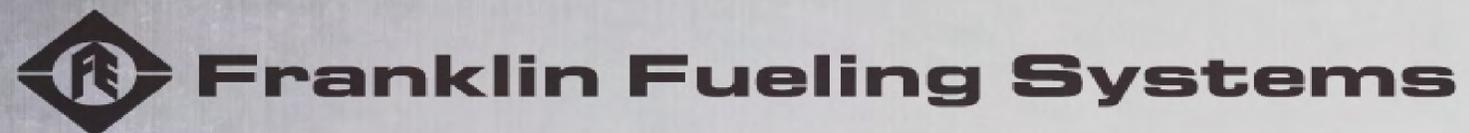




2015 Annual UST Professional Refresher  
Adventureland Inn Altoona, IA  
November 19-20, 2015





# Defender Agenda

Defender Spill Bucket

New Products -Defender OPV Valve

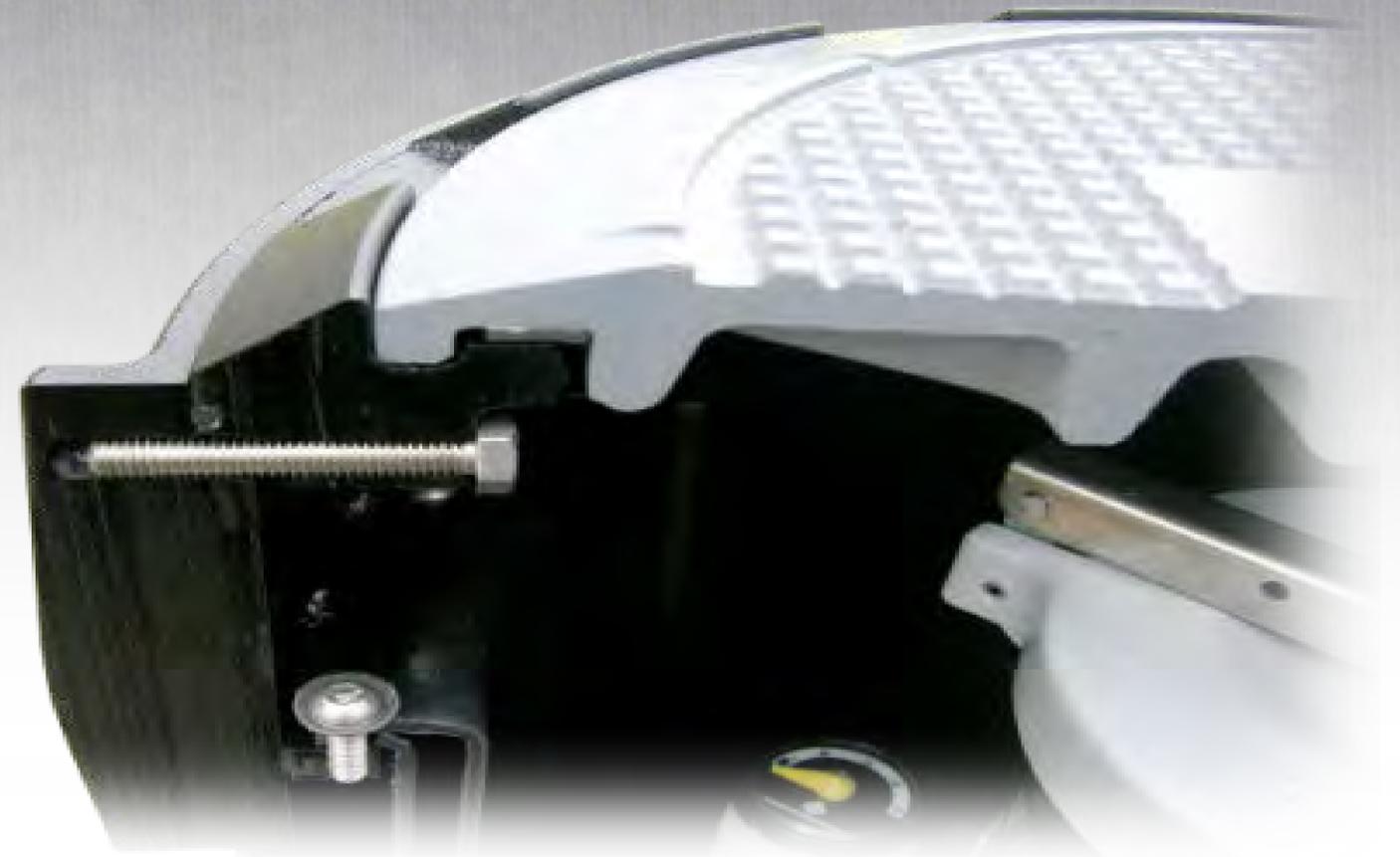
## Defender Series Spill Containment



- Single or double wall
- Field replaceable without breaking concrete
- Variable height provides flexibility for shallow and deep retrofit applications
- Single wall models can be upgraded to double wall as regulations evolve
- Interstitial space of double wall models may be monitored mechanically or by electronic liquid sensor
- Meets [CARB TP-201.ID](#) drain leak rate of 0.17 CFH at 2.0 in/wc

