

# Tank Sump Catalog

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By  
Design*



*Check  
It  
Out*

**September 2023**



*"Better by Design"*

Diversified Products Manufacturing, Inc.

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**Work in Progress**

**Completed Document**

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**Cost Effective Piping and Turbine Sumps**



**Features**

**All Configurations Available**

- All Fiberglass Construction Base and Riser
- Bung, or 42" & 48" Round Collar Mounted
- Friction Fit or Magnetic Lids
- Third Party Approvals

**Benefits**

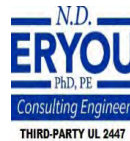
**Low cost or No Water Intrusion**

- Magnets rated for 75 year service
- No water intrusion even in Flooded Areas



**Applications**

- Single or Double Wall Sumps
- Suitable for dry to submerged environments
- Large flat Surfaces for easy perpendicular piping





## Single Wall & Double Wall tank Sumps

### Compared to the competition, DPM offers the Most Effective Tank Sumps in the Market

Diversified Products Manufacturing Inc now offers a solution to the problem at a competitive price.

Piping Sump



Magnetic Lid w/42" Collar Mounting Single Wall

Piping Sump



Magnetic Lid w/48" Collar Mounting Double Wall

Turbine Sump



Friction Fit Lid w/42" Collar Mounting Single Wall

Turbine Sump



Magnetic Lid w/48" Collar Mounting Single Wall

Solid Bottom, 42" Collar Mount, 48" Collar Mount. Friction Fit or Magnetic Lids

Third Party Approved to UL 2447 Protocols

Call us for a sample or test site

We have been here since 1991

First Testable Penetration, Magnetic Tank Sump Lid, Compact Penetration, & now all the options for Tank Sump Containment you need.

**CHECK IT OUT**

Call a Diversified representative to discuss your project needs. 530-534-3966





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### Adjustable Height Tank Sumps

#### Tank Sump **Single Wall** Adjustable Height 30"-50 1/2"



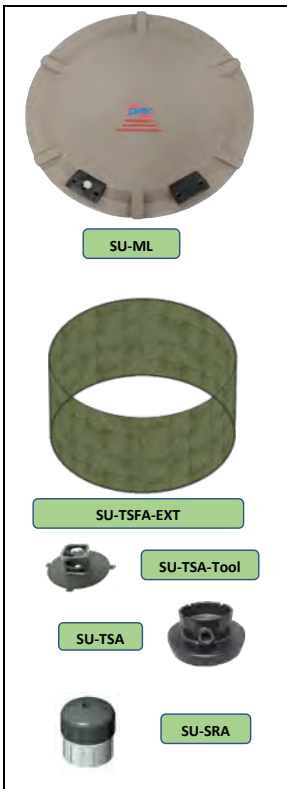
Part #	Description	List Price
SU-TSFA-FL-42	Tank Sump Adjustable, Friction Fit Lid 42" Collar Mount	\$2,210.96
SU-TSFA-FL-48	Tank Sump Adjustable, Friction Fit Lid 48" Collar Mount	\$2,210.96
SU-TSFA-FL-BM	Tank Sump Adjustable, Friction Fit Lid Bung Mount	\$2,210.96
SU-TSFA-MA-42	Tank Sump Adjustable, Magnetic Attractor 42" Collar Mount Order Magnetic Lid Separately	\$3,943.71
SU-TSFA-MA-48	Tank Sump Adjustable, Magnetic Attractor 48" Collar Mount Order Magnetic Lid Separately	\$3,943.71
SU-TSFA-MA-BM	Tank Sump Adjustable, Magnetic Attractor Bung Mount Order Magnetic Lid Separately	\$4,819.53

#### Tank Sump **Double Wall** Adjustable Height 30"-50 1/2"



Part #	Description	List Price
SU-TSFA-FL-42-DW	Tank Sump Adjustable, Friction Fit Lid 42" Collar Mount Brine Shipped Loose	\$7,543.61
SU-TSFA-FL-48-DW	Tank Sump Adjustable, Friction Fit Lid 48" Collar Mount Brine Shipped Loose	\$7,543.61
SU-TSFA-FL-BM-DW	Tank Sump Adjustable, Friction Fit Lid Bung Mount Brine Shipped Loose	\$7,543.61
SU-TSFA-MA-42-DW	Tank Sump Adjustable, Magnetic Attractor 42" Collar Mount Order Magnetic Lid Separately. Brine Shipped Loose	\$8,243.61
SU-TSFA-MA-48-DW	Tank Sump Adjustable, Magnetic Attractor 48" Collar Mount Order Magnetic Lid Separately. Brine shipped Loose	\$8,243.61
SU-TSFA-MA-BM-DW	Tank Sump Adjustable, Magnetic Attractor Bung Mount Order Magnetic Lid Separately, Brine Shipped Loose	\$8,243.61

#### Magnetic Lids & Tank Sump Accessories



Part #	Description	List Price
SU-ML	Magnetic Lid Mates to Tank Sumps with Magnetic Attractors	\$2,795.87
SU-TSFA-EXT	Extension for large Tank Sump 24" Long	\$1,450.00
SU-TSFA-EXT-DW	Double Wall Extension for large Tank Sumps	\$2,400.00
SU-SMK-25R	Sensor Mounting Kit with Tube Support (removable sensor)	\$75.00
SU-TSA	Tank Sump Adaptor Used on sumps with Bung Mounting	\$315.00
SU-TSA-Tool	Tank Sump Adaptor Tool	\$254.43
SU-SRA	DPM Sensor Riser Cap for sealing interstice wiring	\$80.19



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**Large Tank Sumps**

**Large Tank Sump Single Wall Depth of Bury 46 1/2" with 24" Extensions Available**



Part #	Description	List Price
SU-TKSF-FL-42	Tank Sump Adjustable, Friction Fit Lid 42" Collar Mount Includes Friction fit Lid	\$2,595.43
SU-TKSF-FL-48	Tank Sump Adjustable, Friction Fit Lid 48" Collar Mount Includes Friction fit Lid	\$2,595.43
SU-TKSF-FL-BM	Tank Sump Adjustable, Friction Fit Lid Bung Mount Includes Friction fit Lid	\$2,595.43
SU-TKSF-MA-42	Tank Sump Adjustable, Magnetic Attractor 42" Collar Mount Order Magnetic Lid Separately	\$6,755.00
SU-TKSF-MA-48	Tank Sump Adjustable, Magnetic Attractor 48" Collar Mount Order Magnetic Lid Separately	\$6,755.00
SU-TKSF-MA-BM	Tank Sump Adjustable, Magnetic Attractor Bung Mount Order Magnetic Lid Separately	\$6,755.00

**Tank Sump Double Wall Depth of Bury 46 1/2" with 24" Extensions Available**



Part #	Description	List Price
SU-TKSF-FL-42-DW	Tank Sump Adjustable, Friction Fit Lid 42" Collar Mount	\$8,366.11
SU-TKSF-FL-48-DW	Tank Sump Adjustable, Friction Fit Lid 48" Collar Mount	\$8,366.11
SU-TKSF-FL-BM-DW	Tank Sump Adjustable, Friction Fit Lid Bung Mount	\$8,366.11
SU-TKSF-MA-42-DW	Tank Sump Adjustable, Magnetic Attractor 42" Collar Mount Order Magnetic Lid Separately	\$9,066.11
SU-TKSF-MA-48-DW	Tank Sump Adjustable, Magnetic Attractor 48" Collar Mount Order Magnetic Lid Separately	\$9,066.11
SU-TKSF-MA-BM-DW	Tank Sump Adjustable, Magnetic Attractor Bung Mount Order Magnetic Lid Separately	\$9,066.11

**Magnetic Lids & Tank Sump Accessories**



Part #	Description	List Price
SU-ML	Magnetic Lid Mates to Tank Sumps with Magnetic Attractors	\$2,795.87
SU-TKSF-Ext	Extension for large Tank sump 24" Long	\$1,450.00
SU-TKSF-Ext-DW	Extension for large Tank sump 24" Long Double Wall	\$2,400.00
SU-SMK-25R	Sensor Mounting Kit with Tube Support (removable sensor)	\$75.00
SU-TSA	Tank Sump Adaptor Used on sumps with Bung Mounting	\$315.00
SU-TSA-Tool	Tank Sump Adaptor Tool	\$254.43
SU-SRA	DPM Sensor Riser Cap for sealing interstice wiring	\$80.19



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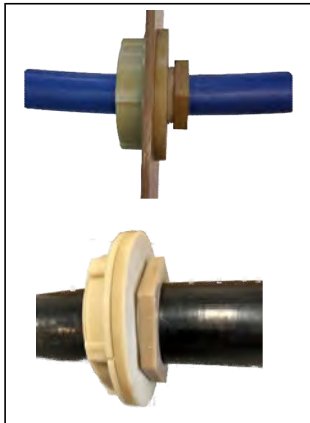




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### FGC Series Penetrations

#### Fiberglass Penetrations for Flex & NOV Pipe "No Rubber in the Sump" for DPM Single & Double Wall Sumps Direct Burial



Part #	Description	List Price
PF-FGC-1.18-DB	Compact Fiberglass Penetration for OPW-C075A	<b>\$146.96</b>
PF-FGC-1.27-DB	Compact Fiberglass Penetration for APT-XP-100-D	
PF-FGC-1.47-DB	Compact Fiberglass Penetration for APT-XP-100-SC	
PF-FGC-1.50-DB	Compact Fiberglass Penetration for OPW-C10A	
PF-FGC-1.70-DB	Compact Fiberglass Penetration for APT-XP-150-D	
PF-FGC-1.90-DB	Compact Fiberglass Penetration for APT-XP-150-SC	
PF-FGC-2.00-DB	Compact Fiberglass Penetration for OPW-C15A	
PF-FGC-2.15-DB	Compact Fiberglass Penetration for APT-XP-175-D	
PF-FGC-2.38-DB	Compact Fiberglass Penetration for NOV 2" Single Wall Pipe	
PF-FGC-2.45-DB	Compact Fiberglass Penetration for OPW-C20A & APT XP-200-D	
PF-FGC-2.65-DB	Compact Fiberglass Penetration for APT-XP-200-SC	
Note for OmegaFlex DoubleTrac Products refer to our OmegaFlex Catalog		

#### Fiberglass Penetrations for Flex & NOV Pipe "No Rubber in the Sump" for DPM Single & Double Wall Sumps used with Corrugated Duct



Part #	Description	List Price
PF-FGC-1.18-CD	Compact Fiberglass Penetration for OPW-C075A	<b>\$208.98</b>
PF-FGC-1.27-CD	Compact Fiberglass Penetration for APT-XP-100-D	
PF-FGC-1.47-CD	Compact Fiberglass Penetration for APT-XP-100-SC	
PF-FGC-1.50-CD	Compact Fiberglass Penetration for OPW-C10A	
PF-FGC-1.70-CD	Compact Fiberglass Penetration for APT-XP-150-D	
PF-FGC-1.90-CD	Compact Fiberglass Penetration for APT-XP-150-SC	
PF-FGC-2.00-CD	Compact Fiberglass Penetration for OPW-C15A	
PF-FGC-2.15-CD	Compact Fiberglass Penetration for APT-XP-175-D	
PF-FGC-2.45-CD	Compact Fiberglass Penetration for OPW-C20A & APT XP-200-D	
PF-FGC-2.65-CD	Compact Fiberglass Penetration for APT-XP-200-SC	
Note for OmegaFlex DoubleTrac Products refer to our OmegaFlex Catalog		

#### Diversified Fiberglass Bonder & Cleaner for Fiberglass Penetrations and Repair Kits



Part #	Description	List Price
CH-DFB-50ml	50ml Cart Set Epoxy Fiberglass Bonder for Fiberglass Penetrations <small>includes one CH-DSM-V Static Mixer. Use with CH-DAG-III and CH-DSM-V</small>	\$104.12
CH-DSM-V	Static Mixer for use with CH-DBF-50ml <small>This is a fast curing Product. Additional Static Mixers may be required.</small>	\$15.76
CH-DAG III	Plastic Applicator Gun <small>for use with 50ml Cartridge Sets</small>	\$142.49
CH-DAG III M	Metal Applicator Gun <small>for use with 50ml Cartridge Sets</small>	\$192.50
CH-DBC II	Diversified Bulkhead Cleaner for use prior to bonding	\$20.36



One 50 ml Cartridge Set for every 4 fittings if installing -DB series in the field.  
One additional 50 ml Cartridge set for every 4 fittings when water tight seals on Corrugated Duct Systems are required.



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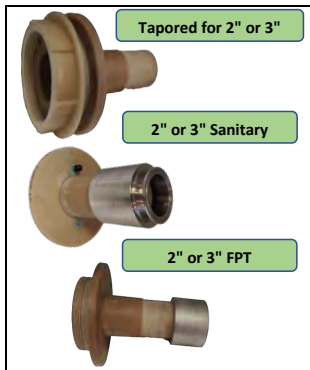




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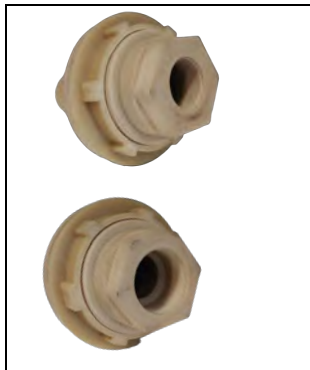
### FGT Series Penetrations

#### Fiberglass Penetrations for NOV Pipe "No Rubber in the Sump" for DPM Single & Double Wall Sumps



Part #	Description	List Price
PF-FGT-2NOVx2G	Threaded for 2" Single Wall Pipe also see compact fittings	\$162.28
PF-FGT-3NOVx3G	Threaded for 3" Single Wall Pipe also see compact fittings	\$168.00
PF-FGT-2LCXx2G	Threaded for 2" LCX Double Wall Pipe with test and drain ports	\$162.28
PF-FGT-3LCXx3G	Threaded for 3" LCX Double Wall Pipe with test and drain ports	\$212.14
PF-FGT-3x2G	Threaded for 3" over 2" Double Wall Pipe over Pipe with test and drain Ports	\$180.00
PF-FGT-4x3G	Threaded for 4" over 3" Double Wall Pipe over Pipe with test and drain ports	\$212.44

#### Fiberglass fittings for Above Ground UDC's with Hex head and no test or drain ports



Part #	Description	List Price
PF-FGT-1.5FPTx2G	Threaded for 1 1/2" MPT single wall pipe	\$155.60
PF-FGT-2FPTx2G	Threaded for 2" MPT single wall pipe	\$155.60

#### Diversified Fiberglass Bonder & Cleaner for Fiberglass Penetrations and Repair Kits



Part #	Description	List Price
CH-DFB-50ml	50ml Cart Set Epoxy Fiberglass Bonder for Fiberglass Penetrations includes one CH-DSM-V Static Mixer. Use with CH-DAG-III and CH-DSM-V	\$104.12
CH-DSM-V	Static Mixer for use with CH-DBF-50ml This is a fast curing Product. Additional Static Mixers may be required.	\$15.76
CH-DAG III	Plastic Applicator Gun for use with 50ml Cartridge Sets	\$142.49
CH-DAG III M	Metal Applicator Gun for use with 50ml Cartridge Sets	\$192.50
CH-DBC II	Diversified Bulkhead Cleaner for use prior to bonding	\$20.36



\$50 Hazmat fee on air shipments



No Shipping Restrictions



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UDC Sump Accessories

Bonded Conduit Entry Fittings



Part #	Description	List Price
PF-BC-1.1	Bonded counuit fitting for 3/4" Rigid Conduit	\$33.68
PF-BC-1.4	Bonded conduit fitting for 1" Rigid Conduit	\$33.68

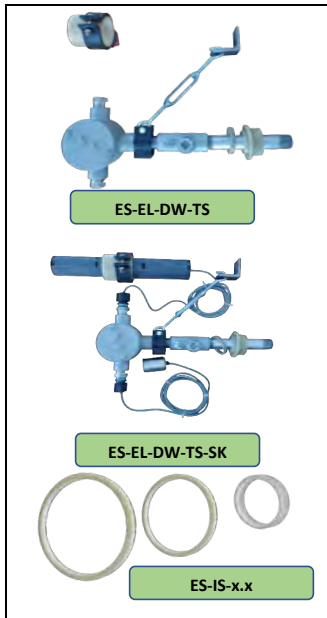
Electronic Sensors and Sensor Mounting Kits for Single Wall Sumps



Part #	Description	List Price
ES-EL-SW-TS	Engineered Sensor installation kit for Single wall tank sumps. No Sensors. Includes penetration fitting, epoxy, conduit - Complete kit	\$680.00
ES-EL-SW-TS-SK	Engineered Sensor installation kit with sensors for Single wall tank sumps. Complete w/ sensors, penetration, epoxy, conduit installed	\$3,056.63
SU-SMK-1.9	Sensor Mounting Kit for VR 208 Sensors	\$24.47
SU-SMK-2.5R	Sensor Mounting Kit for 208 sensors mounted inside a fiberglass tube for easy removal of the sensor	\$75.00

Note: Sensor mounting kits for single wall sumps may be ordered for field installation or may be factory installed. Sumps may be aligned in the field for convenient electrical and piping installation.

Electronic Sensors and Sensor Mounting Kits for Double Wall Sumps



ES-EL-DW-TS	Engineered Sensor installation kit for Double wall tank sumps. No Sensors. Includes penetration fitting, epoxy, conduit - Complete kit	\$691.11
ES-EL-DW-TS-SK	Engineered Sensor installation kit with sensors for Double wall tank sumps. Complete w/ sensors, penetration, epoxy, conduit installed	\$3,718.61
ES-IS-2.0	Engineered System Interstice Seal (requires 2" hole saw)	\$20.00
ES-IS-5.0	Engineered System Interstice Seal (requires 5" hole Saw)	\$45.00
ES-IS-7.5	Engineered System Interstice Seal for Bung Mounted DW sumps	\$60.00



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# Adjustable Octagonal Fiberglass Single Wall Tank Sump

## Technical Data Sheet

Diversified's Adjustable Tank Sumps are not just another box. These sumps are designed to mount on any 42 or 48 collar or may be bung mounted. Adjustable tank sumps are available with a friction fit lid for dry climates or with Diversified's unique Magnetic Lid. Sumps are split with a base for easy piping access and a riser to meet depth of burial requirements. Depth of burial may be accomplished by cutting down from 50 1/2" to 30" for shallow burials or by extending the height up to 22" with each extension. These tanks sumps are ideal for piping applications.



SU-TSFA-MA-42

Manufactured from virgin Isophthaulic Resins and fiberglass.

Third Party tested and Listed to UL 2447 Protocols

Available for 42" Collar Mount, 48" Collar Mount and Bung Mounting applications

Choice of Lids, Friction Fit for dry locations or Diversified's unique Magnetic Lid for wet & underwater Locations

Eight flat panels for easy piping out of the sump. Adjustable from 30" to 50 1/2" depth of bury and may be extended with DPM's riser extension.

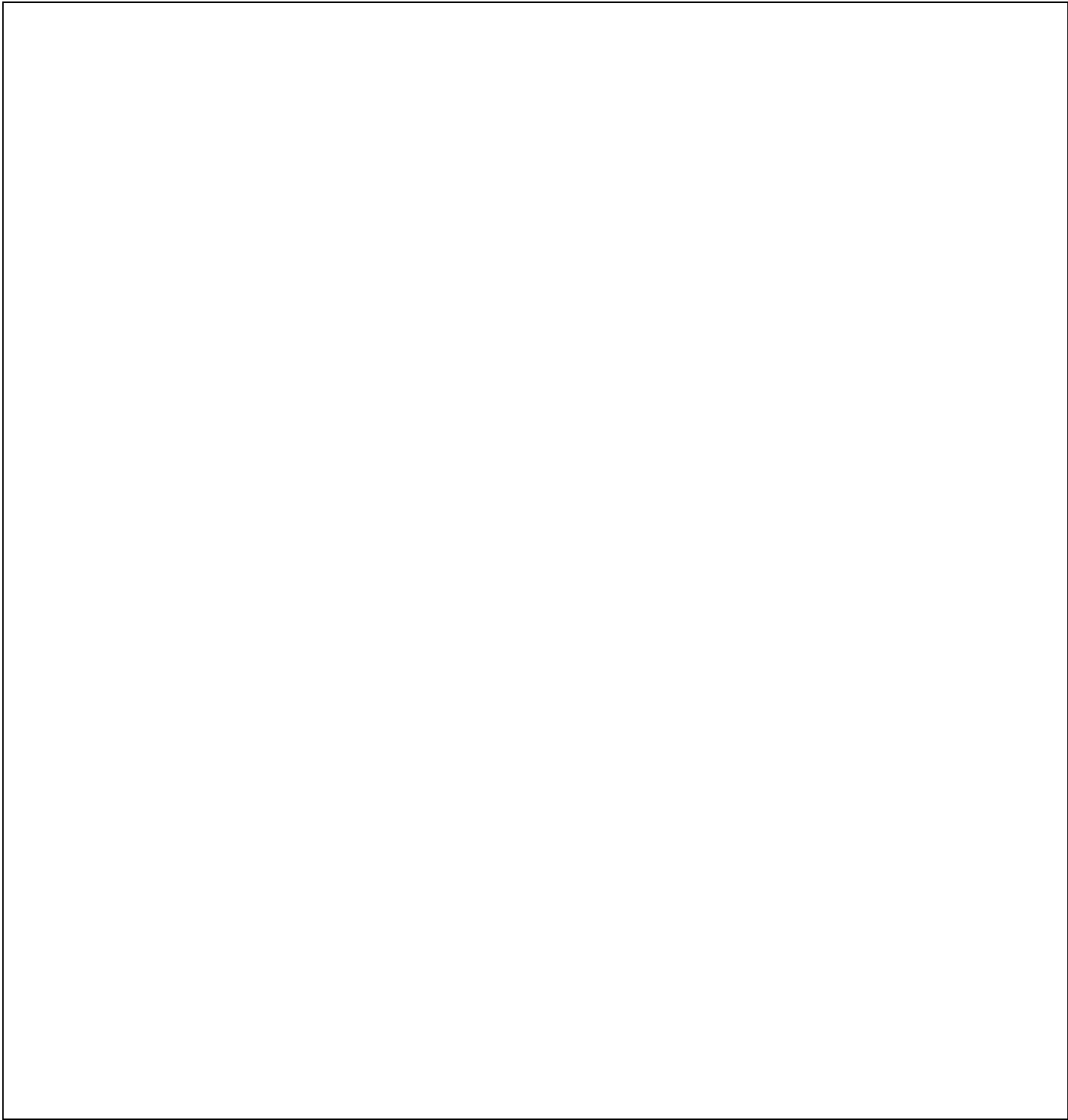
Optional Sensor Mounting Kit SU-SMK-2.5R houses Veeder Root 208 sensors.

