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SUBMITTAL TRANSMITTAL

RICHEY FUEL TANK REPLACEMENT

June 24, 2011

To: M3 ENGINEERING AND TECHNOLOGY
2051 W. Sunset Road, Suite 101
Tucson, Arizona 85704

From: Miller O'Hern Construction, LLC
2200 S. Avenida Los Reyes
Tucson, Arizona 85748

MILLER O'HERN CONSTRUCTION has reviewed this submittal and believes it to be in substantial compliance with the contract documents.

By: [Signature]

Date: 6.24.11

Subcontractor: A and H Contracting Services
Manufacturer: Various
Supplier:

Miller O'Hern Construction . LLC 520-395-9479

Specification Section: 15192 Above Ground Fuel Tank and Accessories

Submittal Purpose: For Approval
 For Information Only

Submittal Type Product Data Shop Drawing Sample
Number of Copies

Remarks:

Provide color for exterior of tank.

Signature [Signature]

15192 2.7B

Tyco Enterprise,, Inc.

Note: Provide
exterior paint
color.

Above Ground Fuel Storage Tanks Thirty Year Warranty

Tyco Enterprises, Inc. warrants the following UL-142 Double Wall Above Ground Tanks:

1. To be free from defect in workmanship and materials for a period of one (1) years, excluding exterior paint.
2. Will not fail due to internal or external corrosion for a period of thirty (30) years provided:
 - a. The tank is used solely for gasoline, diesel fuel or motor oils and not for storage of any corrosive Materials.
 - b. The tank is installed properly either by Tyco or reputable installer,
 - c. Tank exterior is kept painted to prevent rusting, corrosion and is properly maintained on a yearly basis,
 - d. Interior of tank should be checked, properly tested and maintained to avoid any interior corrosion.
3. Our liability under this warranty is specifically limited at our option to the date, original point of delivery and original purchaser.
4. Repair of the tank at our or your facility as deemed necessary by us.

We shall not be liable for any labor and travel costs, or other installation costs, indirectly or consequential damages, or any other damages to buyer or to any other persons in connection with this tank.

This Warranty does not cover damages resulting from accidents, misuse, abuse, lack of care, acts of god or nature, or any equipment on tank.

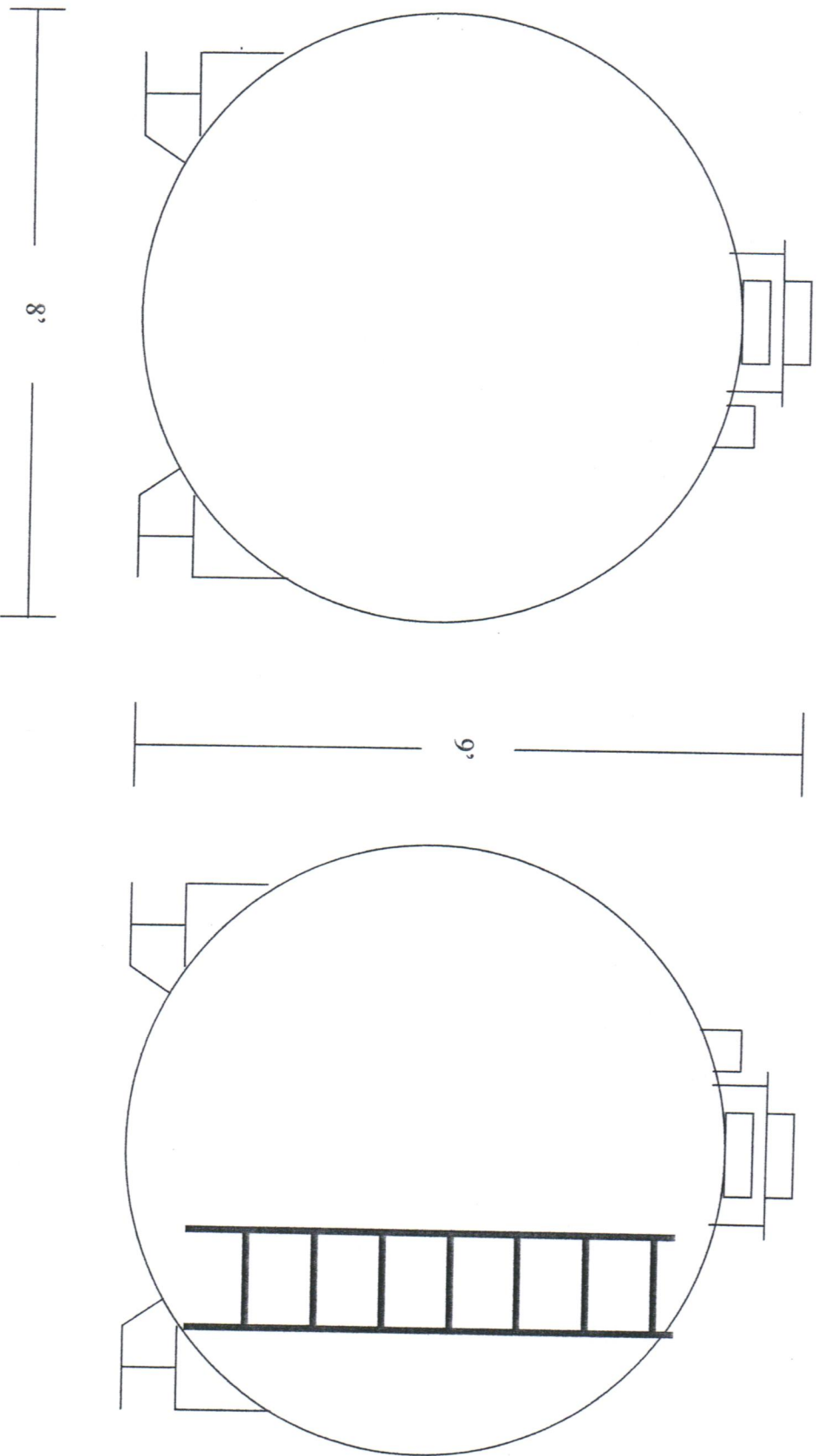
This warranty is VOID if the tank is abused, misused in any manner, welded on or cut in any location on tank that has not been done by someone belonging to our facility or authorized by Tyco Enterprises, Inc. This warranty is expressed or implied.

* Petroleum Equipment warranty is per the manufacture of each **item** which **some items** carry (1) year warranty. **We will not be held liable for equipment that is not under warranty through the manufacture.** Our labor and travel is not included in warranty repairs. Some Manufactures reimburse the labor and some do not. Please understand that some equipment is considered maintenance items and need to be maintained by the owner.

