



Department of Environmental Protection

2600 Blair Stone Road ♦ Tallahassee, Florida 32399-2400

DEP Form: 62-761.900(9)

Form Title: Storage Tank Equipment

Registration Form

Effective Date: July 2019

Incorporated in Rule 62-761.850, F.A.C.

Storage Tank System Equipment Registration Form

Fill out completely

General Information

Company Name: OPW Retail Fueling Contact Name: Gene Pope
 Company Address: 3250 US Highway 70 Business West City, State: Smithfield, NC Zip: 27577
 E-mail: gpope@popeasc.com Contact Number: 813-431-2009
 Product Name: OPW Retail Fiberglass Dispenser Sump
 Model Number(s): DSE Series Product Type: Dispenser Sumps/(Liners) as Part of Integral Pip
 Rule(s) citation that registration is being requested within Chapter 62-761 (UST), and/or 62-762 (AST), 62-761
(5)Dispensers and Dispenser Sumps (b)(c) Dispensers shall be installed with a dispenser sump meeting the performance requirement
 F.A.C.: Write a brief description of equipment registration request including product limitations:

THE OPW DSE Series fiberglass dispenser sumps are the latest addition to the industry leading line of dispenser sumps manufactured by OPW. The unique manufacturing process utilized provides consistent wall thickness and smooth inner and outer sump walls for enhanced installation and sealing of entry fittings. OPW entry fittings, along with other manufacturers entry fittings, can be installed with the DSE series dispenser sumps.

Information Checklist (Choose Yes, No, or N/A - Not Applicable):

	Yes	No	N/A
1. Third-party Certification by a Nationally Recognized Testing Laboratory? (Required)	☒	☐	☐
2. Documentation of third-party evaluation that the equipment meets DEP Rules?	☒	☐	☐
3. Documents included about the qualifications of the Nationally Recognized Testing Laboratory?	☒	☐	☐
4. Technical information and drawings included?	☒	☐	☐
5. Installation instructions included?	☒	☐	☐
6. Annual Operability Testing Requirements (Rules 62-761.500, 62-762.501, & 62-762.502 F.A.C.)?	☒	☐	☐
7. Integrity Testing Requirements (Rules 62-761.700, 62-762.701, & 62-762.702, F.A.C.)?	☒	☐	☐
8. Compatible with fuel blends containing >10% ethanol or >20% biodiesel?	☒	☐	☐
9. Has the product been approved or registered in other countries or states? (If so provide list)	☐	☐	☒
10. Any requirements for company-certified installers or trainers?	☒	☐	☐
11. Was this product(s) previously approved or registered by the Department? If yes, EQ- _____	☐	☒	☐
12. Any changes or modifications to the equipment since the last submittal to DEP?	☐	☐	☒

Document Information: Provide supporting documents indicated as "Yes" above including this form via email to Tanknotify@floridadep.gov, or documents can be sent to FDEP, Division of Waste Management, 2600 Blair Stone Road, MS 4560, Tallahassee, FL 32399.

Write a brief description of equipment installation and performance in the U.S.:

OPW DSE Series Fiberglass dispenser sumps utilize an Advanced Composite Technology manufacturing process to provide consistent, high-quality secondary containment. DSE Series dispenser sumps are installed beneath dispensers to provide secondary containment of dispenser plumbing, emergency shear valves, and underground piping connections. DSE series can be utilized with all entry fittings & piping systems & is installed throughout the world for all types of piping applications utilizing secondary containment under dispensers. Installed according to manufacturer's instructions, industry standards, and applicable regulations.

Equipment Registration Certification:

To the best of my knowledge and belief, all information submitted on this form is true, accurate and complete.

Gene Pope - Manufacturer's Representative

Printed Name and Title

Gene Pope

Signature (right click to sign)

Digitally signed by Gene Pope
Date: 2021.09.20 21:08:46 -04'00'

09/20/2021

Date

For Department Use Only:

Date Application Received: {SµŸΨŒŒ} Application complete: Yes: ☒ No: ☐

EQ- 966 Date of complete or incomplete letter sent: September 22, 2021 Date Equipment Requires Renewal: September 22, 2026

Storage tank system equipment requires renewal every 5 years in accordance with subsection 62-761.850(2), F.A.C.

QLWA.MH60659 - Containment Sumps, Fittings and Accessories for Fuels

Containment Sumps, Fittings and Accessories for Fuels

OPW FUELING CONTAINMENT SYSTEMS INC

3250 U S RTE 70 BUSINESS W
SMITHFIELD, NC 27577 United States

MH60659

Tank, dispenser and transition sumps for automotive fuels, Series DS, DP, DSW, DBS, DSE, MBS, PSL, TSD, TSM, TSS, PTS, DSL, DSLF, DSLFR-DW, MSTs, DS-1630B, EL-W Series, DS-1741, FDS-4021, DS-1836, FDS-4319, DSF-XXXX, EL-G Series, S8 Series, TSDF-4536, TSMF-4536, S12SB, FTSM Series, FTSD Series, FCSM Series, FCSD Series, S14, S15, PST-4630, S11, TRFS Series, S42-3 Series, and S48-3 Series, primary containment for below grade or at grade locations.

Spill containment sumps for automotive fuels, Series 1-2100, 1SC-2100, 1-2200, 1-3100, 1-3150, 1-3700, 6500, P711, P511 and FL.

