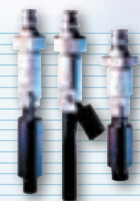


# OPW®

A DOVER™ COMPANY

*Leading the Way* in Above Ground Storage Tank Innovation Worldwide



Overfill Prevention



Couplers, Adaptors and Caps



Spill Containment



Piping & Containment Systems



Tank Valves



Tank Venting



Tank Alarms and Gauges



Dispensing Products



Fuel Control Systems



Protective Curbing



[www.opwglobal.com](http://www.opwglobal.com)

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

*Offering the Only 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 only 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 only 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 only 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 only manufacturer offering Above Ground Storage Tank products certified by the California Air Resources Board (CARB) to meet stringent air quality standards.

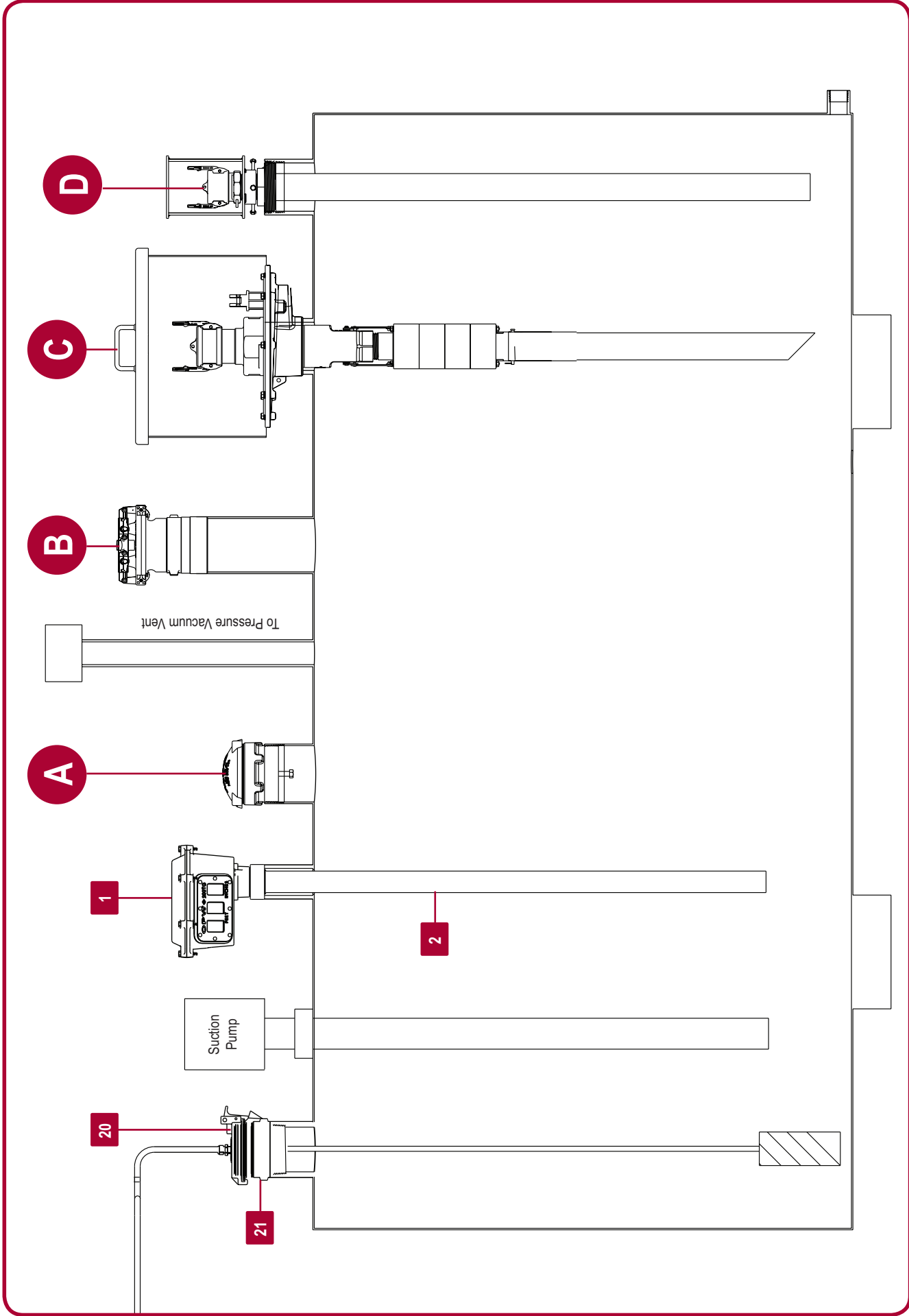
# Above Ground Storage Tank Equipment

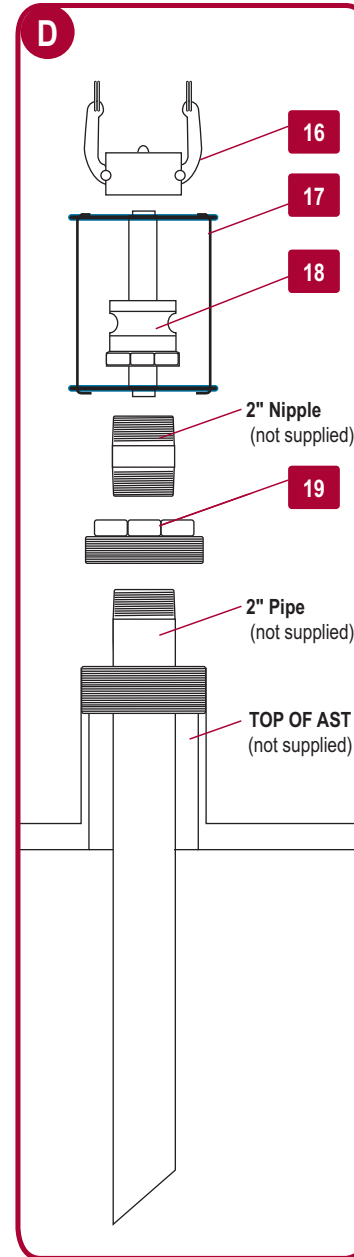
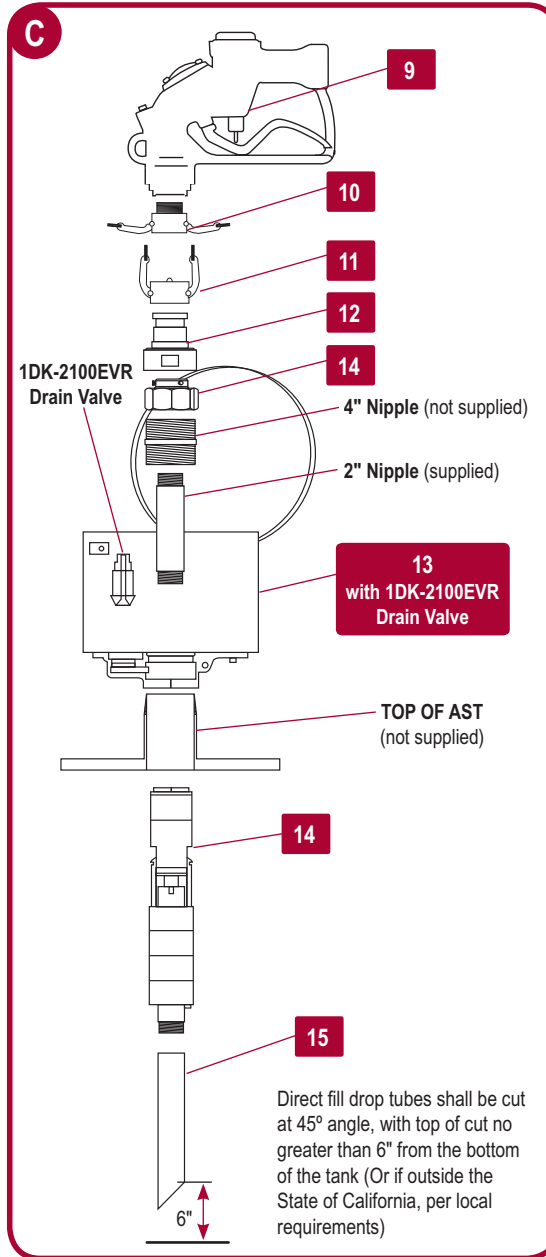
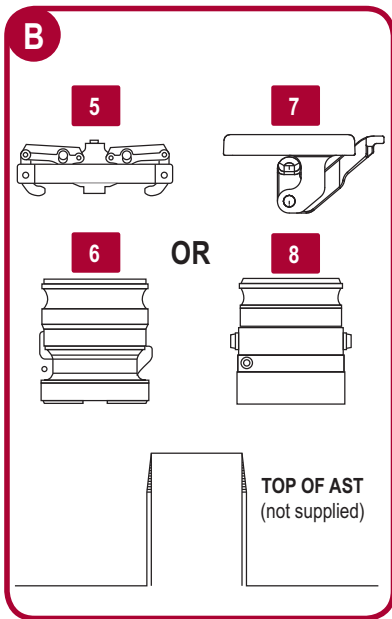
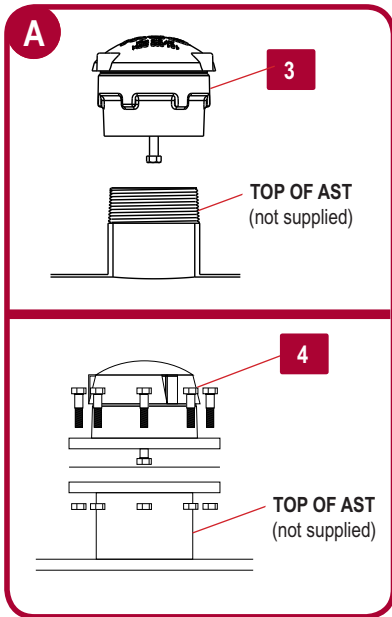


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# Above Ground Storage Tank - Direct Fill Typical Non-EVR Direct Fill AST Application





## PRODUCT KEY

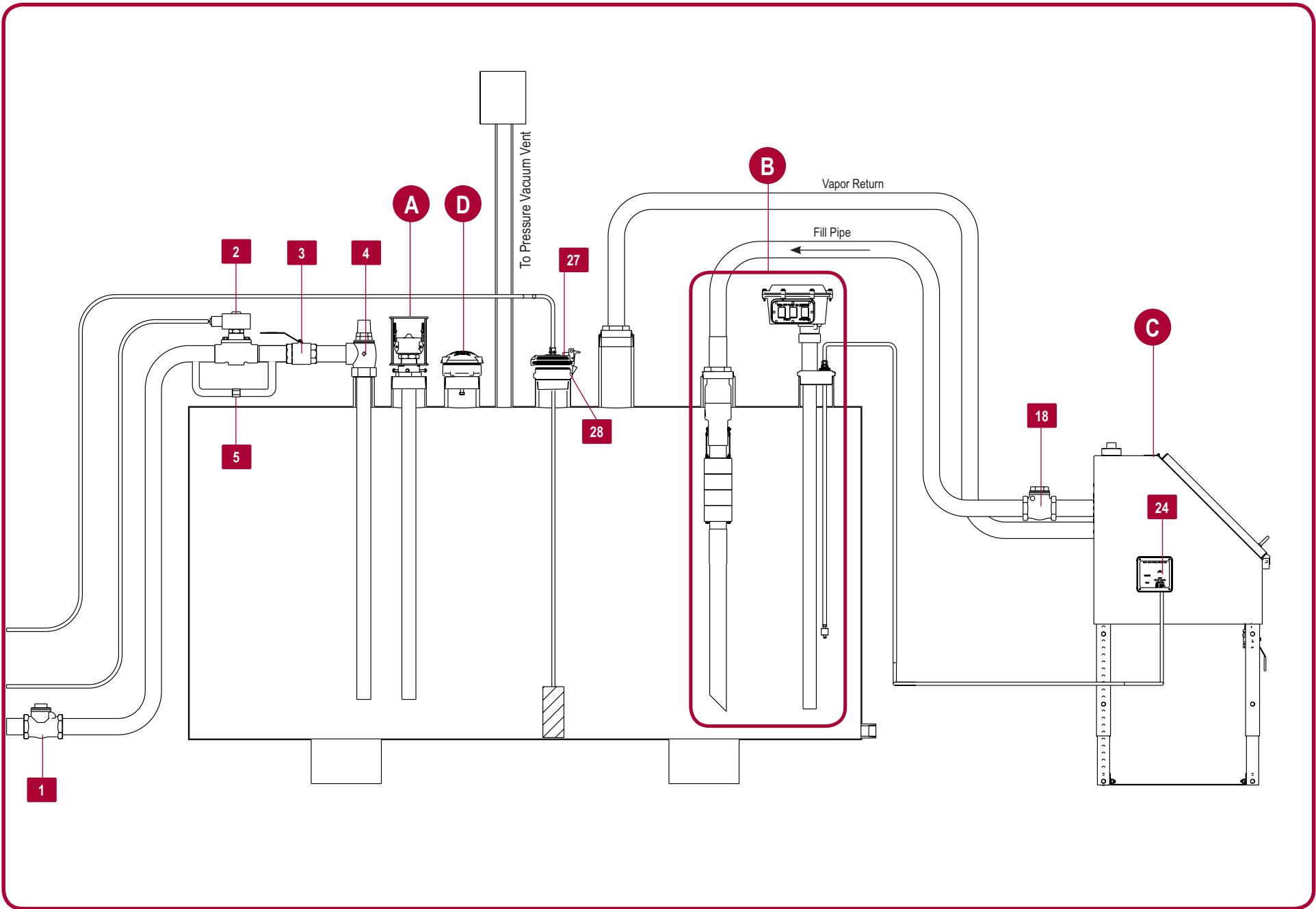
See OPW 2011  
Product Catalog

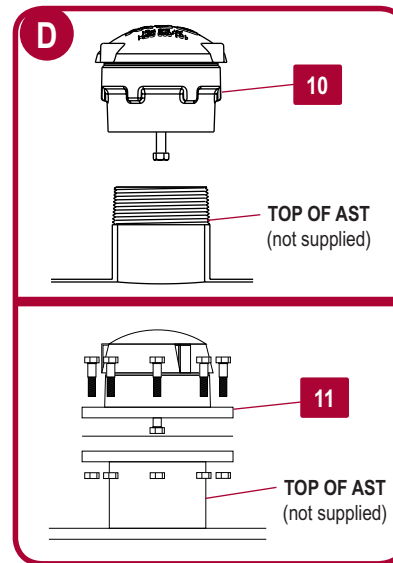
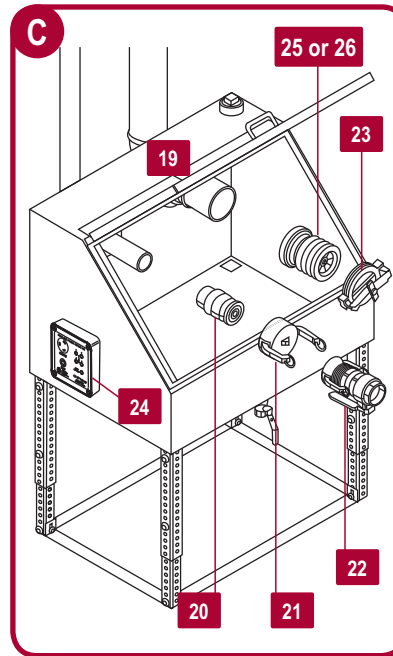
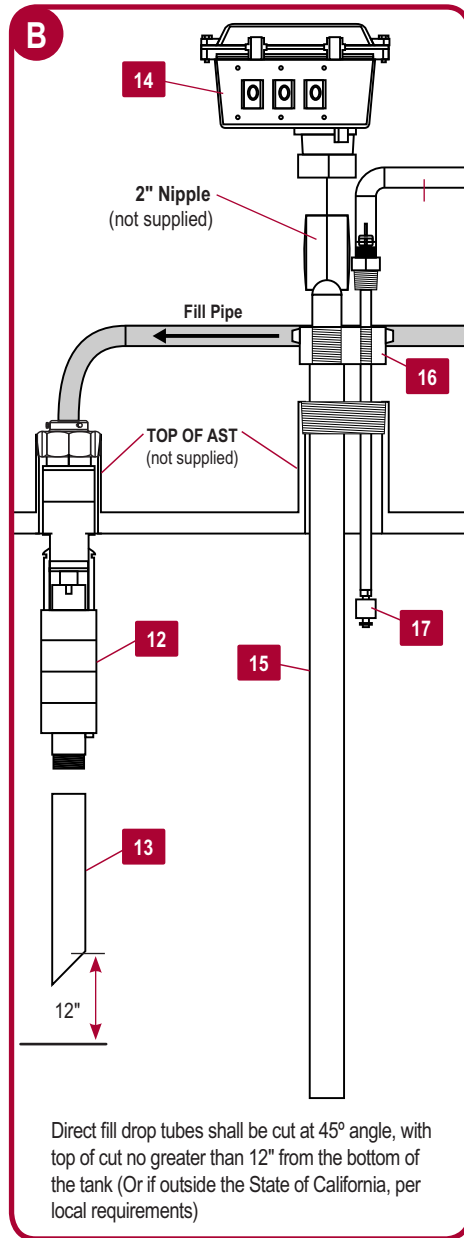
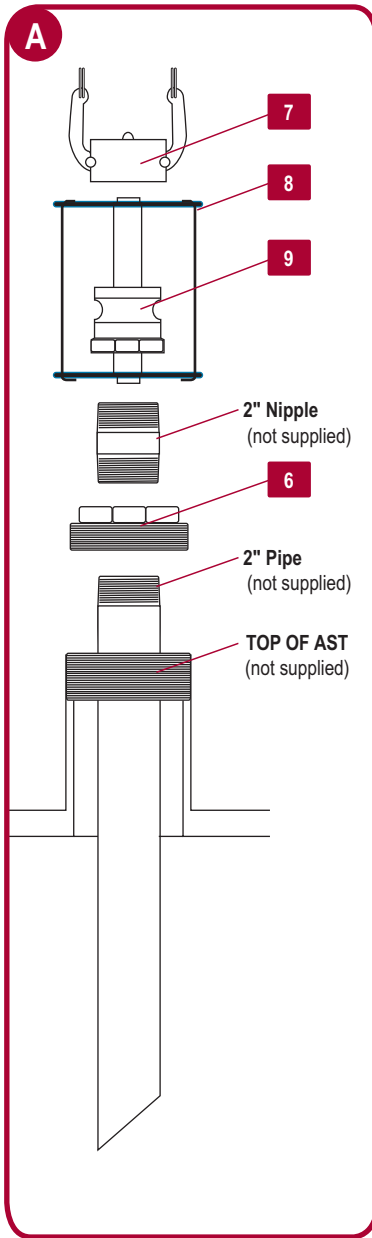
	OPW PART / DESCRIPTION	PAGE
1	200TG-ENG Series Tank Gauge (optional / see Note below)	33
2	61T Series Drop Tube	33
3	301 Series Emergency Vent - NPT Mount (See Vent Size Configuration Guide on page 15)	26
4	301 Series Emergency Vent - Flanged Mount (See Vent Size Configuration Guide on page 15)	26
5	1711T-7085-EVR Cap	25
6	1611AV Series Vapor Recovery Adaptor	24
7	1711LPC-0300 Low Profile Cap	25
8	61VSA Series Vapor Recovery Adaptor	23
9	1290 Automatic Shut-Off Nozzle	
10	633BD-1261 Kamlok™ Coupler	21
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	21-22
12	633AST-2061 (2" x 2") or 633AST-3061 (3" x 3") - Tank Inlet Spout Adaptor	21
13	331 or 332 Series Spill Container	17
14	61fSTOP-XXXX Series Overfill Prevention Valve	19-20
15	61FT Series Drop Tube	20
16	634B-0150 or 634BK-0090 Cap	21-22
17	204247 Dedicated Gauging Port	36
18	633AST-0200 Adaptor	21
19	53-00XX Series Double Tapped Bushing	35
20	62M Series Monitoring Probe Cap & Adaptor	35
21	FSA-400 Face Seal Adaptor	36