Optional Sensor Riser Kit SU-SRK seals the alarm sensor riser on Double wall Tanks.

Optional Bung Mounting Kit with no exposed metal from tank top to Sump. SU-TSA

### Third Party Approvals





## "Better By Design"

# Large Octagonal Fiberglass Single Wall Tank Sump

## Technical Data Sheet

Diversified's Large Tank Sumps are not just another box. These sumps are designed to mount on any 42 or 48 collar or may be bung mounted. Large tank sumps are available with a friction fit lid for dry climates or with Diversified's unique Magnetic Lid. Sumps are split with a base for easy piping access and a riser to meet depth of burial requirements. Depth of burial may be increased up to 22" with each extension installed. These tanks sumps are ideal for turbine applications.



SU-TKSF-MA-42



SU-TKSF-FL-42

Manufactured from virgin Isophthaulic Resins and fiberglass.

Third Party tested and Listed to UL 2447 Protocols

Available for 42" Collar Mount, 48" Collar Mount and Bung Mounting applications

Choice of Lids, Friction Fit for dry locations and Diversified's unique Magnetic Lid for wet & underwater Locations

Eight 23" tall flat panels for easy piping out of sump. Transitions to 54" diameter from panels with 32" Diameter unobstructed entry through riser.

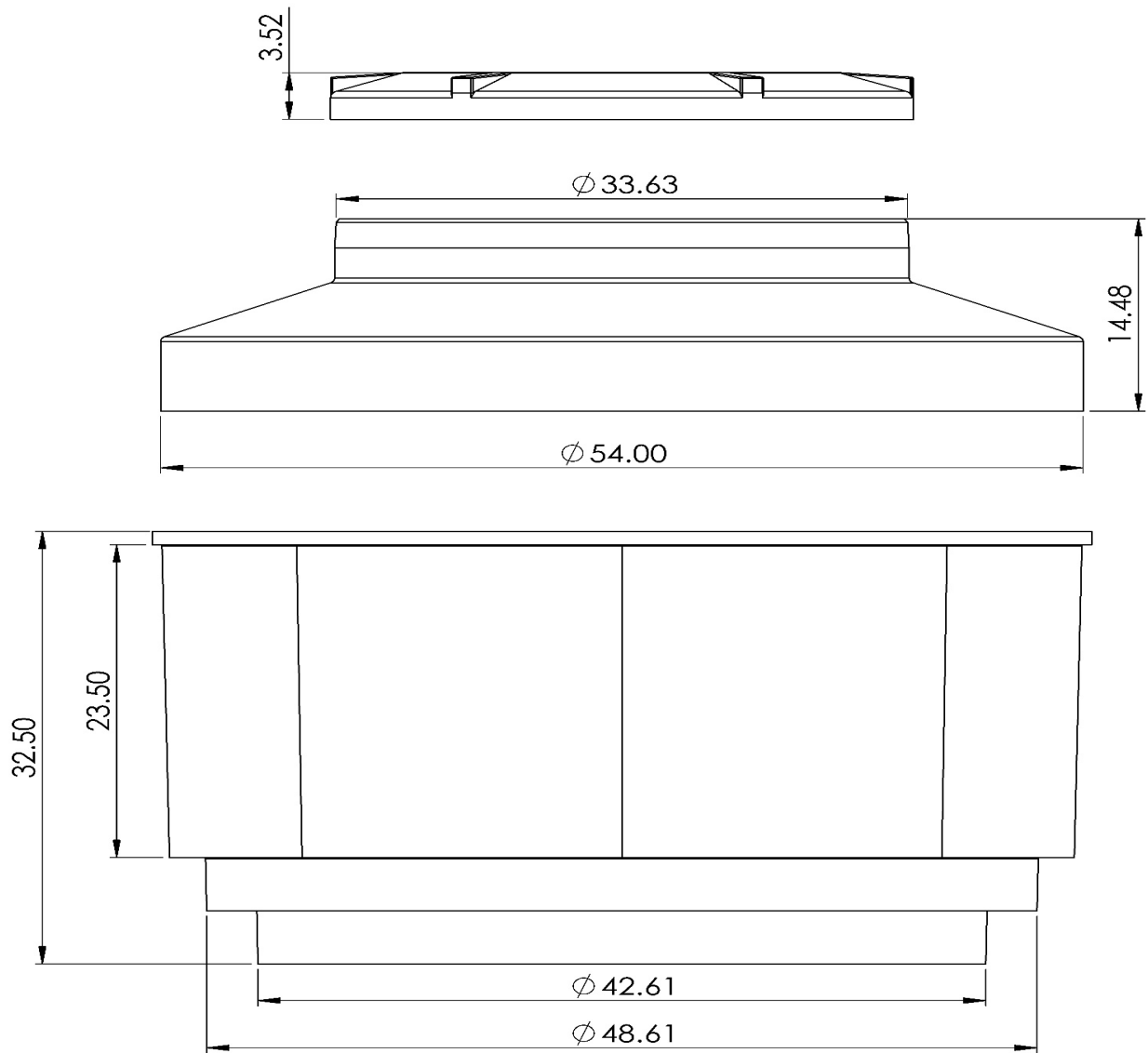
Optional Sensor Mounting Kit SU-SMK-2.5R houses Veeder Root 208 sensors.

Optional Sensor Riser Kit SU-SRK seals the alarm sensor riser on Double wall Tanks.

Optional Bung Mounting Kit with no exposed metal from tank top to Sump. SU-TSA

### Third Party Approvals









## "Better By Design"

# Extensions for Single Wall Fiberglass Tank Sumps

## Technical Data Sheet

Diversified's Extensions provide the contractor the ability to extend the tank mounted sump for burials deeper than the standard 48". Extensions are bonded to the sump base and have a top suitable for bonding to the sumps normal riser. Extensions are 22-24" Long and are bonded to the base and accept the riser on the top.



Manufactured from virgin Isophthaulic Resins and fiberglass.

Third Party tested and Listed to UL 2447 Protocols

Available for Adjustable or Large tank sump bases.

Suitable for bonding to both the standard sump base and standard sump riser.

Extensions may be cut to extend the burial a few inches up to 22".

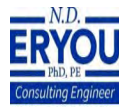
Extensions may be stacked to achieve significant dept of bury. Contact the factory for details.

Order extensions with the sump or individually

### Third Party Approvals



EQ-742 EQ-801 EQ-836



THIRD-PARTY UL 2447



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<b>Turbine Sumps</b>			
		A	B
Single Wall	SU-TKSF-Ext	54"	22"
Double Wall	SU-TKSF-EXT-DW	54"	22"

<b>Piping Sumps</b>			
		A	B
Single Wall	SU-TSFA-EXT	36"	22"
Double Wall	SU-TSFA-EXT-DW	36"	22"

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Adjustable Octagonal Fiberglass Double Wall Tank Sump

Technical Data Sheet

Diversified's Adjustable Tank Sumps are not just another box. These sumps are designed to mount on any 42" or 48" collar or may be bung mounted. Adjustable tank sumps are available with a friction fit lid for dry climates or with Diversified's unique Magnetic Lid. Sumps are split with a base for easy piping access and a riser to meet depth of burial requirements. Depth of burial may be accomplished by cutting down from 50 1/2" to 30" for shallow burials or by extending the height up to 22" with each extension. These tanks sumps are ideal for piping applications.



SU-TSFA-MA-42-DW

Manufactured from virgin Isophthaulic Resins and fiberglass.

Third Party tested and Listed to UL 2447 Protocols.

Available for 42" Collar Mount, 48" Collar Mount and Bung Mounting applications.

Choice of Lids, Friction Fit for dry locations and Diversified's unique Magnetic Lid for wet & underwater locations.

Eight flat panels for easy piping out of the sump. Adjustable from 30" to 50 1/2" depth of bury and may be extended with DPM's riser extension.

Fill and vacuum ports located outside service area of sump riser.

Pressurized interstice enhances leak detection on a sump failure.

Removable interstice sensor standard.

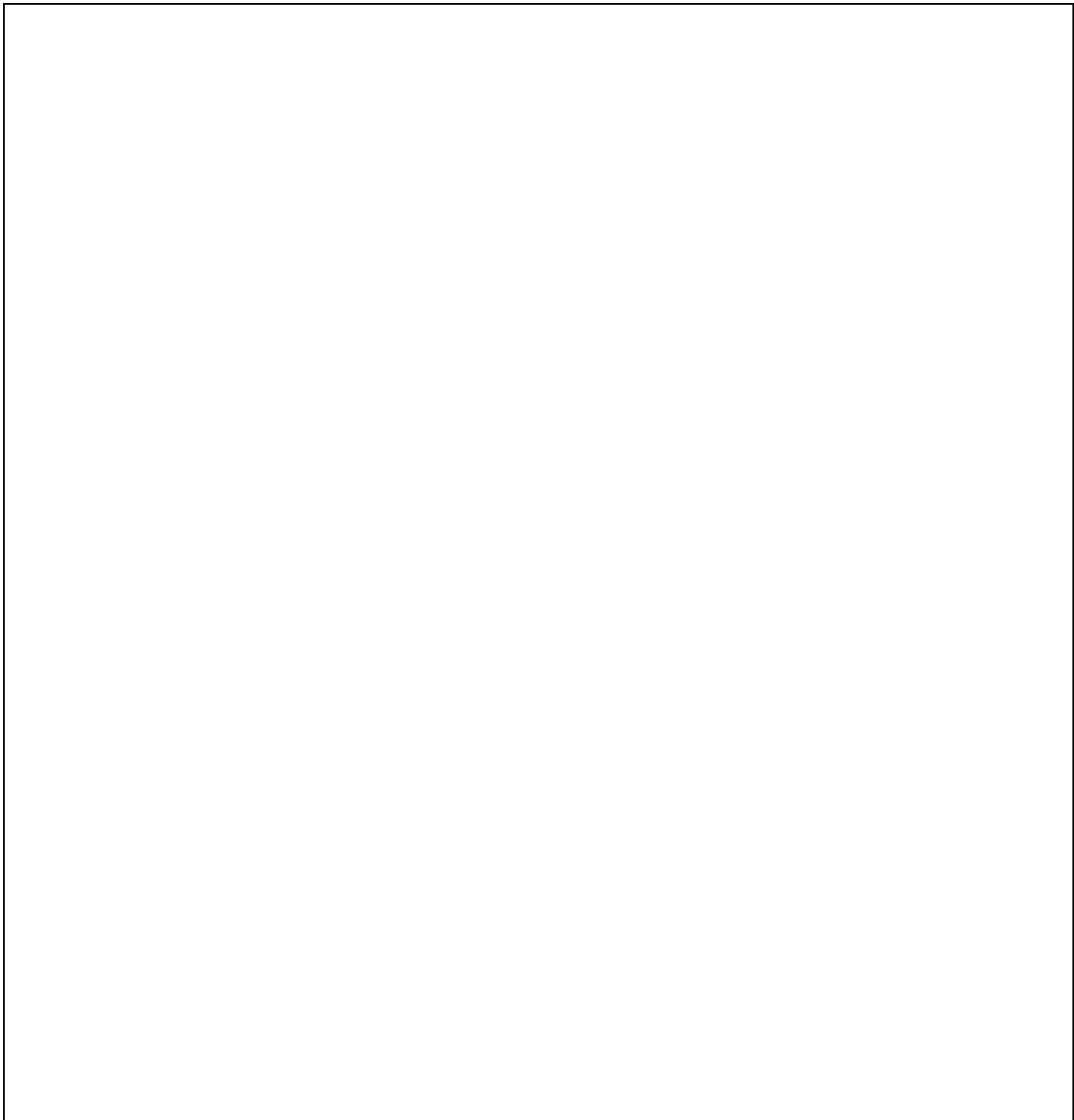
Optional Sensor Mounting Kit SU-SMK-2.5R houses Veeder Root 208 Sump sensors.

Optional Sensor Riser Kit SU-SRK seals the alarm sensor riser on Double wall Tanks.

Optional Bung Mounting Kit with no exposed metal from tank top to Sump. SU-TSA.

Third Party Approvals





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## Large Octagonal Fiberglass Double Wall Tank Sump

### Technical Data Sheet

Diversified's Large Double Wall Tank Sumps are not just another box. These sumps are designed to mount on any 42 or 48 collar or may be bung mounted. Large tank sumps are available with a friction fit lid for dry climates or with Diversified's unique Magnetic Lid. Sumps are split with a base for easy piping access and a riser to meet depth of burial requirements. Depth of burial may be accomplished by extending the height up to 22" with an extension. These tanks sumps are ideal for turbine applications.



SU-TKSF-MA-42-DW



SU-TKSF-FL-42-DW

Manufactured from virgin Isophthaulic Resins and fiberglass.

Third Party tested and Listed to UL 2447 Protocols.

Available for 42" Collar Mount, 48" Collar Mount and Bung Mounting applications.

Choice of Lids, Friction Fit for dry locations and Diversified's unique Magnetic Lid for wet & underwater locations.

Eight 23" tall flat panels for easy piping out of sump. Transitions to 54" diameter from panels with 32" Diameter unobstructed entry through riser.

Fill and vacuum ports located outside service area of sump riser.

Pressurized interstice enhances leak detection on a sump failure.

Removable interstice sensor standard.

Optional Sensor Mounting Kit SU-SMK-2.5R houses Veeder Root 208 Sump sensors.

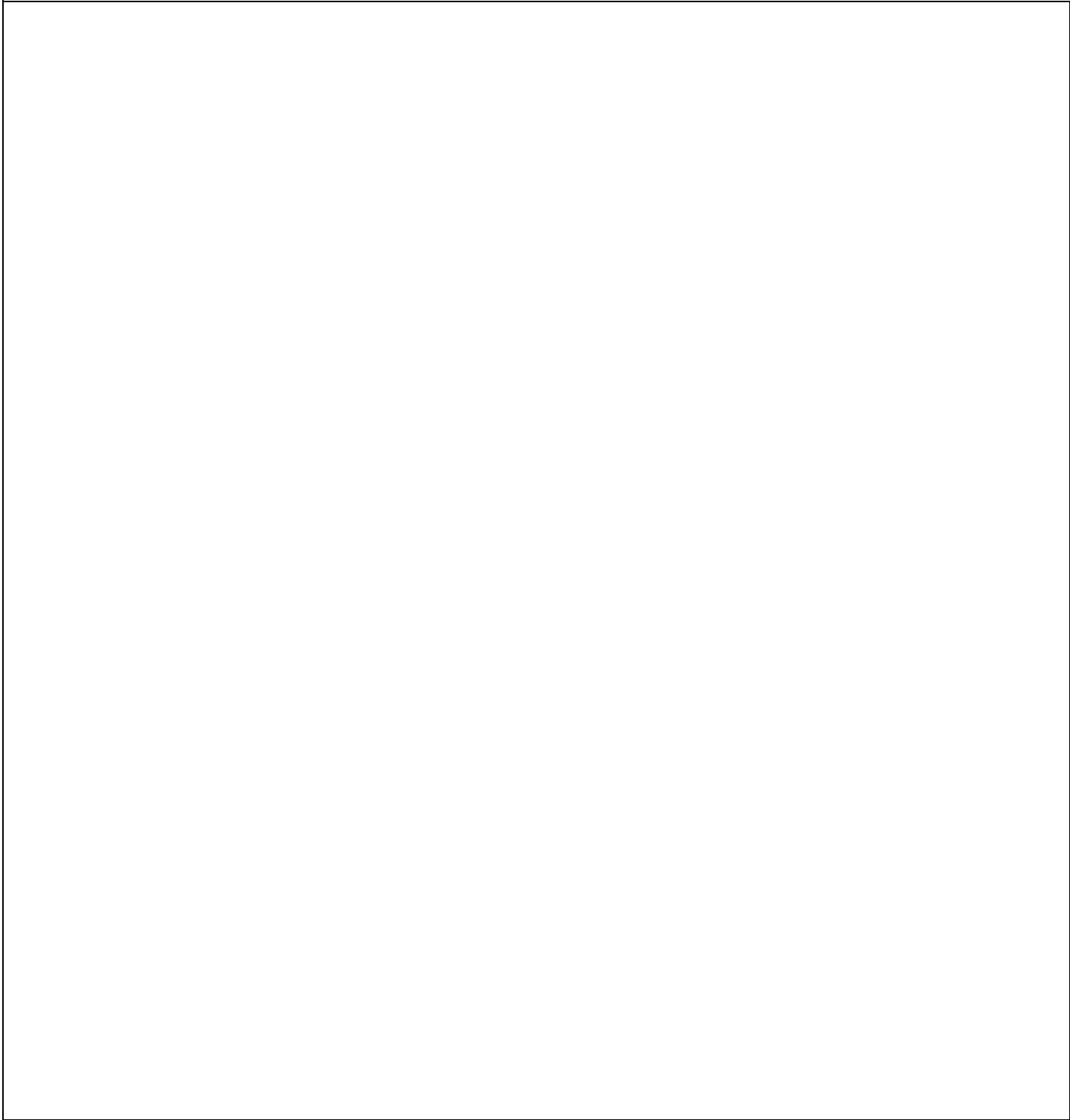
Optional Sensor Riser Kit SU-SRK seals the alarm sensor riser on Double wall Tanks.

Optional Bung Mounting Kit with no exposed metal from tank top to Sump. SU-TSA.

### Third Party Approvals









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**Extensions for Double Wall Fiberglass Tank Sumps**

**Technical Data Sheet**

Diversified's Extensions provide the contractor the ability to extend the tank mounted double wall sump for burials deeper than the standard 48". Extensions are bonded to the sump base and have a top suitable for bonding to the sumps normal riser. Extensions are 22-24" Long and are bonded to the base and accept the riser on the top.



Manufactured from virgin Isophthaulic Resins and fiberglass.

Third Party tested and Listed to UL 2447 Protocols.

Available for Adjustable or Large tank sump bases.

Suitable for bonding to both the standard double wall sump base and standard double wall sump riser.

Extensions may be cut to extend the burial a few inches up to 22".

Extensions may be stacked to achieve significant dept of bury. Contact the factory for details.

Order extensions with the sump or individually.

**Third Party Approvals**





<b>Turbine Sumps</b>		<b>A</b>	<b>B</b>
Single Wall	SU-TKSF-Ext	54"	22"
Double Wall	SU-TKSF-EXT-DW	54"	22"

<b>Piping Sumps</b>		<b>A</b>	<b>B</b>
Single Wall	SU-TSFA-EXT	36"	22"
Double Wall	SU-TSFA-EXT-DW	36"	22"



# "Better By Design"

## Compact Fiberglass Penetrations

### Technical Data Sheet

Since the introduction of EPA regulations for Underground Storage Tanks in 1988, there has been a need for Penetration Fittings that will last as long as the tanks. For flex pipe, the fitting must allow the pipe to be replaceable without breaking ground and there must be no "rubber" products inside the sump. DPM has the answer with the introduction of its "Compact" series of penetrations for Flex Pipe, Semi Rigid, and Rigid Fiberglass Pipe. The Compact Penetration Fitting assures the site owner that this cost will never be experienced again. Millions of repair dollars can be avoided in future budgets where these fittings are installed.



Direct Burial Compact Penetration

All components are either UL Listed or third party approved for their respective applications.

The Compact Fitting has a body, nut, compression nut, and seal. For those installing pipe in a Corrugated Duct, there is a terminating reducer that provides a water tight seal between the ducting and the penetration fitting.

Compact Penetrations are pressure tested in excess of 60 psi without leakage. Refer to DPM's test Data Summary.

Compact Penetrations may be used with flex pipes terminating with male swivel, sanitary, or barbed connections.

Compact Penetrations are available for all Pipe manufacturers including Flex Pipes, Metric Pipes, Semi rigid Pipes and Fiberglass Pipe



Compact Penetration with Corrugated Duct Seal

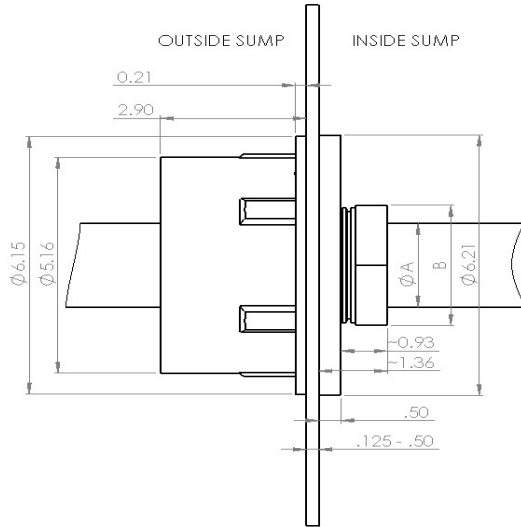
### Third Party Approvals



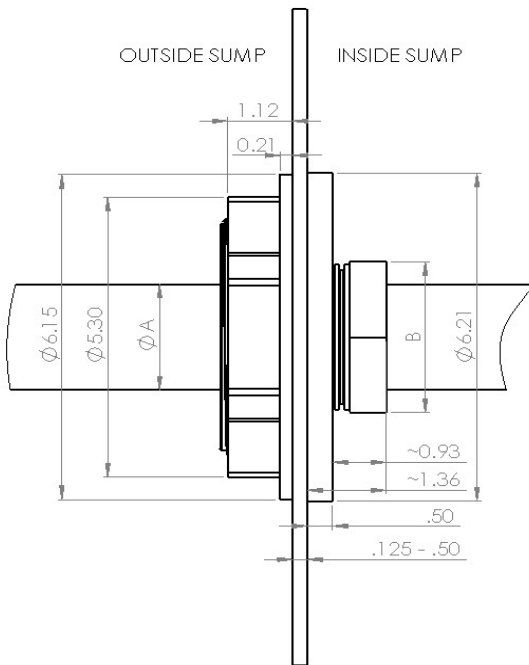
EQ-742 EQ-801 EQ-836

THIRD-PARTY UL 2447





**Compact Fitting for Corrugated Duct Application**



**Direct Burial Application**

A	Mfg	Pipe
PF-FGC-1.18	OPW	C-075A
PF-FGC-1.22	Brugg	CHT 21/31
PF-FGC-1.27	APT	XP-100-D
PF-FGC-1.47	APT	XP-100-SC
PF-FGC-1.50	OPW	C-10A
PF-FGC-1.50	Brugg	CHT 30/38

PF-FGC-1.70	APT	XP-150-D
PF-FGC-1.90	APT	XP-150-SC
PF-FGC-1.90	Brugg	HL 30/48
PF-FGC-2.00	OPW	C-15A
PF-FGC-2.15	APT	XP-175-SC
PF-FGC-2.38	NOV	Red Thread
PF-FGC-2.45	APT	XP-200-D
PF-FGC-2.45	OPW	C-20A
PF-FGC-2.45	OPW	#
PF-FGC-2.50	Brugg	SEC 40
PF-FGC-2.65	APT	XP-200-SC
PF-FGC-2.65	Brugg	CHT 48/60
PF-FGC-2.80	Brugg	CHT 60/71
PF-FGC-2.80	Brugg	HL 48/71
PF-FGC-3.00	Brugg	SEC 50
PF-FGC-3.30	Brugg	HL 60/83

Size	B
Small	3.18"
Medium	4.03"
Large	





# "Better By Design"

## "FGT" Series Fiberglass Penetrations

### Technical Data Sheet

Since the introduction of EPA regulations for Underground Storage Tanks in 1988, there has been a need for Penetration Fittings that will last as long as the tanks. DPM has the answer with the introduction of its "FGT" series of penetrations for Rigid Fiberglass Pipe. The FGT Penetration Fitting assures the site owner that costs associated with repairing failed rubber components will never be experienced again. Millions of repair dollars can be avoided in future budgets where "FGT" fittings are installed.



