



PRODUCT CATALOG

UL COMPLIANT PRODUCTS

NEW PRODUCTS AND UPDATES INSIDE

2025-26

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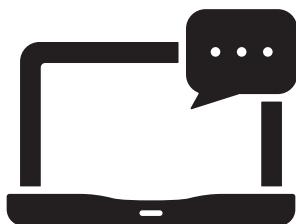
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SUBMERSIBLE PUMPING SYSTEMS



4" SUBMERSIBLE TURBINE PUMPS

Since hitting the market in 1988, FE PETRO® brand submersible pumps have developed a reputation as the standard in performance, quality and dependability with innovative features only available from Franklin Electric. It is, and always will be about filling cars faster. With best-in-class flow rates and backed by a long history of dependability, FE PETRO® pumps are responsible for delivering fuel to thousands of customers around the globe, day in and day out.

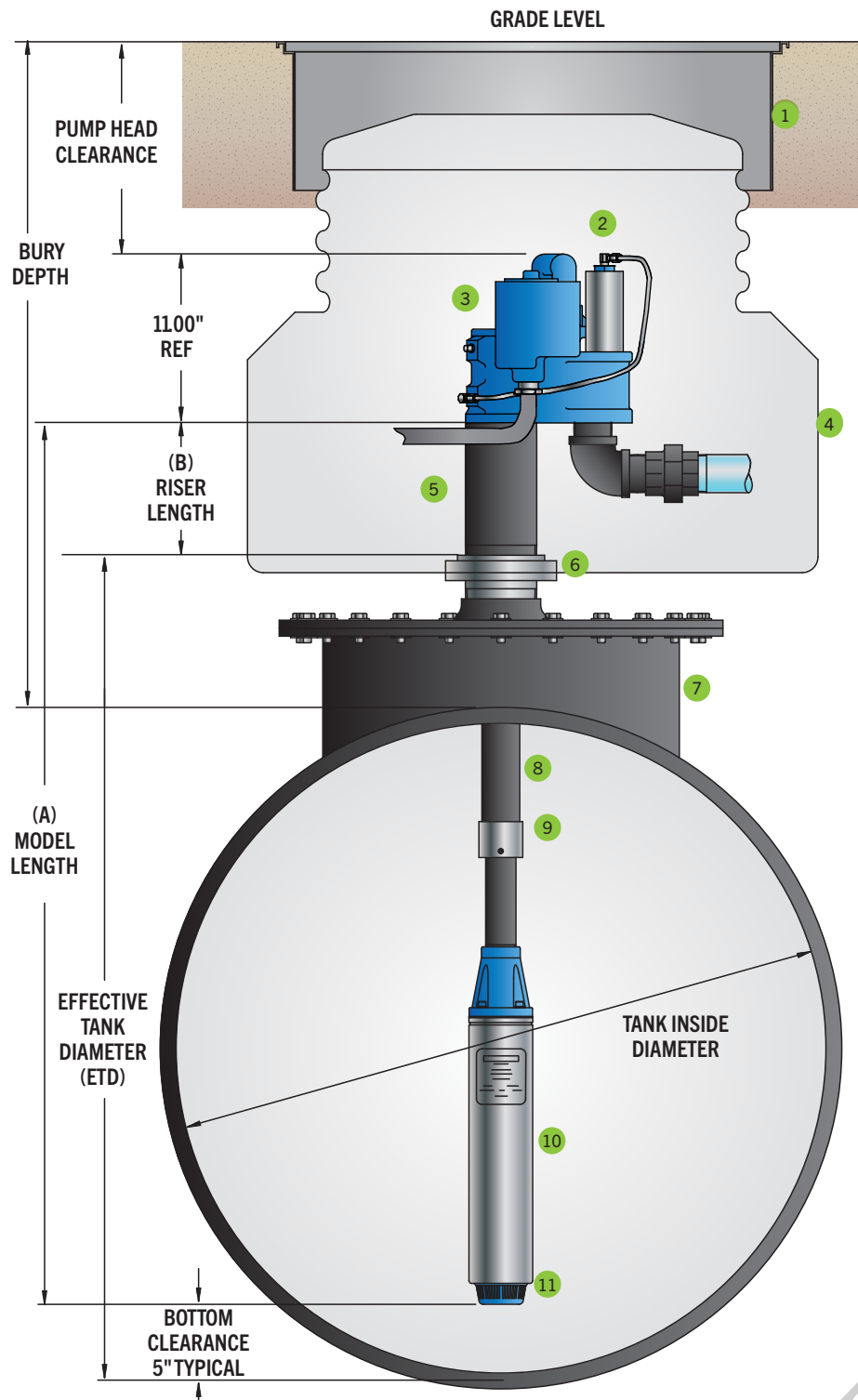
SPECIFICATIONS

4" Submersible Pump Components & Key Dimensions

- 1 Manhole
- 2 Leak Detector
- 3 Manifold
- 4 Containment Sump
- 5 4" Riser
- 6 Tank Adapter
- 7 Tank Manway
- 8 Column Pipe
- 9 Variable Length Coupler
- 10 Pump Motor Assembly (PMA)
- 11 End Bell

Notes:

- *Effective tank diameter (ETD) = Inside tank diameter (to top of 4" bung), including tank manway and/or sump adapter.*
- *Model length (A) = ETD plus riser length minus bottom clearance minus 1" thread engagement.*
- *Riser length (B) = Bury depth (to top of tank) minus pump head clearance minus tank manway and/or minus sump adapter.*



SPECIFICATIONS CONTINUED

Advanced Protection (AP)

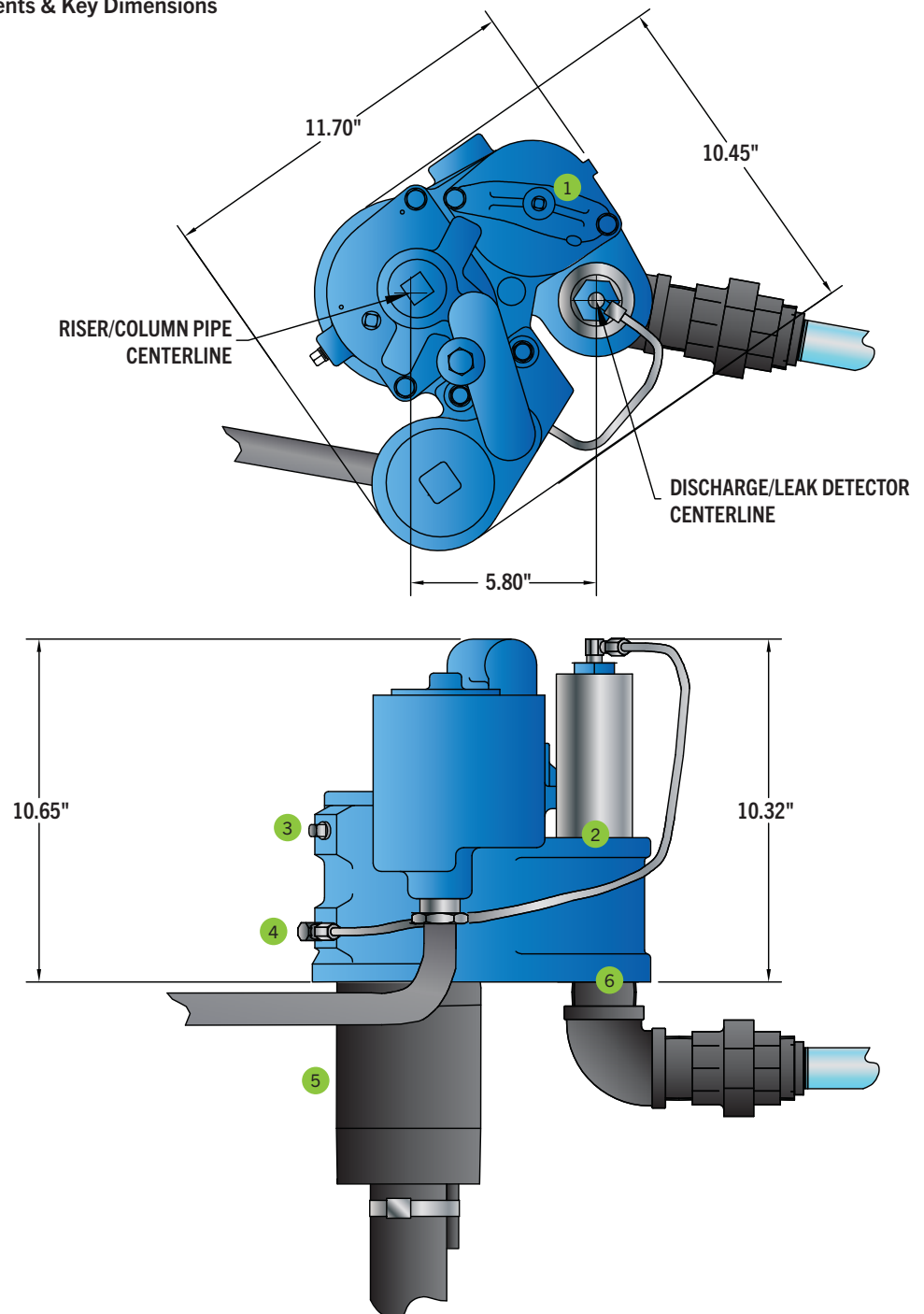
STPAG and IST® biofuel compatible Submersible Turbine Pump (STP) manifolds are also available with Advanced Protection that defends STPs from accelerated corrosion.

- Powder-coated and E-coated finishes on exterior cast surfaces.
- Stainless steel fasteners, riser, variable length column pipe and coupler.



4" Submersible Pump Manifold Components & Key Dimensions

- 1 Line Test Port, 1/4" NPT
- 2 Leak Detector Port, 2" NPT
- 3 Syphon Port, 1/4" NPT
- 4 Tank Port, 1/4" NPT
- 5 Riser Pipe, 4" NPT
- 6 Discharge Outlet, 2" NPT



4 HP SUBMERSIBLE TURBINE PUMPS

ORDERING INFORMATION

4 Hp Submersible Pump Ordering Guide

A typical turbine model designation has up to five components to define the pump being supplied as follows:

XXX YYYYY Z - A - B

XXX = Basic Model Designation

STP = These standard variable speed and variable length models are capable of up to 10% ethanol with gasoline.

IST = These variable speed and variable length models include alcohol-gasoline compatibility (up to 85% ethanol, up to 20% Biodiesel, or 100% Biodiesel).

ISTAP = These variable speed and variable length models include alcohol-gasoline compatibility (up to 85% ethanol, up to 20% Biodiesel, or 100% Biodiesel) and Advanced Protection with powder-coated, e-coated, and stainless steel components.

YYYYY = Factory Installed Options

Model designations may include one or more of the following characters in alphabetical order:

F = Floating suction adapter (1½" NPT female adapter)

K = Intake filter screen (IFS, factory installed to PMA)

M = MagShell® (flow enhancing, expanded PMA shell)

R* = Model R check valve (24 psi relief/22 psi reset for PLLD)

Z = Pump Motor Horsepower Rating

VS4 = 4 Hp variable speed

A = Model Length (see table)

VL1 = STP variable length range #1

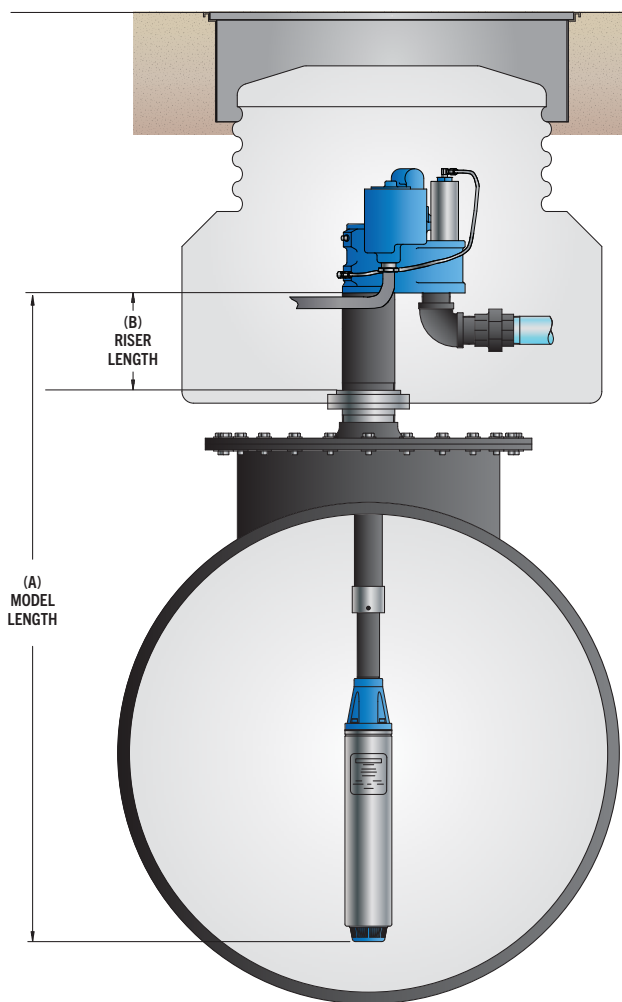
VL2 = STP variable length range #2

VL3 = STP variable length range #3

B = Riser Pipe Length (see diagram)

Riser pipe length is expressed as two numeric characters that indicate the total length of the riser in inches. Riser pipes are available from 7" to 60" in 1" increments (additional charge for risers 31" or longer).

**If not otherwise specified, all models are supplied with standard model check valve (40 psi relief / 35 psi reset for MLD, TS-LS300, and TS-LS500).*



Model Length (A)

STP Horsepower	Model Length Range	Model Length Designation
4 Hp	64" – 92"	VL1
	95" – 156"	VL2
	127" – 218"	VL3



ORDERING INFORMATION CONTINUED

4 Hp Variable Speed Submersible Turbine Pumps

Variable speed, variable length.

Model	Description	Model Length Range Number	Model Length Range*
STPMVS4-VL1	4 Hp variable speed with MagShell®	VL1	64" – 92"
STPMVS4-VL2	4 Hp variable speed with MagShell®	VL2	95" – 156"
STPMVS4-VL3	4 Hp variable speed with MagShell®	VL3	127" – 218"

4 Hp Variable Speed Intelligent Submersible Turbine Pumps

Variable speed, variable length, and AG compatible.

Model	Description	Model Length Range Number	Model Length Range*
ISTMVS4-VL1	4 Hp AG variable speed with MagShell®	VL1	64" – 92"
ISTMVS4-VL2	4 Hp AG variable speed with MagShell®	VL2	95" – 156"
ISTMVS4-VL3	4 Hp AG variable speed with MagShell®	VL3	127" – 218"
ISTAPMVS4-VL1	4 Hp AG variable speed with Advanced Protection, and MagShell®	VL1	64" – 92"
ISTAPMVS4-VL2	4 Hp AG variable speed with Advanced Protection, and MagShell®	VL2	95" – 156"
ISTAPMVS4-VL3	4 Hp AG variable speed with Advanced Protection, and MagShell®	VL3	127" – 218"

 Advanced Protection Pumps applicable to Corrosion Control™

Notes:

1. Remove "M" from model number for non-MagShell® pump motor assembly.
2. All STP models are UL and cUL listed for compatibility with fuel mixtures containing up to 10% ethanol with gasoline, up to 5% Biodiesel with diesel fuels, and 20% MTBE, 20% ETBE or 17% TAME with gasoline.
3. All IST/ISTAP models are compatible with fuel mixtures containing diesel fuel with up to 20% Biodiesel, 100% Biodiesel, up to 85% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline.
4. All models are supplied with a standard check valve unless factory option "R" or "W" is specified.
5. All above models can only be powered by a MagVFC™. 4 hp models require three-phase incoming power supply, 2 hp models can be supplied with single- or three-phase incoming power.
6. 4" riser pipe, if supplied locally, must be 4½" OD by ¾" WT tubing.
7. For riser pipe length 31" to 60", additional charge applies (call Customer Service for lead times).

*Model length (A) defined as the dimension from turbine manifold bottom to pump motor inlet.

Factory Installed Options

Specified in model number at time of STP order.

Model	Description
F	Floating suction adapter, 1½" NPT female, must be factory installed
K	IFS (intake filter screen) factory assembled to pump motor assembly
R	Model R check valve, factory installed, for Veeder-Root® PLLD Line Leak

Field Installed Options

Intelligent submersible turbine pump specific accessories.

Model	Description
5874202800	MagVFC™, 2 Hp or 4 Hp variable frequency controller, one required per STPM VS2 or VS4
400137937	Syphon check valve, alcohol-gasoline compatible
402459931	Model 65 psi check valve AG compatible, (for secondary of manifolded STPM VS2 or VS4 with Veeder-Root® PLLD)
402507930	Secondary syphon kit (when two syphon primes are required for one STPM VS2 or VS4)
5800300100	STP-DHI dispenser hook isolation for 120 Volt dispenser handle switches, up to eight each



SPECIFICATIONS

General

Variable speed models	Only available in variable lengths
Check valve	2¾" fluorocarbon seal constructed with cast aluminum body and steel backing washer
Pressure relief valve	Available in four pressure relief settings, integral to check valve. Standard model relieves at 40 psi and resets above 35 psi
Syphon	Venturi-type syphon primer supplied with every submersible. Syphon check valve and secondary syphon sold separately
Air eliminator	Every submersible includes a tank return path with one-way check valve to provide active air elimination
Electrical disconnect	Electrical yoke for positive contractor disconnect during service
Approvals/Certifications	<ul style="list-style-type: none"> – cULus listed – Consult factory for applicable approvals

Pump Motor

4 Hp	Variable speed, two-stage centrifugal type pump motor with integral, automatic, thermal overload protection
Max. pressure	Selectable operating pressure on MagVFC™ between 24 psi and 42 psi deadhead
MagShell®	Available with MagShell® which results in 45% increased flow area around motor

Power Requirements

Variable speed pumps	Can only be controlled by a MagVFC™ variable frequency controller
VS4 models	Require three-phase incoming power supply to the MagVFC™ for proper operation
Power supply	Incoming power supply to the MagVFC™ can be 200-250 VAC, 50 or 60 Hz
Output	MagVFC™ outputs a three-phase, variable frequency signal, valid for FE PETRO® variable speed pumps only
Max line draw	MagVFC™ max. line draw: 20 Amps
Max motor draw	15 Amps

Liquid Compatibility

Max. liquid viscosity	70 SSU at 60° F (15° C)
STP variable speed	STP variable speed models are UL listed for fuel mixtures containing up to 10% ethanol, and 20% MTBE, 20% ETBE or 17% TAME with gasoline
IST/ISTAP variable speed	IST/ISTAP variable speed models are UL and cUL listed for fuel mixtures containing diesel fuel with up to 20% Biodiesel, 100% Biodiesel, up to 85% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline
Variable speed models	All variable speed models can also be used with diesel fuels, fuel oils, kerosene, Avgas and jet fuels in a non-gelled pourable state
Max line draw	MagVFC™ max. line draw: 20 Amps
Wetted elastomers	All wetted elastomers are made of a high grade, fluorocarbon compound

2 HP SUBMERSIBLE TURBINE PUMPS

ORDERING INFORMATION

2 Hp Variable Speed Submersible Pump Ordering Guide

A typical model designation has up to five components to define the pump being supplied as follows:

XXX YYYYY Z - A - B

XXX = Basic Model Designation

STP = These standard variable speed and variable length models are capable of up to 10% ethanol with gasoline

IST** = These variable speed and variable length models include alcohol-gasoline compatibility (up to 85% ethanol, up to 20% Biodiesel, or 100% Biodiesel)

ISTAP** = These variable speed and variable length models include alcohol-gasoline compatibility (up to 85% ethanol, up to 20% Biodiesel, or 100% Biodiesel) and Advanced Protection with powder-coated, e-coated, and stainless steel components

YYYYY = Factory Installed Options

Model designations may include one or more of the following characters:

F = Floating suction adapter (1½" NPT female adapter)

K = Intake filter screen (IFS, factory installed to PMA)

M = MagShell® (flow enhancing, expanded PMA shell)

R* = Model R check valve (24 psi relief/22 psi reset for PLLD)

Z = Pump Motor Horsepower Rating

VS2 = 2 Hp variable speed

A = Model Length (see table)

VL1 = STP variable length range #1

VL2 = STP variable length range #2

VL3 = STP variable length range #3

B = Riser Pipe Length (see diagram)

Riser pipe length is expressed as two numeric characters that indicate the total length of the riser in inches. Riser pipes are available from 7" to 60" in 1" increments (additional charge for risers 31" or longer).

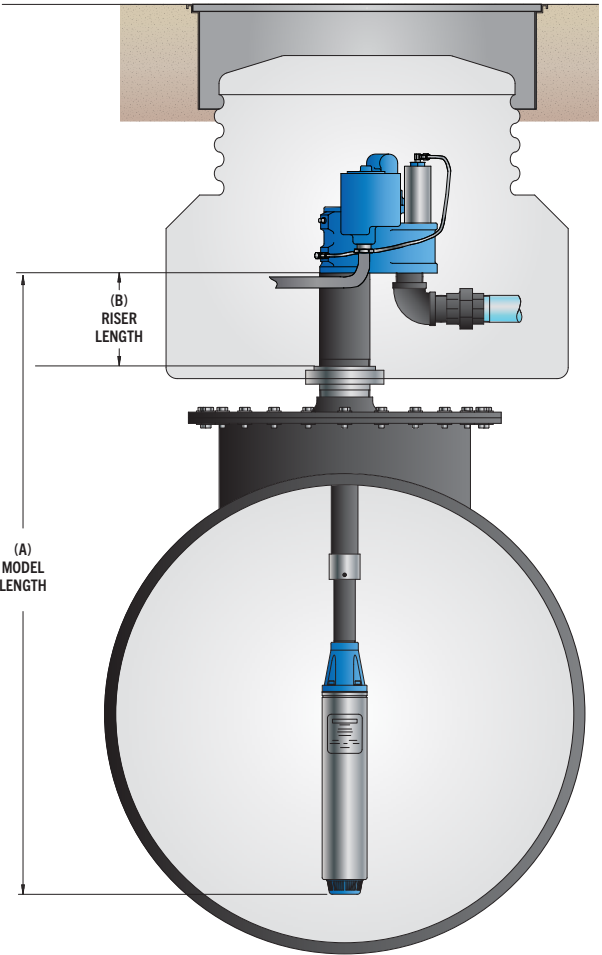
Notes:

*If not otherwise specified, all models are supplied with standard model check valve (40 psi relief / 35 psi reset for MLD, TS-LS300, and TS-LS500).

**If not otherwise specified, 2 Hp variable speed pump motor horsepower rating is implied for IST models.

Model Length (A)

STP Horsepower	Model Length Range	Model Length Designation
2 Hp Variable Speed	59" – 87"	VL1
	90" – 151"	VL2
	122" – 213"	VL3
2 Hp Fixed Speed	63" – 92"	VL1
	94" – 154"	VL2
	126" – 218"	VL3
2 Hp Fixed Speed High Pressure	63" – 92"	VL1
	94" – 155"	VL2
	126" – 218"	VL3



ORDERING INFORMATION CONTINUED

2 Hp Fixed Speed Submersible Pump Ordering Guide

A typical model designation has up to five components to define the pump being supplied as follows:

STP XXXXX Y - A - B

STP = Basic Model Designation

XXXXX = Factory Installed Options

Model designations may include one or more of the following characters:

- AP = Advanced Protection with powder-coated, e-coated, and stainless steel components, alcohol-gasoline compatible (up to E85, up to B20, and B100) (Note standard models up to 10% ethanol capable)
- AG = Alcohol-gasoline compatible (up to E85, up to B20, and B100) (Note standard models up to 10% ethanol capable)
- F = Floating suction adapter (1½" NPT female adapter)
- K = Intake filter screen (IFS, factory installed to PMA)
- M = MagShell® (flow enhancing, expanded PMA shell)
- *R = Model R check valve (24 psi relief / 22 psi reset for PLLD)

Y = Pump Motor Horsepower Rating

200 = 2 Hp fixed speed

A = Model Length (see table)

- VL1 = Variable length range #1
- VL2 = Variable length range #2
- VL3 = Variable length range #3
- (Note VL2 models fit 94% of all known installations)

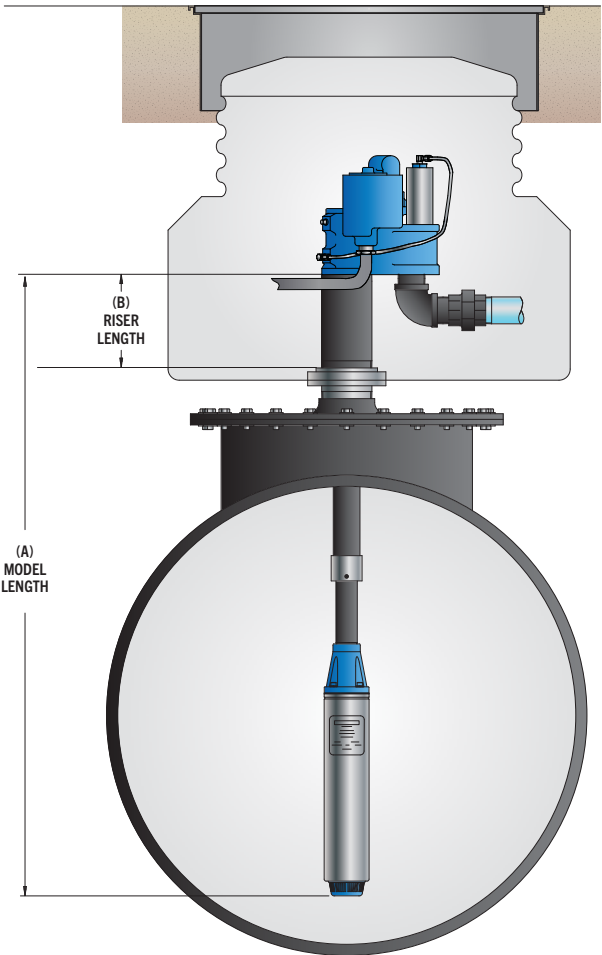
B = Riser Pipe Length (see diagram)

Riser pipe length is expressed as two numeric characters that indicate the total length of the riser in inches. Riser pipes are available from 7" to 60" in 1" increments (additional charge for risers 31" or longer).

**If not otherwise specified, all STP models are supplied with standard model check valve (40 psi relief / 35 psi reset for MLD, TS-LS300, and TS-LS500).*

Model Length (A)

STP Horsepower	Model Length Range	Model Length Designation
2 Hp Variable Speed	59" – 87"	VL1
	90" – 151"	VL2
	122" – 213"	VL3
2 Hp Fixed Speed	63" – 92"	VL1
	94" – 154"	VL2
	126" – 218"	VL3
2 Hp Fixed Speed High Pressure	63" – 92"	VL1
	94" – 155"	VL2
	126" – 218"	VL3



ORDERING INFORMATION

2 Hp Variable Speed Submersible Turbine Pumps

Variable speed, variable length.

Model	Description	Model Length Range Number	Model Length Range*
STPMVS2-VL1	2 Hp variable speed with MagShell®	VL1	59" – 87"
STPMVS2-VL2	2 Hp variable speed with MagShell®	VL2	90" – 151"
STPMVS2-VL3	2 Hp variable speed with MagShell®	VL3	122" – 213"

2 Hp Variable Speed Intelligent Submersible Turbine Pumps

Variable speed, variable length, and AG compatible.

Model	Description	Model Length Range Number	Model Length Range*
ISTM-1	2 Hp AG variable speed with MagShell®	VL1	59" – 87"
ISTM-2	2 Hp AG variable speed with MagShell®	VL2	90" – 151"
ISTM-3	2 Hp AG variable speed with MagShell®	VL3	122" – 213"
ISTAPM-1	2 Hp AG variable speed with Advanced Protection, and MagShell®	VL1	59" – 87"
ISTAPM-2	2 Hp AG variable speed with Advanced Protection, and MagShell®	VL2	90" – 151"
ISTAPM-3	2 Hp AG variable speed with Advanced Protection, and MagShell®	VL3	122" – 213"

Standard 2 Hp Fixed Speed Submersible Turbine Pumps

Model	Description	Model Length Range Number	Model Length Range*
STPM200-VL1	2 Hp fixed speed with MagShell®	VL1	63" – 91"
STPM200-VL2	2 Hp fixed speed with MagShell®	VL2	94" – 154"
STPM200-VL3	2 Hp fixed speed with MagShell®	VL3	126" – 217"
STPHM200-VL1	2 Hp high pressure fixed speed with MagShell®	VL1	63" – 92"
STPHM200-VL2	2 Hp high pressure fixed speed with MagShell®	VL2	94" – 155"
STPHM200-VL3	2 Hp high pressure fixed speed with MagShell®	VL3	126" – 218"

Alcohol-Gas (AG) 2 Hp Fixed Speed Submersible Turbine Pumps

Model	Description	Model Length Range Number	Model Length Range*
STPAGM200-VL1	2 Hp AG fixed speed with MagShell®	VL1	63" – 91"
STPAGM200-VL2	2 Hp AG fixed speed with MagShell®	VL2	94" – 154"
STPAGM200-VL3	2 Hp AG fixed speed with MagShell®	VL3	126" – 217"
STPAGHM200-VL1	2 Hp AG high pressure fixed speed with MagShell®	VL1	63" – 92"
STPAGHM200-VL2	2 Hp AG high pressure fixed speed with MagShell®	VL2	94" – 155"
STPAGHM200-VL3	2 Hp AG high pressure fixed speed with MagShell®	VL3	126" – 218"
STPAPM200-VL1	2 Hp fixed speed with Advanced Protection, and MagShell®	VL1	63" – 91"
STPAPM200-VL2	2 Hp fixed speed with Advanced Protection, and MagShell®	VL2	94" – 154"
STPAPM200-VL3	2 Hp fixed speed with Advanced Protection, and MagShell®	VL3	126" – 217"
STPAPHM200-VL1	2 Hp high pressure fixed speed with Advanced Protection, and MagShell®	VL1	63" – 92"
STPAPHM200-VL2	2 Hp high pressure fixed speed with Advanced Protection, and MagShell®	VL2	94" – 155"
STPAPHM200-VL3	2 Hp high pressure fixed speed with Advanced Protection, and MagShell®	VL3	126" – 218"

 Advanced Protection Pumps applicable to Corrosion Control™

- Notes:
1. Remove "M" from model number for non-MagShell® pump motor assembly.
 2. STP models are compatible with fuel mixtures containing up to 10% ethanol with gasoline, up to 5% Biodiesel with diesel fuels, and 20% MTBE, 20% ETBE or 17% TAME with gasoline. STPAG/STPAP models are compatible with fuel mixtures containing diesel fuel with up to 20% Biodiesel, 100% Biodiesel, up to 85% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline.
 3. All models are supplied with a standard check valve unless factory option "R" or "W" is specified.
 4. All above models require single-phase, 208-230 VAC, 60 Hz incoming power.
 5. 4" riser pipe, if supplied locally, must be 4½" OD by ⅜" WT tubing.
 6. For riser pipe lengths 31" to 60", additional charges apply (call Customer Service for lead times).
 7. All above IST and STPMVS2 models can only be powered by a MagVFC. MagVFC must be supplied with single- or three-phase incoming power for all above models.
- *Model length (A) defined as the dimension from turbine manifold bottom to pump motor inlet.



ORDERING INFORMATION CONTINUED

Factory Installed Options

Specified in model number at time of STP order.

Model	Description
F	Floating suction adapter, 1½" NPT female, must be factory installed
K	IFS (intake filter screen) factory assembled to pump motor assembly
R	Model R check valve, factory installed, for Veeder-Root® PLLD Line Leak

Field Installed Options

2 Hp submersible pump specific accessories.

Model	Description
400137937	Syphon check valve, alcohol-gasoline compatible
5874202800	MagVFC™, 2 hp or 4 hp variable frequency controller, one required per STPM VS2 or VS4
400818921	STP-CBS, single-phase control box with lockout switch, 120 Volt coil
402312931	STP-DHI + SPGC-220 Guardian Series™ Single Phase Smart Controller bundle
402313921	STP-DHI-CBS, combo DHI with factory-wired STP-CBS
402459931	Model 65 psi check valve AG compatible, (for secondary of manifolded STPs with Veeder-Root® PLLD)
402507930	Secondary syphon kit (when two syphon primes are required for one STP)
5800100220	SPGC-220 Guardian Series™ Single Phase Smart Controller
5800300100	STP-DHI, dispenser hook isolation for 120 Volt dispenser handle switches, up to eight each

SPECIFICATIONS

General

Variable speed models	Only available in variable lengths
Fixed speed	Models are available in variable length and fixed length options
Check valve	2¾" diameter fluorocarbon seal constructed with cast aluminum body and steel backing washer
Pressure relief valve	Available in four pressure relief settings, integral to check valve. Standard model relieves at 40 psi and resets above 35 psi
Syphon	Venturi-type syphon primer supplied with every submersible. Syphon check valve and secondary syphon sold separately
Air eliminator	Every submersible includes a tank return path with one-way check valve to provide active air elimination
Electrical disconnect	Electrical yoke for positive contractor disconnect during service
Approvals/Certifications	<ul style="list-style-type: none"> – cULus listed – Consult factory for applicable approvals

Variable Speed Pump Motor

4 Hp	Variable speed, two-stage centrifugal type pump motor with integral, automatic, thermal overload protection
Max. pressure	Selectable operating pressure on MagVFC™ between 24 psi and 42 psi deadhead
MagShell®	Available with MagShell® which results in 45% increased flow area around motor

Fixed Speed Pump Motor

2 Hp fixed speed	2 Hp fixed speed models require single-phase, 208-230 VAC, 60 Hz incoming power
Standard pressure	Standard pressure (M200, two-stage) model, max. pressure = 36 psi
High pressure	High pressure (HM200, three-stage) model, max. pressure = 45 psi
MagShell®	Available with MagShell™ for 45% increased flow area around motor

Liquid Compatibility

Max. liquid viscosity	70 SSU at 60° F (15° C)
STP variable speed	STP variable speed models are UL and cUL listed for fuel mixtures containing up to 10% ethanol, and 20% MTBE, 20% ETBE or 17% TAME with gasoline
STPAG (AG compatible)	STPAG (AG compatible) models are UL listed for fuel mixtures containing diesel fuel with up to 20% Biodiesel, 100% Biodiesel, up to 85% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline
Variable speed (non-AG)	All variable speed (non-AG) models can also be used with diesel fuels, fuel oils, kerosene, Avgas and jet fuels in a non-gelled pourable state
2 Hp fixed speed	2 Hp fixed speed models can also be used with diesel fuels, fuel oils, kerosene, Avgas and jet fuels in a non-gelled pourable state
Wetted elastomers	All wetted elastomers are made of a high grade, fluorocarbon compound

Variable Speed Power Requirements

Variable speed pumps	Can only be controlled by a MagVFC™ variable frequency controller
VS2 models	Can operate with single- or three-phase incoming power supply to the MagVFC™
Incoming power	Incoming power supply to the MagVFC™ can be 200-250 VAC, 50 or 60 Hz
Outputs	MagVFC™ outputs a three-phase, variable frequency signal, valid for FE PETRO® variable speed pumps only
Max. line draw	MagVFC™ max. line draw: 20 Amps
Max. motor draw	7 Amps

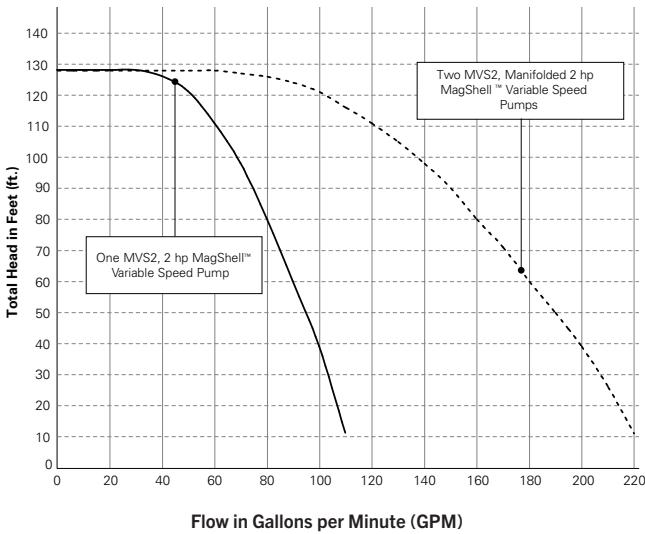
Fixed Speed Power Requirements

Incoming power	2 Hp fixed speed models require single-phase, 208-230 VAC, 60 Hz incoming power
2 Hp fixed speed	2 Hp fixed speed models incorporate a starting and running capacitor, with internal bleed resistor, rated 370 Volt, 40 microfarad
Single phase	SPGC-220 single-phase Guardian Series™ Controllers and STP-CBS single-phase control boxes are available for 2 hp pump control
Max. motor draw	12 Amps



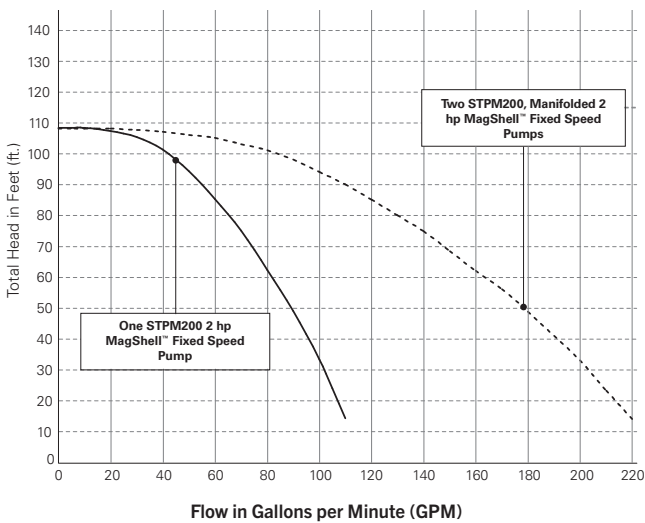
SPECIFICATIONS CONTINUED

2 Hp Variable Speed Pump Performance Chart



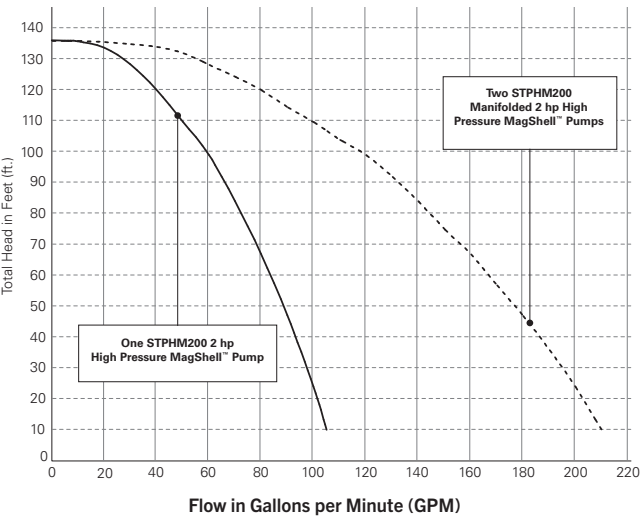
Performance based on pumping gasoline (0.76 specific gravity). Pressure is taken at the manifold discharge outlet. ISTM and STPMVS2 turbines can only be powered by a MagVFC with single or three phase incoming power.

2 Hp Fixed Speed Pump Performance Chart



Performance based on pumping gasoline (0.78 specific gravity). Pressure is taken at the manifold discharge outlet. STPM200 are powered by a single-phase, 60 Hz, 208/230 Volt power supply.

2 Hp High Pressure Fixed Speed Pump Performance Chart



Performance based on pumping gasoline (0.78 specific gravity). Pressure is taken at the manifold discharge outlet. STPHM200 are powered by a single-phase, 60 Hz, 208/230 Volt power supply.



1½ HP SUBMERSIBLE TURBINE PUMPS

ORDERING INFORMATION

1½ Hp Fixed Speed Submersible Pump Ordering Guide

A typical turbine model designation has up to five components to define the pump being supplied as follows:

STP XXXXX Y - A - B

STP = Basic Model Designation

XXXXX = Factory Installed Options (Model designations may include one or more of the following characters in alphabetical order)

AP = Advanced Protection with powder-coated, e-coated, and stainless steel components, alcohol-gasoline compatible (up to E85, up to B20, and B100) (Note standard models up to 10% ethanol capable).

AG = Alcohol-gasoline compatible (up to E85, up to B20, and B100) (Note standard models up to 10% ethanol capable).

F = Floating suction adapter (1½" NPT female adapter)

K = Intake filter screen (IFS, factory installed to PMA)

*R = Model R check valve (24 psi relief / 22 psi reset for PLLD)

Y = Pump Motor Horsepower Rating

150 = 1½ hp fixed speed

A = Model Length (see table)

VL1 = Variable length range #1

VL2 = Variable length range #2

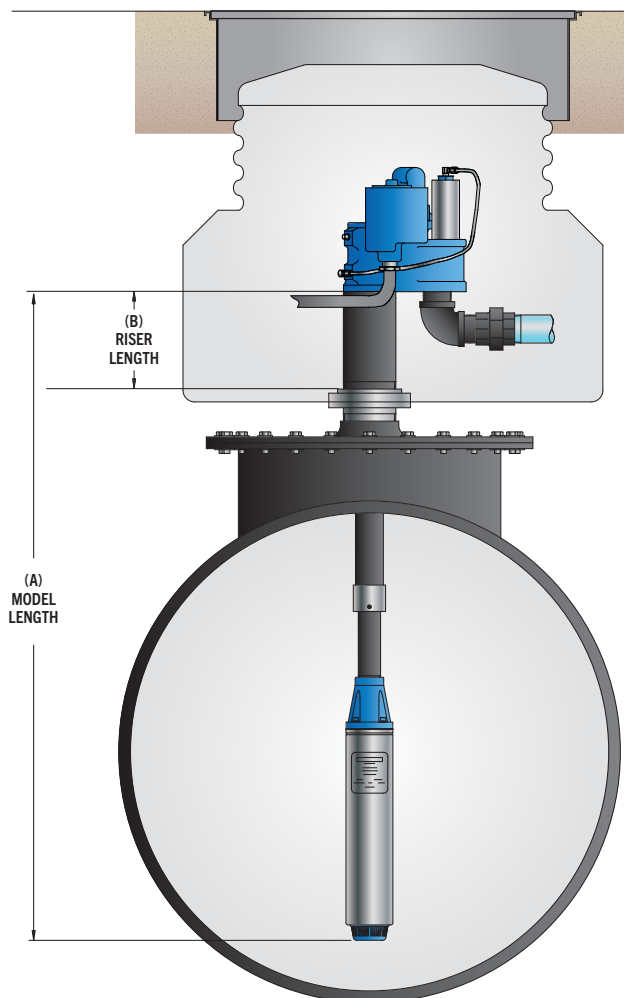
VL3 = Variable length range #3

(Note VL2 models fit 94% of all known installations)

B = Riser Pipe Length (see diagram)

Riser pipe length is expressed as two numeric characters that indicate the total length of the riser in inches. Riser pipes are available from 7" to 60" in 1" increments (additional charge for risers 31" or longer).

**If not otherwise specified, all STP models are supplied with standard model check valve (40 psi relief / 35 psi reset for MLD, TS-LS300, and TS-LS500).*



Model Length (A)

STP Horsepower	Model Length Range	Model Length Designation
1½ Hp	60" – 88"	VL1
	91" – 152"	VL2
	123" – 214"	VL3
1½ Hp High Pressure	61" – 89"	VL1
	92" – 152"	VL2
	124" – 215"	VL3



ORDERING INFORMATION CONTINUED

Standard 1½ Hp Fixed Speed Submersible Turbine Pumps

Model	Description	Model Length Range Number	Model Length Range*
STP150-VL1	1½ Hp fixed speed	VL1	60" – 88"
STP150-VL2	1½ Hp fixed speed	VL2	91" – 152"
STP150-VL3	1½ Hp fixed speed	VL3	123" – 214"
STPH150-VL1	1½ Hp high pressure fixed speed	VL1	61" – 89"
STPH150-VL2	1½ Hp high pressure fixed speed	VL2	92" – 152"
STPH150-VL3	1½ Hp high pressure fixed speed	VL3	124" – 215"

Alcohol-Gas (AG) 1½ Hp Fixed Speed Submersible Turbine Pumps

Model	Description	Model Length Range Number	Model Length Range*
STPAG150-VL1	1½ Hp AG fixed speed	VL1	60" – 88"
STPAG150-VL2	1½ Hp AG fixed speed	VL2	91" – 152"
STPAG150-VL3	1½ Hp AG fixed speed	VL3	123" – 214"
STPAGH150-VL1	1½ Hp AG high pressure fixed speed	VL1	61" – 89"
STPAGH150-VL2	1½ Hp AG high pressure fixed speed	VL2	92" – 152"
STPAGH150-VL3	1½ Hp AG high pressure fixed speed	VL3	124" – 215"
STPAP150-VL1	1½ Hp fixed speed with Advanced Protection	VL1	60" – 88"
STPAP150-VL2	1½ Hp fixed speed with Advanced Protection	VL2	91" – 152"
STPAP150-VL3	1½ Hp fixed speed with Advanced Protection	VL3	123" – 214"
STPAPH150-VL1	1½ Hp high pressure fixed speed with Advanced Protection	VL1	61" – 89"
STPAPH150-VL2	1½ Hp high pressure fixed speed with Advanced Protection	VL2	92" – 152"
STPAPH150-VL3	1½ Hp high pressure fixed speed with Advanced Protection	VL3	124" – 215"

 Advanced Protection Pumps applicable to Corrosion Control™

Notes:

1. STP models are compatible with fuel mixtures containing up to 10% ethanol with gasoline, up to 5% Biodiesel with diesel fuels, and 20% MTBE, 20% ETBE or 17% TAME with gasoline. STPAG/STPAP models are compatible with fuel mixtures containing diesel fuel with up to 20% Biodiesel, 100% Biodiesel, up to 85% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline.

2. All models are supplied with a standard check valve unless factory option "R" or "W" is specified.

3. All above models require single-phase, 208-230 VAC, 60 Hz incoming power.

4. 4" riser pipe, if supplied locally, must be 4½" OD by ¾" WT tubing.

5. For riser pipe lengths 31" to 60", additional charges apply (call Customer Service for lead times).

*Model length (A) defined as the dimension from turbine manifold bottom to pump motor inlet.

Factory Installed Options

Specified in model number at time of STP order.

Model	Description
F	Floating suction adapter, 1½" NPT female, must be factory installed
K	IFS (intake filter screen) factory assembled to pump motor assembly
R	Model R check valve, factory installed, for Veeder-Root® PLLD Line Leak

Field Installed Options

1½ Hp fixed speed specific accessories.

Model	Description
400137937	Syphon check valve, alcohol-gasoline compatible
400818921	STP-CBS, single-phase control box with lockout switch, 120 Volt coil
402312931	STP-DHI + SPGC-220 Guardian Series™ Single Phase Smart Controller bundle
402313921	STP-DHI-CBS, combo DHI with factory-wired STP-CBS
402459931	Model 65 psi check valve AG compatible, (for secondary of manifolded STPs with Veeder-Root® PLLD)
402507930	Secondary syphon kit (when two syphon primes are required for one STP)
5800100220	SPGC-220 Guardian Series™ Single Phase Smart Controller
5800300100	STP-DHI, dispenser hook isolation for 120 Volt dispenser handle switches, up to eight each



SPECIFICATIONS

General

1½ Hp fixed speed models	Available in variable length and fixed length options
Check valve	2¾" diameter fluorocarbon seal constructed with cast aluminum body and steel backing washer
Pressure relief valve	Available in four pressure relief settings, integral to check valve. Standard model relieves at 40 psi and resets above 35 psi
Syphon	Venturi-type syphon primer supplied with every submersible. Syphon check valve and secondary syphon sold separately
Air eliminator	Every submersible includes a tank return path with one-way check valve to provide active air elimination
Electrical disconnect	Electrical yoke for positive contractor disconnect during service
Approvals/Certifications	<ul style="list-style-type: none"> cULus listed Consult factory for applicable approvals

Pump Motor

1½ Hp	Fixed speed, 3450 rpm, multi-stage centrifugal type pump motor with integral, automatic, thermal overload protection
Standard pressure	(150, two-stage) model, max. pressure = 32 psi
High pressure	(H150, three-stage) model, max. pressure = 45 psi

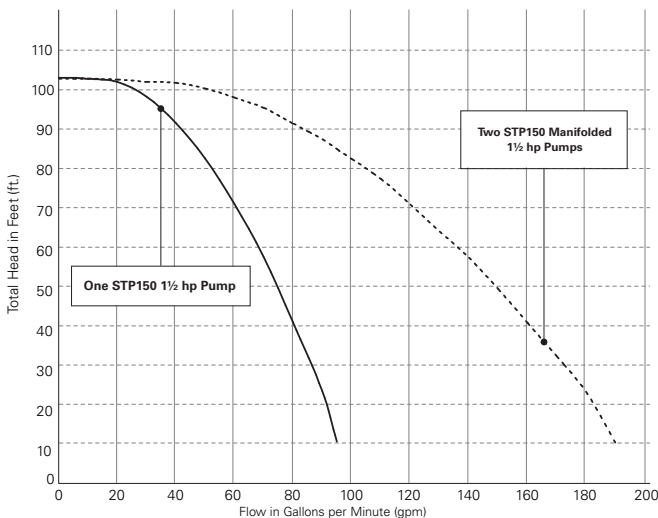
Power Requirements

Incoming power	1½ Hp fixed speed models require single-phase, 208-230 VAC, 60 Hz incoming power
1½ Hp fixed speed	1½ Hp fixed speed models incorporate a starting and running capacitor, with internal bleed resistor, rated 370 Volt, 15 microfarad
Single phase	SPGC-220 single-phase Guardian Series™ Controllers and STP-CBS single-phase control boxes are available for 1½ Hp pump control
Max. motor draw	11 Amps

Liquid Compatibility

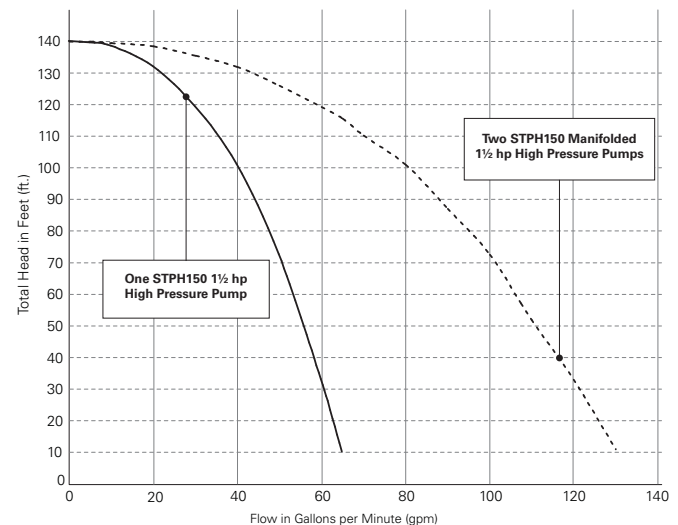
Max. liquid viscosity	70 SSU at 60° F (15° C)
Standard STP	Standard STP models are UL and cUL listed for fuel mixtures containing up to 10% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline
STPAP/STPAG (AG compatible)	STPAP/STPAG (AG compatible) models are UL listed for fuel mixtures containing diesel fuel with up to 20% Biodiesel, 100% Biodiesel, up to 85% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline
1½ Hp	1½ Hp fixed speed models can also be used with diesel fuels, fuel oils, kerosene, Avgas, and jet fuels in a non-gelled pourable state
Wetted elastomers	All wetted elastomers are made of a high grade, fluorocarbon compound

1½ Hp Fixed Speed Pump Performance Chart



Note: Performance based on pumping gasoline (0.78 specific gravity). Pressure is taken at the manifold discharge outlet. STP150 models are powered by a single-phase, 60 Hz, 208/230 Volt power supply.

1½ Hp High Pressure Fixed Speed Pump Performance Chart



Note: Performance based on pumping gasoline (0.78 specific gravity). Pressure is taken at the manifold discharge outlet. STPH150 models are powered by a single-phase, 60 Hz, 208/230 Volt power supply.



3/4 HP SUBMERSIBLE TURBINE PUMPS

ORDERING INFORMATION

3/4 Hp Fixed Speed Submersible Pump Ordering Guide

A typical turbine model designation has up to five components to define the pump being supplied as follows:

STP XXXXX Y - A - B

STP = Basic Model Designation

XXXXX = Factory Installed Options (Model designations may include one or more of the following characters in alphabetical order).

AP = Advanced Protection with powder-coated, e-coated, and stainless steel components, alcohol-gasoline compatible (up to E85, up to B20, and B100) (Note standard models up to 10% ethanol capable).

AG = Alcohol-gasoline compatible (up to E85, up to B20, and B100) (Note standard models up to 10% ethanol capable).

F = Floating suction adapter (1½" NPT female adapter)

K = Intake filter screen (IFS, factory installed to PMA)

*R = Model R check valve (24 psi relief / 22 psi reset for PLLD)

Y = Pump Motor Horsepower Rating

75 = ¾ Hp fixed speed

A = Model Length (see table)

VL1 = Variable length range #1.

VL2 = Variable length range #2.

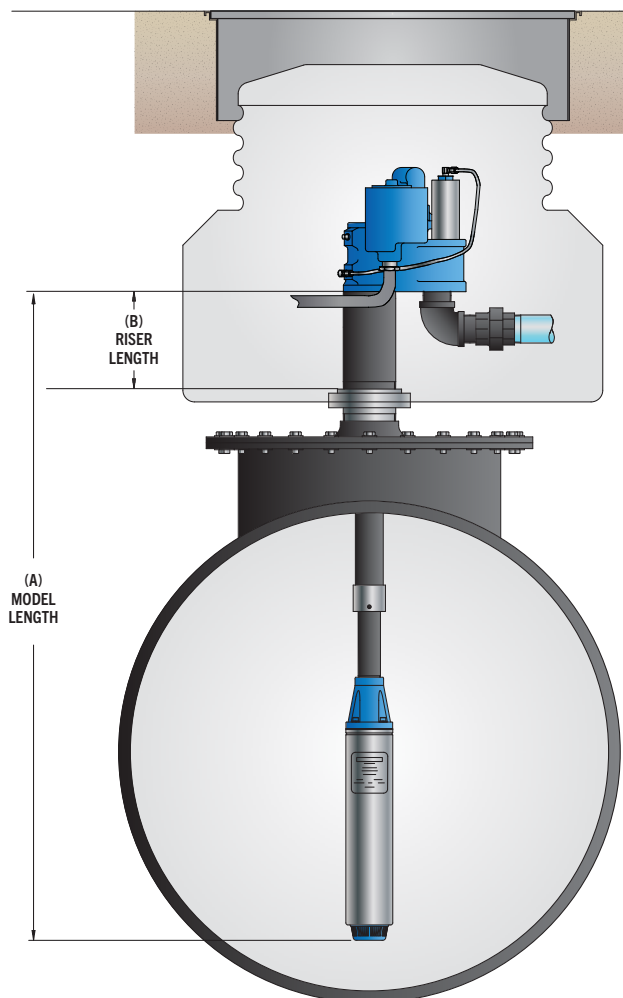
VL3 = Variable length range #3.

(Note VL2 models fit 94% of all known installations)

B = Riser Pipe Length (see diagram)

Riser pipe length is expressed as two numeric characters that indicate the total length of the riser in inches. Riser pipes are available from 7" to 60" in 1" increments (additional charge for risers 31" or longer).

**If not otherwise specified, all STP models are supplied with standard model check valve (40 psi relief / 35 psi reset for MLD, TS-LS300, and TS-LS500).*



Model Length (A)

STP Horsepower	Model Length Range	Model Length Designation
¾ Hp	57" – 86"	VL1
	88" – 149"	VL2
	120" – 212"	VL3

ORDERING INFORMATION CONTINUED

Standard ¾ Hp Fixed Speed Submersible Turbine Pumps

Model	Description	Model Length Range Number	Model Length Range*
STP75-VL1	¾ Hp fixed speed	VL1	57" – 86"
STP75-VL2	¾ Hp fixed speed	VL2	88" – 149"
STP75-VL3	¾ Hp fixed speed	VL3	120" – 212"

Alcohol-Gas (AG) ¾ Hp Fixed Speed Submersible Turbine Pumps

Model	Description	Model Length Range Number	Model Length Range*
STPAG75-VL1	¾ Hp AG fixed speed	VL1	57" – 86"
STPAG75-VL2	¾ Hp AG fixed speed	VL2	88" – 149"
STPAG75-VL3	¾ Hp AG fixed speed	VL3	120" – 212"
STPAP75-VL1	¾ Hp fixed speed with Advanced Protection	VL1	57" – 86"
STPAP75-VL2	¾ Hp fixed speed with Advanced Protection	VL2	88" – 149"
STPAP75-VL3	¾ Hp fixed speed with Advanced Protection	VL3	120" – 212"

 Advanced Protection Pumps applicable to Corrosion Control™

Notes:

1. STP models are compatible with fuel mixtures containing up to 10% ethanol with gasoline, up to 5% Biodiesel with diesel fuels, and 20% MTBE, 20% ETBE or 17% TAME with gasoline. STPAG/STPAP models are compatible with fuel mixtures containing diesel fuel with up to 20% Biodiesel, 100% Biodiesel, up to 85% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline.

2. All models are supplied with a standard check valve unless factory option "R" or "W" is specified.

3. All above models require single-phase, 208-230 VAC, 60 Hz incoming power.

4. 4" riser pipe, if supplied locally, must be 4½" OD by ¾" WT tubing.

5. For riser pipe lengths 31" to 60", additional charges apply. (Call Customer Service for lead times.)

*Model length (A) defined as the dimension from turbine manifold bottom to pump motor inlet.

Factory Installed Options

Specified in model number at time of STP order.

Model	Description
F	Floating suction adapter, 1½" NPT female, must be factory installed
K	IFS (intake filter screen) factory assembled to pump motor assembly
R	Model R check valve, factory installed, for Veeder-Root® PLLD Line Leak

Field Installed Options

¾ Hp fixed speed specific accessories.

Model	Description
400137937	Syphon check valve, alcohol-gasoline compatible
400818921	STP-CBS, single-phase control box with lockout switch, 120 Volt coil
402312931	STP-DHI + SPGC-220 Guardian Series™ Single Phase Smart Controller bundle
402313921	STP-DHI-CBS, combo DHI with factory-wired STP-CBS
402459931	Model 65 psi check valve AG compatible, (for secondary of manifolded STPs with Veeder-Root® PLLD)
402507930	Secondary syphon kit (when two syphon primes are required for one STP)
5800100220	SPGC-220 Guardian Series™ Single Phase Smart Controller
5800300100	STP-DHI, dispenser hook isolation for 120 Volt dispenser handle switches, up to eight each



SPECIFICATIONS

General

¾ Hp fixed speed models	Available in variable length and fixed length options
Check valve	2¾" diameter fluorocarbon seal constructed with cast aluminum body and steel backing washer
Pressure relief valve	Available in four pressure relief settings, integral to check valve. Standard model relieves at 40 psi and resets above 35 psi
Syphon	Venturi-type syphon primer supplied with every submersible. Syphon check valve and secondary syphon sold separately.
Air eliminator	Every submersible includes a tank return path with one-way check valve to provide active air elimination
Electrical disconnect	Electrical yoke for positive contractor disconnect during service
Approvals / Certifications	<ul style="list-style-type: none"> – cULus listed – Consult factory for applicable approvals

Pump Motor

¾ Hp fixed speed	Fixed speed, 3450 rpm, two-stage centrifugal type pump motor with integral, automatic thermal overload protection
¾ Hp models	¾ Hp models have a max. pressure of 30 psi

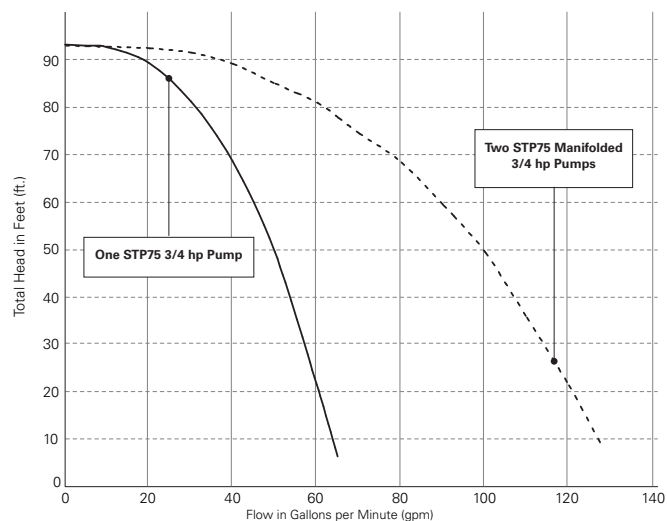
Power Requirements

Incoming power	¾ hp fixed speed models require single-phase, 208-230 VAC, 60 Hz incoming power
⅓ and ¾ Hp fixed speed	¾ hp fixed speed models incorporate a starting and running capacitor, with internal bleed resistor, rated 370 Volt, 15 microfarad
Single phase	SPGC-220 single-phase Guardian Series™ Controllers and STP-CBS single-phase control boxes are available for ⅓ and ¾ hp pump control
¾ Hp max. motor draw	7 Amps

Liquid Compatibility

Max. liquid viscosity	70 SSU at 60° F (15° C)
Standard STP	Standard STP models are UL and cUL listed for fuel mixtures containing up to 10% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline
STPAG/STPAP (AG compatible)	STPAG/STPAP (AG compatible) models are UL listed for fuel mixtures containing diesel fuel with up to 20% Biodiesel, 100% Biodiesel, up to 85% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline
⅓ and ¾ hp fixed speed models	⅓ and ¾ hp fixed speed models can also be used with diesel fuels, fuel oils, kerosene, Avgas, and jet fuels in a non-gelled pourable state
Wetted elastomers	All wetted elastomers are made of a high grade, fluorocarbon compound

¾ Hp Fixed Speed Pump Performance Chart



Note: Performance based on pumping gasoline (0.78 specific gravity). Pressure is taken at the manifold discharge outlet. STP75 models are powered by a single-phase, 60 Hz, 208/230 Volt power supply.



FIXED LENGTH SUBMERSIBLE TURBINE PUMPS

ORDERING INFORMATION

Fixed Length Submersible Pump Ordering Guide

A typical turbine model designation has up to five components to define the pump being supplied as follows:

STP XXXXX Y - A - B

STP = Basic Model Designation

XXXXX = Factory Installed Options

STP model designations may include one or more of the following characters in alphabetical order:

AG = Alcohol-gasoline compatible (up to E85, up to B20, and B100)

Note: Standard models up to 10% ethanol capable

F = Floating suction adapter (1½" NPT female adapter)

H = High pressure (1½ hp and 2 hp models only)

K = Intake filter screen (IFS, factory installed to PMA)

M = MagShell® (2 Hp models only)

*R = Model R check valve (24 psi relief / 22 psi reset for PLLD)

*Y = Pump Motor Horsepower Rating

75 = ¾ Hp fixed speed

150 = 1½ Hp fixed speed

200 = 2 Hp fixed speed

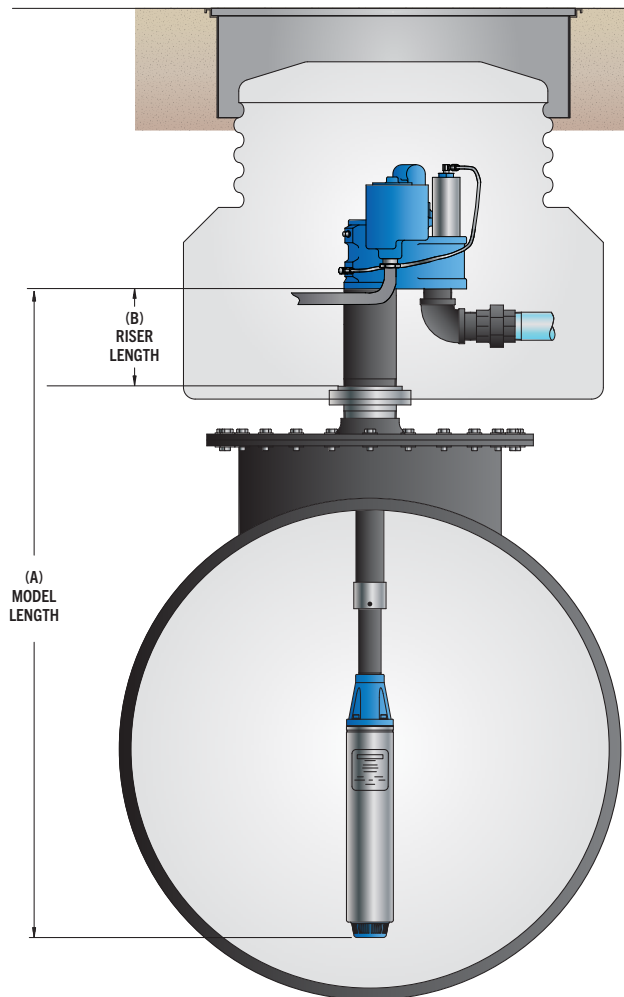
A = Model Length

Model length is expressed as three numeric characters that indicate the length of the STP from the turbine manifold bottom to the pump motor inlet in inches, available from 37" to 246" (additional charge for models 133" and longer).

B = Riser Pipe Length

Riser pipe length is expressed as two numeric characters that indicate the total length of the riser in inches. Riser pipes are available from 7" to 60" in 1" increments (additional charge for risers 31" or longer).

**If not otherwise specified, all STP models supplied with standard model check valve (40 psi relief / 35 psi reset for MLD, TS-LS300, and TS-LS500).*



ORDERING INFORMATION CONTINUED

Fixed Length Submersible Turbine Pumps

Model	Description	Model Length* Range
STP75	¾ Hp fixed speed	37" – 132"
STP150	1½ Hp fixed speed	
STPH150	1½ Hp high pressure fixed speed	
STPM200	2 Hp fixed speed with MagShell®	
STPHM200	2 Hp high pressure fixed speed with MagShell®	

Notes:

1. Remove "M" from model number for non-MagShell® pump motor assembly.
2. STP models are compatible with fuel mixtures containing up to 10% ethanol with gasoline, up to 5% Biodiesel with diesel fuels, and 20% MTBE, 20% ETBE or 17% TAME with gasoline. STPAG models are compatible with fuel mixtures containing diesel fuel with up to 20% Biodiesel, 100% Biodiesel, up to 85% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline.
3. All models are supplied with a standard check valve unless factory option "R" or "W" is specified.
4. All above models require single-phase, 208-230 VAC, 60 Hz incoming power.
5. 4" riser pipe, if supplied locally, must be 4½" OD by ¾" WT tubing.
6. For riser pipe lengths 31" to 60", additional charges apply (call Customer Service for lead times).

*Model length (A) defined as the dimension from turbine manifold bottom to pump motor inlet. Model length (A) can be a minimum of 37" to a maximum of 211". Adder (p/n 400326912) applies if model length is 133" to 180" (charge is for boards to protect STP shipment). Adder (p/n 400326917) applies if model length is 181" to 211" and (p/n 400389112) applies if model length is 212" to 246" (additional charge is for crating to protect the STP).

Factory Installed Options

Model	Description
AG	Alcohol-gasoline compatible
F	Floating suction adapter, 1½" NPT female, must be factory installed
K	IFS (intake filter screen), factory assembled to pump motor assembly
R	Model R check valve, factory installed, for Veeder-Root® PLLD Line Leak

Field Installed Options

Model	Description
400137937	Syphon check valve, alcohol-gasoline compatible
400818921	STP-CBS, single-phase control box with lockout switch, 120 Volt coil
402312931	STP-DHI + SPGC-220 Guardian Series™ Single Phase Smart Controller bundle
402313921	STP-DHI-CBS, combo DHI with factory-wired STP-CBS
402459931	Model 65 psi check valve AG compatible, (for secondary of manifolded STPs with Veeder-Root® PLLD)
402507930	Secondary syphon kit (when two syphon primes are required for one STP)
5800100220	SPGC-220 Guardian Series™ Single Phase Smart Controller
5800300100	STP-DHI, dispenser hook isolation for 120 Volt dispenser handle switches, up to eight each

SPECIFICATIONS

General

Check valve	2 $\frac{3}{4}$ " diameter fluorocarbon seal constructed on cast aluminum body and aluminum backing washer
Pressure relief valve	Available in four pressure relief settings, integral to check valve. Standard model relieves at 40 psi and resets above 35 psi
Syphon	Venturi-type syphon primer supplied with every submersible. Syphon check valve and secondary syphon sold separately.
Air eliminator	Every submersible includes a tank return path with one-way check valve to provide active air elimination
Electrical disconnect	Electrical yoke for positive contractor disconnect during service
Approvals/ Certifications	<ul style="list-style-type: none"> – cULus listed – Consult factory for applicable approvals – Franklin Electric is an ISO 9001 Certified Manufacturer

Pump Motor

Fixed speed	3450 rpm, multi-stage centrifugal type pump motor with integral, automatic, thermal overload protection
$\frac{3}{4}$ Hp fixed speed	$\frac{3}{4}$ Hp fixed speed models are available as two-stage versions
1 $\frac{1}{2}$ and 2 Hp fixed speed	1 $\frac{1}{2}$ and 2 Hp fixed speed models are available in standard pressure (two-stage) versions and high pressure (H option, three-stage) versions

Power Requirements

Incoming power	Fixed length, fixed speed models require single-phase, 208-230 VAC, 60 Hz incoming power
$\frac{3}{4}$, 1 $\frac{1}{2}$, and 2 Hp versions	Fixed length, fixed speed models are available in $\frac{3}{4}$, 1 $\frac{1}{2}$, and 2 Hp versions
Fixed length, fixed speed	Fixed length, fixed speed models incorporate a starting and running capacitor with internal bleed resistor
350 volt, 1 5 microfarad	A 370 Volt, 15 microfarad rated capacitor is used with $\frac{1}{3}$, $\frac{3}{4}$, and 1 $\frac{1}{2}$ Hp fixed length, fixed speed versions
370 volt, 40 microfarad	A 370 Volt, 40 microfarad rated capacitor is used with 2 Hp fixed length, fixed speed versions
Single phase	SPGC-220 Guardian Series™ Single Phase Smart Controller and STP-CBS single-phase control boxes are available for fixed speed pump control

Liquid Compatibility

Max. liquid viscosity	70 SSU at 60° F (15° C)
Fixed length STP	Fixed length STP models are UL listed for fuel mixtures containing up to 10% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline
STPAG/STPAP (AG compatible)	STPAG/STPAP (AG compatible) models are UL listed for fuel mixtures containing diesel fuel with up to 20% Biodiesel, 100% Biodiesel, up to 85% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline
All fixed speed models	Fixed length models can also be used with diesel fuels, fuel oils, kerosene, Avgas, and jet fuels in a non-gelled pourable state
Wetted elastomers	All wetted elastomers are made of a high grade, fluorocarbon compound



REPLACEMENT PARTS & ACCESSORIES

ORDERING INFORMATION



Replacement Pump Motor Assemblies*

Model	Description
PMA33	1/3 Hp pump motor assembly (16" long)
PMA75	3/4 Hp 18 1/4" pump motor assembly (18 1/4" long)
PMA150	1 1/2 Hp pump motor assembly (21" long)
PMAH150	1 1/2 Hp high pressure pump motor assembly (21 3/4" long)
PMA200	2 Hp pump motor assembly (23 3/4" long)
PMAM200	2 Hp pump motor assembly with MagShell® (23 3/4" long)
PMAH200	2 Hp high pressure pump motor assembly (24 1/2" long)
PMAHM200	2 Hp high pressure pump motor assembly with MagShell® (24 1/2" long)



Replacement Gasoline Motor Assemblies*

Model	Description
PMAAG33	1/3 Hp AG pump motor assembly (16" long)
PMAAG75	3/4 Hp AG pump motor assembly (18 1/4" long)
PMAAG150	1 1/2 Hp AG pump motor assembly (21" long)
PMAAGH150	1 1/2 Hp AG high pressure pump motor assembly (21 3/4" long)
PMAAG200	2 Hp AG pump motor assembly (23 3/4" long)
PMAAGM200	2 Hp AG high pressure pump motor assembly with MagShell® (23 3/4" long)
PMAAGH200	2 Hp AG high pressure pump motor assembly (24 1/2" long)
PMAAGHM200	2 Hp AG high pressure pump motor assembly with MagShell® (24 1/2" long)



Replacement Variable Speed Pump Motor Assemblies*

Model	Description
PMAMVS2	2 Hp variable speed pump motor assembly with MagShell® (20" long)
PMAAGMVS2	2 Hp AG variable speed pump motor assembly with MagShell® (20" long)
PMAMVS4	4 Hp variable speed pump motor assembly with MagShell® (25" long)
PMAAGMVS4	4 Hp AG variable speed pump motor assembly with MagShell® (25" long)

4" STP Extractable Sections (Less Manifold, Riser, and PMA)



Model	Description
STPEXT-XXX	Fixed length extractable (XXX indicates model length, p/n 400394901) **
STPAGEXT-XXX	AG Fixed length extractable (XXX indicates Model Length, p/n 400394905) **
STPEXT-VL1	Variable length #1 extractable (p/n 402074901)
STPEXT-VL2	Variable length #2 extractable (p/n) 402075902)
STPEXT-VL3	Variable length #3 extractable (p/n 402075903)
STPAGEXT-VL1	AG variable length #1 extractable (p/n 402201902)
STPAGEXT-VL2	AG variable length #2 extractable (p/n 402202902)
STPAGEXT-VL3	AG variable length #3 extractable (p/n 402203902)
STPAEXT-VL1	AP variable length #1 extractable (p/n 403614901) ***
STPAEXT-VL2	AP variable length #2 extractable (p/n 403614902) ***
STPAEXT-VL3	AP variable length #3 extractable (p/n 403614903) ***

Note: Remove "M" from model number for non-MagShell® pump motor assemblies.

* For pump motor assemblies (PMAs) with floating section adapters (1 1/2" NPT female connections), specify "F" in the number; adder charge applies when ordering PMA.
For PMAs with intake filter screen, specify "K" in the model number; adder charge applies when ordering PMA.

**Model length (XXX) defined as the dimension from turbine manifold bottom to pump motor inlet. Model length (A) can be a minimum of 37' to a maximum of 211',
Fixed Length adders apply for Extractable Model Lengths 133" and longer (please call Customer Service for lead times of Extractables with a model length of 181" and longer).

***Please call Customer Service for lead times of AP Extractables.



ORDERING INFORMATION CONTINUED

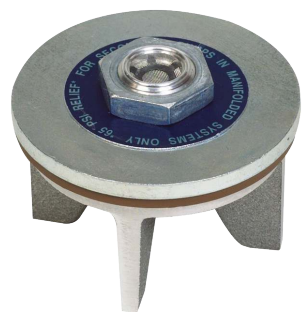
Intake Filter Screen

An Intake Filter Screen (IFS) provides fuel filtration for the entire system down to about the size of a grain of sand (0.009" openings). It's designed to keep harmful debris, sediment, and tank corrosion from entering the pumping system and creating service events including dispenser filter changes. Mounts to FE PETRO® or competitive 4" pump motor end bell and only adds about 1" to assembly length.



Model	Description
400660901	Intake filter screen, single pack
400660912	Intake filter screen, 12-pack carton

Check Valves



Model	Description
400988934	Standard check valve, AG compatible
400988935	Model R check valve (for Veeder-Root® PLLD), AG compatible
402459931	Model 65 psi check valve (for secondary manifolded STPs with Veeder-Root® PLLD), AG compatible

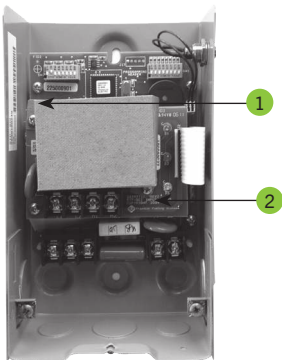
Secondary Syphon Kit

For use when two syphon primers are required for one 4" STP. Not available factory installed.



Model	Description
402507930	Secondary syphon kit (when two syphon primes are required for one STP)

STP-SCI Single Phase Smart Controller



Item	Model	Description
1	225000930	SCI lower board control
2	225005930	SCI upper board relay

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ORDERING INFORMATION CONTINUED

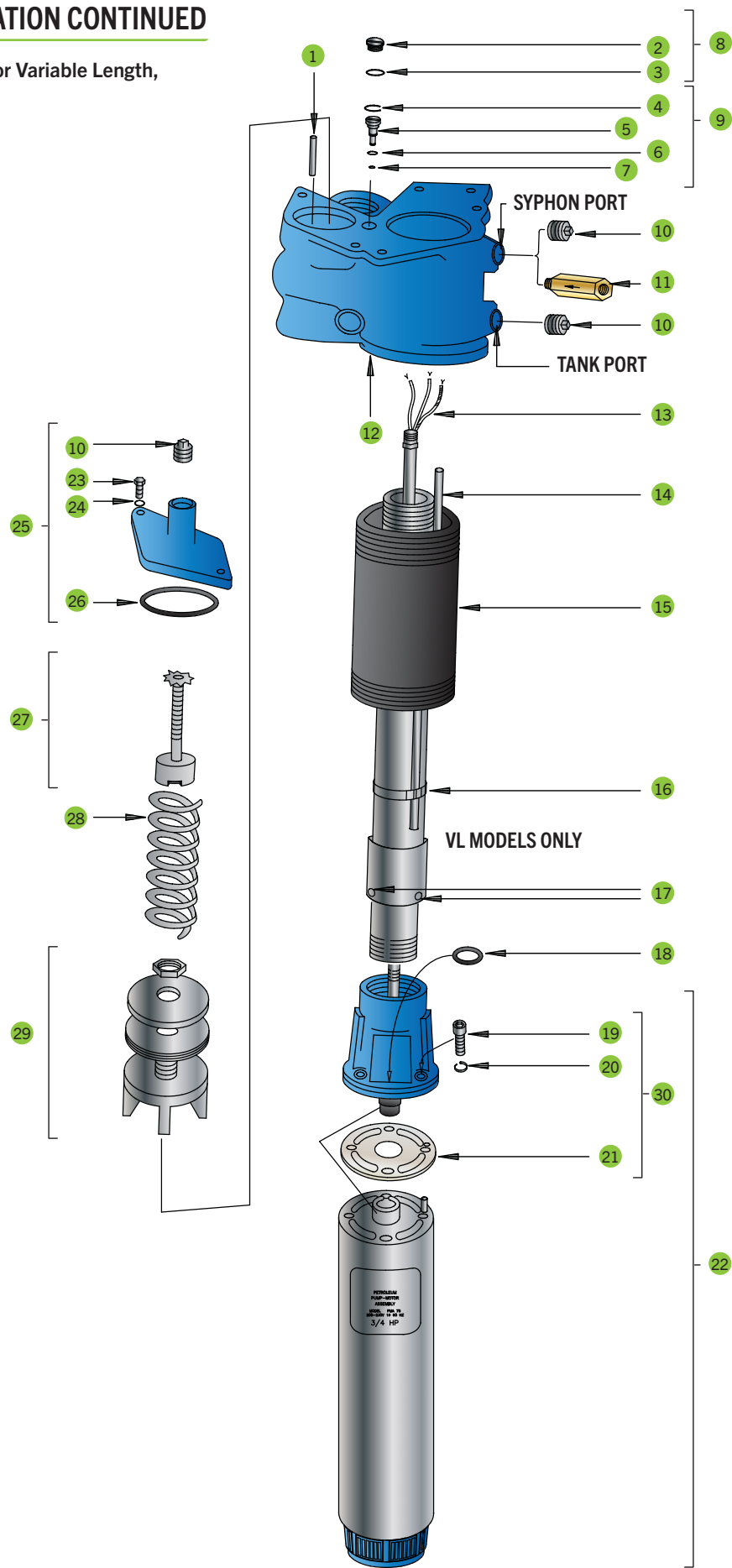
PMA, Riser, and Check Valve for Variable Length and Fixed Length Pumps

Use the parts drawing on the following page.

Item	Model	Description	Qty
1	400125001	3/16" x 1 5/8" spiral pin	1
2	400615001	Manual relief plug (400615002 AG compatible)	1
3	400211114	O-ring, MPR plug	1
4	400627001	Retaining ring, MPR	1
5	400616001	Manual relief screw (400616002 AG Compatible)	1
6	400333012	Relief screw, top O-ring	1
7	400333007	Relief screw, bottom O-ring	1
8	400628901	Manual relief plug assembly, includes items #2 and #3 (400628902 AG compatible)	1
9	400629901	Manual relief screw assembly, includes items #4, #5, #6, and #7 (400629902 AG compatible)	1
10	400259001	1/4" NPT pipe plug, may be purchased locally	3
	403499001	1/4" NPT pipe plug, may be purchased locally (stainless steel, for AP models)	
11	400137937	Syphon check valve	-
12	400221930	Discharge manifold, includes #1, #8, #9, and two #10	1
	400221931	Discharge manifold (includes item #1, #8, #9, and #10) (for AP models)	-
13	151213930	156" lead assembly	1
	151213932	240" lead assembly	
14	Purchase locally	Stationary vapor tube, 3/8 OD x 7/20 WT	-
15	4001689XX (XX = length)	Riser, 4 1/2" OD x 3/16" WT steel tubing (consult factory for lead times for 31"-60" lengths) 7" - 19" 20" - 30" 31" - 49" 50" - 60"	1
	4035229XX (XX = length)	Riser, 4 1/2" OD x 4.12" ID (stainless steel, for AP models) consult factory for lead time 7" - 19" 20" - 30" 31" - 49" 50" - 60"	
16	Purchase locally	1/2" steel banding (stainless steel for AP models)	-
17	400600002	5/16-24 x 7/16" set screw for variable lengths only	3
	403432002	5/16-24 x 7/16" set screw for VL models only (stainless steel, for AP models)	-
18	400333015	Lead assembly O-ring	4
19	400264009	5/16-18 x 1 1/8" socket head cap screw, may be purchased locally	4
	403506001	5/16-18 x 1 1/8" socket head cap screw, may be purchased locally (stainless steel, for AP models)	
20	400263004	5/16" high-collar lock washer, may be purchased locally	1
	403505001	5/16" high-collar lock washer, may be purchased locally (stainless steel, for AP models)	
21	403403003	PMA gasket (403403002 AG/AP compatible)	1
22	PMA XXX	Pump motor assembly, includes item #30 (XXX indicates options and horsepower)	1
23	400981001	3/8-16 x 1" Hex head screw	2
	403504001	3/8-16 x 1" Hex head screw (stainless steel, for AP models)	
24	400285002	3/8" standard lock washer, may be purchased locally	2
	1117703	3/8" standard lock washer (stainless steel, for AP models)	
25	400197930	Manifold assembly cover, includes #10, #26, two #23, and two #24	1
	400197931	Manifold Assembly Cover (includes item #10, #23, #24, and #26 for AP models)	
26	400333238	O-ring, manifold cover (AG compatible)	1
27	400147930	Clamp valve assembly (AG compatible)	1
28	400174930	Check valve spring	1
29	400988934	Standard check valve, includes item #26 (AG compatible)	1
	400988935	Model R check valve, (for Veeder-Root™ PLLD) includes item #26 (AG compatible)	
	402459931	Model 65 psi check valve, AG compatible (for secondary manifolded STPs with Veeder-Root™ PLLD)	
30	152350902	PMA hardware pack, includes #21, and four #19 and #20 (152350904 AG compatible)	-
--	400216905	AG compatible O-ring kit, includes items #3, #6, #7, and #26 on this page and items #2, #10, #13, #19 and #20 on the Discharge Manifold Assembly page	-

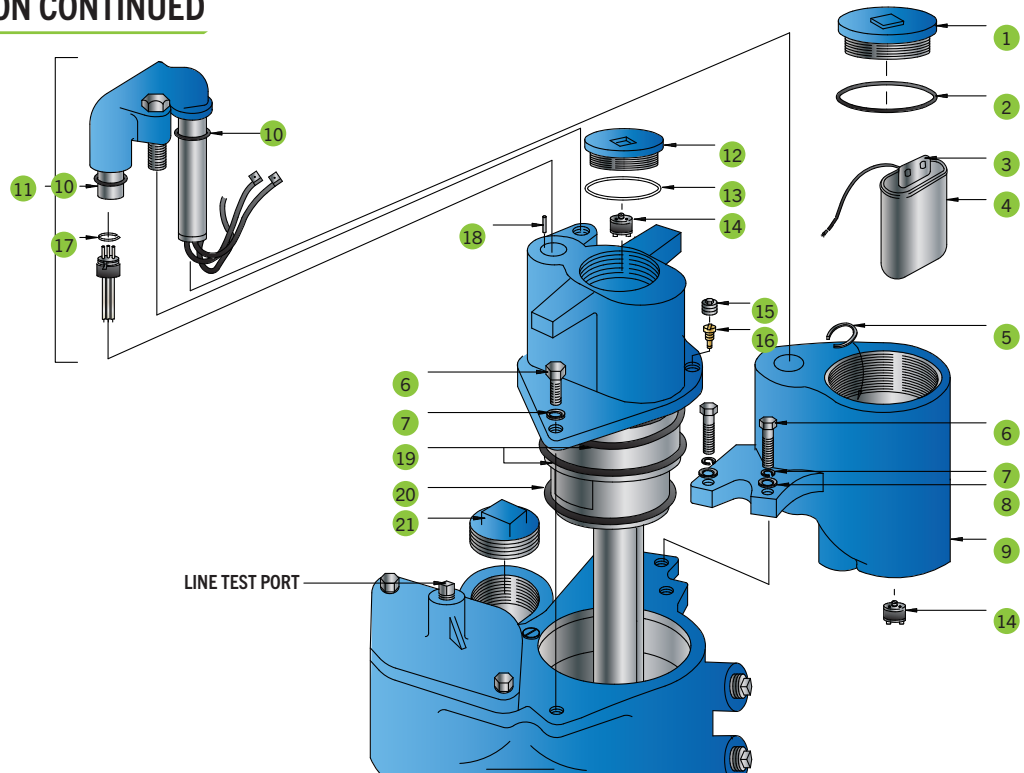
ORDERING INFORMATION CONTINUED

PMA, Riser, Check Valve for Variable Length, and Fixed Length Pumps



ORDERING INFORMATION CONTINUED

Discharge Manifold Assembly



Item	Model	Description	Qty.
1	400192930	Junction box cover, includes item #2	1
	400192931	Junction box cover, includes item #2 (for AP models)	
2	400210233	O-ring, junction box cover	1
3	400655001	Capacitor boot	1
4	400170931	Capacitor assembly for 1/3 to 1 1/2 hp, 60 Hz, 15µfd, 370 Volt single-phase; includes one black lead	1
	400170934	Capacitor assembly for 2 hp, fixed speed, 60 Hz, 40µfd, 370 Volt single-phase; includes one black lead	
5	400257001	Retaining ring, Female connector	1
6	400258002	3/8-16 x 1 1/4" Hex head bolt, may be purchased locally	4
	602011016	3/8-16 x 1 1/4" Hex head bolt (stainless steel, for AP models)	
7	400285002	3/8 standard lock washer, may be purchased locally	4
	1117703	3/8 standard lock washer (stainless steel, for AP models)	
8	400280001	3/8 standard flat washer, may be purchased locally	2
	403500001	3/8 standard flat washer (stainless steel, for AP models)	
9	400651930	Junction box assembly, includes two #6, #7, and #8	1
	400651931	Junction box assembly (includes item #6, #7, and #8, for AP models)	
10	400210212	O-ring, Female connector	2
11	400200930	Wire connector kit, includes male/female connectors, two #10, one #5, and #18	1
	400200931	Wire connector kit, includes male/female connectors, two #10, one #5, and #18 (for AP models)	
12	400589930	Cover, includes item #13	1
--	400589931	Cover, includes item #13 (for AP models)	
13	400210229	O-ring	1
14	400236903	Contractor's plug, 4-wire	2
15	400259002	3/8" NPT pipe plug, may be purchased locally (403499002, stainless steel for AP models)	1
16	400562901	Syphon jet assembly (400562903 AG compatible)	1
17	400249001	Retaining ring	1
18	400250002	1/8" dia. x 1/2" roll pin	1
19	400333343	AG compatible O-ring, extractable (upper, large)	2
20	400333340	AG compatible O-ring, extractable (lower)	1
21	400259005	2" NPT square head plug	1
	403499003	2" NPT square head plug (stainless steel, for AP models)	



MLD+ MECHANICAL LEAK DETECTORS

ORDERING INFORMATION

Standard Fuel MLD+ Mechanical Leak Detectors

Model	Description
403168901	STP-MLD+G for gas, single pack (blue cover, copper vent tube, brass fittings)
403168903	STP-MLD+G for gas, three pack
403170901	STP-MLD+D for diesel, single pack (black cover, copper vent tube, brass fittings)
403170903	STP-MLD+D for diesel, three pack
403172903	STP-MLD+ Combo, three pack (contains two STP-MLD+G and one STP-MLD+D)

Biofuel MLD+ Mechanical Leak Detectors

Model	Description
403169901	STP-MLD+AG for alcohol-gas, single pack (blue cover, stainless steel tube and fittings)
403169903	STP-MLD+AG for alcohol-gas, three pack
403171901	STP-MLD+BD for Biodiesel, single pack (gold cover, stainless steel tube and fittings)
403171903	STP-MLD+BD for Biodiesel, three pack

Notes:

1. MLD+G are listed for compatibility with fuel mixtures containing up to 10% ethanol with gasoline, up to 5% Biodiesel with diesel fuels, and 20% MTBE, 20% ETBE, or 17% TAME with gasoline.

2. MLD+D models are listed for compatibility with diesel fuels with up to 5% Biodiesel and kerosene applications only.

3. MLD+AG models are listed for fuel mixtures containing up to 85% ethanol with gasoline and 20% MTBE, 20% ETBE, or 17% TAME with gasoline as well as diesel fuels, fuel oils, kerosene, Avgas, and jet fuels.

4. MLD+BD models are listed for diesel with up to 20% Biodiesel or 100% Biodiesel and kerosene applications only.

5. All above models will only mount in the 2" NPT leak detector port of a 4" submersible turbine, including competitive models, or in a leak detector adapter tee (sold separately below).