Sump lids and chase pipe accessory for automotive fuels, 4 and 6" diameter chase pipe and mechanically fastened and compression fit sump lids.

Penetration fittings, Series REF, DEB, EBF and HEF.

Last Updated on 2021-09-01

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QLWA.GuidelInfo - Containment Sumps, Fittings and Accessories for Fuels

[Containment Products for Flammable and Combustible Liquids] (Transfer Pipe, Containment Sumps and Pipe/Sump Accessories) Containment Sumps, Fittings and Accessories for Fuels

See General Information for Transfer Pipe, Containment Sumps and Pipe/Sump Accessories

GENERAL

This category covers **containment sumps**, and associated sump fittings and sump accessories intended for below-grade or at-grade use in commercial (public) or private (fleet) automotive fueling-station applications. The combination of these sump products are intended for use as an enclosure for housing of, access to, and interface with, underground piping, connector piping, and other fueling system components (such as pumps, valves, sensors, wiring, etc.), in addition to providing temporary leak or spill containment of liquid fuels. Details of individual sump product types, features and ratings are identified under **SUMP PRODUCT TYPES** and **SUMP PRODUCT RATINGS** below.

These sump products are intended to be installed and used in accordance with the manufacturer's instructions and one or more of the following codes:

ANSI/NFPA 1, "Fire Code"

ANSI/NFPA 30, "Flammable and Combustible Liquids Code"

ANSI/NFPA 30A, "Code for Motor Fuel Dispensing Facilities and Repair Garages"

"International Fire Code" (published by the International Code Council)

Other codes or federal or state regulations of the Authority Having Jurisdiction

These sump products are intended to be field assembled by qualified persons in accordance with the manufacturer's instructions and, for continued leak-resistant service, require periodic inspection and maintenance or replacement.

SUMP PRODUCT TYPES

Containment Sump Types

The following containment sump types of metallic, nonmetallic or composite constructions for specific applications are identified in the individual certifications, together with the applicable containment, location and fuel rating:

Tank Sump — Sumps intended for installation above underground flammable-liquid-storage tanks, typically connecting to a tank manway or riser pipe.

Dispenser Sump — Sumps intended for installation below flammable-liquid-dispensing equipment, typically connecting to a dispenser frame.

Transition Sump — Sumps intended for access to liquid or vapor piping runs, manifolds, fittings or valves in a fueling system.

Fill, Vent or Fill/Vent Sump — Sumps intended for housing of fill, vent or both pipe ends, drain valves, gauges or monitors connected to the tank.

Sump Fitting Types

The following sump fitting types intended for installation with sumps for liquid-tight connections between the wall and pipe and specific applications are identified in the individual certifications, together with the containment and fuel rating:

Sump Penetration Fitting — Fittings intended for sealing underground pipe penetrations through the sump wall.

Sump Termination Fitting — Fittings intended for connecting underground pipe terminations ending at the sump wall.

Sump Internal Fitting — Fittings intended for connection of working components inside the sump, such as valves, but not directly to the sump wall.

Sump Test, Monitor or Test/Monitor Fitting — Fittings intended for either periodic testing or continuous monitoring of the sump and/or pipe, or both.

Sump Accessory Types

The following sump accessory types intended for installation with any sump type for specific applications are identified in the individual certifications, together with the fuel rating:

Sump Cover — Rigid structural plate for at-grade use over the sump top intended to limit sump access, resist water entry and support vehicle loading.

Sump Lid — Cap for below-grade use over the sump top intended to limit sump access, resist water entry and support working loads.

Sump Frame — Frames intended to provide structural support of the sump walls and/or components above or in the sump.

Sump Bracket — Brackets intended to provide structural attachment points to the sump wall or sump frame for components inside the sump.

Sump Chase Pipe — Soil pipe intended to provide a leak-resistant, structural conduit for routing underground carrier pipe to and from the sump.

SUMP PRODUCT RATINGS

The following containment, location, use, and fuel ratings are additionally marked on applicable sump product types and indicated in the individual certifications.

Containment Ratings

Primary — Single-wall sump or fitting construction intended to temporarily contain any liquids leaking from pipe, valves or other liquid-conveying components housed inside or above the sump, and resist entry of fluids from outside or above the sump.

Secondary — Double-wall sump or fitting constructions intended to temporarily contain liquids from leaking components inside or above the sump, and resist entry of fluids from outside or above the sump, and provide fluid communication and monitoring capabilities.

Coaxial — Double-wall fitting constructions suitable for connection to integral primary/secondary pipe and/or secondary sumps with a defined interstitial space that provides fluid communication and monitoring capabilities through the fitting.

Location or Use Ratings

Below Grade — Sumps suitable for installation below the earth's surface are marked "Maximum ____ burial depth."

At Grade — Sumps suitable for installation at the earth's surface are marked "At grade use only."

Repair or Replacement — Fittings additionally marked "Repair" or "Replacement" are intended for repair over, or replacement of, damaged fittings in in-use sumps.