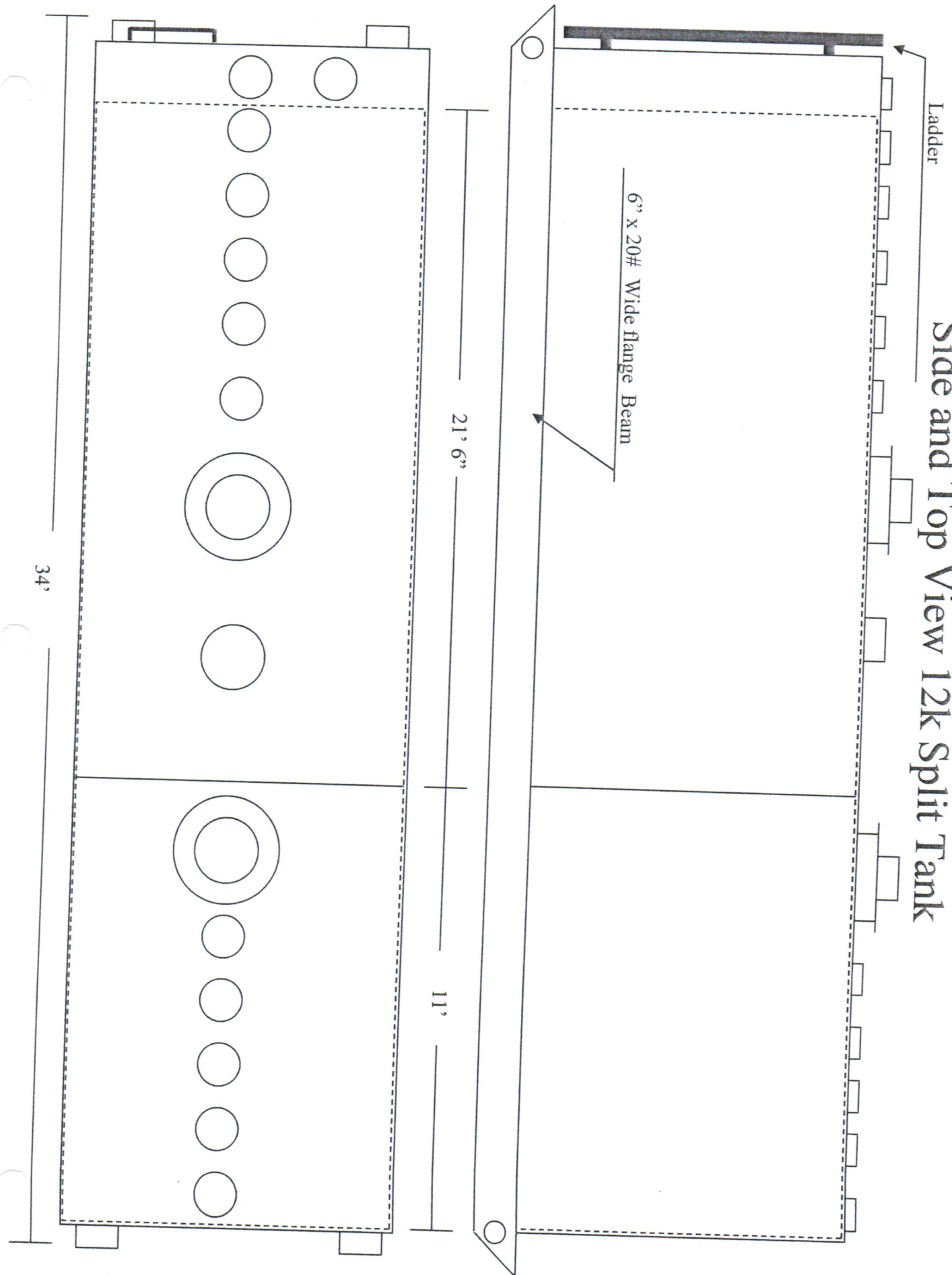
This warranty only applies to the original owner of the tank.

If you have any questions, please feel free to call us at (520) 294-1542,
9421 S Nogales Hwy Tucson, AZ 85706

Front and End View 12k Split



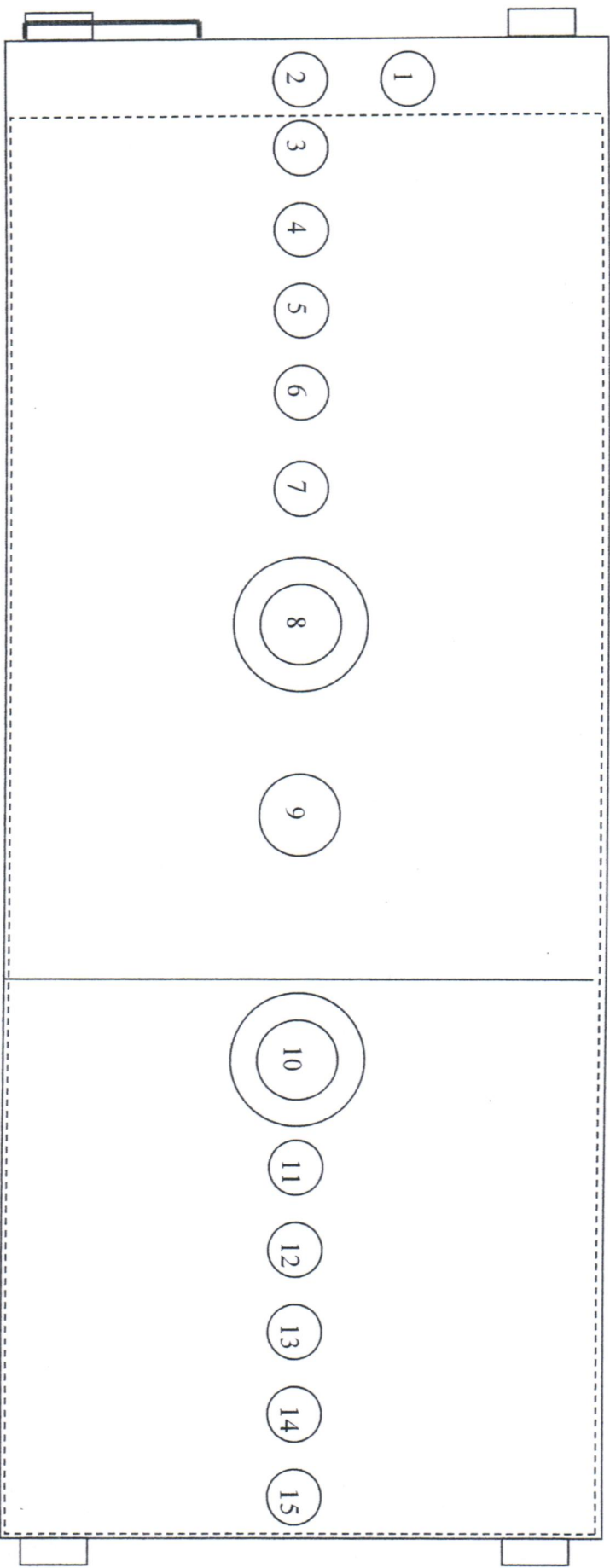
Side and Top View 12k Split Tank



12k Double Wall UL-142 R&R Tank split 8K/4K

1	3" Secondary Atmospheric Vent
2	2" Secondary Bung
3	4" Bung for 8k
4	4" Bung for 8k
5	4" Bung for 8k
6	4" Bung for 8k
7	2" Atmospheric Vent for 8k
8	24" Manway with 8" Emergency vent for 8k