## Minimized Maintenance Costs

- Protected plow ring connection eliminates the possibility of damaged threads
- Field replaceable containment may be replaced without having to break concrete
- E-coated base, concrete ring, and plow ring 7x more durable than zinc coating



# Integrity Confirmation

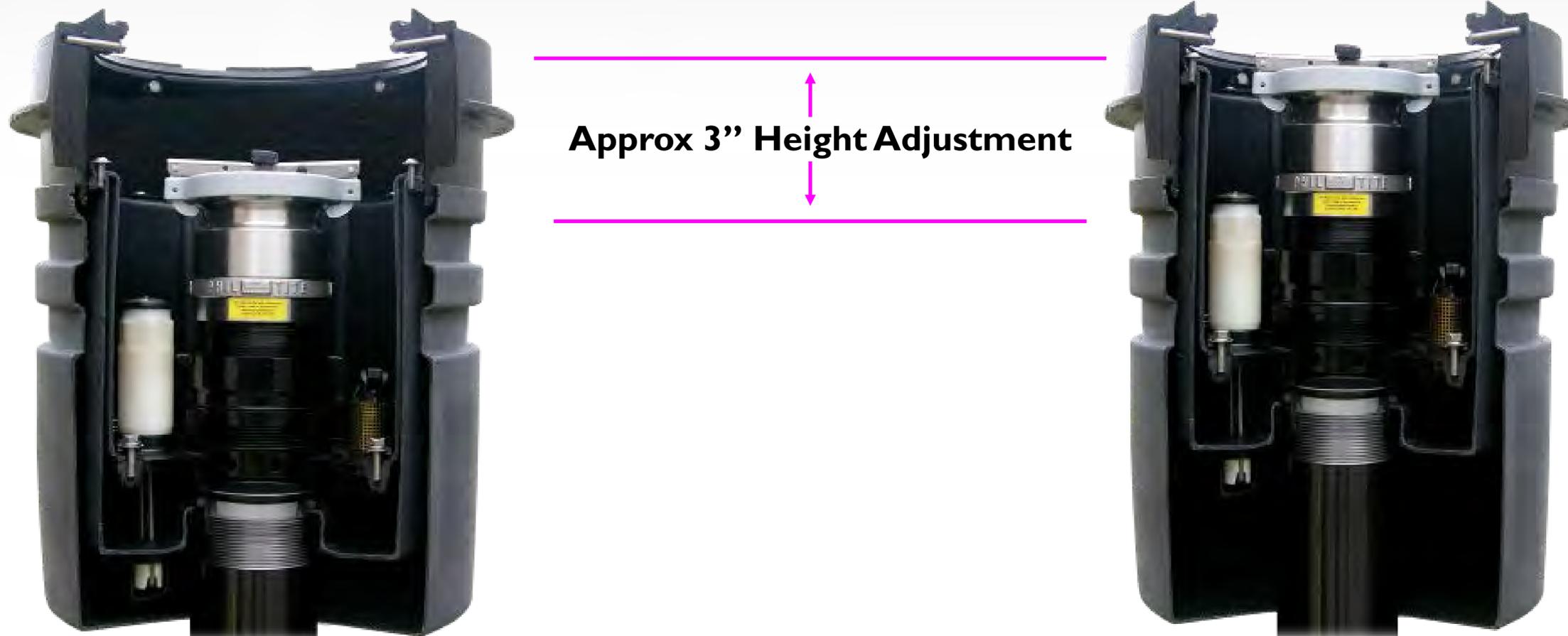
## I<sup>2</sup> Monitor

- The I<sup>2</sup> (interstitial integrity) Monitor provides visual inspection capability
- Electronic liquid detection sensor option also available



