill Prevention Cage	250
9	633AST-2190 Adaptor	250
10	301 Series Emergency Vent - Threaded Mount (See Vent Size Configuration Guide on page 244)	250
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12	61fSTOP-XXXXT Series Overfill Prevention Valve	248-249
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16	TGTA-0400 4" Gauge/Alarm Combo Fitting (optional)	253
17	44TA-LLFS Liquid Level Float Switch (optional)	253
18	175 Series Swing Check Valve (optional)	264
19	6211R Series Remote Spill Container	247
20	1611AN-0200 or 1612AN-0200 - 2" Remote Fill or 1611AN-0300 or 1612AN-0300 - 3" Remote Fill Kamvalok Adaptor	251
21	A) 634B-0140 Dust Cap fits 633AST-0150 Adaptor B) 634B-0150 Dust Cap fits 633AST-2061 or 633AST-0200 Adaptor C) 634B-0160 Dust Cap fits 1611AN-0200 or 633ST-0250 or 1611AN-2040 or 1612AN-2040 Adaptors D) 634B-0170 Dust Cap fits 1611AN-3060 or 1612AN-3060 Adaptors	250
22	1711D, 1711DL, 1712D, 1712DL Series Kamvalok Couplers	251
23	1611AV Vapor Recovery Adaptor	112
24	61VSA Series Vapor Recovery Adaptor	111
25	1711T-7085-EVR Cap or 1711LPC-0300 Low Profile Cap	113
26	144TA/444TA Series Tank Alarm (optional / see NOTE below)	253
27	62M Series Monitoring Probe Cap & Adaptor	114
28	FSA-400 Face Seal Adaptor	59

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Emergency Venting Size Selection Guide

For Horizontal Above Ground Storage Tanks

The OPW AST Venting Guide is supplied to assist emergency venting selection for above ground storage tanks (AST). The table below contains common tank sizes and based on the Wetted Area of a horizontal cylindrical storage tank, the correct size OPW Emergency Vent . The following chart, was taken directly from NPFA 30 and UL 142.

Horizontal AST Emergency Venting Size Guide											Table 1
Tank Specifications											
Capacity		Diameter		Length		Wetted Area		Required Vent Capacity		OPW 301 Vent Size	
Gallons	Liters	ft. or in.	Meters	ft. or in.	Meters	sq. ft.	sq. m.	CFH	CMH		
280	1,060	3'	0.914	5'-2"	1.574	47	4.366	49,520	1,402	4"	
300	1,136	38"	0.965	5'	1.524	49	4.552	51,640	1,462	4"	
500	1,893	4'	1.219	5'-5"	1.651	69	6.410	72,650	2,057	4"	
530	2,006	4'	1.219	6'	1.828	71	6.596	74,750	2,117	4"	
550	2,082	64"	1.626	6'	1.828	75	6.967	78,950	2,236	4"	
1,000	3,785	64"	1.626	10'-8"	3.251	119	11.055	124,950	3,538	6"	
1,000	3,785	64"	1.626	6'	1.828	109	10.126	114,450	3,241	6"	
1,500	5,678	64"	1.626	9'	2.743	147	13.657	154,350	4,371	6"	
2,000	7,571	64"	1.626	12'	3.657	184	17.094	193,200	5,471	6"	
2,500	9,464	64"	1.626	15'	4.572	222	20.624	223,320	6,324	6"	
3,000	11,356	64"	1.626	18'	5.486	259	24.062	243,680	6,900	6"	
3,000	11,356	6'	1.828	14'	4.267	240	22.297	233,400	6,609	6"	
4,000	15,142	64"	1.626	24'	7.315	335	31.123	281,100	7,960	8"	
4,000	15,142	6'	1.828	19'	5.791	311	28.893	270,060	7,647	8"	
5,000	18,927	8'	2.438	13'-4"	4.064	326	30.286	276,960	7,843	8"	
6,000	22,712	8'	2.438	16'	4.876	376	34.932	300,480	2,364	8"	
8,000	30,283	8'	2.438	21'-4"	6.502	477	44.315	344,340	9,751	8"	
10,000	37,854	8'	2.438	27'	8.229	584	54.255	385,920		8"	
10,000	37,854	9'	2.743	21'	6.400	540	50.168	369,200	10,455	8"	
10,000	37,854	10'	3.048	17'	5.181	518	48.124	360,840	10,218	8"	
10,000	37,854	10'-6"	3.200	15'-7"	4.749	515	47.845	359,700	10,186	8"	
12,000	45,425	8'	2.438	32'	9.753	678	62.988	420,080	11,895	8"	
12,000	45,425	9'	2.743	25'	7.620	625	58.064	401,000	11,355	8"	
12,000	45,425	10'	3.048	20'-6"	6.248	600	55.742	392,000	11,100	8"	
12,000	45,425	11'	3.352	17'	5.181	583	54.162	385,540	10,917	8"	
15,000	56,781	8'	2.438	40'	13.192	829	77.017	470,990	13,336	10"	
15,000	56,781	8'	2.438	23'-5"	7.137	703	65.311	429,020	12,148	10"	
20,000	75,708	10'	3.048	34'-2"	10.414	922	85.657	499,820	14,153	10"	
20,000	75,708	10'-6"	3.200	31'	9.448	896	83.241	491,760	13,925	10"	
20,000	75,708	11'	3.352	28'	8.534	868	80.640	483,080	13,679	10"	
25,000	94,635	10'-6"	3.200	38'-6"	11.734	1,082	100.52	537,530	15,221	10"	
30,000	113,562	10'-6"	3.200	46'-3"	14.097	1,274	118.36	568,100	16,087	10"	

Horizontal AST Emergency Vent Selection

For Horizontal Above Ground Storage Tanks

TABLE 1 is a pre-calculated chart that may have all the information needed to choose the proper emergency vent. If the tank size is not in the pre-calculated chart, use the example below as a guide to figure out the wetted area, cubic feet per hour (CFH), and proper vent selection for the particular tank.

****EXAMPLE:**

Given: Tank capacity is 10,000 gallons; 10 feet in diameter x 17 feet long.
From TABLE 1: **WA = 518 sq. ft.**

If not in the table, do the following to calculate the wetted area:

$$\text{Formula: } WA = .75 \left[2 \frac{\pi d^2}{4} + \pi dl \right] = .75 \left[\frac{\pi d^2}{2} + \pi dl \right]$$

WA = wetted area in square feet
75% = horizontal tank factor
p = 3.14
d = diameter of tank end in feet
l = length of tank in feet

$$WA = .75 \left[\frac{3.14 \times 10^2}{2} + (3.14 \times 10 \times 17) \right]$$

$$WA = .75 (157.0 + 533.8) = \mathbf{518 \text{ square feet rounded}}$$

Step 2

If the tank size is in the chart, use the supplied CFH values to determine the emergency vent size needed in TABLE 1.

If not in the charts, continue the following example:

Using 518 square feet, the cubic feet per hour (CFH) can be found using TABLE 1. Since 518 falls between the values of 500 and 600, interpolation is necessary as follows:

	600 sq. ft.	392,000 CFH	See TABLE 2 for additional CFH values.
Difference:	-500 sq. ft.	-354,000 CFH	
	100 sq. ft.	38,000 CFH	

$$\left[\frac{38,000}{100} \quad \frac{x}{518-500} ; x = 6,840 \text{ CFH} \right]$$

$$\text{Total CFH required} = 354,000 \text{ CFH} + 6,840 \text{ CFH} = \mathbf{360,840 \text{ CFH}}$$

Step 3

Vent selection: using TABLE 1, find the range in which 360,840 CFH falls. The tables show that an 8" emergency vent is needed.

Wetted Area versus Table 2
Cubic Feet of Free Air Per Hour
(14.7 PSIA and 60°)

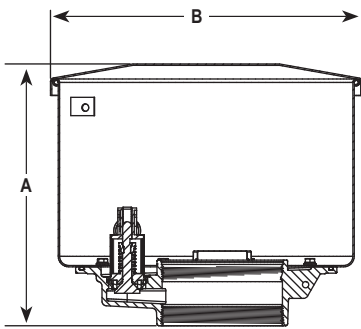
sq. ft.	sq. m.	CFH	CMH
20	1.858	21,100	597.48
30	2.787	31,600	894.81
40	3.716	42,100	1,192.13
50	4.645	52,700	1,492.29
60	5.574	63,200	1,789.62
70	6.503	73,700	2,086.95
80	7.432	84,200	2,384.27
90	8.361	94,800	2,684.43
100	9.290	105,000	2,973.26
120	11.148	126,000	3,567.92
140	13.006	147,000	4,162.57
160	14.864	168,000	4,757.23
180	16.723	190,000	5,380.20
200	18.581	211,000	5,974.85
250	23.226	239,000	6,767.72
300	27.871	265,000	7,503.96
350	32.516	288,000	8,155.25
400	37.161	312,000	8,834.85
500	46.452	354,000	10,024.16
600	55.742	392,000	11,100.20
700	65.032	428,000	12,119.61
800	74.322	462,000	13,082.38
900	83.613	493,000	13,960.20
1,000	92.903	524,000	14,838.02
1,200	111.48	557,000	16,338.82
1,400	130.06	587,000	16,621.98
1,600	148.64	614,000	17,386.54
1,800	167.23	639,000	18,094.46
2,000	185.81	662,000	18,745.75
2,400	222.97	704,000	19,935.06
>2,800	> 260.13	742,000	21,011.10

SOURCE: *Flammable and Combustible Liquids Code 30, NFPA*.
Interpolate for immediate values.

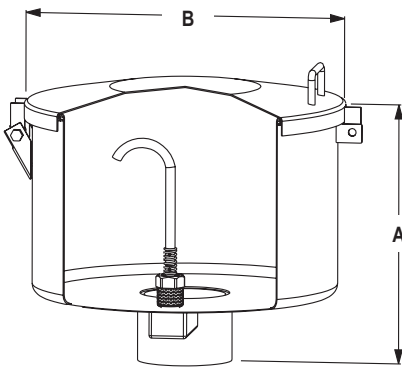
**PEI Recommended Practices 200-96

POMECO/OPW 332AST & 6221AST Direct-Fill Above Ground Storage Tank Spill Containers

POMECO/OPW Direct-Fill AST Spill Containers are designed to prevent spilled product from entering soil near the fill and vapor return riser connections on an above ground storage tank during normal tank filling operation. The spill containers catch spillage to help prevent soil contamination and groundwater pollution. POMECO/OPW Direct-Fill AST Spill Containers thread on the top of an above ground tank and allow for drainage of spilled product back into the tank.



332AST



6221AST

Dimensions

Model #	Capacity		A		B	
	gal.	liter	in.	cm	in.	cm
6221	7	26.5	14½	37	17	43
	3.5	13.2	9¼	24	17	43
332	7	26.5	14	35	17	43

Features

- ◆ **Easy Installation** – 4" NPT threaded base screws directly to the tank riser pipe. No further adjustments are needed.
- ◆ **Integral Drain Valve** – allows high-speed drainage of spilled product back into the tank.
- ◆ **Capacity** – available in 7-gallon (26.5 liter) container capacity. Larger 7-gallon capacity spill containers provide additional clearance for 61fSTOP Overfill Prevention Valves (3.5 gallon-221 only).
- ◆ **Rain-Shedding Cover Design** – hooded cover design helps prevent water or snow entry by extending the lip of the cover over the body of the spill container.
- ◆ **Welded-Hinge, Lockable Hatch** – the cover includes a provision for a padlock and a welded-hinge assembly for added security.
- ◆ **12 Gauge Epoxy-Powder Coated Construction** – heavy-duty materials, compatible with hydrocarbons, for long service life and added security
- ◆ **332AST Spun Steel Design** – spun steel construction provides a lightweight, one-piece design for easy installation and a clean, sleek appearance on above ground tanks.



- ◆ **6211AST Heavyweight, Welded Base Design** – Thick, welded steel base and 12-gauge steel walls provide solid strength for heavy-duty applications.
- ◆ **All Models Are ULC Listed** – clearly labeled to identify the listing.
- ◆ **CARB EVR Certified**

332AST Spill Containers
Instruction Sheet Order Number: 203168

6211-AST Spill Containers
Instruction Sheet Order Number: 202207

Ordering Specifications:

CARB APPROVED AST EQUIPMENT				
Product No.	Description	Liters	lbs.	kg
332-ASTW74	7 gallon, 4.0" NPT EVR Approved	26.4 liter, 4.0" NPT	38	17.23
6221-ASTW32	3.5 gallon, 2.0" NPT White	13.2 liter, 4.0" NPT	18	8.16
6221-ASTW34	3.5 gallon, 4.0" NPT White	13.2 liter, 4.0" NPT	19	8.61
6221-ASTW72	7 gallon, 2.0" NPT White	26.4 liter, 2.0" NPT	20	9.07
6221-ASTW74	7 gallon, 4.0" NPT White	26.4 liter, 4.0" NPT	25	11.33
6221-ASTW76	7 gallon, 6.0" NPT White	26.4 liter, 6.0" NPT	25	11.33
6221SS-AST74	7 gallon, AST Stainless Steel Spill Container	26.4 liter, 4.0" NPT	25	11.33

Listings and Certifications

CARB Certified
AST Phase 1 Enhanced Vapor Recovery (EVR) System
E0-VR 401-B

Features

- ◆ **Easy Installation** – a 4" flexible boot on the back panel allows for a quick, simple connection to the remote fill or vapor lines. Optional reducer inserts are available to accommodate 3" and 2" piping connections.
- ◆ **Models to Accommodate Various Fill Pipe Configurations** – available in 15, 20 and 30-gallon container capacity. Smaller 15-gallon models are designed for a single-fill or vapor return connection. Larger 20 and 30-gallon models accept both fill and vapor return piping in a dual-port configuration. The 30-gallon model will accommodate both fill and vapor return piping in a single-port configuration and allow the use of 3" Dry Disconnects (OPW 1611AN and 1711D) in a dual-port configuration.
- ◆ **Rain-Shedding Cover Design** – hooded cover design helps prevent water or snow entry by extending the lip of the cover over the body of the spill container.
- ◆ **12-Gauge Epoxy-Powder Coated Steel or Stainless Steel Construction** heavy-duty materials, compatible with hydrocarbons, for long service life and added security.