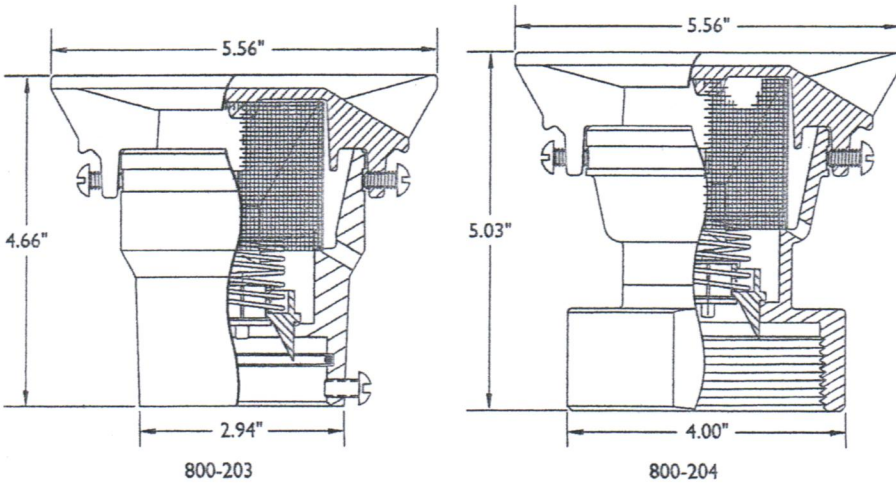
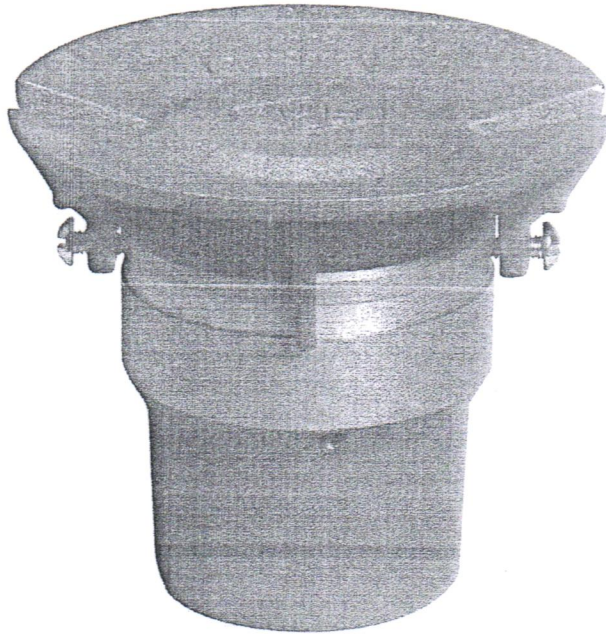
9	8" Secondary Emergency Vent
10	24" Manway with 8" Emergency vent for 8k
11	2" Atmospheric Vent for 4k
12	4" Bung for 4k
13	4" Bung for 4k
14	4" Bung for 4k
15	4" Bung for 4k
1/4" Primary Shell and Heads	
3/16" Secondary Shell and Heads	





802 Pressure Vacuum Vents

EBW pressure vacuum vents are used on underground and aboveground storage tank vent pipes to discharge vapors upward into the atmosphere. The top casting is dome-shaped to quickly drain off moisture including rain, snow and ice. Body and cover are cast aluminum with a 30 mesh, flame arresting, bronze screen. 2" and 3" models have vent rates of 8000 cubic feet per hour, and produce 8.0 ounces of pressure and 0.5 ounces of vacuum.



Advantages

- Two model types available, NPT/BSPT threads or O-ring with locking screw.
- NFPA 30.

Materials

- Body: aluminum.
- Poppet: Delrin.
- Spring: stainless steel.
- Screws: zinc plated steel.
- Screen: brass.

Model	Size		Installation	Weight		List
	In.	mm		Lbs.	Kg	
802-303-01*	2.00	51.00	NPT threaded	1.88	0.85	
802-303-02*	2.00	51.00	O-ring seal	1.84	0.83	
802-303-12**	2.00	51.00	O-ring seal	1.88	0.85	
802-303-21*	2.00	51.00	BSPT threaded	1.88	0.85	
802-304-05*	3.00	76.00	NPT threaded	2.44	1.11	
802-304-06	3.00	76.00	O-ring seal	2.40	1.08	

*UL file # MH 15882.

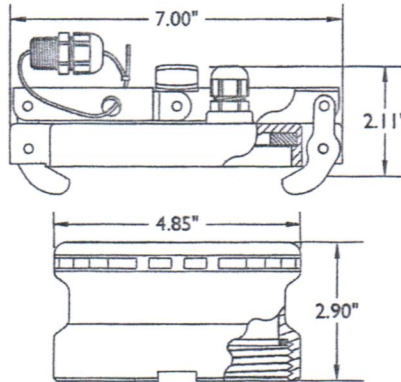
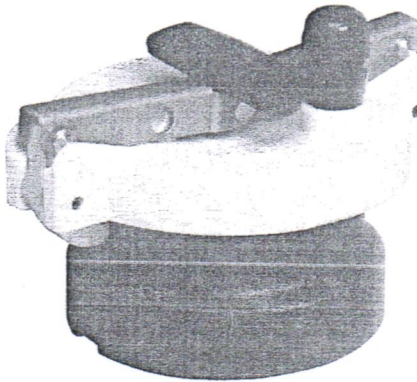
**Biofuel approved model (E85 and biodiesel).



Probe Cap and Adapter Kit

CARB EVR approved 4" probe riser cap is used to protect tank probes and secure probe or monitoring sensor connections. The easy-to-operate T-handle provides a convenient method of removal and replacement.