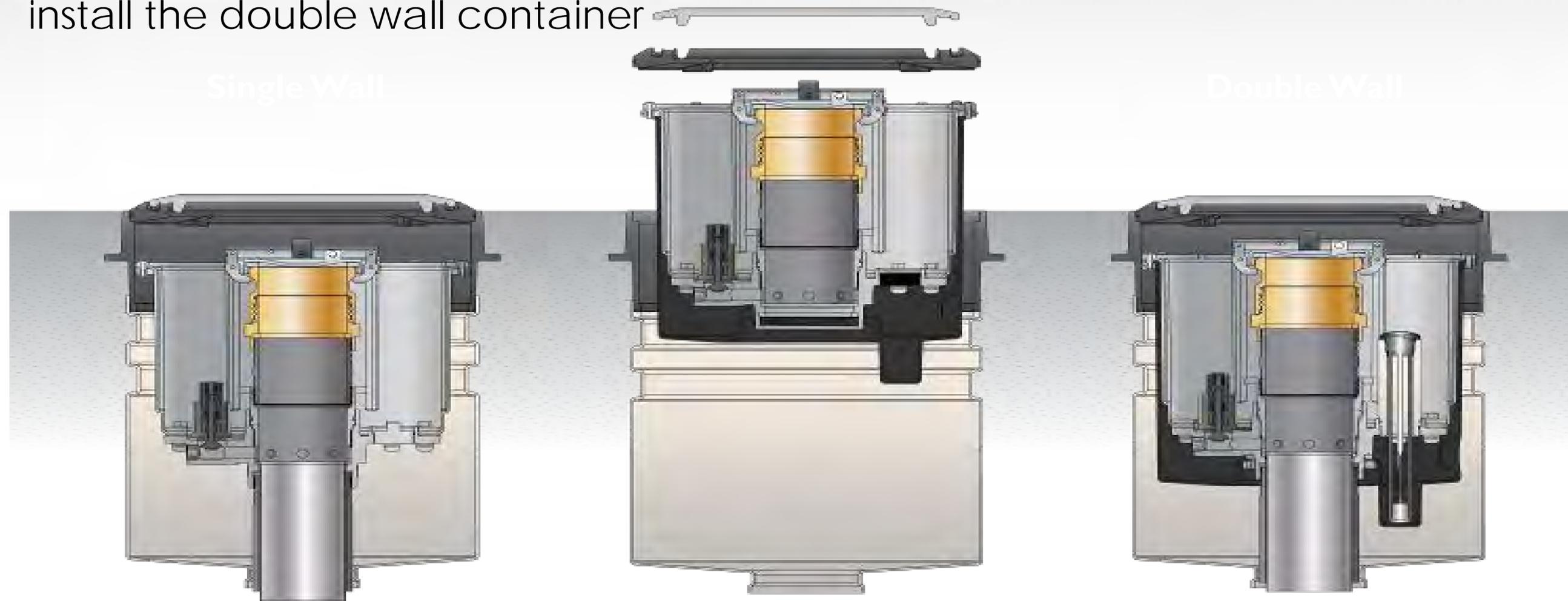
## Superior Installation Flexibility

- Variable height adjustments allows an installation height range
  - Direct replacement for EBW and most competitor 5 gallon direct bury containments without needing to replace the tank riser
- NPSM, NPT, and BSPT base threads available
- Compatible w/ High blend ethanol and biodiesel



# Double Wall Upgrade

- Single wall container can be upgraded to double wall to meet changing regulations
- Simply remove the snow plow ring, uninstall the single wall containment and install the double wall container





# Defender Agenda

Defender Spill Bucket

New Products -Defender OPV Valve

## SIMPLE INSTALLATION

Gone are the days flaring, riveting, and epoxying drop tubes on site. The Defender Series™ OPV utilizes a roll-crimp and thread installation method to achieve a perfectly in-line installation.



### TOP ADAPTER

A special, double O-ring top adapter is used to attach the drop tube for easy installation without any drilling, riveting, epoxy or flaring tools.



### IN-LINE ASSEMBLY

A perfectly in-line assembly installs smoothly into the riser and can be easily removed for maintenance.



### EASY REPLACEMENT

With threaded top and bottom drop tube installation, damaged drop tubes can easily be replaced without having to purchase an entirely new assembly.



## ELIMINATE LEAK POINTS

The revolutionary magnetically-coupled actuator system allows the Defender Series™ OPV to achieve positive shutoff without a single penetration in the valve body.



### ZERO VAPOR PATHS

The absence of body penetrations in the OPV eliminates potential leak paths for escaping vapors.



### FACTORY TESTED

Every unit is factory tested for 100% vapor tightness to ensure a clean, fugitive emission-free forefront.



### COMPLIANCE READY

With increasing vapor recovery regulations around the world, the Defender Series™ OPV will have you ready for compliance.

# INSTALLATION STEPS

No more flaring, drilling, riveting, or epoxy.



