

# Aboveground Storage Tank Equipment



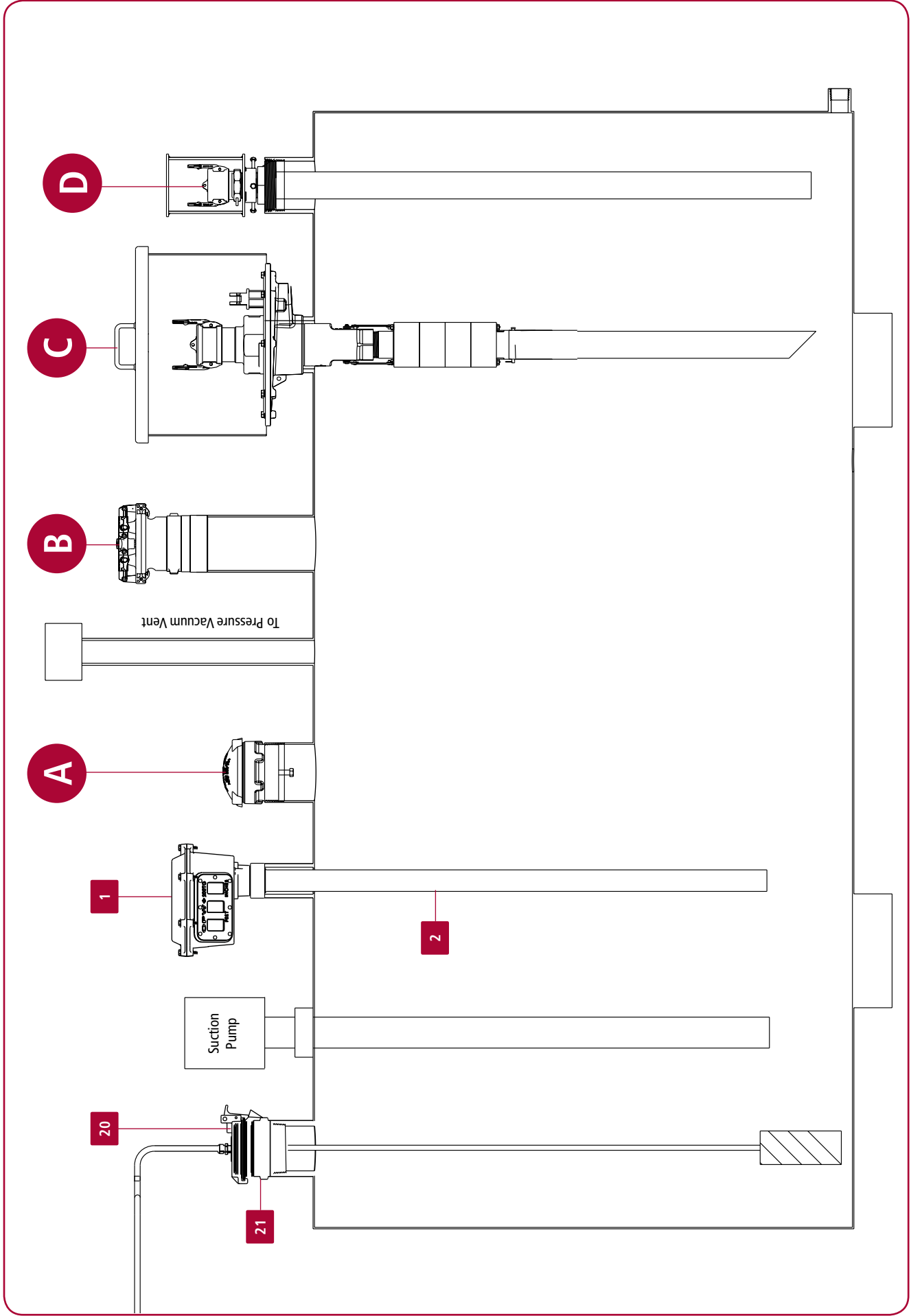
## Above Ground Tank Diagrams

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# Above Ground Storage Tank - Direct Fill

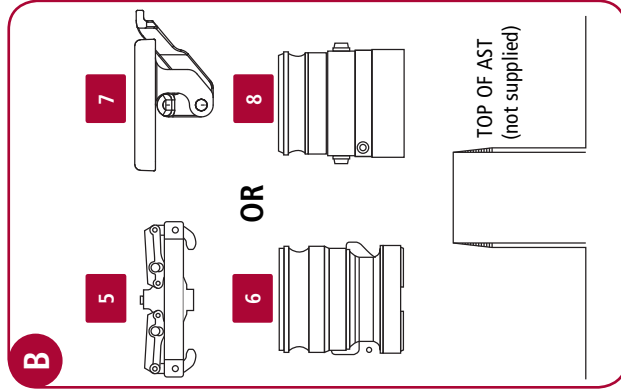
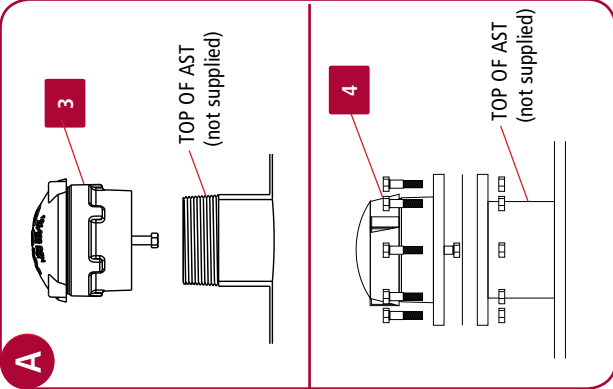
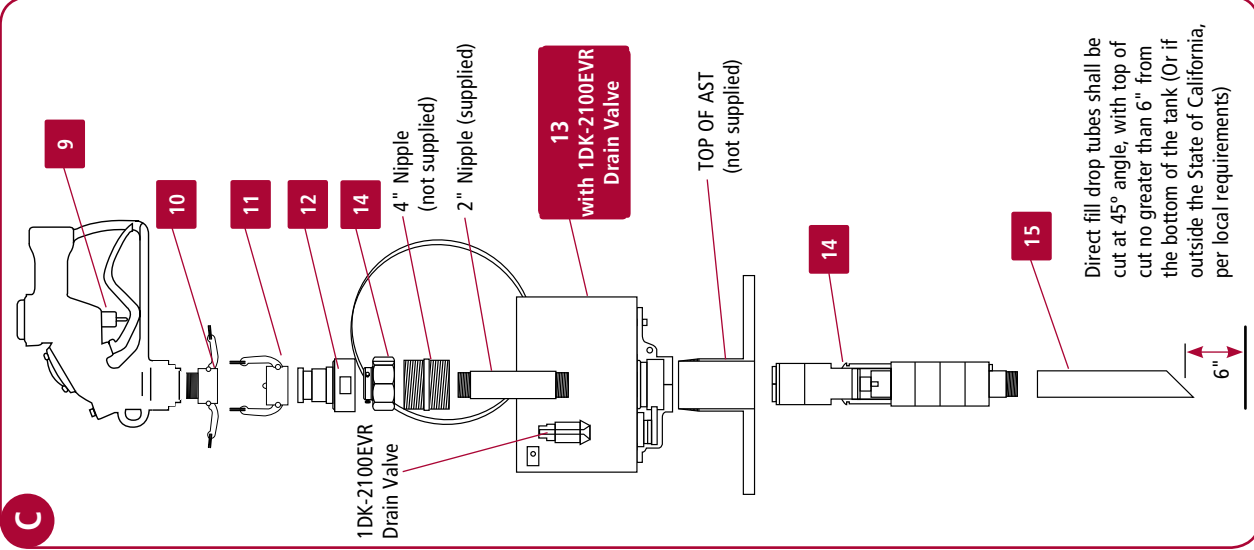
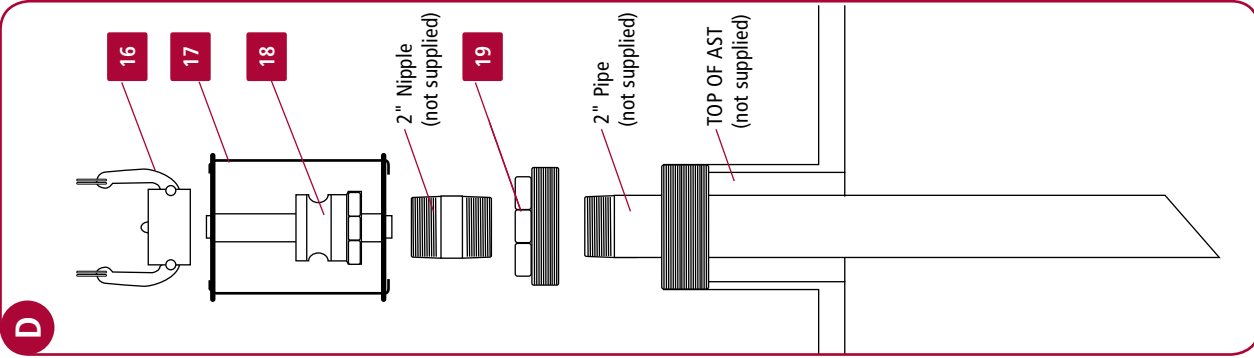
## Typical Non-EVR Direct Fill AST Application



**PRODUCT KEY**

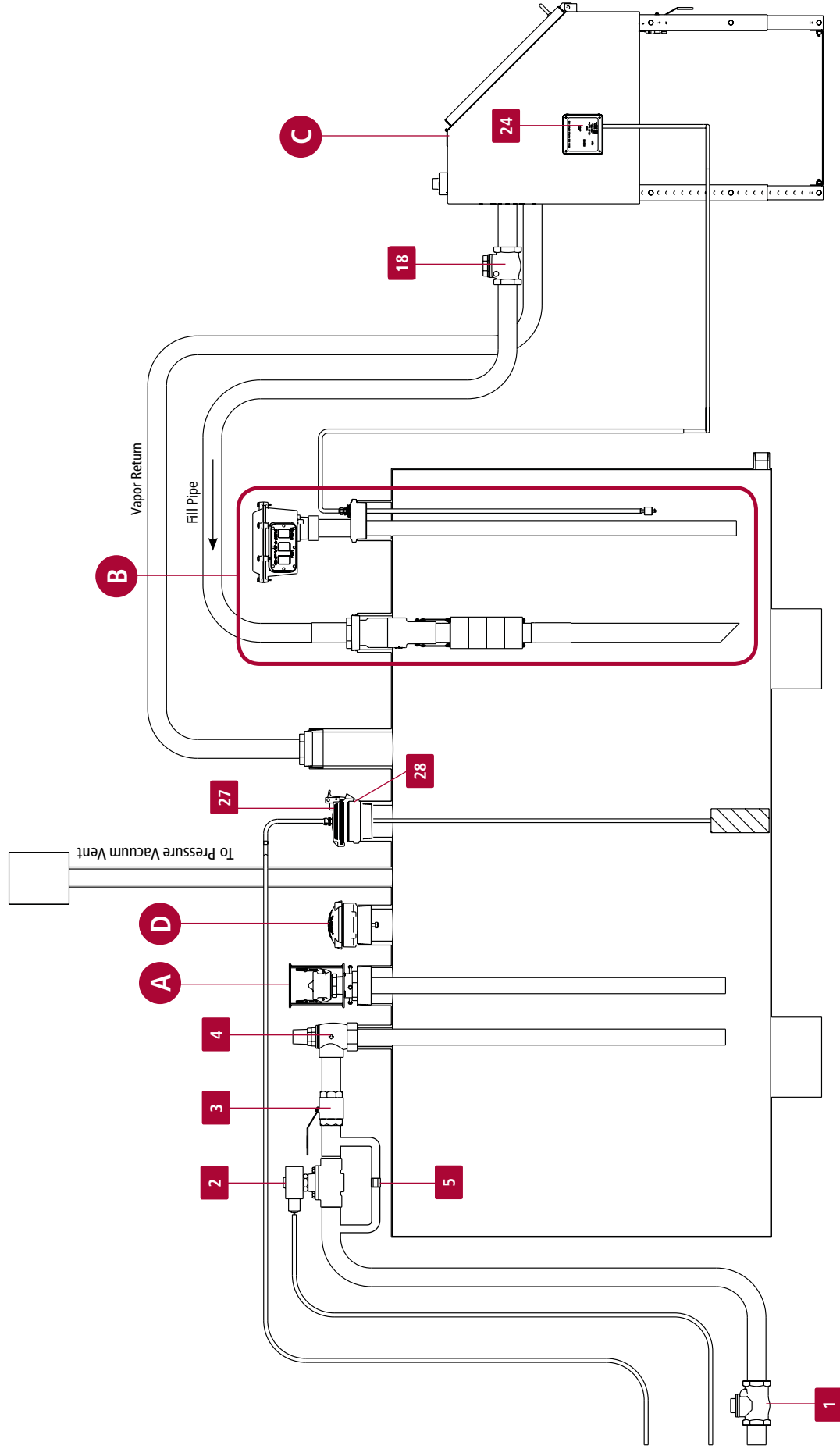
	OPW PART / DESCRIPTION	PAGE
1	200TG-ENG Series Tank Gauge (optional / see Note below)	222
2	61T Series Drop Tube	222
3	301 Series Emergency Vent - NPT Mount (See Vent Size Configuration Guide on page 214)	224
4	301 Series Emergency Vent - Flanged Mount (See Vent Size Configuration Guide on page 214)	224
5	1711T-7085-EVR Cap	97
6	1611AV Series Vapor Recovery Adaptor	96
7	1711LPC-0300 Low Profile Cap	97
8	61VSA Series Vapor Recovery Adaptor	95
9	190 or 210 High-Flow Bulk Nozzle	187, 191
10	633BD Kamlok™ Coupler	220
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	220
12	633AST-2061 (2" x 2") or 633AST-3061 (3" x 3") - Tank Inlet Spout Adaptor	220
13	332 Series Spill Container	216
14	61fSTOP-XXXX Series Overflow Prevention Valve	218
15	61FT Series Drop Tube	220
16	634B-0150 or 634BK-0090 Cap	220-221
17	204247 Fill Prevention Cage	220
18	633AST Series Adaptor	220
19	53-00XX Series Double Tapped Bushing	128
20	62M Series Monitoring Probe Cap & Adaptor	98
21	FSA-400 Face Seal Adaptor	57

