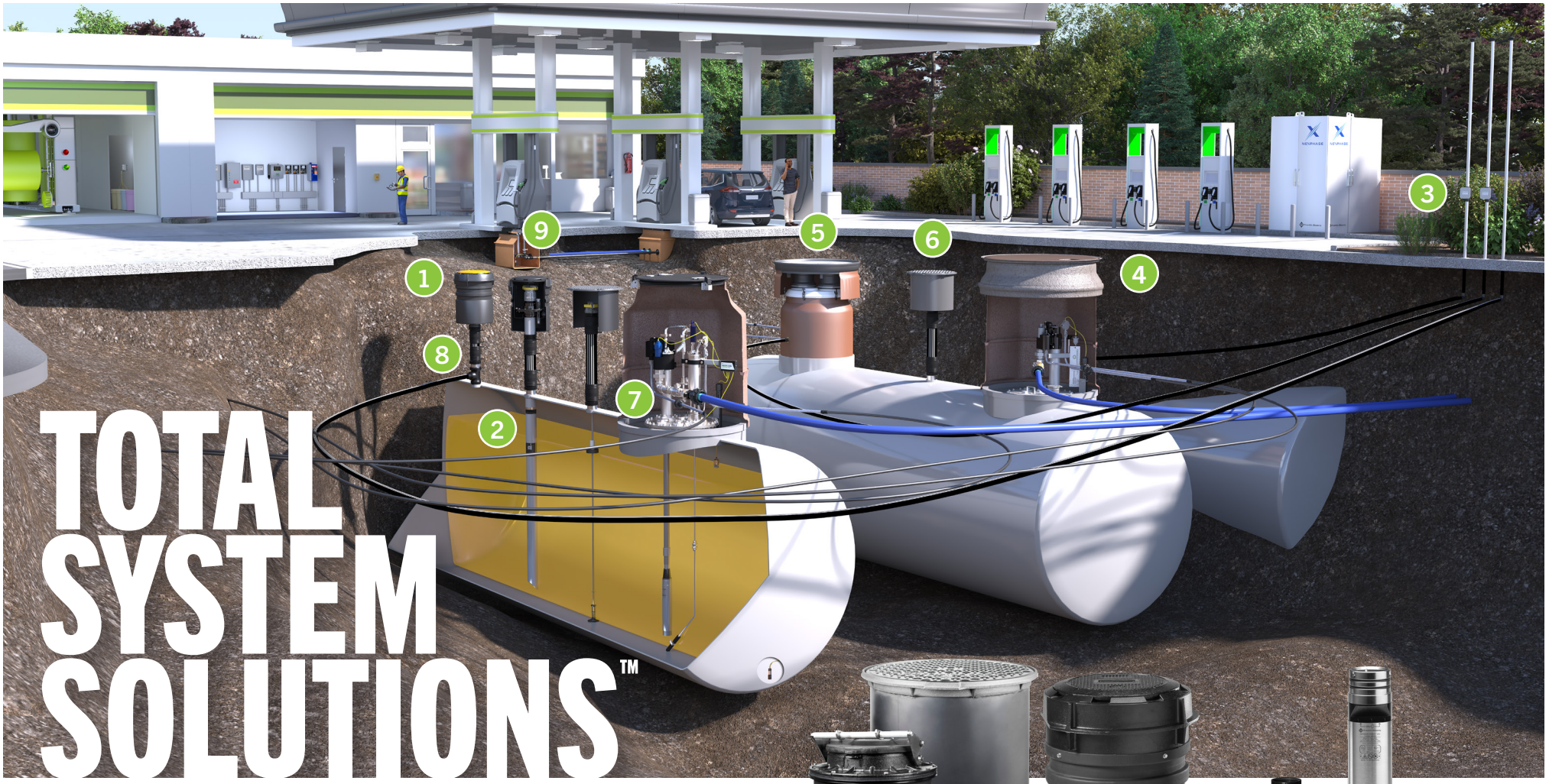
Franklin Electric
ENERGY SYSTEMS

DEFENDER®
SERIES

SERVICE STATION HARDWARE



CONTAIN DELIVERY SPILLS | PREVENT TANK OVERFILLS | REGULATE TANK PRESSURE



TOTAL SYSTEM SOLUTIONS™



SERVICE STATION HARDWARE

1. Fill & Vapor Spill Containers
2. Overfill Prevention Valves
3. Pressure / Vacuum Vents
4. Manways
5. Multiport Manways
6. Probe Access Manways
7. Flexible Connectors
8. Extractor Vent Valves
9. Shear Valves

The Defender Series® provides rugged tank fill point and vapor venting systems with durable spill containment and overfill prevention equipment, plus tank pressure and vacuum venting hardware. From grade level to the tank and beyond, this comprehensive line including all essential accessories serves as the first line of defense against fuel drop overfills, spills, and tank overpressurization.

SERVICE STATION HARDWARE











SPILL CONTAINMENT

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DEFENDER® SERIES

SPILL CONTAINERS

+

Rugged Construction Built to Last
Simplified Maintenance
Easy Compliance Testing

SPILL CONTAINERS

Defender Series® Spill Containers combine years of knowledge and experience in forecourts across the globe to represent the best defense in spill containment. Proactively protecting a site from the dangers of fugitive emissions during fuel delivery can save station owners both time and money by avoiding remediation due to fuel leakage.

Defender Series® Spill Containers provides a durable, easy-to-install, and simple-to-maintain and service spill containment solution for any environment and any application.

- Grade & below grade level 5-gallon capacity models suit any application
- Double wall protection with interstitial monitoring
- Visual interstitial monitor for efficient monthly inspections
- Electronic sensor option for ongoing monitoring and alerts
- Grade level models available in single wall option
- Drop tube adapter ensures vapor-tight seal and easy pulling
- Integrated drain valve efficiently returns spilled fuel to the tank
- Variable height installation adjustments for easy install
- Simplifies EPA UST regulation compliance
- Swivel adapters help prevent leaks during fuel drops

Defender Series® Below Grade Spill Container

Defender Series® Grade Level Spill Container



BELOW GRADE SPILL CONTAINMENT

Below grade spill containers feature a flush fiberglass composite manway lid allowing forecourt traffic to pass cleanly over its top. The gasketed lock-down cover seals water out. The container is protected by a solid steel manway skirt.

GRADE LEVEL SPILL CONTAINMENT

Grade level spill containers feature a rugged concrete ring, sturdy snow plow ring, and cast iron lid to deflect forecourt traffic. Their integrated liquid dam and gasketed lid prevent water entry. The container is housed inside a ribbed roto-molded PE gravel guard.

EASY TESTING & MAINTENANCE

Simplifies EPA UST regulation compliance testing with optional visual or electronic interstitial monitoring for efficient 30-day inspections and vacuum port for 3-year tests. An array of gasketed seals and watertight design features prevents water ingress, ensure vapor-tight seals, and simplify maintenance.



BELOW GRADE SPILL CONTAINERS

Defender Series® Below Grade Spill Containers feature a double wall spill container installed within an 18" steel manway for flush forecourt mounting.

DESIGN FEATURES

A	Flush fiberglass composite manway lid allows forecourt traffic to pass cleanly over top
B	18" steel manway protects spill container from harsh underground environment and freeze/thaw movement
C	Double wall spill container with integrated interstitial monitoring and pull drain for simple testing and maintenance
D	Gasketed lock-down cover seals water out



Covers are engineered and tested to meet or exceed H20 and HS20 load ratings. Spill containers are UL2447 listed.



GRADE LEVEL SPILL CONTAINERS

Defender Series® Grade Level Spill Containers feature a single-wall or double wall spill container within a rugged gravel guard with a cast iron concrete ring.



DESIGN FEATURES

A	Rugged concrete ring, sturdy snow plow ring, and cast iron lid deflect forecourt traffic
B	Integrated liquid dam and gasketed lid prevent water entry
C	Single or double wall spill containment with integrated interstitial monitoring and pull drain for simple testing and maintenance
D	Ribbed roto-molded PE gravel guard protects spill container from harsh underground environment and freeze/thaw movement

Covers are engineered and tested to meet or exceed H20 and HS20 load ratings. Spill containers are UL2447 listed and CARB approved.

SIMPLE MAINTENANCE & TESTING FEATURES

MAINTENANCE FEATURES



Integrated Pull Drain
Provides easy liquid removal, simplifying cleanup and maintenance of the spill container.



Drop Tube Riser Adapter
Offers a clean sealing ledge for the drop tube gasket, ensuring a vapor-tight seal and easy removal of the drop tube and overfill prevention valve for maintenance.

INTERSTITIAL MONITORING OPTIONS



Electronic Sensor Monitor
The integrated liquid detection sensor can interface with an Automatic Tank Gauge to provide continual monitoring and alarm.



Visual Inspection Monitor
The I^2 (interstitial integrity) visual inspection monitor makes EPA-mandated 30-day visual inspections fast, clean, and easy.