- ◆ **Welded-Hinge, Lockable Hatch** – cover includes a provision for a padlock and a welded-hinge assembly for added security.
- ◆ **Easy Product Drainage** – lockable ball valve drain provides for quick and easy product removal.
- ◆ **Height Adjustable** – adjustable legs enable the spill container to be set at a variety of heights, from 16½" to 30". Each leg is independently adjustable to account for uneven ground conditions.
- ◆ **CARB Certified**
- ◆ **Custom Sizes Available Upon Request.**

Ordering Chart:

6	R -	15	0	B2	L
211		20	1	B3	LD
211SS		30	2	B4	N
				N	ND

211 – 12 Gauge Powder-Coated Steel Construction 211SS – Stainless Steel Construction	0 – No entry holes 1 – 1, 4" entry hole 2 – 2, 4" entry holes (30 Gallon Only)	L – Adjustable legs and No base drain valve LD – Adjustable legs with base drain valve N – No legs and No base drain valve ND – No legs with base drain valve
15 – 15 Gallon Capacity 20 – 20 Gallon Capacity 30 – 30 Gallon Capacity	B – Booted entry fittings in holes N – No fittings in holes	2 – 2" Fitting 3 – 3" Fitting 4 – 4" Fitting

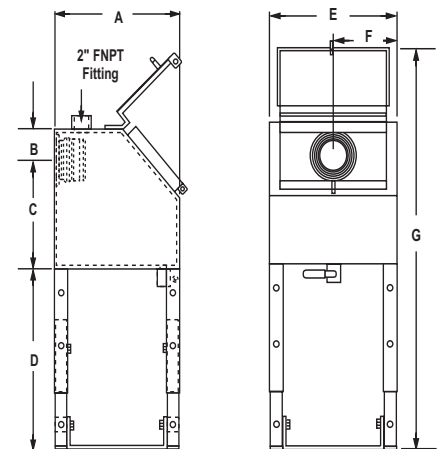
Note: an item must be selected for each column.

Dimensions

15 Gallon Weight 91 lbs. (41 kg)		20 Gallon Weight 135 lbs. (61 kg)		30 Gallon Weight 175 lbs. (79 kg)	
in.	cm	in.	cm	in.	cm
A	18¼	24	61	21	53
B	7½	19	48	10½	27
C	13½	35	89	16½	42
D	16½ to 30	42 to 76	107 to 193	16½ to 30	42 to 76
E	18¼	46	117	34	86
F	9½	23	58	9½	24
G	47 to 60½	119 to 154	130 to 193	56½ to 80	144 to 203

POMECO/OPW 211-RMOT Remote-Fill Above Ground Storage Tank Spill Containers

POMECO/OPW Remote-Fill AST Spill Containers are designed to prevent spilled product from entering soil near the remote, horizontal-fill and vapor return connections on an above ground storage tank during normal tank filling operation. The spill containers catch spillage to help prevent soil contamination and groundwater pollution. POMECO/OPW Remote-Fill AST Spill Containers slip on the remote-fill and vapor return piping connected to an above ground tank. Compatible with methanol, ethanol, jet and AV-Gas fuels.



Replacement Parts

Part #	Description
201758	4 x 2 Reducer Insert
201759	4 x 3 Reducer Insert
PBOOT	Nitrile (Fuel-Resistant) Boot
202312	Aluminum Flange
21BV-0075	Fullport ¾"
PRMOT-LEGKIT	Leg Kit

211R Instruction Sheet Order Number: H15857PA
PC04427 - Brass Drain Valve

OPW 61fSTOP "THE STOPPER" Overfill Prevention Valves

The OPW 61fSTOP Overfill Prevention Valve ("The Stopper") is designed to prevent overfilling of above ground storage tanks by providing a positive shut-off during a pressurized-fill (pump-on fill) delivery. "The Stopper" threads into the fill opening and is an integral part of the fill tube. The OPW61fSTOP is fully adjustable to allow for easy installation in new or existing above ground tanks of various heights and storage capacities.

The Stopper is a single-action, complete shut-off valve. When the liquid level rises to your specific, pre-determined tank capacity, the valve mechanism is released and automatically closes with the flow of the product. Any excess product left between the valve and the fuel delivery coupler is drained into the tank through internal drain vents. The drain vents on the 61fSTOP act as an anti-siphon, by introducing air/vapor into the fill line, to help isolate the tank from a potential siphon due to a broken or leaking fill pipe.

The 61fSTOP, available in either 2" or 3" full-flow models, maximizes flow rates and minimizes delivery times. The 2" 61fSTOP requires a 4" tank opening and minimum tank ullage (space from the top of the stored product to the inside top of the tank) of 8" on the 61fSTOP-1000 Cylindrical Float model and a minimum ullage of 4" on the 61fSTOP-2000 Float Arm model. The 61fSTOP-1000, with the cylindrical float, eliminates the need to position the valve to avoid tank walls or cross-bracing. The 61fSTOP-2000 with the float arm allows for increased usable storage capacity in the tank, and is well-suited for small capacity rectangular ASTs. The 3" 61fSTOP requires a 6" tank opening and incorporates a cylindrical float requiring 8" of tank ullage space.

Materials

Valve Body, Adaptor and Collar:
cast aluminum

Poppet: Cast aluminum,
hard-coated

Cam: Stainless steel

Follower: brass

Shaft: CRS zinc-plated

Bearing: Sintered bronze

Float: Closed-cell nitrile

Nipple: 2" - 3" schedule
40 steel pipe

Lower Nipple: 2" - 3" schedule
40 steel pipe with Duragard®
coating



Features

- ◆ **A Special Crossbar Tank-Inlet Adaptor** – is provided with each Stopper to provide for tight-fills and help prohibit open-fills. Mounting hardware, upper drop tube and 14" lower drop tube provided (longer-length drop tubes can be purchased or added).
- ◆ **Completely Automatic Operation** – no pre-checks to perform, no resets, and no overrides to be broken or abused.
- ◆ **Direct or Remote-Fill Compatible** – fuel delivery couplers can be connected directly to the 61fSTOP, or steel pipe can be threaded into the top of the valve and piped to a remote location where the couplers are contained in a 211-RMOT Spill Container.
- ◆ **Integral Anti-Siphon Valve** – drain vents on the 61fSTOP act as an anti-siphon, by introducing air/vapor into the fill line after the valve actuates, to help isolate the tank from a potential siphon due to a broken or leaking remote-fill pipe.
- ◆ **150 psi (10 bar) Pressure Rated* with Low Pressure Drop** – to enable quick, safe delivery of fuel into the tank.
- ◆ **25 GPM (95 lpm) Minimum Flow Rate Required.**
- ◆ **UL and ULC Listed** – to satisfy Third Party accreditation requirements of many jurisdictions.
- ◆ **CARB Approved VR-401-A; VR-401-B**

*OPW does not recommend pumping pressures above 100 psi for Class 1B fuels or remote applications and we make no warranties for products use in conjunction with the 61fSTOP.

NOTE: OPW recommends the use of the 61fSTOP with clean product only. Debris and other products such as contaminated waste oil may cause improper operation of the valve.

NOTE: The 61fStop can be used in gravity drop provided the minimum flow rate is maintained. A tight shut-off is not achieved in the closed position. However with a minimum tank size of 1,000 gallons, the leak rate will provide a 30-minute warning before the tank is full.

**Approvals
and Listings**



**CARB EVR Certified
VR-401-A; VR-401-B**

Ordering Specifications and Dimensions

Product #	Description	A		B		C		D		E		F	
		in.	cm	in.	cm	in.	cm	in.	cm	in.	cm	in.	cm
61fSTOP-1000	2" Cyl. Float	3	7.6	10	25.4	2	5.1	9	22.4	3 ¹ / ₁₆	10	n/a	n/a
61fSTOP-100M*	2" Cyl. Float for Methanol	3	7.6	10	25.4	2	5.1	9	22.4	3 ¹ / ₁₆	10	n/a	n/a
61fSTOP-2000	2" Float Arm	3	7.6	10	25.4	1/2	3.8	5-18	22.4	1 ³ / ₁₆	5	6	15.2
61fSTOP-200M*	2" Float Arm for Methanol	3	7.6	10	25.4	1/2	3.8	5-18	22.4	1 ³ / ₁₆	5	6	15.2
61fSTOP-3050	3" Cyl. Float	3	7.6	10 ³ / ₈	27	2	5.1	8	20.3	5 ¹ / ₈	13	n/a	n/a
61fSTOP-305A*	3" Cyl. Float for Aviation or Methanol	3	7.6	10 ³ / ₈	27	2	5.1	8	20.3	5 ¹ / ₈	13	n/a	n/a
61fSTOP-100M*	2" Cyl. Float for E85	3	7.6	10	25.4	2	5.1	9	22.4	3 ¹ / ₁₆	10	n/a	n/a
61fSTOP-200M*	2" Cyl. Float for E85	3	7.6	10	25.4	1/2	3.8	5-18	22.4	1 ³ / ₁₆	5	6	15.2
61fSTOP-305A	2" Cyl. Float for AV-GAS	3	7.6	10 ³ / ₈	27	2	5.1	8	20.3	5 ¹ / ₈	13	n/a	n/a

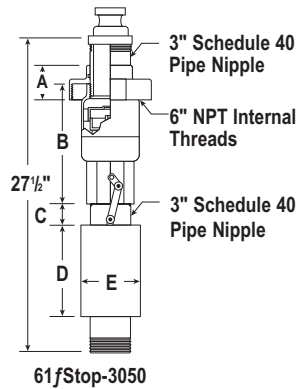
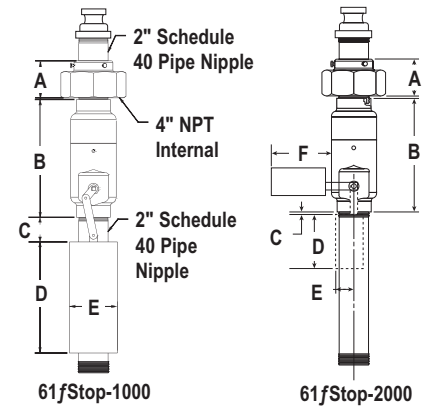
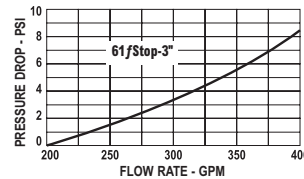
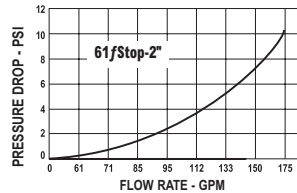
*Recommended for E85

Replacement Parts 2"

Product #	Description
C04093M	4" Retaining Collar
C04114RS	14" Nipple
Replacement Parts 3"	
Product #	Description
D02037M	6" Retaining Collar
C04474RS	14" Nipple

61fSTOP Weights

Product #	Weight	
	lbs.	kg
61fSTOP-1000	13	5.89
61fSTOP-2000	12	5.44
61fSTOP-3050	22	9.97



CARB APPROVED AST EQUIPMENT

Product #	Description	A		B		C		D		E	
		in.	cm	in.	cm	in.	cm	in.	cm	in.	cm
61FSTOP-1000T	2" NPT with cylindrical float	10	25.4	2	5.1	9	22.4	3 ¹ / ₁₆	10	n/a	n/a
61FSTOP-2000T	2" NPT with float arm	10	25.4	1/2	3.8	5-18	22.4	1 ³ / ₁₆	5	6	15.2
61FSTOP-3050T	3" NPT with cylindrical float	10 ³ / ₈	27	2	5.1	8	20.3	5 ¹ / ₈	13	n/a	n/a

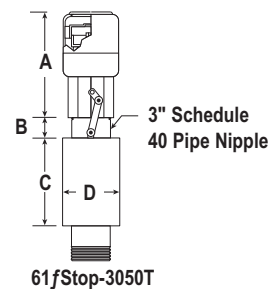
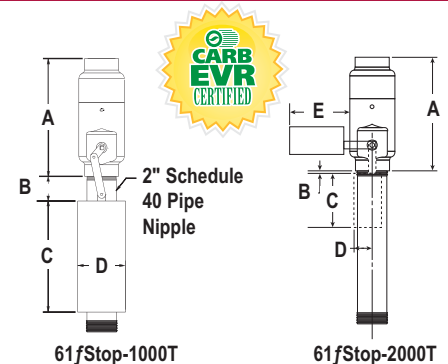


Replacement Parts 2"

Product #	Description
H12617M	Float for 1000 (4 pieces required)
61ARM-2000	Floating Arm Retrofit Kit For 2000

Replacement Parts 3"

Product #	Description
C04438M	Float (4 pieces required for 3050)



OPW 61FT Drop Tube

The OPW 61FT Drop Tube is designed to install on the bottom of the 61fSTOP AST Overfill Prevention Valves when a lightweight, longer, lower drop tube is required. Constructed of extruded aluminum, the OPW 61FT is connected to the bottom of the 61fSTOP by a clevis and cotter pin assembly, and allows for submerged filling of ASTs.