**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.



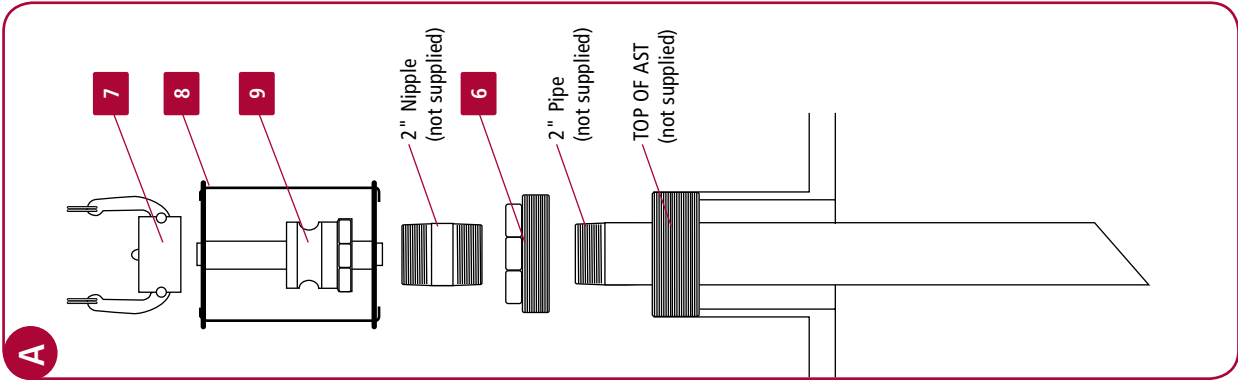
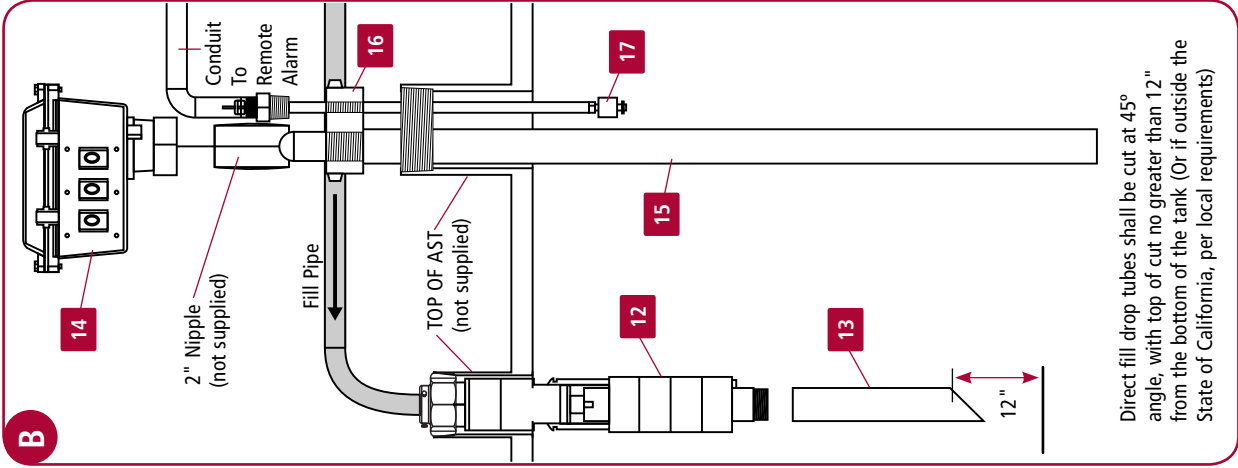
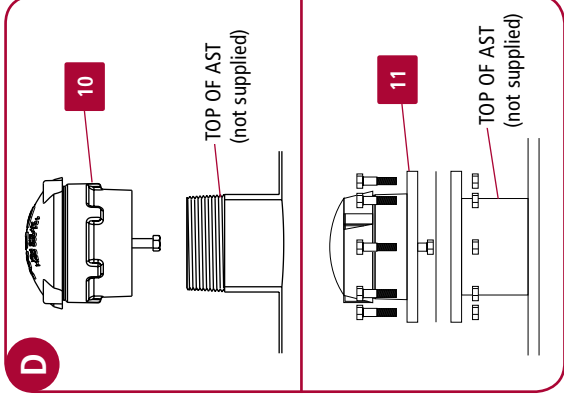
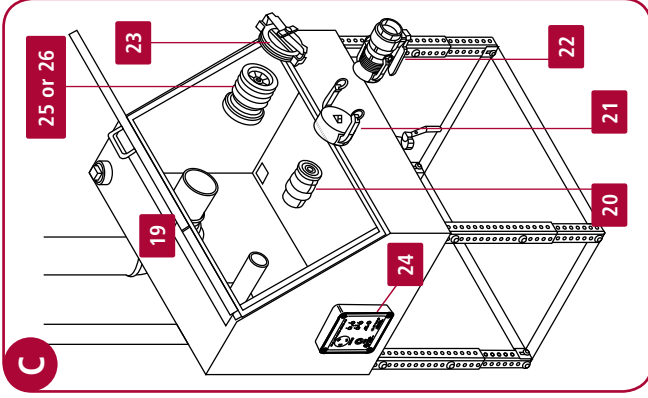
# Above Ground Storage Tank - Remote Fill - Remote Dispensing

## Typical Non-EVR Remote Fill / Remote Dispensing AST Application



PRODUCT KEY

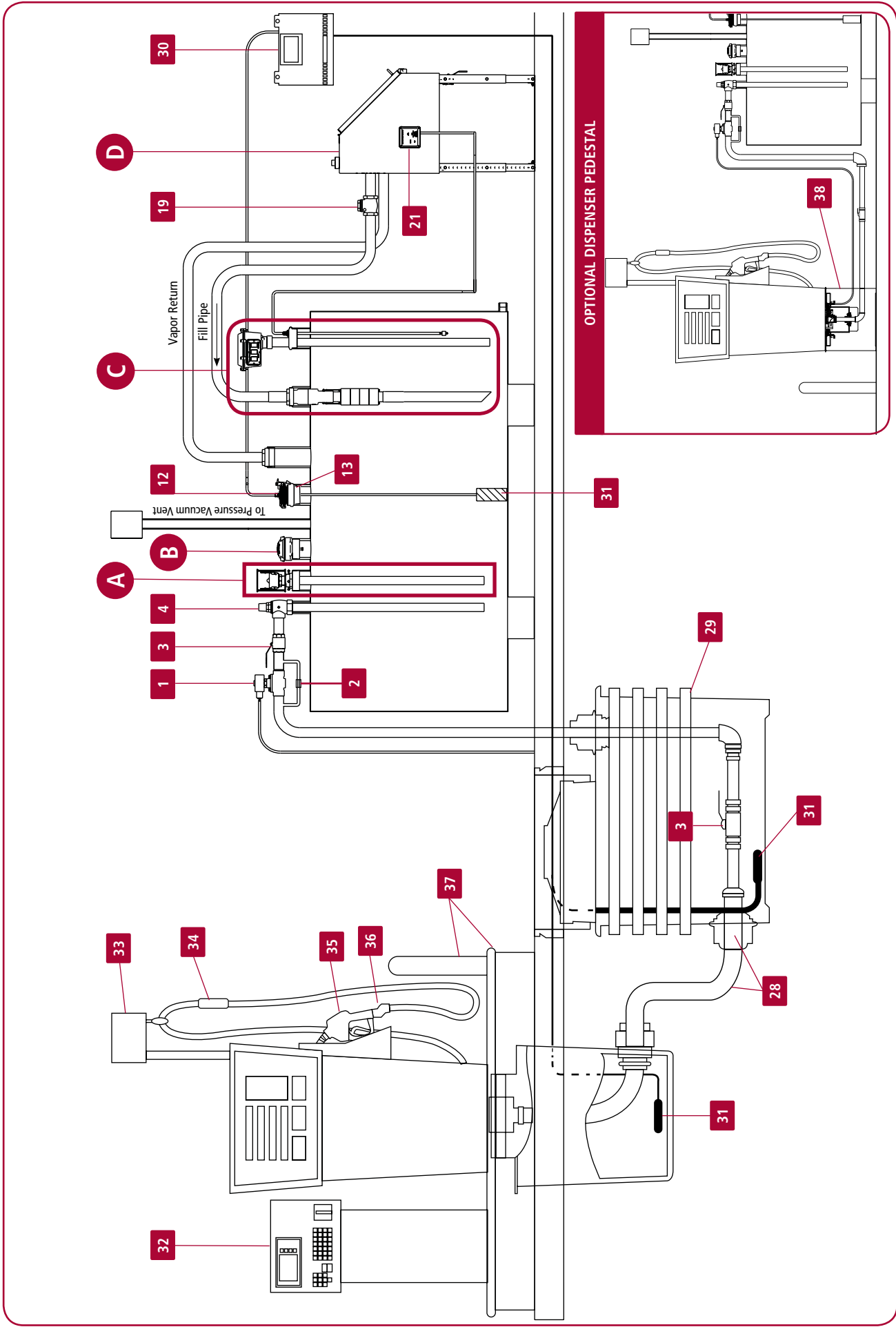
KEY	OPW PART / DESCRIPTION	PAGE
1	178S Series Emergency Valve	233
2	821 Series Solenoid Valve	231
3	21BV Series Ball Valve	232
4	199ASV Series Anti-Siphon Valve	230
5	82RV Series Pressure Relief Valve	231
6	53-00XX Series Double Tapped Bushing	128
7	634B-0150 or 634BK-0090 Cap	220-221
8	204247 Fill Prevention Cage	220
9	633AST-2190 Adaptor	220
10	301 Series Emergency Vent - Threaded Mount (See Vent Size Configuration Guide on page 214)	224
11	301 Series Emergency Vent - Flanged Mount (See Vent Size Configuration Guide on page 214)	224
12	615TOP-XXXX Series Overfill Prevention Valve	218-219
13	61FT Series Drop Tube	219
14	200TG-ENG Series Tank Gauge (optional / see Note below)	222
15	61T Series Drop Tube	222
16	TGTA-0400 4" Gauge/Alarm Combo Fitting (optional)	223
17	44TA-LLFS Liquid Level Float Switch	223
18	175 Series Swing Check Valve	234
19	6211R Series Remote Spill Container	217
20	1611AN-0200 or 1612AN-0200 - 2" Remote Fill or 1611AN-0300 or 1612AN-0300 - 3" Remote Fill Kamvalok Adaptor	221
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	220
22	1711D / 1712D Series Kamvalok Coupler	221
23	1711T-7085-EVR Cap or 1711LPC-0300 Low Profile Cap	97
24	144TA/444TA Series Tank Alarm (optional / see Note below)	223
25	1611AV Vapor Recovery Adaptor	96
26	61VSA Series Vapor Recovery Adaptor	95
27	62M Series Monitoring Probe Cap & Adaptor	98
28	FSA-400 Face Seal Adaptor	57