UST REGULATION-READY

EPA federal UST regulation updates set forth in 2015 regarding spill containment inspection and testing went into effect beginning in October 2018. As part of the regulations, a walk-through visual inspection is required every 30-days and, depending on local regulations, a vacuum or hydrostatic test every three years. See how the Defender Series® double wall grade level spill containers will have you ready for compliance.

30-DAY WALK-THROUGH INSPECTIONS MUST CHECK FOR:

#1

Water Intrusion Inspection
Visual inspection to ensure dry, liquid-free containment with no water intrusion.

Defender Series® Makes it Easy
Double wall spill containers include 11 water intrusion prevention features to keep your spill containers dry *(see diagram on following page for details on each feature)*.



#2

Damage Inspection
Visual inspection to ensure there are no cracks or damage to the spill container.

Defender Series® Makes it Easy
The solid, one-piece, non-bellowed construction of both the primary and secondary spill container provides superior strength against forecourt traffic and ground movement.

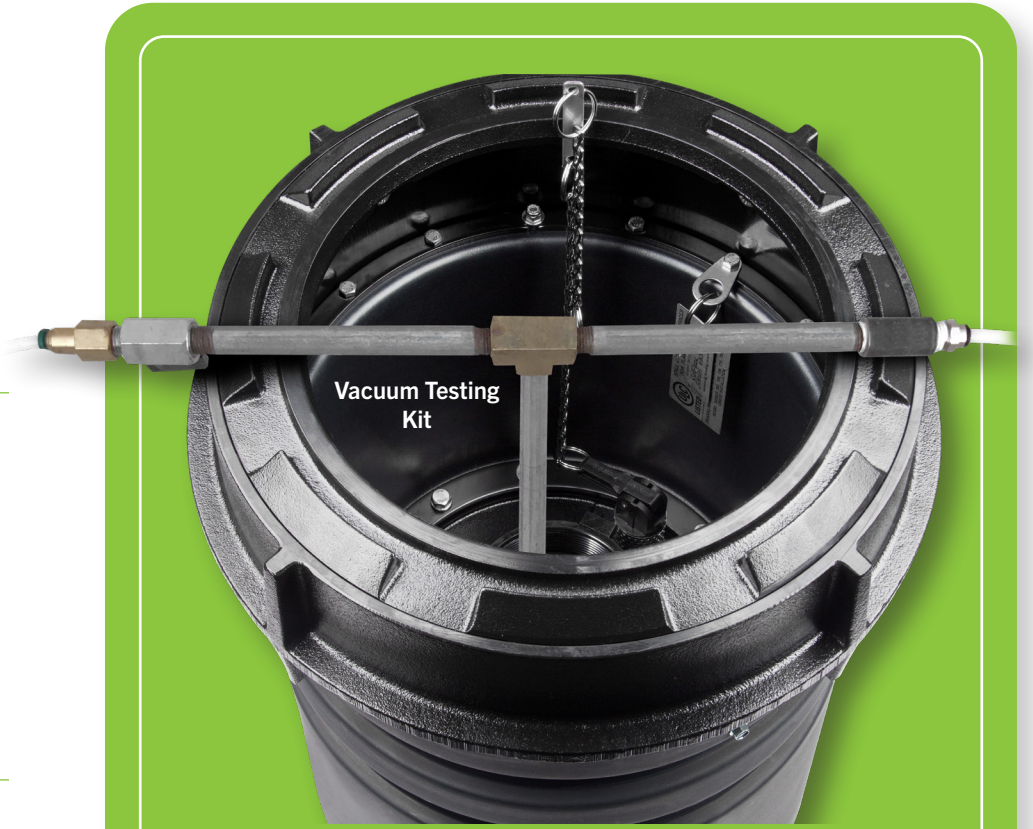


#3

Interstitial Integrity Inspection
Visual inspection for double wall spill containers to ensure the space between the primary and secondary is tight.

Defender Series® Makes it Easy
The I^2 (interstitial integrity) visual monitor provides an oversized, easy-to-read dial that provides immediate confirmation of the integrity of the interstitial space.





THREE-YEAR TESTING

Depending on your local state regulations, double wall spill containers may need to be vacuum or hydrostatic tested to ensure the integrity of the interstitial space every three years. Defender Series® grade level spill containers can be easily vacuum tested through the I2 monitor inspection port using the Vacuum Testing Kit.

WATERTIGHT

An array of gasketed seals and watertight design features prevent water ingress, ensure a vapor-tight seal, and simplify maintenance.

1. **Cover Gasket**
   Ensures watertight seal between the cover and the concrete ring.

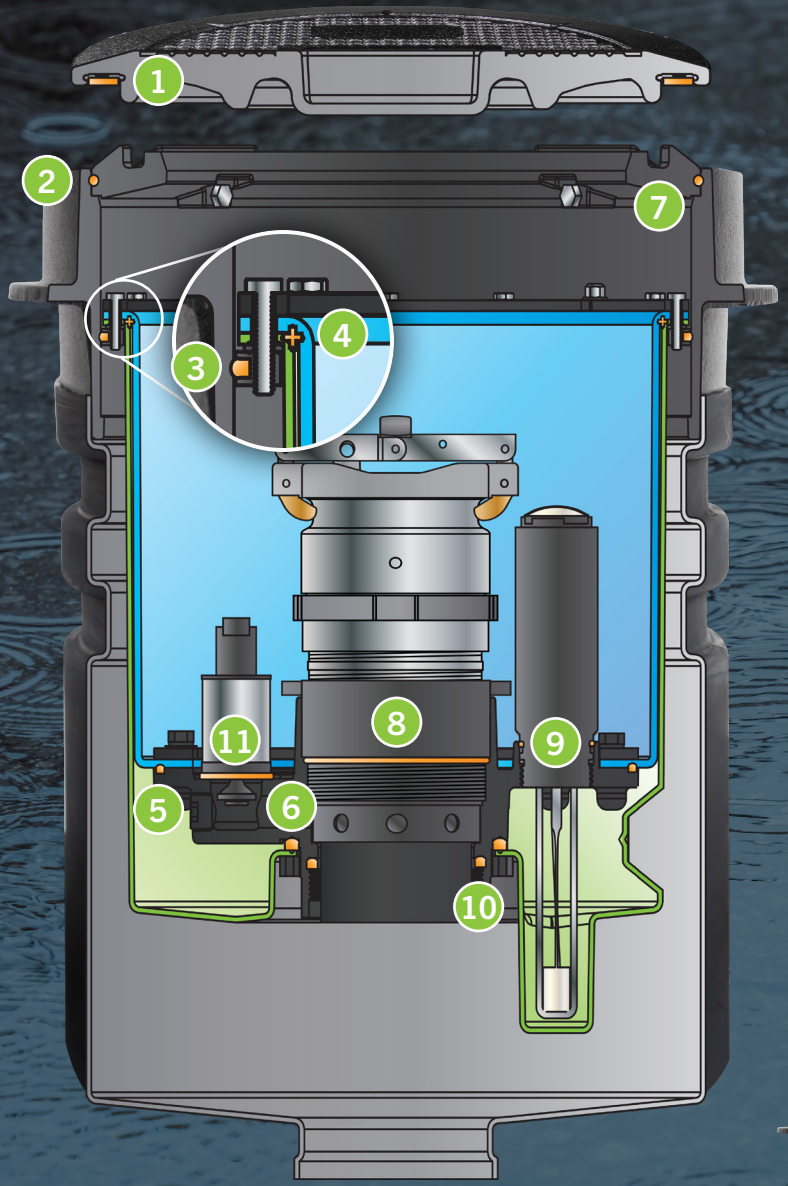
2. **Snow Plow Gasket**
   Seals the snow plow ring to the concrete ring.

3. **Seal Ring Gasket**
   Prevents overfill from exiting the spill container and keeps ground water from entering.

4. **Interstitial Seal Gasket**
   Seals primary and secondary spill containers together.

5. **Primary Spill Container Gasket**
   Seals the primary spill container to the cast iron base.

6. **Secondary Spill Container Gasket**
   Seals the secondary spill container to the cast iron base.



Primary Containment

Secondary Containment

Gasket

7. **Surface Water Dam**
   Diverts liquid away from the spill container.

8. **Drop Tube Riser Clamp Gasket**
   Seals the drop tube riser clamp to the cast iron base.

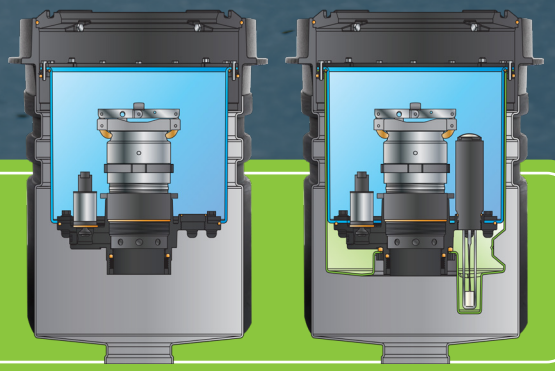
9. **I² Monitor Gasket**
   Seals the interstitial integrity monitoring device to the cast iron base.

10. **Tank Riser Gasket**
    Seals the cast iron base to the tank riser (NPSM models only).

11. **Drain Valve Gasket**
    Seals the drain valve to the cast iron base.