6. MLD+ models are listed for use with rigid pipelines up to 165.1 gallon capacity, with flexible pipelines up to 109.8 gallon capacity, and with combination rigid/flexible pipelines up to 274.9 gallon capacity.

MLD+ Mechanical Leak Detector Repair Parts and Accessories

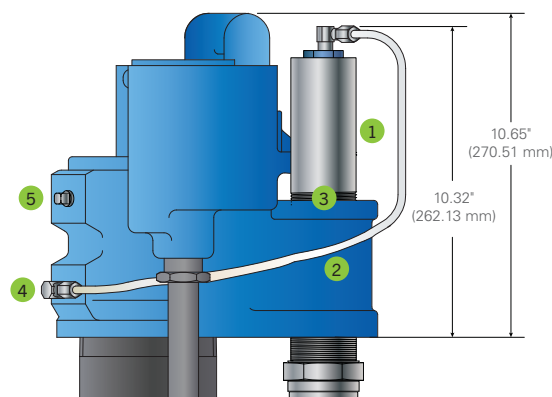
Model	Description
400440101	Vent tube (for use with MLD+G and MLD+D)
400449903	Hardware pack (fittings and documentation for MLD+G and MLD+D)
403123001	Vent tube, stainless steel (for use with MLD+AG and MLD+BD)
400449904	Hardware pack (fittings and documentation for MLD+AG and MLD+BD)
400518001	Leak detector adapter tee

SPECIFICATIONS

Line leak detection	All models are capable of detecting line leaks equivalent to 3 gph at 10 psi (11.4 lph @ 0.70 bar) when installed properly with the appropriate fuels - all models will signal detection of leaks by restricting product delivery to less than 3 gpm (11.4 lpm) and taking more than 4 seconds to open
Delivery default	All models will remain in the open position during product delivery to manifold, with discharge pressures as low as 1 psi (0.07 bar) - all models will reset to "tripped" when line pressure delay is below 3 psi (0.21 bar) with pump off
Detection distance	Detects leaks up to 10 feet (3 meters) above the point of installation
Max. liquid viscosity	70 SSU at 60° F (15° C)
Gasoline models	Gasoline models (blue cover, MLD+G and MLD+AG) are also listed for fuel mixtures containing 20% MTBE, 20% ETBE or 17% TAME with gasoline as well as diesel fuels, fuel oils, kerosene, Avgas, and jet fuels
Diesel models	Diesel models (gold cover, MLD+D and MLD+BD) are also listed for kerosene applications
Approvals / Certifications	<ul style="list-style-type: none"> cULus listed Third party certified to comply with US EPA requirements 280.41 (B) and 280.44 (A) for continuous monitoring of pressurized piping Consult factory for other applicable approvals

Installation

- 1 MLD+
- 2 MLD+ vent tube
- 3 Line Leak Detector Housing (2" NPT)
- 4 Tank port (vent tube must be connected here)
- 5 Syphon port



HIGH CAPACITY SUBMERSIBLE TURBINE PUMPS

ORDERING INFORMATION

High Capacity Submersible Turbine Pump Model Designation System

A typical turbine model designation has up to five components to define the pump being supplied as follows:

STP XXXXX Y - A - B

STP = Basic Model Designation

Note: Standard models up to 10% ethanol capable.

XXXXX = Factory Installed Options

HCP model designations may include one or more of the following characters in alphabetical order:

F = Floating suction adapter (3" NPT male adapter)

*R = Model R check valve (24 psi relief/22 psi reset for PLLD)

**If not otherwise specified, all HCP models supplied with standard model check valve (40 psi relief/35 psi reset for MLD, TS-LS300, and TS-LS500).*

Y = Pump Motor Horsepower Rating

3 = 3 hp fixed speed, 208-230 VAC

5 = 5 hp fixed speed, 208-230 VAC

5H = 5 hp fixed speed, 460 VAC

5G = 5 hp fixed speed, 575 VAC

A = Model Length

Model length is expressed as three numeric characters that indicate the length of the HCP from the turbine manifold bottom to the pump motor inlet in inches, available from 60" to 200" (additional charge for models 132" and longer)

B = Riser Pipe Length

Riser pipe length is expressed as two numeric characters that indicate the total length of the riser in inches. Riser pipes are available from 6" to 60" in three inch increments (additional charge and lead time for risers 27" or longer).

High Capacity Turbine Pumps (Fixed Length Only)**

Model	Description
STP3	3 hp 6" STP, three-phase 208-230 VAC
STP5	5 hp 6" STP, three-phase 208-230 VAC
STP5H*	5 hp 6" STP, three-phase 460 VAC
STP5G*	5 hp 6" STP, three-phase 575 VAC

**Please call customer service for lead time on this item.*

Notes:

1. STP models are listed for compatibility with fuel mixtures containing up to 10% ethanol with gasoline and up to 5% Biodiesel with diesel fuels.

2. All models are supplied with a standard check valve unless factory option "R" is specified.

3. All above models require three-phase, 60 Hz incoming power.

4. 6" riser pipe, if supplied locally, must be 6 3/8" OD by 1/4" WT tubing.

5. For riser pipe lengths 27" to 60" long, additional charges apply (consult factory for lead times).

**** Model length (A) defined as the dimension from the turbine manifold bottom to pump motor inlet. Model length can be minimum of 60" to a maximum of 200".**

Adder (P/N 401190911) applies if model length is 132" to 170" or adder (P/N 401190914) applies if model length is 171" to 200" (charge is for additional packaging).

Please call Customer Service for lead times.



SUBMERSIBLE
PUMPING SYSTEMS

ORDERING INFORMATION CONTINUED

Factory Installed Options

Model	Description
F	Floating suction adapter, 3" male NPT (must be ordered with STP)
R	Model R relief valve factory installed, for Veeder-Root® PLLD

Field Installed Options

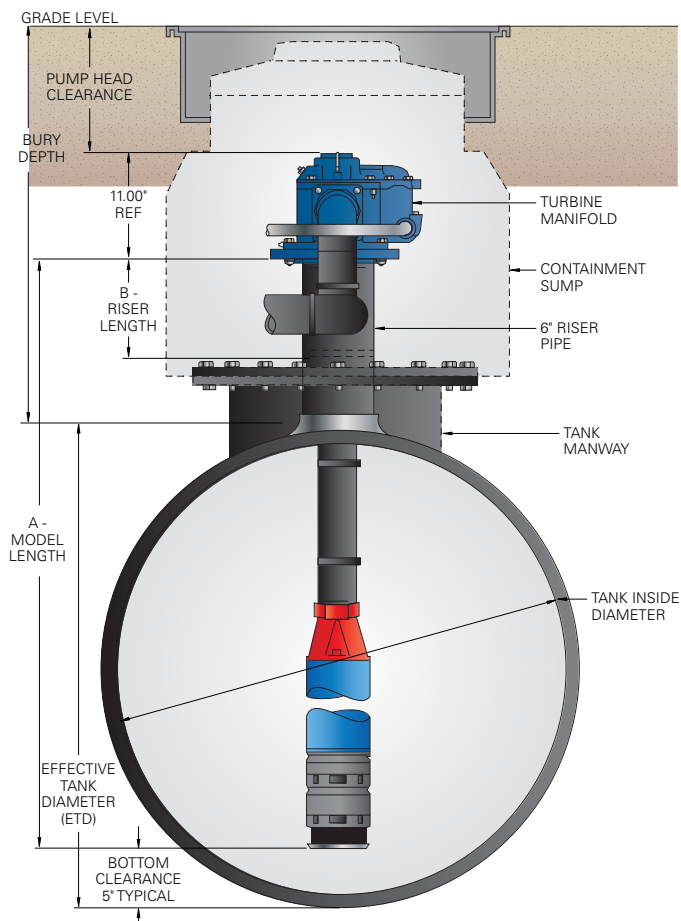
Model	Description
401165905	Syphon system (when purchased with STP)
STP-CB3	3 hp, 208-230 VAC, 60 Hz, three-phase motor starter, 120 VAC coil
STP-CB5	5 hp, 208-230 VAC, 60 Hz, three-phase motor starter, 120 VAC coil
STP-CB5G	5 hp, 575 VAC, 60 Hz, three-phase motor starter, 120 VAC coil
STP-CBB5H	5 hp, 460 VAC, 60 Hz, three-phase motor starter, 220 VAC coil
TPGC-220	Three-phase Guardian Controller, 120 VAC coil

Note: Three-phase Guardian Controller is compatible with FE PETRO® 208/230 Volt 3 and 5 hp high capacity STPs and like competitive makes. Not available for 460 or 575 Volt models.

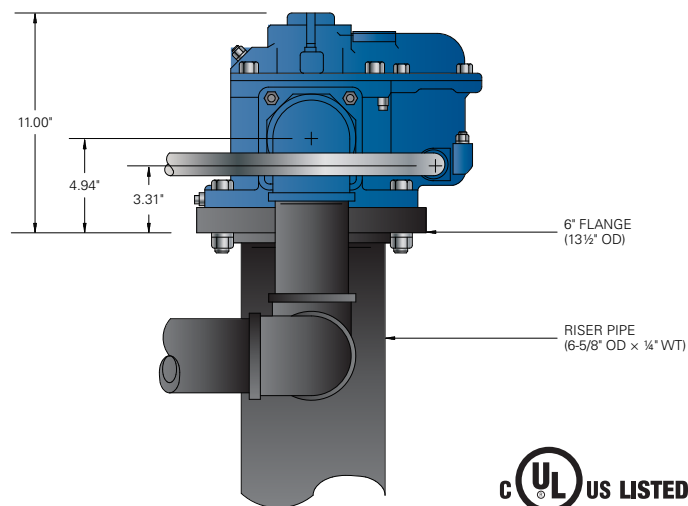
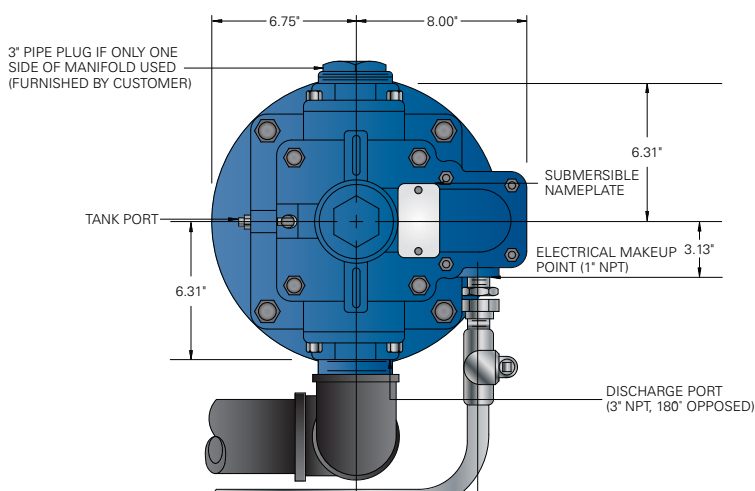
6" STP Extractable (Less Manifold, Riser, and PMA)

Model	Description
STPHC-EXT-XXX	6" fixed length extractable (p/n 401230901, where XXX indicates model length)*

* Model length can be minimum of 60" and a maximum of 200" (length adder charges apply for model lengths 132" to 200"). Please call Customer Service for lead times.



Note: 1. Effective tank diameter (ETD) = Inside tank diameter (to top of 6" bung), including tank manway and/or sump adapter.
 2. Model length (A) = ETD plus riser length minus bottom clearance minus 2" thread engagement.
 3. Riser length (B) = Bury depth (to top of tank) minus pump head clearance minus tank manway and/or minus sump adapter.

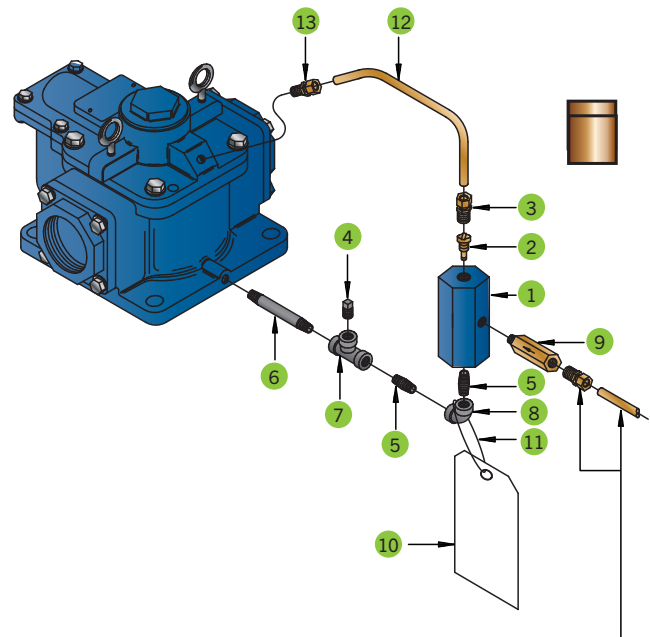


SUBMERSIBLE PUMPING SYSTEMS

Model	Description
PMA3	3 hp 208-230 Volt 6" pump motor assembly
PMA3RJ	3 hp 208-230 Volt 6" pump motor assembly, replaces competitive model UMP300J4-2HB
PMA5	5 hp 208-230 Volt 6" pump motor assembly
PMA5RJ	5 hp 208-230 Volt 6" pump motor assembly, replaces competitive model UMP500J4-2K
PMA5H"	5 hp 460 Volt 6" pump motor assembly
PMA5G"	5 hp 575 Volt 6" pump motor assembly

***Please call customer service for lead time on these items.*

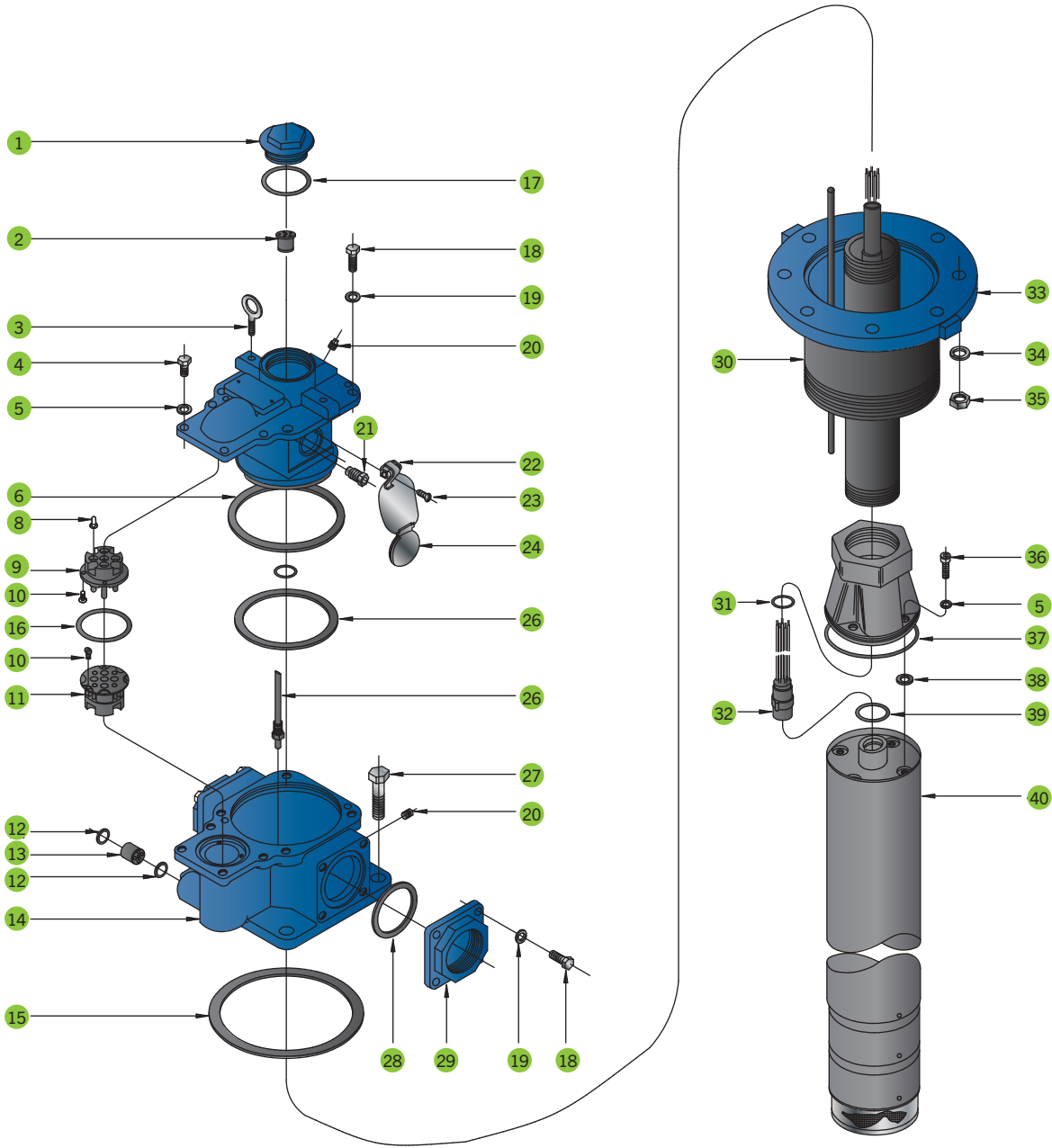
Item	Model	Description
1	402505001	Syphon block
2	400562901	Syphon jet assembly
3	400430004	3/8" P x 3/8" T compression fitting
4	400259001	1/4" pipe plug
5	400114001	1/4" close nipple, two required per system
6	400114003	1/4" nipple x 3" long
7	402510001	1/4" threaded tee
8	402511001	1/4" threaded elbow, 90°
9	400137937	Syphon check valve
10	402544001	Caution tag
11	400982001	Security seal
12	402553902	Copper tube (HC pump)
13	400430003	1/4" P x 3/8" T compression fitting
--	401165930	Syphon unit complete, includes all items above



High Capacity Submersible Turbine Pumps

ORDERING INFORMATION CONTINUED

High Capacity General Assembly



STP3 and STP5 High Capacity General Assembly

Item	Model	Description	Qty
1	401148101	Connection box cover	1
2	400236909	Seal off plug assembly, 5-wire	1
3	401149001	Eye bolt	2
4	400258001	3/8-16 × 1" large Hex head cap screw	4
5	400285002	3/8" lock washer	8
6	401236002	Upper manifold seal	1
8	400273004	12 gauge wire terminal	6
	400273006	14 gauge wire terminal	4
9	401142901	Plug assembly	1
10	401091001	6-32 × 3/8" large round head machine screw, three required per connector	6
11	401137901	Receptacle assembly	1
12	401238001	Bushing ring, electrical entry	2
13	401239001	Seal plug, electrical entry	1
14	401112101	Discharge manifold	1
15	401163001	6" flange gasket	1
16	400333235	O-ring, connectors	1
17	400333234	O-ring, connection box cover (400210234)	1
18	400258005	1/2-13 × 1 1/4" large Hex head cap screw	12
19	400285005	1/2" lock washer	12
20	400259001	1/4" pipe plug	2
21	401032901	Model 550 relief (old standard pressure, tire valve)	2
	401330901	Standard relief (units built since S/N 0302XXXX)	1
	401330902	Model "R" relief (units built since S/N 0302XXXX)	1
22*	401154001	Valve spring and bracket	2
23	400523001	10-24 × 3/8" long Sems fastener, two required per bracket	4
24*	401150101	Inset valve assembly (check valve)	2
25	401236001	Lower manifold seal	1
26	401158904	Air eliminator assembly (includes return check valve, order 401158914 for check valve only)	1
27	400258006	3/4-10 × 3" large Hex head cap screw	4
28	401162001	3" flange gasket	2
29	401113101	3" companion flange	2
30	4011910XX 6 5/8" OD × 1/4" WT (XX = length)	6" riser pipe 9" riser pipe 12" riser pipe 15" riser pipe 18" riser pipe 21" riser pipe 24" riser pipe	1
31	400333218	O-ring, lead assembly	1
32	151593906	192" lead assembly	1
33	401161101	6" flange	1
34	993517	3/4" lock washer (400285006)	4
35	400274004	3/4-10 Hex nut	4
36	400264011	3/8-16 × 1 1/4" large SHCS	4
37	400333255	O-ring, motor discharge (large, shell)	1
38	402406001	Rubber washer	4
39	400333225	O-ring, motor discharge (small, electrical hub)	1
40	PMA XXX	Pump motor assembly, includes #37, #39, and four #5, #36, and #38 (XXX indicates options and horsepower)	1

*401154001 and 401150101 must be replaced together

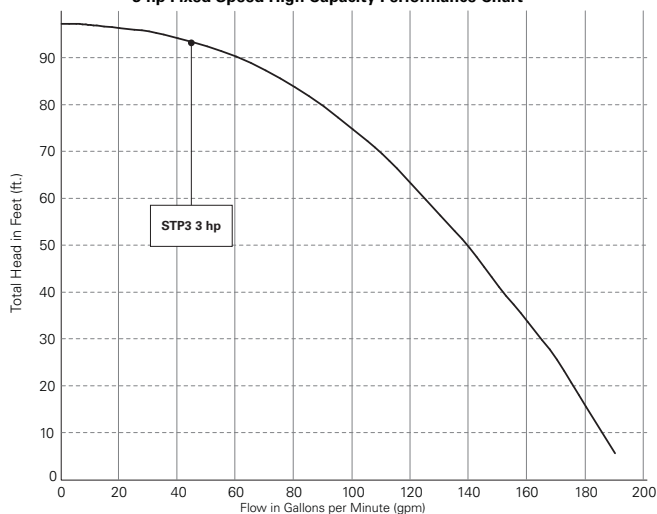


SPECIFICATIONS

Pump motor	<ul style="list-style-type: none"> Fixed speed, 3450 rpm, multi-stage centrifugal type pump motor with built-in, automatic, thermal overload protection High capacity pump 60 Hz models are available as two-stage versions only
Standard features	<ul style="list-style-type: none"> Fixed speed, 3450 rpm, multi-stage centrifugal type pump motor with built-in, automatic, thermal overload protection High capacity pump 60 Hz models are available as two-stage versions only
Approvals / Certifications	<ul style="list-style-type: none"> Consult factory for applicable approvals Franklin Electric is an ISO 9001 Certified Manufacturer

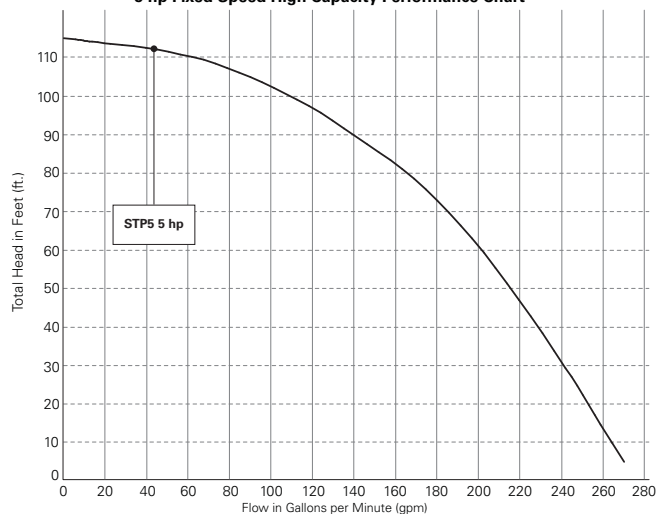
Power requirements	<ul style="list-style-type: none"> High capacity pump models require three-phase, 60 Hz incoming power High capacity pump models are available as 208-230 VAC, 460 VAC or 575 VAC versions High capacity pump models are available in 3 hp and 5 hp versions STP-SCIII three-phase Smart Controllers and STP-CB3/5 three-phase control boxes are available for high capacity pump control
Liquid compatibility	<ul style="list-style-type: none"> Max. liquid viscosity: 70 SSU at 60° F (15° C) Standard models are UL and cUL listed for fuel mixtures containing up to 10% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline High capacity models can also be used with diesel fuels, fuel oils, kerosene, Avgas, and jet fuels in a non-gelled pourable state All wetted elastomers are made of a high grade, fluorocarbon compound

3 hp Fixed Speed High Capacity Performance Chart



Note: Performance based on pumping solvent (0.78 specific gravity). Pressure is taken at the manifold discharge outlet. STP3 models are powered by a three-phase, 60 Hz, 208/230 Volt power supply.

5 hp Fixed Speed High Capacity Performance Chart



Note: Performance based on pumping solvent (0.78 specific gravity). Pressure is taken at the manifold discharge outlet. STP5 models are powered by a three-phase, 60 Hz, 208/230 Volt power supply.



HIGH CAPACITY LINE LEAK DETECTOR

ORDERING INFORMATION

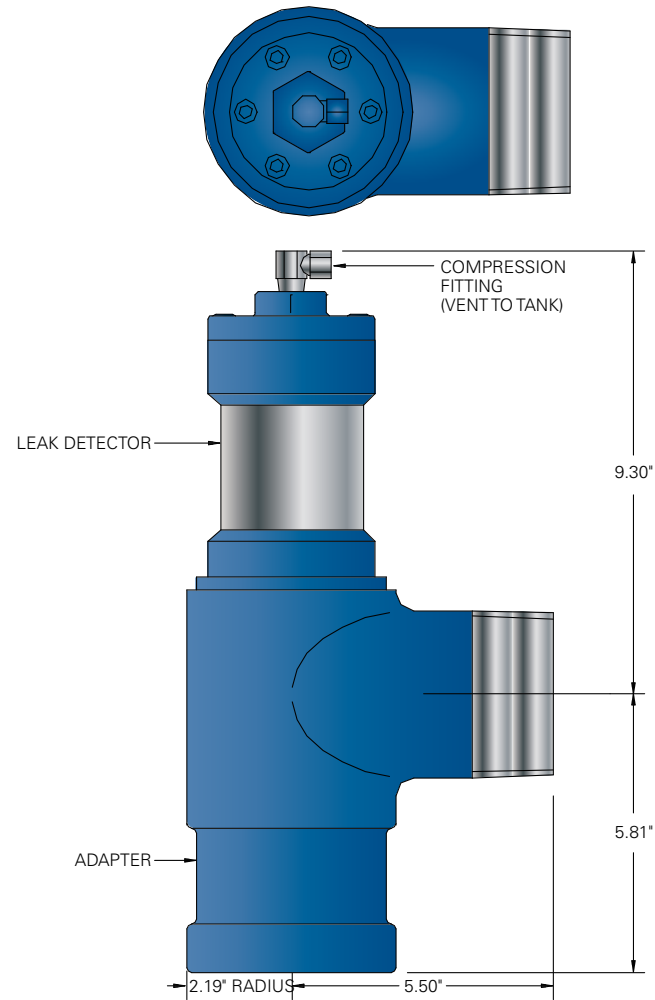
High Capacity Mechanical Leak Detectors*

Model	Description
401315902	STP-MLD-HC leak detector complete with Adapter "T" (blue paint, for gasoline)
401320902	STP-MLD-HCD leak detector complete with Adapter "T" (black paint, for diesel)
401315901	Replacement high capacity leak detector ONLY (blue paint, for gasoline)
401320901	Replacement high capacity leak detector ONLY (black paint, for diesel)
401316930	Replacement cover assembly
401325901	Replacement Adapter "T" with cover assembly
400449902	MLD-HC hardware pack, includes fittings and documentation

- Notes:
1. MLD-HC models are listed for compatibility with fuel mixture containing up to 10% ethanol with gasoline, up to 5% Biodiesel with diesel fuels, and 20% MTBE, 20% ETBE, or 17% TAME with gasoline.
 2. MLD-HCD models are listed for compatibility with diesel fuels containing up to 5% Biodiesel and kerosene applications only.
 3. All above models will only mount in Adapter "T" (P/N 401325901)
 4. *Refer to high capacity MLD installation manual for complete fuel compatibility.

SPECIFICATIONS

Line leak detection	Detects leaks of 3 gph (11.4 lph) or greater at 10 psi (69 kpa)
US EPA requirements	Third party evaluated to comply with US EPA requirements 280.41 (B) and 280.44 (A) for continuous monitoring of pressurized piping systems with maximum of 396.60 gallons for rigid pipelines, maximum of 95.5 gallons for flexible pipelines, maximum of 492.10 gallons for combination of rigid and flexible pipelines
Size	7¾" × 15" (197 mm × 381 mm)
Weight	28 pounds (12.7 kg)
MLD-HC	The MLD-HC will remain in the open flow position with dynamic line pressure at 2 psi (13.8 kpa) at the outlet



Maximum static head pressure	Maximum static head pressure without affecting operation is 12' (3.7 m) from MLD-HC to dispensing point
Minimum height	Minimum height required from 3" (76.2 mm) NPT port centerline for top clearance is 9½" (241 mm). Not position sensitive. Can be installed horizontally to reduce clearance to 3" (76.2 mm).
Motor fuels	<ul style="list-style-type: none">— Compatible with all blends of motor fuels including alcohol blends from 0 to 10% ethanol, 20% MTBE or ETBE with 80% gasoline, or 17% TAME with 83% gasoline as well as diesel, fuel oil, Avgas, jet fuel, or kerosene— Two models available: STP-MLD-HC for gasoline, STP-MLD- HCD for diesel
Approvals / Certifications	<ul style="list-style-type: none">— Consult factory for applicable approvals— ISO 9001:2015 certified manufacturer



MAGVFC™ VARIABLE FREQUENCY CONTROLLER

ORDERING INFORMATION

MagVFC™ Variable Frequency Controller

Model	Description
5874202800	MagVFC™, 2 Hp or 4 Hp variable frequency controller, one required per STPM VS2 or VS4

MagVFC™ Variable Frequency Controller Replacement Parts

Model	Description
223919930	MagVFC™ fan assembly
225040930	MagVFC™ user interface board
228289930	MagVFC™ normally open relay

Variable Speed Conversion Kits

Model	Description
402671901	Kit with 4 hp variable speed non-MagShell® (PMA VS4)
402671907	Kit with 4 hp variable speed with MagShell® (PMA MVS4)
400693907	Kit with 2 hp variable speed with MagShell® (PMA MVS2)
400693901	Kit with 2 hp variable speed non-MagShell® (PMA VS2)
400693905	Kit with AG compatible 2 hp variable speed non-MagShell® (PMAAGVS2)
400693906	Kit with AG compatible 2 hp variable speed with MagShell® (PMAAGMVS2)
402671905	Kit with AG compatible 4 hp variable speed non-MagShell® (PMAAGVS4)
402671906	Kit with AG compatible 4 hp variable speed with MagShell® (PMAAGMVS4)

Note: Kits include variable speed pump motor assembly, MagVFC™ variable frequency controller, four-wire contractor's plug and installation instructions. For upgrade of older competitive 4" submersible turbine pumps, additional parts may be required.



SPECIFICATIONS

MagVFC™ Variable Frequency Controller

Variable speed pumps are controlled by the MagVFC™ variable frequency controller which provides control for both 2 hp and 4 hp variable speed STPs. Features include:

- Faster fill times during peak hours and power savings during non-peak hours.
- Control is determined through the PMA power consumption, eliminating the need for a transducer or special wiring.
- Setup selections include 2 hp or 4 hp, MLD or PLLD, gas or diesel, and Primary-Secondary, alternating circuit manifolded pump control options.
- Capable of networking with EVO™ Series fuel management systems for enhanced pump control capabilities.

Diagnostic Fault Detection

The MagVFC™ variable frequency controller features a dual 7-segment display that displays running status and fault codes. A fault history on the controller also provides an enhanced troubleshooting process with faults like:

- UL = Underload: Dry run or blocked PMA intake
- LI = Low Incoming: Input power under voltage
- Lr = Locked Rotor: Overloaded while PMA is running
- LU = Locked Up: Overload at PMA startup
- SC = Short Circuit: Short typically from controller to PMA
- SU = Shorted Upper: Short typically in controller
- OC = Open Circuit: Broken connection to PMA
- Er = Extended Run: No power change for 60 minutes
- HO = Hot Operation: Excessive controller temp / fan protection

Approvals/Certifications

- cULus Listed
- ISO 9001:2015 certified manufacturer



GUARDIAN SERIES™ FIXED SPEED PUMP CONTROLLER

ORDERING INFORMATION

Guardian Series™ Single Phase Controller

Model	Description
5800100220	SPGC-220 Guardian Series™ Single-Phase Controller, 220 Volt
402312931	STP-DHI + SPGC-220 Guardian Series™ Single-Phase Controller bundle (220 Volt supply, 110 Volt hook)

Notes:

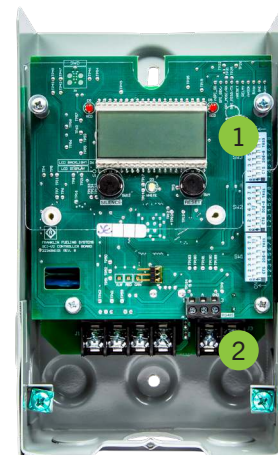
1. Compatible with all single-phase FE PETRO® and competitive model STPs.
2. One controller required for each submersible (up to 2 Hp).
3. Compatible for use in primary/secondary configurations with STP-SCI models.

Replacement Parts

Item	Model	Description
1	225000932	SPGC-220 upper (user input) replacement board
2	225005932	SPGC-220 lower (power, relay) replacement board

Capabilities

Capability	Standard Relay Box (STP-CBS)	Smart Controller (STP-SCI)	Guardian Series™ Controller (SPGC-220)
Pump Compatibility	up to 2 Hp	up to 2 Hp	up to 2 Hp
Horsepower Selection	Not Required	Not Required	Not Required
Standard THHN Wiring	YES	YES	YES
Primary/Secondary Pump Operation	NO	YES	YES
Alternating Pump Operation	NO	YES	YES
Communication Display	NO	YES, yellow flashing light	YES, yellow flashing light
Incoming Power Display	NO	YES, solid green light	YES, displays "IdLE"
Pump Running Display	YES, red pilot light	YES, green flashing light	YES, flashes "run"
Fault History Readout	NO	YES, flash last five faults	YES, displays last five faults
Fault Diagnostics	NO	YES, red flashing light	YES, red backlight display
Underload (dry run) Detection	NO	YES, 1 red flash	YES, flashes "UL"
Low Incoming Voltage Protection	NO	YES, 2 red flashes	YES, flashes "LI"
High Incoming Voltage Protection	NO	YES, surge protection	YES, flashes "HI"
Overload (running) Detection	NO	YES, 3 red flashes	YES, flashes "OL"
Overload (startup) Detection	NO	YES, 3 red flashes	YES, flashes "Lr"
Open Circuit Detection	NO	YES, 4 red flashes	YES, flashes "OC"
Extended Run Protection	NO	YES, 9 red flashes	YES, flashes "Er"
Relay Failure Protection	NO	YES, 10 red flashes	YES, flashes "rEL"
Audible Fault Alarm	NO	YES, reset/silence button	YES, separate silence button



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PUMPING SYSTEMS

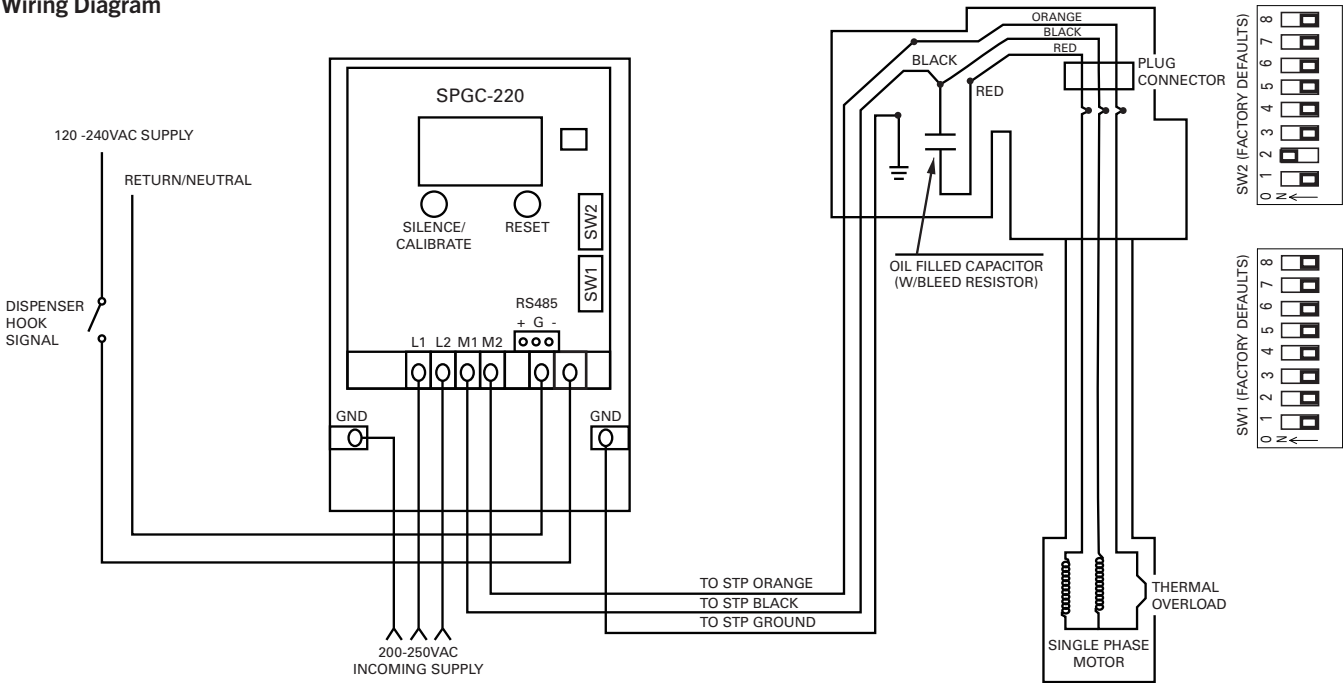
SPECIFICATIONS

Dimensions	8½" × 5" × 3" (215 mm × 127 mm × 76 mm)
Motor contact rating	2 Hp, 200-250 VAC, 50/60 Hz, Single Phase
Switch hook rating	120-240 VAC, 50/60 Hz
Com port	An integrated RS 485 com port is provided to connect Guardian Series™ Controllers to EVO™ Series Consoles for enhanced functionality via Turbine Pump Interface (TPI)
Approvals / Certifications	<ul style="list-style-type: none"> - cULus listed - CE certified - ISO 9001:2015 certified manufacturer



SPECIFICATIONS CONTINUED

Wiring Diagram



Note: See product installation instructions for further details. Wiring must conform to all federal, state, and local codes. Control panels are for non-hazardous indoor use only.



DISPENSER HOOK ISOLATION

ORDERING INFORMATION

STP-DHI Dispenser Hook Isolation

Model	Description
402312931	STP-DHI + SPGC-220 bundle
402313921	STP-DHI-CBS, combo DHI with factory-wired STP-CBS single-phase control box
5800300100	STP-DHI, isolates up to eight, 120 Volt dispenser handles

Notes:

1. DHI models are compatible with FE PETRO® submersible pump controllers and competitive pump controller makes accepting 120 Volt dispenser hook signal.
2. DHI models can be connected together for products with more than eight dispenser handle inputs.

DHI Repair Parts and Accessories

Model	Description
223243103	DHI fast-acting fuse, 250 VAC, 1 Amp
223885930	DHI circuit board, 120 Volt dispenser hook signal

SPECIFICATIONS

Enclosure size	8½" × 5" × 3" (215 mm × 127 mm × 76 mm)
Inputs	Eight optically isolated inputs from dispenser
STP-DHI	<ul style="list-style-type: none">— One STP-DHI required per product grade for up to eight dispensers— 120 V 30 V A input from supply, eight 120 V 10mA inputs from dispensers
Output fuse rating	250 V 1A, fast-acting
Surge protection	300 Volt surge protection
Maximum ambient temperature rating	120° F
LEDs	LEDs indicate when source power is applied and dispenser hook signals are present
Compatibility	Compatible with any submersible pump controller
Approvals / Certifications	<ul style="list-style-type: none">— cULus listed— Consult factory for other applicable approvals— Franklin Electric is an ISO 9001 Certified Manufacturer

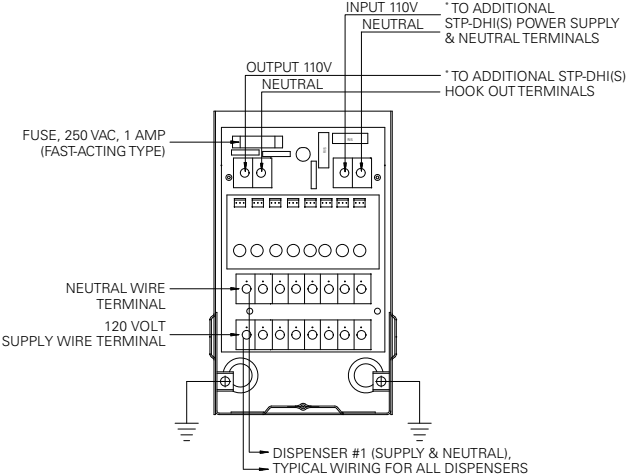


STP-DHI + SPGC-220

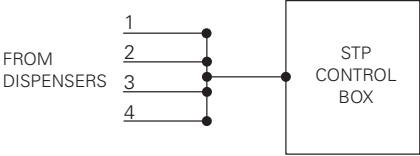
SUBMERSIBLE
PUMPING SYSTEMS



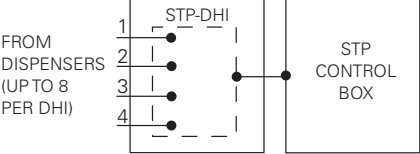
STP-DHI-CBS



Conventional



STP-DHI



Wiring is polarity-sensitive when multiple units are connected together.



SINGLE-PHASE CONTROL BOX

ORDERING INFORMATION

Model	Description
400818921	STP-CBS, single-phase control box, with switch and lockout, 120 Volt coil
402313921	STP-DHI-CBS, combo dispenser hook isolation with factory-wired STP-CBS

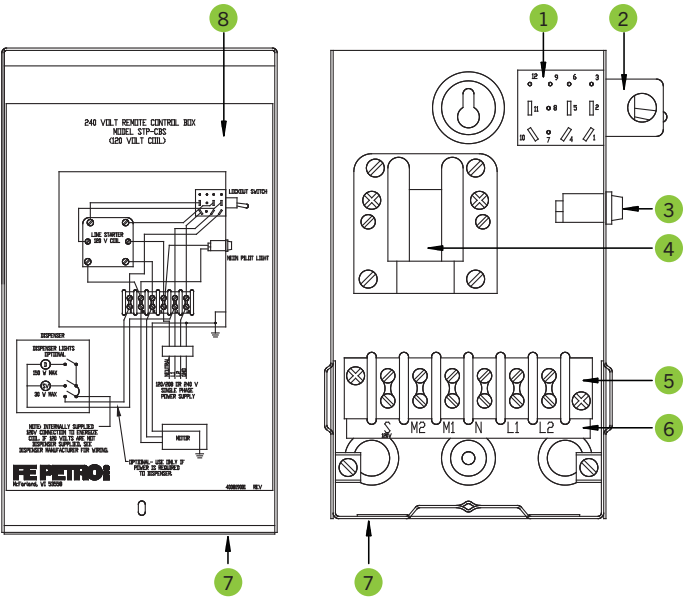
- Notes:
- 1. CBS models are compatible for use on all single-phase FE PETRO® submersibles and competitive models.
 - 2. One CBS required per submersible, relay rated for 30 Amps up to 2 hp.
 - 3. Incorporates pump “ON” indicator light.
 - 4. Relay rated for 220 Volts, 30 Amps and pumps up to 2 hp.

STP-CBS Repair Parts and Accessories

Item	Model	Description
1	403274001	Power switch (replaces 400575001)
2	400574001	Power switch bracket
3	400158001	Light assembly, 120 Volt
4	400215931	Relay, 30A, 120 Volt coil
5	400278006	Six position terminal strip
6	402410001	CBS terminal strip label
7	400817901	Cover and enclosure
8	400819001	CBS wiring diagram

SPECIFICATIONS

Approvals / Certifications	cULus listed
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GUARDIAN SERIES™ THREE PHASE PUMP CONTROLLER

ORDERING INFORMATION

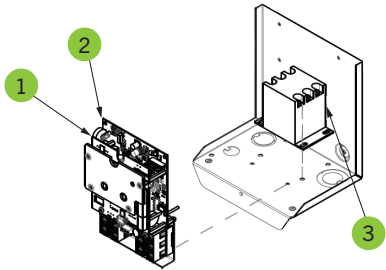
Guardian Series™ Three Phase Pump Controller

Model	Description
5800103220	TPGC-220 Guardian Series™ Three Phase Controller (220 Volt supply, 110 Volt hook)
5800103380	TPGC-380 Guardian Series™ Three Phase Controller (380 Volt supply, 220 Volt hook)

- Notes:
- Compatible with most three phase FE PETRO® and competitive STPs except 460 VAC and 575 VAC models.
 - One controller required for each submersible (up to 5 Hp).
 - Compatible for use in primary/secondary configurations with STP-SCIII/STP-SCIIIC models in compatibility mode.

Replacement Parts

Item	Model	Description
1	225000932	Upper (Input) Board
2	223689930	TPGC-220 Lower (Power) Board
2	223689931	TPGC-380 Lower (Power) Board
3	228727102	Contactors, 3PST-NO (220VAC Coil)
N/A	223747932	TPGC-220 Complete Board Assembly (includes items 1 & 2 plus mounting hardware)
N/A	223747933	TPGC-380 Complete Board Assembly (includes items 1 & 2 plus mounting hardware)



SPECIFICATIONS

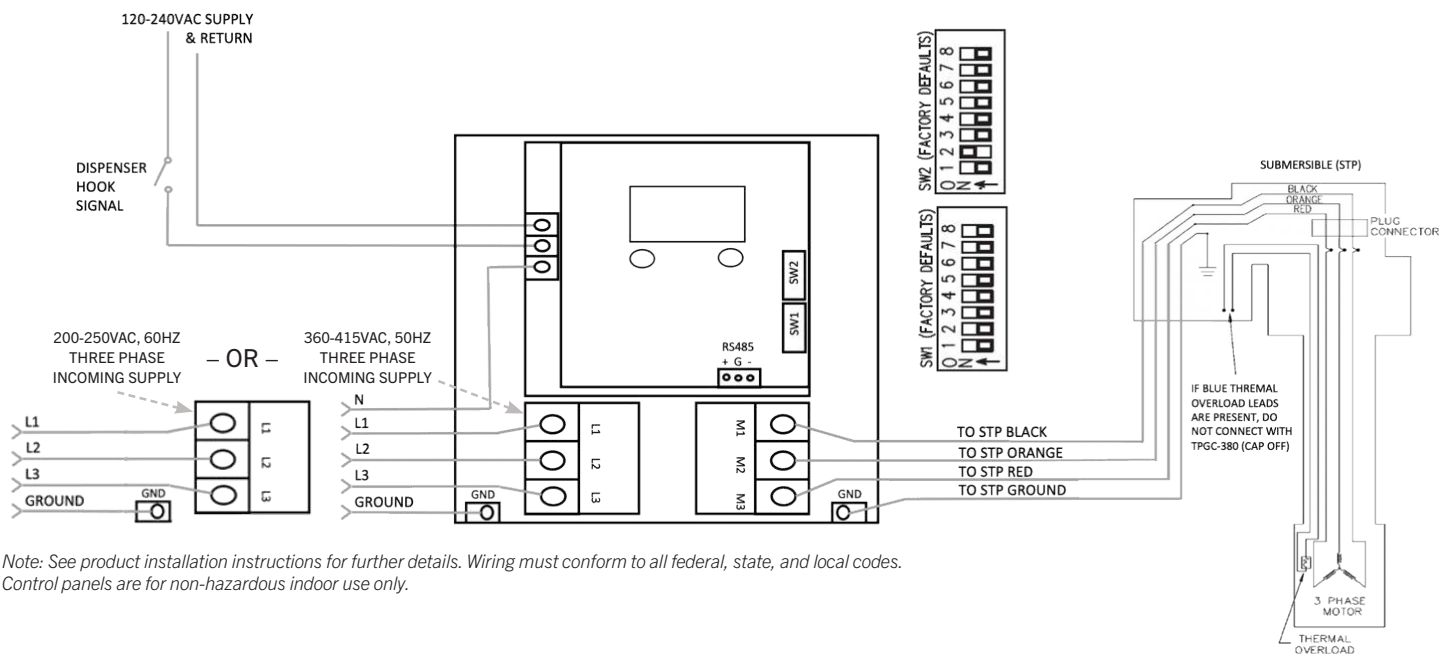
Dimensions	9½" x 7¾" x 5½" (230 mm x 196 mm x 140 mm)
Motor Contact Rating	<ul style="list-style-type: none"> TPGC-220 rated 5 Hp, 208-240 VAC, 60 Hz, Three Phase TPGC-380 rated 5 Hp, 380 VAC, 50 Hz, Three Phase
Switch Hook Rating	120-240 VAC, 50/60 Hz
Enhanced Functionality	An integrated RS 485 com port is provided to connect Guardian Series™ Controllers to EVO™ Series for enhanced functionality via Turbine Pump Interface (TPI).
Approvals / Certifications	<ul style="list-style-type: none"> cULus listed CE certified ISO 9001:2015 certified manufacturer

SUBMERSIBLE
PUMPING SYSTEMS



SPECIFICATIONS CONTINUED

Wiring Diagram



Note: See product installation instructions for further details. Wiring must conform to all federal, state, and local codes. Control panels are for non-hazardous indoor use only.

Capabilities

Capability	Standard Three Phase Starter (STP-CB5)	Smart Controller (STP-SCIII/STP-SCIIIC)	Guardian Series™ Controller (TPGC-220/-380)
Pump Compatibility	up to 5 Hp	up to 5 Hp	up to 5 Hp
Horsepower Selection	Not Applicable	Required	Not Required
Standard THHN Wiring	YES	YES	YES
Primary/Secondary Pump Operation	NO	YES	YES
Alternating Pump Operation	NO	YES	YES
Communication Display	NO	YES, yellow flashing light	YES, yellow flashing light
Incoming Power Display	NO	YES, solid green light	YES, displays "IdLE"
Pump Running Display	YES, red pilot light	YES, green flashing light	YES, flashes "run"
Fault History Readout	NO	SCIII = NO, SCIIIC = YES	YES, displays last five faults
Fault Diagnostics	NO	YES, red flashing light	YES, red backlight display
Underload (dry run) Detection	NO	YES, 1 red flash	YES, flashes "UL"
Low Incoming Voltage Protection	NO	YES, 2 red flashes	YES, flashes "LI"
High Incoming Voltage Protection	NO	YES, 12 red flashes	YES, flashes "HI"
Overload (running) Detection	YES	YES, 3 red flashes	YES, flashes "OL"
Overload (startup) Detection	YES	YES, 3 red flashes	YES, flashes "Lr"
Open Circuit Detection	NO	YES, 4 red flashes	YES, flashes "OC"
Extended Run Protection	NO	YES, 9 red flashes	YES, flashes "Er"
Relay Failure Protection	NO	YES, 10 red flashes	YES, flashes "rEL"
Phase Loss Detection	NO	YES, 11 red flashes	YES, flashes "23o"
Unbalanced Phase Warning	NO	YES, 13 red flashes	YES, flashes "Ubl"
Unbalance Load Warning	NO	YES, 14 red flashes	YES, flashes "UBL"
Audible Fault Alarm	NO	YES, reset/silence button	YES, separate silence button



STP-CB 3/5 MAGNETIC STARTER

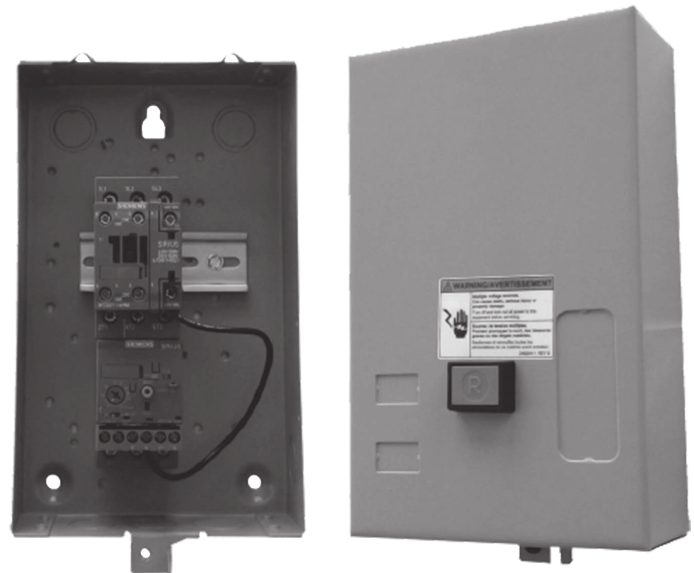
ORDERING INFORMATION

CB 3/5 Magnetic Starters

Model	Description
401220903	STP-CB3 three-phase control box with adjustable overload, 120 Volt relay, 3 hp, 208-230 Volt, 60 Hz pump control
401220904	STP-CB5 three-phase control box with adjustable overload, 120 Volt relay, 5 hp, 208-230 Volt, 60 Hz pump control
401220993	STP-CB5G three-phase control box with adjustable overload, 120 Volt relay, 5 hp, 575 Volt, 60 Hz pump control
401220933	STP-CBB5H three-phase control box with adjustable overload, 220 Volt relay, 5 hp, 460 Volt, 60 Hz pump control

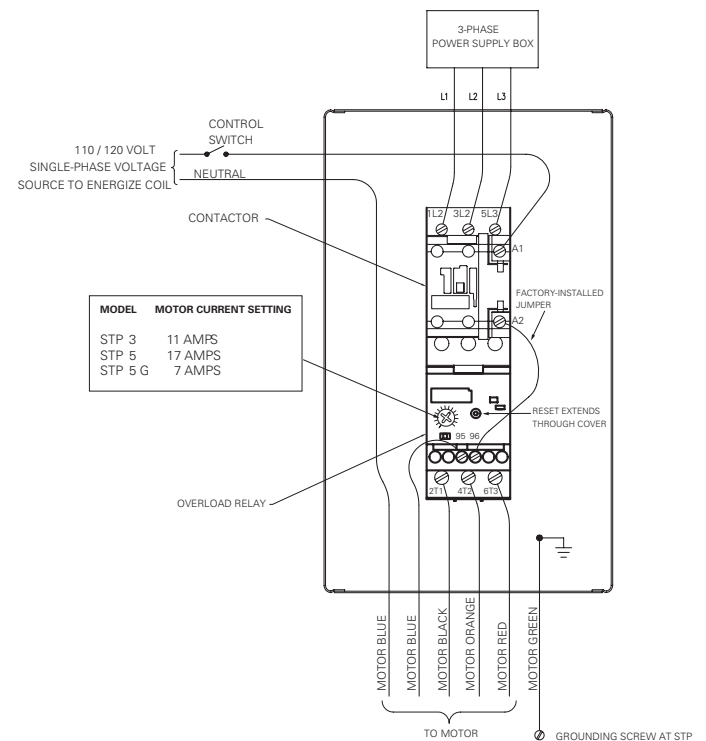
SPECIFICATIONS

Compatibility	Compatible with three-phase FE PETRO® 3 and 5 hp submersibles and most compatible models
Relay rating	5 hp
Relay coil hook signal rating	120 Volts for all versions except CBB5H, which is energized by 220 Volt dispenser signal
Features	Incorporates three-leg contactor and adjustable overload relay with reset button
Approvals / Certifications	<ul style="list-style-type: none"> cULus listed Consult factory for applicable approvals ISO 9001:2015 certified manufacturer



SUBMERSIBLE
PUMPING SYSTEMS

STP-CB 3/5 Wiring Diagram



DIESEL EXHAUST FLUID PUMP MOTOR ASSEMBLIES

ORDERING INFORMATION

Ordering Guide

Complete part numbers have a specific order and are created using the following guidelines:

DEF - PMA YYY Z

DEF = Pump Compatible with DEF

PMA = Pump Motor Assembly

YYY = Pump Motor hp Rating

150 = 1½ hp fixed speed (1.1 kW)

Z = Motor Electrical Rating

A = Single-phase, 60 Hz, 208-240 VAC (rated 7.9 Amps, requires 25 microfarad run/start capacitor rated 370 VAC)

D = Three-phase, 60 Hz, 208-240 VAC (rated 5.0 Amps)

Note: Three-phase models require overload protection in motor starter. Single-phase models have thermal overload protection built into the motor.

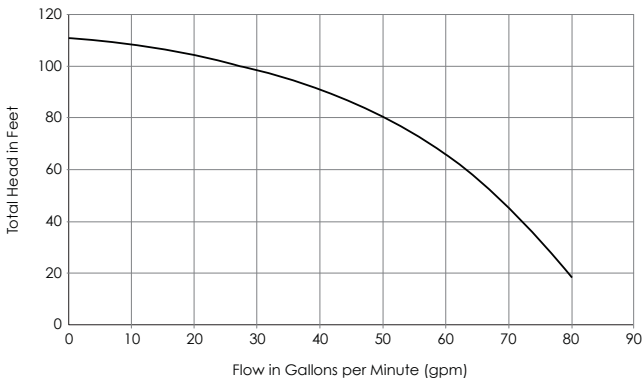
Model	Description
403383903	DEF-PMA 150 A: single-phase, 60 Hz, 208-240 VAC, 1.5 hp (single pak)
403383933	DEF-PMA 150 D: three-phase, 60 Hz, 208-240 VAC, 1.5 hp (single pak)
403383703	DEF-PMA 150 A: single-phase, 60 Hz, 208-240 VAC, 1.5 hp (12 pack pallet)
403383733	DEF-PMA 150 D: three-phase, 60 Hz, 208-240 VAC, 1.5 hp (12 pack pallet)

AdBlue® is a registered trademark of Verband der Automobilindustrie.

AUS 32® is a registered trademark of GBZI Ltd.

60 Hz DEF Pump Motor Performance

DEF-PMA150A (single-phase) and DEF-PMA150D (three-phase)

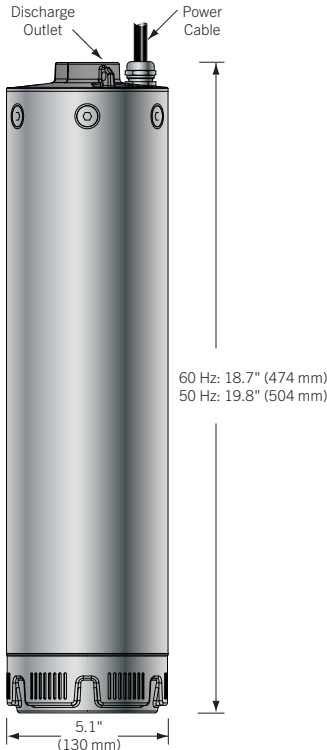


Note: Performance is based on pumping water (1 specific gravity). Pressure is taken at the discharge outlet of the pump motor.

SPECIFICATIONS

Materials	Stainless steel construction including impellers/ diffusers, inlet/outlet, and outer shell
Pump type	All models are 5.1" (130 mm) outside diameter centrifugal type pump
Power Cable	23' (7 m) black polyethylene jacketed plug-in power cable
60 Hz pump motor	Two-stage pump with 2" NPT female outlet
50 Hz pump motor	Three-stage pump with 2" BSPT female outlet
Motor rating	Continuous operation with motor cooling provided by product flow and protected from dry running
Bypass relief valve	Continuous operation with motor cooling provided by product flow and protected from dry running
Non-return check valve	Non-return check valve with maximum cracking pressure of 3 psi (0.2 bar) required between product piping and bypass relief valve of all models
Liquid compatibility	All models are intended for use with Diesel Exhaust Fluid (DEF). DEF is a non-flammable, non-combustible liquid that has a specific gravity of 1.09 at 68° F, and is made per ISO 22241-1 specifications with 32.5% urea and distilled or deionized water. As defined by ISO 22241-1, DEF is the same as AUS 32® (aqueous urea solution) and also commonly known as AdBlue®.

Dimensions



DIESEL EXHAUST FLUID SUBMERSIBLE TURBINE PUMP KITS

ORDERING INFORMATION

Variable Length Diesel Exhaust Fluid Submersible Turbine Pump Kits

Each variable length submersible turbine pump kit comes complete with variable length column pipe kit (VL1 or VL2), check valve kit, bypass kit, EZ FIT pump motor assembly connection kit, and pump motor assembly (single- or three-phase).

Model	Description
403469901	60 Hz, single-phase, VL1 69" - 102" (1,750 mm - 2,590 mm) variable length diesel exhaust fluid submersible turbine pump kits (includes components #1 - #5 below)
403470901	60 Hz, single-phase, VL2 102" - 166" (2,590 mm - 4,215 mm) variable length diesel exhaust fluid submersible turbine pump kits (includes components #1 - #5 below)
403478901	60 Hz, three-phase, VL1 69" - 102" (1,750 mm - 2,590 mm) variable length diesel exhaust fluid submersible turbine pump kits (includes components #1 - #4 and #6 below)
403479901	60 Hz, three-phase, VL2 102" - 166" (2,590 mm - 4,215 mm) variable length diesel exhaust fluid submersible turbine pump kits (includes components #1 - #4 and #6 below)

Variable Length Diesel Exhaust Fluid Submersible Turbine Pump Replacement Kits

Item	Model	Description
2	403463901	Check valve kit (includes 1½" NPT non-return check valve and 1½" NPT × 4" long nipple on inlet)
3	403461901	Bypass kit (includes ½" NPT bypass relief valve, ½" NPT × 1½" NPT bushing in 1½" NPT tee)
4	403454901	Pump motor assembly connection kit (includes 2" NPT male inlet × 1½" NPT male outlet EZ FIT connection)
5	403383903	60 Hz, single-phase pump motor assembly (DEF-PMA150A)
6	403383933	60 Hz, three-phase pump motor assembly (DEF-PMA150D)

Variable Length Accessories and Repair Parts

Model	Description
5800100220	SPGC-220 Guardian Series™ Single-Phase Controller, 220 Volt
5800103220	TPGC-220 Guardian Series™ Three Phase Controller (220 Volt supply, 110 Volt hook)
403408931	1½" NPT non-return check valve (part of component #2, valve only)
403409931	½" NPT bypass relief valve (part of component #3, valve only)
403468901	DEF-PMA hardware pack (part of component #5 or #6, includes cable grip, cable ties, and documentation)
400170936	Capacitor, 25 uF / 370 V (for use with DEF-PMA150A)

Variable Length Components

- 1 Variable length column pipe kit, 2" to 1½" NPT (not sold separately)
- 2 Check valve kit
- 3 Bypass kit
- 4 Pump motor assembly connection kit
- 5 6 Pump motor assembly (single- or three-phase)



ORDERING INFORMATION CONTINUED

Fixed Length Components

- 1 Column pipe, 2" NPT (locally supplied)
- 2 Check valve kit
- 3 Bypass kit
- 4 Pump motor assembly connection kit
- 5 6 Pump motor assembly (single- or three-phase)

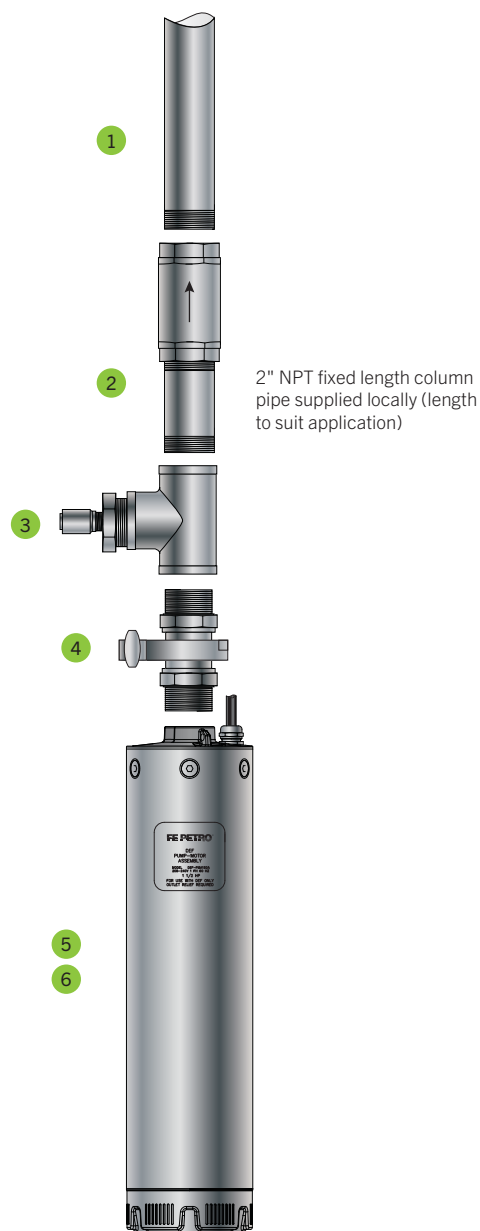
Fixed Length Diesel Exhaust Fluid Submersible Turbine Pump Kits

Individual assembly kits can be ordered for fixed length submersible turbine pump kit applications.

Item	Model	Description
2	403464901	Check valve kit (includes 2" NPT non-return check valve and 2" NPT × 4" long nipple on inlet)
3	403462901	Bypass kit (includes ½" NPT bypass relief valve, ½" NPT × 2" NPT bushing in 2" NPT tee)
4	403456901	Pump motor assembly connection kit (includes 2" NPT male inlet × 2" NPT male outlet EZ FIT connection)
5	403383903	60 Hz, single-phase pump motor assembly (DEF-PMA150A)
6	403383933	60 Hz, three-phase pump motor assembly (DEF-PMA150D)

Fixed Length Accessories and Repair Parts

Model	Description
403713921	Single-phase electrical kit, includes m/n STP-CBS, 208-240 Volt pump control with 120 Volt coil (p/n 400818921) and 25 uF / 370 V capacitor (p/n 400170936)
401220903	Three-phase 208-240 Volt pump control box with overload protection and 120 Volt coil (STP-CB3)
403408932	2" NPT non-return check valve (part of component #2, valve only)
403409931	½" NPT bypass relief valve (part of component #3, valve only)
403468901	DEF-PMA hardware pak (part of component #5 or #6, includes cable grip, cable ties, and documentation)
400170936	Capacitor, 25 uF / 370 V (for use with DEF-PMA150A)



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 Viton® is a registered trademark of E. I. du Pont de Nemours and Company.
 AUS 32® is a registered trademark of GBZI Ltd.



SPECIFICATIONS

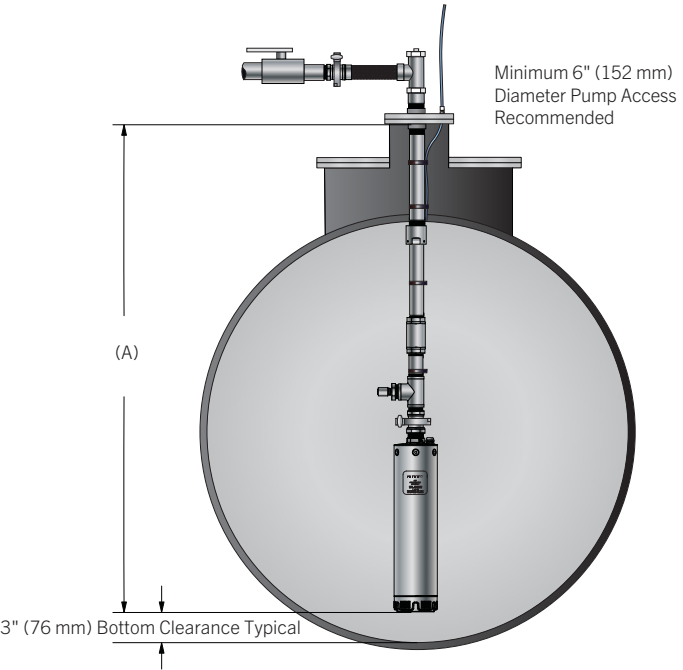
Pump Motor Assembly

Materials	Stainless steel construction including impellers/ diffusers, inlet/outlet, and outer shell
Pump type	All models are 5.1" (130 mm) outside diameter centrifugal type pump
Power cable	23' (7 m) black polyethylene jacketed power cable
60 Hz pump motor	Two-stage pump with 2" NPT female outlet
Motor rating	Continuous operation with motor cooling provided by product flow and protected from dry running

Submersible Turbine Pump Kit

Materials	All stainless steel hardware and Viton® or EPDM seals
Bypass relief valve	Non-return check valve cracking pressure of 3 psi (0.2 bar) between product piping and bypass relief valve of all models
Non-return check valve	23' (7 m) black polyethylene jacketed power cable
Liquid compatibility	All models are intended for use with Diesel Exhaust Fluid (DEF). DEF is a non-flammable, non-combustible liquid that has a specific gravity of 1.09 at 68° F (20° C), and is made per ISO 22241-1 specifications with 32.5% urea and distilled or deionized water. As defined by ISO 22241-1, DEF is the same as AUS 32® (aqueous urea solution) and also commonly known as AdBlue®.

Variable Length Range



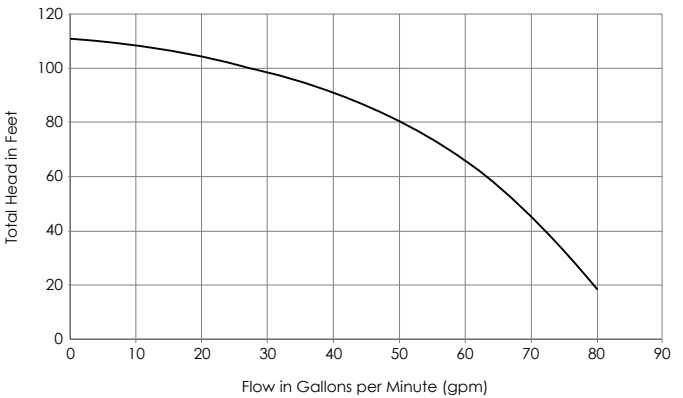
SUBMERSIBLE
PUMPING SYSTEMS

Variable Length Range (A)

Model Length Range	Model Length Designation
69" - 102" (1,750 mm - 2,590 mm)	VL1
102" - 166" (2,590 mm - 4,215 mm)	VL2

Pump Motor Performance

DEF-PMA150A (Single-Phase) and DEF-PMA150D (Three-Phase)



Note: Performance is based on pumping water (1 specific gravity). Pressure is taken at the discharge outlet of the pump motor.

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CORROSION CONTROL SYSTEM

1 EVO™ 600/6000

EVO™ Series consoles provide automated control and monitoring for the entire system via the Corrosion Control™ Application which comes standard.

2 CORROSION CONTROL™ WATER SEPARATOR

Captures water and acid from the bottom of the tank – the key causes of a corrosive environment.

3 CORROSION CONTROL™ DESICCANT PACK AND SENSOR

Absorbs humidity and conveniently monitors the remaining life of the Desiccant Pack(s) installed within sumps via EVO™ Series. Efficiently manages the service intervals to maintain optimal low humidity and a corrosion-free environment.

4 ADVANCED PROTECTION SUBMERSIBLE PUMP

E-coated and stainless steel components protect the submersible from corrosion.

5 LOW LEVEL WATER FLOAT FOR DIESEL

Provides enhanced water level detection down to 1/4" delivering earlier indication of the presence of water inside diesel tanks.

6 CORROSION DETECTION SENSOR

Provides ongoing monitoring of the tank environment, alerting when corrosion is present in the tank ullage space.

7 MULTIPLEXING SENSOR HUB™

Allows station owners to add the Corrosion Control™ Water Separator, Corrosion Detection Sensor, and other sensors to existing sites without having to break concrete to run new conduit and wires.





CORROSION CONTROL™ WATER SEPARATOR

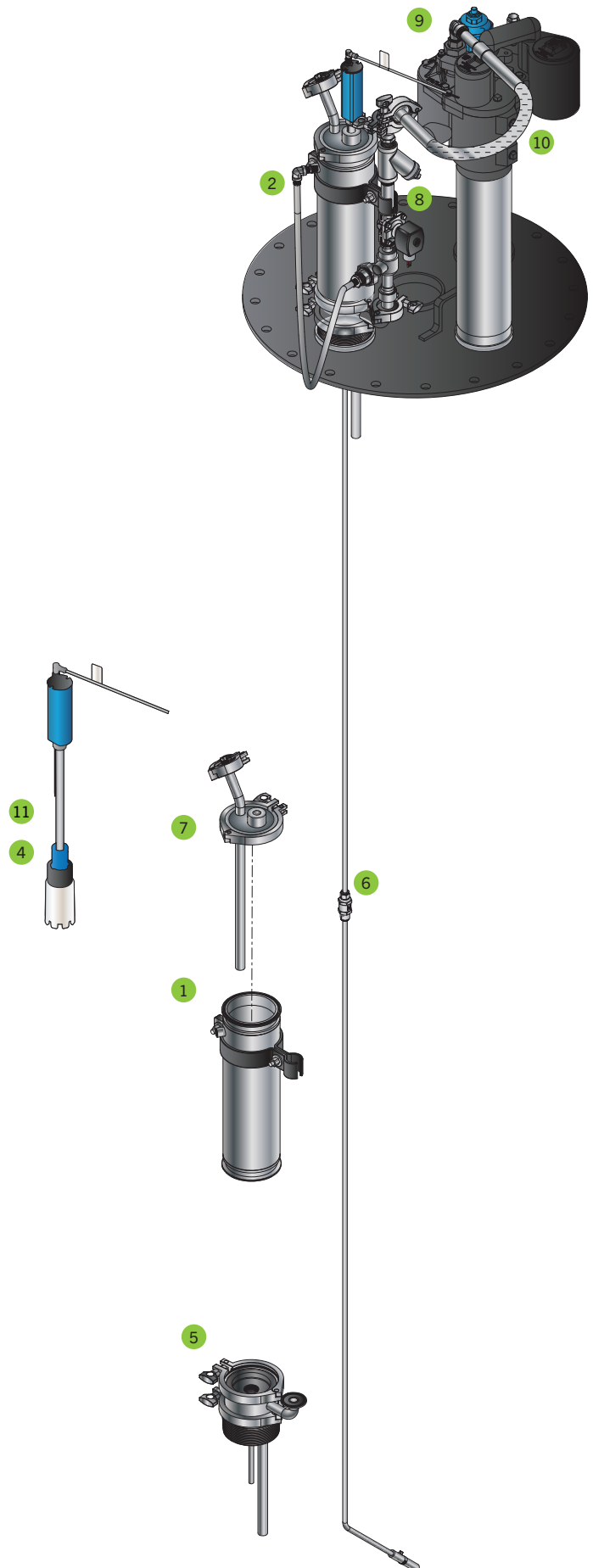
ORDERING INFORMATION

Corrosion Control™ Water Separator

Model	Description
407985903	Corrosion Control™ Water Separator, includes items #1 through #11
407945910	Water removal hand pump
403963001	13" cable ties, 100 pack

Corrosion Control™ Water Separator Component Kits

Item	Model	Description
1	407945914	Water Separator Vessel Kit
2	407945917	Water Separator-to-Eductor Kit
3	407945918	Installation Hardware (not shown)
4	407945919	Water Separator Float Kit
5	407945921	Water Separator Suction Adapter Kit
6	407945922	Water Separator Suction Tube Kit
7	407945925	Water Separator Vessel Cover Kit
8	407945926	Eductor Manifold Kit
9	407945928	STP-to-Eductor Kit
10	FF07X24EZX05F	¾" x 24" Flexible Connector (EZ FIT x Female)
11	FMP-LL3-16-WS	16" LL3 MAG Probe Kit

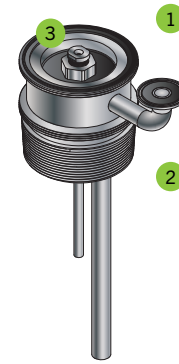


ORDERING INFORMATION CONTINUED

A. Water Separator Suction Adapter Kit Replacement Parts

Item	Model	Description
1	EZ40CLAMP	4" EZ FIT clamp
2	407493004	4" EZ FIT gasket
3	10000017049	Water Separator Check Valve (comes with kit p/n 407945922)

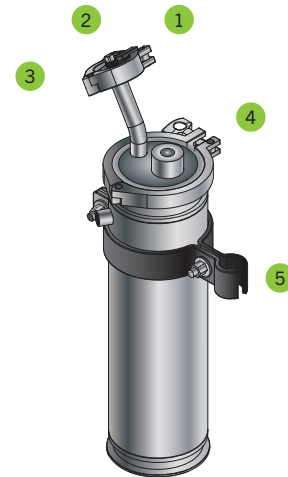
A.



B. Water Separator Vessel & Cover Kit Replacement Parts

Item	Model	Description
1	EZ10CLAMP	1" EZ FIT clamp
	407493001	1" EZ FIT gasket
2	10000002180	1" EZ FIT removal cap
3	403499001	¼" NPT pipe plug
4	EZ40CLAMP	4" EZ FIT clamp
	407493004	4" EZ FIT gasket
5	407945920	Eductor clamp kit

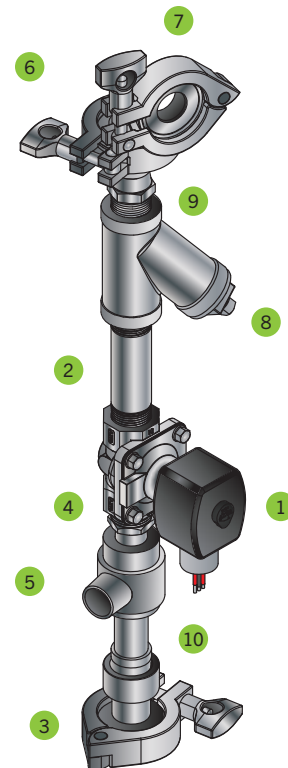
B.



C. Eductor Manifold Kit Replacement Parts

Item	Model	Description
1	407938001	¾" solenoid valve
2	Purchase locally	¾" NPT x 4" stainless steel nipple
3	EZ10CLAMP	1" EZ FIT clamp
	407493001	1" EZ FIT gasket
4	Purchase locally	¾" NPT stainless steel coupling
5	407939001	¾" Eductor, stainless steel
6	EZ10CLAMP	1" EZ FIT clamp
	407765001	1" EZ FIT orifice plate
7	407995001	1" EZ FIT X EZ FIT elbow
	407941001	¾" Y strainer
8	407774901	¾" Y strainer replacement screen only
	403499002	¾" NPT pipe plug
9	407953004	Bushing adapter
10	EZ10X07FSS	1" EZ FIT x ¾" FNPT, Stainless Steel Adapter

C.



ORDERING INFORMATION CONTINUED

D. Water Separator-To-Eductor Kit Replacement Parts

Item	Model	Description
1	407764001	¼" NPT flow orifice
2	Purchase locally	¼" NPT stainless steel elbow
3	407984001	¼" X 36" long flex connector
4	Purchase locally	¼" NPT x ¾" NPT stainless steel bushing
5	Purchase locally	¾" NPT stainless steel union

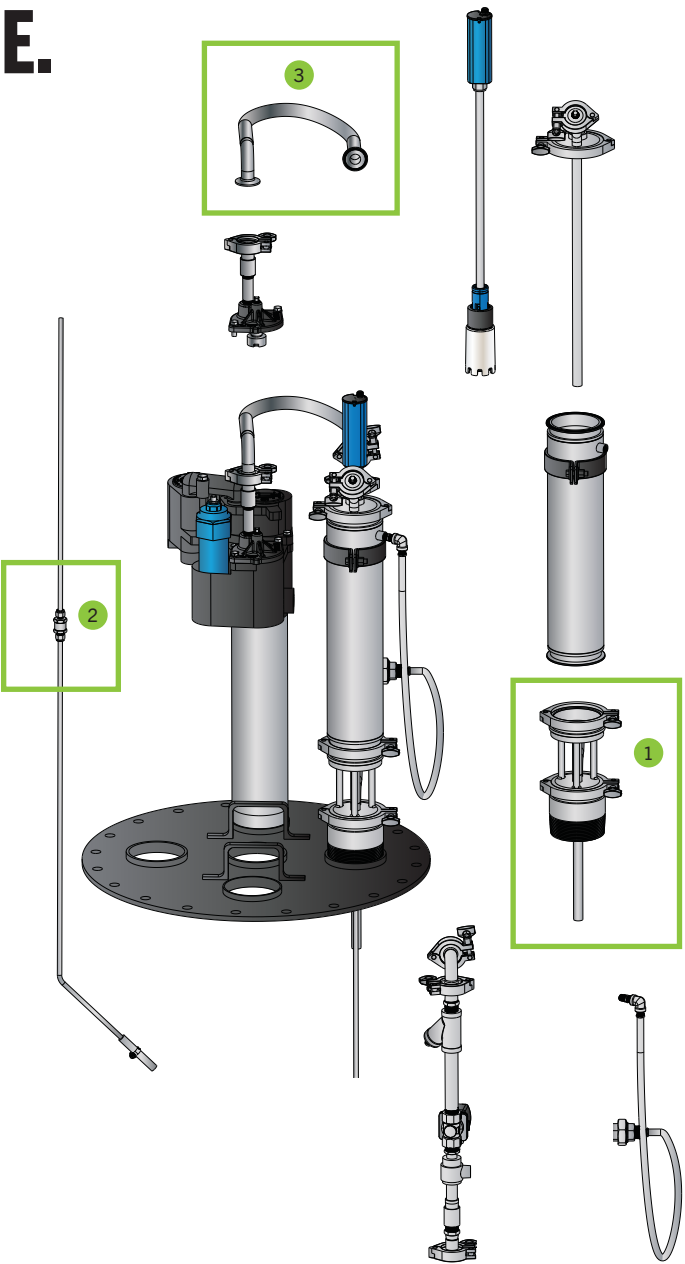


E. Legacy/Replacement Parts

Item	Model	Description
1	407945911	Plunger Valve
2	10000002278	Check Valve
3	FF07X24EZXEZ90	Flexible connector, ¾" x 24", EZ FIT x EZ FIT 90° elbow

SPECIFICATIONS

Vessel Capacity	3/4 gallon of water/acid mixture
Eductor Flow	8 GPM flow to drive suction pickup
Suction Pickup	1/4 GPM
Containment Sump Requirements	<ul style="list-style-type: none">– Minimum of 30" of height inside the tank sump– Accessible 4" port in the tank manway– At least 11" envelope for vessel and adjacent piping– High-voltage conduit for solenoid wiring– Intrinsically safe conduit for Water Separator probe
EVO™ System Requirements	<ul style="list-style-type: none">– EVO™ 600 or EVO™ 6000– EVO™ Series latest firmware version– Access to in-tank product level readings (for delivery events and recirculation runtime)– 1 open Relay Module port (for solenoid)– 1 open UDP Module input, Probe Module input, or MSH input (for vessel probe)



SERVICE STATION HARDWARE



DEFENDER SERIES® OVERFILL PREVENTION VALVE

ORDERING INFORMATION

Model	Description
708691901	Defender Series® overfill prevention valve with 5' (1524 mm) top drop tube, 8' (2438 mm) bottom drop tube
708691902	Defender Series® overfill prevention valve with 5' (1524 mm) top drop tube, 10' (3048 mm) bottom drop tube
708691921	Defender Series® overfill prevention valve with 5' (1524 mm) top drop tube, 8' (2438 mm) bottom drop tube, AGB compatible*
708691922	Defender Series® overfill prevention valve with 5' (1524 mm) top drop tube, 10' (3048 mm) bottom drop tube, AGB compatible*
708692901	Defender Series® overfill prevention valve with 10' (3048 mm) top drop tube, 8' (2438 mm) bottom drop tube
708692902	Defender Series® overfill prevention valve with 10' (3048 mm) top drop tube, 10' (3048 mm) bottom drop tube
708692921	Defender Series® overfill prevention valve with 10' (3048 mm) top drop tube, 8' (2438 mm) bottom drop tube, AGB compatible*
708692922	Defender Series® overfill prevention valve with 10' (3048 mm) top drop tube, 10' (3048 mm) bottom drop tube, AGB compatible*
708693901	Defender Series® overfill prevention valve, coaxial with 6.5' (1981 mm) top drop tube, 8' (2438 mm) bottom drop tube
708693902	Defender Series® overfill prevention valve, coaxial with 6.5' (1981 mm) top drop tube, 10' (3048 mm) bottom drop tube
708693923	Defender Series® overfill prevention valve, poppeted coaxial with 6.5' (1981 mm) top drop tube, 8' (2438 mm) bottom drop tube, AGB compatible*
708693924	Defender Series® overfill prevention valve, poppeted coaxial with 6.5' (1981 mm) top drop tube, 10' (3048 mm) bottom drop tube, AGB compatible*
708694901	Defender Series® overfill prevention valve only with top adapter, AGB compatible*
708694902	Defender Series® overfill prevention valve only with coaxial top adapter, AGB compatible*
708535901	Roll crimping tool
708530930	Replacement roll crimper tool roller bit for retrofit with existing tool
708534901	Remote testing tool, 11' (3353 mm) long sectional/collapsible
708534902	Coaxial remote testing tool, 11' (3353 mm) long sectional/collapsible
CW1	Cutting Wheel for P.CUT & P.CUT MED

*Alcohol, gas, biofuel compatible (E-85, gasoline and Biodiesel) models come with hard coated anodized drop tubes for full compatibility.



Drop Tube Adapter

Replacement Parts

Model	Description
85039-DT	Spare drop tube seal
1103942	Spare adapter O-ring
1103943	Spare Coaxial adapter O-ring
708526901	Upper tube adapter kit
708529901	Coaxial Upper tube adapter kit
70821705	5' flanged top drop tube; order in multiples of 4
70821725	5' flanged top drop tube, AGB compatible; order in multiples of 4
708542908	8' thread-on bottom drop tube assembly, 2-pk
708542908AN	8' thread-on bottom drop tube assembly, 2-pk, AGB compatible
708542910	10' thread-on bottom drop tube assembly, 2-pk
708542910AN	10' thread-on bottom drop tube assembly, 2-pk, AGB compatible

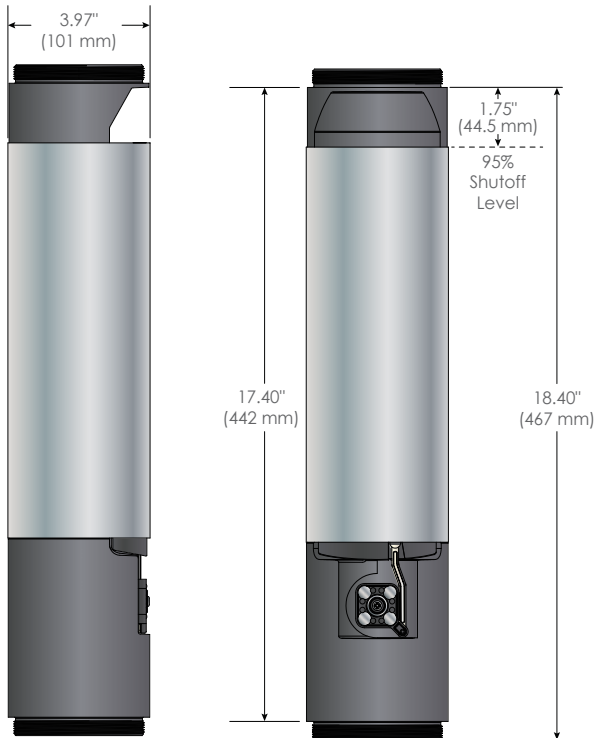


SPECIFICATIONS

Approvals / Certifications

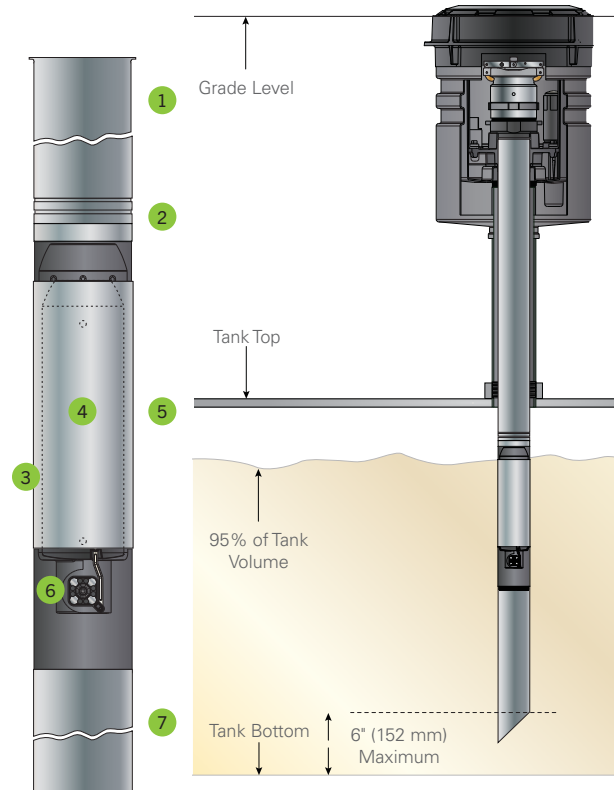
- UL 2583 listed and ULc listed, MH21090
- CARB certified, VR-101-U (FE) and VR-102 (OPW®)
- ATEX 2014/34/EU approved
- EN13616 certified
- KIWA BRL-K636/03 certified

Dimensions



Components

- 1 Pre-flanged aluminum top drop tube
- 2 Roll-crimped top fitting/drop tube
- 3 Protective float sleeve
- 4 Float (shielded by float sleeve)
- 5 Valve assembly
- 6 Magnetically-coupled actuator
- 7 Threaded bottom drop tube



Operation

As the liquid level in the UST approaches 95% capacity, the liquid level raises the float. As the float rises it actuates the external/ internal magnetic couplers which release the flapper to be closed by the flow of product. As the float continues to rise, the internal mechanism pushes the flapper further into the product flow to allow actuation at high or low flow rates. This sudden reduction in flow caused by the primary flapper closing creates "line shock" to the fill hose which signals the delivery driver that the tank is nearing 95% capacity. As the float continues to rise to the 95% fill level, the secondary closes, completely stopping the flow of fuel.