Ordering Specifications and Dimensions

CARB APPROVED AST EQUIPMENT

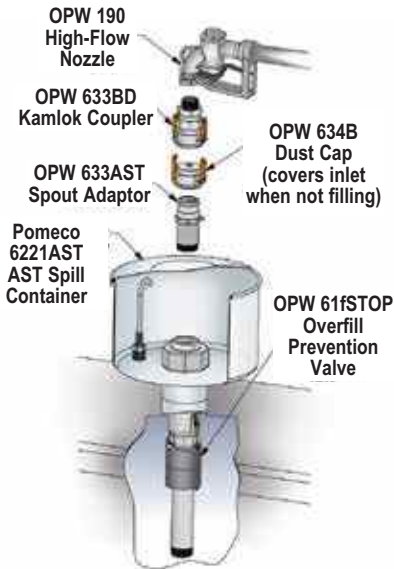
Product #	Description
61FT-0206	2" x 6' Drop Tube Kit
61FT-0312	3" x 12' Drop Tube Kit

61FSTOP-1000, 100M, 200M Instruction Sheet Order Number: **H12676M**
 61FSTOP-2000 Instruction Sheet Order Number: **H13337M**
 61FSTOP-3000, 3050, 305A Instruction Sheet Order Number: **H13315M**
 61FT-0312, 0206 Instruction Sheet Order Number: **H14428PA**
 61FSTOP-1000T, 2000T, 3050T Instruction Sheet Order Number: **203163**

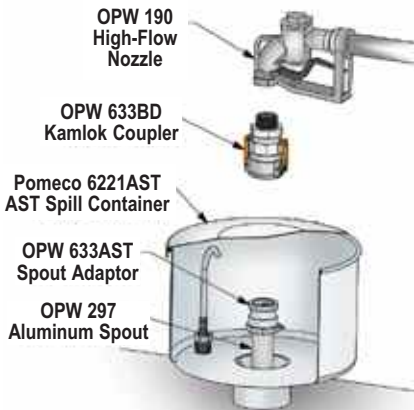
NOTE: When ordering a CARB EVR Certified OPW 61f STOP, the Fill Adaptor must be ordered separately.

Fuel Delivery Couplers And Accessories

Fuel Delivery Couplers and Accessories are designed to connect fuel delivery transport truck hoses or nozzles to the fill pipe of an aboveground storage tank.



Typical AST Filling Application



Typical AST Filling Application



Dedicated Gauging Port

For use with 633AST-0XXX Female NPT Kamlok Gauging Port.

Ordering Specifications

CARB APPROVED AST EQUIPMENT

Product #	Description
204247	Dedicated Gauging Port



Kamlok® Couplers

The 633BD has a Kamlok® Coupler on one end and external threads on the other end. This coupler should be threaded into an OPW 190 Nozzle and then coupled to the 61fSTOP for filling ASTs.

Ordering Specifications

Product #	Elbow/Thread	
	in.	mm
633BD-1261	2 x 1½	51 x 38
633B-0150	2 x 2	51 x 51



633B Coupler

Tank Inlet Spout Adaptors With Crossbar

The 633AST Series Adaptors, with a boss installed across the inlet, are designed to prohibit open-fills. Adaptors are supplied with the 61fSTOP to provide for tight-fills.

Ordering Specifications

Product #	Elbow/Thread	
	in.	mm
633AST-2061	2 x 2	51 x 51
633AST-3061	3 x 3	77 x 77



633AST Spout Adaptor

Tank Inlet Spout Adaptors

The 633AST is an adaptor that can be threaded onto a 297 Spout. The spout and adaptor assembly may then be attached to a 190 Nozzle equipped with a 633BD Kamlok® coupler for open filling of ASTs when a 61fSTOP is not installed.

Ordering Specifications

CARB APPROVED AST EQUIPMENT

Product #	Elbow/Thread	
	in.	mm
633AST-0150	1.5 x 1.5	38 x 38
633AST-0200	2 x 2	51 x 51
633AST-0250	2.5 x 2.5	64 x 64
633AST-0300	3 x 3	76 x 76
633AST-0400	4 x 4	102 x 102

366FAST-XXXX, Male Thread Equivalent of Adaptors above



633AST Spout Adaptor

Dust Caps

The 634B Dust Caps are installed on 633AST Adaptors when not in use to deter dust, debris and water from entering the tank.

Ordering Specifications

CARB APPROVED AST EQUIPMENT			
Product #	Description	in.	mm
634B-0140	For 633AST-0150	1-1/2	38
634B-0150	Caps 633AST-2061 or 633AST-0200 Adaptor	2	51
634B-0160	Caps 1611AN-0200 or 633AST-0250 or 1611AN-2040 or 1612AN-2040 Adaptors	2-1/2	64
634B-0170	Caps 61fSTOP (633AST-3061) or 366AST-0300 or 1611AN-3060 or 1612AN-3060 Adaptors	3	77
634B-0180	1611AN-0300 Kamvalok® Adaptor or 633AST-0400 Adaptor	4	103



Dust Cap



1611 & 1612 Series Kamvalok® Adaptors

Installed onto the 61 fSTOP overfill prevention valve. Contains an internal spring loaded valve assembly that automatically closes to help prevent fuel spillage.

Ordering Specifications

CARB APPROVED AST EQUIPMENT				
Product #	Seal	in.	mm	
1611AN-2040	Direct Fill with Buna seal	2	51	
1612AN-2040	Direct Fill with Viton seal	2	51	
1611AN-3060	Direct Fill with Buna seal	3	77	
1612AN-3060	Direct Fill with Viton seal	3	77	

1611AN Adaptor Instruction Sheet Order Number: 204016



Kamvalok® Adaptor for Direct Fill

Poppeted Kamvalok® Adaptors

The 1611AN Series Kamvalok® Adaptor is installed at the fill pipe and replaces the 633AST. The 1611AN contains an internal spring-loaded valve assembly that automatically closes to help prevent fuel spillage. The 1611AN mates with the 1711D Coupler to open the spring-loaded valve and proceed with a delivery 204016.

Ordering Specifications

CARB APPROVED AST EQUIPMENT				
Product #	Seal	in.	mm	
1611AN-0200	Remote Fill with Buna Seal	2	51	
1611AN-0300	Remote Fill with Buna Seal	3	77	
1612AN-0150	Remote Fill with Viton® Seal	1½	38	
1612AN-0200	Remote Fill with Viton® Seal	2	51	
1612AN-0300	Remote Fill with Viton® Seal	3	77	
1672AN SS20	2" Stainless Steel Kamvalok® Adaptor	2	51	
1672AN SS30	3" Stainless Steel Kamvalok® Adaptor	3	77	

* Thread and Kamvalok® same size

1611AN Adaptor Instruction Sheet Order Number: 204016



Poppeted Kamvalok® Couplers for Remote Fill

Poppeted Kamvalok® Couplers

The 1711D Series Kamvalok® Couplers are installed on the fuel delivery transport truck hose and mate with the 1611AN Adaptors. The combination of the 1711D and 1611AN enable dry connection and dry disconnection of delivery fittings to help prevent accidental spillage of product.

Ordering Specifications

CARB APPROVED AST EQUIPMENT				
Product #	Seal	in.	mm	
1711D-1075	Buna	2	51	
1711D-1080	Buna	3	77	
1712D-1085	Viton®	1½	38	
1712D-1090	Viton®	2	51	
1712D-1095	Viton®	3	77	
1772D-SS-20	2" Stainless Steel Poppeted Kamvalok® Adaptor	2	51	
1772D-SS-30	3" Stainless Steel Poppeted Kamvalok® Adaptor	3	77	

* Thread and Kamvalok® same size

H32116PA Coupler Instruction Sheet Order Number: 204016



Poppeted Kamvalok® Couplers

Dust Plugs

The 634A Dust Plug is installed in the end of the 1711D, and is designed to help prevent dust, dirt and debris from damaging the internal components of the Coupler.

Ordering Specifications

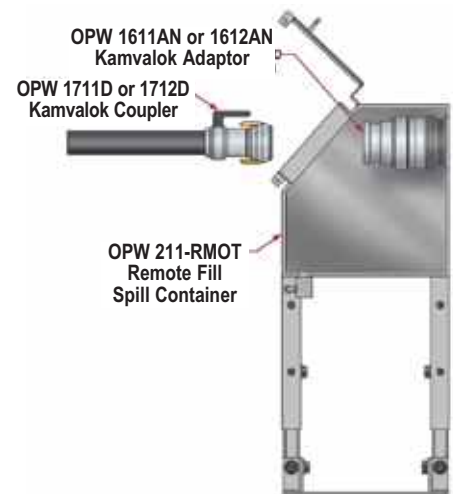
Product #	Description	in.	mm
634A-0160	Plugs 1711D or 1712D - 2" Kamvalok® Coupler	2½	64
634A-0180	Plugs 1711D or 1712D - 3" Kamvalok® Coupler	4	103



Dust Plug

Spout Kits And Delivery Couplers And Accessories

Fuel Delivery Couplers and Accessories are designed to connect fuel delivery transport truck hoses or nozzles to the fill pipe of an aboveground storage tank.



Typical AST Filling Application



Lockable Dust Plug

Lockable Dust Caps

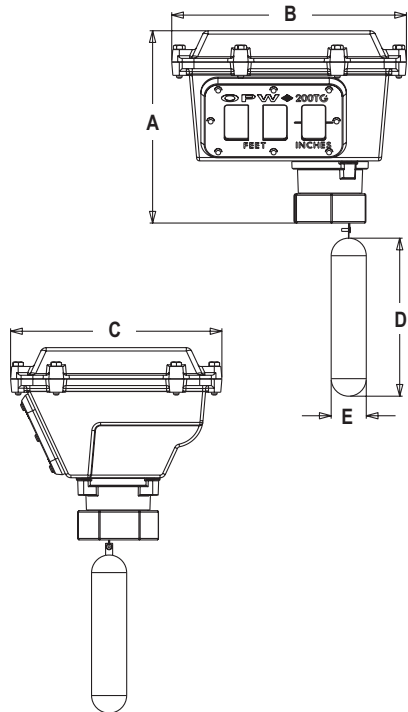
The 634BK-0090 is a 2" lockable dust cap for the 61fSTOP. It will cap off any 2" 633AST Tank Inlet Spout Adaptor and offers the added feature of being lockable.

Ordering Specifications

CARB APPROVED AST EQUIPMENT				
Product #	Description	in.	mm	
634BK-0090	Caps 633AST Adaptor	2	51	
634BK-0100	Caps 633AST Adaptor	3	77	
634BK-0200	Caps 633AST Adaptor	4	103	

OPW 200TG AST Mechanical Tank Gauge

The OPW 200TG Tank Gauge is designed for reading liquid levels in horizontal or vertical above ground storage tanks. The 200TG Tank Gauge provides an accurate numerical counter readout, eliminating the need for any on-site manual gauging.



Dimensions:

	in.	cm
A	8 1/4	21
B	10 1/4	26
C	9	22.75
D	6 3/4	17.25
E	1 1/2	3.75

Replacement Parts:

Part #	Description
C05165M	Float
H14358M	Lens
H14909M	Lid Gasket



Underwriters Laboratory Listed UL Listing MH29367. Liquid level gauges which are intended to be used on above ground storage tanks and monitor the level of petroleum-based flammable or combustible fluids.

Materials

- Enclosure:** Powder-coated aluminum
- Swivel Base:** Hard-coat aluminum
- Float:** 304 stainless steel
- Lenses:** Tempered borosilicate
- Gears:** Acetal
- Gaskets & O-Rings:** Nitrile®
- All Hardware:** Stainless steel
- Accuracy:** + or - 2"



Features

- ◆ **Vapor-Tight** – allows for standard tank pressure testing and sealing up to 25-psig (1.72 bar).
- ◆ **Angled Face** – improves visibility from ground on large diameter tanks. May be read easily up to 30 feet away (9.14 m).
- ◆ **Swivel Adaptor Base** – allows for 360° of rotation of gauge face for easy viewing wherever needed.
- ◆ **Easy Installation** – 2" NPT-threaded base reduces labor time, and comes standard with female thread. A H11421RS may be purchased for male threaded applications.
- ◆ **Corrosion-Resistant Construction** – powder-coated die cast-aluminum body assures for long service life in many fluids.
- ◆ **Drop Tube** – prevents float entanglement in the tank, and gives the gauge a more accurate reading when turbulence is present (Drop Tubes sold separately. They are recommended for use in tanks with high turbulence, and where other piping and structures inside the tank may cause entanglement).
- ◆ **Float Buoyancy** – designed to float in all approved fuels with a specific gravity of 0.65 and greater.
- ◆ **Tank Height** – unit designed for use on any horizontal or vertical aboveground tank up to 18 feet (5.5 m) in depth. Specials available upon request.
- ◆ **Numbering** – black letters on white background for ultimate contrast and better visibility. Characters stand over 1" (25 mm) tall.
- ◆ **Unit Measurement** – Can be purchased in metric units to read in meters, 1/10, 1/100, or in English units to read in feet and inches.
- ◆ **Maintenance** – No annual maintenance required.
- ◆ **U.S. Patent No.:** 6,523,404 - Other patents pending.
- ◆ **Compatible Fuels**– see chart on page 266.
- ◆ **Temperature Rating** – 120°F to -40°F (49°C to -40°C)