UPGRADE TO DOUBLE WALL

With Defender Series® grade level spill containers, you can upgrade an existing single wall model to a double wall in the field. The upgrade is simple and can be carried out without having to break concrete. Simply remove the snow plow ring, spin off the existing spill container, then thread on the double wall upgrade spill container.





+ Stainless steel models provide additional fuel compatibility and are CARB Phase I EVR approved under executive order VR-101.





Vapor Swivel Adapter
Available in kits including threaded riser, cap, and swivel adapter.



Fill Swivel Adapter
Available in kits including threaded riser, cap, and swivel adapter.

FILL & VAPOR SWIVEL ADAPTERS

Swivel Adapters help prevent leaks caused by constant fill delivery elbow movement on the riser adapter. The top section rotates during normal deliveries, preventing the bottom section from loosening on the riser pipe which could cause a vapor or product leak around the adapter.

- Poppet design seals off the vapor path when not coupled
- Swivels on two rows of corrosion-resistant chromium steel ball bearings
- All vapor seals are fluorocarbon and inert in motor fuels
- Poppet design seals off the vapor path when not coupled
- Packages with both vapor and fill adapters, brass or stainless steel

SELECTING A SPILL CONTAINER

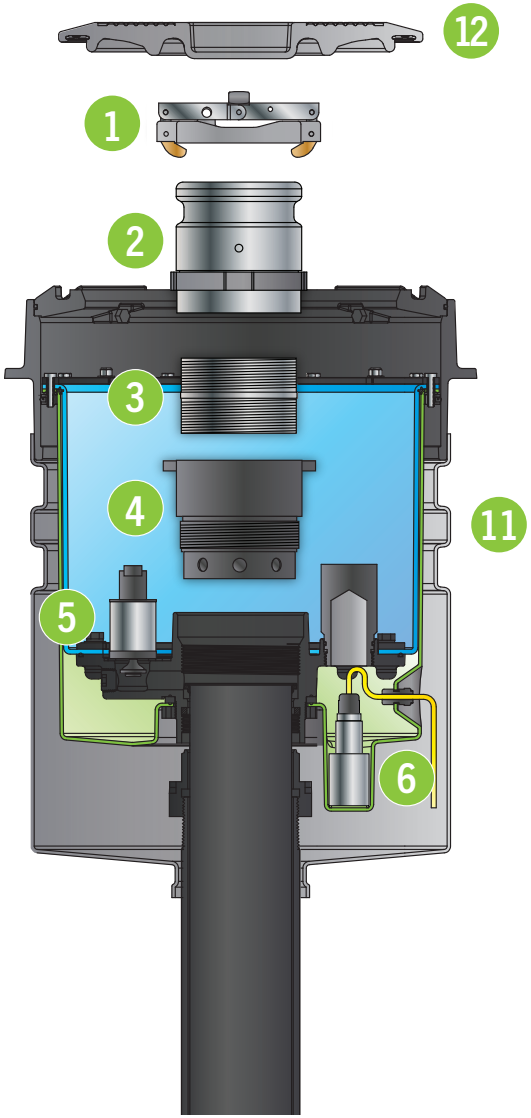
When you fully understand both your current site needs and where you might be headed in the future, you are able to make a sound decision on which type of spill container is right for your application.

SPILL CONTAINER COMPONENTS

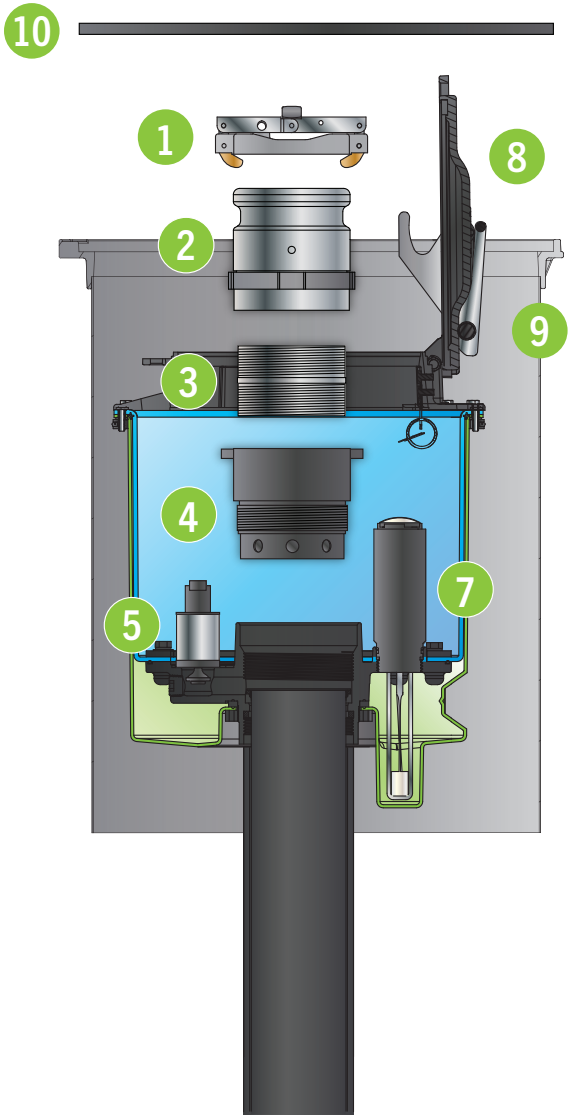
- Primary containment
- Secondary containment
- 1 Adapter cap*
- 2 Swivel adapter*
- 3 Nipple*
- 4 Drop tube adapter
- 5 Push-pull drain †
- 6 Electronic sensor monitor †
- 7 I^2 (interstitial integrity) visual inspection monitor †
- 8 Lock down lid
- 9 18" manway
- 10 Fiberglass manway lid
- 11 Gravel guard
- 12 Cast iron gasketed lid

** Sold separately † Optional*

Grade Level



Below Grade



SPILL CONTAINER FEATURES

Be sure to consider your compliance needs, operational requirements, and weather/ environmental conditions when selecting between a Defender Series® Grade Level or Below Grade Spill Container. Use this side-by-side comparison of the two spill container options to assist in making your selection.





	Grade Level	Below Grade
Single wall containment option	✓	
Double wall containment option	✓	✓
Upgrade from single wall to double wall	✓	
I^2 (interstitial integrity) visual inspection monitor option	✓	✓
Electronic sensor option	✓	✓
Push-pull drain option	✓	✓
Installs with 1" (2.5cm) slope to grade	✓	
Installs flush with grade		✓
Snow plow ring	✓	
Flush fiberglass composite manway cover		✓
Cast iron gasketed lid	✓	
Gasketed lock-down lid with locking tabs		✓
Ribbed roto-molded PE gravel guard.	✓	
Solid steel manway skirt		✓

MULTIPORT MANWAYS

The Defender Series® Multiport Manway integrates multiple fill and vapor spill containers into a single, watertight access point for underground storage tanks. Available in 36" and 42" models, its robust design and patented sealing system ensures durability and easy maintenance for high-traffic retail fuel stations.

Multiports feature a robust cover with cam locks and a flared skirt, allowing easy access for maintenance and inspections without breaking the vapor space, simplifying compliance in regulated markets.

One, two, and four spill container options

Provides future access to tank top

Single or double wall 5-gallon spill container options

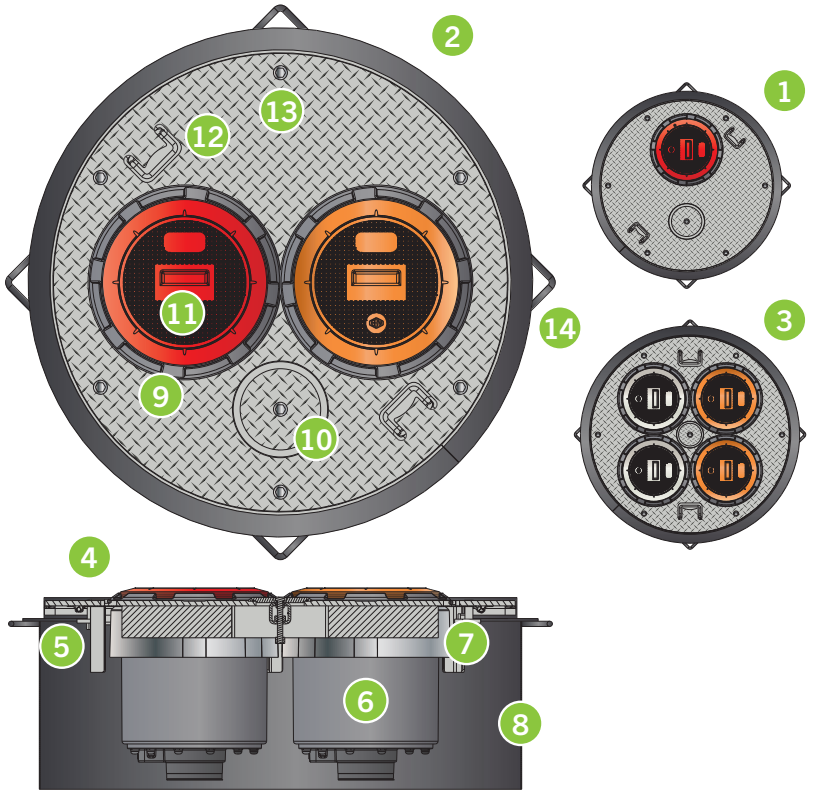
Cam locks eliminate corroded threads, lost bolts and water entry

Optional waterproof sump shield or bundled system packages*



MULTIPORT MANWAY COMPONENTS

1. One spill container multiport manway
2. Two spill container multiport manway
3. Four spill container multiport manway
4. Multiport cover assembly
5. Cover
6. Spill container
7. Spill container sleeve
8. 18" skirt
9. Plow ring
10. Cast iron lid
11. Access cover
12. Handles
13. Cam locks
14. Concrete tabs



Bundled Defender Series® Multiport Manway Packages include a multiport manway, watertight sump shield, and overfill prevention valve, plus the necessary hardware and fiberglass seam kit.



