



Department of Environmental Protection

2600 Blair Stone Road ♦ Tallahassee, Florida 32399-2400

DEP Form: 62-761.900(9)

Form Title: Storage Tank Equipment

Registration Form

Effective Date: July 2019

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

Storage Tank System Equipment Registration Form

Fill out completely

General Information

Company Name: Franklin Electric - Fueling Systems Contact Name: Jon Vigen
Company Address: 3760 Marsh Rd City, State: Madison, WI Zip: 53718
E-mail: jonathan.vigen@fele.com Contact Number: (608) 838-5716
Product Name: 602 Carbon Series SW, DW, and Low Profile Dispenser Sumps
Model Number(s): 602374,75,77,81,83,84,85 Product Type: Dispenser Underground Sump
Rule(s) citation that registration is being requested within Chapter 62-761 (UST), and/or 62-762 (AST), 62.761

F.A.C.: Write a brief description of equipment registration request including product limitations:

Renew 602 Carbon Series SW, DW, and Low Profile Dispenser Sumps equipment registration. See attached zip folder for full details and more description.

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

	Yes	No	N/A
1. Third-party Certification by a Nationally Recognized Testing Laboratory? (Required)	☒	☐	☐
2. Documentation of third-party evaluation that the equipment meets DEP Rules?	☒	☐	☐
3. Documents included about the qualifications of the Nationally Recognized Testing Laboratory?	☐	☒	☐
4. Technical information and drawings included?	☒	☐	☐
5. Installation instructions included?	☒	☐	☐
6. Annual Operability Testing Requirements (Rules 62-761.500, 62-762.501, & 62-762.502 F.A.C.)?	☒	☐	☐
7. Integrity Testing Requirements (Rules 62-761.700, 62-762.701, & 62-762.702, F.A.C.)?	☒	☐	☐
8. Compatible with fuel blends containing >10% ethanol or >20% biodiesel?	☒	☐	☐
9. Has the product been approved or registered in other countries or states? (If so provide list)	☒	☐	☐
10. Any requirements for company-certified installers or trainers?	☒	☐	☐
11. Was this product(s) previously approved or registered by the Department? If yes, EQ- <u>922</u>	☒	☐	☐
12. Any changes or modifications to the equipment since the last submittal to DEP?	☒	☐	☐

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

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

See attached installation manuals for more details on installation and performance. Franklin Fueling Systems requires that any contractor installing these sumps to undergo classroom/virtual and on-site practical training. After successful completion, installers must follow manufacturer instructions. Products have gone through minor changes since last registration. See drawings for revision details.

Equipment Registration Certification:

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

Jon Vigen - Product Certification Engineer

Printed Name and Title

Signature (right click to sign)

01/23/2025

Date

For Department Use Only:

Date Application Received: 01/23/2025 Application complete: Yes: ☒ No: ☐

EQ- 922 Date of complete or incomplete letter sent: 01/27/2025 Date Equipment Requires Renewal: 01/27/2030

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



Department of Environmental Protection

2600 Blair Stone Road ♦ Tallahassee, Florida 32399-2400

DEP Form: 62-761.900(9)

Form Title: Storage Tank Equipment

Registration Form

Effective Date: January 2017

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

Storage Tank Equipment Registration Form

Fill out completely

General Information

Company Name: Franklin Fueling Systems

Company Address: 3760 Marsh Road

E-mail: sadams@franklinfueling.com

Product Name: 602 Carbon Series SW and DW Dispenser Sumps

Model Number(s): 602374,75,77,81,83,84,85,26

Rule(s) citation within Chapter 62-761, or 62-762, F.A.C. that registration is being requested: 62.761

Contact Name: Sandy Adams

City: Madison, WI

Zip: 53718

Contact Number: 608 838 5668

Product Type: Dispenser Underground Sump

Write a brief description of equipment registration request including product limitations:

Add 602 Carbon Series SW and DW Dispenser Sumps, see attachments for more description

Information Checklist

- | | Yes | No | N/A |
|---|-------------------------------------|-------------------------------------|--------------------------|
| 1. Third-party Certification by a Nationally Recognized Testing Laboratory? | ☒ | ☐ | ☐ |
| 2. Documentation of third-party evaluation that the equipment meets DEP Rules? | ☒ | ☐ | ☐ |
| 3. Documents included about the qualifications of the Nationally Recognized Testing Laboratory? | ☐ | ☒ | ☐ |
| 4. Installation instructions included? | ☒ | ☐ | ☐ |
| 5. Technical information and drawings included? | ☒ | ☐ | ☐ |
| 6. Annual Operability Testing Requirements (Rules 62-761.700, 62-762.701, & 62-762.702 F.A.C.)? | ☒ | ☐ | ☐ |
| 7. Compatible with fuel blends containing >10% ethanol or >20% biodiesel? | ☒ | ☐ | ☐ |
| 8. Has the product been approved or registered in other countries or states? (If so provide list) | ☒ | ☐ | ☐ |
| 9. Any requirements for company-certified installers or trainers? | ☒ | ☐ | ☐ |
| 10. Was this product(s) previously approved or registered by the Department? | ☐ | ☒ | ☐ |
| If yes, please specify the Equipment Number: <u>EQ- 786</u> | | | |
| 11. Any changes or modifications to the equipment since the last submittal to DEP? | ☒ | ☐ | ☐ |

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

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

See attached Install Manual

Equipment Registration Certification:

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

Sandra Adams- Certification Specialist, Engineering

Printed Name and Title

Sandra Adams
Signature

10/18/19

Date

For Department Use Only:

Date Application Received: _____

Application complete: _____

Yes: ☐ No: ☐

EQ- ☐ Date of complete or incomplete letter sent: _____ Date of entry to the DEP Equipment Registration List: _____

Certificate of Compliance

Certificate Number:

UL-CA-L62435-45121-
31017102-3

Report Reference:

MH62435-20171013

Issue Date:

2024-10-01

Issued to:

**FRANKLIN FUELING SYSTEMS INC
3760 MARSH RD MADISON, WI 53718-6900
United States**

This certificate confirms that representative samples of:

**QLWA7 - Containment Sumps, Fittings and Accessories for
Flammable and Combustible Liquids Certified for Canada**

See Addendum Page for Product Designation(s).

Have been evaluated by UL in accordance with the Standard(s) indicated on this Certificate.

ANSI/CAN/UL/ULC 2447:2023, 1st Ed., Issue Date: 2023-11-28

Additional Information:

See UL Product iQ® at <https://iq.ulprospector.com> for additional information.

This Certificate of Compliance indicates that representative samples of the product described in the certification report have met the requirements for UL certification. It does not provide authorization to apply the UL Mark. Only the Authorization Page that references the Follow-Up Services Procedure for ongoing surveillance provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product.



A handwritten signature in black ink, appearing to read 'David Piecuch'.

David Piecuch
UL Mark Certification Program Owner

CERTIFICATE OF COMPLIANCE

Certificate number UL-CA-L62435-45121-31017102-3
Report reference MH62435-20171013
Date 2024-10-01

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Model	Product Description
303-050-EIF	Transfer Pipes, Containment Sumps and Accessories
303-063-EIF-U	Transfer Pipes, Containment Sumps and Accessories
303-075-EIF	Transfer Pipes, Containment Sumps and Accessories
303-075-EIF-U	Transfer Pipes, Containment Sumps and Accessories
303-075-EIF-U-K	Transfer Pipes, Containment Sumps and Accessories
304-075-SB	Transfer Pipes, Containment Sumps and Accessories
304-110-050-TP	Transfer Pipes, Containment Sumps and Accessories
304-110-063-TP	Transfer Pipes, Containment Sumps and Accessories
304-110-075-TP	Transfer Pipes, Containment Sumps and Accessories
304-110-090	Transfer Pipes, Containment Sumps and Accessories
304-110-090-TP	Transfer Pipes, Containment Sumps and Accessories
304-110-090-U	Transfer Pipes, Containment Sumps and Accessories
304-110-090TP-U	Transfer Pipes, Containment Sumps and Accessories
304-110-TP	Transfer Pipes, Containment Sumps and Accessories
305-125-110	Transfer Pipes, Containment Sumps and Accessories
305-125-110-TP	Transfer Pipes, Containment Sumps and Accessories
305-125-110-U	Transfer Pipes, Containment Sumps and Accessories
305-125-110TP-U	Transfer Pipes, Containment Sumps and Accessories
305-3X27MM-CON	Transfer Pipes, Containment Sumps and Accessories
305-R-1	Transfer Pipes, Containment Sumps and Accessories
305-SB	Transfer Pipes, Containment Sumps and Accessories



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CERTIFICATE OF COMPLIANCE

Certificate number UL-CA-L62435-45121-31017102-3
Report reference MH62435-20171013
Date 2024-10-01

49-031-027	Transfer Pipes, Containment Sumps and Accessories
49-038-033	Transfer Pipes, Containment Sumps and Accessories
49-040-032	Transfer Pipes, Containment Sumps and Accessories
49-040-032-TP	Transfer Pipes, Containment Sumps and Accessories
49-063-031	Transfer Pipes, Containment Sumps and Accessories
49-063-038	Transfer Pipes, Containment Sumps and Accessories
49-063-050	Transfer Pipes, Containment Sumps and Accessories
49-063-050-TP	Transfer Pipes, Containment Sumps and Accessories
49-063-050-U	Transfer Pipes, Containment Sumps and Accessories
49-063-050TP-U	Transfer Pipes, Containment Sumps and Accessories
49-075-063-1	Transfer Pipes, Containment Sumps and Accessories
49-075-063-1-U	Transfer Pipes, Containment Sumps and Accessories
49-075-063-TP-1	Transfer Pipes, Containment Sumps and Accessories
49-075-063TP1-U	Transfer Pipes, Containment Sumps and Accessories
49-075-063TP1-U-K	Transfer Pipes, Containment Sumps and Accessories
49-110-063(SC)	Transfer Pipes, Containment Sumps and Accessories
49-110-063SC-U	Transfer Pipes, Containment Sumps and Accessories
49-110-075(SC)	Transfer Pipes, Containment Sumps and Accessories
49-110-075SC-U	Transfer Pipes, Containment Sumps and Accessories
49-110-090	Transfer Pipes, Containment Sumps and Accessories
49-110-090-TP	Transfer Pipes, Containment Sumps and Accessories
49-110-090-U	Transfer Pipes, Containment Sumps and Accessories
49-110-090TP-U	Transfer Pipes, Containment Sumps and Accessories
49-125-110	Transfer Pipes, Containment Sumps and Accessories



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Certificate number UL-CA-L62435-45121-31017102-3
Report reference MH62435-20171013
Date 2024-10-01

49-125-110-TP	Transfer Pipes, Containment Sumps and Accessories
49-125-110-U	Transfer Pipes, Containment Sumps and Accessories
49-125-110TP-U	Transfer Pipes, Containment Sumps and Accessories
602374	Transfer Pipes, Containment Sumps and Accessories
602375	Transfer Pipes, Containment Sumps and Accessories
602377	Transfer Pipes, Containment Sumps and Accessories
602381	Transfer Pipes, Containment Sumps and Accessories
602383	Transfer Pipes, Containment Sumps and Accessories
602384	Transfer Pipes, Containment Sumps and Accessories
602385	Transfer Pipes, Containment Sumps and Accessories
602386	Transfer Pipes, Containment Sumps and Accessories
602944900	Transfer Pipes, Containment Sumps and Accessories
6032402	Transfer Pipes, Containment Sumps and Accessories
70240402CI-GKT	Transfer Pipes, Containment Sumps and Accessories
70245001BLK	Transfer Pipes, Containment Sumps and Accessories
70245001GRN	Transfer Pipes, Containment Sumps and Accessories
70245001NC	Transfer Pipes, Containment Sumps and Accessories
70245001ORG	Transfer Pipes, Containment Sumps and Accessories
70245001RED	Transfer Pipes, Containment Sumps and Accessories
70245001STL	Transfer Pipes, Containment Sumps and Accessories
70245001WHT	Transfer Pipes, Containment Sumps and Accessories
70245001YEL	Transfer Pipes, Containment Sumps and Accessories
70245065	Transfer Pipes, Containment Sumps and Accessories
70245065BLK	Transfer Pipes, Containment Sumps and Accessories



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Date 2024-10-01

70245065ORG	Transfer Pipes, Containment Sumps and Accessories
70245065RED	Transfer Pipes, Containment Sumps and Accessories
70245065WHT	Transfer Pipes, Containment Sumps and Accessories
70245065YEL	Transfer Pipes, Containment Sumps and Accessories
70540465CI-GKT	Transfer Pipes, Containment Sumps and Accessories
70544501BLK	Transfer Pipes, Containment Sumps and Accessories
70544501NC	Transfer Pipes, Containment Sumps and Accessories
70544501ORG	Transfer Pipes, Containment Sumps and Accessories
70544501RED	Transfer Pipes, Containment Sumps and Accessories
70544501STL	Transfer Pipes, Containment Sumps and Accessories
70544501WHT	Transfer Pipes, Containment Sumps and Accessories
70544501YEL	Transfer Pipes, Containment Sumps and Accessories
70547401BLK	Transfer Pipes, Containment Sumps and Accessories
70547401GRN	Transfer Pipes, Containment Sumps and Accessories
70547401NC	Transfer Pipes, Containment Sumps and Accessories
70547401ORG	Transfer Pipes, Containment Sumps and Accessories
70547401RED	Transfer Pipes, Containment Sumps and Accessories
70547401STL	Transfer Pipes, Containment Sumps and Accessories
70547401WHT	Transfer Pipes, Containment Sumps and Accessories
70547401YEL	Transfer Pipes, Containment Sumps and Accessories
70547402BLK	Transfer Pipes, Containment Sumps and Accessories
70547465BLK	Transfer Pipes, Containment Sumps and Accessories
70547465GRN	Transfer Pipes, Containment Sumps and Accessories
70547465NC	Transfer Pipes, Containment Sumps and Accessories



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Date 2024-10-01

70547465ORG	Transfer Pipes, Containment Sumps and Accessories
70547465RED	Transfer Pipes, Containment Sumps and Accessories
70547465STL	Transfer Pipes, Containment Sumps and Accessories
70547465WHT	Transfer Pipes, Containment Sumps and Accessories
70547465YEL	Transfer Pipes, Containment Sumps and Accessories
70547765BLK	Transfer Pipes, Containment Sumps and Accessories
70547765NC	Transfer Pipes, Containment Sumps and Accessories
705477NDBLK	Transfer Pipes, Containment Sumps and Accessories
705477NDGRN	Transfer Pipes, Containment Sumps and Accessories
705477NDNC	Transfer Pipes, Containment Sumps and Accessories
705477NDORG	Transfer Pipes, Containment Sumps and Accessories
705477NDRED	Transfer Pipes, Containment Sumps and Accessories
705477NDWHT	Transfer Pipes, Containment Sumps and Accessories
705477NDYEL	Transfer Pipes, Containment Sumps and Accessories
70547901CI-GKT	Transfer Pipes, Containment Sumps and Accessories
70547902CI-GKT	Transfer Pipes, Containment Sumps and Accessories
70547921CI-GKT	Transfer Pipes, Containment Sumps and Accessories
70547922CI-GKT	Transfer Pipes, Containment Sumps and Accessories
70547965CI-GKT	Transfer Pipes, Containment Sumps and Accessories
70549201BLK	Transfer Pipes, Containment Sumps and Accessories
70549201RED	Transfer Pipes, Containment Sumps and Accessories
70549201WHT	Transfer Pipes, Containment Sumps and Accessories
70549201YEL	Transfer Pipes, Containment Sumps and Accessories
70549202BLK	Transfer Pipes, Containment Sumps and Accessories



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70549202ORG	Transfer Pipes, Containment Sumps and Accessories
70549202RED	Transfer Pipes, Containment Sumps and Accessories
70549202WHT	Transfer Pipes, Containment Sumps and Accessories
70549202YEL	Transfer Pipes, Containment Sumps and Accessories
70549212BLK	Transfer Pipes, Containment Sumps and Accessories
705545001CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705545002CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705545011CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705545012CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705545021CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705545022CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705555011CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705555012CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705555101CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705555102CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705555111CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705555112CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705555121CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705555122CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705555201CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705555202CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705555211CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705555212CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705555221CI-GKT	Transfer Pipes, Containment Sumps and Accessories



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Report reference MH62435-20171013
Date 2024-10-01

705555222CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705556101	Transfer Pipes, Containment Sumps and Accessories
705556101BLK	Transfer Pipes, Containment Sumps and Accessories
705556102	Transfer Pipes, Containment Sumps and Accessories
705556102BLK	Transfer Pipes, Containment Sumps and Accessories
705556111	Transfer Pipes, Containment Sumps and Accessories
705556111BLK	Transfer Pipes, Containment Sumps and Accessories
705556112	Transfer Pipes, Containment Sumps and Accessories
705556112BLK	Transfer Pipes, Containment Sumps and Accessories
705556121	Transfer Pipes, Containment Sumps and Accessories
705556121BLK	Transfer Pipes, Containment Sumps and Accessories
705556122	Transfer Pipes, Containment Sumps and Accessories
705556122BLK	Transfer Pipes, Containment Sumps and Accessories
705556201BLK	Transfer Pipes, Containment Sumps and Accessories
705556202BLK	Transfer Pipes, Containment Sumps and Accessories
705556211BLK	Transfer Pipes, Containment Sumps and Accessories
705556212BLK	Transfer Pipes, Containment Sumps and Accessories
705556221BLK	Transfer Pipes, Containment Sumps and Accessories
705556222BLK	Transfer Pipes, Containment Sumps and Accessories
705645001CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705645002CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705645011CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705645012CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705645021CI-GKT	Transfer Pipes, Containment Sumps and Accessories



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705645022CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705655011CIGKT	Transfer Pipes, Containment Sumps and Accessories
705655012CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705655101CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705655102CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705655111CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705655112CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705655121CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705655122CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705655201CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705655202CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705655211CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705655212CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705655221CI-GKT	Transfer Pipes, Containment Sumps and Accessories
705655222CI-GKT	Transfer Pipes, Containment Sumps and Accessories
71544601BLK	Transfer Pipes, Containment Sumps and Accessories
71547401BLK	Transfer Pipes, Containment Sumps and Accessories
71547401BRN	Transfer Pipes, Containment Sumps and Accessories
71547401GRN	Transfer Pipes, Containment Sumps and Accessories
71547401NC	Transfer Pipes, Containment Sumps and Accessories
71547401ORG	Transfer Pipes, Containment Sumps and Accessories
71547401RED	Transfer Pipes, Containment Sumps and Accessories
71547401STL	Transfer Pipes, Containment Sumps and Accessories
71547401WHT	Transfer Pipes, Containment Sumps and Accessories



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71547401YEL	Transfer Pipes, Containment Sumps and Accessories
71547465BLK	Transfer Pipes, Containment Sumps and Accessories
71547465NC	Transfer Pipes, Containment Sumps and Accessories
71547465RED	Transfer Pipes, Containment Sumps and Accessories
71547465STL	Transfer Pipes, Containment Sumps and Accessories
71547465WHT	Transfer Pipes, Containment Sumps and Accessories
71547465YEL	Transfer Pipes, Containment Sumps and Accessories
71549201BLK	Transfer Pipes, Containment Sumps and Accessories
71549202BLK	Transfer Pipes, Containment Sumps and Accessories
71549202ORG	Transfer Pipes, Containment Sumps and Accessories
71549202RED	Transfer Pipes, Containment Sumps and Accessories
71549202WHT	Transfer Pipes, Containment Sumps and Accessories
AST-2922	Transfer Pipes, Containment Sumps and Accessories
DDB-075-D	Transfer Pipes, Containment Sumps and Accessories
DDB-075-SC	Transfer Pipes, Containment Sumps and Accessories
DDB-100-D	Transfer Pipes, Containment Sumps and Accessories
DDB-100-SC	Transfer Pipes, Containment Sumps and Accessories
DDB-150-SC	Transfer Pipes, Containment Sumps and Accessories
DDB-200-SC	Transfer Pipes, Containment Sumps and Accessories
DEB-150-D	Transfer Pipes, Containment Sumps and Accessories
DEB-150-DA	Transfer Pipes, Containment Sumps and Accessories
DEB-150-SC	Transfer Pipes, Containment Sumps and Accessories
DEB-150-SCA	Transfer Pipes, Containment Sumps and Accessories
DEB-175-D	Transfer Pipes, Containment Sumps and Accessories



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CERTIFICATE OF COMPLIANCE

Certificate number UL-CA-L62435-45121-31017102-3
Report reference MH62435-20171013
Date 2024-10-01

DEB-175-DA	Transfer Pipes, Containment Sumps and Accessories
DEB-175-SC	Transfer Pipes, Containment Sumps and Accessories
DEB-175-SCA	Transfer Pipes, Containment Sumps and Accessories
DEB-200-D	Transfer Pipes, Containment Sumps and Accessories
DEB-200-DA	Transfer Pipes, Containment Sumps and Accessories
DEB-200-SC	Transfer Pipes, Containment Sumps and Accessories
DEB-252-DA	Transfer Pipes, Containment Sumps and Accessories
DEB-BL-DA	Transfer Pipes, Containment Sumps and Accessories
DHW-3617	Transfer Pipes, Containment Sumps and Accessories
DMM4236-1/0-OB-S	Transfer Pipes, Containment Sumps and Accessories
DMM4236-1/0-OC-H	Transfer Pipes, Containment Sumps and Accessories
DMM4236-1/0-OC-S	Transfer Pipes, Containment Sumps and Accessories
DMM4236-2/1-OB-S	Transfer Pipes, Containment Sumps and Accessories
DMM4236-2/1-OC-H	Transfer Pipes, Containment Sumps and Accessories
DMM4236-2/1-OC-S	Transfer Pipes, Containment Sumps and Accessories
DMM4836-2/1-OC-S	Transfer Pipes, Containment Sumps and Accessories
DMM4842-4/0-OC-H	Transfer Pipes, Containment Sumps and Accessories
DMM4842-4/0-OC-S	Transfer Pipes, Containment Sumps and Accessories
DMP36-1-WTSS-32	Transfer Pipes, Containment Sumps and Accessories
DMP36-1-WTSS-33	Transfer Pipes, Containment Sumps and Accessories
DMP36-1-WTSS-42	Transfer Pipes, Containment Sumps and Accessories
DMP36-1-WTSS-48	Transfer Pipes, Containment Sumps and Accessories
DMP36-2-WTSS-32	Transfer Pipes, Containment Sumps and Accessories
DMP36-2-WTSS-33	Transfer Pipes, Containment Sumps and Accessories



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Report reference MH62435-20171013
Date 2024-10-01

DMP36-2-WTSS-42	Transfer Pipes, Containment Sumps and Accessories
DMP36-2-WTSS-48	Transfer Pipes, Containment Sumps and Accessories
DMP42-1-WTSS-42	Transfer Pipes, Containment Sumps and Accessories
DMP42-2-WTSS-42	Transfer Pipes, Containment Sumps and Accessories
DMP42-4-WTSS-42	Transfer Pipes, Containment Sumps and Accessories
DP-1816	Transfer Pipes, Containment Sumps and Accessories
DP-2014	Transfer Pipes, Containment Sumps and Accessories
DP-2816	Transfer Pipes, Containment Sumps and Accessories
DP-4721	Transfer Pipes, Containment Sumps and Accessories
DS3617 ENCORE	Transfer Pipes, Containment Sumps and Accessories
DS3915 OVATION	Transfer Pipes, Containment Sumps and Accessories
DUCT-400-100	Transfer Pipes, Containment Sumps and Accessories
DUCT-400-250	Transfer Pipes, Containment Sumps and Accessories
FBB-075-D	Transfer Pipes, Containment Sumps and Accessories
FBB-150-SC	Transfer Pipes, Containment Sumps and Accessories
FDB-075-D	Transfer Pipes, Containment Sumps and Accessories
FDB-075-SC	Transfer Pipes, Containment Sumps and Accessories
FDB-100-D	Transfer Pipes, Containment Sumps and Accessories
FDB-100-SC	Transfer Pipes, Containment Sumps and Accessories
FEB-050-D	Transfer Pipes, Containment Sumps and Accessories
FEB-050-SC	Transfer Pipes, Containment Sumps and Accessories
FEB-075-D	Transfer Pipes, Containment Sumps and Accessories
FEB-075-D2	Transfer Pipes, Containment Sumps and Accessories
FEB-075-M	Transfer Pipes, Containment Sumps and Accessories



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Certificate number UL-CA-L62435-45121-31017102-3
Report reference MH62435-20171013
Date 2024-10-01