1. CUT PRE-FLARED DROP TUBES TO LENGTH



2. INSERT & ROLL-CRIMP TOP FITTING



3. THREAD DROP TUBES TO TOP & BOTTOM

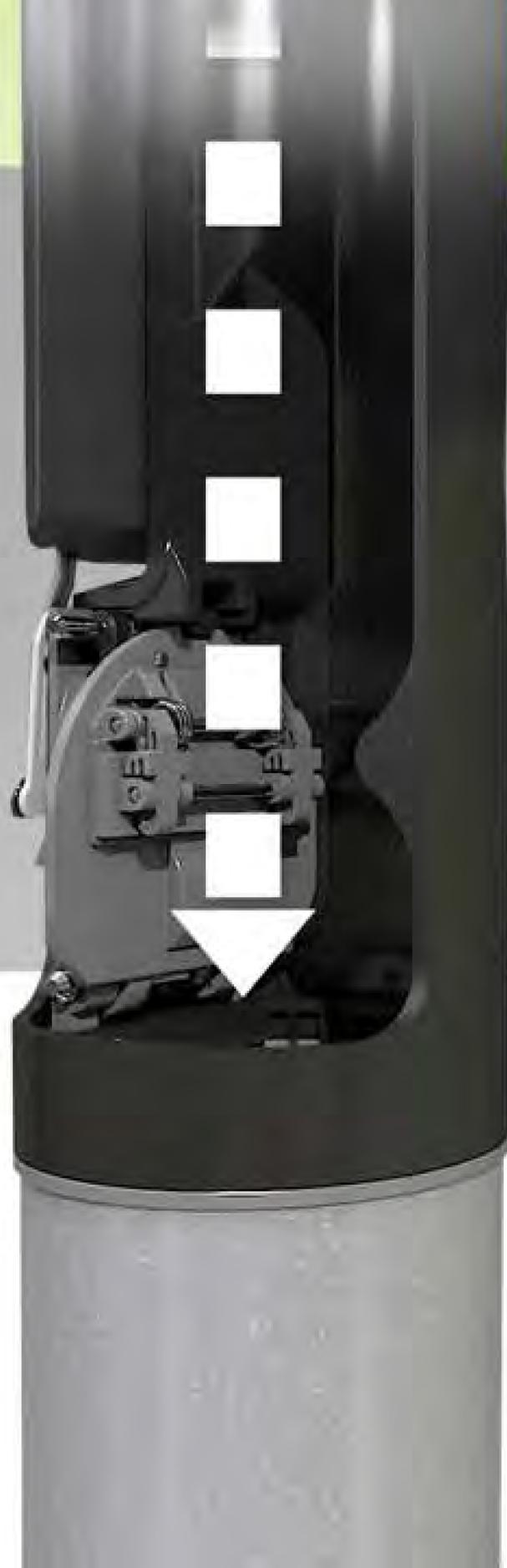


4. INSERT DROP TUBE INTO SPILL CONTAINER



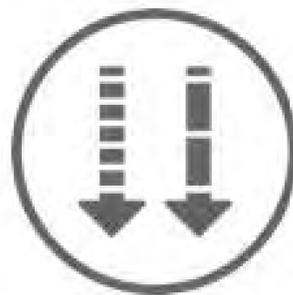
WANT MORE?

Visit [franklinfueling.com/OPVINSTALL](http://franklinfueling.com/OPVINSTALL) to download the full installation, operation, and maintenance manual.



## HIGH OR LOW FLOW

Minimal flow path obstructions accommodate high flow drops while the magnetically-coupled actuator system also provides reliable positive shutoff for low flow drops.



### ALL FLOW RATES

The Defender Series™ OPV accommodates a broad range of flow rates from 25 gpm to 370 gpm (95 lpm to 1,400 lpm).



### HIGH FLOW OPERATION

In high flow applications, the actuator system will hold the flapper in place, only releasing it into the flow of fuel once the float has risen to generate positive shutoff.