DEFENDER SERIES® SPILL CONTAINERS

ORDERING INFORMATION

Ordering Guide

Complete spill container part numbers have a specific order and are created using the following guidelines:

705 XXX Y A B C

XXX = Containment Options

- 545 = Grade level single wall
- 555 = Grade level double wall
- 556 = Below grade double wall

Y = Interstitial Monitoring Options

- 0 = No sensor
- 1 = Visual monitor (float gauge)
- 2 = Electronic sensor monitor

A = Base Thread Options

- 0 = NPSM
- 1 = NPT
- 2 = BSPT

B = Drain Options

- 1 = With drain
- 2 = Without drain

C = Lid/Cover

- BLK = Black fiberglass 18" manway cover (below grade only)
- CI-GKT = Black epoxy-coated cast iron gasketed lid (grade level only)
- CI-GRN = Green epoxy-coated cast iron gasketed lid (grade level only)
- CI-ORG = Orange epoxy-coated cast iron gasketed lid (grade level only)
- CI-RED = Red epoxy-coated cast iron gasketed lid (grade level only)
- CI-WHT = White epoxy-coated cast iron gasketed lid (grade level only)
- CI-YEL = Yellow epoxy-coated cast iron gasketed lid (grade level only)

Example: **705555111CI-GKT** = Defender Series® grade level double wall spill container with visual monitor, with NPT base thread, with drain and with black cast iron gasketed lid.

Example: **705556211BLK** = Defender Series® below grade double wall spill container with electronic sensor monitor, with NPT base thread, with drain and with black fiberglass manway cover (manway included).

Defender Series® Spill Containers Common Configurations

Model	Description
705545001CI-GKT	Defender Series® grade level, single wall, NPSM thread, with drain, with black epoxy-coated cast iron gasketed lid
705545002CI-GKT	Defender Series® grade level, single wall, NPSM thread, without drain, with black epoxy-coated cast iron gasketed lid
705545011CI-GKT	Defender Series® grade level, single wall, NPT thread, with drain, with black epoxy-coated cast iron gasketed lid
705545012CI-GKT	Defender Series® grade level, single wall, NPT thread, without drain, with black epoxy-coated cast iron gasketed lid
705545021CI-GKT	Defender Series® grade level, single wall, BSPT thread, with drain, with black epoxy-coated cast iron gasketed lid
705545022CI-GKT	Defender Series® grade level, single wall, BSPT thread, without drain, with black epoxy-coated cast iron gasketed lid
705555101CI-GKT	Defender Series® grade level, double wall, NPSM thread, with drain, with visual monitor, with black epoxy-coated cast iron gasketed lid
705555102CI-GKT	Defender Series® grade level, double wall, NPSM thread, without drain, with visual monitor, with black epoxy-coated cast iron gasketed lid
705555111CI-GKT	Defender Series® grade level, double wall, NPT thread, with drain, with visual monitor, with black epoxy-coated cast iron gasketed lid
705555112CI-GKT	Defender Series® grade level, double wall, NPT thread, without drain, with visual monitor, with black epoxy-coated cast iron gasketed lid
705555211CI-GKT	Defender Series® grade level, double wall, NPT thread, with drain, with electronic sensor monitor, with black epoxy-coated cast iron gasketed lid
705555212CI-GKT	Defender Series® grade level, NPT thread, without drain, with electronic sensor monitor, with black epoxy-coated cast iron gasketed lid
705556111BLK	Defender Series® below grade, double wall, NPT thread, with drain, with visual monitor, with black fiberglass manway cover (18" manway included)
705556112BLK	Defender Series® below grade, double wall, NPT thread, no drain, with visual monitor, with black fiberglass manway cover (18" manway included)
705556211BLK	Defender Series® below grade, double wall, NPT thread, with drain, with electronic sensor monitor, with black fiberglass manway cover (18" manway included)
705556212BLK	Defender Series® below grade, double wall, NPT thread, no drain, with electronic sensor monitor, with black fiberglass manway cover (18" manway included)



ORDERING INFORMATION CONTINUED

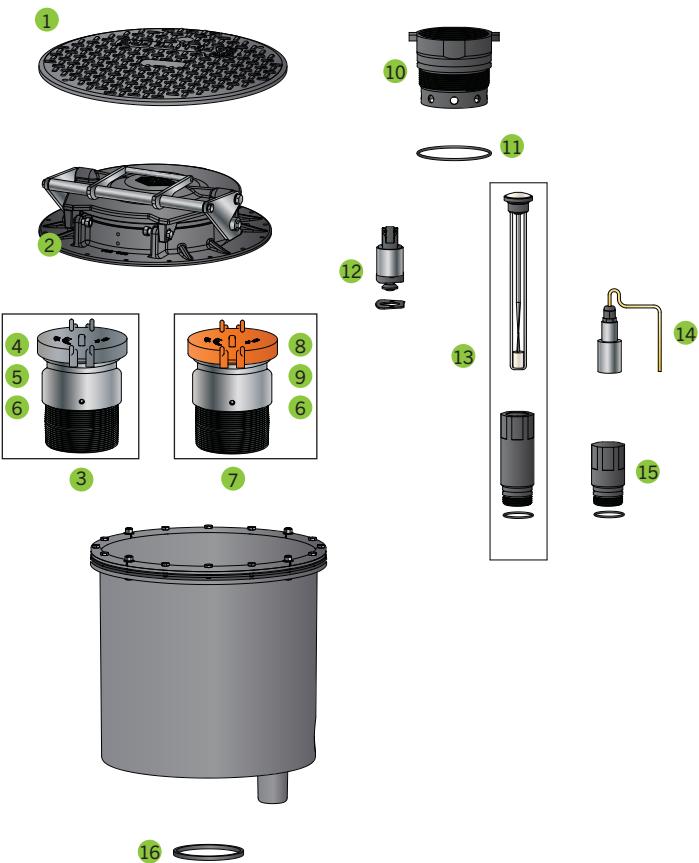
Defender Series® Spill Container Installation Tools

Model	Description
T-7001	T-handle wrench
T-7106	Double-ended installation tool
T-7107	Double wall vacuum test kit (for double wall models only)

Below Grade Double Wall Replacement Parts

Item	Model	Description
1	78130401	Cover, 18", fiberglass (black)
2	705587901	Lock down cover assembly
--	71520201	Spare lift handle assembly
3	70541202	Fill riser cap and adapter kit
4	77720102	Top seal fill cap
5	SWF-100-SS	Fill swivel adapter
6	70521307	4" x 2.88" close nipple
7	70541302	Vapor riser, cap, and adapter kit
8	30430103	Top seal vapor cap
9	SWV-101-SS	Vapor swivel adapter
10	70550901EC	DT riser clamp assembly
11	1103939	DT riser gasket
12	70533729	Pull-to-push drain valve kit
13	70553301	I² monitor and inspection port kit
14	TSP-ULS	Electronic leak detection sensor
15	70553302	Sensor inspection port
16	602256001	Tank riser gasket

Note: Order the Aboveground Drain Cover Kit (p/n 9002201) to turn a drain configuration into a no-drain spill container.



ORDERING INFORMATION CONTINUED

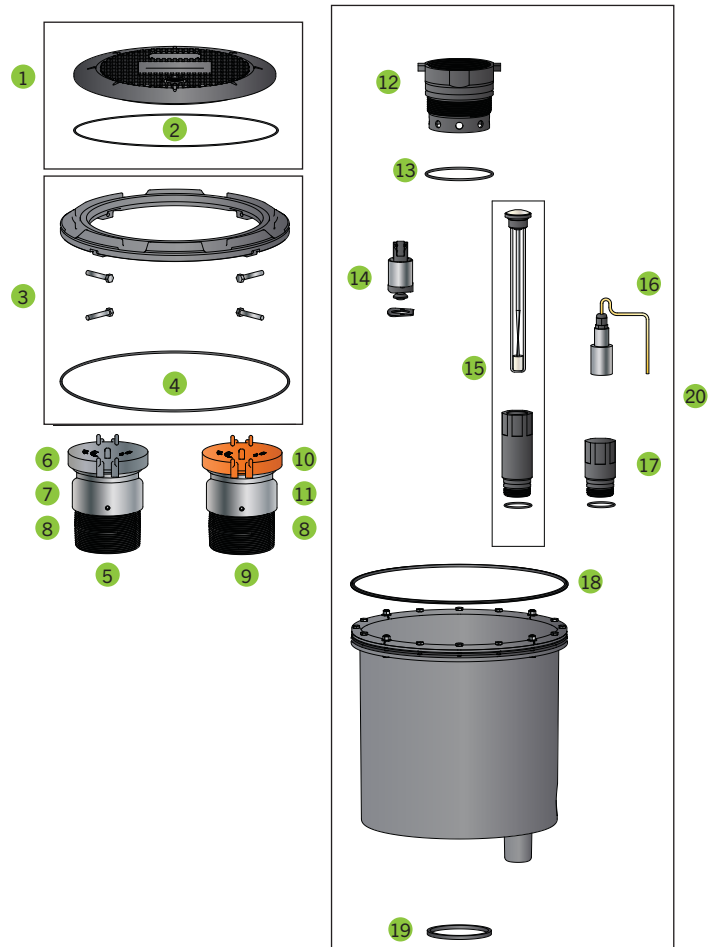
Grade Level Single Wall Replacement Parts

Item	Model	Description
1	70544011	Cover, cast iron w/ gasket (black)
2	70551911	Cover gasket
3	70553001	Plow ring assembly
4	602009007	Plow ring gasket
5	70541202	Fill riser, cap, and adapter kit
6	77720102	Top seal fill cap
7	SWF-100-SS	Fill swivel adapter
8	70521307	4" x 2.88" close nipple
9	70541302	Vapor riser, cap, and adapter kit
10	30430103	Top seal vapor cap
11	SWV-101-SS	Vapor swivel adapter
12	70550901EC	DT riser clamp assembly
13	1103939	DT riser gasket
14	70533729	Pull-to-push drain valve kit
15	70550311	Spill container seal ring gasket
16	602256001	Tank riser gasket
17	705545001SP	Spill container, NPSM, with drain
	705545002SP	Spill container, NPSM, no drain
	705545011SP	Spill container, NPT, with drain
	705545012SP	Spill container, NPT, no drain



Grade Level Double Wall Replacement Parts

Item	Model	Description
1	70544011	Cover, cast iron w/ gasket (black)
2	70551911	Cover gasket
3	70553001	Plow ring assembly
4	602009007	Plow ring gasket
5	70541202	Fill riser cap and adapter kit
6	77720102	Top seal fill cap
7	SWF-100-SS	Fill swivel adapter
8	70521307	4" x 2.88" close nipple
9	70541302	Vapor riser, cap, and adapter kit
10	30430103	Top seal vapor cap
11	SWV-101-SS	Vapor swivel adapter
12	70550901EC	DT riser clamp assembly
13	1103939	DT riser gasket
14	70533729	Pull-to-push drain valve kit
15	70553301	I ² monitor and inspection port kit
16	TSP-ULS	Electronic leak detection sensor
17	70553302	Sensor inspection port
18	70550311	Spill container seal ring gasket
19	602256001	Tank riser gasket
20	705555101SP	Spill container, I2, NPSM, with drain
	705555102SP	Spill container, I2, NPSM, no drain
	705555111SP	Spill container, I2, NPT, with drain
	705555112SP	Spill container, I2, NPT, no drain
	705555201SP	Spill container, sensor, NPSM, with drain
	705555202SP	Spill container, sensor, NPSM, no drain
	705555211SP	Spill container, sensor, NPT, with drain
	705555212SP	Spill container, sensor, NPT, no drain

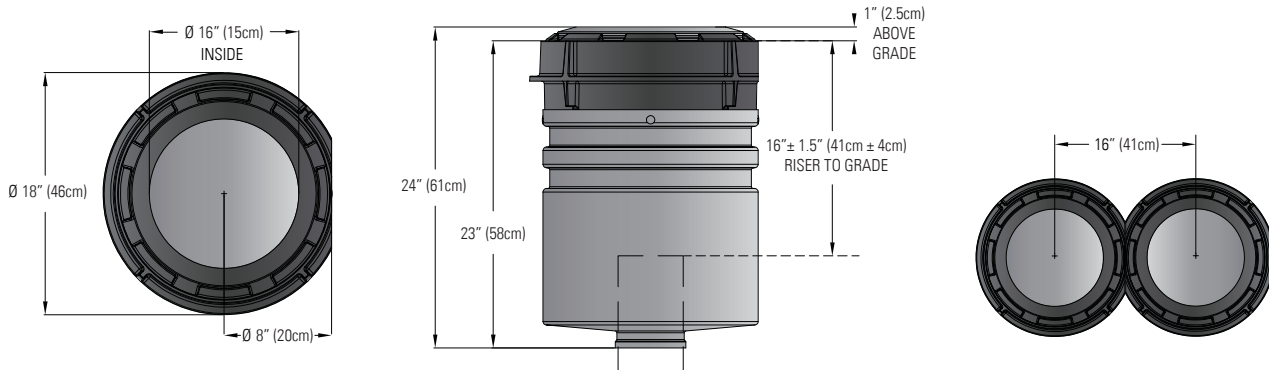


SPECIFICATIONS

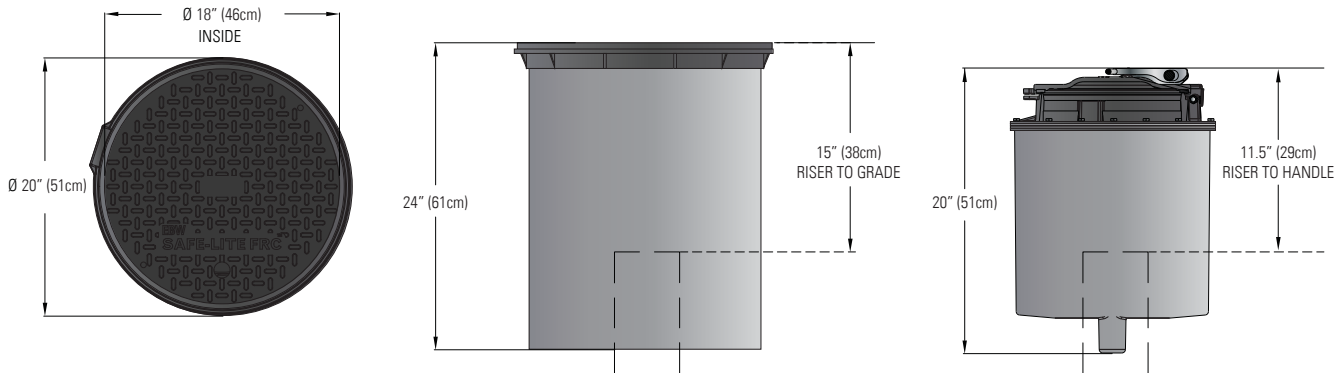
Approvals / Certifications

- UL Listed MH62435 (below grade, and grade level version with CI-GKT cover), ULC Listed (grade level CI-GKT versions only)
- CARB approved (grade level only)
- H20 and HS20 load standards (maximum axle load requiring support for the 32,000 or 16,000 pounds for each set of dual tire wheels)

Grade Level Spill Container Dimensions

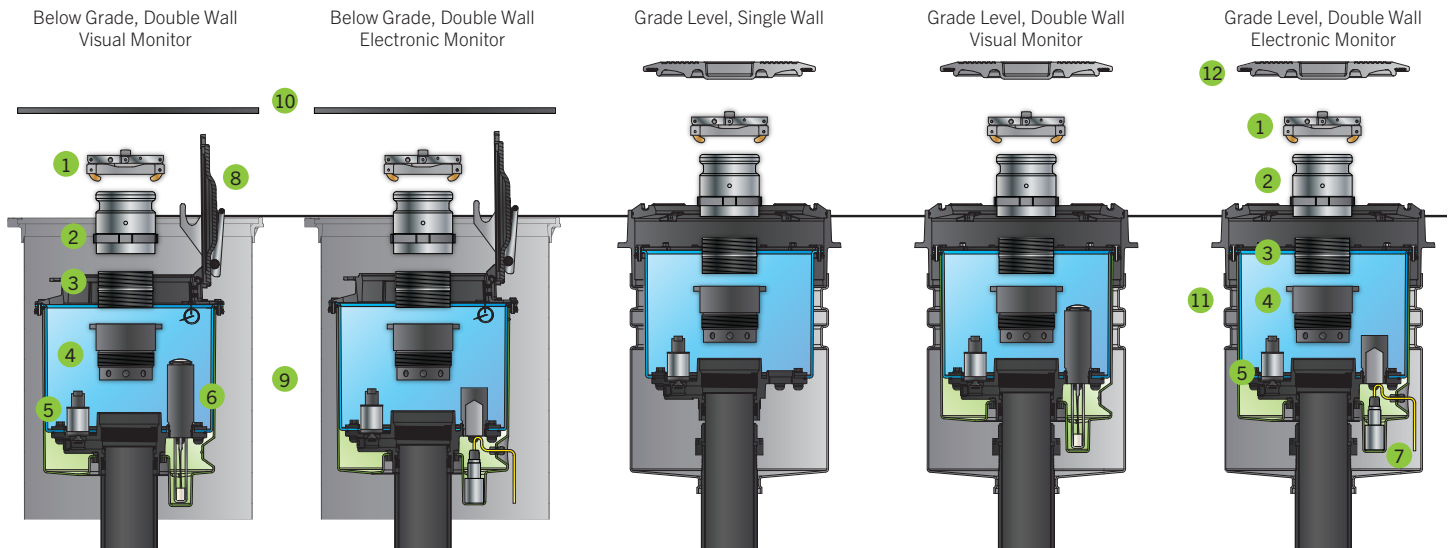


Below Grade Spill Container Dimensions



Components & Configurations

- | | | | | |
|-----------------------|-------------------|---------------------------|-----------------------|------------------------|
| Primary containment | Swivel adapter* | Drain | Lock down lid | Gravel guard |
| Secondary containment | Nipple* | Visual monitor | 18" manway | Cast iron gasketed lid |
| Adapter cap* | Drop tube adapter | Electronic sensor monitor | Fiberglass manway lid | * Sold separately |



DEFENDER SERIES® BUNDLE KITS

ORDERING INFORMATION

A B C

A = Spill Container

Select from the spill container MODEL numbers below

B = Overfill Prevention Valve

Select the ALPHA character below which corresponds with the appropriate OPV

C = Riser, Cap, and Adapter

1 = Stainless steel swivel fill adapter, cap, and riser

2 = No riser, cap, or adapter

3 = Stainless steel swivel vapor adaptor



SERVICE STATION
HARDWARE

Defender Series® Spill Containers

Model	Description
705545001	5 gallon spill container, single wall, NPSM thread, with drain, with black epoxy-coated cast iron gasketed lid
705545002	5 gallon spill container, single wall, NPSM thread, without drain, with black epoxy-coated cast iron gasketed lid
705545011	5 gallon spill container, single wall, NPT thread, with drain, with black epoxy-coated cast iron gasketed lid
705545012	5 gallon spill container, single wall, NPT thread, without drain, with black epoxy-coated cast iron gasketed lid
705555101	5 gallon spill container, double wall, NPSM thread, with drain, with I2 monitor, with black epoxy-coated cast iron gasketed lid
705555102	5 gallon spill container, double wall, NPSM thread, without drain, with I2 monitor, with black epoxy-coated cast iron gasketed lid
705555111	5 gallon spill container, double wall, NPT thread, with drain, with I2 monitor, with black epoxy-coated cast iron gasketed lid
705555112	5 gallon spill container, double wall, NPT thread, without drain, with I2 monitor, with black epoxy-coated cast iron gasketed lid
705555201	5 gallon spill container, double wall, NPSM thread, with drain, with TSP-ULS sensor, with black epoxy-coated cast iron gasketed lid
705555202	5 gallon spill container, NPSM thread, without drain, with TSP-ULS sensor, with black epoxy-coated cast iron gasketed lid
705555211	5 gallon spill container, double wall, NPT thread, with drain, with TSP-ULS sensor, with black epoxy-coated cast iron gasketed lid
705555212	5 gallon spill container, NPT thread, without drain, with TSP-ULS sensor, with black epoxy-coated cast iron gasketed lid
705556111	5 gallon below grade spill container, double wall, NPT thread, with drain, with I2 monitor, with 18" manway
705556112	5 gallon below grade spill container, double wall, NPT thread, without drain, with I2 monitor, with 18" manway

Defender Series® Overfill Prevention Valves

Model	Alpha	Description
708591901	A	Overfill prevention valve with 5' top drop tube, 8' bottom drop tube
708591902	B	Overfill prevention valve with 5' top drop tube, 10' bottom drop tube
708591921	C	Overfill prevention valve with 5' top drop tube, 8' bottom drop tube, AGB compatible*
708591922	D	Overfill prevention valve with 5' top drop tube, 10' bottom drop tube, AGB compatible*
708592901	E	Overfill prevention valve with 10' top drop tube, 8' bottom drop tube
708592902	F	Overfill prevention valve with 10' top drop tube, 10' bottom drop tube
708592921	G	Overfill prevention valve with 10' top drop tube, 8' bottom drop tube, AGB compatible*
708592922	H	Overfill prevention valve with 10' top drop tube, 10' bottom drop tube, AGB compatible*
708593901	I	Overfill prevention valve, coaxial with 6.5' top drop tube, 8' bottom drop tube
708593902	J	Overfill prevention valve, coaxial with 6.5' top drop tube, 10' bottom drop tube
708593923	K	Overfill prevention valve, poppeted coaxial with 6.5' top drop tube, 8' bottom drop tube, AGB compatible*
708593924	L	Overfill prevention valve, poppeted coaxial with 6.5' top drop tube, 10' bottom drop tube, AGB compatible*
--	N	No OPV - Option available with vapor swivel adapter only

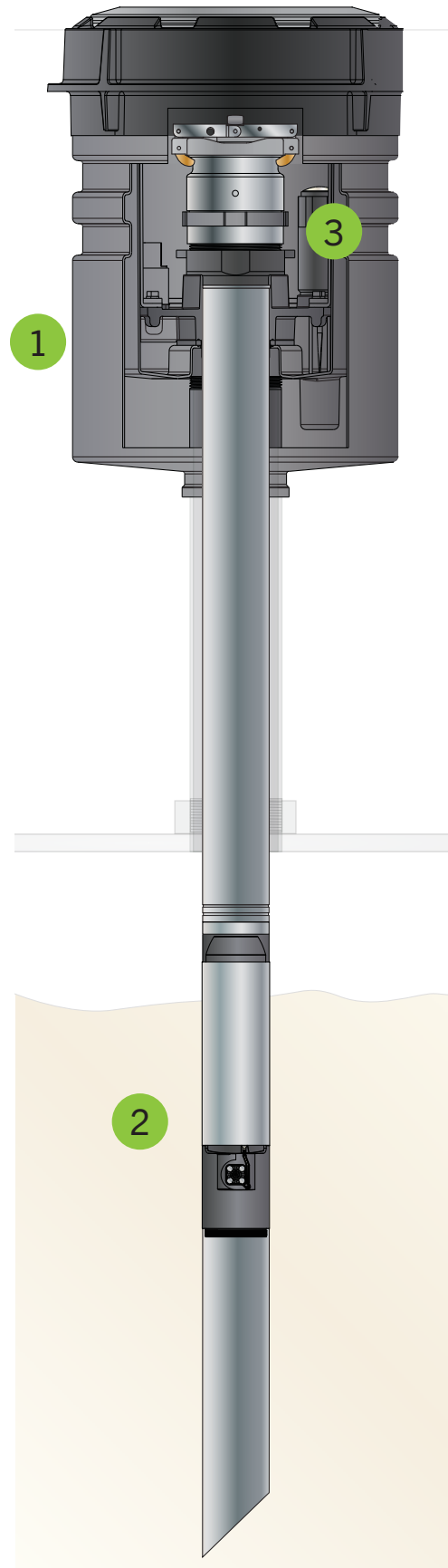
*Alcohol, gas, biofuel compatible (E-85, gasoline and Biodiesel) models come with hard coated anodized drop tubes for full compatibility.



SPECIFICATIONS

Components

- 1 Defender Series® spill container
- 2 Defender Series® overfill prevention valve
- 3 Riser, cap, and adapter



EBW® SERIES SPILL CONTAINERS



ORDERING INFORMATION

EBW® Series Grade Level Spill Containers

Model	Description
70547001ALUM	Grade level spill container, 5 gallon capacity, with drain, NPT threads, aluminum cover
70547002ALUM	Grade level spill container, 5 gallon capacity, without drain, NPT threads, aluminum cover
70547021ALUM	Grade level spill container, 5 gallon capacity, with drain, BSPT threads, aluminum cover
70547001BLK	Grade level spill container, 5 gallon capacity, with drain, NPT threads, black composite cover
70547002BLK	Grade level spill container, 5 gallon capacity, without drain, NPT threads, black composite cover
70547021BLK	Grade level spill container, 5 gallon capacity, with drain, BSPT threads, black composite cover
70547901CI-GKT*	Grade level spill container, 5 gallon capacity, with drain, NPT threads, cast iron cover with gasket
70547902CI-GKT*	Grade level spill container, 5 gallon capacity, without drain, NPT threads, cast iron cover with gasket
70549001BLK**	Grade level spill container, 5 gallon capacity, with drain, NPT threads, black composite cover (CARB approved)
70549002BLK**	Grade level spill container, 5 gallon capacity, without drain, NPT threads, black composite cover (CARB approved)

SERVICE STATION
HARDWARE

EBW® Series Slide-On Grade Level Spill Containers

Model	Description
70240001BLK	Grade level spill container, 5 gallon capacity, with pump, slide-on base, black composite cover
70240002BLK	Grade level spill container, 5 gallon capacity, without pump, slide-on base, black composite cover
70240402CI-GKT*	Grade level spill container, 5 gallon capacity, no pump option, slide-on base, cast iron cover with gasket



EBW® Series Grade Level Spill Container Covers

Replace the last letters in any standard spill container part number for these cover options.

Model	Description
BLK	Black composite
WHT	White composite
RED	Red composite
YEL	Yellow composite

Model	Description
ORG	Orange composite
BRN	Bronze composite
WHT-X	White with black cross composite
RED-X	Red with white cross composite

Model	Description
ALUM	Aluminum
CI	Cast iron
CI-GKT	Cast iron with gasket

EBW® Series Below Grade Spill Containers

Model	Description
70547401BLK*	Below grade spill container, 5 gallon capacity, with drain, NPT threads, 18" x 8" manway with black composite cover
70547402BLK*	Below grade spill container, 5 gallon capacity, without drain, NPT threads, 18" x 8" manway with black composite cover
70549201BLK**	Below grade spill container, 5 gallon capacity, with drain, NPT threads, 18" x 8" manway with black composite cover (CARB approved)
70549202BLK**	Below grade spill container, 5 gallon capacity, without drain, NPT threads, 18" x 8" manway with black composite cover (CARB approved)
71547401BLK*	Below grade spill container, 15 gallon capacity, with drain, NPT threads, 18" x 8" manway with black composite cover
71547402BLK*	Below grade spill container, 15 gallon capacity, without drain, NPT threads, 18" x 8" manway with black composite cover
71549201BLK**	Below grade spill container, 15 gallon capacity, with drain, NPT threads, 18" x 8" manway with black composite cover (CARB approved)
71549202BLK**	Below grade spill container, 15 gallon capacity, without drain, NPT threads, 18" x 8" manway with black composite cover (CARB approved)



*ULC listed, MH21091

**CARB Phase 1 EVR approved, VR-101



ORDERING INFORMATION CONTINUED

EBW® Series Manway Covers

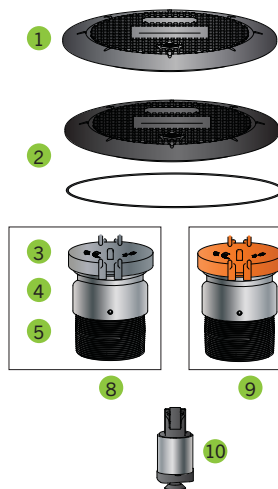
Replace the last letters in any standard spill container part number for these cover options.

Model	Description	Model	Description	Model	Description
BLK	Black composite	YEL	Yellow composite	ORG	Orange composite
WHT	White composite	RED	Red composite	STL	Steel

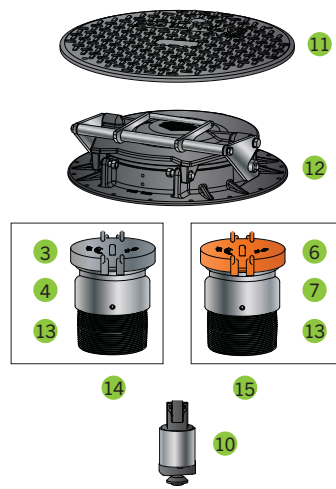
EBW® Series Spill Container Replacement Parts

Item	Model	Description
1	70542301	Cover, composite (black)
2	70544011	Cover, cast iron w/ gasket (black)
3	77720102	Top seal fill cap
4	SWF-100-SS	Fill swivel adapter
5	70521307	4" x 3" close nipple
6	30430103	Top seal vapor cap
7	SWV-101-SS	Vapor swivel adapter
8	70541202	Fill riser, cap, and adapter kit for grade level spill containers
9	70541302	Vapor riser, cap, and adapter kit for grade level spill containers
10	70533219*	Pull-to-push drain valve kit
11	78130401	Cover, 18", fiberglass (black)
12	71040114 71040201	Lock down cover w/ base Lock down cover w/o base
	71520201	Spare lift handle assembly
13	70521305	4" x 5" close nipple
14	70541201	Fill riser, cap, and adapter kit for below grade spill containers
15	70541301	Vapor riser, cap, and adapter kit for below grade spill containers

Grade Level



Below Grade



*CARB approved model (P/N 70533719) also available.

SPECIFICATIONS

Components

- | | |
|-------------------------------|------------------------|
| 1 Cover | 6 Gravel guard |
| 2 Cast iron deflector ring | 7 Concrete anchors |
| 3 Flexible polyethylene shell | 8 Locking cover |
| 4 Cast iron threaded base | 9 18" Cast iron manway |
| 5 Cast iron slip-on base | |

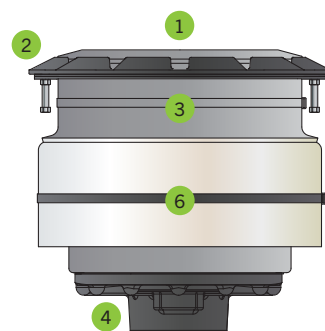
Grade Level Spill Container Materials

Base	Cast iron
Container	Polyethylene
Deflector ring	Cast iron
Cover	Fiber reinforced composite (FRC), cast iron, or aluminum

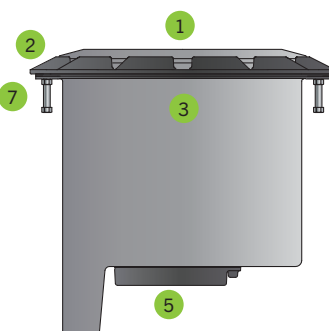
Below Grade Spill Container Materials

Base	Cast iron
Container	Polyethylene
Deflector ring	Cast iron
Cover	Fiber reinforced composite (FRC), or steel

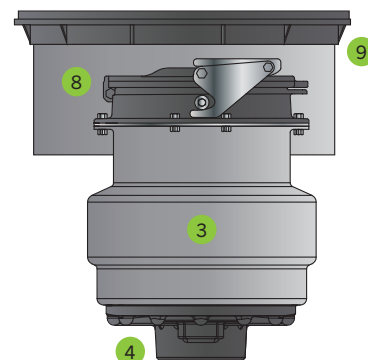
Grade Level



Grade Level Retrofit



Below Grade



SPECIFICATIONS CONTINUED

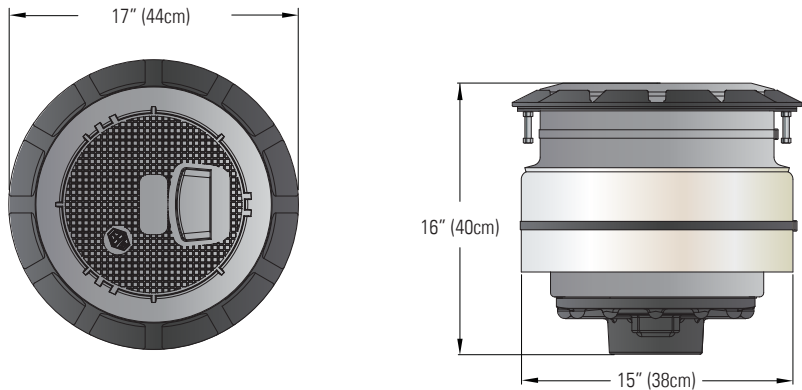
Approvals/Certifications

Approvals /
Certifications

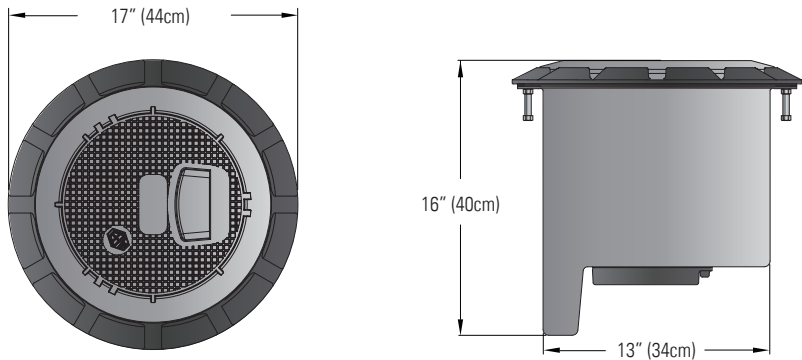
- Spill containers and manways exceed DOT H20 requirements
- UL listed, MH62436 (below grade models only), ULC listed, MH21091*
- CARB Phase 1 EVR approved, VR-101*

**See ordering information for a listing of specific spill container models that hold this approval/certification. UL2447 listed (below grade only)*

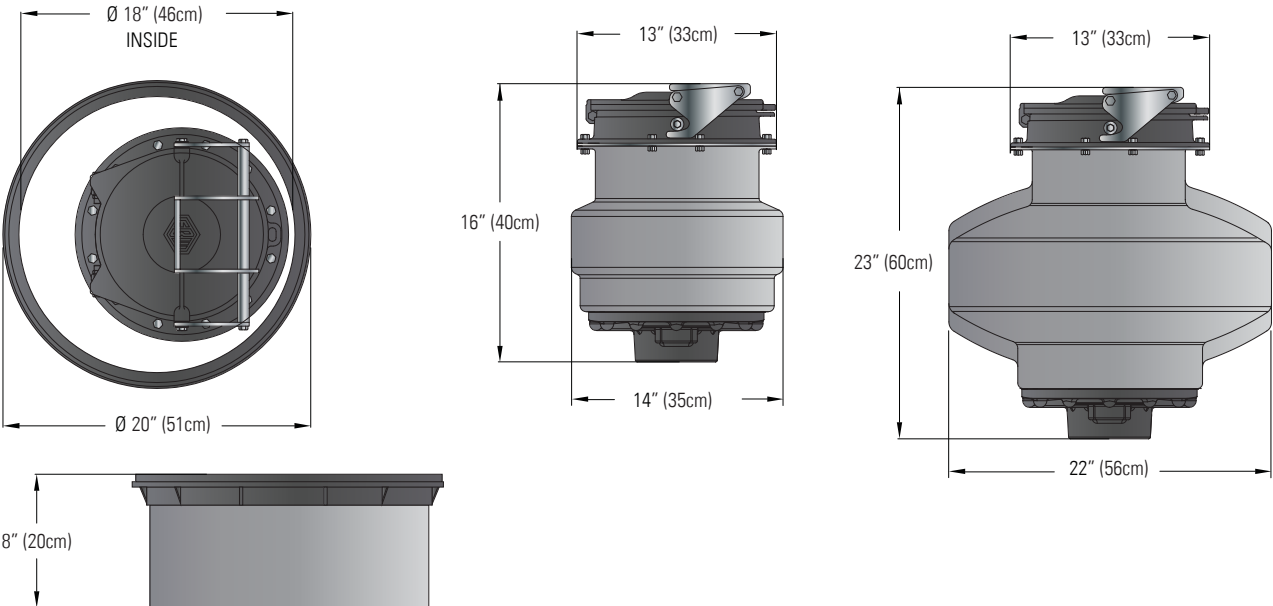
Grade Level Spill Container Dimensions



Grade Level Retrofit Spill Container Dimensions



Below Grade Spill Container Dimensions



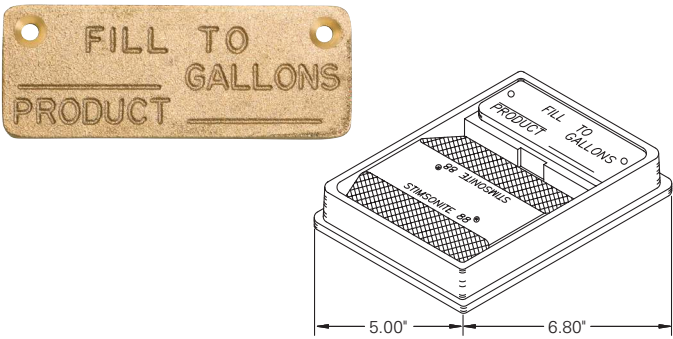
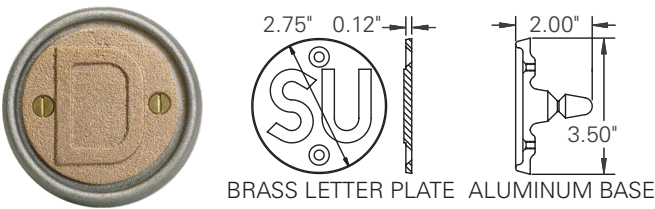
SERVICE STATION
HARDWARE



787 SERIES FUEL IDENTIFICATION

ORDERING INFORMATION

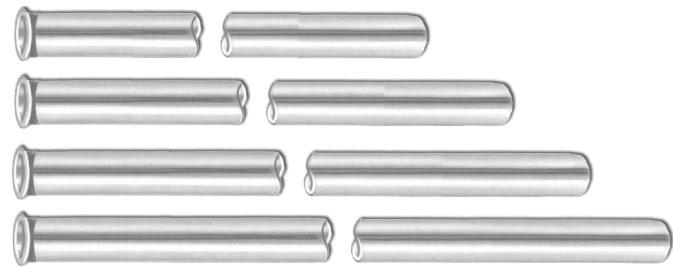
787 Series Fuel Identification Markers



Model	Description	Size	
		In	mm
78710003	D - diesel kit	3.5 × 2	89 × 51
78710006	SU - super unleaded kit	3.5 × 2	89 × 51
78710009	RU - regular unleaded kit	3.5 × 2	89 × 51
Model	Description		
78710101	Aluminum base only		
78710203	D - brass letter only		
78710206	SU - brass letter only		
78710209	RU - brass letter only		

Model	Description	Size	
		In	mm
78710302	Fill replacement plate	1.5 × 3.5	38 × 89
78720101	High-grade unleaded kit, red	4 × 5	102 × 127
78720102	Low-grade unleaded kit, white	4 × 5	102 × 127
78720103	Diesel kit, yellow	4 × 5	102 × 127
78720104	Mid-grade unleaded kit, blue	4 × 5	102 × 127

DROP TUBES



ORDERING INFORMATION

Model	Tubes per Box	Size		Wall Thickness		OD		Weight	
		In × Ft.	mm × M	In	mm	In	mm	lbs	Kg
78220212	6	2 × 12	51 × 3.66	0.42	10.67	1.88	48	45	20.41
78220312	4	3 × 12	76 × 3.66	0.42	10.67	2.94	75	32	14.51
78220410-2'	2	4 × 10	102 × 3.05	0.062	1.580	3.88	99	22	10
78220412-2'	2	4 × 12	102 × 3.66	0.062	1.580	3.88	99	26	11.80
78220415-2'	2	4 × 15	102 × 4.57	0.062	1.580	3.88	99	30	13.60
78220430-2''	2	4 × 10	102 × 3.05	0.062	1.580	3.88	99	22	10
78220432-2''	2	4 × 12	102 × 3.66	0.062	1.580	3.88	99	26	11.80

*CARB: EVR Phase 1 Certification VR-101
**Biofuel approved models (E85 and Biodiesel). CARB: EVR Phase 1 Certification VR-101.

4" COAXIAL VAPOR RECOVERY ADAPTERS AND DROP TUBES

ORDERING INFORMATION

Model	Description	Weight	
		lbs	Kg
30630001	Non-poppeted coax V.R. adapter-NPT	1.52	0.69
30630021	Non-poppeted coax V.R. adapter-BSPT	1.59	0.69
70822604-2	4" x 13' coaxial drop tube, two per box	24	10.89
708335901	Poppeted coax V.R. adapter	3.30	1.5
708336901	Poppeted coax adapter and drop tube kit	45	20.45
708340901	Tightening tool	Call	Call

Note: 708335901 Poppeted Coaxial Vapor Recovery Adapter must be used with an EBW® poppetted coaxial Drop Tube.



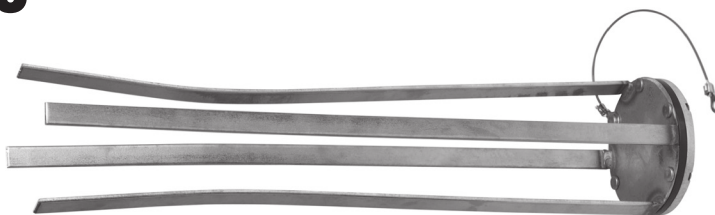
SERVICE STATION
HARDWARE

TANK BOTTOM PROTECTORS

*Biofuel approved model (E85 and Biodiesel).

ORDERING INFORMATION

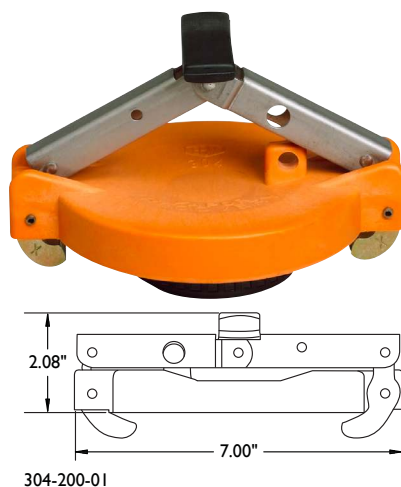
Model	Description
TBP-3516-E*	Tank bottom protector



4" VAPOR RECOVERY CAP

ORDERING INFORMATION

Model	Material	Weight	
		lbs	Kg
30420006	Glass-filled PBT, AGB	1.19	0.53
30420007	Glass-filled PBT w/ chain, AGB	1.19	0.53
30430103*	Epoxy-coated aluminum, AGB	1.38	0.63
30430104	Epoxy-coated aluminum w/ chain, AGB	1.38	0.63
Model	Description		
95021501	Replacement gasket CARB approved		



*Biofuel approved model
(E85 and Biodiesel)
CARB: EVR Phase 1
Certification VR-101.

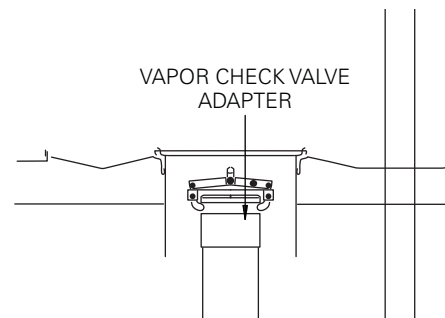
304-200-01



VAPOR CHECK VALVE ADAPTERS

ORDERING INFORMATION

Model	Riser Thread	Height		Body Material	Weight		Threads
		In	mm		lbs	Kg	
30021001	4"	4.19	107	Anodized aluminum	4.30	1.95	NPSM
30021031	3"	5.44	139	Anodized aluminum	4.30	1.95	BSPP
30022001	4"	4.19	107	Brass	12.5	5.66	NPSM
30022031	4"	4.19	107	Brass	12.5	5.66	BSPP
30030001	3"	5.44	139	Anodized aluminum	4.30	1.95	NPSM
30030031	3"	5.44	139	Anodized aluminum	4.30	1.95	BSPP
Model	Description						
77020102	3" Replacement gasket						
77020103	4" Replacement gasket						



VAPOR SWIVEL ADAPTERS

ORDERING INFORMATION

Vapor Swivel Adapters



Model	Description
SWV-101-SS**	Vapor swivel adapter, 4" NPT, stainless steel
SWV-101-B*	Vapor swivel adapter, 4" NPT, brass
SWFV-PKGSS**	Vapor and fill swivel adapter kit, 4" NPT, stainless steel
SWFV-PKG*	Vapor and fill swivel adapter kit, 4" NPT, brass
85039	Replacement gasket for all swivel adapters

Vapor Swivel Adapter Kits

Be sure to select the appropriate kit for your specific spill container type.

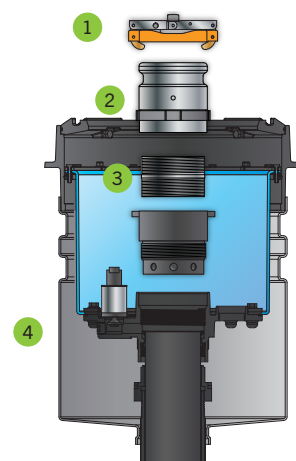


Model	Description
70541302	Vapor swivel adapter kit for 5 gallon Defender Series® (grade level and below grade level) and EBW® Series (grade level) spill containers, includes stainless steel vapor swivel adapter, 3" riser nipple, vapor top cap
70541301	Vapor swivel adapter kit for 5 gallon Phil-Tite™ and EBW® Series (below grade) spill containers, includes stainless steel vapor swivel adapter, 5" riser nipple, vapor top cap
70541503	Vapor swivel adapter kit for 15 gallon EBW® Series (below grade) spill containers, includes stainless steel vapor swivel adapter, 12" riser nipple, vapor top cap

SPECIFICATIONS

Components

- 1 Cap
- 2 Swivel adapter
- 3 Riser nipple
- 4 Spill container



*EVR Phase 1 Certification VR-101.

**EVR Phase 1 Certification VR-101 for gas and E85.



FILL SWIVEL ADAPTERS

ORDERING INFORMATION

Fill Swivel Adapters



Model	Description
SWF-100-SS**	Fill swivel adapter, 4" NPT, stainless steel
SWF-100-B*	Fill swivel adapter, 4" NPT, brass
SWFV-PKGSS**	Vapor and fill swivel adapter kit, 4" NPT, stainless steel
SWFV-PKG*	Vapor and fill swivel adapter kit, 4" NPT, brass
85039	Replacement gasket for all swivel adapters

Fill Swivel Adapter Kits

Be sure to select the appropriate kit for your specific spill container type.

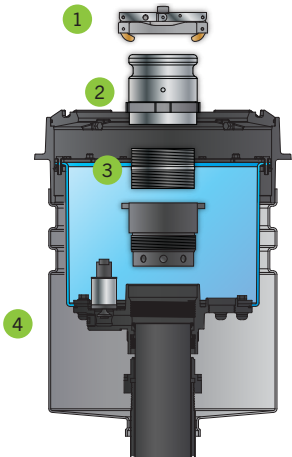


Model	Description
70541202	Fill swivel adapter kit for 5 gallon Defender Series® (grade level and below grade level) and EBW® Series (grade level) spill containers, includes stainless steel fill swivel adapter, 3" riser nipple, vapor top cap
70541201	Fill swivel adapter kit for 5 gallon PHIL-TITE™ and EBW® Series (below grade) spill containers, includes stainless steel fill swivel adapter, 5" riser nipple, vapor top cap
70541203	Fill swivel adapter kit for 15 gallon EBW® Series (below grade) spill containers, includes stainless steel fill swivel adapter, 12" riser nipple, vapor top cap

SPECIFICATIONS

Components

- 1 Cap
- 2 Swivel adapter
- 3 Riser nipple
- 4 Spill container



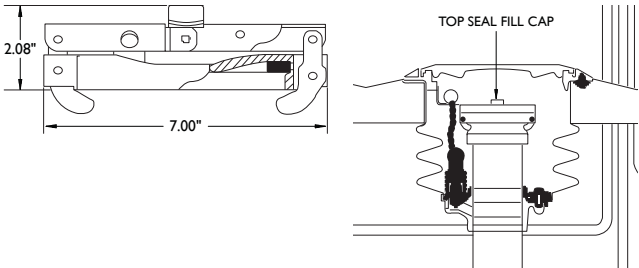
*EVR Phase 1 Certification VR-101.
**EVR Phase 1 Certification VR-101 for gas and E85.

4" TOP SEAL FILL CAP

ORDERING INFORMATION

Model	Description	Weight	
		lbs	Kg
77720102*	CARB EVR glass-filled PBT, AGB	1	0.45
77720202	Aluminum, epoxy-coated gray, AGB	1.12	0.51
95021501	CARB approved replacement gasket	0.20	0.90
Model	Description		
777201901*	Glass-filled PBT, 20 pack		

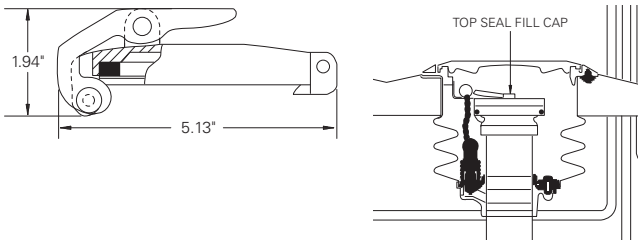
*Biofuel approved model (E85 and Biodiesel), CARB: Phase 1 Certification VR-101.



3" TOP SEAL FILL CAP

ORDERING INFORMATION

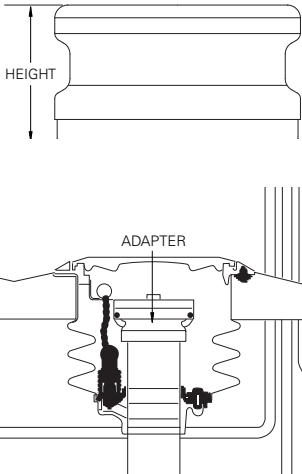
Model	Description	Weight	
		lbs	Kg
77920001	3" top seal fill cap	1	0.45
Model	Description		
77420203	3" replacement gasket		



TOP SEAL FILL PIPE ADAPTERS

ORDERING INFORMATION

Model	Height		Description	Weight	
	In	mm		lbs	Kg
77830101	2.69	68.27	4" x 4" with lugs - NPSM	2	0.90
77830102	2.69	68.27	4" x 4" without lugs - NPSM	2	0.90
77830105	2.69	68.27	4" x 4" with lugs - NPSM	2	0.90
77830135	2.69	68.27	4" x 4" with lugs - BSPP	2	0.90
77830106	2.69	68.27	4" x 4" with lugs stainless steel - NPSM	2.08	0.95
77830132	2.69	68.27	4" x 4" without lugs - BSPP	2	0.90
77830201	2.25	57.15	4" x 3" with lugs - NPSM	2	0.90
77830231	2.25	57.15	4" x 3" with lugs - BSPP	2	0.90
78020001	1.75	44.45	3" x 3" without lugs - NPSM	2	0.90
Model	Description				
77020102	3" replacement gasket				
77020103	4" replacement gasket				



SPECIFICATIONS

Model	Description
70541801	Brass RCA Fill Kit, 5" NIP, fits EBW® 5 gallon Grade Level Spill Containers (Includes one 5" nipple, one 77720202 4" Aluminum Fill Cap and one 77830101 fill adapter)
70541802	Brass RCA Fill Kit, 7" NIP, fits EBW® 5 gallon Below Grade Spill Containers (Includes one 7" nipple, one 77720202 4" Aluminum Fill Cap and one 77830101 fill adapter)
70541803	Brass RCA Fill Kit, 12.5" NIP, fits EBW® 15 gallon Grade Level Spill Containers (Includes one 12.5" nipple, one 77720202 4" Aluminum Fill Cap and one 77830101 fill adapter)
70541804	Brass RCA Fill Kit, 14.5" NIP, fits EBW® 15 gallon Below Grade Spill Containers (Includes one 14.5" nipple, one 77720202 4" Aluminum Fill Cap and one 77830101 fill adapter)

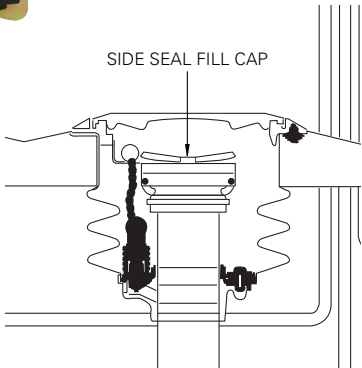


4" SIDE SEAL FILL CAP

ORDERING INFORMATION

Model	Description	Weight	
		lbs	Kg
77520201	4" side seal fill cap	2	0.90

Model	Description
77510401	Replacement gasket



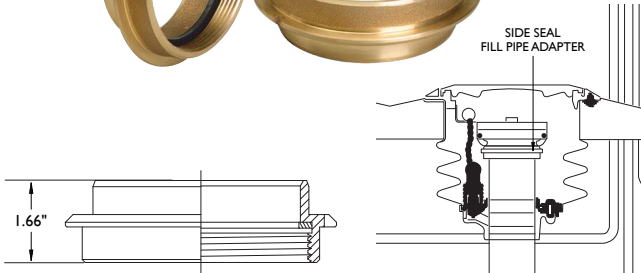
SERVICE STATION
HARDWARE

4" SIDE SEAL FILL ADAPTER

ORDERING INFORMATION

Model	Description	Weight	
		lbs	Kg
77630001	4" side seal fill adapter-NPT	2	0.90
77630031	4" side seal fill adapter-BSPT	2	0.90

Model	Description
77020103	4" replacement gasket



DEFENDER SERIES® REMOTE FILL SPLICE KIT

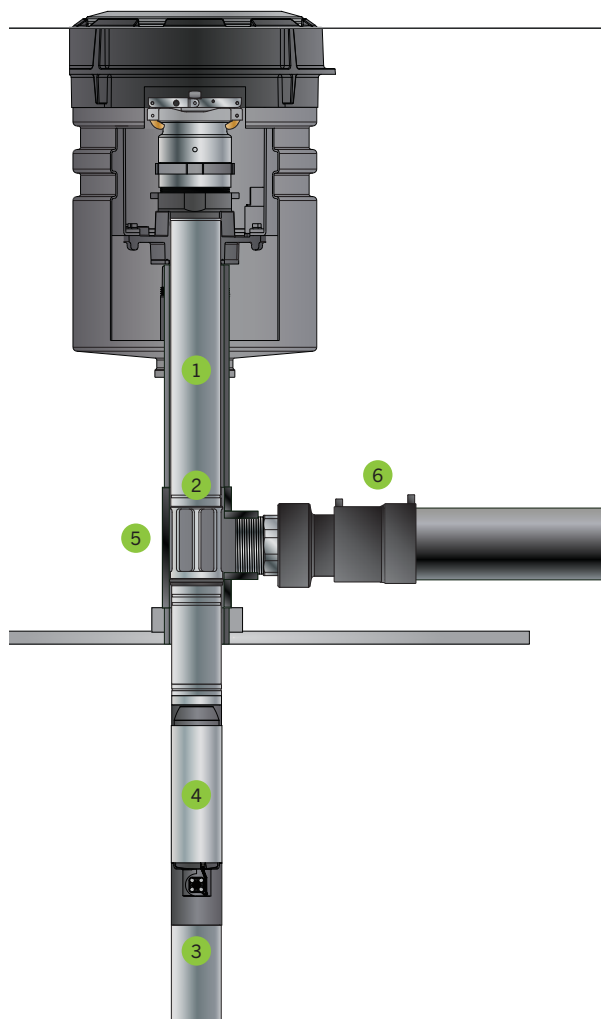
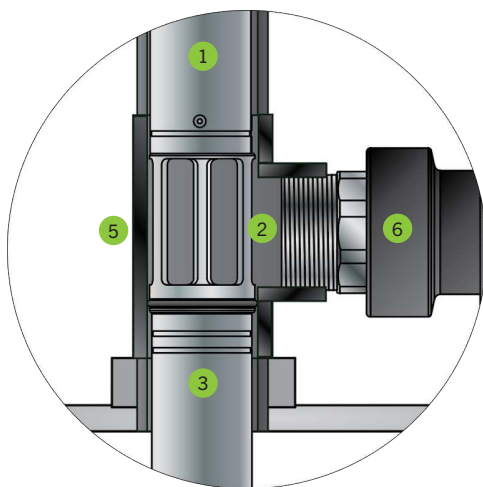
ORDERING INFORMATION

Model	Description
708556901	Defender Series® remote fill splice kit, includes splice and O-rings

SPECIFICATIONS

Components

- 1 Top drop tube (included with OPV)
- 2 Defender Series® remote fill splice kit
- 3 Bottom drop tube (included with OPV)
- 4 Defender Series overfill prevention valve (included with OPV)
- 5 4" x 4" x 4" tee (locally supplied)
- 6 Remote fill line



DEFENDER SERIES® MULTIPOST MANWAYS

ORDERING INFORMATION

Available in 36" and 42" access opening diameters. Spill container access openings are 16" on center to align with standard tank bung openings. Multiport manways include a manway cover with cam locks, 18" aluminum skirt, stainless steel sleeve(s) with cover(s), and fill and/or vapor containers.

Ordering Guide

X - Y - Z - A

X = Size and Style

DMP36 = 36" Defender Series® multiport
DMP42 = 42" Defender Series® multiport

Y = Number of Spill Containers

1 = One spill container
2 = Two spill containers
4 = Four spill containers

Z = Container Configuration

SW = Single wall, NPSM
SWT = Single wall NPT
DWI = Double wall w/ I² monitor
DWS = Double wall w/ TSP-ULS sensor
DWIT = Double wall w/ I² monitor NPT
DWST = Double wall w/ TSP-ULS sensor NPT

A = Cover Color

YEL = Yellow
RED/ORG = Red and orange
WHT/ORG = White and orange

Example: DMP36-1-SW-YEL = 36" Defender multiport with one spill container, one 13" access port, and yellow cast iron lid.

Defender Series® Multiport Manways Packages

New Construction

Model	Description
DMP36-1-SW-YEL	36" Defender Series® multiport, one spill container, one 13" access port, yellow cast iron lid
DMP36-2-SW-RED/ORG	36" Defender Series® multiport, two spill containers, one 8" access port, one red/one orange cast iron lid
DMP36-2-SW-WHT/ORG	36" Defender Series® multiport, two spill containers, one 8" access port, one white/one orange cast iron lid
DMP42-1-SW-YEL	42" Defender Series® multiport, one spill container, one 13" access port, yellow cast iron lid
DMP42-2-SW-RED/ORG	42" Defender Series® multiport, two spill containers, one 8" access port, one red/one orange cast iron lid
DMP42-2-SW-RED/ORG	42" Defender Series® multiport, two spill containers, one 8" access port, one red/one orange cast iron lid
DMP42-2-SW-WHT/ORG	42" Defender Series® multiport, two spill containers, one 8" access port, one white/one orange cast iron lid
DMP42-4-SW-WHT/ORG	42" Defender Series® multiport, four spill containers, one 6" access port, two white/two orange cast iron lids

Retrofits

Model	Description
DMP36R-1-SW-YEL	36" Defender Series® multiport retrofit kit, one spill container, one 13" access port, yellow cast iron lid
DMP36R-2-SW-RED/ORG	36" Defender Series® multiport retrofit kit, two spill containers, one 8" access port, one red/one orange cast iron lid
DMP36R-2-SW-WHT/ORG	36" Defender Series® multiport retrofit kit, two spill containers, one 8" access port, one white/one orange cast iron lid
DMP42R-1-SW-YEL	42" Defender Series® multiport retrofit kit, one spill container, one 13" access port, yellow cast iron lid
DMP42R-2-SW-RED/ORG	42" Defender Series® multiport retrofit kit, two spill containers, one 8" access port, one red/one orange cast iron lid
DMP42R-2-SW-WHT/ORG	42" Defender Series® multiport retrofit kit, two spill containers, one 8" access port, one white/one orange cast iron lid
DMP42R-4-SW-WHT/ORG	42" Defender Series® multiport retrofit kit, four spill containers, one 6" access port, two white/two orange cast iron lids

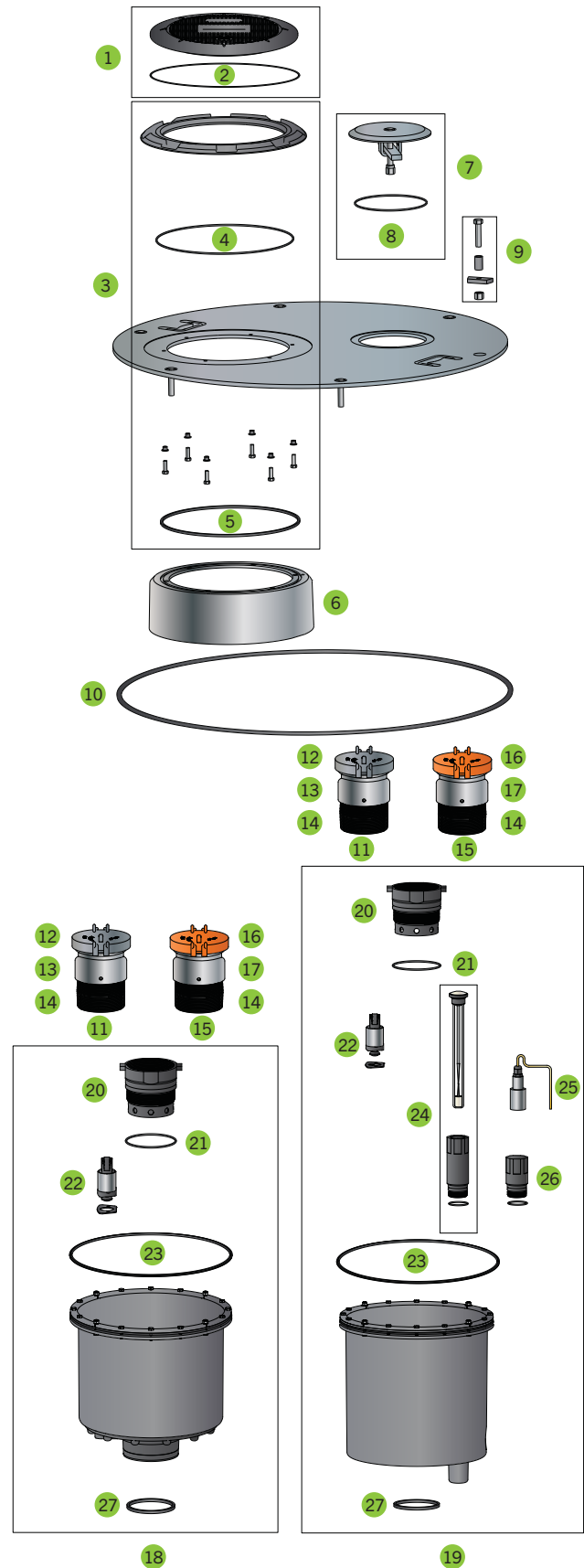
Note: Retrofits do not include the frame or skirt.



ORDERING INFORMATION CONTINUED

Defender Series® Multiport Manway Replacement Parts

Item	Model	Description
1	70544011	Cover, cast iron w/ gasket (black)
2	70551911	Cover gasket
3	705560901	Plow ring assembly
4	602009009	Manyway cover plow ring gasket
5	110370382	Spill container sleeve gasket
6	70556101	Spill container sleeve
7	602346908	Access cover assembly with gasket
8	602009011	Access cover gasket
9	SC-1501L	Cam lock assembly (qty 6)
10	SC-1536B	36" gasket
	SC-1542B	42" gasket
11	70541202	Fill riser, cap, and adapter kit
12	77720102	Top seal fill cap
13	SWF-100-SS	Fill swivel adapter
14	70521307	4" x 2.88" close nipple
15	70541302	Vapor riser, cap, and adapter kit
16	30430103	Top seal vapor cap
17	SWV-101-SS	Vapor swivel adapter
18	705542001	Single wall spill container, NPSM, with drain
	705542002	Single wall spill container, NPSM, no drain
	705542011	Single wall spill container, NPT, with drain
	705542012	Single wall spill container, NPT, no drain
19	705552101	Double wall spill container, I2, NPSM, with drain
	705552102	Double wall spill container, I2, NPSM, no drain
	705552111	Double wall spill container, I2, NPT, with drain
	705552112	Double wall spill container, I2, NPT, no drain
	705552201	Double wall spill container, sensor, NPSM, with drain
	705552202	Double wall spill container, sensor, NPSM, no drain
	705552211	Double wall spill container, sensor, NPT, with drain
	705552212	Double wall spill container, sensor, NPT, no drain
20	70550901EC	DT riser clamp assembly
21	1103939	DT riser gasket
22	70533729	Pull-to-push drain valve kit
23	70550311	Spill container seal ring gasket
24	70553301	I2 monitor and inspection port kit
25	TSP-ULS	Electronic leak detection sensor
26	70553302	Sensor inspection port
27	602256001	Tank riser gasket
28	602503931	36" manway cover assembly with one spill container opening, one access port
	602503932	36" manway cover with two spill container openings, one access port
	602504931	42" manway cover with one spill container opening, one access port
	602504932	42" manway cover with two spill container openings, one access port
	602504933	42" manway cover with four spill container openings, one access port

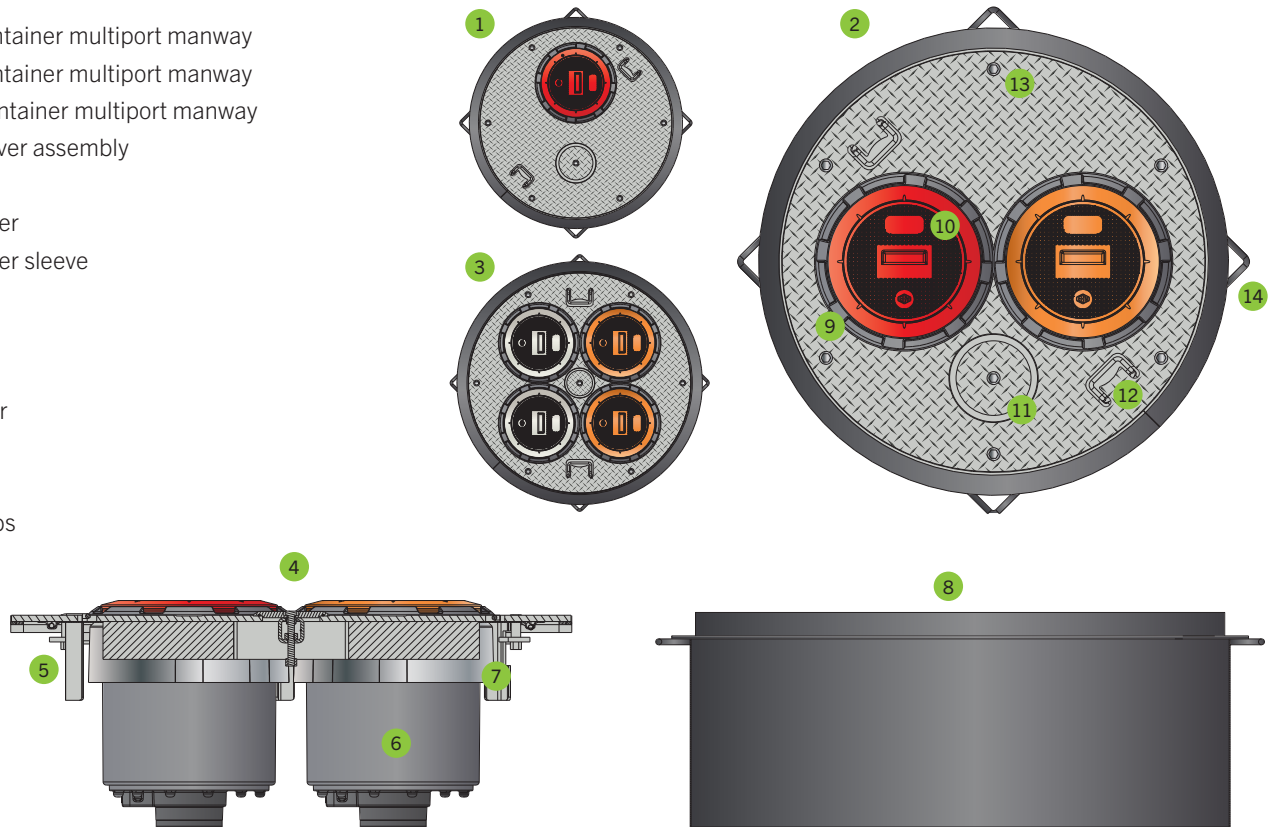


SPECIFICATIONS

H20/HS20	Exceeds H20 and HS20 load standards (maximum axle load requiring support for the 32,000 or 16,000 pounds for each set of dual tire wheels)
Approvals / Certifications	<ul style="list-style-type: none"> – ULC listed (spill containers) – CARB approved (spill containers)

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



DEFENDER SERIES® MULTIPORT SUMPS

ORDERING INFORMATION

Ordering Guide

Complete part numbers have a specific order and are created using the following guidelines:

DM A B - C - D - E

DM = Defender Series® Multiport™ Sump

A = Sump Depth Options

M = Medium burial

B = Sump Size Options

4236 = 42" base, 36" manway opening

4842 = 48" base, 42" manway opening

C = Watertight Shield Openings Options

1/0 = One container opening, one 8" access port opening

4/0 = Four container openings, one 6" access port opening

2/1 = Two container openings, one 8" access port opening

D = Tank Mount Options

OB = Octagonal base with bottom (single wall only)

OC = Octagonal collar mount base

E = Wall Type and Interstitial Monitoring Method Options

S = Single wall, none

H = Double wall, hydrostate (bring)

Example: DMM4236-1/0-OB-S = Defender Series® multiport sump, medium burial, 42" base, 36" manway opening, sump shield with one container opening and one 8" access port opening, octagonal base with bottom, single wall.

**Requires one seam kit for installation.*

***Requires two seam kits for installation.*

****Requires four seam kits for installation.*

Defender Series® Watertight Sump Packages

Pre-configured multiport sump packages for typical applications. These packages include a sump and watertight sump shield which comes complete with corresponding boots and clamps. Multiport sump packages should be ordered in conjunction with multiport manways.

Model	Description
DMM4236-1/0-OB-S*	Multiport sump, medium burial, 42" base, 36" manway opening, sump shield with 1 container opening, and (1) 8" access port opening, octagonal base with bottom, single wall
DMM4236-1/0-OC-S*	Multiport sump, medium burial, 42" base, 36" manway opening, sump shield with 1 container opening, and (1) 8" access port opening, octagonal collar mount base, single wall
DMM4236-2/1-OB-S**	Multiport sump, medium burial, 42" base, 36" manway opening, sump shield with 2 container openings, (1) 8" access port opening, octagonal base with bottom, single wall
DMM4236-2/1-OC-S**	Multiport sump, medium burial, 42" base, 36" manway opening, sump shield with 2 container openings, (1) 8" access port opening, octagonal collar mount base, single wall
DMM4842-4/0-OC-H***	Multiport sump, medium burial, 48" base, 42" manway opening, sump shield with 4 container openings and (1) 6" access port opening, octagonal collar mount base, double wall
DMM4842-4/0-OC-S***	Multiport sump, medium burial, 48" base, 42" manway opening, sump shield with 4 container openings and (1) 6" access port opening, octagonal collar mount base, single wall

Defender Series® Watertight Sump Shield Packages

These stand alone watertight sump shield packages allow you to install Defender Series® multiport manways with non-Defender Series® sumps. These sump shields come complete with corresponding boots and clamps. We have included the sump top opening diameter range with each sump shield package to assist you in identifying compatibility with non-Defender Series® sumps.

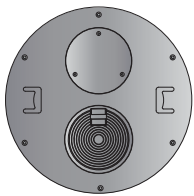
Model	Fiberglass Kit	Compatible Sump Collar Diameter Range		Access Openings	15" Spill Container Openings
		Minimum	Maximum		
DMP36-1-WTSS-32	1	31¾"	33¼"	1 (8" access)	1
DMP36-2-WTSS-32	2	31¾"	33¼"	1 (8" access)	2
DMP36-1-WTSS-33	1	32 ⅜"	33¼"	1 (8" access)	1
DMP36-1-WTSS-42	1	41 ⅝"	42 ⅝"	1 (8" access)	1
DMP36-2-WTSS-33	2	32 ⅜"	33¾"	1 (8" access)	2
DMP36-2-WTSS-42	2	41 ⅝"	42 ⅝"	1 (8" access)	2
DMP42-1-WTSS-42	1	41 ⅝"	42 ⅝"	1 (8" access)	1
DMP42-2-WTSS-42	2	41 ⅝"	42 ⅝"	1 (8" access)	2
DMP42-4-WTSS-42	4	42 ⅝"	42 ⅝"	1 (6" access)	4
DMP36-1-WTSS-48	1	48 ⅞"	48 ⅞"	1 (8" access)	1
DMP36-2-WTSS-48	1	48 ⅞"	48 ⅞"	1 (8" access)	2



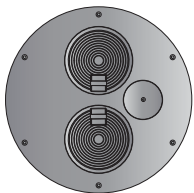
PHIL-TITE™ MULTIPOST MANWAYS

ORDERING INFORMATION

36" PHIL-TITE™ Multiport Manways

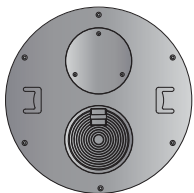


Model	Description
M36-1C-1-0-NPR	36" multiport manway, 1 spill container with drain, (1) 13" access opening, without plow ring
M36-1C-1-0-SPR	36" multiport manway, 1 spill container with drain, (1) 13" access opening, with plow ring
602132909	Replacement cover assembly for M36-1C-1-0-NPR
602132919	Replacement cover assembly for M36-1C-1-0-SPR

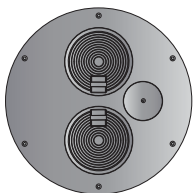


Model	Description
M36-2C-0-1-NPR	36" multiport manway, 1 spill container with drain, 1 spill container without drain, (1) 13" access opening, without plow ring
M36-2C-0-1-SPR	36" multiport manway, 1 spill container with drain, 1 spill container without drain, (1) 13" access opening, with plow ring
602132914	Replacement cover assembly for M36-2C-0-1-NPR
602132920	Replacement cover assembly for M36-2C-0-1-SPR

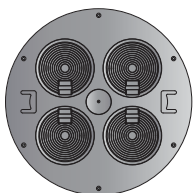
42" PHIL-TITE™ Multiport Manways



Model	Description
M42-1C-1-0-NPR	42" multiport manway, 1 spill container with drain, (1) 13" access opening, without plow ring
602133905	Replacement cover assembly for M42-1C-1-0-NPR



Model	Description
M42-2C-0-1-NPR	42" multiport manway, 1 spill container with drain, 1 spill container without drain, (1) 8" access opening, without plow ring
602133909	Replacement cover assembly for M42-2C-0-1-NPR



Model	Description
M42-4C-0-1-NPR	42" multiport manway, 2 spill containers with drains, 2 spill containers without drains, (1) 6" access opening, without plow ring
602133910	Replacement cover assembly for M42-4C-0-1-NPR

PHIL-TITE™ Replacement Parts

Model	Description
SC-1536B	36" gasket
SC-1542B	42" gasket
SC-1513V	Cast iron cover seal
SC-1501L	Large cam lock assembly

ORDERING INFORMATION CONTINUED

PHIL-TITE™ Multiport Manway Installation Tools & Accessories



Model	Description
MF 4X4	PHIL-TITE™ spill container riser adapter

Note: Each PHIL-TITE™ spill container requires a riser adapter for installation.



Model	Description
T-7043	PHIL-TITE™ spill container tool kit includes T-handle (T-7001), spill container tool (T-7002-A), and swivel adapter tool (T-7102)



Model	Description
PP-1005-TB	Debris bucket without pump
PP-1005-TBP	Debris bucket with pump



Model	Description
M-1600	Riser alignment bracket for 16" center

36" Access Watertight Sump Shield Packages

Each watertight sump shield includes a fiberglass sump adapter as well as all necessary spill container reducer boots, caps, and clamps.



Model	Description	Multiport Manway Compatibility
MSC-XS36-1	36" watertight sump shield with one spill container opening, includes fiberglass sump adapter for 32" Xerxes® riser	M36-1C-1-0-NPR M36-1C-1-0-SPR
MSC-XS36-3	36" watertight sump shield with two spill container openings, one 8" access opening, includes fiberglass sump adapter for 32" Xerxes® riser	M36-1C-1-0-NPR M36-1C-1-0-SPR
MSC-4236-2-1	36" watertight sump shield with two spill container openings, one 8" access opening, includes fiberglass sump adapter for 42" riser	M36-2C-0-1-NPR M36-2C-0-1-SPR

Note: Each watertight sump shield requires a fiberglass seam kit for installation, see below for details.

42" Access Watertight Sump Shield Packages

Each watertight sump shield includes a fiberglass sump adapter as well as all necessary spill container reducer boots, caps, and clamps.



Model	Description	Multiport Manway Compatibility
MSC-4242-1-0	42" watertight sump shield with one spill container opening, includes fiberglass sump adapter for 42" riser	M42-1C-1-0-NPR
MSC-4242-2-1	42" watertight sump shield with two spill container openings, one 8" access opening, includes fiberglass sump adapter for 42" riser	M42-2C-0-1-NPR
MSC-4242-4-1	42" watertight sump shield with four spill container openings, one 6" access opening, includes fiberglass sump adapter for 42" riser	M42-4C-0-1-NPR

Note: Each watertight sump shield requires a fiberglass seam kit for installation, see below for details.



ORDERING INFORMATION CONTINUED

Watertight Sump Shield Installation Tools & Accessories



Model	Description
FIBERGLASS-KIT	Fiberglass seam kit for one seam - includes: matte, resin, putty, catalyst, ½" x 3" roller, 2" brush, quart cups (qty 3), stir sticks (qty 2), squeegee, glove - size large (qty 2 pairs)



Model	Description
WTRB-1013	Spill container reducer boot with clamp



Model	Description
WTRC-0600	6" rubber cap with clamp for 6" access opening
WTRC-0800	8" rubber cap with clamp for 8" access opening
WTRC-1300	13" rubber cap with clamp for 13" access opening

SPECIFICATIONS

Components

- 1

Powder coated manway
- 2

Cam locks
- 3

Spill container sleeves
- 4

Vapor spill container
- 5

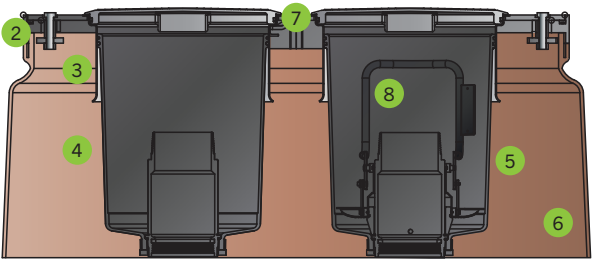
Fill spill container
- 6

Fiberglass skirt
- 7

Spill container lids
- 8

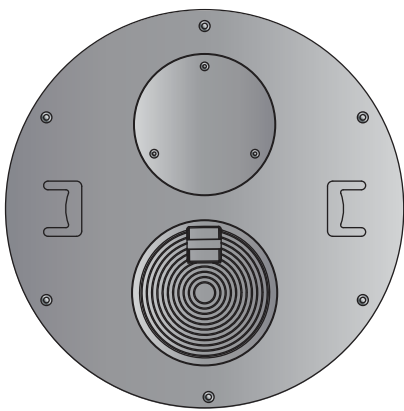
Drain valve
- 9

Access opening



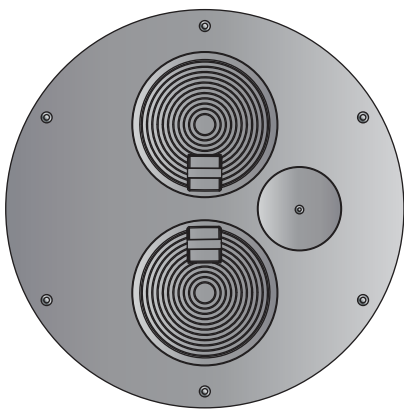
SPECIFICATIONS CONTINUED

Multiport Manway Configurations



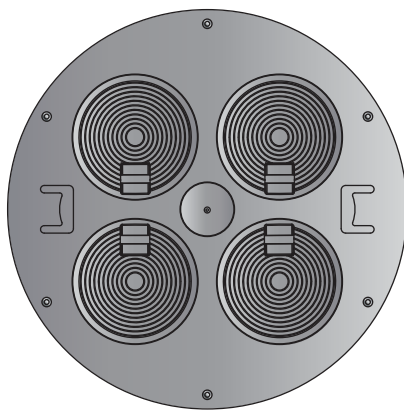
One Spill Container Configuration

- One spill container
- One 13" access opening



Two Spill Container Configuration

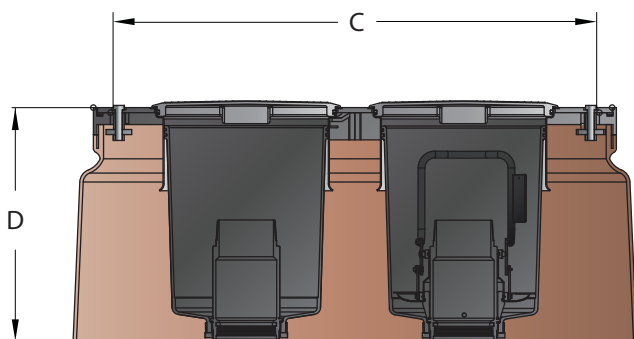
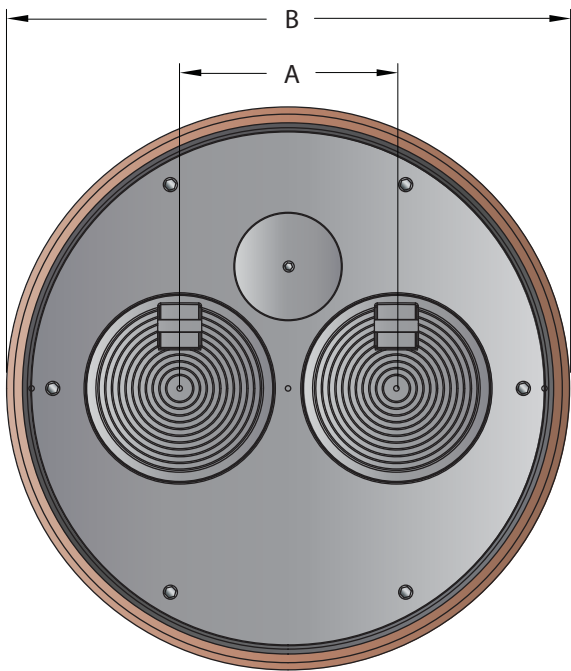
- Two spill containers
- One 8" access opening



Four Spill Container Configuration

- Four spill containers
- One 6" access opening

Multiport Manway Dimensions



Model	A	B	C	D
	Spill Collection Separation	Cover Diameter	Clear Opening	Manway Skirt from Finished Grade Height
36" Multiport Manway	16"	38"	36"	18"
42" Multiport Manway	16"	45"	42"	18"

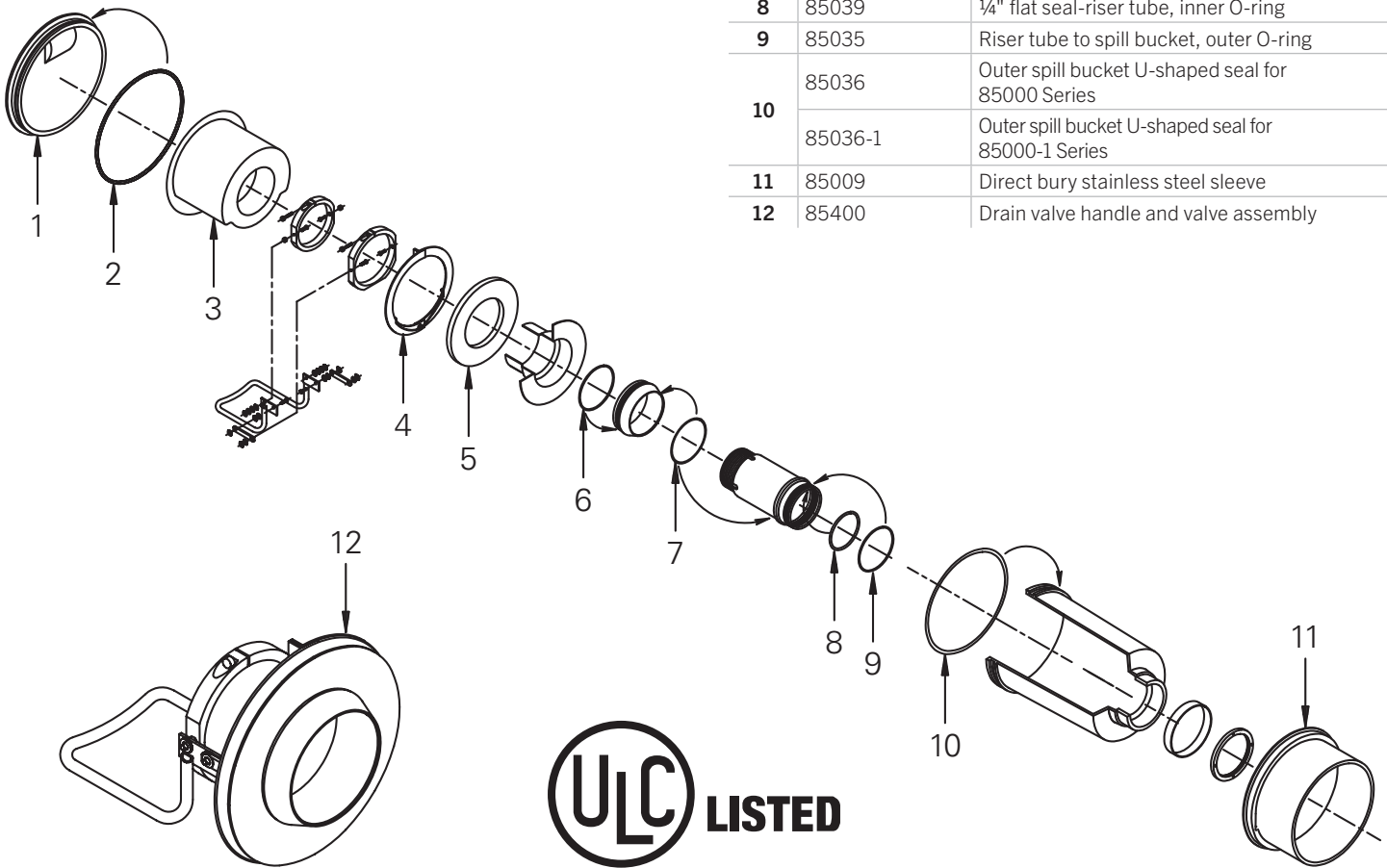


PHIL-TITE™ SPILL CONTAINER REPLACEMENT PARTS

ORDERING INFORMATION

Model	Description
85100-1*	Replacement 5 gallon 85000-1 fill spill bucket, with drain valve
85101-1*	Replacement 5 gallon 85000-1 vapor spill bucket, without drain valve
85100	Replacement 3.5 gallon PHIL-TITE™ spill bucket, with drain valve
85101	Replacement 3.5 gallon PHIL-TITE™ spill bucket, without drain valve

*Missouri MOPETP approved.



SPECIFICATIONS

85000-1 and 85100-1 Spill Collector Fill Spill Bucket

Item	Model	Description
1	85011-1	Gray ductile cast iron cover with wiper seal
2	SC-1513V	U-shaped seal for ductile cast iron lid
3	PP-1005-TB	Fill debris bucket insert, without pump
	PP-1005-TBP	Vapor debris bucket insert, with pump
4	85031-1	Stainless steel retaining ring for screen and filter
5	602026001	Flexible polyurethane foam filter
6	85035	Shut-off collar to screen, upper O-ring
7		Shut-off collar to screen, lower O-ring
8	85039	¼" flat seal-riser tube, inner O-ring
9	85035	Riser tube to spill bucket, outer O-ring
10	85036	Outer spill bucket U-shaped seal for 85000 Series
	85036-1	Outer spill bucket U-shaped seal for 85000-1 Series
11	85009	Direct bury stainless steel sleeve
12	85400	Drain valve handle and valve assembly

SERVICE STATION
HARDWARE



MULTIPORT PACKAGES

ORDERING INFORMATION

42" Diesel Defender Series® Multiport Package

Model 705589913 includes all of the components listed below.

Model	Description
DMP36-1-WTSS-32	Watertight sump shield with one spill container opening, for 32" diameter sump riser (fits sump opening 31.75" to 33.25") - includes corresponding boots and clamps
FIBERGLASS-KIT	Fiberglass seam kit - includes matte, resin, putty and catalyst for (1) fiberglass seam, single or double wall, plus (1) 3"x 1/2" roller, (3) quart cups, (1) 2" brush, (2) stir sticks, (1) squeegee, (2) pairs of large gloves
DMP42-1-SWT-YEL	42" Defender Series® multiport kit: includes one spill container, one 8" access port, yellow cast iron lid (NPT THREAD)
70541202	Swivel fill adapter kit - includes 3" SSTL nipple, adapter and cap
708692902	Defender Series® overflow prevention valve with 10' (3048 mm) top drop tube, 10' (3048 mm) bottom drop tube

42" Gas Defender Series® Multiport Package

Model 705589914 includes all of the components listed below.

Model	Description
DMP36-2-WTSS-32	Watertight sump shield with two spill container openings, for 32" diameter sump riser (fits sump opening 31.75" to 33.25") - includes corresponding boots and clamps
FIBERGLASS-KIT	Fiberglass seam kit - includes matte, resin, putty and catalyst for (1) fiberglass seam, single or double wall, plus (1) 3"x 1/2" roller, (3) quart cups, (1) 2" brush, (2) stir sticks, (1) squeegee, (2) pairs of large gloves
DMP42-2-SWT-WHT/ORG	42" Defender Series® multiport kit - includes two spill containers, one 8" access port, white and orange cast iron lids (NPT THREAD)
70541202	Swivel fill adapter kit - includes 3" SSTL nipple, adapter and cap
70541302	Swivel vapor adapter kit - includes 3" SSTL nipple, adapter and cap
M-1600	Riser alignment bracket for 16" center
708692902	Defender Series® overflow prevention valve with 10' (3048 mm) top drop tube, 10' (3048 mm) bottom drop tube

42" Diesel PHIL-TITE™ Multiport Package

Model 705589905 includes all of the components listed below.