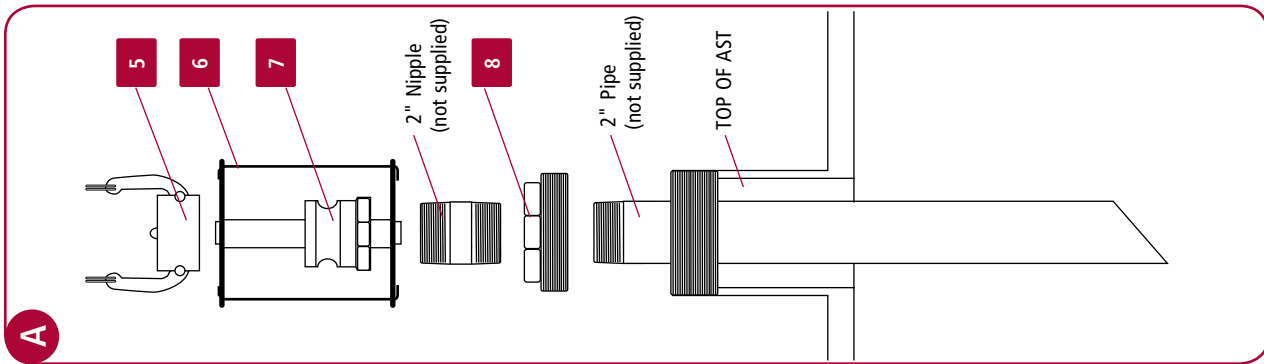
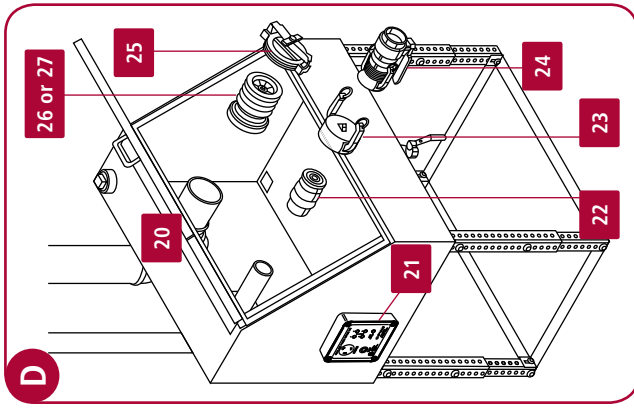
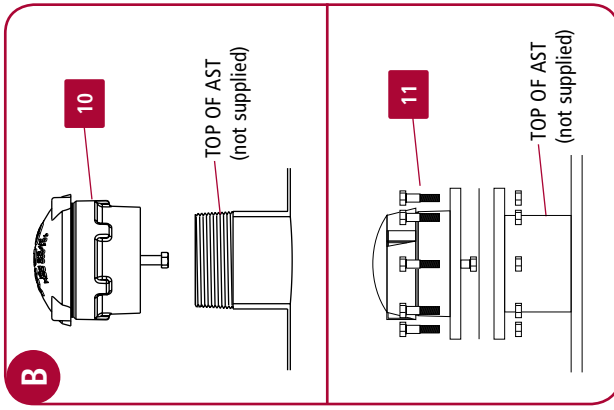
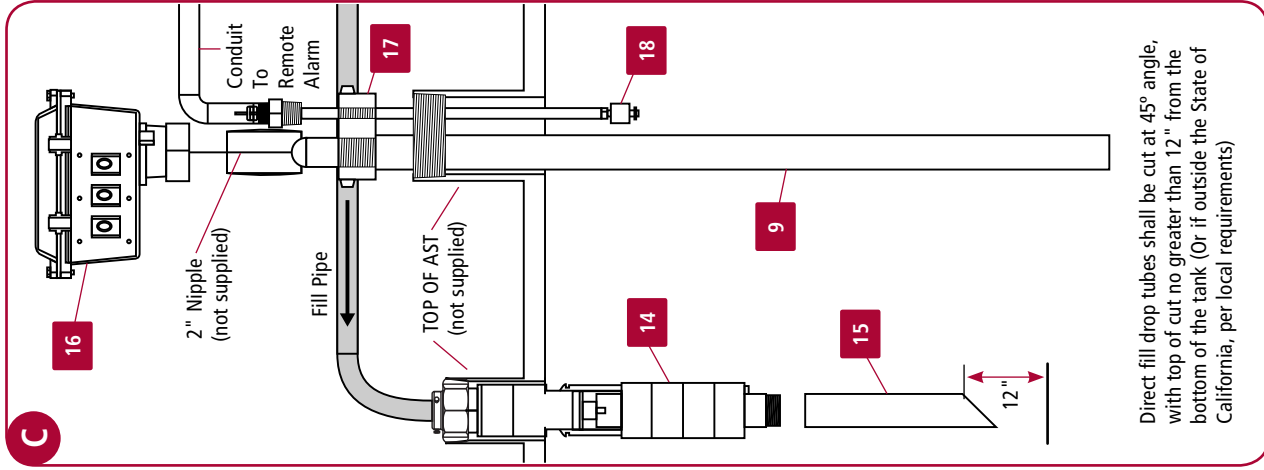
**NOTE:** The OPW 200TG and 144TA/444TA are not required for EVR compliance, but if a tank gauge or tank alarm is used on your tank that these two OPW products are the only CARB AST EVR certified tank gauge and alarm.

# Above Ground Storage Tank - Remote Fill - Remote Dispensing

## Typical Non-EVR Remote Fill / Remote Dispensing AST Fleet Application



PRODUCT KEY		
	OPW PART / DESCRIPTION	PAGE
1	821 Series Solenoid Valve	231
2	82RV Series Pressure Relief Valve	231
3	21BV Series Ball Valve	232
4	199ASV Series Anti-Siphon Valve	230
5	634B-0150 or 634BK-0090 Cap	220-221
6	204247 Fill Prevention Cage	220
7	633AST-2190 Adaptor	220
8	53-00XX Series Double Tapped Bushing	128
9	61T Series Drop Tube	222
10	301 Series Emergency Vent - NPT Mount (See Vent Size Configuration Guide on page 214)	224
11	301 Series Emergency Vent - Flanged Mount (See Vent Size Configuration Guide on page 214)	224
12	62M Series Monitoring Probe Cap & Adaptor	98
13	FSA-400 Face Seal Adaptor	57
14	61fSTOP-XXXX Series Overfill Prevention Valve	218-219
15	61FT Series Drop Tube	219
16	200TG-ENG Series Tank Gauge (optional / see Note below)	222
17	TGTA-0400 4" Gauge/Alarm Combo Fitting	223
18	44TA-LLFS Liquid Level Float Switch	223
19	175 Series Swing Check Valve	234
20	6211R Series Remote Spill Container	217
21	144TA/444TA Series Tank Alarm (optional / see Note below)	223
22	1611AN-0200 or 1612AN-0200 - 2" Remote Fill or 1611AN-0300 or 1612AN-0300 - 3" Remote Fill Kamvalok Adaptor	221
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	220
24	1711D / 1712D Series Kamvalok Coupler	221
25	1711T-7085-EVR Cap or 1711LPC-0300 Low Profile Cap	97
26	1611AV Vapor Recovery Adaptor	96
27	61VSA Series Vapor Recovery Adaptor	95
28	Flexible Piping Systems for Fuel Oil & Generator Applications	39
29	Underground Containment Systems	40

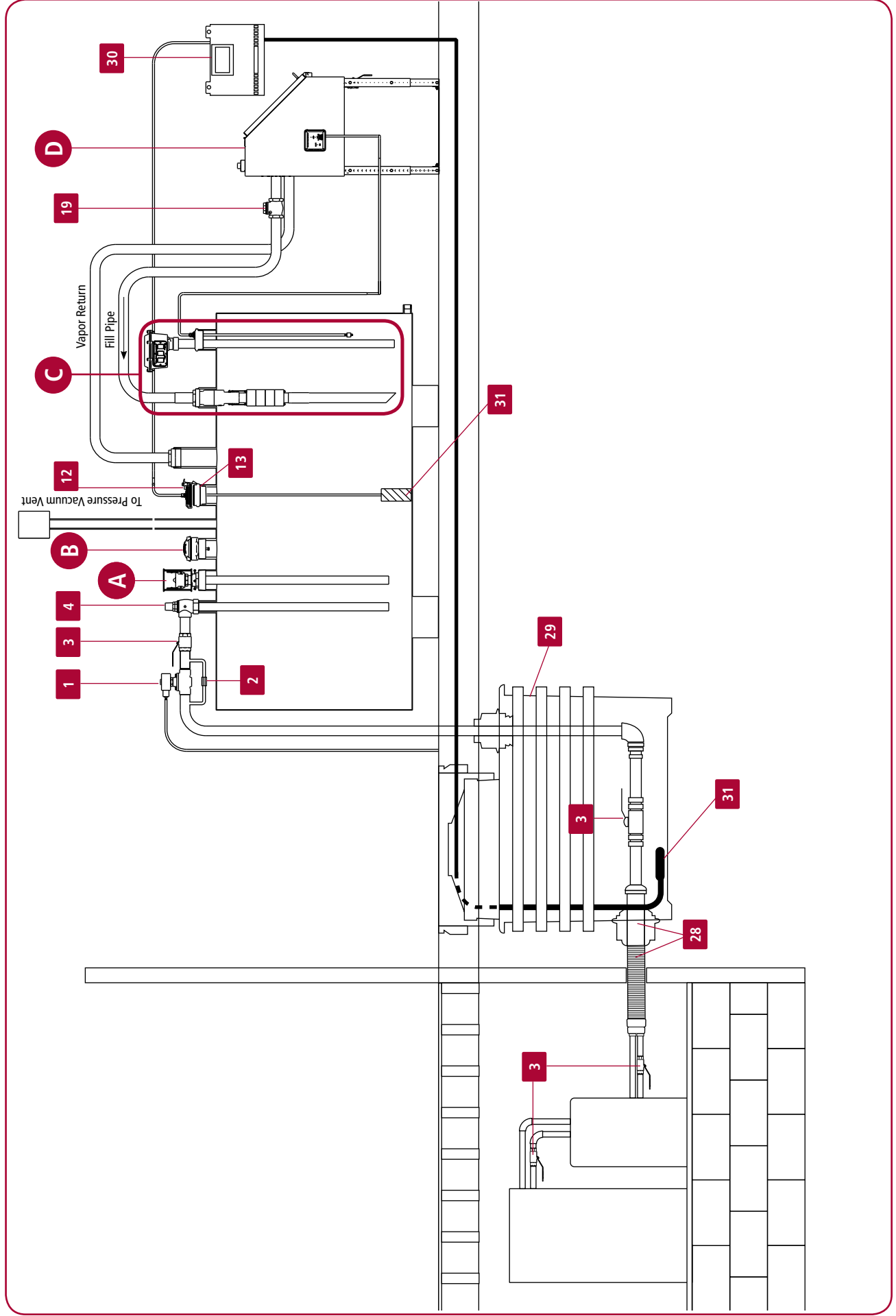


NOTE: The OPW 200TG and 144TA/444TA are not required for EVR compliance, but if a tank gauge or tank alarm is used on your tank that these two OPW products are the only CARB AST EVR certified tank gauge and alarm.