**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 then 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



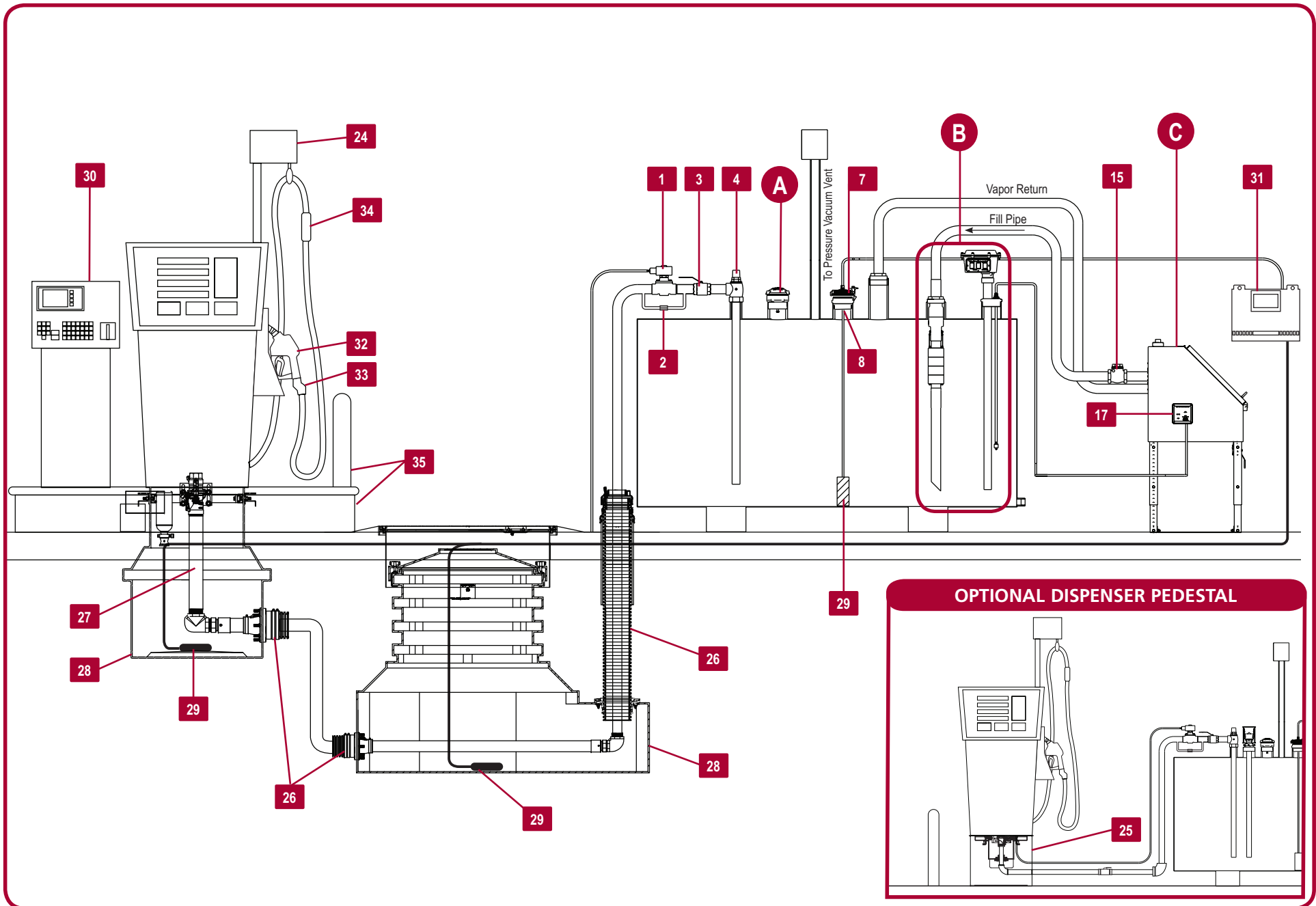


## PRODUCT KEY

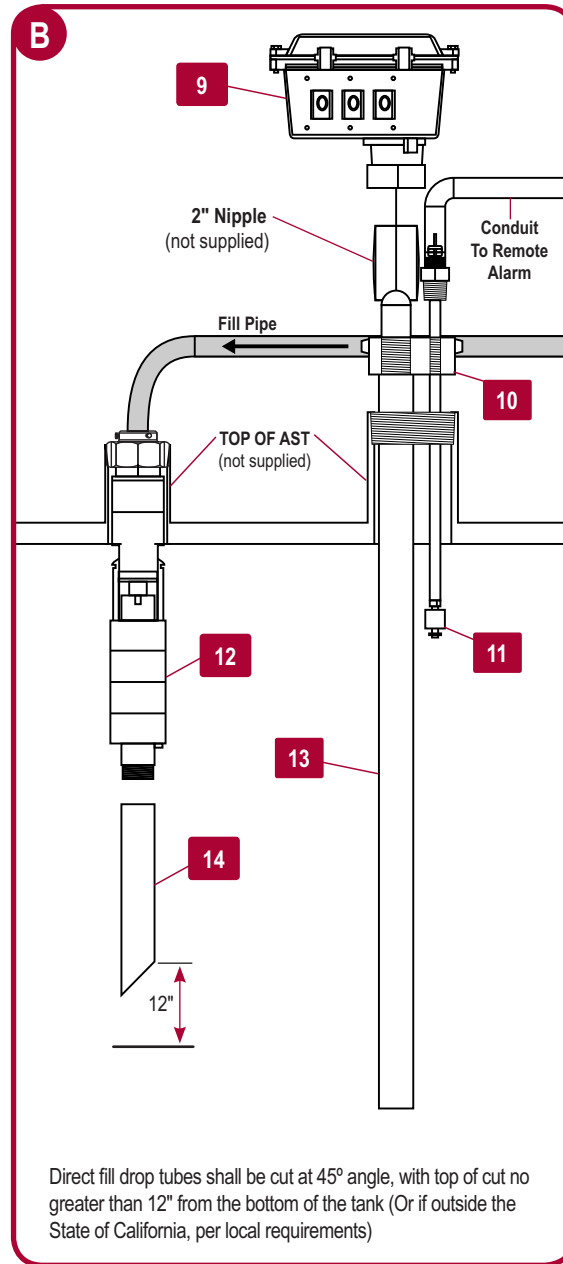
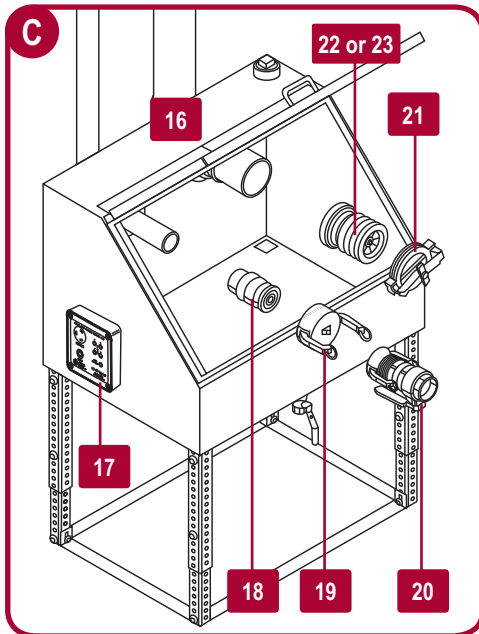
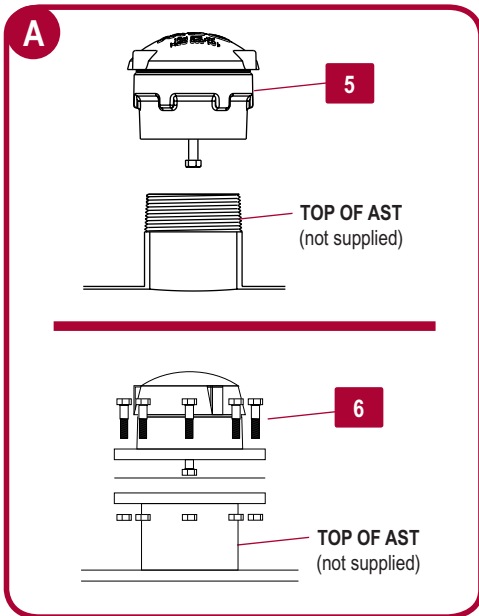
KEY	OPW PART / DESCRIPTION	PAGE
1	178S Series Emergency Valve	40
2	821 Series Solenoid Valve	38
3	21BV Series Ball Valve	39
4	199ASV Series Anti-Siphon Valve	37
5	82RV Series Pressure Relief Valve	38
6	53-00XX Series Double Tapped Bushing	35
7	634B-0150 or 634BK-0090 Cap	21-22
8	204247 Dedicated Gauging Port	36
9	633AST-0200 Adaptor	21
10	301 Series Emergency Vent - Threaded Mount (See Vent Size Configuration Guide on page 15)	26
11	301 Series Emergency Vent - Flanged Mount (See Vent Size Configuration Guide on page 15)	26
12	61fSTOP-XXXX Series Overfill Prevention Valve	19-20
13	61FT Series Drop Tube	20
14	200TG-ENG Series Tank Gauge (optional / see Note below)	33
15	61T Series Drop Tube	33
16	TGTA-0400 4" Gauge/Alarm Combo Fitting (optional)	34
17	44TA-LLFS Liquid Level Float Switch	34
18	175 Series Swing Check Valve	41
19	6211R Series Remote Spill Container	18
20	1611AN-0200 or 1612AN-0200 - 2" Remote Fill or 1611AN-0300 or 1612AN-0300 - 3" Remote Fill Kamvalok Adaptor	22
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	21-22
22	1711D / 1712D Series Kamvalok Coupler	22
23	1711T-7085-EVR Cap or 1711LPC-0300 Low Profile Cap	25
24	144TA/444TA Series Tank Alarm (optional / see Note below)	34
25	1611AV Vapor Recovery Adaptor	24
26	61VSA Series Vapor Recovery Adaptor	23
27	62M Series Monitoring Probe Cap & Adaptor	35
28	FSA-400 Face Seal Adaptor	36