FEB-075-MD	Transfer Pipes, Containment Sumps and Accessories
FEB-075-MDD	Transfer Pipes, Containment Sumps and Accessories
FEB-075-SC	Transfer Pipes, Containment Sumps and Accessories
FEB-075-SCSA	Transfer Pipes, Containment Sumps and Accessories
FEB-100-D	Transfer Pipes, Containment Sumps and Accessories
FEB-100-MD	Transfer Pipes, Containment Sumps and Accessories
FEB-100-MDD	Transfer Pipes, Containment Sumps and Accessories
FEB-100-SC	Transfer Pipes, Containment Sumps and Accessories
FEB-110-M	Transfer Pipes, Containment Sumps and Accessories
FEB-150-D	Transfer Pipes, Containment Sumps and Accessories
FEB-150-MD	Transfer Pipes, Containment Sumps and Accessories
FEB-150-MDD	Transfer Pipes, Containment Sumps and Accessories
FEB-150-SC	Transfer Pipes, Containment Sumps and Accessories
FEB-175-D	Transfer Pipes, Containment Sumps and Accessories
FEB-175-MD	Transfer Pipes, Containment Sumps and Accessories
FEB-175-MDD	Transfer Pipes, Containment Sumps and Accessories
FEB-175-SC	Transfer Pipes, Containment Sumps and Accessories
FEB-175-SCSA	Transfer Pipes, Containment Sumps and Accessories
FEB-200-D	Transfer Pipes, Containment Sumps and Accessories
FEB-200-MD	Transfer Pipes, Containment Sumps and Accessories
FEB-200-MDD	Transfer Pipes, Containment Sumps and Accessories
FEB-200-SC	Transfer Pipes, Containment Sumps and Accessories
FEB-300	Transfer Pipes, Containment Sumps and Accessories
FEB-300-R	Transfer Pipes, Containment Sumps and Accessories



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Certificate number UL-CA-L62435-45121-31017102-3
Report reference MH62435-20171013
Date 2024-10-01

FEB-400-F	Transfer Pipes, Containment Sumps and Accessories
FEB-400-R	Transfer Pipes, Containment Sumps and Accessories
FWEB-150-SC	Transfer Pipes, Containment Sumps and Accessories
FWEB-175-SC	Transfer Pipes, Containment Sumps and Accessories
FWEB-200-SC	Transfer Pipes, Containment Sumps and Accessories
IPS-2424	Transfer Pipes, Containment Sumps and Accessories
IPS-3636	Transfer Pipes, Containment Sumps and Accessories
LMD-1410	Transfer Pipes, Containment Sumps and Accessories
LMD-1913-T	Transfer Pipes, Containment Sumps and Accessories
LMD-2010	Transfer Pipes, Containment Sumps and Accessories
LMD-2018	Transfer Pipes, Containment Sumps and Accessories
LMD-2313-T	Transfer Pipes, Containment Sumps and Accessories
LMD-2313-T-S	Transfer Pipes, Containment Sumps and Accessories
LMD-2407	Transfer Pipes, Containment Sumps and Accessories
LMD-2407-S	Transfer Pipes, Containment Sumps and Accessories
LMD-2715	Transfer Pipes, Containment Sumps and Accessories
LMD-2715-S	Transfer Pipes, Containment Sumps and Accessories
LMD-2811	Transfer Pipes, Containment Sumps and Accessories
LMD-2811-S	Transfer Pipes, Containment Sumps and Accessories
LMD-2915	Transfer Pipes, Containment Sumps and Accessories
LMD-2915-S	Transfer Pipes, Containment Sumps and Accessories
LMD-3610	Transfer Pipes, Containment Sumps and Accessories
LMD-3617	Transfer Pipes, Containment Sumps and Accessories
LMD-3617-S	Transfer Pipes, Containment Sumps and Accessories



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Certificate number UL-CA-L62435-45121-31017102-3
Report reference MH62435-20171013
Date 2024-10-01

LMD-3914	Transfer Pipes, Containment Sumps and Accessories
LMD-3914-36-W	Transfer Pipes, Containment Sumps and Accessories
LMD-4018	Transfer Pipes, Containment Sumps and Accessories
LMD-4111	Transfer Pipes, Containment Sumps and Accessories
LMD-4113	Transfer Pipes, Containment Sumps and Accessories
LMD-4115	Transfer Pipes, Containment Sumps and Accessories
LMM-1410	Transfer Pipes, Containment Sumps and Accessories
LMM-1410-D	Transfer Pipes, Containment Sumps and Accessories
LMM-1410-S	Transfer Pipes, Containment Sumps and Accessories
LMM-1913-T	Transfer Pipes, Containment Sumps and Accessories
LMM-1913-T-D	Transfer Pipes, Containment Sumps and Accessories
LMM-1913-T-S	Transfer Pipes, Containment Sumps and Accessories
LMM-2010	Transfer Pipes, Containment Sumps and Accessories
LMM-2010-D	Transfer Pipes, Containment Sumps and Accessories
LMM-2010-S	Transfer Pipes, Containment Sumps and Accessories
LMM-2018	Transfer Pipes, Containment Sumps and Accessories
LMM-2018-D	Transfer Pipes, Containment Sumps and Accessories
LMM-2018-S	Transfer Pipes, Containment Sumps and Accessories
LMM-2313-T	Transfer Pipes, Containment Sumps and Accessories
LMM-2313-T-D	Transfer Pipes, Containment Sumps and Accessories
LMM-2313-T-S	Transfer Pipes, Containment Sumps and Accessories
LMM-2407	Transfer Pipes, Containment Sumps and Accessories
LMM-2407-D	Transfer Pipes, Containment Sumps and Accessories
LMM-2407-S	Transfer Pipes, Containment Sumps and Accessories



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Certificate number UL-CA-L62435-45121-31017102-3
Report reference MH62435-20171013
Date 2024-10-01

LMM-2407-SW-R	Transfer Pipes, Containment Sumps and Accessories
LMM-2410-T-M	Transfer Pipes, Containment Sumps and Accessories
LMM-2715	Transfer Pipes, Containment Sumps and Accessories
LMM-2715-D	Transfer Pipes, Containment Sumps and Accessories
LMM-2715-S	Transfer Pipes, Containment Sumps and Accessories
LMM-2811	Transfer Pipes, Containment Sumps and Accessories
LMM-2811-D	Transfer Pipes, Containment Sumps and Accessories
LMM-2811-S	Transfer Pipes, Containment Sumps and Accessories
LMM-2915	Transfer Pipes, Containment Sumps and Accessories
LMM-2915-D	Transfer Pipes, Containment Sumps and Accessories
LMM-2915-S	Transfer Pipes, Containment Sumps and Accessories
LMM-2916-DEF	Transfer Pipes, Containment Sumps and Accessories
LMM-3610	Transfer Pipes, Containment Sumps and Accessories
LMM-3610-D	Transfer Pipes, Containment Sumps and Accessories
LMM-3610-S	Transfer Pipes, Containment Sumps and Accessories
LMM-3617	Transfer Pipes, Containment Sumps and Accessories
LMM-3617-36-CGS	Transfer Pipes, Containment Sumps and Accessories
LMM-3617-D	Transfer Pipes, Containment Sumps and Accessories
LMM-3617-DEF	Transfer Pipes, Containment Sumps and Accessories
LMM-3617-S	Transfer Pipes, Containment Sumps and Accessories
LMM-3914	Transfer Pipes, Containment Sumps and Accessories
LMM-3914-36-W	Transfer Pipes, Containment Sumps and Accessories
LMM-3914-36-W-D	Transfer Pipes, Containment Sumps and Accessories
LMM-3914-36-W-S	Transfer Pipes, Containment Sumps and Accessories



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Certificate number UL-CA-L62435-45121-31017102-3
Report reference MH62435-20171013
Date 2024-10-01

LMM-3914-D	Transfer Pipes, Containment Sumps and Accessories
LMM-3914-S	Transfer Pipes, Containment Sumps and Accessories
LMM-4018	Transfer Pipes, Containment Sumps and Accessories
LMM-4018-D	Transfer Pipes, Containment Sumps and Accessories
LMM-4018-S	Transfer Pipes, Containment Sumps and Accessories
LMM-4111	Transfer Pipes, Containment Sumps and Accessories
LMM-4111-D	Transfer Pipes, Containment Sumps and Accessories
LMM-4111-S	Transfer Pipes, Containment Sumps and Accessories
LMM-4115	Transfer Pipes, Containment Sumps and Accessories
LMM-4115-D	Transfer Pipes, Containment Sumps and Accessories
LMM-4115-S	Transfer Pipes, Containment Sumps and Accessories
LMT-1410	Transfer Pipes, Containment Sumps and Accessories
LMT-1410-36	Transfer Pipes, Containment Sumps and Accessories
LMT-1913-T	Transfer Pipes, Containment Sumps and Accessories
LMT-1913-T-36	Transfer Pipes, Containment Sumps and Accessories
LMT-2010	Transfer Pipes, Containment Sumps and Accessories
LMT-2010-36	Transfer Pipes, Containment Sumps and Accessories
LMT-2018	Transfer Pipes, Containment Sumps and Accessories
LMT-2313-T	Transfer Pipes, Containment Sumps and Accessories
LMT-2407	Transfer Pipes, Containment Sumps and Accessories
LMT-2715	Transfer Pipes, Containment Sumps and Accessories
LMT-2811	Transfer Pipes, Containment Sumps and Accessories
LMT-2913	Transfer Pipes, Containment Sumps and Accessories
LMT-2915	Transfer Pipes, Containment Sumps and Accessories



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Certificate number UL-CA-L62435-45121-31017102-3
Report reference MH62435-20171013
Date 2024-10-01

LMT-2916-DEF	Transfer Pipes, Containment Sumps and Accessories
LMT-3610	Transfer Pipes, Containment Sumps and Accessories
LMT-3610-R	Transfer Pipes, Containment Sumps and Accessories
LMT-3617-36	Transfer Pipes, Containment Sumps and Accessories
LMT-3617-DEF	Transfer Pipes, Containment Sumps and Accessories
LMT-3914	Transfer Pipes, Containment Sumps and Accessories
LMT-3914-36-W	Transfer Pipes, Containment Sumps and Accessories
LMT-4018	Transfer Pipes, Containment Sumps and Accessories
LMT-4111	Transfer Pipes, Containment Sumps and Accessories
LMT-4113	Transfer Pipes, Containment Sumps and Accessories
LMT-4115	Transfer Pipes, Containment Sumps and Accessories
LPOVA	Transfer Pipes, Containment Sumps and Accessories
MA-22	Transfer Pipes, Containment Sumps and Accessories
MA-24	Transfer Pipes, Containment Sumps and Accessories
OCH-1400-DS	Transfer Pipes, Containment Sumps and Accessories
OCH-1400-SS	Transfer Pipes, Containment Sumps and Accessories
RDEB Series	Transfer Pipes, Containment Sumps and Accessories
REB Series	Transfer Pipes, Containment Sumps and Accessories
REB-C Series	Transfer Pipes, Containment Sumps and Accessories
REB-C-R Series	Transfer Pipes, Containment Sumps and Accessories
REB-R Series	Transfer Pipes, Containment Sumps and Accessories
SBK-1	Transfer Pipes, Containment Sumps and Accessories
SBK-2	Transfer Pipes, Containment Sumps and Accessories
SBK-25	Transfer Pipes, Containment Sumps and Accessories



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Certificate number UL-CA-L62435-45121-31017102-3
Report reference MH62435-20171013
Date 2024-10-01

SBK-3	Transfer Pipes, Containment Sumps and Accessories
SBK-3-K	Transfer Pipes, Containment Sumps and Accessories
STB-100	Transfer Pipes, Containment Sumps and Accessories
STB-150	Transfer Pipes, Containment Sumps and Accessories
STB-150-K	Transfer Pipes, Containment Sumps and Accessories
STB-175	Transfer Pipes, Containment Sumps and Accessories
STB-175-K	Transfer Pipes, Containment Sumps and Accessories
STB-200	Transfer Pipes, Containment Sumps and Accessories
STB-200-K	Transfer Pipes, Containment Sumps and Accessories
TD4236-0/0-OB-S	Transfer Pipes, Containment Sumps and Accessories
TD4236-0/0-OC-S	Transfer Pipes, Containment Sumps and Accessories
TD4836-0/0-OC-H	Transfer Pipes, Containment Sumps and Accessories
TD4836-0/0-OC-V	Transfer Pipes, Containment Sumps and Accessories
TDA4236-0/0-RC-S	Transfer Pipes, Containment Sumps and Accessories
TDA4836-0/0-OB-S	Transfer Pipes, Containment Sumps and Accessories
TDA4836-0/0-OC-S	Transfer Pipes, Containment Sumps and Accessories
TDA4836-0/0-RC-S	Transfer Pipes, Containment Sumps and Accessories
TFA-400-II and TFA-600 tank sump adaptors, Models DMP36-1-WTSS-32	Transfer Pipes, Containment Sumps and Accessories
TM4236-0/0-OB-S	Transfer Pipes, Containment Sumps and Accessories
TM4236-0/0-OC-H	Transfer Pipes, Containment Sumps and Accessories
TM4236-0/0-OC-S	Transfer Pipes, Containment Sumps and Accessories
TM4236-0/0-OC-V	Transfer Pipes, Containment Sumps and Accessories
TM4836-0/0-OC-H	Transfer Pipes, Containment Sumps and Accessories
TM4836-0/0-OC-V	Transfer Pipes, Containment Sumps and Accessories



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Certificate number UL-CA-L62435-45121-31017102-3
Report reference MH62435-20171013
Date 2024-10-01

TMA4236-0/0-RC-S	Transfer Pipes, Containment Sumps and Accessories
TMA4836-0/0-OB-S	Transfer Pipes, Containment Sumps and Accessories
TMA4836-0/0-OC-S	Transfer Pipes, Containment Sumps and Accessories
TMA4836-0/0-RC-S	Transfer Pipes, Containment Sumps and Accessories
TMA4842-0/0-OB-S	Transfer Pipes, Containment Sumps and Accessories
TMA4842-0/0-OC-S	Transfer Pipes, Containment Sumps and Accessories
TS-2430	Transfer Pipes, Containment Sumps and Accessories
TS-3630	Transfer Pipes, Containment Sumps and Accessories
TS-4230	Transfer Pipes, Containment Sumps and Accessories
TS-KIT	Transfer Pipes, Containment Sumps and Accessories
TSD-4542-IP	Transfer Pipes, Containment Sumps and Accessories
TSD-4542-IPB	Transfer Pipes, Containment Sumps and Accessories
TSD-4736	Transfer Pipes, Containment Sumps and Accessories
TSD-4736-IP	Transfer Pipes, Containment Sumps and Accessories
TSD-4736-IPB	Transfer Pipes, Containment Sumps and Accessories
TSD-W-4736	Transfer Pipes, Containment Sumps and Accessories
TSM-4542-IPB	Transfer Pipes, Containment Sumps and Accessories
TSM-4736	Transfer Pipes, Containment Sumps and Accessories
TSM-4736-IPB	Transfer Pipes, Containment Sumps and Accessories
TSM-W-4736	Transfer Pipes, Containment Sumps and Accessories
TSS-36	Transfer Pipes, Containment Sumps and Accessories
TSS-42	Transfer Pipes, Containment Sumps and Accessories
TSS-4236	Transfer Pipes, Containment Sumps and Accessories
TSS-4542	Transfer Pipes, Containment Sumps and Accessories



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CERTIFICATE OF COMPLIANCE

Certificate number UL-CA-L62435-45121-31017102-3
Report reference MH62435-20171013
Date 2024-10-01

TSS-4542-IPB	Transfer Pipes, Containment Sumps and Accessories
TSS-4836	Transfer Pipes, Containment Sumps and Accessories
TSS-XS36	Transfer Pipes, Containment Sumps and Accessories



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PRODUCT TEST SPECIFICATION

REV	ECN	DESCRIPTION	AUTHOR	APPROVED	DATE
1	734026	Initial release of document	NMF	10/28/2019	7/16/2018

**Franklin Fueling Systems**

Madison, WI 53718

AUTHOR:*Nathan Friese***DATE:***5/21/2018***APPROVED BY:***Greg Hatch***DATE:***10/28/2019*

PRODUCT TEST SPECIFICATION

GOVERNING STANDARD

UL 2447-ISSUE NO.1-30Mar2012 Outline of Investigation for Containment Sumps, Fittings and Accessories for Fuels

CONVENTIONS USED IN THIS DOCUMENT

Fonts

Non-italicized text in the body of this document is a direct copy of text from the governing standard.

Italicized text in the body of this document denotes information from Franklin Fueling Systems personnel added to provide clarification of the requirements for testing product.

Clause Numbering

Clause numbering in the body of this document matches the clause numbering in the governing standard. There may be gaps in the numbering as only clauses relating to the production testing requirements are included. The order of clauses here may differ from that in the standard due to re-grouping for the clarity of this document.

BODY

1. Scope

1.1 – These requirements cover containment sumps, and associated sump fittings and accessories (products) intended for below or at grade use as an enclosure for housing of, and access to, underground piping, connector piping, and other fueling system components (such as pumps, valves, sensors, wiring, etc.) in addition to temporary containment of typical liquid fuels as identified in this Outline. These products are intended for use in commercial (public) or private (fleet) automotive fueling station applications. Some fittings or accessory products may be optionally evaluated for repair or replacement applications in sumps that have been in service.

1.3 – Containment sumps, fittings and accessories are intended for containment of automotive fuels and exposure to soil fluids that have similar chemical, physical and material compatibility properties as represented by the test liquids in these requirements based on fuels formulated in accordance with 40 CFR Part 80, Regulation of Fuels and Fuel Additives, and meeting the following ASTM Fuel Specifications and blend limitations:

a) ASTM D975, Standard Specification for Diesel Fuel Oils, with biodiesel blends up to a maximum of 5 percent (B5);

b) ASTM D7467, Standard Specification for Diesel Fuel Oil and Biodiesel Blends (B6 to B20), with low biodiesel blends from 6 to 20 percent (B6 to B20);

PRODUCT TEST SPECIFICATION

c) ASTM D4814 Standard Specification for Automotive Spark-Ignition Engine Fuel, gasoline or oxygenated gasoline, with limited ethanol blends up to a maximum of 10 percent (E10);

d) ASTM D5798, Standard Specification for Ethanol Fuel Blends for Flexible-Fuel Automotive Spark-Ignition Engines, with high gasoline/ethanol blends from 51 to 83 percent (E51 – E83); and

e) Mid Range Ethanol Blends (E11 to E50) using variable mixtures of ASTM D4814, Low Blend Ethanol and ASTM D5798, High Blend Ethanol.

1.4 – Products covered by this Outline are intended to be installed and used in accordance with one or more of the following:

- a) NFPA 30, Flammable and Combustible Liquids Code;
- b) NFPA 30A, Code for Motor Fuel Dispensing Facilities and Garages;
- c) NFPA 1, Uniform Fire Code;
- d) International Fire Code published by the International Fire Council; or
- e) Other Applicable Federal State regulations for the specific product or application it is being utilized in.

1.5 – These products are factory manufactured and intended for on-site field assembly, inspection and leak testing for the specified applications and use conditions by qualified persons in accordance with the manufacturer's instructions and local requirements.

1.7 – These products have not been evaluated for use after natural disasters, fires or exposures to chemicals not representative of the test liquids or excessive physical damage beyond the expected assembly, installation and uses as identified in these requirements.

1.8 – These products have not been evaluated for special use applications where exposed to heavy or continuous physical abuses, excessive mechanical stresses; or environments that operate outside of the expected atmospheric conditions and ambient use temperature range.

1.9 – These requirements do not cover underground piping products, which are found in either the Standard for Nonmetallic Underground Piping for Flammable Liquids, UL 971 or the Outline for Metallic Underground Piping for Flammable Liquids, SU 971A.

1.10 – These requirements do not cover connector piping products, which are found in the Outline for Flexible Connector Piping for Fuels, SU 2039, or tank accessories, which are found in the Outline for Fuel Tank Accessories, SU 2583.

PRODUCT TEST SPECIFICATION

Tests**10. Leakage Tests****10.1 General**

Sump samples with the installed fittings and accessories shall be subjected to the appropriate leakage test method(s) without the aid of backfill, frames or other supports not integral with the sump or intended for field assembly. The leakage tests shall be conducted at room temperature, and samples shall not leak during any of the tests.

10.2 Sump leakage

10.2.1 – For separate primary or secondary types, the test sumps with connected fittings and pipes shall be filled $\frac{3}{4}$ full with water to the maximum level for at least 15 minutes. Afterwards, the sump wall and each fitting shall be visually inspected for external leakage.

Clarification – Per clause 14.3.1 air, water or vacuum testing with appropriate detection methods can be used for manufacturing and production tests.

Acceptance Criteria – There shall be no sump leakage.

10.2.2 – For integral primary/secondary types, the primary sump shall be tested per 10.2.1, except the visual inspection for leakage shall be done at each interstitial monitor location. Afterwards, with the water still in the primary sump, the interstitial space shall be subjected to one of the methods below.

- a) Filling $\frac{3}{4}$ full with water for at least 15 minutes, then visually inspecting the external sump wall and fittings for leakage; or
- b) A pressure of at least 5.0 psig (35 kPa) for 15 minutes, then visually inspecting the primary (air bubbles) and secondary (soap suds); or
- c) A vacuum of at least 10 in Hg (254 mm Hg) for 5 minutes, then determining leakage by any loss of vacuum after an additional 10 minutes.

Clarification – Per clause 14.3.1 air, water or vacuum testing with appropriate detection methods can be used for manufacturing and production tests.

Acceptance Criteria - There shall be no sump leakage.

Exception: Interstitial spaces of sumps and/or fittings intended for connection to continuous monitoring devices shall be tested at 1.5 times rated pressure per method b) and/or 1.5 times rated vacuum per method c).

10.2.3 – Visual leak detection shall include all surfaces, joints, and connections to fittings and accessories. It is permitted to use fluid dyes, leak solutions, blotting paper, or any other accurate and repeatable methods to aid in leakage assessment.

PRODUCT TEST SPECIFICATION

10.2.4 – Gauges used to determine leakage shall not exceed 2 times the test values in 10.2.2, and shall have increments of one half the test unit value (0.5 psig or 0.5 in Hg) or better, and be calibrated with an accuracy of 2 percent or better.

10.3 Fitting leakage

10.3.1 – Fittings that form part of the primary piping system (normally in contact with pressurized fuels), the fitting with connecting pipe shall be pressurized to 2 times the pipe rating for 1 minute. The pressure may be aerostatic or hydrostatic with appropriate leak detection methods used.

Clarification – Per clause 14.3.1 air, water or vacuum testing with appropriate detection methods can be used for manufacturing and production tests.

Acceptance Criteria – There shall be no fitting leakage.

10.3.2 – Fittings that form part of the secondary piping system (potential contact with leaking fuels), the fitting with connecting pipe shall be pressurized to the appropriate value below for 1 minute. The pressure may be aerostatic or hydrostatic with appropriate leak detection methods used.

- a) For fittings rated for only open secondary piping system use – 5.0 psig (35kPa);
- b) For fittings rated for open or closed secondary piping system use – 50 psig (345 kPa)

Clarification – All sizes of UL listed UPP pipe and XP-150-SC are rated for closed secondary use. XP-175-SC and XP-200-SC pipe are rated for open secondary use only.

Acceptance Criteria – There shall be no fitting leakage.

10.4 Cover and lid leakage

10.4.1 – Sump covers and lids shall be assembled to the connecting sump or supporting ring with it fixed to simulate installation at or below grade as intended. The combined product shall then be subjected to the applicable water resistance tests below.

- a) Cover Submersion – At grade covers shall be subjected to a 6-inch (152 mm) water submersion for 30 minutes. Dispenser sump covers intended for raised islands shall be evaluated to the Lid Rain test method;
- b) Lid Rain – Below grade lids shall be subjected to a 30 minute simulated rain emitted from a UL Rain Spray Head (RT100E) at 5.0 psig (35 kPa) 3 – 5 ft. (0.91 – 1.52 m) above the lid.

Clarification – Per clause 14.3.1 air, water or vacuum testing with appropriate detection methods can be used for manufacturing and production tests.

Acceptance Criteria – There shall be no cover or lid leakage.

PRODUCT TEST SPECIFICATION

10.5 Chase leakage

10.5.1 – Combinations of chase pipe and fittings assembled to the sump shall be capped at the pipe end and subjected to the pressures below for 1 minute.

- a) A pressure of at least 5.0 psig (35 kPa) for 15 minutes, then visually inspecting the primary (air bubbles) and secondary (soap suds); or
- b) A vacuum of at least 10 in Hg (254 mm Hg) for 5 minutes, then determining leakage by any loss of vacuum after an additional 10 minutes.