30	Automatic Tank Monitoring & Leak Detection Equipment	240-250	33	100 & 102 Series Hose Retractors	197-200	36	Swivels	158-167
31	Probes & Sensors for Liquid & Vapors	250-262	34	Breakaways	163-167	37	Island Forms and Bumper Guards	84-88
32	Automated Fuel Control System	265-286	35	Fueling Nozzles	143-201	38	Dispenser Pedestal	235

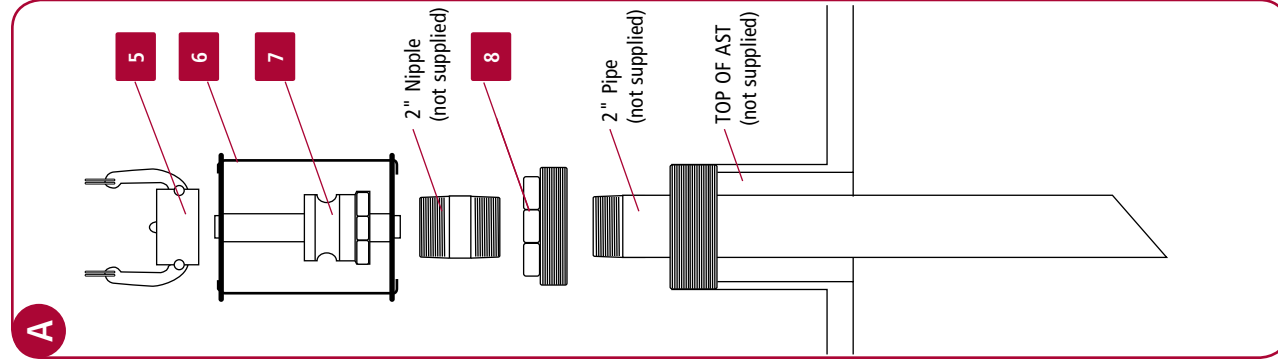
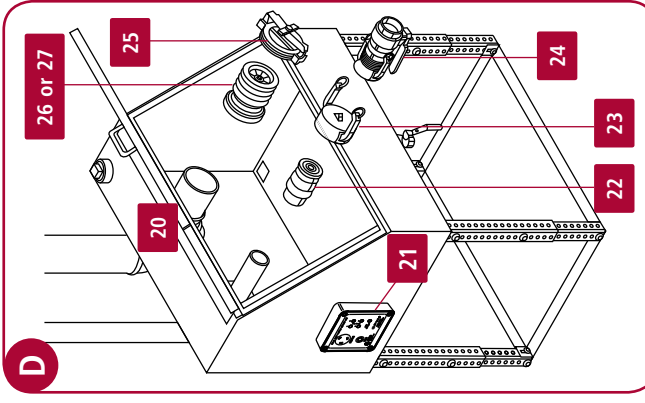
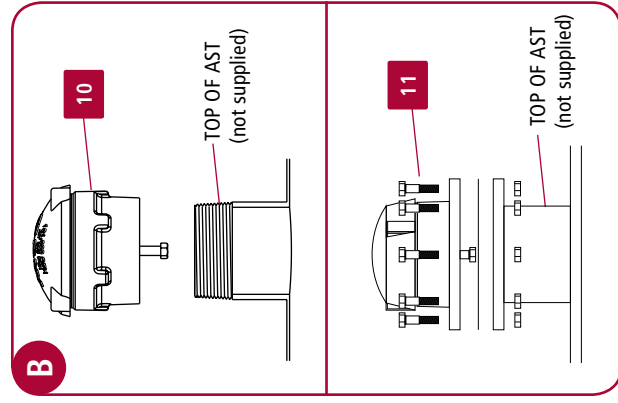
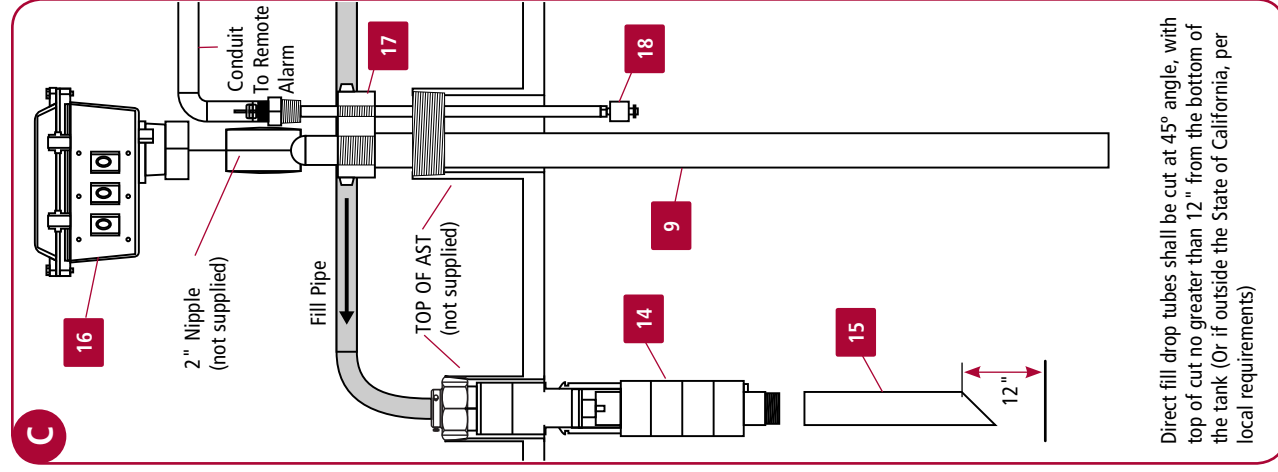
# Above Ground Storage Tank - Remote Fill

## Typical Diesel/Fuel Oil/Generator Application





PRODUCT KEY		
	OPW PART / DESCRIPTION	PAGE
1	821 Series Solenoid Valve	231
2	82RV Series Pressure Relief Valve	231
3	21BV Series Ball Valve	232
4	199ASV Series Anti-Siphon Valve	230
5	634B-0150 or 634BK-0090 Cap	220-221
6	204247 Fill Prevention Cage	220
7	633AST-2190 Adaptor	220
8	53-00XX Series Double Tapped Bushing	128
9	61T Series Drop Tube	222
10	301 Series Emergency Vent - NPT Mount (See Vent Size Configuration Guide on page 214)	224
11	301 Series Emergency Vent - Flanged Mount (See Vent Size Configuration Guide on page 214)	224
12	62M Series Monitoring Probe Cap & Adaptor	98
13	FSA-400 Face Seal Adaptor	57
14	61F5TOP-XXXX Series Overfill Prevention Valve	218-219
15	61FT Series Drop Tube	219
16	200TG-ENG Series Tank Gauge (optional / see Note below)	222
17	TGTA-0400 4" Gauge/Alarm Combo Fitting	223
18	44TA-LIFS Liquid Level Float Switch	223
19	175 Series Swing Check Valve	234
20	6211R Series Remote Spill Container	217
21	144TA/444TA Series Tank Alarm (optional / see Note below)	223
22	1611AN-0200 or 1612AN-0200 - 2" Remote Fill or 1611AN-0300 or 1612AN-0300 - 3" Remote Fill Kamvalok Adaptor	221
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 6335T-0250 or 1611AN-2040 or 1612AN-2040 Adaptors D) 634B-0170 Dust Cap fits 1611AN-3060 or 1612AN-3060 Adaptors	220
24	1711D / 1712D Series Kamvalok Coupler	221
25	1711T-7085-EVR Cap or 1711LPC-0300 Low Profile Cap	97
26	1611AV Vapor Recovery Adaptor	96
27	61VSA Series Vapor Recovery Adaptor	95
28	Flexible Piping Systems for Fuel Oil & Generator Applications	39
29	Underground Containment Systems	40



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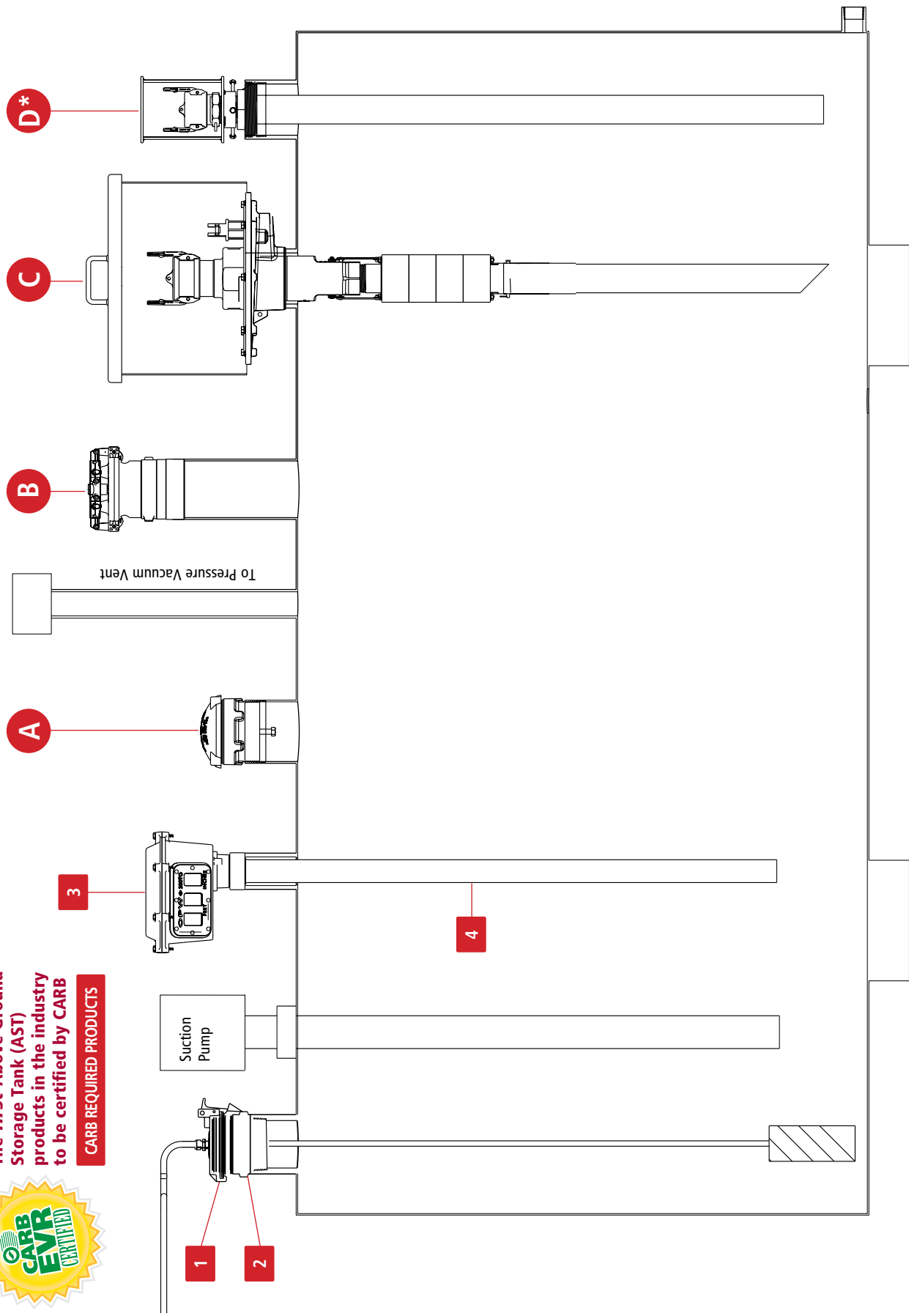
30	Automatic Tank Monitoring & Leak Detection Equipment	240-264
31	Probes & Sensors for Liquid & Vapors	250-262