**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 then 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







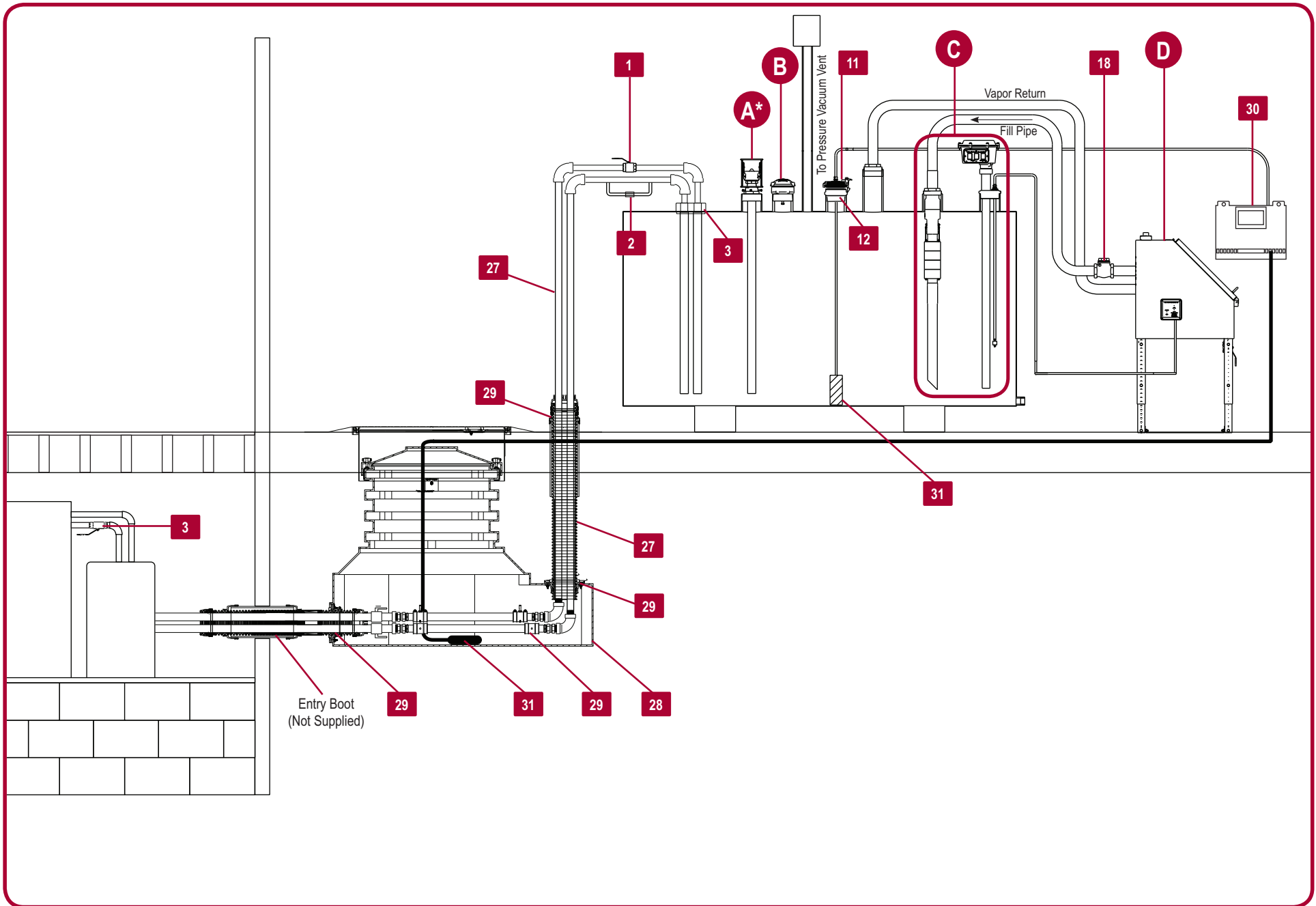
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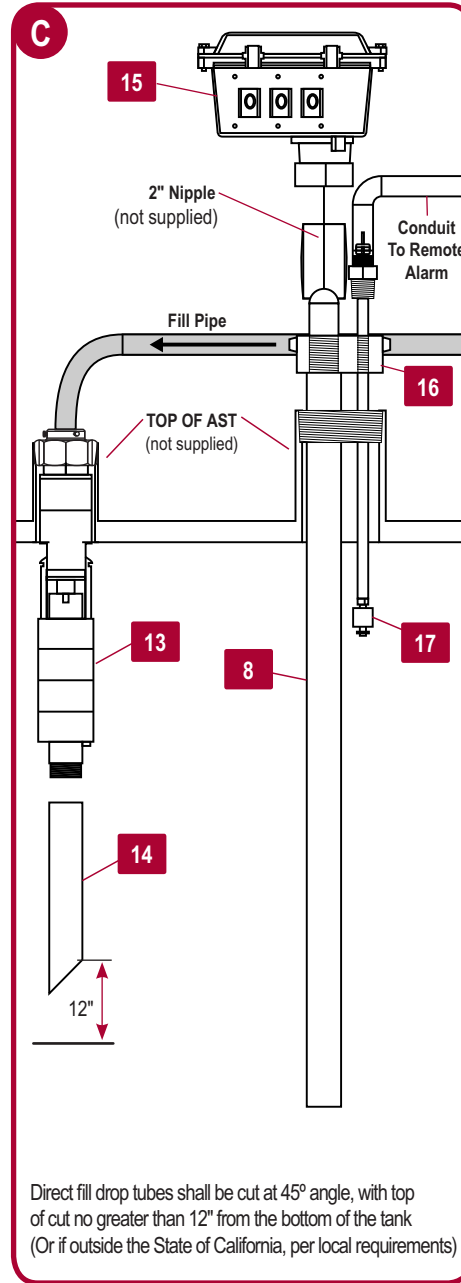
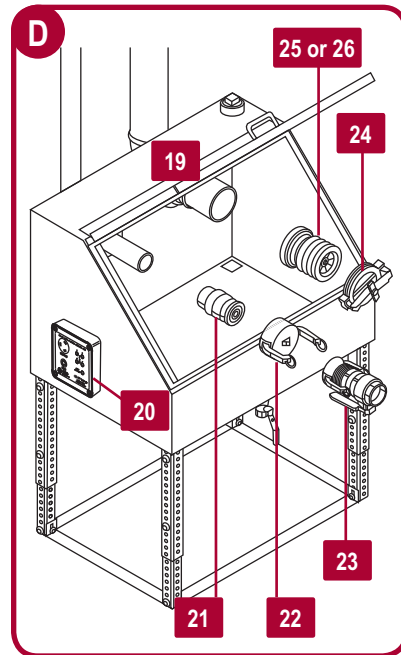
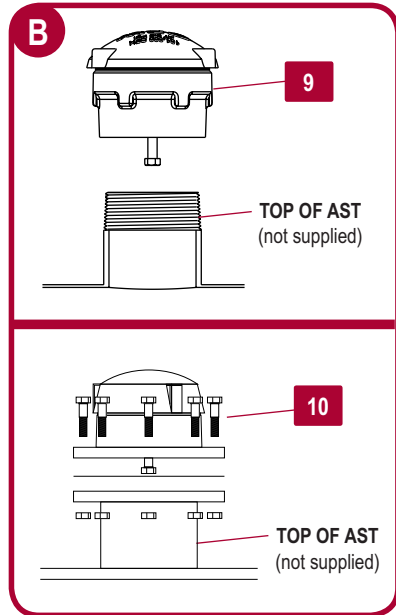
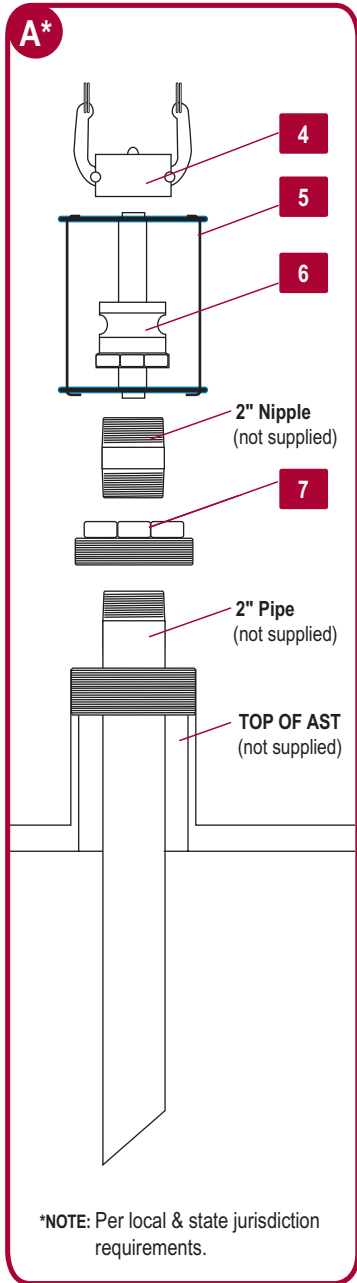
## PRODUCT KEY

See OPW 2011 Product Catalog

	OPW PART / DESCRIPTION	PAGE
1	821 Series Solenoid Valve	38
2	82RV Series Pressure Relief Valve	38
3	21BV Series Ball Valve	39
4	199ASV Series Anti-Siphon Valve	37
5	301 Series Emergency Vent - NPT Mount (See Vent Size Configuration Guide on page 15)	26
6	301 Series Emergency Vent - Flanged Mount (See Vent Size Configuration Guide on page 15)	26
7	62M Series Monitoring Probe Cap & Adaptor	35
8	FSA-400 Face Seal Adaptor	36
9	200TG-ENG Series Tank Gauge (optional / see Note below)	33
10	TGTA-0400 4" Gauge/Alarm Combo Fitting	34
11	44TA-LLFS Liquid Level Float Switch	34
12	61fSTOP-XXXX Series Overfill Prevention Valve	19-20
13	61T Series Drop Tube	33
14	61FT Series Drop Tube	20
15	175 Series Swing Check Valve	41
16	6211R Series Remote Spill Container	18
17	144TA/444TA Series Tank Alarm (optional / see Note below)	34
18	1611AN-0200 or 1612AN-0200 - 2" Remote Fill or 1611AN-0300 or 1612AN-0300 - 3" Remote Fill Kamvalok™ Adaptor	22
19	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	21-22
20	1711D & 1712D Series Kamvalok™ Coupler	22
21	1711T-7085-EVR Cap or 1711LPC-0300 Low Profile Cap	25
22	1611AV Vapor Recovery Adaptor	24
23	61VSA Series Vapor Recovery Adaptor	23
24	S100 & 102 Series Hose Retractors	43-44
25	OPW Dispenser Pedestal	46
26*	Flexible Piping Systems & Entry Fittings	See OPW 2011 Product Catalog for Details
27*	Commando Flexible Connectors	
28*	Underground Containment Systems	
29*	Probes & Sensors for Liquid & Vapors	
30*	Automated Fuel Control System	
31*	Automatic Tank Monitoring & Leak Detection	
32*	OPW Fueling Nozzles	
33*	OPW Swivels	
34*	OPW Breakaways	
35*	OPW Island Forms and Bumper Guards	

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





**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 then these two OPW products are the only CARB AST EVR certified tank gauge and alarm.

\*See OPW 2011 Catalog or visit: [www.opwglobal.com](http://www.opwglobal.com)

**PRODUCT KEY** See 2011 OPW Product Catalog

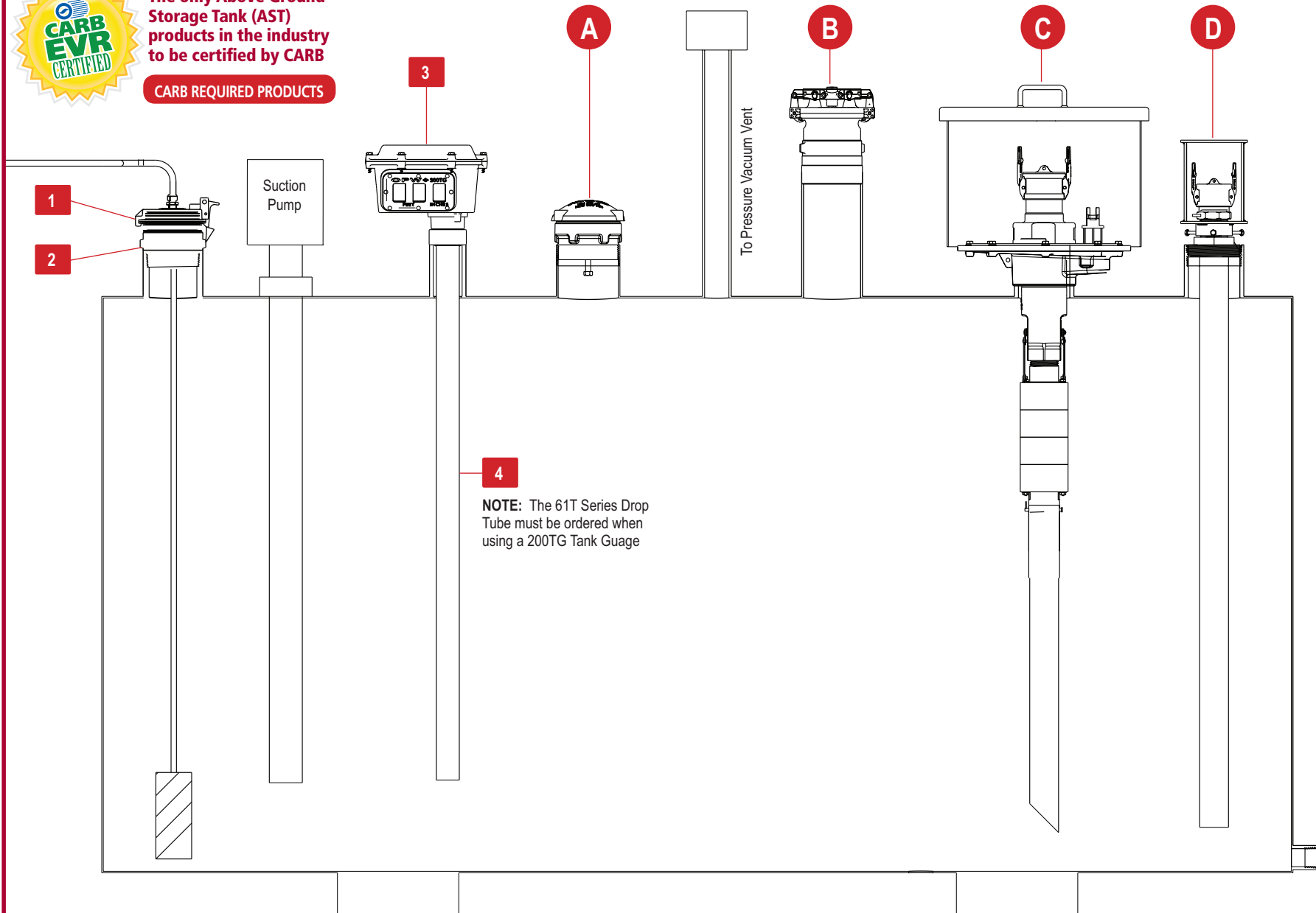
OPW PART / DESCRIPTION	PAGE
1 21BV Series Ball Valve	39
2 82RV Series Pressure Relief Valve	38
3 PDT-411 Double-Tapped Tank Bung Fitting	24
4 634B-0150 or 634BK-0090 Cap	21-22
5 204247 Dedicated Gauging Port	36
6 633AST-0200 Adaptor	21
7 53-00XX Series Double Tapped Bushing	35
8 61T Series Drop Tube	33
9 301 Series Emergency Vent - NPT Mount (See Vent Size Configuration Guide on page 15)	26
10 301 Series Emergency Vent - Flanged Mount (See Vent Size Configuration Guide on page 15)	26
11 62M Series Monitoring Probe Cap & Adaptor	35
12 FSA-400 Face Seal Adaptor	36
13 61fSTOP-XXXX Series Overfill Prevention Valve	19-20
14 61FT Series Drop Tube	20
15 200TG-ENG Series Tank Gauge (optional / see Note below)	33
16 TGTA-0400 4" Gauge/Alarm Combo Fitting	34
17 44TA-LLFS Liquid Level Float Switch	34
18 175 Series Swing Check Valve	41
19 6211R Series Remote Spill Container	18
20 144TA/444TA Series Tank Alarm (optional / see Note below)	34
21 1611AN-0200 or 1612AN-0200 - 2" Remote Fill or 1611AN-0300 or 1612AN-0300 - 3" Remote Fill Kamvalok Adaptor	22
22 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	21-22
23 1711D & 1712D Series Kamvalok Coupler	22
24 1711T-7085-EVR Cap or 1711LPC-0300 Low Profile Cap	25
25 1611AV Vapor Recovery Adaptor	24
26 61VSA Series Vapor Recovery Adaptor	23
27 Flexible Piping Systems for Fuel Oil & Generator Applications	
28 Underground Containment Systems	
29 Entry Fittings & Test Boots	

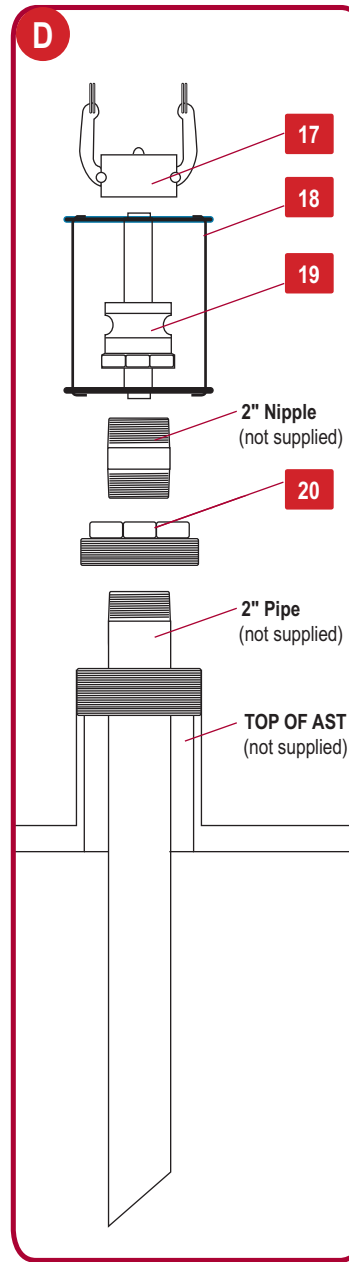
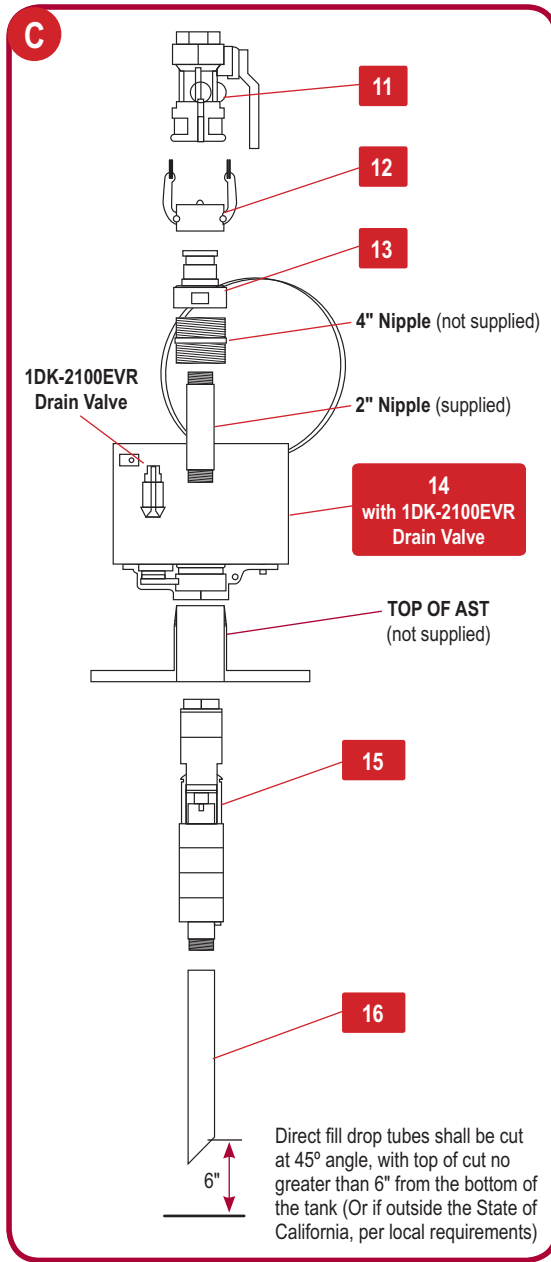
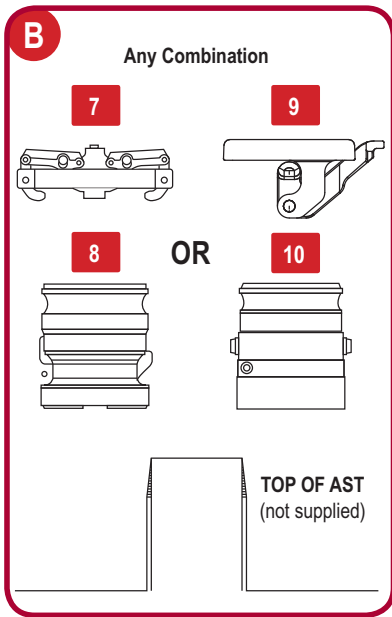
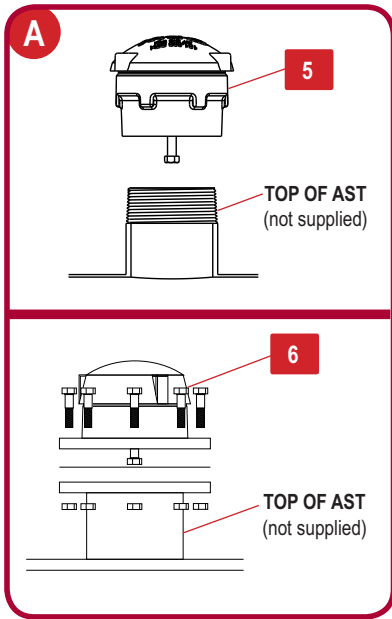
## Above Ground Storage Tank - Direct Fill Typical OPW Phase I System for AST



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

CARB REQUIRED PRODUCTS





**The only 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	35
2	FSA-400 Face Seal Adaptor	36
3	200TG-ENG Series Tank Gauge (optional / see Note below)	33
4	61T Series Drop Tube	33
5	301 Series Emergency Vent - NPT Mount (See Vent Size Configuration Guide on page 15)	26
6	301 Series Emergency Vent - Flanged Mount (See Vent Size Configuration Guide on page 15)	26
7	1711T-7085-EVR Cap	25
8	1611AV Vapor Recovery Adaptor	24
9	1711LPC-0300 Low Profile Cap	25
10	61VSA Series Vapor Recovery Adaptor	23
11	1711D / 1712D Series Kamvalok Coupler	22
12	A) 634B-0140 Dust Cap fits 633AST-0150 Adaptor	21-22
	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	
13	1611AN-2040 or 1612AN-2040 - 2" Direct Fill or 1611AN-3060 or 1612AN-3060 - 3" Direct Fill Kamvalok Adaptor	22
14	331 or 332 Series Spill Container	17
15	61fSTOP-XXXXT Series Overfill Prevention Valve	19-20
16	61FT Drop Tube	20
17	634B-0150 or 634BK-0090 Cap	21-22
18	204247 Dedicated Gauging Port	36
19	633AST-0200 Adaptor	21
20	53-00XX Series Double Tapped Bushing	35

**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 then these two OPW products are the only CARB AST EVR certified tank gauge and alarm.