Acceptance Criteria – *There shall be no chase pipe leakage.*

14. Manufacturing and Production Tests**14.1 General**

14.1.1 – All sump products and components shall be subjected to material, process, construction, and performance checks by the manufacturer to adequately control the quality of the products. Material checks shall include pre-process acceptance of raw materials and post process evaluations of critical properties. Process checks shall include process parameters (such as time, temperatures, pressure of other machine settings). Details of the manufacturer's quality control program shall be documented.

14.1.2 – Construction checks shall include Dimensional measurements per 14.2.

14.1.3 – Performance tests shall include a Leakage Test per 14.3.

Clarification – *The material, process, construction, and performance checks will be controlled and performed in adherence to processing parameters outlined in the quality system documentation developed by Franklin Fueling Systems as well as component CTQ's displayed on the corresponding component drawing(s).*

14.2 Dimensional measurements

14.2.1 – Dimensional checks on finished sump products or components shall be conducted by the manufacturer to ensure compliance with at least the minimum/maximum ranges of critical shapes, dimensions, thickness, and pipe thread or other connection specifications. Random sampling of batches or lots at a rate of at least 1 per 100 units shall be the minimum criteria.

14.3 Leakage Test

14.3.1 – At least 1 per 100 completed sumps, lids, covers and fittings production shall be subjected to the Leakage Tests in Section 10, except the test pressure is permitted to be reduced to the marked rating for 1 minute. Any combination of air, vacuum, or water may be used with an appropriate leak detection method that shall be accurate and repeatable. Functional leak detection shall be demonstrated at the start of each shift with a "failed" sample.

Testing Records

Results of required testing, consisting of at a minimum, date testing was performed, and pass / fail test status must be recorded and retained for a length of time in accordance with FFS records retention matrix QSP 16.002. Records must be stored in a secure manner that ensures that they can be made available to FFS upon request.

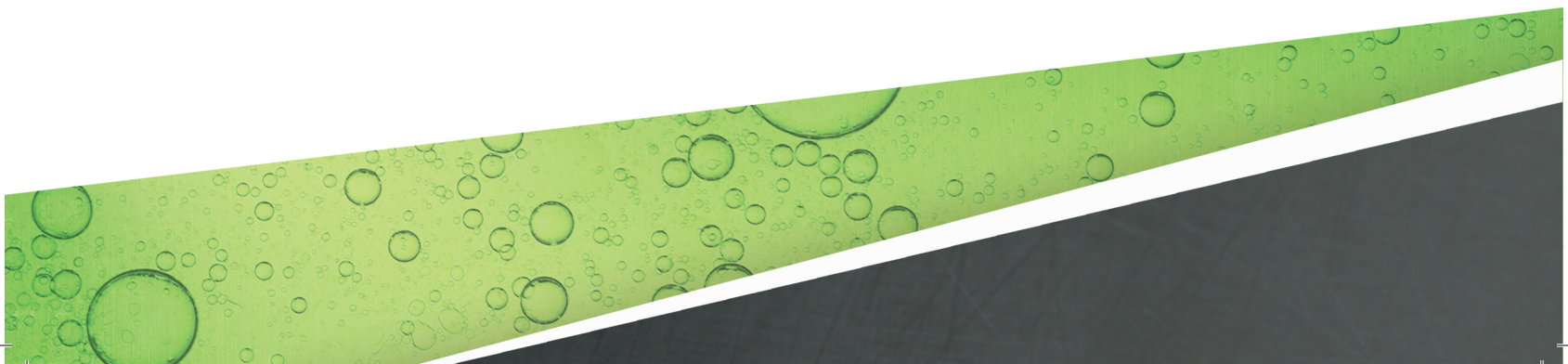
PRODUCT TEST SPECIFICATION

Deviations

Any deviations or significant changes to any containment sumps, fittings, accessories, and/or test methods must be approved by FFS Engineering.

CARBON SERIES™ SINGLE WALL AND DOUBLE WALL FIBERGLASS DISPENSER SUMPS

INSTALLATION GUIDE



The information in this publication is provided for reference only. While every effort has been made to ensure the reliability and accuracy of the information contained in this manual at the time of printing, we recommend that you refer to "franklinfueling.com" for the most current version of this manual. All product specifications, as well as the information contained in this publication, are subject to change without notice. Franklin Fueling Systems does not assume responsibility and expressly disclaims liability for loss, damage, or expense arising out of, or in any way connected with, installation, operation, use, or maintenance by using this manual. Franklin Fueling Systems assumes no responsibility for any infringement of patents or other rights of third parties that may result from use of this manual or the products. We make no warranty of any kind with regard to this material, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

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771-244-01 r1

Contents

- Introduction1
 - Questions and concerns1
 - Conventions used in this manual1
 - Operating precautions.....2
- Installation.....3
 - Install the Carbon Series™ single wall or double wall dispenser sump3
 - Parts required3
 - Tools and equipment required3
 - Procedure3
 - Check the vacuum in the interstitial space4
 - Validate the integrity of the interstitial space5
 - Site investigation.....6
 - Backfilling.....6
 - Rounded gravel backfill specifications6
 - Crushed stone backfill specifications6
 - Sand backfill specifications.....7
 - Compacting backfill7

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Introduction



This manual contains the information for installing the Carbon Series™ single wall and double wall fiberglass dispenser sumps.

Questions and concerns

In case of emergency, follow the procedures established by your facility. If you have questions or concerns about safety or need assistance, use the information below to contact Franklin Fueling Systems:

franklinfueling.com

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Tel: USA & Canada +1 800 225 9787 • Tel: UK +44 (0) 1473 243300

Tel: Mex 001 800 738 7610 • Tel: DE +49 6571 105 308 • Tel: CN +86 10 8565 4566

Conventions used in this manual

This manual includes safety precautions and other important information presented in the following format:

NOTE: Provides helpful supplementary information.

IMPORTANT: Provides instructions to avoid damaging hardware or a potential hazard to the environment (fuel leakage from equipment that could harm the environment, for example).

⚠ CAUTION: Indicates a potentially hazardous situation that could result in minor or moderate injury if not avoided. This may also be used to alert against unsafe practices.

⚠ WARNING: Indicates a potentially hazardous situation that could result in severe injury or death.

⚠ DANGER: Indicates an imminently hazardous situation that will result in death.



Operating precautions

Franklin Fueling Systems (FFS) equipment is designed to be installed in areas where volatile liquids such as gasoline and diesel fuel are present. Working in such a hazardous environment presents a risk of severe injury or death if you do not follow standard industry practices and the instructions in this manual. Before you work with or install the equipment covered in this manual, or any related equipment, read this entire manual, particularly the following precautions:

⚠ CAUTION: Use only original FFS parts. Substituting non-FFS parts could cause the device to fail, which could create a hazardous condition and/or harm the environment.

⚠ WARNING: Follow all codes that govern how you install and service this product and the entire system. Always lock out and tag electrical circuit breakers while installing or servicing this equipment and related equipment. A potentially lethal electrical shock hazard and the possibility of an explosion or fire from a spark can result if the electrical circuit breakers are accidentally turned on while you are installing or servicing this product. Refer to this manual (and documentation for related equipment) for complete installation and safety information.

⚠ WARNING: Follow all federal, state, and local laws governing the installation of this product and its associated systems. When no other regulations apply, follow NFPA codes 30, 30A, and 70 from the National Fire Protection Association. Failure to follow these codes could result in severe injury, death, serious property damage, and/or environmental contamination.

⚠ DANGER: Make sure you check the installation location for potential ignition sources such as flames, sparks, radio waves, ionizing radiation, and ultrasound sonic waves. If you identify any potential ignition sources, you must make sure safety measure are implemented.

Installation

Install the Carbon Series™ single wall or double wall dispenser sump

Parts required

Model	Description	Stabilizer Bar Kit
602375001	Carbon Series™ single wall fiberglass sump for Gilbarco Encore® bow-tie end dispenser models	SBK-3
602377001	Carbon Series™ single wall fiberglass sump for Gilbarco Encore® bow-tie end dispenser models with banded DEF polyethylene sump	SBK-3
602381001	Carbon Series™ single wall fiberglass sump for Wayne Ovation® dispenser models	SBK-25
602383XXXX	Carbon Series™ double wall fiberglass sump for Gilbarco Encore® dispenser models, with vacuum gauge	SBK-3
602385XXXX	Carbon Series™ double wall fiberglass sump for Wayne Ovation® dispenser models with vacuum gauge	SBK-25

Tools and equipment required

Description	Part Number
Assorted tools (e.g., drill, pliers, screwdrivers)	Locally Sourced
PPE (e.g., goggles, hardhat)	Locally Sourced
Timer	Locally Sourced
Vacuum source (appropriate for location)	Locally Sourced

Procedure

1. Unpack the sump and inspect it for damage. If you find any damage, contact FFS Technical Service (1.800.984.6266) for assistance.
2. If you are installing a double wall sump, make sure you check the vacuum in the interstitial space. (See "Validate the integrity of the interstitial space.")
3. Install stabilizer bar kits into the sump. (See the *SBK-Stabilizer Bar Kit Installation Instruction*, part number 771-202-00.)
4. Assemble the riser pipes. Riser pipe assembly lengths should have properly mounted shear valves and maintain an appropriate piping slope.

5. Install the riser pipes on the riser assemblies.

IMPORTANT: When you install fittings in a Carbon Series™ single or double wall fiberglass dispenser sump, **do not sand through the gel coat** on the inner surface of the sump!

6. Install any equipment (such as sensors) and entry boots. (See the *Rigid Entry Boot Installation Guide*, part number 771-244-00, for instructions for installing entry boots.)
7. If you penetrated the walls of a double wall sump, make sure you validate the integrity of the interstitial space when you are finished installing entry fittings and pipes and before you backfill around the sump. (See "Validate the integrity of the interstitial space" for more information.)

IMPORTANT: The sump must be securely anchored before you install pipe.

8. Anchor the sump properly in place with stakes or an island form.
9. Backfill evenly around the sump with approved backfill. Do not over-compact the backfill; this can distort the sump.

Check the vacuum in the interstitial space

1. Check the vacuum gauge attached to the interstitial valve after you receive, unpack, and inspect the sump. If it shows that there is a vacuum in the interstitial space, proceed with the installation. If the gauge shows that there is no vacuum in the interstitial space, perform the "Validate the integrity of the interstitial space" procedure.
2. Use two wrenches to remove the gauge from the interstitial valve. Use one wrench to hold the valve so that it doesn't move. Use the other wrench to loosen and remove the gauge. You can discard the gauge after you remove it.

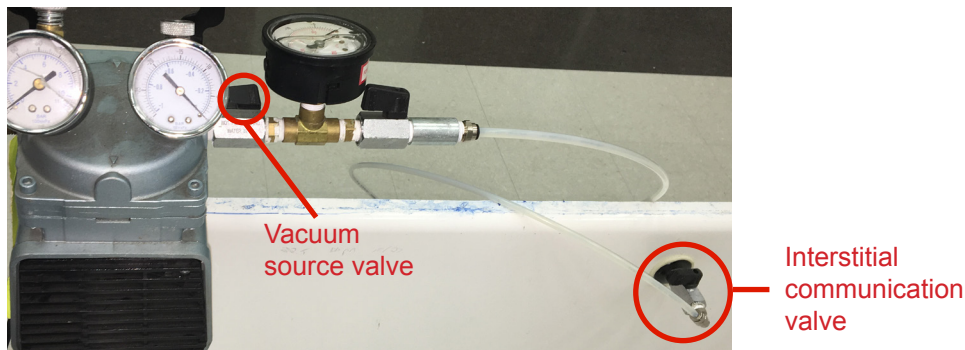
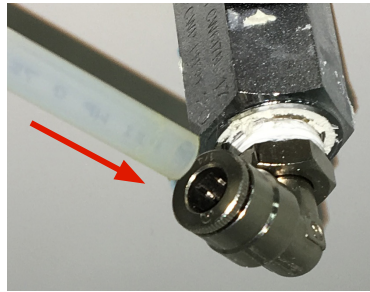
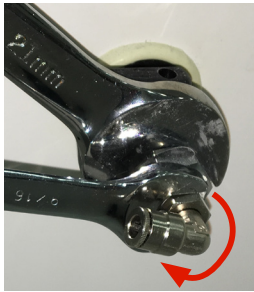


Validate the integrity of the interstitial space

Use the following procedure to validate the integrity of the interstitial space between the double walls of the fiberglass dispenser sump.

IMPORTANT: There are two situations in which you must perform this test:

- When you complete pipe and fitting installation.
 - When you perform regularly scheduled testing.
1. Thread a vacuum fitting onto the interstitial valve, and then connect it to a vacuum source appropriate to the location. Open the interstitial communication valve.



2. Draw the system down to a vacuum of 30 inches of water column, and close the valve to the vacuum source. Make sure the system stabilizes at 30 inches of water column.
3. Close the vacuum source valve to the interstitial space, and start a timer set for 10 minutes.
4. Check the system after 10 minutes. If it holds a vacuum of more than 24 inches of water column, it passes the interstitial integrity test. Continue to the next step.

If interstitial space does not hold a vacuum of 24 inches of water column, make sure all entry and test fittings are properly installed and secure, and then perform the "Validate the integrity of the interstitial space" procedure. If the test fails again, contact FFS Technical Service (1.800.984.6266) for assistance.

5. Close the interstitial communication valve, disconnect all test equipment, and then clean the sump.

Site investigation

The following are ways you can get information about the soil conditions you will encounter:

- Do a full geo-technical investigation of the site.
- Drill or dig a test pit in the vicinity of the excavation.
- Research site files for any details from previous work.
- Interview local contractors or consultants familiar with area.
- Determine the groundwater conditions.

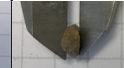
When you prepare the tank pit area, refer to "Recommended Practices for Installation of Underground Liquid Storage Systems" (PEI/RP100-17).

IMPORTANT: Make sure all excavation, piling, and backfilling conforms to local geotechnical engineer requirements.

Backfilling

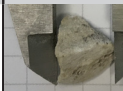
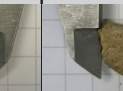
Rounded gravel backfill specifications

The following table shows the standard size of rounded gravel coarse aggregates that meet FFS backfill requirements for containment sumps, according to ASTM D-448, ASTM C-33, and AASHTO M 43. (The amount of material passing through each laboratory sieve is given as a percentage of the total weight.)

Size #	Sieve nominal size square openings	3/4" (19.1mm)	1/2" (12.7mm)	3/8" (9.5mm)	#4 (4.8mm)	#8 (2.4mm)
6	3/4" (19.1 mm) - 3/8" (9.5 mm)	90-100%	20-55%	0-15%	0-5%	
67	3/8" (9.5 mm) - #4 (4.8 mm)	90-100%		20-55%	0-10%	0-5%
7	1/2" (12.7 mm) - #4 (4.8 mm)	100%	90-100%	40-70%	0-15%	0-5%
						

Crushed stone backfill specifications

The following table shows the standard size of crushed stone coarse aggregates that meet FFS backfill requirements for containment sumps, according to ASTM D-448, ASTM C-33, and AASHTO M 43. (The amount of material passing through each laboratory sieve is given as a percentage of the total weight.)

Size #	Sieve nominal size square openings	1/2" (12.7mm)	3/8" (9.5mm)	#4 (4.8mm)	#8 (2.4mm)
7	1/2" (12.7 mm) - #4 (4.8 mm)	90-100%	40-70%	0-15%	0-5%
8	3/4" (19.1 mm) - 3/8" (9.5 mm)	100%	85-100%	10-30%	0-10%
					

NOTE: Rounded gravel and crushed stone are self-compacting. You can use them in all ground water conditions. Vibration compaction or shovel slicing works best with these materials.



Sand backfill specifications

IMPORTANT: Use only coarse or medium graded sand to backfill around tank chambers.

IMPORTANT: Sand that is used for backfill must be free of salt, clay, fines, and native excavation soil. If you use sand for backfill in a cold weather installation, it must be free of ice.

Approved sand backfill can be divided into the following categories based on particle size:

- Coarse Sand: This type of sand passes a No. 4 (4.75mm) sieve and is retained on a No. 10 (2.0mm) sieve.
- Medium Coarse Sand: This type of sand passes a No. 10 (2.0mm) sieve and is retained on a No. 40 (0.425mm) sieve.

NOTE: When you use sand for backfill, make sure you achieve and maintain the desired compaction (90% of standard proctor density) and prevent backfill migration. You must do mechanical compaction to properly compact sand backfill after each lift, and you should compact sand at, or near, the optimum moisture content.

Compacting backfill

It is important to compact backfill correctly in order to provide shear strength, stability, and increased stiffness to support underground chambers adequately.

IMPORTANT: Make sure backfill is clean, well-granulated, free-flowing, and inert.

IMPORTANT: Do not use mechanical compactors around tank chambers and dispenser sumps within 12" (30 cm) of the chamber or sump's wall. This helps prevent local deformation.

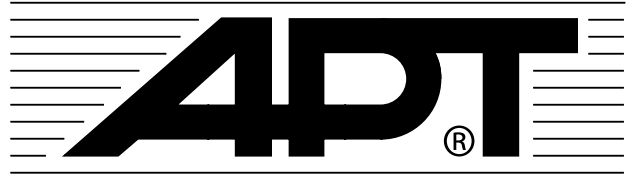
Place the backfill evenly in layers (or lifts). Compact each lift thoroughly before you place the next layer. In general, you should make each layer approximately 12" (30 cm) deep. Check for voids underneath the chambers while you are backfilling. If the backfill material appears loose in these areas, continue compacting the backfill until it is appropriately compacted.

IMPORTANT: For installations in areas with a high water table, FFS requires you to use self-compacting round gravel or crushed stone, which simplifies maintaining proper compaction.



771-244-01 r1





Franklin Fueling Systems

Double Wall Fiberglass Sumps

Installation Guide Overview

Contents

Notice.....	ii
Introduction.....	1
Safety.....	1
Tools Required for Installation	1
Inspect the Double Wall Sump Upon Delivery	1
Preparation.....	2
Preparing the DW Octagon Sump Bottom and Tank Collar	2
Surface Preparation	2
Applying Putty to Sump Joints	3
Mixtures and Cure Times for Resin and Catalyst.....	4
Applying Resin and Mat to Sumps	5
Cutting Sump Riser to Length.....	6
Gel Coat Application	7
Tools	7
Safety Considerations.....	7
Mixing	7
Application	7
Finishing.....	8
Vacuum Test	8
Storage Limitations of Catalyst, Resin and Mat.....	8

Notice

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Inspection of Materials

Visually inspect all components for defects or damage prior to installation. If any defect or damage is found, do not use the product and contact Franklin Fueling Systems for further assistance.

Warranty Information

Please refer to the *FFS Fuel Management Systems & Product Warranty Policy* for all warranty information.

Contacting Franklin Fueling Systems (FFS)

Please feel free to contact us by mail at: Franklin Fueling Systems, 3760 Marsh Rd. Madison, WI 53718 USA

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Please visit our website at www.franklinfueling.com

Regulatory compliance

IMPORTANT INFORMATION – FOLLOW ALL INSTRUCTIONS

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

IMPORTANT: Failure to use recommended combination of sump products in a completed assembly may cause damage or leakage.

List of compatible products: Evaluated for assembly, installation, and use with FEB series electrofusion fiberglass entry boots for double wall fiberglass tank sumps. Evaluated for assembly, installation, and use with LMT series dispenser frames, and FEB series electrofusion fiberglass entry boots for double wall fiberglass dispenser sumps.

Introduction

This guide is meant as an installation overview for double wall underground fiberglass sumps and should be used in conjunction with the appropriate part-specific installation instructions. For complete installation and safety information, refer to the installation documentation for the equipment described in this guide and any other related equipment. To ensure your system integrity and safety, it is essential that you follow all applicable installation instructions and the federal, state, and local codes that supersede them.

Safety

- Wear protective goggles
- Wear protective mask (painter's mask)
- Use hearing protection
- Protect and avoid skin contact (wear latex gloves, boots, and cover all exposed skin)
- Check with local regulations concerning confined space entry.
- When working inside the sump wear a supplied air respirator.

Warning  This product can expose you to chemicals, including styrene, that are known to the State of California to cause cancer. For more information, go to “www.P65Warnings.ca.gov.”

Warning  Catalyst can combust under certain circumstances. To help prevent combustion: adequately ventilate areas when working with materials, do not use near flammable materials, keep out of direct sunlight, do not use more catalyst than required when mixing with resin and do not store rags, used mats, or material that has been used to apply catalyst.

Warning  Acetone is flammable; refer to the manufacturer's instructions for complete safety information.

Tools Required for Installation

- Mat, resin, putty and catalyst
- Mixing stick and mixing containers for mats, resin and putty
- Grooved roller (check that it rolls freely)
- 4" to 6" disposable paintbrush

Preparation

Preparing the DW Octagon Sump Bottom and Tank Collar

1. The DW Octagon sump has a bottom ring installed to provide support for shipping.
2. This ring must be removed before installing the DW Octagon sump to the tank collar.
3. Use a diamond blade to make an accurate and straight cut (see Figure 1).
4. DO NOT use the bottom ring as a guideline to cut. The bottom ring is not straight or flat and WILL NOT ensure a straight cut. Trim 1" to 3" from the bottom of the sump.
5. Dry fit all components at this time.
 - Ensure you have the flat sides aligned on the tank collar for your piping entries.
 - Sump alignment is critical.



Figure 1 - Removing Bottom Ring

Exterior Surface Preparation:

1. Degrease with Acetone. Only degrease areas that will be abraded as described below.
2. Sand the outside layer of the fiberglass pieces that are to be fibreglassed together. Only prepare four inch tall segments of components being adhered together. Do not sand past the areas that will be covered with mat.
3. The fiberglass sump should be sanded using a DA sander with 120-grit sandpaper. If sanding by hand, use an abrasive medium to make a rough surface for the fiberglass to bond to.
4. Remove dust created by the abrasion process with a tack rag.
5. Clean abraded areas with acetone because this will help the mat adhere to the abraded areas of the components that are being fibreglassed together (see Figure 2)

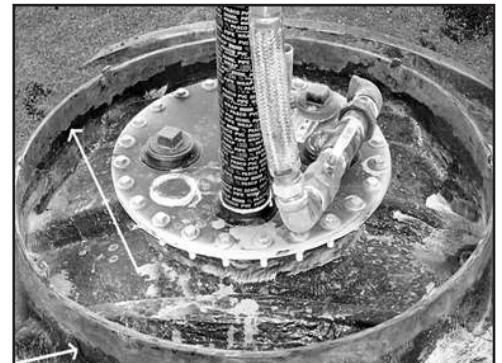


Figure 2 - Acetone Discoloring Sanded Surfaces

Interior Surface Preparation:

1. Degrease with Acetone. Only degrease areas that will be abraded as described below.
2. Using 120 grit sandpaper sand the gel coat finish until the shine is removed. This will be adequate for the mat to adhere to the inside sump wall. Do not sand past the areas that will be covered with mat. Before installing the sump base to the DW fiberglass tank collar, the collar must be sanded on both the inside and outside too.
3. Remove dust created by the abrasion process with a tack rag
4. Clean abraded areas with acetone because this will help the mat adhere to the abraded areas of the components that are being fibreglassed together (see Figure 2).

NOTE: Do NOT use marine grade resin. Only use petroleum grade resin.