Tapored End for 2 or 3" FRP

All components are either UL Listed or third party approved for their respective applications.

The "FGT" series fitting has a body & nut. The FRP pipe is extended into the sump as an integral part of the fitting. Ends terminating inside the sump may be tapered to match 2" or 3" FRP pipe or may be adapted to a 2" or 3" sanitary seals or may be provided with 2" or 3" FPT threads.

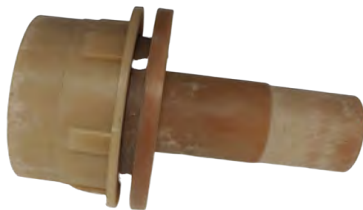


Stainelss End with 2" or 3" FPT

"FGT" series penetrations are available with test and drain ports for interstice testing and drain back to the sump.

"FGT" series penetrations are available for 2" & 3" single wall fiberglass, 2" & 3" LCX, and 3" over 2" or 4" over 3" fiberglass.

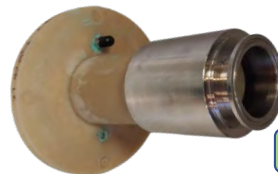
A unique series of The "FGT" fitting has a large Hex head on the sump exterior suitable for threading in 2" or 3" MPT pipe.



Nut shown for double wall Applications

Nut shown accomodates 2" LCX, 3" over 2", 3" LCX & 4" over 3".

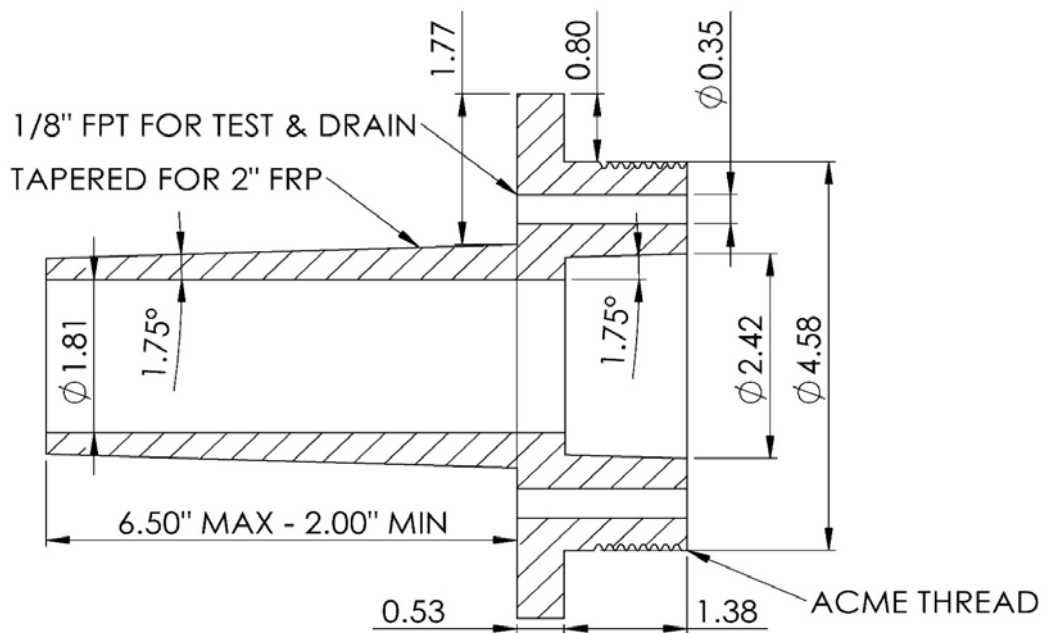
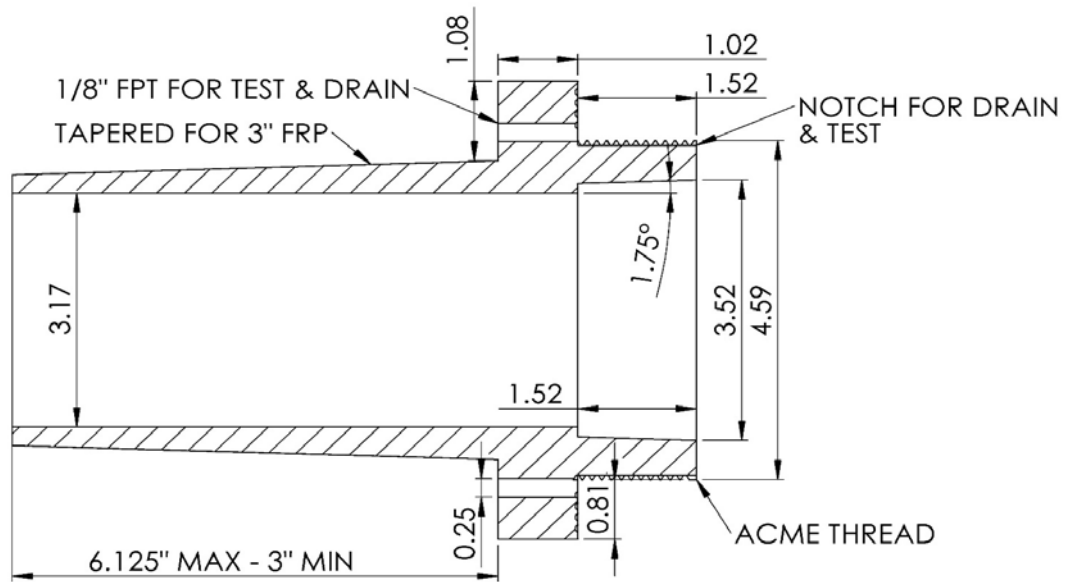
Body Shown includes a test valve and drain port.



Shown with Test & Drain openings

#### Third Party Approvals







"Better By Design"

"BC" Series of Bonded Conduit entry fittings

Technical Data Sheet

Since the introduction of EPA regulations for Underground Storage Tanks in 1988, there has been a need for Penetration Fittings that will last as long as the tanks. DPM has an answer with the conduit penetrations, the PF-BC Series of penetrations for Rigid Steel Pipe. There are no rubber components assuring the site owner that costs associated with repairing failed rubber components will never be experienced again. Millions of repair dollars can be avoided in future budgets where "BC" conduit fittings are installed.

All components are either UL Listed or third party approved for their respective applications.



Shown from sump exterior

The "BC" series fitting has a only a bonded body & no nut. The steel pipe is extended into the sump through a bore in the fitting. The fitting is directly bonded to the pipe and to the sump wall.

"BC" series penetrations are available for 3/4" rigid and 1" rigid conduits.



Shown with conduit nipple

Shown installed from sump exterior



Shown installed from sump interior

Third Party Approvals

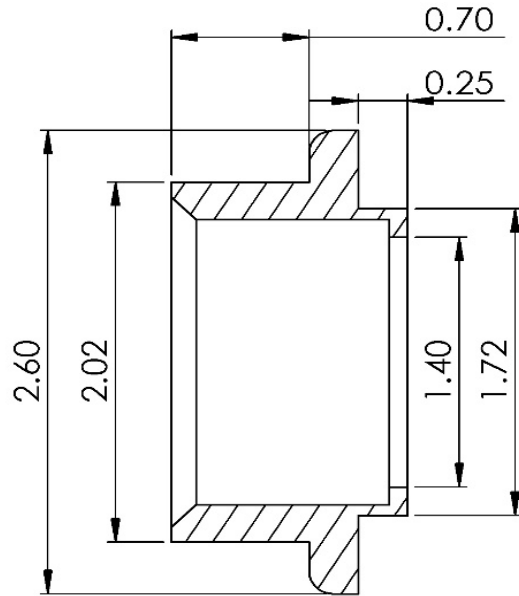


EQ-742 EQ-801 EQ-836

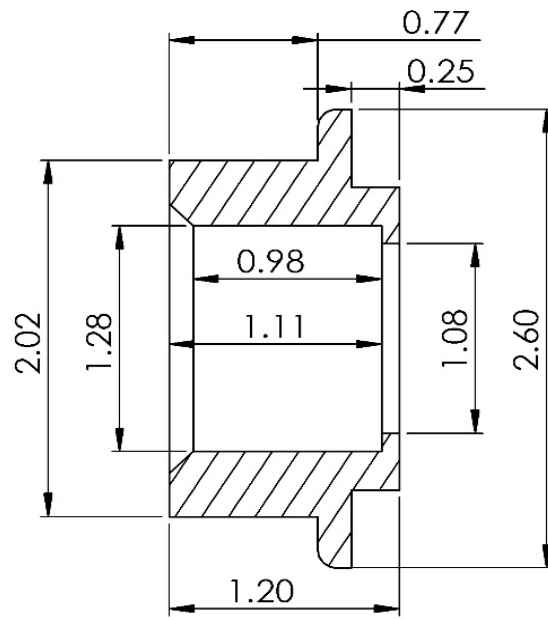


THIRD-PARTY UL 2447





**PF-BC-1.4 1" Bonded Conduit Fitting**



**PF-BC-1.1 3/4" Bonded Conduit Fitting**



# "Better By Design"

## Sensor Mounting Kits & Installed Sensors

### Technical Data Sheet

Since the introduction of EPA regulations for Underground Storage Tanks in 1988, there has been a need for the installation of alarm sensors and sensor mounting kits. DPM has the answers. Alarm sensors are available to match the alarm system being provided. These sensors are installed and wired in several configurations. For those providing their own sensors a convenient sensor mounting kit is available for direct purchase or mounting over the unique alarm cup in Diversified's sumps.



Factory Installed "208" Sensor

All components are either UL Listed or third party approved for their respective applications.

The SU-SMK is standard for Veeder Root "208" series sensors. If other sensors are specified, DPM can provide those as well.

Wiring may be factory installed through a Unilet, Seal off and extended through a waterproof fiberglass fitting to the sumps exterior. This is often accomplished in UDC's and Transition sumps.



SU-SMK for field installation

Optionally the wiring may be left loose to be run by the electrician through the frame of a UDC.

The sensor kits are often supplied for tank sumps where it is more convenient for field installation.



Various Factory installed options for UDC's and Transition Sumps

### Third Party Approvals





*"Better By Design"*

Magnetic Lids for Diversified's Fiberglass Tank Sumps

Technical Data Sheet

Diversified's Unique Magnetic Lids keep sumps dry. These lids have been installed for over 10 years without a reported leak. Some lids have been submerged in the southern states for extended periods and have survived this incredibly difficult often flooded environment. No twist seals to tear. Lifetime magnets assure at least 30 year survival. Integrated vent to relieve potential pressure build up. Installed from the deep south to Alaska.



RTM Molded from virgin Isophthaulic Resins and

Third Party tested and Listed to UL 2447 Protocols

Fits both the Adjustable or Large Tank sumps.

Retrofit lids with adaptors available for all sump risers.

A continuous vent membrane is installed on all lids. The membrane is both hydrophobic and oleophobic. (Will not let water or carbon fuel penetrate the membrane)

Handles are required to break the seal that requires greater than 30 ft lb. to break the seal.

The fuel resistant seal may be replaced with Diversified's net exchange program.

No twisting, no bolts no, no latches. Easy to remove and reinstall.

Permanent instructions on procedures to replace lid after removal.

Third Party Approvals



EQ-742 EQ-801 EQ-836

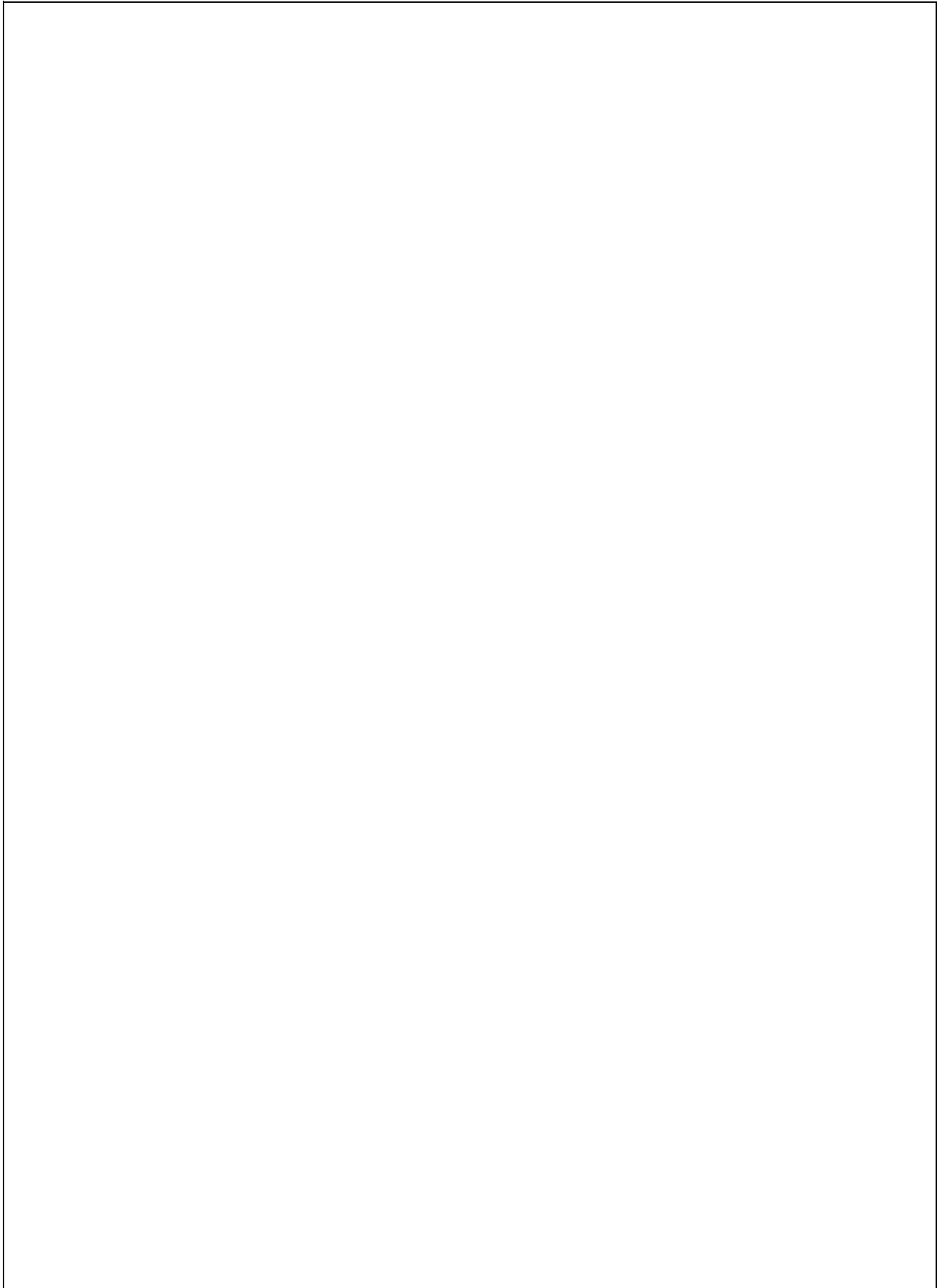


THIRD-PARTY UL 2447



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5523 Baggett Marysville Road Oroville CA 95965  
530-534-3966 - www.dpm-co.com - Order Entry Email: sales@dpm-llc.com









*"Better By Design"*

Tank Sump Adaptors for Tank Sumps

Technical Data Sheet

Most new tanks are installed with collars for mounting the sump. The remaining installations rely on a tank sump adaptor kit. Diversified brings to market the only kit that totally covers all the exposed metal from bung to the bottom of the tank sump. The seal is manufactured to UL 2447 protocols. The balance of the kit components are powder coated steel.



Injection molded 11" diameter fuel resistant seal with curvature to mount on 8 ft & 10 ft diameter tanks

Seal includes a lay line for easy installation.



Adapts to the 4" tank bung with a 4" male pipe thread and a 4" female thread for the sump riser.

A 6" steel pipe segment with flange drives the sump and seal to the top of the tank eliminating the possibility of water reaching any otherwise exposed metal.



A tool is available for turning in the compression plate.

An installation kit is available with all the chemicals needed to install the Tank Sump Adaptor Kit.



Third Party Approvals

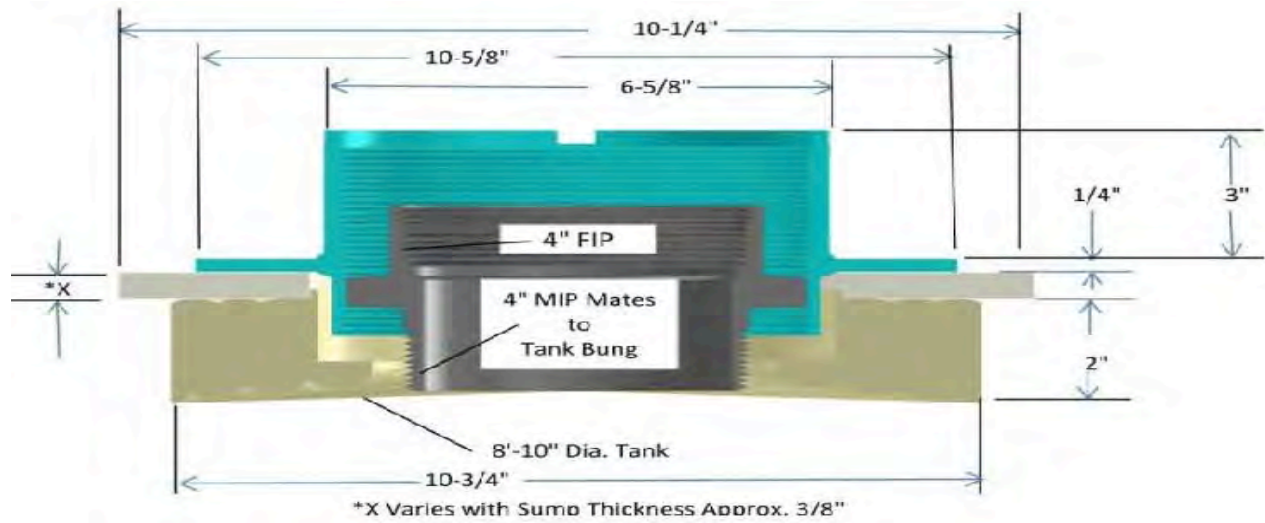


This item not submitted for third party testing.



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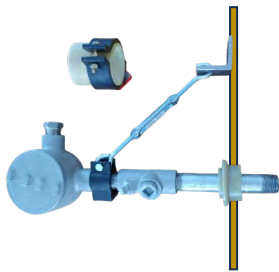


"Better By Design"

# Electronic Sensors for Single Wall and Double Wall Tank Sumps

## Technical Data Sheet

Electronic sensors are often installed by an electrical contractor. The installation of hardware and wiring often is performed after the plumbing. Diversified's sumps are laid out to compliment the piping system and are installed so not to conflict with future maintenance needs and space requirements. All Diversified sumps may be ordered with the electronics installed or with a sensor mounting kit. Diversified's bung mounted tank sumps all have flat floors. The sensor mounting kit is intended to mount over the deepest spot in the sump. Diversified provides clamps for all sizes of sensors and also features a holding tube for easy sensor removal or may be hard piped with Unilet and seal offs. Note some components have been rotated for Presentation.



Single Wall Electrical Kit without sensor



Single Wall Electrical Kit with sensor

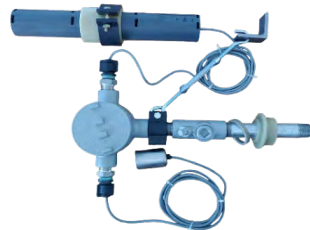
All components are either UL Listed or third party approved for their respective applications.

Sump sensors and sump interstice sensors are available to match the alarm system and console being installed.

A unilet, seal off and mounting hardware are provided in a kit or installed as requested. Hardware includes support to minimize damage. When bonding the sump to the collar, the sump may be rotated for convenient piping and wiring of the system



Double Wall Electrical Kit without sensor



Double Wall Electrical Kit with sensors

Clamps are manufactured from a fuel rated thermoplastic and the holding tube is molded fiberglass.