DEFENDER® SERIES

OVERFILL PREVENTION VALVES

+ Simple Installation
UST Regulation Compliance
Remote Testing

Full Assembly With Top & Bottom Drop Tubes



DEFENDER® SERIES

OVERFILL PREVENTION

The Defender Series® Overfill Prevention Valve (OPV) prevents the overfill of an underground storage tank during a gravity-fed product delivery. It employs a revolutionary magnetically-coupled actuator system to provide positive shutoff. This unique method of shutoff eliminates any penetrations in the valve, making it both vapor and leak tight. This also allows for remote compliance testing of the primary functionality at grade level without having to remove the OPV from the tank.

Defender Series® Overfill Prevention Valve

SIMPLE, FAST INSTALLATION

There's no flaring, riveting, or messy epoxying of drop tubes on site. The Defender Series® OPV utilizes an error proof roll crimp-and-thread installation method to achieve a fast and easy in-line installation.

UST REGULATION COMPLIANCE

Unlike other OPVs, the Defender Series® does not have to be pulled out of the UST to conduct the mandatory 95% tank volume shutoff confirmation test every three years. That's hassle-free compliance with no risk of damaging equipment or extended shutdowns.

FAST VISUAL INSPECTION

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

- Provides safe, rapid, & reliable fuel drops
- For direct, remote, & coaxial fuel drop applications
- Functionality & shutoff confirmation test without tank pull
- Zero body penetrations eliminates product / vapor leaks
- Primary shutoff between 85% and 92% of tank volume
- Accommodates a range of flow rates from 25 to 370 gpm
- Simple roll crimp-and-thread drop tube installation
- Includes 4" top and bottom drop tubes in various lengths
- Compatible with gas, alcohol blends, diesel, & Biodiesel
- Factory tested for 100% vapor tightness
- UL & ULc listed, CARB certified (VR-101-U & VR-102)
- ATEX approved, EN13616 & KIWA certified

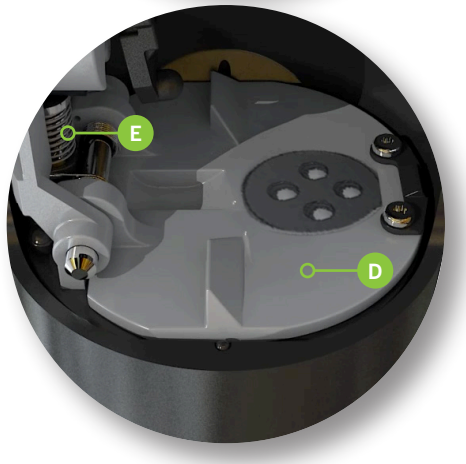


+ Minimal flow path obstructions accommodate both high and low flow fuel drops.









VALVE OPERATION

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

DESIGN FEATURES

A	As the liquid level in the UST approaches 95% capacity, the liquid level raises the **float**
B	As the float rises it rotates the **magnetic-coupled actuator** to release the flapper inside the valve
C	With the **flapper in the open position**, minimal flow path obstructions accommodate high flow drops
D	The flapper is pushed into the product flow, actuating the **primary shutoff position** and restricting flow to less than 8 gpm
E	As the float continues to rise to the 95% fill level, the **secondary shutoff closes**, completely stopping the flow of fuel

In high flow applications, the magnetically-coupled actuator will hold the shutoff flapper in place, only releasing it into the flow of fuel once the float has risen to generate positive shutoff. In low flow applications, the actuator will assist by kicking the flapper out into the flow of fuel to generate positive shutoff.

OPTIMIZE EVERY DROP

The Defender Series® Adjustable Drop Tube Adapter for OPV* provides precise, post-installation control of valve shutoff position, allowing installers to fine-tune OPV depth by ±1 inch after drop tubes have been cut and installed. This flexibility helps maximize tank fill levels, while supporting proper tank-volume shutoff operation and compliance with local and UST fill-level regulations.

MAXIMIZE TANK CAPACITY

With the ability to precisely adjust shutoff level, operators can maximize their usable tank fuel capacity, reduce lost storage volume, and optimize every fuel drop.

EASY RETROFIT UPGRADE

Upgrading cost is minimized as the adapter can be easily retrofitted to the existing upper drop tube without replacing.

ENSURE COMPLIANCE

The adjustable adapter design enables accurate installation of the OPV at the required height from the start, helping contractors meet UST regulations on the first installation and eliminating rework, compliance risk, or costly downtime.

ROBUST DESIGN

Tested through thousands of fill cycles, this design allows for precision shut-off positioning, while also staying in place after “line shock” of valve shut off once tank capacity is reached.

Internal Threads Open/Close Adapter Height 1/8" Per Hand Turn



Fully Open Install Height
-1" of Install Height

Factory-Set Install Height

Fully Closed Install Height
+1" of Install Height

** The Defender Series® Adjustable Drop Tube Adapter is only compatible with the Franklin Electric Defender Series® Overfill Prevention Valves.*



SIMPLE INSTALLATION

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

Roll Crimp Tool
Secures the drop tube to top adapter, compressing the O-rings for a liquid and vapor tight seal.



TOP ADAPTER

After cutting to length in the field, the upper drop tube is roll-crimped onto a top adapter and then threaded onto the top of the valve body.

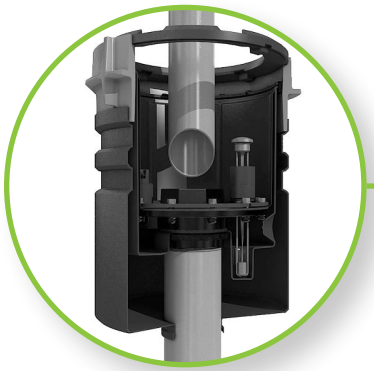
The double O-ring top adapter is used to attach the drop tube for easy installation without any drilling, riveting, epoxy or flaring tools.



THREADED CONNECTIONS

The bottom drop tube is cut in the field and threaded onto the bottom of the valve ensuring straight installation.

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



IN-LINE ASSEMBLY

The roll-crimp & thread method ensures proper alignment of the drop tubes with the rest of the OPV assembly, making installation and removal of the assembly smooth.

The entire assembly remains within the 4" inner diameter of the riser (no external flappers) preventing interference with other tank components and also allowing removal even while the tank is full.

UST COMPLIANCE TESTING

EPA regulations (40 CFR Part 280) require OPVs to be inspected every 3 years to ensure they activate at the correct tank level (95% capacity) and function properly. The magnetically-coupled actuator system along with a testing tool allows for primary functionality testing of the OPV at grade level without having to remove the entire assembly from the riser.

#1

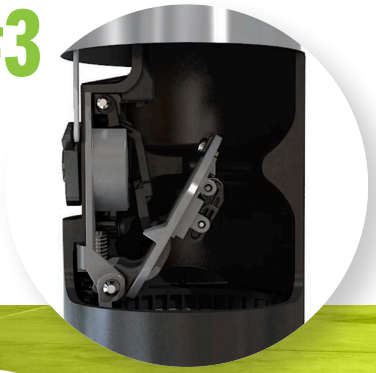


The Defender Series® OPV does not have to be pulled from the tank to conduct a functionality or tank shutoff volume confirmation test.

#2



#3





Collapsible Remote Testing Tool
To accommodate varying tank sizes, the testing tool handle is segmented into six sections up to 11 feet (3.35 meters) long.

Click or Scan to Watch Video

FUNCTIONALITY TESTING

Fast visual inspection can be conducted by a single person. 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.

ACTIVATION VOLUME TESTING

See how the OPV is tested from grade level without tank removal.

BUNDLE & SAVE 10%

Combine Defender Series® Spill Containers, Overfill Prevention Valves (OPVs), Riser, Cap, and Adapters into a single part number and receive a 10% list price discount compared to purchasing all components separately.



Click or Scan for Order Info

CONFIGURE YOUR PART NUMBER

Get a premium Defender Series® solution from grade level to tank for fill point and overfill release prevention.