The 90037 adapter kit includes a 4" nylon cap with 1/2" and 3/8" cable bushing and a 4" composite adapter.



Advantages

- Durable nylon construction.
- CARB: EVR Phase I Certification VR-101 and VR-103.
- Missouri MOPETP approved APCP-0002-001-99.

Model	Bushing		Weight		List
	In.	mm	Lbs.	Kg	
90037	0.50 and 0.38	12.70 and 9.50	1.92	0.87	
90037-E*	0.50 and 0.38	12.70 and 9.50	1.92	0.87	
Model	Description				List
950-217-01	Replacement synthetic rubber gasket for adapter				
777-111-01	Replacement nitrile gasket for cap				

*CARB EVR Phase I certification VR-101 for gas and E85.



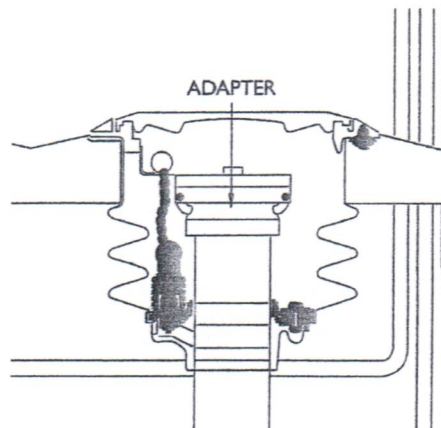
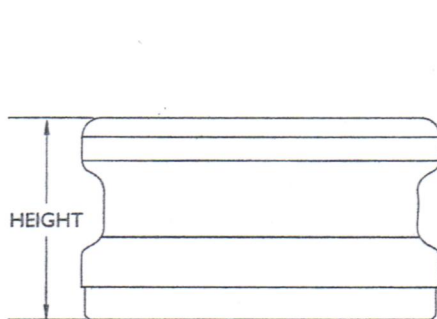
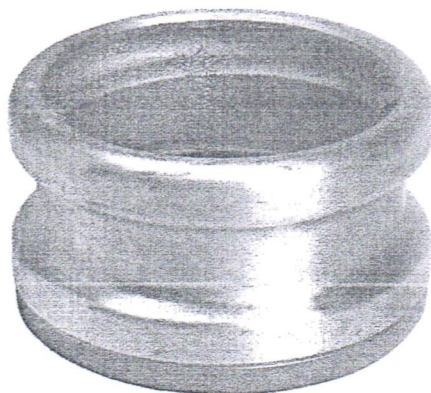
Advantages

Constructed of ASTM B62 corrosion-resistant bronze.

Nitrile gasket for a secure seal onto the fill pipe.

778 Top Seal Fill Pipe Adapter

Top seal fill pipe adapters are installed on the fill riser pipe in spill containment manways on an underground storage tank. The adapters are used to connect delivery drop elbows to the fill pipe for fuel deliveries. Adapters can be ordered with or without wrenching lugs to suit your installation preference. EBW top seal fill pipe adapters fit all top seal drop elbows and top seal fill caps.



Model	Height		Description	Weight		List	
	In.	mm		Lbs.	Kg		
778-301-01*	2.69	68.27	4" with lugs	2.00	0.90	[REDACTED]	
778-301-02*	2.69	68.27	4" without lugs	2.00	0.90		
778-301-05**	2.69	68.27	4" with lugs	2.00	0.90		
778-302-01	2.25	57.15	3" with lugs	2.00	0.90		
778-303-02	2.69	68.27	4" composite with gasket	2.00	0.90		
780-200-01	1.75	44.45	3" without lugs	2.00	0.90		
Model	Description						List
770-201-02	3" replacement gasket						
770-201-03	4" replacement gasket						

*Missouri #99-08

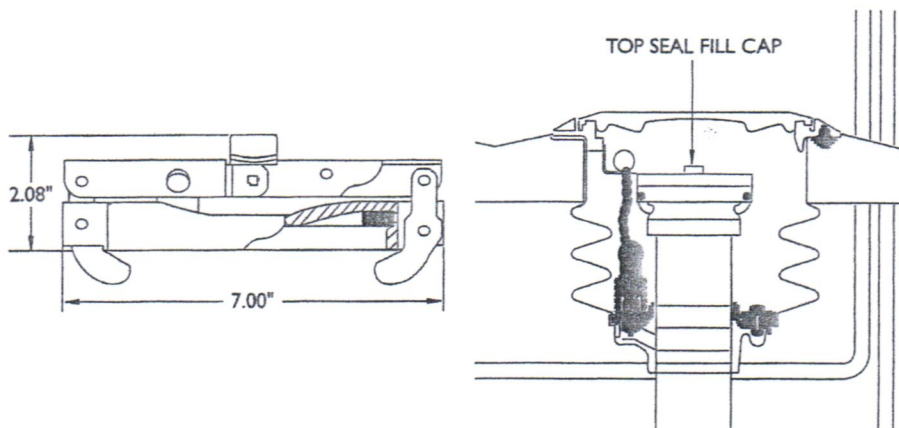
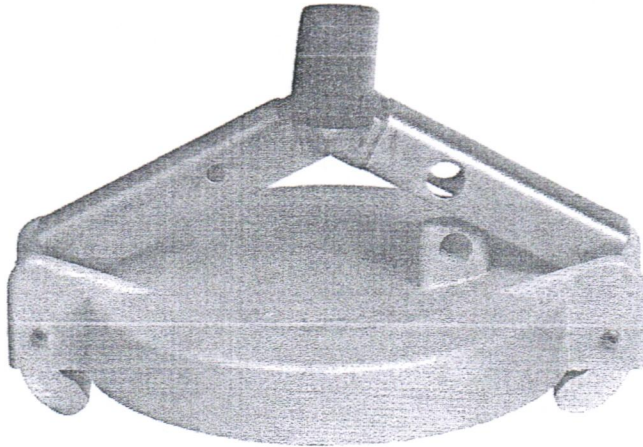
**Biofuel approved model (E85 and biodiesel).

Service Station Hardware

Underground Storage Tank Equipment

777 4" Top Seal Fill Caps

EBW top seal fill caps are used to prevent vapors from escaping the fill riser pipe on the underground storage tank when it is not being filled. The geometry of the linkage provides self-centering characteristics for dependable sealing. The easy-to-operate T-handle provides a convenient method of removal and replacement — simply pull to remove and push to replace.



Advantages

- Glass-filled nylon and aluminum body styles available.
- Stainless steel latches.
- Padlock capability.
- Form fitting replaceable gasket, molds itself to the contour of the adapter to form a positive seal for added protection.