# 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**

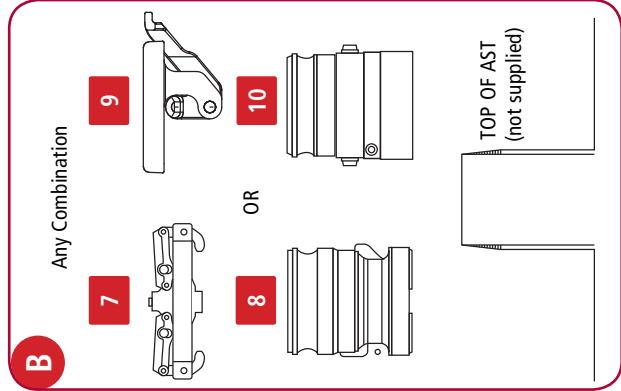
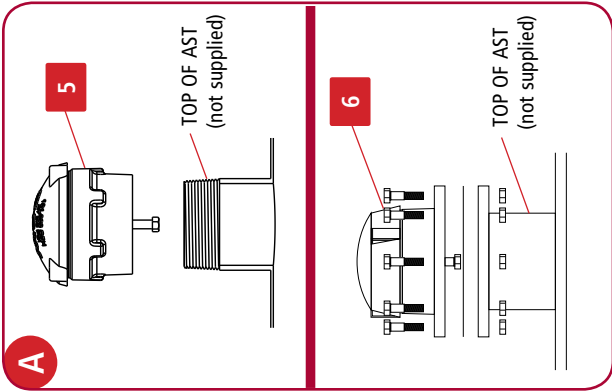
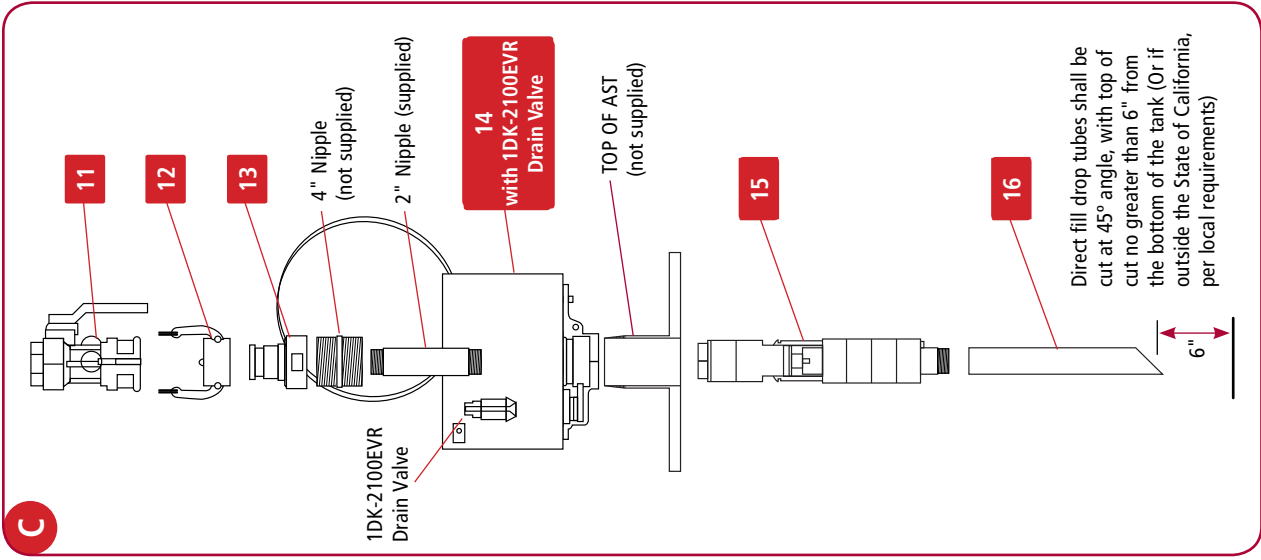
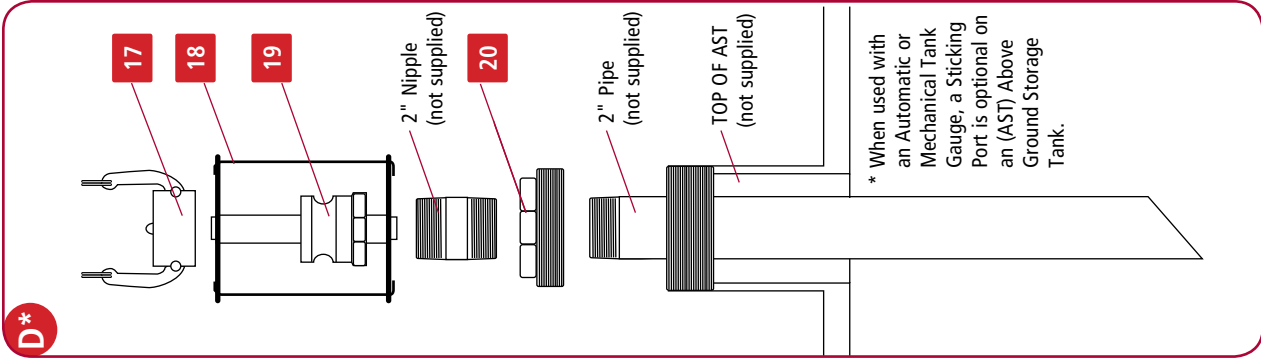




The first Above Ground Storage Tank (AST) products in the industry to be certified by CARB

**CARB REQUIRED PRODUCTS**

	OPW PART / DESCRIPTION	PAGE
1	62M Series Monitoring Probe Cap & Adaptor	98
2	FSA-400 Face Seal Adaptor	57
3	200TG-ENG Series Tank Gauge (optional / see Note below)	222
4	61T Series Drop Tube	222
5	301 Series Emergency Vent - NPT Mount (See Vent Size Configuration Guide on page 214)	224
6	301 Series Emergency Vent - Flanged Mount (See Vent Size Configuration Guide on page 214)	224
7	1711T-7085-EVR Cap	97
8	1611AV Vapor Recovery Adaptor	96
9	1711LPC-0300 Low Profile Cap	97
10	61VSA Series Vapor Recovery Adaptor	95
11	1711D / 1712D Series Kamvalok Coupler	221
12	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	220
13	1611AN-2040 or 1612AN-2040 - 2" Direct Fill or 1611AN-3060 or 1612AN-3060 - 3" Direct Fill Kamvalok Adaptor	221
14	332 Series Spill Container	216
15	615STOP-XXXXT Series Overfill Prevention Valve	218-219
16	61FT Drop Tube	219
17	634B-0150 or 634BK-0090 Cap	220-221
18	204247 Fill Prevention Cage	220
19	633AST Series Adaptor	220
20	53-00XX Series Double Tapped Bushing	128



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

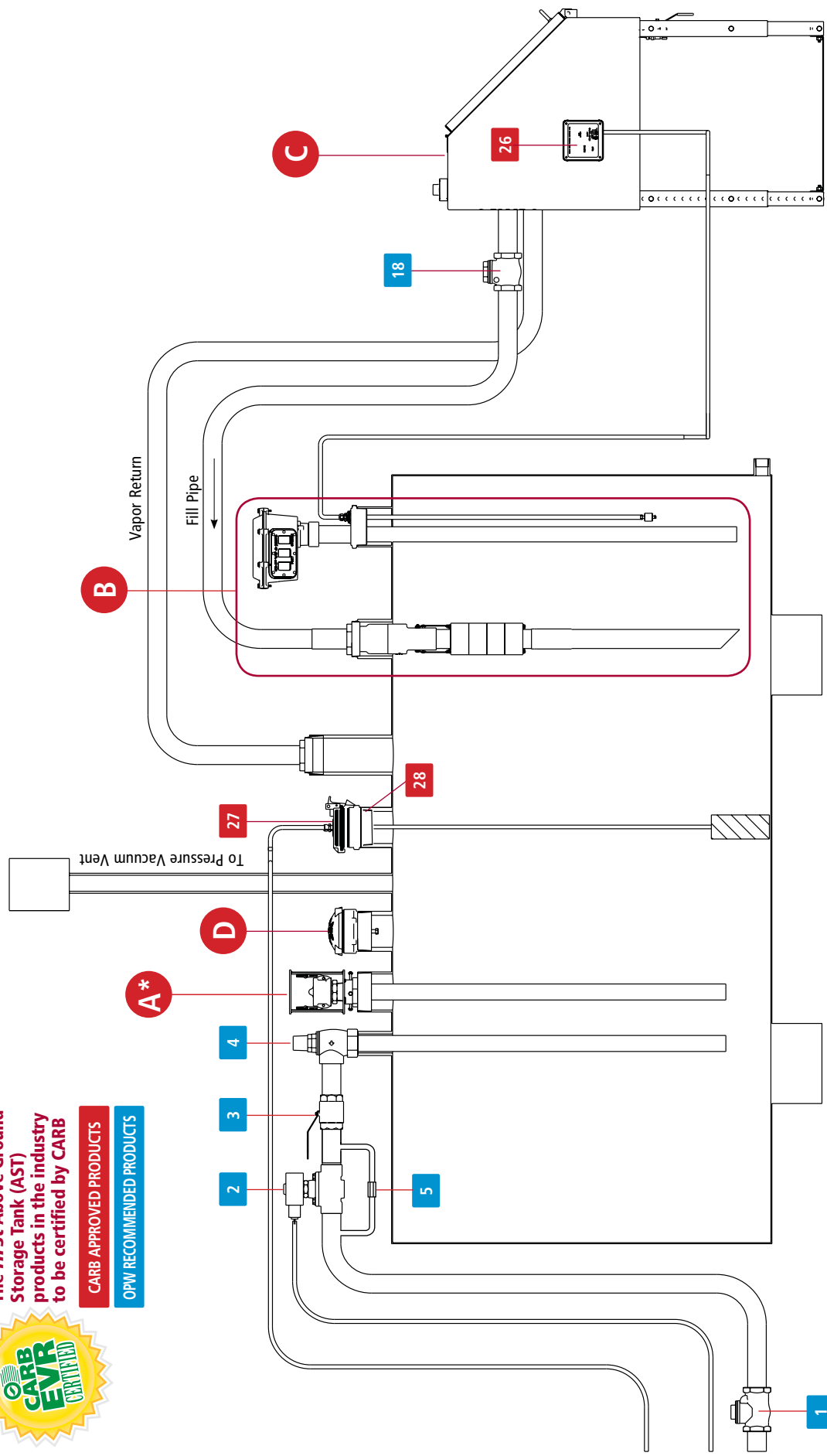
## Typical OPW Phase I System for AST



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

CARB APPROVED PRODUCTS

OPW RECOMMENDED PRODUCTS

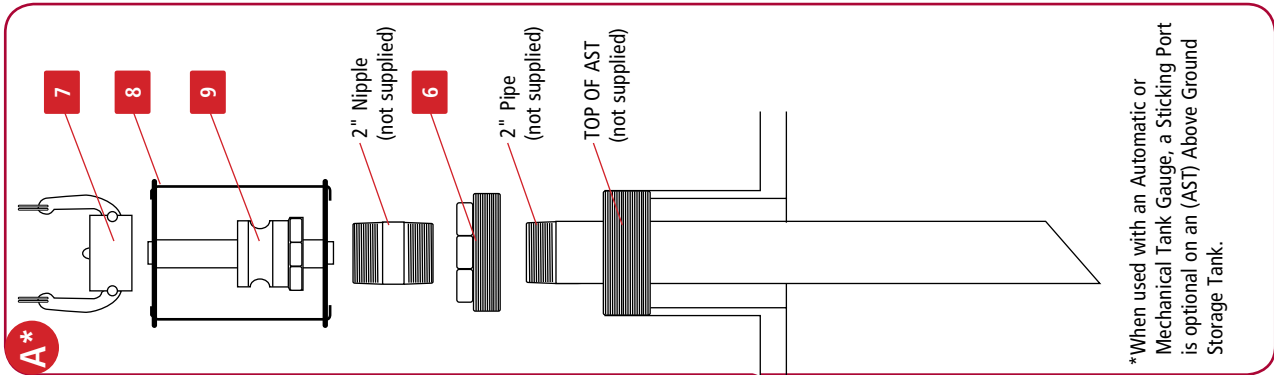
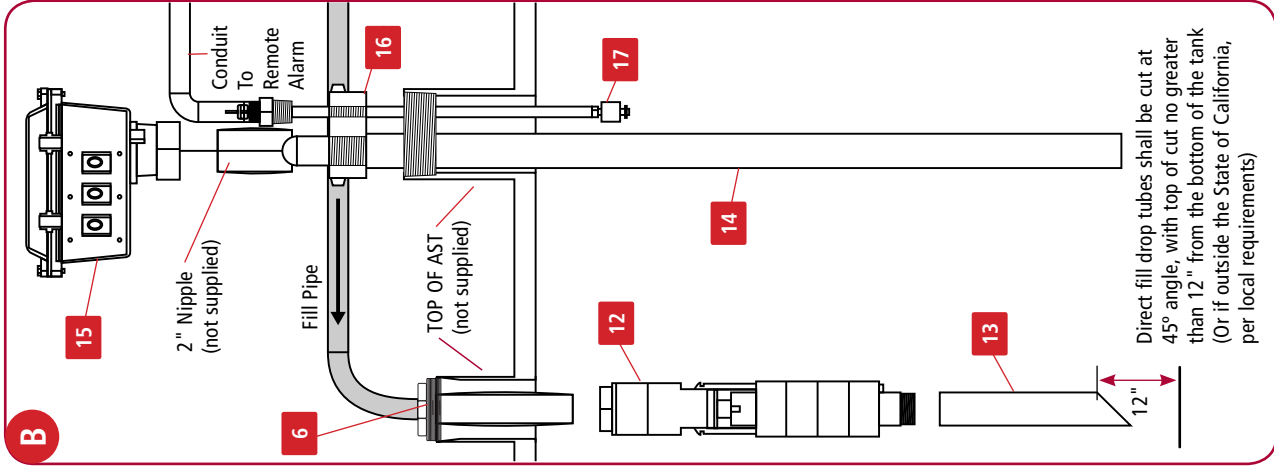
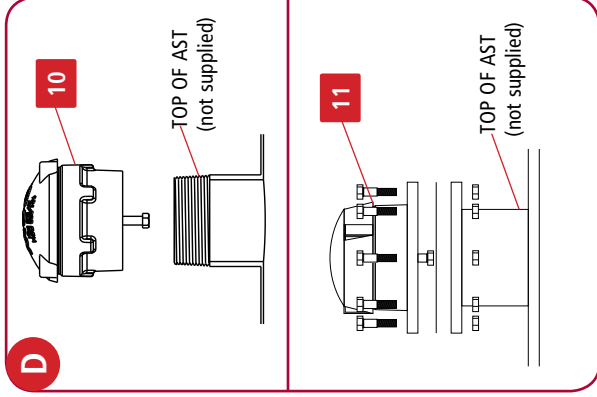
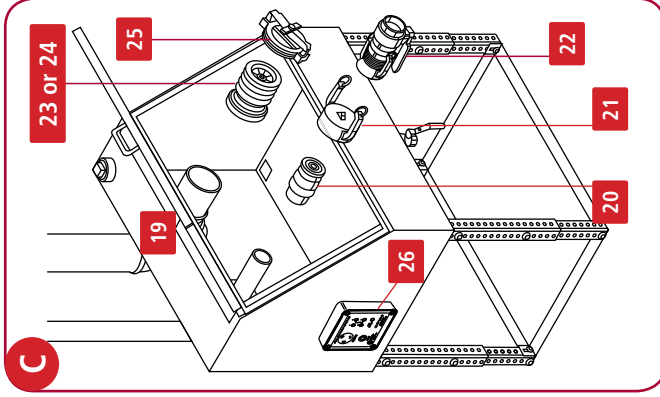


\* When used with an Automatic or Mechanical Tank Gauge, a Sticking Port is optional on an (AST) Above Ground Storage Tank.