Model	Description
MSC-XS36-1	Watertight sump shield with one spill container opening, 30" x 36" (31 5/8" OD, 31 1/4" ID) - includes corresponding boots and clamps
FIBERGLASS-KIT	Includes matte, resin, putty and catalyst for one fiberglass seam single or double wall. Also includes one roller (1/2' x 3"), three quart cups, one brush (2"), two stir sticks, one squeegee, and two pairs of gloves (large)
M42-1C-1-0-NPR	42" PHIL-TITE™ multiport kit - includes one spill container, one 8" access plate
PP-1005-TB	Debris bucket, no pump
70541201	Swivel fill adapter kit - includes 5" SSTL nipple, adapter and cap
MF 4X4	Male/female 4" x 4" riser adapter (NPT to NPSM)
708692902	Defender Series® overflow prevention valve with 10' (3048 mm) top drop tube, 10' (3048 mm) bottom drop tube

42" Gas PHIL-TITE™ Multiport Package

Model 705589906 includes all of the components listed below.

Model	Description
MSC-XS36-3	Watertight sump shield with two spill container openings, 30" x 36" (31 5/8" OD, 31 1/4" ID) - includes corresponding boots and clamps
FIBERGLASS-KIT	Includes matte, resin, putty and catalyst for one fiberglass seam single or double wall. Also includes one roller (1/2' x 3"), three quart cups, one brush (2"), two stir sticks, one squeegee, and two pairs of gloves (large)
M42-2C-1-0-NPR	42" PHIL-TITE™ multiport kit - includes two spill containers, one 8" access plate
PP-1005-TB	Debris bucket, no pump
PP-1005-TBP	Debris bucket, with pump
70541201	Swivel fill adapter kit - includes 5" SSTL nipple, adapter and cap
70541301	Swivel vapor adapter kit - includes 5" SSTL nipple, adapter and cap
MF 4X4	Male/female 4" x 4" riser adapter (NPT to NPSM) - QTY 2
M-1600	Riser alignment bracket for 16" center
708692902	Defender Series® overflow prevention valve with 10' (3048 mm) top drop tube, 10' (3048 mm) bottom drop tube

Contact Franklin Electric for other configuration options.



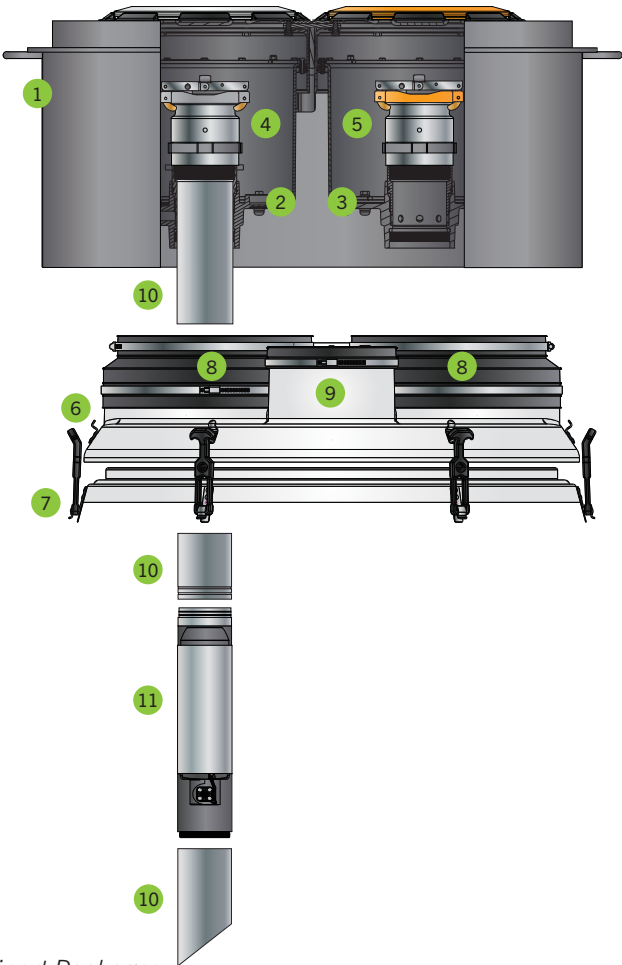
ORDERING INFORMATION CONTINUED

42" E85 PHIL-TITE™ Multiport Package

Model 705589907 includes all of the components listed below.

Model	Description
M42-2C-0-1-NPR	Multiport manway, one spill container with drain, one spill container without drain, one 8" access opening, without plow ring
708592922	Defender Series™ overfill prevention valve with 10' (3048mm) top drop tube, 10' (3048mm) bottom drop tube, AGB compatible
70541201	Fill swivel adapter kit for 5 gallon PHIL-TITE™ and EBW® Series (below grade) spill containers, includes stainless steel fill swivel adapter, 5" riser nipple, fill top cap
70541301	Vapor swivel adapter kit for 5 gallon PHIL-TITE™ and EBW® Series (below grade) spill containers, includes stainless steel vapor swivel adapter, 5" riser nipple, vapor top cap
M-1600	Riser alignment bracket for 16" center
PP-1005-TBP	Debris bucket, with pump
MF 4X4	PHIL-TITE™ spill container riser Adapter
PP-1005-TB	Fill debris bucket insert, without pump
FIBERGLASS-KIT	Fiberglass seam kit for one seam - includes: matte, resin, putty, catalyst, ½" x 3" roller, 2" brush, quart cups (qty 3), stir sticks (qty 2), squeegee, glove - size large (qty 2 pairs)

SPECIFICATIONS



Multiport Packages

Caps

Defender Series® multiport sump cap covers for sealing access openings.

Model	Description
WTRC-0600	6" rubber cap with clamp for 6" access opening in watertight sump shield
WTRC-0800	8" rubber cap with clamp for 8" access opening in watertight sump shield
WTRC-1300	13" rubber cap with clamp for 13" access opening in watertight sump shield

Fiberglass Kit

Model	Description
FIBERGLASS-KIT	Includes matte, resin, putty and catalyst for one fiberglass seam single or double wall. Also includes one roller (½' x 3"), three quart cups, one brush (2"), two stir sticks, one squeegee, and two pairs of gloves (large)

Boots

Defender Series® multiport sump Nitrile boot with stainless steel band clamp.

Model	Description
WTRB-1315	Defender Series® spill container reducer boot with clamp for spill container to watertight sump shield connection

Contact Franklin Electric for other configuration options.

Components

- 1 Multiport manway with skirt
- 2 Fill spill container
- 3 Vapor spill container
- 4 Swivel fill adapter and cap
- 5 Swivel vapor adapter and cap
- 6 Watertight sump shield
- 7 Watertight sump shield mounting reducer
- 8 Spill container opening with boots and clamps
- 9 Inspection port with boot and clamp
- 10 Drop tubes (top and bottom)
- 11 Overfill prevention valve



DEFENDER SERIES® PRESSURE / VACUUM VENT WITH IN-LINE VAULT

ORDERING INFORMATION

In-Line Vault

Model	Description
DPVV-EVR	(1) CARB certified Defender Series® P/V Vent with (1) In-line vault and (1) rain cap

End-of-Line

Model	Description
804100903	CARB certified Defender Series® P/V vent, and Defender Series® 2" vent stack adapter

Adapters & Replacement Parts

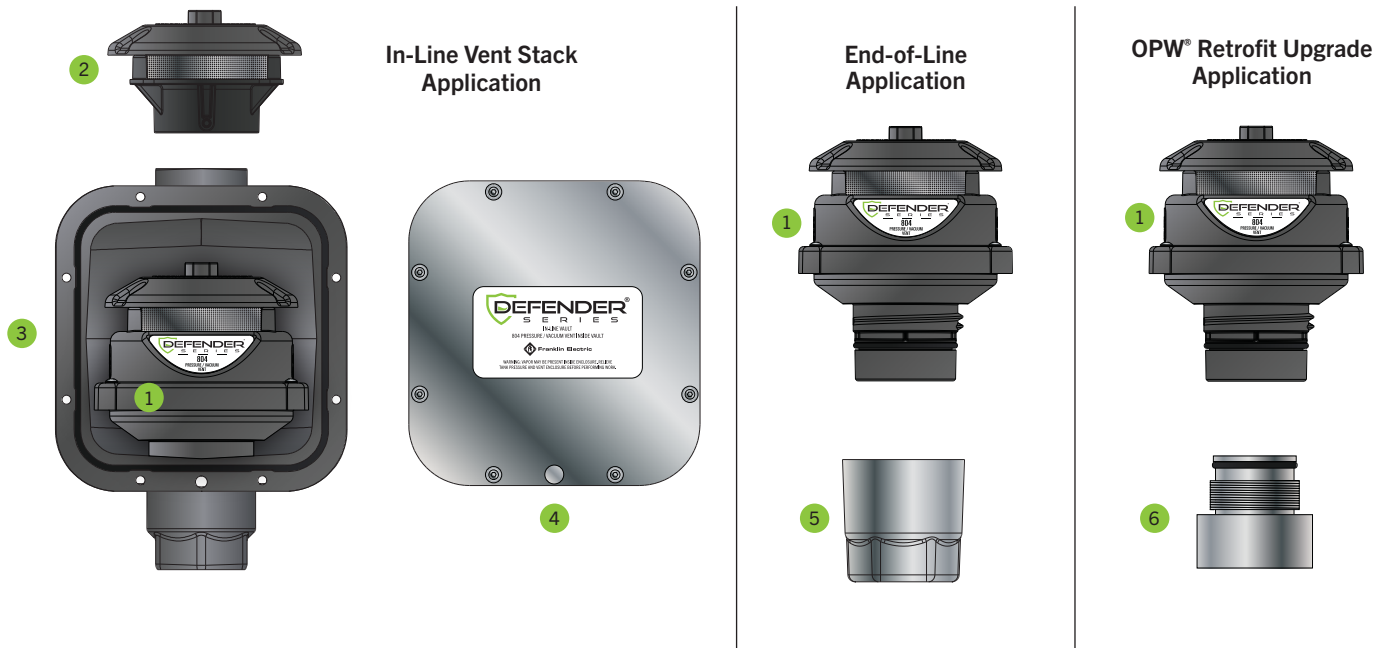
Model	Description
804100940	CARB certified Defender Series® P/V vent (includes internal and external sealing O-rings) *804100940 is a direct replacement for 804100930
804110909	Vault Assembly with 2" NPT Inlet/Outlet threads
804023901	Vent (rain) cap
804110906	End of Line Adapter with 2" NPT Inlet threads
804110902	Vault faceplate gasket
804110903	(2) replacement tamper-resistant screws for vault faceplate
804110904	Vault service plug, prevents vapors from escaping during maintenance



SPECIFICATIONS CONTINUED

Components

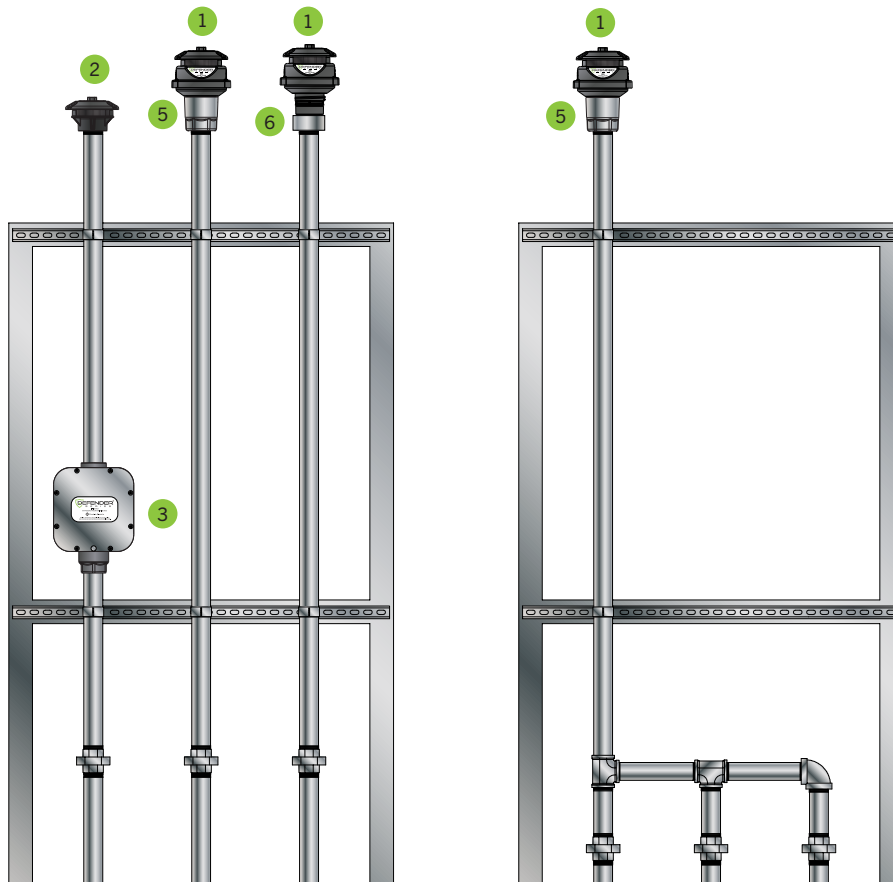
- 1 P/V vent
- 2 Vent cap
- 3 In-line vault
- 4 In-line vault faceplate
- 5 Defender Series® vent stack adapter
- 6 OPW® vent stack adapter (not available for purchase)



SERVICE STATION
HARDWARE

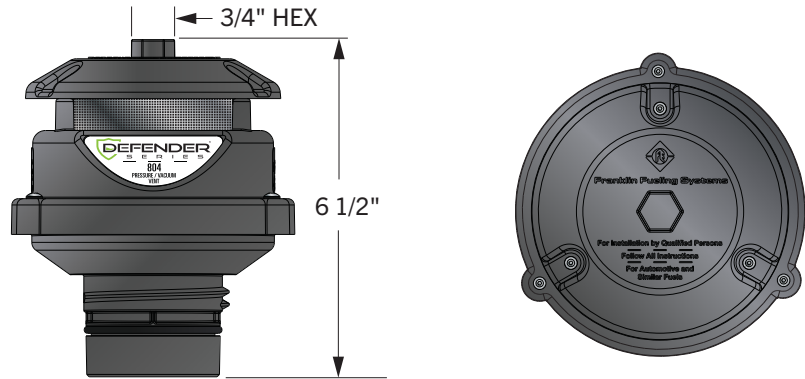
Installation Options

Install in-line at grade 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.

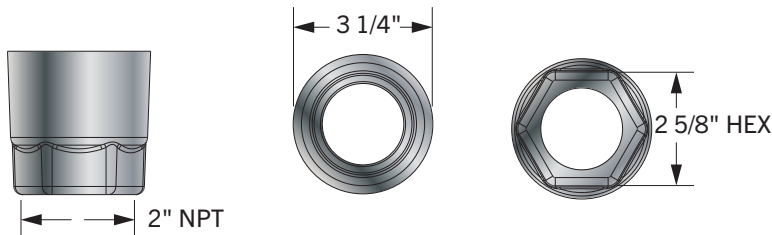


SPECIFICATIONS CONTINUED

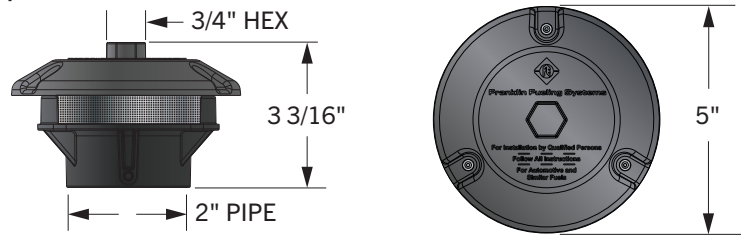
Pressure/Vacuum Vent



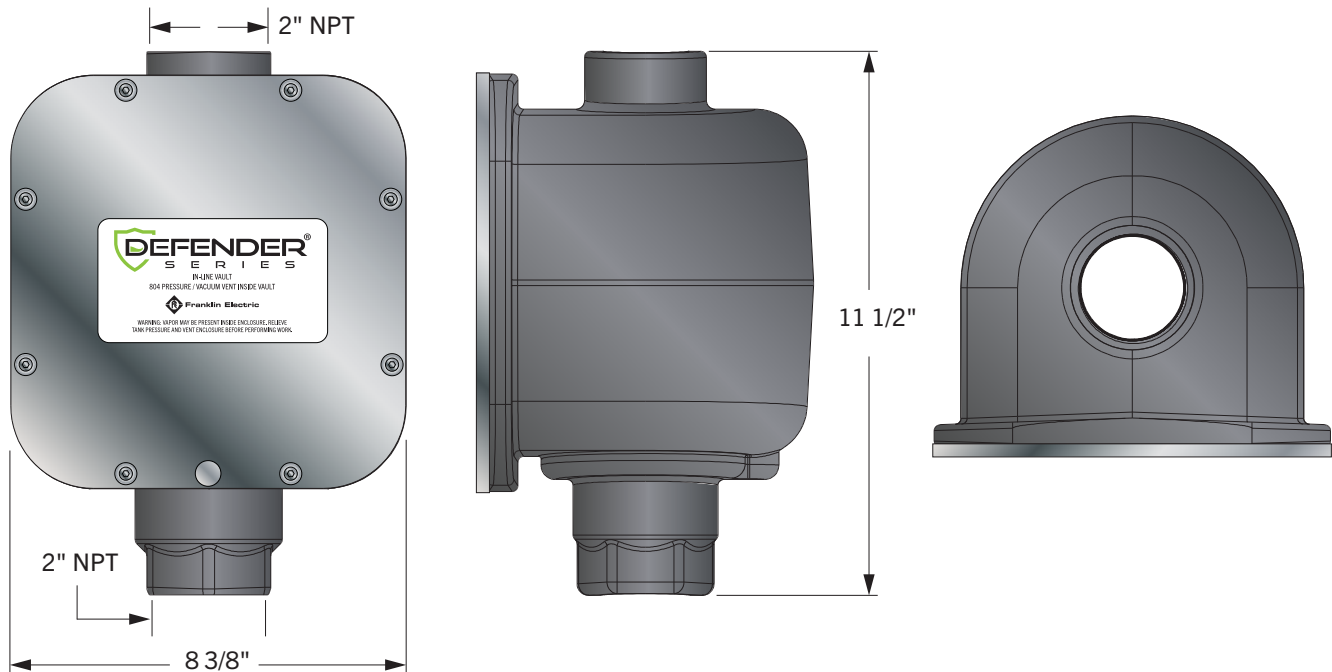
Vent Stack Adapter



Vent Cap



In-Line Vault



PV-ZERO™ PRESSURE/ VACUUM VENT VALVE

ORDERING INFORMATION

Model	Description
407215901	PV-ZERO™ pressure/vacuum vent valve, 3" NPT, gas and E85
407225901	PV-ZERO™ test cap assembly, gas and E85
407220001	PV-ZERO™ gas/E85 fluid

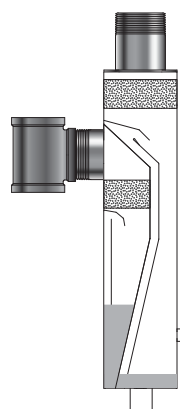
Note: May require four to eight week lead time. Consult factory for availability.

SPECIFICATIONS

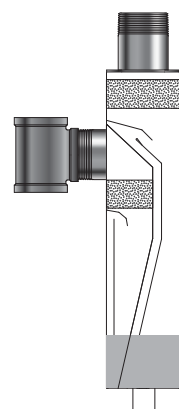
Pressure setting	2.5" to 6.0" WC
Vacuum setting	-6.0" to -10.0" WC
Pressure leak rate	≤ 0.05 CFH at +2" WC
Vacuum leak rate	≤ 0.21 CFH at -4" WC
Maximum flow rate	8000 SCFH at 2 PSI
Operating temperature	22° F at 122° F (-30° C at 50° C)
P/V vent body	UV-resistant polymer
Seals	UL Listed elastomers
Screens	Stainless steel
Rain cap	UV-resistant polymer
In-line vault body	E-coated cast ductile iron
In-line vault cover	Stainless Steel
Approvals/ Certifications	<ul style="list-style-type: none"> – UL2583 listed – CARB Enhanced Vapor Recovery (EVR) certified under Executive Orders VR-101, VR-102, VR-104, and VR-105 – Meets the requirements of EPA 40 CFR part 63 for Gasoline Dispensing Facilities



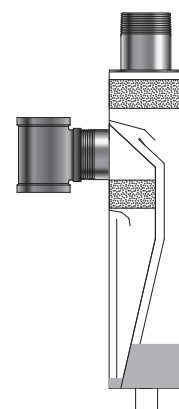
SERVICE STATION
HARDWARE



Tank Vacuum



Atmosphere



Tank Pressure



PRODUCT SHEAR VALVES

ORDERING INFORMATION

Shear Valves

Model	Description
662500901	Single poppet shear valve, union, 1½" NPT
662500902	Single poppet shear valve, female, 1½" NPT
662500903	Single poppet shear valve, male, 1½" NPT
662510902	Single poppet shear valve, female, 1½" BSPT
662510903	Single poppet shear valve, male, 1½" BSPT
662501901	Double poppet shear valve, union, 1½" NPT
662501902	Double poppet shear valve, female, 1½" NPT
662501903	Double poppet shear valve, male, 1½" NPT
662511902	Double poppet shear valve, female, 1½" BSPT
662511903	Double poppet shear valve, male, 1½" BSPT



U-Bolt Kit

Holds the single or double poppet shut-off valve rigidly in place, ensuring proper shearing.

Model	Description
66213801	U-bolt kit, 0.3 lbs (0.14 kg)

PRODUCT SHEAR VALVE ACCESSORIES AND REPLACEMENT TOPS

Shear Valve Replacement Parts

Model	Description
90074	Fulcrum arm kit

1½" Union Adapter Replacement Tops

Model	Description	Poppet	Shear Valve Adapter	Thread
662500201	Shear valve top union 1.5"	Single	662500901	Union
662501201	Shear valve top union 1.5"	Double	662501901	Union

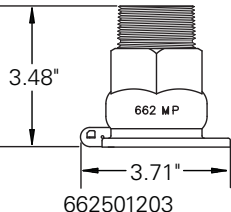
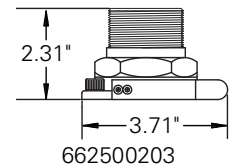
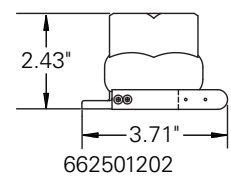
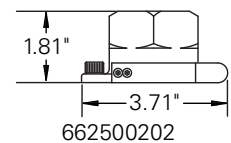
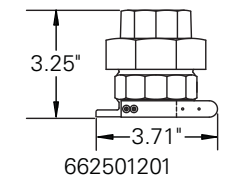
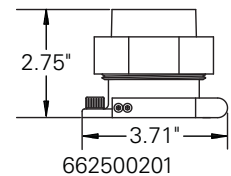
1½" Female Adapter Replacement Tops

Model	Description	Poppet	Shear Valve Adapter	Thread
662500202	Shear valve top female 1.5" NPT	Single	662500902	NPT
662501202	Shear valve top female 1.5" NPT	Double	662501902	NPT
662511202	Shear valve top female 1.5" BSPT	Double	662511902	BSPT
662510202	Shear valve top female 1.5" BSPT	Single	662510902	BSPT

1½" Male Adapter Replacement Tops

Model	Description	Poppet	Shear Valve Adapter	Thread
662500203	Shear valve top male 1.5" NPT	Single	662500903	NPT
662501203	Shear valve top male 1.5" NPT	Double	662501903	NPT
662510203	Shear valve top male 1.5" BSPT	Single	662510903	BSPT
662511203	Shear valve top female 1.5" BSPT	Double	662511903	BSPT

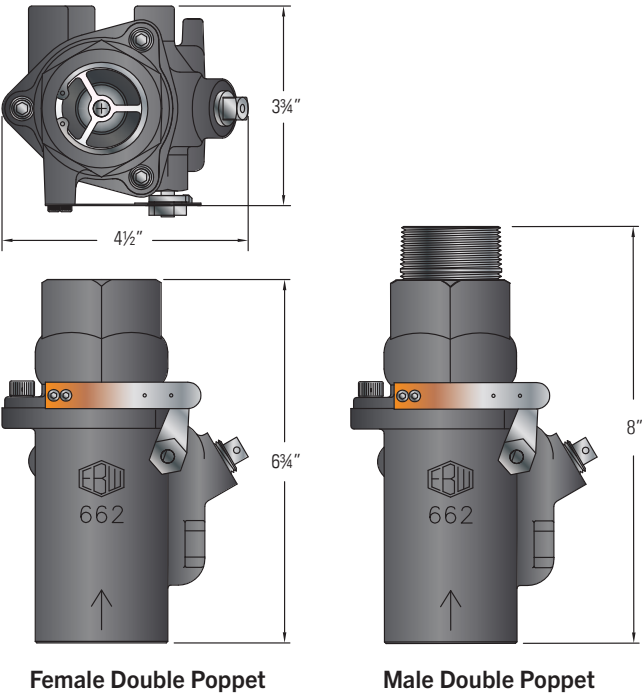
Note: Replacing tops negates the ATEX approval. Entire unit must be replaced to remain in compliance with ATEX approval.



SPECIFICATIONS

Poppet	Fusible link closes poppet at 165° F (73.9° C)
Top and body material	E-coated cast iron
Poppet and O-ring	Fluorocarbon
Stem and poppet spring	Stainless steel
Approvals / Certifications	<ul style="list-style-type: none"> Meets NFPA 30A requirements UL and ULC listed. UL 842A and 842B approved for E-85 alcohol/gas blends and Biodiesel. ATEX approved, SIRA 13ATEX9035U

Dimensions



SERVICE STATION
HARDWARE

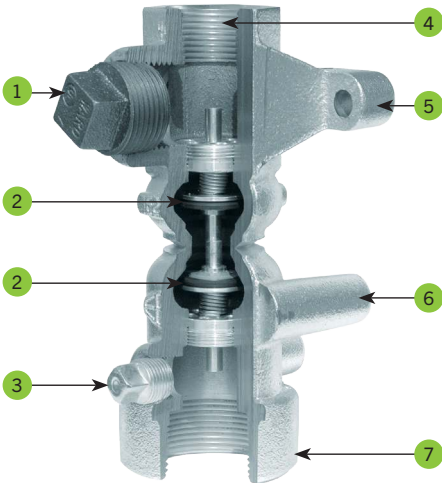
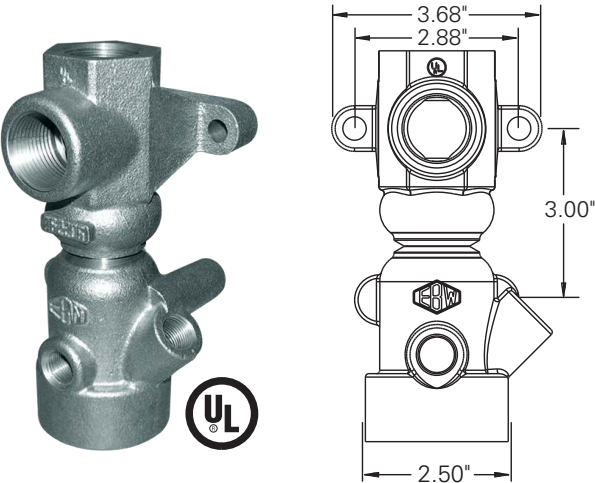
362 VAPOR SHEAR VALVE

ORDERING INFORMATION

Model	Description
36220613	1" x 1 1/2" NPT thread vapor shear valve
36220631	1" x 1 1/2" BSPT thread vapor shear valve

SPECIFICATIONS

Base thread	Includes 1 1/2" female
California	California State Fire Marshal approved
Approvals / Certifications	<ul style="list-style-type: none"> UL 842 listed, MH9253 ATEX approved, DEMKO 17ATEX1914



Components

- 1 1" test plug
- Double poppet design
- 3/8" test plug
- 1" dispensing side opening
- Boss mount
- U-bolt mount
- 1 1/2" female



DIESEL EXHAUST FLUID SHEAR VALVE

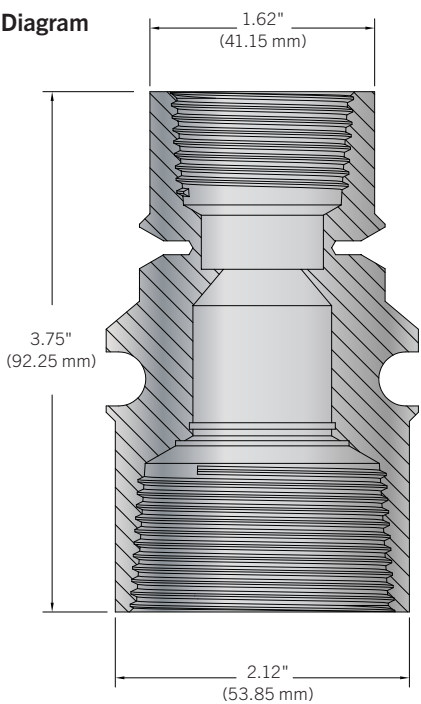
ORDERING INFORMATION

Model	Description
663100001	DEF shear valve, 1½" NPT inlet, 1" outlet
663100021	DEF shear valve, 1½" BSPT inlet, 1" outlet
66320000	Mounting bracket for DEF shear valve including U-bolt, nuts and bracket guides



SPECIFICATIONS

Body	Stainless steel
Mounting bracket	E-coated steel
Height	3 ¾" (95.25 mm)
Break force	— Under 650 pound-feet (884 N-m) — Break force within parameters established by UL842 for product shear valves
Installation	Must be installed with locally supplied 1" rigid pipe threaded into outlet



FLEXIBLE CONNECTORS

ORDERING INFORMATION

Ordering Guide

Complete flexible connector model numbers have a specific order and are created using the following guidelines. Use the diagrams and table to build a model number.

AA BB X CC DDDD X E FFFF

AA = Product Type

FF = FLEX-ING™ flexible connector

BB = Hose Diameter

07 = ¾" 20 = 2"
10 = 1" 30 = 3"
15 = 1½" 40 = 4"

CC = Overall Length in Inches

Use two-digit format: 06 = 6", 24 = 24", etc.
Maximum length of 108".

DDDD = End Fitting First End

Use End Fitting Options below.

E = End Fitting Second End if Alternating Diameter (optional)

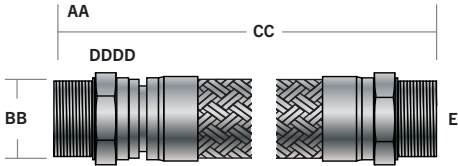
Optional: Second end fitting alternate diameter. Only one end can be a different size than the hose diameter and it can only be one size larger than hose diameter.

FFFF = End Fitting Second End

Use End Fitting Options below.

Example:

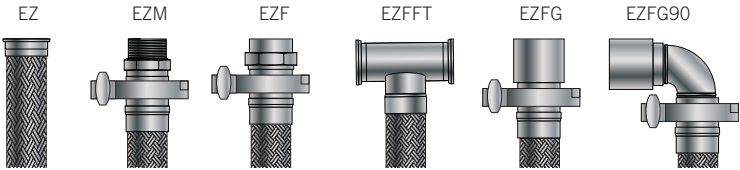
FF20X18EZMX15HM = Flexible connector with 2" hose diameter, 18" overall length, one 2" EZ fit male NPT end fitting, and one 1½" Hex male fixed end fitting.



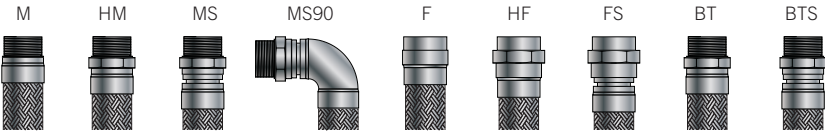
End Fitting Options

Use the diagrams below along with the Ordering Guide to help build flexible connector model numbers.

EZ Fit System	Model	Description	¾"	1"	1½"	2"	3"	4"
	EZ	EZ Fit flange only	✓	✓		✓	✓	
	EZM	EZ Fit with male NPT		✓	✓	✓	✓	
	EZF	EZ Fit with female NPT		✓	✓	✓	✓	
	EZFFT	EZ Fit tee			✓	✓		
	EZFG	EZ Fit with fiberglass glue pipe			✓	✓	✓	
	EZFG90	EZ Fit with fiberglass glue pipe 90° elbow			✓	✓	✓	



Nickel Plated Steel	Model	Description	¾"	1"	1½"	2"	3"	4"
	M	Male fixed non-hex NPT					✓	✓
	HM	Male fixed hex NPT	✓	✓	✓	✓		
	MS	Male swivel hex NPT	✓	✓	✓	✓		
	MS90	Male swivel hex 90° elbow NPT			✓	✓		
	F	Female fixed non-hex NPT	✓	✓	✓	✓	✓	
	HF	Female fixed hex NPT			✓	✓		
	FS	Female swivel hex NPT			✓	✓		
	BT	Hex Male Fixed BSPT			✓	✓		
	BTS	Male Swivel BSPT			✓	✓	✓	

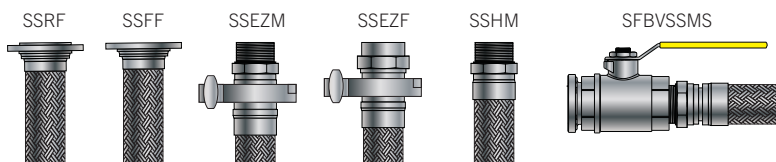


✓ = Available



ORDERING INFORMATION CONTINUED

Stainless Steel	Model	Description	¾"	1"	1½"	2"	3"	4"
	SSRF	Raised face flange, stainless steel		✓	✓	✓	✓	✓
	SSFF	Flat face flange, stainless steel			✓	✓	✓	✓
	SSEZM	EZ Fit with male NPT, stainless steel		✓	✓	✓	✓	
	SSEZF	EZ Fit with female NPT, stainless steel			✓	✓	✓	
	SSHM	Male fixed hex NPT, stainless steel	✓	✓	✓	✓		
	SFBVSSMS	Flat face flange ball valve with male swivel, stainless steel				✓		



✓ = Available

Flexible Connector Common Models

Model	Description
FF15X12HMXEZ	1½" diameter flexible connector, hex male by EZ Fit flange, 12" OAL
FF15X18HMXEZ	1½" diameter flexible connector, hex male by EZ Fit flange, 18" OAL
FF15X24HMXEZ	1½" diameter flexible connector, hex male by EZ Fit flange, 24" OAL
FF20X12HMXEZ	2" diameter flexible connector, hex male by EZ Fit flange, 12" OAL
FF20X18HMXEZ	2" diameter flexible connector, hex male by EZ Fit flange, 18" OAL
FF20X24HMXEZ	2" diameter flexible connector, hex male by EZ Fit flange, 24" OAL
FF30X12MXEZ	3" diameter flexible connector, male coupler x EZ Fit flange, 12" OAL
FF30X18MXEZ	3" diameter flexible connector, male coupler x EZ Fit flange, 18" OAL
FF30X24MXEZ	3" diameter flexible connector, male coupler x EZ Fit flange, 24" OAL
FF15X12MSXEZM	1½" diameter flexible connector, male swivel by EZ Fit male NPT, 12" OAL
FF15X18MSXEZM	1½" diameter flexible connector, male swivel by EZ Fit male NPT, 18" OAL
FF15X24MSXEZM	1½" diameter flexible connector, male swivel by EZ Fit male NPT, 24" OAL
FF20X12MSXEZM	2" diameter flexible connector, male swivel by EZ Fit male NPT, 12" OAL
FF20X18MSXEZM	2" diameter flexible connector, male swivel by EZ Fit male NPT, 18" OAL
FF20X24MSXEZM	2" diameter flexible connector, male swivel by EZ Fit male NPT, 24" OAL
FF20X12MSXF	2" diameter flexible connector, male swivel by female coupler, 12" OAL
FF20X18MSXF	2" diameter flexible connector, male swivel by female coupler, 18" OAL
FF20X24MSXF	2" diameter flexible connector, male swivel by female coupler, 24" OAL
FF30X12MXEZM	3" diameter flexible connector, male coupler by EZ Fit male NPT, 12" OAL
FF30X18MXEZM	3" diameter flexible connector, male coupler by EZ Fit male NPT, 18" OAL
FF30X24MXEZM	3" diameter flexible connector, male coupler by EZ Fit male NPT, 24" OAL
FF15X12EZXSSTM	1½" diameter flexible connector, EZ Fit flange by SS hex male, 12" OAL
FF15X18MSXSSTM	1½" diameter flexible connector, male swivel by SS hex male, 18" OAL
FF20X12SSHMXSSTM	2" diameter flexible connector, hex male by SS hex male, 12" OAL
FF20X18SSEZMXSSTM	2" diameter flexible connector, SS EZ Fit male NPT by SS hex male, 18" OAL

EZ Fit Accessories

Model	Description
EZFITXEZFIT	2" EZ Fit x EZ Fit connector, stainless steel



Model	Description
EZBLANK	2" EZ Fit blank, stainless steel
EZ30BLANK	3" EZ Fit blank, stainless steel



ORDERING INFORMATION CONTINUED

Model	Description
EZXEXZ20BV	2" EZ Fit × 2" EZ Fit ball valve
EZX20BV	2" EZ Fit × 2" ball valve, brass
EZXEXZ20BVSS	2" EZ Fit × 2" EZ Fit ball valve, stainless steel
EZX20BVSS	2" EZ Fit × 2" ball valve, stainless steel
EZX30EXZ30X30BV	3" EZ Fit × 3" EZ Fit ball valve, brass
EZX30EXZ30X30SSBV	3" EZ Fit × 3" EZ Fit ball valve, stainless steel

Model	Description
EZXEZ90	2" EZ Fit × 2" EZ Fit 90° elbow, stainless steel
EZX30EXZ3090	3" EZ Fit × 2" EZ Fit 90° elbow, stainless steel

Model	Description
EZXEXZEEZTEE	2" EZ Fit × 2" EZ Fit × 2" EZ Fit 1½" tee, stainless steel
EZX20EXZ20TEEFF	2" EZ Fit × 2" EZ Fit × 2" EZ Fit, 2" tee, stainless steel
EZX30EXZ30EXZ30T	3" EZ Fit × 3" EZ Fit × 3" EZ Fit tee, stainless steel

Model	Description
EZX15HM90	2" EZ Fit × 1½" hex male 90° elbow, nickel plated
EZX20HM90	2" EZ Fit × 2" hex male 90° elbow, nickel plated
EZX20HM90SS	2" EZ Fit × 2" hex male 90° elbow, stainless steel
EZX30M90	3" EZ Fit × 3" male 90° elbow, nickel plated

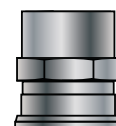
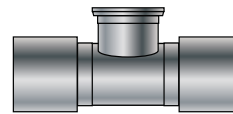
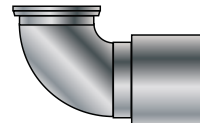
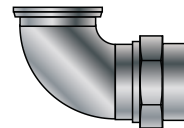
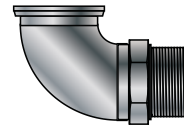
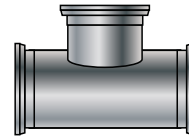
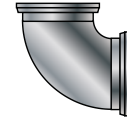
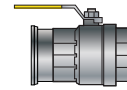
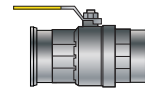
Model	Description
EZX20HF90	2" EZ Fit × 2" female 90° elbow, nickel plated
EZX30F90	3" EZ Fit × 3" female 90° elbow, nickel plated

Model	Description
EZX20FG90	2" EZ Fit × 2" fiberglass glue pipe 90° elbow, nickel plated
EZX30FG90	3" EZ Fit × 3" fiberglass glue pipe 90° elbow, nickel plated

Model	Description
EZX20FGTEE	2" EZ Fit × 2" fiberglass glue pipe tee, nickel plated
EZX30FGTEE	3" EZ Fit × 3" fiberglass glue pipe tee, nickel plated

Model	Description
EZX15HMPL	2" EZ Fit × 1½" hex male, nickel plated
EZX15HMSS	2" EZ Fit × 1½" hex male, stainless steel
EZX20HMPL	2" EZ Fit × 2" hex male, nickel plated
EZX20HMSS	2" EZ Fit × 2" hex male, stainless steel
EZX30MP	3" EZ Fit × 3" male, nickel plated

Model	Description
EZX15HFSS	2" EZ Fit × 1½" hex female, stainless steel
EZX20HFPL	2" EZ Fit × 2" hex female, nickel plated
EZX20HFSS	2" EZ Fit × 2" hex female, stainless steel

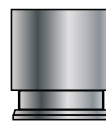


ORDERING INFORMATION CONTINUED

Model	Description
EZX20FGPL	2" EZ Fit × 2" fiberglass glue pipe, nickel plated
EZX20FGSS	2" EZ Fit × 2" fiberglass glue pipe, stainless steel
EZX30FGSS	3" EZ Fit × 3" fiberglass glue pipe, nickel plated

Model	Description
EZ10CLAMP	1" EZ Fit clamp
EZCLAMP	2" EZ Fit clamp
EZ30CLAMP	3" EZ Fit clamp

Model	Description
407493001	1" EZ Fit gasket
407493002	2" EZ Fit gasket
407493003	3" EZ Fit gasket



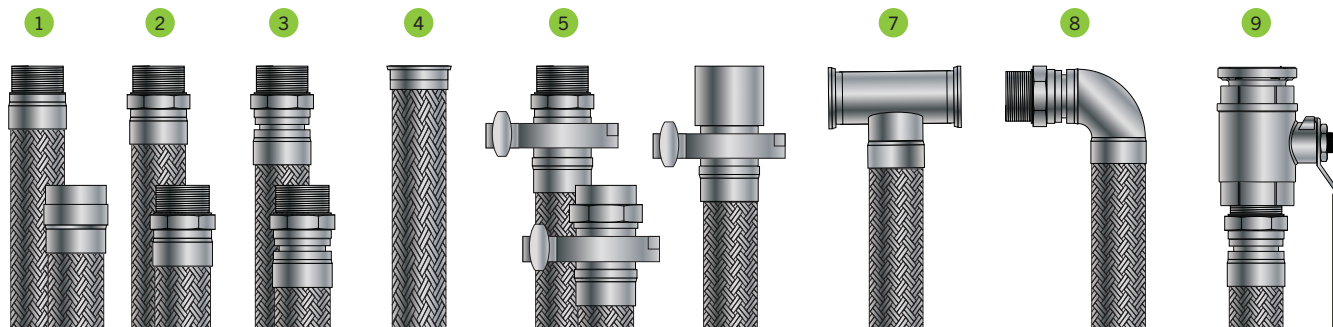
SPECIFICATIONS

Outer shell	304 stainless steel
Inner core	321 stainless steel
End fittings	Nickel plated steel or stainless steel
Pressure testing	100% pressure tested to 100 PSI to assure quality
Approvals/ Certifications	<ul style="list-style-type: none"> Meets USA NFPA 30-A fire code requirements UL 2039 listed for 50 psi working pressure UL 2039 listed: Only those fuels formulated in accordance with 40CFR80, "Regulation of Fuels and Fuel Additives," and meeting the following ASTM fuel specifications and blend limits: <ul style="list-style-type: none"> Diesel with or without biodiesel blends up to 5% (B5) Diesel with biodiesel blends between 6% - 20% (B6 - B20) Gasoline with ethanol blends up to 10% (E10) High-blend ethanol, with ethanol/gasoline blends from 51% to 83% (E51 - E83) commercially sold as E85 Diesel with or without biodiesel blends up to 5% (B5) Mid-range ethanol, with ethanol/gasoline blends from 11% to 50% (E11 - E50)

Common End Fitting Options

See Ordering Information for a complete listing of options.

- | | |
|-----------------------|--------------------------|
| 1 Non-hex male/female | 6 EZ Fit fiberglass pipe |
| 2 Hex male/female | 7 EZ Fit tee |
| 3 Male/female swivel | 8 Male swivel 90° elbow |
| 4 EZ Fit flange only | 9 Ball valve |
| 5 EZ Fit male/female | |



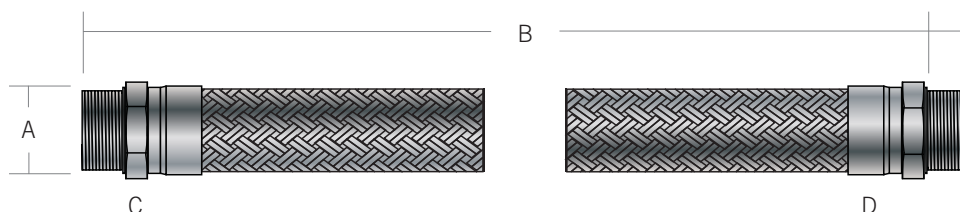
DIESEL EXHAUST FLUID FLEXIBLE CONNECTORS

ORDERING INFORMATION

Use these diagrams below along with the Ordering Guide at the bottom of the page to help you build your flexible connector model numbers.

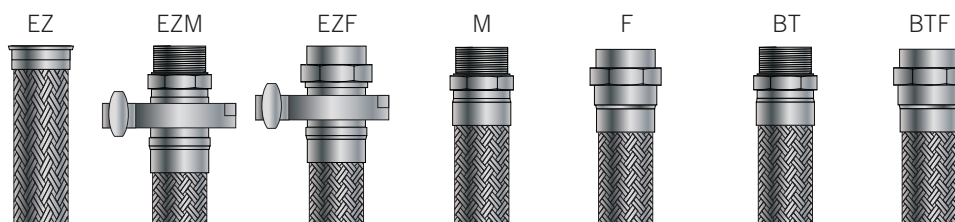
Ordering Options Diagram

Use the options and descriptions in the Ordering Guide along with this diagram to assist in building your model numbers.



End Fitting Options

Use the options and descriptions in the Ordering Guide along with the diagrams below to select your end fitting types (two total).



Ordering Guide

DEF A X B C X D

DEF = DEF/AdBlue® Flexible Connector

All materials are fully compatible with DEF/AdBlue® including stainless steel fittings and EPDM seals

A = Hose Diameter

- 07 = ¾"
- 10 = 1"
- 15 = 1½"
- 20 = 2"
- 30 = 3"

Example: DEF20X18MXEZM = DEF flexible connector, 2" hose diameter, 18" overall length, with one Hex male fixed NPT fitting on one end and one EZ FIT male NPT fitting on the other (includes EZCLAMP and EZ20GASKET-EPDM).

B = Overall Length in Inches

Use two-digit format

C and D = End Fitting Options

- EZ = EZ FIT flange only
- EZM = EZ FIT male NPT (Each EZ FIT union style coupling comes complete with couplers and gaskets)
- EZF = EZ FIT female NPT (Each EZ FIT union style coupling comes complete with couplers and gaskets)
- M = Hex male fixed NPT
- F = Hex female fixed NPT
- BT = Hex male fixed BSPT
- BTF = Hex female fixed BSPT

Flexible Connectors with Differing Hose and End Fitting Diameters

All end fittings are, by default, the same diameter as the hose. If you require a flexible connector where the end fitting diameter does not match the hose diameter, the size must be indicated numerically in front of the corresponding fitting as in the following example.

Example: DEF15X18MX2M = DEF flexible connector, 1½" hose diameter, 18" overall length, with one 1½" Hex male fixed NPT fitting on one end and one 2" male NPT fitting on the other.

Rules:

- 1) End fitting diameters can not be smaller than hose diameters.
- 2) Only one hose fitting per flexible connector can be of a different diameter than the hose diameter.
- 3) End fitting diameter must only be one size larger than hose (1" hose could use 1½" fitting, 1½" hose could use 2" fitting, etc.)



ORDERING INFORMATION CONTINUED

Common Models

You can also select from the following most-common DEF flexible connector model numbers.

Model	Description
DEF10X10MXEZM	1" hose diameter, 10" overall length, with one Hex male fixed NPT fitting on one end and one EZ FIT male NPT fitting on the other
DEF10X12MXEZM	1" hose diameter, 12" overall length, with one Hex male fixed NPT fitting on one end and one EZ FIT male NPT fitting on the other
DEF10X12MXM	1" hose diameter, 12" overall length, with one Hex male fixed NPT fitting on one end and one Hex male fixed NPT fitting on the other
DEF10X15MXM	1" hose diameter, 15" overall length, with one Hex male fixed NPT fitting on one end and one Hex male fixed NPT fitting on the other
DEF10X18MXM	1" hose diameter, 18" overall length, with one Hex male fixed NPT fitting on one end and one Hex male fixed NPT fitting on the other
DEF15X18MXEZM	1½" hose diameter, 18" overall length, with one Hex male fixed NPT fitting on one end and one EZ FIT male NPT fitting on the other
DEF15X18MXM	1½" hose diameter, 18" overall length, with one Hex male fixed NPT fitting on one end and one Hex male fixed NPT fitting on the other
DEF20X12MXM	2" hose diameter, 12" overall length, with one Hex male fixed NPT fitting on one end and one Hex male fixed NPT fitting on the other
DEF20X18MXEZM	2" hose diameter, 18" overall length, with one Hex male fixed NPT fitting on one end and one EZ FIT male NPT fitting on the other
DEF20X18MXM	2" hose diameter, 18" overall length, with one Hex male fixed NPT fitting on one end and one Hex male fixed NPT fitting on the other
DEF20X24MXEZM	2" hose diameter, 24" overall length, with one Hex male fixed NPT fitting on one end and one EZ FIT male NPT fitting on the other
DEF20X24MXM	2" hose diameter, 24" overall length, with one Hex male fixed NPT fitting on one end and one Hex male fixed NPT fitting on the other
DEF20X30MXF	2" hose diameter, 30" overall length, with one Hex male fixed NPT fitting on one end and one Hex female fixed NPT fitting on the other

Replacement Parts

Model	Description
407493001	1" EZ-FIT gasket
EZ10CLAMP	1" EZ FIT clamp
407493002	2" EZ-FIT gasket
EZCLAMP	2" EZ-FIT clamp
407493003	3" EZ-FIT gasket
EZ30CLAMP	3" EZ FIT clamp

SPECIFICATIONS

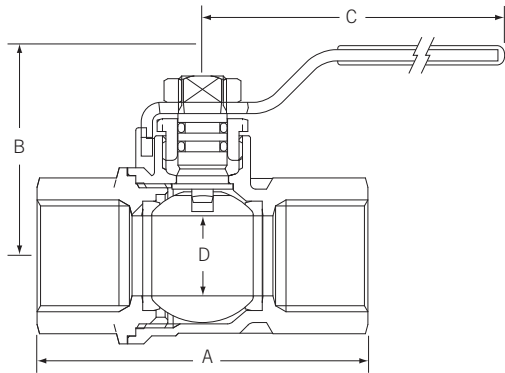
Construction	All metal construction means one flexible connector for both above and below ground applications
Materials	An 18-8 alloy outer wrap, 321 stainless Steel inner core provides a long service life
End fittings	Thick, schedule 80 Hex end fittings protect against deformation of the ends
Pressure test	100% pressure tested to assure quality
Working pressure	50 psi working pressure
EZ FIT clamp	EZ FIT clamp and gasket are included with each assembly
EPDM gaskets	Stainless steel fittings and EPDM gaskets are fully DEF/AdBlue® compatible



BALL VALVES

ORDERING INFORMATION

Model	Description
BV150FPBRASS	1½" full port brass ball valve
BV200FPBRASS	2" full port brass ball valve
BV300FPBRASS	3" full port brass ball valve
BV150FPSS	1½" full port stainless steel ball valve
BV200FPSS	2" full port stainless steel ball valve
BV300FPSS	3" full port stainless steel ball valve



SPECIFICATIONS

Body, end connections, stem, and packaging gland	CW617N brass
Ball	Black T.E.A. coated CW617N brass
Packing and seat	PTFE
Handle and nut	Plated steel with vinyl grip
Approvals /Certifications	<ul style="list-style-type: none"> UL842 listed CSA certified FM approval

Model	A	B	C	D
BV150FPBRASS	4.16"	3.22"	6"	1.49"
BV200FPBRASS	5"	3.40"	6"	1.99"
BV300FPBRASS	7.08"	4.90"	8"	2.99"
BV150FPSS	4.16"	3.22"	6"	1.49"
BV200FPSS	5"	3.40"	6"	1.99"

SERVICE STATION
HARDWARE

FIBERGLASS ACCESS COVERS

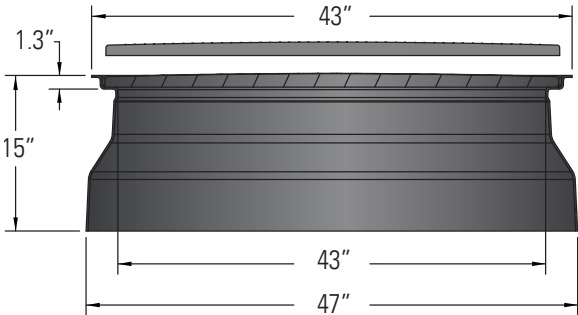
ORDERING INFORMATION

Fiberglass Access Covers

Model	Description
14F-4215	Fiberglass access cover with composite lid and 15" fiberglass skirt

SPECIFICATIONS

Dimensions



FLEX-ING® COMPOSITE ACCESS COVERS



ORDERING INFORMATION

Composite Access Cover

Model	Description
14U-3810	38" composite manhole lid, ring, 10" skirt
14U-RT3810	38" raintight composite manhole lid, ring, 10" skirt
14U-RT3810CL	38" raintight composite manhole with 10" skirt and cam locks
14U-RT3810CLC	38" raintight composite manhole lid and cam locks
14U-3810C	38" composite manhole lid only

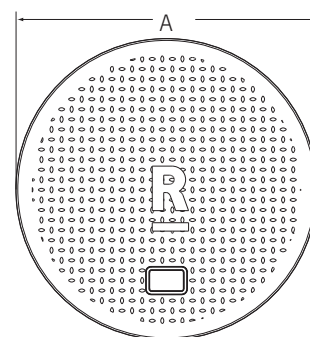
Model	Description
14U-4210	42" composite manhole lid, ring, skirt (10")
14U-RT4210	42" raintight composite manhole lid, ring, skirt (10")
14U-RT4210CL	42" raintight composite manhole with skirt (10") and cam locks
14U-RT4210CLC	42" raintight composite manhole lid and cam locks
14U-4210C	42" composite manhole lid only

COMPOSITE ACCESS COVERS REPLACEMENT PARTS

R Line Composite Access Replacement Lid Replaces OPW Conquistador™ Lids

Model	Description	A		B	
		In	cm	In	cm
14U-44R	44" R Line replacement lid	44 +/- .125	112.07	1	2.54

R Line Replacement Lid

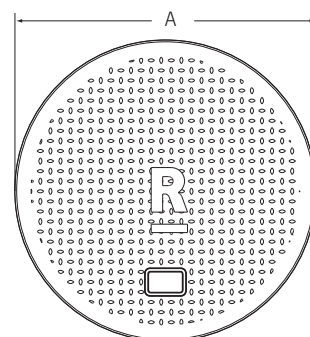


MoreCore Composite Access Replacement Lid Replaces Morrison Bros. Lids

Model	Description	A		B		C	
		In	cm	In	cm	In	cm
14U-44MOR2	44" MoreCore replacement lid	44.88	114	2.17	5.51	1.25	3.2

B

MoreCore Replacement Lid



Composite Access Replacement Handle Kit

Complete chest handle replacement kit includes handle, back plate, six bolts, two nuts, and an Allen wrench.

Model	Description
HANDLE KIT	Replacement handle kit



Composite Access Replacement Gasket Kits

Replacement gasket kit includes enough gasket material for a 42" lid. Cut to desired length for other lid sizes.

Model	Description
BOLT KIT	Replacement gasket and bolt kit for bolt-down style lids (includes gasket material and four bolts)
NONBOLT KIT	Replacement gasket kit for non bolt-down (lay in and cam lock) style lids (includes gasket material only, 12' roll, 3/8" wide x 1/8" deep)
CAMLOCK	Replacement gasket and hardware for cam lock style lids (includes four cam locks, with nuts, four bolts, four O-rings, and gasket material)

B C

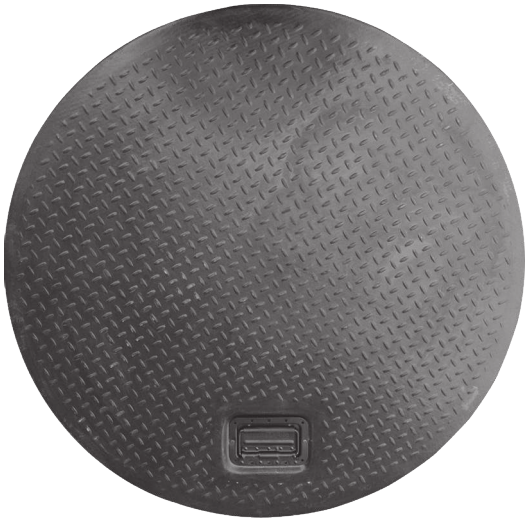
SPECIFICATIONS

Load standards	Exceeds H20 and HS20 load standards (maximum axle load requiring support for the 32,000, or 16,000 pounds for each set of dual tire wheels)
Construction	Available with solid construction cast Zn-Al-Mg alloy, slope-style cam locks for the ultimate in watertight sealing.
Coating	12 gauge skirt construction that is also powder coated for extreme protection.
38" and 42"	Come standard with spring loaded handle and are available with cam lock for raintight seal.

Dimensions

Model	Diameter	Lid Thickness	Frame ID	Skirt Height	Skirt ID
38"	39"	1"	39.25"	10.75"	37"
42"	43.75"	1"	44.25"	10.75"	42"

Note: Confirm clearance of interior dimensions for your application before ordering.



EBW® COMPOSITE ACCESS COVER



ORDERING INFORMATION

12" Round Access Way with FRC Covers

Model	Cover OD	Description
78121212BLK	12.88"	Black with 12" skirt
78121212ORG	12.88"	Orange with 12" skirt

36" Round Access Way with FRC Covers

Model	Cover OD	Description
78143312GRY	39.5"	Gray, bolted cover with 12" skirt
78143313GRY	39.5"	Gray with 12" skirt

12" Round Covers

Model	Cover OD	Description
78130201	12.88"	Black
78130207	12.88"	Orange

30" Round Covers

Model	Cover OD	Description
78145906	32"	Gray, bolted cover
78149006	32"	Gray

36" Round Covers

Model	Cover OD	Description
78145606	39.5"	Gray, bolted cover
78144806	39.5"	Gray

30" Round Access Way with FRC Covers

Model	Cover OD	Description
78143012GRY	32"	Gray, bolted cover with 12" skirt
78143013GRY	32"	Gray with 12" skirt

42" Round Access Way with FRC Covers

Model	Cover OD	Description
78144312GRY	44.25"	Gray, bolted cover with 12" skirt
78144318GRY	44.25"	Gray, bolted cover with 18" skirt
78144412GRY	44.25" × 52"	Gray, bolted cover with 42" × 8" top skirt and 52" × 14" bottom skirt
78144313GRY	44.25"	Gray with 12" skirt

42" FRC Aramid Covers

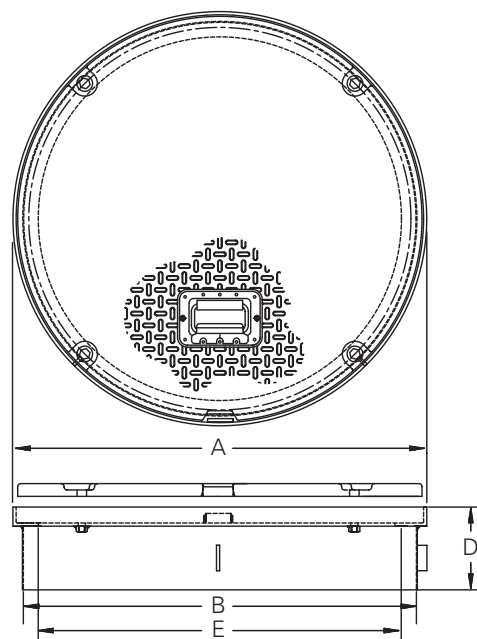
Model	Cover OD	Description
78044506	44.25"	Gray

42" Round Covers

Model	Cover OD	Description
78144106	44.25"	Gray, bolted cover
78144506	44.25"	Gray

SPECIFICATIONS

Model	A		B		D		E	
	In	cm	In	cm	In	cm	In	cm
12"	13.75	34.93	12	30.48	8.5	21.59	12	30.48
30"	32.75	83.19	31.12	79.38	12	30.48	28.75	73.03
36"	40.25	102.24	38.62	98.09	12	30.48	36.25	92.08
42"	45	114.30	43.38	110.19	12	30.48	41	104.14





UPP® COMPOSITE ACCESS COVERS

ORDERING INFORMATION

Composite Access Covers

Model	Description
PCR090	35" (900 mm) composite access cover, C250 rating
PDR090	35" (900 mm) composite access cover, D400 rating
PCR090-DIP	35" (900 mm) composite access cover with integrated dip inspection port, C250 rating
PCR106	42" (1,060 mm) composite access cover, C250 rating
PDR106-1	42" (1,060 mm) composite access cover, D400 rating
PCR106-DIP	42" (1,060 mm) composite access cover with integrated dip inspection port, C250 rating
PDR106-1-DIP	42" (1,060 mm) composite access cover with integrated dip inspection port, D400 rating
PCR-DIPCAP	Replacement dip cap for composite access covers
PCR-LIFT	Lifting handle tool for composite access covers
PCR-LOCK	Locking mechanism for composite access covers
PCR-PLUG	Locking mechanism replacement dust plug
SDFLX40FC	Sealant (to seal access cover frame to skirt)

35" (900mm) Composite Access Cover Accessories

Model	Description
PDR090-S	Replacement gasket for 35" (900 mm) composite access covers (between lid and frame)
PXR090-OCH-SK	35" (900 mm) fiberglass skirt, for use with OCH tank cambers

42" (1,060mm) Composite Access Cover Accessories

Model	Description
PCR106-S	Replacement gasket for 42" (1,060 mm) composite access covers (between lid and frame)
PCR106-OCH1400-SK	42" (1,060 mm) fiberglass skirt, for use with OCH tank cambers
PCR106-TSM4542-SK	42" (1,060 mm) fiberglass skirt, for use with TSM tank cambers

SPECIFICATIONS

35" (900 mm) Composite Access Cover Specifications

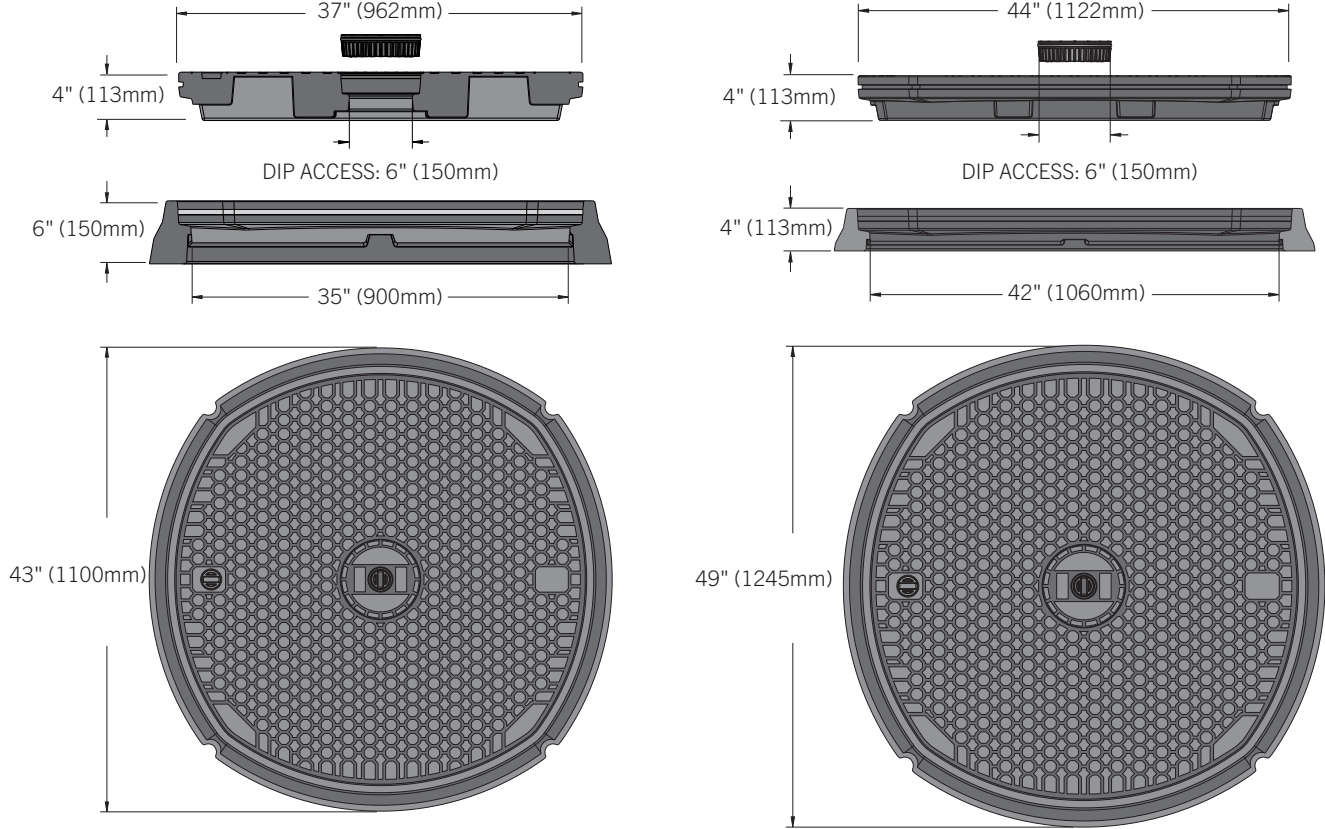
Load rating	EN124 Class C250 & D400
Clear opening	35 $\frac{7}{16}$ " (900 mm) diameter
Cover external dimension	37 $\frac{7}{8}$ " (962 mm) diameter
Frame external dimension	43 $\frac{5}{16}$ " (1,100 mm) diameter
Cover weight PCR090	75 lbs (34 kg)
Cover weight PDR090	101 lbs (46 kg)
Frame weight	33 lbs (15 kg)
Tread	Embedded aggregate – uni-directional, complies with EN124
Material	Advanced fiberglass composite

42" (1,060 mm) Composite Access Cover Specifications

Load rating	EN124 Class C250 and D400
Clear opening	41 $\frac{3}{4}$ " (1,060 mm) diameter
Cover external dimension	44 $\frac{3}{16}$ " (1,122 mm) diameter
Frame external dimension	49 $\frac{1}{16}$ " (1,245 mm) diameter
Cover weight PCR106	93 lbs (42 kg)
Cover weight PDR106	109 lbs (49 kg)
Frame weight	29 lbs (13 kg)
Tread	Embedded aggregate – uni-directional, complies with EN124
Material	Advanced fiberglass composite

SPECIFICATIONS CONTINUED

Components

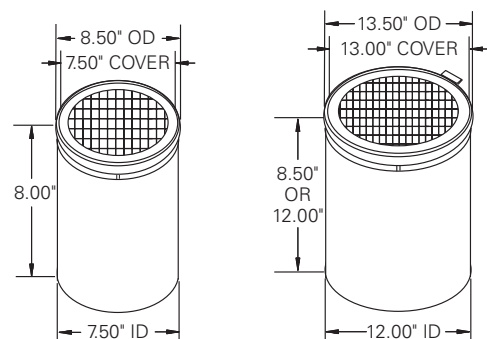


CAST IRON COVERS



ORDERING INFORMATION

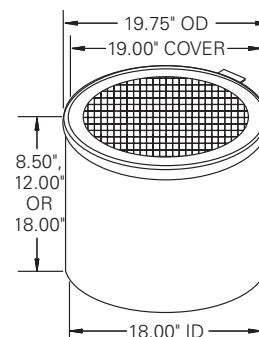
Model	Manway Size		Cover	Skirt Depth		Weight	
	In	mm		In	mm	lbs	Kg
78120808	7.5	191	Cast iron	8	203	22	10
78121212BLK	12	305	FRC	12	305	29	13
78121212CI	12	305	Cast iron	12	305	36	16
78121212CI-H	12	305	Cast iron with handle	12	305	36	16
78121212ORG	12	305	FRC	12	305	29	13
78121224CI	12	305	Cast iron	24	610	70	32
78141808BLK	18	457	FRC	8.5	216	30	14
78141812BLK	18	457	FRC	12	305	33	15
78141818BLK	18	457	FRC	18	457	39	18
78147865	18	457	FRC bolted	8.5	216	30	14



SERVICE STATION
HARDWARE

Replacement Round Access Covers

Model with drain	Manway Size		Cover	Weight	
	In	mm		lbs	Kg
78140201	7.5	191	Cast iron	6	3
78140001	12	305	Cast iron	17	8
78130201	12	305	FRC black	10	5
78130207	12	305	FRC orange	10	5
78140701	12	305	Cast iron with handle	18	8.10
78130401	18	457	FRC black	10	5
78130601	18	457	Steel with finger hole	33	15
78133401	18	457	FRC black, bolt-down, cover only	10	5



STEEL MANWAYS

ORDERING INFORMATION

Round Steel Manways

Model	Description
78141808STL	Round 18" steel manway, 8" skirt, non-bolted
78141812STL	Round 18" steel manway, 12" skirt, non-bolted
78141818STL	Round 18" steel manway, 18" skirt, non-bolted
SR1809 WT	Round 18" steel manway, 9" skirt, bolted
SR2409 HD	Round 24" steel manway, 9" skirt, non-bolted

Steel Manway Replacement Parts

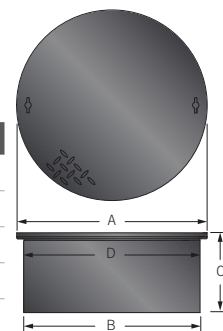
Model	Description
1117632	Steel manway replacement bolt, qty 1
602017007	Steel manway replacement bolt washer, qty 1
SRCORD12	Steel manway replacement gasket, 12' roll



SPECIFICATIONS

Round Steel Manway Dimensions

Model	A	B	C	D
78141808STL	19"	18"	8"	18"
78141812STL	19"	18"	12"	18"
78141818STL	19"	18"	18"	18"
SR1809WT	18"	17"	9"	16"
SR2409HD	24"	23"	9"	22"



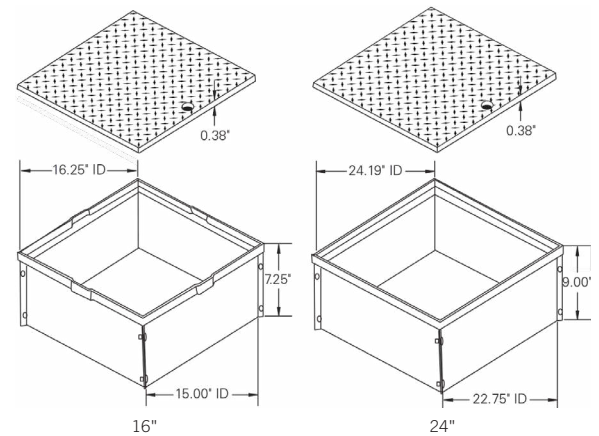
STEEL KNOCK DOWN MANWAYS

ORDERING INFORMATION

Square Manway Replacement Covers

Model	Description
78920301	16" x 16" steel cover
98720101	24" x 24" steel cover
1102103	Nut

Model	Dimensions		Skirt Size		Weight	
	In	cm	In	cm	lbs	Kg
98710001	16 x 16	40.60 x 40.60	7.5	19.05	38.5	17.5
98720001	24 x 24	60.96 x 60.96	9	22.86	82	37



MONITORING WELL EQUIPMENT

ORDERING INFORMATION

Monitoring Well Packages

Pre-configured packages with common sizes.

Model	Description
808-4-K	(1) 808-400-01 8" manway, (1) 772-102-01 4" cap plug, and (1) 773-200-02 4" screen pipe
810-4-K	(1) 810-302-01 10" manway, (1) 772-102-01 4" cap plug, and (1) 773-200-02 4" screen pipe
810-6-K	(1) 810-302-01 10" manway, (1) 772-109-01 6" cap plug, and (1) 773-200-03 6" screen pipe



Note: Filter wrap and liquid sensor sold separately.

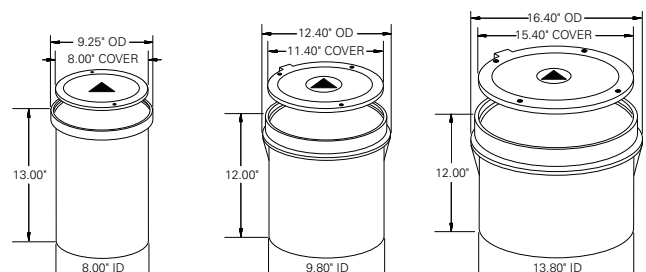
MONITORING WELL MANWAYS

ORDERING INFORMATION

Model	Description
80840001	8" cast iron monitoring well
81030201	10" cast iron monitoring well
81430201	14" cast iron monitoring well
71520201	Spare lift handle assembly, below grade containers

SPECIFICATIONS

- 8" manway height / weight: 13" (330 mm) / 18 lbs (8 kg)
- 10" manway height / weight: 12" (305 mm) / 25 lbs (11 kg)
- 14" manway height / weight: 12" (330 mm) / 41 lbs (19 kg)



MONITORING WELL CAP PLUGS

ORDERING INFORMATION

Model	Description
77210601	2" monitoring well cap plug (51 mm)
77210201	4" monitoring well cap plug (102 mm)
77210901	6" monitoring well cap plug (152 mm)

SPECIFICATIONS

Body	Corrosion-proof plastic
Gasket	Buna-N



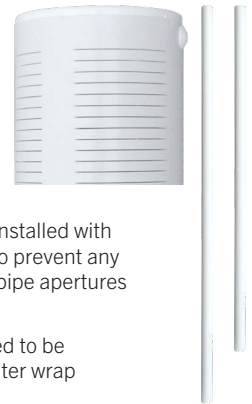
MONITORING WELL SCREEN PIPE

ORDERING INFORMATION

Model	Description
77320001	2" x 13' monitoring well screen pipe (51 mm x 396 cm)
77320002	4" x 13' monitoring well screen pipe (102 mm x 396 cm)
77320003	6" x 13' monitoring well screen pipe (152 mm x 396 cm)
77320004	4" x 15' monitoring well screen pipe (102 mm x 457 cm)

SPECIFICATIONS

Installation	<ul style="list-style-type: none"> — The screen pipe must be installed with the included bottom cap to prevent any bypass of the well screen pipe apertures and filter wrap — The screen pipe is intended to be installed together with a filter wrap
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SERVICE STATION
HARDWARE

MONITORING WELL FILTER WRAP

ORDERING INFORMATION

Model	Description
77310002	2" x 100' monitoring well filter wrap (51 mm x 3048 cm)
77310004	4" x 100' monitoring well filter wrap (102 mm x 3048 cm)

SPECIFICATIONS

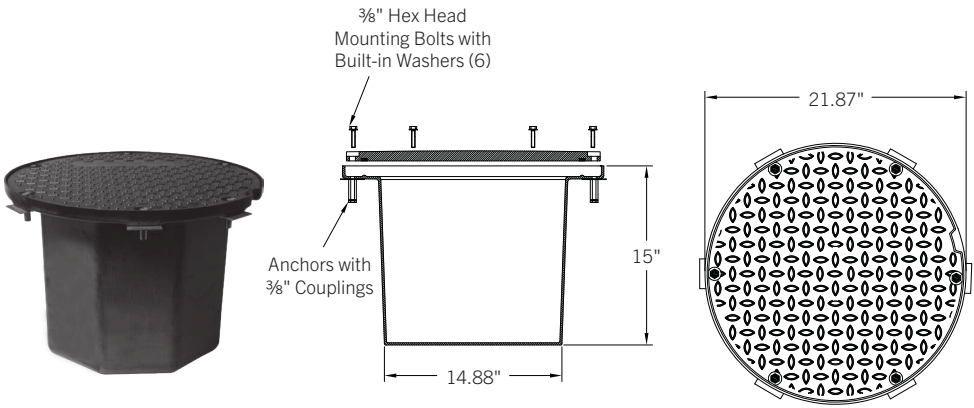
Body	Spun bound polypropylene
Micron rating	250 microns
Rolls	Available in 100' (3048 cm) rolls



PROBE ACCESS MANHOLE

ORDERING INFORMATION

Model	Description
20URTATG	Probe access manhole
81830701	Replacement cover with plain lid top

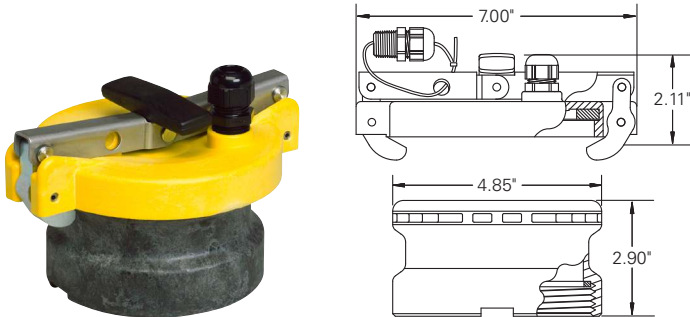


PROBE CAP AND ADAPTER KIT

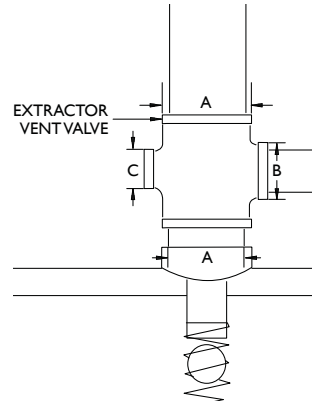
ORDERING INFORMATION

Model	Bushing		Weight	
	In	mm	lbs	Kg
90037-E*	0.5 and 0.38	12.70 and 9.5	1.92	0.87
Model	Description			
95021501*	Replacement Nitrile gasket for cap			

*CARB EVR Phase 1 certification VR-101 for gas and E85.



EXTRACTOR VENT VALVES



ORDERING INFORMATION

Model	Description 4" x A x B	A		B		C		Weight	
		In	mm	In	mm	In	mm	lbs	Kg
31040011	4" x 2" extractor valve w/o adapter-NPT	4	102	2	51	--	--	13	5.90
31140011	4" x 3" extractor valve w/o adapter-NPT	4	102	3	76	--	--	13	5.90
33040011	4" x 3" x 2" extractor valve w/o adapter-NPT	4	102	3	76	2	51	18	8.16
33140011	4" x 3" x 3" extractor valve w/o adapter-NPT	4	102	3	76	3	76	15	6.80
34040011	4" x 2" x 2" extractor valve w/o adapter-NPT	4	102	2	51	2	51	17	7.71
34040041	4" x 2" x 2" extractor valve w/o adapter-BSPP	4	102	2	51	2	51	17	7.71
31040042	4" x 2" extractor valve w/o adapter-BSPT	4	102	2	51	--	--	13	5.90
31140042	4" x 3" extractor valve w/o adapter-BSPT	4	102	3	76	--	--	13	5.90
33040042	4" x 3" x 2" extractor valve w/o adapter-BST	4	102	3	76	2	51	18	8.16

SERVICE STATION
HARDWARE

EXTRACTOR VENT VALVE ACCESSORIES

Hard Coated Aluminum Plug with O-Ring Seal

Plug used for isolating vent piping from tank during testing.

Model	Description	Weight	
		lbs	Kg
39120101	4" test plug	3.60	1.63



Adapters, for use with EBW® Ball Floats

Model	Description	Weight	
		lbs	Kg
30822802	ADPT 2" NPT, AGB, spare	1.15	0.52
30822803	ADPT 3" NPT, AGB, spare	1.65	0.75

4" Pipe Cap

Model	Description	Weight	
		lbs	Kg
76020101	Brass, NPSM	4.60	2.09
76020131	Brass, BSPP	4.60	2.09
770201023	4" spare gasket	4.60	2.09

5' Extractor Wrench

Five-foot extractor wrench works on all EBW® extractor vent valves for removing extractor cage assemblies and inserting test plugs.

Model	Description	Weight	
		lbs	Kg
32110001	5' extractor wrench	14	6.35



FOOT VALVES AND EXTRACTORS

ORDERING INFORMATION

Foot Valves

Model	Description	A		B		Weight	
		In	mm	In	mm	lbs	Kg
5010501	½" single	1.44	37	2.75	70	0.75	0.34
5110001	½" double	1.44	37	4	102	1.18	0.54
7510501	¾" single	1.69	43	2.75	70	0.94	0.43
7610001	¾" double	1.69	43	4	102	1.31	0.60
10010501	1" single	2	51	3	76	1.12	0.51
10110001	1" double	2	51	4.25	108	1.56	0.71
15020201	1½" single	2.75	70	4.25	108	3.12	1.42
15120001	1½" double	2.75	70	5.38	137	4.38	1.99
20020001	2" single	3.44	87	4.88	124	4.38	1.99
20120001	2" double	3.44	87	6.75	172	6.44	2.92

Foot Valve Extractors

Model	Size		A		B	
	In	mm	In	mm	In	mm
32030201	4 × 4 × 1.5	102 × 102 × 38	5.5	139.7	7.25	184.15
32030202	4 × 4 × 2	102 × 102 × 51	5.5	139.7	7.25	184.15

Thread Size

Model	Inlet Female Thread		Inlet Male Thread		Outlet Thread		Top Thread	
	In	mm	In	mm	In	mm	In	mm
32030201	1.5	38	4	102	1.5	38	4	102
32030202	1.5	38	4	102	2	51	4	102

Replacement Parts

Model	Description
32010201	Suction stub adapter
32010301	Cap assembly
32110001	Extractor wrench
32010401	Kit - cap with gasket

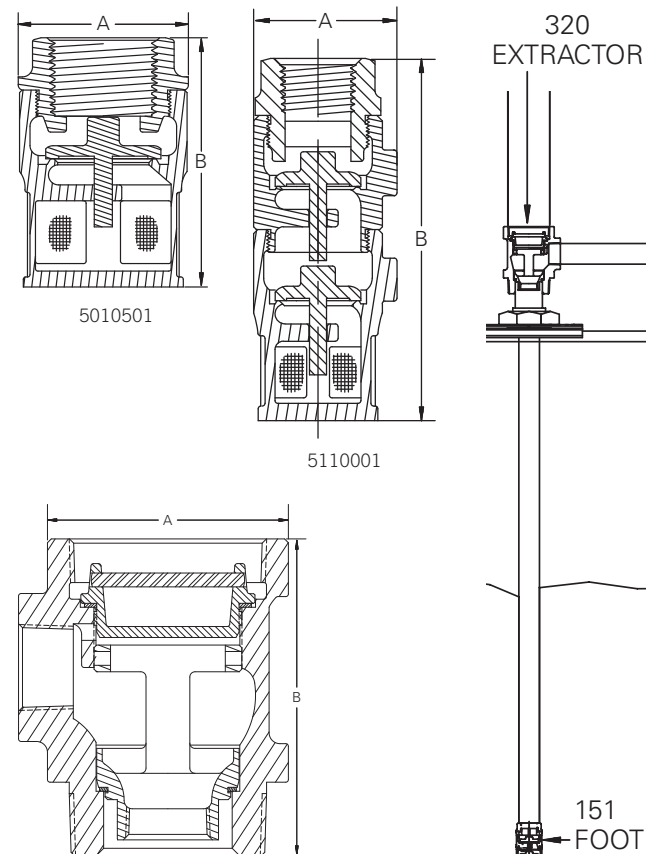
SPECIFICATIONS

Foot Valves

Body	Brass
Poppet	Brass
Screen	24-mesh brass
Other	½" foot valve has a stainless steel screen

Foot Valve Extractors

Body	Zinc-plated cast iron
Cap	Bronze
Suction stub adapter	Bronze
Gasket	Leather



308 BALL FLOAT VENT VALVES

ORDER INFORMATION

2" Ball Floats

Model	Nipple Length		Bleed Hole		Thread
	In	mm	In	mm	
308020003	3	76.2	0.06	1.524	NPT
308020205	5.12	130.04	0.06	1.524	NPT
308020107	7	177.8	0.06	1.524	NPT
308020112	12	304.8	0.06	1.524	NPT
308020116	16	406.4	0.06	1.524	NPT
308023003	3	76.2	0.06	1.524	BSPT
308023107	7	177.8	0.06	1.524	BSPT
308023112	12	304.8	0.06	1.524	BSPT
308023116	16	406.4	0.06	1.524	BSPT
308024115	15	381	0.06	1.524	BSPT
3080241117	17	431.8	0.06	1.524	BSPT
308024119*	19	482.6	0.06	1.524	BSPT

*Does not include installation cage.

Installation Cages

Model	Size		Thread
	In	mm	
30822802	2	50.8	NPT
30822803	3	76.2	NPT



SERVICE STATION
HARDWARE

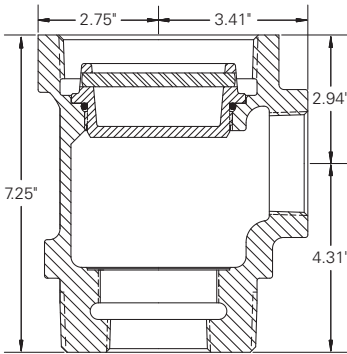
SPECIFICATIONS

WARNING: EBW® 308 Series float vents should not be used with suction pump systems. For use on gravity drop systems only. Do not use with pump-off unloading. Do not use with coaxial Stage I vapor recovery drop tubes.

325 PRODUCT LINE ISOLATION VALVE

ORDERING INFORMATION

Model	Size		Description	Weight	
	In	M		lbs	Kg
32530001	4 × 4 × 2	102 × 102 × 51	PLIV	17	7.71
Model	Description				
32110001	Extractor wrench, 14 lbs				
32510001	2" test plug				



SPECIFICATIONS

Body	Plated cast iron
Cap	Plated cast iron
Test plug	Brass
Seals	Fluorocarbon



VERTICAL CHECK VALVES

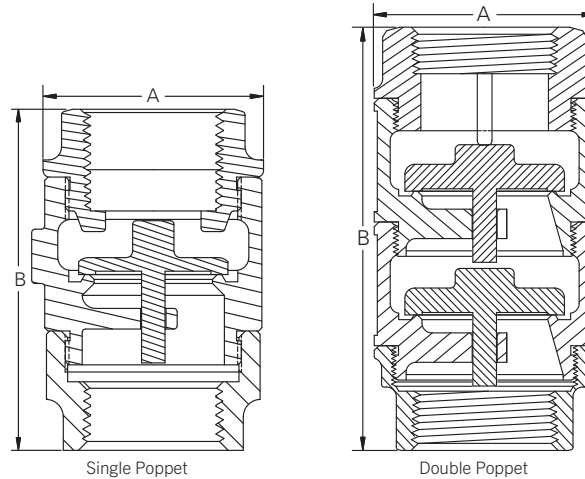
ORDERING INFORMATION

Model	Size		Poppet Type	A		B		Weight	
	In	mm		In	mm	In	mm	lbs	Kg
51520001	1.5	38.10	Single	2.81	71.30	3.83	97.20	3.13	1.42
51620001	1.5	38.10	Double	2.81	71.30	5.40	137.20	4.31	1.96



SPECIFICATIONS

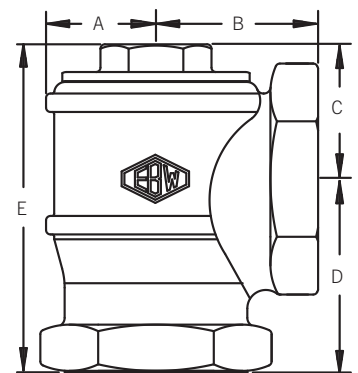
Body	Brass
Poppet	Brass
Seal	Brass



ANGLE CHECK VALVES

ORDERING INFORMATION

Model	Description
61530101	Angle check valve, 1½"
61530201	Angle check valve, 1½", spring loaded
63520101	Angle check valve, 2"



SPECIFICATIONS

Model	A		B		C		D		E	
	In	mm	In	mm	In	mm	In	mm	In	mm
61530101	1.5	38.10	2.19	55.60	1.82	46.20	2.62	66.5	44.40	112.80
63520101	1.81	45.90	2.69	68.30	2.43	61.70	2.66	67.60	5.09	129.30

*Spring loaded.