Service Station Hardware

Model	Description	Weight		List
		Lbs.	Kg	
777-201-01*	CARB: EVR glass-filled nylon	1.00	0.45	
777-201-02**	Biofuel approved cap	1.00	0.45	
777-202-01	Aluminum, epoxy coated grey	1.12	0.51	
777-111-01	Replacement nitrile gasket	0.20	0.90	
950-215-01	Replacement gasket for 777-201-02	0.20	0.90	

*CARB: EVR Phase I Certification VR-101 and VR-103 and Missouri MOPETP APCP-0002-001-99.

**Biofuel approved model (E85 and biodiesel), CARB: Phase I Certification VR-101.



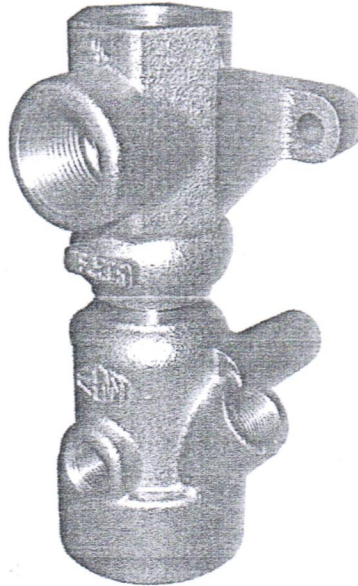
Advantages

- Dual poppets seal vapors in dispenser riser and in vapor line for maximum environmental protection.
- One 1" test port and two 3/8" test ports eliminate extra T-joints in vapor line which reduces potential leak points and provides more flexibility for Stage II vapor recovery installation.
- Durable zinc plated body is resistant to corrosion.
- Standard U-bolt and boss mount allow for quick and easy installation.
- Base thread includes 1-1/2" female.
- Biofuel approved model (E85 and biodiesel).
- California State Fire Marshal approved.

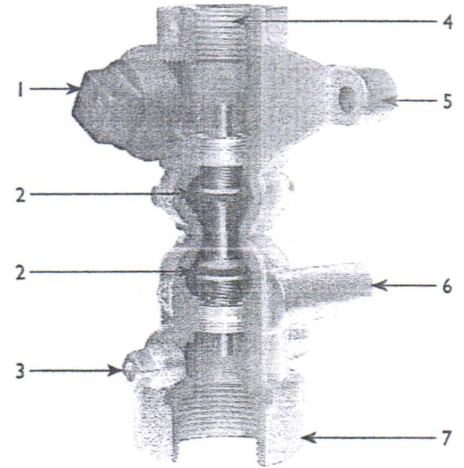


362 Vapor Shear Valve

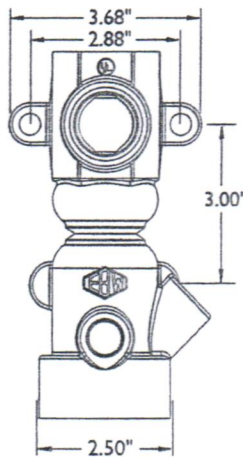
The EBW 362 vapor shear valve is designed for use as an emergency breakaway on Stage II vapor recovery lines in fuel dispensers. The double poppet design allows spring-loaded poppets inside the valve to seal vapors within both the dispenser riser and vapor piping in the event of dispenser displacement, providing maximum environmental protection.



Design Features



Number	Description
1	1" test plug
2	Double poppet design
3	3/8" test plug
4	1" dispensing side opening
5	Boss mount
6	U-bolt mount
7	1-1/2" female



Model	Description	List
362-206-03	1" x 1-1/2" NPT thread vapor shear valve	\$133.00

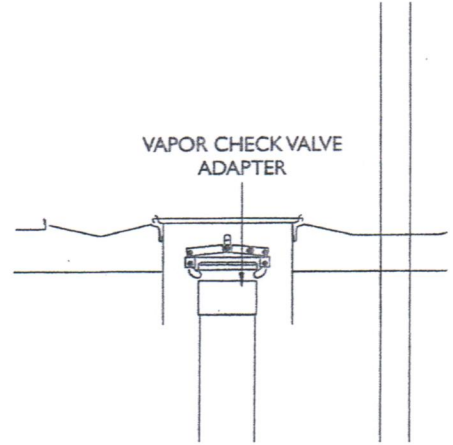
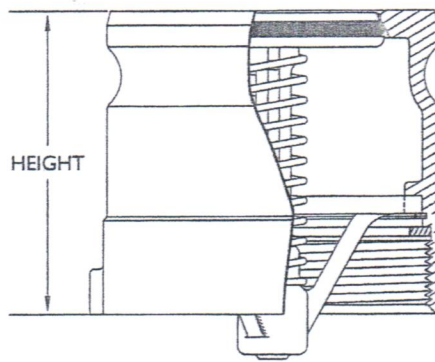
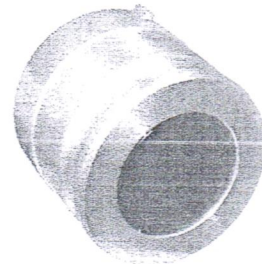


Advantages

- Constructed of anodized aluminum or brass body.
- Fits all 4" vapor recovery elbows.

300 Vapor Check Valve Adapter

The vapor check valve adapter permits coupling to the vapor return line from the underground tank in dual point systems. The poppet design seals off the vapor path when not coupled.



Model	Elbow Size	Riser Thread	Height		Body Material	Weight		List
			In.	mm		Lbs.	Kg	
300-210-01*	4"	4"	4.19	107.00	Anodized aluminum	4.30	1.95	
300-220-01	4"	4"	4.19	107.00	Brass	12.50	5.66	
300-300-01	4"	3"	5.44	139.00	Anodized aluminum	4.30	1.95	
Model	Description							List
770-201-02	3" replacement gasket							
770-201-03	4" replacement gasket							

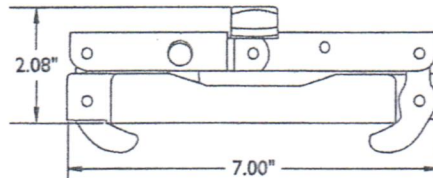
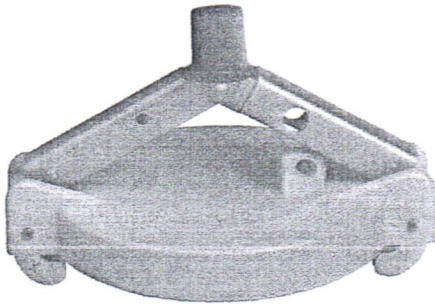
*Biofuel approved model (E85 and biodiesel).