200TG Tank Gauge Instruction
Sheet Order Number: **H14912PA**

Ordering Specifications:

Product #	Description	lb.	kg
200TG-ENG	English Unit Tank Gauge up to 18 ft.	7.75	3.52
200TG-ENG40	English Unit Tank Gauge - 40 ft.	7.75	3.52
200TG-MET	Metric Unit Tank Gauge up to 6 m	7.75	3.52
200TG-MET40	Metric Unit Tank Gauge - 10 m	7.75	3.52

(Ancillary Equipment)

Product #	Description	lb.	kg
H11421RS	2" NPT Male x Male Nipple	1.5	0.68
CARB CERTIFIED AST EQUIPMENT			
61T-0208	2" Dia. x 8' Long Drop Tube	2.67	1.21
61T-0212	2" Dia. x 12' Long Drop Tube	4.00	1.81
61T-0216	2" Dia. x 16' Long Drop Tube	5.33	2.42

Materials

Enclosure: Polybutylene terephthalate

Wire Grommet: Nylon w/ buna seal

Float Switch: Closed cell buna float & stainless steel rod

Pipe: Stainless steel

Tank Adaptor: Aluminum hardcoat anodized

444TA



Features

- ◆ **Up to four alarm signals (444TA)** – can be used for high or low liquid level sensing, interstitial monitoring, and/or other signals in one to 4 separate tanks.
- ◆ **Self-Powered** – lithium battery with a 10-year shelf life for long service life.
- ◆ **Audible Alarm** – sounds a 90-decibel alarm at 4 feet away.
- ◆ **Visual Notifications** – red alarm light will flash during use for notification to the user. Low battery light indicates when battery needs replaced.
- ◆ **Corrosion-Resistant Construction** – petroleum and environmental resistant housing and all stainless steel pipe fitting ensure a long product life.
- ◆ **Product /Alarm Identification Label** – located on top of the alarm for quick and easy identification, allowing you to correspond alarms to signals. Label has a protective covering.
- ◆ **Intrinsically Safe** – complies with ANSI/UL 913 for Class 1, Division 1 & 2 for Groups C & D hazardous locations.
- ◆ **Cold Weather Resistant** – all components are safe for temperatures down to -40°F operation (and up to 120° F).
- ◆ **Long Life Lithium Battery** – self-powered by a lithium battery which includes a 10-year shelf life to ensure peace of mind for the owner.
- ◆ **Easy Installation** – requires no calibration and installs easily into a 1" tank bung. **May be assembled remotely or directly on top of tank.**



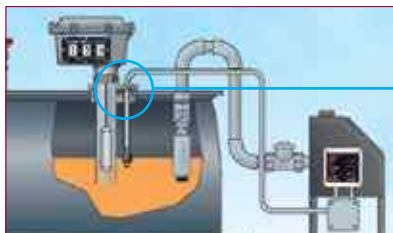
TGTA-0400 4" Tank Bung Combo Fitting
Note: Drop Tube must be used with TGTA-0400.

444TA and 144TA Instruction Sheet
Order Number: 200655

Ordering Specifications:

Product #	Description	lb.	kg
444TA-0100*	Four Signal Tank Alarm, does not include Float Switch	4	1.8
44TA-LLFS*	36" Liquid-Level Float Switch Sub-Assembly	0	0.0
144TA-0100	Single Channel Liquid Level Tank Alarm, does not include Float Switch	4	1.8
TGTA-0400	4" Tank Bung Gauge and Alarm Combo Fitting (OPW 61T required for use)	10	4.5

The OPW 144TA Requires the OPW 44TA-LLFS, the OPW 44TA-LLFS must be purchased as a separate item.



Replacement Parts:

Part #	Description
44TA-LLFS	Liquid-Level Float Switch ASSY
H15412M	Wire Fitting
H15411M	Float Switch
Items to Convert to a Low Level Alarm:	
C05295M	SST Tube
Battery Module	
H15937M	444TA-0100
See Note	144TA-0100*

OPW 444TA AST Four Signal Tank Alarm and OPW 144TA AST Liquid Level Tank Alarm

The OPW AST remote Four Signal Tank Alarm is designed to sense up to four different liquid levels or other signals using just one device.

The OPW 144TA Tank Alarm is designed for liquid level sensing.

Alarm Technical Information:

Hazardous Location Approval: Class I, Groups C & D
Maximum Voltage: 7.2 Volts
Maximum Current: 8 ma. per input (32 ma. total)
Maximum Internal Capacitance: 23 uF
Maximum Internal Inductance: 33 mH
Maximum Ambient Temperature Rating: 60° C
Maximum Surface Temperature Classification: T4
Surface Code

Wiring limitations: 1000 foot maximum between the 144TA/444TA unit and any remote switch for each channel of the alarm. This assumes that maximum capacitance for any input is 60 nanoFarads and that the maximum inductance is 0.2 milliHenry per input (UL-913 A7.3)

Note: This device is designed to work independently and should not be wired in parallel with another device, except as defined in the following instructions.

Requirements for devices wired to the 144TA/444TA:

- Attached wiring and devices must be classed Intrinsically Safe
- No voltage or current source
- Maximum capacitance: 60 nanoFarads (.06 uF) per input
- Maximum inductance: 200 microHenrys (.2 mH) per input

Float Switch Technical Information:

Minimum liquid specific gravity: 0.45.
 Stem material: Stainless steel. Float Material: Closed Cell Buna-N (UL Approved) for gasoline services.
 Max Pressure: 150 psi @ 70° F. Thread 1/8" NPT.

***NOTE:** When replacing the battery for the 144TA-0100, open the alarm box and locate the OPW number on the black battery module. If the number reads "C05346" then use the replacement part H15615M. If the number reads "144TA-0100" then use the replacement part 202891.

444TA Dimensions:

	in.	cm
A	5 1/2	12.8
B	5 1/2	12.8
C	4 3/16	10.6

144TA Dimensions:

	in.	cm
A	5 1/2	12.8
B	5 1/2	12.8
C	3	7.6
D	4 3/16	10.6
E	1 15/16	4.9
F	35	88.9
G	1 15/16	4.9
H	1	2.5

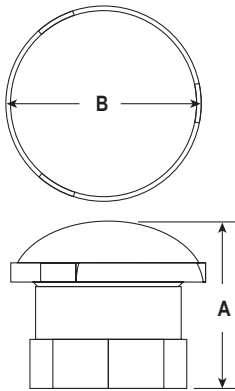
Approvals and Listings



Conforms to ANSI / UL STD 913
 Certified to CAN / CSA STD C22.2 No. 157-92
 Florida EQ-610
 CARB Certified

OPW 301 Emergency Vents

The OPW 301 Emergency Vent is designed to prevent an above ground storage tank from becoming over-pressurized by providing high-capacity venting in the event of a fire or blockage. The 301 is a weighted, mushroom-style emergency vent. When the AST builds pressure, the weighted cast iron lid is forced up off its seat to relieve the pressure. When pressure is relieved, the lid lowers and is automatically reset. The appropriate 301 Series vent is determined by the emergency venting capacity requirements of the AST and the type of connection at the tank's emergency vent opening. The OPW 301 Emergency Vent is available in 4", 6", 8" and 10" openings with female NPT, male NPT or flanged connections (8"-10") to allow for easy installation in new or existing above ground tanks. Various lid pressure settings determine the initial venting of the valve.



Replacement Parts

Part #	Description
201877	4" Seal
202721	6" Seal
203325	8" Seal

Materials

Lid: Cast iron with powder-coated finish
Body: Aluminum
Shaft: Zinc-plated steel
O-Ring: Buna-N

301 SCFH @ 2½ PSI (0.17 bar)
 4" - 101,000
 6" - 250,000
 8" - 471,000



Features

- ◆ **Automatically Resets** – weighted cast iron cover reseats once the pressure in the tank is relieved.
- ◆ **Aluminum Body and Cast Iron Lid**
- ◆ **Epoxy Powder-Coated Cover** – prevents rusting of the cover to protect expensive finishes on ASTs.
- ◆ **UL Listed** – to satisfy third party accreditation requirements of many jurisdictions.
- ◆ **CARB Certified** – AST Phase 1 Enhanced Vapor Recovery (EVR) System

301 Series Instruction Sheet Order Number: 203568

Ordering Specifications

CARB APPROVED AST EQUIPMENT										
Model #	in.		Pressure Setting	Mounting Connection	A		B		Weight	
	mm	mm			in.	mm	in.	mm	lbs.	kg
301-3080	3	76	8 oz.	Female NPT	4.7	119.4	5.1	129.5	6.7	3
301M-3081	3	76	8 oz.	Male NPT	4.7	119.4	5.1	129.5	6.7	3
301-3160	3	76	16 oz.	Female NPT	5.7	144.8	5.1	129.5	11.4	5.2
301M-3161	3	76	16 oz.	Male NPT	5.7	144.8	5.1	129.5	11.4	5.2
301-4080	4	101.5	8 oz.	Female NPT	4.9	124.5	6.1	154.9	10.6	4.8
301M-4081	4	101.5	8 oz.	Male NPT	4.9	124.5	6.1	154.9	10.6	4.8
301-4160	4	101.5	16 oz.	Female NPT	6.1	154.9	6	152.4	18.1	8.2
301M-4161	4	101.5	16 oz.	Male NPT	6.1	154.9	6	152.4	18.1	8.2
301-6080	6	152	8 oz.	Female NPT	5.9	149.9	8.1	205.7	20.9	9.5
301M-6081	6	152	8 oz.	Male NPT	5.9	149.9	8.1	205.7	20.9	9.5
301-6160	6	152	16 oz.	Female NPT	7.4	188	8.1	205.7	37.5	17
301M-6161	6	152	16 oz.	Male NPT	7.4	188	8.1	205.7	37.5	17
301-8080	8	203	8 oz.	Female NPT	6.2	157.5	10.1	256.5	33.9	15.4
301M-8081	8	203	8 oz.	Male NPT	6.2	157.5	10.1	256.5	33.9	15.4
301-8160	8	203	16 oz.	Female NPT	7.8	198.1	10.1	256.5	61.9	28
301M-8161	8	203	16 oz.	Male NPT	7.8	198.1	10.1	256.5	61.9	28
301F-8085	8	203	8 oz.	Flange	6.2	157.5	10.1	256.5	41.8	19
301F-8165	8	203	16 oz.	Flange	7.8	198.1	10.1	256.5	70	31.8
301F-1085	10	254	8 oz.	Flange	6.5	165.1	13	330.2	65.2	29.6

Approvals and Listings

CARB Certified
AST Phase 1 Enhanced Vapor Recovery (EVR) System

Materials

Cover and body: aluminum
Link: Duratuff®
Spring: stainless steel
Sealing surface: Teflon®-coated aluminum

202	SCFH @ 2½ PSI
	(0.17 bar)
4"	150,000
6"	335,000
8"	555,000



Features

- ◆ **Lightweight Construction** – Allows for safe, easy installation on large aboveground tanks.
- ◆ **Spring-Loaded, O-Ring Sealed Cover with Teflon-Coated Seat** – Ensures smooth, vapor-tight sealing surface and reliable service life.
- ◆ **Full-Bore, High-Capacity Upward Venting** – Enables smaller diameter vents, with higher venting capacity, to be used on ASTs when compared to weighted, mushroom-style vents.
- ◆ **Aluminum Cover and Body with Stainless Steel Components** – Corrosion-resistant construction to protect expensive finish or epoxy coatings on ASTs.
- ◆ **Mounts Vertical or Horizontal.**
- ◆ **Alerts Tank Operators of Possible Venting Problems** – When the emergency vent is actuated, the lid remains open for inspection until manually reset. The actuation of the emergency vent indicates abnormal excessive pressure build-up in the tank due to either a blockage in the normal tank vent or in the event of a rapid expansion of vapors possibly from a fire.
- ◆ **Easy Vent Reset** – No extra parts required. Simply push the vent lid closed until an audible “click” is heard, indicating the vent is back in operation.
- ◆ **UL Listed** – To satisfy Third Party accreditation requirements of many jurisdictions.

OPW 202 EMERGENCY VENTS

The OPW 202 Emergency Vent is designed to prevent an aboveground storage tank from becoming over-pressurized by providing full-bore, high-capacity venting in the event of a fire or blockage of the OPW 23, 113, 523V, or 623V. The 202 is a vapor-tight, spring-loaded emergency vent. When the AST builds pressure to 2.5 psi, the spring-loaded lid opens full-bore and discharges vapors upward to relieve the pressure. The lid remains open for inspection to indicate a problem with the normal tank venting, or if a fire has taken place, until manually reset. The appropriate 202 Series vent is determined by the emergency venting capacity requirements of the AST and the type of connection at the tank’s emergency vent opening. The OPW 202 Emergency Vent is available in 4", 6", and 8" openings with female NPT connections.