Model	Size		Poppet Type	Weight	
	In	mm		lbs	Kg
61530101	1.5	38.1	Single	3.80	1.70
61530201*	1.5	38.1	Single	3.90	1.80
63520101	2	51	Single	7.25	3.30



UNDER PUMP/IN-LINE CHECK VALVES

ORDERING INFORMATION

Model	Size		Pressure Relief	Thread	Weight	
	In	mm			lbs	Kg
62020101*	1.5	38.1	No	NPT	1.31	0.59
62120001	1.5	38.1	No	NPT	1.31	0.59
62130001	1.5	38.1	Yes	NPT	1.61	0.73
62220001	2	51	No	NPT	1.11	0.5
62230001**	2	51	Yes	NPT	1.87	0.85
62130021	1.5	38.1	Yes	BSPT	1.61	0.73

SPECIFICATIONS

Body	Brass
Poppet	Brass
Seal	Fluorocarbon
Spring	Stainless steel

* Only one end threaded

**E-coated for AGB compatibility.



SERVICE STATION
HARDWARE

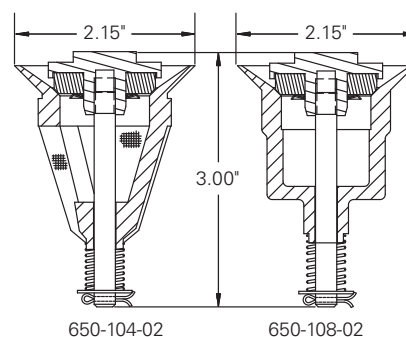
UNION CHECK VALVES

ORDERING INFORMATION

Model	Size		Screen	Weight	
	In	mm		lbs	Kg
65010402	1.5	38.10	Yes	0.5	0.23
65010802	1.5	38.10	No	0.5	0.23

SPECIFICATIONS

Body	Bronze
Poppet	Acetal
Seal	Fluorocarbon
Spring	Stainless steel
Screen	Brass



PRESSURE REGULATOR VALVE

ORDERING INFORMATION

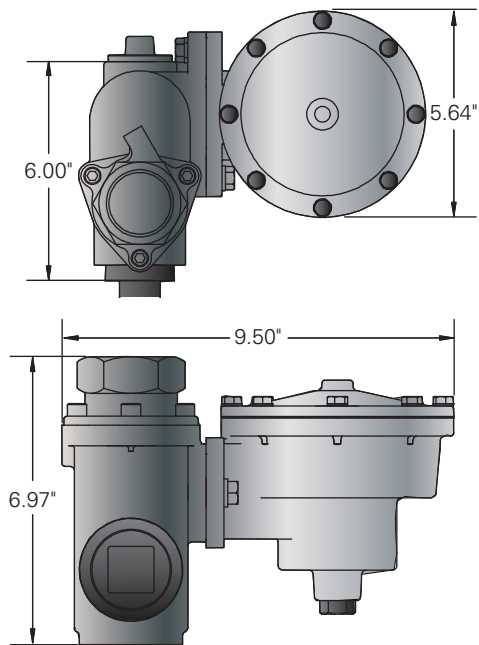
Model	Description	Weight	
		lbs	Kg
66430201	Male-NPT	19	8.62
66430202	Union	19.30	8.75
66430203	Female-NPT	19	8.62
66430206	Female-Poppeted	19	8.62
66430226	Female-BSPT	19	8.62
Model	Description		
66222001	Male replacement adapter		
66421101	Female replacement adapter for 664-302-06		
66430401	Mounting bracket		



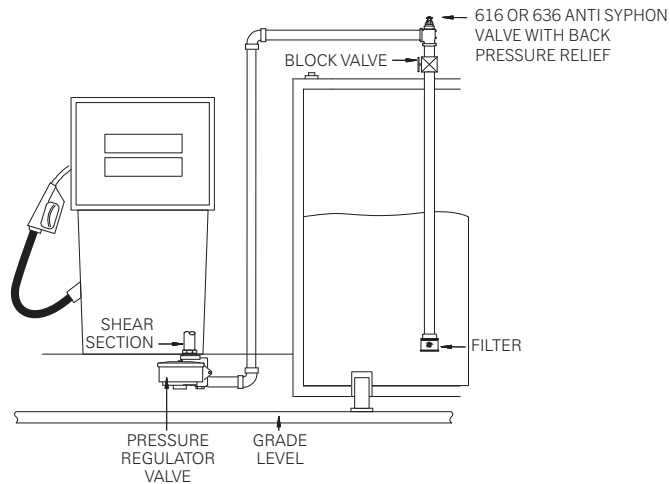
SPECIFICATIONS

Body	Cast iron
Seals	Fluorocarbon
Filter	Stainless steel
Poppet	Fluorocarbon

Diagram



Note: Please refer to the installation instructions supplied with the valve for proper installation procedures.



ABOVEGROUND EMERGENCY VENTS

ORDERING INFORMATION

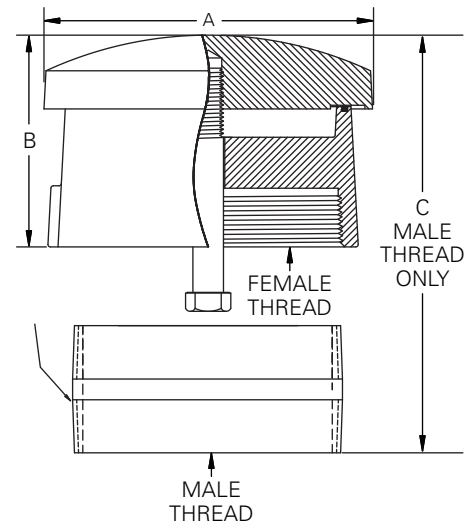
Model	A		B		Thread
	In	mm	In	mm	
80320001	6	154.80	4.5	115.14	4" NPT
80320501	8.06	204.73	5.19	131.95	6" NPT
80330801	10.5	268.17	5.5	141.94	8" NPT

Model	Size		Connection	Weight	
	In	mm		lbs	Kg
80320001	4	102	Female	14	6.35
80320501	6	152	Female	30	13.60
80330801	8	203	Female	40.20	18.23

Vent Size		@ 2.5 PSI =SCFH
In	mm	
4	102	96,000 SCFH
6	152	233,000 SCFH
8	203	411,000 SCFH

SPECIFICATIONS

Body	Cast iron
Lid	Cast iron



Note: Pipe nipple shown for male thread models only.

SERVICE STATION
HARDWARE

ANTI SYPHON VALVES

ORDERING INFORMATION

Model	Description
60530011	¾" NPT anti syphon valve, 0' to 12' head pressure
60630011	1" NPT anti syphon valve, 0' to 12' head pressure
61630013	1½" NPT anti syphon valve, 0' to 5' head pressure
61630011	1½" NPT anti syphon valve, 5' to 12' head pressure
61630012	1½" NPT anti syphon valve, 12' to 25' head pressure
63630011	2" NPT anti syphon valve, 5' to 12' head pressure, AGB compatible
63630012	2" NPT anti syphon valve, 12' to 25' head pressure, AGB compatible
63630031	2" BSPT anti syphon valve, 5' to 12' head pressure, AGB compatible
63630032	2" BSPT anti syphon valve, 12' to 25' head pressure, AGB compatible

SPECIFICATIONS

Body	E-coated
Spring material	Stainless steel
Adjustment screw	Stainless steel
Disc	Fluorocarbon seal
Approvals / Certifications	<ul style="list-style-type: none"> ULc listed NFPA 30 fire rating



Note: Alcohol, gas, biofuel compatible (E-85, gasoline and biodiesel) models come with E-coated body for full compatibility.



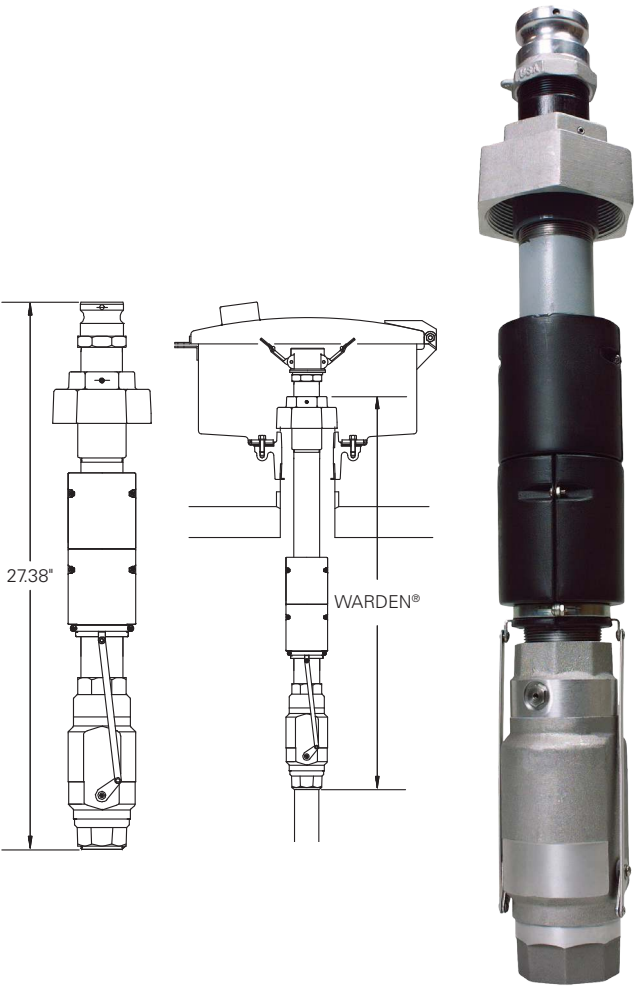
WARDEN® AST OVERFILL PREVENTION VALVE

ORDERING INFORMATION

Model	Description	Weight	
		lbs	Kg
70942001	Warden®, 4" overfill with inverted floats	12.5	5.67
77421220	2" dust cap	1.25	0.57

SPECIFICATIONS

Valve body	Aluminum 356-T6
Poppet	Aluminum 356-T6
Shaft	Stainless steel
Float	High density polyethylene
Nipple	Epoxy-coated black iron pipe



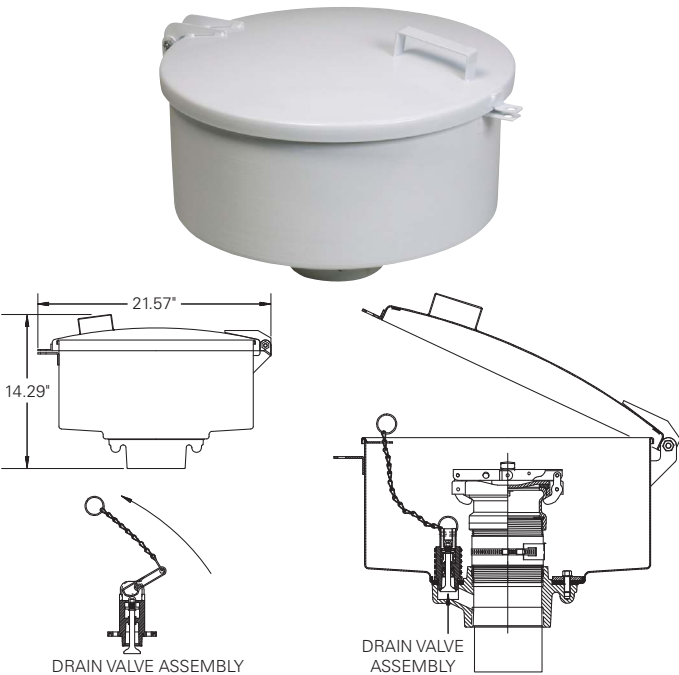
AST SPILL CONTAINER

ORDERING INFORMATION

Model	Description	Weight	
		lbs	Kg
70534101	Replacement drain valve	0.5	0.20
706500901	Standard, 7.5 gallon	40	18.14

SPECIFICATIONS

Lid and skirt	14 gauge epoxy-coated steel
Base	Cast iron
Gasket	Fire-resistant graphite base gasket
Drain valve	Acetal with a fluorocarbon valve seal



REMOTE FILL BOXES

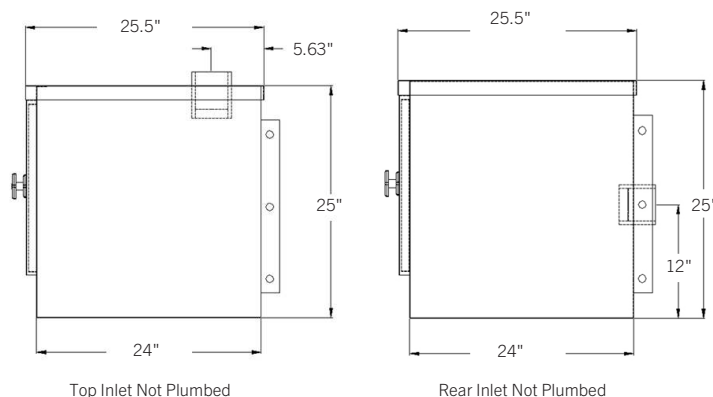
ORDERING INFORMATION

Model	Description
RFBNP-TOP	3" box (not plumbed), top inlet
RFBNP-TOP-30	3" box (not plumbed), top inlet with stainless steel legs
RFBNP-REAR	3" box (not plumbed), rear inlet
RFBNP-REAR-4	4" box (not plumbed), rear inlet
RFBNP-REAR-30	3" box (not plumbed), rear inlet with stainless steel legs

SPECIFICATIONS

Model	Height	Depth	Width
RFBNP-REAR	25.3"	25.5"	20.25"

Note: Optional pedestal base available. Please contact Customer Service for details.



SERVICE STATION
HARDWARE

2" FILL CAPS

ORDERING INFORMATION

770 Locking Fill Cap

Model	Thread	Size		Weight	
		In	mm	lbs	Kg
77010101	NPT	2	51	2.62	1.19
77010121	BSPT	2	51	2.62	1.19
Model	Description				
7702101	2" replacement gasket				

751 Locking Fill Cap

Model	Description	Weight	
		lbs	Kg
75120201	Female NPT	0.69	0.31
75120401	Male NPT	0.69	0.31
75120221	Female BSPT	0.69	0.31
75120421	Male BSPT	0.69	0.31

SPECIFICATIONS

Body	Brass
Cap	Cast iron
Gasket	Buna-N



770

Body	Aluminum
Cap	Aluminum

751



FLEX-ING® PIPE GUARDS AND BOLLARDS

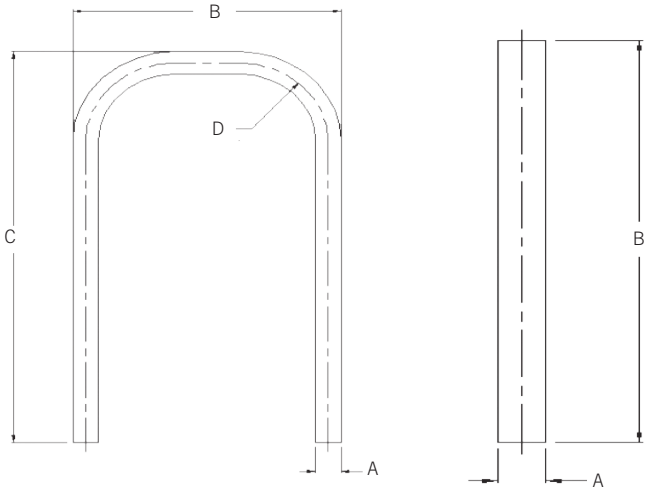
ORDERING INFORMATION

U-Shaped Pipe Guards

Model	A	B	C	D
BGU35565414	3.5"	36"	54"	14"
BGU35415314	3.5"	41"	53"	14"
BGU35485014	3.5"	48"	50"	14"
BGU40365614	4.0"	36"	56"	14"
BGU40415314	4.0"	41"	53"	14"
BGU40417414	4.0"	41"	74"	14"
BGU40435414	4.0"	43"	54"	14"
BGU40485114	4.0"	48"	51"	14"

Bollards

Model	A	B
BGS4042	4.0"	42"
BGS4063	4.0"	63"
BGS4072	4.0"	72"
BGS6063	6.0"	63"
BGS6072	6.0"	72"
BGS6084	6.0"	84"



SPILL CONTAINER, OVERFILL PREVENTION VALVE, AND MANWAY TOOLS & ACCESSORIES

ORDERING INFORMATION

Defender Series® Spill Container Tools



Model	Description
T-0074	Defender Series® spill container tool kit includes T-handle (T-7001), spill container tool (T-7106), and swivel adapter tool (T-7102)



Model	Description
T-7001	T-handle, attaches to all installation adapter tools



Model	Description
T-7106	Defender Series® spill container tool, used to install and remove both below grade and grade level spill containers



Model	Description
T-7102	Orange swivel adapter tool, used to remove or install Franklin Electric swivel adapters and M/F 4x4 riser adapters



Model	Description
T-7107	Defender Series® spill container double wall vacuum test tool



Model	Description
T-7100	Red non-swivel adapter tool, used to install and remove legacy non-swivel adapters



Model	Description
T-7103	Blue OPW swivel adapter tool, used to install and remove OPW swivel adapters



Model	Description
T-7104	Green swivel adapter torque testing tool, used to torque test any swivel adapter



ORDERING INFORMATION CONTINUED

Defender Series® Overfill Prevention Valve Tools



Model	Description
708535901	Roll crimping installation tool includes roller bit
708530930	Roller bit
CW1	Cutting bit



Model	Description
708534901	Defender Series® overfill prevention valve remote testing tool
708534902	Defender Series® coaxial overfill prevention valve remote testing tool

PHIL-TITE™ Spill Container Tools



Model	Description
T-7043	PHIL-TITE™ spill container tool kit includes T-handle (T-7001), spill container tool (T-7002-A), and swivel adapter tool (T-7102)



Model	Description
T-7001	T-handle, attaches to all installation adapter tools



Model	Description
T-7002-A	PHIL-TITE™ spill container tool, used to install and remove spill containers



Model	Description
T-7102	Orange swivel adapter tool, used to remove or install Franklin Fueling Systems swivel adapters and M/F 4x4 riser adapters



Model	Description
T-7002HD	Heavy duty T-handle with counterweights, attaches to all installation adapter tools, includes PHIL-TITE™ spill container tool (T-7002-A)

ORDERING INFORMATION CONTINUED

Manway Cover Tools



Model	Description
T-7200	Cast iron cover removal tool



Model	Description
PCR-LIFT	Lifting handle tool for composite access covers

Chain Wrench Tools



Model	Description
32110001	¾" chain wrench, 60" length for removing and installing, 14 lbs / 6.40 Kg
90110101	¾" chain wrench, 26" length for removing and installing, 3 lbs / 1.40 Kg



PIPING & CONTAINMENT



APT® XP FLEXIBLE PIPEWORK



ORDERING INFORMATION

APT® XP Reels

Model	Description	Weight (Lbs)	Weight (Kg)
XP-150-SC-250	1½" Secondary Contained XP Pipe, 250 ft Master Reel	333	151
XP-150-SC-500	1½" Secondary Contained XP Pipe, 500 ft Master Reel	470	213
XP-150-SC-1000	1½" Secondary Contained XP Pipe, 1,000 ft Super Master Reel	789	358
XP-150-SC-1500	1½" Secondary Contained XP Pipe, 1,500 ft Super Master Reel	1061	481
XP-175-SC-250	1¾" Secondary Contained XP Piped, 250 ft Master Reel	405	184
XP-175-SC-500	1¾" Secondary Contained XP Pipe, 500 ft Master Reel	580	263
XP-175-SC-1000	1¾" Secondary Contained XP Pipe, 1,000 ft Super Master Reel	1076	488
XP-200-SC-250	2" Secondary Contained XP Pipe, 250 ft Master Reel	552	250
XP-200-SC-500	2" Secondary Contained XP Pipe, 500 ft Super Master Reel	914	415
XP-200-D-500	2" Single Wall XP Pipe, 500 ft Super Master Reel	664	301

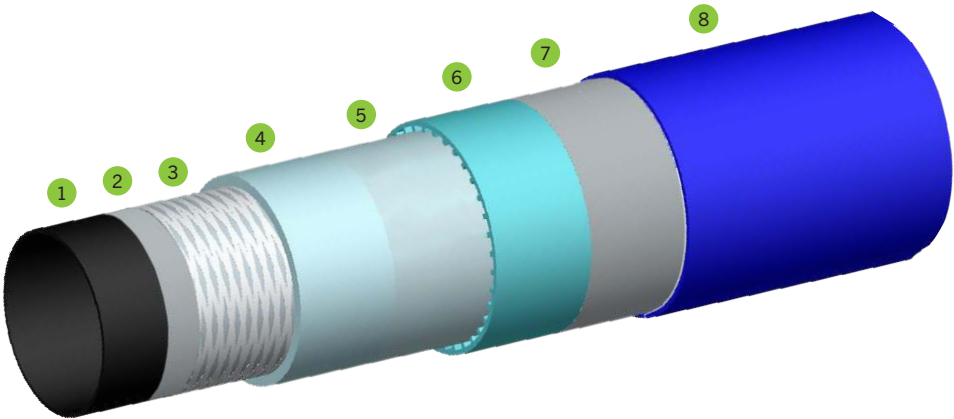
APT® XP Sticks

Model	Description
XP-175-SC-CR15-028	1.75" APT® XP stick pipe ducting, 28 ft.
XP-175-SC-CR15-033	1.75" APT® XP stick pipe ducting, 33 ft.
XP-200-SC-CR15-028	2" APT® XP stick pipe ducting, 28 ft.
XP-200-SC-CR15-033	2" APT® XP stick pipe ducting, 33 ft.

SPECIFICATIONS

Components

- 1 Interior primary (Nylon 12)
- 2 Metallized Mylar
- 3 Nylon Braid
- 4 Exterior Primary (Nylon 12)
- 5 Clear Mylar
- 6 Secondary Jacket (Nylon 12)
- 7 Metallized Mylar
- 8 Scuff Guard (Nylon 12)



PIPE &
CONTAINMENT



SPECIFICATIONS CONTINUED

Primary Layer Construction	Nylon 12 (fuel line material contains no polyethylene)
Approvals & Certifications	UL971 listed
Fuel Compatibility	<p>UL971 listed for fuels including:</p> <ul style="list-style-type: none"> Motor vehicle fuels typically found in consumer dispensing facilities like gasoline or diesel including blended fuels with maximum 15% MTBE, 15% Methanol or 30% Ethanol. Concentrated fuels such as alternate unblended fuels containing up to 100% concentrations of Toluene, Methanol or Ethanol. High blend fuels with higher than normal gasoline blends with maximum 50% Methanol or 50% Ethanol. Aviation and marine specialty fuels containing up to 100% kerosene or leaded gasoline.
Ethanol Blends Compatibility	High-blend ethanol, with ethanol/gasoline blends between 51% - 83% (E51 - E83) - commercially known as "E-85"
Biodiesel Compatibility	<ul style="list-style-type: none"> Biodiesel up to 5% (B5) Biodiesel up to 20% (B20) Biodiesel at 97% - 100% (B99 / B100) All ASTM defined biofuel blends

Pipe Dimensions

Pipe	ID ± 0.010 Primary Layer	OD ± 0.020 Primary Layer	OD ± 0.030 SC Jacket	OD ± 0.030 Scuff Guard	Minimum Bend Radius
1½" Secondary Contained	1.40"	1.70"	1.90"	1.925"	36"
1¾" Secondary Contained	1.65"	1.95"	2.15"	2.175"	36"
2" Secondary Contained	2.04"	2.45"	2.65"	2.675"	36"
2" Single Wall	2.04"	2.45"	--	--	36"

Reel Dimensions

Master Reel	91" × 33" × 74" (231.1cm × 83.8cm × 187.9cm)
Super Master Reel	91" × 52" × 74" (231.1cm × 132.1cm × 187.9cm)

Note: Shown as reel diameter × width × hub diameter

Crate Dimensions for APT® XP Sticks

422" Long x 19.50" wide x 15.50" height with a 7/16" OSB top.



APT® XP PIPE DUCTING

ORDERING INFORMATION

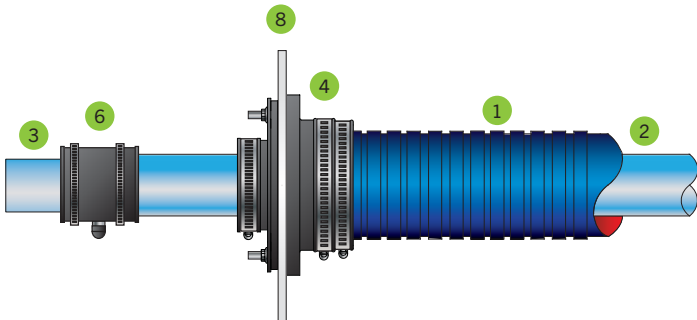
Model	Description
DUCT-XP-400-100	XP Pipe Ducting, 100 ft coil
DUCT-XP-400-250	XP Pipe Ducting, 250 ft coil

SPECIFICATIONS

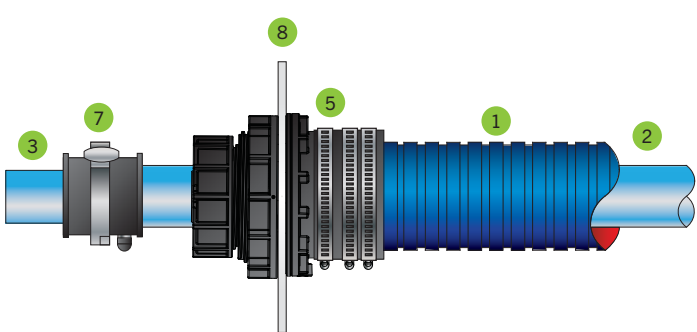
Installation

- 1 XP Pipe Ducting
- 2 XP Pipe (secondary layer outside of sump)
- 3 XP Pipe (primary layer exposed inside sump)
- 4 Ducted rubber entry boot (sold separately)
- 5 Ducted rigid entry boot (sold separately)
- 6 Rubber test boot
- 7 Rigid split test boot
- 8 Sump wall

Flexible Ducted Entry Boot Application



Ducted Rigid Entry Boot Application



PIPING &
CONTAINMENT



XP PIPE CLAMSHELL FITTINGS



ORDERING INFORMATION

Swivel Fitting

Model	Description	A	B	C
MS-XP-150-150	Brass XP pipe clamshell swivel fitting, installs on the end of 1½" single/secondary contained XP pipe with 1½" NPT	4"	4"	1.75"
MS-XP-150-150SS	Stainless steel XP pipe clamshell swivel fitting, installs on the end of 1½" single/secondary contained XP pipe with 1½" NPT			
MS-XP-175-200	Brass XP pipe clamshell swivel fitting, installs on the end of 1¾" single/secondary contained XP pipe with 2" NPT	4"	4"	1.75"
MS-XP-175-200SS	Stainless steel XP pipe clamshell swivel fitting, installs on the end of 1¾" single/secondary contained XP pipe with 2" NPT			
MS-XP-200-200	Brass XP pipe clamshell swivel fitting, installs on the end of 2" single/secondary contained XP pipe with 2" NPT	4.5"	4.75"	2.25"
MS-XP-200-200SS	Stainless steel XP pipe clamshell swivel fitting, installs on the end of 2" single/secondary contained XP pipe with 2" NPT			

Non-Swivel Fitting

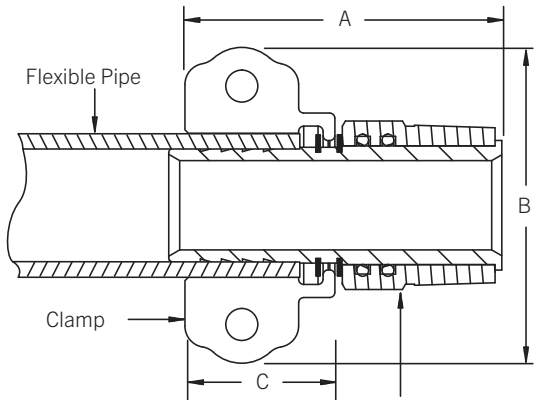
Model	Description	A	B	C
MN-XP-100-100	Brass XP pipe clamshell non-swivel fitting, installs on 1" single/secondary contained XP pipe with 1" NPT	3"	3"	1.5"
MN-XP-100-100SS	Stainless steel XP pipe clamshell swivel fitting, installs on 1" single/secondary contained XP pipe with 1" NPT			

SPECIFICATIONS

Approvals /
Certifications

cULus listed

Dimensions



XP PIPE SWAGE FITTINGS



ORDERING INFORMATION

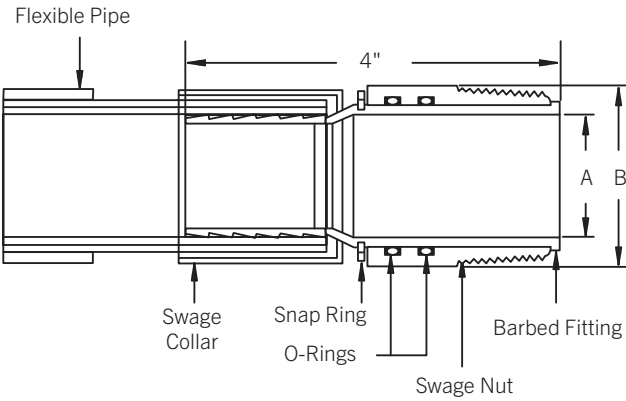
Model	Description	A	B
MS-XP-SW-150150	Stainless steel XP pipe swage fitting, male, installs on 1½" single/secondary contained XP pipe with 1½" NPT	1.5"	2"
MS-XP-SW175200	Stainless steel XP pipe swage fitting, male, installs on 1¾" single/secondary contained XP pipe with 2" NPT	1.75"	2.5"

SPECIFICATIONS

Approvals /
Certifications

cULus listed

Dimensions



PIPE &
CONTAINMENT

XP PIPE QUICK RELEASE FITTINGS

ORDERING INFORMATION

Model	Description
QRS-XP-150-200	Stainless steel XP pipe quick release fitting, installs on the end of 1½" single/secondary contained XP pipe with 2" flange
QRS-XP-175-200	Stainless steel XP pipe quick release fitting, installs on the end of 1¾" single/secondary contained XP pipe with 2" flange
QRS-XP-200-200	Stainless steel XP pipe quick release fitting, installs on the end of 2" single/secondary contained XP pipe with 2" flange
407082001	Quick release clamp
407046001	Quick release clamp flouorocarbon gasket



SPECIFICATIONS

Approvals /
Certifications

cULus listed



*Contact Customer Service for availability and lead times on all stainless steel end connections and fittings.

XP PIPE CLAMSHELL TEE AND ELBOW FITTINGS



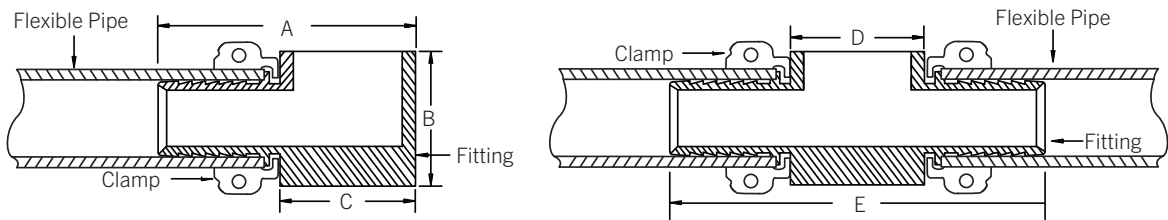
ORDERING INFORMATION

Model	Description	A	B	C	D	E
TEE-XP-150	Stainless steel XP pipe clamshell tee fitting, installs on the end of 1½" single/secondary contained XP pipe with 1½" NPT	4.75"	2.5"	2.5"	2.5"	4.75"
ELB-XP-150	Stainless steel XP pipe clamshell elbow fitting, installs on the end of 1½" single/secondary contained XP pipe with 1½" NPT					
TEE-XP-175	Stainless steel XP pipe clamshell tee fitting, installs on the end of 1¾" single/secondary contained XP pipe with 1½" NPT	4.75"	2.5"	2.5"	2.5"	7"
ELB-XP-175	Stainless steel XP pipe clamshell elbow fitting, installs on the end of 1¾" single/secondary contained XP pipe with 1½" NPT					
TEE-XP-200	Stainless steel XP pipe clamshell tee fitting, installs on the end of 2" single/secondary contained XP pipe with 1½" NPT	5"	2.5"	2.5"	2.5"	7"
ELB-XP-200	Stainless steel XP pipe clamshell elbow fitting, installs on the end of 2" single/secondary contained XP pipe with 1½" NPT					

SPECIFICATIONS

Approvals / Certifications	cULus listed
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Dimensions



END CONNECTIONS AND FITTINGS

ORDERING INFORMATION

Bushings

Model	Description
GHB-200-150	Galvanized Hex bushing, 2" NPT × 1½" NPT
SSHB-200-050	Stainless steel Hex bushing 2" NPT × ½" NPT
SSHB-150-050	Stainless steel Hex bushing 1½" NPT × ½" NPT
SSRB-150-050	Stainless steel reducing bell 1½" × ½" NPT



Caps

Model	Description
GC-150	Galvanized cap, 1½" NPT
GC-200	Galvanized cap, 2" NPT
SSC-150	Stainless steel cap, 1½" NPT
SSC-200	Stainless steel cap, 2" NPT



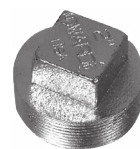
Elbow

Model	Description
GE90-150	Galvanized elbow, 90°, 1½" NPT
GE90-200	Galvanized elbow, 90°, 2" NPT
GE90-215	Galvanized reducing elbow, 90°, 2" NPT × 1½" NPT
GE90-252	Galvanized reducing elbow, 90°, 2½" NPT × 2" NPT
SSE90-150	Stainless steel elbow, 90°, 1½" NPT
SSE90-200	Stainless steel elbow, 90°, 2" NPT



Plugs

Model	Description
SSSHP-150	Stainless steel square head plug, 1½" NPT
GSHP-150	Galvanized steel square head plug, 1½" NPT
SSHP-050	Stainless square hex plug ½" NPT



Tees

Model	Description
GT-150	Galvanized tee, 1½" NPT
GT-215	Galvanized reducing tee, 2" × 2" × 1½" NPT
GT-252	Galvanized reducing tee, 2½" × 2½" × 2" NPT
SST-150	Stainless steel tee, 1½" NPT
SST-200	Stainless steel tee, 2" NPT



Unions

Model	Description
GU-150	Galvanized union, 1½" NPT
SSU-150	Stainless steel union, 1½" NPT



PIPING &
CONTAINMENT

SINGLE WALL RIGID ENTRY BOOTS

ORDERING INFORMATION

Rigid Entry Boot

Model	Description
REB-150-SC	1½" rigid entry boot for flat sump surfaces
REB-R-150-SC	1½" rigid entry boot for round sump surfaces
REB-175-SC	1¾" rigid entry boot for flat sump surfaces
REB-R-175-SC	1¾" rigid entry boot for round sump surfaces
REB-200-SC	2" rigid entry boot for flat sump surfaces
REB-R-200-SC	2" rigid entry boot for round sump surfaces

Ducted Rigid Entry Boot

Model	Description
RDEB-150-SC	1½" ducted rigid entry boot for flat sump surfaces
RDEB-R-150-SC	1½" ducted rigid entry boot for round sump surfaces
RDEB-175-SC	1¾" ducted rigid entry boot for flat sump surfaces
RDEB-R-175-SC	1¾" ducted rigid entry boot for round sump surfaces
RDEB-200-XP	2" ducted rigid entry boot for flat sump surfaces
RDEB-R-200-SC	2" ducted rigid entry boot for round sump surfaces

Replacement Parts

Model	Description
408051001	1½" pipe seal
408052001	1¾" pipe seal
408042001	2" pipe seal
408055001	1½" pipe snap fit body insert
408056001	1¾" pipe snap fit body insert
408058001	1½" compression nut insert
408059001	1¾" compression nut insert
408069001*	Plastic adapter for curved sump

SPECIFICATIONS

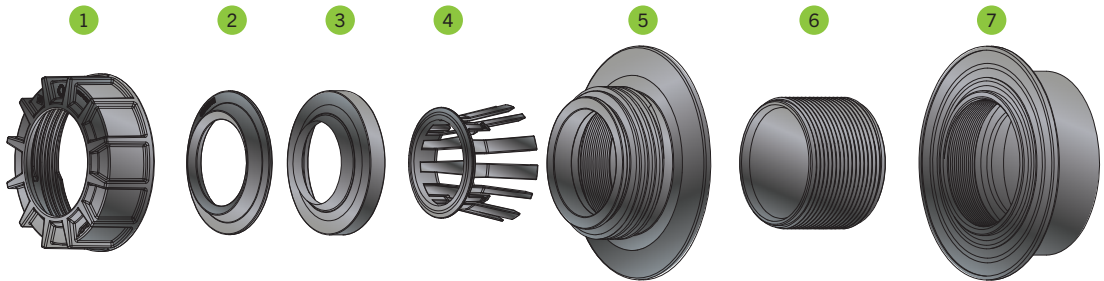
Approvals / Certifications	ULc listed when installed with APT® ULc listed sumps.
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Ducted Entry Boot

Components

- 1 Compression nut
- 2 Compression nut insert
- 3 Pipe seal
- 4 Body Insert Snap Fit
- 5 Flange, Inside
- 6 Joiner Fitting
- 7 Flange, Entry Boot Duct, Outside



*Used to convert a flat sump surface rigid entry boot into a round sump surface rigid entry boot.



DOUBLE WALL RIGID ENTRY BOOTS

ORDERING INFORMATION

Model	Description
REB-DW-150-SC	1½" double wall entry boot, includes adhesive installation kit
REB-DW-175-SC	1¾" double wall entry boot, includes adhesive installation kit
REB-DW-200-SC	2" double wall entry boot, includes adhesive installation kit
1137205	Spare adhesive kit (50 mL cartridge w/ nozzle)

Note: Each boot includes two test plugs for air tightness testing of the boot prior to pipe installation.



SPECIFICATIONS

Approvals / Certifications	ULc listed when installed with APT® ULc listed sumps.
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Components

- 1

Compression nut
- 2

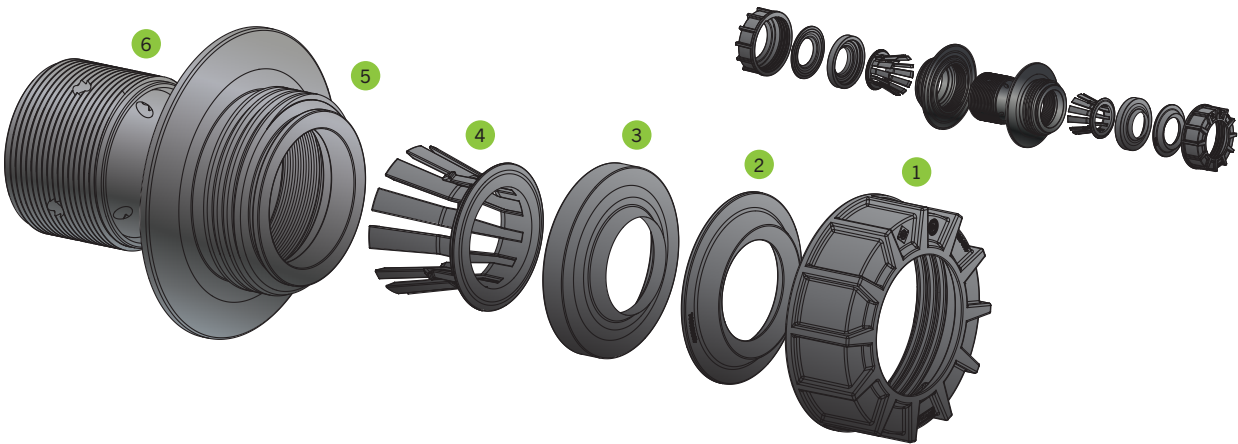
Compression insert
- 3

Pipe seal
- 4

Pipe guide
- 5

Entry boot flange
- 6

Joiner fitting w/ interstitial communication ports



PIPE &
CONTAINMENT



DUCTED DOUBLE WALL RIGID ENTRY BOOTS

ORDERING INFORMATION

Model	Description
RDEB-DW-150-SC	1½" ducted double wall entry boot, includes adhesive installation kit
RDEB-DW-175-SC	1¾" ducted double wall entry boot, includes adhesive installation kit
1137205	Spare adhesive kit (50mL cartridge w nozzle)

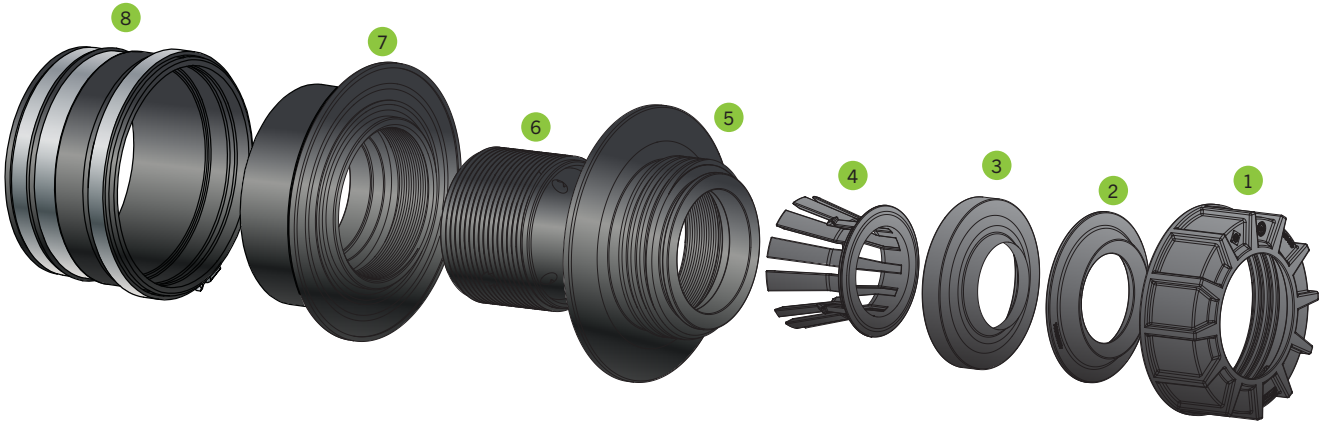


SPECIFICATIONS

Approvals / Certifications	ULc listed when installed with APT® ULc listed sumps.
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Components

- 1 Compression nut
- 2 Compression insert
- 3 Pipe seal
- 4 Pipe guide
- 5 Entry boot flange
- 6 Joiner fitting
- 7 Entry ducted boot flange
- 8 Ducting boot with clamps



ELECTRICAL CONDUIT RIGID ENTRY BOOTS

ORDERING INFORMATION

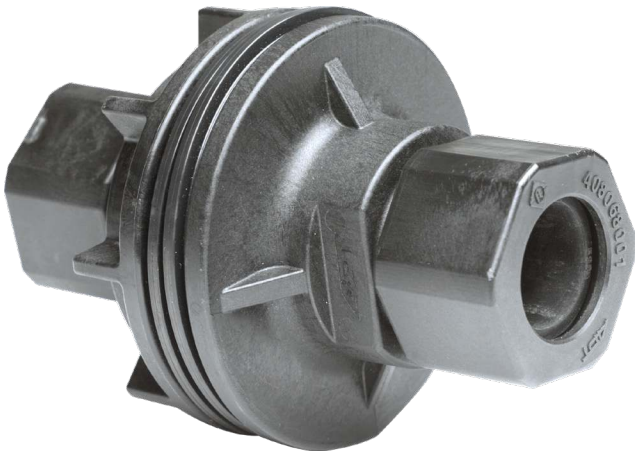
Each size of rigid entry boot utilizes the same body allowing you to switch out the conduit seal to fit different pipe sizes in the field if necessary.

Model	Description
REB-C-0075	¾" rigid entry boot for flat sump surfaces
REB-C-0100	1" rigid entry boot for flat sump surfaces
REB-C-R-0075	¾" rigid entry boot for round sump surfaces
REB-C-R-0100	1" rigid entry boot for round sump surfaces
408066001	Conduit seal ¾" (replacement)
408066002	Conduit seal 1" (replacement)
408070001	Clamping seal (flat) (replacement)
408072001	Clamping seal (round) (replacement)
408073001*	Plastic adapter for curved sump (one per rigid boot entry)

*Used to convert a flat sump surface rigid entry boot into a round sump surface rigid entry boot.

SPECIFICATIONS

Body	Glass-filled nylon
Clamp nut and nut material	Glass-filled nylon
Face seal and pipe seal material	Nitrile
Interior length once installed	3¼"
Approvals / Certifications	ULc listed when installed with APT® ULc listed sumps.

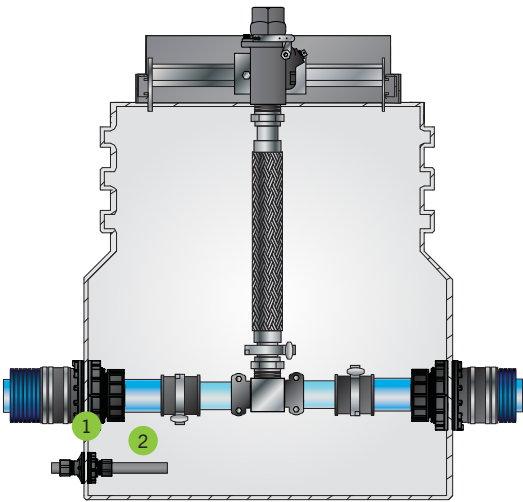


PIPING &
CONTAINMENT

Installation

A clamping nut and two clamping seals are used to compress the fitting into place against the sump wall simply by tightening it into place, providing a watertight connection between the boot and the sump surface. The same method is used to seal the pipe into place simply by tightening the integrated conduit seal nut.

- 1 Electrical conduit rigid entry boot
- 2 Electrical conduit



FLEXIBLE BULKHEAD BOOTS

ORDERING INFORMATION

Flexible Bulkhead Boots

Model	Description
FBB-075-D	Flexible bulkhead boot for P-075-D, ¾" and 1" electrical conduit
FBB-150-SC	Flexible bulkhead boot for XP-150-SC

Ducted Bulkhead Boots

Model	Description
DBB-150-SC	Ducted bulkhead boot for XP-150-SC
DBB-200-SC	Ducted bulkhead boot for XP-200-SC



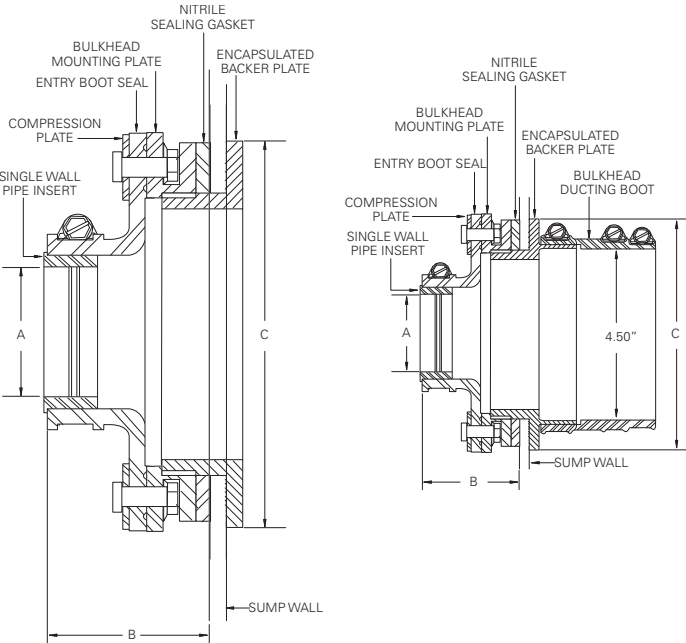
SPECIFICATIONS

Flexible Bulkhead Boots

Model	A	B	C	Mtg. Hole Size
FBB-075-D	1.05"	2.5"	4"	2.38"
FBB-150-SC	2"	2.5"	6"	4.38"

Ducted Bulkhead Boots

Model	A	B	C	Mtg. Hole Size
DBB-150-SC	2"	2.5"	6"	4.38"
DBB-200-SC	2.88"	2.5"	6"	4.38"



SPLIT TEST BOOTS

ORDERING INFORMATION

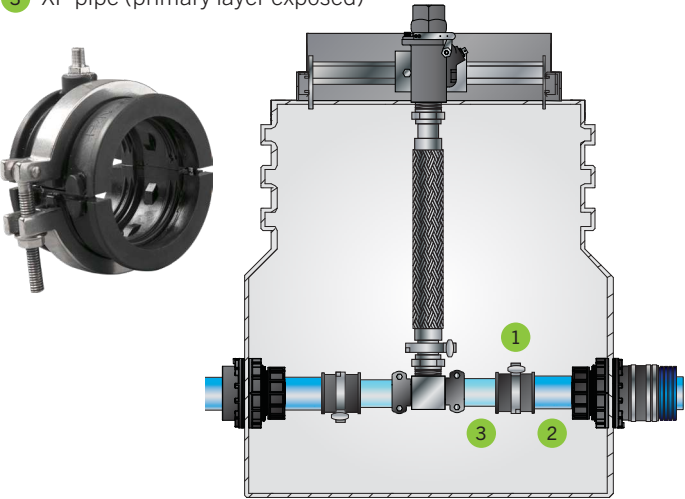
Model	Description
SPTB-150	Split test boot for XP-150-SC (1½") piping
SPTB-175	Split test boot for XP-175-SC (1¾") piping
SPTB-200	Split test boot for XP-200-SC (2") piping

SPECIFICATIONS

Body	Glass-filled nylon with Nitrile O-rings
Clamp and valve material	Stainless steel
Pressure rating	5-8 psi
Temperature rating	-4° F to 100° F

Installation

- 1 Split test boot
- 2 XP pipe (secondary layer)
- 3 XP pipe (primary layer exposed)



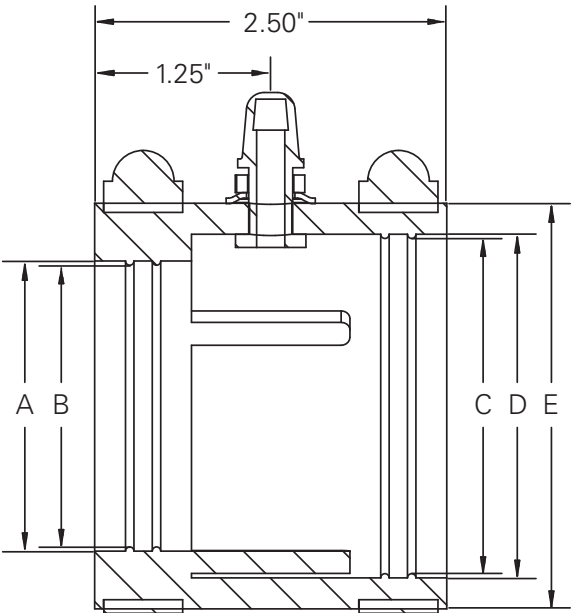
CLAMSHELL SECONDARY TEST BOOTS

ORDERING INFORMATION

Model	Description
STB-150	Secondary test boot for XP-150-SC pipe
STB-175	Secondary test boot for XP-175-SC pipe
STB-200	Secondary test boot for XP-200-SC pipe

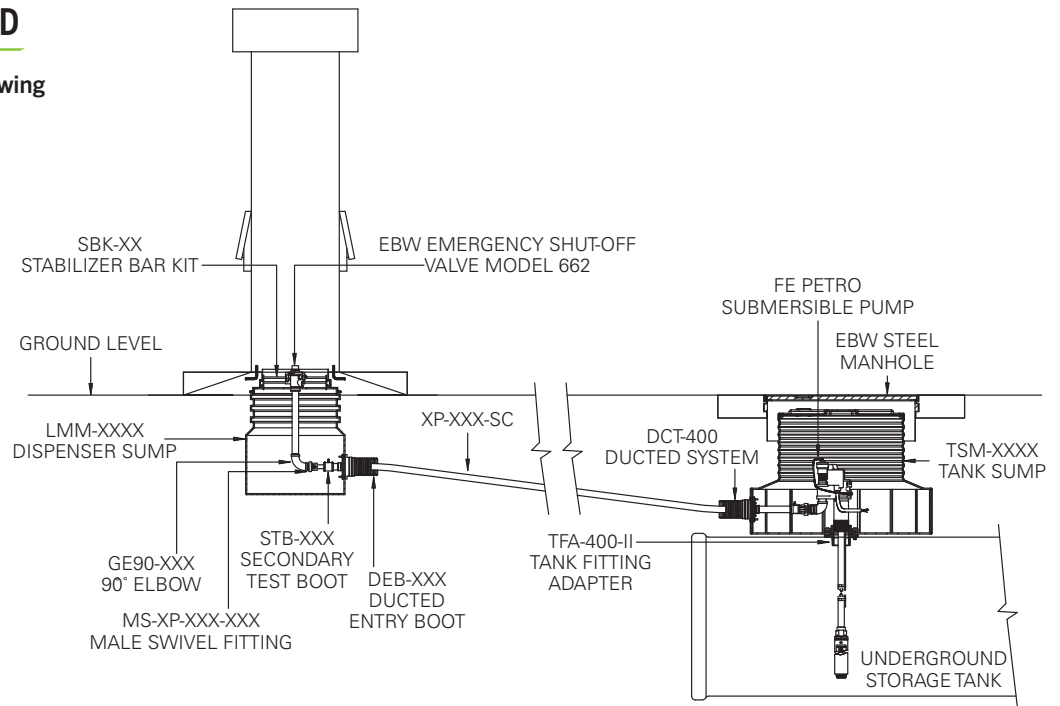
SPECIFICATIONS

Model	A	B	C	D	E
STB-150	1.81"	1.75"	2"	2.06"	2.5"
STB-175	2.06"	2"	2.38"	2.44"	2.88"
STB-200	2.56"	2.5"	2.88"	2.94"	3.38"



SPECIFICATIONS CONTINUED

Below Grade Typical Application Drawing



APT® Rigid Pipe-Boot Reference Chart

Thin Wall Electrical Conduit	OD	APT® Entry Boot
1/2"	--	FEB-050-D
3/4"	--	FEB-050-SC
1"	--	FEB-075-SC
Galvanized Electrical Conduit	OD	APT® Entry Boot
1/2"	--	FEB-050-D
3/4"	--	FEB-050-SC
1"	--	FEB-075-SC
Galvanized Pipe	OD	APT® Entry Boot
1/2"	--	FEB-050-D
3/4"	--	FEB-050-SC
1"	--	FEB-075-SC
1 1/2"	--	FEB-150-SC
2"	--	FEB-175-SC
Fiberglass Piping (Single Wall)	OD	APT® Entry Boot
2"	--	FEB-175-SC
3"	3.5"	FEB-300-R
4"	--	FEB-400-R
Schedule 40/80 Pipe, Same OD	OD	APT® Entry Boot
1/2"	--	FEB-050-D
3/4"	--	FEB-050-SC
1"	--	FEB-075-SC
1 1/4"	1.32"	FEB-100-SC
1 1/2"	1.70"	FEB-150-SC
2"	--	FEB-175-SC
2 1/2"	--	FEB-200-SC
3"	--	FEB-300-R
4"	--	FEB-400-R



GRADE LEVEL TRANSITION SLEEVE

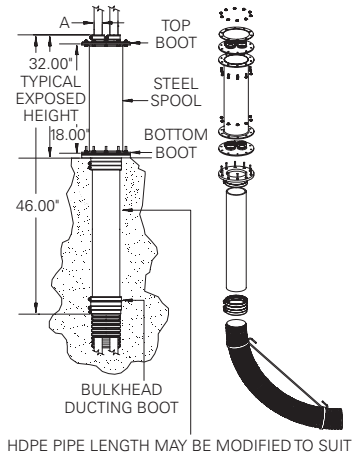
ORDERING INFORMATION

Model	Description
TSL-005	Transition sleeve (top and bottom boot required, sold separately)

SPECIFICATIONS

TSL-005 Includes

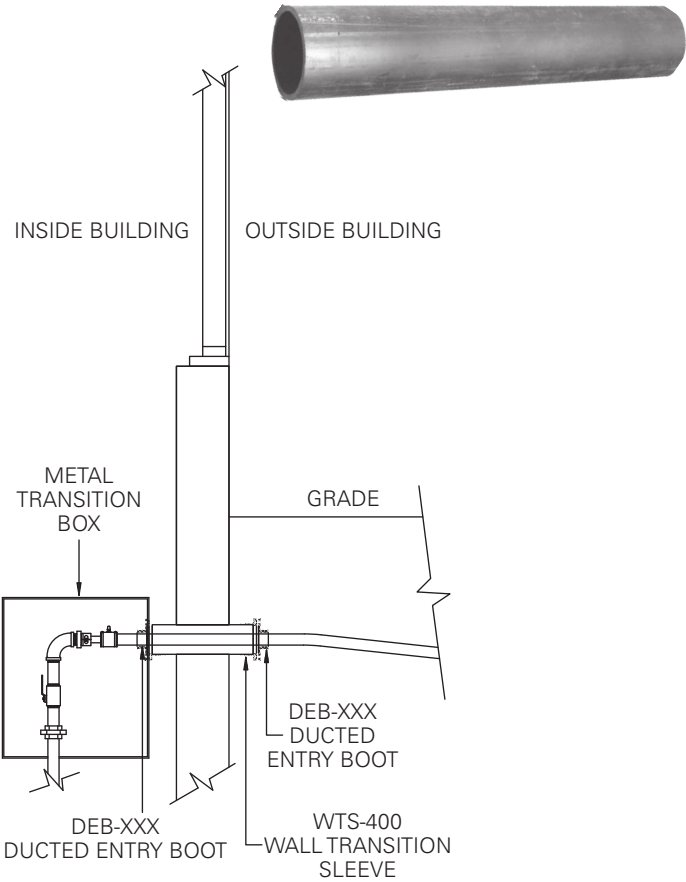
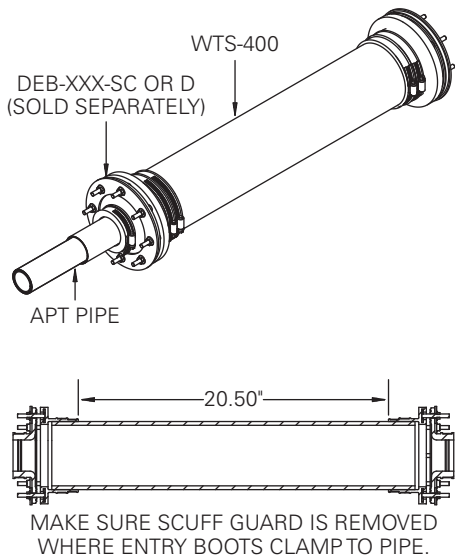
Transition sleeve spool	5" ID
HDPE pipe	18" length, 4" ID
Blue corrugated ducting	48" length
Formed steel rod	¼"
Features	<ul style="list-style-type: none"> — Bulkhead ducting boot — Hose clamps — Installation instructions



WALL TRANSITION SLEEVE

ORDERING INFORMATION

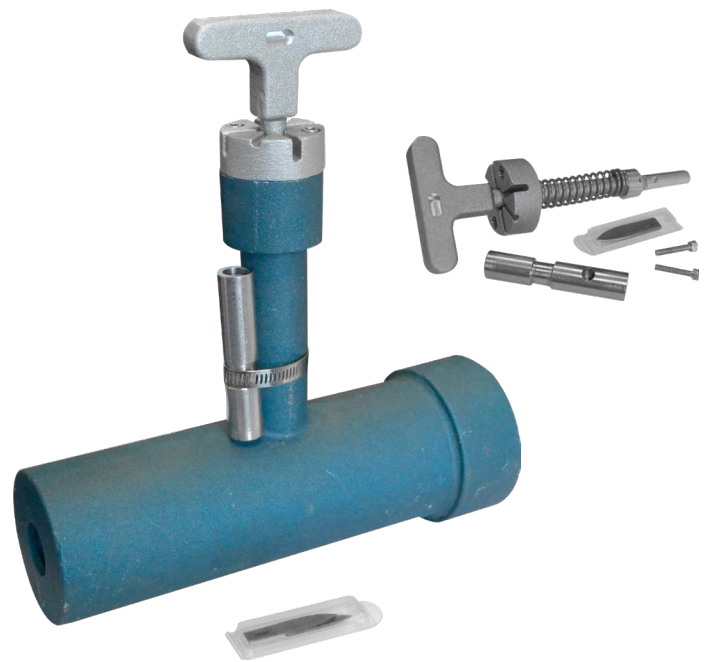
Model	Description
WTS-400	Wall transition sleeve (ducted entry boot required, sold separately)



APT® XP PIPE & CONTAINMENT TOOLS

ORDERING INFORMATION

Model	Description
DWC-XP-150	1½" double wall cutting tool with (5) blades
DWC-XP-175	1¾" double wall cutting tool with (5) blades
DWC-XP-200	2" double wall cutting tool with (5) blades
DWC-XP-TOOL	Replacement handle with (5) replacement blades, blade set tool, and handle screws
88530002	Single replacement blades
BPT-200	Bypass tube, 30" length
BPT-201	Bypass Tube, 5' length
BOS-103	Bostik 1100, 10.3 ounce tube (white)
DBT-100	Deburring tool
SDT-010	Steel drill template for 4, 8, and 10 stud entry boots
TRK-200	Air test regulator for secondary contained piping
STK-1	Single line secondary test system
STK-2	Dual line secondary test system
SWK-150	Swage tool kit, 1½"
SWK-175	Swage tool kit, 1¾"
SWK-200	Swage tool kit, 2"
26003608	TSM-4736 Sump Lid Replacement

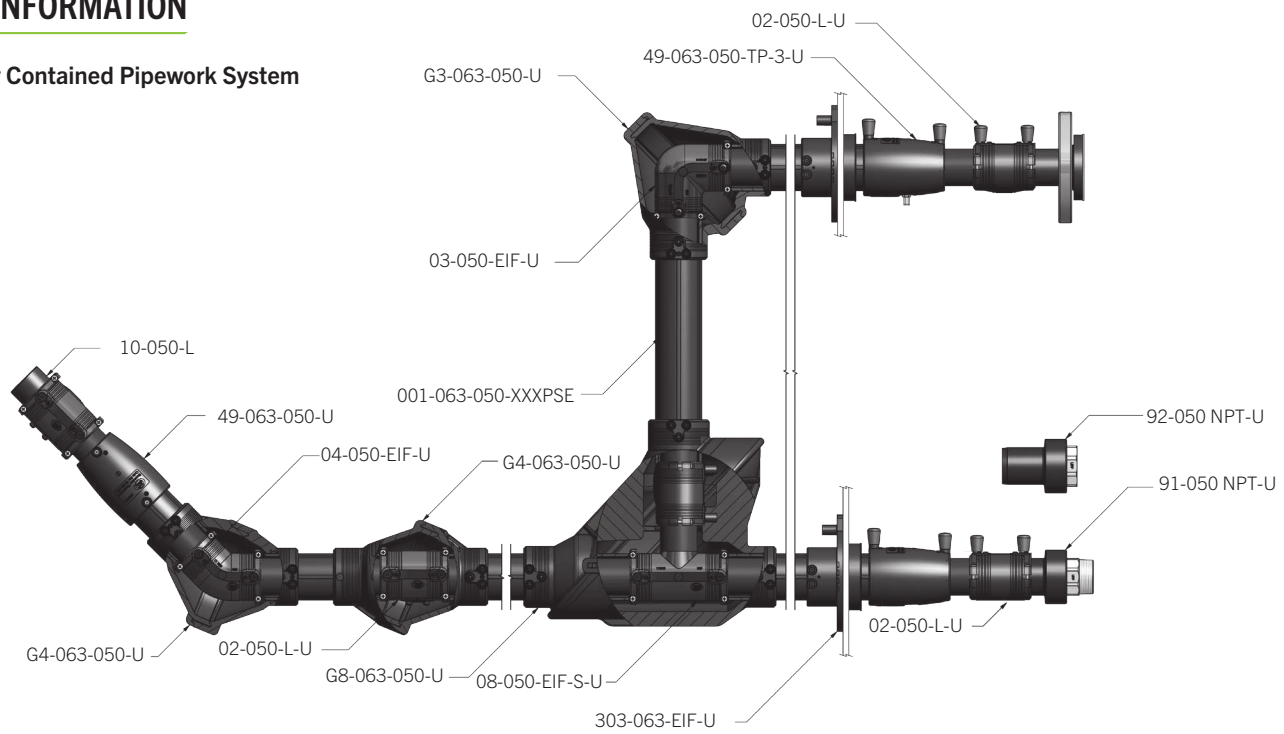




UPP® SEMI-RIGID PIPEWORK SYSTEM

ORDERING INFORMATION

1½" Secondary Contained Pipework System



PIPING &
CONTAINMENT

Model	Description	Unit
001-063-050-028PSE	1½" double wall pipe	28' stick
001-063-050-033PSE	1½" double wall pipe	33' stick
001-063-050-165PSE	1½" double wall pipe	165' coil



Model	Description
02-050-L-U	1½" primary welding coupler



Model	Description
03-050-EIF-U	1½" primary electrofusion 90° elbow fitting



Model	Description
04-050-EIF-U	1½" primary electrofusion 45° elbow fitting



Model	Description
04-050-L	1½" primary plain 45° elbow fitting



ORDERING INFORMATION CONTINUED

Model	Description
08-050-EIF-U	1½" single wall electrofusion tee fitting

Model	Description
08-050-L	1½" primary plain tee fitting

Model	Description
09-063-050-L	2" × 1½" primary plain reducer fitting

Model	Description
10-050-L	1½" primary plug

Model	Description
02-63SC-U	1½" secondary welding coupler

Model	Description
49-063-050-U	1½" secondary electrofusion reducer fitting
49-063-050-TP-3-U	1½" secondary electrofusion reducer fitting with press fit test port

Model	Description
49-110-063SC-U	4" × 1½" secondary electrofusion reducer fitting

Model	Description
91-050 SS NPT-U	Stainless steel 1½" (pipe) × 1½" NPT male threaded termination fitting
91-050 NPT-U	1½" (pipe) × 1½" NPT male threaded termination fitting

Model	Description
92-050 NPT-U	1½" (pipe) × 1½" NPT female threaded termination fitting

Model	Description
92-050 UF NPT-U	1½" (pipe) × 1½" NPT union adapter termination fitting
11.5G	1½" gasket

Model	Description
HEX 2	2" NPT X 1½" NPT Hex adapter



ORDERING INFORMATION CONTINUED

Model	Description
303-063-EIF-U	1½" double wall / 2" single wall electrofusion entry boot
304-110-063-TP-3*	1½" double wall ducted entry boot with ducting press fit test port

*For use with UPP® 4" ducting.

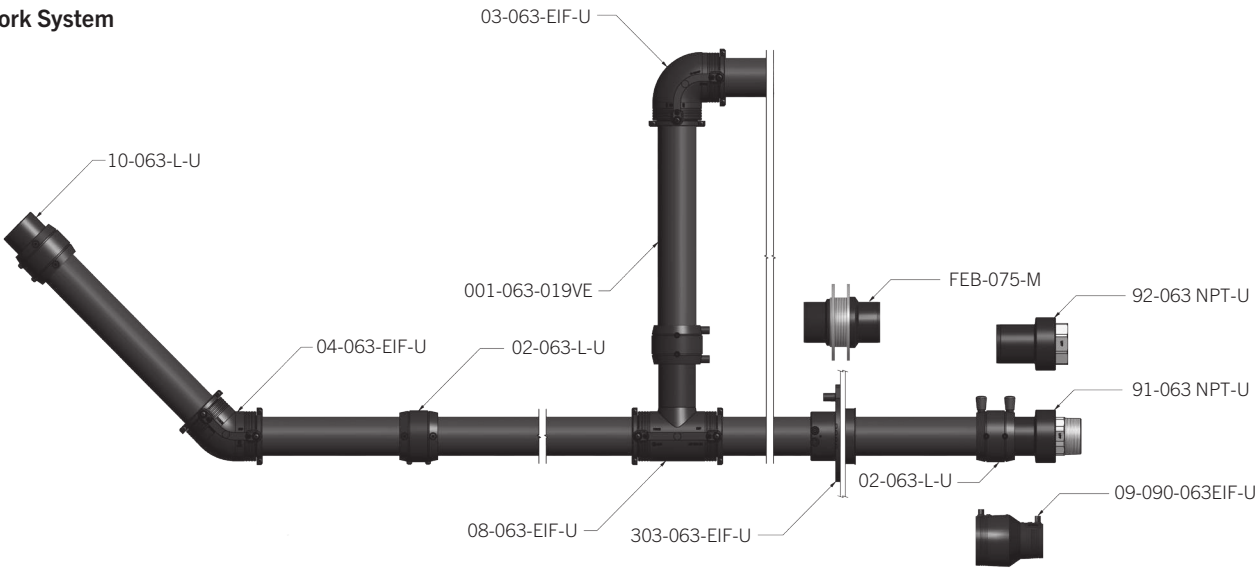
Model	Description
G3-063-050-U	SC 1½" Gemini 90° Elbow

Model	Description
G4-063-050-U	SC 1½" Gemini 45° Elbow OR SC 1½" Gemini Inline Joint

Model	Description
G8-063-050-U	SC 1½" Gemini Tee



2" Primary Pipework System



Model	Description	Unit
001-063-019VE	2" single wall pipe	19' stick



Model	Description
02-63-U	2" primary welding coupler



Model	Description
02-063-L-U	2" primary welding coupler, long



Model	Description
03-063-EIF-U	2" primary electrofusion 90° elbow fitting



ORDERING INFORMATION CONTINUED

Model	Description
03-063-L	2" primary plain 90° elbow fitting



Model	Description
04-063-EIF-U	2" primary electrofusion 45° elbow fitting



Model	Description
08-063-EIF-U	2" single wall electrofusion tee fitting



Model	Description
08-063-L	2" primary plain tee fitting



Model	Description
08-063-L	2" primary plain tee fitting



Model	Description
09-090-063-L-U	3" × 2" primary plain reducer fitting



Model	Description
09-110-063-L-U	4" × 2" primary plain reducer fitting



Model	Description
10-063-L-U	2" primary plug



Model	Description
91-063 SS NPT-U	Stainless steel 2" (pipe) × 2" NPT male threaded termination fitting
91-063-1 NPT-U	2" (pipe) × 1½" NPT male threaded termination fitting
91-063 NPT-U	2" (pipe) × 2" NPT male threaded termination fitting



Model	Description
92-063-1 NPT-U	2" (pipe) × 1½" NPT female threaded termination fitting
92-063 NPT-U	2" (pipe) × 2" NPT female threaded termination fitting



ORDERING INFORMATION CONTINUED

Model	Description
90-063 QL-U	2" (pipe) × 2" quick release termination fitting

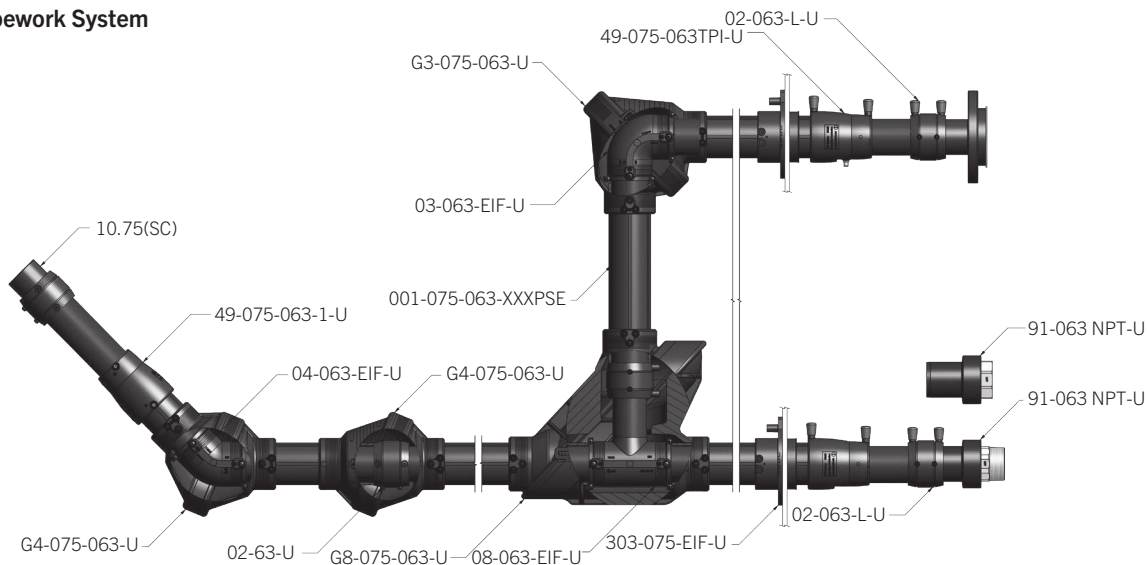
Model	Description
92-063 UF NPT-U	2" (pipe) × 2" NPT union adapter termination fitting
11.63G	2" gasket

Model	Description
303-063-EIF-U	1½" double wall / 2" single wall electrofusion entry boot

Model	Description
FEB-075-M	2" (pipe) fiberglass entry boot



2" Secondary Contained Pipework System



Model	Description	Unit
001-075-063-028PSE	2" double wall pipe	28' stick
001-075-063-033PSE	2" double wall pipe	33' stick
001-075-063-038PSE	2" double wall pipe	38' stick
001-075-063-100PSE	2" double wall pipe	100' coil
001-075-063-165PSE	2" double wall pipe	165' coil



Model	Description
02-63-U	2" primary welding coupler



Model	Description
02-063-L-U	2" primary welding coupler, long



ORDERING INFORMATION CONTINUED

Model	Description
02-75SC-U	2" secondary welding coupler

Model	Description
03-063-EIF-U	2" primary electrofusion 90° elbow fitting

Model	Description
04-063-EIF-U	2" primary electrofusion 45° elbow fitting

Model	Description
08-063-EIF-U	2" single wall electrofusion tee fitting

Model	Description
49-075-063-1-U	2" secondary electrofusion reducer fitting
49-075-063-TP-3-U	2" secondary electrofusion reducer fitting with press fit test port

Model	Description
49-110-75SC-U	4" × 2" secondary electrofusion reducer fitting

Model	Description
09-110-75SC-U	4" × 2" secondary plain reducer fitting

Model	Description
91-063 SS NPT-U	Stainless steel 2" (pipe) × 2" NPT male threaded termination fitting
91-063-1 NPT-U	2" (pipe) × 1½" NPT male threaded termination fitting
91-063 NPT-U	2" (pipe) × 2" NPT male threaded termination fitting

Model	Description
92-063-1 NPT-U	2" (pipe) × 1½" NPT female threaded termination fitting
92-063 NPT-U	2" (pipe) × 2" NPT female threaded termination fitting

Model	Description
90-063 QL-U	2" (pipe) × 2" quick release termination fitting
90-063 QL SS-U	2" (pipe) × 2" quick release termination fitting, stainless steel



ORDERING INFORMATION CONTINUED

Model	Description
92-063 UF NPT-U	2" (pipe) × 2" NPT union adapter termination fitting
11.63G	2" gasket

Model	Description
303-075-EIF-U	2" double wall electrofusion entry boot
304-110-075-TP-3*	2" double wall ducted entry boot with ducting press fit test port

*For use with UPP® 4" ducting.

Model	Description
FEB-075-M	2" (pipe) fiberglass entry boot
10000008766	2" wedge x ¾" slope

Model	Description
G3-075-063-U	SC 2" Gemini 90° Elbow

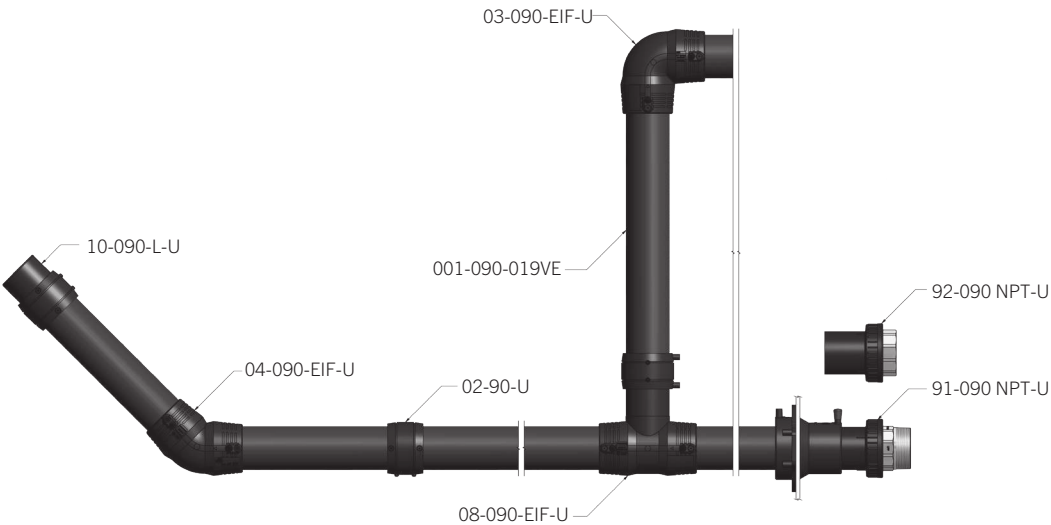
Model	Description
G4-075-063-U	SC 2" Gemini 45° Elbow OR SC 2" Gemini Inline Elbow

Model	Description
G8-075-063-U	SC 2" Gemini Tee



PIPING &
CONTAINMENT

3" Primary Pipework System



Model	Description	Unit
001-090-019VE	3" single wall vent pipe	19' stick



ORDERING INFORMATION CONTINUED

Model	Description
02-90-U	3" primary welding coupler



Model	Description
03-090-EIF-U	3" primary electrofusion 90° elbow fitting



Model	Description
04-090-EIF-U	3" primary electrofusion 45° elbow fitting



Model	Description
08-090-EIF-U	3" single wall electrofusion tee fitting



Model	Description
08-090-L-U	3" primary plain tee fitting



Model	Description
09-110-090EIF-U	4" × 3" primary electrofusion reducer fitting



Model	Description
10-090-L-U	3" primary plug



Model	Description
91-090 SS NPT-U	Stainless steel 3" (pipe) × 3" NPT male threaded termination fitting

Model	Description
91-090 NPT-U	3" (pipe) × 3" NPT male threaded termination fitting



Model	Description
92-090 NPT-U	3" (pipe) × 3" NPT female threaded termination fitting



Model	Description
90-090 QL-U	3" (pipe) × 3" quick release termination fitting



Model	Description
304-110-090-U	3" electrofusion entry boot, reducing 110/90

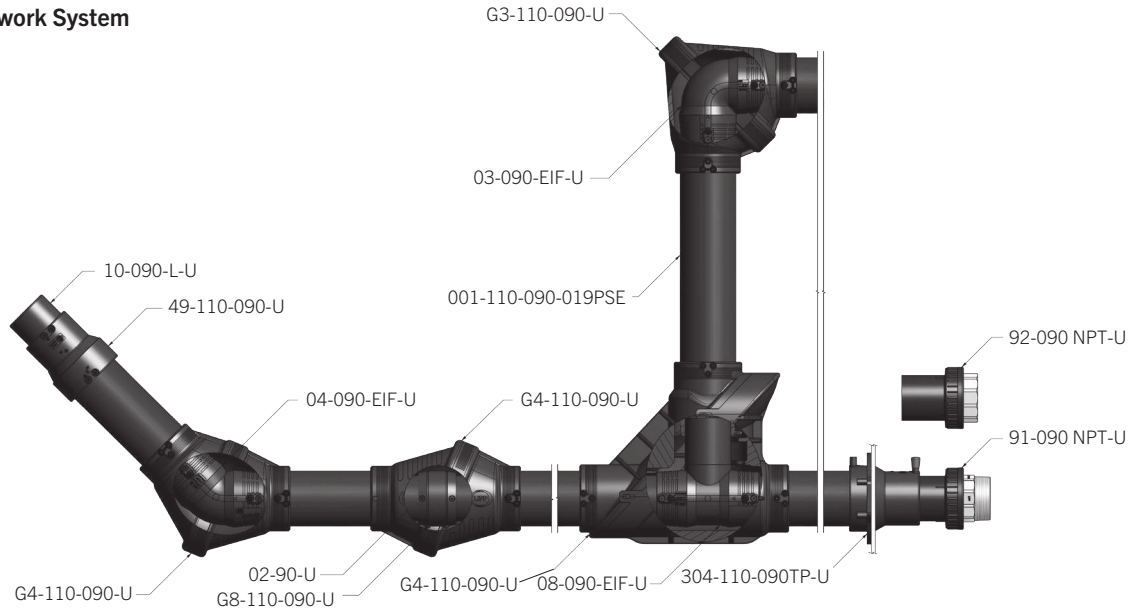


Model	Description
FEB-110-M	3" electrofusion fiberglass entry boot for use with 3" pipework systems
10000008765	3" wedge x 1/4" slope
10000008767	3" wedge x 3/8" slope



ORDERING INFORMATION CONTINUED

3" Secondary Contained Pipework System



Model	Description	Unit
001-110-090-019PSE	3" double wall pipe	19' stick

Model	Description
02-90-U	3" primary welding coupler

Model	Description
02-110SC-U	3" secondary welding coupler

Model	Description
03-090-EIF-U	3" primary electrofusion 90° elbow fitting

Model	Description
04-090-EIF-U	3" primary electrofusion 45° elbow fitting

Model	Description
08-090-EIF-U	3" single wall electrofusion tee fitting

Model	Description
49-110-090-U	4" × 3" secondary electrofusion reducer fitting
49-110-090TP-U	4" × 3" secondary electrofusion reducer fitting with test port



ORDERING INFORMATION CONTINUED

Model	Description
91-090 NPT-U	3" (pipe) × 3" NPT male threaded termination fitting

Model	Description
92-090 NPT-U	3" (pipe) × 3" NPT female threaded termination fitting

Model	Description
10-090-L-U	3" primary plug

Model	Description
304-110-090-U	3" double wall electrofusion entry boot with integrated termination fitting
304-110-090-TP-3-U	3" electrofusion entry seal reducer boot 110/90, with press fit test port

Model	Description
FEB-110-M	3" electrofusion fiberglass entry boot for use with 3" secondary contained pipework systems

Model	Description
G3-110-090-U	SC 3" Gemini 90° Elbow

Model	Description
G4-110-090-U	SC 3" Gemini 45° Elbow OR SC 3" Gemini Inline Joint

Model	Description
G8-110-090-U	SC 3" Gemini Tee



4" Secondary Contained Pipework System



PIPING & CONTAINMENT

ORDERING INFORMATION CONTINUED

Model	Description
08-110M-U	4" tee
08-200SC-U	8" tee

Model	Description
49-125-110-U	5" x 4" secondary electrofusion reducer fitting
49-125-110-TP-3-U	5" x 4" secondary electrofusion reducer fitting with press fit test port

Model	Description
09.160.110(SC)	6" x 4" secondary plain reducer fitting
09-200-125SCM-U	8" x 4" secondary plain reduce fitting

Model	Description
RM-02-200-11-U	8" Coupling

Model	Description
91-110 NPT-U	4" (pipe) x 4" NPT male threaded termination fitting

Model	Description
92-110 NPT-U	4" (pipe) x 4" NPT female threaded termination fitting

Model	Description
305-125-110-U	4" double wall electrofusion entry boot with integrated termination fitting
305-125-110-TP-3-U	4" double wall electrofusion entry boot with integrated termination fitting and press fit test port

Model	Description
FEB-125-MM	4" electrofusion fiberglass entry boot for use with 4" pipework systems
10000015399	4" Wedge x 1/4" slope

Model	Description
G3-125-110-U	SC 4" Gemini 90° Elbow

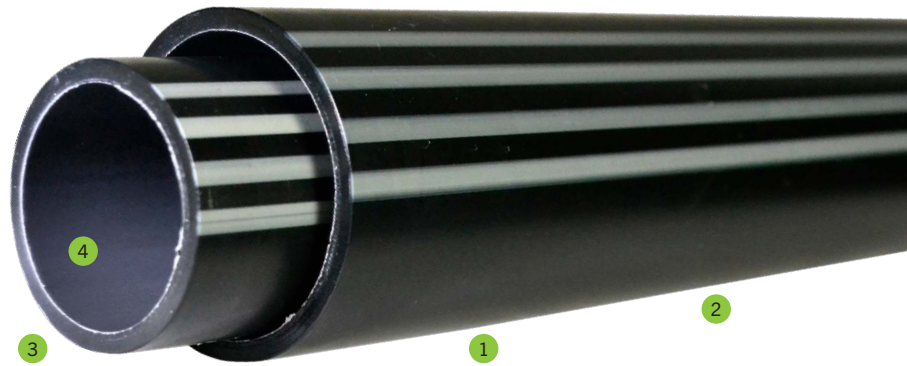
Model	Description
G4-125-110-U	SC 4" Gemini 45° Elbow OR SC 4" Gemini Inline Joint



SPECIFICATIONS

Components

- 1 UV Resistant PE100 HDPE Primary Pipe
- 2 UV Resistant PE100 HDPE Secondary Pipe
- 3 Tie Layer (Bonding Layer)
- 4 EVOH Barrier Layer (Fuel Contact Layer)



Pipe Outer Layer	PE100
Pipe Liner Layer	Ethylene vinyl alcohol (EVOH) resin liner
Pipe Intermediate Layer	Tie-layer permanently bonds HDPE outer layer to EVOH resin liner layer
Temperature Rating	-22° F to 122° F
Primary Pipe Pressure Rating	90 psi
Secondary Pipe Pressure Rating	58 psi
1½" and 2" Double Wall Pipe Bend Radius	3'3"
3" and 4" Double Wall Pipe Bend Radius	13'2"
2" Single Wall Vent/Vapor Pipe Bend Radius	3'3"
Approvals / Certifications	UL971 listed
Fuel Compatibility	<p>UL971 listed for fuels including:</p> <ul style="list-style-type: none"> – Motor vehicle fuels typically found in consumer dispensing facilities like gasoline or diesel including blended fuels with maximum 15% MTBE, 15% Methanol or 30% Ethanol – Concentrated fuels such as alternate unblended fuels containing up to 100% concentrations of Toluene, Methanol or Ethanol – High blend fuels with higher than normal gasoline blends with maximum 50% Methanol or 50% Ethanol – Aviation and marine specialty fuels containing up to 100% kerosene or leaded gasoline – Michigan, Wisconsin, and Florida EQ-816. leaded gasoline
Biodiesel Compatibility	<ul style="list-style-type: none"> – Biodiesel up to 5% (B5) – Biodiesel up to 20% (B20) – Biodiesel at 97% - 100% (B99 / B100) – All ASTM defined biofuel blends – High-blend Ethanol, with ethanol/gasoline blends between 51% - 83% (E51 - E83) - commercially known as "E-85"

Pipework Dimensions

Model	Description	Nominal Primary Pipe		Nominal Secondary Pipe	
		ID	OD	ID	OD
001-063-050-XXXPSE	1½" double wall pipe	1.67"	1.97"	2.18"	2.48"
001-075-063-XXXPSE	2" double wall pipe	2.12"	2.48"	2.59"	2.95"
001-110-090-019PSE	3" double wall pipe	3.02"	3.54"	3.82"	4.33"
001-125-110-019PSE	4" double wall pipe	3.69"	4.33"	4.34"	4.92"
001-063-019VE	2" single wall pipe	2.12"	2.48"	--	--
001-090-019VE	3" single wall pipe	3.02"	3.54"	--	--

Note: For "XXX" enter pipe lengths from available unit options found in the following pages.

ELECTROFUSION FIBERGLASS ENTRY BOOT

ORDER INFORMATION

Electrofusion Fiberglass Entry Boots



Model	Description
FEB-075-M	2" Electrofusion Fiberglass Entry Boot, for use with 2" pipework
FEB-110-M	3" Electrofusion Fiberglass Entry Boot, for use with 3" pipework
FEB-125-MM	4" Electrofusion Fiberglass Entry Boot, for use with 4" pipework
1137205	(2) FEB-75-M, (3) FEB-110-M, (4) FEB-125-MM



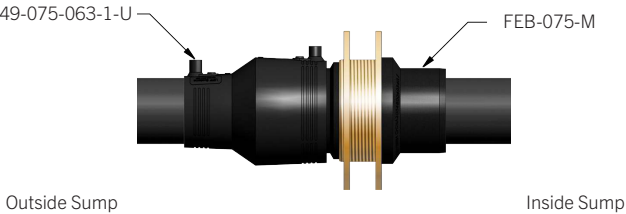
Note: Order (1) Adhesive Kit per boot.

Pipe Slope Wedges

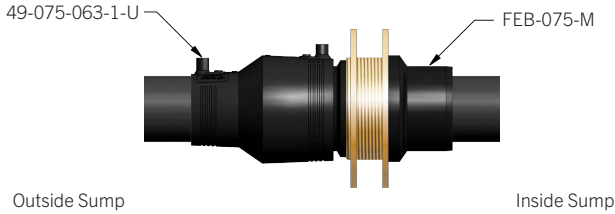


Model	Description
10000008764	1/4" Pipe Slope Wedge (2), for use with 2" Electrofusion Fiberglass Entry Boots
10000008765	3/8" Pipe Slope Wedge (2), for use with 2" Electrofusion Fiberglass Entry Boots
10000008766	1/4" Pipe Slope Wedge (2), for use with 3" Electrofusion Fiberglass Entry Boots
10000008767	3/8" Pipe Slope Wedge (2), for use with 3" Electrofusion Fiberglass Entry Boots

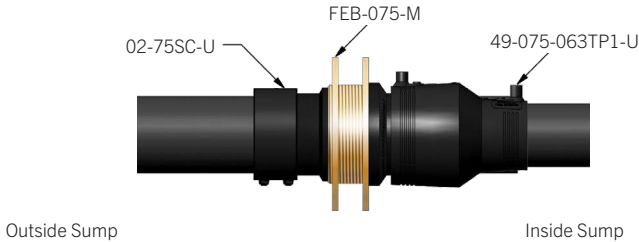
1½" Secondary Contained Fiberglass Sump Entry Fittings



2" Primary Fiberglass Sump Entry Fittings



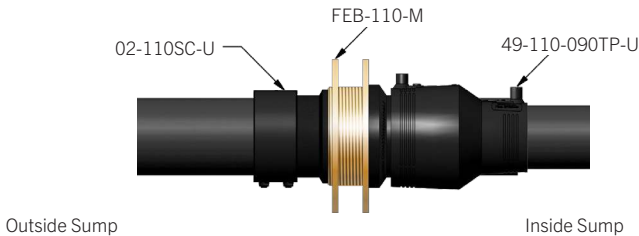
2" Secondary Contained Fiberglass Sump Entry Fittings



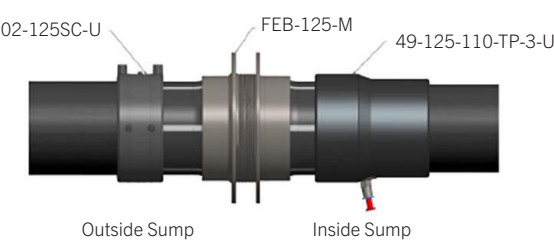
3" Primary Fiberglass Sump Entry Fittings



3" Secondary Contained Fiberglass Sump Entry Fittings



4" Double Wall Fiberglass Sump Entry Fittings



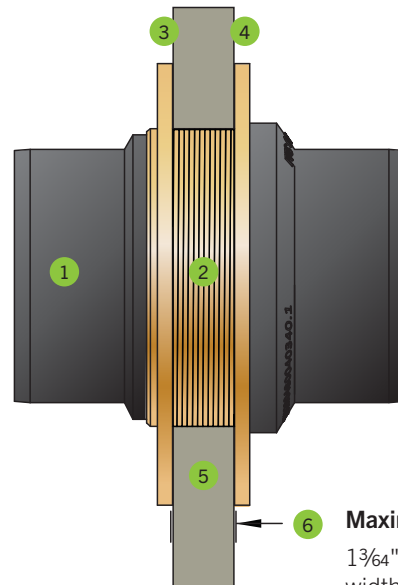
SPECIFICATIONS

Installation

The boot's flanges are bonded to the fiberglass sump wall with the adhesive kit (sold separately), creating a solid connection between the boot and sump wall. The flanges are then covered with adhesive. Once properly installed, the boot is fully vacuum and pressure testable.