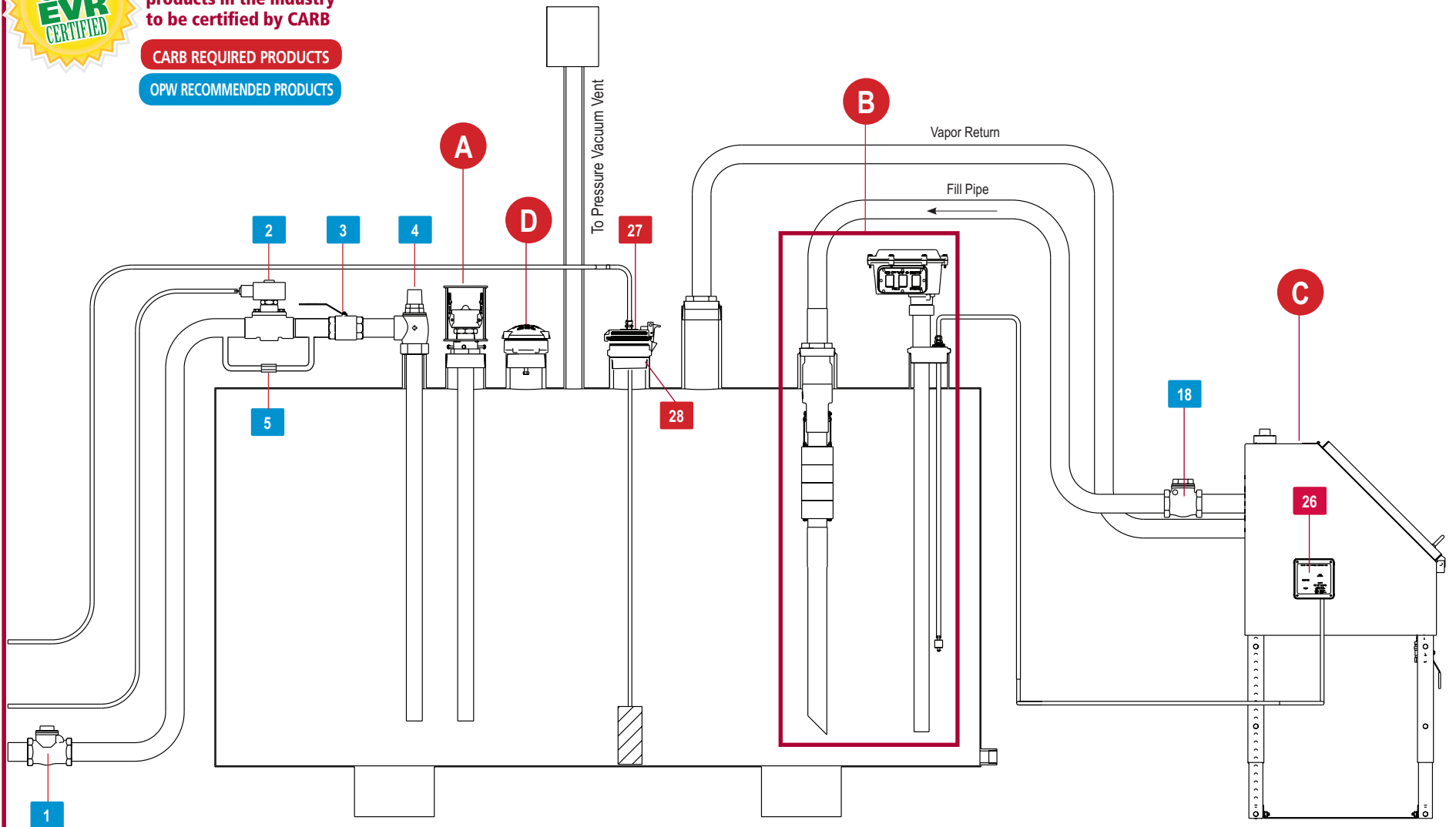
# Above Ground Storage Tank - Remote Fill - Remote Dispensing Typical OPW Phase I System for AST



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

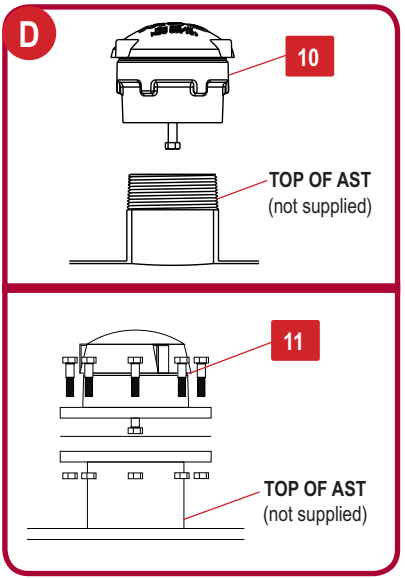
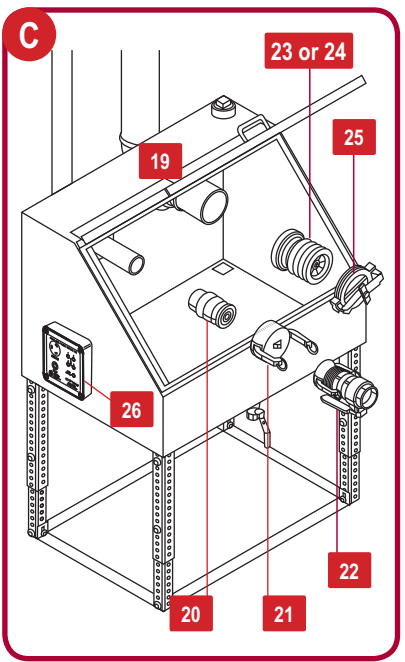
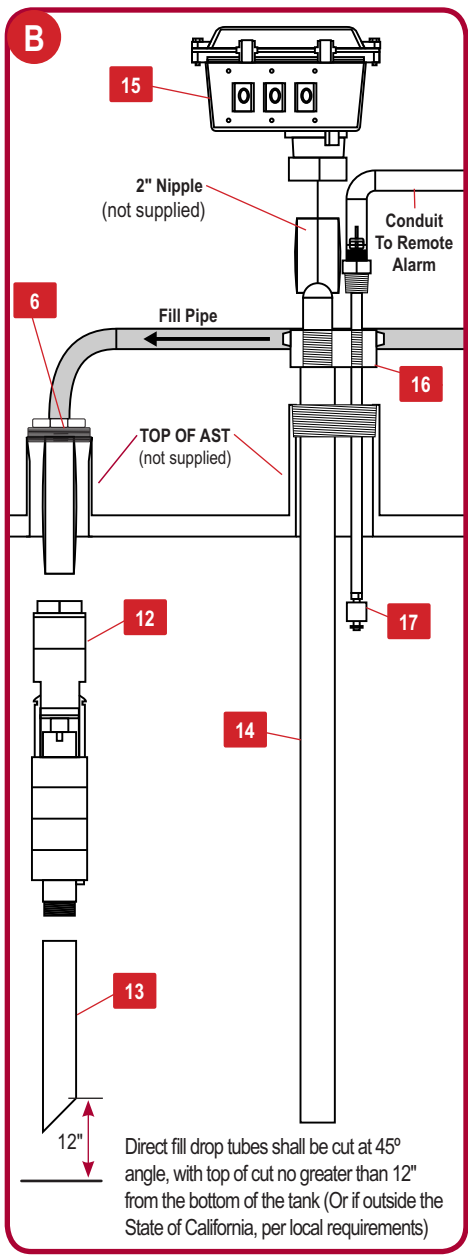
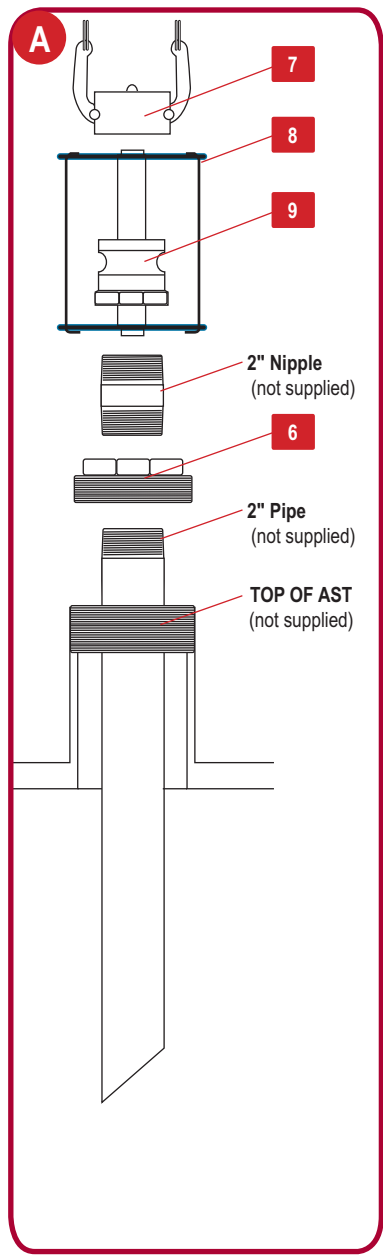
CARB REQUIRED PRODUCTS

OPW RECOMMENDED PRODUCTS





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



**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 then these two OPW products are the only CARB AST EVR certified tank gauge and alarm.

REQUIRED PRODUCTS		RECOMMENDED PRODUCTS
KEY	OPW PART / DESCRIPTION	PAGE
1	178S Series Emergency Valve (optional)	40
2	821 Series Solenoid Valve (optional)	38
3	21BV Series Ball Valve (optional)	39
4	199ASV Series Anti-Siphon Valve (optional)	37
5	82RV Series Pressure Relief Valve (optional)	38
6	53-00XX Series Double Tapped Bushing (optional)	35
7	634B-0150 or 634BK-0090 Cap	21-22
8	204247 Dedicated Gauging Port	36
9	633AST-0200 Adaptor	21
10	301 Series Emergency Vent - Threaded Mount (See Vent Size Configuration Guide on page 15)	26
11	301 Series Emergency Vent - Flanged Mount (See Vent Size Configuration Guide on page 15)	26
12	61FSTOP-XXXXT Series Overfill Prevention Valve	19-20
13	61FT Series Drop Tube	20
14	61T Series Drop Tube	33
15	200TG-ENG Series Tank Gauge (optional / see Note below)	33
16	TGTA-0400 4" Gauge/Alarm Combo Fitting (optional)	34
17	44TA-LLFS Liquid Level Float Switch (optional)	34
18	175 Series Swing Check Valve (optional)	41
19	6211R Series Remote Spill Container	18
20	1611AN-0200 or 1612AN-0200 - 2" Remote Fill or 1611AN-0300 or 1612AN-0300 - 3" Remote Fill Kamvalok Adaptor	22
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	21-22
22	1711D & 1712D Series Kamvalok Couplers	22
23	1611AV Vapor Recovery Adaptor	24
24	61VSA Series Vapor Recovery Adaptor	23
25	1711T-7085-EVR Cap or 1711LPC-0300 Low Profile Cap	25
26	144TA/444TA Series Tank Alarm (optional / see NOTE below)	34
27	62M Series Monitoring Probe Cap & Adaptor	35
28	FSA-400 Face Seal Adaptor	36

# 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	1560	3'	0.914	5'-2"	1.6	47	14.3	49520	15094	4"
300	1135	38"	0.965	5'	1.5	49	15	51640	15740	4"
500	1892	4'	1.219	5'-5"	1.7	69	21	72650	22144	4"
530	2006	4'	1.219	6'	1.8	71	21.6	74750	22784	4"
550	2081	64"	1.626	6'	1.8	75	22.9	78950	24064	4"
1000	3784	64"	1.626	10'-8"	3.3	119	36.3	124950	38085	6"
1000	3784	64"	1.626	6'	1.8	109	33.2	114450	34884	6"
1500	5676	64"	1.626	9'	2.7	147	44.8	154350	47046	6"
2000	7569	64"	1.626	12'	3.7	184	56.1	193200	58807	6"
2500	9461	64"	1.626	15'	4.6	222	67.7	223320	68067.9	6"
3000	11353	64"	1.626	18'	5.5	259	79	243680	74273.7	6"
3000	11353	6'	1.8	14'	4.3	240	73.1	233400	12140.3	6"
4000	15137	64"	1.626	24'	7.3	335	102.1	281100	85679.3	8"
4000	15137	6'	1.8	19'	5.8	311	94.8	270060	82314.3	8"
5000	18921	8'	2.4	13'-4"	4.1	326	99.3	276960	84417.4	8"
6000	22706	8'	2.4	16'	4.9	376	114.6	300480	91586.3	8"
8000	30274	8'	2.4	21'-4"	6.5	477	145.4	344340	104955	8"
10000	37843	8'	2.4	27'	8.2	584	178	385920	117628	8"
10000	37843	9'	2.7	21'	6.4	540	164.6	369200	112532	8"
10000	37843	10'	3	17'	5.2	518	157.9	360840	109984	8"
10000	37843	10'-6"	3.1	15'-7"	4.7	515	157	359700	109637	8"
12000	45412	8'	2.4	32'	9.8	678	206.7	420080	128040	8"
12000	45412	9'	2.7	25'	7.6	625	190.5	401000	122225	8"
12000	45412	10'	3	20'-6"	6.2	600	182.9	392000	119482	8"
12000	45412	11'	3.4	17'	5.2	583	177.7	385540	117513	8"
15000	56764	8'	2.4	40'	12.2	829	252.7	470990	143558	10"
15000	56764	8'	2.4	23'-5"	7.1	703	214.3	429020	130765	10"
20000	75686	10'	3	34'-2"	10.4	922	281	499820	152345	10"
20000	75686	10'-6"	3.1	31'	9.5	896	273	491760	149888	10"
20000	75686	11'	3.4	28'	8.8	868	264.6	483080	147243	10"
25000	94607	10'-6"	3.1	38'-6"	11.7	1082	329.8	537530	163839	10"
30000	113529	10'-6"	3.1	46'-3"	14.1	1274	388.3	568100	173157	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:

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

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

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

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

#### 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
	-500 sq. ft.	-354,000 CFH
Difference:	100 sq. ft.	38,000 CFH

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

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

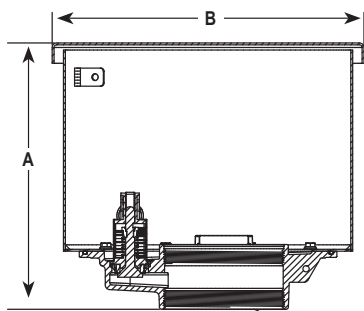
#### Step 3

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

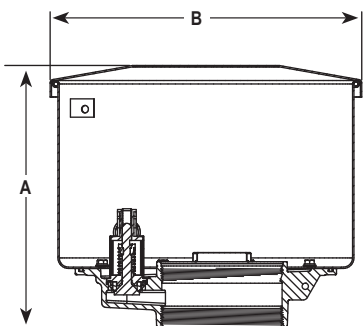
\*\*PEI Recommended Practices 200-96

## POMECO/OPW 331AST & 332AST 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.



331-AST



332-AST

### Dimensions

Model #	Capacity		A		B	
	gal.	liter	in.	cm	in.	cm
331	7	26.5	15	38	17	43
332	7	26.5	14	35	17	43

### Features

- ◆ **Easy Installation** – 4" and 6" 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.
- ◆ **331AST Heavyweight, Welded Base Design** – all versions have cast-iron base and 12-gauge steel walls (model 331) and 14-gauge steel wall (model 332) provide solid strength for heavy-duty applications.