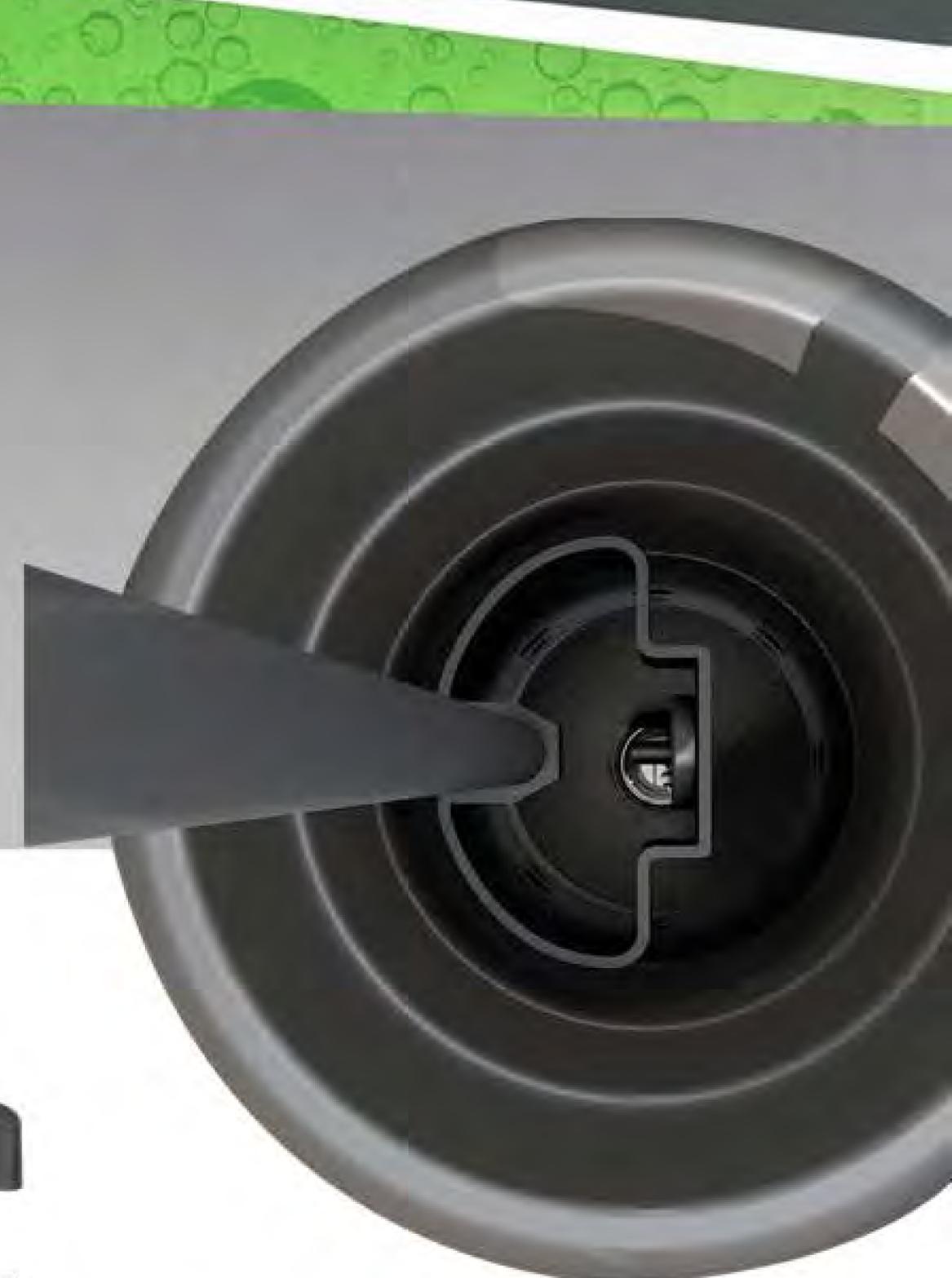


### LOW FLOW OPERATION

In low flow applications, the actuator system will assist by kicking the flapper out into the flow of fuel to generate positive shutoff.

## REMOTE TESTING

The magnetically-coupled actuator system along with the testing tool allows for primary functionality testing of the OPV without having to remove the entire assembly from the riser.



### VISUAL TESTING

The remote testing tool will actuate the flapper when inserted down the drop tube and slid by the actuator—this is confirmed visually through a window in the tool.



### CUSTOM TESTING TOOL

To accommodate varying tank sizes, the testing tool handle is segmented into six sections for customization up to 11 feet (3.35 meters) in length.



### FAST INSPECTION

Fast visual inspection can be conducted by a single person in minutes without having to remove the complete drop tube and OPV assembly.





## REMEMBER THIS

- ✓ The innovative magnetically-coupled actuator provides positive shutoff with zero leak points.
- ✓ Simplified installation eliminates flaring, drilling, riveting, and epoxy for fast installation.
- ✓ Reliable shutoff for both high flow or low flow fuel drops from 25 to 370 gpm (95 to 1,400 lpm).
- ✓ Primary functionality testing capability without having to remove the assembly from the riser.
- ✓ For use in all markets, fuel types and applications with simplified model offering.



WANT MORE?

Visit [franklinfueling.com/OPV](http://franklinfueling.com/OPV) for more product information and literature downloads.



# Agenda

# Questions?



## APT Agenda

New Products

Correct Way to Install Rubber Entry Boots

Why Boots Fail

Entry Angle is Critical

Ducting Installation

Sump Testing / Inspection

## Rigid Entry Boots- XP Pipe

- Available for 1.5" , 1.75" and 2" XP pipe
- Can be installed on both flat and curved surfaces
- Can be installed with Poly or FRP sumps
- ULc approval
- Glass Filled- Nylon Body
- One 5" hole is required for installation
- Reduced Labor



## Rigid Entry Boots- Electrical

- Available for 1" and 3/4" conduits
- Installed with both galvanized and PVC coated conduits
- Dual seal on conduit wall
- Dual seal on sump wall
- Can be installed on both flat and curved surfaces
- Can be installed with Poly or FRP sumps
- ULc approval
- One 2.75" hole is required for installation
- Reduced Labor



## Rigid Split Test Boot

- Offered in 1.5", 1.75", 2"
- Designed to be used with XP pipe
- Two Piece "hinged" design- Allows for one hand installation
- This test boot can be removed or remain in place



# APT DUCTING

## APT Fusion Ducting System

### Segment I: New APT Ducting Design

- Offered in 100' and 250' lengths
- Flat surface allows a stronger watertight seal to the ducted entry boot
- The V-seal and Blue Bushing are eliminated from the installation
- Released 6-26-15



# Fusion Entry System

## APT Fusion Ducting System

### Segment II: Electro Fusion Entry Boot for XP Pipe

- Offered in 1.5", 1.75", 2" XP pipe
- Entry Seal is "watertight" fusion technology
- To be installed with Polyethylene Tank and Dispenser Sumps