202 Series Instruction Sheet Order Number: **H11792M**

Ordering Specifications

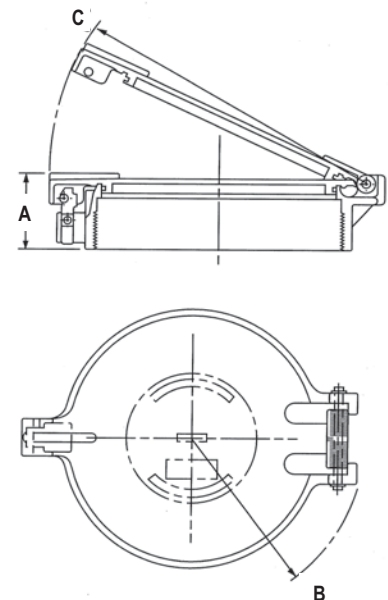
Model #	in.	mm	lbs.	kg
202-0640	4	102	2.05	.95
202-0660	6	152	3.55	1.6
202-0680	8	203	5.1	2.3

Dimensions 202

	4" (102mm)		6" (152mm)		8" (203mm)	
	in.	mm	in.	mm	in.	mm
A	2½"	60	2½"	60	2½"	67
B	4"	102	5"	127	5½"	149
C	6½"	165	8¾"	218	10¼"	273

Ordering Specifications Flange Mount

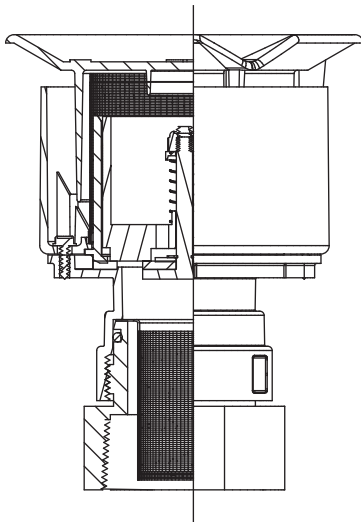
Model #	in.	mm	lbs.	kg
202F-0600 (Flange Mount)	8	203	5.2	2.4



Listings and Certifications

OPW 623V Pressure Vacuum Vent

Pressure Vacuum Vents are installed on the top of vent pipes from underground or above ground fuel storage tanks. The vent cap and internal wire screen are designed to protect the tank vent lines against intrusion and blockage from water, debris or insects. A normally closed poppet in the valve opens at a predetermined pressure or vacuum setting to allow the tank to vent.



Conversion Table						
Measurement Units	=	Oz.	PSI	In H ₂ O (WC)	In Hg (Merc)	Bar
		Bar	x	236.0	14.5	401.4
In. Hg (Mercury)	x	7.843	0.49	13.6		0.034
In H ₂ O (WC)	x	0.578	0.04		0.074	0.002
PSI	x	16.00		27.68	2.04	0.069
Oz.	x		0.063	1.73	0.128	0.004

Materials

- Top/Body:** Polypropylene
- Base:** Anodized aluminum
- Poppet:** Anodized aluminum
- Screen:** Stainless steel mesh
- Gasket:** Closed cell foam



623V
Vent Must Be Mounted Vertically

Features

- ◆ **Pressure/Vacuum Setting** – 2.5" to 6" water column pressure settings and -6" to -10" water column vacuum settings are factory preset and tested.
- ◆ **Reliable Service** – cycle tested to the equivalent of 80 years of service in the most severe environment without leakage problems.
- ◆ **Corrosion-Resistant Construction** – a Duratuff® composite body ensures a long service life.
- ◆ **Easy Installation** – the 623V is available in 2" and 3" threaded versions.
- ◆ **Complies with NFPA 30 Requirements** – for venting gasoline vapors upward.
- ◆ **Manifold Vent Pipes** – vent pipes may be manifolded to produce a single Pressure Vacuum Vent line. The 623V exceeds California's requirements of a maximum vapor leak rate of 0.17 SCFH at 2.00 inches H₂O.
- ◆ **High Maximum Flow Rate** – 6450 SCFH at 2 psi (0.1 bar) pressure drop.
- ◆ **Leak Rate** – multiple pressure vacuum vents may be installed on a single site. The 623V exceeds California standards with a leak rate of 0.05 SCFH or less at 2.00 inches H₂O.
- ◆ **Maintenance** – no tools required. A removable snap fit top allows for easy maintenance (recommended yearly).
- ◆ **100-Mesh Stainless Steel Wire Screens** – helps prevent debris and insects from entering the tank vent lines. An added screen installed at the base prevents debris from intruding from the vent stack.
- ◆ **Adaptor Bushing** – removable hex threaded bushing designed for easy installation on NPT threaded risers. Allows easy access to lower screen.
- ◆ **ATEX Approved** – for flame arrestor applications

Ordering Specifications

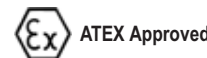
Product #	Description	Identification Label Color	lb.	kg
623V-2203	2.5" to 6" WC Pres., -6" to -10" WC Vac. Thread-On	Yellow	1.55	.70
623V-3203	2.5" to 6" WC Pres., -6" to -10" WC Vac. Thread-On	Yellow	2.20	1.00

Replacement Parts

Part Number	Description
C05086M	Lower Screen
H14895M	Upper Screen
C05089	2" Threaded Base Adaptor
C05122	3" Threaded Base Adaptor

623V Instruction Sheet Order Number: **H14898PA**

Listings and Certifications



Patent No.
WO2004/036096AZ

Features

- ◆ **A Variety of Pressure/Vacuum Settings** – 3" water column, 1 oz., 8 oz., 12 oz. pressure settings and 8" water column or 1/2 oz. vacuum settings are factory preset and tested.
- ◆ **Reliable Service** – self-guided poppet assembly ensures consistent seating of the pressure/vacuum valve.
- ◆ **Corrosion-Resistant Construction** – Duratuff® composite body assures a long service life.
- ◆ **Easy Installation** – 523V is available in 2" and 3" threaded versions or slip-on models that provide for attachment to the vent line with allen head screws and radial sealing O-ring.



- ◆ **Complies with NFPA 30 Requirements** – for venting gasoline vapors upward.
- ◆ **High Maximum Flow Rate** – 7000 SCFH at 2 psi pressure drop.
- ◆ **40-Mesh Stainless Steel Wire Screen** – helps prevent debris and insects from entering the tank vent lines.

Ordering Specifications

Product #	Description	Identification		
		Label Color	lb.	kg
523V-1100	2" 8 oz pres., 1/2 oz. Vac. Thread-On	Red	1.65	.75
523V-1150	2" 8 oz pres., 1/2 oz. Vac. Slip-On	Red	1.65	.75
523V-3100	3" 8 oz pres., 1/2 oz. Vac. Thread-On	Red	3.2	1.45
523V-3150	3" 8 oz pres., 1/2 oz. Vac. Slip-On	Red	3.2	1.45
523V-2300	2" 12 oz pres., 1/2 oz. Vac. Thread-On	Blue	1.65	.75
523V-2350	2" 12 oz pres., 1/2 oz. Vac. Slip-On	Blue	1.65	.75
523V-2200	2" 1 oz pres., 1/2 oz. Vac. Thread-On	Silver	1.65	.75
523V-2250	2" 1 oz pres., 1/2 oz. Vac. Slip-On	Silver	1.65	.75
523V-3200	3" 1 oz pres., 1/2 oz. Vac. Thread-On	Silver	3.2	1.45
523V-2203	2" 3" WC pres., 8" WC Vac. Thread-On	Yellow	1.65	.75
523V-2253	2" 3" WC pres., 8" WC Vac. Slip-On	Yellow	1.65	.75
523V-3203	3" 3" WC pres., 8" WC Vac. Thread-On	Yellow	3.2	1.45
523V-3253	3" 3" WC pres., 8" WC Vac. Slip-On	Yellow	3.2	1.45

Materials

Body: aluminum
O-Ring: Nitrile



523SA
(Bottom View)



523SA
(Top View)

Ordering Specifications

Product #	Description	in.	mm	lb.	kg
523A-1003	3" Thread-On Adaptor for use with 523V Pressure / Vacuum Vents	2 x 3	51 x 76	.47	.213
523SA-1003	3" Slip-On Adaptor for use with 523V Pressure / Vacuum Vents	2 x 3	51 x 76	.63	.286
523SA-1002	2" Slip-On Adaptor for use with 523V Pressure / Vacuum Vents	2 x 2	51 x 51	.31	.141

OPW 523V Pressure Vacuum Vent

Pressure Vacuum Vents are installed on the top of vent pipes from underground or above ground fuel storage tanks. The vent cap and internal wire screen are designed to protect the tank vent lines against intrusion and blockage from water, debris or insects. A normally closed poppet in the valve opens at a predetermined pressure or vacuum setting to allow the tank to vent.

Conversion Table

Measurement Units	=	Oz.	PSI	In H ₂ O	In Hg	Bar
				(WC)	(Merc)	
Bar	x	236.0	14.5	401.4	29.53	
In. Hg (Mercury)	x	7.843	0.49	13.6		0.034
In H ₂ O (WC)	x	0.578	0.04		0.074	0.002
PSI	x	16.00		27.68	2.04	0.069
Oz.	x		0.063	1.73	0.128	0.004

Replacement Parts

Part Number	Description
H11432M	O-Ring for 2" Thread
H11456M	O-Ring for 3" Thread

OPW 523V Series Adaptor Bushings

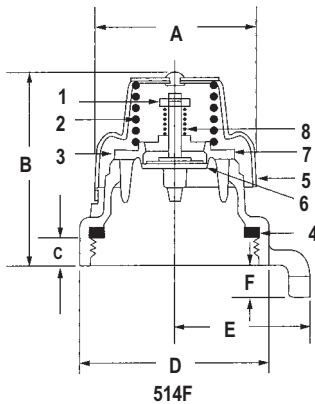
The 523V Series Adaptor Bushings are designed to thread into the base of 2" threaded 523V vents. The adaptor bushings convert a 2" 523V to 3" threaded, 2" slip-on or 3" slip-on connection.

523V Instruction Sheet Order
Number: H11972M

OPW Utility Tank Vents

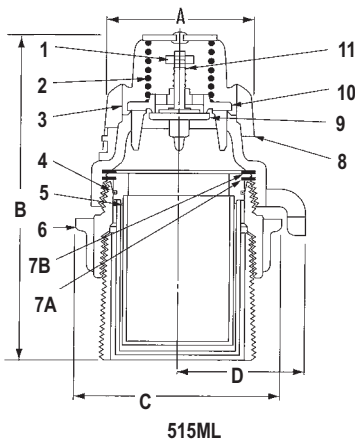
OPW Utility Tank Vents are installed directly on the top of above ground storage tank or utility tank vent pipes. The vent cap is designed to protect the tank against intrusion of water, debris or insects.

The 515ML incorporates a flame arrestor screen for jurisdictions that require these on tanks. A normally closed poppet in the valve opens at a predetermined pressure or vacuum setting to allow the tank to vent.



Dimensions (514F)

	in.	mm
A	2 ⁵ / ₁₆	59
B	2 ⁵ / ₁₆	75
C	1 ⁵ / ₁₆	24
D	2 ² / ₃₂	67
E	1 ¹⁵ / ₁₆	49
F	7/ ₁₆	11



Dimensions (515ML)

	in.	mm
A	2 ⁵ / ₁₆	59
B	5 ¹ / ₄	133
C	3 ¹ / ₈	79
D	1 ¹⁵ / ₁₆	49

Materials

Cap body: High-tensile aluminum alloy construction. Has straight pipe threads with Nitrile for tight seal to tank. 2" - 11¹/₂" NPSH threads.

Dome: Plated steel

Screen: 40-mesh brass



514F

Features

- ◆ **3-Pound Pressure and 1 oz. Vacuum Settings** – factory preset and tested to protect against product vapor loss and allow for rapid withdrawal of product from the tank.
- ◆ **Reliable Service** – precision-machined, lapped bronze pressure and vacuum seats ensure consistent seating of the pressure/vacuum valve.
- ◆ **Corrosion-Resistant Construction** – zinc/aluminum alloy body and zinc-plated steel dome assure a long service life.
- ◆ **Easy Installation** – 514F is available in 2" (11¹/₂" NPSH) female straight threads with a Buna-N gasket.
- ◆ **High Maximum Flow Rate** – 3500 SCFH at 4.5 psi (0.31 bar) pressure drop.
- ◆ **Lockable Base** - a provision for padlocking the vent to the tank is integrated into the base.

Replacement Parts

Key	Part #	Description
1	H01967M	Nut
2	H10096M	Pressure Spring
3	H07355M	Screen
4	H11432M	Seal
5	C03991M	Dome
6	H07356B	Vacuum Disc
7	H08380AH	Pressure Disc
8	H07353M	Vacuum Spring

Ordering Specifications

Product #	in.	mm	lbs.	kg
514F-3050	2	51	.46	.21

Materials

Cap Body: High-tensile aluminum alloy construction. Has straight pipe threads with Nitrile gasket for tight seal to tank.

Dome: Plated steel

Screen: 40 mesh brass



515ML

Features

- ◆ **Flame Arrestor Screen** – for jurisdictions that require flame arrestors on tank vents.
- ◆ **5 PSI (0.34 bar) Pressure and 1 oz. Vacuum Settings** – factory preset and tested to protect against product vapor loss and allow for rapid withdrawal of product from the tank.
- ◆ **Reliable Service** – precision-machined, lapped bronze pressure and vacuum seats ensure consistent seating of the pressure/vacuum valve.
- ◆ **Corrosion-Resistant Construction** – zinc/aluminum alloy body and zinc-plated steel dome assure a long service life.
- ◆ **Easy Installation** – 515ML is available in 2" (11¹/₂" NPSH) male straight threads.
- ◆ **High-Maximum Flow Rate** – 3500 SCFH at 7.5 psi (0.52 bar) pressure drop.