331AST

- ◆ **332AST Spun Steel Design** – spun steel construction provides a lightweight, one-piece design for easy installation and a clean, sleek appearance on aboveground tanks.
- ◆ **All Models Are ULC Listed** – clearly labeled to identify the listing.
- ◆ **CARB EVR Certified**

### Replacement Parts:

Part #	Description
1DK-2100-EVR	Drain Valve

331AST and 332AST Spill Containers  
Instruction Sheet Order Number: 203168

### Ordering Specifications:

CARB APPROVED AST EQUIPMENT		
Product No.	Description	Liters
331-ASTW74	Welded, 7 gallon, 4" NPT	Welded, 26.4 liter, 4" NPT
331-ASTW76	Welded, 7 gallon, 6" NPT	Welded, 26.4 liter, 6" NPT
332-ASTW74	Spun, 7 gallon, 4" NPT	Spun, 26.4 liter, 4" NPT
332-ASTW76	Spun, 7 gallon, 6" NPT	Spun, 26.4 liter, 6" NPT

### 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 -					
211 211SS		15 20 30	0 1 2	B2 B3 B4 N	L LD 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			

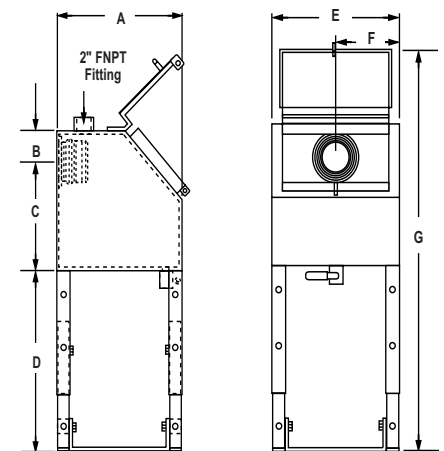
Note: an item must be selected for each column.

## Dimensions

	15 Gallon		20 Gallon		30 Gallon	
	in.	cm	in.	cm	in.	cm
A	18½	46	24	61	21	53
B	7½	19	7½	19	10½	27
C	13½	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	18½	46	24	61	34	86
F	9½	23	12	30½	9½	24
G	47 to 60½	119 to 154	56½ to 80	144 to 203	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

## 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



61fStop-1000

61fStop-2000

61fStop-3050



61fStop-1000T

61fStop-2000T

61fStop-3050T

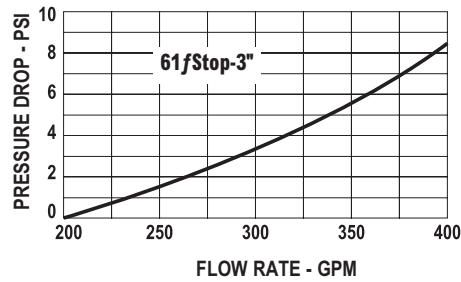
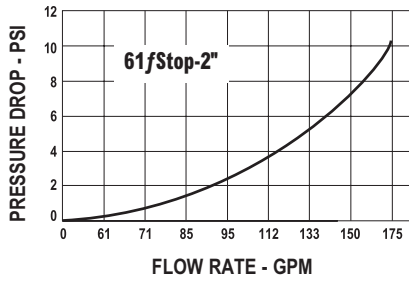
### Features

- ◆ **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).
- ◆ **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.
- ◆ **Completely Automatic Operation** – no pre-checks to perform, no resets, and no overrides to be broken or abused.
- ◆ **150 psi (10 bar) Pressure Rated\* with Low Pressure Drop** – to enable quick, safe delivery of fuel into the tank.
- ◆ **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.
- ◆ **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 used 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.



### Ordering Specifications and Dimensions

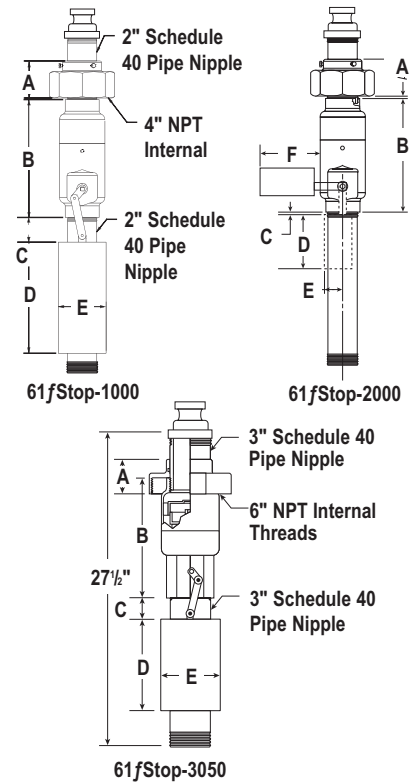
Product #	Description	A		B		C		D		E		F	
		in.	cm	in.	cm	in.	cm	in.	cm	in.	cm	in.	cm
61fSTOP-1000	2" Cyl. Float	3	7.6	10	25.4	2	5.1	9	22.4	3 <sup>5</sup> / <sub>16</sub>	10	n/a	n/a
61fSTOP-2000	2" Float Arm	3	7.6	10	25.4	1/2	3.8	5-18	22.4	1 <sup>3</sup> / <sub>2</sub>	5	6	15.2
61fSTOP-3050	3" Cyl. Float	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

#### Replacement Parts 2"

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

#### Replacement Parts 3"

Product #	Description
D02037M	6" Retaining Collar
C04474RS	14" Nipple



#### 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>5</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>3</sup> / <sub>2</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

\*Recommended for E85

#### Replacement Parts 2"

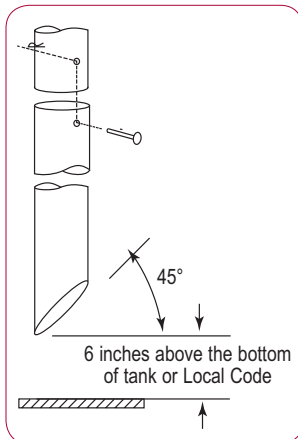
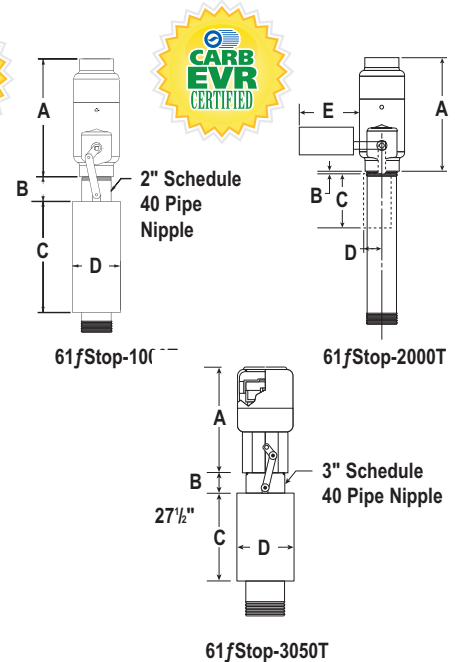
Product #	Description
H12617M	Float for 1000 (4 pieces required)
61ARM-2000	Floating Arm Retrofit Kit For 2000

**NOTE:** When ordering a CARB EVR Certified OPW 61f STOP, the Kamvalok™ Adaptor must be ordered separately. Refer to page 22.

#### Replacement Parts 3"

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

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



#### CARB APPROVED AST EQUIPMENT

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

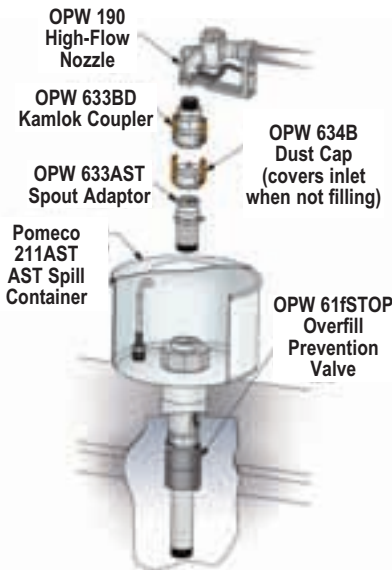
### OPW 61FT Drop Tube

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.

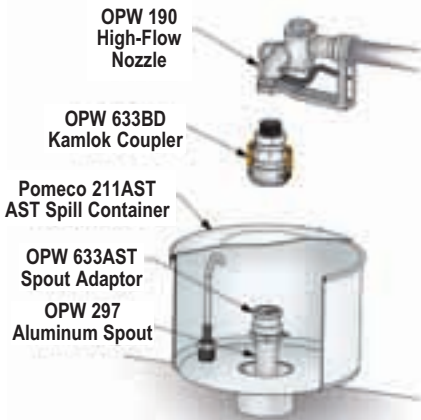
61FT Drop Tube Instruction Sheet Order Number: H14428PA

## 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

### 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

633FAST-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. The 634B is designed 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

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

## 1611 & 1612 Series Kamvalok® Fill 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® Fill 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.

### 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

\* Thread and Kamvalok® same size

1611AN Adaptor Instruction Sheet Order Number: 204016

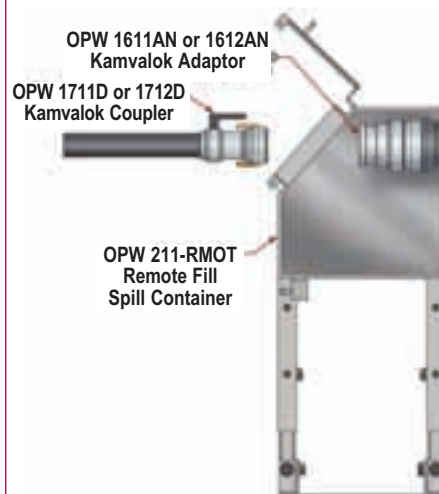


Poppeted Kamvalok® Couplers for Remote Fill



## 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

## 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

\* Thread and Kamvalok® same size

H32116PA Coupler Instruction Sheet Order Number: 204016



Poppeted Kamvalok® Couplers



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

## Dust Plugs

The 634A Dust Plug is installed in the end of the 1711D, when not in use. The 634A is designed to help prevent dust, dirt and debris from damaging the internal components of the 1711D Kamvalok® Coupler.



Dust Plug

### 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

## OPW Stage I Vapor Recovery Adaptors

Stage I Vapor Recovery Adaptors are installed in spill containment manholes on the vapor recovery riser pipe from an underground gasoline storage tank. They mate with the vapor recovery elbow on the delivery transport truck when recovery of gasoline vapors is required.

## OPW 61VSA Vapor Swivel Adaptor

The OPW 61VSA Vapor Swivel Adaptor is a poppeted adaptor, designed to mate with a vapor recovery elbow, featuring a top section that rotates with hose movement while the bottom section remains securely sealed to the 4-inch tank riser.

## OPW 61SA-TOOL

The 61SA-TOOL is a wrench designed to thread on the 61SA Fill and 61VSA Vapor Adaptors. The OPW 61SA-TOOL Adaptor installation tool is required to ensure proper installation of OPW rotatable swivel adaptors, thread-on spill containers, fill and vapor adaptors, TC-400 torque cap for pipe nipples and threaded riser adaptors as per EVR requirements. The 61SA-TOOL includes provisions for the use of a torque wrench to facilitate accurate installation and testing.

## Materials

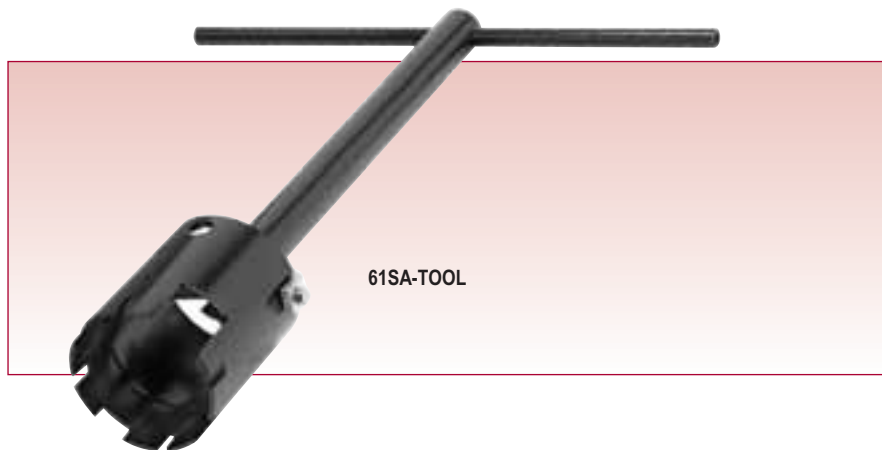
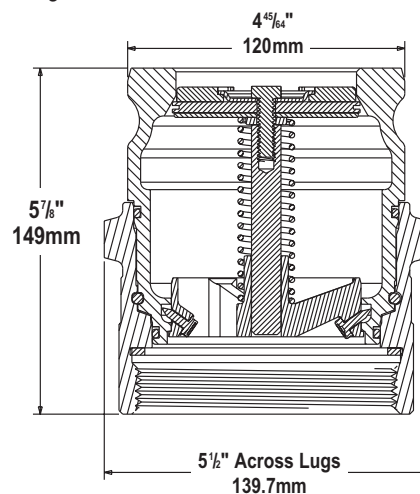
- Adaptor:** Bronze
- Base:** Bronze
- Retaining ring:** Conductive nylon
- Set screws:** Stainless steel
- Seals:** Nitrile®



61VSA-1020-EVR  
USA Patent No. 5,664,951

## Features

- ◆ **Dual Seals** – ensure a vapor and liquid-tight seal.
- ◆ **Conductive, Self-Lubricating Retaining Rod** – ensures maintenance-free, reliable service life.
- ◆ **Same Internal Dimension as Standard 633T Adaptors** – to minimize pressure drop and maximize flow rates for quick product delivery.
- ◆ **Self Guiding Poppet** – for consistent tight seal.







### Materials

- Body:** Clear anodized aluminum or cast bronze
- Stem:** Chrome-plated steel
- Stem Guide:** Acetal resin
- Spring:** Stainless steel
- Gasket:** Nitrile®



1611AV 3" x 4"  
(76 x 102mm)

### OPW 1611 Series Vapor Recovery Adaptor

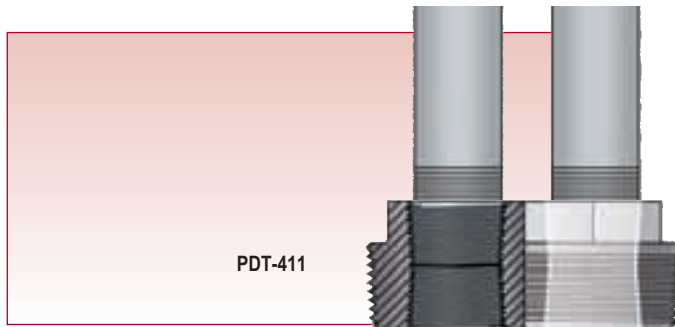
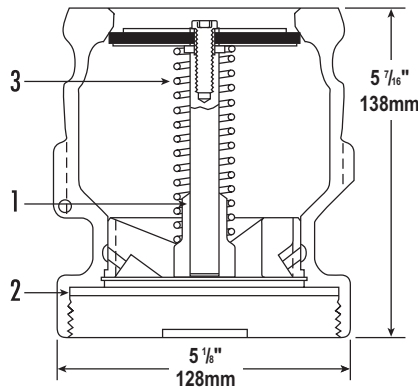
The OPW 1611AV and 1611AVB are poppeted adaptors, designed to mate with a vapor recovery elbow, for returning gasoline vapor to the tank truck during a fuel delivery to an underground tank.