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

KEY	OPW PART / DESCRIPTION	RECOMMENDED PRODUCTS	PAGE
1	178S Series Emergency Valve (optional)		233
2	821 Series Solenoid Valve (optional)		231
3	21BV Series Ball Valve (optional)		232
4	199ASV Series Anti-Siphon Valve (optional)		230
5	82RV Series Pressure Relief Valve (optional)		231
6	53-00XX Series Double Tapped Bushing (optional)		128
7	634B-0150 or 634BK-0900 Cap		220-221
8	204247 Fill Prevention Cage		220
9	633AST Series Adaptor		220
10	301 Series Emergency Vent - Threaded Mount (See Vent Size Configuration Guide on page 214)		224
11	301 Series Emergency Vent - Flanged Mount (See Vent Size Configuration Guide on page 214)		224
12	61FTOP-XXXXT Series Overfill Prevention Valve		218-219
13	61FT Series Drop Tube		219
14	61T Series Drop Tube		222
15	200TG-ENG Series Tank Gauge (optional / see Note below)		222
16	TGTA-0400 4" Gauge/Alarm Combo Fitting (optional)		223
17	44TA-LLFS Liquid Level Float Switch (optional)		223
18	175 Series Swing Check Valve (optional)		234
19	6211R Series Remote Spill Container		217
20	1611AN-0200 or 1612AN-0200 - 2" Remote Fill or 1611AN-0300 or 1612AN-0300 - 3" Remote Fill Kamvalok Adaptor		221
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		220
22	1711D, 1711DL, 1712D, 1712DL Series Kamvalok Couplers		221
23	1611AV Vapor Recovery Adaptor		96
24	61VSA Series Vapor Recovery Adaptor		95
25	1711F-7085-EVR Cap or 1711LPC-0300 Low Profile Cap		97
26	144TA/444TA Series Tank Alarm (optional / see NOTE below)		223
27	62M Series Monitoring Probe Cap & Adaptor		98
28	FSA-400 Face Seal Adaptor		57



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.

## 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

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.

#### Step 1

From TABLE 1: **WA = 518 sq. ft.**

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

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

WA = wetted area in square feet

75% = horizontal tank factor

$\pi = 3.14$

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) = **518 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	

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

Total CFH required = 354,000 CFH + 6,840 CFH = **360,840 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.

\*\*PEI Recommended Practices 200-96

### Wetted Area versus Cubic Feet of Free Air Per Hour Table 2

(14.7 PSIA and 60°)

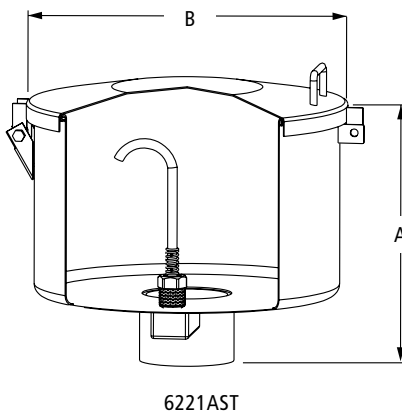
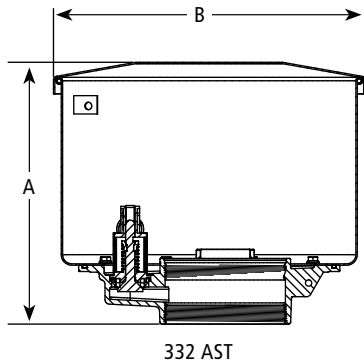
sq. ft.	sq. m.	CFH	CMH
20	1.858	21,100	597.48
30	2.787	31,600	894.81
40	3.716	42,100	1,192.13
50	4.645	52,700	1,492.29
60	5.574	63,200	1,789.62
70	6.503	73,700	2,086.95
80	7.432	84,200	2,384.27
90	8.361	94,800	2,684.43
100	9.290	105,000	2,973.26
120	11.148	126,000	3,567.92
140	13.006	147,000	4,162.57
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: **Flamable and Combustible Liquids Code 30, NFPA.**

Interpolate for immediate values.

## 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.



### Dimensions


Model #	Capacity		A		B	
	gal.	liter	in.	cm	in.	cm
6221	7	26.5	14 1/2	37	17	43
	3.5	13.2	9 1/4	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 61 fSTOP 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 and 6221AST 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 stainless steel base and walls provide solid strength for heavy-duty applications.
- ◆ All Models Are ULC Listed – clearly labeled to identify the listing.
- ◆ CARB EVR Certified

 Model 06221 Series only.

332AST Spill Containers  
Instruction Sheet Order Number: 203168

6211-AST Spill Containers  
Instruction Sheet Order Number: 202207

### Ordering Specifications:

#### CARB APPROVED AST EQUIPMENT

Product #	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
6211SS-AST74	7 gallon, AST Stainless Steel Spill Container	26.4 liter, 4.0" NPT	25	11.33

**Listings and Certifications**

**CARB Certified  
AST Phase I Enhanced Vapor Recovery (EVR) System**



## 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.



See Pomeco Product Configurator

6211-R

- ◆ 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 -				
211	15	0	B2	L	
211SS	20	1	B3	LD	
	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)

B – Booted entry fittings in holes  
N – No fittings in holes  
2 – 2" Fitting  
3 – 3" Fitting  
4 – 4" Fitting

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

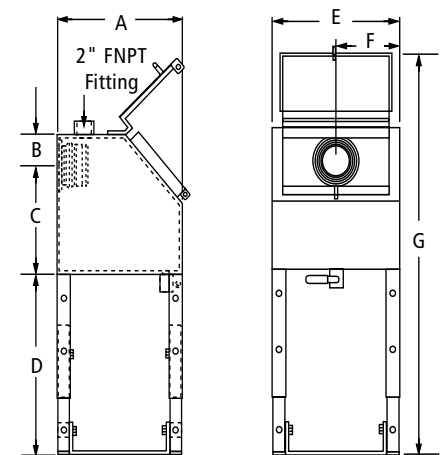
Note: an item must be selected for each column.

## Dimensions

	15 Gallon		20 Gallon		30 Gallon	
	Weight 91 lbs. (41 kg)		Weight 135 lbs. (61 kg)		Weight 175 lbs. (79 kg)	
	in.	cm	in.	cm	in.	cm
A	18¼	46	24	61	21	53
B	7⅞	19	7½	19	10½	27
C	13⅝	35	16½	42	16½	42
D	16½ to 30	42 to 76	16½ to 30	42 to 76	16½ to 30	42 to 76
E	18¼	46	24	61	34	86
F	9⅞	23	12	30½	9½	24
G	47 to 60½	119 to 154	56½ to 80	144 to 203	56½ to 80	144 to 203

## POMEKO/OPW 211-Remote-Fill Above Ground Storage Tank Spill Containers

POMEKO/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. POMEKO/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
H14228M	Band Clamp for PBOOT
202312	Aluminum Flange
21BV-0075	Fullport ¾"
6211R-15	Leg Kit - 15 Gal.
6211R-20	Leg Kit - 20 Gal.
6211R-30	Leg Kit - 30 Gal.
PC04427	Brass Drain Valve

211R Instruction Sheet Order Number:  
**H15857PA**

## 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

\*OPW does not recommend pumping pressures above 100 psi for Class 1B fuels 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 Certified  
AST Phase I Enhanced Vapor Recovery (EVR) System**

## 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 <sup>15</sup> / <sub>16</sub>	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 <sup>15</sup> / <sub>16</sub>	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 <sup>31</sup> / <sub>32</sub>	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 <sup>31</sup> / <sub>32</sub>	5	6	15.2
61fSTOP-3050	3" Cyl. Float	3	7.6	10 <sup>5</sup> / <sub>8</sub>	27	2	5.1	8	20.3	5 <sup>1</sup> / <sub>8</sub>	13	n/a	n/a
61fSTOP-305A*	3" Cyl. Float for Aviation, Methanol and AV-GAS	3	7.6	10 <sup>5</sup> / <sub>8</sub>	27	2	5.1	8	20.3	5 <sup>1</sup> / <sub>8</sub>	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 <sup>15</sup> / <sub>16</sub>	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 <sup>31</sup> / <sub>32</sub>	5	6	15.2

\*Recommended for E85

### Replacement Parts 2"

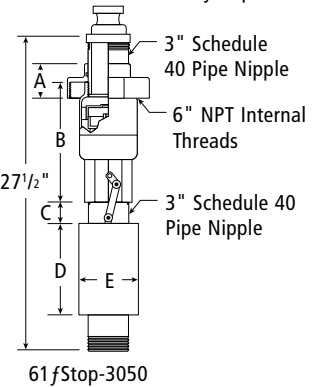
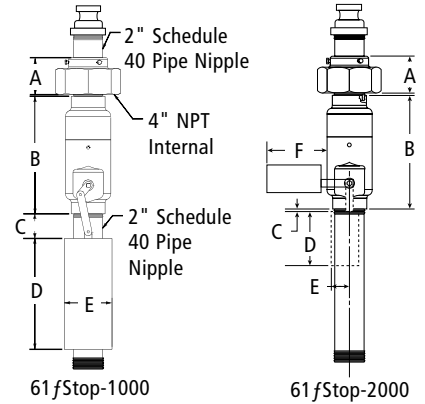
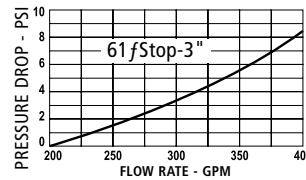
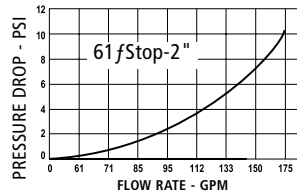
Product #	Description
C04093M	4" Retaining Collar
C04114RS	14" Nipple

### 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 <sup>15</sup> / <sub>16</sub>	10	n/a	n/a
61FSTOP-2000T	2" NPT with float arm	10	25.4	1/2	3.8	5-18	22.4	1 <sup>31</sup> / <sub>32</sub>	5	6	15.2
61FSTOP-3050T	3" NPT with cylindrical float	10 <sup>5</sup> / <sub>8</sub>	27	2	5.1	8	20.3	5 <sup>1</sup> / <sub>8</sub>	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

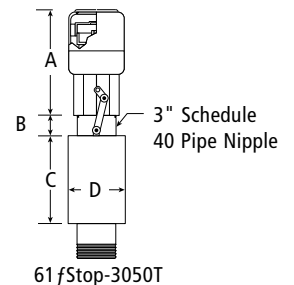
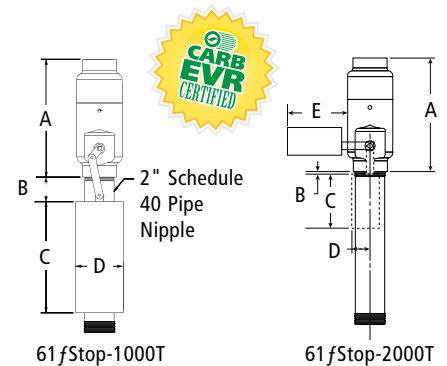
The OPW 61FT Drop Tube is designed to install on the bottom of the 61fSTOP AST Overfill Prevention Valves when a lightweight, longer, lower drop tube is required. Constructed of extruded aluminum, the OPW 61FT is connected to the bottom of the 61fSTOP by a clevis and cotter pin assembly, and allows for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