Fuel Rating

Automotive Fuels — Only those fuels formulated in accordance with 40CFR80, "Regulation of Fuels and Fuel Additives," and meeting the following ASTM fuel specifications and blend limits:

ASTM D975 diesel with or without biodiesel blends up to 5% (B5)

ASTM D7467 diesel with biodiesel blends between 6% - 20% (B6 - B20)

ASTM D4814 gasoline with ethanol blends up to 10% (E10)

ASTM D5798 high-blend ethanol, with ethanol/gasoline blends between 51% - 83% (E51 - E83)

Mid-range ethanol, with ethanol/gasoline blends of ASTM D4814 and ASTM D5798 blends between 11% - 50% (E11 - E50)

PRODUCT IDENTITY

One of the following product identities appears on the product:

(A) Sump for Automotive Fuels, (X) Containment for (Y) Locations

Sump (B) Fitting for Automotive Fuels, (X) Containment (Z)

Sump (C) Accessory for Automotive Fuels

where:

(A) = Sump Type [(Dispenser), (Transition), (Fill), (Vent) or (Fill/Vent)]

(B) = Fitting Type [(Penetration), (Termination), (Internal), (Test), (Monitor), or (Test/Monitor)]

(C) = Accessory Type [(Cover), (Lid), (Frame), (Bracket), or (Chase Pipe)]

(X) = Containment Type [(Primary), (Secondary) or (Coaxial)]

(Y) = Location Rating [(At-Grade) or (Below-Grade)]

(Z) = Fitting Use Rating [(Repair) or (Replacement)] if applicable

RELATED PRODUCTS

Flexible connector fuel pipe used in sump applications is covered under Flexible Connector Piping for Fuels ([QLWV](#)).

Underground metallic and nonmetallic fuel piping used in underground applications is covered under Piping, Flammable Liquid, Underground ([QLXT](#)).

ADDITIONAL INFORMATION

For additional information, see Transfer Pipe, Containment Sumps and Pipe/Sump Accessories ([QLVW](#)), Containment Products for Flammable and Combustible Liquids ([ECPR](#)) and Flammable and Combustible Liquids and Gases Equipment ([AAPQ](#)).

REQUIREMENTS

The basic requirements used to investigate products in this category are contained in [UL 2447](#), "Outline of Investigation for Containment Sumps, Fittings and Accessories for Fuels."

UL MARK

The Certification Mark of UL on the product is the only method provided by UL to identify products manufactured under its Certification and Follow-Up Service. The [Certification Mark](#) for these products includes the UL symbol, the words "CERTIFIED" and "SAFETY," the geographic identifier(s), and a file number.

Alternate UL Mark

The Listing Mark of UL on the product is the only method provided by UL to identify products manufactured under its Listing and Follow-Up Service. The Listing Mark for these products includes the UL symbol (as illustrated in the Introduction of this Directory) together with the word "LISTED," a control number, the appropriate containment sump, sump fitting or sump accessory type (as specified under **SUMP PRODUCT TYPES** above), and the appropriate containment, location, use, and fuel ratings (as specified under **SUMP PRODUCT RATINGS** above).

* * * * *

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Last Updated on 2018-10-01

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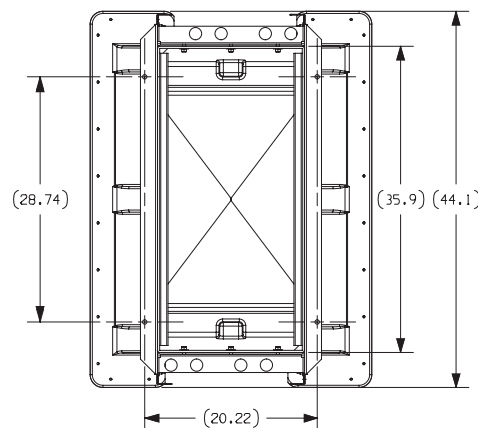
DSE Dispenser Sump

Most dispenser sumps force fueling station operators to choose between quality, speed or value. Produced using an Advanced Composite Technology manufacturing process, the DSE Dispenser Sump can deliver all three: best-in-class quality, fast lead times and affordability without sacrifice. The DSE is installed beneath fuel dispensers to provide access to secondary containment of dispenser plumbing, emergency shear valves and underground piping connections.



Features & Benefits:

- ◆ **Advanced Composite Technology** – The only product in the industry made by a premium, close-molded manufacturing process
- ◆ **Quick and Efficient Manufacturing Time per Unit** – Allows OPW to offer the shortest dispenser sump lead times in the industry
- ◆ **Smooth Surface on Both Sides of the Sump Wall** – Consistent wall thickness, material blend, shape and detail for a perfect product every time and strong bonds with fittings
- ◆ **One Base for All Dispenser Models** – Minimizes distributor inventory and provides the convenience of choosing the style needed
- ◆ **Compatible with all fittings and pipe** – Seamlessly works with fiberglass pipe, flexible pipe, and any industry fittings
- ◆ **Backed by OPW** – Legendary OPW quality, service, support and value



Ordering Specifications - DSE Dispenser Sumps

Sump Model #	Dimensions								Weight with Top	
	A		B		C		D		lbs.	kg
	in.	cm	in.	cm	in.	cm	in.	cm		
DSE-1836	20.22	51.36	17.20	43.69	44.11	112.04	35.90	91.19	85	38.56
DSE-1543	17.18	43.64	14.60	37.084	45.90	116.59	38.90	98.81	85	38.56
DSE-1741	18.50	46.99	16.70	42.42	44.20	112.29	38.10	96.774	83	37.65