DEFENDER® SERIES

TANK VENTING

+ Premium Construction
Safe Servicing At Grade Level
Minimal Maintenance



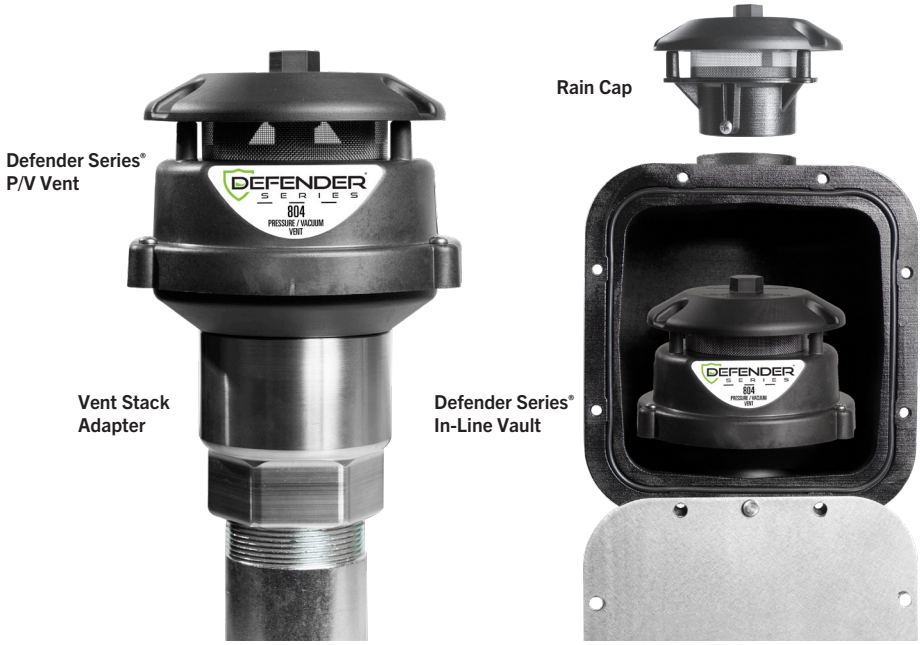
DEFENDER SERIES

P/V VENT WITH IN-LINE VAULT

Defender Series® Pressure/Vacuum (P/V) Vents regulate the pressure at which vapor is allowed to escape from the underground storage tank and the vacuum at which outside air is allowed to enter the tank.

With typical P/V Vents only lasting a single 3-year test cycle, Defender Series® P/V Vents are built to outlast other vents in their class, providing precision regulation of storage tank pressure for the long-haul.

- High-grade, UV-resistant material construction
- Premium stainless steel components
- High tolerance for over-pressure situations
- UL listed, CARB EVR certified, meets EPA requirements
- Rolling diaphragm achieves low leak and high flow rates
- Vent Stack Adapter compatible with 2" vent stacks
- Internal threads compatible with OPW® adapter for retrofit
- Compatible with both 3" and manifolded vent applications
- In-Line Vault for added protection & grade level service
- Rain Cap included with In-Line Vault



PREMIUM PRECISION TANK VENTING

The premium construction of the internal rolling diaphragm delivers consistent and controlled cracking for both low leak and high pressure conditions. Ensure your tank venting system is tight and dependable in any pressure condition.

IN-LINE VAULT

The In-Line Vault allows for safe, cost-effective grade level testing and maintenance while also providing extreme protection from the outdoor elements. The cast iron construction, security bolts, and stainless steel faceplate guard the P/V Vent while the integrated drain helps to clear the vault of any condensate.

SAFE MAINTENANCE AT GRADE LEVEL

Almost half of all injuries in our industry come from falls at height. The In-Line Vault promotes safety for the service technician by bringing the P/V Vent down to grade level. No more expensive and potentially dangerous lift truck required, no more wrenching at height.



Defender Series® P/V Vents are CARB Enhanced Vapor Recovery (EVR) Certified.

PREMIUM TANK VENTING

With high-grade, UV-resistant materials and premium stainless steel internal components, Defender Series® P/V Vents provide precision regulation of storage tank pressure for the long-haul.

DESIGN FEATURES

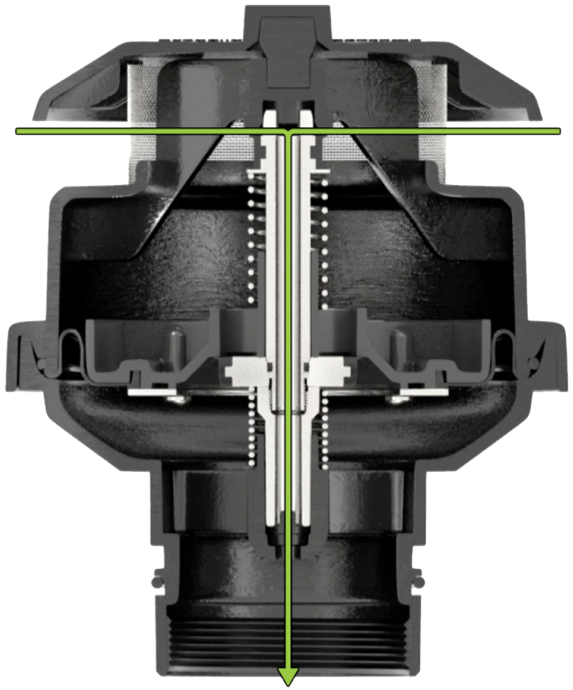
A	A stainless steel wire mesh debris screen keeps dirt, insects, and animals from disrupting the venting system
B	The Rain Cover protects vent lines and storage tanks from water intrusion
C	A gasketed one-turn locking mechanism provides easy installation and removal for servicing
D	An internal inlet screen protects the P/V Vent from tank debris
E	The Vent Stack Adapter threads onto a 2" vent stack for new or retrofit use



The internal female threads of the vent are compatible with OPW® vent stack adapters for easy retrofit onto existing sites as well as most common test devices.

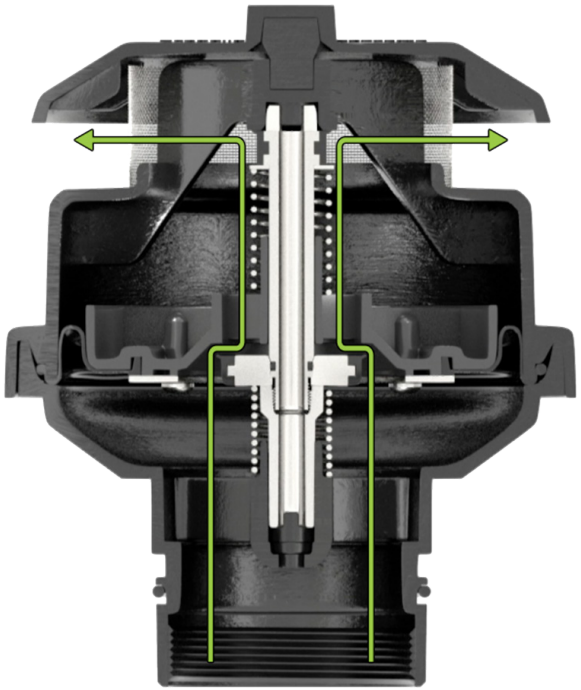
HOW IT WORKS: PRECISION ROLLING DIAPHRAGM

Ensure your tank venting system is tight and dependable in any pressure condition. The premium construction of the internal rolling diaphragm delivers consistent and controlled cracking for both low leak and high-pressure conditions.



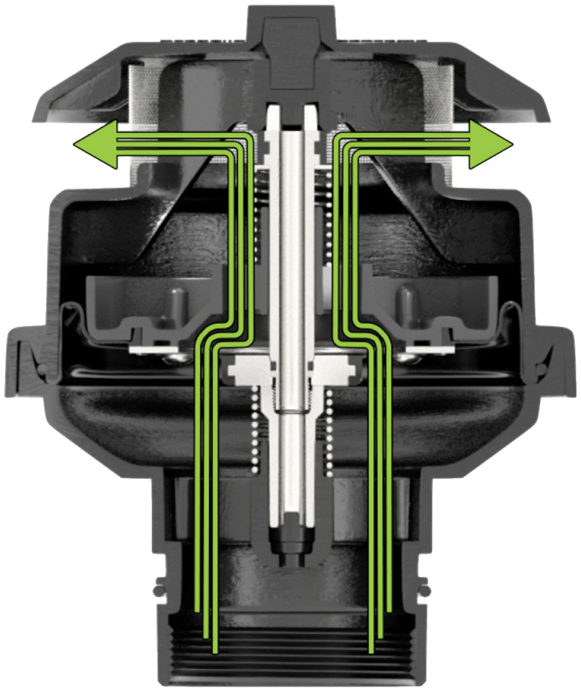
VACUUM CRACKING

Vacuum pressure causes the poppet to pull away from its upper seal, letting air in to rebalance the tank pressure.



PRESSURE CRACKING

Vapor pressure in the tank pushes the poppet away from its lower seal, letting vapor out to rebalance tank pressure.



OVER-PRESSURE CRACKING

For high pressure cracking scenarios, the rolling diaphragm allows the poppet to open even further to let a larger volume of vapor out of the tank.