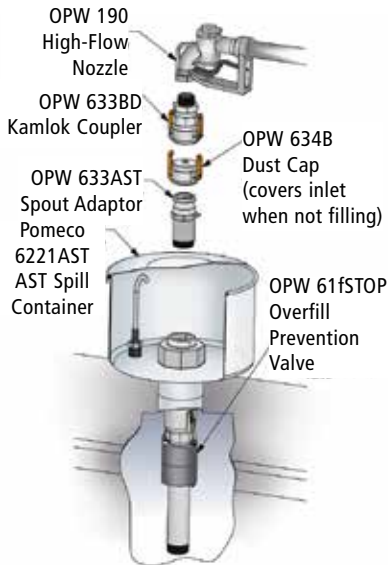
61FSTOP-1000, 100M, 200M Instruction Sheet Order Number: **H12676M**  
 61FSTOP-2000 Instruction Sheet Order Number: **H13337M**  
 61FSTOP-3000, 3050, 305A Instruction Sheet Order Number: **H13315M**  
 61FT-0312, 0206 Instruction Sheet Order Number: **H14428PA**  
 61FSTOP-1000T, 2000T, 3050T Instruction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



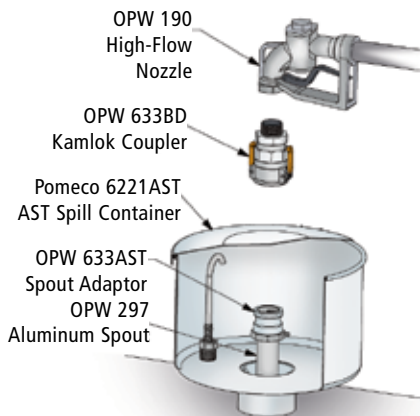
NOTE: When ordering a CARB EVR Certified OPW 61f STOP, the Fill Adaptor must be ordered separately.

## 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-XXXX 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 1-1/2	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



633AST Spout Adaptor

633FAST-XXXX, Male Thread Equivalent of Adaptors above

## 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 61fSTOP 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



Poppeted Kamvalok®  
Couplers for Remote Fill

1611AN Adaptor Instruction Sheet  
Order Number: 204016

## 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
1772DL-SS20	2" Stainless Steel Poppeted Kamvalok® Coupler w/ Locking Arms and Lever	2	51
1772DL-SS30	3" Stainless Steel Poppeted Kamvalok® Coupler w/ Locking Arms and Lever	3	77

\* Thread and Kamvalok® same size



Poppeted  
Kamvalok® Couplers

H32116PA Coupler Instruction  
Sheet Order Number: 204016

## 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

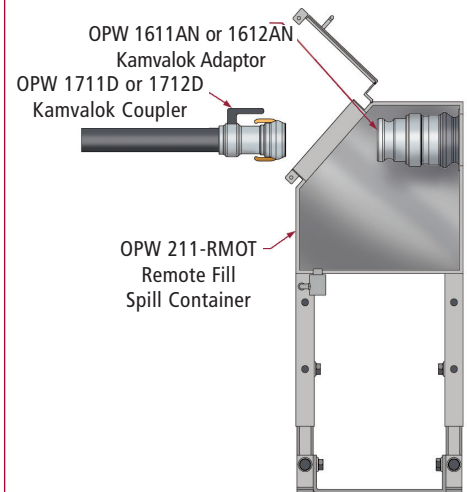
Product #	Description	in.	mm
634A-0160	Plugs 1711D or 1712D - 2" Kamvalok® Coupler	2½	64
634A-0180	Plugs 1711D or 1712D - 3" Kamvalok® Coupler	4	103



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.

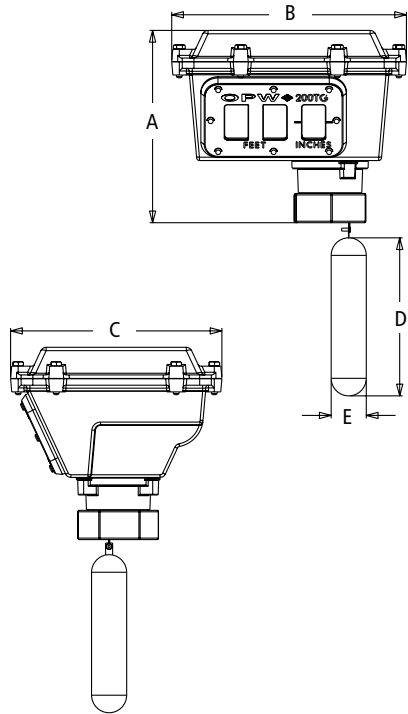
### Ordering Specifications

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
H15325M	Lens
H15267M	Lens Gasket
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 292.
- ◆ 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
200TGMET40	Metric Unit Tank Gauge - 12 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

Product #	Description	lb.	kg
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.



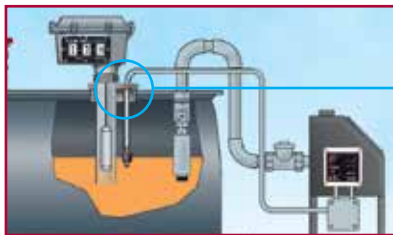
TGTA-0400 4" Tank Bung Combo Fitting  
Note: Drop Tube must be used with TGTA-0400.

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 <sup>1</sup> / <sub>32</sub>	12.8
B	5 <sup>1</sup> / <sub>32</sub>	12.8
C	4 <sup>3</sup> / <sub>16</sub>	10.6

## 144TA Dimensions:

	in.	cm
A	5 <sup>1</sup> / <sub>32</sub>	12.8
B	5 <sup>1</sup> / <sub>32</sub>	12.8
C	3	7.6
D	4 <sup>3</sup> / <sub>16</sub>	10.6
E	1 <sup>15</sup> / <sub>16</sub>	4.9
F	35	88.9
G	1 <sup>15</sup> / <sub>16</sub>	4.9
H	1	2.5

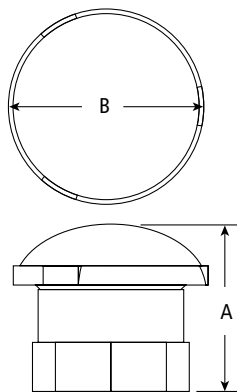
## Approvals and Listings



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 #	Pressure		Mounting Connection	A		B		Weight		
	in.	mm		Setting	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" 125,000 SCFH @ 2.5 psi  
 6" 280,000 SCFH @ 2.5 psi  
 8" 455,000 SCFH @ 2.5 psi



## 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.

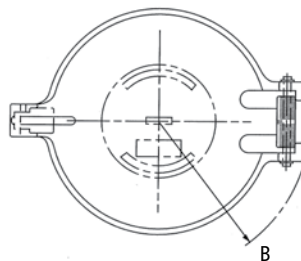
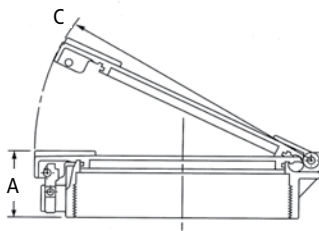
202 Series Instruction Sheet Order Number: **H11792M**

## 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	2 <sup>3</sup> / <sub>8</sub>	60	2 <sup>3</sup> / <sub>8</sub>	60	2 <sup>5</sup> / <sub>8</sub>	67
B	4	102	5	127	5 <sup>7</sup> / <sub>8</sub>	149
C	6 <sup>1</sup> / <sub>2</sub>	165	8 <sup>9</sup> / <sub>16</sub>	218	10 <sup>3</sup> / <sub>4</sub>	273

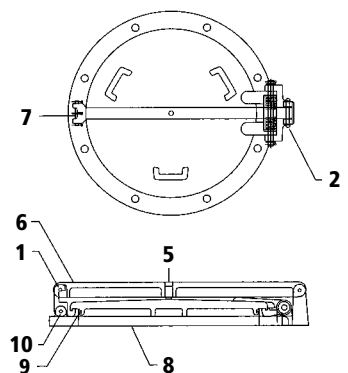


## OPW 202 Emergency Vents

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.

## Ordering Specifications Flange Mount

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



## 202F Replacement Parts

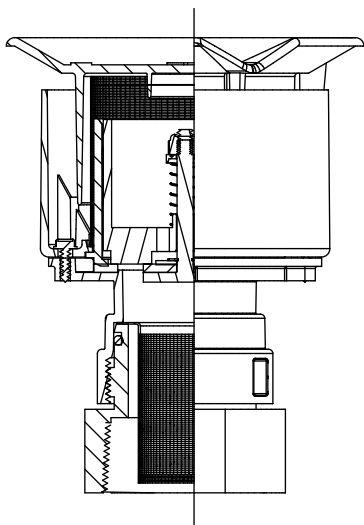
Key	Part #	Description
1	H04869RE	Break Link
2	H06475RE	Rivet
3	H04981M	Cotter Pin
4	H04928	Parts S/A
5	H04929M	Screw
6	C01288I	Bar
7	H04871M	Break Pin
8	C01289M	Gasket
9	H04873M	O-Ring
10	H06449RE	Rivet

**Approvals  
and Listings**



## 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 <sub>2</sub> O (WC)	In Hg (Merc)	Bar
Bar	x	236.0	14.5	401.4	29.53	
In. Hg (Mercury)	x	7.843	0.49	13.6		0.034
In H <sub>2</sub> 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 H<sub>2</sub>O.
- ◆ 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 H<sub>2</sub>O.
- ◆ 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

623V Instruction Sheet Order Number: H14898PA

## Ordering Specifications

Product #	Description	Identification Label Color	lb.	kg
623V-2203	2.5" to 6" WC Pres., -6" to -10" WC Vac. 2" Thread-On	Yellow	1.55	.70
623V-3203	2.5" to 6" WC Pres., -6" to -10" WC Vac. 3" 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

## Listings and Certifications



OPW 623V & 523V



ATEX Approved

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-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

523V Instruction Sheet Order Number: **H11972M**

## 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 <sub>2</sub> O (WC)	In Hg (Merc)	Bar
Bar	x	236.0	14.5	401.4	29.53	
In. Hg (Mercury)	x	7.843	0.49	13.6		0.034
In H <sub>2</sub> 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

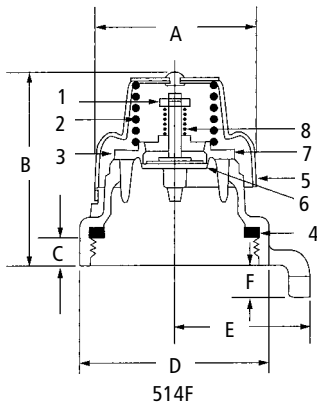
Part Number	Description
H11432M	O-ring for 2" Thread
H11456M	O-ring for 3" Thread

## 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.

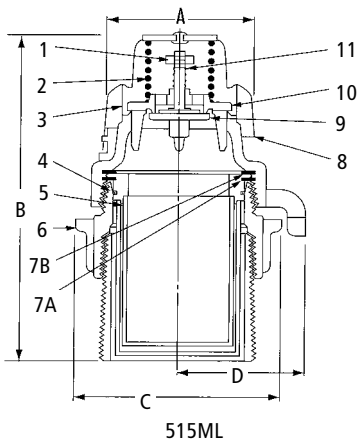
## OPW Utility Tank Vents

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 <sup>5</sup> / <sub>16</sub>	59
B	2 <sup>5</sup> / <sub>16</sub>	75
C	1 <sup>5</sup> / <sub>16</sub>	24
D	2 <sup>21</sup> / <sub>32</sub>	67
E	1 <sup>15</sup> / <sub>16</sub>	49
F	7 <sup>7</sup> / <sub>16</sub>	11



### Dimensions (515ML)

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

## Materials

**Cap body:** High-tensile aluminum alloy construction. Has straight pipe threads with Nitrile for tight seal to tank. 2" - 11<sup>1</sup>/<sub>2</sub>" 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" (11<sup>1</sup>/<sub>2</sub>" 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" (11<sup>1</sup>/<sub>2</sub>" 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