### Ordering Specifications

Product #	Elbow Size		Riser Thread		Weight		Body Material
	in.	mm	in.	mm	lbs.	kg	
1611AV-1605	3	76	3	76	2.91	1.32	Clear Anodized Aluminum
1611AV-1620	3	76	4	102	3.25	1.48	Clear Anodized Aluminum
1611AVB-1625	3	76	4	102	7.97	3.62	Cast Bronze

### Replacement Parts

Key	Part #	Description
1	C02642M	Bridge Guide
Not Shown	H15294M	Screw (3") (76mm)
2	H04145M	Gasket (3") (76mm)
	H04150M	Gasket (3"x 4") (76 x 102mm)
3	H08989M	Spring
61VSA-KIT Complete Replacement Kit		



PDT-411

### FlexWorks PDT-411 Double Tapped Tank Bung Fitting

FlexWorks Double-Tapped Tank Bung Fitting, 4" (10 cm) MNPT w/Dual 1" (3 cm) FNPT Taps - Used in 4" (10 cm) Tank Bung to accommodate FOP Supply and Return Lines

### Ordering Specifications

Product #	Description
PDT-411	4" x 1" x 1" Double Tap Bushing

## OPW Stage 1 Vapor Recovery Caps

### OPW 1711T

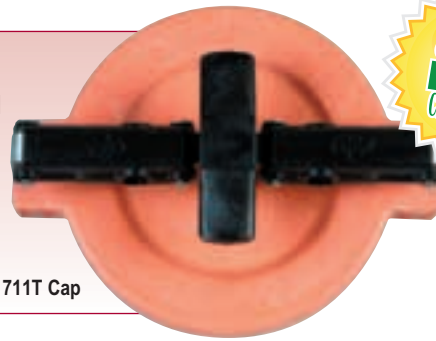
The OPW 1711T Vapor Recovery Cap is for use with the OPW 1611AV, 61VSA, 1611AVB and 1611VR Adaptors. The 1711T is installed on the vapor recovery adaptor, when not in use, to prevent vapors from escaping and to prevent water, dust and debris from entering the tank. Constructed of Duratuff® to help prevent corrosion, the OPW 1711T will couple to Civacon/OPW 4" Kamlocks, and features a center post that allows an even distribution of force when coupling to the adaptor. The 1711T can be locked with a padlock.

### OPW 1711LPC Low Profile Vapor Cap

The OPW 1711LPC Low Profile Top-Seal Vapor Cap is designed for tight installations where the clearance between the top of the vapor adaptor and the underside of the spill container or manhole cover is limited. The rugged iron lever provides a positive cam-action that seats the cap firmly in the adaptor groove for a water and vapor-tight seal. When engaged, the lockable cap adds only 1/2" to the final height of the adaptor. The cap is powder-coated API Orange to signify vapor recovery. The 1711LPC can be used with the OPW 3" 1611AV, 1611AVB and 61VSA series vapor adaptors.

#### Materials

- Body:** Duratuff®
- Pins:** Stainless steel
- Links:** Duratuff®
- Gasket:** Nitrile®
- Color:** Orange



1711T Cap

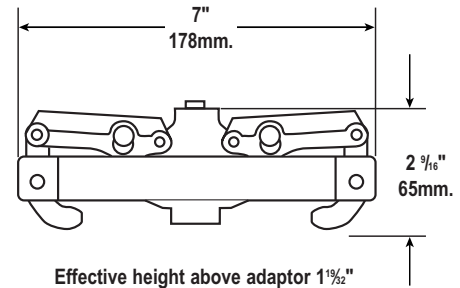


#### Ordering Specifications

Product #	in.	mm	lbs.	kg
1711T-7085-EVR	3	76	1.1	.50

#### Replacement Parts

Part #	Description
H10886M	Nitrile Gasket



#### Materials

- Cap:** Cast zinc alloy (powder-coated orange)
- Lever:** Ductile iron
- Gasket:** Nitrile®



1711LPC Cap



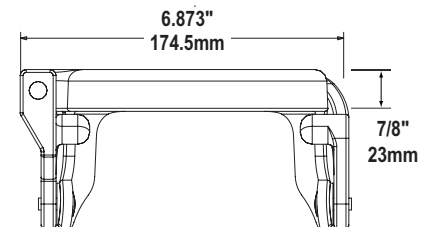
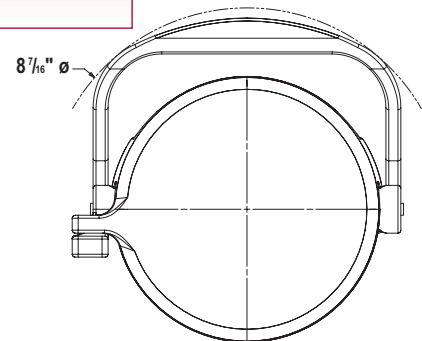
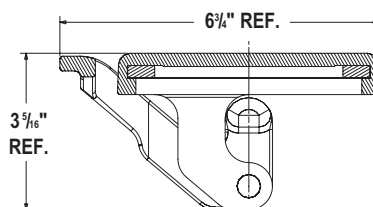
Effective height above adaptor 1/2"

#### Ordering Specifications

Product #	in.	mm	lbs.	kg
1711LPC-0300	3	76	3.5	1.59

#### Replacement Parts

Part #	Description
H15005M	Nitrile Gasket



#### Listings and Certifications



Look for this label for authentic OPW EVR Approved products.

## 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

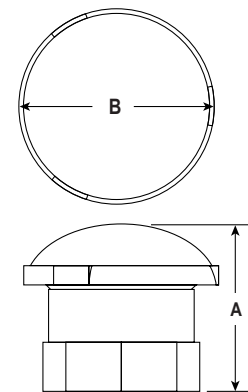
## Ordering Specifications

### CARB APPROVED AST EQUIPMENT

Model #	Pressure Setting		Mounting Connection	A		B		Weight		
	in.	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

## 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

## Approvals and Listings

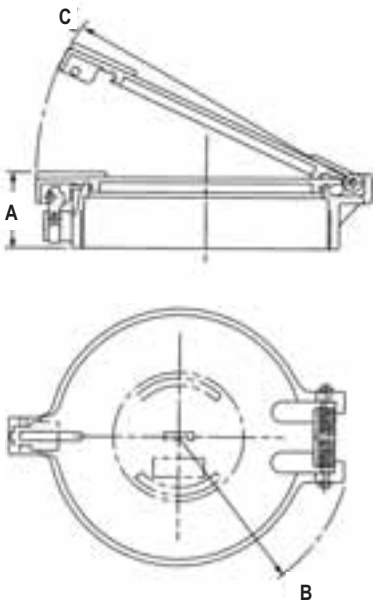
**CARB Certified**  
**AST Phase 1 Enhanced Vapor Recovery (EVR) System**



## 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**



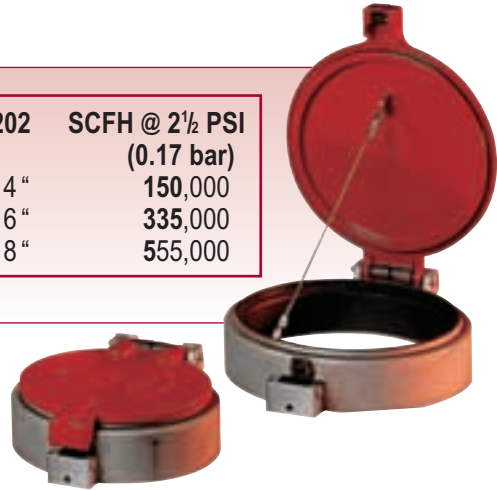
### Materials

**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.

### 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	10¾	273

### Ordering Specifications Flange Mount

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

### Listings and Certifications



## Materials

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



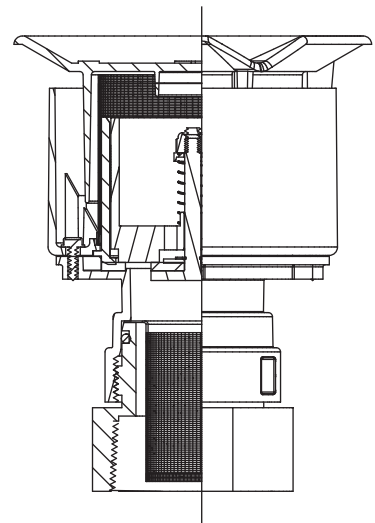
623V  
Vent Must Be Mounted  
Vertically

## 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

## 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.



## 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**

### 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

## Listings and Certifications



## 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	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 <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.

## 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

## Materials

**Cap body:** High-tensile aluminum alloy construction. Has straight pipe threads with Nitrile® for tight seal to tank. 2" - 11½" 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" (11½" 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" (11½" NPSH) male straight threads.
- ◆ **High-Maximum Flow Rate** – 3500 SCFH at 7.5 psi (0.52 bar) pressure drop.

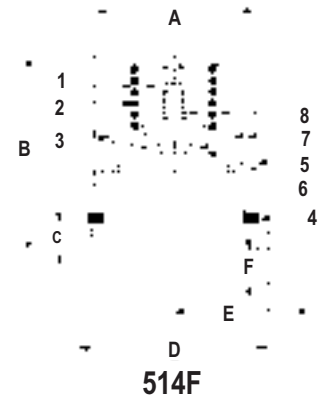
Key	Part #	Description
7A	H11211M	O-Ring
7B	H03636M	Cap Gasket
8	C03991M	Dome
9	H07356B	Vacuum Disc
10	H08380AH	Pressure Disc
11	H07353M	Vacuum Spring

## Ordering Specifications

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

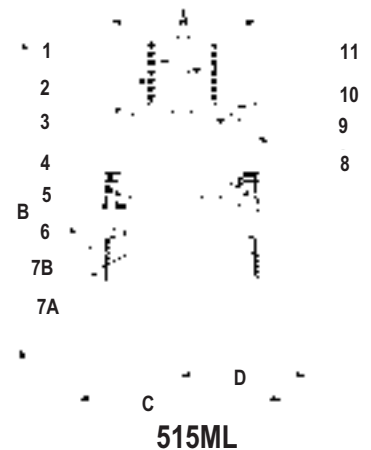
## OPW 514 & 515 Utility Tank Vents

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 arrester 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/ <sub>16</sub>	11

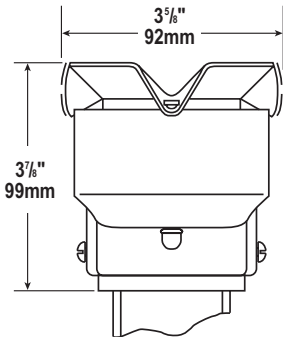


## Dimensions (515ML)

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

## 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.



### 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.

### Ordering Specifications

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

### Replacement Parts

Part #	Description
H00122M	Screw
H01967M	Nut
H01969M	Screen

### 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	4⅝	125



**924B  
MAGNETOSTRICTIVE  
PROBE**



**SITESENTINEL<sup>®</sup> iSITE<sup>™</sup>  
OR iTOUCH<sup>™</sup> CONSOLE**



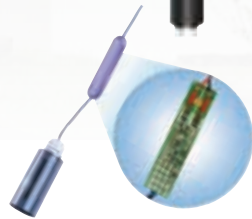
**VSMART  
MODULE**



**DENSITY  
MEASUREMENT**



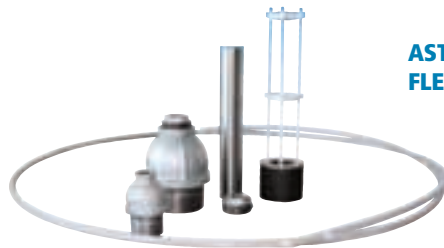
**INTELLISENSE<sup>™</sup>  
SMART SENSORS<sup>™</sup>**



**MAG SUMP  
SENSORS**



**AST  
FLEXIBLE PROBE**



## Electronic Fuel Management Systems

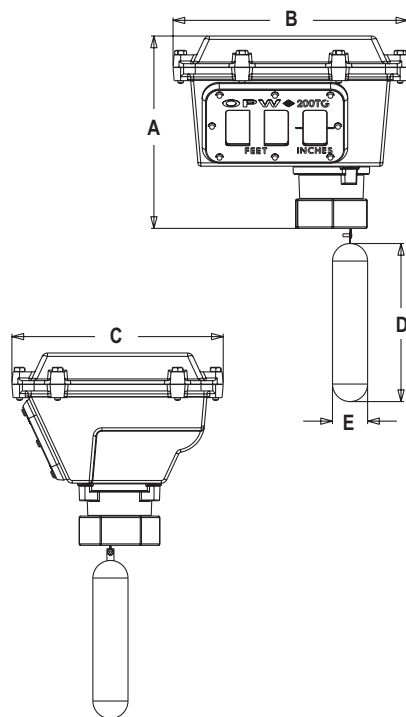
From the most innovative tank gauging systems in the world to the most reliable and accurate fuel control systems, there is no better or more comprehensive solution on the market today to ensure that you know exactly how much fuel you have and where it is going. When it comes to complete fuel accountability, unparalleled protection against theft and total reconciliation, OPW Fuel Management Systems is Leading the Way in keeping you and your assets covered – both coming and going!

**See Pages 314-345  
in the 2011 OPW  
Product Catalog**

*Setting the industry  
standard in retail and  
commercial fueling  
solutions worldwide  
since 1892.*

## 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

## 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 40.
- ◆ **Temperature Rating** – 120°F to -40°F (49°C to -40°C)

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

### (Ancillary Equipment)

## 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

Product #	Description	lb.	kg
H11421RS	2" NPT Male x Male Nipple	1.5	0.68
<b>CARB CERTIFIED AST EQUIPMENT</b>			
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



## 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.

## 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.**

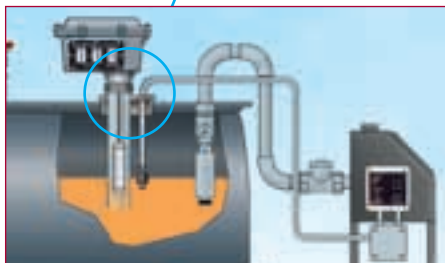


**TGTA-0400 4" Tank Bung Combo Fitting**  
Note: Drop Tube must be used with TGTA-0400.

## 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:	
202430	1/8" SST Nipple
C05295M	SST Tube
Battery Module	
H15937M	444TA-0100
See Note	144TA-0100*

### 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 15615M. If the number reads "144TA-0100" then use the replacement part 202891.

### 444TA Dimensions:

	in.	cm
A	5 1/32	12.8
B	5 1/32	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

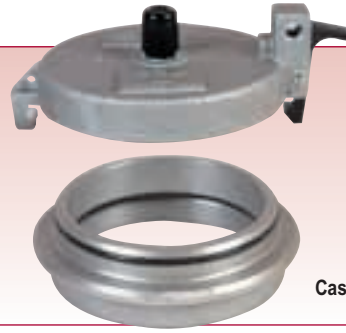
444TA and 144TA Instruction Sheet Order Number: 200655

## OPW 62M Monitor Probe Cap & Adaptor Kit

The 62M Monitoring Probe & Adaptor Kit includes a 4" side-sealing adaptor, 4" side-sealing cap (tapped), and a 3/8" or 1/2" wire grommet to secure the cable from an electronic tank gauge probe in the tank riser pipe. A bracket, located on the underside of the cap, is provided to install a tension wire to relieve strain on probe cables. The 62M is gasketed to seal against water and debris entering, or vapors from escaping, the tank. The cap includes provisions for a padlock to secure entry.

### Materials

- Body:** Cast aluminum
- Cap:** Cast aluminum
- Seals:** Nitrile®
- Latch:** Duratuff®

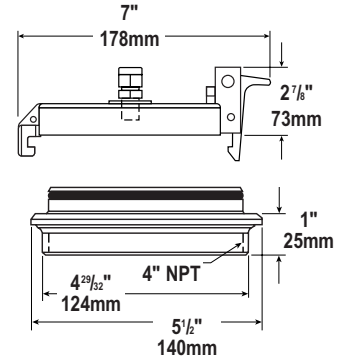


Cast Aluminum

### Ordering Specifications

Product #	Body	Cap	Grommet		Riser Thread		lbs.	kg
			in.	mm	in.	mm		
62M-0375	Alum.	Alum.	3/8	9.5	4	102	1.3	.59
Accepts .069" - .178" diameter wire								
62M-0500	Alum.	Alum.	1/2	13	4	102	1.3	.59
Accepts .170" - .470" diameter wire								

Viton® seals available upon request.



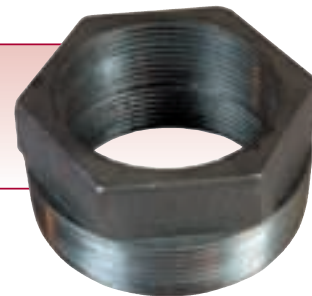
## OPW 53 Bushings

OPW 53 Bushings are general-purpose bushings for use on tank vent lines, fill lines, suction lines or other lines where it is necessary or desirable to bush up or bush down.

### Materials

- Bushing:** Iron

53



### Ordering Specifications

Model #	Threads (MNPT x FNPT)	lbs.	kg
53-0012	2" x 1 1/2" (51 x 38 mm)	.9	.4
53-0020	3" x 2" (76 x 51mm)	1.9	.9
53-0034	4" x 1 1/2" (102 x 38 mm)	2.5	1.1
53-0036	4" x 2" (102 x 51mm)	2.5	1.1
53-0038	4" x 3" (102 x 76 mm)	3.4	1.5

## Materials

Body: Aluminum

FSA-400



## Ordering Specifications

### CARB APPROVED AST EQUIPMENT

Product #	Description
FSA-400	4" Face Seal Adaptor
FSA-400-S	4" Short Face Seal Adaptor for Cast Iron Base Only

## OPW Threaded Riser Adaptor (Face Seal Adaptor)

An OPW FSA-400 Threaded Riser Face Seal Adaptor provides a flat, true sealing surface on threaded pipes where a gasket seal exists per EVR requirements. The FSA-400 is installed on the fill pipe riser below the spill container to provide a true sealing surface for the drop tube flange on the overfill prevention valves. The FSA-400 is also required on tank gauging risers and optional on vapor risers and rotatable adaptors.