Applying Putty to Sump Joints

1. Multi-port watertight sump shields must be properly aligned to the threaded inserts of underground storage tanks (UST's) before glassing the sump joints so that the finished sump installation fits together correctly. Dry fit spill collectors with their accompanying 4" riser pipes. Temporarily assembly risers, M-1600's, spill collectors, and 13" and 8" reducer boots so that all components align correctly (see Figure 3).
2. Clear the inside and outside of the joint of debris so that the area is completely dry and clean.
3. Mixing putty and catalyst:
 - a. The putty and catalyst mixing ratio is 20 mL of catalyst per one quart of fiberglass putty. Use a measuring beaker or cup to measure out the 20 mL of catalyst.
 - b. For best results, ambient temperature should be above 70° F when fiberglassing. If the ambient temperature is below 70° F, cure times will be longer and the catalyst ratio must be adjusted when mixing putty with resin.
 - c. When mixing putty and catalyst, always mix from the bottom up.
 - d. Mix the catalyst and putty together until the catalyzed putty is thoroughly, uniformly mixed with no color streaks.
4. Smoothly apply the catalyzed putty with a 4" putty knife to the outside joint of the sump, pushing some down into the joints (see Figure 4). Fill in any open areas of the joint with catalyzed putty. *If the joint is protruded, feather the putty out in order to provide a smooth area for the mat to adhere to.*
5. Create a smooth surface for the mat to bond to by using a Bondo knife to smooth the catalyzed putty around the joint (see Figure 5). Make sure that there are no cracks or holes in the putty because this layer is what creates the watertight bond to the sump.
6. Repeat the above step for the inside of the sump. Remember that when working on the inside of the sump to follow all safety regulations per local requirements. Use an air respirator when working inside of a sump.
7. Allow the puttied sump to sit for at least one hour in an above 70° F environment so that the putty can harden. **Do not disturb the sump during this time, or it could become misaligned.** Lower temperatures will require longer cure times.
8. Inspect the outside joint for gaps that could cause a problem for the mat when adhering it to the abraded area of the sump. Visually inspect the inside joint to verify that there are no problem areas, cracks or holes. If there are any cracks or holes, re-apply putty to the needed area and follow the previous steps before continuing. You may need to mix a new batch of putty at this point because the original batch may have hardened.
6. After the joint has fully cured, lightly grind all previously abraded areas (see Figure 6), dust them off, and wipe down the area with an acetone-soaked rag.



Figure 3
Aligning Multi-Port Sump Shield



Figure 4 - Applying Catalyzed Putty



Figure 5 - Smoothing Catalyzed Putty



Figure 6 - Grinding

Mixtures and Cure Times for Resin and Catalyst

Important Things to Know

- Resin hardens quickly, so have all setup items prepared ahead of time. Spending extra time on setup items prior to mixing the resin will help ensure that you have enough time later to work with the resin before it hardens.
- Before mixing resin, check that your roller works properly.
- For best results, ambient temperature should be above 70° F. If the ambient temperature is below 70° F, curing time will be extended (refer to the time chart for approximate cure times).

Resin/Catalyst Mixtures

Resin	Catalyst in cool or overcast conditions: 2% per weight	Catalyst in standard conditions: 1.5% per weight	Catalyst in hot or sunny conditions: 1% per weight
16 fl. oz. (1 pt.)	9 mL	7 mL	5 mL
32 fl. oz. (1 qt.)	19 mL	14 mL	9 mL

1. Cut several dozen pieces of fiberglass mats to lengths of 24". These mats will be used in the next section, but it's important to do this before mixing the resin to give yourself more time to work with the resin before it hardens.
2. Mix one pint of catalyzed resin at a time, starting with a small amount so that the mixture does not cure before applying it to the sump. *As you become more familiar with the fiberglass application, you may increase the amount to one quart.*

Note: Do not use less than 1% per weight of catalyst per mixture, or the resin will not fully bond to the surface of the sump and mat.

Cure Times

Ambient Temperature	Minimum Set-up Time
35 F	20 Hours
40 F	14 Hours
50 F	8 Hours
60 F	5 Hours
70 F	3 Hours
80 F	2 Hours
90 F	1 Hour
100 F	½ Hour

Cure times given are for reference purposes only, exact times may vary.

Applying Resin and Mat to Sumps

When applying mats to a sump, use three layers of fiberglass mat strips (the ones you cut in Step 1 in the *Mixtures and Cure Times for Resin and Catalyst* section) for each joint of the sumps being fiberglassed. Apply one layer of mat at a time, centering the mats on the joint being fiberglassed.

Note: Do not store mats in humid or wet environments. If a mat comes in contact with liquids or humidity, it will begin to release the chemicals that allow it to adhere to the fiberglass sump. A wet or damp mat will not adhere to a sump and should be disposed of immediately.

1. Apply catalyzed resin generously to the puttied sump joint using a disposable paintbrush that is 4" or 6" wide. Wet out (apply a large amount of catalyzed resin to) the area on the components being fiberglassed more than large enough for the 24" piece of mat to lay on (see Figure 7).
2. Apply a fiberglass mat to the area you wetted out in Step 1 and saturate this layer of mat with catalyzed resin (see Figures 8 and 9).
3. Using a 4-6" grooved roller, roll over the layer of fiberglass mat and remove any air bubbles. Make sure that air bubbles are not present in this layer because this layer is the foundation for the next layer. White areas in a mat indicate the presence of air pockets.
4. Roll over the mat horizontally and vertically as many times as needed to eliminate air bubbles (see Figure 10).
5. Repeat Steps 1 through 4 all of the way around the sump, overlapping each mat with the one previously applied (see Figure 11). Three layers of mat need to be applied to each sump joint on both the inside and outside.

Note: Resin will soak through the first layer, so don't apply as much resin to the second and third layers as on the first.

Note: Clean the roller with acetone periodically so that it keeps rolling freely.

6. Finalize the mat install by spreading some extra resin across the mat. Again, remove any air pockets that may be caught in the resin.
7. Please refer to the Cure Times chart in the *Mixtures and Cure Times for Resin and Catalyst* chapter for approximate cure times. While you wait for mats to cure, work on other sumps.



Figure 7 - Wetting Out



Figure 8 - Applying Mat



Figure 9 - Saturating with Resin



Figure 10 - Removing Air Bubbles



Figure 11 - Applying 2nd Layer

Cutting Sump Riser to Length

1. Measure from the sump base to finish grade to determine the correct height for the sump riser.
2. Mark the sump for cutting.

Note: Cutting the sump bottom not only creates the correct riser height but also allows the sump riser and sump base to communicate.

3. Using a diamond blade to ensure an accurate and straight cut, cut the bottom of the sump riser off in order to create a communication channel.



Figure 12 - Marking the Sump for Cutting

4. **Dry fit all components together to ensure that the proper height has been achieved.**

5. Follow all of the instructions in the Surface Preparation section (located in the Preparation chapter), then continue on to Step 6.
6. Before installing the sump riser to the sump bottom, use a 1/4" router to drill a complete opening in the top communication channel of the sump base. The sump riser will already have a communication channel from Step 3.

Caution  **Do not drill holes into the sidewalls of the sump because that could compromise system integrity.**

7. Verify that the alignment is correct and sized properly.
8. Return to the *Applying Putty to Sump Joints* and *Applying Resin and Mat to Sumps* chapters and, respectively, follow the instructions there for applying putty and fiberglassing the inside and outside seams of these two components.

Gel Coat Application

Tools

- NIOSH approved respirator
- Disposable paint brush or roller
- Disposable bucket for mixing
- Mixing sticks
- Gel Coat LHM-2900 Low Hap White HydroShield Lite NPG/ISO Marine Gel Coat (available from HK Research). Check this link for local distributor information: www.hkresearch.com/distributor_list.php.
- Catalyst
- Tacky rags
- Acetone to clean and prepare surface

Safety Considerations

- The white gel coat contain styrene monomer, which is a flammable liquid. Keep away from sparks, heat and open flame.
- Styrene vapors are heavier than air. Use adequate ventilation or suction fans to remove vapors.
- Both the polyester gel coat and the catalyst may cause burns to eyes and skin. Do not get in the eyes!
- Avoid breathing vapors! Gel coat applicators should wear a NIOSH approved respirator effective for vapors, spray mist and dust. In case of accidental contact, remove the contaminated clothing and wash affected skin areas with soap and copious quantities of water. Contact a physician if persistent skin irritation occurs. For eyes, immediately flush with plenty of water for at least 15 minutes; call a physician immediately. Wash contaminated clothing before reusing.

Note: Do not mix material continuously or its thixotropic properties may be lost. If the gel coat is inadvertently over-mixed, hold material for four hours without agitation before application.

Mixing

- It is suggested that the catalyst concentration used in the application of the “LHM” series NPG-ISO White Gel Coats not exceed 3.0% or fall below 1.5% to retain maximum properties.
- The recommended range for the catalyst concentration within the applied film is 1.8 to 2.2% at 77° F.
- Recommended catalysts are NORAC MEKP-9, Superox 46-702 and Cadoc L-50a. Call HK’s Lab for other recommendations.

Application

1. Use sandpaper to rough up the surface and remove the shiny surface of the existing gel coat layer.
2. Use a tacky rag to remove dust on the surface to be gel coated.
3. Clean area with acetone and let dry.
4. After mixing resin and catalyst, apply it using a disposable brush or roller. Coat the area thoroughly and allow the gel coat to set. The time required for the gel coat to set is dependent upon the temperature and the percent of catalyst mixed into resin.
5. Inspect the area for full coverage. Paint on additional coats to ensure full coverage.

Finishing

1. After fiberglass has cured sand lightly with air-sander or roughly with coarse 40 – 60 grit sandpaper.
2. Knock down all excess fiberglass material and dust the sump clean
3. Mix a new batch of resin and apply to outside of the sump again as a final coat. Use the aluminum roller to eliminate any air bubbles. Allow to cure (Refer to the time chart for approximate curing time).

Vacuum Test

1. It is recommended to perform a vacuum test on the double wall sump after fiberglassing is complete.

Note: Do not perform this test if pipe entry boots have been installed.

2. DO NOT conduct a vacuum test in direct sunlight or if the temperature is fluctuating. Temperature will affect the vacuum.
3. Close the needle valve attached to the vacuum gauge, and remove the vacuum gauge.
4. Connect the vacuum pump onto the closed needle valve.
5. Open the needle valve and draw a 15" Hg vacuum.
6. Close the needle valve and re-install the vacuum gauge.
7. Open the Needle valve and observe the vacuum gauge.
8. We should see 15" Hg. Observe the gauge for 30 minutes. There should not be a drop in vacuum.

Storage Limitations of Catalyst, Resin and Mat

- 3 months after manufacture at 73 degrees or below, factory sealed container
- Out of direct sunlight
- Do not store rags, used mat, or material that may have been used to apply catalyst. Catalyst will combust! Please take great care in storing material that has been used in the resin applying process.
- Do not store mat in a humid or wet environment. If mat comes in contact with humidity or liquid it will begin to release the chemicals that allow it to adhere to the fiberglass sump. Wet or damp mat will not adhere to the sump. This mat should be disposed of and not used.



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Franklin Electric
FUELING SYSTEMS

SINGLE WALL FIBERGLASS DISPENSER SUMPS

INSTALL GUIDE

602405010 r2

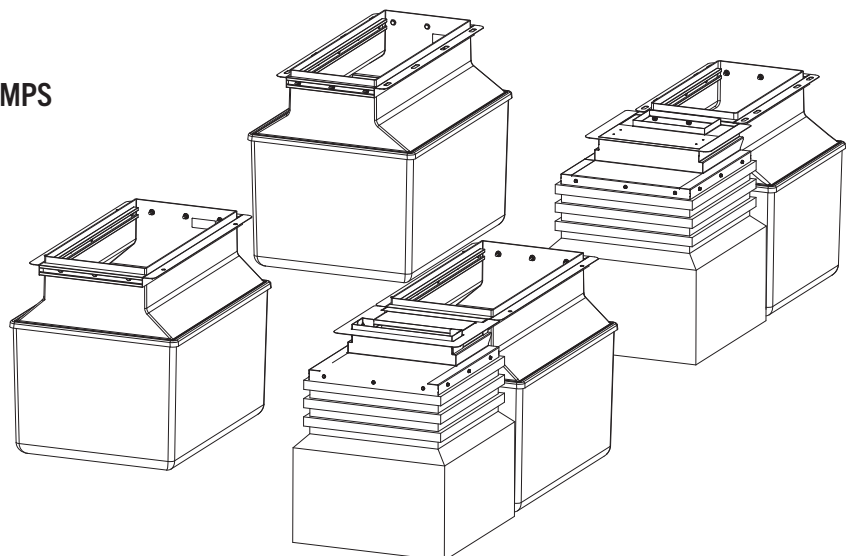
SW FG DISPENSER SUMPS

602375004

602377904

LPOVA-3814

LPOVA-2714-DEF



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602405010 r2

CONVENTIONS USED IN THIS DOCUMENT

This document includes safety precautions and other important information presented in the following format:

NOTE: This provides helpful supplementary information.

IMPORTANT: This provides important supplementary information and instructions to avoid damaging hardware or a potential hazard.

▲ CAUTION: This indicates a potentially hazardous situation that could result in minor or moderate injury if not avoided. This may also be used to alert against unsafe practices.

▲ WARNING: This indicates a potentially hazardous situation that could result in severe injury or death if not avoided.

▲ DANGER: This indicates an imminently hazardous situation that will result in death if not avoided.

OPERATING PRECAUTIONS

Franklin Electric equipment is designed to be installed in areas where volatile liquids such as gasoline and diesel fuel are present. Working in such a hazardous environment presents a risk of severe injury or death if you do not follow standard industry practices and the instructions in this document. Before working with or installing the equipment covered in this document, or any related equipment, read this entire document, particularly the following precautions:

IMPORTANT: To help prevent spillage from an underground storage tank, make sure the delivery equipment is well-maintained, that there is a proper connection, and that the fill adaptor is tight. Delivery personnel should inspect delivery elbows and hoses for damage and missing parts.

▲ CAUTION: Use only original Franklin Electric parts. Substituting non-Franklin Electric parts could cause the device to fail, which could create a hazardous condition and/or harm the environment.

▲ WARNING: Follow all codes that govern the installation and service of this product and the entire system. Always lock out and tag electrical circuit breakers while installing or servicing this equipment and related equipment. A potentially lethal electrical shock hazard and the possibility of an explosion or fire from a spark can result if the electrical circuit breakers are accidentally turned on while installing or servicing this product. Refer to this document (and documentation for related equipment) for complete installation and safety information.

▲ WARNING: Before entering a containment sump, check for the presence of hydrocarbon vapors. Inhaling these vapors may cause dizziness/ unconsciousness, and if ignited, can explode causing serious injury or death. Containment sumps are designed to trap hazardous liquid spills and prevent environmental contamination, so they can accumulate dangerous amounts of hydrocarbon vapors. Check the atmosphere in the sump regularly while work is in process. If vapors reach unsafe levels, exit the sump and ventilate it with fresh air before resuming work. Always have another person standing by for assistance.

▲ WARNING: Follow all federal, state, and local laws governing the installation of this product and its associated systems. When no other regulations apply, follow NFPA codes 30, 30A, and 70 from the National Fire Protection Association. Failure to follow these codes could result in severe injury, death, serious property damage, and/or environmental contamination.

▲ WARNING: Always secure the work area from moving vehicles. The equipment in this document is usually mounted underground, so reduced visibility puts service personnel working on it in danger from moving vehicles that enter the work area. To help prevent this safety hazard, secure the area by using a service truck or other vehicle to block access to the work area.

▲ DANGER: Inspect the installation location for potential ignition sources such as flames, sparks, radio waves, ionizing radiation, and ultrasound sonic waves. If any potential ignition sources are identified, implement proper safety measures.

Contents

1	Introduction.....	1
1.1	Documentation.....	1
1.1.1	Symbol Legend	1
2	Safety/Security	2
2.1	General Safety Information.....	2
2.2	Documentation Availability	2
2.3	Hazard Assessment	2
2.4	Required Personal Protective Equipment (PPEs)	3
2.5	Qualifications and Responsibilities	3
2.5.1	Qualifications for Installation	3
2.5.2	Responsibilities.....	3
3	Pre-Installation Overview	4
3.1	Upon Receipt of Item(s)	4
3.2	Technical Overview	4
3.2.1	Required Parts	4
3.2.2	Required Tools	4
3.2.3	Site Investigation.....	5
3.2.4	Backfill Specifications.....	5
3.2.4.1	Rounded Gravel	5
3.2.4.2	Crushed Stone	5
3.2.4.3	Sand.....	6
3.2.4.4	Compacting Backfill.....	6
4	Installation.....	7
4.1	Install Instructions	7
5	Appendix.....	8
5.1	Related Documents	8

1 Introduction

1.1 Documentation

- This document contains the procedure and related information for installing a single wall fiberglass dispenser sumps. The content herein is intended for personnel who are qualified (certified) in the installation of this product (see §2.5).
- Instructions of this document are in English. All other language versions are translations of this original document.
- Information given in this document is provided as a guide only.
 - The Illustrations depict a typical setup and are for instruction and description purposes only.
 - It is the installer's responsibility to ensure that correct and safe procedures are followed at the worksite.
- This document and related documents are available from Franklin Electric at www.franklinfueling.com.

1.1.1 Symbol Legend



Wear Protective Headwear



Wear Protective Clothing



Wear Protective Gloves



Wear Ear Protection



Wear Respiratory Protection



General Warning



Wear Eye Protection



Wear High-Visibility Clothing



Wear Safety Footwear



Wear Mask



Refer to instruction guide



Warning: Industrial vehicles

2 Safety/Security

2.1 General Safety Information

- Procedures in this document are only to be performed by people qualified and certified to perform them (see §2.5).
- Personnel working on or with energized equipment must be authorized by relevant regulatory bodies to carry out such work and must have the appropriate training. Check with your employer and relevant regulatory body's rules for working with energized equipment.
- Obey all local laws, rules, regulations, and instructions in this document. In case of inconsistency or contradiction between information contained in this document and any laws, rules and regulations, obey the stricter of the two.
- Keep unqualified personnel at a safe distance during installation.
- If it is necessary to remove safety/security devices, immediately reinstall the safety/security devices after completing the work.

2.2 Documentation Availability

- Site Owner/Operator – Save this guide for future use, and make sure to provide it to anyone who services this equipment.
- Always reference the guide(s) that came with the equipment for a complete list of installation and safety precautions. The most current Franklin Electric documentation can be found online at www.franklinfueling.com.

2.3 Hazard Assessment

Prior to beginning work and prior to recommencing work after leaving and returning to the worksite, a worksite, *pre-job hazard assessment* must be performed to identify safety and environmental needs. At a minimum, this hazard assessment should:

- Identify possible hazards and risks.
- Identify the safety needs of the job.
- Identify the correct procedures, practices and equipment.
- Eliminate unsafe conditions and actions from the worksite.
- Identify the need for personal protective equipment.
- Inspect equipment before use.
- Confirm sheaths of all cables are secured and undamaged.
- Confirm plugs and connectors are properly connected and serviceable.
- Perform ongoing risk assessment during the project

2.4 Required Personal Protective Equipment (PPEs)

These PPEs are required during all phases of installation. The protection level of the PPEs must ensure protection from harm for the work, materials, equipment/tools, location, and environment of the work site. PPEs used must also be in accordance with local, state and national regulations, where applicable for their intended use.



Wear Protective Clothing



Wear High-Visibility Clothing



Wear Safety Footwear



Wear Protective Gloves



Wear Protective Headwear



Wear Eye Protection



Wear Ear Protection



Wear Mask



Wear Respiratory Protection

⚠ WARNING:

- Wear cut-resistant gloves when using/assisting with cutting tools.
- Wear a respirator (equipped with end-of-service-life indicator) when performing or assisting with cutting/sanding a fiberglass products.

⚠ CAUTION: Wear nitrile gloves when using acetone, and refer to the MSDS for acetone for additional safety information.

2.5 Qualifications and Responsibilities

2.5.1 Qualifications for Installation

To be considered “qualified”, individuals shall pass training from the following certification training course (online or live):

- Fuel System Installation Safety
- Forecourt Specialist Track
 - Containment Backfilling & Compaction
 - Pipework & Containment (APT® Brand)

FE Online or Live
Certification
Training



SCAN / CLICK

2.5.2 Responsibilities

The following responsibilities are for guidance only and are not limited to those listed here.

It is the responsibility of:

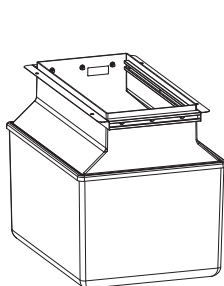
- The owner of the install site(s) to ensure that all dispenser sump installers shall be certified (see § 2.5.1), follow all local laws, rules and regulations, along with the instructions and the specifications listed in this document.
- The certified user(s) to know the dispenser sump and its safe use.
- The certified user(s) to have and maintain a valid Franklin Electric training certification (see § 2.5.1).

3 Pre-Installation Overview

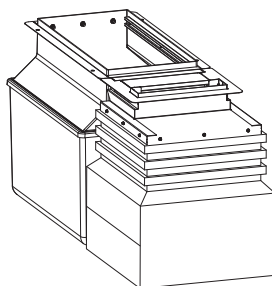
3.1 Upon Receipt of Item(s)

- Verify all items are in accordance with the order.
- Check all items for damage.
- If any item shows damage or is not in accordance with the order, inform Franklin Electric *immediately*.
- Remove the packaging material.
 - Follow all local laws, rules and regulations regarding disposal of discarded parts, packaging material or items and any subsequent components.

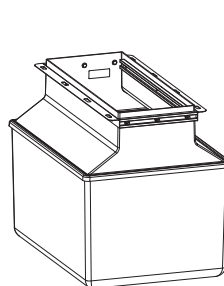
3.2 Technical Overview



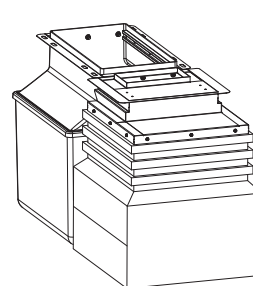
602375004



602377904



LPOVA-3814



LPOVA-2714-DEF

3.2.1 Required Parts

Model	Description	Stabilizer Bar Kit
602375004	Single wall fiberglass sump for Gilbarco® Encore™ dispenser models	SBK-3-1-U
602377904	Single wall fiberglass sump <i>with banded DEF polyethylene sump</i> for Gilbarco® Encore™ with DEF dispenser models	SBK-3-1-U
LPOVA-3814	Single wall fiberglass sump for Wayne® Ovation® 2 and High Speed Diesel dispenser models	SBK-25-1-U
LPOVA-2714-DEF	Single wall fiberglass sump <i>with banded DEF polyethylene sump</i> for Wayne® Ovation® High Speed + DEF dispenser models	SBK-25-1-U & SBK-3-1-U

3.2.2 Required Tools

Description	Part Number
Assorted Tools (e.g., drill, pliers, screwdrivers)	Locally Sourced
PPE (e.g., goggles, hardhat, see § 2.4)	Locally Sourced

3.2.3 Site Investigation

IMPORTANT: Ensure that all excavation, piling, and backfilling meet the requirements of the local geotechnical engineer.

- When preparing the tank pit area, refer to “Recommended Practices for Installation of Underground Liquid Storage Systems” (PEI/RP100).
- The following is a list of ways to get information about the soil conditions that may be encountered:
 - Do a full geotechnical investigation of the site.
 - Drill or dig a test pit in the vicinity of the excavation.
 - Research site files for any details from previous work.
 - Interview local contractors or consultants familiar with the area.
 - Determine the groundwater conditions.

3.2.4 Backfill Specifications

NOTE: Rounded gravel and crushed stone are self-compacting, *and may be used in all ground water conditions. Vibration compaction or shovel slicing works best with these materials.*

3.2.4.1 Rounded Gravel

The following table shows the standard size of rounded gravel coarse aggregates that meet Franklin Electric backfill requirements for containment sumps, according to ASTM D-448, ASTM C-33, and AASHTO M 43. *The amount of material passing through each laboratory sieve is given as a percentage of the total weight.*

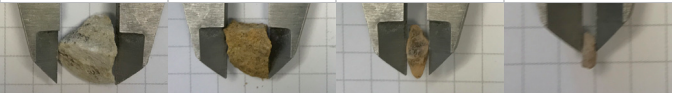
Size #	Sieve Nominal Size Square Openings	3/4" (19.1 mm)	1/2" (12.7 mm)	3/8" (9.5 mm)	#4 (4.8 mm)	#8 (2.4 mm)
6	3/4" (19.1 mm) – 3/8" (9.5 mm)	90–100%	20–55%	0–15%	0–5%	
67	3/8" (9.5 mm) – #4 (4.8 mm)	90–100%		20–55%	0–10%	0–5%
7	1/2" (12.7 mm) – #4 (4.8 mm)	100%	90–100%	40–70%	0–15%	0–5%



3.2.4.2 Crushed Stone

The following table shows the standard size of crushed stone coarse aggregates that meet Franklin Electric backfill requirements for containment sumps, according to ASTM D-448, ASTM C-33, and AASHTO M 43. *The amount of material passing through each laboratory sieve is given as a percentage of the total weight.*

Size #	Sieve nominal size square openings	1/2"	3/8"	#4	#8
7	1/2" (12.7 mm) - #4 (4.8 mm)	90-100%	40-70%	0-15%	0-5%
8	3/4" (19.1 mm) - 3/8" (9.5 mm)	100%	85-100%	10-30%	0-10%



3.2.4.3 Sand

IMPORTANT:

- Use only coarse or medium graded sand to backfill around tank chambers.
- Sand that is used for backfill must be free of salt, clay, fines, and native excavation soil. *If using sand for backfill in a cold weather installation, it must be free of ice.*

Approved Sand Backfill Categories

Approved sand backfill can be divided into the following categories based on particle size:

- **Coarse Sand:** This type of sand passes a No. 4 (4.75 mm) sieve and is retained on a No. 10 (2.0 mm) sieve.
- **Medium Coarse Sand:** This type of sand passes a No. 10 (2.0 mm) sieve and is retained on a No. 40 (0.425 mm) sieve.