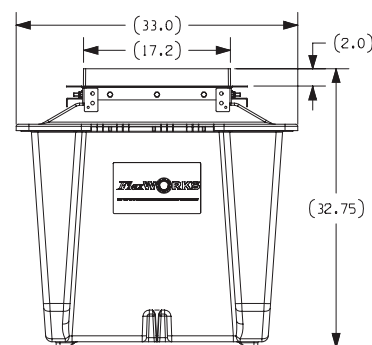
Sump Component Part Numbers

Part #	Decription
215192	Universal Base. Combine with 215567, 215568 or 215569 to make a complete DSE sump
215567	Gilbarco Encore Top. Combine with 215192 to make DSE-1836
215568	Wayne Ovation Top. Combine with 215192 to make DSE-1543
215569	Wayne Helix Top. Combine with 215192 to make DSE-1741

The DSE can be ordered as a complete sump (one top and universal base), or the tops and universal base can be ordered as individual components

Stabilizer Bar Part Numbers

Part #	Decription
SBK-1800	Stabilizer bar kit for Gilbarco Encore
SBK-1500	Stabilizer bar kit for Wayne Ovation
SBK-1700	Stabilizer bar kit for Wayne Helix



NEW

DISCOVER SUMP'THN EXTRAORDINARY



**Premium
Quality**



**Fastest
Lead Times**



**Extraordinary
Value**



LEARN MORE. VISIT US AT opwglobal.com/DSE

State-of-the-Art Innovation that Will Blow Your Mind but Not Your Budget

OPW brings you a new dispenser sump that delivers cost-effective peace of mind for retail fueling operators. The innovative DSE combines superior design, premium materials and world-class manufacturing expertise without breaking the bank, and its fast, reliable construction means it's ready to slot into your station right away.

**Nothing Else
Stacks Up...
or Unstacks
as Easily!**



Stacked with Features

While some dispenser sumps are bulky and hard to store, the DSE is designed to stack to make storage simple. The DSE's universal base is sized to nest perfectly inside itself, while the feet and specialized grooves help it to unstack with ease.

Smooth Sides, Inside and Out

As the only manufacturer in the industry using Advanced Composite Technology, OPW's DSE is the only fiberglass dispenser sump with smooth walls on the inside and outside of the sump.

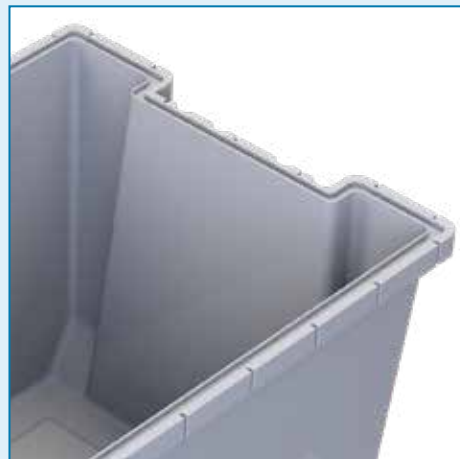
Smooth sides bond better to prevent leaks and other maintenance needs.

Any Pipe, Any Fittings

DSE Dispenser Sumps fit into your existing dispensing network with ease. The sump base is designed to create strong bonds with fiberglass and flexible pipe and fittings.



ONE OF A KIND



PREMIUM CONSTRUCTION

Advanced Composite Technology results in a robust product that operators can depend on to be high-quality every time.



READY WHEN YOU NEED THEM

Efficient manufacturing creates the industry's shortest lead times and easy installation.



CONSISTENT QUALITY EVERY TIME

Consistent wall thickness, material blend, shape and detail on every sump.

THE NO-BRAINER SECONDARY CONTAINER

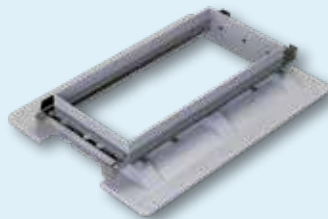
Most dispenser sumps force fueling station operators to choose between quality, speed or value. The new DSE Dispenser Sump from OPW is designed to deliver all three: best-in-class quality, fast lead times and affordability without sacrificing performance.

FEATURE	COMPETITOR	OPW	VALUE
Advanced Composite Manufacturing Technology			Provides dependable quality each and every time with consistent wall thickness, material blend, sump shape and detail
Quick and Efficient Manufacturing Time per Unit			Shortest lead time of any fiberglass sump in the industry; best value for the price on the market
Designed for Easy Nesting, Stacking and Unstacking			Maximizes distributor warehouse, construction trailer and jobsite space; lowers shipping costs
Smooth Surface on Both Sides of the Sump Wall			Enhanced leak-resistant sealing surface for all types of entry fittings
One Base for All Dispenser Models			Reduces distributor inventory and improves ease of ordering; all sump models are conduitless with wide access
Closed-Molded Manufacturing Process			Eliminates worker and environmental exposure to resin vapors or glass fibers
Backed by OPW			Legendary OPW quality, service, support and value