Components

- ① Polyethylene sleeve
- ② Threads
- ③ Compression disk (threading)
- ④ Compression disk (fixed)
- ⑤ Fiberglass sump wall
- ⑥ Maximum thread width

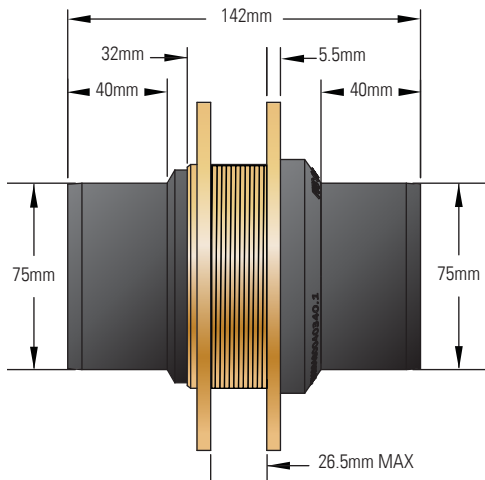


Maximum Thread Width

1 $\frac{3}{64}$ " (26.5 mm) is the maximum width of the fiberglass sump wall the entry boot can accommodate.

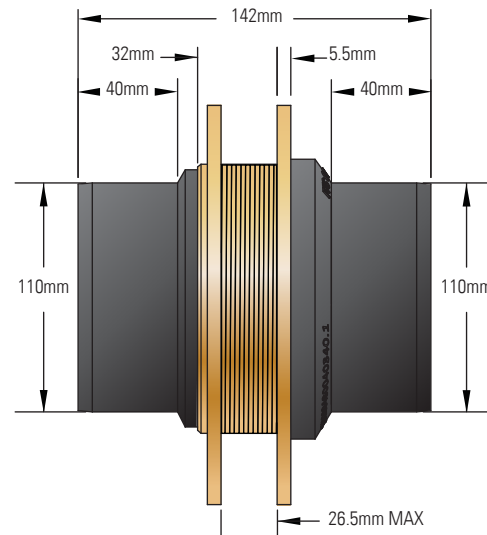
2" Electrofusion Fiberglass Entry Boot

For use with 2" UPP® pipework.



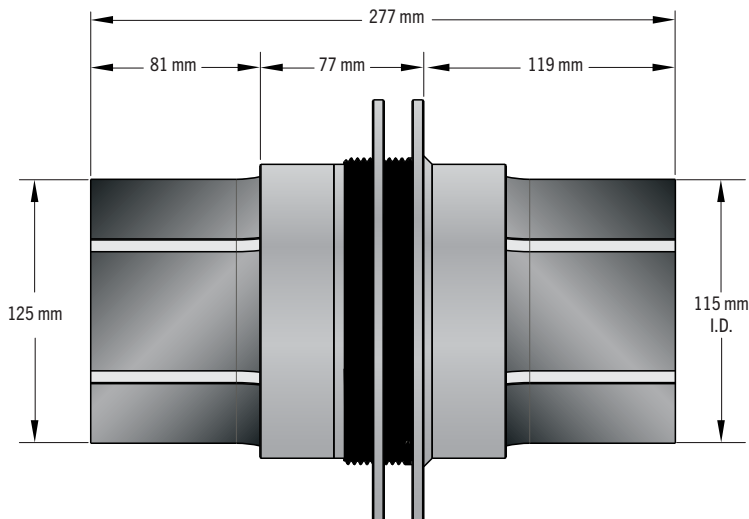
3" Electrofusion Fiberglass Entry Boot

For use with 3" UPP® pipework.



4" Electrofusion Fiberglass Entry Boot

For use with 4" UPP® pipework.



UPP® INSTALLATION TOOLS

230V EF1 Handheld Electrofusion Welder

Model	Description
EF1-230V	230 V EF1 handheld electrofusion welder
EF1-PC 4 MM	Spare single wall (primary) welding cable (orange)
EF1-SC 2 MM	Spare double wall (secondary) welding cable (green)
EF1-BC 4 MM*	Spare jumper welding cable (red)
EF1-PC 2 MM-10	10 amp weld lead

*Used to weld a series of single wall (primary) fittings.



110V EF1 Electrofusion Welder

Model	Description
EF1-110V-A	110 V EF1 electrofusion welder, Nema 5-15 Wall Plug
EF1-110V-10-A	100 V EF1 electrofusion welder, 10 amp
EF1-PC 4 MM	Spare single wall (primary) welding cable (orange)
EF1-SC 2 MM	Spare double wall (secondary) welding cable (green)
EF1-BC 4 MM*	Spare jumper welding cable (red)
EF1-PC 2 MM-10	10 amp weld lead

*Used to weld a series of single wall (primary) fittings.



Pipe Cutter

Model	Description
P.CUT	1½" to 5" pipe cutter - medium
P.CUT MED	4" to 6" pipe cutter - large
CW1	Cutting wheel



Adjustable Rotary Scraper

Model	Description
SCR-025-125	1" to 5" pipe adjustable rotary scraper
SCR-090-225	3" to 9" pipe adjustable rotary scraper
SCR-BLADE-025-225	Spare blades for adjustable rotary scraper
RS-63	63 mm (2" primary or 1.5" secondary) pipe scraper tool
RS-75	75 mm (2" primary) pipe scraper tool
RS-BLADE-40-315	Spare blade for pipe scraper tool



Handheld Scraper

Model	Description
SCR.HAR	Handheld scraper
SCR.HAR(B)	Spare blades for handheld scraper



Wooden Mallet

Model	Description
MAL1	Wooden mallet



Pipe Clamps

Model	Description
CLAMP (S)	Straight clamp for straight joints (1" to 4" pipe)
CLAMP (A)	Angled clamp for straight and elbow joints (1" to 4" pipe)



UPP® INSTALLATION TOOLS CONTINUED

Model	Description
LDT1500-1	UPP test tube 50' LDT
LDT100-1	UPP test tube 39"

Turbo Rotary Scrapers

Model	Description
ROTOSCRAPER32MM	Turbo Rotary Scraper for 32 mm UPP Pipe
ROTOSCRAPER50MM	Turbo Rotary Scraper for 50 mm Primary UPP Pipe
ROTOSCRAPER63MM	Turbo Rotary Scraper for 63 mm Primary UPP Pipe

Pipe Clamps

Model	Description
CLAMP (S)	Straight clamp for straight joints (1" to 4" pipe)
CLAMP (A)	Angled clamp for straight and elbow joints (1" to 4" pipe)

Electrofusion Entry Boot Clamps

Model	Description
302-CLAMP	Clamp for 302 electrofusion entry boot (orange)
303-CLAMP-1	Clamp for 303 electrofusion entry boot (black)
304-CLAMP	Clamp for 304-110-090 electrofusion entry booth (yellow)

Hole Saws

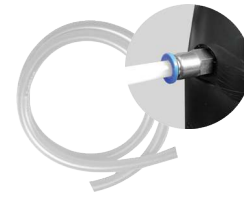
Model	Description
MAN1	Mandrel (fits all hole saws)
HS3	4" hole saw for 303-063 and 303-075 electrofusion entry boots
HS3-58	35/8" (92 mm) hole saw for FEB-075-M fiberglass entry boot
HS5	5½" hole saw for FEB-D-110-1 fiberglass entry boots
HS6	55/16" hole saw for 305 electrofusion entry boots
F.Driver	Driver tool

Ancillary Items

Model	Description
LDT60-1	Leak Detection (Nylon) Tube Kit (60 cm)

90 Series Wrenches

Model	Description
91-050-TOOL	PLT Spanner 50A/F 91-050
92-050-TOOL	PLT Spanner 55A/F 92-050
91-063-TOOL	PLT Spanner 62A/F 91-063
92-063-TOOL	PLT Spanner 67A/F 92-063



UPP® INSTALLATION TOOLS CONTINUED

Towing Head for Pipe Retrofit Installations

Model	Description
TH50-SDR8	1½" single wall pipe towing head
TH63SC-SDR8	1½" double wall pipe towing head
TH75SC	2" double wall pipe towing head



Fiberglass Entry Boot Tool and Accessories

Model	Description
1137205	E20 adhesive for FEB entry seal range
EMERY	Emery cloth for fiberglass entry booth sump surface preparation (sold in 1' lengths)
FIBERGLASS-KIT	Kit includes mat, resin, putty, catalyst, roller, gloves, stir sticks, squeegee, mixing containers, paint brush



*Two tools required for tightening.

Consumables Kit

Model	Description
408005901	UPP® consumables include: (1) pound of lint-free rags, (2) markers, (2) one quart spray bottles, (1) box of Nitrile gloves, (2) silver markers, (1) sheet emery cloth, (2) paint scrapers



Set Up Transformer

Model	Description
408032001	Step up transformer



UPP® Essentials Tool Kit

Model	Description
408033901	UPP® essentials tool kit includes: (1) angled clamp, (1) straight clamp, (4) 303 entry boot clamps, (1) consumables kit, (1) pipe cutter, (1) rotary scraper, (1) EF1-230 V handheld welder, (1) step up transformer



LOW PROFILE DISPENSER SUMPS

ORDERING INFORMATION

Low Profile Single Wall Fiberglass Dispenser Sump

Model	Description	Stabilizer Bar Kit
602375004	Single wall fiberglass sump for Gilbarco® Encore™ dispenser models	SBK-3-1-U
602377904	Single wall fiberglass sump with banded DEF polyethylene sump 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 with banded DEF polyethylene sump for Wayne® Ovation® High Speed + DEF dispenser models	SBK-25-1-U

Notes: One stabilizer bar kit per shear valve is required.
-U indicates UL compliance.



SPECIFICATIONS

- 1

Smooth sump exterior
- 2

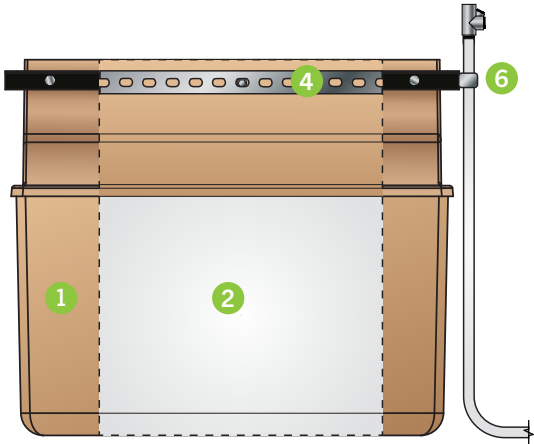
White gel coat interior
- 3

Conduitless top frame
- 4

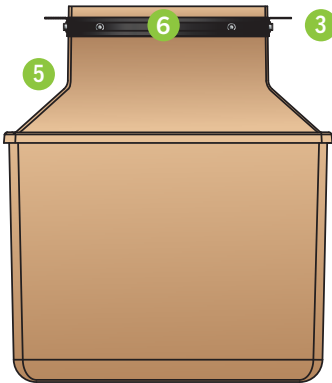
Stabilizer bar tracks
- 5

Tapered top
- 6

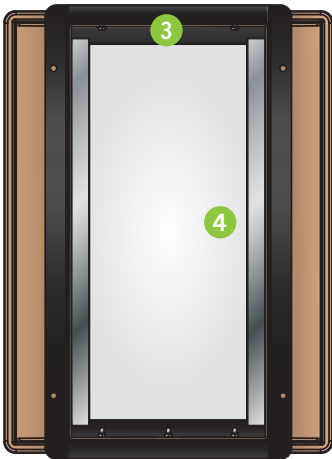
Conduit mounting channel



Base Side



Base End



Top

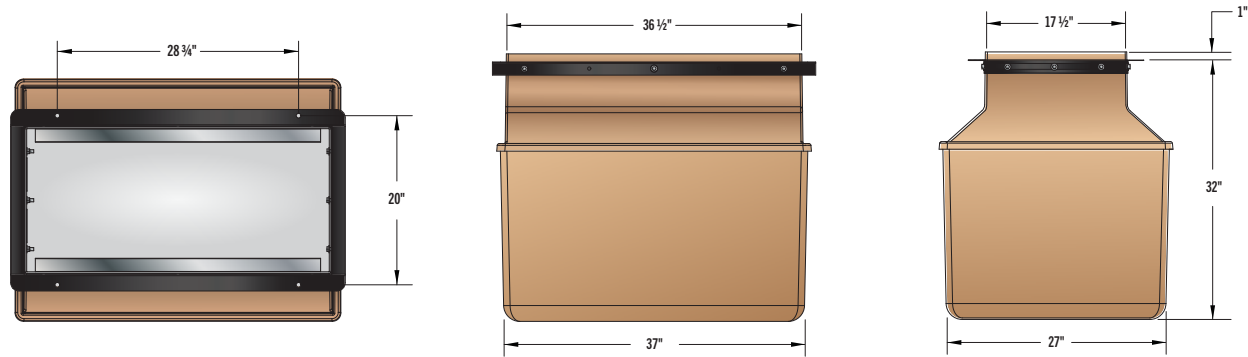
PIPING &
CONTAINMENT



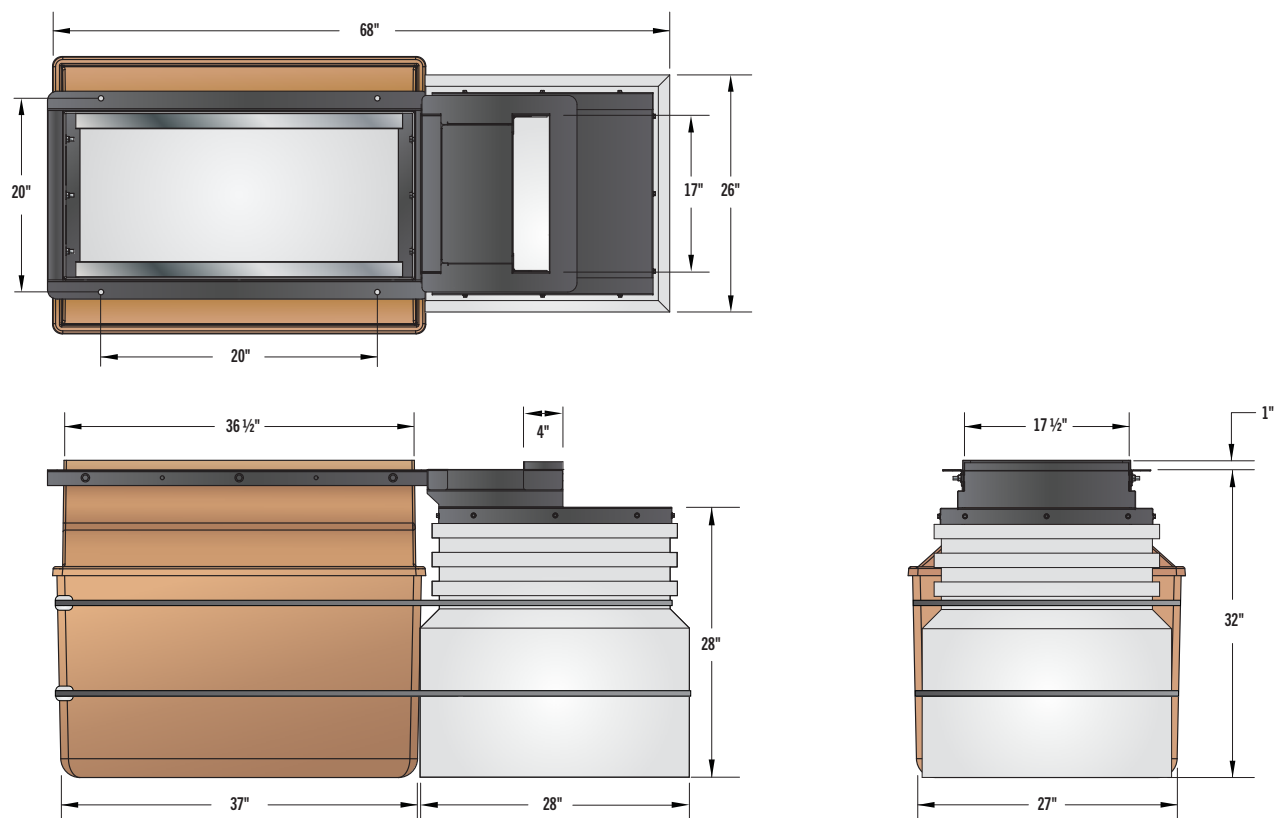
Encore® is a registered trademark of Gilbarco Inc.
Ovation® is a registered trademark of Dover.

SPECIFICATIONS CONTINUED

Gilbarco Encore® Low Profile Single Wall Fiberglass Dispenser Sump

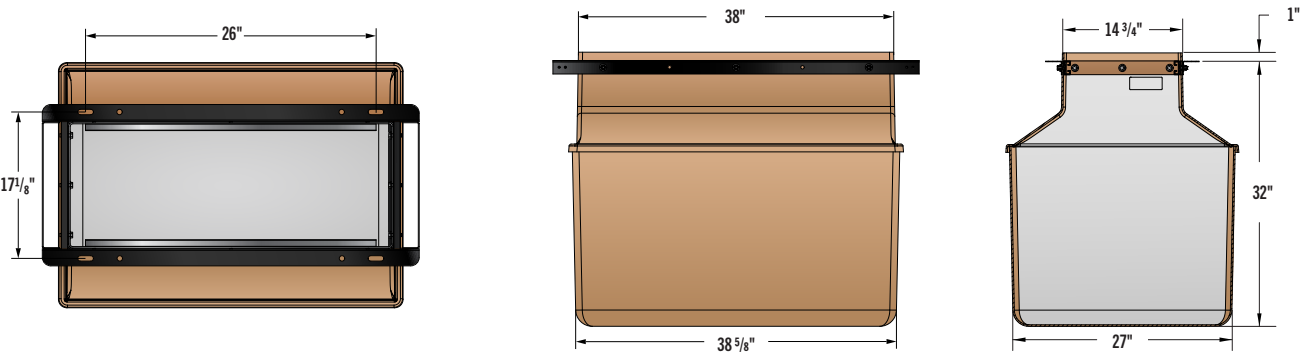


Gilbarco Encore® Low Profile Single Wall Fiberglass Dispenser Sump Dimensions with Banded DEF Polyethylene Sump

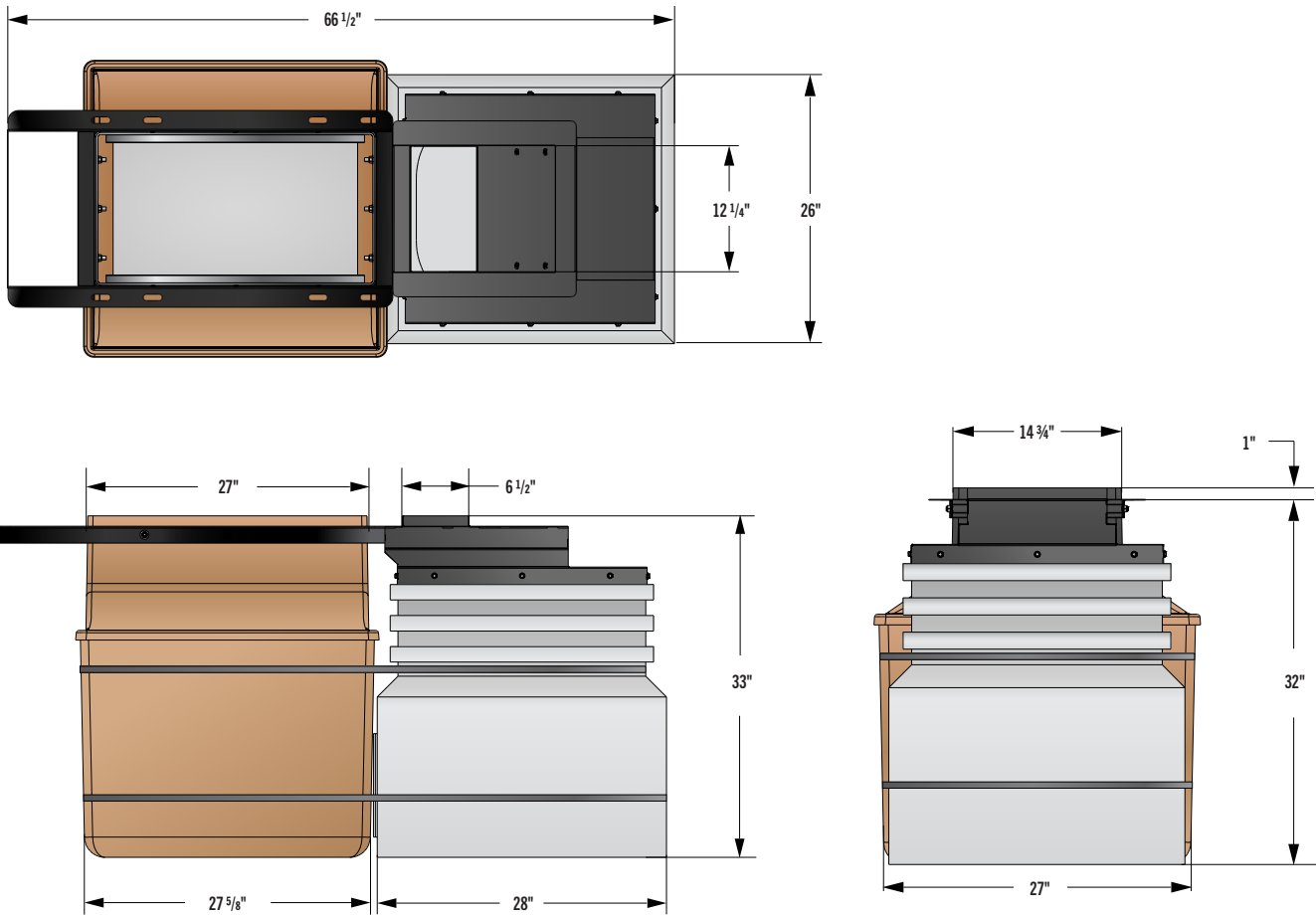


SPECIFICATIONS CONTINUED

Wayne Ovation® Low Profile Single Wall Fiberglass Dispenser Sump



Wayne Ovation® Low Profile Single Wall Fiberglass Dispenser Sump with Banded DEF Polyethylene Sump



PIPING &
CONTAINMENT



LARGE MOUTH FIBERGLASS DISPENSER SUMPS



ORDERING INFORMATION

Large Mouth Fiberglass Dispenser Sumps (2400 Series)

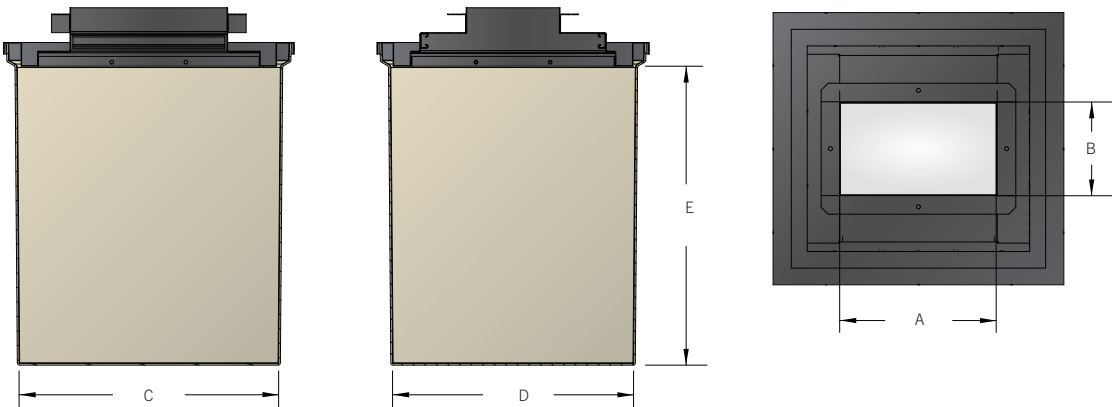
Use the drawing diagram and the dimensions below to identify the appropriate dispenser sump for your application or use the Large Mouth Dispenser Sump Directory found on the following pages.

Model	Top Frame Mouth Length (A)	Top Frame Mouth Depth (B)	Sump Base Bottom Length (C)	Sump Base Bottom Depth (D)	Sump Base Bottom Depth (E)	Stabilizer Bar Kit
LMM-1410-(S/D)	14.00"	10.00"	28.00"	26.00"	33.50"	SBK-2
LMM-1913-T-(S/D)	19.00"	13.00"	28.00"	26.00"	33.50"	SBK-25
LMM-2010-(S/D)	20.00"	10.00"	28.00"	26.00"	33.50"	SBK-2
LMM-2018-(S/D)	20.00"	18.00"	28.00"	26.00"	33.50"	SBK-3

Accessories

Model	Description
HM-KIT	Hydrostatic monitoring system for dispenser sumps
602284004	Drop down frame for 2400 Series dispenser sumps

Note: For "S/D" in part number use "S" for single wall or "D" for double wall when ordering.



ORDERING INFORMATION CONTINUED

Large Mouth Fiberglass Dispenser Sumps (3600 Series)

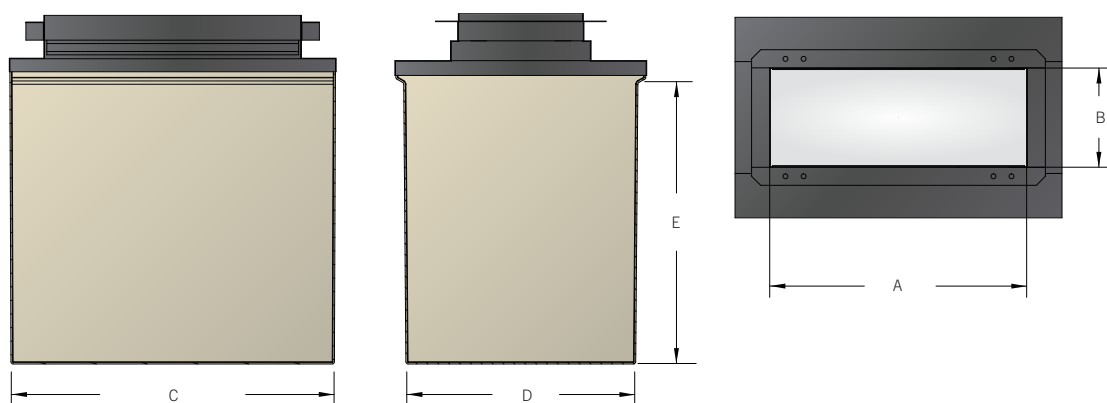
Use the drawing diagram and the dimensions below to identify the appropriate dispenser sump for your application or use the Large Mouth Dispenser Sump Directory found on the following pages.

Model	Top Frame Mouth Length (A)	Top Frame Mouth Depth (B)	Sump Base Bottom Length (C)	Sump Base Bottom Depth (D)	Sump Base Bottom Depth (E)	Stabilizer Bar Kit
LMM-2313-T-(S/D)	23.00"	13.00"	36.00"	26.00"	33.50"	SBK-25
LMM-2407-(S/D)	24.00"	7.00"	36.00"	26.00"	33.50"	SBK-1
LMM-2715-(S/D)	27.00"	15.00"	36.00"	26.00"	33.50"	SBK-3
LMM-2811-(S/D)	28.00"	11.00"	36.00"	26.00"	33.50"	SBK-25
LMM-2915-(S/D)	29.00"	15.00"	36.00"	26.00"	33.50"	SBK-3
LMM-3617-(S/D)*	36.00"	17.00"	36.00"	26.00"	33.50"	SBK-3
LMM-3914-36-W-(S/D)*	39.00"	14.00"	36.00"	26.00"	33.50"	SBK-25

Accessories

Model	Description
HM-KIT	Hydrostatic monitoring system for dispenser sumps
602270004	Drop down frame for 3600 Series dispenser sumps

Note: For "S/D" in part number use "S" for single wall or "D" for double wall when ordering.
*Conduit-less top frame.



Large Mouth Fiberglass Dispenser Sumps (4800 Series)

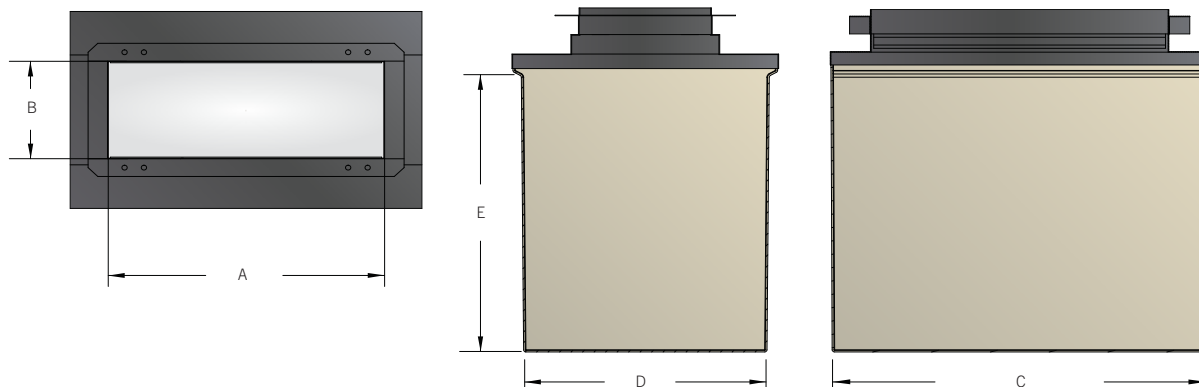
Use the drawing diagram and the dimensions below to identify the appropriate dispenser sump for your application or use the Large Mouth Dispenser Sump Directory found on the following pages.

Model	Top Frame Mouth Length (A)	Top Frame Mouth Depth (B)	Sump Base Bottom Length (C)	Sump Base Bottom Depth (D)	Sump Base Bottom Depth (E)	Stabilizer Bar Kit
LMM-3610-(S/D)	36.00"	10.00"	52.00"	26.00"	33.50"	SBK-2
LMM-3914-(S/D)	39.00"	14.00"	52.00"	26.00"	33.50"	SBK-25
LMM-4018-(S/D)	40.00"	18.00"	52.00"	26.00"	33.50"	SBK-3
LMM-4111-(S/D)	41.00"	11.00"	52.00"	26.00"	33.50"	SBK-25
LMM-4115-(S/D)	41.00"	15.00"	52.00"	26.00"	33.50"	SBK-3

Accessories

Model	Description
HM-KIT	Hydrostatic monitoring system for dispenser sumps
602271004	Drop down frame for 4800 Series dispenser sumps

Note: For "S/D" in part number use "S" for single wall or "D" for double wall when ordering.



ORDERING INFORMATION CONTINUED

Large Mouth Fiberglass Dispenser Sump Directory

Use the directory to identify the appropriate dispenser sump for your application based on the dispenser model it will be installed under.

Bennet®

Series	Model	FRP Sump	SBK #
Horizon/ Big Squirt	2200 Series	LMM-2010-(S/D)	SBK-2
Horizon	2300 Series	LMM-2811-(S/D)	SBK-25
	2400 Series	LMM-4111-(S/D)	SBK-25
Mechanical	3000 Series, 6000 Series	LMM-1410-(S/D)	SBK-2
Electronic	3000 Series	LMM-2313-T-(S/D)	SBK-25

Gasboy®

Model	FRP Sump	SBK #
215A, 216A	LMM-1410-(S/D)	SBK-2
9140A, 9140AX, 9152ATW1, 9152AXTW1, 9152AXTW2, 9153ATW1M, 9153ATW2, 9153AXTW2, 9850XTW2, 9852ATW2, 9852AXTW2, 9853ATW2, 9853AXTW2, 9153AXTW1, 9840A, 9840AX, 9850AXTW1, 9852ATW1, 9852AXTW1, 9853ATW1M, 9853AXTW1, ATLAS	LMM-2313-T-(S/D)	SBK-25
9152A, 9152AX, 9153A, 9153AHC, 9153AX, 9753EXIL, 9850A, 9850AX, 9852A, 9852AX, 9853A, 9853AHC, 9853AX	LMM-1913-T-(S/D)	SBK-25

RDR

Series	FRP Sump	SBK #
RDR	LMM-2018-X	SBK-3-1-U

Schlumberger

Series	Model	FRP Sump	SBK#
Centurion Narrow	XXXX1	LMM-2915-(S/D)	SBK-3-1-U
Centurion Wide	XXXX2	LMM-4115-(S/D)	SBK-3-1-U
	435,440,640,650	LMM-1913-T-(S/D)	SBK-25
	2300 Series	LMM-2811-(S/D)	SBK-25
	2400 Series	LMM-4111-(S/D)	SBK-25

Universal

Series	Model	FRP Sump	SBK #
Univision	UV-9100, UV-9200	LMM-2811-(S/D)	SBK-25
	UV-9300, UV-9400	LMM-4111-(S/D)	SBK-25
	3000 Narrow Base, 3000 Wide Base, 3500 Narrow Base, 3500 Wide Base, 4000 Narrow Base, 4000 Wide Base	LMM-1410-(S/D)	SBK-2

Tokheim®

Series	Model	FRP Sump	SBK #
	162, 262, 785, 1248, 1250	LMM-1913-T-(S/D)	SBK-25
	220, 222, 330, 333, 793	LMM-1410-(S/D)	SBK-2
	311, 312, 322, 324	LMM-2407-(S/D)	SBK-3-1-U
	411, 413, 414, 422, 424, 426, 428	LMM-4018-(S/D)	SBK-3-1-U
Centurion Narrow	XXXX1	LMM-2915-(S/D)	SBK-3-1-U
Centurion Wide	XXXX2	LMM-4115-(S/D)	SBK-3-1-U



ORDERING INFORMATION CONTINUED

Gilbarco®

Series	Model	FRP Sump	SBK #
Advantage	MPD, Single Hose (B71XXX), Six Hose, X+0 X+1 (48 inch frame) B7XXXX	LMM-4115-(S/D)	SBK-3-1-U
	Quad/ Dual, X+0 (36 inch frame) B7AXXX	LMM-2915-(S/D)	SBK-3-1-U
Commercial	High Gallonage, Ultra High Gallonage	LMM-2010-(S/D)	SBK-2
Eclipse		LMM-2010-(S/D)	SBK-2
	40 inch sump length, Super Hi, Ultra Hi (Conduitless)	LMM-3617-S, DHW-3617, 602375001	SBK-3-1-U
	40 inch sump length, Super Hi, Ultra Hi (Conduitless - Doublewall Fiberglass)	LMM-3617-D, 602383001, 602383401	SBK-3-1-U
Highhose	MPD-X	LMM-3610-(S/D)	SBK-2
	Salesmaker-2H (AM62XXA)	LMM-2010-(S/D)	SBK-2
	Salesmaker 4/4A, Salesmaker Pro (ABXXXXA)	LMM-2313-T-(S/D)	SBK-25
Highline	111B 21 inch frame (AC6921A), 111B 27 inch frame (AC3921A), High Gallonage (AC6942A), Ultra Hi Gallonage (AC6992A-MS1), Stallite (AC-4093-S1, AC-6093-S1), Super Hi (AC4982A-MS1, AC7982A-MS1), Ultra Hi (AC4992A-MS1, AC7992A-MS-1)	LMM-2010-(S/D)	SBK-2
	Salesmaker 21 inch frame (AC1921A-S1), Salesmaker 27 inch frame (AC1921A-S1)	LMM-1410-(S/D)	SBK-2
Legacy	ALL	LMM-2407-(S/D)	SBK-1
Trimline	252-0 with 21 inch or 27 inch frame	LMM-2010-(S/D)	SBK-2

Wayne®

Series	Model	FRP Sump	SBK #
Vista Series	V289, V387, V388, V889, V580, V585	LMM-2811-(S/D)	SBK-25
	V390, V395, V399, V490, V590, V595	LMM-4111-(S/D)	SBK-25
	DS/375/19, DS/585/19E, DS/585/EG, 350 Series, 360 Series, 370 Series, 387 Series, 389 Series	LMM-2407-(S/D)	SBK-2
	390 Series, 490 Series	LMM-4111-(S/D)	SBK-25
	Global (GXXXX) Series, Reliance, HS3/V387, Select	LMM-2715-(S/D)	SBK-3-1-U
Ovation	Ovation Series	LMM-3914-(S/D)	SBK-25
	Ovation Series (Conduitless)	LMM-3914-36-W-(S/D), DHW-3617-OVA, 602381001	SBK-25
	Ovation Series (conduitless - double wall fiberglass)	602385001, 602385401	SBK-25
Helix	2000, 4000	LMM-2915-(S/D)	SBK-3-1-U
	5000	LMM-4115-(S/D)	SBK-3-1-U

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Bennet® is a trademark of Bennet Pump Company

WATERTIGHT FIBERGLASS TANK SUMPS

ORDERING INFORMATION

Watertight Fiberglass Tank Sumps

Model	Description
602402922	42" watertight fiberglass tank sump, collar mount, includes base, riser, and lid
602402932	42" watertight fiberglass tank sump, with bottom, includes base, riser and lid
602402901	48" watertight fiberglass tank sump, collar mount, includes base, riser, and lid
602402911	48" watertight fiberglass tank sump, with bottom, includes base, riser and lid

Note: Each tank sump requires (1) pour-in-place slurry kit and (1) collar mount seam kit shown below.



Watertight Fiberglass Tank Sump Installation Tools



Model	Description
602366924	Pour-in-place slurry kit includes: (1) gallon resin, (1) pint catalyst, gloves, mixing stick, sand paper

Note: One kit required per tank sump.



Model	Description
602366901	Collar mount seam kit includes: (2) wooden stir sticks, (2) pair rubber gloves, (3) quart containers of resin, (4) tubes of catalyst, (2) rolls of fiberglass reinforced plastic (FRP) mat, 6" x 27", (1) quart container of putty, (1) plastic putty mixing knife

Note: One kit required per tank sump.



Model	Description
602366933	Installation accessories kit includes: (1) FRP roller, (2) plastic putty mixing knives, (2) wooden stir sticks, (1) scissors, (4) pair rubber gloves, (6) brushes

Note: One kit required per site.

Watertight Fiberglass Tank Sump Replacement Parts



Model	Description
602388901	Replacement Watertight Tank Sump lid with gasket
602390001	Replacement gasket for Watertight Tank Sump lid



Model	Description
602395930	Replacement latch assembly with adhesive
602395940	Replacement latch only



SPECIFICATIONS

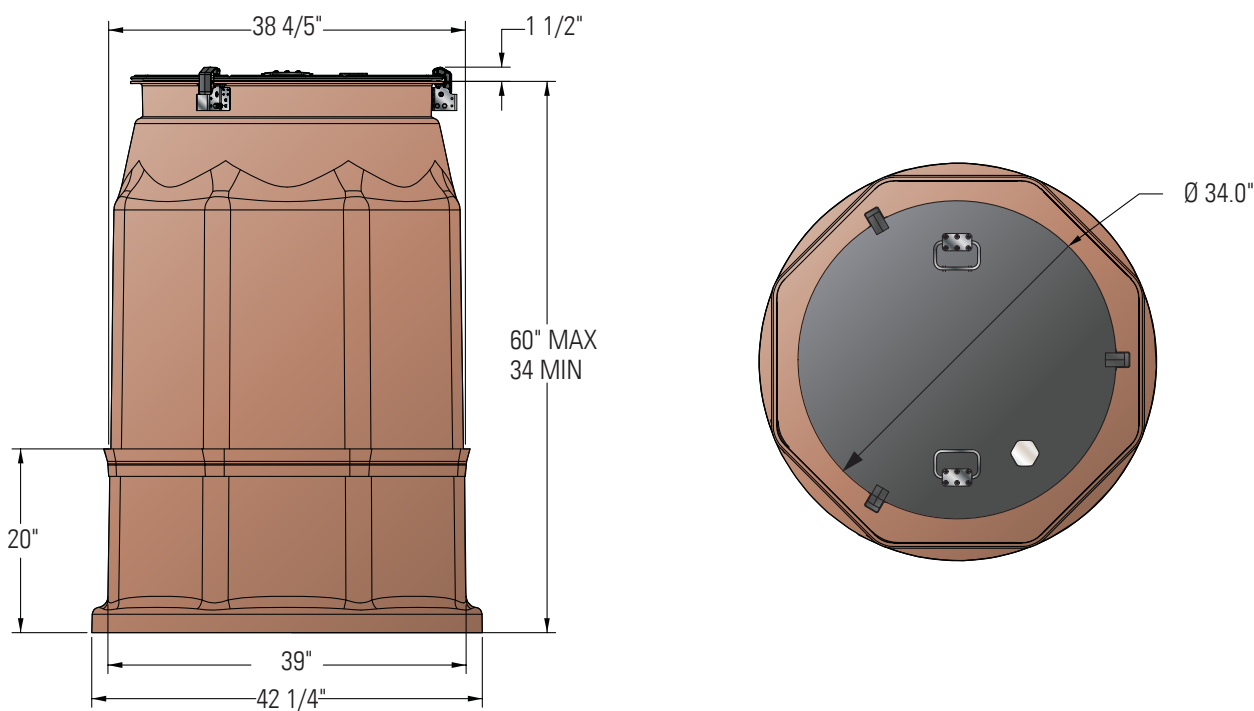
Components

- 1 Lid with side-sealing gasket
- 2 Riser
- 3 Base
- 4 Lid latches
- 5 Fill channel
- 6 Collar with open bottom
- 7 Retractable handles
- 8 Vapor pressure vent

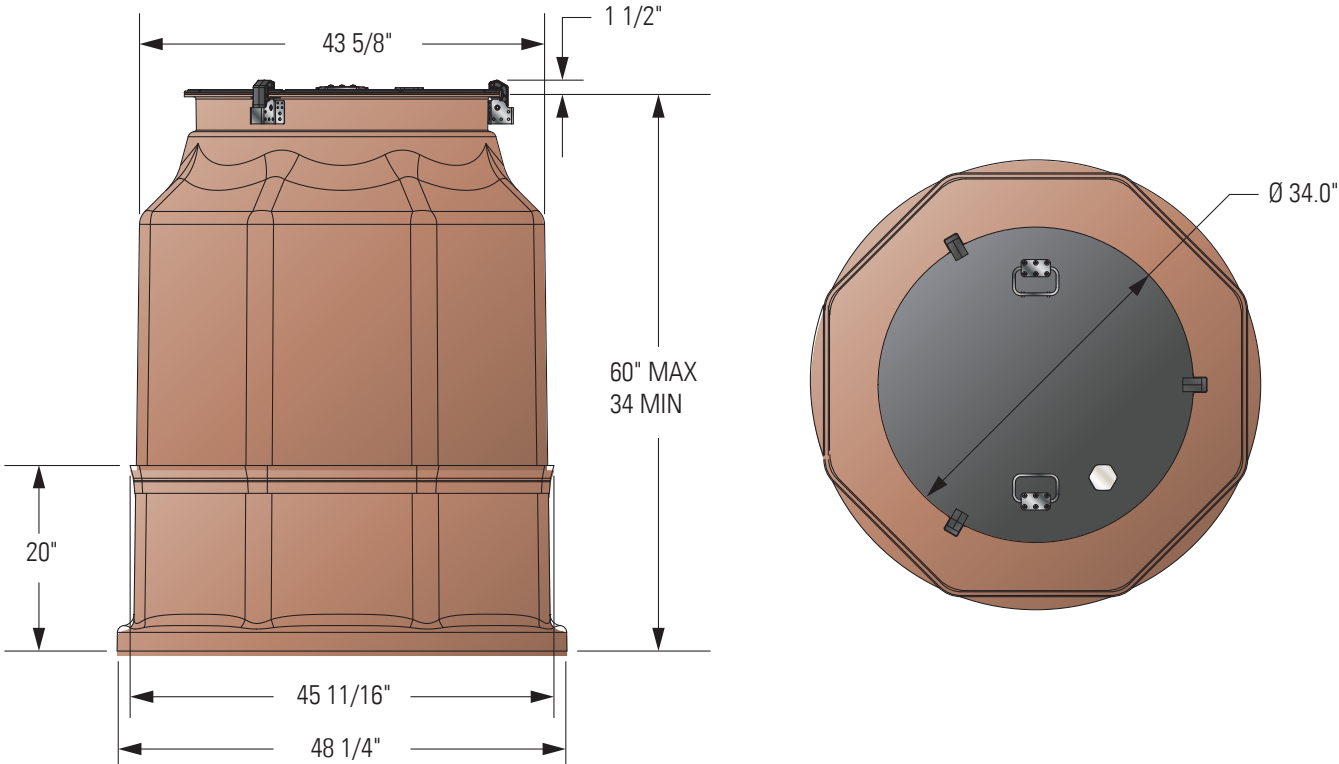


SPECIFICATIONS CONTINUED

42" Watertight Fiberglass Tank Sump Dimensions



48" Watertight Fiberglass Tank Sump Dimensions



FIBERGLASS TANK SUMP COLLARS

ORDERING INFORMATION

Fiberglass Tank Sump Collars



Model	Description
602367004	42" tank sump collar for 8' tank diameters
602367002	42" tank sump collar for 10' / 11' tank diameters
602367005	48" tank sump collar for 8' tank diameters
602367001	48" tank sump collar for 9' tank diameters
602367003	48" tank sump collar for 10' / 11' tank diameters

Note: Each tank sump collar requires (1) tank sump collar installation kit shown below.

Fiberglass Tank Sump Collar Installation Kit



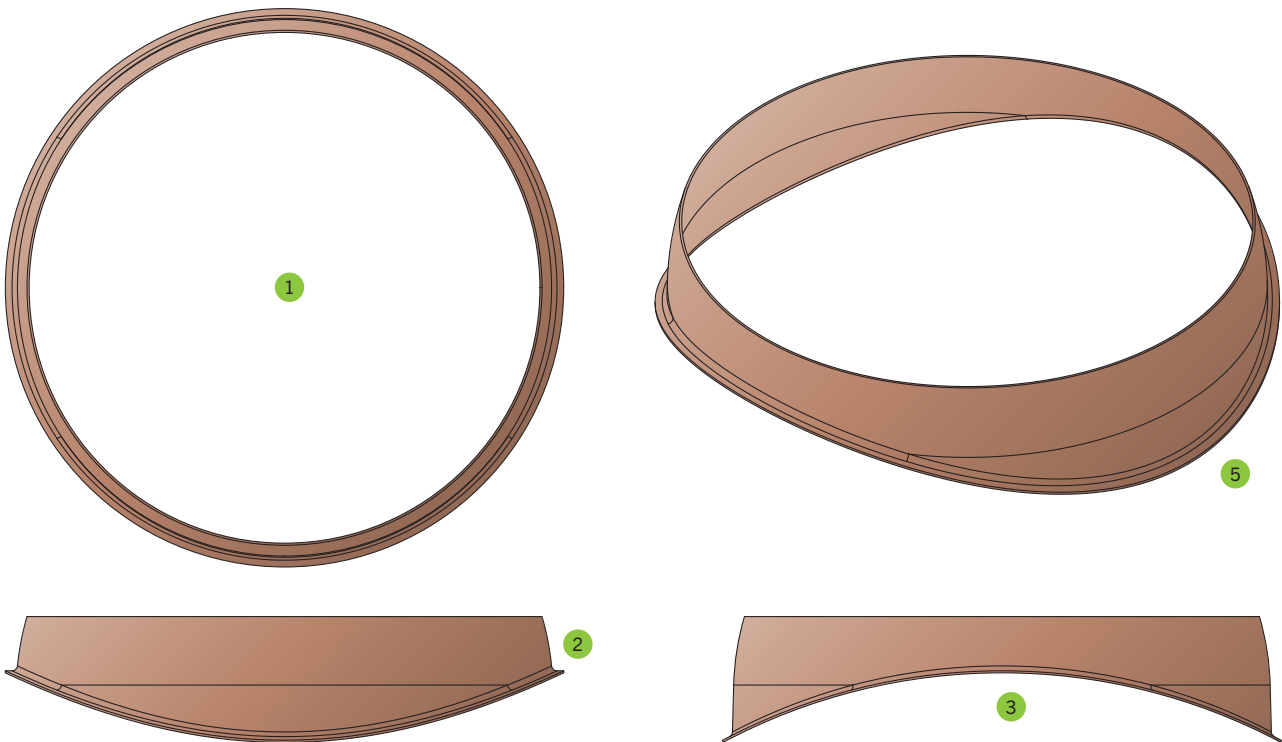
Model	Description
602366925	Fiberglass tank sump collar installation kit includes: (2) wooden stir sticks, (2) pair rubber gloves, (3) quart containers of putty, (4) quart containers of resin, (7) tubes of catalyst, (5) 6" x 15' rolls of fiberglass reinforced plastic (FRP) mat, (1) plastic putty mixing knife, (1) laminate spreader

Note: (1) fiberglass tank sump collar installation kit is required per collar for field retrofits. Kit ships in (2) boxes.

SPECIFICATIONS

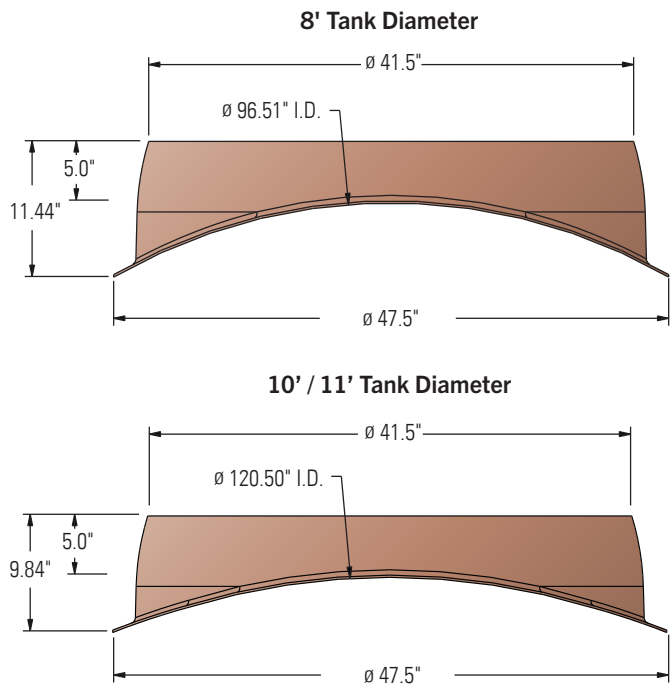
Components

- 1 42" or 48" opening for tank top access
- 2 Curved edge for sump alignment to grade level
- 3 8', 9', or 10' tank radius
- 4 3/16" thick fiberglass construction
- 5 Extended lip for fibreglassing to tank surface

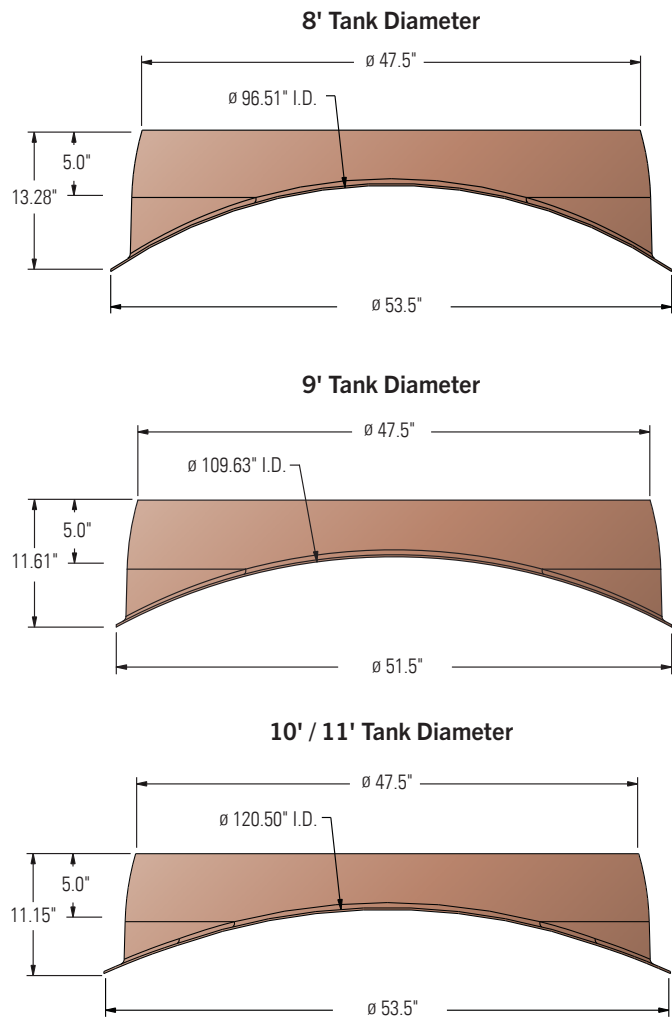


SPECIFICATIONS CONTINUED

42" Tank Sump Collars



48" Tank Sump Collars



WATERTIGHT SUMP SHIELD PACKAGES

Used for repair and replacement work or if the tank sump or riser is provided by the tank manufacturer. Provides a watertight entry point for standard 42" and 48" tank sumps. Includes sump shield with strap-down cover and riser reducer.



Model	Riser Base Diameter	Access Opening	Min. Manway Diameter	# of Seam Kits Recommended
TSS-4236	42"	30"	36"	1



Model	Riser Base Diameter	Access Opening	Min. Manway Diameter	# of Seam Kits Recommended
TSS-4836	48"	30"	36"	1



Model	Riser Base Diameter	Access Opening	Min. Manway Diameter	# of Seam Kits Recommended
TSS-XS36	Xerxes®	30"	36"	1

Fiberglass Seam Kits



Model	Description
FIBERGLASS-KIT	Fiberglass seam kit for one seam - includes: mat, resin, putty, catalyst, 1/2" x 3" roller, 2" brush, quart cups (qty 3), stir sticks (qty 2), squeegee, glove - size large (qty 2 pairs)

Fiberglass Tank Sump Replacement Parts



Model	Description
TSS-36	36" watertight sump shield lid, with toggles
602212001	Sump shield lid gasket for 36" sump shield lid
602212002	Sump shield lid gasket for 42" sump shield lid



Model	Description
602221902	Sump adapter for 42" sump base to 36" lid adapter
602221904	Sump adapter for 42" sump base to 42" lid adapter
602226901	Sump adapter for 48" sump base to 36" lid adapter



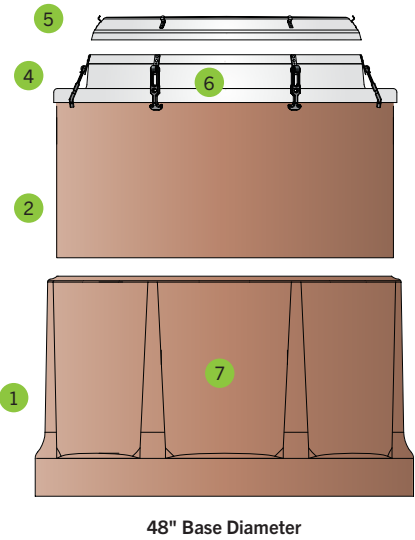
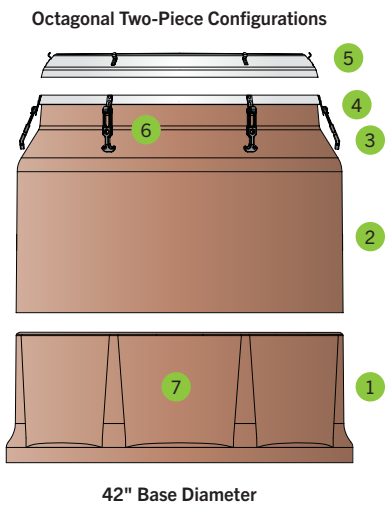
Model	Description
602329001	Keeper assembly, attaches on sump shield lid (top)
602330901	Bracket assembly, attaches on the riser adapter (bottom)
602331001	Rubber pull latch



SPECIFICATIONS

Components

- 1 Base
- 2 Riser
- 3 Reducer collar
- 4 Sump shield
- 5 Cover (gasketed)
- 6 Strap-down toggles
- 7 Flat panels



LARGE MOUTH POLYETHYLENE DISPENSER SUMPS

ORDERING INFORMATION

Large Mouth Polyethylene Dispenser Sumps

Use the drawing diagram and the dimensions below to identify the appropriate dispenser sump for your application or use the Large Mouth Dispenser Sump Directory found on the following pages.

Model	Top Frame Mouth Length (A)	Top Frame Mouth Depth (B)	Sump Base Mouth Length (C)	Sump Base Bottom Length (D)	Sump Base Height (E)		Sump Base Mouth Depth (F)	Sump Base Bottom Depth (G)	Sump Base Bottom Height (H)
					Medium (M)	Deep (D)			
LM(M/D)-1410	13.5"	9.75"	24"	28"	28"	43"	22"	26"	15.5"
LM(M/D)-1913-T	19"	12"	24"	28"	28"	43"	22"	26"	15.5"
LM(M/D)-2010	20.5"	10"	24"	28"	28"	43"	22"	26"	15.5"
LM(M/D)-2018	20.81"	18.31"	24"	28"	28"	43"	22"	26"	15.5"
LM(M/D)-2313-T	23"	12"	36"	40"	28"	43"	22"	26"	15.5"
LM(M/D)-2407	23.75"	7.5"	36"	40"	28"	43"	22"	26"	15.5"
LM(M/D)-2715	27"	15"	36"	40"	28"	43"	22"	26"	15.5"
LM(M/D)-2811	28.5"	11"	36"	40"	28"	43"	22"	26"	15.5"
LM(M/D)-2915	29.75"	15.75"	36"	40"	28"	43"	22"	26"	15.5"
LMM-2915-HLX*	29.75"	15.25"	36"	40"	28"	--	22"	26"	15.5"
LM(M/D)-3610	36"	10.25"	48"	52"	28"	43"	22"	26"	15.5"
LM(M/D)-3617*	36"	17.25"	36"	40"	28"	43"	22"	26"	15.5"
LM(M/D)-3914-36-W*	38.75"	14"	36"	40"	28"	43"	22"	26"	15.5"
LM(M/D)-3914	38.75"	14"	48"	52"	28"	43"	22"	26"	15.5"
LMM-3915-HLX*	39.75"	15.25"	48"	52"	28"	--	22"	26"	15.5"
LM(M/D)-4018	39.75"	17.75"	48"	52"	28"	43"	22"	26"	15.5"
LM(M/D)-4111	41.5"	11"	48"	52"	28"	43"	22"	26"	15.5"
LM(M/D)-4115	41.5"	15.75"	48"	52"	28"	43"	22"	26"	15.5"

Note: For "M/D" in part number use "M" for medium or "D" for deep when ordering. *Conduit-less top frame.

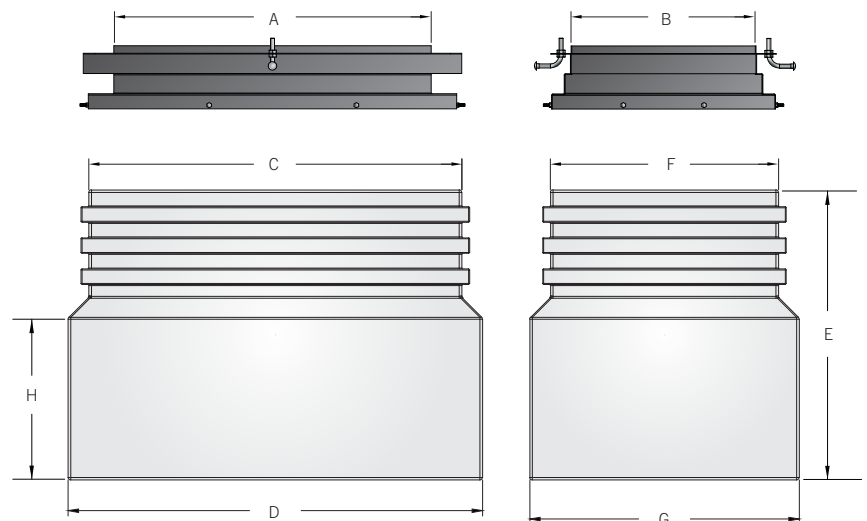
Stabilizer Bar Kits

Model	Stabilizer Bar Kit Model
LM(M/D)-1410	SBK-2
LM(M/D)-1913-T	SBK-25
LM(M/D)-2010	SBK-2
LM(M/D)-2018	SBK-3
LM(M/D)-2313-T	SBK-25
LM(M/D)-2407	SBK-1
LM(M/D)-2715	SBK-3
LM(M/D)-2811	SBK-25
LM(M/D)-2915	SBK-3
LMM-2915-HLX	SBK-3
LM(M/D)-3610	SBK-2
LM(M/D)-3617	SBK-3
LM(M/D)-3914-36-W	SBK-25
LM(M/D)-3914	SBK-3
LMM-3915-HLX	SBK-3
LM(M/D)-4018	SBK-3
LM(M/D)-4111	SBK-25
LM(M/D)-4115	SBK-3

Grommets for Conduit-less Sumps

Model	Description
43605002	1/2" grommets for conduit-less sump
43607502	3/4" grommets for conduit-less sump
43610002	1" grommets for conduit-less sump

One SBK is required for each shear valve and must be purchased separately. Select the appropriate SBK with the compatibility chart.

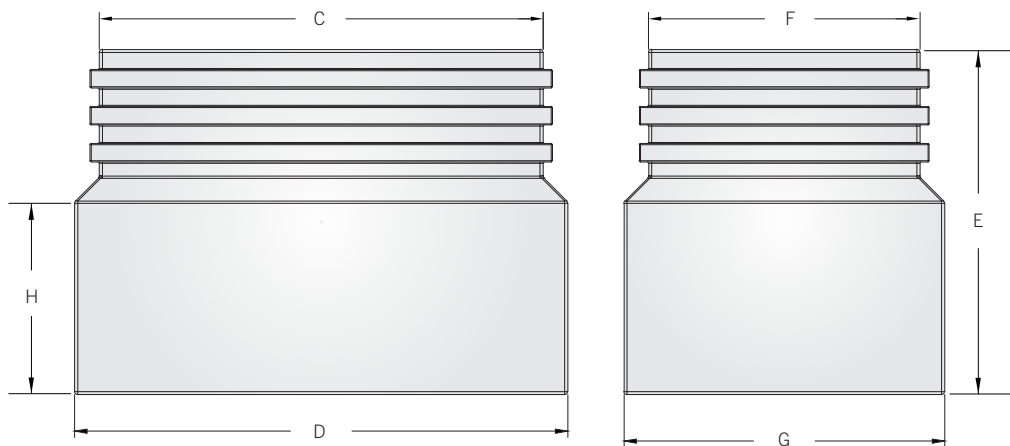


ORDERING INFORMATION CONTINUED

Large Mouth Polyethylene Dispenser Sump Base Only

Use the drawing diagram and the dimensions below to identify the appropriate dispenser sump base for your application.

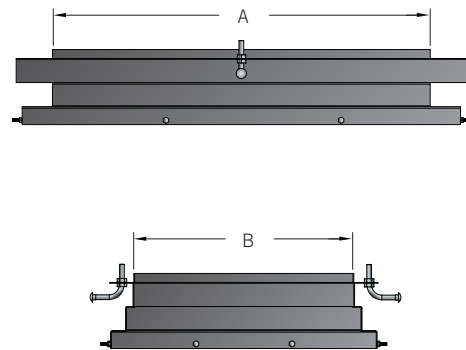
Model	Sump Base Mouth Length (C)	Sump Base Bottom Length (D)	Sump Base Height (E)	Sump Base Mouth Depth (F)	Sump Base Bottom Depth (G)	Sump Base Bottom Height (H)
LBM-2400	24"	28"	28"	22"	26"	15.5"
LBM-3600	36"	40"	28"	22"	26"	15.5"
LBM-4800	48"	52"	28"	22"	26"	15.5"
LBD-2400	24"	28"	43"	22"	26"	15.5"
LBD-3600	36"	40"	43"	22"	26"	15.5"
LBD-4800	48"	52"	43"	22"	26"	15.5"



Large Mouth Polyethylene Dispenser Top Frame Only

Use the drawing diagram and the dimensions below to identify the appropriate top frame for your application.

Model	Top Frame Mouth Length (A)	Top Frame Mouth Depth (B)	Sump Base Size
LMT-1410	13.5"	9.75"	2400
LMT-1913-T	19"	12"	2400
LMT-2010	20.5"	10"	2400
LMT-2018	20.81"	18.31"	2400
LMT-2313-T	23"	12"	3600
LMT-2407	23.75"	7.5"	3600
LMT-2715	27"	15"	3600
LMT-2811	28.5"	11"	3600
LMT-2915	29.75"	15.75"	3600
LMT-3610	36"	10.25"	4800
LMT-3617-36	36"	17.25"	3600
LMT-3914-36-W	38.75"	14"	3600
LMT-3914	38.75"	14"	4800
LMT-3915-HLX	39.75"	15.25"	4800
LMT-4018	39.75"	17.75"	4800
LMT-4111	41.5"	11"	4800
LMT-4115	41.5"	15.75"	4800
DST-2916-DEF-O2-SAT	24.22"	15.94"	2400
DST-2915-HLX	29.75"	15.25"	3600
DST-3915-HLX	39.75"	15.25"	4800



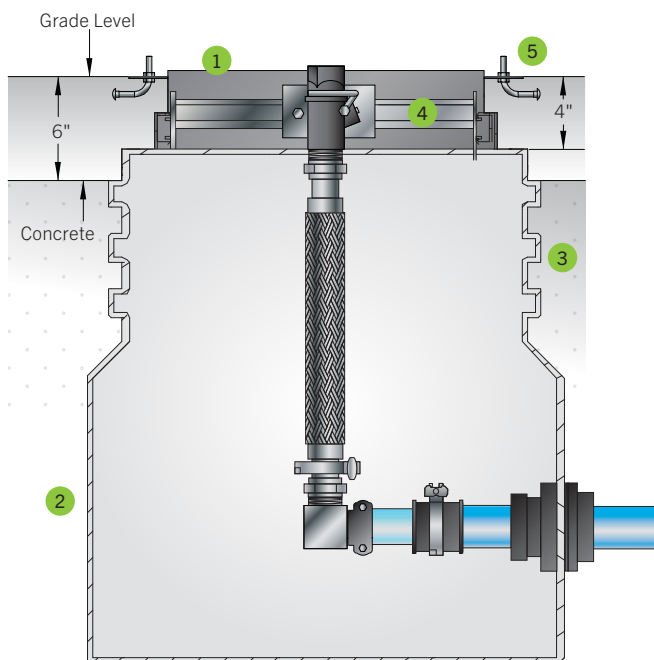
SPECIFICATIONS

Approvals /
Certifications

- ULc listed.
- Florida EQ-423 approved

Components

- 1 Top frame
- 2 Base
- 3 Riser, field adjustable
- 4 Stabilizer bar kit
- 5 Concrete anchors



PIPING &
CONTAINMENT

LARGE MOUTH POLYETHYLENE DISPENSER SUMP DIRECTORY

Use the directory to identify the appropriate dispenser sump for your application based on the dispenser model it will be installed under.

Bennet®

Series	Model	Polyethylene Sump	SBK #
Horizon/Big Squirt	2200 Series	LM(X)-2010	SBK-2
Horizon	2300 Series	LM(X)-2811	SBK-25
	2400 Series	LM(X)-4111	SBK-25
Mechanical	3000 Series	LM(X)-1410	SBK-2
	6000 Series	LM(X)-1410	SBK-2
Electronic	3000 Series	LM(X)-2313-T	SBK-25

Gasboy®

Series	Model	Polyethylene Sump	SBK #
	215A	LM(X)-1410	SBK-2
	216A	LM(X)-1410	SBK-2
	9140A	LM(X)-2313T	SBK-25
	9140AX	LM(X)-2313T	SBK-25
	9152A	LM(X)-1913T	SBK-25
	9152ATW1	LM(X)-2313T	SBK-25
	9152AX	LM(X)-1913T	SBK-25
	9152AXTW1	LM(X)-2313T	SBK-25
	9152AXTW2	LM(X)-2313T	SBK-25
	9153A	LM(X)-1913T	SBK-25
	9153AHC	LM(X)-1913T	SBK-25
	9153ATW1M	LM(X)-2313T	SBK-25
	9153ATW2	LM(X)-2313T	SBK-25
	9153AXTW2	LM(X)-2313T	SBK-25
	9850XTW2	LM(X)-2313T	SBK-25
	9852ATW2	LM(X)-2313T	SBK-25
	9852AXTW2	LM(X)-2313T	SBK-25
	9853ATW2	LM(X)-2313T	SBK-25
	9853AXTW2	LM(X)-2313T	SBK-25
	9153AX	LM(X)-1913T	SBK-25
	9153AXTW1	LM(X)-2313T	SBK-25
	9753EXIL	LM(X)-1913T	SBK-25
	9840A	LM(X)-2313T	SBK-25
	9840AX	LM(X)-2313T	SBK-25
	9850A	LM(X)-1913T	SBK-25
	9850AX	LM(X)-1913T	SBK-25
	9850AXTW1	LM(X)-2313T	SBK-25
	9852A	LM(X)-1913T	SBK-25
	9852ATW1	LM(X)-2313T	SBK-25
	9852AX	LM(X)-1913T	SBK-25
	9852AXTW1	LM(X)-2313T	SBK-25
	9853A	LM(X)-1913T	SBK-25
	9853AHC	LM(X)-1913T	SBK-25
	9853ATW1M	LM(X)-2313T	SBK-25
	9853AX	LM(X)-1913T	SBK-25
	9853AXTW1	LM(X)-2313T	SBK-25
	ATLAS	LM(X)-2313T	SBK-25

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Wayne® and Tokheim® is a trademark of Dover Corporation.

Bennet® is a trademark of Bennet Pump Company.



Series	Model	Polyethylene Sump	SBK #
Advantage MPD		LM(X)-4115	SBK-3
Advantage Quad/Dual		LM(X)-2915	SBK-3
Advantage Single Hose	B71XXX	LM(X)-4115	SBK-3
Advantage Six Hose		LM(X)-4115	SBK-3
Advantage X+0 (36" frame)	B7AXXX	LM(X)-2915	SBK-3
Advantage X+0, X+1 (48" frame)	B7XXXX	LM(X)-4115	SBK-3
Commercial High Gallonage		LM(X)-2010	SBK-2
Commercial Ultra High Gallonage		LM(X)-2010	SBK-2
Eclipse	All	LM(X)-2010	SBK-2
Encore™ (40" sump length)	All	LM(X)-3617	SBK-3
Encore™ Super Hi	All	LM(X)-3617	SBK-3
Encore™ Ultra Hi	All	LM(X)-3617	SBK-3
Highhose MPD-X		LM(X)-3610	SBK-2
Highhose Salesmaker-2H	AM62XXA	LM(X)-2010	SBK-2
Highhose Salesmaker 4/4A		LM(X)-2313T	SBK-25
Highhose Salesmaker Pro	ABXXXXA	LM(X)-2313T	SBK-25
Highline 111B 21" frame	AC6921A	LM(X)-2010	SBK-2
Highline 111B 27" frame	AC3921A	LM(X)-2010	SBK-2
Highline High Gallonage	AC6942A	LM(X)-2010	SBK-2
Highline Ultra Hi Gallonage	AC6992A-MS1	LM(X)-2010	SBK-2
Highline Salesmaker 21" frame	AC1921A-S1	LM(X)-1410	SBK-2
Highline Salesmaker 27" frame	AC1921A-S1	LM(X)-1410	SBK-2
Highline Satellite	AC-4093-S1	LM(X)-2010	SBK-2
	AC-6093-S1	LM(X)-2010	SBK-2
Highline Super Hi	AC4982A-MS1	LM(X)-2010	SBK-2
	AC7982A-MS1	LM(X)-2010	SBK-2
Highline Ultra Hi	AC4992A-MS1	LM(X)-2010	SBK-2
	AC7992A-MS1	LM(X)-2010	SBK-2
Legacy	All	LM(X)-2407	SBK-1
Trimline 21" frame	252-0	LM(X)-2010	SBK-2
Trimline 27" frame	252-0	LM(X)-2010	SBK-2

RDR

Series	Model	Polyethylene Sump	SBK #
RDR		LM(X)-2018	SBK-3

Schlumberger

Series	Model	Polyethylene Sump	SBK #
Centurion Narrow	XXXX1	LM(X)-2915	SBK-3
Centurion Wide	XXXX2	LM(X)-4115	SBK-3
	435, 440, 640, 650	LM(X)-1913T	SBK-25
2300 Series		LM(X)-2811	SBK-25
2400 Series		LM(X)-4111	SBK-25

Universal

Series	Model	Polyethylene Sump	SBK #
Univision	UV-9100	LM(X)-2811	SBK-25
	UV-9200	LM(X)-2811	SBK-25
	UV-9300	LM(X)-4111	SBK-25
	UV-9400	LM(X)-4111	SBK-25
3000 Narrow Base	All	LM(X)-1410	SBK-2
3000 Wide Base	All	LM(X)-1410	SBK-2
3500 Narrow Base	All	LM(X)-1410	SBK-2
3500 Wide Base	All	LM(X)-1410	SBK-2
4000 Narrow Base	All	LM(X)-1410	SBK-2
4000 Wide Base	All	LM(X)-1410	SBK-2
8000	All	LM(X)-3914	SBK-25

Tokheim®

Series	Model	Polyethylene Sump	SBK #
	162	LM(X)-1913T	SBK-25
	220	LM(X)-1410	SBK-2
	222	LM(X)-1410	SBK-2
	262	LM(X)-1913T	SBK-25
	311	LM(X)-2407	SBK-3
	312	LM(X)-2407	SBK-3
	322	LM(X)-2407	SBK-3
	324	LM(X)-2407	SBK-3
	330	LM(X)-1410	SBK-2
	333	LM(X)-1410	SBK-2
	411	LM(X)-4018	SBK-3
	413	LM(X)-4018	SBK-3
	414	LM(X)-4018	SBK-3
	422	LM(X)-4018	SBK-3
	424	LM(X)-4018	SBK-3
	426	LM(X)-4018	SBK-3
	428	LM(X)-4018	SBK-3
	785	LM(X)-1913T	SBK-25
	793	LM(X)-1410	SBK-2
	1248	LM(X)-1913T	SBK-25
	1250	LM(X)-1913T	SBK-25
Centurion Narrow	XXXX1	LM(X)-2915	SBK-3
Centurion Wide	XXXX2	LM(X)-4115	SBK-3

Wayne®

Series	Model	Polyethylene Sump	SBK #
	DS/375/19	LM(X)-2407	SBK-2
	DS/585/19E	LM(X)-2407	SBK-2
	DS/585/EG	LM(X)-2407	SBK-2
V289 Vista™ Series		LM(X)-2811	SBK-25
V387 Vista™ Series		LM(X)-2811	SBK-25
V388 Vista™ Series		LM(X)-2811	SBK-25
V389 Vista™ Series		LM(X)-2811	SBK-25
V390 Vista™ Series		LM(X)-4111	SBK-25
V395 Vista™ Series		LM(X)-4111	SBK-25
V399 Vista™ Series		LM(X)-4111	SBK-25
V490 Vista™ Series		LM(X)-4111	SBK-25
V580 Vista™ Series		LM(X)-2811	SBK-25
V585 Vista™ Series		LM(X)-2811	SBK-25
V590 Vista™ Series		LM(X)-4111	SBK-25
V595 Vista™ Series		LM(X)-4111	SBK-25
350 Series		LM(X)-2407	SBK-2
360 Series		LM(X)-2407	SBK-2
370 Series		LM(X)-2407	SBK-2
387 Series		LM(X)-2407	SBK-2
389 Series		LM(X)-2407	SBK-2
390 Series		LM(X)-4111	SBK-25
490 Series		LM(X)-4111	SBK-25
Global (GXXXX) Series		LM(X)-2715	SBK-3
Ovation™ Series	All	LM(X)-3914/LMM(3914-36)	SBK-25
Reliance		LM(X)-2715	SBK-3
HS3/V387		LM(X)-2715	SBK-3
Helix™	2000, 4000	LMM-2915-HLX	SBK-3
Helix™	5000	LMM-39-15-HLX	SBK-3
Select		LMM-2715	SBK-3



DEF POLYETHYLENE DISPENSER SUMPS



ORDERING INFORMATION

Model	Description
407513941	In-line dispenser DEF recirculation system kit for Gilbarco® Encore® DEF dispensers (includes LMM-3617-DEF and all components)
407513942	Tee dispenser DEF recirculation system kit for Gilbarco® Encore® DEF dispensers (includes LMM-3617-DEF and all components)
407513943	In-line dispenser DEF recirculation system kit for Wayne® Vista™ DEF dispensers (includes LMM-2916-DEF and all components)
407513944	Tee dispenser DEF recirculation system kit for Wayne® Vista™ DEF dispensers (includes LMM-2916-DEF and all components)

SPECIFICATIONS

Approvals / Certifications	ULc listed
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Components

- 1 Primary sump (for fuel equipment)
- 2 Secondary sump (for DEF equipment)
- 3 Retaining band
- 4 Removable top frame panel (allows for future expansion)
- 5 Access to DEF equipment containment space
- 6 Access to fuel equipment containment space
- 7 Top frame (single-piece)

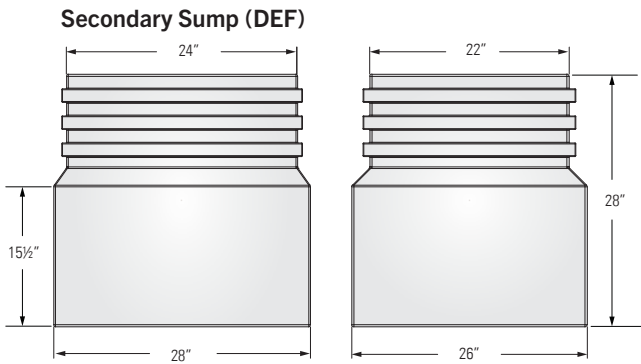
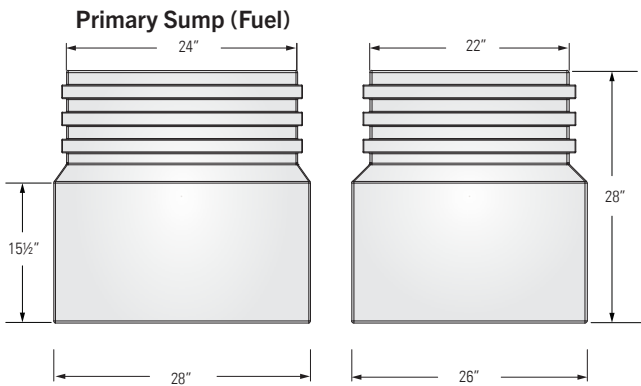
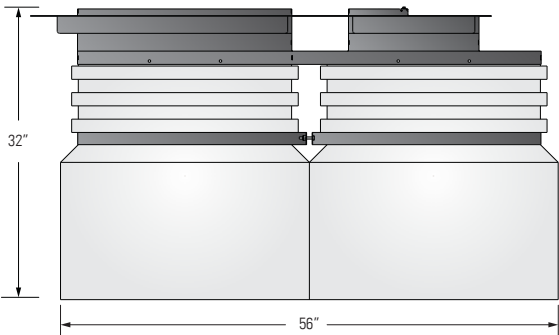
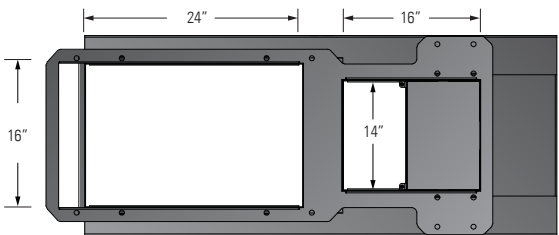


PIPING &
CONTAINMENT

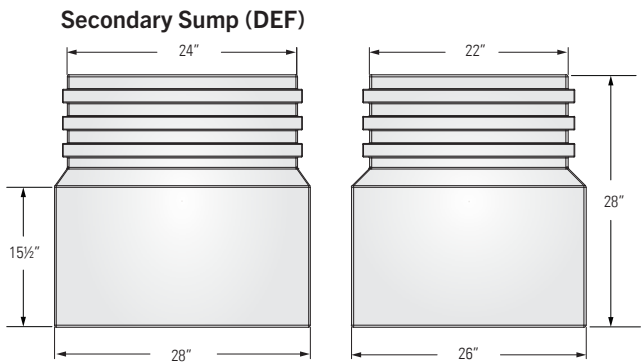
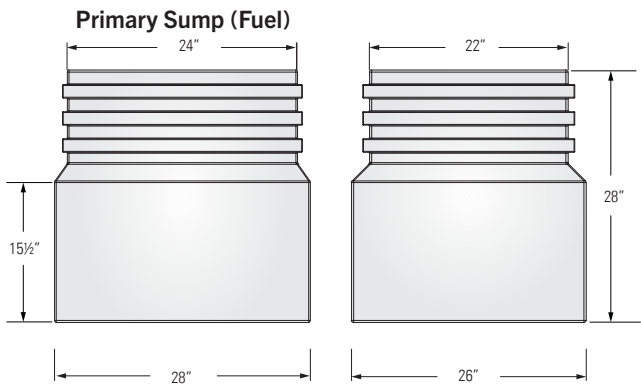
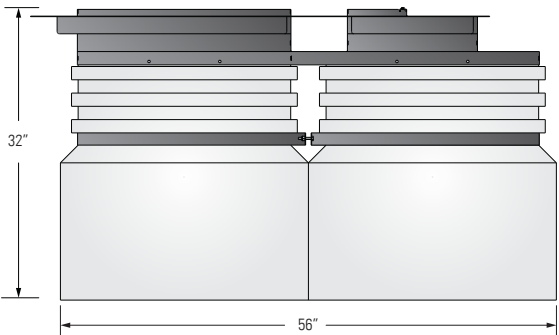
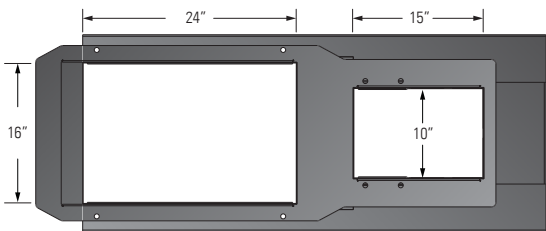


SPECIFICATIONS CONTINUED

Wayne® Ovation™ DEF Dispenser Sump Dimensions

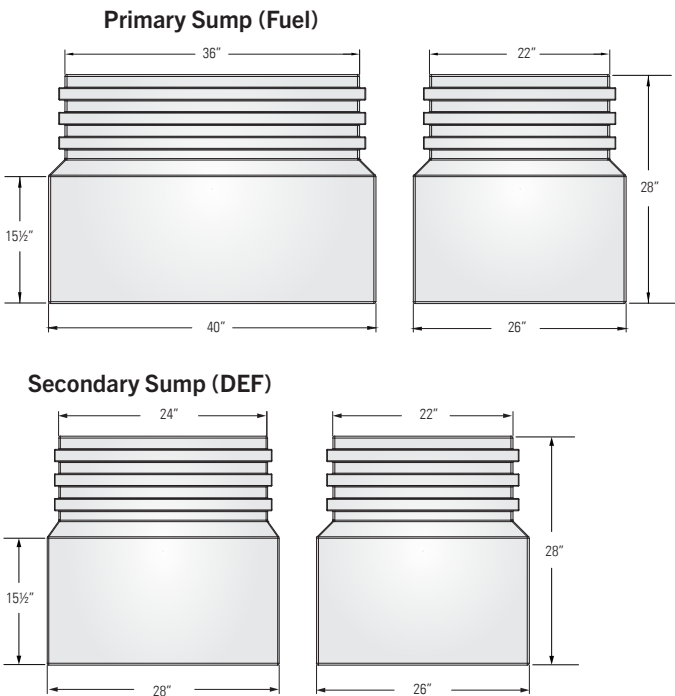
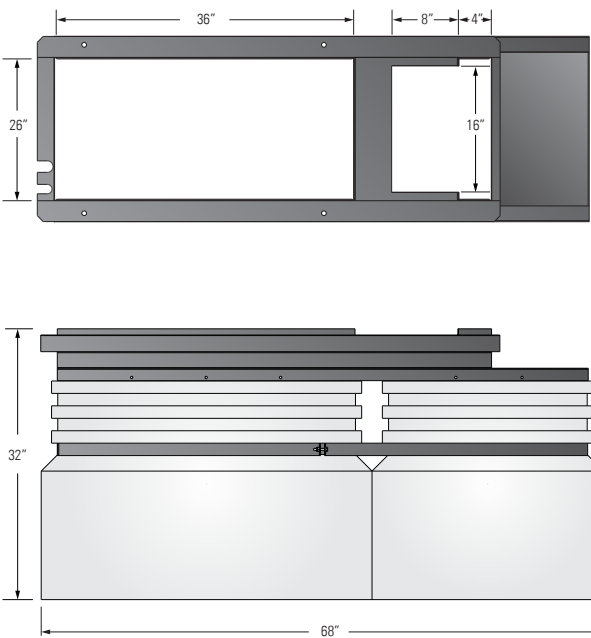


Wayne® Vista™ DEF Dispenser Sump Dimensions



SPECIFICATIONS CONTINUED

Gilbarco® Encore® DEF Dispenser Sump Dimensions



ORDERING INFORMATION

DEF Polyethylene Dispenser Sumps

Model	Description
LMM-2916-DEF-O2	DEF polyethylene dispenser sump (banded, two-sump design) for Wayne Ovation™ DEF dispensers
LMM-2916-DEF	DEF polyethylene dispenser sump (banded, two-sump design) for Wayne® Vista™ DEF dispensers
LMM-3617-DEF	DEF polyethylene dispenser sump (banded, two-sump design) for Gilbarco® Encore® DEF dispensers

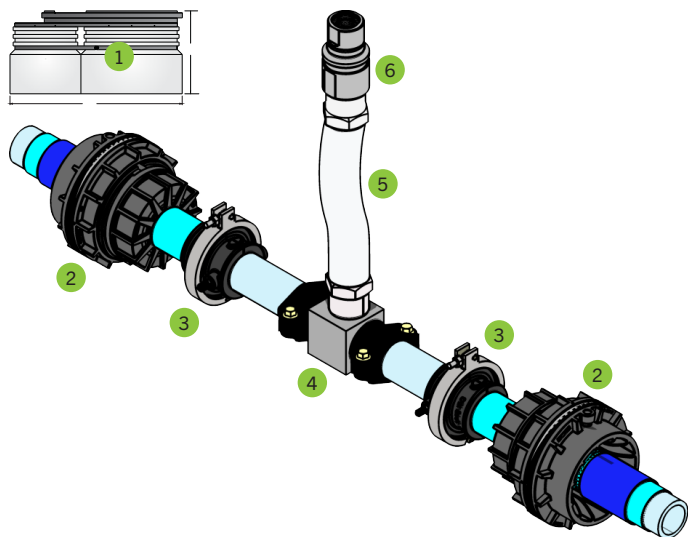
Stabilizer Bar Kits

Model	Recommended Stabilizer Bar Kit
LMM-2916-DEF-O2	DEF Sump = SBK-25 Product Sump = SBK-3
LMM-2916-DEF	DEF Sump = SBK-2 Product Sump = SBK-3
LMM-3617-DEF	DEF Sump = SBK-3 Product Sump = SBK-3



DEF RECIRCULATION SYSTEM SUMP KITS

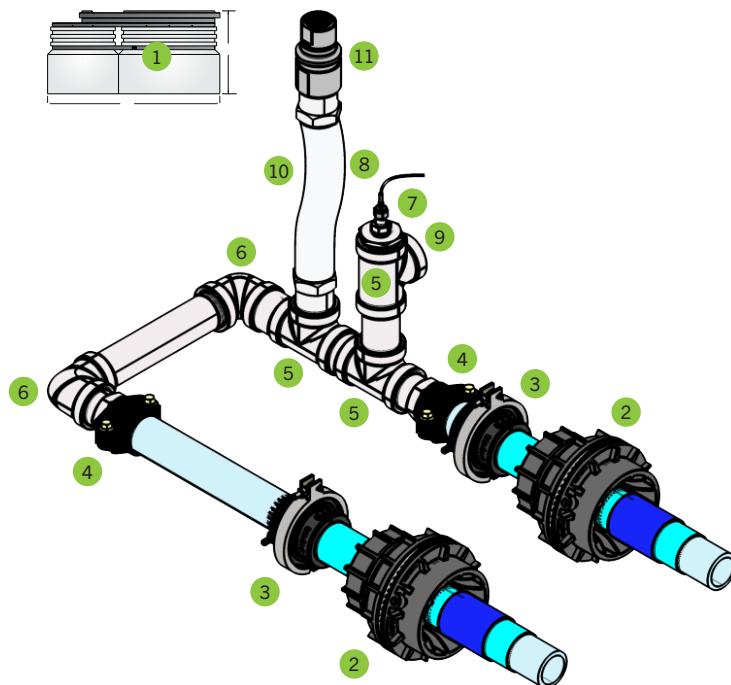
DEF recirculation system sump kits are available which include the sump assembly as well as all equipment necessary for both 1½" APT® brand XP pipe in-line or tee configurations for DEF recirculation systems.



In-Line Kit Components (P/N: 407513941 OR 407513943)

- 1 DEF dispenser sump (Qty 1)
- 2 Rigid entry boot, 1½" (Qty 2)
- 3 Split test boot, 1½" (Qty 2)
- 4 Tee fitting, 1½" (Qty 1)
- 5 Flexible connector, 1½" x 18" (Qty 1)
- 6 Shear valve 1½", with bracket (Qty 1)
- 7 Stabilizer bar kit, not shown (Qty 1)

Note: APT® XP Pipe not included in kits.



Tee Kit Components (P/N: 407513942 OR 407513944)

- 1 DEF dispenser sump (Qty 1)
- 2 Rigid entry boot, 1½" (Qty 2)
- 3 Split test boot, 1½" (Qty 2)
- 4 Male swivel fitting, 1½" (Qty 2)
- 5 Tee fitting, 1½" (Qty 3)
- 6 90 fitting, 1½" (Qty 2)
- 7 Hex busing, 1½" x ½" (Qty 1)
- 8 Temperature sensor, (Qty 1)
- 9 Square head plug, 1½" (Qty 1)
- 10 Flexible connector, 1½" x 18" (Qty 1)
- 11 Shear valve 1½", with bracket (Qty 1)
- 12 Stabilizer bar kit, not shown (Qty 1)

Note: APT® XP Pipe and stainless steel pipe not included in kits.