NOTE: When using sand for backfill, make sure to achieve and maintain the desired compaction (90% of standard proctor density) and prevent backfill migration.

Mechanical compaction shall be performed to properly compact sand backfill after each lift (layer), and compacting sand shall occur at, or near, the optimum moisture content.

3.2.4.4 Compacting Backfill

IMPORTANT:

- Compact backfill correctly in order to provide shear strength, stability, and increased stiffness to support underground chambers adequately.
- Make sure backfill is clean, well-granulated, free-flowing, and inert.
- DO NOT use mechanical compactors around tank chambers and dispenser sumps within 12" (30 cm) of the chamber or sump's wall. *This helps prevent local deformation.*
- Place the backfill evenly in layers (or lifts).
 - Compact each lift thoroughly before you place the next layer.
 - In general, make each layer approximately 12" (30 cm) deep.
 - Check for voids underneath the chambers while backfilling. *If the backfill material appears loose in these areas, continue compacting the backfill until it is appropriately compacted.*
- For installations in areas with a high water table, *Franklin Electric requires use of self-compacting round gravel or crushed stone*, which simplifies maintaining proper compaction.

4

Installation



IMPORTANT: See §2 for important safety information including appropriate PPE (§2.4).

NOTE: When the installation is complete, make sure this guide is left with the service station owner or operator.

4.1 Install Instructions

1. Unpack the sump and inspect it for damage (see §3.1). If any damage is found, contact Franklin Electric Technical Support (1-800-984-6266) for assistance.
2. Install stabilizer bar kits (SBK) into the sump. For instructions on installing SBK's, see:
 - Stabilizer Bar Kit Install Guide, p/n 771-202-00.
3. Assemble the riser pipes. *Riser pipe assembly lengths should have properly mounted shear valves and maintain an appropriate piping slope.*
4. Install the riser pipes on the riser assemblies.

IMPORTANT: When installing fittings, *do not sand through the gel coat on the inner surface of the sump.*

5. Install any equipment (such as sensors) and entry boots. For instructions on installing entry boots, see:
 - Rigid Entry Boot Install Guide, p/n 771-244-00.
 - Fiberglass Sump Entry Seal Install Guide, p/n 408076001

IMPORTANT: The sump must be securely anchored, *and the bottom of the sump must be fully supported, before installing pipe.*

6. Anchor the sump properly in place with stakes or an island form. *Support the bottom of the sump with compacted backfill.*
7. Install pipe through the entry boots.

IMPORTANT: When performing any test, follow all local, state, and federal regulations regarding testing protocols.

8. Perform the Hydrostatic Integrity Test:
 - Perform the hydrostatic test on all sump joints 4" above the highest joint.
 - Conduct a hydrostatic test *only after all entry fittings are fully installed.*
 - Contact Franklin Electric Technical Support (1-800-984-6266), if there are questions or concerns after completing the hydrostatic test.
9. Backfill evenly around the sump with approved backfill (see §3.2.4).
 - DO NOT over-compact the backfill; this can distort the sump.

5 Appendix

5.1 Related Documents

Documentation can be found online at www.franklinfueling.com.

Part Number	Description
771-202-00	Stabilizer Bar Kit Install Guide
771-244-00	Rigid Entry Boot Install Guide
408076001	Fiberglass Sump Entry Seal Install Guide



Franklin Electric

FUELING SYSTEMS

Description = LRM3617-D-#*****S
= location (on Gilbarco spacing up to 4 per side 7.5" spacing if 5 per side)
* = size (A=1.5" B=1.75" C=2.0")
S= Sensor port installed

	S
1	5
2	6
3	7
4	8

Preinstalled entry fitting kits
(A) 1.5" = 602373001
(B) 1.75" = 602373002
(C) 2.0" = 602373003

4 OR LESS SUMP PORTS

[illegible]

	S
9	14
10	15
11	16
12	17
13	18

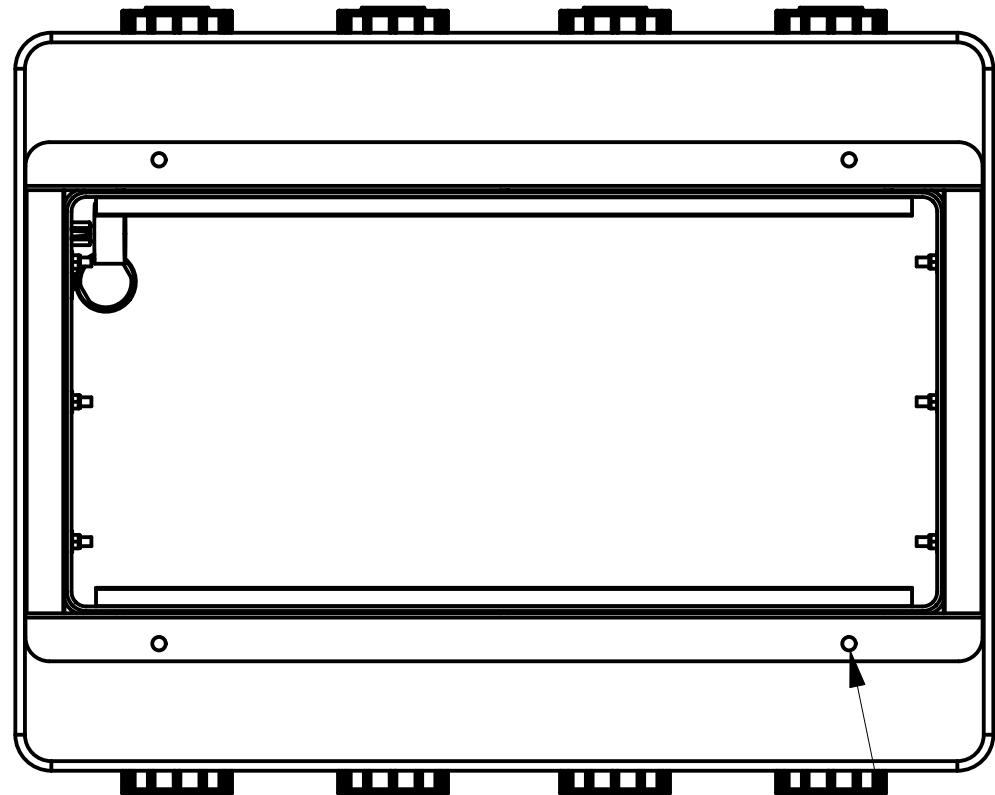
5 SUMP PORTS

[illegible]

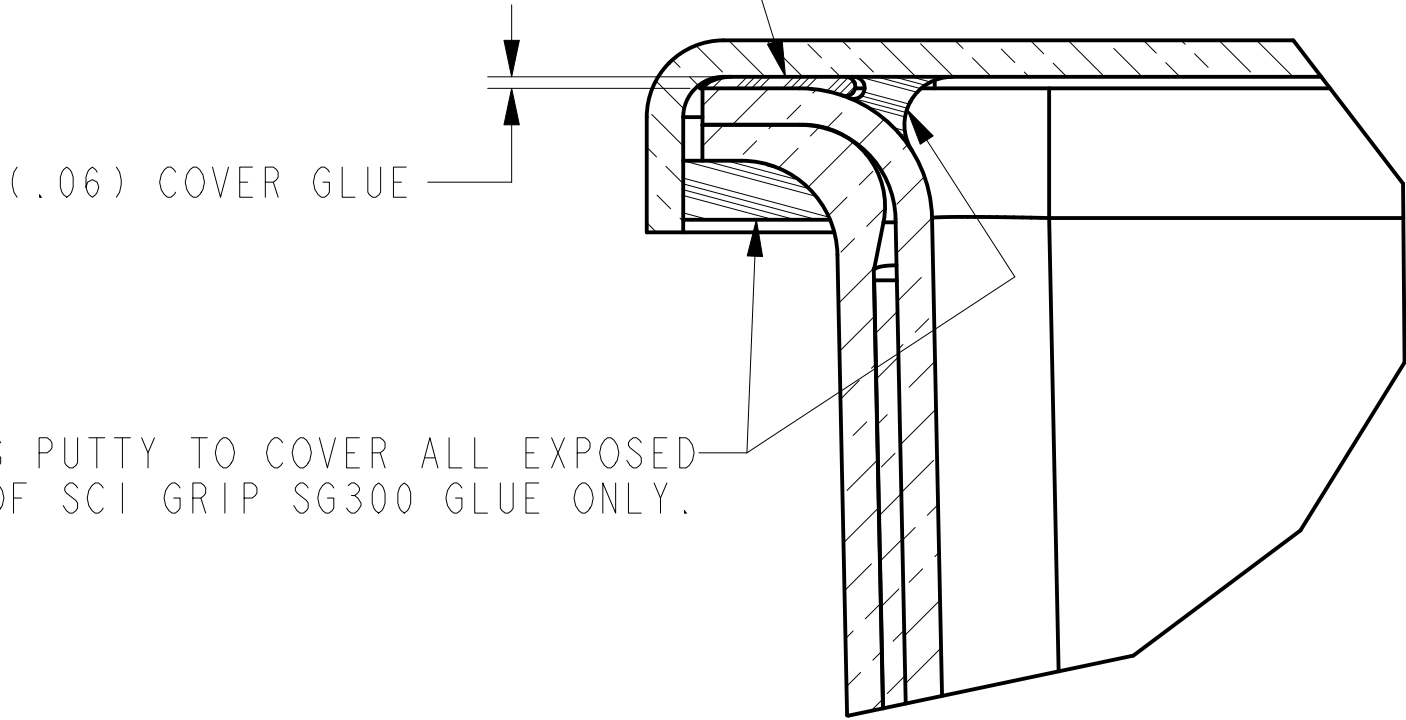
Field installed entry fitting kits
1.5" = REB-DW-150-SC
1.75" = REB-DW-175-SC
2.0" = REB-DW-200-SC

MODEL: 03.2		MODIFIED: FALSE		STATE	
DRAWING: 03.3		MODIFIED: FALSE			
REVISION	ECN	DESCRIPTION		ZONE	INITIALS DATE
	721057	ENGINEERING RELEASE			LB/MC 3/26/18
2	722534	CHANGED ITEM 9 TO 408008903 WAS -01			CAL/MC 4/6/18
TOLERANCES UNLESS OTHERWISE SPECIFIED					
± .5" ± .5 ± .06 ± .005					
Franklin Fueling Systems					
DIMENSIONS ARE IN INCH					
Cres MATH CAD DATA DO NOT SCALE		ASME Y14.5-2009			
MATH CAD DATA AND DRAWING REVISION MUST MATCH					
DRAWN BY: LB, 1/19/18					
APPROVED: MC, 3/26/18					
SIMILAR TO:			FIRST USED:		
MAKE FROM PART NUMBER:			MODEL NUMBER: 602374TAB		
ENGINEERING MATERIAL SPECIFICATION (EMS):					
SEE CHART					
TITLE DW SUMP ASSY W/DST 36.0 X 17.2					
SIZE D	DWG NO 602374TAB				DWG REV 03
				SHEET 2 OF 2	
THE INFORMATION DISCLOSED HEREIN INCLUDES PROPRIETARY RIGHTS OF FRANKLIN ELECTRIC. NEITHER THIS DRAWING NOR THE INFORMATION DISCLOSED HEREIN SHALL BE REPRODUCED OR TRANSFERRED TO OTHER DOCUMENTS OR USED OR DISCLOSED TO OTHERS FOR ANY PURPOSE, EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY FRANKLIN ELECTRIC					

ITEM	PART NUMBER	DESCRIPTION	QTY
1	602011016	3/8-16X1.25	6
2	602369001	COVER, ENCORE DOUBLE WALL SUMP	1
3	602379001	FRAME TOP - SIDECAR SUMP	1
4	1117901	HEX NUT 3/8-16	12
5	10000007471	ULTRA-LOW, SH SCREW, 3/8-16X3/4	6
6	408031001	UNISTRUT, SOLID, 34", W/HOLES	2
7	602017006	WASHER, FLAT, S/S, 3/8	18
8	60237XXXX	ENTRY FITTING	SEE CHART
9	602382XXX	PARABEAM DOUBLE WALL SUMP	1
10	408008903	KIT, ANCHOR BOLTS	1



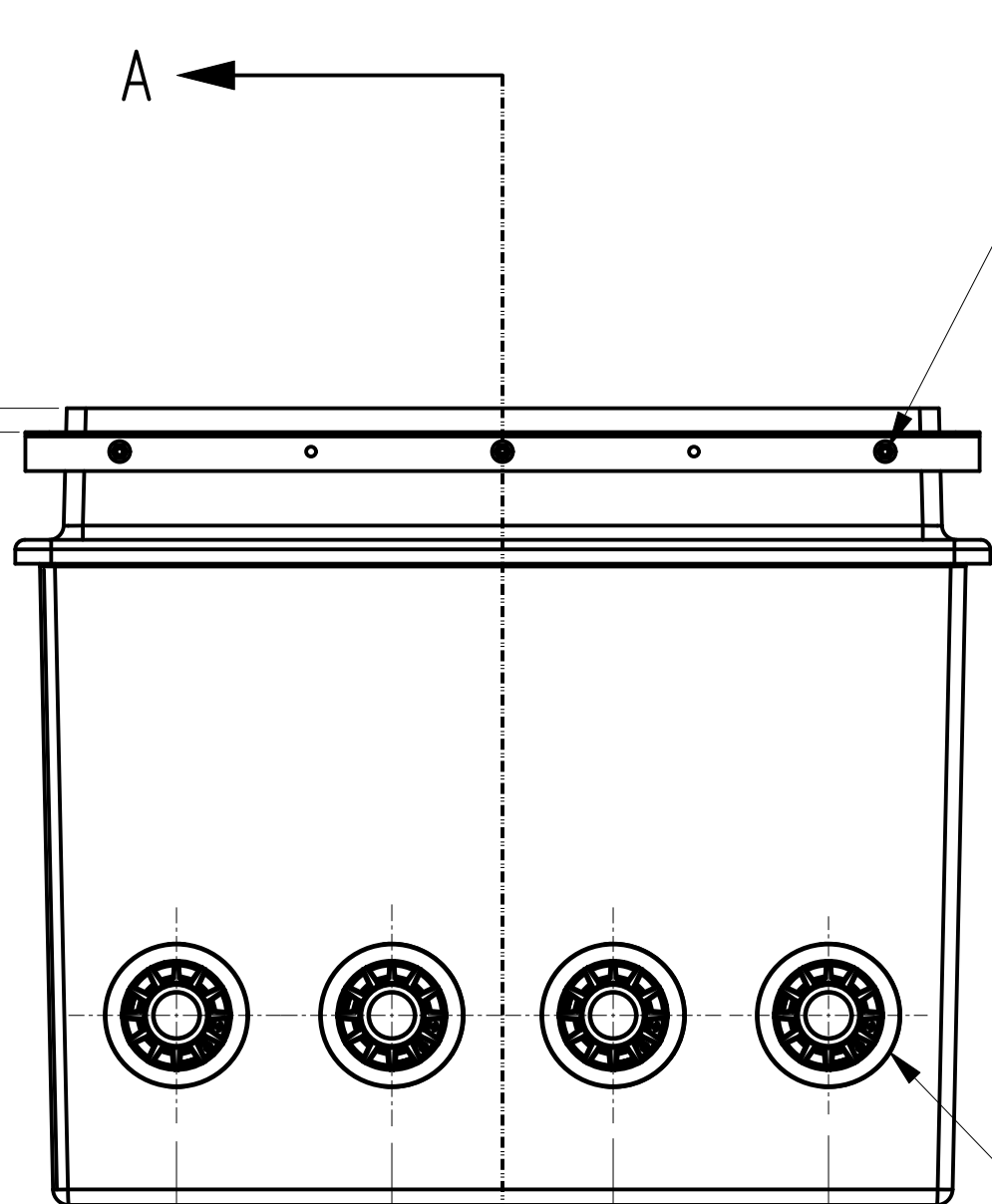
APPLY 3/8" BEAD OF LOCTITE E20-NS ADHESIVE
OR SCI GRIP SG300 AND COVER BOTH SIDES OF GLUE
JOINT WITH FIBERGLASS PUTTY.



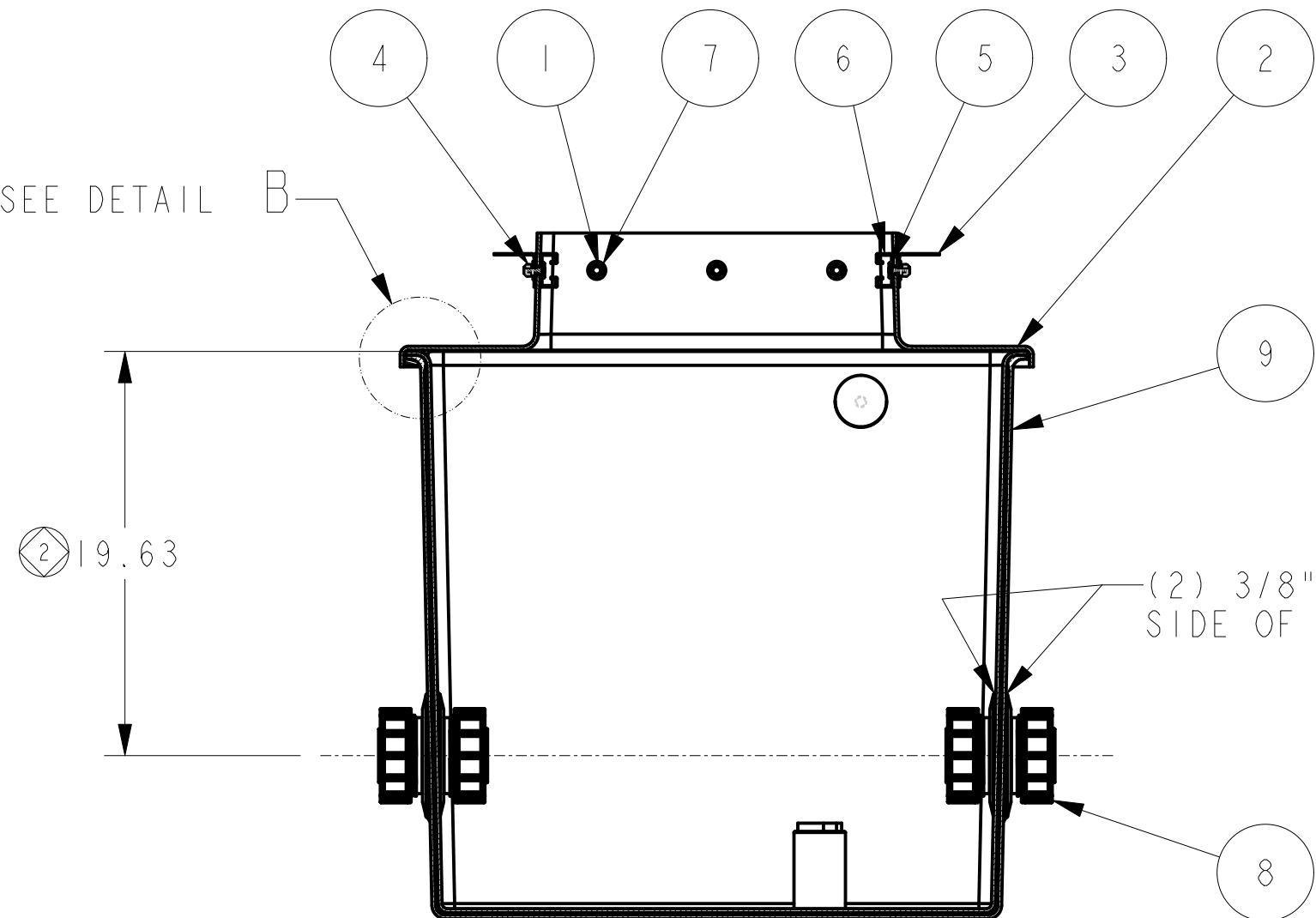
FIBERGLASS PUTTY TO COVER ALL EXPOSED
EDGES OF SCI GRIP SG300 GLUE ONLY.

DETAIL B
SCALE 1:1

ATTACH ANCHOR BOLT KIT
VIA ZIP TIE



DRILL $\varnothing$.410 HOLE IN FIBERGLASS TO MATCH
TOP FRAME HOLE LOCATIONS (12 PLACES)



(2) 3/8" BEADS OF LOCTITE E20-NS ADHESIVE PER
SIDE OF FITTING (APPROXIMATELY 50 mL PER FITTING)

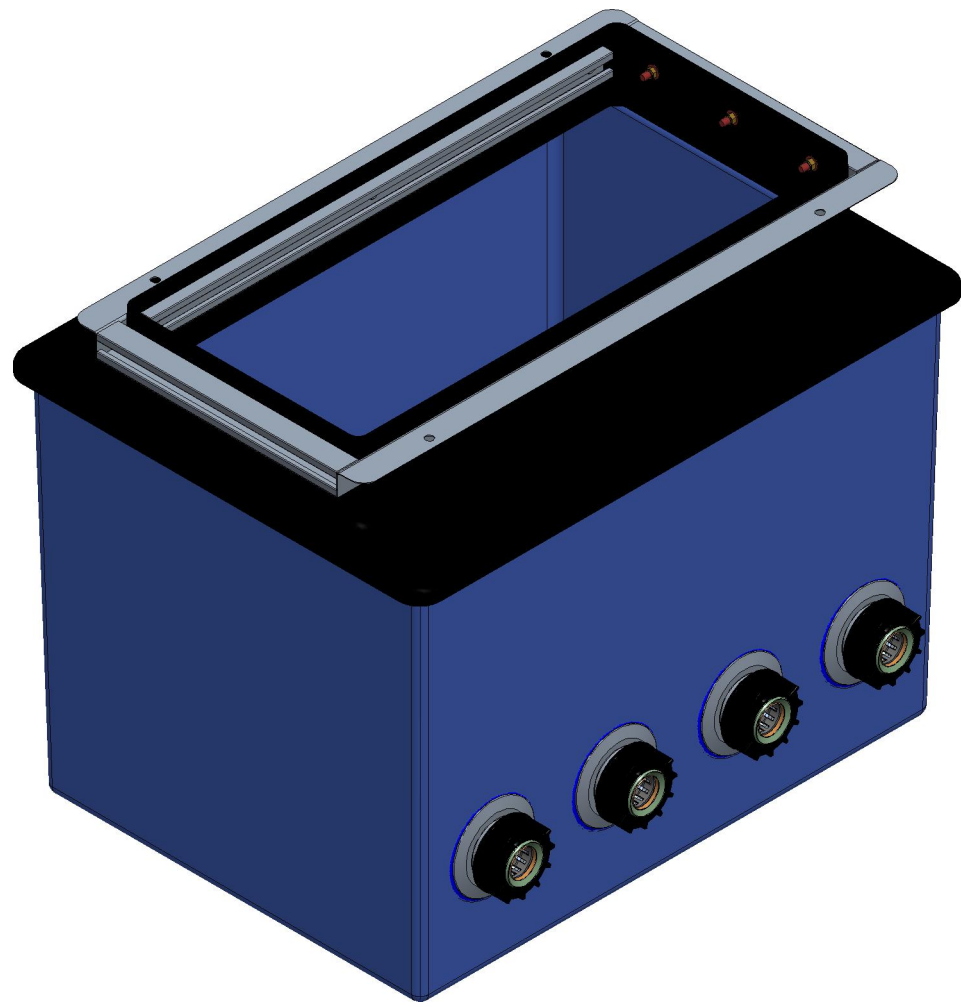
DRILL $\varnothing$ 3.75 HOLE
ROUGH SURFACE TO $\varnothing$ 6.00
INSIDE AND OUTSIDE

SECTION A-A

NOTES:

1. ASSEMBLY TO HOLD VACUUM AT A LEVEL OF A MINIMUM 15 IN-HG FOR 24 HOURS WITH A LOSS OF NO MORE THAN 1 IN-HG OBSERVED FROM THE STARTING VALUE OF 16-20 IN-HG. TO BE MEASURED BY DRY GAGE WITH STABILIZATION.
2. CERTIFICATE OF CONFORMITY TO BE PROVIDED WITH EACH UNIT.