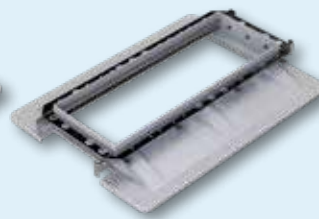
ONE BASE



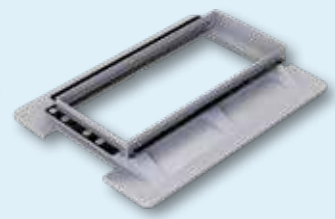
THREE DIFFERENT TOPS



Encore



Ovation



Helix

ORDER YOURS TODAY

Ordering Specifications - DSE Dispenser Sumps

Sump Model #	Dimensions							
	A		B		C		D	
	in.	cm	in.	cm	in.	cm	in.	cm
DSE-1836	20.22	51.36	17.20	43.69	44.11	112.04	35.90	91.19
DSE-1543	17.18	43.64	14.60	37.084	45.90	116.59	38.90	98.81
DSE-1741	18.50	46.99	16.70	42.42	44.20	112.29	38.10	96.774



Separate Component Part Numbers

Part #	Description
215192	Description: DSE Universal Base. Combines with any DSE top.
215567	Gilbarco Encore Top. Combine with 215192 to make DSE-1836
215568	Wayne Ovation Top. Combine with 215192 to make DSE-1543
215569	Wayn Helix Top. Combine with 215192 to make DSE-1741

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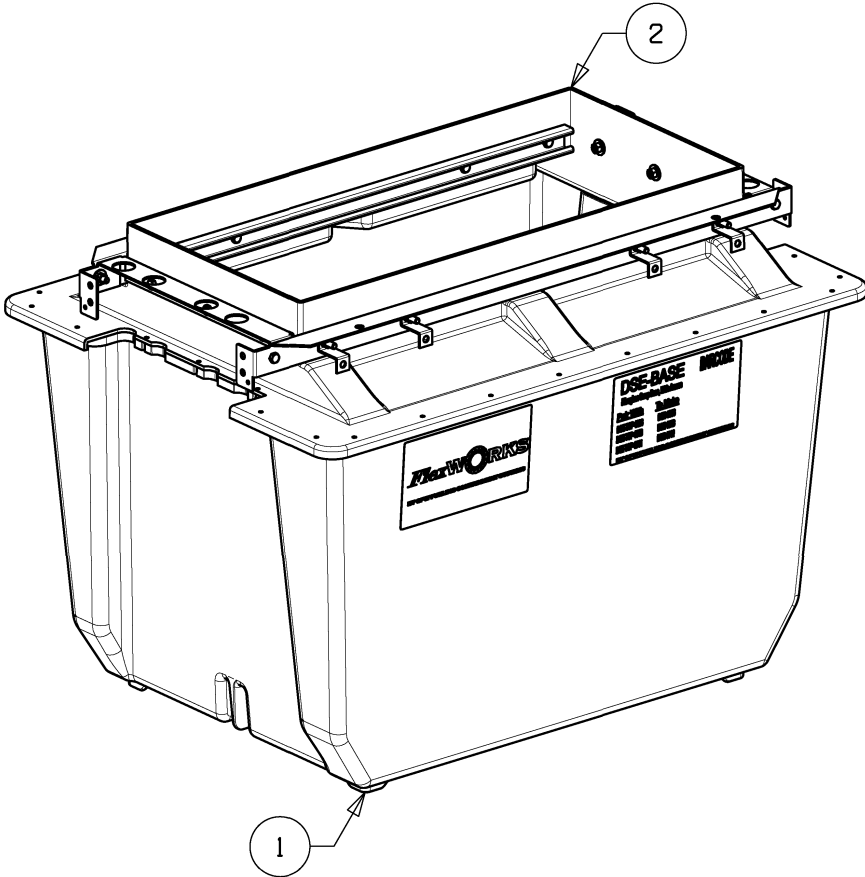
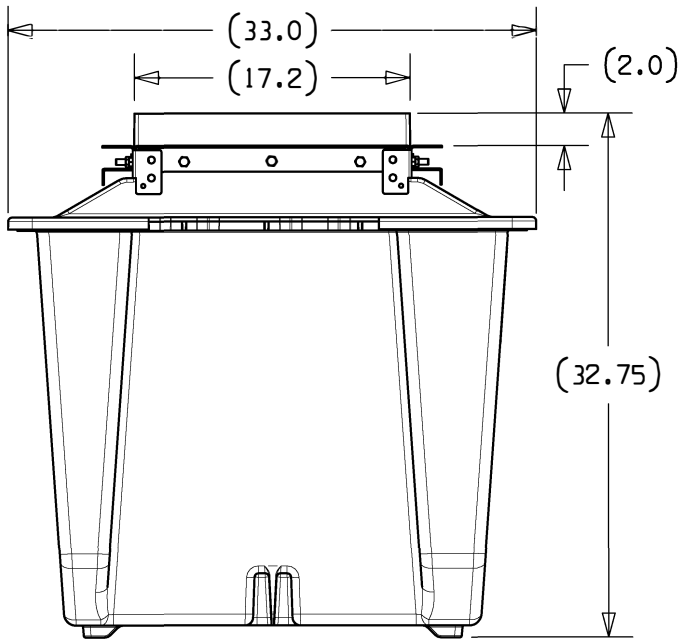
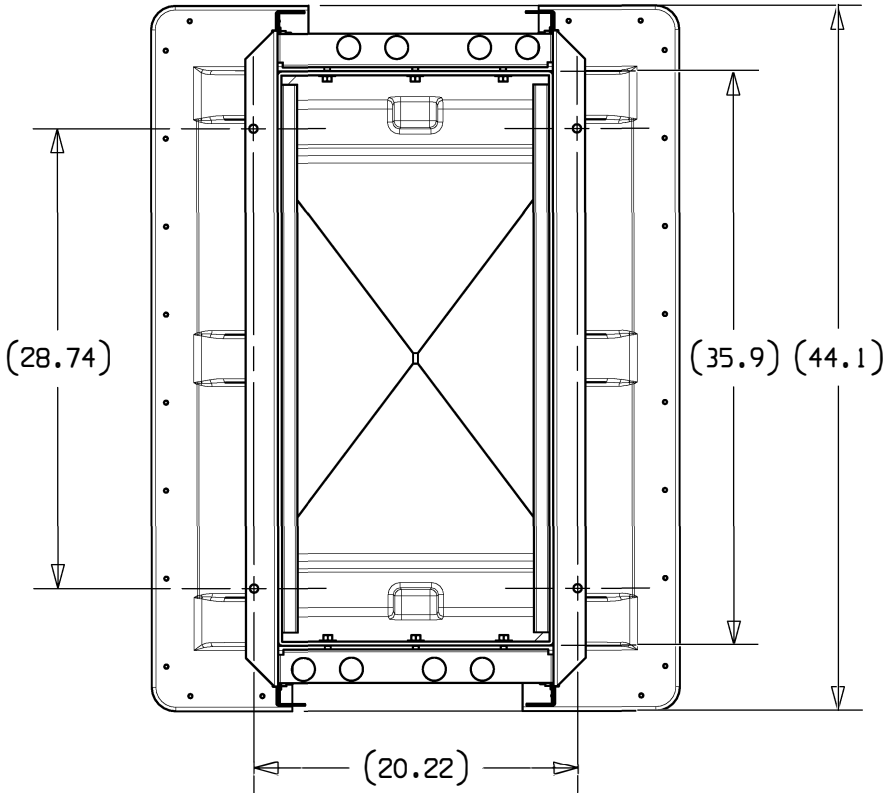