Sensor Mounting Kit

### Third Party Approvals

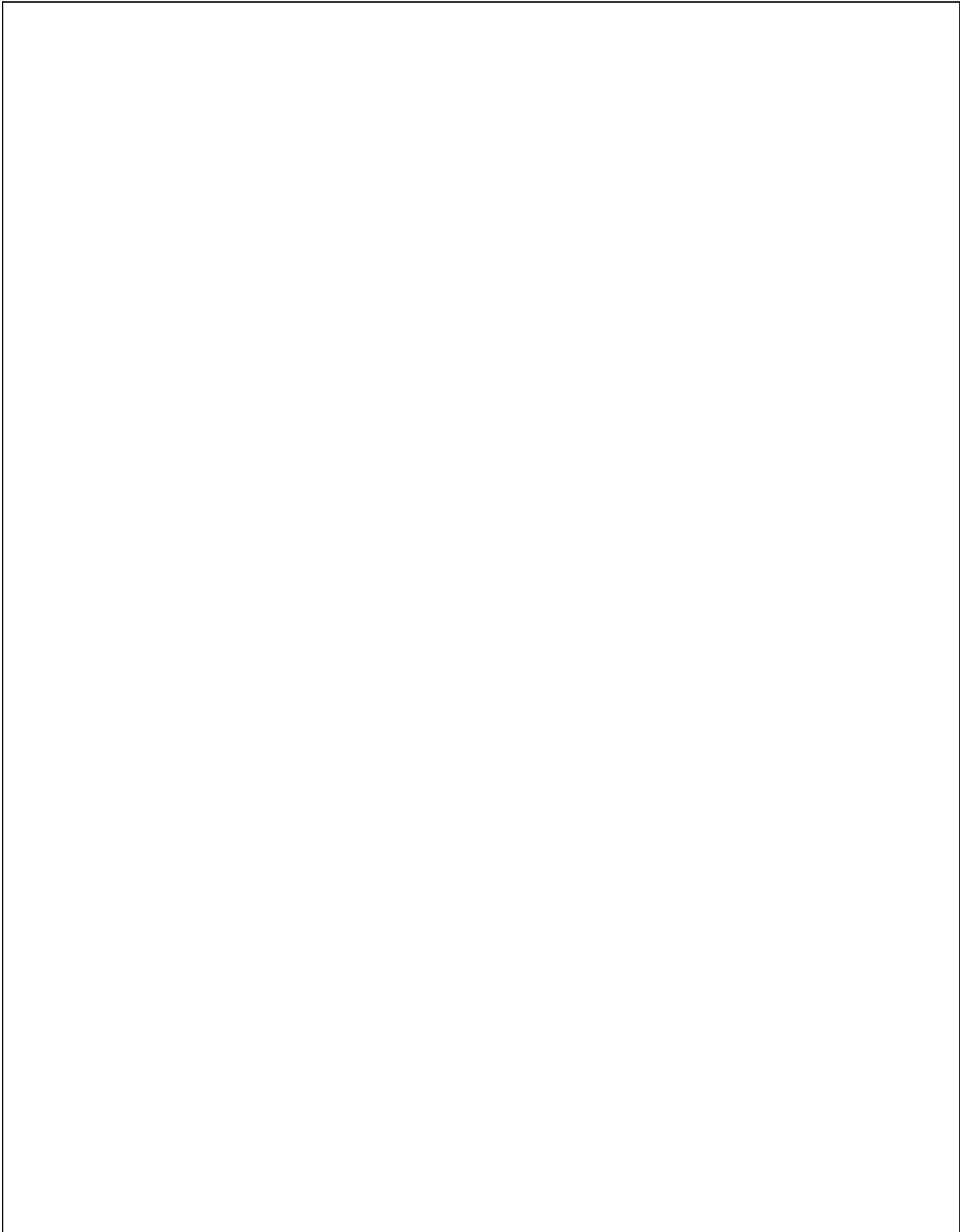


All electrical items  
UL Listed



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# "Better By Design"

## Diversified Bulkhead Cleaner CH-DBC II and Fiberglass Bonder CH-DFB

### Technical Data Sheet

Diversified's product offering includes a class of products we call Chemicals. These chemicals have been tested with our repair and new construction products and have been listed as being compliant with UL 2447 protocols. The approval letters are attached at the end of each of our catalogs. Whenever a chemical bond is required the surfaces should be cleaned before bonding. CH-DBC II Cleaner and CH-DFB Fiberglass Bonder are companion products designed to be used together.



HMIS Hazard Rating	
0-Mineral	A-Goggles
1-Slight	B-Goggles, gloves
2-Moderate	C-Goggles, Gloves
3-Severe	Protective Wear
Health	2
Flammability	3
Reactivity	0
Protective Wear	B

Non Chlorinated Aerosol for use on Diversified's fiberglass & thermoplastic new construction and repair products

Removes Silicon residue left after the injection molded Products.

Effective Cleaner for Fiberglass and HDPE sumps

Contains Heptane Isomers, Acetone and Carbon Dioxide is a flammable Aerosol and is under Pressure

Color
Odor
Odor Threshold
Specific Gravity
Initial Boiling Point
Freezing Point
Vapor Pressure
Evaporation Rate
Solubility
Coefficient of water/oil Distribution
pH
Stability

Clear Colorless
Solvent
N/D
0.78
132 F
< 100 F
N/D
Fast
Slightly Soluble in water
N/D
N/A
Stable



CH-DFB



CH-DSM-V



\$50 Hazmat fee on air shipments

For CH-DFB & CH-DBC II

CH-DFB is a thixotropic two component epoxy adhesive that is resistant to fuels and ethanols.

Tested for use on DPM's Fiberglass products, Aluminum, Steel and Stainless Steel.

Fast curing at room temperature

Should be stored in a refrigerator or air conditioned vehicle prior to use.

See next page for properties

#### Third Party Approvals



EQ-742 EQ-801 EQ-836



THIRD-PARTY UL 2447

#### Products Used on this Project



Diversified Products Manufacturing  
5523 Baggett Marysville Road - Oroville CA. 95965 USA  
530-534-3966 - www.dpm-co.com - 530-534-7404 Order Entry Fax





"Better By Design"

Diversified Bulkhead Cleaner CH-DBC II and Fiberglass Bonder CH-DFB

Technical Data Sheet

This page contains data for the CH-DFB Epoxy Bonder Only

Product Characteristics		Environmental Resistance		
<b>Technology</b>	<b>Cyanoacrylic/Eposy</b>			<b>% of Initial Strength</b>
Chemical type (Part A)	Cyanoacrylate	Environment	Deg C	100 h
Chemical type (Part B)	Epoxy	Water	22	90
Appearance (Comp A)	Straw Color	Water	60	80
Appearance (Comp B)	Off-White	Motor Oil	40	120
Appearance Mixture	Light Yellow	Water/Glycol 50/50	87	50
Components	Two-Part Requires Mixing	Gasoline (unleaded)	22	95
Mix Ratio by Weight	Resin 1: Hardener 1	Ethanol	22	85
Mix Ratio by volume	Resin 1: Hardener 1	Isopropanol	22	100
Viscosity	High	98% RH	40	85
Cure	Room Temp after Mixing	96% RH	65	95
Secondary Cure	Heat			
Application	Bonding			
Specific Benefits	Non-Sag slump resistant			
	Very Fast Cure			
	Easy to Mix			
	Easy to Dispense			
	Resistance to			
	Automotive Fluids			

Properties of Uncured Materials		Properties of Uncured Materials		
<b>Part A</b>		<b>Part B</b>		
Specific Gravity @ 25 C	1.01	Specific Gravity @	25 C	1.06
Viscosity @ 25 C	4000-7000	Viscosity @	25 C	25,000 - 40,000
Flash Point	See SDS	Flash Point		See SDS

Properties of Cured Materials		Properties of Uncured Materials	
<b>Cured for one week @ 22 C</b>		<b>Cured for 168 hrs @ 22 C</b>	
Shore Hardnes "D"	65-69	<b>Lap Shear Strength, ISO 4587</b>	
Glass Trans Temp 0 C	88	Aluminum Degreased	7.6 N/mm2
Elongation	3.5	Aluminum Etched	13 N/mm2
Tensil Strength	7.1 N/mm2	Zinc Chromate	9.1 N/mm2
Tensil Modulus	565 N/mm2	Stainless Steel	15 N/mm2
		ABS	5.2 N/mm2
		Polycarbonate	6.9 N/mm2
		Wood (Oak)	4.8 N/mm2
		Epoxy	9.1 N/mm2
		Polyethylene	.5 N/mm2

Third Party Approvals

Products Used on this Project



Diversified Products Manufacturing
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# SU-CII-TSFA

## Installation Instructions

### Adjustable Single Wall Piping Sumps



Diversified Products  
Manufacturing Inc.



Weaver Products

**Prepare all Surfaces:** All surfaces to be bonded should be prepared prior to Completing the installation steps below.

**Warning:** Failure to follow each step will void the warranty and may result in premature failure of the penetration fitting. Adhere to the following general instructions for each step of the installation.

**Bonding to FRP surfaces:** Sand (rough up) sump surfaces to be bonded and clean with CH-DBC II. Remove all gel coat on all fiberglass surfaces.

**Cleaning:** Spray all surfaces to be bonded with CH-DBC II Cleaner and allow to air dry. Excess cleaner may be wiped off with a clean dry cloth.

Diversified's Tank Sumps are two part. This allows the base to be installed and piped prior to the assembly of the riser or extension (deep burial applications). The riser may be field cut for burial depths from 30 to 52 1/2". Piping sumps may be ordered for 42" or 48" collar mounting or may be ordered with a flat floor for bung mounting.

#### Step 1

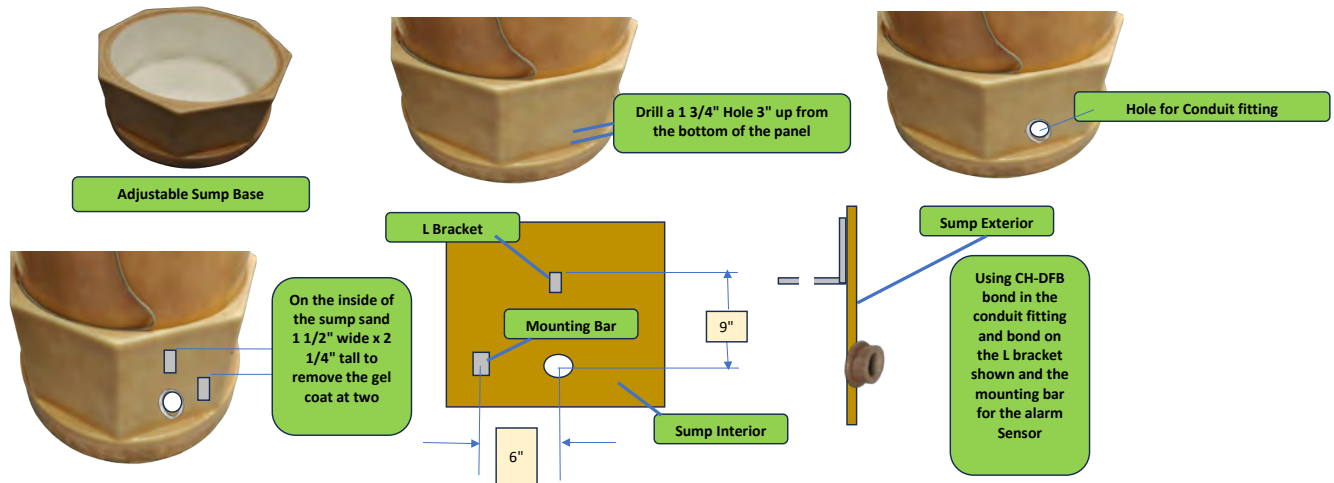
**Inspect the riser and base:** At the time the riser and base are received, the products should be immediately unpacked and checked for damage. Should the base or riser be damaged, notify the carrier and contact the factory immediately.

Adjustable Sump Depth of bury  
30" to 52 1/2" Shown with



#### Step 2

**Install the electrical hardware to be mounted in the base at this time - Contractors Choice.** Regardless of the sequence when installing the conduit penetrations, remember the sump most likely will be mounted on the collar so that one side of the octagon is parallel with the tank sump. By preinstalling the electrical hardware, prior to the installation of the base, considerable time can be saved. The electrical hardware may be ordered installed at the factory.



#### Step 3

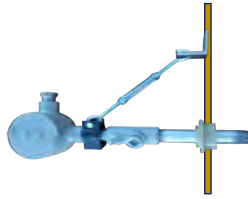
**Installing Brackets:** Brackets are installed on a vertical sump wall. Be sure the bracket surface to be bonded is sanded to bare metal. Sand the area on the sump removing all gel coat to raw fiberglass. Clean with CH-DBC II and allow to air dry or wipe dry with a clean dry cloth. Apply a thin layer of CH-DFB bonder to the mating surfaces and place the bracket firmly in the spot to be bonded. On the opposite side of the sump place a magnet. The magnet will hold the bracket in place until the bonding material is cured approximately 1 hour.





#### Step 4

**Install the Sensor and Turnbuckle:** Now that the brackets for the turnbuckle support and the alarm sensor are installed. Connect the turnbuckle and tighten so that the conduit is horizontal. Also, the alarm sensor may be installed. Extend the alarm sensor wiring to the unilet for later connection by the electrical contractor. Bond in the conduit where it passes through the sump wall. Paint the exposed conduit with CH-DSB soils barrier for a protective barrier isolation the mteal from the soils.



Kit without sensor

Note: Rotation of unilet and seal off are for presentation purposes.



Some prefer to install the sensor as the final step

Kit with sensor

#### Step 5

**Prepare for mounting:** Determine if the sump is to be bung or collar mounted either 42" or 48". If Bung mounted, determine the location of the turbine riser and cut a hole for the riser. Follow the installation instructions for the tank sump adaptor provided. If collar mounted, cut the appropriate segment out of the bottom of the sump or the sumps may be ordered with the bottoms removed for either 42" or 48" collar mounting. Sand all surfaces to be bonded removing all gel coat and clean with CH-DBC II.



#### Step 6

**Prepare the Epoxy:** It takes 4.3 lbs of CH-DEB epoxy for a 42" collar mount and 4.9 lbs for a 48" collar mount. Order separately as a kit or in bulk. Use the container provided and mix part A & B thoroughly. If desired, the epoxy may be mixed outside the can provided. If so clean the surface where the epoxy will be mixed with CH-DBC II prior to use.



#### Step 7

**Apply the Epoxy:** Apply an even bead of epoxy around the collar and seat the sump into the collar. Wipe off any displaced epoxy on the sump exterior where possible. Smooth the epoxy seam on the sump interior. Make sure the seam is thoroughly packed with the epoxy, spread evenly with a spatula and let cure. Let cure for 4 hours prior to entering the sump to perform the piping functions inside the sump. **In lieu of using the epoxy offered by Diversified, the riser and extensions may be bonded together using traditional fireglass with isophthaulic resins.**



#### Step 8

**Install Penetrations:** Once the base of the sump has been mounted to the tank collar or bung, the penetration fittings may be installed. Follow the penetration fitting manufacturer's recommended installation procedures. For Diversified PF-FGC compact and PF-FGT Fiberglass penetrations drill holes using a 4.5" hole saw at the locations desired for entry. Diversified PF-BC series of bonded conduit fittings require a 1 3/4" hole saw.



FGC Series Penetration



FGT Series Penetration



BC Bonded Conduit Series

#### Step 9

**Install extension or riser:** Sand and clean the shelf for the mounting of the extension or the riser. The riser portion of an Adjustable tank sump may be cut to have an affective burial depth of 30" to 52 1/2". Each extension installed adds another 22" of vertical depth of bury. Mix the epoxy as described above and seat the riser or extension. Allow 4 hours prior to disturbing sump after bonding is completed. The bonding of an extensoin or riser requires 3.3# of bonder

Extension with Friction Fit Lid



#### Step 10

**If Installing a Magnetic Lid:** Use the SU-ML Tool to check riser for Planarity and install magnetic Lid. Follow instructions supplied with the tool. If installing a friction fit lid, just set the lid on the sump riser. **See Installation Instructions for Magnetic Lids.**



#### Tools Needed

- Sanding and cleaning products
- Saws for trimming riser and cutting holes for adaptor or collars

#### Products Needed

- SU-TSFA
- CH-DBC II - one aerosol container per sump
- CH-DEB-5 lb Epoxy Kit
- 0.9 lb for a bung mount (Tank Adaptor Kit)
- 3.3 lb for a riser or an extensoin. (Required for every sump)
- 4.3 lb for a 42" collar mount
- 4.9 lb for a 48" collar mount

# SU-CII-TKSF

## Installation Instructions Large Single Wall Turbine Sumps



Diversified Products  
Manufacturing Inc.



Weaver Products

**Prepare all Surfaces:** All surfaces to be bonded should be prepared prior to Completing the installation steps below.

**Warning:** Failure to follow each step will void the warranty and may result in premature failure of the penetration fitting. Adhere to the following general instructions for each step of the installation.

**Bonding to Poly & FRP surfaces:** Sand (rough up) sump surfaces to be bonded and clean with CH-DBC II. Remove all gel coat on all fiberglass surfaces.

**Cleaning:** Spray all surfaces to be bonded with CH-DBC II Cleaner and allow to air dry. Excess cleaner may be wiped off with a clean dry cloth.

Diversified's Tank Sumps are two part. This allows the base to be installed and piped prior to the assembly of the riser or extension (deep burial applications). The riser may be field cut in a dish pattern for shallow burial applications approximately 42". The standard riser provides a sump burial of approximately 48". Each tank sump may be directly mounted to the tank sump bung by using Diversified's Tank Sump Adaptor. The sump base may be factory or field modified for 42" or 48" collar installations.

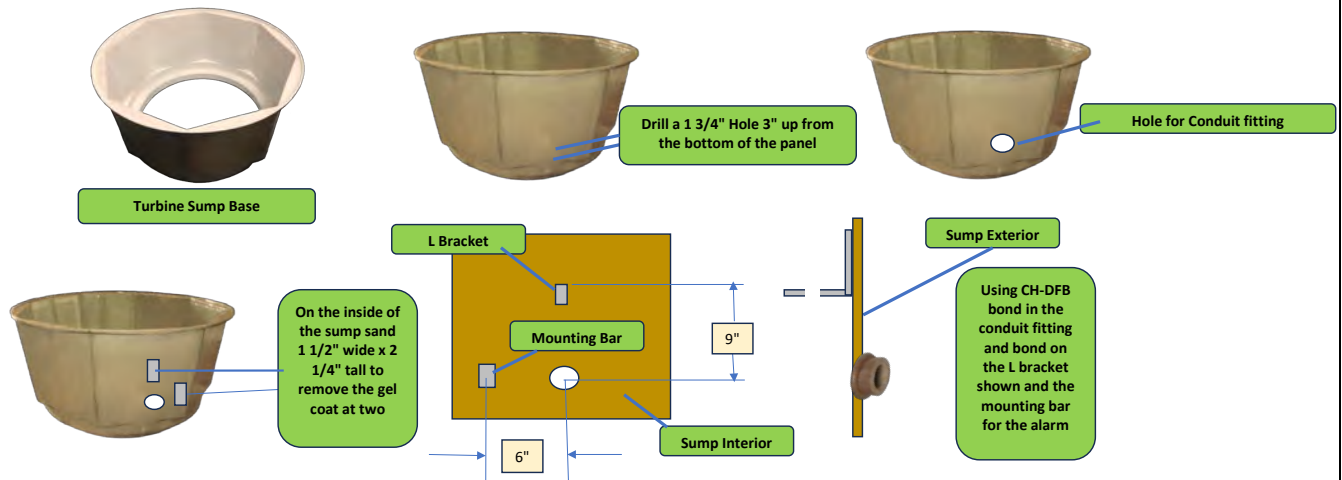
### Step 1

**Inspect the riser and base:** At the time the riser and base are received, the products should be immediately unpacked and checked for damage. Should the base or riser be damaged, notify the carrier and contact the factory immediately.



### Step 2

**Install the electrical hardware to be mounted in the base at this time - Contractors Choice.** Regardless of the sequence when installing the conduit penetrations, remember the sump most likely will be mounted on the collar so that one side of the octagon is parallel with the tank sump. By preinstalling the electrical hardware, prior to the installation of the base, considerable time can be saved. The electrical hardware may be ordered installed at the factory.



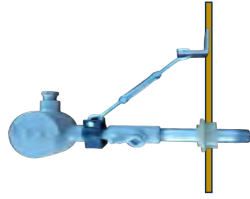
### Step 3

**Installing Brackets:** Brackets are installed on a vertical sump wall. Be sure the bracket surface to be bonded is sanded to bare metal. Sand the area on the sump removing all gel coat to raw fiberglass. Clean with CH-DBC II and allow to air dry or wipe dry with a clean dry cloth. Apply a thin layer of CH-DFB bonder to the mating surfaces and place the bracket firmly in the spot to be bonded. On the opposite side of the sump place a magnet. The magnet will hold the bracket in place until the bonding material is cured approximately 1 hour.



**Step 4**

**Install the Sensor and Turnbuckle:** Now that the brackets for the turnbuckle support and the alarm sensor are installed. Connect the turnbuckle and tighten so that the conduit is horizontal. Also, the alarm sensor may be installed. Extend the alarm sensor wiring to the unilet for later connection by the electrical contractor. Bond in the conduit where it passes through the sump wall. Paint the exposed conduit with CH-DSB soils barrier for a protective barrier isolation the mteal from the soils.



Kit without sensor

Note: Rotation of unilet and seal off are for presentation purposes.



Kit with sensor

Some prefer to install the sensor as the final step

**Step 5**

**Prepare for mounting:** Determine if the sump is to be bung or collar mounted either 42" or 48". If Bung mounted, determine the location of the turbine riser and cut a hole for the riser. Follow the installation instructions for the tank sump adaptor provided. If collar mounted, cut the appropriate segment out of the bottom of the sump. The sumps may be ordered with the bottoms removed for either 42" or 48" collar mounting. Sand all surfaces to be bonded removing all gel coat and clean with CH-DBC II.



**Step 6**

**Prepare the Epoxy:** It takes 4.3 lbs of CH-DEB epoxy for a 42" collar mount and 4.9 lbs for a 48" collar mount. Order seperately as a kit or in bulk. Use the container provided and mix part A & B thouroughly. If desired, the epoxy may be mixed outside the can provided. If so, clean the surface where the epoxy will be mixed with CH-DBC II prior to use.



**Step 7**

**Apply the Epoxy:** Apply an even bead of epoxy around the collar and seat the sump onto the tank. Wipe off any displaced epoxy on the sump exterior where possible. Smooth the epoxy seam on the sump interior. Make sure the seam is thouroughly packed with the epoxy, spread evenly with a spatula and let cure. Let cure for 4 hours prior to entering the sump to perform the piping functions inside the sump.