IN-LINE VAULT

The In-Line Vault allows for safe, cost-effective grade level testing and maintenance while also providing extreme protection from the outdoor elements.

DESIGN FEATURES

A	Solid cast iron vault body protects the P/V Vent at grade level
B	Gasketed stainless steel faceplate shields from weather
C	Tamper-resistant security bolts prevent public access
D	A swivel pin holds faceplate in place during service
E	Integrated drain plug facilitates draining of condensate
F	UV-resistant Rain Cap with a stainless steel mesh debris screen





VERSATILE INSTALL CAPABILITIES

Install at grade level with the In-Line Vault and Vent Cap or end-of-line with the Defender Series® Vent Stack Adapter. The P/V Vent is also compatible for retrofit onto existing OPW® vent stack adapters. All installation methods are compatible with manifolded vent lines as well.

INSTALLATION OPTIONS

A	Grade level installation with In-Line Vault
B	Rain Cap for use with In-Line Vault installation only
C	End-of-line with Defender Series® Vent Stack Adapter installation
D	End-of-line with OPW® vent stack adapter retrofit installation



SAFE GRADE LEVEL MAINTENANCE

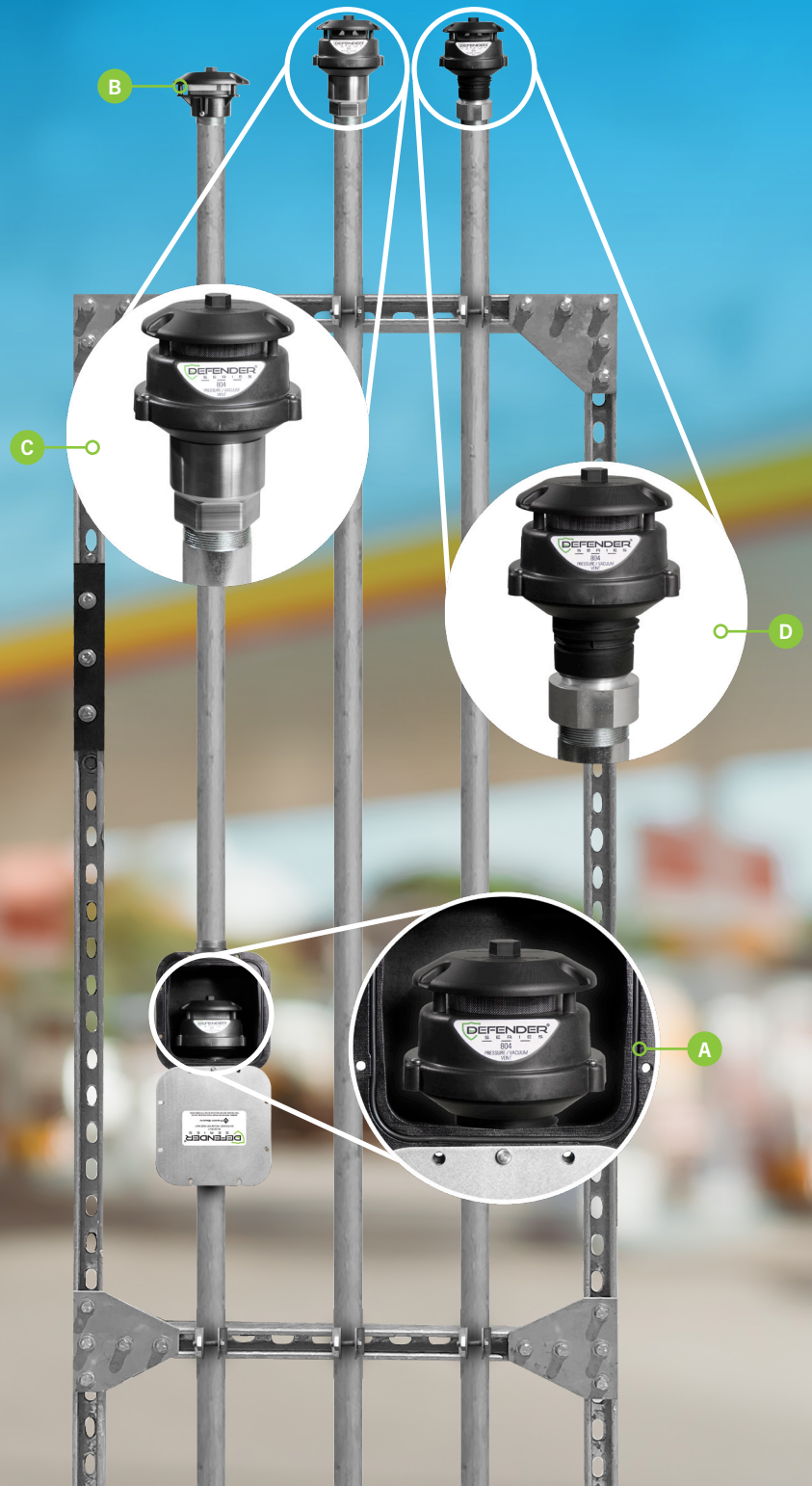
Almost half of all injuries in our industry come from falls at height. The in-line vault allows for safe, cost-effective grade level testing and maintenance.

Eliminate these potential safety concerns:

- Costly lift trucks
- Potential falls
- Wrenching at height

$1,000+ COST SAVINGS

At an average of $1,000 per trip, lift truck rentals for P/V vent service represent a major maintenance cost. The In-Line Vault reduces reliance on lifts, streamlining operations with minimal investment.





ACCESSORIES

+ Flexible Connectors
Shear Valves
Manways

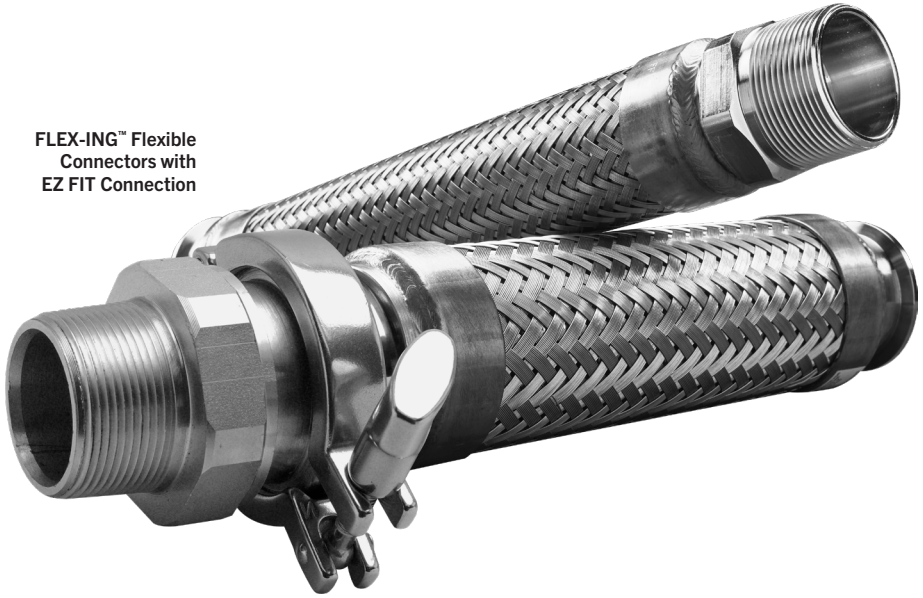
FLEX-ING™

FLEXIBLE CONNECTORS

FLEX-ING™ Flexible Connectors have become the industry standard and benchmark for quality as a means to easily connect a pipework system to other system components such as submersible pumps or shear valves. Their flexibility and EZ FIT quick connection fittings make easy work of pipe connection and disconnection during both installation and maintenance.

As an integral part of any system, installers enjoy how easy they make connections in tight spaces while station owners have come to depend on their durability and their simplification of regular maintenance.