UPP® DISPENSER SUMPS

ORDERING INFORMATION

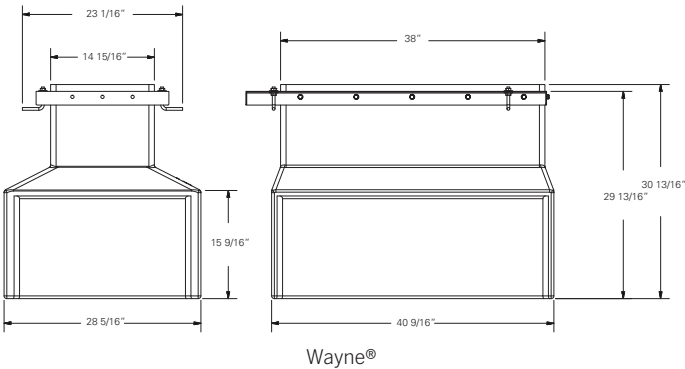
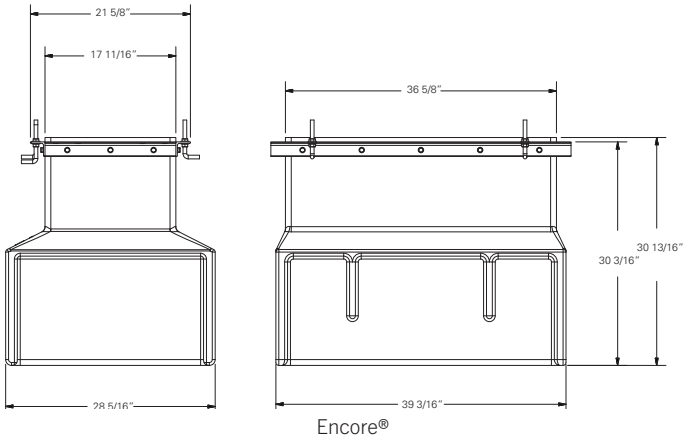
Model	Description
DS3617 ENCORE	Encore® dispenser sump with 36" × 17" top frame
SBK-3	Stabilizer bar kit for Encore® dispenser sump
DS3915 OVATION	Wayne® and Ovation® dispenser sump with 39" × 15" top frame
SBK-25	Stabilizer bar kit for Wayne® and Ovation® dispenser sump



SPECIFICATIONS

Approvals /
Certifications

ULc listed



PPING &
CONTAINMENT



CLASSIC DISPENSER PAN SUMPS

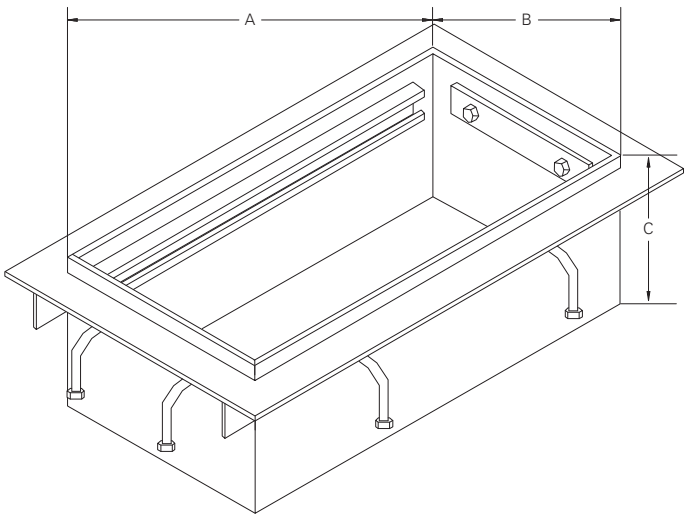
ORDERING INFORMATION

Dispenser Pans

Model	Size	A	B	C	SBK #
DP-1816	13¾" × 11¼"	13.75"	11.25"	10.25"	SBK-2
DP-2014	16½" × 10½"	16.5"	10.5"	8.75"	SBK-2
DP-2816	23" × 11¾"	23"	11.75"	9"	SBK-2
DP-4721	42" × 16"	42"	16"	8.75"	SBK-3



SPECIFICATIONS



WATER-RESISTANT TANK SUMPS

ORDERING INFORMATION

Model	Description
TSM-W-4736	Water-resistant tank sump, medium burial 45" (1,140 mm) maximum height, 31.9" (810 mm) minimum height], 47" (1,192 mm) base, fits 36" (900 mm) manway
TSD-W-4736	Water-resistant tank sump, deep burial 58" (1,471 mm) maximum height, 31.9" (810 mm) minimum height], 47" (1,192 mm) base, fits 36" (900 mm) manway
OCH-1400-LC	Mechanical toggle
OCH-1400-T1	Toggle latch

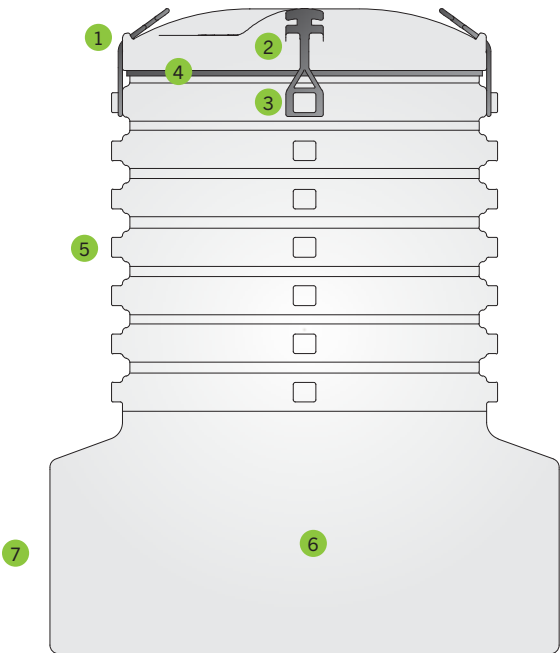


SPECIFICATIONS

Approvals / Certifications	ULc listed
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Components

- 1 Water-resistant lid
- 2 Lid toggle (qty 4)
- 3 Molded lid toggle peg
- 4 Gasketed seal
- 5 Sump riser
- 6 Sump base
- 7 Flat face panels (qty 16)



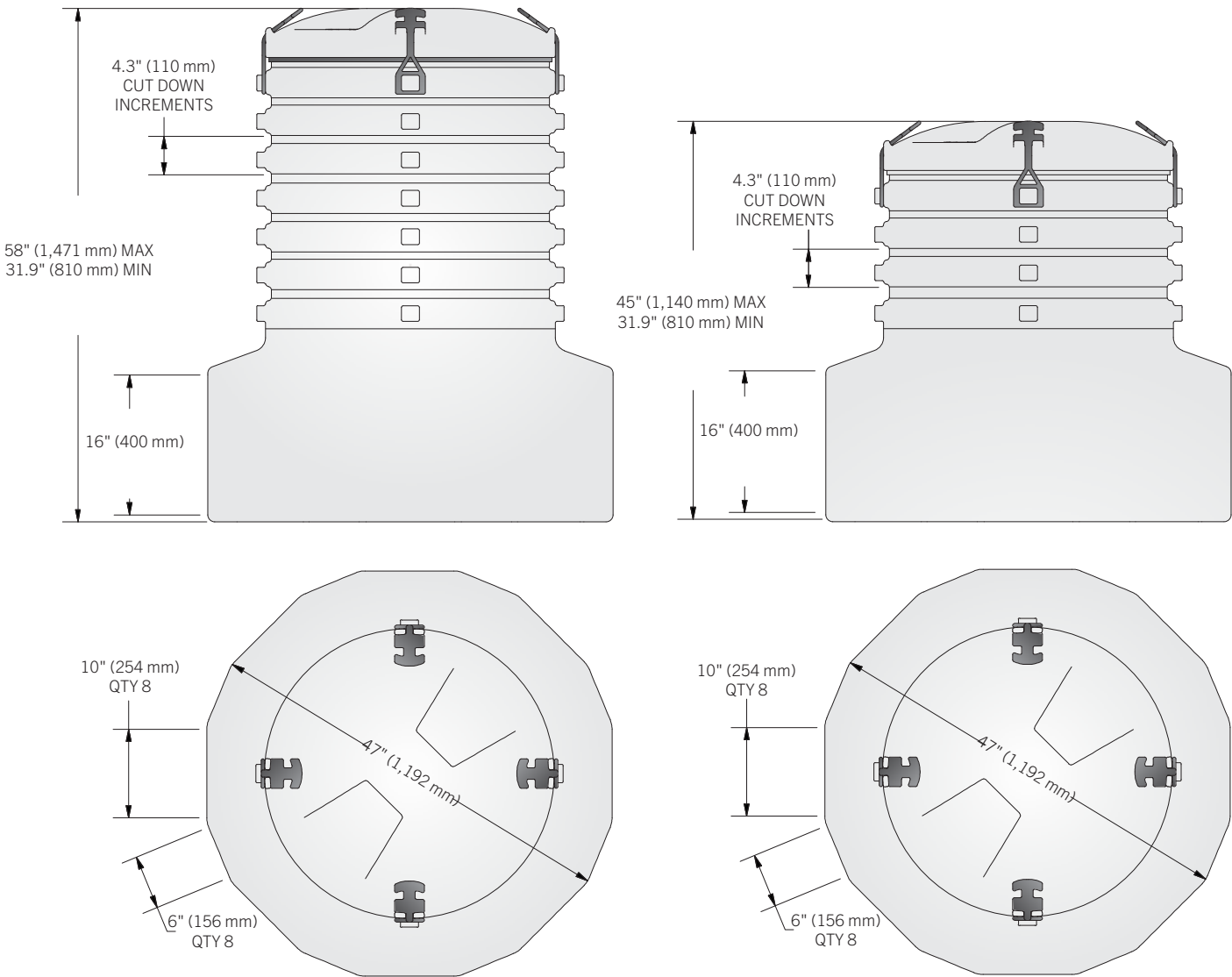
PIPE &
CONTAINMENT



SPECIFICATIONS CONTINUED

Tank Sump Dimensions

The tank sump is available in both medium and deep bury models.



ONE-PIECE TANK SUMPS

ORDERING INFORMATION

Model	Description
TSD-4542	Tank sump, deep burial, 45" base, fits 42" manway
TSM-4542	Tank sump, medium burial, 45" base, fits 42" manway
TSS-4542	Tank sump, shallow burial, 45" base, fits 42" manway
26004209	TSM-4542 sump lid replacement
MA-22	Manway adapter, 22"
MA-24	Manway adapter, 24"
IP-400-B	Inspection port, FEP style with well cap

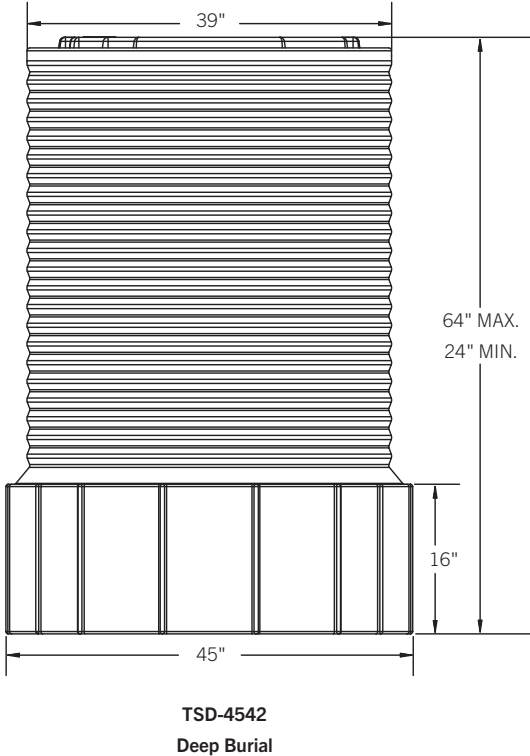
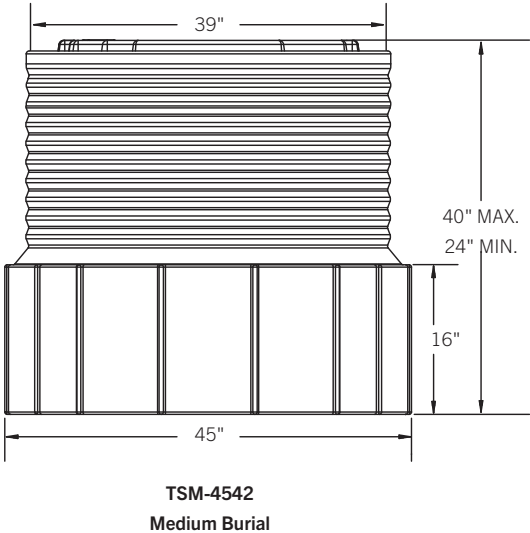
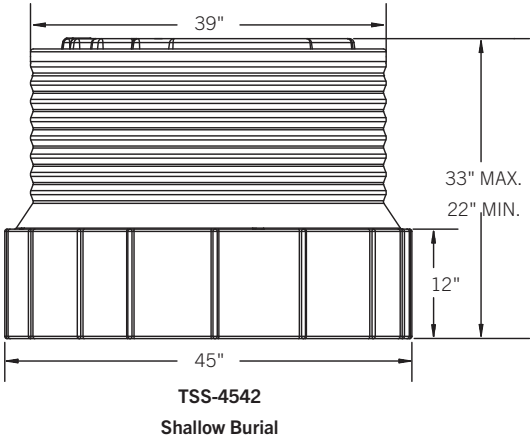
Note: Replacement gaskets sold with cover only.



SPECIFICATIONS

Approvals /
Certifications

ULc listed



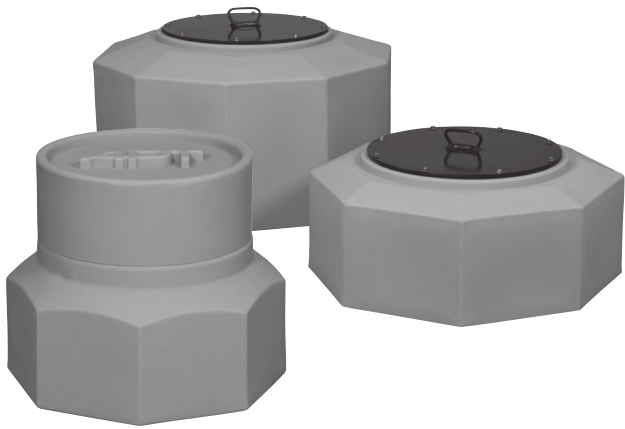
PIPE &
CONTAINMENT



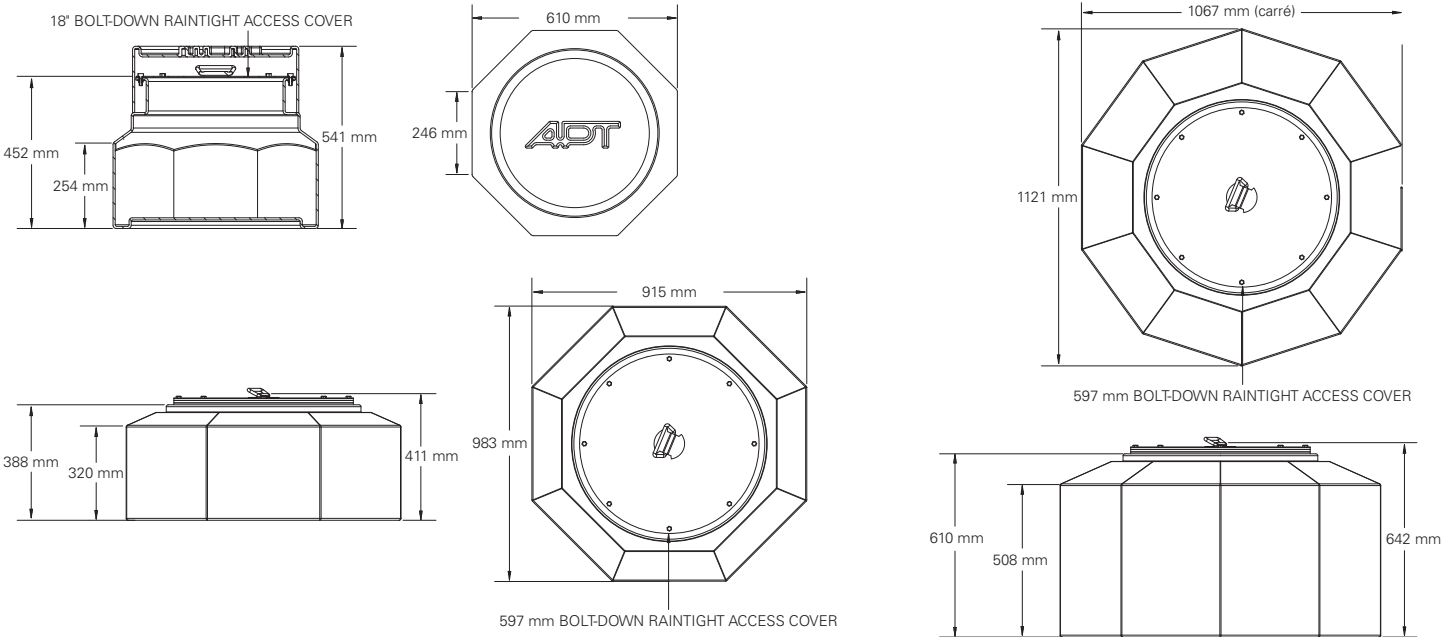
BELOW GRADE TRANSITION TANK SUMPS

ORDERING INFORMATION

Model	Description
TS-2430	Transition sump, shallow burial, 24" base, fits under a 30" manway
TS-3630	Tank sump, shallow burial, 36" base, fits under a 30" manway
TS-4230	Tank sump, medium burial, 42" base, fits under a 30" manway
TS-KIT	TS-3630/4230 retro fit kit, replacement lid assembly for screw-on polyethylene lids
99985555	Replacement gasket



SPECIFICATIONS



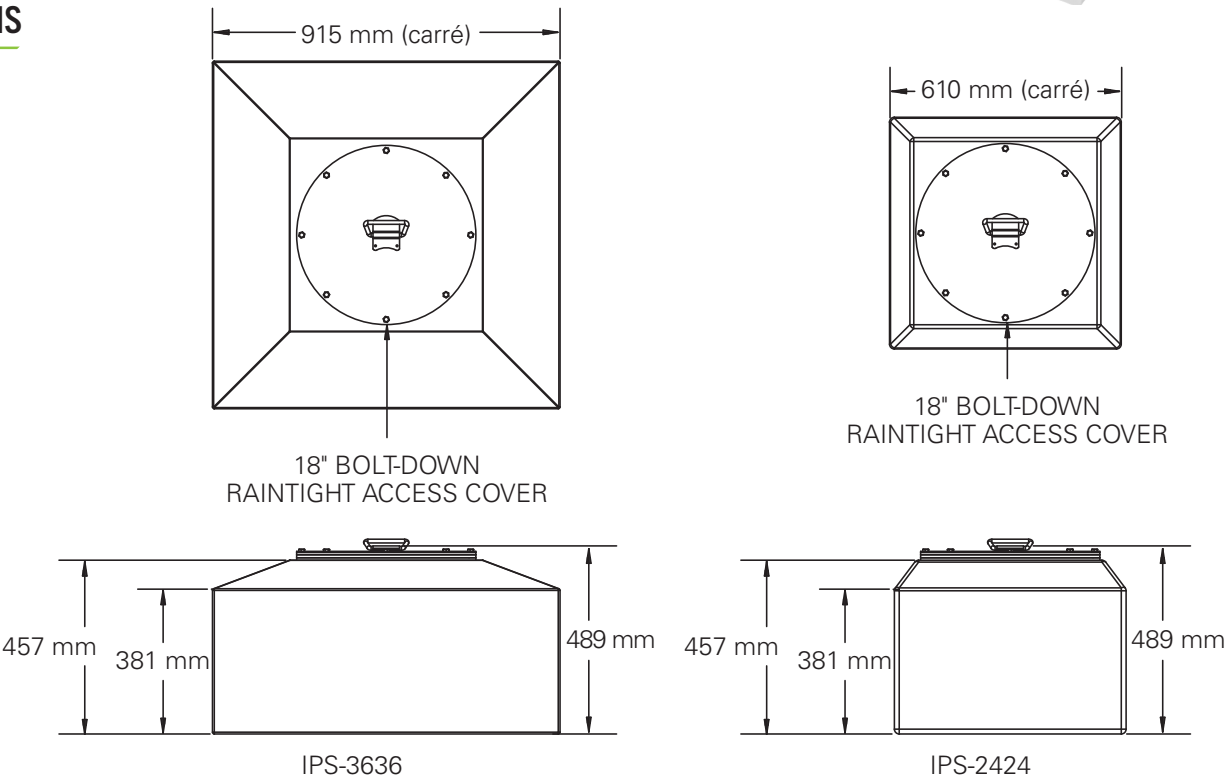
BELOW GRADE INTERMEDIATE PIPING SUMPS

ORDERING INFORMATION

Model	Description
IPS-2424	Intermediate piping sump, 24" × 24", fits under a 24" manway
IPS-3636	Intermediate piping sump, 36" × 36", fits under a 36" manway
99985554	Replacement gasket
73510102	Replacement cover



SPECIFICATIONS



PIPE &
CONTAINMENT



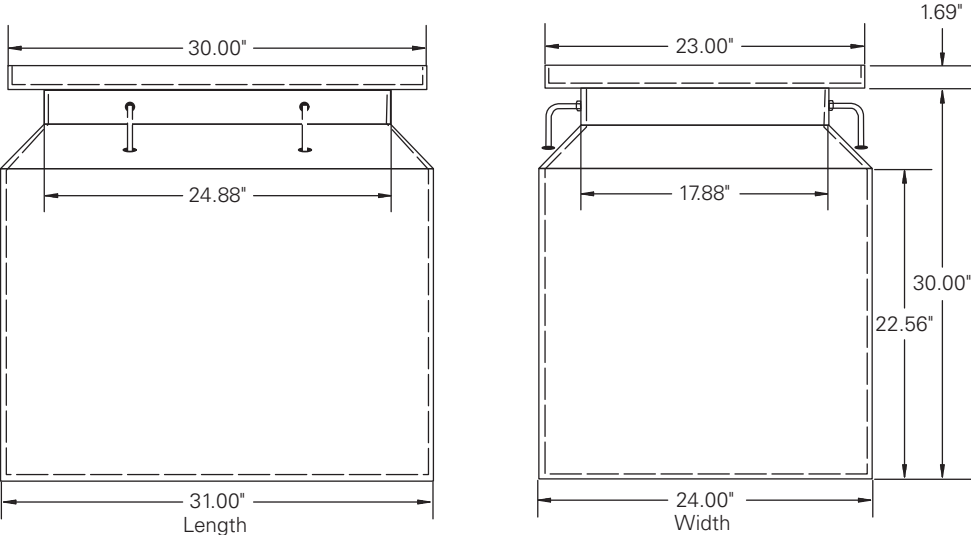
GRADE LEVEL TRANSITION SUMP

ORDERING INFORMATION

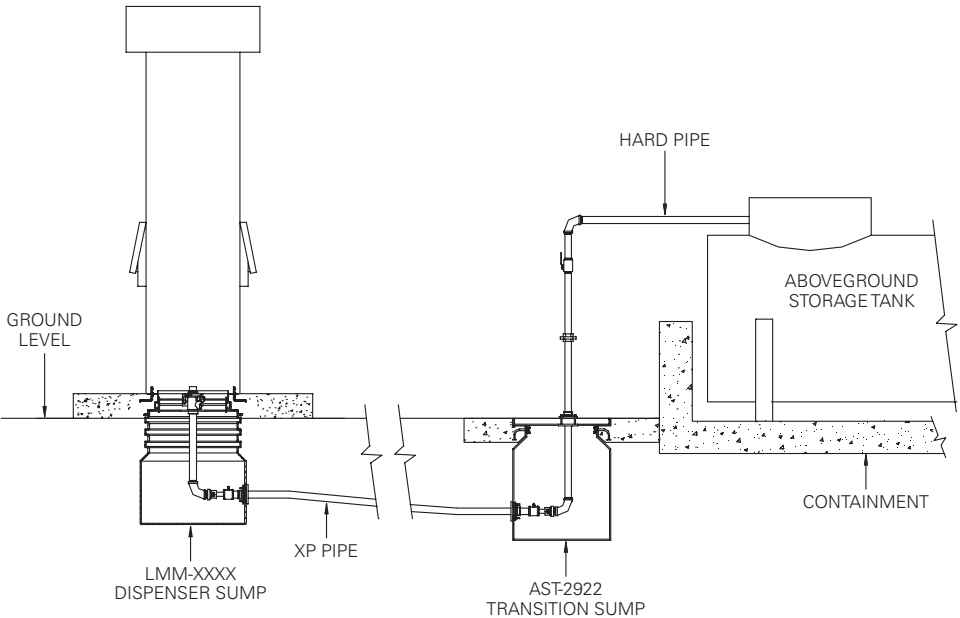
Model	Description
AST-2922	Aboveground storage tank transition sump
99985553	Replacement gasket
25202923	Replacement AST-2922 lid, gray
IP-400-B	Inspection replacement port, FEB style with replacement well cap
42615004	Replacement AST-2922 steel frame, black



SPECIFICATIONS



Abovegrade Typical Application Drawing



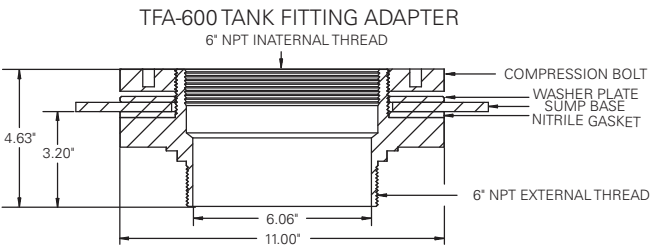
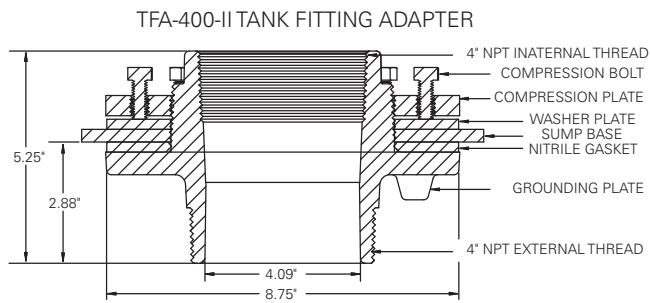
TANK FITTING ADAPTERS

ORDERING INFORMATION

Model	Description
TFA-400-II	Tank fitting adapter generation II, 4" NPT
TFA-600	Tank fitting adapter, 6" NPT
41110502	Compression plate for TFA-400-II (replacement)
42020002	Plate washer TFA-400-II (replacement)
44610002	Gasket for TFA-400-II



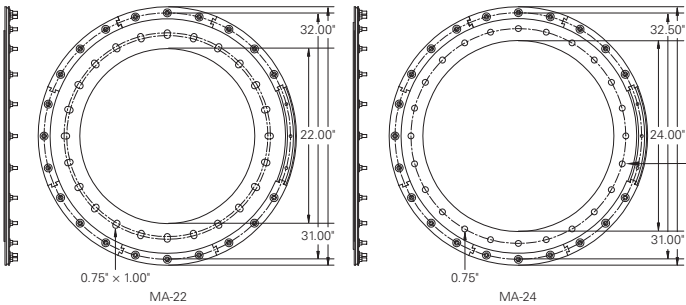
SPECIFICATIONS



TANK MANWAY ADAPTERS

APT® tank manway adapters permit tank sumps to be mounted directly to a tank's 22" or 24" manway.

Model	Description
MA-22	22" tank manway adapter
MA-24	24" tank manway adapter



STABILIZER BAR KITS

Model	Description
SBK-1	Stabilizer bar kit 1, 7" - 8.38"
SBK-2	Stabilizer bar kit 2, 8.25" - 10.88"
SBK-3-1-U	Stabilizer bar kit 3, 13.5" - 21.25"
SBK-25-1-U	Stabilizer bar kit 25, 10.12" - 14.38"



CABLETIGHT™ WIRE MANAGEMENT SYSTEM

ORDERING INFORMATION

¾" CableTight™ Wire Management System

Model	Description
000-075-1000-EC-U	¾" flexible conduit, 1,000' reel, pre-loaded on compact reel
000-075-1500-EC-U	¾" flexible conduit, 1,500' reel, pre-loaded on compact reel

Inside Ø 0.804" (20.4 mm)

Model	Description
000-075-COUP-U	¾" CableTight™ Press-Fit Connector
000-075-NPT-U	¾" CableTight™ Threaded Press-Fit Connector

Model	Description
REB-C-0075	¾" fiberglass entry seal, flat surface
REB-C-R-0075	¾" fiberglass entry seal, round surface

CableTight™ Installation Tool

Model	Description
SCR-CTDBR	CableTight™ Bevel Tool for ¾" & 1" Conduit, Drill Mounted

The optional drill mounted bevel tool can be used to slightly bevel the edges of the HDPE conduit before inserting into a press-fit connector. This eases the flexible conduit through the O-rings and gripping teeth inside the press-fit connector.

1" CableTight™ Wire Management System

Model	Description
000-100-1000-EC-U	1" flexible conduit, 1,000' reel, pre-loaded on compact reel

Inside Ø 1.029" (26.0 mm)

Model	Description
000-100-COUP-U	1" CableTight™ Press-Fit Connector
000-100-NPT-U	1" CableTight™ Threaded Press-Fit Connector

Model	Description
REB-C-0100	1" fiberglass entry seal, flat surface
REB-C-R-0100	1" fiberglass entry seal, round surface



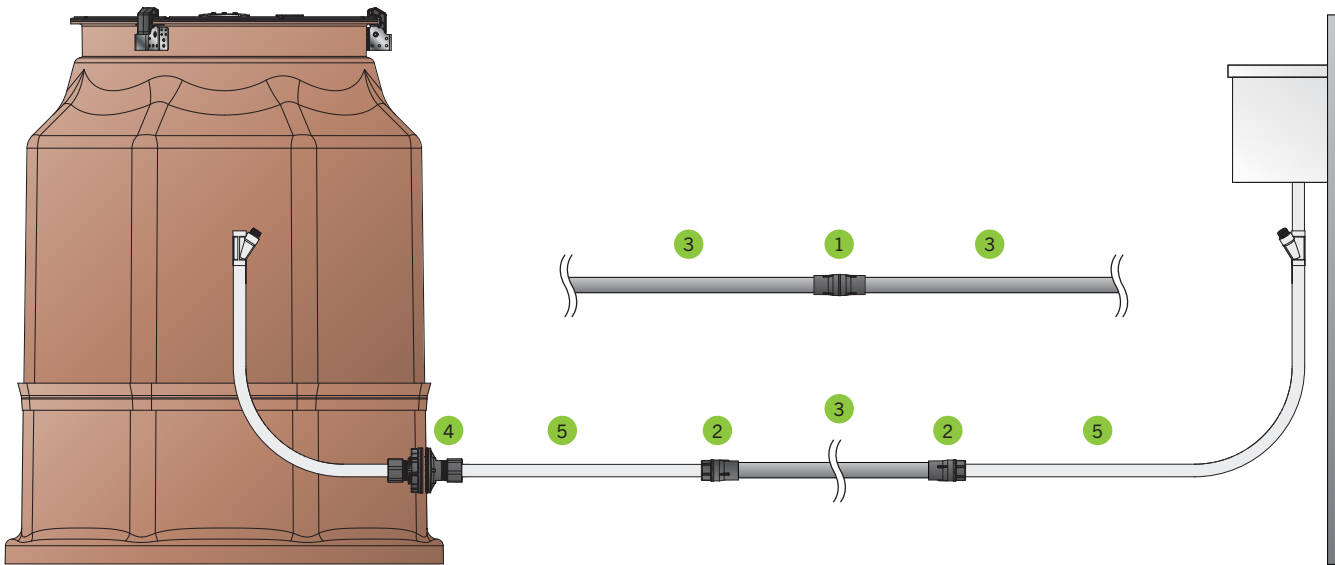
SPECIFICATIONS

Approvals / Certifications

- Flexible conduit (HDPE): UL Certification of Compliance to UL651A, (HPDE conduit meets NEC 2017 Code Requirements, NFPA 70-2017 (Section No. 514.8 Underground Wiring)
- Electrofusion fittings: UL Certificate of Compliance to UL971

Approvals/Certifications

- 1 CableTight™ Press-Fit Connector
- 2 CableTight™ Threaded Press-Fit Connector
- 3 CableTight™ Conduit
- 4 Containment Entry Boot
- 5 Rigid Metal Conduit (locally supplied)



DISPENSING SYSTEMS



9961 CLEAN AIR SEPARATOR

ORDERING INFORMATION

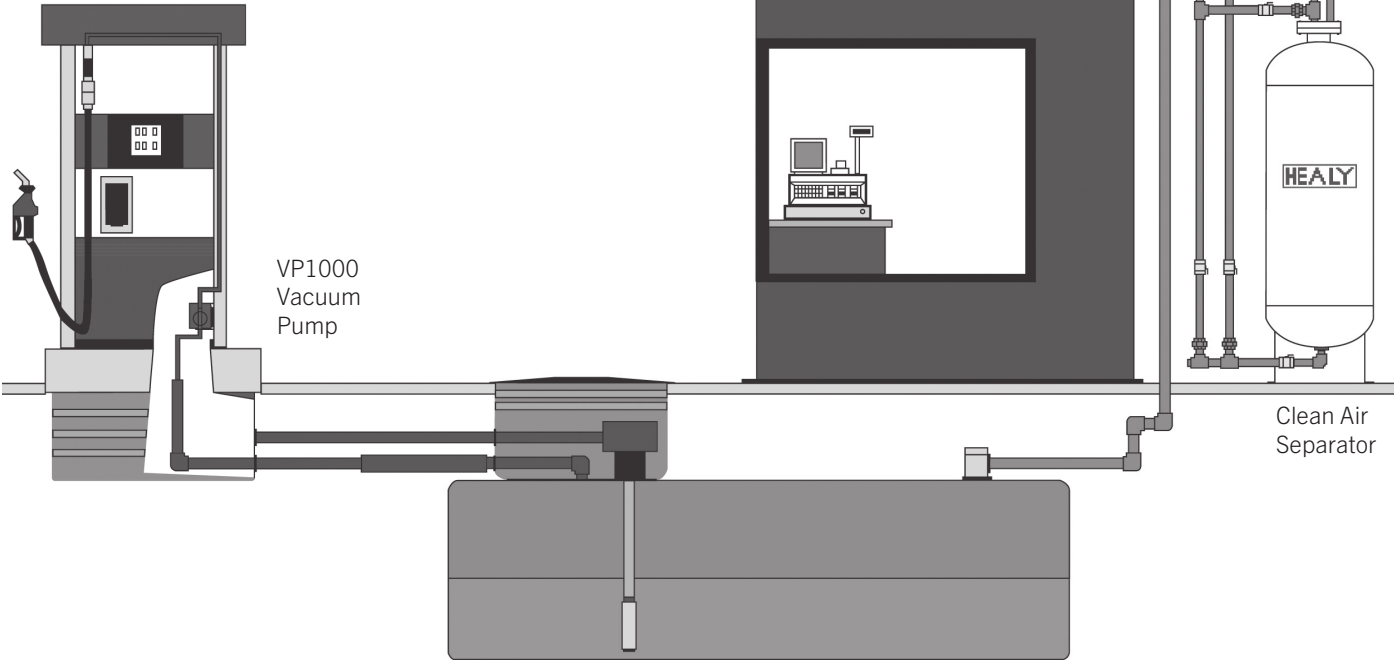
Model	Description
9961*	Vertical clean air separator, includes breather assembly, 9466G float check, locking ball valves, locks and keys
9961H*	Horizontal clean air separator, includes breather assembly, 9466G float check, locking ball valves, locks and keys
9948	Breather assembly
996123	1" ball valve (4 per CAS)
996124	Brass lock for ball valve (includes key) (4 per CAS)
996125	Keys for brass lock
9466G	Float check (for use with CAS only)
405 025 001	CAS kit - parts
9943	CAS replacement bladder
10000018466	CAS bladder repair kit

*UL Listed

CARB Certified for Use With	Executive Order Number	Tank Type
HEALY® EVR components	VR-201 VR-202	UST without ISD UST with ISD

Enhanced Vapor Recovery Components

900 EVR Nozzle



SPECIFICATIONS

Underground Storage Tanks

CARB Certified for Use With	Executive Order Number	Vacuum Source Description
600 bootless nozzle	G-70-183	VP1000
800 ORVR compatible nozzle	G-70-191	VP1000
900 ORVR compatible nozzle	G-70-191	VP1000
900 EVR/ORVR compatible nozzle with clean air separator	VR-201	VP1000 for EVR
900 EVR/ORVR compatible nozzle with clean air separator and ISD	VR-202	VP1000 for EVR and ISD



VP1000 SERIES DISPENSER-MOUNTED VACUUM SOURCE

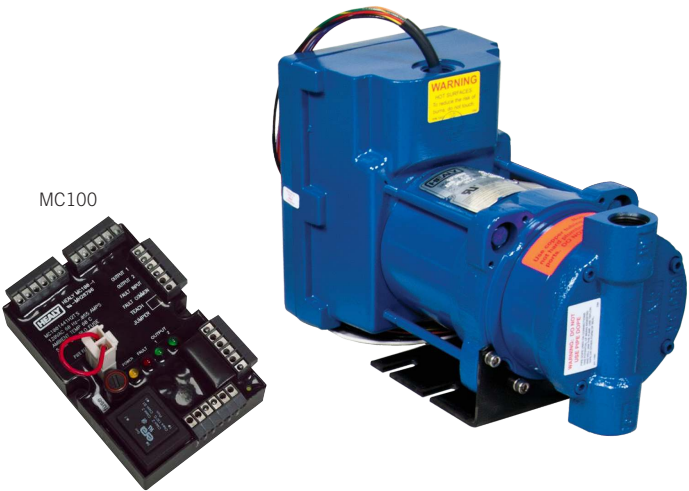
ORDERING INFORMATION

VP1000 Dispenser Mounted Vacuum Source Kits

Each kit includes vapor and electrical conduits as listed below.
One VP1000 per dispenser supplies both sides.

Model	Description
VP1000M*	Gasboy® 9800 Series - Non-Vapor Ready to HEALY®
Includes:	Z081H hardware kit
	Z081E electrical kit
	Z081V vapor kit
	VP1000-5 vacuum pump
	1374A MC100-1 interface module with harness

MC100



*UL Listed

VP1000 Dispenser Mounted Vacuum Source Kits (Non-Inclusive)

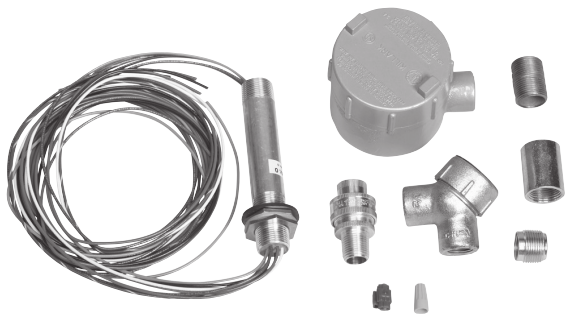
Kits do not include vapor and electrical conduits. Use Z070E and Z071V kits listed below. One VP1000 per dispenser supplies both sides.

Model	Description
VP1000A	For use with all dispenser types, use if a model-specific VP1000D-V is not available. Includes VP1000-5 vacuum pump, 1360A interface module and 1404 universal hardware/mounting kit.
VP1000D	Gilbarco® 300 blender dispensers only (early model AC solenoid valves, pre-April 2003). Includes VP1000-5 vacuum pump, 1368A interface module with harness and 1404 universal hardware/mounting kit.
VP1000E	International only, VP1000-220, 1380A, and 1404
VP1000G	Wayne™ DL non-blender dispensers only. Includes VP1000-5 vacuum pump, 1354A interface module with harness and 1404 universal hardware/mounting kit.
VP1000H	Tokheim™ Premier™ C blender dispensers with 24 VDC solenoids only. Includes VP1000-5 vacuum pump, 1362A interface module with harness and 1404 universal hardware/mounting kit.
VP1000J	Tokheim™ earlier-series blender dispenser with AC and DC solenoids. Includes VP1000-5 vacuum pump, 1372A interface module with harness and 1404 universal hardware/mounting kit.

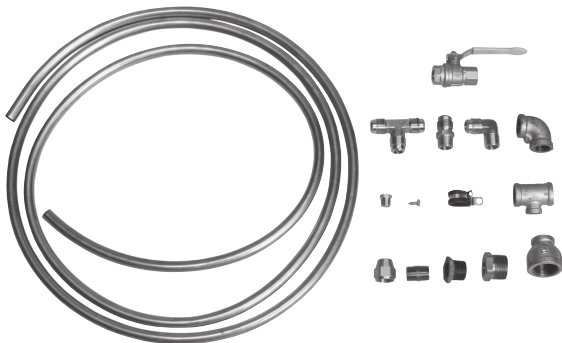
Universal Vapor and Electrical Kits

For use with the VP1000 kits listed above.

Model	Description
Z070E	Electrical installation kit for VP1000 Series vacuum source, for use with VP1000A-J
Z071V	Vapor piping installation kit for VP1000 Series vacuum source, for use with VP1000A-J
Z069E	International only, 220 V electrical installation kit for VP1000E



Z070E



Z071V



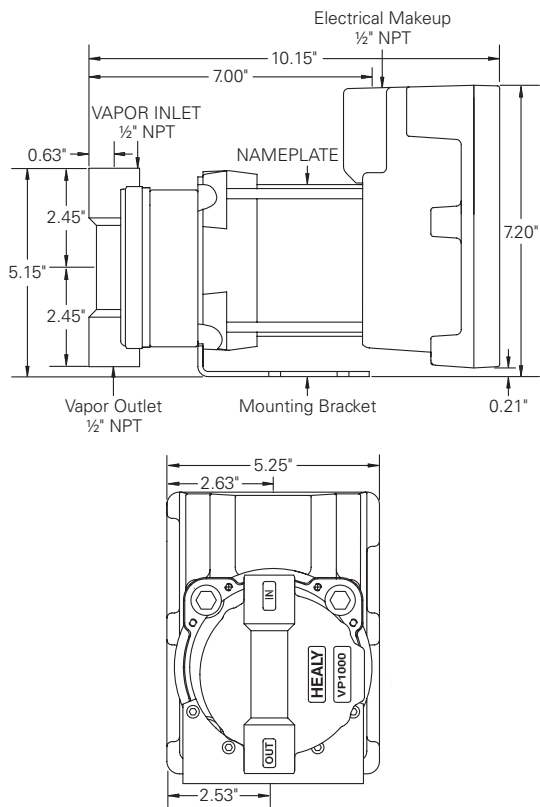
SPECIFICATIONS

Approvals /
Certifications

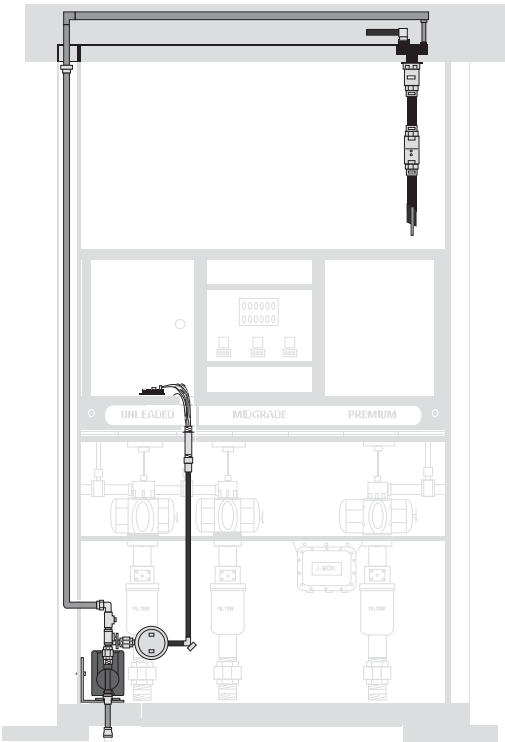
- UL 2447 listed
- CARB approved

CARB Certified for Use With	Executive Order Number	Tank Type
HEALY® 600 bootless nozzle	G-70-183	UST
HEALY® 800 ORVR nozzle	G-70-191	UST
HEALY® 900 EVR nozzle	VR-201	UST
	VR-202	UST

VP1000 Dimensions



VP1000 Installation



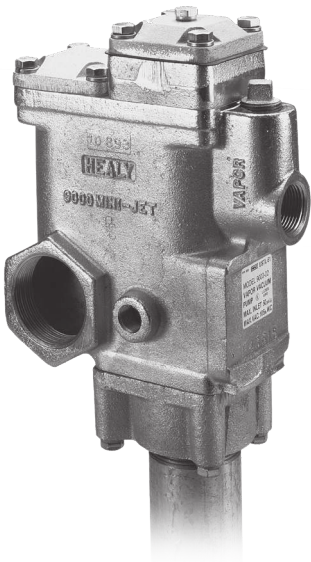
DISPENSING SYSTEMS

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CENTRAL VACUUM PUMP 9000 MINI-JET

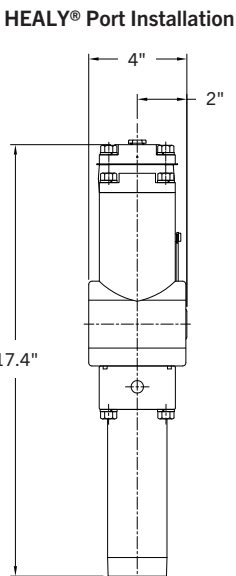
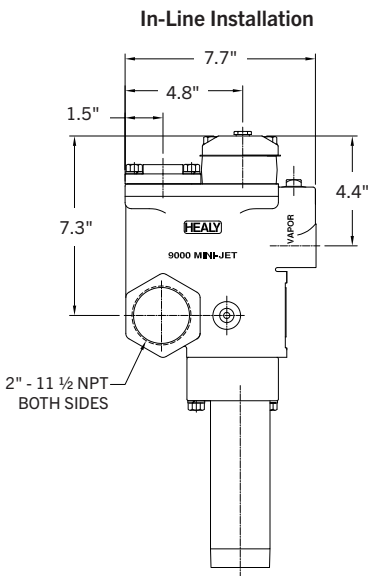
ORDER INFORMATION

Model	Description
9000-02	9000 Mini-Jet, non-electric with syphon port, can handle eight fueling positions with four nozzles in simultaneous full flow
65010402	1.5" Union check valve
940A	Vacuum regulator retrofit kit
965	O-ring (1 per cover)
CV4	O-ring, for strainer assembly
94666	Ball Float, 3/4"
930	O-ring
912A	Strainer Assembly



SPECIFICATIONS

Approvals / Certifications	CARB certified 9000-02 — Executive order number G-70-165 — Tank type UST
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VP500 CENTRAL VACUUM VANE PUMP

ORDERING INFORMATION

Model	Description
VP500B*	VP500 vane pump with U-bolts and angle bracket for mounting, handles 10 fueling positions with five nozzles in simultaneous full flow
VP500*	Replacement VP500 vane pump with regulator and flame arrester assembly
VP500VR-3	VP500 vane and rotor replacement kit, pin drive
5007A	Regulator assembly
9214	VP500 flame arrester

*UL Listed (UL 79)

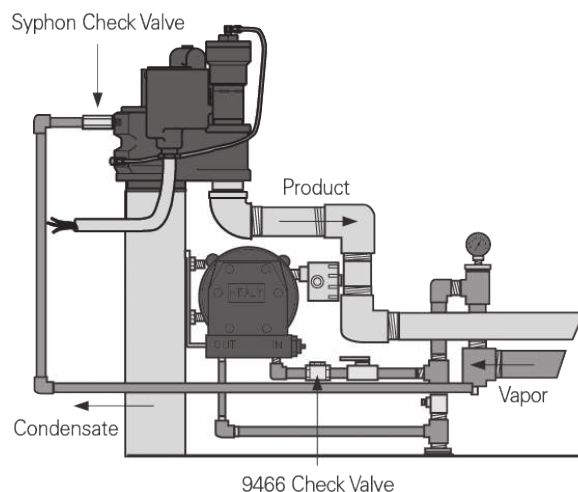


Note: Central vacuum source installation may require the use of a vapor recovery monitor assembly.

SPECIFICATIONS

Approvals /
Certifications

- CARB certified
 - HEALY® 600 bootless nozzle
 - Executive order number G-70-165
 - Tank type UST



VAPOR RECOVERY TEST EQUIPMENT

This testing equipment is for use with HEALY® Stage II Vapor Recovery equipment.

ORDERING INFORMATION

Model	Description
405803901	Surrogate spout assembly, for use with 800/900 Series nozzles only
9968	Clean air separator test port assembly
2302A	Gauge kit, 1-0-1" water column
6059	Spout adapter, air/liquid ratio test, for use with 600 Series nozzle only
8034-3	Spout adapter, air/liquid ratio test, for use with 800/900 Series nozzles only
8175-3	Surrogate spout assembly including 8034-3 for use with 800/900 Series nozzles only
939349A	Gauge kit, 0-100" water column
Z076	Roots® meter package, 600 Series nozzle, includes Roots® vapor recovery meter, flange kit, 2" NPT × ½" NPT reducer, 6' × ¾" hose, 600 Series nozzle spout adapter and two ½" NPT × ¾" hose barb fittings
Z077	Roots® meter package, 700/800/900 ORVR nozzle, includes Roots® vapor recovery meter, flange kit, 2" NPT × ½" NPT reducer, 6' × ¾" hose, ORVR nozzle spout adapter and two ½" NPT × ¾" hose barb fittings
63034	O-ring, for 8034-3 spout adapter
8006	Magnet Strip Assembly (for use with spout adapter 8034-3)

600 SERIES BOOTLESS NOZZLE

ORDERING INFORMATION

Model	Description
600-02G9 FS*	600 bootless nozzle, unleaded, full-service with black scuffguard** with G9 spout
600-02G9 SS*	600 bootless nozzle, unleaded, self-service with black scuffguard** with G9 spout
469	600 nozzle handle cover
600 Core	600 nozzle core, in reusable condition for rebuild
6030	600 nozzle scuffguard, black
6030BL	600 nozzle scuffguard, blue
6030G	600 nozzle scuffguard, green
6030GD	600 nozzle scuffguard, gold
6030R	600 nozzle scuffguard, red
6030TG	600 nozzle scuffguard, tangerine
6030W	600 nozzle scuffguard, white
6030Y	600 nozzle scuffguard, yellow
405219903	600 nozzle vapor escape guard and 6119 boot clamp, black
405220906	600 nozzle spout kit includes 6206-G9 spout, assembly, 6206-OR kit, 6188 vapor escape guard, and 6119 boot clamp
405221901	600 nozzle hold-open clip kit includes 6238-2 hold-open clip, 239-L rear guard rivet, 6249 spring, 6130-4 lever assembly, 240-SS pal nut, 219 front guard rivet, 6358 handguard, and 235-C lever cover



*UL Listed (UL 2568)

**Nozzles are supplied with black scuffguards unless otherwise specified. To order a nozzle with a scuffguard color other than black, place appropriate "X" code after "G3" in model number, as follows: BL for blue, GD for gold, G for green, R for red, W for white or Y for yellow.

SPECIFICATIONS

CARB Certified for Use With	Executive Order Number	Tank Type
9000 mini-jet	G-70-165	UST
VP500 vane pump	G-70-165	UST
VP1000 Series vacuum pump	G-70-183	UST



800 SERIES ORVR NOZZLE

ORDERING INFORMATION

Model	Description
800-02G3 FS-3	800 ORVR compatible nozzle, unleaded, full-service, three position hold open-clip, with black scuffguard
800-02G3 SS-3	800 ORVR compatible nozzle, unleaded, self-service with black scuffguard
6408SL	800 nozzle scuffguard, silver
469	800 nozzle handle cover
6408	800 nozzle scuffguard, black
6408BL	800 nozzle scuffguard, blue
6408G	800 nozzle scuffguard, green
6408GD	800 nozzle scuffguard, gold
6408R	800 nozzle scuffguard, red
6408Y	800 nozzle scuffguard, yellow
405219902	800 nozzle mini-boot with face seal and 640956 boot clamp
405221902	800 nozzle three position hold-open clip kit includes 6238-2 hold-open clip, 239-L rear guard rivet, 6249 spring, 6130-4 lever assembly, 240-SS pal nut, 219 front guard rivet, 6358 hand guard, and 235-C lever cover
405220907	800 Series nozzle replacement spout kit, includes 405923901 spout assembly, 6206-OR O-ring kit, 405800901 boot assembly and 640956 boot clamp
405219902	800 Series nozzle replacement mini-boot kit, includes face seal and 640956 boot clamp



Replacement Boot Kit



Replacement Spout Kit



Note: Nozzles are supplied with black scuffguards unless otherwise specified. To order a nozzle with a scuffguard color other than black, place appropriate “X” code after “G3” in the model number as follows: BL for blue, GD for gold, G for green, R for red, SL for silver or Y for yellow.

SPECIFICATIONS

Weight	3.5 lbs (1.6 Kg)
Flow rate	10 gpm (37.85 lpm)
Approvals / Certifications	— UL listed (UL 2586) — CARB approved

DISPENSING SYSTEMS



900 SERIES EVR NOZZLE

ORDERING INFORMATION

Model	Description
900-02G3 FS	900 Series EVR/ORVR compatible nozzle, unleaded, full-service with black scuffguard*
900-02G3 SS	900 Series EVR/ORVR compatible nozzle, unleaded, self-service with black scuffguard*
469	900 Series nozzle handle cover
6408	900 Series nozzle scuffguard, black
6408BL	900 Series nozzle scuffguard, blue
6408G	900 Series nozzle scuffguard, green
6408GD	900 Series nozzle scuffguard, gold
6408R	900 Series nozzle scuffguard, red
6408Y	900 Series nozzle scuffguard, yellow
900 Core	900 Series nozzle core, in reusable condition for rebuild
405219906	900 Series nozzle replacement mini-boot kit, includes face seal and 640956 boot clamp**
405220901-EOR	900 Series nozzle replacement spout kit, includes 405765901 spout assembly, 6206-OR O-ring kit, 405800901 boot assembly and 640956 boot clamp
405221901	900 Series nozzle hold-open clip kit, includes 6238-2 hold-open clip, 239-L rear guard rivet, 6249 spring, 6130-4 lever assembly, 240-SS pal nut, 219 front guard rivet, 6358 hand guard and 235-C lever cover



*Nozzles are supplied with black scuffguards unless otherwise specified. To order a nozzle with a scuffguard color other than black, place appropriate "X" code after "G3" in model number, as follows: BL for blue, GD for gold, G for green, R for red, or Y for yellow.

**Mini boot kits are replaceable only where newer style mini boots are already present. Newer style boots will have an "E" engraved inside the boot as seen to the left. All others require full spout replacement.

SPECIFICATIONS

Weight	3.5 lbs (1.6 Kg)
Flow rate	10 gpm (37.85 lpm)
Approvals/ Certifications	<ul style="list-style-type: none"> — UL listed (UL 2586) — CARB approved — CARB certified for use with VP1000 Series vacuum pumps and under ground storage tanks. (Executive Orders: G-70-191, VR-202, G-7-191).



COAXIAL VAPOR RECOVERY HOSE



ORDERING INFORMATION

Complete model numbers have a specific order and are created using the following guidelines:

75B - A B - C D

75B = 3/4" Vapor Recovery Hose

A = Hose Length Feet

Use two-digit format

B = Hose Length Inches

0 = None

5 = 6" (for curb length hoses only)

8 = 8" (for whip length hoses only)

C and D = End Fitting Options

F2 = Fixed HEALY™ straight thread

S2 = Swivel HEALY™ straight thread

F3 = Fixed metric M-34 thread

S3 = Swivel metric M-34 thread

S4 = Swivel balance-type thread

Curb hose example 1: 75B-115-F3F2 = 3/4" vapor recovery hose, 11 feet 6 inches length, one fixed metric M-34 thread fitting and one fixed HEALY™ straight thread fitting.

Whip hose example 1: 75B-008-F3F2 = 3/4" vapor recovery hose, 0 feet 8 inches length, one fixed metric M-34 thread fitting and one fixed HEALY™ straight thread fitting.

Replacement Parts

Model	Description
HB-2	Hose end O-ring for S2/F2 fitting, large
6094	Hose end O-ring for S3/F3 fitting, large
516	Hose end O-ring for S4 fitting, large
HB-4	Vapor end quad ring (2 required per adapter)
291	Vapor end O-ring, small (2 required per adapter)

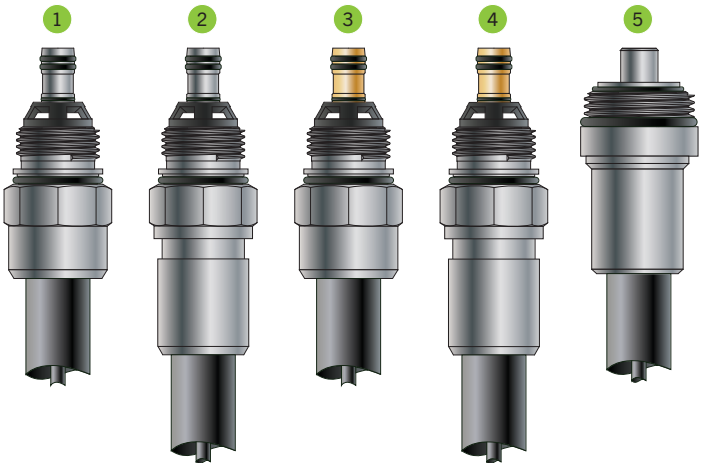
SPECIFICATIONS

Tube	Nitrile synthetic rubber with fluorothermoplastic barrier layer
Cover	Synthetic rubber
Reinforcement	Single wire braid
End fittings	Stainless steel
Approvals / Certifications	<ul style="list-style-type: none">Meets UL330UL Listed (Swivel and Fixed)CARB certified

End Fitting Options

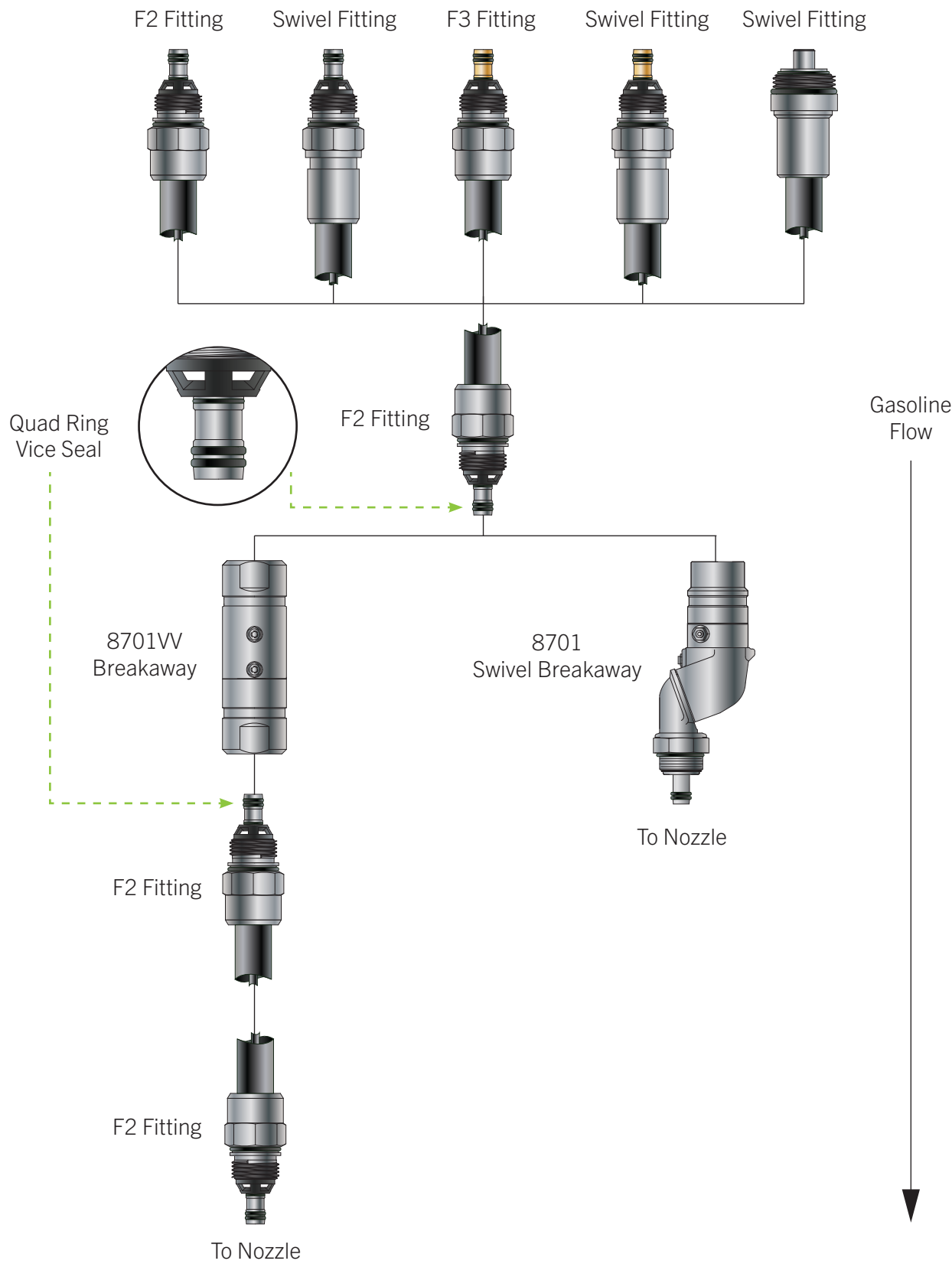
See following page for hose fitting Breakaway Valve configuration options.

- 1 Fixed HEALY™ straight thread (F2)
- 2 Swivel HEALY™ straight thread (S2)
- 3 Fixed metric M-34 thread (F3)
- 4 Swivel metric M-34 thread (S3)
- 5 Swivel Balance-type thread (S4)



SPECIFICATIONS CONTINUED

Hose Fitting & Breakaway Valve Configurations



LOW PERMEATION COAXIAL VAPOR RECOVERY HOSE



ORDERING INFORMATION

Complete model numbers have a specific order and are created using the following guidelines:

75X - A B - C D - LP
75X = ¾" Vapor Recovery Hose
A = Hose Length Feet

Use two-digit format

B = Hose Length Inches

- 0 = None
- 5 = 6" (for curb length hoses only)
- 8 = 8" (for whip length hoses only)

C and D = End Fitting Options

- F2 = Fixed HEALY® straight thread
- S2 = Swivel HEALY® straight thread
- F3 = Fixed metric M-34 thread
- S3 = Swivel metric M-34 thread
- S4 = Swivel balance-type thread

LP = Low Permeation

Curb hose example 1: 75X-115-F3F2-LP = ¾" vapor recovery hose, 11 feet 6 inches length, one fixed metric M-34 thread fitting and one fixed HEALY® straight thread fitting.

Whip hose example 1: 75X-008-F3F2-LP = ¾" vapor recovery hose, 0 feet 8 inches length, one fixed metric M-34 thread fitting and one fixed HEALY® straight thread fitting.

Replacement Parts

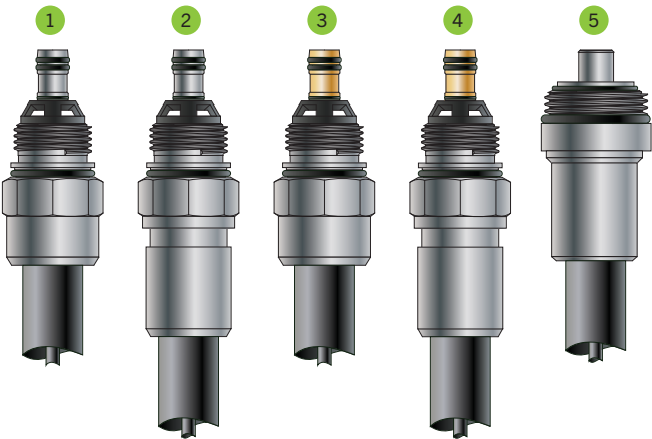
Model	Description
HB-2	Hose end O-ring for S2/F2 fitting, large
6094	Hose end O-ring for S3/F3 fitting, large
516	Hose end O-ring for S4 fitting, large
HB-4	Vapor end quad ring (2 required per adapter)
291	Vapor end O-ring, small (2 required per adapter)

SPECIFICATIONS

Tube	Nitrile synthetic rubber with fluorothermoplastic barrier layer
Cover	Synthetic rubber
Reinforcement	Single wire braid
End fittings	Stainless steel
Approvals / Certifications	<ul style="list-style-type: none">Meets UL330 permeation limit of 10g/m²/dayUL Listed (Swivel and Fixed)

End Fitting Options

- 1 Fixed HEALY® straight thread (F2)
- 2 Swivel HEALY® straight thread (S2)
- 3 Fixed metric M-34 thread (F3)
- 4 Swivel metric M-34 thread (S3)
- 5 Swivel Balance-type thread (S4)



DISPENSING SYSTEMS



FLEX-ON™ HARDWALL HOSE



ORDERING INFORMATION

Ordering Guide

Complete part numbers have a specific order and are created using the following guidelines:

FLHFR A B C D E

FLHFR = FLEX-ON™ Hardwall Hose

A = Hose Diameter

1 = 5/8" 3 = 1"

2 = 3/4"

B = Hose Length Feet

Use three-digit format

C = Hose Length Inches

Use two-digit format

D = Hose Color Options

Blank = Black GR = Green

BL = Blue RD = Red

E = Swivel Options

Blank = No Swivels

SWOE = Swivel on one end

SWEE = Swivel on both ends

SPECIFICATIONS

Tube	Synthetic rubber
Cover	Ozone-resistant rubber
Fittings	Machined nickel-plated carbon steel with chrome finish
Reinforcement	Hardwall wire braided
Temperature rating	-40° F to 140° F (-40° C to 60° C)
Fuel	For use with gasoline, diesel, Ethanol blends (up to E10) and Biodiesel blends (up to B5)
Approvals / Certifications	UL and cUL listed (UL 330, CAN/ULC-S612)

Example: FLHFR200806YLSWOE = FLEX-ON™ hardwall hose, 3/4" diameter, 8 feet, 6 inches length, swivel on one end.

E-85 ETHANOL HOSE ASSEMBLY



ORDERING INFORMATION

Ordering Guide

Complete part numbers have a specific order and are created using the following guidelines:

FLXE2 A B

FLXE2 = 3/4" E-85 Ethanol Hose

A = Hose Length Feet

Use three-digit format

B = Hose Length Inches

Use two-digit format

Example: FLXE200009 = 3/4" E-85 Ethanol Hose, 0 feet, 9 inches in length (whip hose)

Example: FLXE200906 = 3/4" E-85 Ethanol Hose, 9 feet, 6 inches in length (curb hose)

Common Hose Lengths

Model	Description
FLXE200009	9" (whip) E-85 ethanol hose, 3/4"
FLXE200100	1' E-85 ethanol hose, 3/4"
FLXE200800	8' E-85 ethanol hose, 3/4"
FLXE200806	8½' E-85 ethanol hose, 3/4"
FLXE200900	9' E-85 ethanol hose, 3/4"
FLXE200906	9½' E-85 ethanol hose, 3/4"
FLXE201000	10' E-85 ethanol hose, 3/4"
FLXE201100	11' E-85 ethanol hose, 3/4"

Model	Description
FLXE201200	12' E-85 ethanol hose, 3/4"
FLXE201400	14' E-85 ethanol hose, 3/4"
FLXE201600	16' E-85 ethanol hose, 3/4"
FLXE201700	17' E-85 ethanol hose, 3/4"
FLXE201800	18' E-85 ethanol hose, 3/4"
FLXE202000	20' E-85 ethanol hose, 3/4"
FLXE205000	50' E-85 ethanol hose, 3/4"

SPECIFICATIONS

Tube	Nitrile synthetic rubber	Temperature rating	-40° F to 140° F (-40° C to 60° C)
Cover	Synthetic rubber (wrapped finish)	Fuel Compatibility	Ethanol blends up to E-85
Fittings	Zinc alloy, 3/4" NPT	Approvals / Certifications	UL listed to UL330 / UL330A
Reinforcement	Wire braid		



HEALY™ LOW PERMEATION CONVENTIONAL HOSE ASSEMBLY



ORDERING INFORMATION

Model	Description
FLXLP200009	3/4" x 9' low permeation whip hose, non-swivel
FLXLP200010	3/4" x 10' low permeation whip hose, non-swivel
FLXLP200100	3/4" x 1' low permeation hose, non-swivel
FLXLP200800	3/4" x 8' low permeation hose, non-swivel
FLXLP200900	3/4" x 9' low permeation hose, non-swivel
FLXLP200906	3/4" x 9'6" low permeation hose, non-swivel
FLXLP201000	3/4" x 10' low permeation hose, non-swivel
FLXLP201100	3/4" x 11' low permeation hose, non-swivel
FLXLP201200	3/4" x 12' low permeation hose, non-swivel
FLXLP200800SWOE	3/4" x 8' low permeation hose, swivel on one end
FLXLP200806SWOE	3/4" x 8'6" low permeation hose, swivel on one end
FLXLP200900SWOE	3/4" x 9' low permeation hose, swivel on one end
FLXLP200906SWOE	3/4" x 9'6" low permeation hose, swivel on one end
FLXLP201000SWOE	3/4" x 10' low permeation hose, swivel on one end
FLXLP201006SWOE	3/4" x 10'6" low permeation hose, swivel on one end
FLXLP201100SWOE	3/4" x 11' low permeation hose, swivel on one end
FLXLP201200SWOE	3/4" x 12' low permeation hose, swivel on one end

SPECIFICATIONS

Tube	Nitrile synthetic rubber
Cover	Synthetic rubber (wrapped finish)
Fittings	Zinc alloy, 3/4" NPT
Reinforcement	Wire braid
Temperature rating	-40° F to 140° F (-40° C to 60° C)
Fuel	For use with ethanol blends up to E-85
Approvals / Certifications	<ul style="list-style-type: none"> - CARB certified - UL330 listed - Meets UL330 permeation limit of 10g/m²/day

AGRI-FLEX™ FARM HOSE WITH STATIC WIRE



ORDERING INFORMATION

FTSW A B C

FTSW = AGRI-FLEX™ Farm Hose

A = Hose Diameter

3 = 1"

B = Hose Length Feet

Use three-digit format

C = Hose Length Inches*

Use two-digit format

Example: FTSW201006 = AGRI-FLEX™ Farm Hose, 3/4" diameter, 10 feet, 6 inches in length.*

*Note: Available in 6" increments only.

SPECIFICATIONS

Tube	Nitrile synthetic rubber (ORS)
Cover	Black Chemivac™ synthetic rubber (ORS)
Reinforcement	Spiral synthetic yarn
Temperature	-30° F to 140° F (-34° C to 60° C)
Packaging	Available in bulk or coupled lengths, 10 hoses per box
Couplings	Zinc w/ Zinc-plated fittings and aluminum ferrules
Non-Stock/Sizes	For special lengths not contained in our price book, contact Customer Service

ID		Nom. OD		Weight	
In	mm	In	mm	lb/Ft	kg/m
1	25.4	1.40	35.6	0.52	0.77

HOSE RETRIEVER SYSTEM

ORDERING INFORMATION

Model	Description
HRTRVR	Hose retriever kit including head with 2" NPT inlet, cable, counterweight, pulley, and clamps
HRTRVRBASE	Hose retriever base plate, 2" NPT inlet
407924901	Anti-kink hose clamp for 5/8" or 3/4" hose
HB100	1" hose diameter hose support
HRTRTR	Hose retractor, 20 lbs counterweight, 30 lbs



SPECIFICATIONS

Head & Body	Cast iron
Cable	Stainless steel
Base	Steel
Install Height with Base Plate	Recommended 10'6" maximum pipe length
Install Height with Concrete	Recommended 17' maximum pipe length with minimum of 18" buried in concrete

Installation

- 1

Cable
- 2

Hose Retriever Head
- 3

Counterweight
- 4

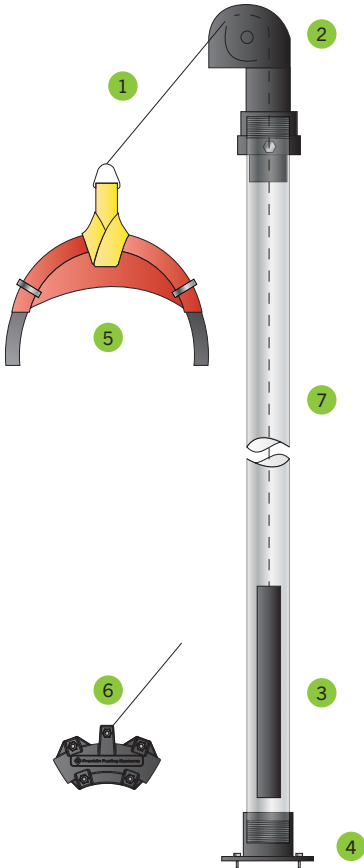
Hose Retriever Base*
- 5

Hose Support*
- 6

Anti-Kink Hose Clamp*
- 7

2" Pipe**

*Sold Separately **Locally Supplied



402 SERIES UTILITY NOZZLE



ORDERING INFORMATION

Model	Description
402315901	¾" utility nozzle, leaded spout
402315902	1" utility nozzle, leaded spout
402315903	¾" utility nozzle, unleaded spout
402315904	1" utility nozzle, unleaded spout
90003	Utility nozzle service kit, includes: O-ring, seal ring, and poppet assembly

SPECIFICATIONS

Spout	1½/16" aluminum (leaded), 1¾/16" aluminum (unleaded)
Body	Heat-treated aluminum
Poppet seal	UL listed Nitrile
Weight	1.31 lbs (0.59 Kg)
Fuel	For use with gasoline, diesel and Ethanol blends up to E15
Approvals / Certifications	UL listed (UL 2586)

410 FUEL OIL DELIVERY NOZZLE



ORDERING INFORMATION

Model	Description
41030003	EBW® 410 fuel oil delivery nozzle
41040103	EBW® 410 fuel oil delivery nozzle

WARNING: This is a non-automatic nozzle with a manually operated latch which will not shut-off automatically. Use should be limited to applications sanctioned by OSHA, State Fire Marshal Codes, and other appropriate regulating bodies and/or safety codes.

SPECIFICATIONS

Body	Aluminum
Stem	Stainless steel
Packing	PTFE-impregnated graphite
Discs	Fluorocarbon

Model	Inlet Size		Outlet Size		Weight	
	In	mm	In	mm	lbs	Kg
41030003	1.25	31.90	1.25	31.90	1.31	0.59
41040103	1.5	38.30	1.5	38.30	1.31	0.59

415 AUTOMATIC BULK FUELING NOZZLE

ORDERING INFORMATION

Model	Description
415415001	EBW® automatic bulk fueling nozzle

SPECIFICATIONS

Body	Aluminum
Stem	Stainless steel
Packing	PTFE-impregnated graphite
Discs	Fluorocarbon



Model	Inlet Size		Weight	
	In	mm	lbs	Kg
41511001	1.5	38.10	7.30	3.31

498 MANUAL NOZZLE

ORDERING INFORMATION

Model	Description
498303901	¾" manual nozzle, leaded spout, with check valve
498303902	1" manual nozzle, leaded spout, with check valve
498303903	1" manual nozzle, leaded spout

SPECIFICATIONS

Spout	1½/16" aluminum (leaded)
Body	Heat-treated aluminum
Packing	PTFE-impregnated graphite
Poppet seal	UL listed Nitrile
Weight	1.38 lbs (0.62 Kg)
Fuel	For use with gasoline, diesel and Ethanol blends up to E15
Approvals / Certifications	UL listed (UL 2586)



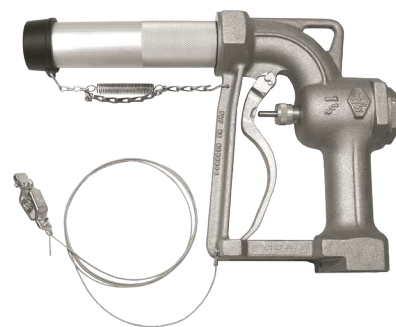
495 AIRCRAFT FUELING NOZZLE

ORDERING INFORMATION

Model	Description
49540001	1½" 495 aircraft fueling nozzle with aluminum tube & strainer
49540101	1 ¼" 495 aircraft fueling nozzle with aluminum tube & strainer
49540201	1" 495 aircraft fueling nozzle with brass tube & strainer

495 Replacement Parts

Model	Description
49510501	Dust Cap Assembly. For use with 1½" nozzle
49510601	Dust Cap Assembly. For use with 1¼" nozzle
49510701	Ground Wire Assembly
49511101	Dust Cap Assembly. For use with 1" nozzle
49511201	Spout for 495-402-01
49512001	1½" aluminum tube and brass strainer assembly
49512002	1½" tube and strainer assembly, brass
49512201	1¼" aluminum tube and brass strainer assembly
49512501	Strainer for 495-401-01
49520401	Strainer for 495-402-01
49521001	Spout for 495-400-01
49521101	Spout for 495-401-01



WARNING: This is a non-automatic nozzle with a manually operated latch which will not shut-off automatically. Use should be limited to applications sanctioned by OSHA, State Fire Marshal Codes, and other appropriate regulating bodies and/or safety codes.

SPECIFICATIONS

Body	Cast aluminum
Stem	Stainless steel
Packing	PTFE-impregnated graphite
Discs	Fluorocarbon

Model	Inlet Size		Outlet Size		Weight	
	In	mm	In	mm	lbs	Kg
49540001	1.5	38.3	1.5 NPT	38.3	6.5	3
49540101	1.25	31.9	1.25 NPT	31.9	5.3	2.4
49540201	1	25.5	1.25 NPT	31.9	4.15	1.9

DISPENSING SYSTEMS

NOZZLE ACCESSORIES

ORDERING INFORMATION

Brass Nozzle Tubes

Nozzle tubes fit EBW® 410 and 490 nozzles, are constructed of brass for durability and include a cast brass nut for a secure attachment to the nozzle.

Model	Thread Size		Tube Dia.		Tube Length		Weight	
	In	mm	In	mm	In	mm	lbs	Kg
41011601	1.5	38.3	1.38	35.20	8.5	216.80	1	0.45
41012201	1.25	31.9	1.12	28.60	8.5	216.80	0.88	0.40
41012901	1.5	38.3	1.62	41.30	8.5	216.80	1	0.45
41013301	1.25	31.9	1.38	35.20	8.5	216.80	1	0.45

Aluminum Nozzle Tubes

Nozzle tubes fit EBW® 410 and 490 nozzles and are constructed of schedule 40 aluminum. 491-107-01 includes a 1¼" brass nut for a secure attachment to the nozzle.

Model	Thread Size		Tube Dia.		Tube Length		Weight	
	In	mm	In	mm	In	mm	lbs	Kg
49110001	1.25 NPT	31.9	1.66	42.30	8.5	216.80	0.56	0.25
49110101	1.5 NPT	38.3	1.91	48.70	8.5	216.80	0.69	0.31
49110701	1.25 NPT	31.9	1.31	33.40	8.5	216.80	0.63	0.29

465 Hose Swivel

This swivel was designed for ease of delivery. It features free swivel action up to 125 psi with fluorocarbon O-ring seals, enabling it to turn smoothly with little effort while remaining leakproof. A waterproof dust seal assures constant free-turning action.

Model	Size		Description	Weight	
	In	mm		lbs	Kg
46510101	1.25" × 1.25"	31.90 × 31.90	Without check	0.69	0.31
46510102	1.25" × 1.25"	31.90 × 31.90	With check	0.69	0.31
46510201	1.5" × 1.5"	38.30 × 38.30	Without check	0.72	0.33
46510202	1.5" × 1.5"	38.30 × 38.30	With check	0.72	0.33



Dust Cap Assembly

Dust cap assembly consists of a cast aluminum cap, zinc coated chains and a phosphor bronze spring for corrosion resistance.

Model	Size		Weight	
	In	mm	lbs	Kg
49510501*	1.91	48.7	0.25	0.11
49510601**	1.66	42.3	0.19	0.09
49511101***	1.12	28.6	0.19	0.09



*For use with 1.5" nozzle.

**For use with 1.25" nozzle

***For use with 1" nozzle.



NOZZLE ACCESSORIES

ORDERING INFORMATION CONTINUED

Ground Wire Assembly

6½' of preformed galvanized steel cable with a terminal eye and heavy-duty battery clip.

Model	Size		Weight	
	In	M	lbs	Kg
49510701	78	1.90	0.13	0.06



Strainers

495-125 strainers are made of a six mesh brass outer screen, 100 mesh brass inner screen, two O-rings and a thrust ring. The 495-204 strainer is made of an eight mesh brass outer screen and 100 mesh brass inner screen.

Model	Size		Description	Weight	
	In	M		lbs	Kg
49512501	1.25	31.90	Brass	0.19	0.09
49520401	1	25.5		0.13	0.06
49520901	1.5	38.30		0.31	0.14



SPECIFICATIONS

Body	Wrought aluminum with hard coat anodized finish for durability
Stem	Two fluorocarbon O-ring seals and waterproof dust seal

DISPENSING SYSTEMS



UTILITY BREAKAWAYS

ORDERING INFORMATION

Model	Description
BRK15-N	1½" NPT utility breakaway
BRK2-2-N	2" NPT utility breakaway
BRK3-3-N	3" NPT utility breakaway
BRK2-K	Repair kit for 2" NPT utility breakaway
BRK3-K	Repair kit for 3" NPT utility breakaway

Note: Repair kits come with brass rings, 2 O-rings, cover, spacer, and retainer.



SPECIFICATIONS

Body and ring cover	Machined solid aluminum bar stock with nickel plating	
Seals	Nitrile	
Check valve	PTFE	
Working pressure	50 Psi max	
Break ring break force	– 1¼"	(400 lbs)
	– 1½"	(400 lbs)
	– 2"	(500 lbs)
	– 3"	(1,000 lbs)
Utility breakaways	Utility breakaways are not intended for use in commercial retail applications	
Fuel	For use with gasoline 10% ethanol blend and diesel fuel	



VAPOR RECOVERY BREAKAWAY VALVES & HOSE ACCESSORIES

ORDERING INFORMATION

In-Line Breakaway Valves

Model	Description
8701VV	In-line Breakaway valve with vapor path shut-off, 350 lbs strength, installed between whip hose and hose, includes one spare shear screw
762	In-line Breakaway scuffguard top (dispenser end)
761	In-line Breakaway scuffguard bottom (nozzle end)
715VV	Repair kit for in-line Breakaway, includes valves and O-rings
787	Replacement shear screw for in-line Breakaway valve, nickel-plated brass
Z055	O-ring kit for in-line Breakaway with nickel-plated shear screw

In-Line Breakaway Valves

Model	Description
807	Swivel Breakaway valve with vapor path shut-off, 350 lbs strength, installed between hose and nozzle, includes scuffguard
405417001	Replacement swivel Breakaway scuffguard
787-1	Replacement shear screw for 807 swivel Breakaway valve, nickel-plated

Breakaway Valve Reconnection Tool

Model	Description
795	Clamp repair tool for in-line and swivel Breakaway valves

Flow Limiter

Model	Description
1301	Hose flow limiter for 8701VV standard breakaway, installed between breakaway and main hose (CARB and UL Listed)

Hose Adapters

Model	Description
CX6-A	Hose Adapter, non-vapor ready, NPT
CX6-AE	Hose adapter, non-vapor ready, BSP, international only



DISPENSING SYSTEMS

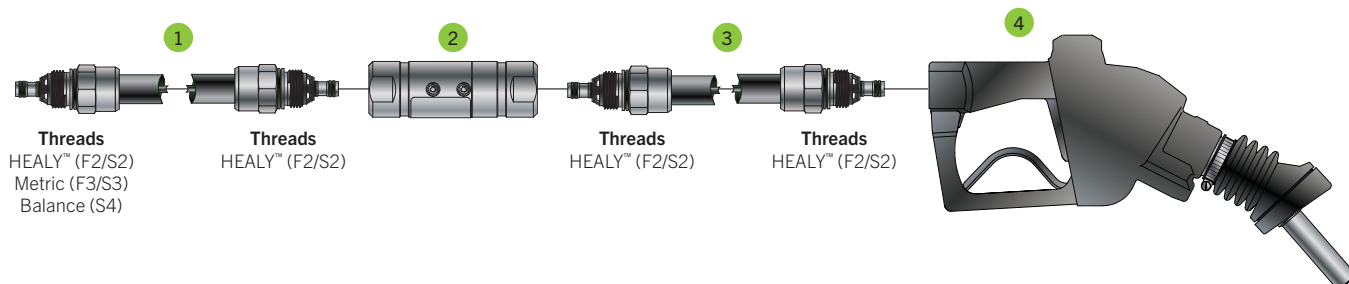


SPECIFICATIONS

In-Line Breakaway Valve Components & Thread Types

For fitting threads F = fixed, S = swivel.

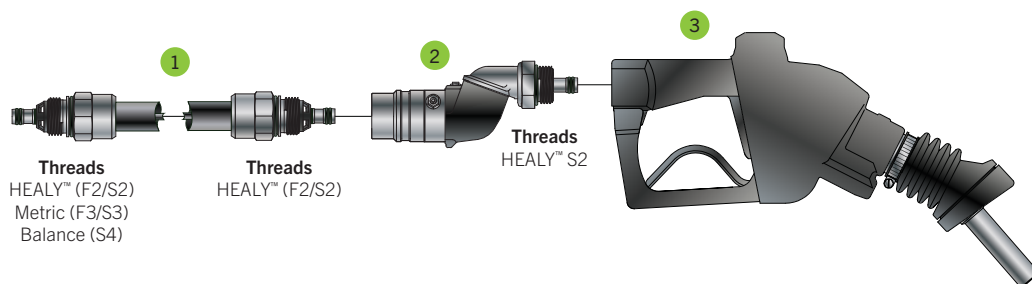
- 1 Whip hose
- 2 In-line Breakaway valve
- 3 Curb hose
- 4 All HEALY™ nozzles



Swivel Breakaway Valve Components & Thread Types

For fitting threads F = fixed, S = swivel.

- 1 Curb hose
- 2 Swivel Breakaway valve
- 3 All HEALY™ nozzles



DEF/ADBLUE® HANGING HARDWARE

Our complete diesel exhaust fluid hanging hardware solution includes everything you need to safely dispense DEF/AdBlue® and protect you and your customers from costly mis-fills. Our comprehensive offering includes a wide assortment of options, allowing you to fully customize your hanging hardware solution to fit the needs of any application.

A complete offering of hanging hardware products, **ALL ISO 22241 CERTIFIED**, to meet the needs of any DEF/AdBlue® application.



NOZZLES

Available with a mis-fill prevention spout, the DuraDEF-MPD nozzle will **prevent dispensing in non-DEF fill pipes**, eliminating potentially costly contamination.

SIZES:
¾" (19 mm)
INLETS:
¾" BSPP



HOSE

The anti-kink sleeves on the hose ends **prevent accelerated wear and kinking** in the hose while shielding the end fitting ferrule from harsh forecourt environments.

SIZES:
¾" (19 mm)
OUTLETS:
¾" NPT, ¾" BSPP, and 1" BSPP



BREAKAWAYS

This in-line breakaway solution provides **protection from drive-offs** by sealing at both ends to prevent any fuel from being released.

SIZES:
¾" (19 mm)
INLETS:
¾" NPT and ¾" BSPP

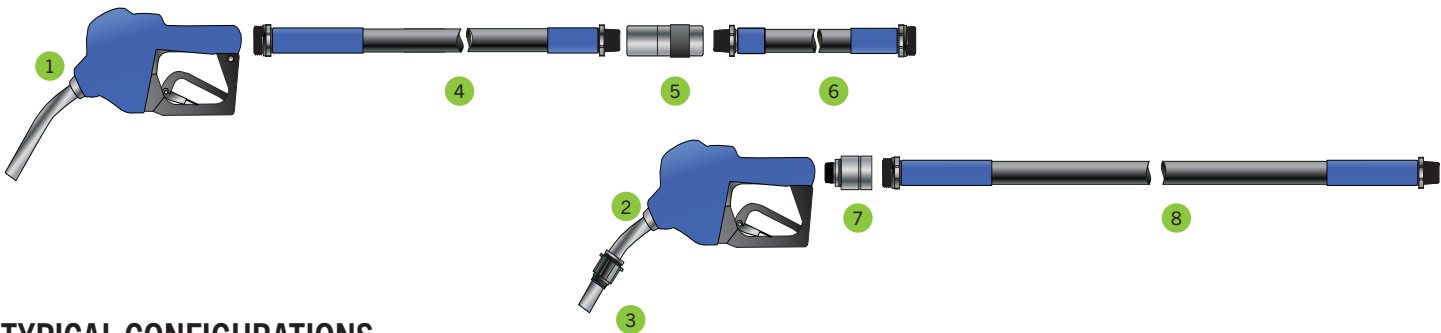


SWIVEL BREAKAWAYS

This breakaway's integrated swivel action promotes **easy nozzle rotation during vehicle filling** while also helping to reduce hose wear and kinking.

SIZES:
1" (25 mm)
INLETS:
1" BSPP
OUTLETS:
¾" NPT, ¾" BSPP, M34

DISPENSING SYSTEMS



TYPICAL CONFIGURATIONS

Item	Description	Model
1	¾" automatic nozzle	DURADEF-LB
2	¾" automatic nozzle with mis-filling prevention spout	DURADEF-MPD
3	Mis-filling prevention device	DEF-MPD
4	¾" BSPP × ¾" NPT hose	FLDEF2XXXXX-2P-2N

Item	Description	Model
5	¾" breakaway valve NPT	BRK34SS-N
6	¾" NPT x ¾" BSPP whip hose	FLDEF2XXXXX-2N-2P
7	¾" BSPP × 1" BSPP swivel breakaway valve	OMNIDEF1X34P
8	1" BSPP × ¾" NPT hose	FLDEF2XXXXX-3P-2N



DURADEF™ DIESEL EXHAUST FLUID NOZZLE

WITH MIS-FILL PREVENTION SPOUT

ORDERING INFORMATION

Model	Description
DURADEF-MPD	DuraDEF nozzle with mis-fill prevention spout, hold-open clip, light blue scuffguard
DURADEF-MPD-O	DuraDEF nozzle with mis-fill prevention spout no hold-open clip, light blue scuffguard
DEF-MPD	Mis-fill prevention device for ¾" spout



SPECIFICATIONS

Inlet	¾" BSPP
Spout	¾" (19 mm) stainless steel
Seals and poppet disc	Viton® A
Packing	PTFE
Body Casting	Coated aluminum
Hand guard and vac cap	Nylon
Body cap	Coated zinc
Lever	Electroless nickel-plated steel and nylon
Scuffguard	Vinyl
Weight / length / height	2.5 lbs / 13.5" / 9"

DURADEF™ DIESEL EXHAUST FLUID NOZZLE

ORDERING INFORMATION

Model	Description
DURADEF-LB	Light blue DuraDEF nozzle with hold-open clip
DURADEF-LB-O	Light blue DuraDEF nozzle no hold-open clip



SPECIFICATIONS

Inlet	¾" BSPP
Spout	19 mm stainless steel
Seals	Viton® A
Packing	PTFE
Poppet disc	Viton® A
Weight / length / height	2.5 lbs / 13.5" / 9"
Body casting	Coated aluminum
Handguard	Nylon
Vac cap	Nylon
Lever	Electroless nickel-plated steel and nylon
Scuffguard	Vinyl
Body cap	Coated zinc

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Viton® is a registered trademark of E. I. du Pont de Nemours and Company.