**Step 8**

**Install Penetrations:** Once the base of the sump has been mounted to the tank collar or bung, the penetration fittings may be installed. Follow the penetration fitting manufacturer's recommended installation procedures. For Diversified PF-FGC compact and PF-FGT Fiberglass penetrations drill holes using a 4.5" hole saw at the locations desired for entry. Diversified PF-BC series of bonded conduit fittings require a 1 3/4" hole saw.



FGC Series Penetration



FGT Series Penetration



BC Bonded Conduit Series

**Step 9**

**Install extension or riser:** Sand and clean the shelf for the mounting of the extension or the riser. For shallow burial cut down the riser to a dish pattern. For standard burial applications approximately 6" may be cut off the bottom of the riser skirt. Mix the epoxy as described above and seat the riser or extension. Allow 4 hours prior to disturbing sump after bonding is completed.



**Step 7**

**Install the Lid:** If a friction fit lid, just seat the lid on the riser. If a magnetic Lid, use the SU-ML Tool, check riser for Planarity and install magnetic Lid. Follow instructions supplied with the tool.



**Tools Needed**

- Sanding and cleaning products
- Saws for trimming riser and cutting holes for adaptor or collars
- Vacuum Pump capable of pulling at least 16" of mercury.
- Hand tools for connecting tubing to the pump and other hand tools
- Source of Air or other gas to pressurize the sump.

**Products Needed**

- SU-TKSF
- CH-DBC II - one aerosol container per sump
- CH-DEB-5 lb Epoxy Kit
- 0.9 lb for a bung mount (Tank Adaptor Kit)
- 3.3 lb for a riser or an extensoin. (Required for every sump)
- 4.3 lb for a 42" collar mount
- 4.9 lb for a 48" collar mount

# SU-CII-TKSF-EXT & SU-CII-TSFA-EXT

## Installation Instructions Single Wall Tank Sump Extensions



Diversified Products



Weaver Products

Prepare all Surfaces: All surfaces to be bonded should be prepared prior to Completing the installation steps below.  
 Warning: Failure to follow each step will void the warranty and may result in premature failure of the penetration fitting. Adhere to the following general instructions for each step of the installation.  
**Bonding to Poly & FRP surfaces: Sand (rough up) sump surfaces to be bonded and clean with CH-DBC II. Remove all gel coat on all fiberglass surfaces.**  
**Cleaning: Spray all surfaces to be bonded with CH-DBC II Cleaner and allow to air dry.** Excess cleaner may be wiped off with a clean dry cloth.

Diversified's Tank Sump Extensions are available for direct burial applications. Diversified extensions are approximately 24" tall. Extensions are the larger diameter of the tank sump (approximately 54") and are generally mounted in the field. The top of the extension is configured of accept the standard sump riser assembly shipped as part of the sump. For bonding the extension, order the bulk epoxy seperately. Risers may be cut to any length in the field. Multiple extensions may be stacked. Instructions shown are for the SU-TKSF-Ext. The procedure is the same for the SU-TSFA-EXT

### Step 1

**Inspect the extension:** At the time the extension is received, the products should be immediately unpacked and checked for damage. Should the base or riser be damaged, notify the carrier and contact the factory immediately.



Extension with friction fit lid

### Step 2

**Preparations for installation:** Determine if the extension is to be modified to a shorter length. If so, visibly mark the extension 360 degrees and cut to length. Sand and clean the surface to be bonded to the sump base for 1" above the bottom. Sand and clean the mating part of the sump base. Spray both surfaces with CH-DBC II. Allow surfaces to air dry or wipe dry with a clean dry cloth.



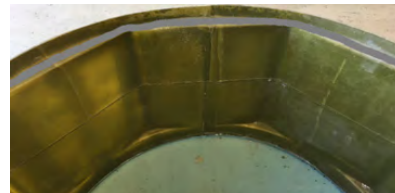
### Step 3

**Mix the epoxy:** It takes 3.3 lb. of CH-DEB epoxy to bond the extension to the base. Order seperately as a kit or in bulk. Use the container provided and mix part A & B thoroughly. If desired, the epoxy may be mixed outside the can provided. If so clean the surface where the epoxy will be mixed with CH-DBC II prior to use.



### Step 4

**Apply the Epoxy:** Apply an even bead of epoxy around the sump and seat the sump onto the tank sump bottom. Wipe off any displaced epoxy on the sump exterior where possible. Smooth the epoxy seam on the sump interior. Make sure the seam is thouroughly packed with the epoxy, spread evenly with a spatula and let cure. Let cure for 4 hours prior to entering the sump to perform the piping functions inside the sump.



### Step 5

**Seat the Extension:** Seat the extension into the epoxy. Let the extension rest on the shelf of the base and spread the epoxy displaced evenly around the interior and exterior of the extension. Wait 4 hours before installing the riser to the top of the extension.



**Step 6**

**Install the Riser:** Follow the same steps for applying the epoxy to the riser. Seat the Riser.

**Step 7**

**Install the Lid:** If a friction fit lid just seat it on the riser. If a magnetic Lid, use the SU-ML Tool, check riser for Planarity and install magnetic Lid. Follow instructions supplied with the tool.

**Tools Needed**

Sanding and cleaning products  
Saws for trimming riser and cutting holes for adaptor or collars

**Products Needed**

SU-TKSF Tank  
SU-TKSF-Ext - Extension  
CH-DBC II - one aerosol container per sump  
CH-DEB-5 lb Epoxy Kit  
0.9 lb for a bung mount (Tank Adaptor Kit)  
3.3 lb for a riser or an extension. (Required for every sump)  
4.3 lb for a 42" collar mount  
4.9 lb for a 48" collar mount



# SU-TSFA-DW

## Installation Instructions Adjustable Double Wall Piping Sumps



Diversified Products



Weaver Products

**Prepare all Surfaces:** All surfaces to be bonded should be prepared prior to Completing the installation steps below.

**Warning:** Failure to follow each step will void the warranty and may result in premature failure of the penetration fitting. Adhere to the following general instructions for each step of the installation.

**Bonding to Poly & FRP surfaces:** Sand (rough up) sump surfaces to be bonded and clean with CH-DBC II. Remove all gel coat on all fiberglass surfaces.

**Cleaning:** Spray all surfaces to be bonded with CH-DBC II Cleaner and allow to air dry. Excess cleaner may be wiped off with a clean dry cloth.

Diversified's Tank Sumps are two part. This allows the base to be installed and piped prior to the assembly of the riser or extension (deep burial applications). The riser may be field cut for burial depths from 30 to 52 1/2". Piping sumps may be ordered for 42" or 48" collar mounting or may be ordered with a flat floor for bung mounting. Double wall sumps designed for collar mounting have the bottom sealed and may be bonded directly to the double wall collar.

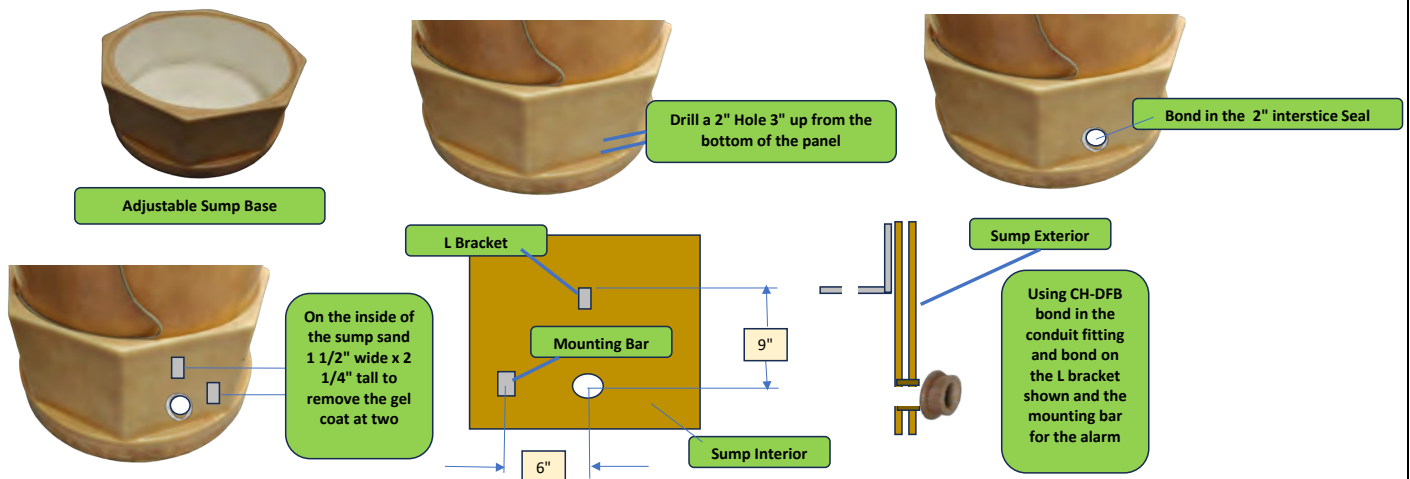
### Step 1

**Inspect the riser and base:** At the time the riser and base are received, the products should be immediately unpacked and checked for damage. Should the base or riser be damaged, notify the carrier and contact the factory immediately.



### Step 2

**Install the electrical hardware to be mounted in the base at this time - Contractors Choice.** Regardless of the sequence when installing the conduit penetrations remember the sump most likely will be mounted on the collar so that one side of the octagon is parallel with the tank sump. By preinstalling the electrical hardware prior to the installation of the base, considerable time can be saved. The electrical hardware may be ordered installed at the factory.



### Step 3

**Installing Brackets:** Brackets are installed on a vertical sump wall. Be sure the bracket surface to be bonded is sanded to bare metal. Sand the area on the sump removing all gel coat to raw fiberglass. Clean with CH-DBC II and all to air dry or wipe dry with a clean dry cloth. Apply a thin layer of CH-DFB bonder to the mating surfaces and place the bracket firmly in the spot to be bonded. On the opposite side of the sump place a magnet. The magnet will hold the bracket in place until the bonding material is cured approximately 1 hour.




### Step 4

**Prepare for mounting:** Determine if the sump is to be bung or collar mounted either 42" or 48". If Bung mounted, determine the location of the turbine riser and cut a 7 1/2" hole for the riser. Install the interstice seal ES-IS-7.5. See additional instructions for this procedure. Contact the factory for training. Follow the installation instructions for the tank sump adaptor provided. If collar mounted, order the sumps with the desired collar. The sumps may be ordered with the bottoms removed and sealed for either 42" or 48" collar mounting. Sand all surfaces to be bonded removing all gel coat and clean with CH-DBC II.



**Step 5**

**Mount the sump base:** If bung mounted follow the instructions provided with the tank sump adaptor. If Collar mounted, sand all surfaces to be bonded and clean with CH-DBC II. **Attention: Orientate the 8 sided base so lines entering the sump will be perpendicular to the sump wall.**



Mount the Base to the Collar


**Step 6**

**Prepare the Epoxy:** It takes 4.3 lbs. of CH-DEB epoxy for a 42" collar mount and 4.9 lbs. for a 48" collar mount. Order separately as a kit or in bulk. Use the container provided and mix part A & B thoroughly. If desired, the epoxy may be mixed outside the can provided. If so clean the surface where the epoxy will be mixed with CH-DBC II prior to use.



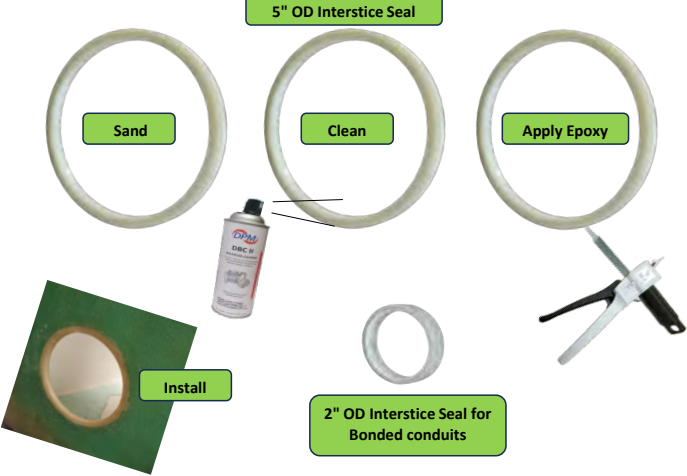
**Step 7**

**Apply the Epoxy, Sump Base to Collar:** Apply an even bead of epoxy around the collar and seat the sump onto the tank collar or tank Sump adaptor. Wipe off any displaced epoxy on the sump exterior where possible. Smooth the epoxy seam on the sump interior. Make sure the seam is thoroughly packed with the epoxy, spread evenly with a spatula and let cure. Let cure for 4 hours prior to entering the sump to perform the piping functions inside the sump. Repeat for the exterior seal.



**Step 8**

**Install the interstice seals and penetration fittings:** Once the Base has been installed on the collar or tank sump adaptor, the penetration fittings should be installed. First, install the Interstice Seals. For Penetration fittings use a 5" hole saw with integral sanding disc (PF-HSS-5.0) and install the interstice seal ES-IS-5.0. Use CH-DFB epoxy bonder to seal the interstice seal to the sump wall. Be sure the interstice seal is flush to the inside of the sump wall. Should the interstice seal extend beyond the surface of the sump, it will need to be sanded until flush with the outside of the sump. The inside diameter of the interstice seal is 4 1/2" and is designed to mate to Diversified's PF-FGT fiberglass penetrations or the PF-FGC line of compact fiberglass penetrations. For conduit penetrations use interstice seal ES-IS-2.0 with a 2" hole saw with sanding Disc PF-HSS-2.0. Diversified penetrations are designed to perfectly fit into and bond to their respective interstice seals. Penetration fittings may be installed at this time or at a later date should the site progress be interrupted. Prior to installing the penetrations lightly sand the interstice seal and around the seal for about 1" . Remove all debris and foreign matter. Clean with CH-DBC II. Let air dry or wipe dry with a clean dry cloth. Install the penetrations in accordance with their installation instructions. Follow these steps for installing interstice seals for the electrical power and sensor penetrations. See additional instructions for hole saws with Sanding Discs.



5" OD Interstice Seal

Sand

Clean


Apply Epoxy

Install

2" OD Interstice Seal for Bonded conduits

**Step 9**

**Install the Piping:** **Note Step 9 may be performed prior to step 7.** Once the base and penetration fittings are installed the system is ready for piping. The base is Octagonal and should be oriented so that lines penetration the sump are perpendicular to the sump's wall. When the piping is complete and tested, the riser and extension(s) may be installed. Follow instructions provided with the penetration fittings including conduits.




FGC Series Penetration

FGT Series Penetration

**Step 10**

**Electronics:** Double wall sumps have an interstice sensor that is located at the top of the sump and a second sensor located at the bottom of the sump. Generally these are connected by one conduit system leading to the outside of the sump near the bottom of the sump. The contractor may elect to make this penetration at any elevation on the sump. The contractor may also elect to make two penetrations one for each sensor. Diversified offers a very cost effective low profile "Bonded Conduit Fitting". Where possible this fitting should be used to penetrate the sump wall for alarm sensors and power wiring. The fittings are available for 3/4" and 1" rigid conduits. Install the Bonded conduit penetrations at the locations selected. Follow instructions provided with the fittings. Shown at the right are two examples of the bonded conduit fittings with rigid conduit nipples installed.

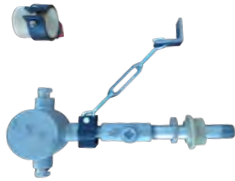


Conduit Penetration Installed

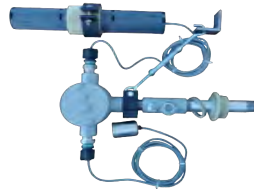


**Step 11**

**Install the sump sensor:** Before installing the riser, the sensor for the bottom of the sump may be installed. An installation kit with a sensor mounting bracket, unilet, seal off and nipples are available from Diversified Products Product Number ES-EL-DW-TS. This kit is pre assembled and ready to be installed. The kit is designed for Veeder Root "208" sensors for the bottom of the sump. One port of the unilet is left open for sensor wiring from the interstice sensor located at the top of the sump. The installation of this kit and should be completed prior to installing the riser. The kit may be field installed or factory installed. The kit may also be provided with the sensors ES-EL-DW-TS-SK. Installing the 208 sensor and wiring to the unilet may be done at this time or later in the process. Note: Pictures left and center show kit components only. Picture right shows the components as installed.



ES-EL-DW-TS

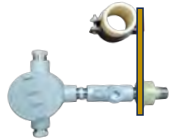


ES-EL-DW-TS-SK

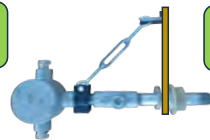
Picture with Kit installed

**Step 12**

**Install the sensor hardware:** With the brackets installed and conduit interstice seal cured, install the Bonded Conduit fitting and allow to cure. After approximately 1 hour the assembly may be placed so the conduit penetrates the sump wall and the turn buckle may be installed to stabilize the assembly.



Bond penetration then install Kit



Install turnbuckle and level kit



Install 208 sensor & extend wire into Unilet

Some prefer to install the sensor as the final step

**Step 13**

**Install the Riser:** Notice: Prior to bonding, rotate the riser so that the interstice sensor and the sump sensor hardware located at the bottom of the sump are aligned. On double wall sumps communication must be maintained from base to riser and extensions, if any. The sump seams are designed to be sealed with epoxy on the inside of the sump. The double wall communicates on the exterior half of the sump. To maintain the integrity of the interstice of the sump a fiberglass rope is provided. Wrap the rope completely around the perimeter of the sump. Push the rope down until it is completely below the top edge of the base. Trim rope to fit. Apply epoxy over the rope making sure it is covered by at least 1/4" of epoxy. This process takes approximately 4 # of epoxy. It is impossible to determine the quality of joints installed based on unknown jobsite conditions. The epoxy joints may be covered with fiberglass matting and isophthalic resin should the contractor be concerned about the soundness of the joint installed.

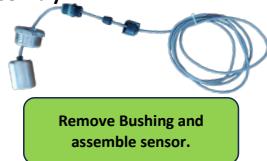


**Step 14**

**Install the interstice sensor:** The interstice sensor is mounted in a chamber at the top of the sump. The sump is designed to have a replacable 1 1/4 x 1/2" stainless bushing threaded into the sump sensor chamber. Remove the bushing, install the sensor running the wires through the bushing. Coil the sensor wire outside the bushing and seal with the cable seal provided with the Veeder Root 304 sensor. This leaves a sealed chamber so the sump may be pressurized to 4 PSIG as the final step. The installing technician should take care to seal the chamber using Gasolia E on the threads of the 1 1/4x1/2" bushing. Factory installed bushings may be removed with a 1 3/4" open end wrench. **When sensors are ordered from Diversified, this step is complete when the sump is shipped. Excess cable is coiled at the top awaiting for sump assembly.**



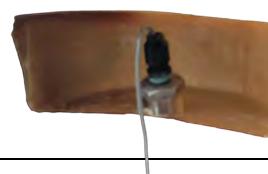
Factory installed Bushing



Remove Bushing and assemble sensor.



Assemble with 4" from bushing top to end of sensor



Install bushing w/Sensor and cable seal.

**Step 15**

**Preparation for Brine:** The sump is fitted with fill and vacuum chambers at the top of the sump near the magnetic or friction fit lid. These chambers are recessed to allow complete access into the sump without interfering with the technicians that need to enter the sump to complete the installation or service the equipment. First is a fill line that has a 1/2" barbed fitting for tubing to be run to the brine source when charging the sump. The second chamber is the vacuum line that is fitted with a vacuum/pressure gauge and a 1/2" barbed fitting to be run to the vacuum pump. Each line is equipped with a 1/2" stainless shutoff valve rated for vacuum. **Important note the position of the valve handles at each step.**

Fill Ball Valve

Vacuum Ball Valve



Connect to brine source



Connect to vacuum pump

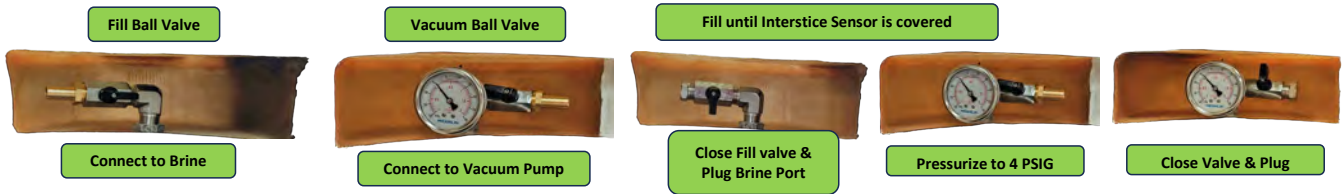
Pull 16 " Hg Vacuum then close



Hold 16 " Hg for one hour without loss of vacuum

**Step 16**

**Test Sump for Tightness and install Brine:** If no leaks are detected, extend the fill line to the brine source. Slowly open the fill and vacuum valves and start the vacuum pump. Vacuum in brine until the interstice sensor is completely covered with brine. Shut off both valves. Note: if the contractor is supplying the interstice sensor, it should be installed earlier in the process so that the sensor seal is verified tight. Once the brine is at the correct location, stop the vacuum pump, remove the fill line and barbed fitting. Install a plug on the ball valve and turn the fill ball valve off. Remove the vacuum line and connect to a pressurized air source. Slowly bleed 4 PSIG into the sump interstice, close the valve, remove the barbed fitting, shutoff the valve and plug the line. Verify there are no leaks at the fill or vacuum lines. **Warning: Do not over pressurize.**



**Step 17**

**Final Steps:** The coiled interstice low level alarm sensor (Veeder Root 304) wiring needs to be run to the outside of the sump. The wiring should be run either to the assembly offered by DPM near the bottom of the sump, or to whatever exit point the contractor has selected. The "208" sump sensor needs to be installed and also run to the outside of the sump. Power wiring needs to be brought into the sump and connected in accordance with applicable codes. The following procedures are followed by Diversified when providing and installing kits or kits with sensors. **Should the contractor provide sensors and or penetrations, interstice seals must be used or the warranty is voided.**

**Step 18**

**Connect the alarm sensors:** Run the alarm cable from the level sensor at the top of the sump to the bottom of the sump and install into the unilet port reserved for that purpose. A unilet, a seal off and rigid piping are installed near the bottom of the tank sump. Conduit is extended to the sump exterior and is also connected to the sump alarm sensor. Coil the remaining cable in the unilet for eventual connection to the alarm system. Note: If the contractor is providing the Sump alarm sensor and wiring, care needs to be taken so the installation instructions provided herein are followed.