STANDARD ENTRY FITTING SPACING OF FOUR (4) OR LESS PER SIDE
SEE CHART ON PAGE 2 FOR ENTRY FITTING SIZE & CONFIGURATION
AND SENSOR/NO SENSOR PORT INFORMATION



FOR REFERENCE ONLY
NO SCALE



MODEL: 02.2		MODIFIED: FALSE		STATE	
DRAWING: 02.2		MODIFIED: FALSE			
REVISION	ECN	DESCRIPTION	ZONE	INITIALS DATE	
1	728166	ENGINEERING RELEASE	---	LB/MC 1/22/19	
2	111174	ADDED 10000007471		JJD/KM 02/22/22	

TOLERANCES UNLESS OTHERWISE SPECIFIED		Franklin Fueling Systems	
$\angle$	= $\pm 1^\circ$		
X.XX	= ± 0.25		
X.XXX	= ± 0.005		

DIMENSIONS ARE IN INCH

CONTROLLED PRODUCT				MATH CAD DATA DO NOT SCALE		ASME Y14.5-2009			REVISION MUST MATCH		
NO CHANGES TO SOURCING WITHOUT PRIOR APPROVAL				DRAWN BY: TAB, 11-5-18		APPROVED: MC, 1/22/19					
REQUIRED APPROVALS				SIMILAR TO:		FIRST USED:					
ENGINEERING	MANUFACTURING	MARKETING	AGENCY	MAKE FROM PART NUMBER:		MODEL NUMBER: 602383TAB					
ENGINEERING MATERIAL SPECIFICATION (EMS):				ASSEMBLY							
DIMENSION BALLOONS				TITLE ENCORE DOUBLE WALL ASSEMBLY, STANDARD							
X TOTAL ON DRAWING - LAST NUMBER USED				TITLE							
CRITICAL TO QUALITY				SIZE DWG NO		602383TAB		DWG REV		SHEET	
X TOTAL ON DRAWING - LAST NUMBER USED				D 2				02		1 OF 2	
THE INFORMATION DISCLOSED HEREIN INCLUDES PROPRIETARY RIGHTS OF FRANKLIN ELECTRIC. NEITHER THIS DRAWING NOR THE INFORMATION DISCLOSED THEREIN SHALL BE REPRODUCED OR TRANSFERRED TO OTHER DOCUMENTS OR USED OR DISCLOSED TO OTHERS FOR ANY PURPOSE, EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY FRANKLIN ELECTRIC.											

ENCORE STANDARD SPACING
603383TAB

GILBARCO SPACING: UP TO 4 ENTRY FITTINGS PER SIDE ON STANDARD ENCORE DISPENSOR SPACING
(CENTERED ON LONG SIDE (9.25" BETWEEN CENTER TWO PORTS, 9.00" SPACING TO EITHER SIDE.) SEE SHEET 1.

PREINSTALLED ENTRY FITTING KITS FIELD INSTALLED ENTRY FITTING KITS
(A)1.5" = 602373001 1.5" = REB-DW-150-SC
(B)1.75"= 602373002 1.75"= REB-DW-175-SC
(C)2.0" = 602373003 2.0" = REB-DW-200-SC

	S
1	5
2	6
3	7
4	8

LOCATIONS

INTERSTITIAL SENSOR PORT KIT OPTIONS AVAILABLE SEPARATELY

MODELS WITHOUT INTERSTITIAL MONITORING SENSOR OPTIONS

SUMP ASSEMBLY PART NUMBER	LOCATION							
	1	2	3	4	5	6	7	8
NO ENTRY FITTINGS / NO SENSOR								
602383001	-	-	-	-	-	-	-	-
1.5" ENTRY FITTINGS / NO SENSOR								
602383101	A	A	A	-	A	A	A	-
602383102	A	A	A	-	-	-	-	-
602383103	A	A	A	A	A	A	A	A
602383104	A	A	A	A	-	-	-	-
1.75" ENTRY FITTINGS / NO SENSOR								
602383201	B	B	B	-	B	B	B	-
602383202	B	B	B	-	-	-	-	-
602383203	B	B	B	B	B	B	B	B
602383204	B	B	B	B	-	-	-	-
2.0" ENTRY FITTINGS / NO SENSOR								
602383301	C	C	C	-	C	C	C	-
602383302	C	C	C	-	-	-	-	-
602383303	C	C	C	C	C	C	C	C
602383304	C	C	C	C	-	-	-	-

MODELS WITH INTERSTITIAL MONITORING SENSOR OPTIONS

SUMP ASSEMBLY PART NUMBER	LOCATION								
	1	2	3	4	5	6	7	8	S
NO ENTRY FITTINGS / SUFFIX FOR SENSOR OPTIONS									
602383401	-	-	-	-	-	-	-	-	S
1.5" ENTRY FITTINGS / SUFFIX FOR SENSOR OPTIONS									
602383501	A	A	A	-	A	A	A	-	S
602383502	A	A	A	-	-	-	-	-	S
602383503	A	A	A	A	A	A	A	A	S
602383504	A	A	A	A	-	-	-	-	S
1.75" ENTRY FITTINGS / SUFFIX FOR SENSOR OPTIONS									
602383601	B	B	B	-	B	B	B	-	S
602383602	B	B	B	-	-	-	-	-	S
602383603	B	B	B	B	B	B	B	B	S
602383604	B	B	B	B	-	-	-	-	S
2.0" ENTRY FITTINGS / SUFFIX FOR SENSOR OPTIONS									
602383701	C	C	C	-	C	C	C	-	S
602383702	C	C	C	-	-	-	-	-	S
602383703	C	C	C	C	C	C	C	C	S
602383704	C	C	C	C	-	-	-	-	S



MODEL: 02.2		MODIFIED: FALSE		STATE	
DRAWING: 02.2		MODIFIED: FALSE			
REVISION	ECN	DESCRIPTION			INITIALS DATE
		SEE SHEET 1			

TOLERANCES UNLESS OTHERWISE SPECIFIED
∠ = ±.5"
X.X = ±0.02
X.XX = ±0.02
X.XXX = ±0.005



DIMENSIONS ARE IN INCH

CONTROLLED PRODUCT

NO CHANGES TO SOURCING WITHOUT PRIOR APPROVAL		
REQUIRED APPROVALS		
ENGINEERING	MANUFACTURING	MARKETING AGENCY

DIMENSION BALLOONS

(X)	TOTAL ON DRAWING	-
(X)	LAST NUMBER USED	-

CRITICAL TO QUALITY

(X)	TOTAL ON DRAWING	-
(X)	LAST NUMBER USED	-

Cred MATH CAD DATA DO NOT SCALE		ASME Y14.5-2009		MATH CAD DATA AND DRAWING REVISION MUST MATCH		
DRAWN BY: TAB, 11-5-18						
APPROVED: XX, XXXXXX						
SIMILAR TO:			FIRST USED:			
MAKE FROM PART NUMBER:			MODEL NUMBER: 602383TAB			
ENGINEERING MATERIAL SPECIFICATION (EMS):						
ASSEMBLY						
TITLE ENCORE DOUBLE WALL ASSEMBLY, STANDARD						
SIZE D	DWG NO 602383TAB	DWG REV 02		SHEET 2 OF 2		
THE INFORMATION DISCLOSED HEREIN INCLUDES PROPRIETARY RIGHTS OF FRANKLIN ELECTRIC. NEITHER THIS DRAWING NOR THE INFORMATION DISCLOSED THEREIN SHALL BE REPRODUCED OR TRANSFERRED TO OTHER DOCUMENTS OR USED OR DISCLOSED TO OTHERS FOR ANY PURPOSE, EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY FRANKLIN ELECTRIC.						

ENCORE CUSTOM SPACING
603384TAB

GILBARCO SPACING: 5 ENTRY FITTINGS PER SIDE ON CUSTOM ENCORE DISPENSOR SPACING
(FITTINGS CENTERED ON LONG SIDE 7.50" BETWEEN FITTINGS) SEE SHEET 1.

PREINSTALLED ENTRY FITTING KITS FIELD INSTALLED ENTRY FITTING KITS
(A) 1.5" = 602373001 1.5" = REB-DW-150-SC
(B) 1.75" = 602373002 1.75" = REB-DW-175-SC
(C) 2.0" = 602373003 2.0" = REB-DW-200-SC

	S
1	6
2	7
3	8
4	9
5	10

INTERSTITIAL SENSOR PORT KIT OPTIONS AVAILABLE SEPARATELY

LOCATIONS

MODELS WITHOUT INTERSTITIAL MONITORING SENSOR OPTIONS

SUMP ASSEMBLY PART NUMBER	LOCATION									
	1	2	3	4	5	6	7	8	9	10
1.5" ENTRY FITTINGS / NO SENSOR										
602384101	A	A	A	A	A	A	A	A	A	A
1.75" ENTRY FITTINGS / NO SENSOR										
602384201	B	B	B	B	B	B	B	B	B	B
2.0" ENTRY FITTINGS / NO SENSOR										
602384301	C	C	C	C	C	C	C	C	C	C

MODELS WITH INTERSTITIAL MONITORING SENSOR OPTIONS

SUMP ASSEMBLY PART NUMBER	LOCATION										
	1	2	3	4	5	6	7	8	9	10	S
1.5" ENTRY FITTINGS / SUFFIX FOR SENSOR OPTIONS											
602384401	A	A	A	A	A	A	A	A	A	A	S
1.75" ENTRY FITTINGS / SUFFIX FOR SENSOR OPTIONS											
602384501	B	B	B	B	B	B	B	B	B	B	S
2.0" ENTRY FITTINGS / SUFFIX FOR SENSOR OPTIONS											
602384601	C	C	C	C	C	C	C	C	C	C	S



MODEL: 01.1		MODIFIED: FALSE		STATE	
DRAWING: 01.1		MODIFIED: ***			
REVISION	ECN	DESCRIPTION			INITIALS DATE
		SEE SHEET 1			

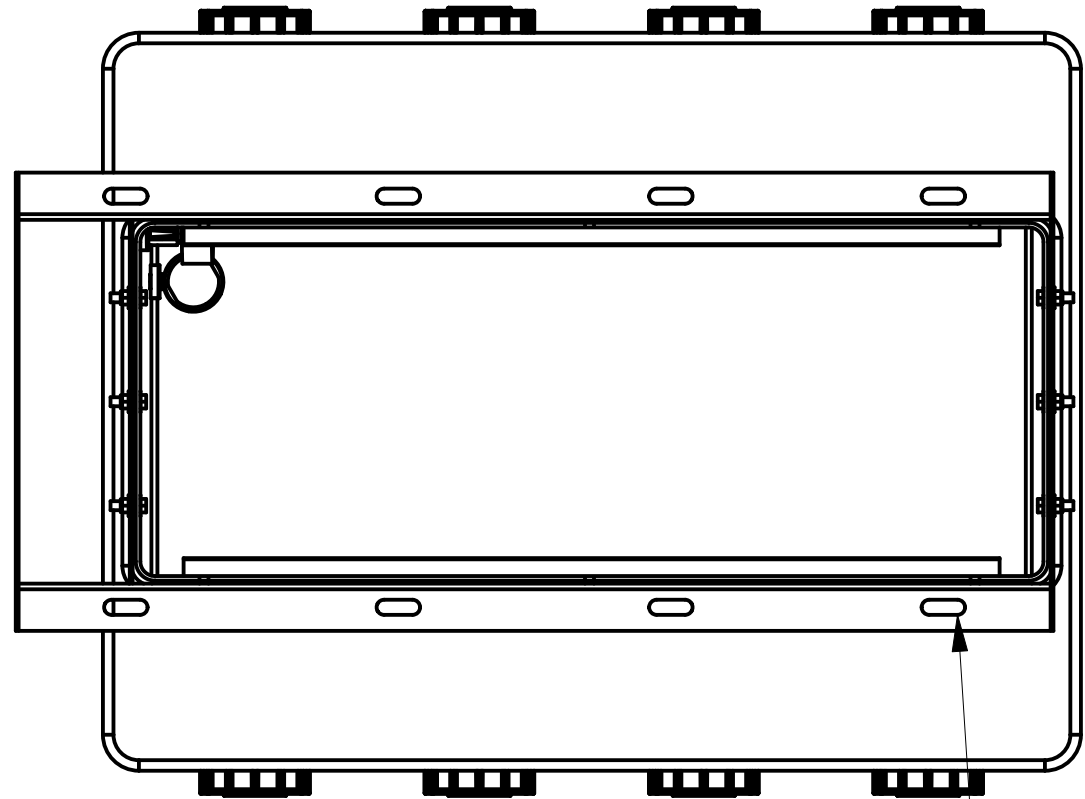
TOLERANCES UNLESS OTHERWISE SPECIFIED:
∠ = ±.5°
X.X = ±0.02
X.XX = ±0.02
X.XXX = ±0.005



DIMENSIONS ARE IN INCH

CONTROLLED PRODUCT				Cred MATH CAD DATA DO NOT SCALE		ASME Y14.5-2009				MATH CAD DATA AND DRAWING REVISION MUST MATCH	
NO CHANGES TO SOURCING WITHOUT PRIOR APPROVAL				DRAWN BY: TAB, 11-5-18				APPROVED: XX, XXXXX			
REQUIRED APPROVALS				SIMILAR TO:				FIRST USED:			
ENGINEERING	MANUFACTURING	MARKETING	AGENCY	MAKE FROM PART NUMBER: .				MODEL NUMBER: 602384TAB			
				ENGINEERING MATERIAL SPECIFICATION (EMS):							
DIMENSION BALLOONS				ASSEMBLY							
	TOTAL ON DRAWING .			TITLE ENCORE DOUBLE WALL ASSEMBLY, CUSTOM							
LAST NUMBER USED .											
CRITICAL TO QUALITY											
	TOTAL ON DRAWING .			SIZE DWG NO 602384TAB		DWG REV 01		SHEET 2 OF 2			
LAST NUMBER USED .			THE INFORMATION DISCLOSED HEREIN INCLUDES PROPRIETARY RIGHTS OF FRANKLIN ELECTRIC. NEITHER THIS DRAWING NOR THE INFORMATION DISCLOSED THEREIN SHALL BE REPRODUCED OR TRANSFERRED TO OTHER DOCUMENTS OR USED OR DISCLOSED TO OTHERS FOR ANY PURPOSE, EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY FRANKLIN ELECTRIC.								

ITEM	PART NUMBER	DESCRIPTION	QTY.
1	602011016	3/8-16X1.25	12
2	602369002	COVER, OVATION DOUBLE WALL SUMP	1
3	11117901	HEX NUT 3/8-16	12
4	DS3915-F	OVATION DISPENSER FRAME	1
5	408031001	UNISTRUT, SOLID, 34", W/HOLES	2
6	602017006	WASHER, FLAT, S/S, 3/8	24
7	60237XXXX	ENTRY FITTING	SEE CHART
8	602382XXX	PARABEAM DOUBLE WALL SUMP	1
9	408008903	KIT, ANCHOR BOLTS	1

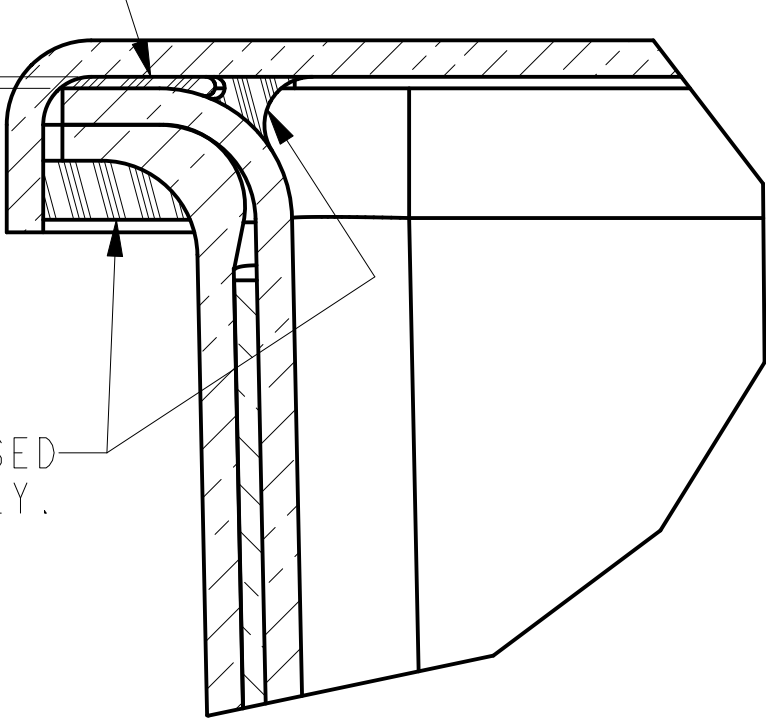


APPLY 3/8" BEAD OF LOCTITE E20-NS ADHESIVE
OR SCI GRIP SG300 AND COVER BOTH SIDES OF GLUE
JOINT WITH FIBERGLASS PUTTY.

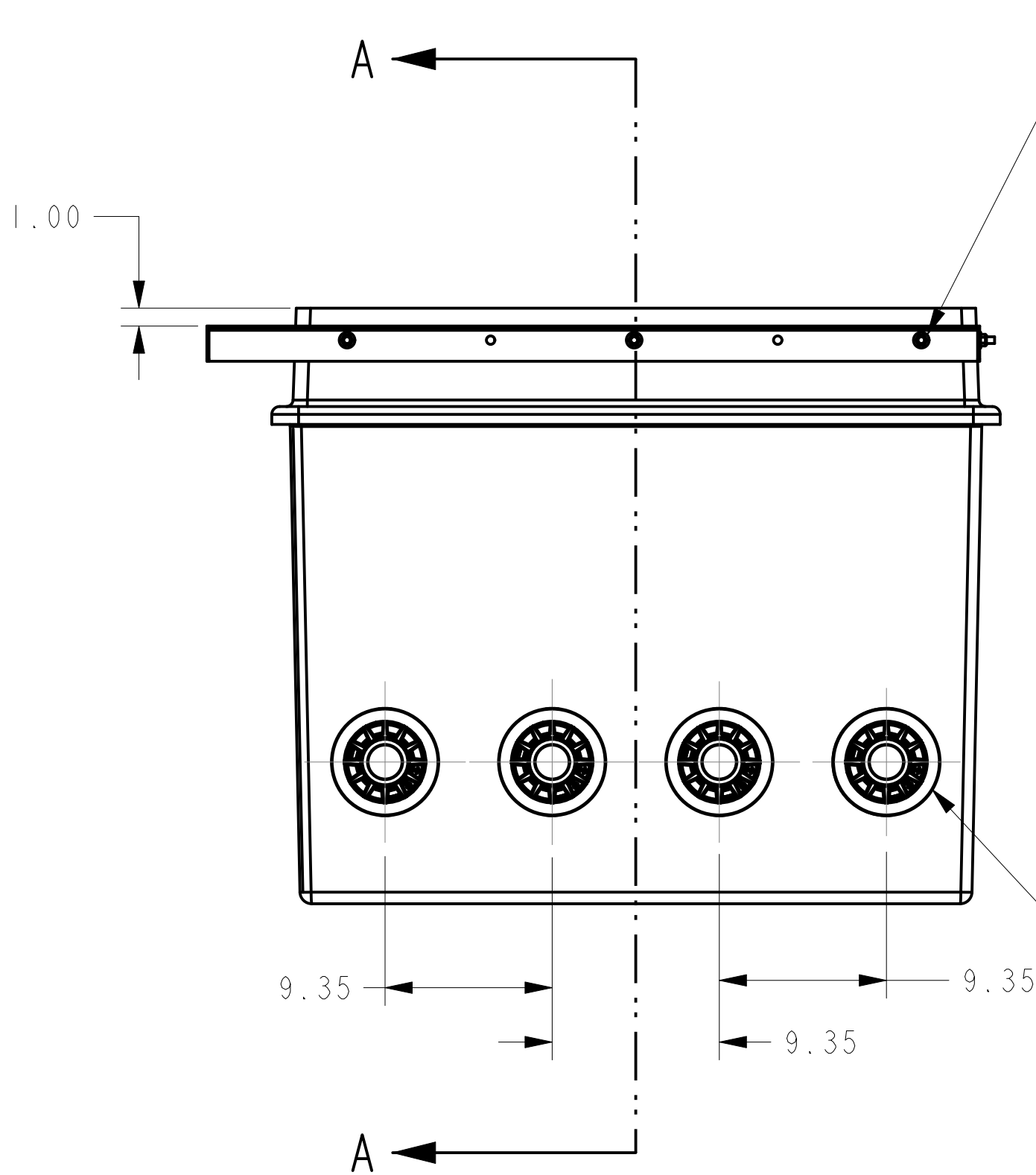
(.06) COVER GLUE

FIBERGLASS PUTTY TO COVER ALL EXPOSED
EDGES OF SCI GRIP SG300 GLUE ONLY.

ATTACH ANCHOR BOLT KIT
VIA ZIP TIE



DETAIL B
SCALE 1:1



DRILL $\varnothing$.410 HOLE IN FIBERGLASS TO MATCH
TOP FRAME HOLE LOCATIONS (12 PLACES)

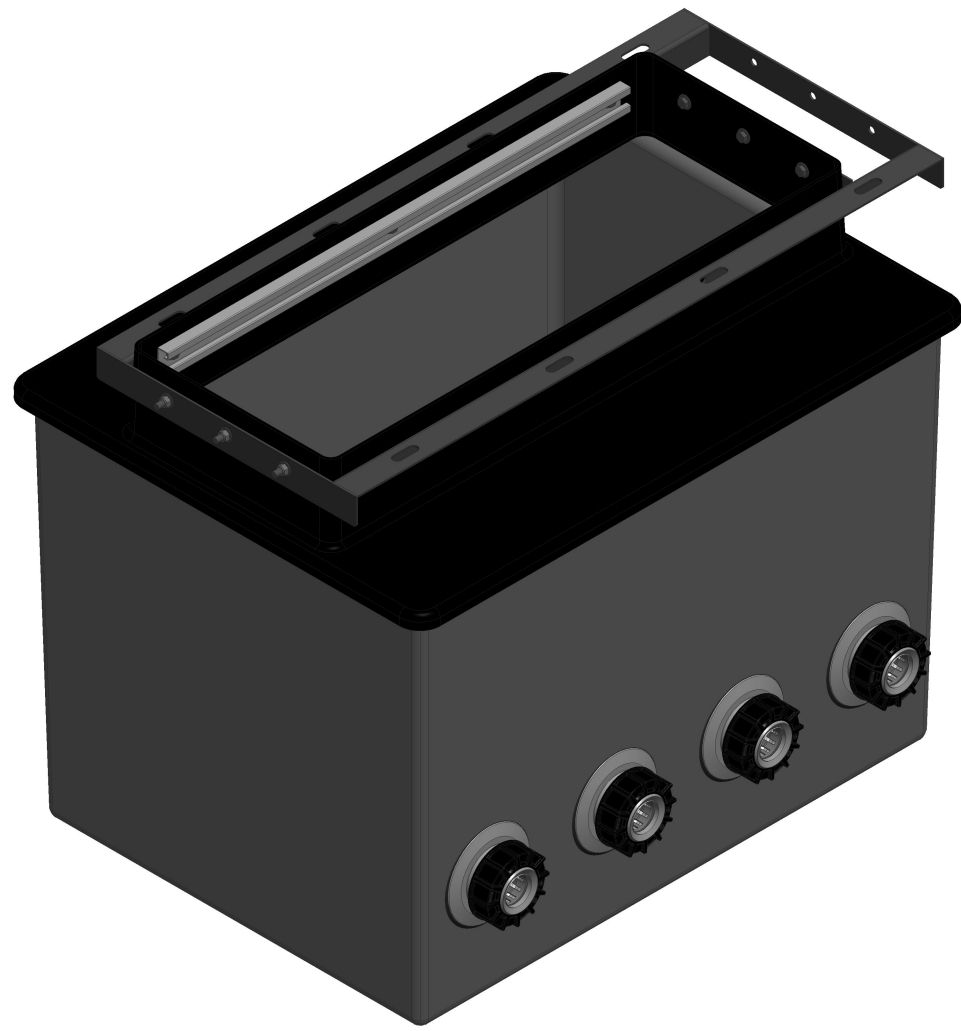
SEE DETAIL B

$\varnothing$ 19.63

DRILL $\varnothing$ 3.75 HOLE
ROUGH SURFACE TO $\varnothing$ 6.00
INSIDE AND OUTSIDE

SECTION A-A

- NOTES:
- ASSEMBLY TO HOLD VACUUM AT A LEVEL OF A MINIMUM 15 IN-HG FOR 24 HOURS WITH A LOSS OF NO MORE THAN 1 IN-HG OBSERVED FROM THE STARTING VALUE OF 16-20 IN-HG. TO BE MEASURED BY DRY GAGE WITH STABILIZATION.
 - CERTIFICATE OF CONFORMITY TO BE PROVIDED WITH EACH UNIT.