Service Station Hardware

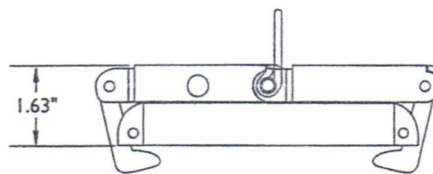


304 4" Vapor Recovery Cap

The vapor cap secures the vapor check valve preventing dust and debris buildup. It also protects the vapor poppet of a dual point fill system. Orange in color to indicate vapor recovery lines and lockable to prevent misuse, our vapor cap fits all 4" male quick couplings. The cam action creates a solid push down and pull up movement for fast, easy removal and replacement of cap.



304-200-01



304-301-01

Advantages

- Two body styles to choose from, glass-filled nylon and epoxy coated aluminum.
- Padlock capability.
- Iron-copper infiltrated 4" cams.
- Corrosion-resistant steel hatches.
- Orange body for easy identification.
- Construction is cast brass and stainless steel for long life.

Model	Material	Weight		List
		Lbs.	Kg	
304-200-01	Glass-filled nylon	1.19	0.53	
304-301-01*	Epoxy coated aluminum	1.38	0.63	
304-301-03**	Biofuel cap	1.38	0.63	
Model	Description			List
777-111-01	Replacement gasket for 304-200-01			
950-215-01	Replacement gasket for 304-301-01			

*CARB: EVR Phase I Certification VR-101 and VR-103 and Missouri MOPETP APCP-002-001-99.

**Biofuel approved model (E85 and biodiesel), CARB: EVR Phase I Certification VR-101.

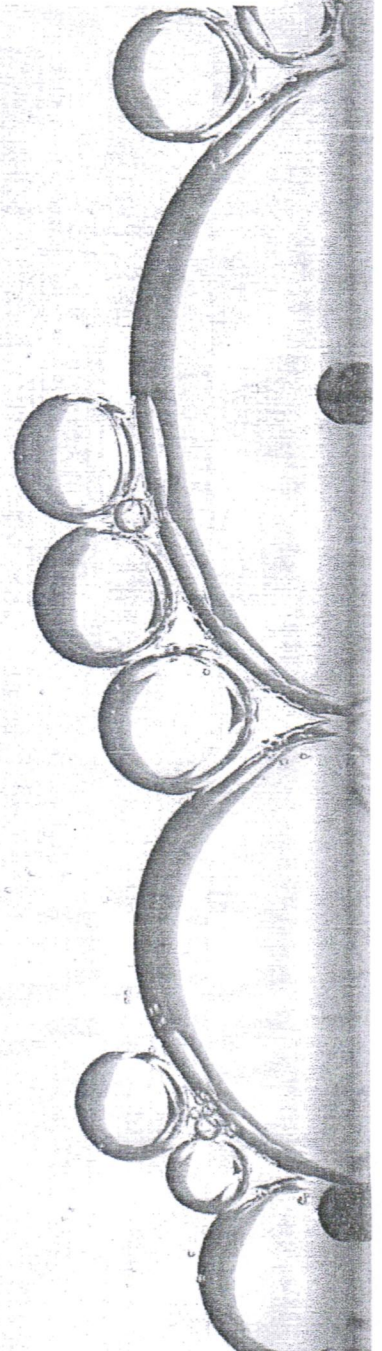


Fig. 244 8" & 10" Emergency Vent

Specification Sheet

UL Listed Emergency vent (pressure relief only) used on aboveground storage tanks, as a code requirement, to help prevent the tank from becoming over-pressurized and possibly rupturing if ever exposed to fire. Vent must be used in conjunction with a "normal vent." Correct application of this vent requires proper vent size and selection for the tank system in order to meet the specific venting capacity.



SPECIFICATION OPTIONS:

I.D. Number	A	B	C	D	E	F	G	Diameter	Height	Weight
244M-0600 AV	8	453.30	M	8	I	BR	AL	10.1	5.9	34
244M-0600 AV	8	453.30	M	8	I	BR	I	10.1	5.9	34.6
244OM-0600 AV	8	453.30	M	8	I	O	AL	10.1	5.7	34
244OM0600 AV	8	453.30	M	8	I	O	I	10.1	5.7	34.6
244M-0700 AV	8	453.30	M	16	I	BR	AL	10.1	7.5	68
244M-0700 AV	8	453.30	M	16	I	BR	I	10.1	7.5	75.4
244OM-0700 AV	8	453.30	M	16	I	O	AL	10.1	7.4	68
244OM0700 AV	8	453.30	M	16	I	O	I	10.1	7.4	75.4
244F--0100 AV	8	509.55	F	8	I	BR	AL	10.1	4.6	42
244OF-0100 AV	8	509.55	F	8	I	O	AL	10.1	4.5	42
244F--0200 AV	8	509.55	F	16	I	BR	AL	10.1	6.1	75
244OF-0200 AV	8	509.55	F	16	I	O	AL	10.1	6.1	75
244---0600 AV	8	462.00		8	I	BR	AL	10.1	5.5	34.7
244I-0600 AV	8	462.00		8	I	BR	I	10.1	5.5	44.3
244O--0600 AV	8	462.00		8	I	O	AL	10.1	5.3	34.7
244OI-0600 AV	8	462.00		8	I	O	I	10.1	5.3	44.3
244---0700 AV	8	462.00		16	I	BR	AL	10.1	7.1	68
244I-0700 AV	8	462.00		16	I	BR	I	10.1	7.1	77.6
244O--0700 AV	8	462.00		16	I	O	AL	10.1	6.9	68
244OI-0700 AV	8	462.00		16	I	O	I	10.1	6.9	77.6
244F--0300 AV	10	808.35	F	2.5	AL	BR	AL	16	6.1	32
244OF-0300 AV	10	808.35	F	2.5	AL	O	AL	16	5.1	32
244F--0400 AV	10	808.35	F	8	I	BR	AL	16	6.9	71
244OF-0400 AV	10	808.35	F	8	I	O	AL	16	5.5	71
244F--0500 AV	10	808.35	F	16	I	BR	AL	16	8.1	125
244OF-0500 AV	10	808.35	F	16	I	O	AL	16	6.8	125
244MT-0600 AV	8	453.30	M	8	I	BR	AL	10.1	8.2	38.5
244MT-0700 AV	8	453.30	M	16	I	BR	AL	10.1	9.8	72.5
244OMT0600 AV	8	453.30	M	8	I	BR	AL	10.1	8.1	38.5
244OMT0700 AV	8	453.30	M	16	I	BR	AL	10.1	9.7	72.5

CHART KEY:

- A—Size: 8" or 10"
- B—Venting Capacity/CFH (in 1000's)
- C—Mounting Connection: Female N.P.T. (BLANK); Male N.P.T.(M); Flanged (F)
- D—Pressure Settings: 2.5, 8, 16 oz/ in². Pressure Required to Open Vent.
- E—Cover: Cast Iron Painted (I); Aluminum (AL); Optional Iron Powder Coated (Consult Factory for Details); Bolt: Steel-Zinc Plated
- F—Seat Material: Brass (BR) or Viton O-Ring (O)
- G—Body Material: Aluminum (AL) or Iron (I)
- Diameter**—Dimension Across Vent
- Height**—Dimension From Base to Top When Closed
- Weight**—Shipping Weight

Conformance Including: NFPA 30, 30a, UL 142, UL 2244, API 2000 and PEI RP200. Additional References: NFPA 30, UL 142, Morrison Venting Guide

WARNING: DO NOT FILL OR UNLOAD FUEL FROM A STORAGE TANK UNLESS IT IS CERTAIN THAT THE TANK VENTS WILL OPERATE PROPERLY. Morrison tank vents are designed only for use on shop fabricated atmospheric tanks which have been built and tested in accordance with UL 142, NFPA 30 & 30A, and API 650 and in accordance with all applicable local, state, and federal laws. In normal operation, dust and debris can accumulate in vent openings and block air passages. Certain atmospheric conditions such as a sudden drop in temperature, below freezing temperatures, and freezing rain can cause moisture to enter the vent and freeze which can restrict internal movement of vent mechanisms and block air passages. All storage tank vent air passages must be completely free of restriction and all vent mechanisms must have free movement in order to insure proper operation. Any restriction of airflow can cause excessive pressure or vacuum to build up in the storage tank, which can result in structural damage to the tank, fuel spillage, property damage, fire, injury, and death. Monthly inspection, and immediate inspection during freezing conditions, by someone familiar with the proper operation of storage tank vents, is required to insure venting devices are functioning properly before filling or unloading a tank.

POMEKO 100 Counterweight Hose Retractors

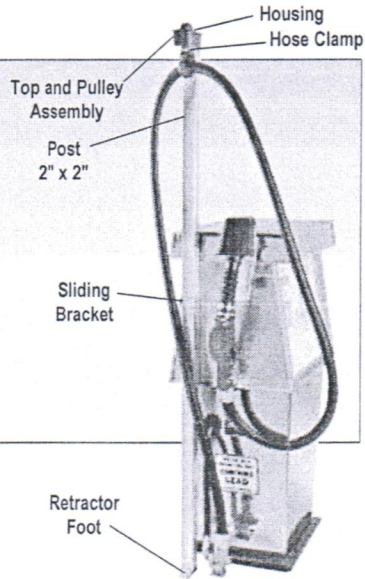
POMEKO 100 Counterweight Hose Retractors keep excess hose off the ground and out of the way, prolonging hose life and reducing potential hazards. The POMEKO 100 is a California Air Resources Board (CARB) certified Stage II component for use with single and dual hose dispensers as per Executive Order 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 1/2"	35	1"	25	79"	201	33	15.0
6100-5000	Conventional	15-18'	4.6-5.5	1 3/4"	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 for product instruction sheets, trouble shooting guides, how-to-use guide and to view the Do's & Don'ts at the Gas Pump video.

HUSKY SWIVELS

FOR TRUCK AND HIGH VOLUME FUELING

Husky Models 0087, 0095:

- Multi-plane, full 360° spherical rotation for easy nozzle movement.
- High flow rate due to laminar flow design.
- Compact for easy handling.
- Double O-ring seals at each swivel joint provide long life and low (-40°) temperature performance.
- Compatible with fuels containing alcohol.
- High strength step shoulder bearing diameters and impact absorbing stops.

Model 4860 offers advanced features for high flow fueling

- Same features as Models 0087 and 0095, plus:
- Model 4860 is ideal for use with high flow nozzles, and flow rates up to 100 GPM.
- Raised stainless steel ball bearings provide easy joint movement, greatly improving ease of swivel when used on higher pressure systems.
- 75% less back pressure; unit is lightweight and compact.

SPECIFYING INFORMATION

Model Number	Description	Weight Lbs. (kg.)
0087	1"M x 1"F	.93 (.42)
0095	1"M x 1"F (70°)	.75 (.34)
4860	1"M x 1"F	1.08 (.49)

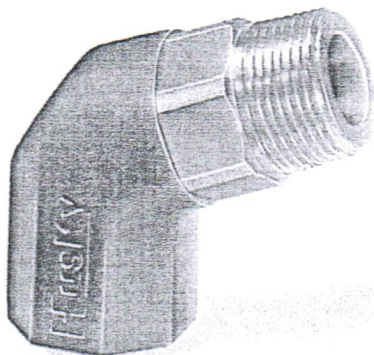
CONSTRUCTION

Body	High Aluminum Zinc Alloy	0087, 0095
Inlet Body	Aluminum	4860
Outlet Body	Zinc	4860
Swivel Nut	Zinc Plated Steel	4860
Inner O-Ring	Fluorosilicone	All
Outer O-Ring	Viton® (Fluorocarbon)	All
Threads	1" NPT, BSP 1" NPT	0087, 0095 4860

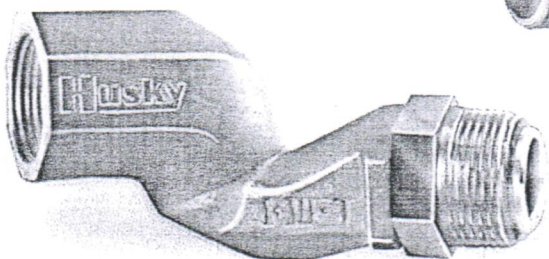
PATENTS AND LISTINGS

Patent No.	4,615,547
Listings	U.L. U.L.C.

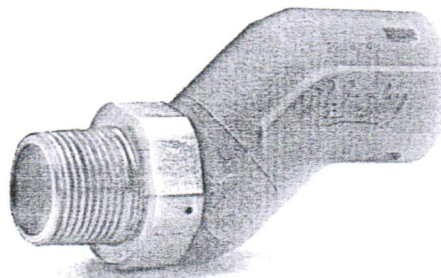
Viton® is a registered trademark of DuPont Dow Elastomers.