**Step 19**

**Install the Lid:** If a friction fit lid, just seat the lid on the riser. If a magnetic Lid, Use the SU-ML Tool, check riser for Planarity and install magnetic Lid. Follow instructions supplied with the tool.



**Step 20**

**Contractor To Do's:** Make sure the seal off is filled per NEC and regulations. Paint or isolate the conduit extending out of the sump from the soils. Diversified offers a soils barrier paint for this purpose paint with DPM's Soils Barrier CH-DSB.

**Tools Needed**

- Sanding and cleaning products
- Saws for trimming riser and cutting holes for adaptor or collars
- 5" hole saw for penetration interstice seals if seals are to be field installed.
- 2" Hole saw for installing Bonded Conduit fittings.
- Tubing and connectors for connection the 1/2" Barbed fittings to the vacuum pump and air sources.
- Vacuum pump capable of 20" HG
- Air Source for pressurizing the sump.
- 1 3/4" Open End Wrench for the level sensor bushing.

**Products Needed**

- SU-TSFA-DW
- CH-Brine-x.xBrine shipped Loose with sump.
- CH-DBC II - one aerosol container per sump
- CH-DEB-5 lb. Epoxy Kit - 2 each
- 0.9 lb. for a bung mount (Tank Adaptor Kit)
- 3.3 lb. for a riser or an extension. (Required for every sump)
- 4.3 lb. for a 42" collar mount
- 4.9 lb. for a 48" collar mount

# SU-TKSF-DW

## Installation Instructions Large Double Wall Turbine Sumps



Diversified Products



Weaver Products

**Prepare all Surfaces:** All surfaces to be bonded should be prepared prior to completing the installation steps below.

**Warning:** Failure to follow each step will void the warranty and may result in premature failure of the penetration fitting. Adhere to the following general instructions for each step of the installation.

**Bonding to Poly & FRP surfaces:** Sand (rough up) sump surfaces to be bonded and clean with CH-DBC II. Remove all gel coat on all fiberglass surfaces.

**Cleaning:** Spray all surfaces to be bonded with CH-DBC II Cleaner and allow to air dry. Excess cleaner may be wiped off with a clean dry cloth.

Diversified's Tank Sumps are two part. This allows the base to be installed and piped prior to the assembly of the riser or extension (deep burial applications). Piping sumps may be ordered for 42" or 48" collar mounting or may be ordered with a flat floor for bung mounting. Double wall sumps designed for collar mounting have the bottom sealed and may be bonded directly to the double wall collar. For deep burial applications order the extension for this sump.

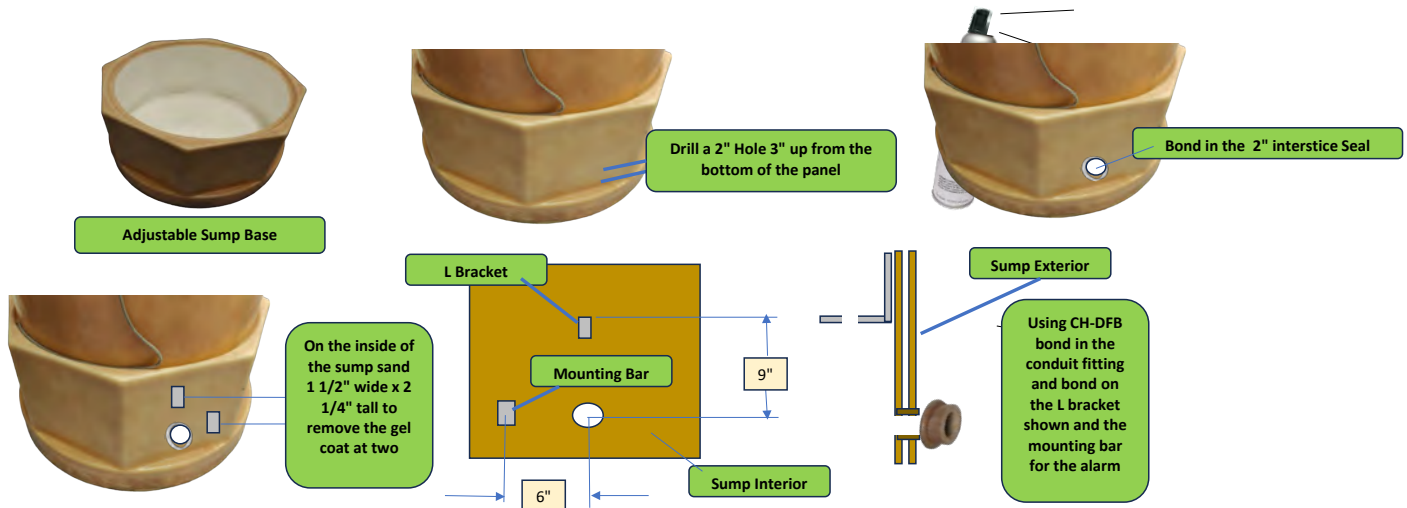
### Step 1

**Inspect the riser and base:** At the time the riser and base are received, the products should be immediately unpacked and checked for damage. Should the base or riser be damaged, notify the carrier and contact the factory immediately.



### Step 2

**Install the electrical hardware to be mounted in the base at this time - Contractors Choice.** Regardless of the sequence when installing the conduit penetrations, remember the sump most likely will be mounted on the collar so that one side of the octagon is parallel with the tank sump. By preinstalling the electrical hardware prior to the installation of the base, considerable time can be saved. The electrical hardware may be ordered installed at the factory.



### Step 3

**Installing Brackets:** Brackets are installed on a vertical sump wall. Be sure the bracket surface to be bonded is sanded to bare metal. Sand the area on the sump removing all gel coat to raw fiberglass. Clean with CH-DBC II and all to air dry or wipe dry with a clean dry cloth. Apply a thin layer of CH-DFB bonder to the mating surfaces and place the bracket firmly in the spot to be bonded. On the opposite side of the sump place a magnet. The magnet will hold the bracket in place until the bonding material is cured approximately 1 hour.



### Step 4

**Prepare for mounting:** Determine if the sump is to be bung or collar mounted either 42" or 48". If Bung mounted, determine the location of the turbine riser and cut a 7 1/2" hole for the riser. Install the interstice seal ES-IS-7.5. See additional instructions for this procedure. Contact the factory for training. Follow the installation instructions for the tank sump adaptor provided. If collar mounted, order the sumps with the desired collar. The sumps may be ordered with the bottoms removed and sealed for either 42" or 48" collar mounting. Sand all surfaces to be bonded removing all gel coat and clean with CH-DBC II.



**Step 5**

**Mount the sump base:** If bung mounted follow the instructions provided with the tank sump adaptor. If Collar mounted, sand all surfaces to be bonded and clean with CH-DBC II. **Attention: Orientate the 8 sided base so lines entering the sump will be perpendicular to the sump wall.**



Mount the Base to the Collar

**Step 6**

**Prepare the Epoxy:** It takes 4.3 lbs. of CH-DEB epoxy for a 42" collar mount and 4.9 lbs. for a 48" collar mount. Order separately as a kit or in bulk. Use the container provided and mix part A & B thoroughly. If desired, the epoxy may be mixed outside the can provided. If so clean the surface where the epoxy will be mixed with CH-DBC II prior to use.



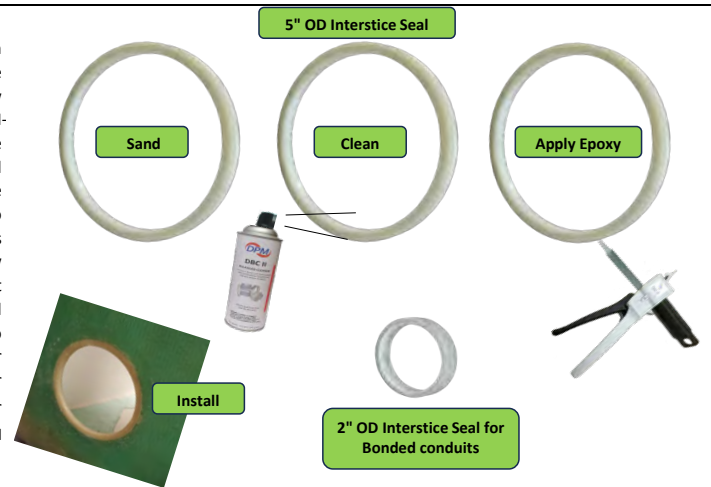
**Step 7**

**Apply the Epoxy, Sump Base to Collar:** Apply an even bead of epoxy around the collar and seat the sump onto the tank collar or tank Sump adaptor. Wipe off any displaced epoxy on the sump exterior where possible. Smooth the epoxy seam on the sump interior. Make sure the seam is thoroughly packed with the epoxy, spread evenly with a spatula and let cure. Let cure for 4 hours prior to entering the sump to perform the piping functions inside the sump. Repeat for the exterior seal.



**Step 8**

**Install the interstice seals and penetration fittings:** Once the Base has been installed on the collar or tank sump adaptor, the penetration fittings should be installed. First, install the Interstice Seals. For Penetration fittings use a 5" hole saw with integral Sanding disc (PF-HSS-5.0) and install the interstice seal ES-IS-5.0. Use CH-DFB epoxy bonder to seal the interstice seal to the sump wall. Be sure the interstice seal is flush to the inside of the sump wall. Should the interstice seal extend beyond the surface of the sump, it will need to be sanded until flush with the outside of the sump. The inside diameter of the interstice seal is 4 1/2" and is designed to mate to Diversified's PF-FGT fiberglass penetrations or the PF-FGC line of compact fiberglass penetrations. For conduit penetrations use interstice seal ES-IS-2.0 with a 2" hole saw with sanding disc PF-HSS-2.0. Diversified penetrations are designed to perfectly fit into and bond to their respective interstice seals. Penetration fittings may be installed at this time or at a later date should the site progress be interrupted. Prior to installing the penetrations lightly sand the interstice seal and around the seal for about 1". Remove all debris and foreign matter. Clean with CH-DBC II. Let air dry or wipe dry with a clean dry cloth. Install the penetrations in accordance with their installation instructions. Follow these steps for installing interstice seals for the electrical power and sensor penetrations. See additional instructions for hole saws with Sanding Discs.



**Step 9**

**Install the Piping:** **Note Step 9 may be performed prior to step 7.** Once the base and penetration fittings are installed the system is ready for piping. The base is Octagonal and should be oriented so that lines penetration the sump are perpendicular to the sump's wall. When the piping is complete and tested, the riser and extension(s) may be installed. Follow instructions provided with the penetration fittings including conduits.



**Step 10**

**Electronics:** Double wall sumps have an interstice sensor that is located at the top of the sump and a second sensor located at the bottom of the sump. Generally these are connected by one conduit system leading to the outside of the sump near the bottom of the sump. The contractor may elect to make this penetration at any elevation on the sump. The contractor may also elect to make two penetrations one for each sensor. Diversified offers a very cost effective low profile "Bonded Conduit Fitting". Where possible this fitting should be used to penetrate the sump wall for alarm sensors and power wiring. The fittings are available for 3/4" and 1" rigid conduits. Install the Bonded conduit penetrations at the locations selected. Follow instructions provided with the fittings. Shown at the right are two examples of the bonded conduit fittings with rigid conduit nipples installed.





**Step 11**

**Install the sump sensor:** Before installing the riser, the sensor for the bottom of the sump may be installed. An installation kit with a sensor mounting bracket, unilet, seal off and nipples are available from Diversified Products Product Number ES-EL-DW-TS. This kit is pre assembled and ready to be installed. The kit is designed for Veeder Root "208" sensors for the bottom of the sump. One port of the unilet is left open for sensor wiring from the interstice sensor located at the top of the sump. The installation of this kit and should be completed prior to installing the riser. The kit may be field installed or factory installed. The kit may also be provided with the sensors ES-EL-DW-TS-SK. Installing the 208 sensor and wiring to the unilet may be done at this time or later in the process. Note: Pictures left and center show kit components only. Picture right shows the components as installed.



ES-EL-DW-TS



ES-EL-DW-TS-SK

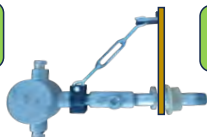
Picture with Kit installed

**Step 12**

**Install the sensor hardware:** With the brackets installed and conduit interstice seal cured, install the Bonded Conduit fitting and allow to cure. After approximately 1 hour the assembly may be placed so the conduit penetrates the sump wall and the turn buckle may be installed to stabilize the assembly.



Bond penetration then install Kit



Install turnbuckle and level kit



Install 208 sensor & extend wire into Unilet

Some prefer to install the sensor in the final step 20.

**Step 13**

**Install the Riser:** **Notice: Prior to bonding, rotate the riser so that the interstice sensor and the sump sensor hardware located at the bottom of the sump are aligned.** On double wall sumps communication must be maintained from base to riser and extensions, if any. The sump seams are designed to be sealed with epoxy on the inside of the sump. The double wall communicates on the exterior half of the sump. To maintain the integrity of the interstice of the sump a fiberglass rope is provided. Wrap the rope completely around the perimeter of the sump. Push the rope down until it is completely below the top edge of the base. Trim rope to fit. Apply epoxy over the rope making sure it is covered by at least 1/4" of epoxy. This process takes approximately 4 # of epoxy. It is impossible to determine the quality of joints installed based on unknown jobsite conditions. The epoxy joints may be covered with fiberglass matting and isophthalic resin should the contractor be concerned about the soundness of the joint installed.



**Step 14**

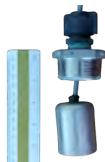
**Install the interstice sensor:** The interstice sensor is mounted in a chamber at the top of the sump. The sump is designed to have a replacable 1 1/4 x 1/2" stainless bushing threaded into the sump sensor chamber. Remove the bushing, install the sensor running the wires through the bushing. Coil the sensor wire outside the bushing and seal with the cable seal provided with the Veeder Root 304 sensor. This leaves a sealed chamber so the sump may be pressurized to 4 PSIG as the final step. The installing technician should take care to seal the chamber using Gasolia E on the threads of the 1 1/4x1/2" bushing. Factory installed bushings may be removed with a 1 3/4" open end wrench. **When sensors are ordered from Diversified, this step is complete when the sump is shipped. Excess cable is coiled at the top awaiting for sump assembly.**



Factory installed Bushing



Remove Bushing and assemble sensor.



Assemble with 4" from bushing top to end of sensor



Install bushing w/Sensor and cable seal.

**Step 15**

**Preparation for Brine:** The sump is fitted with fill and vacuum chambers at the top of the sump near the magnetic or friction fit lid. These chambers are recessed to allow complete access into the sump without interfering with the technicians that need to enter the sump to complete the installation or service the equipment. First is a fill line that has a 1/2" barbed fitting for tubing to be run to the brine source when charging the sump. The second chamber is the vacuum line that is fitted with a vacuum/pressure gauge and a 1/2" barbed fitting to be run to the vacuum pump. Each line is equipped with a 1/2" stainless shutoff valve rated for vacuum. **Important note the position of the valve handles at each step.**

Fill Ball Valve



Connect to brine source

Vacuum Ball Valve



Connect to vacuum pump

Pull 16 " Hg Vacuum then close



Hold 16 " Hg for one hour without loss of vacuum

### Step 16

**Test Sump for Tightness and install Brine:** If no leaks are detected, extend the fill line to the brine source. Slowly open the fill and vacuum valves and start the vacuum pump. Vacuum in brine until the interstitial sensor is completely covered with brine. Shut off both valves. Note: if the contractor is supplying the interstice sensor, it should be installed earlier in the process so that the sensor seal is verified tight. Once the brine is at the correct location, stop the vacuum pump, remove the fill line and barbed fitting. Install a plug on the ball valve and turn the fill ball valve off. Remove the vacuum line and connect to a pressurized air source. Slowly bleed 4 PSIG into the sump interstice, close the valve, remove the barbed fitting, shutoff the valve and plug the line. Verify there are no leaks at the fill or vacuum lines. **Warning: Do not over pressurize.**



### Step 17

**Final Steps:** The coiled interstice low level alarm sensor (Veeder Root 304) wiring needs to be run to the outside of the sump. The wiring should be run either to the assembly offered by DPM near the bottom of the sump, or to whatever exit point the contractor has selected. The "208" sump sensor needs to be installed and also run to the outside of the sump. Power wiring needs to be brought into the sump and connected in accordance with applicable codes. The following procedures are followed by Diversified when providing and installing kits or kits with sensors. **Should the contractor provide sensors and or penetrations, interstice seals must be used or the warranty is voided.**

### Step 18

**Connect the alarm sensors:** Run the alarm cable from the level sensor at the top of the sump to the bottom of the sump and install into the unilet port reserved for that purpose. A unilet, a seal off and rigid piping are installed near the bottom of the tank sump. Conduit is extended to the sump exterior and is also connected to the sump alarm sensor. Coil the remaining cable in the unilet for eventual connection to the alarm system. Note: If the contractor is providing the Sump alarm sensor and wiring, care needs to be taken so the installation instructions provided herein are followed.



### Step 19

**Install the Lid:** If a friction fit lid, just seat the lid on the riser. If a magnetic Lid, Use the SU-ML Tool, check riser for Planarity and install magnetic Lid. Follow instructions supplied with the tool.



### Step 20

**Contractor To Do's:** Make sure the seal off is filled per NEC and regulations. Paint or isolate the conduit extending out of the sump from the soils. Diversified offers a soils barrier paint for this purpose paint with DPM's Soils Barrier CH-DSB.

#### Tools Needed

- Sanding and cleaning products
- Saws for trimming riser and cutting holes for adaptor or collars
- 5" hole saw for penetration interstice seals if seals are to be field installed.
- 2" Hole saw for installing Bonded Conduit fittings.
- Tubing and connectors for connection the 1/2" Barbed fittings to the vacuum pump and air sources.
- Vacuum pump capable of 20" HG
- Air Source for pressurizing the sump.
- 1 3/4" Open End Wrench for the level sensor bushing.

#### Products Needed

- SU-TSFA-DW
- CH-Brine-x.Brine shipped Loose with sump.
- CH-DBC II - one aerosol container per sump
- CH-DEB-5 lb. Epoxy Kit - 2 each
- 0.9 lb. for a bung mount (Tank Adaptor Kit)
- 3.3 lb. for a riser or an extension. (Required for every sump)
- 4.3 lb. for a 42" collar mount
- 4.9 lb. for a 48" collar mount

Diversified's Tank Sumps are two part. This allows the base to be installed

# SU-CII-TKSF-EXT-DW &

# SU-CII-TSFA-EXT-DW



Diversified Products  
Manufacturing Inc.



Weaver Products

## Installation Instructions Double Wall Tank Sump Extensions

**Prepare all Surfaces:** All surfaces to be bonded should be prepared prior to Completing the installation steps below.

**Warning:** Failure to follow each step will void the warranty and may result in premature failure of the penetration fitting. Adhere to the following general instructions for each step of the installation.

**Bonding to Poly & FRP surfaces:** Sand (rough up) sump surfaces to be bonded and clean with CH-DBC II. Remove all gel coat on all fiberglass surfaces.

**Cleaning:** Spray all surfaces to be bonded with CH-DBC II Cleaner and allow to air dry. Excess cleaner may be wiped off with a clean dry cloth.

Diversified's Tank Sump Extensions are available for direct burial applications. Diversified extensions are approximately 24" tall. Extensions are the larger diameter of the piping or turbine sump and are generally mounted in the field. The top of the extension is configured of accept the standard sump riser assembly shipped as part of the sump. For bonding the extension, order the bulk epoxy separately. Extensioing may be cut to any length in the field. Multiple extensions may be stacked. Instructions shown are for the SU-TKSF-EXT-DW. The procedure is the same for The SU-TSFA-EXT-DW

### Step 1

**Inspect the Extension:** At the time the extension is received, the products should be immediately unpacked and checked for damage. Should the base or riser be damaged, notify the carrier and contact the factory immediately.



### Step 2

**Preparations for installation:** Determine if the extension is to be modified to a shorter length. If so, visibly mark the extension 360 degrees and cut to length. Sand and clean the surface to be bonded to the sump base for 1" above the bottom. Sand and clean the mating part of the sump base. Spray both surfaces with CH-DBC II. Allow surfaces to air dry or wipe dry with a clean dry cloth.



### Step 3

**Mix the epoxy:** It takes 3.3 lb. of CH-DEB epoxy to bond the extension to the base. Order separately as a kit or in bulk. Use the container provided and mix part A & B thoroughly. If desired, the epoxy may be mixed outside the can provided. If so clean the surface where the epoxy will be mixed with CH-DBC II prior to use.



### Step 4

**Sump Base & Riser.** When bonding the sump base be sure to align the sump walls correctly for the piping and wiring systems to be installed on the flat panels. The extension is round and has no rotational requirements. On double wall sumps communication must be maintained through the extension(s), to the riser. The sump seams are designed to be sealed with epoxy on the inside of the sump. The double wall communicates on the exterior half of the sump. To maintain the intergergy of the interstice of the sump a fiberglass rope is provided. Wrap the rope completely around the perimeter of the sump. Push the rope down until it is completely below the top edge of the base. Trim rope to fit. Apply epoxy over the rope making sure it is covered by at least 1/4" of epoxy. This process takes approximately 3.3 # of epoxy. It is impossible to determine the quality of joints installed based on unknown jobsite conditions. The epoxy joints may be covered with fiberglass matting and isophthalic resin should the contractor be concerned about the soundness of the joint installed.





**Step 6**

**Apply Epoxy to the interior seam:** After mounting the extension and finishing the exterior seam, the joint inside the base/extension needs to be sealed. Apply the epoxy as before and smooth the seam.

**Step 8**






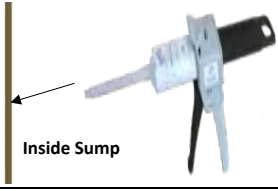
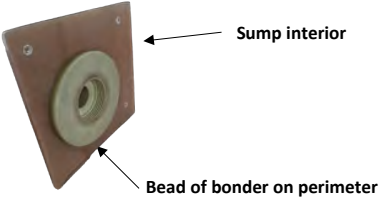


**Install the Lid:** If a friction fit lid just seat it on the riser. If a magnetic Lid, use the SU-ML Tool, check riser for Planarity and install magnetic Lid. Follow instructions supplied with the tool.