FOR REFERENCE ONLY
NO SCALE

Franklin Electric

MODEL: 01.1

MODIFIED: FALSE

STATE

DRAWING: 01.1

MODIFIED: TRUE

REVISION

ECN

DESCRIPTION

ZONE

INITIALS
DATE

728166

ENGINEERING RELEASE

LB/MC
1/22/19

TOLERANCES UNLESS OTHERWISE SPECIFIED

$\leq$

= $\pm$ 1°

X.XX

= $\pm$ 0.25

X.XXX

= $\pm$ 0.005

Franklin Fueling Systems

DIMENSIONS ARE IN INCH

Cred
MATH CAD DATA
DO NOT SCALE

ASME Y14.5-2009

MATH CAD DATA
AND DRAWING
REVISION MUST
MATCH

CONTROLLED PRODUCT

NO CHANGES TO SOURCING
WITHOUT PRIOR APPROVAL

REQUIRED APPROVALS

ENGINEERINGMANUFACTURINGMARKETINGAGENCY

DRAWN BY: TAB, 11-6-18

APPROVED: MC, 1/22/19

SIMILAR TO:

MAKE FROM PART NUMBER:

ENGINEERING MATERIAL SPECIFICATION (EMS):

DIMENSION BALLOONS

X

TOTAL ON DRAWING

LAST NUMBER USED

CRITICAL TO QUALITY

X

TOTAL ON DRAWING

LAST NUMBER USED

ASSEMBLY

TITLE
OVATION DOUBLE WALL ASSEMBLY, STANDARD

SIZE
D

DWG NO
602385TAB

DWG REV
01

SHEET
1 OF 2

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OVATION STANDARD SPACING
603385TAB

GILBARCO SPACING: UP TO 4 ENTRY FITTINGS PER SIDE ON STANDARD OVATION DISPENSOR SPACING
(CENTERED ON LONG SIDE (9.35" BETWEEN CENTER TWO PORTS, 9.35" SPACING TO EITHER SIDE.) SEE SHEET 1.

PREINSTALLED ENTRY FITTING KITS FIELD INSTALLED ENTRY FITTING KITS
(A)1.5" = 602373001 1.5" = REB-DW-150-SC
(B)1.75"= 602373002 1.75"= REB-DW-175-SC
(C)2.0" = 602373003 2.0" = REB-DW-200-SC

	S
1	5
2	6
3	7
4	8

INTERSTITIAL SENSOR PORT KIT OPTIONS AVAILABLE SEPARATELY

LOCATIONS

MODELS WITHOUT INTERSTITIAL MONITORING SENSOR OPTIONS

SUMP ASSEMBLY PART NUMBER	LOCATION							
	1	2	3	4	5	6	7	8
NO ENTRY FITTINGS / NO SENSOR								
602385001	-	-	-	-	-	-	-	-
1.5" ENTRY FITTINGS / NO SENSOR								
602385101	A	A	A	-	A	A	A	-
602385102	A	A	A	-	-	-	-	-
602385103	A	A	A	A	A	A	A	A
602385104	A	A	A	A	-	-	-	-
1.75" ENTRY FITTINGS / NO SENSOR								
602385201	B	B	B	-	B	B	B	-
602385202	B	B	B	-	-	-	-	-
602385203	B	B	B	B	B	B	B	B
602385204	B	B	B	B	-	-	-	-
2.0" ENTRY FITTINGS / NO SENSOR								
602385301	C	C	C	-	C	C	C	-
602385302	C	C	C	-	-	-	-	-
602385303	C	C	C	C	C	C	C	C
602385304	C	C	C	C	-	-	-	-

MODELS WITH INTERSTITIAL MONITORING SENSOR OPTIONS

SUMP ASSEMBLY PART NUMBER	LOCATION								
	1	2	3	4	5	6	7	8	S
NO ENTRY FITTINGS / SUFFIX FOR SENSOR OPTIONS									
602385401	-	-	-	-	-	-	-	-	S
1.5" ENTRY FITTINGS / SUFFIX FOR SENSOR OPTIONS									
602385501	A	A	A	-	A	A	A	-	S
602385502	A	A	A	-	-	-	-	-	S
602385503	A	A	A	A	A	A	A	A	S
602385504	A	A	A	A	-	-	-	-	S
1.75" ENTRY FITTINGS / SUFFIX FOR SENSOR OPTIONS									
602385601	B	B	B	-	B	B	B	-	S
602385602	B	B	B	-	-	-	-	-	S
602385603	B	B	B	B	B	B	B	B	S
602385604	B	B	B	B	-	-	-	-	S
2.0" ENTRY FITTINGS / SUFFIX FOR SENSOR OPTIONS									
602385701	C	C	C	-	C	C	C	-	S
602385702	C	C	C	-	-	-	-	-	S
602385703	C	C	C	C	C	C	C	C	S
602385704	C	C	C	C	-	-	-	-	S



MODEL: 01.1		MODIFIED: FALSE		STATE	
DRAWING: 01.1		MODIFIED: TRUE			
REVISION	ECN	DESCRIPTION			INITIALS DATE
		SEE SHEET 1			

TOLERANCES UNLESS OTHERWISE SPECIFIED

∠ = ±1°
X.XX = ±0.25
X.XXX = ±0.005



DIMENSIONS ARE IN INCH

CONTROLLED PRODUCT

NO CHANGES TO SOURCING WITHOUT PRIOR APPROVAL			
REQUIRED APPROVALS			
ENGINEERING	MANUFACTURING	MARKETING	AGENCY

DIMENSION BALLOONS

	TOTAL ON DRAWING	-
	LAST NUMBER USED	-

CRITICAL TO QUALITY

	TOTAL ON DRAWING	-
	LAST NUMBER USED	-

Cree MATH CAD DATA DO NOT SCALE		ASME Y14.5-2009		MATH CAD DATA AND DRAWING REVISION MUST MATCH
DRAWN BY: TAB, 11-6-18				
APPROVED: _____				
SIMILAR TO: _____		FIRST USED: _____		
MAKE FROM PART NUMBER: _____		MODEL NUMBER: 602385TAB		
ENGINEERING MATERIAL SPECIFICATION (EMS): _____				
ASSEMBLY				
TITLE OVATION DOUBLE WALL ASSEMBLY, STANDARD				
SIZE D	DWG NO 602385TAB	DWG REV 01		SHEET 2 OF 2
THE INFORMATION DISCLOSED HEREIN INCLUDES PROPRIETARY RIGHTS OF FRANKLIN ELECTRIC. NEITHER THIS DRAWING NOR THE INFORMATION DISCLOSED THEREIN SHALL BE REPRODUCED OR TRANSFERRED TO OTHER DOCUMENTS OR USED OR DISCLOSED TO OTHERS FOR ANY PURPOSE, EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY FRANKLIN ELECTRIC.				

ITEM	PART NO	DESCRIPTION	QTY
1	602379001	TOP FRAME - SIDECAR SUMP	1
2	408031001	UNISTRUT	2
3	602011016	HHCS, SS, 3/8-16 X 1.25	6
4	1117901	NUT, HEX, 3/8-16, S/S	12
5	602017006	WASHER, FLAT, S/S, 3/8	18
6	408008903	KIT, ANCHOR BOLTS (NOT SHOWN)	1
7	602368001	SUMP - INNER	1
8	602369001	CAP - GILBARCO ENCORE	1
9	407706013	LABEL, SUMP PROD UL, 602 SW	1
10	10000007471	ULTRA-LOW, SH SCREW, 3/8-16x3/4	6

F

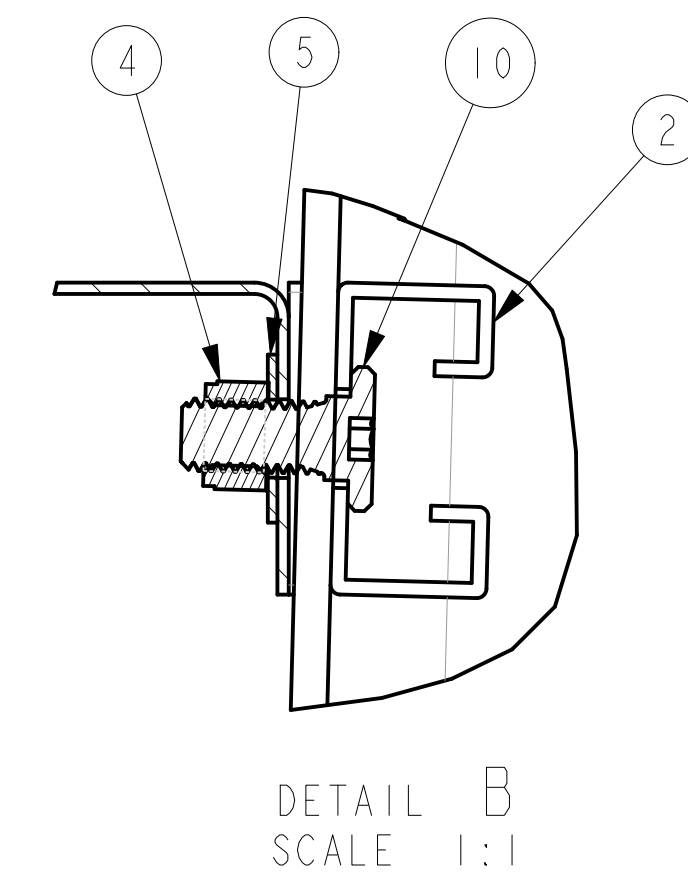
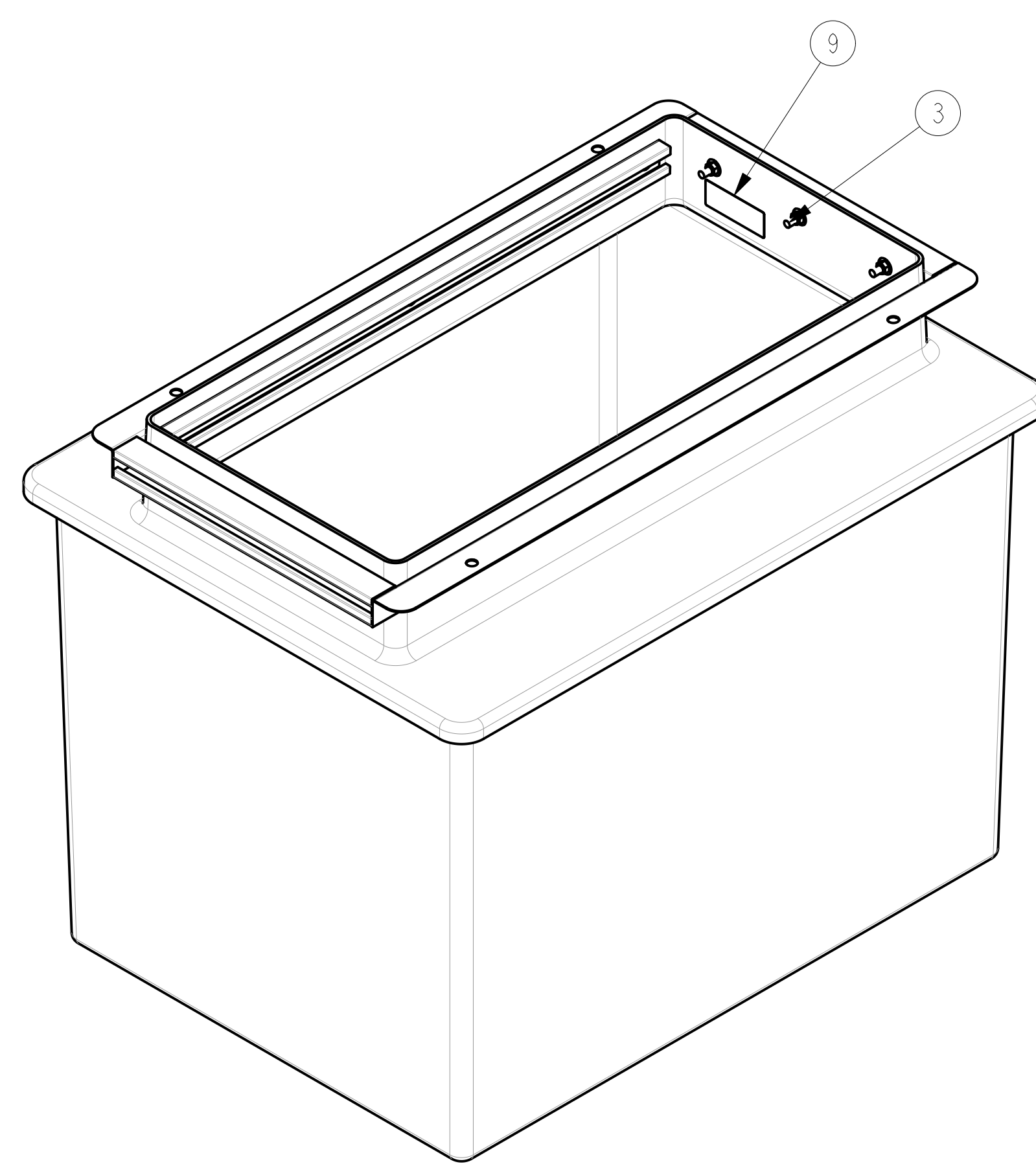
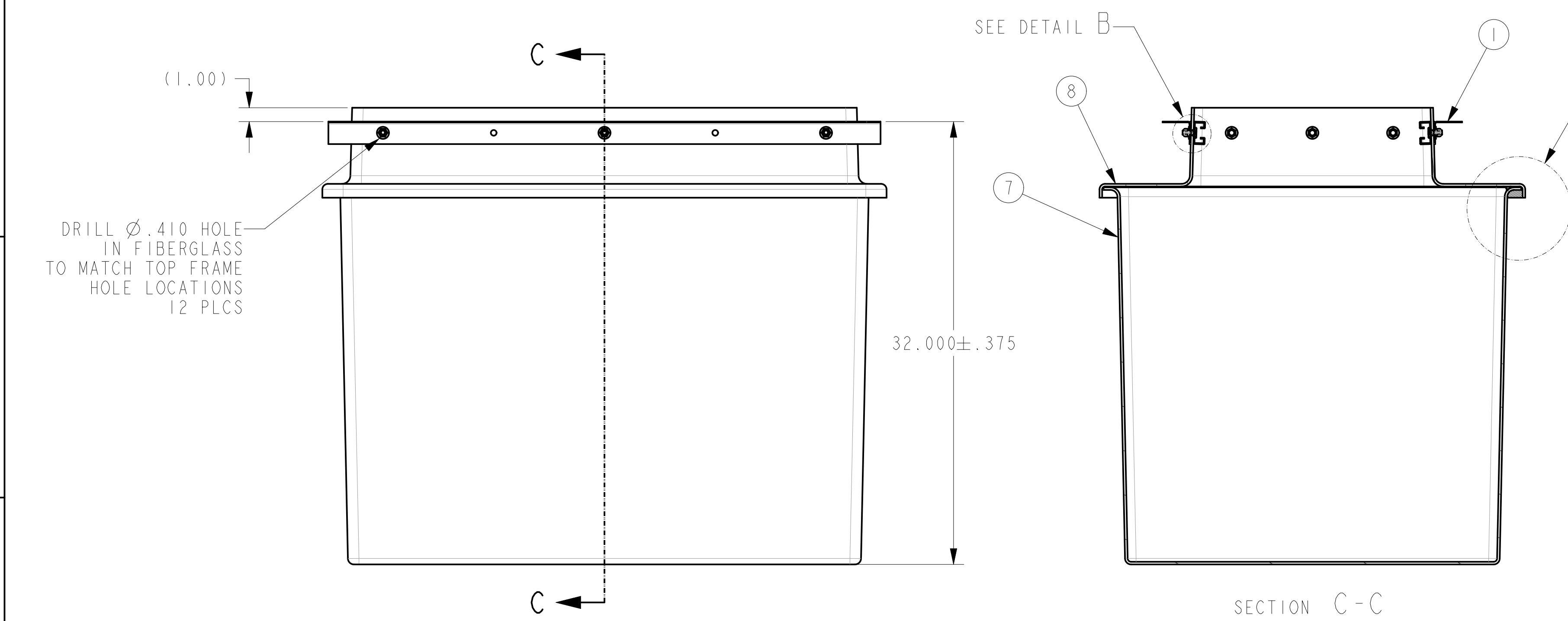
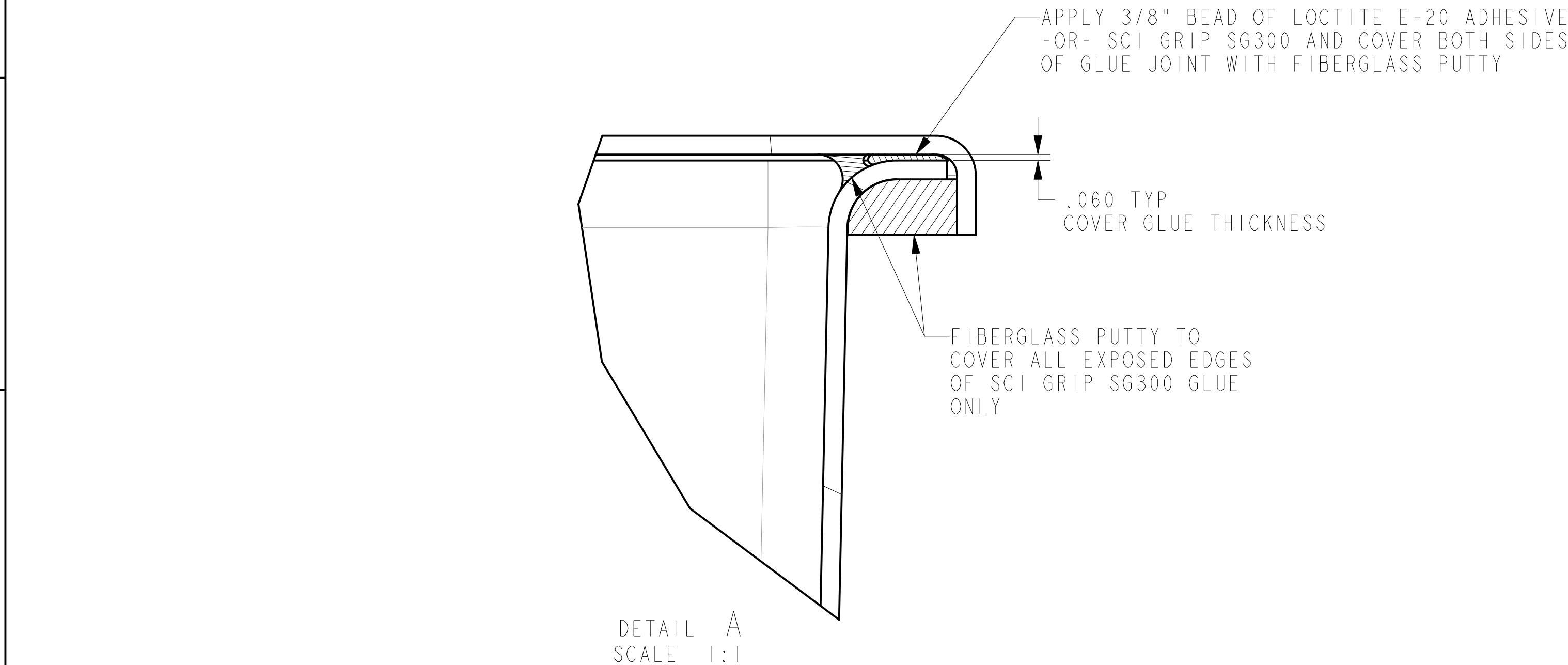
E

D

C

B

A



- NOTES:
- THIS DRAWING IS RELATED TO 602377ULC SCHEDULE DRAWING.
 - ALL EXPOSED EDGES TO BE FREE OF LOOSE FIBERS AND SHARP EDGES.
 - ASSEMBLY TO BE FILLED WITH WATER ABOVE SEAM BETWEEN SUMP AND CAP AND TO HOLD WATER WITHOUT LOSS FOR A MINIMUM OF 24 HOURS.
 - ALL LAMINATE CONSTRUCTION TO BE OF WATER TIGHT CONSTRUCTION.
 - PARTS TO BE LEAK TESTED AS REQUIRED IN CLAUSE 14.3 OF FFS PTS 999993002. RECORDS TO BE MAINTAINED AND MADE AVAILABLE UPON REQUEST PER FFS RECORD RETENTION QSP 16.002.

CONTROLLED PRODUCT	
NO CHANGES TO SOURCING WITHOUT PRIOR APPROVAL	
REQUIRED APPROVALS	
ENGINEERING	MANUFACTURING
MARKETING	AGENCY
DIMENSION BALLOONS	
TOTAL ON DRAWING	2
LAST NUMBER USED	2
CRITICAL TO QUALITY	
TOTAL ON DRAWING	2
LAST NUMBER USED	2

MODEL: 10.2
DRAWING: 10.3

MODIFIED: FALSE
MODIFIED: FALSE

STATE: Released

REVISION	ECN	DESCRIPTION	ZONE	INITIALS DATE
1	721057	ENGINEERING RELEASE	-	LB/MC 3/26/18
2	722534	CHANGED ITEM 6 TO 408008903		CAL/MC 4/6/18
3	725005	602379001 WAS DS3617-F		LB/MC 9/5/18
4	726555	CHANGED ADHESIVE NOTES IN DETAIL A		LB/MC 10/9/18
5	726832	ADDED ITEMS 9 & 10, SHIPPING LABEL NOTE AND SCHEDULE DWG NOTE		LB/MC 2/18/19
6	730365	FILPPED BOLTS & NUTS TO BE NUTS ON THE INSIDE- ENDS ONLY-SIDES STAY BOLT HEAD ON THE INSIDE		LB/MC 5/13/19
7	735327	ADDED NOTES 4 & 5, CTO MARKS AND CHART		LB/MC 10/23/19
8	103645	REMOVED 89510001; FLIPPED DIRECTION OF HEX BOLT IN UNISTRUT; ADDED FLOOR TO DISPENSER TOP FRAME HEIGHT DIMENSION; ADDED DETAIL B		JJD/KM 03/17/21
9	104963	REMOVED NOTE & ASTERISK ON ITEM #9		MV/GH 05/05/21
10	111174	ADDED ITEM #10		JJD/KM 02/22/22

TOLERANCES UNLESS OTHERWISE SPECIFIED

< = ±.5"

X.X = ±0.02

X.XX = ±0.02

X.XXX = ±0.005

DIMENSIONS ARE IN INCH

Cred
MATH CAD DATA
DO NOT SCALE

ASME Y14.5-2009

MATH CAD DATA
AND DRAWING
REVISION MUST
MATCH

DRAWN BY: LB, 1/19/18

APPROVED: MC, 03/26/18

SIMILAR TO:

MAKE FROM PART NUMBER:

ENGINEERING MATERIAL SPECIFICATION (EMS):