- Available in ¾", 1", 1½", 2", 3", and 4" hose diameters
- Customizable range of end fitting options on both ends
- Overall length can be customized up to 108" total
- Highly flexible to accommodate tight containment spaces
- 18-8 alloy with titanium, 321 stainless steel inner core
- Stainless steel braid gives strength while still maintaining flexibility
- EZ FIT system makes simple connections in tight spaces
- Factory pressure tested to 100 PSI to assure 100% quality
- UL 2039 / ULC-S633 listed for 50psi working pressure
- NFPA® 30-A fire rated



FLEX-ING™ Flexible Connectors with EZ FIT Connection

PREMIUM CONSTRUCTION

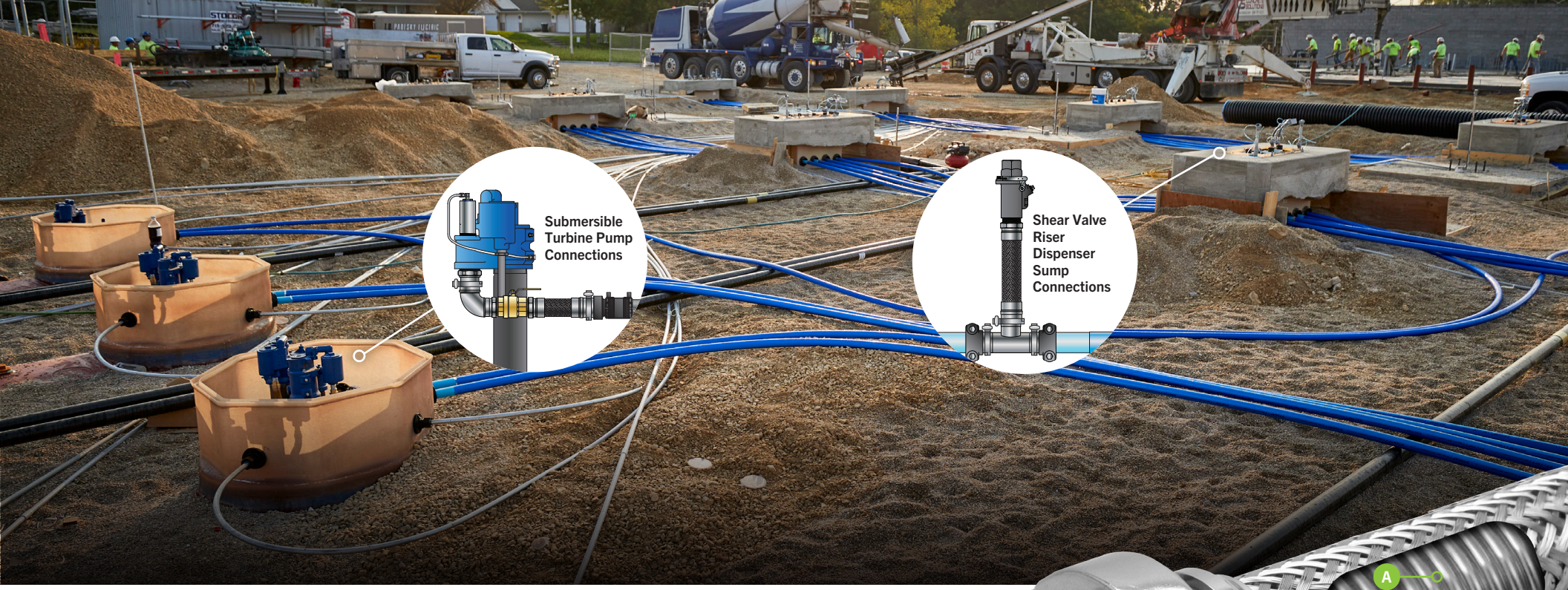
Standard on all Flexible Connectors, the stainless steel corrugated fuel contact layer features a thick construction and gains flexibility from having more corrugations per foot rather than thinner walls. Enclosing the corrugated fuel contact layer is a high-grade stainless steel braid.

HIGHLY CONFIGURABLE

Completely customize a Flexible Connector to fit your application with a wide range of diameter, length, and end fitting connection options to choose from including male, female, EZ FIT, flanged, fiberglass, tees, and more – available in either nickel plated steel or full stainless steel construction.

EZ FIT SYSTEM

The EZ FIT coupling system is specifically designed to make connections in confined spaces simple and tight with built-in swivel capabilities. For easy maintenance, the entire Flexible Connector assembly can be quickly and easily disconnected and pulled out of the inline system without breaking pipe.



INSTALLATION VERSATILITY

Flexible Connectors facilitate easy pipework connections in tight spaces found within dispenser and tank containment sumps.

DESIGN FEATURES

A	Stainless steel corrugated fuel contact layer
B	Stainless steel braid encloses the corrugated fuel contact layer
C	End fittings are available in a variety of options in either nickel plated or stainless steel
D	Schedule 80 hex end fittings protect against deformation of ends during installation
E	EZ FIT system provides quick connects in tight spaces and easy disconnect for maintenance



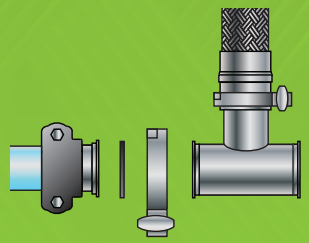
EZ FIT clamp and gasket are included with each assembly.

EZ FIT SYSTEM: HOW IT WORKS

A variety of products come with integrated flange fitting options. These flanged fittings are mated together using a single EZ FIT clamp and gasket. These connections are watertight and allow easy connection during installation or fast reconnection for service and maintenance.

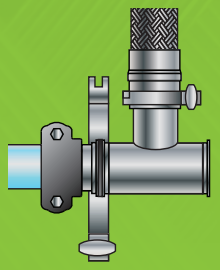
STEP 1:

Flanged components like fittings and flexible connectors can be connected using a single EZ FIT clamp and gasket.



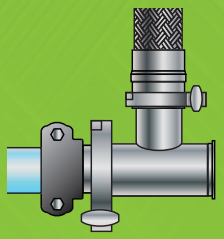
STEP 2:

The EZ FIT gasket fits in between the two flanged components to create a watertight seal while the EZ FIT clamp hinges around the components.



STEP 3:

Close the single-pin EZ FIT clamp around the flanged edges of both components and tighten the wing nut to seal them together.

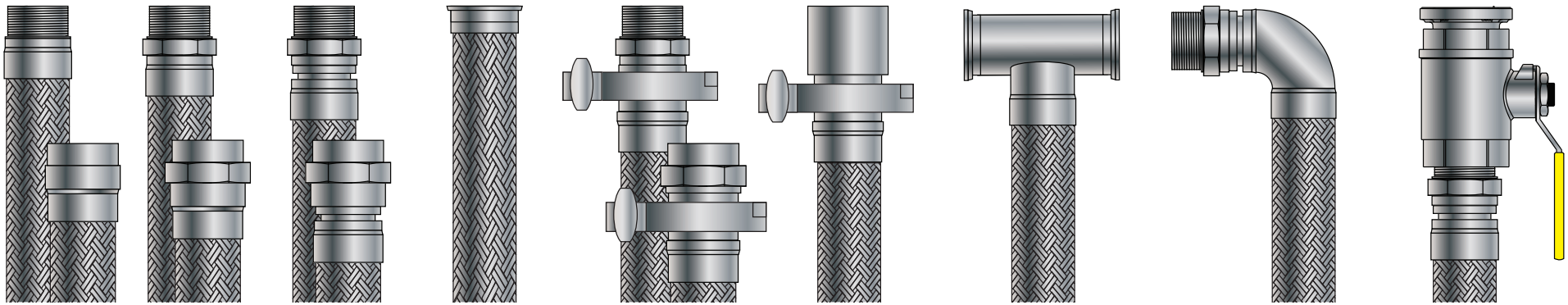


END FITTINGS

A wide offering of end fitting connections are available to create the right Flexible Connector to fit virtually any application.

- Optional hex-head surfaces ensure installation and tightening
- Optional swivel action provide easy connection and disconnection
- Select end fittings on both ends for custom application configurations

END FITTING OPTIONS



SHEAR VALVES

EBW® Shear Valves immediately stop product flow in the event of fire or collision at the dispenser. A patented adapter shears upon impact, causing the poppet to seal on the valve body, preventing fuel spillage. If fire occurs, a fusible link releases the fulcrum arm, engaging the poppet.

- Standard 1½" openings allow minimal flow restriction
- Available in male, female, or union connections
- Single or double poppet model options
- E-coated for corrosion protection & AGB compatibility
- Approved for E-85 alcohol/gas blends & Biodiesel
- Can be installed via boss mount, U-bolt, or stabilizer bar
- Easy-to-replace top adapters after event*
- Replacement top adapters available for all top adapter types
- Meets NFPA® 30A requirements
- UL and ULC listed, ATEX approved

**In all cases of impact or fire, the adapter top and seal ring should be replaced. The valve must be fully tested before returning it to service.*



Replacement Top Adapter

COLLISION PROTECTION

The patented top adapter shears away from the bottom upon impact, triggering an internal poppet to seal against the valve body, instantly stopping product flow and preventing fuel spillage during dispenser collisions.

FIRE PROTECTION

Shear Valves meet NFPA® 30A requirements with a fusible link that melts at 165 °F (73.9 °C), releasing the fulcrum arm to engage the poppet and halt fuel flow, ensuring safety in fire emergencies.

SINGLE OR DOUBLE POPPET DESIGN

Single poppet models halt product flow from the pump side, while double poppet models stop flow from both the pump side and dispenser piping, offering an elevated level of protection.



SHEAR VALVES

Prevent fuel release from dispenser collisions or fires.

DESIGN FEATURES

A	Top adapter, available with standard 1½" (NPT or BSPT) male, female, or union style outlet connections (double poppet models include internal poppet)
B	E-coated cast iron body for compatibility with alcohol/gas blends and Biodiesel
C	Fusible link activates at 165 °F (73.9 °C) to release fulcrum arm
D	Fulcrum arm activates internal poppet after fire or collision
E	Internal poppet stops flow from the pump side (all models)
F	⅜" NPT pipe plug for line pressure testing
G	Mounting bolts for Stabilizer Bar installation
H	Mounting plate for boss or U-bolt installation





MANWAYS

Manways ensure safe and durable access to underground tank sumps for maintenance, inspection, and servicing of fuel containment systems. Designed to deliver superior accessibility, corrosion resistance, and load-bearing strength, these manway covers excel in challenging forecourt conditions.