## Materials

Body: Steel

204247



## Ordering Specifications

### CARB APPROVED AST EQUIPMENT

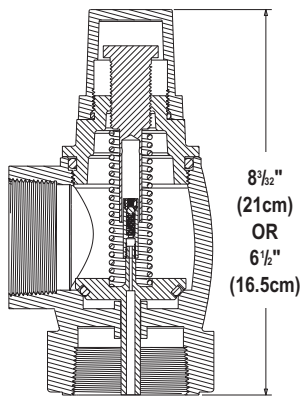
Product #	Description
204247	Dedicated Gauging Port

## Dedicated Gauging Port

Dedicated Gauging Port used to manually measure gasoline levels in an above ground storage tank with a gauging stick. For use with 633AST-0XXX Female NPT Kamlok Gauging Port.

## 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

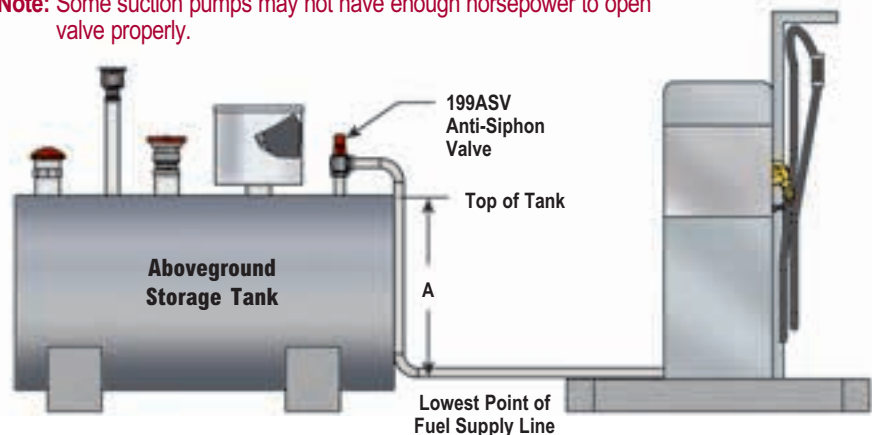
	PSI	ft. H <sub>2</sub> O	in. H <sub>2</sub> O	in. Hg	ft. Gas	ft. Diesel
<b>0-5</b>	1.88	4.33	51.96	3.85	6.2	5.35
<b>5-10</b>	3.68	8.48	101.76	7.53	12.12	10.47
<b>10-15</b>	5.6	12.92	155.04	11.47	18.51	15.95
<b>15-20</b>	7.4	17.07	204.84	15.16	24.4	21.07

### 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.



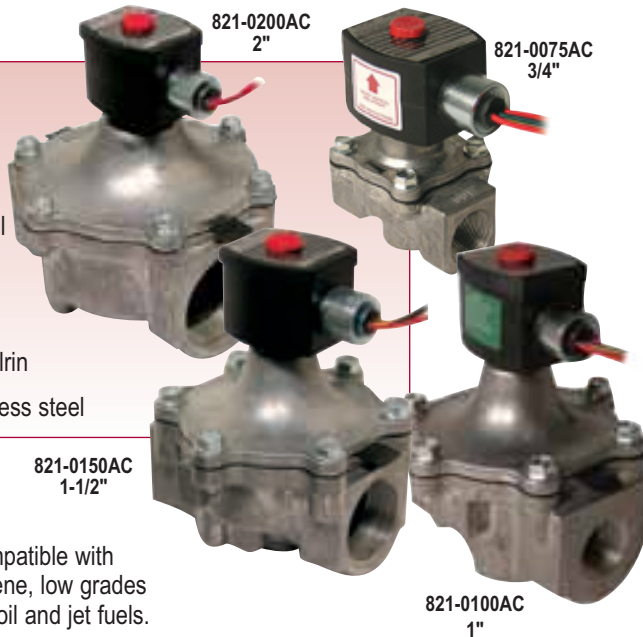
### Listings and Certifications



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

## Materials

- Body: Aluminum
- Diaphragm: Viton®
- Seals & Disc: Viton®
- Springs: 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		General Purpose	*CV	Fluid	Operating Pressure Differential (PSI)		Operating Pressure Differential (BAR)		Weight		Mounting Position
	in.	mm				Min.	Max.	Min.	Max.	lbs.	kg	
821-0075AC	3/4	19	AC	5.1	125	0	50	0	3.4	2.75	1.25	Any Position
821-0100AC	1	25	AC	21	125	0	25	0	1.7	5.25	2.38	Upright & Vertical
821-0150AC	1 1/2	38	AC	35	125	0	25	0	1.7	7.25	3.29	Upright & Vertical
821-0200AC	2	51	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

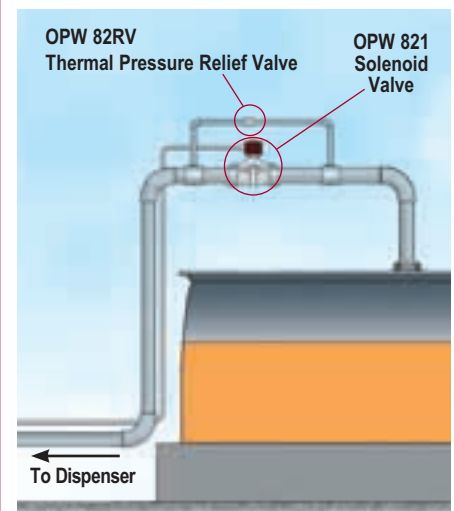
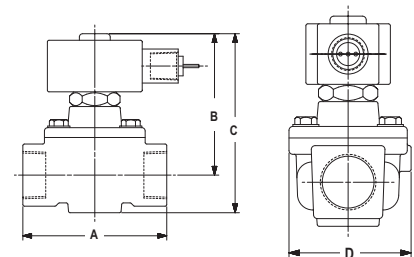
Product #	NPT Size		Operating Pressure 25 psi, Stainless Steel Construction	Weight	
	in.	mm		lbs.	kg
82RV-2505	3/4	19		.25	.113



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

## 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.



## 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

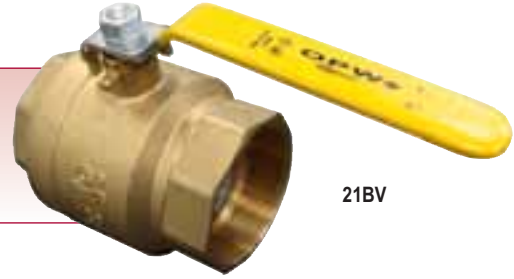


## OPW 21BV Full Port Two-Way Ball Valve

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 shutdown of your AST or UST system. Compatible with gasoline, alcohol fuels, diesel and MTBE. Available with Lockable Handle (LH).

### Materials

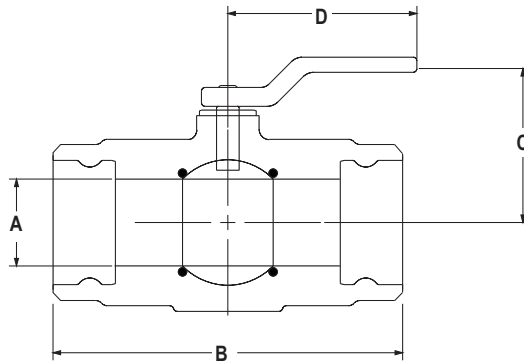
- Body:** Brass
- Ball:** Hard chrome plated
- Seal:** Teflon®



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
202234	Lockable Handle Kit for 3/4" and 1" Models
202235	Lockable Handle Kit for 1-1/2" and 2" Models

### 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®



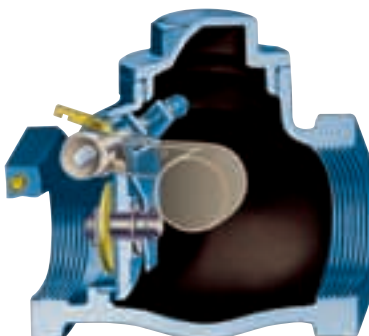
(Valve Shown in Open Position)

## 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

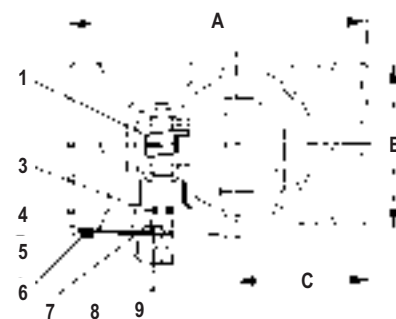
Key	Part No.	Description
1	H05973M	Spring
2	H12070M	O-ring (Viton®)
3	H7635RB	Packing Nut
4	H10445M	O-ring (Viton®)
5	H01344M	Fusible Link Sub-Assy.
6	H01505RB	Pin
7	C01533RB	Stem
8	H07644M	Set Screw
9	H07642ZA	Lever
10	H03295M	Washer
11	H04035M	Disc Nut
12	H12071R	Disc (Viton®)
13	H10004A	Disc Holder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

## Ordering Specifications

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

## 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.



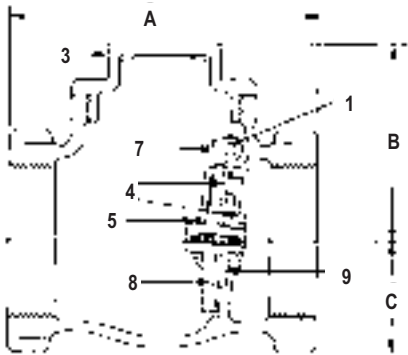
### Dimensions

	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

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

## OPW 175/1175 Series 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	7⅞	183
C	2⅞	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**

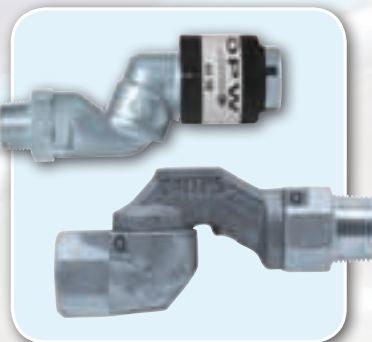
### Ordering Specifications

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 DISPENSING PRODUCTS

### DISPENSING HARDWARE

OPW nozzles are found in more locations worldwide than any other brand. From our complete line of conventional automatic fueling nozzles, swivels, breakaways, and island accessories to our wide range of rugged manual nozzles, OPW sets the industry standard in performance, durability and reliability. OPW offers a complete range of Stage II vapor recovery nozzles, from our industry-changing vacuum-assist vapor recovery nozzles and reliable balance technology to the 21Gv Series ORVR nozzle.

### STAGE II VAPOR RECOVERY EQUIPMENT

Our vapor recovery expertise extends beyond high-quality nozzles to help keep our air clean. It includes our efficient CVS2 central vapor recovery system and our innovative VaporSaver™ tank pressure management system that utilizes state-of-the-art membrane technology to monitor and control tank pressure and then separate the gasoline vapors into fuel and clean air.

See Pages 166-252  
in the 2011 OPW  
Product Catalog

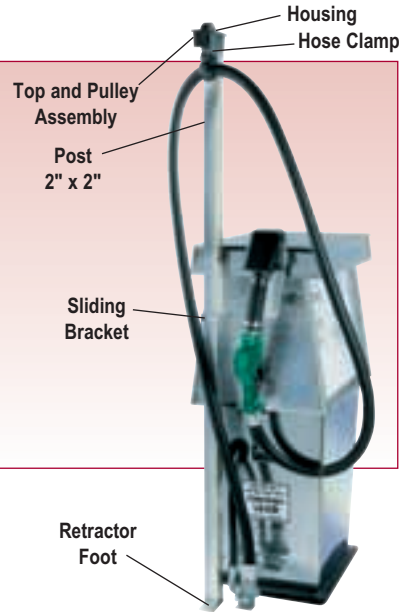
## POMECO 100 Counterweight Hose Retractors

POMECO 100 Counterweight Hose Retractors keep excess hose off the ground and out of the way, prolonging hose life and reducing potential hazards. The POMECO 100 is a California Air Resources Board (CARB) certified Stage II component for use with single and dual hose dispensers as per Executive Order G-70-52-AM.



### Materials

- Housing:** Impact-resistant plastic
- Cable:** Black polyester
- Post:** Aluminum (2"x 2")



### Features

- ◆ **Easy to Use** – counterweights are precisely matched to each hose configuration to ensure that a minimal pulling force is needed throughout hose extension.
- ◆ **Easy to Maintain** – the 100 has just two moving parts, ensuring a long service life with a minimum of maintenance.
- ◆ **Multiple Hose Configurations** – the 100 is available in a multitude of configurations to meet virtually any conventional or vapor recovery hose/nozzle configuration. Models are also available for air and water hose applications to keep hoses clear of vehicles when not in use.

## Ordering Specifications

### Conventional and Vapor Recovery Applications

Model Number*	Hose Configuration	Clamp Fits						Height		Weight	
		Hose Length		Hose O.D.		Hose I.D.		in.	cm	lbs.	kg
		ft.	meters	in.	mm	in.	mm				
6100-4000	Conventional	12-14'	3.7-4.3	1 3/8"	35	1"	25	79"	201	33	15.0
6100-5000	Conventional	15-18'	4.6-5.5	1 3/8"	35	1"	25	92"	234	38	17.2
6100-6000	Conventional	12-14'	3.7-4.3	1 1/2"	26	5/8" or 3/4"	16 or 19	79"	201	30	13.6
6100-7000	Conventional	15-20'	4.6-6.1	1 1/2"	26	5/8" or 3/4"	16 or 19	92"	234	31	14.1
6100-8000	Conventional	12-14'	3.7-4.3	1"	25	5/8"	16	79"	201	29	13.2
6100-9000	Conventional	15-20'	4.6-6.1	1"	25	5/8"	16	92"	234	30	13.6
6100-AGNV	Inverted Coaxial	11-13'	3.4-4.0	(Hose Clamp Not Included)				79"	201	33	15.0
6100-AGLC	Coaxial	11-13'	3.4-4.0	(Hose Clamp Not Included)				79"	201	26	11.8
6100-AGBR	Coaxial w/Breakaway	11-13'	3.4-4.0	(Hose Clamp Not Included)				79"	201	31	14.1

\*Add a "P" to the end of model number for black epoxy coated mounting post. EXAMPLE: 6100-4000P

100 Series Counterweight Hose Retractor Instruction Sheet Order Number: **H15852PA**



NOTE: See OPW's Website at [www.opwglobal.com](http://www.opwglobal.com) for product instruction sheets, trouble shooting guides, how-to-use guide and to view the Do's & Don'ts at the Gas Pump video.

## Materials

- Housing:** Cast aluminum
- Cable:** Black polyester
- Post:** Aluminum



**Nozzle Hook and Hood Kit Not Sold by OPW.**

## POMECO 102 Spring Balance Single Hose Retractors

POMECO 102 Spring Balance Single Hose Retractors keep excess hose off the ground and out of the way, prolonging hose life and reducing potential hazards. The POMECO 102 is a California Air Resources Board (CARB) certified Stage II component for use with single and dual hose dispensers as per Executive Order G-70-52-AM.

## Features

- ◆ **Easy to Use** – the spring-loaded reel and stretch-resistant cable provide smooth and steady tension throughout hose extension and return.
- ◆ **Easy to maintain** – the removable sideplate provides full access to the mechanism for easy tension adjustment and unit maintenance. A convenient safety thumb screw is provided to lock the reel in place during tension adjustment.
- ◆ **Field Adjustable for Various Hose, Nozzle, Swivel, Breakaway Combinations** – no need for upgrading components if a breakaway or swivel is added to the hose assembly. Simply change the tension setting on the spring-loaded hose reel.
- ◆ **Multiple Mounting Options** – the POMECO 102 retractor housing is tapped on the top for bolting to overhead crossbars, and on the side for mounting to vertical posts. The 102 is available as a retractor kit (including post, retractor and mounting hardware) or as separate components. Models are also available for aboveground storage tank (AST) applications. AST models include a 44" (112 cm) post with a freestanding base.

102 Spring Balance Hose Retractor  
Instruction Sheet Order Number:  
**H15853PA**



**Post Mounted**

NOTE: See OPW's Website at [www.opwglobal.com](http://www.opwglobal.com) for product instruction sheets, trouble shooting guides, how-to-use guide and to view the Do's & Don'ts at the Gas Pump video.



## Ordering Specifications

### Vertical Retractor Kits (Box, Post, Bracket, Foot & Hardware)

Model Number	Mounting Method	Clamp Fits				Weight	
		in.	Hose O.D. mm	in.	Hose I.D. mm	lbs.	kg
6102-1039P	39" Retractor/Post Kit	(Hose Clamp Not Included)				12	5.4
6102-1078P	78" Retractor/Post Kit	(Hose Clamp Not Included)				14	6.4
6102-AST	AST	(Hose Clamp Not Included)				9	4.1

## Ordering Specifications

### Separate Retractor Components (Box Only)

Model Number	Mounting Method	Clamp Fits				Weight	
		in.	Hose O.D. mm	in.	Hose I.D. mm	lbs.	kg
6102-1000	Overhead Crossbar/Vertical Post	(Hose Clamp Not Included)				7	3.2
6102-4000	Overhead Crossbar/Vertical Post	1½"	35	1"	25	7	3.2
6102-6000	Overhead Crossbar	1½"	26	⅝" or ¾"	16 or 19	7	3.2
6102-8000	Overhead Crossbar	1"	25	⅝"	16	7	3.2

\*POMECO recommends using C05238M, C05261M or P100-3F/P100-44/P100-2AST for use with 102 Series retractors. Other size tubes and clamps available upon request.