Replacement Parts

Key	Part #	Description
7A	H11211M	O-Ring
7B	H03636M	Cap Gasket
8	C03991M	Dome
9	H07356B	Vacuum Disc
10	H08380AH	Pressure Disc
11	H07353M	Vacuum Spring

Ordering Specifications

Product #	in.	mm	lbs.	kg
515ML-1030	2	51	1.80	.82

Materials

Body: Aluminum
Screen: 40-mesh brass
Set Screws: Brass

23



Features

- ◆ **Reliable Service** – vent cap drain spouts extend outward to deter rainwater entry.
- ◆ **Corrosion-Resistant Construction** – aluminum body and cap assure a long service life.
- ◆ **Easy Installation** – 23 series is available in 2" and 3" slip-on models that provide for attachment to the vent line with set screws.
- ◆ **Complies with NFPA 30 Requirements** – for venting gasoline vapors upward.
- ◆ **High-Maximum Flow Rate** – 7000 SCFH at 2 psi (0.14 bar) pressure drop.
- ◆ **40-Mesh Brass Wire Screen** – Helps prevent debris and insects from entering the tank vent lines.

Replacement Parts

Part #	Description
H00122M	Screw
H01967M	Nut
H01969M	Screen

Ordering Specifications

Product #	Description	in.	mm	oz.	kg	Weight	
						lbs.	kg
23-0044	Open Vent	1½	38	3.8	.11	0.25	0.11
23-0033	Open Vent	2	51	4.3	.12	0.25	0.11
23-0055	Open Vent	3	76	5.0	.14	1.00	0.45

Materials

Body: Zinc/aluminum
Screen: brass
Cap: 2" - Steel 4" - cast iron
Screen: 40-mesh stainless steel

113



Ordering Specifications

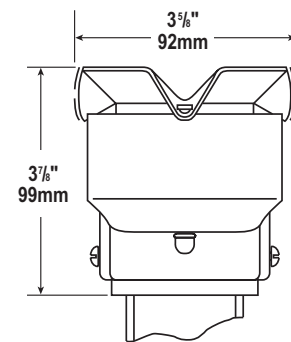
Product #	in.	mm	lbs.	kg
113-0066	2	51	.88	.40
113-0099	4	102	7.50	3.41

Dimensions

	2" (51mm)		4" (102mm)	
	in.	mm	in.	mm
A	1½	38	2¾	70
B	3¾	95	7⅞	189
C	2¾	70	4⅞	125

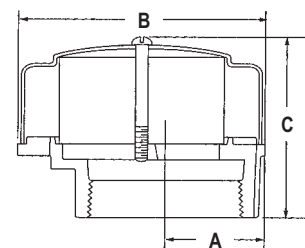
OPW 23 Series Open Atmospheric Vents

Open Atmospheric Vents are installed on the top of vent pipes from underground or above ground fuel storage tanks. The vent cap and internal wire screen are designed to protect the tank vent lines against intrusion and blockage from water, debris or insects. These vents are always open to atmosphere and allow any pressure or vacuum into the tank to vent.



OPW 113 Series Open Atmospheric Utility Vents

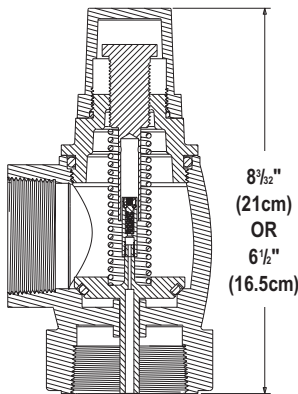
OPW 113 Open Atmospheric Utility Vents are installed on the top of above ground fuel storage tanks. The vent cap and internal wire screen are designed to protect the tank vent lines against intrusion and blockage from water, debris or insects. These vents are always open to atmosphere and allow any pressure or vacuum into the tank to vent. The 113 vents vapors downward and is used primarily on diesel, fuel oil, waste-oil and motor-oil tanks, but can also be used on a wide variety of above ground storage tank venting applications.



For more information contact OPW Customer Service at
 1-800-422-2525; International call 1-513-870-3315.

OPW 199ASV Anti-Siphon Valve

The OPW 199ASV Anti-Siphon Valve is designed to help prevent siphoning of an above ground storage tank should a leak or break occur in the fuel supply line. The 199ASV installs on the top of an above ground storage tank with a suction rod on the inlet and the fuel supply line (to a remote pump) on the outlet of the valve. A poppet in the valve remains normally closed, isolating the tank from siphoning. When the remote pump is activated, it overcomes a factory-adjusted spring set to a predetermined hydrostatic head pressure and allows flow of fuel out of the AST. An internal pressure relief valve helps absorb thermal expansion in the fuel supply line. The 199ASV is available in female NPT threads with four different factory-adjusted hydrostatic head pressure settings.



- 8 1/2" model for 1 1/2" and 2" (20.55cm model for 3.81cm and 5.08cm)
- 6 1/2" model for 3/4" and 1" (16.51cm model for 1.90cm and 2.54cm)

Materials

- Body:** Clear anodized aluminum
- Bonnet:** Powder-coated aluminum
- Cap:** Powder-coated aluminum
- Spring:** Stainless steel
- Poppet:** Hard-coated aluminum
- Screw:** Hard-coated aluminum
- Poppet Seal:** Nitrile



199ASV

Features

- ◆ **Factory-Adjusted Hydrostatic Head Pressure Settings** – allow for quick, safe and easy installation on above ground tanks.
- ◆ **Internal Pressure Relief Valve** – helps protect piping and fittings from damage due to thermal expansion. Set to operate between 20 to 40 PSI (1.3 to 2.7 bar).
- ◆ **Aluminum Bodies** – compatible with gasoline, diesel, kerosene, ethanol, methanol, fuel oil and jet fuels.
- ◆ **Temperature Rating** – -20°F - 120°F (29°C - 49°C)

Valve Rating
ft of gasoline
S.G. = 0.7

Approximate Cracking Pressure

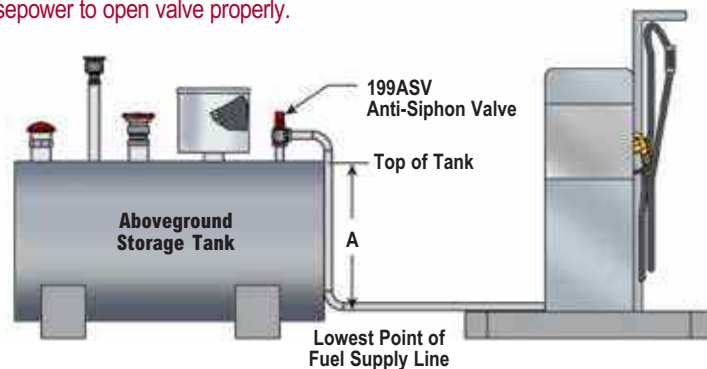
	PSI	ft. H ₂ O	in. H ₂ O	in. Hg	ft. Gas	ft. Diesel
0-5	1.88	4.33	51.96	3.85	6.2	5.35
5-10	3.68	8.48	101.76	7.53	12.12	10.47
10-15	5.6	12.92	155.04	11.47	18.51	15.95
15-20	7.4	17.07	204.84	15.16	24.4	21.07

Ordering Specifications

Product #	in.	mm	lbs.	kgs	Hydrostatic Head Pressure* (Dimension A)
199ASV-1075	3/4	19	1.6	.725	0'-5'
199ASV-2075	3/4	19	1.6	.725	5'-10'
199ASV-3075	3/4	19	1.6	.725	10'-15'
199ASV-1100	1	25	1.6	.725	0'-5'
199ASV-2100	1	25	1.6	.725	5'-10'
199ASV-3100	1	25	1.6	.725	10'-15'
199ASV-1150	1 1/2	38	2.0	.907	0'-5'
199ASV-2150	1 1/2	38	2.0	.907	5'-10'
199ASV-3150	1 1/2	38	2.0	.907	10'-15'
199ASV-1200	2	51	2.0	.907	0'-5'
199ASV-2200	2	51	2.0	.907	5'-10'
199ASV-3200	2	51	2.0	.907	10'-15'

*Note: Head Pressure calculated for gasoline.

*Note: Some suction pumps may not have enough horsepower to open valve properly.



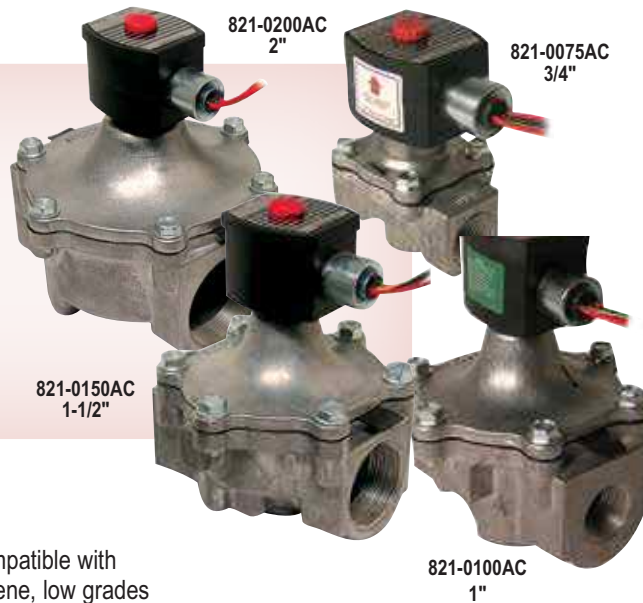
Listings and Certifications



Warning: Do not disassemble.
Do not field adjust.

Materials

Aluminum
 Viton®
 Viton®
 Stainless steel
 Teflon®
 Nylon
 Acetal, delrin
 Stainless steel



Features

- ◆ **Aluminum Body** - compatible with gasoline, diesel, kerosene, low grades ethanol/methanol, fuel oil and jet fuels.
- ◆ **Strainer** - strainer with 100-mesh screen is recommended at the inlet.
- ◆ **Mount** - vertical.
- ◆ **Explosion Proof Shell & Water-Tight**
- ◆ **Standard Operation** - 120/60 volts AC.
- ◆ **Thermal Expansion**
- ◆ **Power Draw** - 20 Watts @ 60 Hz.

Ordering Specifications

Product #	NPT Size	General Purpose	*CV	Fluid Flow	Temp.	Operating Pressure Differential (PSI)		Operating Pressure Differential (BAR)		Weight		Mounting Position
						Min.	Max.	Min.	Max.	lbs.	kg	
821-0075AC	3/4	AC	5.1	125	0	50	0	3.4	2.75	1.25	Any Position	
821-0100AC	1	AC	21	125	0	25	0	1.7	5.25	2.38	Upright & Vertical	
821-0150AC	1 1/2	AC	35	125	0	25	0	1.7	7.25	3.29	Upright & Vertical	
821-0200AC	2	AC	60	125	0	25	0	1.7	7.25	3.29	Upright & Vertical	

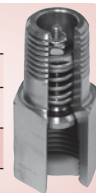
*CV Flow: GPM @ 1 psi Pressure Drop

Dimensions

Product #	A		B		C		D	
	in.	mm	in.	mm	in.	mm	in.	mm
821-0075AC	3.31	84	3.64	92	4.46	113	2.33	59
821-0100AC	5.00	127	5.59	142	6.84	174	5.38	137
821-0150AC	5.00	127	5.59	142	6.84	174	5.38	137
821-0200AC	6.09	155	5.94	151	7.47	190	6.31	160

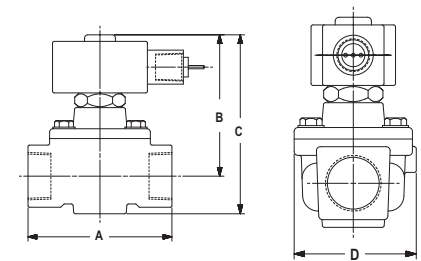
OPW 82RV - Thermal Pressure Relief Valve

Product #	NPT Size		Operating Pressure 25 psi, Stainless Steel Construction	Weight	
	in.	mm		lbs.	kg
82RV-2505	1/2	12.7		.25	.113

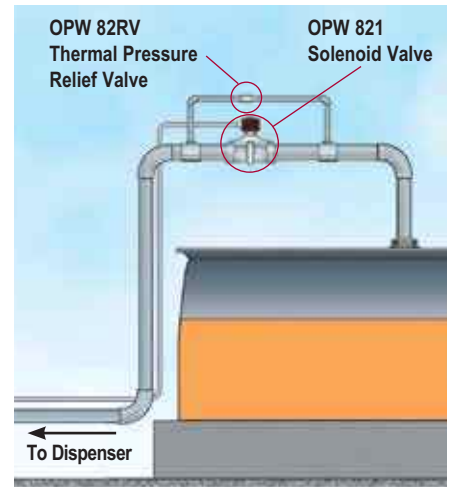


OPW 821 Solenoid Valve

The OPW 821 Solenoid Valve is designed to prevent accidental siphoning of above ground storage tanks if a leak or break occurs in the fuel supply line. The 821 valve is a two-way, normally closed diaphragm valve that opens when energized to allow fuel to flow to the pump or dispenser. Available in female NPT threads.



82RV-2505 Series Pressure Relief Valve Instruction Sheet Order Number: 200517



OPW 82RV

The 82RV is designed to give thermal pressure relief to our 821 Series Solenoid Valve line. Made of all stainless steel construction with a Viton® seal, it is suitable for all petroleum products. The 82RV is precision set at the factory at 25 PSI (1.7 bar), and is field adjustable from 5 to 30 psi (.34 to 2 bar).