# Agenda

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Ducting Installation

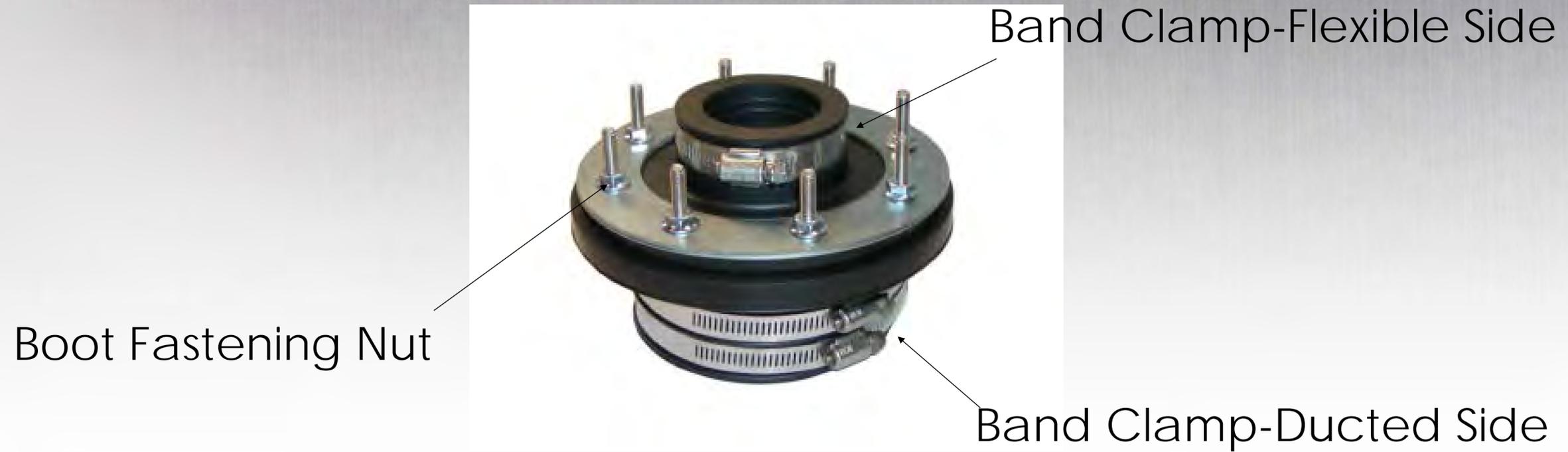
Sump Testing / Inspection

## Flexible Entry Boot Installation



- From outside of the sump base, insert the backer plate/stud assembly. Tap in with a rubber or plastic mallet if required.
- **Note:** APT recommends using Bostik 1100 or equivalent marine grade urethane sealant as a precautionary sealant.
- Place the entry boot over the studs, making sure that the boot faces the inside of the sump as shown.
- Add the compression plate and hex nuts
- Using a 7/16" socket, tighten nuts to recommended torque rating

# Flexible Entry Boot Installation



Application	Torque (Inch-Pounds)
<b>Boot Fastening Nuts</b>	
HDPE <b>without</b> Permthane	60
Fiberglass <b>without</b> Permthane	75
HDPE <b>with</b> Permthane	55
Fiberglass <b>with</b> Permthane	55
<b>Band Clamp</b>	
Flexible Side	25
Ducted Side	20