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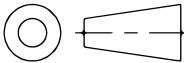
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ITEM NO.	PART NO.	DESCRIPTION	QTY
1	DSE-BASE	DSE-BASE	1
2	DSE-TOP-1836	Sump Top S/A, 1836	1



Dispenser Sump

THIRD ANGLE PROJECTION



DRAWING NO.: DSE-1836





Installation Instructions Fiberglass Dispenser Sumps (DSE) Stabilizer Bar Kits (SBK)

IMPORTANT INFORMATION – FOLLOW ALL INSTRUCTIONS

OPW STANDARD PRODUCT WARRANTIES

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 the 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 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 documenta-

tion and proof of purchase required. All warranty claims must be made in writing and delivered during the applicable warranty period to OPW at 9393 Princeton Glendale Rd., Hamilton, Ohio 45011, Attention: Customer Service. 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 all FlexWorks™ Installation Manuals and Installation Guides 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, 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.

IMPORTANT

Read these assembly and installation instructions completely and carefully prior to starting. Check to make sure all parts have been provided. Use only the parts supplied; substitution of parts may cause product failure.

IMPORTANT: Please read all warnings and follow the installation instructions completely and carefully. Failure to do so will void all warranties and may cause product failure, or result in environmental contamination due to liquid leakage into the soil, creating hazardous spill conditions.

WARNING - DANGER: Using electrically operated equipment near gasoline or gasoline vapors may result in fire or explosion, causing personal injury and property damage. Be sure that the working area is free from such hazards, and always use proper precautions.

Dispenser Sumps

FlexWorks Dispenser Sumps for automotive fuels are installed below grade beneath fuel dispensers to provide access to and secondary containment of fuel dispensers and piping connections. FlexWorks Emergency Valve Stabilizer Bar Kits are required to install boss mounted emergency shut-off valves in FlexWorks Dispenser Sumps. Use only OPW Retail Fueling supplied hardware and components.

Mounting the Dispenser Sump in the Island Form

Dispenser sumps are typically mounted inside of permanent metal island forms. The sump must be mounted so that the top of the sump mounting frame is flush with the finished concrete surface of the island. The sump must be secured in the island form prior to backfilling and concrete pouring. A flange formed into the sides and ends of the containment chamber can be used to mount the sump in the island form. The sump

can be supported by resting the flange on top of permanent support bars inside the island form.

NOTE: Sump must be assembled and installed by a qualified person. The use of non-qualified personnel or any deviations from these recommended procedures could result in damage or leakage.

NOTE:

Sumps have been evaluated per UL for use with REF, AXP, and SBK series of products. Failure to use recommended combinations of sump products in a completed assembly may cause damage or leakage. Sumps have also been evaluated per ULC for use with REF, HEF, DEB, and EBF series of products.

NOTE:

Sump products are not intended for storage in excessive temperatures or direct sunlight. Rough handling may cause damage and leaking in use. Visually inspect sump prior to installation to ensure no damage. Damaged sumps shall not be used.