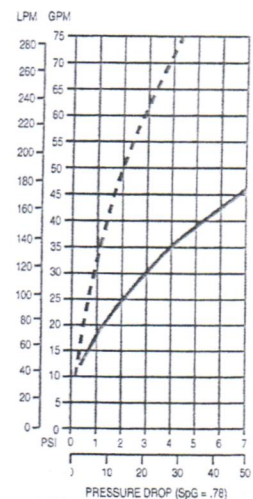
Model 0095



Model 0087



Model 4860

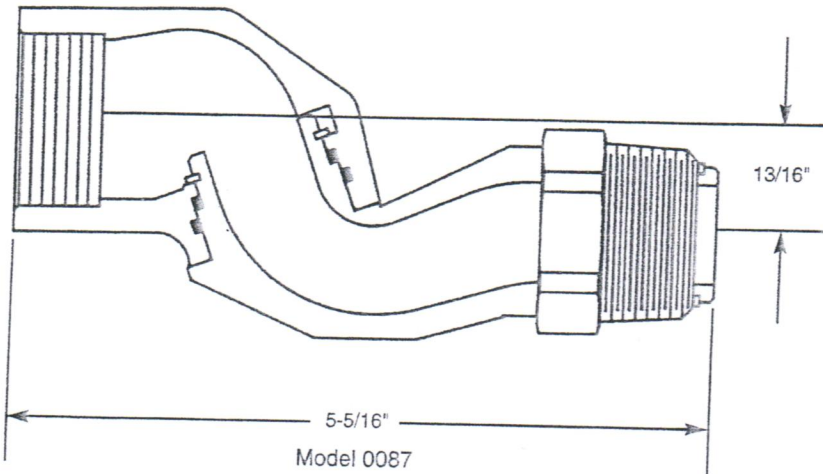
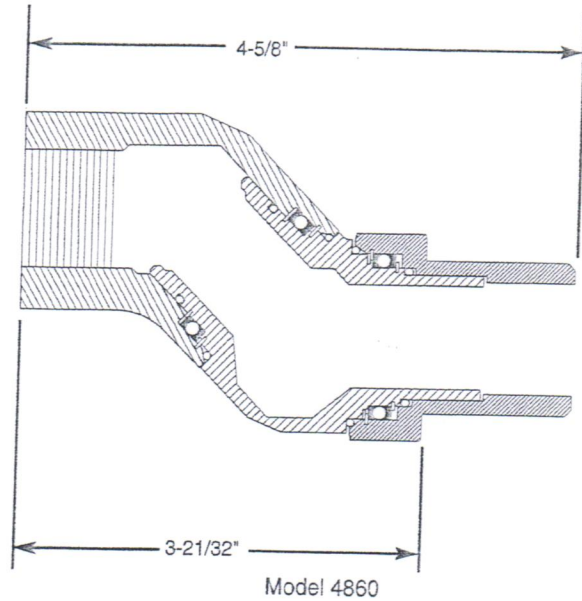
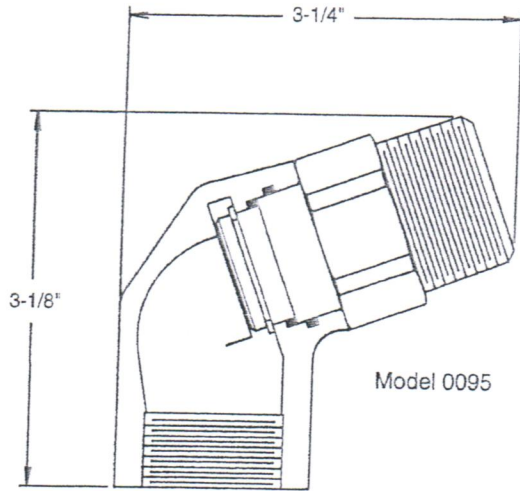


... 1.6HF
— Models 0087, 0095
- - - Model 4860

HUSKY SWIVELS

HUSKY SWIVELS

FOR TRUCK AND HIGH VOLUME FUELING



HUSKY SAFE-T-BREAK® VALVES

FOR TRUCK AND HIGH VOLUME FUELING

All Husky Safe-T-Breaks® stop the flow of fuel on both sides of the separation.

All Husky Safe-T-Breaks® have passed the demanding U.L. test requirements on separations without leaking or failing.

Husky Model 2276 Reconnectable Safe-T-Break®

- Model 2276 is reconnectable and retains U.L. listing after reconnecting.
- Internal pressure balancing chamber prevents "line shock" nuisance separations.
- Separates at less than 200 lbs. pull force which minimizes "backlash" force of separations, reducing damage to equipment.

Husky Model 5812 Non-reconnectable Safe-T-Break®

- Model 5812 is lightweight and disposable.
- Features same instant-closing duel poppet check valve design as the Model 2276.
- Separates at less than 300 lbs. pull force.

Husky Model 6301 Non-reconnectable Safe-T-Break®

- Model 6301 has an internal pressure balancing chamber that prevents "line shock" nuisance separations.
- Unit is lightweight and disposable.
- Separates at less than 225 lbs. pull force.

SPECIFYING INFORMATION

Model Number	Description	Length In. (cm.)	Weight Lbs. (kg.)
2276	1" F x 1" F Reconnectable	4.83 (12.3)	.71 (.32)
5812	1" F x 1" F Non-reconnectable	4.83 (12.3)	.71 (.32)
6301	1" F x 1" F Non-reconnectable	4.79 (12.2)	.54 (.25)

CONSTRUCTION

Model 2276

Body	Aluminum
Seals	Viton® (Fluorocarbon)
Springs	Stainless Steel
Threads	1" NPT
Stainless steel load and latch spring reverse mechanism. Hardened stainless steel latch ring and balls.	

Model 5812

Body	Aluminum
Seals	Viton® (Fluorocarbon)
Threads	1" NPT

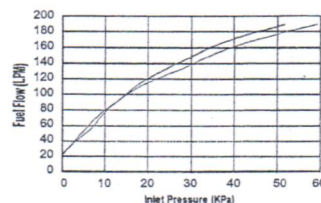
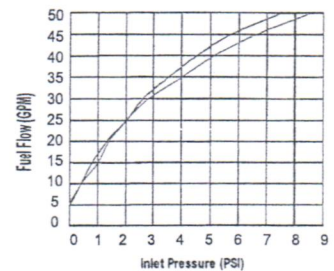
Model 6301

Body	Aluminum
Seals	Viton® (Fluorocarbon)
Threads	1" NPT
Hardened stainless steel ball.	

PATENTS AND LISTINGS

Patent Number: 4,827,977

Listings: 



Model 2276



Model 5812
(shown without guard)



Model 6301

HUSKY SAFE-T-BREAK® VALVES

FOR TRUCK AND HIGH VOLUME FUELING

- ACCESSORIES
- DIMENSIONS

ACCESSORIES		
Model No.	Use with	Description
2277	2276, 5812 & 6301	1" M x 1" M Whip Hose
3098	2276, 5812 & 6301	Scuff Guard