Listings and Certifications



CSA Certified



UL Listed



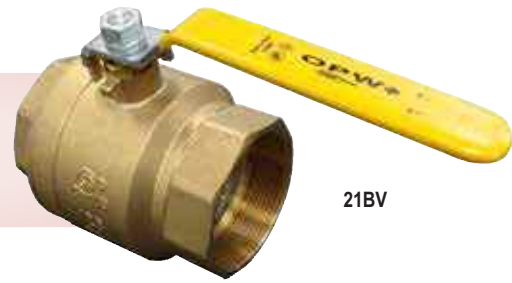
FM APPROVED

OPW 21BV Full Port Two-Way Ball Valve

OPW Ball Valves are used throughout fueling systems where a shut-off point is desirable to isolate a section of the piping system. These full-port, forged brass valves feature a manual open-close arm and a quick quarter-turn handle, allowing easy shut down of your AST or UST system. Compatible with gasoline, alcohol fuels, diesel and MTBE. Available with Lockable Handle (LH).

Materials

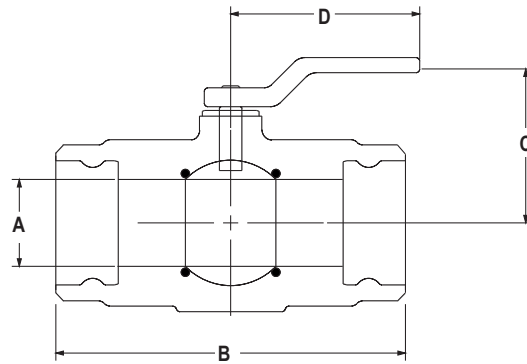
- Body: Brass
- Ball: Hard chrome plated
- Seal: Teflon®



21BV

Features

- ◆ Pressure rated to 600 psig (41 bar) WOG
- ◆ Secondary O-ring stem seal
- ◆ Blowout-proof stem
- ◆ PTFE seats, thrust bearing and stem packing
- ◆ Chrome-plated brass ball



Ordering Specifications and Dimensions

Model #	Size (in.)	Dimensions (in.)			
		A	B	C	D
21BV-0050	1/2	0.59	2.28	1.81	3.35
21BV-0075	3/4	0.78	2.51	2.36	4.29
21BV-0100	1	0.98	2.97	2.52	4.29
21BV-0150	1 1/2	1.57	3.87	2.72	5.63
21BV-0200	2	1.96	4.29	3.03	5.63
21BV-0200SS	2	1.96	4.80	3.66	7.09
21BV-0300	3	3.15	6.10	5.12	8.35

*SS denotes Stainless Steel.

202233	Lockable Handle Kit for 1/2" Model (Handles sold separately)
202234	Lockable Handle Kit for 3/4" and 1" Models (Handles sold separately)
202235	Lockable Handle Kit for 1-1/2" and 2" Models (Handles sold separately)

Listings and Certifications



Materials

Body and Cap: Ductile iron
Packing Nut and Stem: Stainless steel
Disc: Viton®
Stem Seat: Viton®
Seat Ring: Brass
Cap and Packing Nut Seals: Viton®



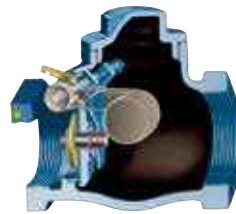
(Valve Shown in Open Position)

Features

- ◆ **178S Ductile Iron Construction** – valve is manufactured from a ferrous metal to resist fracturing from high temperatures.
- ◆ **Full-Bore Inside Diameter for Superior Flow Rates** – maximizes flow rates in the fuel supply lines.
- ◆ **Protected Main Poppet Disc** – main poppet seal is held out of the main flow stream and protected from damage due to dirt or debris in the fuel.
- ◆ **Compensator Ring on Main Poppet Carrier** – ensures full seating of the main poppet for a tight seal.
- ◆ **Viton® Main Disc and Stem Seat** – compatible with gasoline, diesel, kerosene, ethanol, methanol, MTBE, fuel oil, mogas, motor oil and various other blends of fuel.
- ◆ **Rated At Normal Pressure Limit of 125 psi (8.6 bar) (cold)**
- ◆ **Non-Shock Pressure Limit of 200 psi (13.8 bar)**
- ◆ **Temperature Limit 225° F**



(Valve Shown in Closed Position)

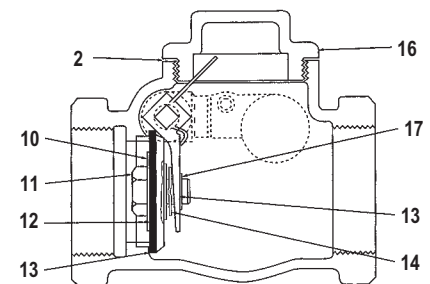
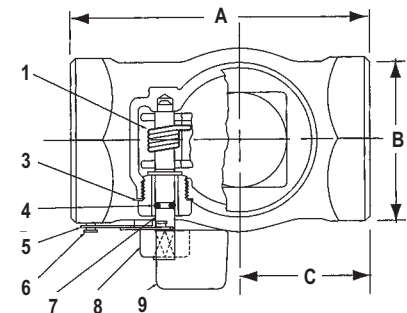


Replacement Parts

Key	Part No.	Description
1	H05973M	Spring
2	H12070M	O-ring (Viton®)
3	H7635RB	Packing Nut
4	H10445M	O-ring (Viton®)
5	H01344M	Fusible Link Sub-Assy.
6	H01505RB	Pin
7	C01533RB	Stem
8	H07644M	Set Screw
9	H07642ZA	Lever
10	H03295M	Washer
11	H04035M	Disc Nut
12	H12071R	Disc (Viton®)
13	H10004A	Disc Holder
14	H11293M	Compensating Ring
15	C03144M	Carrier
16	H11547DI	Cap
17	H10003M	Retaining Ring

OPW 178S Series External AST Emergency Shut-Off Valve

The OPW 178S Series External AST Shut-Off Valve is designed to shut off product flow from an above ground storage tank, bulk loading rack or any place in the fuel supply line in the event of a fire. The 178S installs in-line on fuel supply piping. A fusible link attached to a spring-operated lever holds the poppet normally open. In the event of a fire, the fusible link melts at 160° F, allowing the spring-actuated poppet to shut off the flow of product in the fuel supply line. The 178S is available in 2" female NPT connections.



Dimensions

	in.	mm
A	5 ¹⁷ / ₃₂	140
B	3 ¹ / ₁₆	78
C	3 ¹ / ₁₆	62

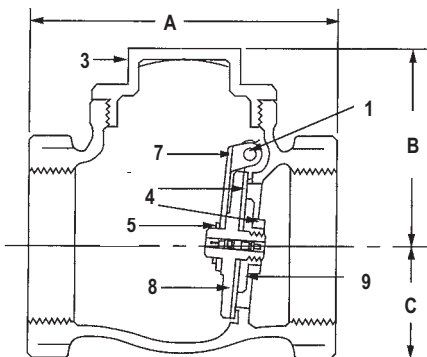
Ordering Specifications

Product #	in.	mm	lbs.	kg
178S-6130	2	51	5.35	2.43

For more information contact OPW Customer Service at 1-800-422-2525; International call 1-513-870-3315.

OPW Swing Check Valve

The OPW Swing Check Valves are designed to allow one-way product flow in fuel supply lines. OPW Swing Check Valves are installed in-line on fuel supply or transfer piping. A free-swinging poppet in the valve opens with flow of product and closes to prevent back-flow. The swing check valves can be located in either horizontal or vertical piping. The 175 is available in 2" female NPT connections. The 175B is similar to the 175 except it has an internal pressure relief valve to help absorb thermal expansion in the fuel supply or transfer line, pressure relief set at approx. 25 psi (1.7 bar). The 1175 is available in 3" female NPT connections.



Dimensions

	in.	mm
A	7½	191
B	7 ⁷ / ₁₆	183
C	2 ¹⁹ / ₃₂	66

Materials

Body: Bronze
Seat Ring: Brass
Disc: Viton®
Cap: Bronze

Swing Check Valve



Features

- ◆ **Viton Main Disc** - compatible with gasoline, diesel, kerosene, ethanol, methanol, MTBE, fuel oil, mogas, motor oil and various other blends of fuel.
- ◆ **Full-Bore Inside Diameter for Superior Flow Rates** – maximizes flow rates in the fuel supply lines.
- ◆ **Easy Service Entry** – threaded cap assembly allows removal, replacement or servicing of the carrier, disc or disc holder.
- ◆ **Rated Normal Pressure Limit: 125 psi (8.6 bar)**
- ◆ **Cold Non-Shock Pressure Limit: 200 psi (13.8 bar)**
- ◆ **Temperature Limit: 225° F**

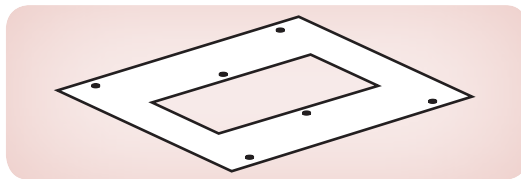
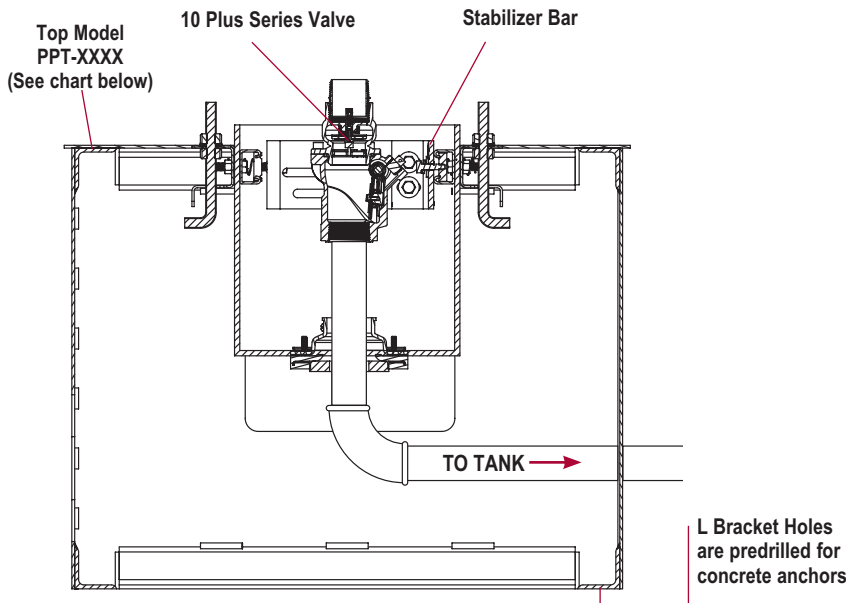
Ordering Specifications

Product #	in.	mm	lbs.	kg
175-0044	2	51	4.7	2.14
175B-1544	2	51	4.6	2.10
1175-0050	3	76	16.8	7.60

Replacement Parts

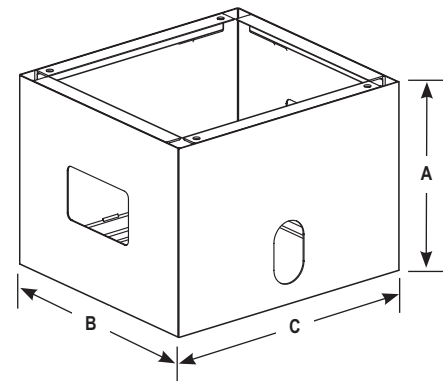
OPW 175, 175B, 1175

Key	Part #	Description
1 (175,175B)	H00409RB	Pin
1 (1175)	H06797RB	Stem
2 (175,175B)	H00404RB	Plug
2 (1175)	H06798RB	Plug
3 (175,175B)	H00642B	Cap
3 (1175)	H06800B	Cap
4 (175,175B)	H12071R	Disc
4 (1175)	H06799	Disc Sub-Assy.
5 (175, 175B)	H04035M	Disc Nut
6 (175)	H07488A	Disc Holder
6 (175B)	H07495A	Disc Holder
7 (175, 175B)	H07610RB	Carrier
7 (1175)	H06796B	Carrier
8 (175, 175B)	H05792M	Retaining Ring
9 (175, 175B)	H03295M	Washer
10 (1175)	H04250M	Lock Nut



OPW Dispenser Pedestal

- ◆ Designed specifically for AST dispenser applications
- ◆ Offers a way to contain leaks from AST dispensers during use and filter change outs
- ◆ Provides a raised platform for AST pipe runs into the dispenser to avoid burring underground piping
- ◆ Flexible by design – interchangeable tops for a variety of dispenser pans



Dimensions: Model No. PP-2136

	in.	cm
A	21	53.34
B	26	66.04
C	36	73.66
Weight	82 lbs	37 kg

OPW Dispenser Pedestal Top Model No.	For use with Dispenser Model No.	For use with FlexWorks Dispenser Model No.
PPT-1123	Gasboy 9800 Series (28-1/4" Frame)	DP-1123
PPT-1630	Gilbarco Advantage Model Dresser/Wayne Select Model Global Century Model	DP-1630
PP-2136	Pump Porch	

Additional models available upon request, contact your OPW District Manager.

WARNING:

Dispenser and pedestal must be surrounded by protective bumper curbing. Shear Valve is a fire valve only when installed in the pump pedestal.