Attach Shut-Off Valve to Plate (See Figure 1)

Follow instructions supplied with the stabilizer bar kits. If using tubular stabilizer bars, attach a boss mounted emergency shut-off valve to the valve mounting plate using the three (3) flat-head Allen screws provided. Tighten securely.

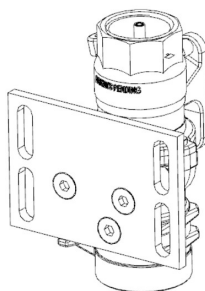


Figure 1 (plate required for tubular stabilizer bars only)

Construct Riser Assembly (See Figure 2)

Thread a riser pipe (or flex connector) into the bottom of the emergency shut-off valve. Thread the FlexWorks tee (if the connection is to be a junction) or FlexWorks elbow (if the connection is to be an end connection) onto the bottom of the riser pipe. The riser pipe length should be sized so that when the emergency shut-off valve shear groove is flush with the island finish grade, the center-line of the FlexWorks tee or elbow is in line with the associated pipe entry fittings.

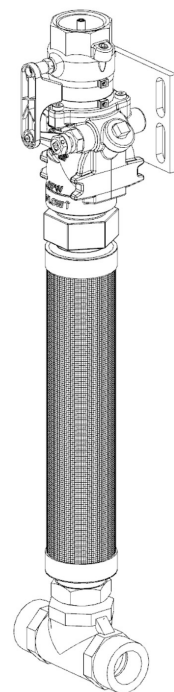


Figure 2

Install Pipe Entry Fittings

Install the appropriate FlexWorks pipe and conduit entry fittings into the dispenser sump wall at the proper locations. The location of each entry fitting should correspond with the product inlet locations for the dispenser that is to be installed. (Refer to the appropriate FlexWorks Entry Fitting Installation Instructions).

NOTE: When a FRP entry fitting is to be bonded to a FRP dispenser sump, surface preparation is **EXTREMELY IMPORTANT**. Follow all entry fitting manufacturers recommendations for proper adhesion of the entry fitting. This includes sanding, cleaning, priming of bonding surfaces, and mixing and preparing of bonding materials. OPW recommends the use of Epoxy Acrylate Resins tested and approved for long term use and exposure in automotive fueling station applications by UL.

Making Piping Connections

Install the shear valve/riser assemblies into the containment chamber and make the appropriate piping and test boot connections.

Attach Sump Mounting Frame (See Figure 5)

Although it is not required for concrete depths greater than 6" when measured from grade, Urethane Sealant (p/n SL-1100) can be used at the discretion of the installer. Apply a 1/8" minimum continuous bead of Urethane Sealant (p/n SL-1100) to the flat flange on the containment chamber just inside the slotted bolt holes. Attach the sump mounting frame to the containment chamber with the supplied screws and wing nuts and securely tighten using a Phillips screwdriver.

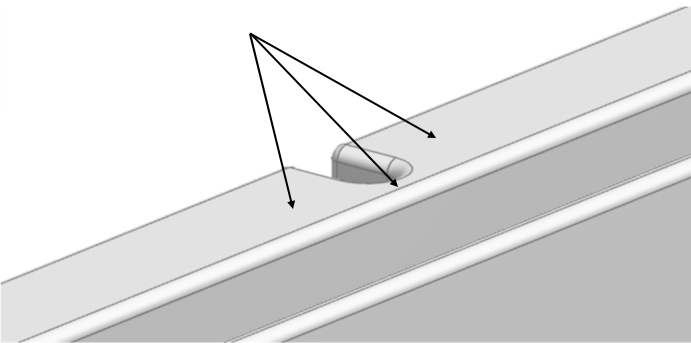


Figure 5

Install Spring Nuts (See Figure 6)

Insert the spring loaded clamp nuts into dispenser side struts and rotate into position. Four (4) clamp nuts are used for each stabilizer bar. (Clamp nuts are supplied in the stabilizer bar kit).

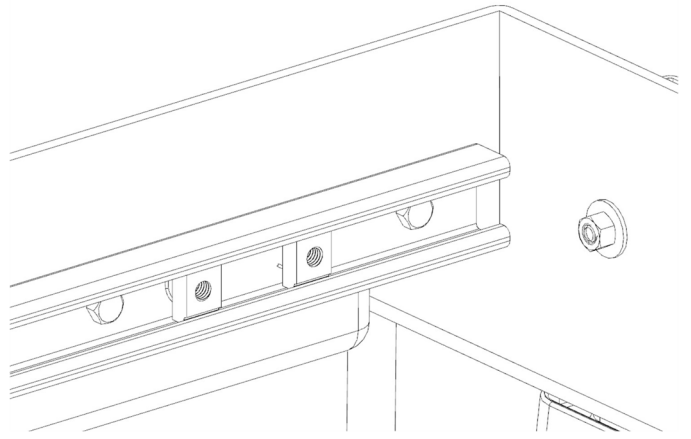


Figure 6

Install Stabilizer Bar (See Figure 7)

Install the FlexWorks emergency valve stabilizer bars according to the instructions that are included with the bars. Loosely attach the appropriate FlexWorks stabilizer bars to the side struts by fastening the bolts complete with lock washers to the clamp nuts previously installed in the side struts. Shims are provided to insert into the gap between the bar and the side struts if necessary. (All hardware is supplied in the stabilizer bar kit).