# Agenda

New Products

Correct Way to Install Rubber Entry Boots

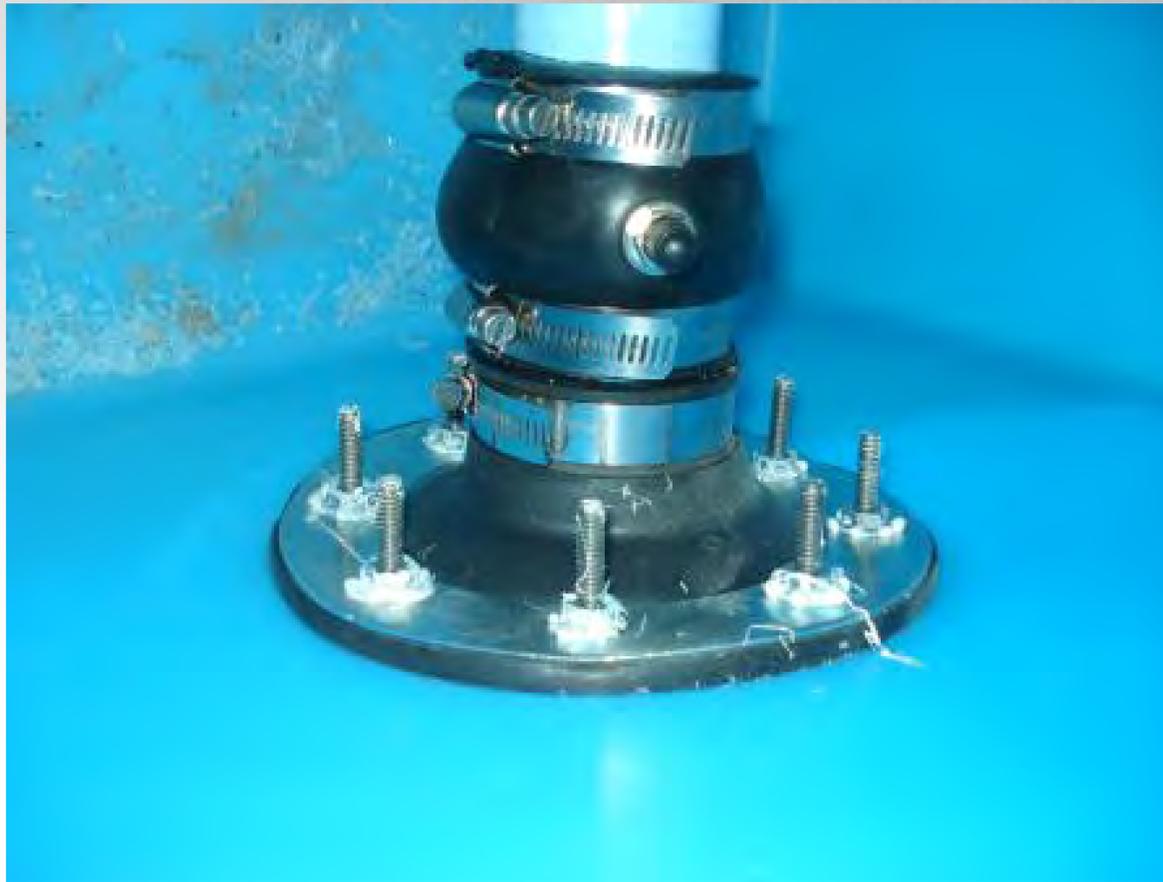
Why Boots Fail

Entry Angle is Critical

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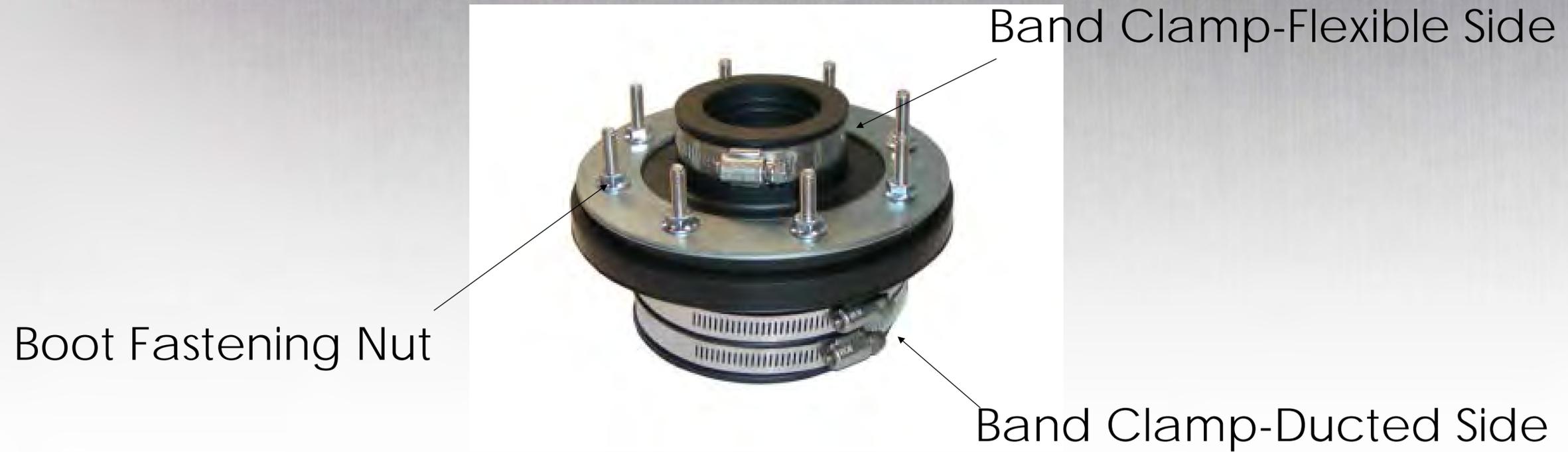
Sump Testing / Inspection

## Flexible Entry Boot Installation



These two pictures represent FEB (entry boot) and the test boot (STB) that have been installed incorrectly. The correct torque specifications were not followed during the installation of these products.