Above Ground Storage Tank Equipment Fuel Compatibility Matrix

Revised 4/1/2013

Above Ground Storage Tank Products	Description	Unleaded Fuels up to 10% Ethanol	Petroleum Diesel	Up to 15% Ethanol	E85 / E100	Bio-Diesel		Av-Gas	Jet Fuel	Kerosene/ Fuel Oil
						B5	B20			
523V Series	Pressure Vacuum Vent	UL	UL	X	X	X	*	X	X	X
623V Series	Pressure Vacuum Vent	UL	UL	X	X	X	*	X	X	X
61VSA-1020-EVR	Vapor Swivel Adaptor	X	X	X	X	X	*	X	X	X
1611AVB-1625	Vapor Adaptor	X	X	X	X	X	*	X	X	X
1711T-7085-EVR	Vapor Cap	X	X	X	X	X	*	X	X	X
1711LPC-0300	Low Profile Vapor Cap	X	X	X	X	X	*	X	X	X
301 & 201 Series	Emergency Vents	UL	UL	X	X	X	*	X	X	X
200TG Series	AST Mechanical Gauge	UL	UL	X	X	X	*	X	X	X
444TA Series	Tank Alarms	ETL	ETL	X	X	X	*	X	X	X
821 Series	Solenoid Valves	UL	UL	X		X		X	X	X
21BV SS	Full Port Stainless Steel Ball Valves	UL	UL	X	X	X		X		X
331 / 332 Series	AST Spill Containers	UL/ULC	UL/ULC	X	X	X	*	X	X	X
61fSTOP	AST Overfill Valve	UL/ULC	UL/ULC	X		X				X
61fSTOP - A or M Version	AST Overfill Valve Anodized	UL/ULC	UL/ULC	X	X	X		X	X	X

UL - UL listed X - Compatible ULC - UL Canada



Above Ground Products Fuel Compatibility Matrix

Revised 4/1/2013

Above Ground Products	Description	Unleaded Fuels up to 10% Ethanol	Petroleum Diesel	Up to 15% Ethanol	Up to E85	E100	Bio-Diesel		Av-Gas	Jet Fuel	Kerosene/Fuel Oil
							B5	B20			
11A Series	Automatic Conventional Nozzles		UL/ULC				X	*			X
11AP Series	Automatic Conventional Nozzles	UL/ULC		X							
11AF Series	Farm Nozzles		UL/ULC				X	*			X
11APF Series	Farm Nozzles	UL/ULC		X							
11B® Series	Pressure Sensing Automatic Conventional Nozzles		UL/ULC				X	*			X
11BP Series	Pressure Sensing Automatic Conventional Nozzles	UL/ULC		X							
21Ge Series	Pressure Sensing Automatic Nickel Plated Conventional Nozzles	UL		UL	UL	X					
7H Series	Automatic High Flow Conventional Nozzles		UL/ULC				X	*			X
7HB Series	Pressure Sensing Automatic High Flow Conventional Nozzles		UL/ULC				X	*			X
12VW Series	Vacuum Assist Nozzles	UL									
11VA Series	Vacuum Assist Nozzles	UL									
11VF Series	Balance Nozzles	UL									
311/811 Series	General Duty Manual Nozzles	UL	UL				X	*			X
190/210/295SC Series	Manual Bulk Nozzles	X	X	X			X	*			X
295SAJ	Manual Jet Fuel Nozzle								X	X	X
295SA/SAC Series	Manual Av-Gas Nozzles	X		X					X	X	X
1290 Series	Automatic Bulk Fueling Nozzles	X	X	X			X	*			X
241 Swivels	Two Plane Hose Swivels	UL/ULC	UL/ULC	X			X	*			X
241TPS-0492	Nickel Plated Two Plane Hose Swivels	UL		UL	UL	X	X	*			X
45 Swivels	Two Plane Hose Swivels	UL/ULC	UL/ULC	X			X	*			X
36S Swivels	Straight Swivels	UL	UL				X	*			X
20S Swivels	Two Plane Hose Swivels - Cold Weather	UL/ULC	UL/ULC	X			X	*			X
25 Swivels	Bulk Straight Swivel	X	X	X			X	*	X	X	X
66V Series Breakaways	Single Use Conventional Breakaways	UL/ULC	UL/ULC	X			X	*			X
66V-0492	Nickel Plated Single Use Conventional Breakaways	UL		UL	UL	X	X	*			X
66 Series Breakaways	Various Reconnectable and Single Use Vac Assist Breakaways	UL/ULC	UL/ULC	X			X	*			X
38CS Adaptor	Balance Adaptor	X	X	X			X	*			X
VaporSaver™ 1	Tank Pressure Management System	UL / ATEX									
CVS2™	Central Vacuum System	UL									

UL - UL listed X - Compatible ULC - UL Canada *Pending Investigation

OPW Approvals / Listings Above Ground Products

UL Listed Products

Product:	Description:	File Number:
11A Series & Astro	Automatic Nozzle	MH1942
11B Series & AstroB	Pressure-Sensing Automatic Nozzle	MH1942
1A Series	Automatic Nozzle	MH1942
7H Series	Automatic Nozzle	MH1942
7HB Series	Pressure-Sensing Automatic Nozzle	MH1942
44 & 44N	Flow Limiters	MH27237
11AF	Farm Nozzle	MH1942
21Ge	Pressure-Sensing Automatic Nozzle for E85	MH1942
241TPS	Two-Plane Swivel	MH4542
241TPS-0492	Two-Plane Swivel for E85	MH4542
45	Hose Swivel	MH5452
20S	Hose Swivel	MH12551
66REC	3/4" Reconnectable Breakaway	MH18037
66RB	1" Reconnectable Breakaway	MH17834
66V	Breakaway	MH18037
66V-0492	Breakaway for E85	MH18037
66SB	Swivel Breakaway	MH17834
36S	Hose Swivel	MH4542
21Gv	Vacuum-Assist Nozzle for ORVR	MH1942
12VW	Vacuum-Assist Nozzle	MH1942
AstroVac	Vacuum-Assist Nozzle	MH1942
11VAI Series	Vacuum-Assist Nozzle	MH1942
11VAA Series	Vacuum-Assist Nozzle	MH1942
66CAS	Dry Reconnect Inverted Breakaway	MH18037
66ISU	Vacuum-Assist Vapor Recovery Breakaway	MH17834
66ISB	Vacuum-Assist Vapor Recovery Breakaway	MH17834
MFVA	Vacuum-Assist Vapor Recovery Swivel	MH17834
66FL-1000	Vacuum-Assist Flow Limiter	MH10040
11VF	Balance Nozzle	MH1942
66CL/CSU/CLP	Coaxial Breakaways	MH18037
38CS	Balance Adaptor	MH10040
X44TA-0100	Liquid-Level and Overfill Alarm	ETL302278-HO1
44TA-LLFS	Liquid-Level Float Switch Sub Assembly	E177423
199ASV	Anti-Siphon Valve	MH8488
523, 523V, 523AV	Pressure/Vacuum Vents	MH10040
623V XXXX	Pressure Vacuum Vent	MH27236 Listed 644R
821 Series	Solenoid Valve	E12264
200TG	Mechanical Tank Gauge	MH29367
211-AST	AST Spill Container	MH25724
202 Series	Emergency Vents	MH25724
301 Series	Emergency Vents	MH25724
VaporSaver™ 1	Tank Pressure Management System	MH10040
61f STOP-XXXT Version	AST Overfill Valve	MH25724

OPW Patents - Above Ground Products

Nozzles	
Patent No.	Country
5645115	USA
5454602	USA
5813443	USA
5620030	USA
5435357	USA
5577538	USA
6851628	USA
6951229	USA
93130770	Taiwan
7134580	USA
6024140	USA
9178054.4	EPC
5832970	USA
Breakaways	
5695221	USA
5564471	USA
5570719	USA
5529085	USA
Vapor Recovery Systems & Dispensers	
6834686	USA
ZL03164816.9	China
4108438.9	Hong Kong
6174351	USA
APP12-193908	USA
5636667	USA
5484000	USA
6648175	USA
6575206	USA
5494409	USA
EP1438506	EPC

Island Forms	
Patent No.	Country
6,099,202, 6,375,384B1	USA
1227417C	China
2,322,216	Canada
221,155	Mexico
Storage Tank Emergency Vent Valve (AST)	
5,141,020	USA
723V Pressure Vacuum Vent	
61/033571	USA
Storage Tank Shut-Off Valve (61fSTOP) AST	
5,472,012	USA
5,850,849	USA
Tank Gauge (AST)	
6,523,404, 7,174,784	USA
P10501119-1	Brazil
2492346	Canada
94100860	Taiwan
05-10002326.9	China
22/che/2005	India
2005-7183	Japan
4005/2005	Korea

CARB AST EVR Certified Products

Product:	Description:	EO Number:
301-XXXX	Emergency Vent	EO-VR 401-B
61fSTOP-XXXX	Overfill Prevention Valve	EO-VR 401-B
331-ASTWXX & 332-ASTWXX	Direct Fill Spill Container	EO-VR 401-B
1611AN-XXXX & 1612AN-XXXX	Kamvalok Adaptor	EO-VR 401-B
634B-XXXX & 634BK-XXXX	Dust Cap	EO-VR 401-B
61VSA-1020-EVR	Rotatable Swivel Adaptor	EO-VR 401-B
1711T-7085-EVR & 1711LPC-0300	Vapor Recovery Caps	EO-VR 401-B
61FT-XXXX	Drop Tube	EO-VR 401-B
200TG-ENG, 200TG-ENG40, 200TG-MET, 200TG-MET40	Mechanical Tank Gauge	EO-VR 401-B
144TA-XXX	Tank Alarm	EO-VR 401-B
44TA-LLFS	Liquid Level Float Switch	EO-VR 401-B
66CLP-5100	Balance, Reconnectable Breakaway	EO-VR 204-N, EO VR-203-N

CARB / Fire Marshal

Product	Description	CARB Certification	CA Fire Marshal
12VW	Vacuum-Assist Nozzle	G-70-153 G-70-150 G-70-199	GVRC: 005:008:059
11VAI-27	Vacuum-Assist Nozzle w/o Vapor Valve	G-70-150 G-70-150/94-8 G-70-199	GVRC: 005:008:050 (applies to all)
11VAI-37	Vacuum-Assist Nozzle w/o Vapor Valve	G-70-164/95-29 G-70-199	GVRC: 005:008:050 (applies to all)
11VAI-68	Vacuum-Assist Nozzle	G-70-154 G-70-163 G-70-169 G-70-199	GVRC: 005:008:050 (applies to all)
11VAI-69	Vacuum-Assist Nozzle	G-70-153 G-70-199	GVRC: 005:008:050 (applies to all)
11VAA-61	Vacuum-Assist Nozzle	G-70-118	GVRC: 005:008:049
66CAS	Dry Reconnect Inverted Breakaway	96-18	GVRC: 005:008:056
66ISU	Vacuum-Assist Breakaway	94-9	GVRC: 005:031:009
66ISB	Swivel/Breakaways	95-35	GVRC: 005:031:016
11VF-47	Balance Nozzle	G-70-52	GVRC: 005:008:037
66CL/CSU/CLP	Coaxial Breakaway	91-14	GVRC: 005:008:047
Vacurite® 00-40005C	Centralized Vacuum-Assist Vapor Recovery System	G-70-164-AA G-70-175	GVRC: 004:001:001
Max Vacurite® AST 00-40001C	Centralized Vacuum-Assist Vapor Recovery System	G-70-164-AA G-70-175-AST	GVRC: 004:001:001
Micro Vacurite® 00-40003.UL	Centralized Vacuum-Assist Vapor Recovery System	98-13 G-70-164-AA	GVRC: 004:001:002
VacuSmart™	Air to Liquid Test Equipment	CARB Approved Alternative to TP-201.5	N/A
VacuChek™	Air to Liquid Test Equipment	CARB Approved Alternative to TP-201.5	N/A
VaporSaver™	Tank Pressure Management System	G-70-204A	GVRC: 005:008:062
61fSTOP	AST Overfill Valve	CARB No. ATG-01-01	N/A
523V	Pressure/Vacuum Vent	CARB No. 98-1	N/A

OPW Approvals / Listings Above Ground Products

ULC Listed Products

Product:	Description:	File Number:
11A Series & Astro	Automatic Nozzle	MH27234
11B Series & AstroB	Pressure-Sensing Automatic Nozzle	MH27234
1A Nozzle	Automatic Nozzle	MH27234
7H Series	Automatic Nozzle	MH27234
7HB Series	Pressure-Sensing Automatic Nozzle	MH27234
44 & 44N	Flow Limiters	MH27237
11AF	Farm Nozzle	MH27234
241TPS	Two-Plane Swivel	MH27235
20S	Hose Swivel	MH27235
45	Hose Swivel	MH27235
66SB	3/4" Swivel Breakaway	MH27235
66REC	Reconnectable Breakaway	MH27235
66RB	1" Reconnectable Breakaway	MH27235
66V	Breakaway	MH27235
61fSTOP-XXXX Series	Overfill Prevention Valve	MH25724, MH21147
61fSTOP-XXXXT Series	Overfill Prevention Valve	MH25724, MH21147
331 / 332 Series	AST Spill Containers	MH19391

MoPETP (Missouri Performance Evaluation Testing Procedures)

11VF-47	Balance Nozzle	MoPETP 99-03
66CL/CSU/CLP	Coaxial Breakaway	MoPETP 99-03
523V	Pressure/Vacuum Vent	APCP-0002-001-99

Florida

211AST, 211 REMOTE, 221AST	AST Spill Containers	EQ-226
61fSTOP Series	AST Overfill Prevention Valve	EQ-225

New York City Fire Department Certification Number

61fStop	AST Overfill Prevention Valve	4949
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KIWA Approvals

199-ASV	Anti-Siphon Valve	K22656/01
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Other VaporSaver Approvals

ATEX – SIRA 03ATEX 9535	Texas ORVR Certification Approval Letter: 12/01/04	
TUV – 97-11.1	Mexico – SEGEMDGPCCAT- MTSRVDOVER/001/2004	
Independent 3rd Party Certified C-030501	Japan – KHK File# 16-4-5	
MDE Regulation Chapter 02.03 c(5)b		