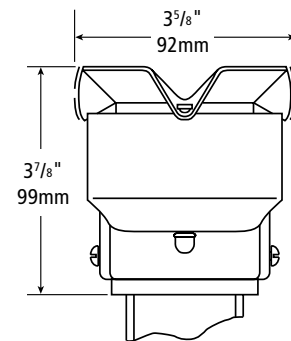
Product #	in.	mm	lbs.	kg
113-0066	2	51	.88	.40
113-0099	4	102	7.50	3.41

## Dimensions

	2" (51mm)		4" (102mm)	
	in.	mm	in.	mm
A	1½	38	2¾	70
B	¾	95	7⅞	189
C	¾	70	4⅝	125

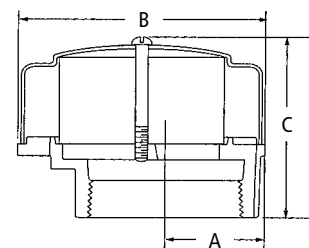
## OPW 23 Series Open Atmospheric Vents

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

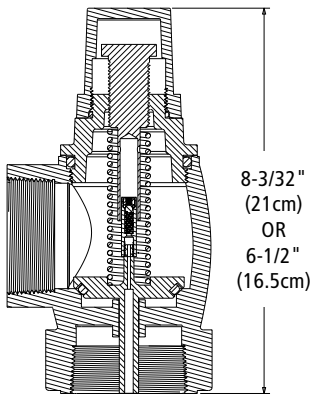
OPW 113 Open Atmospheric Utility Vents are installed on the top of above ground fuel storage tanks. The vent cap and internal wire screen are designed to protect the tank vent lines against intrusion and blockage from water, debris or insects. These vents are always open to atmosphere and allow any pressure 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<sup>3</sup>/<sub>32</sub>" model for 1½" and 2" (20.55 cm model for 3.81 cm and 5.08 cm)
- ◆ 6½" model for ¾" and 1" (16.51 cm model for 1.90 cm and 2.54 cm)

## 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

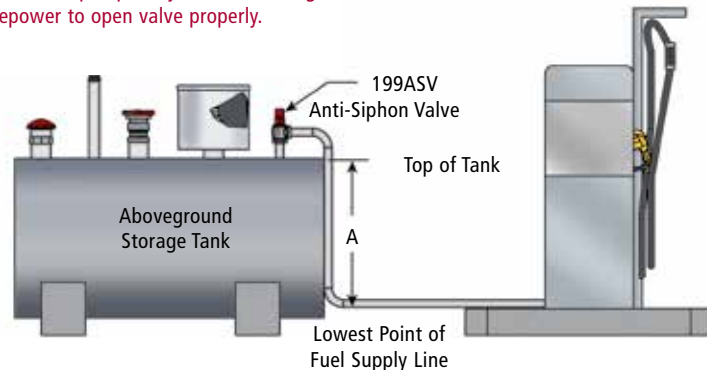
	PSI	ft. H <sub>2</sub> O	in. H <sub>2</sub> O	in. Hg	ft. Gas	ft. Diesel
0-5	1.88	4.33	51.96	3.85	6.2	5.35
5-10	3.68	8.48	101.76	7.53	12.12	10.47
10-15	5.6	12.92	155.04	11.47	18.51	15.95
15-20	7.4	17.07	204.84	15.16	24.4	21.07

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

## Ordering Specifications

Product #	in.	mm	lbs.	kgs	Hydrostatic Head Pressure* (Dimension A)
199ASV-1075	¾"	19	1.6	.725	0'-5'
199ASV-2075	¾"	19	1.6	.725	5'-10'
199ASV-3075	¾"	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	1½"	38	2.0	.907	0'-5'
199ASV-2150	1½"	38	2.0	.907	5'-10'
199ASV-3150	1½"	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.



## Listings and Certifications



**Warning:** Do not disassemble.  
Do not field adjust.

## Materials

**Body:** Aluminum  
**Diaphragm:** Viton®  
**Seals & Disc:** Viton®  
**Spring:** Stainless steel  
**Rider Rings:** Teflon®  
**Disc Holder:** Nylon  
**Core Guide:** Acetal, delrin  
**Core & Plugnut:** 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 in.	General Purpose	*CV Flow	Fluid 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

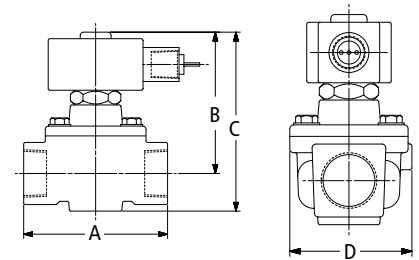
## OPW 82RV - Thermal Pressure Relief Valve

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

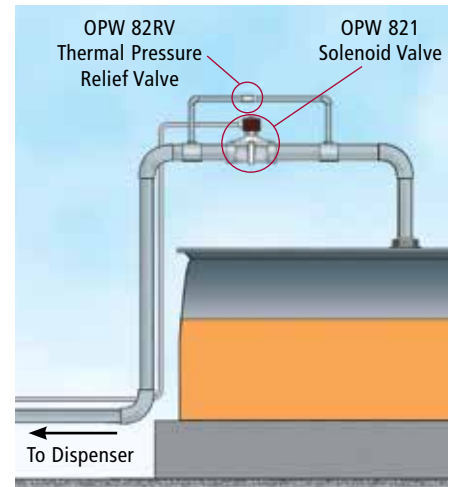


## OPW 821 Solenoid Valve

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

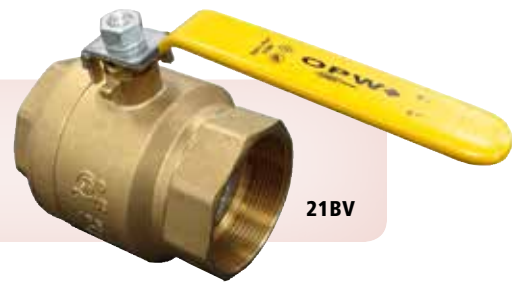


## OPW 21BV Full Port Two-Way Ball Valve

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).

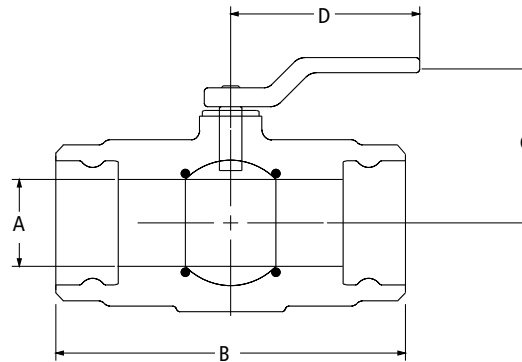
### Materials

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



### Features

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



### 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)				

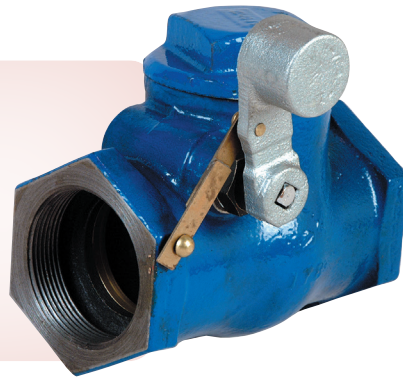
### Listings and Certifications





## Materials

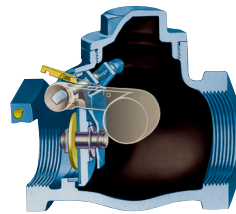
**Body and Cap:** Ductile iron  
**Packing Nut and Stem:** Stainless steel  
**Disc:** Viton®  
**Stem Seat:** Viton®  
**Seat Ring:** Brass  
**Cap and Packing Nut Seals:** Viton®



(Valve Shown in Open Position)



(Valve Shown in Closed 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

## Ordering Specifications

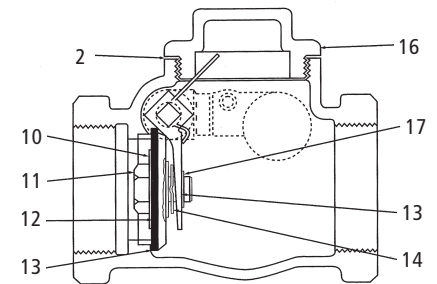
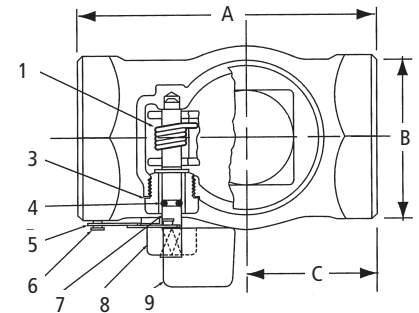
Product #	in.	mm	lbs.	kg
178S-6130	2	51	5.35	2.43

## Replacement Parts

Key	Part #	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

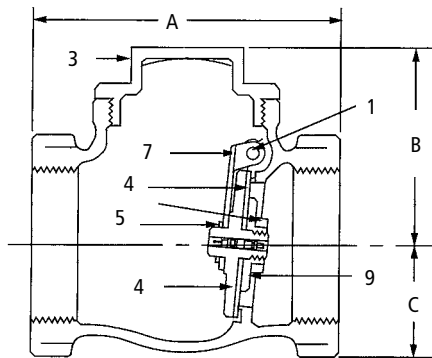
	in.	mm
A	5 <sup>17</sup> / <sub>32</sub>	140
B	3 <sup>1</sup> / <sub>16</sub>	78
C	3 <sup>1</sup> / <sub>16</sub>	62

**Listings and Certifications** 

**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	7 <sup>1</sup> / <sub>2</sub>	191
B	7 <sup>3</sup> / <sub>16</sub>	183
C	2 <sup>19</sup> / <sub>32</sub>	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

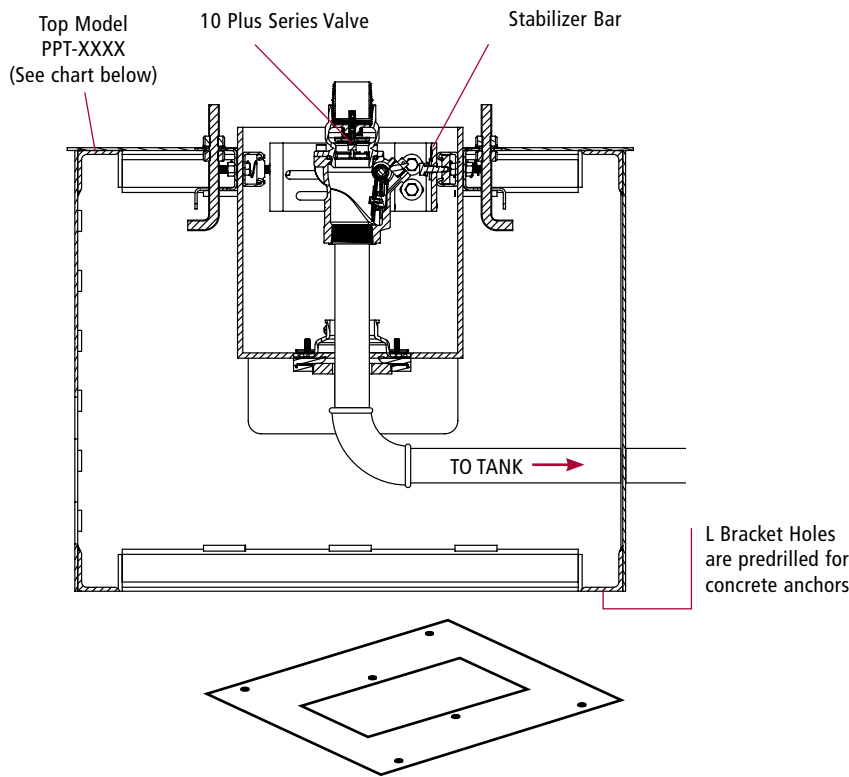
## Ordering Specifications

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

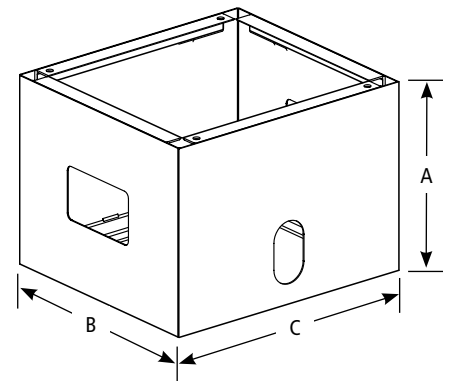
### OPW 175, 175B, 1175

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	91.44
Weight	82 lbs	37 kg

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

OPW Dispenser Pedestal Top Model #	For use with Dispenser Model #	For use with FlexWorks Dispenser Model #
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.