# Flexible Entry Boot Installation



Application	Torque (Inch-Pounds)
<b>Boot Fastening Nuts</b>	
HDPE <b>without</b> Permthane	60
Fiberglass <b>without</b> Permthane	75
HDPE <b>with</b> Permthane	55
Fiberglass <b>with</b> Permthane	55
<b>Band Clamp</b>	
Flexible Side	25
Ducted Side	20



# Agenda

New Products

Correct Way to Install Rubber Entry Boots

Why Boots Fail

Entry Angle is Critical

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Sump Testing / Inspection

# Rigid Entry Boot Installation

## Correct



## Incorrect





# Agenda

New Products

Correct Way to Install Rubber Entry Boots

Why Boots Fail

Entry Angle is Critical

Ducting Installation

Sump Testing / Inspection

# APT Ducting Installation



**Correct Installation**

# APT Ducting Installation



**Incorrect Installation**



# Agenda

New Products

Correct Way to Install Rubber Entry Boots

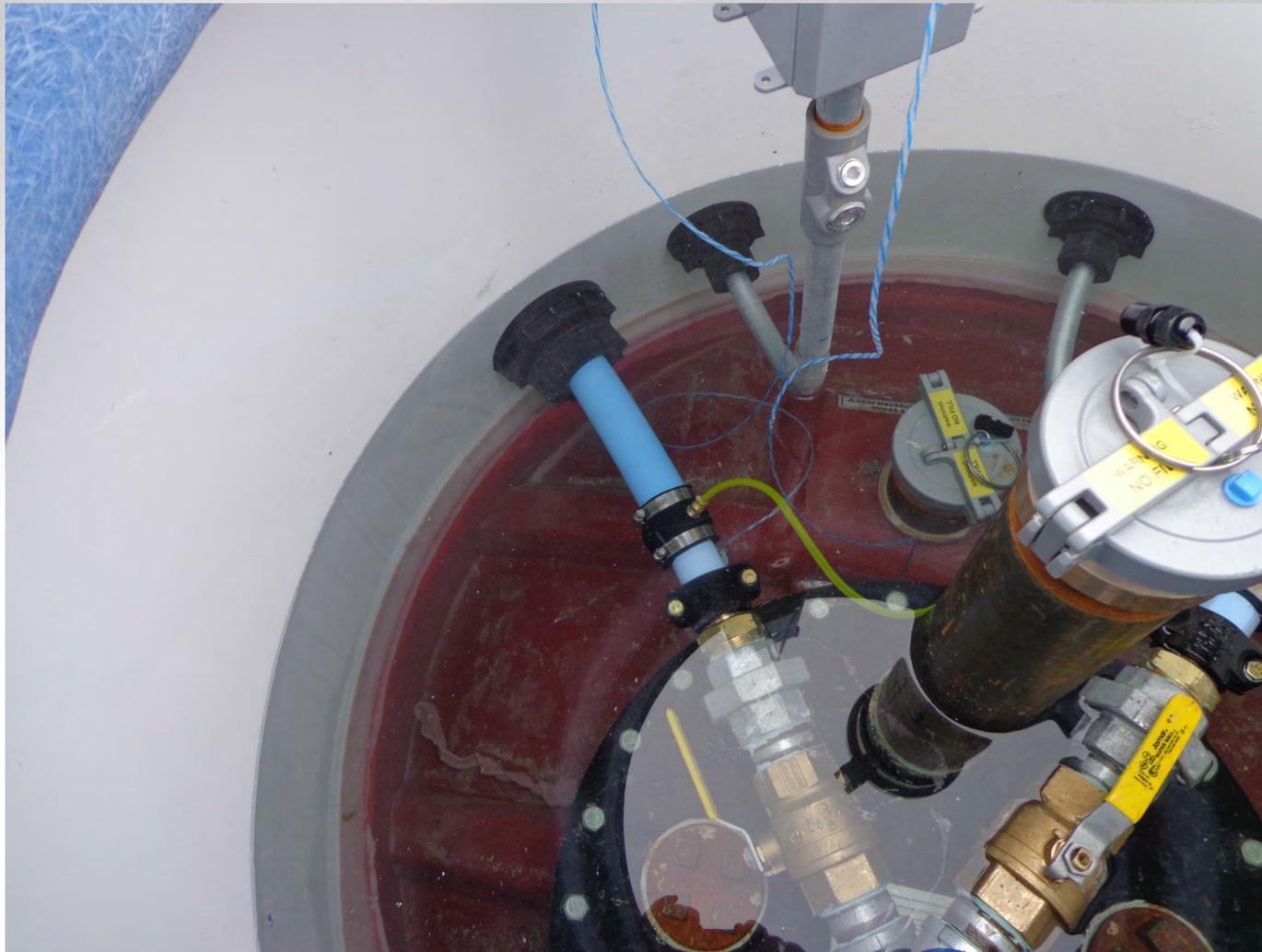
Why Boots Fail

Entry Angle is Critical

Ducting Installation

Sump Testing / Inspection

# Sump Testing



- Hydrostatic Test
- Open System- Test Boots
- Entry Angles- Crucial
- Remove Debris
- Remove dirt/ debris from top seal

# Sump Inspection



- Are the secondary Test boots in the correct position?
- Entry Angles- Crucial
- Clean?
- Electrical entry boots
- Anchor Bolts
- Is the installer certified?



## Agenda

# Questions?



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