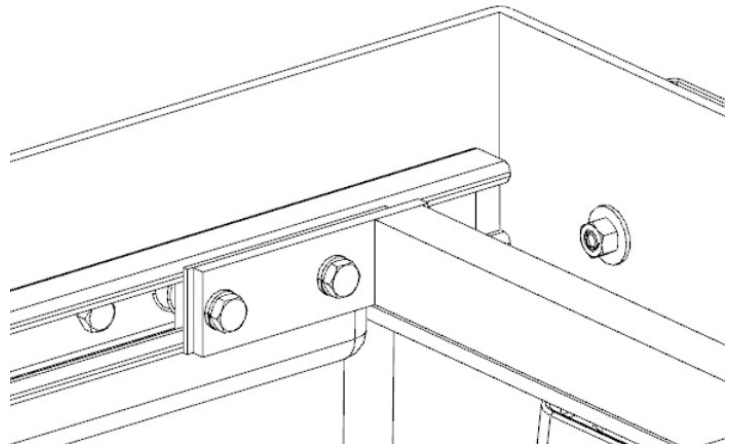


Figure 7

Install Riser Assembly (See Figure 8)

Attach the emergency shut-off valve plate to the stabilizer bar using two (2) U-bolts, washers, and lock washers. Follow the emergency shut-off valve mounting instructions to ensure proper valve positioning. Adjust entire assembly as necessary and then secure all stabilizer bar and shear valve mounting hardware. Tighten securely. Stabilizer bar, Ubolts, washers, and lock washers are supplied in the stabilizer bar kit).

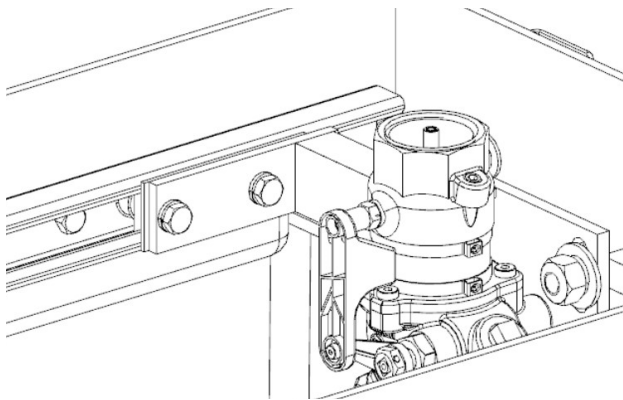


Figure 8

Install Anchor Bolts

Install the provided concrete anchor bolts in the set of holes in the sump mounting frame that matches the footprint of the dispenser to be installed (Note: Make sure bolts are in correct holes before pouring concrete. If holes in sump frame do not match dispenser frame, additional holes can be drilled. It may be necessary to install the bolts in the concrete outside of the frame to match some dispenser models).

Leak Testing

OPW recommends the following procedure for hydrostatic testing of dispenser sumps:

- 1) Visually inspect all entry boots for band clamps, compression rings and donuts for possible leak points prior to testing. Ensure all band clamps are tight. Ensure REF grommet is flush with end of entry fitting nut. Correct as needed.
- 2) Be sure all test tubes, connector tubes or any other open secondaries into the sump are sealed and liquid tight.
- 3) Fill all sumps to a minimum of 1" above the highest penetration fitting or sump joint. Mark the liquid level with a permanent marker.
- 4) Hydrostatic test should be held for 1 hour or per local regulations.
- 5) Be sure all water is disposed of properly after completing the test.

Note: Should the liquid level drop during testing, visually identify the leak source. Remove water and tighten band clamps to 30 in/lbs. Entry boot compression rings should be tightened in a clockwise manner until each stud reaches 60 in/lbs. Repeat testing procedure.

Backfilling

Rounded pea gravel with a minimum diameter of 1/8" and a maximum diameter of 3/4" should be used for backfill around FlexWorks Dispenser Sumps. To prevent sump distortion, avoid dumping pea gravel directly onto the dispenser sumps when backfilling.

Operation and Maintenance

The FlexWorks System is designed to provide reliable underground fuel transfer and short-term secondary containment of leaked petroleum product. FlexWorks sumps and secondary containment pipes are not intended for long term storage of petroleum products. Liquid that accumulates in the secondary containment system must be promptly removed and properly disposed of. Operational third party approved liquid sensors should be installed and maintained in each sump to reliably indicate to the operator that liquid is present in the secondary containment system. Once a leak is detected, the system must be shut down immediately and the source of the leak must be repaired. All liquid must be thoroughly flushed and cleaned out of the secondary containment system at once. Inspect all system components at least monthly for leaks or damage, and repair or replace any suspect component as necessary.

Visual inspections of all containment sumps and components should be made on a routine basis to check for damage, water infiltration or for any signs of leaking product. An electronic or mechanical shut-off leak detection system is recommended for all containment sumps. Sumps are to be kept free of debris and spilled fuel.

NOTE:

Failure to remove fuel and liquids from containment sumps may compromise the performance and integrity of the sump and its associated fittings and seals over prolonged periods of time.

NOTE:

Common sense and good judgment should always be exercised. The contractor's understanding of all related site conditions prior to starting the project is essential. If the contractor does not have a clear understanding of the required work and site conditions, the contractor is advised to seek clarification prior to starting any portion of the project.