**Tools Needed**


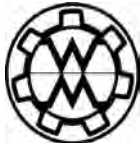



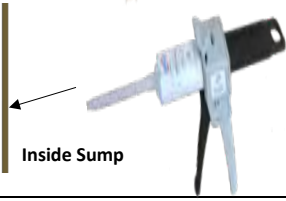
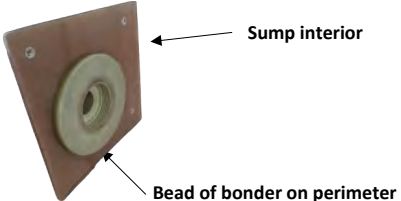
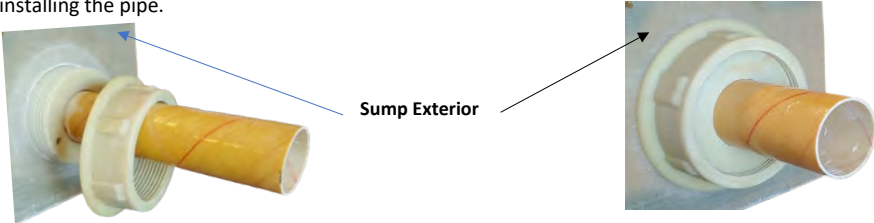
Sanding and cleaning products  
Saws for trimming riser and cutting holes for adaptor or collars

**Products Needed**

SU-TKSF or SU-TSFA Tank sump  
SU-TKSF-EXT-DW Extension or SU-TSFA-EXT-DW Extension  
CH-DBC II - one aerosol container per sump  
CH-DEB-5 lb. Epoxy Kit  
0.9 lb. for a bung mount (Tank Adaptor Kit)  
3.3 lb. for a riser or an extension. (Required for every sump)  
4.3 lb. for a 42" collar mount  
4.9 lb. for a 48" collar mount

<h1>PF-FGC-CII</h1>	APT Brugg OPW	<h2>Contractor Installation Instructions</h2>	
		<h3>Compact Penetrations for Corrugated Ducted Applications</h3>	
 Diversified Products Manufacturing Inc.	 Weaver Products	<p><b>Prepare all Surfaces:</b> All surfaces to be bonded should be prepared prior to completing the installation steps below.</p> <p><b>Warning:</b> Failure to follow each step will void the warranty and may result in premature failure of the penetration fitting. Adhere to the following general instructions for each step of the installation.</p> <p><b>Cleaning:</b> Spray all surfaces to be bonded with CH-DBC II Cleaner and wipe dry. Excess cleaner may be wiped off with a clean dry cloth.</p> <p><b>Bonding to Steel and FRP surfaces:</b> Clean and sand (rough up) sump surfaces. Remove all gel coat on all fiberglass surfaces. Apply CH-DFB to all surfaces to be bonded both the fitting and sump wall.</p>	
		<p><b>Step 1</b></p> <p><b>Hole Preparation:</b> Drill a 4.5" Diameter hole where the fitting is to be installed. Sand around the hole 1 1/2" on the inside of the sump. (The nut is on the sump exterior and is bonded only when a water tight joint is required with the corrugated ducting.)</p> <p style="text-align: right;"><b>Hole Saw 4.5"</b></p> <p style="text-align: right;"><b>Minimum Spacing between Centers 6.5"</b></p> 	
<p><b>Step 2</b></p> <p><b>Dry fit the fittings:</b> Dry fit. If you have trouble fitting the penetration in the hole, recheck the hole.</p>			
<p><b>Step 3</b></p> <p><b>Clean &amp; Bond:</b> Spray all surfaces to be bonded with CH-DBC II Cleaner. Air dry or wipe dry with a clean dry cloth. Apply CH-DFB Bonder to the fitting surface that creates a seal with the sump wall.</p>			<p style="text-align: center;"><b>Sump Exterior</b></p>  <p style="text-align: center;"><b>Inside Sump</b></p>
<p><b>Step 4</b></p> <p><b>Secure fitting to sump wall:</b> Install the nut and hand tighten to secure fitting to sump wall. When installing, there should be enough bondant so a small bead escapes the perimeter of the fitting when tightened. If no bondant is present, remove fitting and apply again. Allow bondant to cure.</p>		 <p style="text-align: right;"><b>Sump interior</b></p> <p style="text-align: right;"><b>Bead of bondant on perimeter</b></p>	
<p><b>Step 5</b></p> <p><b>Water Tight Corrugated Ducting:</b> If a water tight seal is required for the corrugated ducting, the nut must also be bonded to the sump wall. See step 4 above and apply to the nut.</p>		<p style="text-align: center;"><b>Bond nut to sump wall</b></p> 	
<p><b>Step 6</b></p> <p><b>Prepare the pipe for installation:</b> Slide the terminating reducer and corrugated duct seal over the corrugated ducting prior to installing the product carrying pipe into and through the penetration fitting.</p>		 <p style="text-align: center;"><b>Corrugated Duct Seal</b></p>	

<p><b>Step 7</b></p> <p><b>Install the pipe:</b> Push the product carrying pipe through the fitting. Install the seal around the pipe and push into the fitting cavity. Turn in the compression nut hand tight to seat the seal. Tighten with the tool to 20-25 ft lb Torque.</p>	 <p style="text-align: right;">Compression Nut</p>
<p><b>Step 8</b></p> <p><b>Tighten the compression nut:</b> Once the pipe is connected to its mating system component (flex connector or other terminating device), test the product carrying lines. A hand tight nut has produced no leaks at 5 psi test pressure. Torque the compression nut to 20-25 ft lbs. When torque on the compression nut is applied at 25 PSI the resulting test has yielded a pass rating in excess of 60 PSIG. This is best accomplished by using the PF-FGC Tool Kit. The sump may be tested at any time after tightening all Compact Penetration Fittings. This completes the installation on Direct Burial Systems</p>	
<p><b>Step 9</b></p> <p><b>Connect Corrugated Duct:</b> Push corrugated duct into the tailpiece of the penetration fitting. Push until it snaps in place. <b>Warning - the corrugated ducting will be difficult to remove once installed. Be sure you are ready to perform this step.</b></p>	
<p><b>Step 10</b></p> <p><b>Move Corrugated Duct Seal:</b> Place the corrugated duct seal in the groove nearest the penetration fitting.</p>	 <p style="text-align: center;">Corrugated Duct Seal</p>
<p><b>Step 11</b></p> <p><b>Install the Boot:</b> Slide the boot in place. Push the front edge of the boot forward until it stops on the shoulder of the penetration fitting.</p>	
<p><b>Step 12</b></p> <p><b>Tighten Band Clamps:</b> Tighten clamps but do not exceed 60 inch lbs. The installation should be complete.</p>	
<p><b>Step 13</b></p> <p><b>Completed installations inside the sump.</b></p>	
<p><b>Tools Required</b></p> <ul style="list-style-type: none"> <li>Sand paper for sump wall and pipe</li> <li>4.5" hole saw</li> <li>CH-DAG III applicator gun for CH-DFB bonder</li> </ul>	<p><b>Products Needed</b></p> <ul style="list-style-type: none"> <li>PF-FGC - see product selection matrix to complete the product #</li> <li>CH-DFB 50ml Fiberglass Bonder - will do three fittings</li> <li>CH-DBC II Aerosol Cleaner - will do 10 fittings</li> <li>PF-FGC-S-Tool or PF-FGC-L-Tool Spanner Wrenches</li> </ul>

<h1>PF-FGC-CII</h1>		NOV Fiberglass	<h2>Contractor Installation Instructions</h2>	
			<h3>Compact Penetrations for Fiberglass Pipe &amp; Direct Burial Flex Pipe Applications</h3>	
 Diversified Products Manufacturing Inc.		 Weaver Products		<p><b>Prepare all Surfaces:</b> All surfaces to be bonded should be prepared prior to completing the installation steps below.</p> <p><b>Warning:</b> Failure to follow each step will void the warranty and may result in premature failure of the penetration fitting. Adhere to the following general instructions for each step of the installation.</p> <p><b>Cleaning:</b> Spray all surfaces to be bonded with CH-DBC II Cleaner and wipe dry. Excess cleaner may be wiped off with a clean dry cloth.</p> <p><b>Bonding to Steel and FRP surfaces:</b> Clean and sand (rough up) sump surfaces. Remove all gel coat on all fiberglass surfaces. Apply CH-DFB to all surfaces to be bonded both the fitting and sump wall.</p>
<b>Step 1</b>		<p><b>Hole Preparation:</b> Drill a 4.5" Diameter hole where the fitting is to be installed. Sand around the hole 1 1/2" on the inside of the sump. (The nut is on the sump exterior and is not bonded).</p>	<p><b>Hole Saw 4.5"</b></p> <p><b>Minimum Spacing between Centers 6.5"</b></p>	
<b>Step 2</b>		<p><b>Dry fit the fittings:</b> Dry fit. If you have trouble fitting the penetration in the hole, recheck the hole.</p>		
<b>Step 3</b>		<p><b>Clean &amp; Bond:</b> Spray all surfaces to be bonded with CH-DBC II Cleaner. Air dry or wipe dry with a clean dry cloth. Apply CH-DFB Bonder to the fitting surface that creates a seal with the sump wall.</p>		<p><b>Sump Exterior</b></p> <p><b>Inside Sump</b></p> 
<b>Step 4</b>		<p><b>Secure fitting to sump wall:</b> Install the nut and hand tighten to secure fitting to sump wall. When installing, there should be enough bonder so a small bead escapes the perimeter of the fitting when tightened. If no bonder is present, remove fitting and apply again. Allow bonder to cure.</p>	 <p><b>Sump interior</b></p> <p><b>Bead of bonder on perimeter</b></p>	
<b>Step 5</b>		<p><b>Direct Burial Applications:</b> Thread on the nut. It does not need to be bonded. The nut may be installed either before or after installing the pipe.</p>	 <p><b>Sump Exterior</b></p>	

**Step 6**

**Install the pipe:** Push the product carrying pipe through the fitting. Install the seal around the pipe and push into the fitting cavity. Turn in the compression nut hand tight to seat the seal. Tighten with the tool to 20-25 ft lb Torque.



Push pipe through Fitting



Install seal & nut



Seat the seal and thread in nut.

**Step 7**

**Tighten the compression nut:** Once the pipe is connected to its mating system component (flex connector or other terminating device), test the product carrying lines. A hand tight nut has produced no leaks at 5 psi test pressure. Torque the compression nut to 20-25 ft lbs. When torque on the compression nut at 20 psi is applied the resulting test has yielded a pass rating in excess of 60 PSIG. This is best accomplished by using the PF-FGC Tool Kit. The sump may be tested at any time after tightening all Compact Penetration Fittings. This completes the installation on fiberglass lines that will be buried.







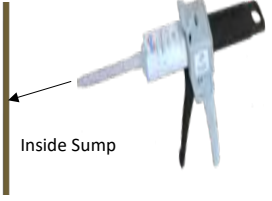
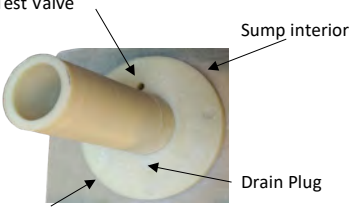

Tighten Nut

**Tools Required**

- Sand paper for sump wall and pipe
- 4.5" Hole saw
- CH-DAG III applicator gun for CH-DFB bonder

**Products Needed**

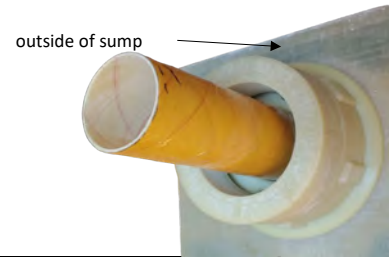
- PF-FGC - see product selection matrix to complete the product #
- CH-DFB 50ml Fiberglass Bonder - will do three fittings
- CH-DBC II Aerosol Cleaner - will do 10 fittings
- PF-FGC-S-Tool or PF-FGC-L-Tool Spanner Wrenches

<h1>PF-FGT-CII</h1>		<h2>Contractor Installation Instructions</h2>	
		<h3>Fiberglass Penetrations for FRP piping Systems</h3>	
 Diversified Products Manufacturing Inc.	 Weaver Products	<p><b>Prepare all Surfaces:</b> All surfaces to be bonded should be prepared prior to completing the installation steps below.</p> <p><b>Warning:</b> Failure to follow each step will void the warranty and may result in premature failure of the penetration fitting. Adhere to the following general instructions for each step of the installation.</p> <p><b>Cleaning:</b> Spray all surfaces to be bonded with CH-DBC II Cleaner and wipe dry. Excess cleaner may be wiped off with a clean dry cloth.</p> <p><b>Bonding to Steel and FRP surfaces:</b> Clean and sand (rough up) sump surfaces. Remove all gel coat on all fiberglass surfaces. Apply CH-DFB to all surfaces to be bonded both the fitting and sump wall.</p>	
<p><b>Step 1</b></p> <p><b>Hole Preparation:</b> Drill a 4.5" Diameter hole where the fitting is to be installed. Sand around the hole 1 1/2" on the inside of the sump. (The nut is on the sump exterior and is bonded only when a double wall piping system is used).</p>		<p>Hole Saw 4.5"</p> <p>Minimum Spacing between Centers 6.5"</p>	
<p><b>Step 2</b></p> <p><b>Dry fit the fittings:</b> Dry fit. If you have trouble fitting the penetration in the hole, recheck the hole.</p>			
<p><b>Step 3</b></p> <p><b>Clean &amp; Bond:</b> Spray all surfaces to be bonded with CH-DBC II Cleaner. Air dry or wipe dry with a clean dry cloth. Apply CH-DFB Bonder to the fitting surface that creates a seal with the sump wall.</p>			<p>Sump Exterior</p>  <p>Inside Sump</p>
<p><b>Step 4</b></p> <p><b>Warning:</b> For the first time installer of these products, follow the steps 5-9 dry fitting at each step. Be sure you understand the process completely. It is easy to miss a step and create a lot of costs to correct the process. Also, prior to each bonding step, be sure to clean with CH-DBC II. Air dry or wipe dry with a clean dry cloth.</p>			
<p><b>Step 5</b></p> <p><b>Secure fitting to sump wall:</b> Sand and clean the grooved flange on the penetrations body and the sump wall to be bonded. Apply the CH-DFB bonder evenly to the body and the sump's interior surface. Place the body in the 4 1/2" hole seat and turn 1/4 deg approx. Make sure the test port is at the top of the fitting. Install the nut on the outside of the sump and hand tighten to secure the body to sump wall. When installing, there should be enough bonder so a small bead escapes the perimeter of the body when tightened. If bonder is missing, remove fitting and apply again. Allow bonder to cure. <b>Do not allow bonder to get on the Nut.</b></p>			
<p><b>Step 6</b></p> <p><b>Install Nut &amp; Primary Pipe:</b> Use NOV tapering tools and follow pipe manufacturers instructions to taper and/or scarf the ends of pipe to be installed in a DPM system. When installing the primary pipe into the body, clean components to be bonded and apply CH-DFB bonder completely around the tapered end of the pipe and also apply to the receiving tapered body. When installing the primary pipe push into the body. The body has a 1 3/4 deg taper to match NOV specifications for tapered fittings. If possible turn pipe 1/4 turn to seat the pipe into the epoxy. <b>Do not allow the epoxy to get onto the nut.</b> Remove the nut from the penetration fitting and slide the nut over the secondary Pipe.</p>			
		<p>Single Wall pipe applications use a different Nut.</p>	



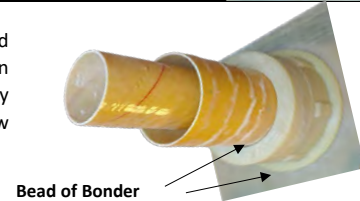
**Step 7**

**Install the Nut and Secondary Pipe.** Clean then apply bonder to the nut's flange and the surface of the sump to be bonded. Repeat the process in Step 4 above. Screw the nut onto the body and snug to the sump. Be sure there is a bead of bonder all around the perimeter of the nut. If not, remove and start over. At this point, the nut and primary pipe are bonded in place and the body is bonded to the sump wall. Usually this is the time to test the primary line prior to completing the installation of the secondary. Test the primary and fix any leaks prior to installing the secondary pipe.



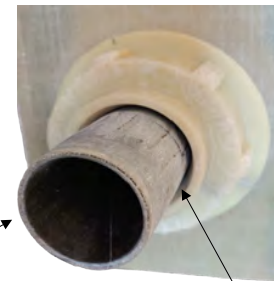
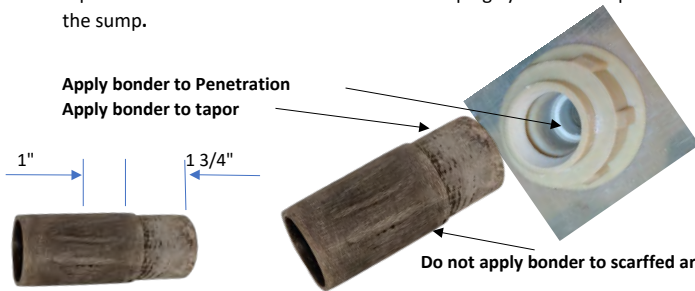
**Step 8**

**When the primary test is completed:** Clean and apply bonder to the interior of the tapered nut and the end of the tapered secondary pipe. Push the secondary pipe into the nut and turn 1/4 turn if possible. Make sure there is a bead of bonder completely around the secondary pipe and the perimeter of the nut. If not, remove the secondary pipe and start over. Allow the bond to cure then test the secondary.



**Step 9**

**For LCX systems:** When tapering the LCX Pipe also scarff the surface where the secondary will be bonded to the Penetration fittings' Nut. When the primary pipe and penetrations' nut have been bonded and tested, the secondary of the LCX installation may be completed. The nut has an internal taper and should be around the scarfed area of the LCX pipe. Clean with CH-DBC II and apply CH-DFB to the space between the nut and secondary of the LCX. Complete this step for the entire project and test secondary. For the best fit, use scarff & taper dimensions below. Installation of the Piping system is complet. Now for the interior of the sump.

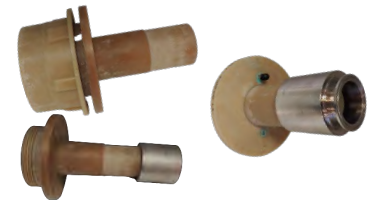


Insert pipe and rotate 1/4 turn

After testing Primary, pack penetration with Bonder

**Step 10**

**The penetration fitting:** is available in three configurations as shown to the right. One option is a tapered end for bonding NOV fiberglass components to the fitting. A secondary option is the fitting can be ordered with a 2" sanitary fitting pre bonded to the penetration. The third option is a 2" FPT coupling may be ordered pre bonded to the penetraation fitting. The Sanitary and coupling are stainless and may also be oprdered independently.



**Step 11**





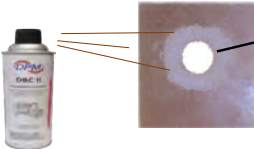





**Complete the Piping for the interior of the sump. Test as required.**

**Tools Required**










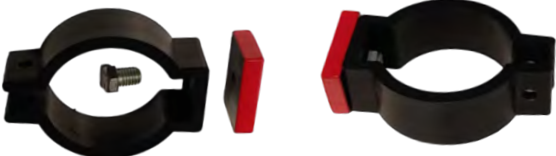

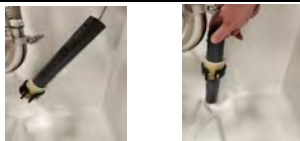

- Sand paper for sump wall and pipe
- 4.5" hole saw
- NOV approved tapering and scarffing tool
- CH-DAG III applicator gun for CH-DFB bonder

**Products Needed**

- PF-FGT - penetration fitting series
- CH-DBC II Aerosol Cleaner 8 fittings per can
- CH-DFB 50ml Fiberglass Bonder
  - For Single Wall fitting estimate 15 ml
  - For Double Wall fittiings estimate 40 ml

<h1>PF-BC-1.1 &amp; PF-BC-1.4 CII</h1>		<h2>Contractor Installation Instructions</h2>	
		<h3>Bonded Conduit Fiberglass Fittings</h3>	
 Diversified Products Manufacturing Inc.		 Weaver Products	
<p><b>Prepare all Surfaces:</b> All surfaces to be bonded should be prepared prior to completing the installation steps below.</p> <p><b>Warning:</b> Failure to follow each step will void the warranty and may result in premature failure of the penetration fitting. Adhere to the following general instructions for each step of the installation.</p> <p><b>Cleaning:</b> Spray all surfaces to be bonded with CH-DBC II Cleaner and wipe dry. Excess cleaner may be wiped off with a clean dry cloth.</p> <p><b>Bonding to Steel and FRP surfaces:</b> Clean and sand (rough up) sump surfaces. Remove all gel coat on all fiberglass surfaces. Apply CH-DFB to all surfaces to be bonded both the fitting and sump wall.</p>			
<p><b>Step 1</b></p> <p><b>Bonded Kits consist of:</b> a PF-BC-1.1 (3/4") or PF-BC-1.4 (1") Fiberglass injection molded fiberglass fitting. Fitting is suitable for bonding to a fiberglass sump and to steel pipe.</p> <p><b>Basic Bonded Conduit Fitting</b> </p> <p><b>Conduit fitting with nipple</b> </p>			
<p><b>Step 2</b></p> <p><b>Prepare the sump:</b> Determine the location where the conduit will penetrate the sump. Mark and drill a 1 3/4" hole in the sump wall. On the outside of the sump, sand around the hole removing all gel coat. Clean the hole with CH-DBC II and let air dry or wipe dry with a clean dry cloth. Separate penetration fittings are manufactured to fit either 3/4" rigid conduits PF-BC-1.1 or 1" rigid conduits PF-BC-1.4.</p>  <p>1 3/4" Dia Hole</p>			
<p><b>Step 3</b></p> <p><b>Prepare the fitting:</b> The fitting may be installed as received without preparation. <b>However</b>, it is better to sand the fitting so that all surfaces to be bonded are roughed up. Clean the hole with CH-DBC II and let air dry or wipe dry with a clean dry cloth. Apply CH-DFB fiberglass bonder to the surfaces to be bonded both the sump wall and the penetration fitting.</p> 			
<p><b>Step 4</b></p> <p><b>Install the fitting:</b> On double wall systems be sure there is an interstice seal installed before installing the bonded conduit fitting. Apply the epoxy, press the fitting into the hole and allow to cure for 12 hours prior to running the conduit through the fitting. Be sure that a bead of epoxy extends beyond the perimeter of the fitting. If not remove reapply epoxy and reinstall. Wipe the fitting smooth.</p>  <p>fitting installed on conduit</p> <p>inside of Sump</p>			
<p><b>Step 5</b></p> <p><b>Prepare the conduit:</b> Conduits may be run directly through the penetration fitting. If installing a nipple the nipple may be installed within 12 hours. If running a length of pipe through the fitting, that may apply force to the uncured epoxy it is best to wait 24 hours for installation. Dry fit and mark the location on conduit to be bonded. Sand and remove all foreign material and scuff the conduit. Apply CH-DFB bonder to the surface of the conduit to be bonded and install the conduit. Once the conduit is stable and will not be moved again, finish the bonding process by applying CH-DFB to all surfaces that have been bonded. Pack the lead in chamfers on the fiberglass fitting and wipe the epoxy to make a smooth joint.</p> 			
<p><b>Step 6</b></p> <p><b>Protect the conduit:</b> Any metal conduit leaving the sump should be coated with CH-DSB. This soils barrier paint will prevent the conduits from corroding. In some locations painting the conduits inside the sump will prevent future degradation of the conduit.</p>  			
<p><b>Tools Required</b></p> <ul style="list-style-type: none"> <li>Sand paper for sump wall and pipe</li> <li>1 3/4" hole saw</li> <li>CH-DAG III applicator gun for CH-DFB bonder</li> </ul>		<p><b>Products Needed</b></p> <ul style="list-style-type: none"> <li>PF-BC-1.1 or PF-BC-1.4 - penetration fitting</li> <li>CH-DBC II Aerosol Cleaner 8 fittings per can</li> <li>CH-DFB 50ml Epoxy Bonder</li> <li>For Single Wall fitting estimate 8 ml</li> <li>CH-DSB Soils Barrier</li> </ul>	