Hose Clamp

## Ordering Specifications

### Hose Clamps

Model Number	Hose Clamp Size†
PB-1396	Standard 1½" O.D. Hose (1" I.D.)
PB-1394	Standard 1½" O.D. Hose (¾" I.D.)
PB-1375	Standard 1½" O.D. Hose (⅝" or ¾" I.D.)
PB-1373	Standard 1" O.D. Hose (⅝" I.D.)
PB-1344	Balanced Coaxial, Goodyear Premier
PB-1340	Balanced Coaxial, Dayco Petroflex

† Other sizes available upon request

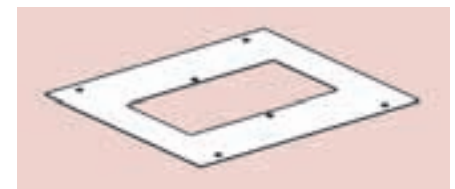
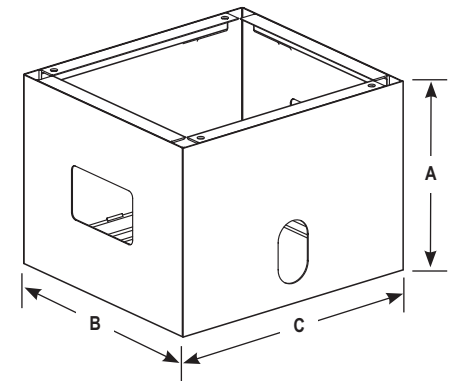
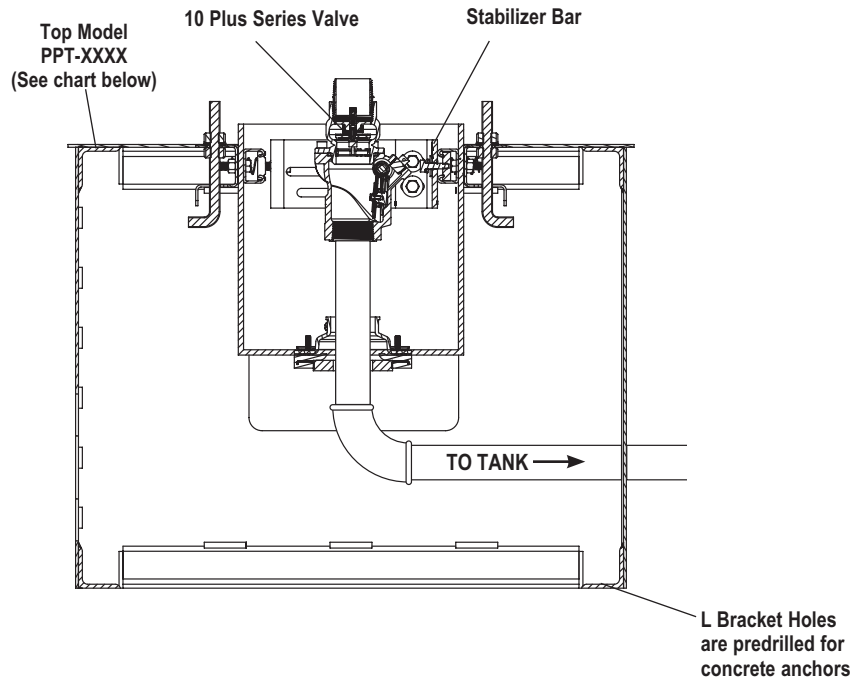
### Options Replacement Parts

Model Number	Hose Clamp Size
C05238M	Post Kit, 39"(99 cm), 1½" x 2"
C05261M	Post Kit, 78"(198 cm), 1½" x 2"
H15212M	12' Replacement Cable
P338SPOOL	338' Spool of Retractor Cable
P100SPOOL	1000' Spool of Retractor Cable
H15210M (P102-02)	Replacement Cable Guide
H15211M	Replacement Reel
P100-3F	AST Replacement Base
P100-2AST	Sliding Bracket (AST)



## 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 burying 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

#### 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 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	

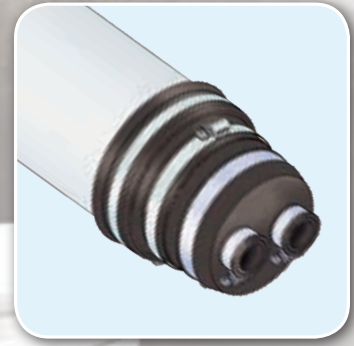
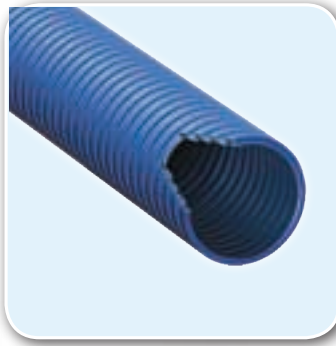
Additional models available upon request, contact your OPW District Manager.

## PIPING AND CONTAINMENT SYSTEMS

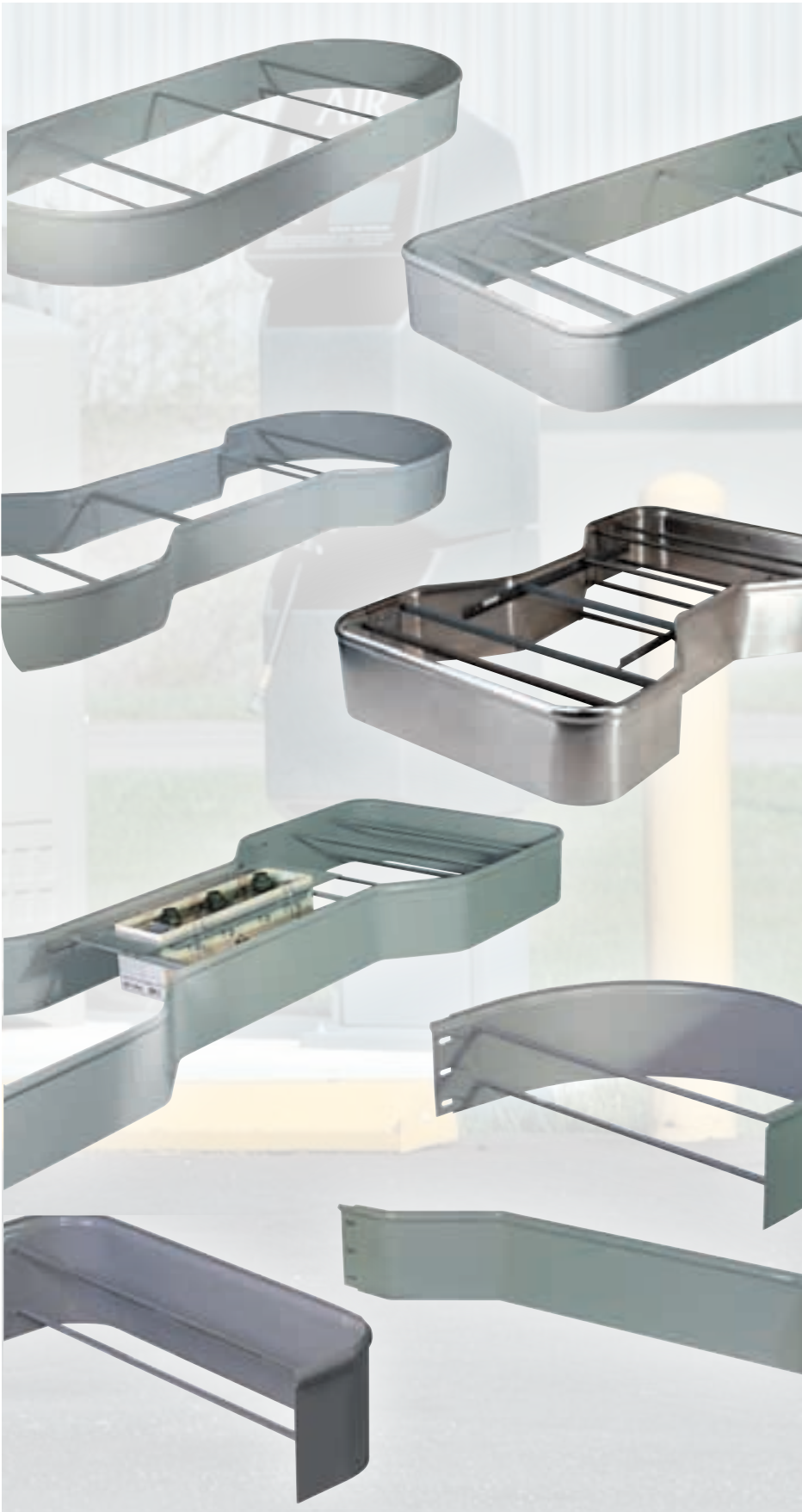
### OPW Fueling Containment Systems is *Leading the Way*

in flexible piping and containment innovations offering the most complete integrated, environmentally secure underground fuel delivery system in the world. From our innovative Loop System™, flexible coaxial primary pipe and crush resistant access pipe, to our prefabricated quick-couple dispenser sumps and double entry fittings, providing highly efficient fuel transfer while at the same time providing a higher level of environmental protection shows the kind of performance and consistent reliability we deliver...in fact, it's just part of our system.

See Pages 20-58  
in the 2011 OPW  
Product Catalog







## ISLAND FORMS AND PROTECTIVE CURBING

OPW is the world leader in commercial and industrial protective curbing products. The company designs, engineers and manufactures island forms, curb fascia, pipe and bumper guards to meet virtually any protective curbing application. Designed to protect gasoline dispensers, electronic equipment, kiosks, bank teller and ATM equipment, as well as to restrict or route material handling equipment in warehouses, OPW Island Forms and Protective Curbing streamline traffic flows in toll booths and quick-serve restaurants and various other commercial traffic management applications.

**See Pages 253-264  
in the 2011 OPW  
Product Catalog**

# Above Ground Storage Tank Equipment Fuel Compatibility Matrix

Revised 02/01/2011

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 & 202 Series	Emergency Vents	UL	UL	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
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    \* Pending Approval

The ETL Listed Mark and C-ETL Listed Mark are accepted throughout the United States and Canada when denoting compliance with nationally recognized standards such as ANSI, IEC, UL, and CSA.



## OPW STANDARD PRODUCT WARRANTIES

NOTICE: FlexWorks by OPW, Inc., VAPORSAVER™ and all other OPW products must be used in compliance with all applicable federal, state, provincial and local laws, rules and regulations. Product selection must be based on physical specifications and limitations, compatibility with the environment and material to be handled. All illustrations and specifications in this literature are based on the latest production information available at the time of publication. Prices, materials and specifications are subject to change at any time, and models may be discontinued at any time, in either case, without notice or obligation.

OPW warrants solely to its customer that the following products sold by OPW will be free from defects in materials and workmanship under normal use and conditions for the periods indicated:

Product	Warranty Period
FlexWorks Primary Pipe	10 years from date of manufacture
All Products Certified to California 2001 Standards*	1 year from date of manufacture or from date of installation registration (not to exceed 15 months from date of manufacture)
All other Products	1 year from date of manufacture

\* Products certified to California 2001 Standards will have an OPW registration card enclosed/attached to the product.

OPW's exclusive obligation under this limited warranty is, at its option, to repair, replace or issue credit (in an amount not to exceed the list price for any defective product) for future orders for any product that may prove defective within the applicable warranty period (repairs or replacements are subject to prorated warranty coverage for remainder of the original warranty period). Complete and proper warranty claim documentation and proof of purchase required. All warranty claims must be made in writing and delivered during the applicable warranty period to OPW at P.O. Box 405003, Cincinnati, Ohio 45240. Attention: Customer Service Manager. No products may be returned to OPW without its prior written authority.

This limited warranty shall not apply to any FlexWorks or VAPORSAVER™ product unless it is installed by an OPW attested installer. This limited warranty also shall not apply to any FlexWorks, VAPORSAVER™ or other OPW product: unless all required site and warranty registration forms are completed and received by OPW within 60 days of installation; unless all piping connections are installed with a nationally-recognized or state-approved leak detection device in each tank and dispenser sump (which are not for storage and from which all discharge hydrocarbons must be removed, and the systems completely cleaned, within 24 hours); unless testable sumps utilize FlexWorks pipe and access fittings; unless a sump inspection log or an EPA recommended/required checklist is maintained and the results are furnished to OPW upon request; and unless OPW is notified within 24 hours of any known or suspected product failure and is provided with unrestricted access to the product and the site. This limited warranty also shall not apply to any product which has been altered in any way, which has been repaired by anyone other than a service representative authorized by OPW, or when failure or defect is due to: improper installation or maintenance (including, without limitation, failure to follow FlexWorks Quick Reference Manual Installation Guide and all product warning labels); abuse or misuse; violation of health or safety requirements; use of another manufacturer's, or otherwise unauthorized, substances or components; soil or other surface or subsurface conditions; or fire, flood, storm, lightning, earthquake, accident or any other conditions, events or circumstances beyond OPW's control.

THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, AND ALL OTHER WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY EXCLUDED. OPW shall have no other liability whatsoever, whether based on breach of contract, negligence, gross negligence, strict liability or any other claim, including, without limitation, for special, incidental, consequential or exemplary damages or for the cost of labor, freight, excavation, clean-up, downtime, removal, reinstallation, loss of profit, or any other cost or charges. No person or entity is authorized to assume on behalf of OPW any liability beyond this limited warranty. This limited warranty is not assignable.



## Global Operations



### Above Ground Products

- Standard Dispensing Equipment
- Above Ground Storage Tank Equipment
- Stage II Vapor Recovery Equipment
- CleanEnergy™ Fueling Products



### Below Ground Products

- Piping and Containment Systems
- Underground Storage Tank Equipment



### Electronic Fuel Management Systems

- Tank Gauges
- Fuel Control Systems

[www.opwglobal.com](http://www.opwglobal.com)

#### Corporate Headquarters

9393 Princeton-Glendale Road  
Hamilton, Ohio, USA 45011  
Tel: (800)-422-2525  
Fax: (800)-421-3297  
Int'l Tel: (513) 870-3315  
Int'l Fax: (513) 870-3157  
domesticsales@opw-fc.com  
[www.opwglobal.com](http://www.opwglobal.com)

#### Brazil

Rod. Romildo Prado, Km. 13,5  
Bairro de Itapema  
Caixa Postal 170  
CEP 13255-750 Itatiba - SP- Brasil  
Tel: 55 11 4894-7700  
Fax: 55 11 4894-7701  
[www.opwbrasil.com.br](http://www.opwbrasil.com.br)

#### Czech Republic

DOVER CR spol. s r.o.(OPW)  
Prumyslova 4  
431 51 Klasterec nad Ohri  
Czech Republic  
Tel: +420 474 624 025  
Fax: +420 474 628 271  
info@opw-fce.com

#### OPW Fuel Management Systems

6900 Santa Fe Dr.  
Hodgkins, Illinois, USA 60525  
Tel: 708 485-4200  
Fax: 708 485-7137  
info@opwfms.com  
[www.opwglobal.com](http://www.opwglobal.com)

#### OPW Mexico Centro de Servicio OPW-México

Homero 136 Int. 403  
Col. Chapultepec Morales  
México DF CP 11570  
Delegación Miguel Hidalgo  
Tel: 52 55 5254-5672  
Fax: 52 55 5254-1913  
aanguiano@opw-fc.com

#### Dover India Pvt Ltd.

OPW Fueling Components Div.  
A-93 , Wagle Industrial Estate  
Thane 400 604  
Maharashtra, India  
Tel: 91 22 6710 0812,13,14  
Fax: 91 22 6710 0815  
info@opwfc-in.com

#### OPW Fueling Containment Systems

3250 US Highway 70 Business West  
Smithfield, NC 27577-6954  
Telephone: (919) 934-2786  
Fax: (919) 359-3687  
Customer Service: 1(800) 422-2525  
Customer Service Fax: 1(800) 421-3297  
[www.opwglobal.com](http://www.opwglobal.com)

#### Poland/Petro Vend of Poland, Inc.

32-086 Wegrzce 101 (Kraków)  
Poland  
Tel: ++ 48 12 4106600  
Fax: ++ 48 12 4106690  
pvpoland@petrovend.krakow.pl

#### OPW Fueling Components (Suzhou) Co. Ltd.

No.668, Fengting Road  
Loujiang Industrial Zone E2  
Suzhou Industrial Park  
Suzhou, P.R.C. 215122  
Tel: 86-(0)512-6274-5328  
Fax: 86-(0)512-6274-5338  
info@opw-fc.com.cn  
[www.opw-fc.com.cn](http://www.opw-fc.com.cn)



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