FLEX-ING™ FIBERGLASS MANWAY

Material Construction
Full fiberglass construction for both skirt and cover, featuring a lightweight composite lid.

Opening Size Options
42" diameter access opening.

Load Rating
Engineered and tested to meet or exceed H20 and HS20 load ratings.

Unique Feature
Contoured skirt with a 47" flared base maximizes drainage and provides enhanced concrete support for superior load distribution. Designed to handle a broad range of fuels and chemicals without degradation.



FLEX-ING™ COMPOSITE MANWAY

Material Construction
Fiberglass layers bonded with premium resin for the cover, paired with a 12-gauge steel skirt, powder-coated for extreme protection.

Opening Size Options
38" & 42" diameter access openings.

Load Rating
Engineered and tested to meet or exceed H20 and HS20 load ratings.

Unique Feature
Domed cover design with increased wall thickness (1" to 1.25") for minimal deflection and extended service life, enhanced by a shallow handle hole with a chest-style handle and backer plate.



EBW® COMPOSITE MANWAY

Material Construction
Fiber-reinforced composite (FRC) cover with a 14-gauge steel skirt, featuring a ¼" rolled angle iron skirt ring.

Opening Size Options
12", 30", 36", & 42" diameter access openings.

Load Rating
Engineered and tested to meet or exceed H20 and HS20 load ratings, withstanding 20,000 lbs. without failure.

Unique Feature
Optional bolt-down covers deliver secure, tamper-resistant fastening, ensuring integrity and protection against unauthorized access.



UPP® COMPOSITE MANWAY

Material Construction
Advanced fiberglass composite for both lid and ring, ensuring complete corrosion resistance.

Opening Size Options
Available in 35" (900mm) and 42" (1,060mm) diameter access openings.

Load Rating
Engineered and tested to meet EN124 Class C250 and D400 load ratings.

Unique Feature
Integrated dip cap option with an inspection port in the cover lid for easy access, combined with an anti-slip surface and locking mechanism for enhanced safety and security.

ADDITIONAL ACCESSORIES



PROBE ACCESS MANWAYS

Probe Access Manholes offer an ideal solution for housing fuel management systems electronics and providing tank access with isolation from backfill.

- Flat container sides for easy installation of penetration fittings
- Bolt-down container lid with 21" diameter access
- Flat container sides for easy installation of penetration fittings



MONITORING WELLS

Monitoring well equipment includes all of the necessary hardware components necessary to operate and properly maintain a monitoring well. Available in 8", 10", and 14" diameters.

- Cast iron, bolt-down lids with watertight seal prevents contamination
- Lid features a distinctive triangle and the words "Do Not Fill - Test Well"
- Accessories include cap plugs, screen pipes, and pipe filter wrap



EXTRACTOR VENT VALVES

For Phase I Vapor Recovery Systems, Extractor Vent Valves provide a versatile 4" outlet for underground storage tanks to connect manifolded tank vent lines.

- Available with 2" and 3" outlet options
- Single or double outlet options
- E-coated for compatibility with alcohol/gas blends and biodiesel

SYSTEM EQUIPMENT SELECTION

COMMON EQUIPMENT SPECIFICATIONS

Choose these common Franklin Electric tank top and dispenser sump equipment selections or visit franklinenergysystems.com to explore all available options and configurations.

Item	Description	Model
1	Monitoring Well	80840001
2	4" Monitoring Well Cap	77210201
3	4" Screen Pipe (15')	77320004
4	4" Filter Wrap (100')	77310004
5	42" Composite Manway	14F-4215
6	Probe Access Manhole	20URTATG
7	Grade Level Double Wall Fill Spill Container	705555111CI-GKT
8	Grade Level Single Wall Vapor Spill Container	705545012CI-GKT
9	Below Grade Double Wall Fill Spill Container	705556111CI-GKT
10	Below Grade Double Wall Vapor Spill Container	705556111CI-GKT
11	Fill Swivel Adapter Kit	70541202
12	Vapor Swivel Adapter Kit	70541302
13	4" x 4" x 2" NPT Extractor Vent Valve	31040001
14	P/V Vent with In-Line Vault	DPVV-EVR
15	Flexible Connector	*Configured Item*
16	Double Poppet Shear Valve, Female, 1½" NPT	662501902
17	Overfill Prevention Valve	*See Table Below*

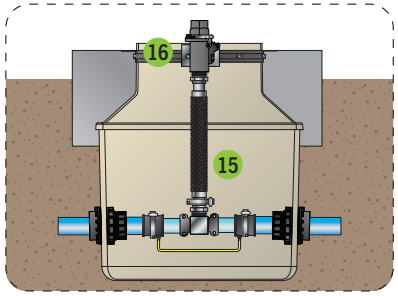
Overfill Prevention Valves

Drop tubes are included with all overfill prevention valves. Alcohol, gas, biofuel (AGB) compatible (E-85, gasoline and Biodiesel) models come with hard coated anodized drop tubes for full compatibility.

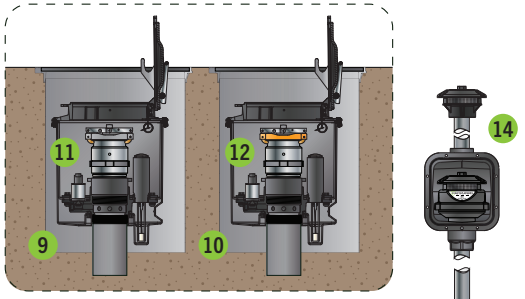
Drop Tubes	Model	Drop Tubes	Model
5' Top / 8' Bottom	708691901	10' Top / 8' Bottom	708692921*
5' Top / 10' Bottom	708691902	10' Top / 10' Bottom	708692922*
5' Top / 8' Bottom	708691921*	6.5' Top / 8' Bottom	708693901**
5' Top / 10' Bottom	708691922*	6.5' Top / 10' Bottom	708693902**
10' Top / 8' Bottom	708692901	6.5' Top / 8' Bottom	708693923***
10' Top / 10' Bottom	708692902	6.5' Top / 10' Bottom	708693924***

**AGB compatible* ***Coaxial* ****Poppeted coaxial, AGB compatible*

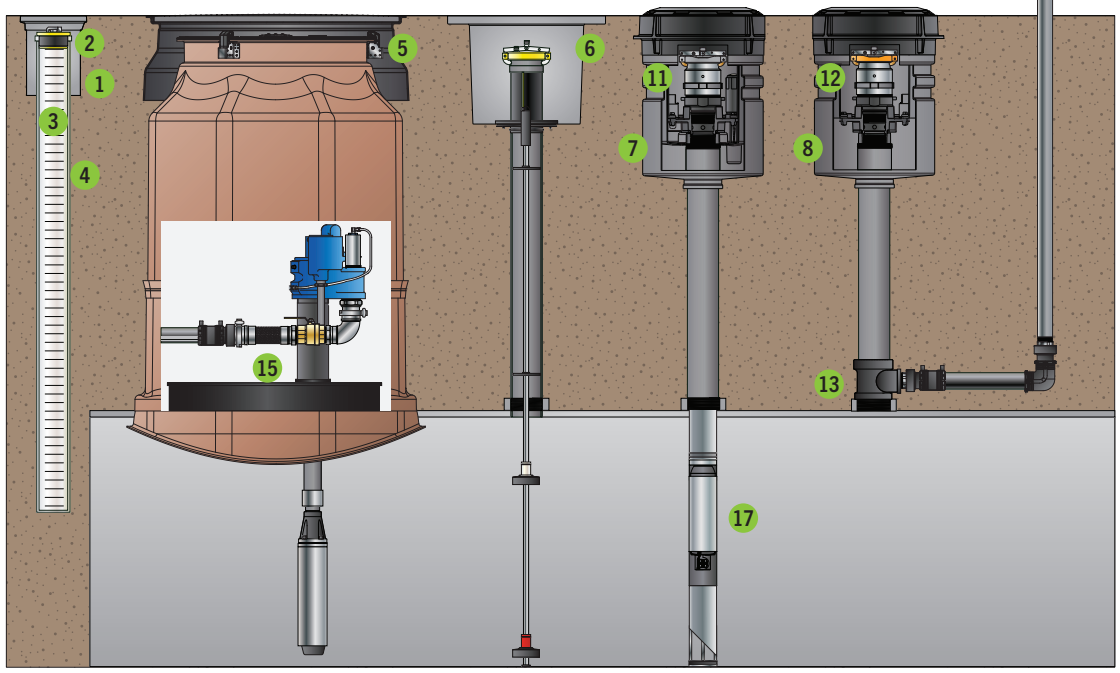
Dispenser Sump Application



Below Grade Spill Container Application



Grade Level Spill Container Application



POWERING FORWARD

ENERGY SOLUTIONS FOR FUELING, POWER, & INDUSTRIAL RELIABILITY

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ENERGY SYSTEMS

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