<h1>SU-CII-SMK</h1>		<h2>Contractor Installation Instructions</h2>	
		<h3>Sensor Mounting Kits</h3>	
 <b>Diversified Products</b> Manufacturing Inc.	 <b>Weaver Products</b>	<p><b>Prepare all Surfaces:</b> All surfaces to be bonded should be prepared prior to completing the installation steps below.</p> <p><b>Warning:</b> Failure to follow each step will void the warranty and may result in premature failure of the penetration fitting. Adhere to the following general instructions for each step of the installation.</p> <p><b>Cleaning:</b> Spray all surfaces to be bonded with CH-DBC II Cleaner and wipe dry. Remove all gel coat on all fiberglass surfaces. Apply CH-DBB V to all surfaces to be bonded both the fitting and sump wall.</p>	
<p><b>Step 1</b></p> <p><b>Sensor Mounting Kits consist of:</b> a SU-SMS Sleeve, A pipe clamp SU-PC-2.5 a Mounting bar SU-MB and hardware to secure the kit. Install the kit using Diversified's Epoxy bonder CH-DBB V. Order separately from the kit.</p>			
   			
<p><b>Step 2</b></p> <p><b>Prepare the sump:</b> The mounting bar should be mounted approximately 6" above the alarm cup in the floor of the sump. Sand an area approximately 2" square where the mounting bar is to be bonded to the sump wall. Clean the sump wall and the mounting bar (sanded side) with CH-DBC II prior to bonding. Allow the cleaner to air dry or wipe dry with a clean dry cloth. Apply a thin layer of bonder to the surface of the sump and the mounting bar.</p>			
			
<p><b>Step 3</b></p> <p><b>Install the mounting bar:</b> Push the mounting bar onto the sump surface. Allow the epoxy to cure. Turning the sump on its side and letting the mounting bar rest on a horizontal plane can accomplish the curing task. Magnets may be used to hold the mounting plate in place while in the vertical position. Allow 24 hours for the bond to cure prior to installing the remaining components.</p>			
			
<p><b>Step 4</b></p> <p><b>Install the pipe clamp:</b> The pipe clamp is secured to the mounting bar with 3/8-16 x 1/2" long bolt. Thread in bolt until the pipe clamp is snug to the mounting bar.</p>			
			
<p><b>Step 5</b></p> <p><b>Install the sleeve:</b> The sleeve is designed to fit in the clamp and is bored out to accommodate a Veeder Root "208" sensor. Slide the sleeve into the pipe clamp and secure with the bolt &amp; nut provided. The sleeve should be toward the middle of the pipe clamp. Tighten any loose components.</p>			
			
<p><b>Step 5A</b></p> <p><b>Four line UDC's:</b> On Gilbarco 3+1+1 configurations where four lines are run, the sleeve needs to be rotated 45 deg to install the sensor. Once the sensor is installed rotate the sleeve to vertical with the sensor in place. The sleeve may be rotated to remove the sensor for maintenance at any time.</p>			
			
<p><b>Step 6</b></p> <p><b>Install the Sensor:</b> When the project is ready, slide the sensor into the sleeve and allow the bottom of the sensor to rest on the bottom of the alarm cup. There is no tightening process for the sensor. Install the sensor wiring such that it is not in the way of the other components of the sump. The sensor may be removed at any time without disturbing the mounting kit or other sump components. About 8" of the sensor wiring should be coiled to allow for easy future removal.</p>			
			
<p><b>Tools Required</b></p> <ul style="list-style-type: none"> <li>Sand paper for sump wall and pipe</li> <li>4.5" hole saw</li> <li>NOV approved tapering and scarfing tool</li> <li>CH-DAG III applicator gun for CH-DBB V bonder</li> </ul>		<p><b>Products Needed</b></p> <ul style="list-style-type: none"> <li>PF-FGT - penetration fitting series</li> <li>CH-DBC II Aerosol Cleaner 8 fittings per can</li> <li>CH-DBB V 50ml Bulkhead Bonder</li> <li>10 kits may be installed with one cartridge set of CH-DBB V</li> </ul>	

# SU-CII-ML

## Installation Instructions Magnetic Lids for Adjustable and Large Tank Sumps



Diversified Products  
Manufacturing Inc.



Weaver Products

**Prepare all Surfaces:** All surfaces to be bonded should be prepared prior to Completing the installation steps below.

**Warning:** Failure to follow each step will void the warranty and may result in premature failure of the penetration fitting. Adhere to the following general instructions for each step of the installation.

**Bonding to Poly & FRP surfaces:** Sand (rough up) sump surfaces to be bonded and clean with CH-DBC II. Remove all gel coat on all fiberglass surfaces.

**Cleaning:** Spray all surfaces to be bonded with CH-DBC II Cleaner and allow to air dry. Excess cleaner may be wiped off with a clean dry cloth.

Please inspect parts for potential damage that could occur during shipping. Prior to installation, confirm that the integrity of the magnetic attractor has not been compromised by utilizing the installation tool as outlined in the final step of these instructions. This may require cleaning the installation tool before final installation. Use only a clean dry cloth to clean the plexiglass. Avoid all chemical cleaners.

*This product has been manufactured to fit the SU-TKSF and SU-TSFA Tank Sumps.*

### Step 1

**Install Magnetic Lid:** Set the magnetic lid on the attractor at the top of the sump. The attractor and lid have been checked prior to shipping and should require no additional attention.



### Step 2

**Check for leaks:** Should there be any suspicion that the lid does not seal proceed as follows: Obtain a test Plate, SU-MLA-Tool, from Diversified Products Manufacturing.



### Step 3

**Test for planarity:** Remove magnetic lid and apply light oil evenly to the flat surface of magnetic attractor. Install test plate and note whether or not there is an even reveal of oil through the test plate.



### Step 4

**Finish Installation:** If planular, the oil will evenly disperse completely around the test ring on the surface of the magnetic attractor. If planular, clean off oil, mount the magnetic lid in place and the installation is complete. If the oil does not disperse completely around the magnetic attractor, contact the factory for instructions. Remove magnetic lid when needed by pulling up on the handles. **See new instructions on the lid.**



### Step 5

**Maintenance:** Whenever removing the magnetic lid be sure to clean the magnetic attractor and the seal in the magnetic lid prior to replacing the lid. Should the seal become damaged, contact the factory for a net exchange for the lid. Exchange policies at the time of repair will apply. New instructions to the right.

**ENSURE MAGNETIC LID  
SEAL AND MATING SURFACE  
ARE CLEAN PRIOR TO REPLACEMENT**

### Tools Needed

SU-MLA-Tool for checking Planarity

### Products Needed

SU MLA-Tool  
light weight colored oil (sewing machine oil)

<h1>SU-TSA</h1>		<b>Installation Instructions</b>	
		<b>Tank Sump Adaptor</b>	
 Diversified Products Manufacturing Inc.	 Weaver Products	<p><b>Prepare all Surfaces:</b> All surfaces to be bonded should be prepared prior to Completing the installation steps below.</p> <p><b>Warning:</b> Failure to follow each step will void the warranty and may result in premature failure of the penetration fitting. Adhere to the following general instructions for each step of the installation.</p> <p><b>Bonding to Poly &amp; FRP surfaces:</b> Sand (rough up) sump surfaces to be bonded and clean with CH-DBC II. Remove all gel coat on all fiberglass surfaces.</p> <p><b>Cleaning:</b> Spray all surfaces to be bonded with CH-DBC II Cleaner and allow to air dry. Excess cleaner may be wiped off with a clean dry cloth.</p>	
		 SU-TSA CP Compression Plate	 SU-TSA Seal
<b>Step 1</b> <b>Clean and prepare sump top around Bung.</b> Sand and remove gel coat, clean with CH-DBC II.			
<b>Step 2</b> <b>Clean Seal with CH-DBC II &amp; apply Epoxy:</b> Spray with CH-DBC II and air or wipe dry. Mix approximately 1/2 of a container of CH-DRP-32oz. Apply to the curved side of the seal and set on tank top. The bottom of the seal is concave and fits 8ft and 10ft diameter tanks. (Follow the Lay Line)			
<b>Step 3</b> <b>Prepare for Mounting Sump:</b> Thread 4" Male x Female adaptor into bung. Adaptor has lungs for threading. <b>DO NOT DAMAGE THREADS.</b> Apply the balance of the epoxy to the top of the seal just prior to mounting the tank sump to the tank.			
<b>Step 4</b> Cut 6 3/4" to 7" Diameter hole in sump bottom where the riser is to be installed. Clean sump bottom and seat onto seal. The picture shows a cut away sample for clarity.			
<b>Step 5</b> <b>Thread on Compression Plate:</b> After Sump is installed, thread the compression plate to Male X Female adaptor. An Installation tool is available to assist in the installation of the Compression Plate. (Picture is shown with sump cut away).		  Installation Tool	
<b>Tools Needed</b> Pipe Wrench for installation to 4" M X F Adaptor <b>Optional:</b> Installation Tool-SU TSA Tool		<b>Products Needed</b> SU-TSA Tank Sump Adaptor SU-TSA IK (TSA Installation Kit) containing 1-Spatula 1-Scouring Pad 1-CH-DRP-32 oz. 1-CH-DBC II Cleaner .5 cans	



October 30, 2020

Mr. Josh Dow  
Diversified Products Manufacturing Inc  
5523 Baggett Marysville Rd  
Oroville, CA 95965

RE: NDE Reference No: NDE20201020  
Third-Party Certification under UL 2447- Outline of Investigation for  
Fittings Accessories for Fuels

Products Evaluated: Split Repair Fittings & Test Reducers for Containment Sumps for  
Fuels PF-Penetration Fittings Series, Sump Entry Fittings and Test  
Reducers  
SR- Split Repair Sump Entry Fittings and Test Reducer Series  
FG/PG Spilt Repair Series  
CH- Series, All Chemicals used in the installation process  
SU- Sumps and Accessories

Dear Mr. Dow,

In reference to the above listed products, our testing partner on this project (N.D. Eryou,  
PhD, PE) has performed our UL 2447 Third-Party inspection and testing. All products  
listed were determined to comply with the "Outline of Investigation for Fittings and  
Accessories for Fuels".

It is our opinion that both the design and materials used in the above products are based  
on sound engineering principles and the materials are compatible with all motor fuels and  
additives currently being used including fuels containing >10% ethanol or 20% biodiesel.  
Therefore, the Spill Containment Liner should have the same chemical resistance to the  
UL 2447 test fuels as the DPM "Products Evaluated" listed above.

Disclaimer: Underwriters Laboratories (UL) is an independent testing laboratory and use  
of, in any way, of the UL Listing or Registered Trade Mark UL is prohibited unless  
specifically authorized by Underwriters Laboratories.

Very truly yours,

*Brian E Lewis*  
Brian E Lewis, PE



Roundtable Engineering Solutions, Inc  
660 Southpointe CT, Unit 300G  
Colorado Springs, CO 80906

## NOTICE OF COMPLETION OF THIRD-PARTY UL 2447 EVALUATION

February 3, 2021

Mr. Josh Dow  
Diversified Products Manufacturing Inc  
5523 Baggett Marysville Rd  
Oroville, CA 95965

RE: NDE Reference No: NDE20201020  
Third-Party Certification under UL 2447- Outline of Investigation for  
Fittings Accessories for Fuels

Products Evaluated: Split Repair Fittings & Test Reducers for Containment Sumps for Fuels  
PF-Penetration Fittings Series, Sump Entry Fittings and Test Reducers  
SR- Split Repair Sump Entry Fittings and Test Reducer Series  
FG/PG Split Repair Series  
CH- Series, All Chemicals used in the installation process.  
SU - Sumps and Accessories

Dear Mr. Dow

In reference to the above listed products, we have performed our UL 2447 Third-Party inspection and testing. All products listed were determined to comply with the "Outline of Investigation for Fittings and Accessories for Fuels".

It is our opinion that both the design and materials used in the above products are based on sound engineering principles and the materials are compatible with all motor fuels and additives currently being used including fuels containing >10% ethanol or 20% biodiesel. Therefore, the Spill Containment Liner should have the same chemical resistance to the UL 2447 test fuels as the DPM "Products Evaluated" listed above.

Further to your recent request with regard to your Canadian distributors utilization of the above test results, we have compared the testing requirements of UL (US) 2447 with CAN/ULC-S664:2017 and found them to be virtually identical.

There were only two differences that we found between the two Codes.

1. ULC S664 Section 5.8.5 "Extreme Low Temperature Impact Test – requires testing at -40°F and our tests were conducted at a minimum temperature of -30°F.



2. ULC S664 Section Appendix B 1.1 Defines 21 specific grades of fuel while UL US defines four grades of fuel, which covers the wide range of fuels commonly used by gasoline and diesel-powered vehicles.

Furthermore, we have reviewed the UL (US) website which contains the following relevant statement confirming the sharing of UL specifications between UL – US and UL - Canada:

#### **“UL STANDARDS: ACCREDITED IN THE US AND CANADA**

In the US, UL is accredited by the American National Standards Institute (ANSI) as an audited designator. In 2013, UL was accredited by the Standards Council of Canada (SCC) as a nationally recognized Standards Development Organization (SDO) able to develop National Standards of Canada (NSCs).

UL's Standards Technical Panels (STPs) serve as the consensus body for both American National Standards (ANS) and National Standards of Canada (NSC). Essential information About UL's standards development programs, how to Access Standards, and how to participate in the UL programs used to Develop Standards is available on this site.”

It should not be inferred that our test of DPM products addresses the issue of long-term quality control issues as both UL (US) and UL Canada do with their annual subscription programs.

Disclaimer: Underwriters Laboratories (UL – US & UL - Canada) are independent testing laboratories and use of, in any way, of the UL Listing or Registered Trademark UL is prohibited unless specifically authorized by Underwriters Laboratories (US or Canada).

Very truly yours,



N.D. Eryou, Ph.D., P.E.  
Eryou Engineering  
[dennis@eryouengineering.com](mailto:dennis@eryouengineering.com)

**NOTICE OF COMPLETION OF THIRD-PARTY UL 2447 EVALUATION**

October 22, 2020

Mr. Josh Dow  
Diversified Products Manufacturing Inc  
5523 Baggett Marysville Rd  
Oroville, CA 95965

RE: NDE Reference No: NDE20201020  
Third-Party Certification under UL 2447- Outline of Investigation for  
Fittings Accessories for Fuels

Products Evaluated: Split Repair Fittings & Test Reducers for Containment Sumps for Fuels  
PF-Penetration Fittings Series, Sump Entry Fittings and Test Reducers  
SR- Split Repair Sump Entry Fittings and Test Reducer Series  
FG/PG Spilt Repair Series  
CH- Series, All Chemicals used in the installation process  
SU- Sumps and Accessories

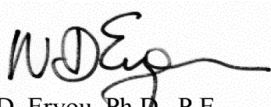
Dear Mr. Dow

In reference to the above listed products, we have performed our UL 2447 Third-Party inspection and testing. All products listed were determined to comply with the "Outline of Investigation for Fittings and Accessories for Fuels".

It is our opinion that both the design and materials used in the above products are based on sound engineering principles and the materials are compatible with all motor fuels and additives currently being used including fuels containing >10% ethanol or 20% biodiesel. Therefore, the Spill Containment Liner should have the same chemical resistance to the UL 2447 test fuels as the DPM "Products Evaluated" listed above.

Disclaimer: Underwriters Laboratories (UL) is an independent testing laboratory and use of, in any way, of the UL Listing or Registered Trade Mark UL is prohibited unless specifically authorized by Underwriters Laboratories.

Very truly yours,

  
N.D. Eryou, Ph.D., P.E.







Reference Data



Fiberglass Penetration & Sump Epoxy Wizard

	Quantity	Bonder-ml DFB	Cleaner-cans DBC II	Epoxy DEB	Total DFB	Total DBC II	Total DEB	
<b>Factory Mounting</b>								
<b>Penetrations</b>								
PF-FGC (factory ES)		0.15	0.1	0	0	0.0	0	FGC Series Compact Penetrations
PF-FGT (factory ES)		0.23	0.1	0	0	0.0	0	FGT-Series Fiberglass Fittings w/ bonded Adaptor
PF-BC (factory ES)		0.02	0.1	0	0	0.0	0	BC Series conduit Penetrations
<b>Interstice Seals &amp; SMK</b>								
ES-IS-5.0 (Factory ES)		0.02	0.1	0	0	0.0	0	Interstice Seal for Penetrations
ES-IS-2.0 (Factory ES)		0.01	0.1	0	0	0.0	0	Interstice Seals for Bonded Conduits
SMK Mtg Bars (Factory ES)		0.01	0.05	0	0	0.0	0	Mounting Bars for SMK Kits
<b>Field Mounted</b>								
<b>Penetrations</b>								
PF-FGC-x.x-DB		0.17	0.1	0	0	0.0	0	Compact Direct Bury
PF-FGC-x.x-CD		0.35	0.1	0	0	0.0	0	Compact Corr Duct
PF-FGC-2.32-DB		0.17	0.1	0	0	0.0	0	Compact For FRP
PF-FGT-2.4		0.37	0.1	0	0	0.0	0	Threaded single Wall- 2"
PF-FGT-3.6		0.47	0.1	0	0	0.0	0	Threaded single Wall- 3"
PF-FGT-3x2		0.67	0.1	0	0	0.0	0	Threaded 3" over 2"
PF-FGT 2" LCX		0.55	0.1	0	0	0.0	0	Threaded 2" LCX
PF-FGT 4 x3		0.8	0.1	0	0	0.0	0	Threaded 4" over 4"
PF-FGT 3" LCX		0.7	0.1	0	0	0.0	0	Threaded 3" LCX
PF-BC-1.1 to sump		0.02	0.1	0	0	0.0	0	Bonded Conduit 3/4" to sump
PF-BC-1.1 to Pipe in field		0.15	0.1	0	0	0.0	0	Bonded Conduit 3/4" to pipe in field
PF-BC-1.4 to Sump		0.02	0.1	0	0	0.0	0	Bonded Conduit 1" to sump
PF-BC-1.4 to Pipe in field		0.15	0.1	0	0	0.0	0	Bonded Conduit 1" to pipe in Filed
PF-FGT-x.xFPTx2G		0.17	0.1	0	0	0.0	0	AG UDC Penetration
2" Bonded x Sanitary Adaptor		0.08	0.1	0	0	0.0	0	Bonding 2" Sanitary Adaptor
3" Bonded x Sanitary Adaptor		0.16	0.1	0	0	0.0	0	Bonding 3" Sanitary Adaptor
<b>Tank Sumps</b>								
SU-TKSF-42 (Collar)		0	0.3	4.3	0	0.0	0	Epoxy Bonder for 42" Collar Mount
SU-TKSF-48 (Collar)		0	0.3	4.9	0	0.0	0	Epoxy Bonder for 48" Collar Mount
SU-TKSF-BM (Bung)		0	0.3	0.9	0	0.0	0	Epoxy Bonder for Bung Mount
SU-TKSF Base to riser		0	0.3	3.3	0	0.0	0	
<b>TKSF-Rope</b>								
SU-TSFA-42 (Collar)		0	0.3	4.3	0	0.0	0	Epoxy Bonder for 42" Collar Mount
SU-TSFA-48 (Collar)		0	0.3	4.9	0	0.0	0	Epoxy Bonder for 48" Collar Mount
SU-TSFA-MB (Bung)		0	0.3	0.9	0	0.0	0	Epoxy Bonder for Bung Mount
SU-TKSF Base to riser		0	0.3	3.3	0	0.0	0	
<b>TSFA-Rope</b>								
SU-TKSF-Ext		0	0.3	0.3	0	0.0	0	Epoxy Bonder For Extensions
SU-TSFA-Ext		0	0.3	0.3	0	0.0	0	Epoxy Bonder for Extensions
<b>Interstice Seals</b>								
ES-IS-5.0		0.05	0.05	0	0	0.0	0	Interstice Seal for 4.5" OD Penetrations
ES-IS-2.0		0.03	0.05	0	0	0.0	0	Interstice Seal for Bonded Conduit Fittings
<b>Other</b>								
SU-SMK-x.x		0.01	0.05	0	0	0.0	0	Mounting Bar for SMK
<b>Totals</b>								
		0.0	0.0	0.0	0	0.0	0.0	
DFB-50 ml cartridges Field	0.0		DBC II Cans of Clear	0.0		DEB Bulk 32 Oz	0	or
Cases of 15 cartridges	0.0		Cases of 12 cans	0		DEB Bulk 5#	0	or
DFB Factory Engr systems	0		DBC II for Eng Sys	0.0		DEB Bulk 15#	0	