TITLE

SUMP ASSY - SW ENCORE

SIZE

DWG NO

602375001

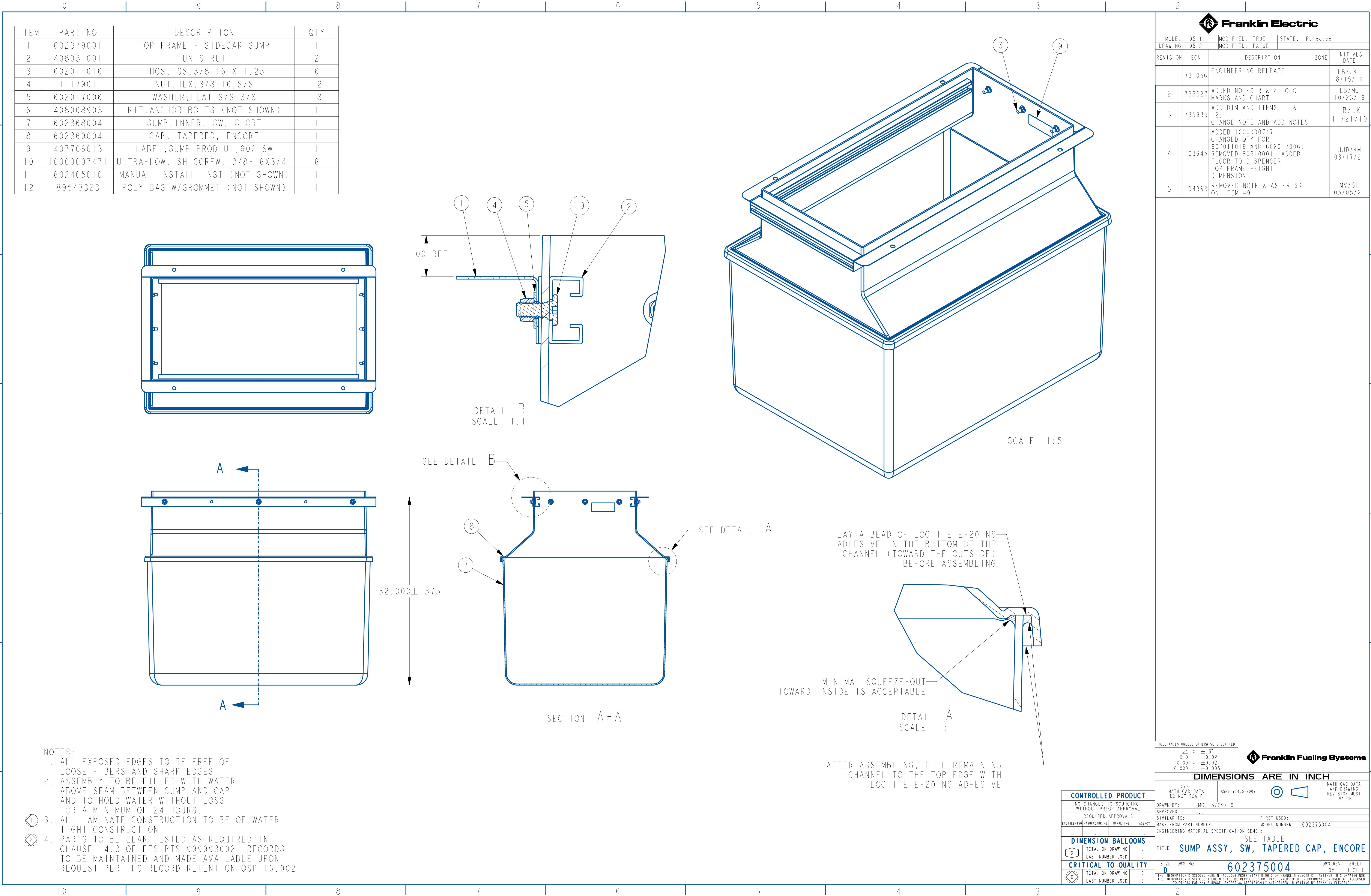
DWG REV

SHEET

10

1 OF 1

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ITEM	PART NO	DESCRIPTION	QTY
1	602379001	TOP FRAME - SIDECAR SUMP	1
2	408031001	UNISTRUT	2
3	602011016	HHCS, SS, 3/8-16 X 1.25	6
4	1117901	NUT, HEX, 3/8-16, S/S	12
5	602017006	WASHER, FLAT, S/S, 3/8	18
6	408008903	KIT, ANCHOR BOLTS (NOT SHOWN)	1
7	602368004	SUMP, INNER, SW, SHORT	1
8	602369004	CAP, TAPERED, ENCORE	1
9	407706013	LABEL, SUMP PROD UL, 602 SW	1
10	10000007471	ULTRA-LOW, SH SCREW, 3/8-16X3/4	6
11	602405010	MANUAL INSTALL INST (NOT SHOWN)	1
12	89543323	POLY BAG W/GROMMET (NOT SHOWN)	1

Franklin Electric				
MODEL: 05.1		MODIFIED: TRUE	STATE: Released	
DRAWING: 05.2		MODIFIED: FALSE		
REVISION	ECN	DESCRIPTION	ZONE	INITIALS DATE
1	731056	ENGINEERING RELEASE	-	LB/JK 8/15/19
2	735327	ADDED NOTES 3 & 4, CTQ MARKS AND CHART		LB/MC 10/23/19
3	735935	ADD DIM AND ITEMS 11 & 12; CHANGE NOTE AND ADD NOTES		LB/JK 11/21/19
4	103645	ADDED 10000007471; CHANGED QTY FOR 602011016 AND 602017006; REMOVED 89510001; ADDED FLOOR TO DISPENSER TOP FRAME HEIGHT DIMENSION		JJD/KM 03/17/21
5	104963	REMOVED NOTE & ASTERISK ON ITEM #9		MV/GH 05/05/21

NOTES:

1. ALL EXPOSED EDGES TO BE FREE OF LOOSE FIBERS AND SHARP EDGES.
2. ASSEMBLY TO BE FILLED WITH WATER ABOVE SEAM BETWEEN SUMP AND CAP AND TO HOLD WATER WITHOUT LOSS FOR A MINIMUM OF 24 HOURS.
3. ALL LAMINATE CONSTRUCTION TO BE OF WATER TIGHT CONSTRUCTION
4. PARTS TO BE LEAK TESTED AS REQUIRED IN CLAUSE 14.3 OF FFS PTS 999993002. RECORDS TO BE MAINTAINED AND MADE AVAILABLE UPON REQUEST PER FFS RECORD RETENTION QSP 16.002

CONTROLLED PRODUCT			
NO CHANGES TO SOURCING WITHOUT PRIOR APPROVAL			
APPROVED:			
REQUIRED APPROVALS			
ENGINEERING	MANUFACTURING	MARKETING	AGENCY
DIMENSION BALLOONS			
TOTAL ON DRAWING			
LAST NUMBER USED			
CRITICAL TO QUALITY			
TOTAL ON DRAWING			
LAST NUMBER USED			

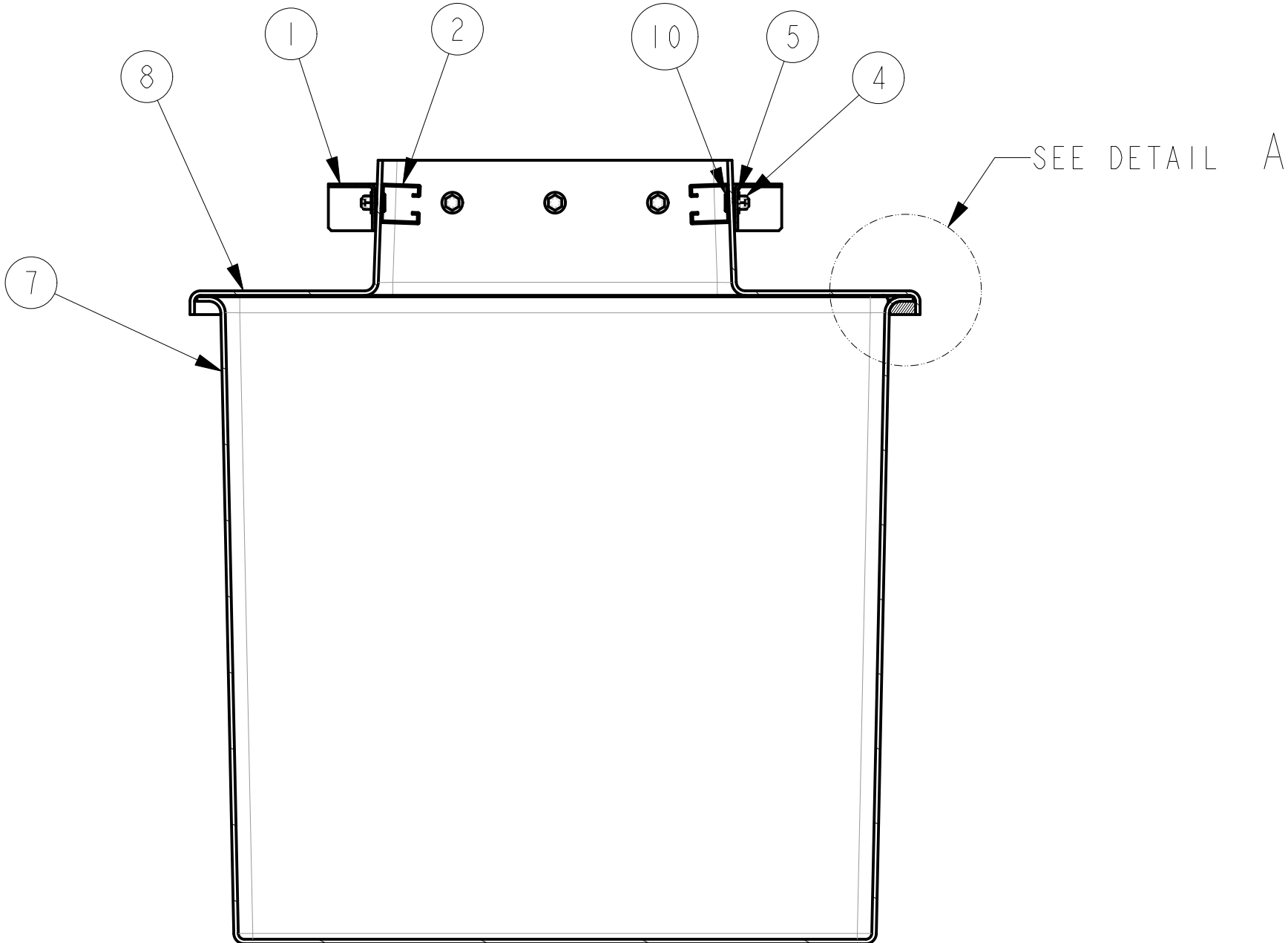
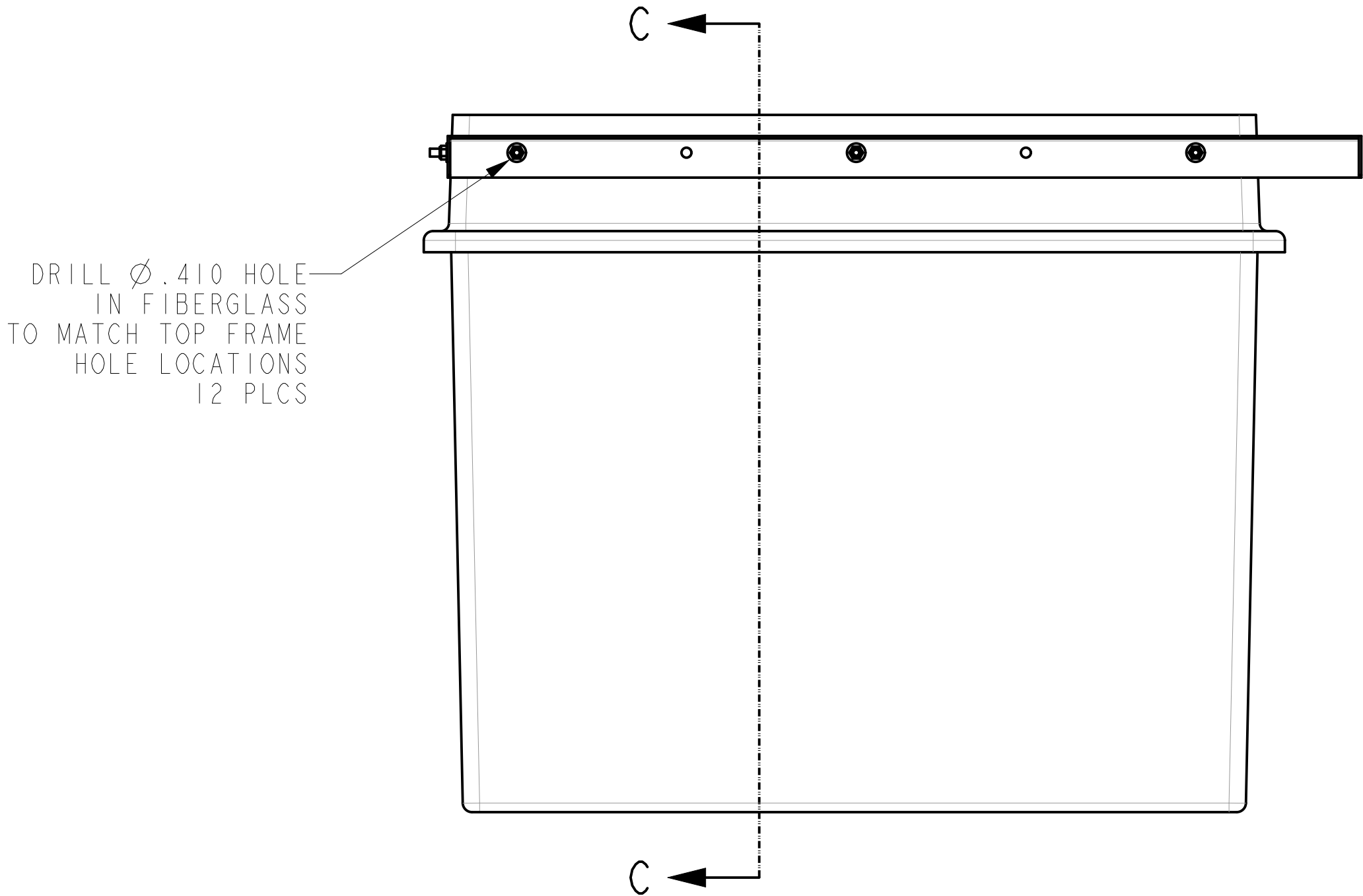
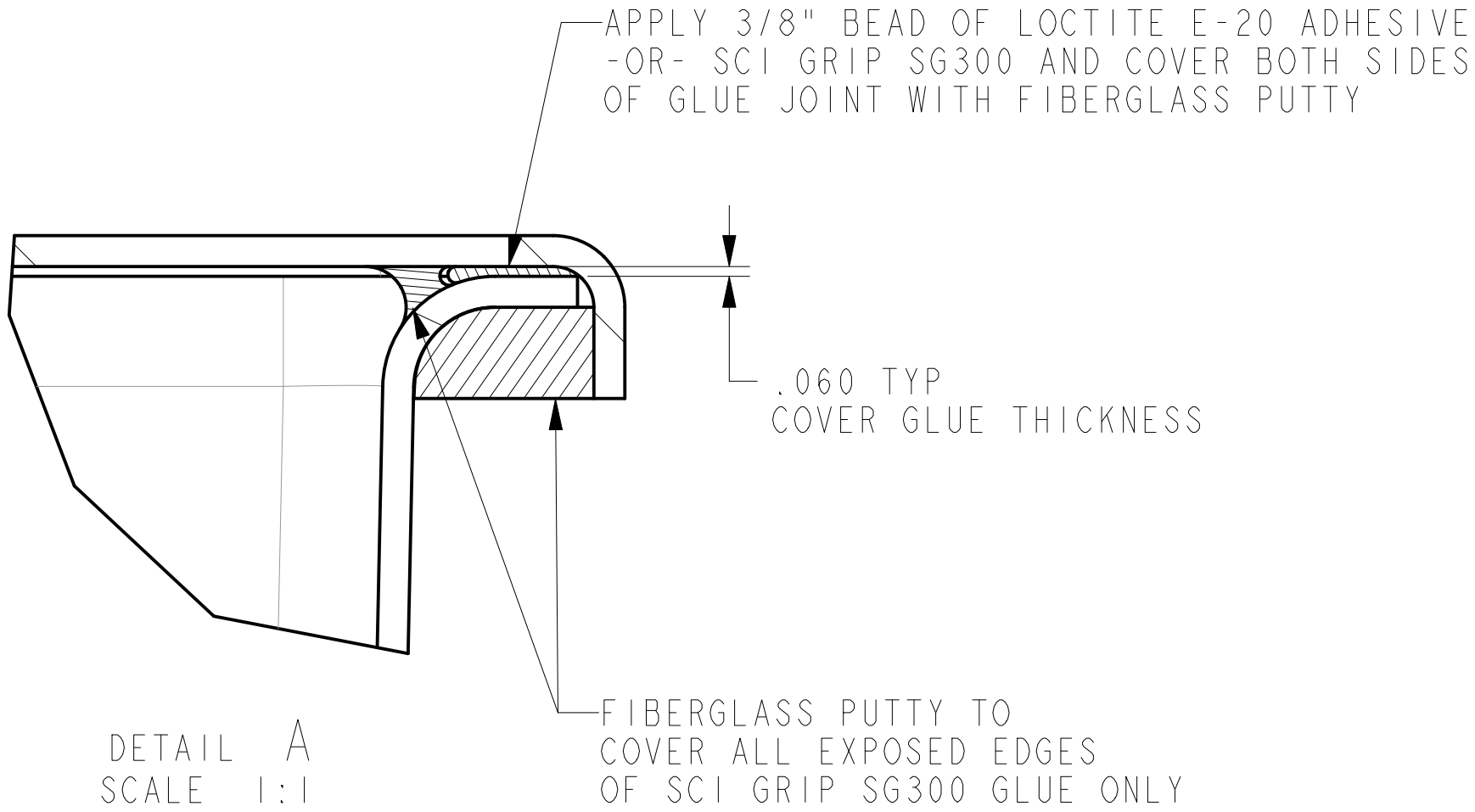
SIZE	DWG NO	DWG REV	SHEET
D	602375004	05	1 OF 1
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TOLERANCES UNLESS OTHERWISE SPECIFIED			
∠	=	±.5°	
X.X	=	±0.02	
X.XX	=	±0.02	
X.XXX	=	±0.005	

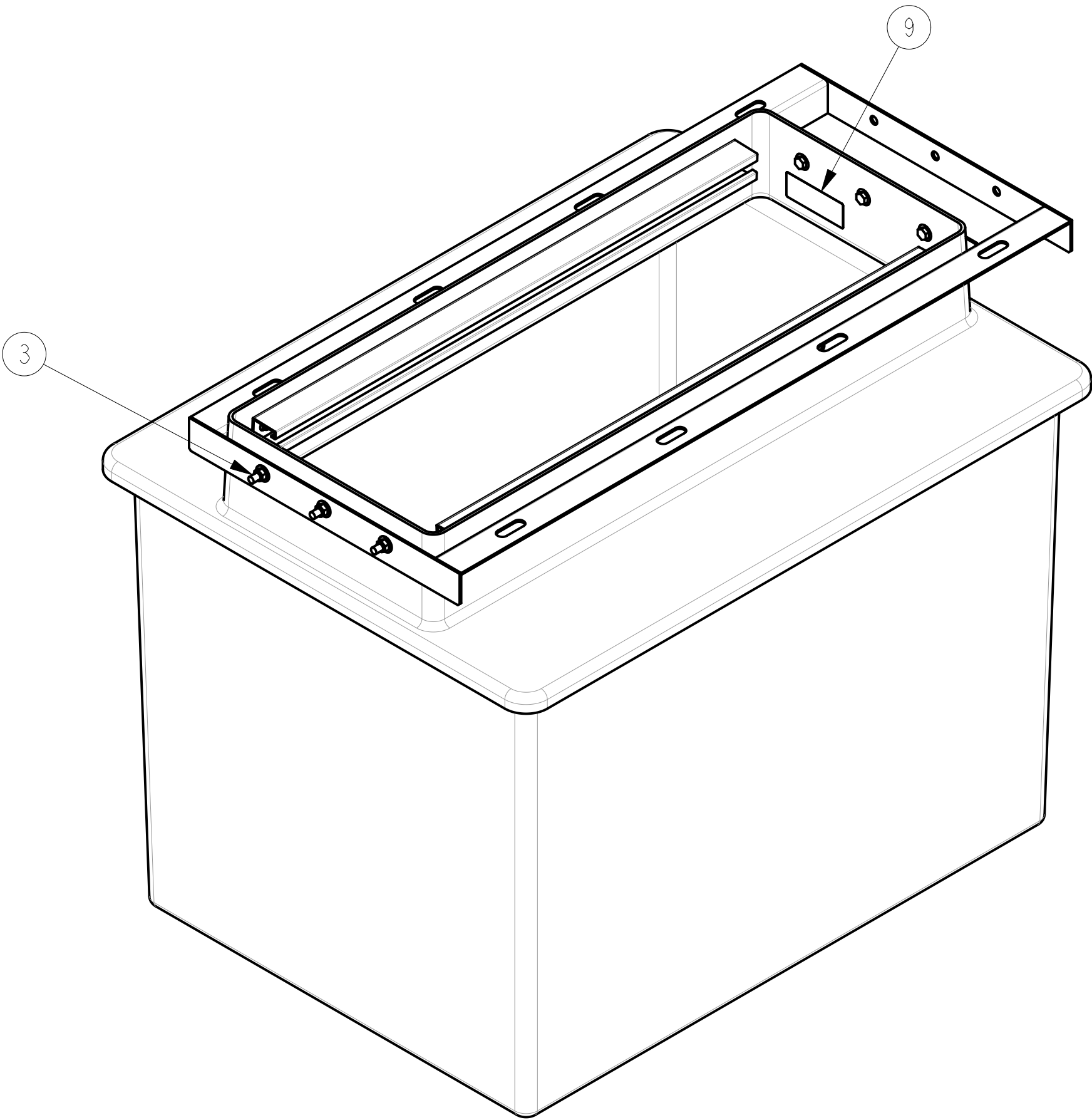
DIMENSIONS ARE IN INCH			
CREO	MATH CAD DATA DO NOT SCALE	ASME Y14.5-2009	
DRAWN BY:	MC, 5/29/19	APPROVED:	
SIMILAR TO:		FIRST USED:	
MAKE FROM PART NUMBER:		MODEL NUMBER:	602375004

ENGINEERING MATERIAL SPECIFICATION (EMS):		SEE TABLE	
TITLE		SUMP ASSY, SW, TAPERED CAP, ENCORE	

ITEM	PART NO	DESCRIPTION	QTY
1	DS3915-F	FRAME, DISPENSER, UPP, OVATION	1
2	408031001	UNISTRUT	2
3	602011016	HHCS, SS, 3/8-16 X 1.25	6
4	1117901	NUT, HEX, 3/8-16, S/S	12
5	602017006	WASHER, FLAT, S/S, 3/8	18
6	408008903	KIT, ANCHOR BOLTS	1 (NOT SHOWN)
7	602368001	SUMP - INNER	1
8	602369002	CAP, WAYNE OVATION (3915)	1
9	407706013	LABEL, SUMP PROD UL, 602 SW	1
10	10000007471	ULTRA-LOW, SH SCREW, 3/816x3/4	6



- NOTES:
- THIS DRAWING IS RELATED TO 602377ULC SCHEDULE DRAWING
 - ALL EXPOSED EDGES TO BE FREE OF LOOSE FIBERS AND SHARP EDGES.
 - ASSEMBLY TO BE FILLED WITH WATER ABOVE SEAM BETWEEN SUMP AND CAP AND TO HOLD WATER WITHOUT LOSS FOR A MINIMUM OF 24 HOURS.
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Franklin Electric					
MODEL: 06.2		MODIFIED: FALSE		STATE	
DRAWING: 06.3		MODIFIED: FALSE			
REVISION	ECN	DESCRIPTION	ZONE	INITIALS DATE	
1	725170	ENGINEERING RELEASE	.	LB/MC 9/4/18	
2	726555	CHANGED ADHESIVE NOTES IN DETAIL A		LB/MC 10/9/18	
3	726832	ADDED ITEMS 9 & 10, SHIPPING LABEL NOTE AND SCHEDULE DWG NOTE		LB/MC 2/18/19	
4	735327	ADDED NOTES 4 & 5, CTQ MARKS AND CHART		LB/MC 10/23/19	
5	104963	REMOVED ULC DISP & TANK SUMP LABEL, ITEM WAS 89510001; REMOVED NOTE & ASTRISK ON ITEM #9		MV/GH 05/05/21	
6	111174	ADDED ITEM #10		JJD/KM 02/22/22	

TOLERANCES UNLESS OTHERWISE SPECIFIED		 Franklin Fueling Systems	
∠ = ± .5° X.X = ± 0.02 X.XX = ± 0.02 X.XXX = ± 0.005		DIMENSIONS ARE IN INCH	
Creo MATH CAD DATA DO NOT SCALE	ASME Y14.5-2009		MATH CAD DATA AND DRAWING REVISION MUST MATCH
DRAWN BY: LB, 8/7/18			
APPROVED: MC, 9/4/18			
SIMILAR TO: XXXXXXXXXXXX		FIRST USED: XXXXXXXXXXXX	
MAKE FROM PART NUMBER:		MODEL NUMBER: 602381001	
ENGINEERING MATERIAL SPECIFICATION (EMS):			
SEE CHART			
TITLE SUMP ASSY - SW OVATION			
SIZE	DWG NO	602381001	DWG REV SHEET 06 1 OF 1
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DIMENSION BALLOONS	
	TOTAL ON DRAWING .
	LAST NUMBER USED .
CRITICAL TO QUALITY	
	TOTAL ON DRAWING 2
	LAST NUMBER USED 2