DIESEL EXHAUST FLUID HOSE

ORDERING INFORMATION

FLDEF A B C - D - E
FLDEF = DEF/AdBlue® Hose

A = Hose Diameter
2 = 3/4"

B = Hose Length Feet
Use three-digit format

C = Hose Length Inches
Use two-digit format

D and E = End Fitting Options
2N = 3/4" NPT
2P = 3/4" BSPP
3P = 1" BSPP
3PF = 1" BSPP Female Swivel

Example: FLDEF200906-2N-2N = Def/Adblue® hose, 3/4" diameter, 9', 6" length, 3/4" NPT fitting on both ends.

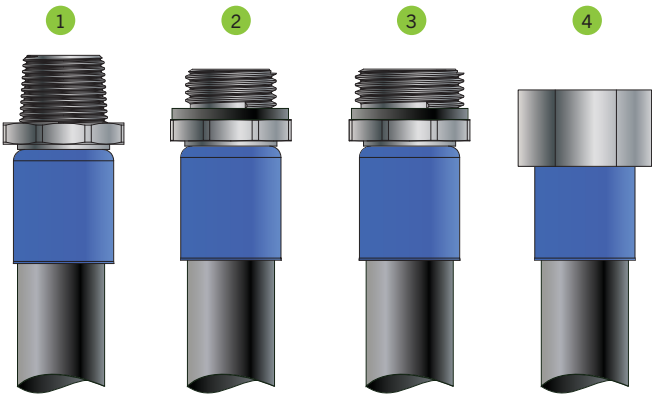


SPECIFICATIONS

Tube	3/4" Specially formulated low-extraction EPDM rubber, peroxide cured
Reinforcement	Polyester braid
Cover	Specially formulated EPDM
Temperature	-40° F to 257° F (-40° C to 125° C)
Approvals / Certifications	Meets ISO 22241 standard ensuring desirable characteristics of AUS 32 (DEF) are met, such as quality, safety, reliability, and contamination

Installation

- 1 3/4" NPT end fitting (2N)
- 2 3/4" BSPP end fitting (2P)
- 3 1" BSPP end fitting (3P)
- 4 1" BSPP Female Swivel



DISPENSING SYSTEMS

AdBlue® is a registered trademark of the German Association of the Automotive Industry (VDA)



DIESEL EXHAUST FLUID BREAKAWAY

ORDERING INFORMATION

Model	Description
BRK34SS-N	¾" NPT DEF breakaway
BRK34SS-P	¾" BSPP DEF breakaway

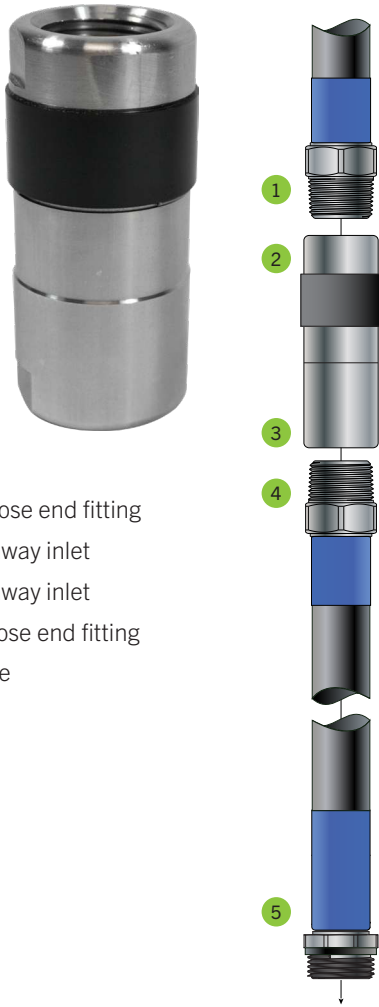
SPECIFICATIONS

Body and valve	Stainless steel
Check valve	PTFE
Seals	Viton®
Ring cover	Nylon (integrated)
Maximum working pressure	50 psi
Break rings break force	325 lbs.
Height	3.25"

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Installation

- 1 ¾" BSPP or NPT whip hose end fitting
- 2 ¾" BSPP or NPT breakaway inlet
- 3 ¾" BSPP or NPT breakaway inlet
- 4 ¾" BSPP or NPT curb hose end fitting
- 5 Hose end fitting to nozzle



DIESEL EXHAUST FLUID SWIVEL BREAKAWAY

ORDERING INFORMATION

Model	Description
OMNIDEF1X34N	¾" NPT nozzle outlet, 1" BSPP female inlet DEF swivel breakaway
OMNIDEF1X34P	¾" BSPP nozzle outlet, 1" BSPP female inlet DEF swivel breakaway
OMNIDEF1PXM34	M34 (metric) nozzle outlet, 1" BSPP female inlet DEF swivel breakaway

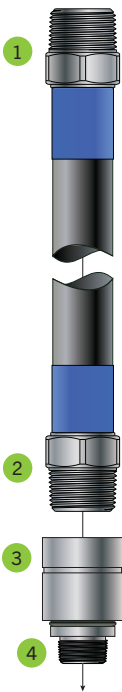


SPECIFICATIONS

Body	Stainless steel
Separation force	Between 180 lbs and 340 lbs force (800 N and 1,500 N force)
Temperature rating	-22° F to 131° F (-30° C to 55° C)
Internal pressure	Factory tested to 76.8 psi (5.3 bar)
Electric conductivity	Factory tested to <100k Ohm
Nozzle flow rate compatibility	Up to 21 gpm (80 lpm)
Working pressures compatibility	0.5 bar up to 3.5 bar

Installation

- 1 Hose end fitting to dispenser
- 2 1" BSPP hose end fitting
- 3 1" BSPP breakaway female inlet for hose
- 4 ¾" NPT, ¾" BSPP, or M34 (metric) breakaway male outlet to nozzle



DISPENSING SYSTEMS

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FUEL MANAGEMENT SYSTEMS



EVO™ 600 & EVO™ 6000 SERIES CONSOLES



ORDERING INFORMATION

Ordering Guide

EVO™ model, software and hardware options can be listed separately or combined when ordering. Systems shipped from the factory will list the combined part number. Complete part numbers have a specific order and are created using the following guidelines:

EVOX DPWIE / TRFLGC

EVOX = Base Model Options

EVO600 = EVO™ 600 base model

EVO6000 = EVO™ 6000 base model

DPWIE = Hardware Options (choose all that apply)

D = Display

P = Printer

W = WiFi

I = Dispenser Interface Module

TRFLGSC = Software Options (choose all that apply)

T = SCALD® 24-hour tank testing

R or F = (R) Reconciliation/Autocalibration or

(F) Reconciliation/Autocalibration with
Flow Rate Monitoring

L or G = (L) Electronic Line Leak Detection or

(G) Generator Electronic Line Leak Detection

S = Secondary Containment Monitoring

C = Enhanced logic conditions including value, counter,
value compare, latch, and DEF/AdBlue® recirculation.

Example: EVO600DPWI/TRL = EVO™ 600 base model with display, printer, WiFi, Dispenser Interface Module, SCALD®, Reconciliation/Autocalibration, and line leak detection.

EVO™ 600/6000 Interface Modules

The EVO™ 600/6000 come standard with a Power Supply Module and a controller module. Additional interface modules can be installed. Interface modules ordered with an EVO™ will be installed at the factory. If you would like them to not be installed, please order the spare/replacement version of the module. The following guidelines must be followed:

- EVO™ 600: Six total modules can be installed with a maximum of four intrinsically safe modules and a maximum of three of any one kind of module, except for the UDP Module, which allows for a maximum of four modules.
- EVO™ 6000: Eleven total modules can be installed with a maximum of nine intrinsically safe modules and a maximum of three of any one kind of module, except for the UDP Module, which allows for a maximum of six modules.

Note: Do not include the Power Supply and Controller Modules when calculating total modules allowed.

Maximum UDP Modules Allowed to Run Concurrently with Probe Modules in a Single EVO™ Console or Expansion Console

The UDP Module is intended to replace the Probe Module for all new system orders. If you are planning to add UDP Modules to an existing EVO™ 600/6000 with Probe Modules, please adhere to the following table:

Existing Probe Modules	Allowable UDP Modules
0	6
1	4
2	2
3	0

ORDERING INFORMATION CONTINUED

Intrinsically Safe Modules

Model	Description
FMP-485IS	RS-485 Module 4 MSH inputs (allows for 24 total inputs) Compatible with FMP-MSH Multiplexing Sensor Hubs™ (EVO™ 600/6000 only)
FMSP-485IS	Spare/Replacement RS-485 Module
FMP-UDP9	UDP Module 12 inputs Compatible with FMP-LL3-XXX and FMP-LL3-XXX-I probes, FMP-UHS and FMP-ULS sensors, and FMP-XXX-U sensors (EVO™ 600/6000 only)
FMSP-UDP9	Spare/Replacement UDP Module
TS-2WSNS	2-Wire Sensor Module 12 inputs Compatible with FMP-HFS2, FMP-UHS, FMP-ULS, TSP-HLS-XX, and TSP-HLS-XX/SS sensors
TSSP-2WSNS	Spare/Replacement 2-Wire Sensor Module
TS-3WSNS	3-Wire Sensor Module 8 inputs Compatible with FMP-DDS*, FMP-DIS*, FMP-DTS*, FMP-EIS*, FMP-HIS*, FMP-HIS-XL*, FMP-UHS*, FMP-ULS*, TSP-DVS, TSP-HLS-XX, and TSP-HLS-XX/SS sensors
TSSP-3WSNS	Spare/Replacement 3-Wire Sensor Module
TS-PRB	Probe Module 12 inputs Compatible with TSP-LL2-XXX, TSP-LL2-XXX-I, FMP-LL3-XXX, and FMP-LL3-XXX-I probes; TSP-DMS-XX and FMP-XXX-U sensors; and VFM vapor flow meters
TSSP-PRB	Spare/Replacement Probe Module
TS-420IB	4-20 mA Module 8 inputs Intrinsically Safe Compatible with FMP-LSU500 and TSP-LSU500 transducers and FMP-TEM, TS-VPS, and TS-SCCM sensors
TSSP-420IB	Spare/Replacement 4-20mA Module, Intrinsically Safe

Note: EVO™ 600/6000 are backwards compatible with the TSP-XXX versions of sensors denoted with "**".

Non-Intrinsically Safe Modules

Model	Description
TS-10ARLY	10 Amp Relay Module 6 outputs 10 Amp Compatible with high power dispenser shutdown control functions
TSSP-10ARLY	Spare/Replacement 10 Amp Relay Module
TS-420EXP	4-20 mA Module 8 inputs Explosion-Proof Compatible with TSP-LSU500E transducers and FMP-TEM, TS-VPS, and TS-SCCM sensors
TSSP-420EXP	Spare/Replacement 4-20mA Module, Explosion-Proof
TS-ACI	AC Input Module 12 inputs Compatible with dispenser hook signal monitoring functions
TSSP-ACI	Spare/Replacement AC Input Module
TS-IO	Input Output Module 4 4-20 mA outputs 8 3-240 VAC/DC inputs Compatible with remote monitoring control and building monitoring system interfacing functions
TSSP-IO	Spare/Replacement Input/Output Module
TS-RLY	Relay Module 8 outputs 2 Amp Compatible with FMP-LSU500 and TSP-LSU500 transducers, TPI, and TS-SCCM control functions
TSSP-RLY	Spare/Replacement Relay Module

Expansion Consoles

The EVO-EXPC2 must follow the same guidelines as the EVO™ 600, and the EVO-EXPC must follow the same guidelines as the EVO™ 6000.

Model	Description
EVO-EXPC	Secondary console to add eleven additional plug-in modules to the primary EVO™ 600/6000, comes without a display or printer
EVO-EXPC2	Secondary console to add six additional plug-in modules to the primary EVO™ 600/6000, comes without a display or printer

EVO™ 600/6000 Hardware & Software Field Upgrades

The following software and hardware options can be added to customize your EVO™ once it's been installed in the field.

Hardware Field Upgrades

Model	Description
EVO-DISPREP	Display upgrade for an EVO™ 600/6000, EVO™ 550/5000 with existing Interface Board REV 4 or lower
EVO-TMPTR	Thermal internal printer assembly upgrade for an existing EVO™ 600/6000, EVO™ 550/5000, comes with one roll of printer paper
FMP-6WIFI	WiFi upgrade for an existing EVO™ 200/400, EVO™ 600/6000, includes 4.5" antenna
EVO-DIMIB	Internal Dispenser Interface Module upgrade for an existing EVO™ 600/6000, dispenser interface cable must be ordered separately
EVO-LCD	Display upgrade for an EVO™ 600/6000 with existing Interface Board REV 5 or higher (for REV 4 or lower, use EVO-DISPREP)



ORDERING INFORMATION CONTINUED

Dispenser Interface Module Cables

Model	Description
TSP-BDCBL	Bennett® 515 only cable
TSP-GDCBL	Gilbarco® cable
TSP-GSDCBL	Gilbarco® G-Site™ cable
TSP-WDCBL	Wayne™ cable

EVO™ 600 & EVO™ 6000 Spare/Replacement Parts

Spare/Replacement Modules

Model	Description
EVO-6CM	Spare EVO™ 600/6000 Controller Module, standard features only, no software options
EVO-6CM/R	Replacement EVO™ 600/6000 Controller Module, factory programmed with existing software options
EVO-6CM-W/R	Replacement EVO™ 600/6000 Controller Module with WiFi hardware, factory programmed with existing software options
TSSP-EXPPS	Spare/Replacement Expansion Console Power Supply Module
TSSP-PS	Spare/Replacement Power Supply Module
TSSP-T550MB	Spare/Replacement EVO™ 600 Backplane Module
TSSP-T5000MB	Spare/Replacement EVO™ 6000 Backplane Module

Note: The serial number of the existing EVO™ must be provided when ordering the EVO-6CM/R and EVO-6CM-W/R.

Spare/Replacement Hardware

Model	Description
EVO-IFBR	Spare/Replacement Interface Board for EVO™ 600/6000
EVO-LCD	Spare/Replacement LCD Display for existing EVO™ 600/6000 with existing Interface Board REV 5 or higher (for REV 4 or lower, use EVO-DISPREP)
EVO-DISPREP	Spare/Replacement LCD Display and Interface Board for EVO™ 600/6000, EVO™ 550/5000
EVO-TMPTR	Spare/Replacement thermal internal printer assembly for EVO™ 600/6000, EVO™ 550/5000, comes with one roll of printer paper
EVO-6CVR	Spare/Replacement Cover for EVO™ 600/6000
EVO-DIMIB	Spare/Replacement Internal Dispenser Interface Module for an EVO™ 600/6000
TSSP-TRMBLK	Spare package of 10 assorted terminal blocks
TSSP-BLK	Spare/Replacement Module Blanking Plate
TSSP-SP5FUSE	Spare Fuse Kit
FMSP-6CBL1	Spare/Replacement Wide Ribbon Cable - Controller Module to Interface Board
FMSP-6CBL2	Spare/Replacement Thin Ribbon Cable - Controller Module to Interface Board
FMSP-6CBL3	Spare/Replacement Display to Interface Board Wide Ribbon Cable

Note: The serial number of the existing EVO™ must be provided when ordering the EVO-6CM-W/R.

Internal Software Field Upgrades

Model	Description
TS-TT	Statistical Continuous Automatic Leak Detection (SCALD®) 24-hour tank testing
TS-TRAC	Tank inventory reconciliation and autocalibration
TS-TRAC-F	Reconciliation/autocalibration and flow rate monitoring software
TS-FLOW	Flow rate monitoring
TS-ELLD	Electronic line leak detection
TS-ELLD-G	Electronic line leak detection for generator applications
TS-SCM	Secondary containment monitoring
TS-CON	Enhanced logic conditions including value, counter, value compare, latch, and DEF/AdBlue® recirculation

Printer Paper Supplies

Model	Description
TS-TP2	One box of 5 rolls of thermal printer paper for EVO™ 600/6000, EVO™ 550/5000
TS-TP2C	One case with 20 boxes of 5 rolls of thermal printer paper for EVO™ 600/6000, EVO™ 550/5000

EVO™ Series Upgrade Kit

Get all of the EVO™ 600/6000 capabilities on an existing EVO™ 550/5000 with the easy-to-install EVO™ Series Upgrade Kit.

Model	Description
EVO-600UPG/U	Upgrade kit for EVO™ 550 to EVO™ 600, includes Controller Module, comm port cover, and EVO™ 600 jewel. No software options.
EVO-6000UPG/U	Upgrade kit for EVO™ 5000 to EVO™ 6000, includes Controller Module, comm port cover, and EVO™ 6000 jewel. No software options.
EVO-600UPG	Upgrade kit for EVO™ 550 to EVO™ 600, includes Controller Module, comm port cover, and EVO™ jewel, factory programmed with existing software options
EVO-6000UPG	Upgrade kit for EVO™ 5000 to EVO™ 6000, includes Controller Module, comm port cover, and EVO™ 6000 jewel, factory programmed with existing software options
EVO-600UPG-W	Upgrade kit for EVO™ 550 to EVO™ 600 with WiFi, includes Controller Module, comm port cover, WiFi hardware, and EVO™ 600 jewel, factory programmed with existing software options
EVO-6000UPG-W	Upgrade kit for EVO™ 5000 to EVO™ 6000 with WiFi, includes Controller Module, comm port cover, WiFi hardware, and EVO™ 6000 jewel, factory programmed with existing software options

 EVO™ Series Upgrade Kits applicable to Corrosion Control™

Note: The serial number of the existing EVO™ must be provided when ordering the EVO-600UPG, EVO-6000UPG, EVO-600UPG-W, and EVO-6000UPG-W.

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 MODBUS® is a registered trademark of Schneider Electric USA, Inc.
 Bennett® is a registered trademark of Bennett Pump Company.
 Gilbarco® is a registered trademark of Gilbarco Inc.
 Wayne™ is a registered trademark of Dresser Equipment Group Inc.



SPECIFICATIONS

Maximum tanks monitored (stand-alone)	48 (EVO™ 600) / 72 (EVO™ 6000)
Maximum tanks monitored, with accessories	132* (EVO™ 600) / 168* (EVO™ 6000)
Maximum sensor input capacity (stand-alone)	48 (EVO™ 600) / 108 (EVO™ 6000)
Maximum sensor input capacity, with accessories	180* (EVO™ 600) / 244* (EVO™ 6000)
Maximum total inputs (stand-alone)	72 (EVO™ 600) / 132 (EVO™ 6000)
Maximum total inputs, with accessories	276* (EVO™ 600) / 336* (EVO™ 6000)
Maximum AC input channels (stand-alone)	36 (EVO™ 600) / 36 (EVO™ 6000)
Maximum AC input channels, with accessories	72* (EVO™ 600) / 72* (EVO™ 6000)
Maximum relay output channels (stand-alone)	26 (EVO™ 600) / 26 (EVO™ 6000)
Maximum relay output channels, with accessories	50* (EVO™ 600) / 50* (EVO™ 6000)
Dry contact input channels	2
Connectivity	Ethernet (qty 2). RS-232, RS-485, standard USB, Mini-B USB
Display type	7" (17.78 cm) color LCD touch screen
Printer type	Thermal (also network or USB)
Alarm	Internal audible alarm
LEDs	Alarm, warning, and power
Applicable liquids	Petroleum, chemicals, and waste
Level units	Inches, centimeters, and millimeters
Volume units	Gallons or liters (mass with density option)
Power requirements	110 to 240 VAC, 50/60 Hz, 1.5 Amps
Operating temperature	32° to 104° F (0° to 40° C)
Humidity	0-90% non-condensing
EVO™ 600 Dimensions	H: 11.75"(300 mm), W: 10¼"(260 mm), D: 9"(229 mm)
EVO™ 6000 Dimensions	H: 11.75"(300 mm), W: 16½"(419 mm), D: 9"(229 mm)
Alarm set points	High/low product, water, and temperature
Technical Advantages	Inventory reconciliation, tank autocalibration, flow rate monitoring
Measurements	Density, mass, and phase separation measurement
Notifications	Email and SMS
Programming	Back-up generator monitoring/conditions
Advanced Logic Control	DEF/AdBlue® recirculation system
Support	MQTT, MODBUS™, XML, Veeder-Root®
Approvals & Certifications	<ul style="list-style-type: none"> – UL, cUL, ATEX, IECEx, GSA IT Security – Third party certification of leak detection capabilities – Third party verified "MATURE" security posture level

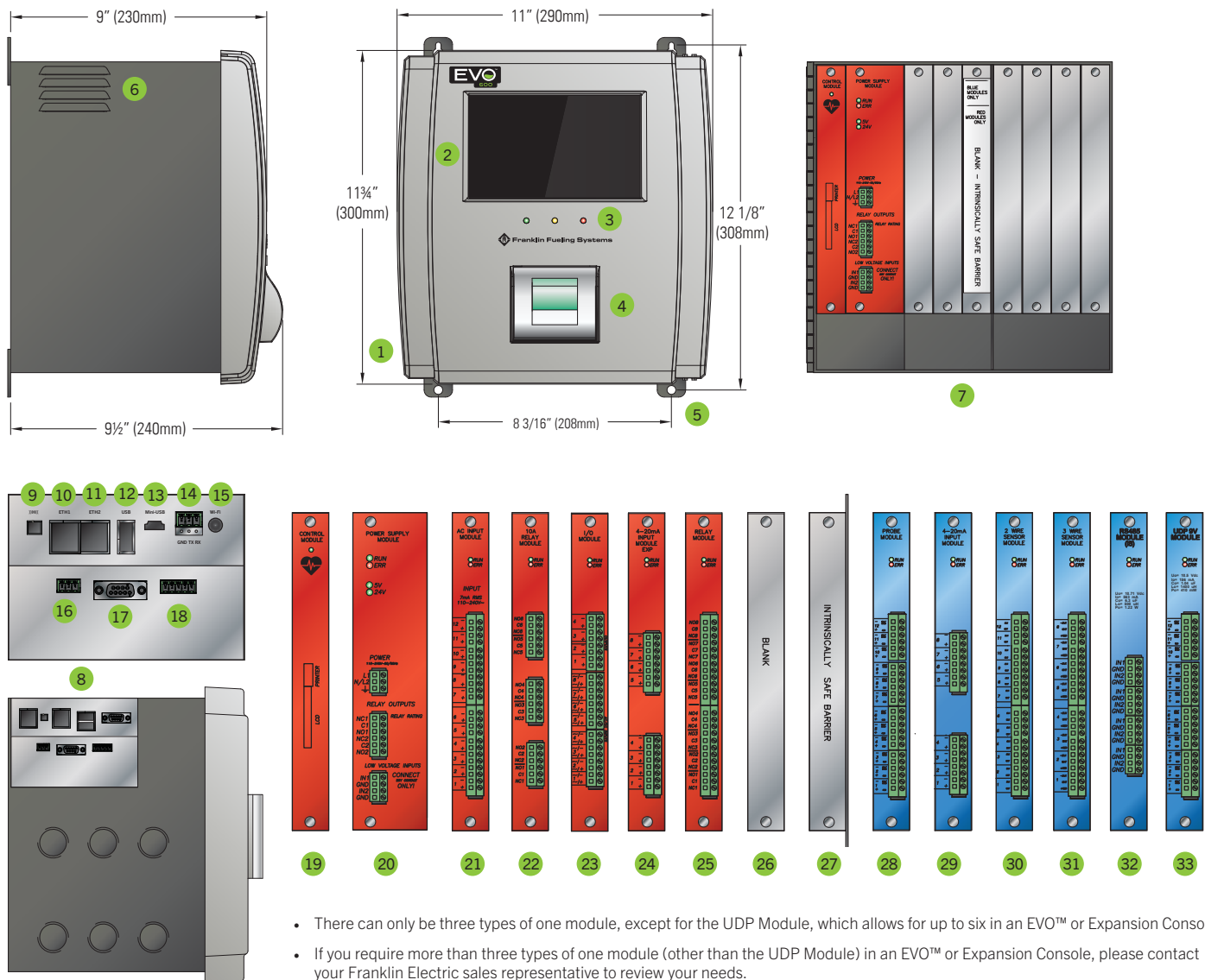
*Requires use of FMP-EXPC Expansion Modules and/or FMP-MSH Multiplexing Sensor Hubs.



SPECIFICATIONS CONTINUED

Components

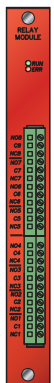
- | | | |
|-------------------------------|------------------------------------|------------------------------------|
| 1 Cover | 13 USB Port (Mini-B) | 25 Relay Module (TS-RLY) |
| 2 LCD Touch Screen | 14 RS-232 Comm Port 1 | 26 Blank |
| 3 LED Indicators | 15 WiFi | 27 Intrinsically Safe Barrier |
| 4 Printer | 16 Bus Extension | 28 Probe Module (TS-PRB) |
| 5 Mounting Tabs | 17 RS-232 Comm Port 2 | 29 4-20mA Module (TS-420IB) |
| 6 Cooling Vents | 18 RS-485 / TPI | 30 2-Wire Sensor Module (TS-2WSNS) |
| 7 Module Slots | 19 Controller Module | 31 3-Wire Sensor Module (TS-3WSNS) |
| 8 Communication Ports | 20 Power Supply Module | 32 RS-485 Module (FMP-485IS) |
| 9 Annunciator (audible alarm) | 21 AC Input Module (TS-ACI) | 33 UDP Module (FMP-UDP9) |
| 10 Ethernet Port 1 | 22 10 Amp Relay Module (TS-10ARLY) | |
| 11 Ethernet Port 2 | 23 I/O Module (TS-IO) | |
| 12 USB Port (Type-A) | 24 4-20mA Module EXP (TS-420EXP) | |



- There can only be three types of one module, except for the UDP Module, which allows for up to six in an EVO™ or Expansion Console.
- If you require more than three types of one module (other than the UDP Module) in an EVO™ or Expansion Console, please contact your Franklin Electric sales representative to review your needs.
- The intrinsically safe barrier must be installed in the third slot or greater. (The third slot after the Power Supply Module.)

SPECIFICATIONS CONTINUED

Module Selection Guide

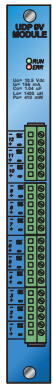


Module	Relay Module (TS-RLY)	10 Amp Relay Module (TS-10ARLY)	4-20 mA Module NIS (TS-420EXP)	AC Input Module (TS-ACI)	Input Output Module (TS-IO)
Inputs	-	-	8	12	8 (3-240 VAC/DC)
Outputs	8	6	-	-	4 (4-20 mA)
EVO™ 600/6000 Compatibility	✓	✓	✓	✓	✓
EVO™ 550/5000 Compatibility	✓	✓	✓	✓	✓
Maximum Allowed Modules per EVO™ Console	3	3	3	3	3
Maximum Allowed Modules with EVO-EXPC / EVO-EXPC2 Expansion Module	6	6	6	6	6
Franklin Electric Device Compatibility	SCM TS-SCCM WATER SEPARATOR 407985903 OVERFILL ALARM TS-RK	-	ELLD TS-LSU500E	-	-
Typical Application	Secondary containment control, submersible pump control, water separator control, and overfill alarm control.	Dispenser shutdown control	LS500 transducer pressure monitoring, third party 4-20mA device monitoring	Dispenser hook signal monitoring	Remote monitoring control, building monitoring system interfacing

* EVO™ 600, EVO™ 6000, EVO™ 500, and EVO™ 5000, are backwards compatible with the TSP-XXX versions of the sensors.

NOTE: FMP-XXX-U sensors are not compatible with EVO™ 550/5000.





UDP Module (FMP-UDP9)	RS-485 Module (FMP-485IS)	4-20 mA Module IS (TS-420IB)	Probe Module (TS-PRB)	3-Wire Sensor Module (TS-3WSNS)	2-Wire Sensor Module (TS-2WSNS)
12	4	8	12	8	12
-	-	-	-	-	-
✓	✓	✓	✓	✓	✓
-	-	✓	✓	✓	✓
6	3	3	3	3	3
12	6	6	6	6	6
PROBES FMP-LL3-XXX FMP-LL3-XXX-I SENSORS FMP-UHS FMP-ULS FMP-CDS-U FMP-DDS-U FMP-DDS-UD FMP-DIS-U FMP-DPS-U FMP-DTS FMP-EIS-U FMP-HIS-U FMP-HIS-XL-U	MSH FMP-MSH	ELL TS-LSU500 FMP-LSU500 SCM TS-SCCM SENSORS TS-VPS DEF RECIRCULATION FMP-TEM	PROBES FMP-LL3-XXX FMP-LL3-XXX-I TSP-LL2-XXX TSP-LL2-XXX-I SENSORS FMP-CDS-U FMP-DDS-U FMP-DDS-UD FMP-DIS-U FMP-DPS-U FMP-DTS-U FMP-EIS-U FMP-HIS-U FMP-HIS-XL-U TSP-DMS-XX VAPOR FLOW TS-VFM	SENSORS FMP-DDS* FMP-DIS* FMP-DTS* FMP-EIS* FMP-HFS FMP-HFS2 FMP-HIS* FMP-HIS-XL* FMP-UHS* FMP-ULS* TSP-DVS TSP-HLS-XX TSP-HLS-XX/SS	SENSORS FMP-HFS FMP-HFS2 FMP-UHS* FMP-ULS* TSP-HLS-XX TSP-HLS-XX/SS
Liquid level monitoring, discriminating / non-discriminating liquid detection, corrosion control monitoring	Connecting to Multiplexing Sensor Hubs™	LS500 transducer pressure monitoring, vapor recovery monitoring, secondary containment monitoring, third party 4-20mA device monitoring	Liquid level monitoring, discriminating / non-discriminating liquid detection, corrosion control monitoring, vapor flow monitoring	Discriminating / non-discriminating liquid detection, overfill prevention	Non-discriminating liquid detection, overfill prevention



Modules that are non-intrinsically safe

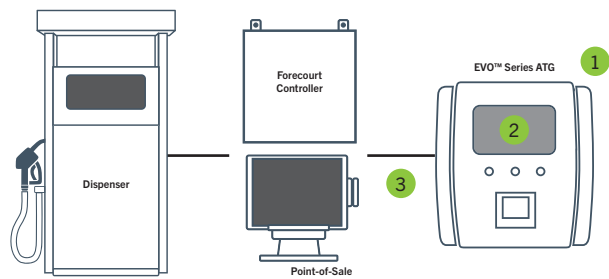


Modules that are intrinsically safe



FLOW RATE MONITORING

DIRECT EVO™ CONNECTION



With this method of achieving Flow Rate Monitoring, an EVO™ Series console can connect directly to a Point-of-Sale or Forecourt Controller without the need for a Dispenser Interface Module to be installed in the EVO™ Series console.

ORDER INFORMATION

1 EVO™ Series

Part #	Description
EVOXXX	EVO™ 200/400, EVO™ 550/5000 or EVO™ 600/6000

EVO™ Series Hardware

The EVO™ Series console must have either an open and available RS-232 port **- OR -** Ethernet port.

2 EVO™ Series Software

If (R) Reconciliation Software is already installed on an existing EVO™ Series console, the (TS-FLOW) Flow Rate Monitoring Field Upgrade Software can be added. If (R) Reconciliation Software is not installed, (TS-TRAC-F) Reconciliation & Flow Rate Monitoring Field Upgrade Software should be added.

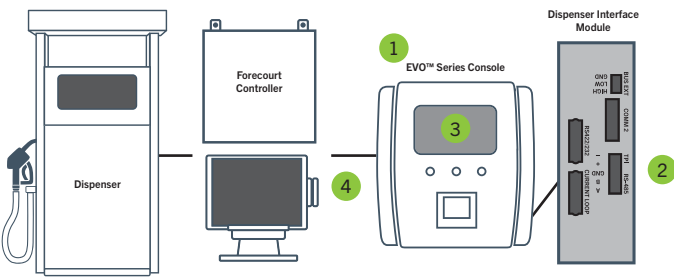
Part #	Description
R or TS-TRAC	Reconciliation Factory Installed Software
TS-FLOW	Flow Rate Monitoring Field Upgrade Software
- OR -	
F or TS-TRAC-F	Reconciliation & Flow Rate Monitoring Field Upgrade Software

3 Customer Supplied Cables

RS-232 Cable **- OR -** Ethernet Cable

**Contact Franklin Electric Technical Support to confirm if your existing Forecourt Controller or Point-of-Sale can support Flow Rate Monitoring.*

EVO™ W/ DISPENSER INTERFACE MODULE CONNECTION



With this method of achieving Flow Rate Monitoring, a Dispenser Interface Module must be installed in the EVO™ Series console to provide the appropriate communication capabilities and physical cable connection to the Forecourt Controller or Point-of-Sale device.

ORDER INFORMATION

1 EVO™ Series

Part #	Description
EVOXXX	EVO™ 550/5000 or EVO™ 600/6000

2 EVO™ Series Hardware

Part #	Description
I	Dispenser Interface Module Factory Installed Hardware
- OR -	
TS-DIMIB	Dispenser Interface Module Field Upgrade Hardware

3 EVO™ Series Software

If (R) Reconciliation Software is already installed on an existing EVO™ Series console, the (TS-FLOW) Flow Rate Monitoring Field Upgrade Software can be added. If (R) Reconciliation Software is not installed, (TS-TRAC-F) Reconciliation & Flow Rate Monitoring Field Upgrade Software should be added.

Part #	Description
R or TS-TRAC	Reconciliation Factory Installed Software
TS-FLOW	Flow Rate Monitoring Field Upgrade Software
- OR -	
F or TS-TRAC-F	Reconciliation & Flow Rate Monitoring Field Upgrade Software

4 EVO™ Series Cables

Part #	Description
TSP-WDCBL	Wayne® Adapter Cable
- OR -	
TSP-GSDBCL	Gilbarco® G-Site or Passport Adapter Cable
- OR -	
TSP-GDCBL	Gilbarco® Universal D-Box or Verifone® Smart Controller Adapter Cable, Loop Communication



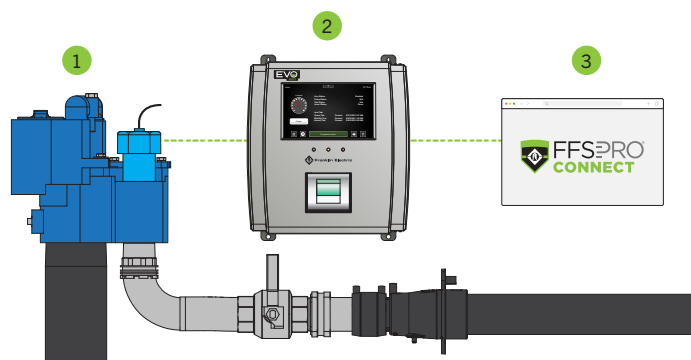
EVO™ SERIES ELECTRONIC LINE LEAK DETECTION

ORDERING INFORMATION

Site Requirements

- EVO™ 600/6000
- TS-ELLD software option (TS-ELLD-G software option for generator-specific applications)
- TS-ACI, TS-420IB, *TS-RLY Modules

*TS-RLY Module is not required when utilizing Turbine Pump Interface™ (TPI) communications. Franklin Electric intelligent pump controllers required for TPI.



SPECIFICATIONS

Operation

- 1 The EVO™ Pressure Transducer is typically installed in the leak detector port of the submersible pump manifold. During the AUTO-LEARN® setup process, EVO™ learns the pressure decay curve characteristics of a calibrated leak.
- 2 During non-pumping periods, the EVO™ will conduct line leak testing by comparing the line pressure changes to those learned during the AUTO-LEARN® process. A deviation in pressure, such as a drop beyond predefined thresholds, will be declared as a leak and shut down the associated submersible pump.
- 3 With declaration of a leak, the system will notify the operator via the EVO™ display with additional email or SMS notification through the FFS PRO® Connect Web Browser Interface.

Line Volume Requirements - Gross Test

Pipework System	Gallons	Liters
Rigid / hybrid (rigid + flexible)*	2.5 – 1202.02	9.5 – 2359.1
UPP® pipework (semi-rigid)	2.5 – 623.2	9.5 – 1185.5
APT® XP pipework (flexible)	2.5 – 313.17	9.5 – 4550.1

Line Volume Requirements - Precision Test

Pipework System	Gallons	Liters
Rigid / hybrid (rigid + flexible)**	2.5 – 559.02	9.5 – 2116.1
UPP® pipework (semi-rigid)	2.5 – 161.46	9.5 – 611.2
APT® XP pipework (flexible)	2.5 – 81.19	9.5 – 307.3

EVO™ Series Electronic Line Leak Detection Kits

Model	Description
FMP-LS500/1	1-line ELLD kit, includes (1) pressure transducer, (1) leak generator kit (TS-ALCAL), (1) needle valve kit (TS-ALNIP)
FMP-LS500/2	2-line ELLD kit, includes (2) pressure transducer, (1) leak generator kit (TS-ALCAL), (2) needle valve kit (TS-ALNIP)
FMP-LS500/3	3-line ELLD kit, includes (3) pressure transducer, (1) leak generator kit (TS-ALCAL), (3) needle valve kit (TS-ALNIP)
FMP-LS500/4	4-line ELLD kit, includes (4) pressure transducer, (1) leak generator kit (TS-ALCAL), (4) needle valve kit (TS-ALNIP)
FMP-LSU500	Replacement pressure transducer
TS-ALCAL	Leak generator kit
TS-ALNIP	Needle valve kit for standard fuels
TS-AFALNIP	Needle valve kit for E85 fuel

Pressure Transducer

Dimensions	4" x 2" NPT
Operating temperature	-40° F to 149° F (-40° C to 66° C)
Operating pressure	0 to 100 psi (0 to 689 kPa)
Sensor port fitting	2" female NPT
Sensor material	Anodized aluminum body and stainless steel sensor
Approvals / Certifications	<ul style="list-style-type: none"> – UL, cUL, ATEX, IECEx – Third party certification of leak detection capabilities

Minimum Pressure Requirements

Item	Value
	15 psi (1.034 bar) for gross 3.0 gph (11.4 lph) hourly tests
Minimum Pump Off Pressure	17.5 psi (1.207 bar) for monthly 0.2 gph (0.8 lph) precision tests
	22.5 psi (1.551 bar) for annual 0.1 gph (0.4 lph) precision tests
	20 psi (1.379 bar) for learning lines

* To be considered hybrid, the bulk modulus of the line must be at a minimum of 20,000 psi for gross tests.

**To be considered hybrid, the bulk modulus of the line must be at a minimum of 35,000 psi for precision tests.

EXPLOSION-PROOF TRANSDUCERS

For sites without intrinsically-safe conduits available, explosion-proof transducers may be used that share the conduit of pump wiring.

ORDERING INFORMATION

Site Requirements

- EVO™ 550/5000 or EVO™ 600/6000
- TS-ELLD software options (TS-ELLD-G software option for generator-specific applications)
- TS-ACI, TS-420EXP, *TS-RLY Modules

* TS-RLY Module is not required when utilizing Turbine Pump Interface™ (TPI) communications. Franklin Electric intelligent pump controllers required for TPI.

SPECIFICATIONS

Pressure Transducer

Dimensions	6 1/4" x 2" NPT
Operating temperature	-40° F to 149° F (-40° C to 66° C)
Operating pressure	0 to 100 psi (0 to 689 kPa)
Sensor port fitting	2" female NPT
Sensor material	Anodized aluminum body and stainless steel sensor
Approvals / Certifications	<ul style="list-style-type: none"> – UL, cUL, ATEX, IECEx – Third party certification of leak detection capabilities

EVO™ Series Explosion-Proof Electronic Line Leak Detection Kits

Model	Description
TS-LS500E/2	2-line ELLD kit, includes (2) pressure transducer, (1) leak generator kit (TS-ALCAL), (2) needle valve kit (TS-ALNIP)
TS-LS500E/3	3-line ELLD kit, includes (3) pressure transducer, (1) leak generator kit (TS-ALCAL), (3) needle valve kit (TS-ALNIP)
TS-LS500E/4	4-line ELLD kit, includes (4) pressure transducer, (1) leak generator kit (TS-ALCAL), (4) needle valve kit (TS-ALNIP)
TS-AFALNIP	Needle valve kit for E85 fuel

Minimum Pressure Requirements

Item	Value
Minimum Static Pressure	– 15 psi (1.034 bar) for gross 3.0 gph (11.4 lph) hourly tests
	– 17.5 psi (1.207 bar) for monthly 0.2 gph (0.8 lph) precision tests
	– 22.5 psi (1.551 bar) for annual 0.1 gph (0.4 lph) precision tests
	– 20 psi (1.379 bar) for learning lines

Line Volume Requirements - Gross Test

Pipework System	Gallons	Liters
Rigid pipework	2.5 – 312.2	9.5 – 1181.9
Flexible pipework	2.5 – 95.4	9.5 – 361.1
Hybrid pipework*	2.5 – 415.8	9.5 – 1574.0
UPP® pipework	2.5 – 176.0	9.5 – 666.2

* The capacity of the flexible component cannot exceed 95.4 gallons (361.1 liters)

Pipe Length Requirements

Pipe Diameter ID (in/cm)	Rigid (ft)	Rigid (m)	Flexible (ft)	Flexible (m)	Hybrid* (ft)	Hybrid* (m)	UPP® (ft)	UPP® (m)
1.0 (2.5)	62 – 7651	19 – 2332	62 – 2338	19 – 712	62 – 10191	19 – 3106	62 – 4313	19 – 1314
1.5 (3.8)	28 – 3400	9 – 1037	28 – 1039	9 – 316	28 – 4529	9 – 1380	28 – 1917	9 – 584
1.75 (4.4)	21 – 2498	7 – 762	21 – 763	7 – 232	21 – 3327	7 – 1014	21 – 1408	7 – 429
2.0 (5.1)	16 – 1912	5 – 583	16 – 584	5 – 178	16 – 2547	5 – 776	16 – 1078	5 – 328
2.5 (6.4)	10 – 1224	4 – 374	10 – 374	4 – 113	10 – 1630	4 – 496	10 – 690	4 – 210
3.0 (7.6)	7 – 850	3 – 260	7 – 259	3 – 78	7 – 1132	3 – 345	7 – 479	3 – 145
4.0 (10.2)	4 – 478	2 – 146	4 – 146	2 – 44	4 – 636	2 – 193	4 – 269	2 – 81
5.0 (12.7)	3 – 306	1 – 94	3 – 93	1 – 28	3 – 407	1 – 124	3 – 172	1 – 52



SECONDARY CONTAINMENT MONITORING

ORDERING INFORMATION

Secondary Containment Control Modules

Model	Description
TS-SCCM/1	Single channel secondary containment control module
TS-SCCM/2	Dual channel secondary containment control module
TS-SCMCAL	Leak generator kit, one per station
VS-SCCM/1	220 VAC single channel secondary containment control module
VS-SCCM/2	220 VAC dual channel secondary containment control module

Installation Kits

Model	Description
TSP-SCLSI	Product, vapor line and sump containment install kit
TSP-SCTK2	Tank containment install kit for 2" NPT risers*
TSP-SCTK2B	Tank containment install kit for 2" BSP risers*,
TSP-SCTK4	Tank containment install kit for 4" NPT risers*
TSP-SCTK4B	Tank containment install kit for 4" BSP risers*,

*In-tank hose sold separately

SPECIFICATIONS

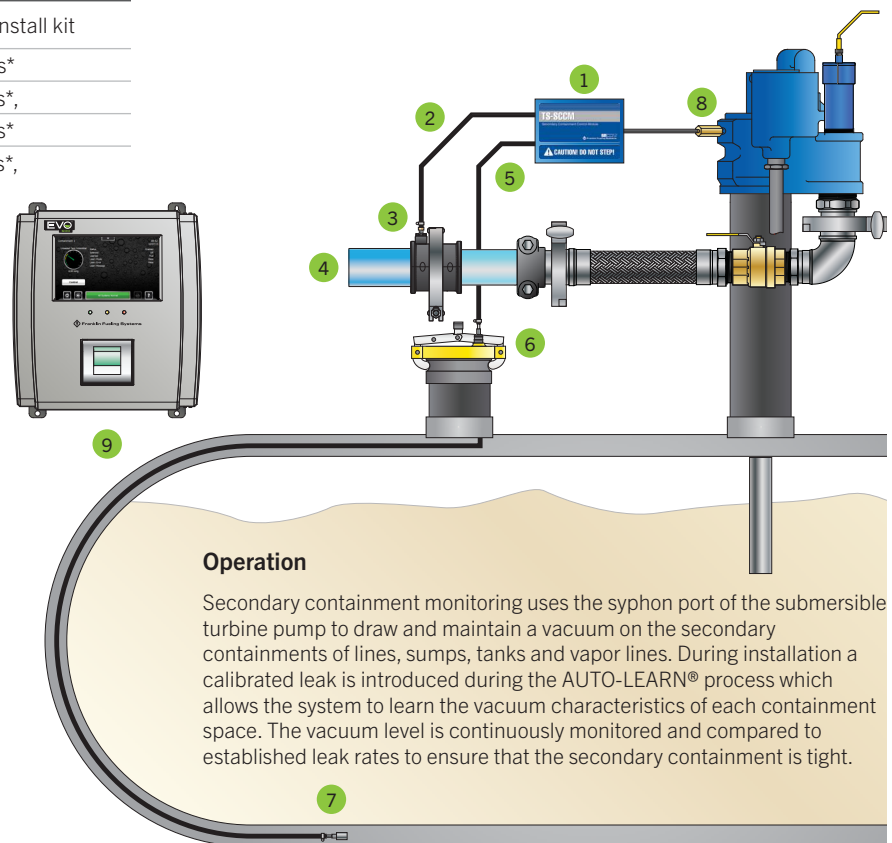
Components

- 1 Secondary containment control module
- 2 Vacuum line to secondary contained pipe
- 3 Pipe fitting with integrated test port
- 4 Secondary contained pipe
- 5 Vacuum line to secondary contained tank
- 6 Tank installation kit
- 7 Line weight (included with tank install kit)
- 8 Syphon check valve
- 9 EVO™ 550/5000 or EVO™ 600/6000 with SCM software*

Operating vacuum level	-2 to -6 in Hg
Software	Available software option on EVO™ 550, EVO™ 5000, EVO™ 600, and EVO™ 6000
Requirements	<ul style="list-style-type: none"> TS-420IB, TS-RLY and TS-ACI Modules and the TS-SCM software option must be ordered and installed in the EVO™ Requires TS-SCCM secondary containment control module consisting of pressure sensor(s) and solenoid valve(s) Requires syphon check valve to connect to STP manifold

Accessories

Model	Description
TSP-SCBRB	¼" NPT barbed fittings (Qty 5)
TSP-SCBRBT	¼" NPT barbed T-fitting
TSP-SCCLP	Hose clamps (Qty 5)
TSP-SCTB25	25' vacuum hose
TSP-SCTB50	50' vacuum hose
TSP-SCTB100	100' vacuum hose
TSP-SCVLV	Schrader valves (Qty 5)
400137937	Syphon check valve
TSP-SCVLV-PF	Push-Fit stem to Barb fitting (Qty 5)



Containments	Containments to be monitored must terminate inside the submersible turbine pump containment
Vacuum limitation	Installer must verify the vacuum limitation of each containment with its manufacturer prior to installation
Approvals / Certifications	<ul style="list-style-type: none"> Meets all requirements of California AB2481 National Work Group approved

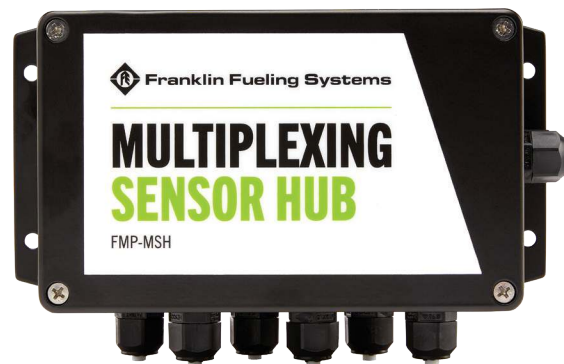
MULTIPLEXING SENSOR HUB™

ORDERING INFORMATION

Model	Description
FMP-MSH	Multiplexing Sensor Hub™

SPECIFICATIONS

Inputs	(1) LL3 probe, (4) UDP devices, (1) switch/temperature sensor, (1) RS-485 sensor
Output	EVO™ 600/6000: (1) RS-485
Theory of Operation	<ul style="list-style-type: none"> The FMP-MSH requires a minimum of four wire connections to the EVOTM RS-485 Module: <ul style="list-style-type: none"> Power Ground A Communication B Communication If a sump has at least two existing input field cables, such as a 2-conductor probe cable and a 2-conductor sensor cable, conductors from both cables may be used to provide the four conductors required for the MSH to EVOTM connection. The A and B conductors must be wired together in a shielded, twisted cable; and the Power and Ground conductors must be within the same shielded, twisted cable. If there is not sufficient existing wiring, Belden Cable 7962A may be used.
Approvals & Certifications	UL listed, ATEX / IECEx



Input Capabilities

The FMP-MSH is capable of supporting the following devices:

Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6
FMP-LL3	FMP-DDS-U	FMP-DDS-U	FMP-DDS-U	FMP-DDS-U	FMP-ULS
	FMP-DTS-U	FMP-DTS-U	FMP-DTS-U	FMP-DTS-U	FMP-UHS
	FMP-EIS-U	FMP-EIS-U	FMP-EIS-U	FMP-EIS-U	FMP-HFS2
	FMP-DIS-U	FMP-DIS-U	FMP-DIS-U	FMP-DIS-U	10k Temp. Sensor
	FMP-HIS-U	FMP-HIS-U	FMP-HIS-U	FMP-HIS-U	
	FMP-CDS-U	FMP-CDS-U	FMP-CDS-U	FMP-CDS-U	
	FMP-DPS-U	FMP-DPS-U	FMP-DPS-U	FMP-DPS-U	
	FMP-LL3-XX-WS*	FMP-LL3-XX-WS*	FMP-LL3-XX-WS*	FMP-LL3-XX-WS*	
				FMP-ULS	
				FMP-UHS	

*The FMP-LL3-XX-WS is integrated into the Corrosion Control™ water separator to detect water level in the vessel.



EVO™ 200 & EVO™ 400 SERIES CONSOLES



ORDERING INFORMATION

Ordering Guide

EVO™ model, software, and hardware options may be listed separately or combined when ordering. Systems shipped from the factory will list the combined part number. Complete part numbers have a specific order and are created using the following guidelines:

EVOX DW - TRFC

EVOX = Base Model Options

EVO200 = EVO™ 200 base model, up to 6 channels

EVO400 = EVO™ 400 base model, up to 14 channels

DW = Hardware Options (choose all that apply)

D = Display (color LCD touch screen)

W = WiFi

TRFC = Software Options (choose all that apply)

T = SCALD® 24-hour tank testing

R or F (R) = Reconciliation/Autocalibration

(F) = Reconciliation/Autocalibration with Flow Rate Monitoring

C = Enhanced logic conditions including value, counter, value compare, and latch

Example: EVO400DW-TR = EVO™ 400 base model, up to 14 channels with display, WiFi, SCALD®, and Reconciliation/Autocalibration.

EVO™ 200 & EVO™ 400 External Printer

Model	Description
FMP-ETP	External thermal printer, includes USB cable, power cord, one roll of thermal printer paper, and wall mount hardware
FMP-EPPC	Case of 25 thermal printer paper rolls

Note: The external printer measures 5.6" w x 5.2" h x 8.0" d (142 mm x 132 mm x 204 mm) and can be mounted to wall next to the EVO™ using the included hardware.

EVO™ 200 & EVO™ 400 Hardware & Software Field Upgrades

The following software and hardware options can be added to customize your EVO™ once it's been installed in the field.

Internal Software Field Upgrades

Model	Description
TS-TT	Statistical Continuous Automatic Leak Detection (SCALD®) 24-hour tank testing
TS-TRAC	Tank inventory reconciliation and autocalibration
TS-TRAC-F	Reconciliation/autocalibration and flow rate monitoring software
TS-FLOW	Flow rate monitoring
TS-CON	Enhanced logic conditions including value, counter, value compare, latch, and DEF/AdBlue® recirculation

Hardware Field Upgrades

Model	Description
FMP-LCD	Display upgrade for an existing EVO™ 200 / EVO™ 400
FMP-24WIFI	WiFi upgrade for an existing EVO™ 200, EVO™ 400, EVO™ 600, or EVO™ 6000, includes 4.5" antenna
FMP-ETP	External thermal printer, includes USB cable, power cord, one roll of thermal printer paper, and wall mount hardware

Note: The external printer measures 5.6" w x 5.2" h x 8.0" d (142 mm x 132 mm x 204 mm) and can be mounted to wall next to the EVO™ using the included hardware.

ORDERING INFORMATION CONTINUED

EVO™ 200 and EVO™ 400 Spare/Replacement Parts

Spare/Replacement Internal Boards

Model	Description
FMSP-24MB	Spare/Replacement EVO™ 200 and EVO™ 400 Main Board
FMSP-SOM	Spare/Replacement SOM, standard features only, no software options
FMSP-SOM-R	Replacement SOM, factory programmed with existing software options
FMSP-UDP200	Spare/Replacement EVO™ 200 Input PCB
FMSP-UDP400	Spare/Replacement EVO™ 400 Input PCB

Note: The serial number of the existing EVO™ must be provided when ordering the FMSP-SOM-R.

Printer Paper Supplies

Model	Description
FMP-EPPC	Case of 25 thermal external printer paper rolls

SPECIFICATIONS

Maximum tanks monitored	6 (EVO™ 200)/14 (EVO™ 400)
Maximum sensor input capacity	6 (EVO™ 200)/14 (EVO™ 400)
Lines capacity	6 (EVO™ 200)/14 (EVO™ 400)
Dry contact input channels	2
Relay output channels	2
Connectivity	Ethernet, RS-232, RS-485, standard USB, Mini-B USB, and WiFi (optional)
Display type	7" (17.78 cm) color LCD touch screen
Printer type	External (network or USB)
Alarm	Internal audible alarm
LEDs	Alarm, warning, and power
Tank chart correction points	7,500
Applicable liquids	Petroleum, chemicals, and waste
Level units	Inches, centimeters, and millimeters
Volume units	Gallons or liters (mass with density option)
Power requirements	110 to 240 VAC, 50/60 Hz, 2.6 Amps
Operating temperature	32° to 104° F (0° to 40° C)
Humidity	0-95% non-condensing

Spare/Replacement Hardware

Model	Description
FMSP-LCD	Spare/Replacement LCD Display for an EVO™ 200 / EVO™ 400
FMP-24WIFI	Replacement WiFi hardware for an existing EVO™ 200, EVO™ 400, EVO™ 600, or EVO™ 6000, includes 4.5" antenna
FMP-24FUSE	EVO™ 200 and EVO™ 400 replacement fuse kit
FMP-24TRMBLK	EVO™ 200 and EVO™ 400 replacement terminal blocks
FMSP-24CVR	EVO™ 200 and EVO™ 400 without LCD replacement cover
FMSP-24CVRWD	EVO™ 200 and EVO™ 400 with LCD replacement cover
FMSP-24CBL1	Ribbon Cable - Display to Main Board

Dimensions	H: 8" (205 mm), W: 13 ¾" (350 mm), D: 3 ¼" (83 mm)
Alarm set points	High/low product, water, and temperature
Technical Advantages	Inventory reconciliation/tank autocalibration/ flow rate monitoring (optional)
Measurements	Density, mass, and phase separation measurement
Notifications	Email and SMS
Programming	Conditions
Monitoring	Back-up generator
Support	MQTT, MODBUS™, XML, Veeder-Root®
Approvals	UL, cUL, ATEX, IECEx, GSA IT Security
Certifications	<ul style="list-style-type: none"> Third party certification of leak detection capabilities Third party verified "MATURE" security posture level

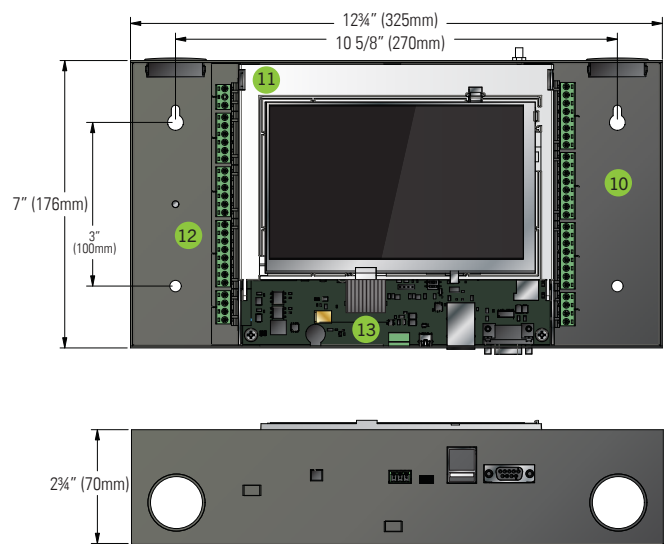
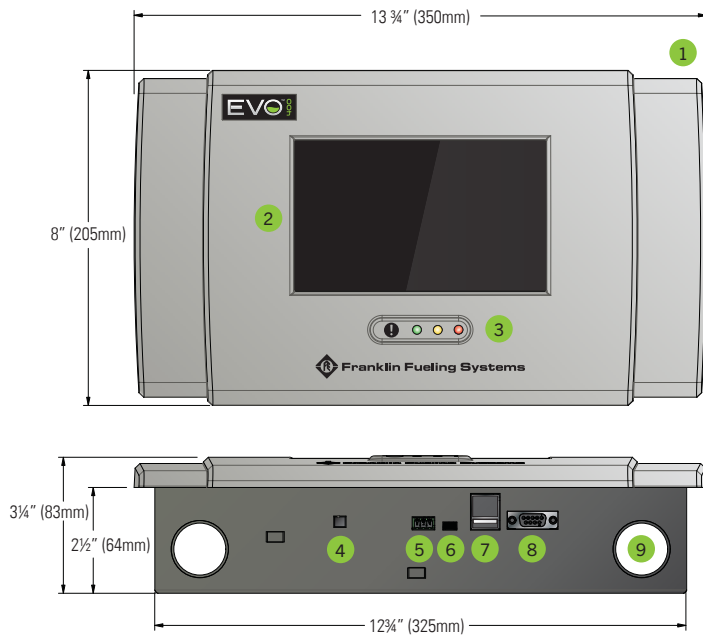


SPECIFICATIONS CONTINUED

Components

- 1 Cover
- 2 LCD Touch Screen
- 3 LED Indicators
- 4 Annunciator (audible alarm)
- 5 RS-485 / TPI
- 6 Mini-B USB Port
- 7 Ethernet / USB Port
- 8 RS-232
- 9 Top and Bottom Knockouts

- 10 Mounting Holes
- 11 Flip Up Panel (Touch Screen)
- 12 Termination Blocks
- 13 Main Board





DON'T RISK A PARTIAL FIX

WHY SETTLE FOR A STOPGAP SOLUTION, WHEN YOU CAN FUTURE-PROOF YOUR STATION AT THE SAME COST?

Aging fuel monitoring systems pose a growing challenge for retail fuel marketers with obsolete Automatic Tank Gauge consoles and components no longer supported by manufacturers. OEMs are encouraging station operators to just replace the console, leaving aging probes, sensors, and wiring in place. This simplified approach may seem cost-effective, but it comes with risks:

COSTLY FAILURES	INTEGRATION HEADACHES	SHORT-TERM FIXES
Hidden aging probes, sensors, and wiring can fail during or after console installation, shutting down business and increasing maintenance expenses.	Pairing new consoles with legacy components can lead to compatibility issues and inconsistent performance.	Replacing only the console delays the need for a full system upgrade, leaving you with outdated technology.

EVOTM ONE

ONE COMPLETE SYSTEM AT A PRICE YOU CAN'T IGNORE!

EVOTM ONE is the all-in-one system solution that allows station owners to upgrade everything, including console, sensors, probes, and hardware, **for the same price as a standalone ATG console replacement.**

- Get a fully modern fuel monitoring system with cutting-edge technology.
- A brand-new system at the price of just a console replacement.
- Eliminate the risk of aging components and wiring failing and avoid expensive follow-up repairs.
- Stay ahead with the latest fuel management technology built for tomorrow's demands.

Don't let outdated systems hold you back. Upgrade to EVOTM ONE today and get a complete, modern fuel monitoring solution without stretching your budget.

Contact your Franklin Electric representative for more information.



EVO™ ONE

ORDERING INFORMATION

EVO ONE™ Ordering Guide

EVO™ ONE Kits must be bundled with probes as a separate line item. Probes are ordered separately from the kit to allow for varying tank diameters / probe lengths.

Step 1 - Select EVO™ ONE Kit: Select the appropriate EVO™ ONE Kit based on site size and requirements.

EVO™ ONE Kits

Model	Description
EV01-X0-S12-C2-G2D0	EVO™ ONE Kit for up to 2 tanks , up to 8 dispensers includes: (1) EVO™ ONE console (12) Universal Liquid Sensors (2) Probe Install Kits (2) 4" Gas Float Kits
EV01-X2-S12-C2-G2D0	EVO™ ONE Kit for up to 2 tanks , up to 8 dispensers , with line leak detection includes: (1) EVO™ ONE console (1) Line Leak Detection Kit with (2) Pressure Transducers (12) Universal Liquid Sensors (2) Probe Install Kits (2) 4" Gas Float Kits
EV01-X0-S14-C3-G2D1	EVO™ ONE Kit for up to 3 tanks , up to 8 dispensers includes: (1) EVO™ ONE console (14) Universal Liquid Sensors (3) Probe Install Kits (2) 4" Gas Float Kits (1) 4" Diesel Float Kit
EV01-X3-S14-C3-G2D1	EVO™ ONE Kit for up to 3 tanks , up to 8 dispensers , with line leak detection includes: (1) EVO™ ONE console (1) Line Leak Detection Kit with (3) Pressure Transducers (14) Universal Liquid Sensors (3) Probe Install Kits (2) 4" Gas Float Kits (1) 4" Diesel Float Kit

FUEL MANAGEMENT
SYSTEMS

EVO™ ONE SYSTEM

EVO™ ONE is the all-in-one fuel system monitoring solution that lets station owners install or upgrade an entire fuel management system for the price of a single console.



EVO™ ONE CONSOLE



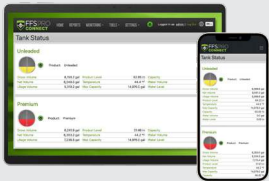
INVENTORY PROBES
& HARDWARE



LIQUID SENSORS



LEAK DETECTION
(Optional)



REMOTE ACCESS

ORDERING INFORMATION CONTINUED

Step 2 - Select Probes: Select the appropriate Probes based on tank diameters.



Probes With Leak Detection

Model	Description
FMP-LL3-29	2' digital leak detection probe
FMP-LL3-41	3' digital leak detection probe
FMP-LL3-53	4' digital leak detection probe
FMP-LL3-65	5' digital leak detection probe
FMP-LL3-69	5'4" digital leak detection probe
FMP-LL3-77	6' digital leak detection probe
FMP-LL3-81	6'4" digital leak detection probe
FMP-LL3-89	7' digital leak detection probe
FMP-LL3-101	8' digital leak detection probe
FMP-LL3-113	9' digital leak detection probe
FMP-LL3-125	10' digital leak detection probe
FMP-LL3-131	10'6" digital leak detection probe
FMP-LL3-137	11' digital leak detection probe
FMP-LL3-149	12' digital leak detection probe

Inventory Only Probes

Model	Description
FMP-LL3-29-I	2' digital inventory control probe
FMP-LL3-41-I	3' digital inventory control probe
FMP-LL3-53-I	4' digital inventory control probe
FMP-LL3-65-I	5' digital inventory control probe
FMP-LL3-69-I	5'4" digital inventory control probe
FMP-LL3-77-I	6' digital inventory control probe
FMP-LL3-81-I	6'4" digital inventory control probe
FMP-LL3-89-I	7' digital inventory control probe
FMP-LL3-101-I	8' digital inventory control probe
FMP-LL3-113-I	9' digital inventory control probe
FMP-LL3-125-I	10' digital inventory control probe
FMP-LL3-131-I	10'6" digital inventory control probe
FMP-LL3-137-I	11' digital inventory control probe
FMP-LL3-149-I	12' digital inventory control probe

EVO™ ONE Hardware & Software Field Upgrades

The following software and hardware options can be added to customize your EVO™ ONE once it's been installed in the field.

Internal Software Field Upgrades

Model	Description
TS-FLOW	Flow rate monitoring
TS-CON	Enhanced logic conditions including value, counter, value compare, and latch

Hardware Field Upgrades

Model	Description
FMP-ETP	External thermal printer, includes USB cable, power cord, one roll of thermal printer paper, and wall mount hardware
FMP-EPPC	Case of 25 thermal external printer paper rolls

Note: The external printer measures 5.6" w x 5.2" h x 8.0" d (142 mm x 132 mm x 204 mm) and can be mounted to wall next to the EVO™ ONE using the included hardware.

EVO™ ONE Spare/Replacement Parts

Spare/Replacement Internal Boards

Model	Description
FMSP-UDP400	Spare/Replacement EVO™ 200/400 / EVO™ ONE Input PCB

Spare/Replacement Hardware

Model	Description
FMSP-LCD	Spare/Replacement LCD Display for an EVO™ 200/400 / EVO™ ONE
FMP-24FUSE	EVO™ 200/400 / EVO™ ONE replacement fuse kit
FMP-24TRMBLK	EVO™ 200/400 / EVO™ ONE replacement terminal blocks
FMSP-24CVRWD	EVO™ 200/400 / EVO™ ONE with LCD replacement cover
FMSP-24CBL1	Ribbon Cable - Display to Main Board



SPECIFICATIONS

Inputs & Connectivity

Universal Device Protocol inputs	14
Maximum tanks monitored	14
Maximum sensor input capacity	14, 28*
Lines capacity	4
Maximum total device inputs	14, 28*
Maximum AC input channels	4
Dry contact input channels	2
Relay output channels	4
Connectivity	Ethernet, RS-232, RS-485, standard USB, Mini-B USB
Communication protocol support	MQTT, MODBUS®, XML, Veeder-Root®

*Requires connecting two FMP-ULS sensors per channel.

Hardware

Dimensions	H: 8" (205 mm), W: 13 ¾" (350 mm), D: 3 ¼" (83 mm)
Display type	7" (17.78 cm) color LCD touch screen
Printer type	External (network or USB)
Alarm	Internal audible alarm
LEDs	Alarm, warning, and power
Applicable liquids	Petroleum, chemicals, and waste
Power requirements	110 to 240 VAC, 50/60 Hz, 2.6 Amps
Operating temperature	32° to 104° F (0° to 40° C)
Humidity	0-95% non-condensing
Approvals	UL, cUL, ATEX, IECEx, GSA IT Security
Certifications	Third party certification of leak detection capabilities
Security	<ul style="list-style-type: none">- Customizable user roles- User activity tracking- Multifactor authentication- Third party verified security- GSA IT security approval- Latest SSL/TLS protocols

Components

- 1

 Cover
- 2

 LCD Touch Screen
- 3

 LED Indicators
- 4

 Annunciator (audible alarm)
- 5

 RS-485 / TPI
- 6

 Mini-B USB Port
- 7

 Ethernet / USB Port
- 8

 RS-232
- 9

 Top and Bottom Knockouts

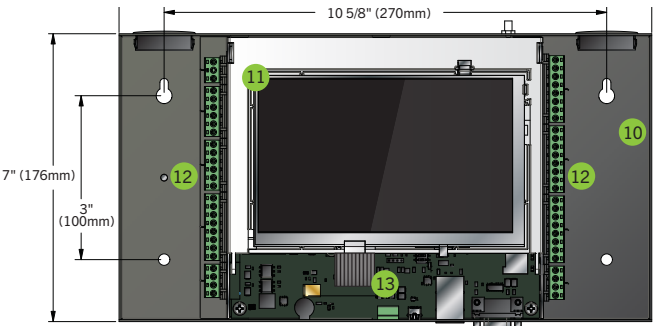
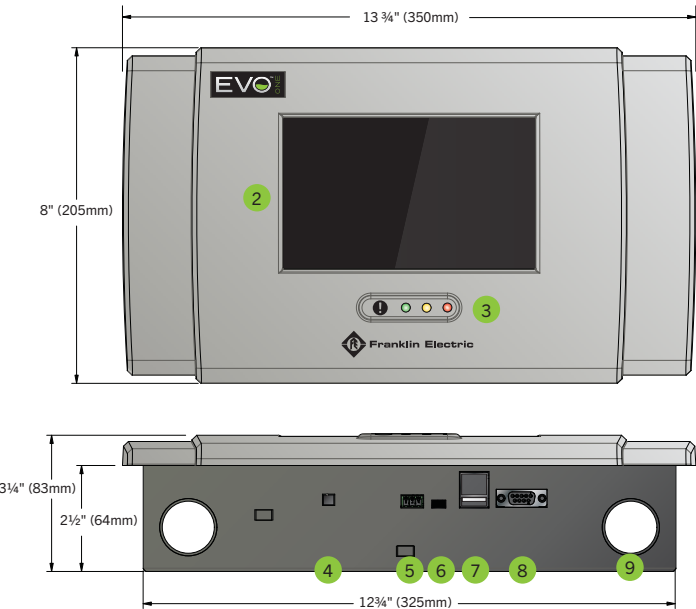
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 Mounting Holes
- 11

 Flip Up Panel (Touch Screen)
- 12

 Termination Blocks
- 13

 Main Board



MODBUS® is a registered trademark of Schneider Electric USA, Inc.
Veeder-Root® is a registered trademark of Fortive Corporation.



STAND-ALONE EVO™ LINE LEAK DETECTION

ORDERING INFORMATION

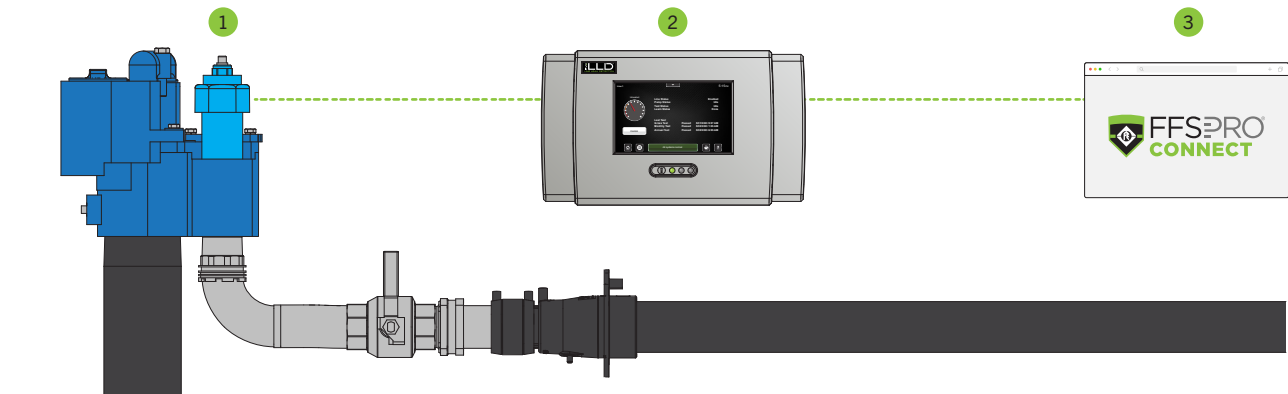
EVO™ LLD Stand-Alone Line Leak Detection

Model	Description
EVO-LLDS/2	2-line EVO™ LLD kit complete with console, (2) pressure transducers, installation wiring
EVO-LLDS/3	3-line EVO™ LLD kit complete with console, (3) pressure transducers, installation wiring
EVO-LLDS/4	4-line EVO™ LLD kit complete with console, (4) pressure transducers, installation wiring



Included In the Kit: EVO™ LLD console, pressure transducer(s), pressure transducer cable(s), needle valve kit(s), 3.0 gph (11.4 lph) leak generator kit.

SPECIFICATIONS



Operation

- 1 The EVO™ LLD Pressure Transducer is typically installed in the leak detector port of the submersible pump manifold. During the AUTO-LEARN® setup process, the EVO™ LLD learns the pressure decay curve characteristics of a calibrated leak.
- 2 During non-pumping periods, the EVO™ LLD will conduct line leak testing by comparing the line pressure changes to those learned during the AUTO-LEARN® process. A deviation in pressure, such as a drop beyond predefined thresholds, will be declared as a leak and shut down the associated submersible pump.
- 3 With declaration of a leak, the system will notify the operator via the EVO™ LLD display with additional email or SMS notification through the FFS PRO® Connect Web Browser Interface.

Transducer dimensions	6¼" (159 mm) × 2" NPT	Testing	<ul style="list-style-type: none">Performs a 3.0 gph (11 lph) leak and pressure test after every dispense cycle or 45 min. Positive shutdown of the affected submersible pump on test failure.Performs a 0.2 gph (0.8 lph) monthly and 0.1 gph (0.4 lph) annual precision leak test during the thermally stable periods of dispensing. Optional positive shutdown of the affected submersible pump on test failure.Performs pressure up, catch pressure, and other additional checks. Alarm only on test failure.
Operating temperature	-40° F to 149° F (-40° C to 66° C)		
Operating pressure	0 to 100 psi (0 to 6.89 bar)		
Transducer cable	10 ft (3.0 m) long three conductor cable with shield and polurethane jacket		
Max cable length	1,500 ft (152.4 m) maximum transducer to EVO™ LLD console distance		
Sensor port fitting	2" female NPT	Approvals/ Certifications	<ul style="list-style-type: none">UL, cUL, ATEX, IECExThird party certification of leak detection capabilities
Sensor material	Anodized aluminum body and stainless steel sensor		
Fuel compatibility	Diesel with or without biodiesel blends up to 5% (B5), diesel with biodiesel blends between 6% - 20% (B6 - B20), diesel with biodiesel blends between 97% - 100% (B99 - B100), gasoline with ethanol blends up to 10% (E10), mid-range ethanol/gasoline blends of (E15-20), high-range ethanol/gasoline blends (E51-83) commercially sold as E85.		



CENTRAL VACUUM MONITOR KIT

ORDERING INFORMATION

Model	Description
CVMD	Central vacuum monitor kit
CVMD-M	Replacement central vacuum monitor, with display
TS-TPS	Tank pressure sensor
TS-PVS	Pressure vacuum sensor



SPECIFICATIONS

Central Vacuum Monitor

Line voltage	110-240 V~, 1.0 A
AC input rating	7 mA RMS, 110-240 V~
Frequency & power	50/60 Hz, 150 W maximum
Storage temperature	-20° to 60° C (-4° to 140° F)
Operating temperature	0° to 40° C (32° to 104° F)
Operating humidity	0 to 95%, non-condensing
Communication ports	RS-232 Comm 1, Ethernet, USB (2)
Cleaning	Cloth or sponge slightly dampened in mild detergent
Splash resistance	Not to be exposed to direct spray, splash or drips
Location	Indoors in an office or in a non-hazardous pollution degree 2 environment per IEC60664
Relay rating	10 A @ 240 V~
Approvals / Certifications	<ul style="list-style-type: none"> – UL, ATEX, IECEx, PESO – Complies with Mexican NOM-004-ASEA-2017

Vapor Pressure Sensor & Vacuum Pump Sensor

Class I Div 1	Intrinsically Safe Groups C & D
Operating temperature	-40 to 80° C (-40 to 176° F)
Storage temperature	-40 to 100° C (-40 to 212° F)
Approvals / Certifications	UL/ATEX/IECEx certified

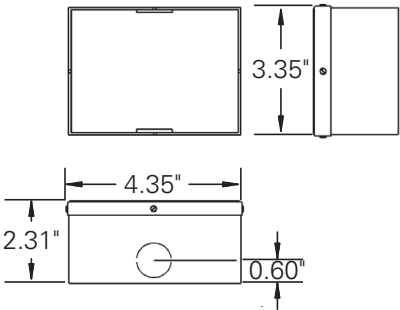
LINE SENTINEL™

ORDERING INFORMATION

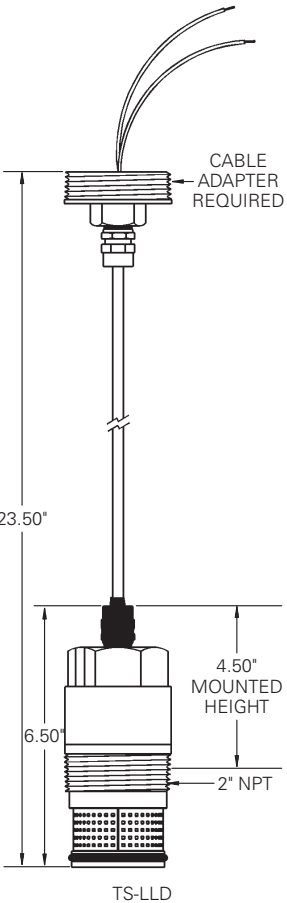
Model	Description
TS-LLD/FE	Electronic line leak detector with an FE PETRO® installation adapter, one required for each submersible pump
TS-LLD/RJ	Electronic line leak detector with a Red Jacket™ installation adapter, one required for each submersible pump
TS-LLD/RJQ	Electronic line leak detector with a Red Jacket™ Quantum™ installation adapter, one required for each submersible pump

SPECIFICATIONS

Dimensions	Console - 43/8" × 33/8" × 25/16" Line leak detector - 23½" × 23/8"
Applicable liquids	Gasoline and diesel motor fuels
Gross leak test (3.0 gph)	Yes
Monthly test (0.2 gph)	Yes
Annual test (0.1 gph)	Yes
Indicates days since 0.2 gph test passed	Yes
LED unit	Yes
Positive shut-down	Yes
Tank Sentinel® interface	Yes
Capabilities	<p>The INCON® TS-LLD line leak detector performs a variety of tests for environmental compliance:</p> <ul style="list-style-type: none">– Eliminates slow-flow problems associated with mechanical leak detectors.– Immediately identifies leaks even in changing thermal conditions, unlike mechanical LLDs.– Performs continuous testing using highly sensitive volumetric flow technology.– Continuously performs self-diagnostic test to ensure proper system operation.
Approvals / Certifications	<ul style="list-style-type: none">– UL, cUL– Third party certification of leak detection capabilities



TS-LLD CONTROL UNIT



TS-LLD

Note: The presence of the integral in-line check valve of the TS-LLD during normal operation creates a pressure drop which will reduce the total flow potential of the submersible pump. Some of the pressure drop can be compensated by upgrading the submersible pump motor. To ensure desirable flow rates are achieved, we do not recommend TS-LLD in the following sites:

1. Where it is imperative to achieve 10 gpm.
2. Sites that frequently have more than 4 nozzles open at a time. In such cases we recommend our AutoLearn™ pressure-based electronic leak line detector.

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Quantum™ is a trademark of Gilbarco Inc.
Red Jacket™ is a trademark of Veeder-Root Company.



S940 SENSOR ALARM CONSOLE

ORDERING INFORMATION

Model	Description
S940	Four channel sensor alarm console



SPECIFICATIONS

Input channels	4 (2-wire float switch sensor inputs)
Output channels	2 (dry contact relay outputs)
Alarm	Internal audible alarm
LEDs	Alarm, power, and output LEDs
Compatible Franklin Fueling Systems 2-wire sensors	<ul style="list-style-type: none">– TSP-ULS universal liquid sensor– TSP-HLS high level sensor– TSP-HFS horizontal float switch– TSP-UHS universal hydrostatic sensor
Dimensions	6" x 6" x 4"
Power requirements	100-240 VAC +/- 10%, 50/60 Hz, 15 W max
Operating temperaure	-13° F to +140° F (-25° C to +60° C)
Enclosure	NEMA® 4, indoor / outdoor (non-hazardous locations only)
Capabilities	<ul style="list-style-type: none">– Tank overfill alarm– Steel or fiberglass tank interstitial monitoring– Containment sump monitoring– General liquid sensor monitoring– Programmable relay outputs for remote alarm or external device interface
Approvals / Certifications	<ul style="list-style-type: none">– UL, cUL, associated apparatus, non-hazardous location– Third party certification of leak detection capabilities



DIGITAL INVENTORY & LEAK DETECTION PROBES

ORDERING INFORMATION

Leak Detection Probes

Model	Description
FMP-LL3-29	2' digital leak detection probe
FMP-LL3-41	3' digital leak detection probe
FMP-LL3-53	4' digital leak detection probe
FMP-LL3-65	5' digital leak detection probe
FMP-LL3-69	5'4" digital leak detection probe
FMP-LL3-77	6' digital leak detection probe
FMP-LL3-81	6'4" digital leak detection probe
FMP-LL3-89	7' digital leak detection probe
FMP-LL3-101	8' digital leak detection probe
FMP-LL3-113	9' digital leak detection probe
FMP-LL3-125	10' digital leak detection probe
FMP-LL3-131	10'6" digital leak detection probe
FMP-LL3-137	11' digital leak detection probe
FMP-LL3-149	12' digital leak detection probe

Inventory Control Probes

Model	Description
FMP-LL3-29-I	2' digital inventory control probe
FMP-LL3-41-I	3' digital inventory control probe
FMP-LL3-53-I	4' digital inventory control probe
FMP-LL3-65-I	5' digital inventory control probe
FMP-LL3-69-I	5'4" digital inventory control probe
FMP-LL3-77-I	6' digital inventory control probe
FMP-LL3-81-I	6'4" digital inventory control probe
FMP-LL3-89-I	7' digital inventory control probe
FMP-LL3-101-I	8' digital inventory control probe
FMP-LL3-113-I	9' digital inventory control probe
FMP-LL3-125-I	10' digital inventory control probe
FMP-LL3-131-I	10'6" digital inventory control probe
FMP-LL3-137-I	11' digital inventory control probe
FMP-LL3-149-I	12' digital inventory control probe



Inventory & Leak
Detection Probe

Inventory Probe
(Shown with optional
4" gas float kit)

SPECIFICATIONS

Operating Temperature	-40° to 140° F (-40° to 60° C)
Storage Temperature	-40° to 158° F (-40° to 70° C)
Accuracy	+/- 0.040" (1.0 mm) / +/- 1.0° C
Repeatability	±0.001" / +/- 0.03° C
Resolution	+/- 0.001" (0.025 mm) / +/- 0.01° C
Temperature Sensors	5 thermistors located in the shaft
Probe Cable	10' long three conductor cables with shields and polyurethane jacket
EVO™ Series Console Compatibility	EVO™ Series, TS-5, TS-550, TS-5000, Colibri®, TS-1001/2011/750/504/508
Fuel Compatibility	Diesel with or without biodiesel blends up to 5% (B5), diesel with biodiesel blends between 6% - 20% (B6 - B20), diesel with biodiesel blends between 97% - 100% (B99 - B100), gasoline with ethanol blends up to 10% (E10), mid-range ethanol/gasoline blends of (E15-20), high-range ethanol/gasoline blends (E51-83) commercially sold as E85
Approvals/Certifications	UL & cUL listed, ATEX, IECEx

Components

- 1 Probe head
- 2 Guides
- 3 Bottom mount fitting
- 4 Probe shaft
- 5 2" or 4" gas or diesel product float (sold as kit with water float)
- 6 2" or 4" gas or diesel water floats (sold as kit with product float)
- 7 Phase separation float kit
- 8 Low level water float kit for diesel
- 9 LPG float
- 10 Chemical float

Note: All float kits sold separately.

Operation

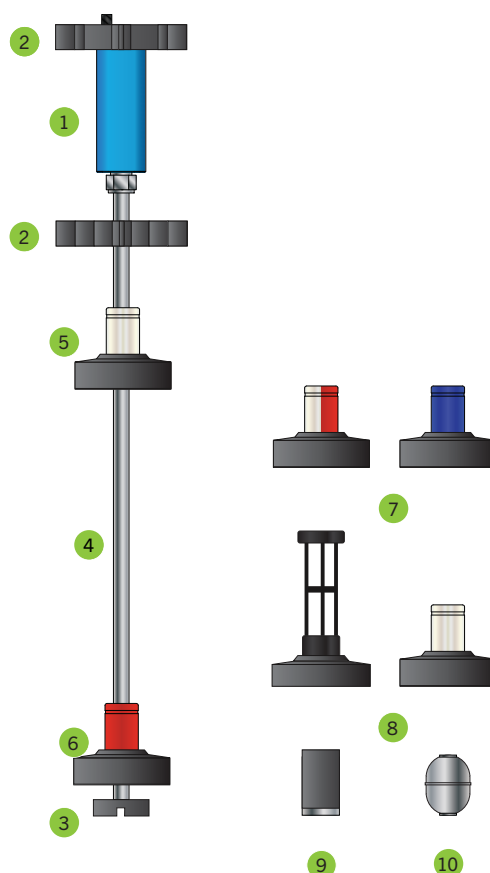
An electromagnetic field is created inside the probe head and forms around a long waveguide within the probe shaft when position measurements are taken. The electromagnetic field interacts with the magnetic field of the float(s) and produces a shock wave in the waveguide that travels at a known speed. When the shock wave is detected at the probe head, the probe creates a signal that corresponds precisely to the product level. Product expansion calculations are enabled by temperature sensors that are located at various points in the probe shaft.

Minimum Detectable Water Level

Float Type	Minimum Detectable Water Level
TSP-IGF4 / TSP-IGFD3 Gasoline Floats	0.75" (1.91 cm)
TSP-IDF4 / TSP-IGF4D3 Diesel Floats	0.75" (1.91 cm)
TSP-IGF4P Phase Separation Float	0.44" (1.12 cm)
FMP-IDF4E Low Level Water for Diesel Float	0.25" (0.64 cm)

Applications

- The leak detection probes are typically used for underground storage tanks and petroleum applications when static or SCALD® leak detection is required.
- The inventory control probes are typically used for aboveground storage tanks, chemical or oil waste, or underground storage tanks that do not require in-tank leak detection.



PROBE INSTALLATION KITS

ORDERING INFORMATION

Bottom Mount Kits

Model	Description
TSP-C2A	Mag probe install kit for 2" risers
TSP-C2B	Mag probe install kit for 2" risers with BSP threads
TSP-C4A	Mag probe install kit for 4" risers
TSP-C4B	Mag probe install kit for 4" risers with BSP thread

Other Kits

Model	Description
TSP-K4AS	#316 stainless steel mag probe install kit for 4" riser pipes
TSP-LPGK	LPG probe install kit, 149" maximum LL3 probe length

Note: TSP-LPGK install kit is not needed when locally supplied tank isolation sleeve is utilized.

Belden™ is a trademark of Belden Technologies, Inc.

3M™ is a trademark of 3M Company.



Cables

Model	Description
600-0180	Quick disconnect probe cable

Notes:

1. Cable is sold in 500' increments.
2. Contact technical service for more information on cable requirements and runs greater than 500'.

Accessories

Model	Description
TSP-DB1	One direct burial splice connector kit
TSP-DB10	Pack of 10 direct burial splice connector kits
TSP-DBTOOL	Epoxy dispensing tool
TSP-KW30	Pack of 30 3M™ splice connectors
TSP-UVPK	Ultraviolet protection kit - protects probe electronics when installed in AST applications

Notes:

1. Use the TSP-DB1 or TSP-DB10 for direct burial cable applications or when weatherproof junction boxes are not used.
2. The DBTOOL is required to dispense the epoxy.
3. Each direct burial splice connector kit includes a receptacle, three splice connectors, and epoxy for the dispensing tool.

FLOAT KITS

ORDERING INFORMATION

Model	Description
TSP-IDF2	2" float set for diesel tanks
TSP-IGF2	2" float set for gasoline tanks
TSP-IDF4	4" float set for diesel tanks
TSP-IGF4	4" float set for gasoline tanks
TSP-LPGF	2" float for LPG tanks, with or without isolation sleeve
TSP-SSP	2-1/16" OD, #316 stainless steel float for chemical applications only

Note: Order one float set for each Franklin Electric probe.



2" and 4" Floats

Chemical Floats

LPG Floats



PHASE SEPARATION FLOAT KITS



ORDERING INFORMATION

Model	Description
TSP-IGF2P	2" phase separation float kit for gasoline and up to E15
TSP-IGF4P	4" phase separation float kit for gasoline and up to E15

SPECIFICATIONS

Risers	Designed for applications using 2" or 4" risers
Floats	Each float kit contains both product float and water and phase separation float
Fuel	Appropriate for use with gasoline and ethanol blends up to E15
Probes	Compatible with all FE probes
EVO™ Compatibility	Options available for EVO™ Series consoles

LOW LEVEL WATER FLOAT FOR DIESEL

ORDERING INFORMATION

Model	Description
FMP-IDF4E	4" Low Level Water Float for Diesel Kit, includes product float, water float, compact probe foot



FUEL MANAGEMENT
SYSTEMS



DISCRIMINATING DISPENSER SUMP SENSOR (DDS)



ORDERING INFORMATION

Model	Description
FMP-DDS-U	Discriminating dispenser sump sensor (EVO™ 200/400, EVO™ ONE, EVO™ 600/6000)
FMP-DDS	Discriminating dispenser sump sensor (EVO™ 550/5000, EVO™ 600/6000)
TSP-KS	Unistrut™ mounting kit

Note: The FMP-DDS-U communicates with EVO™ 600 and EVO™ 6000 using the Universal Device Protocol Module (FMP-UDP9) or Probe Module (TS-PRB). The FMP-DDS communicates with the EVO™ 550, EVO™ 5000, EVO™ 600, and EVO™ 6000 using the 3-Wire Sensor Module (TS-3WSNS).

DISCRIMINATING TURBINE SUMP SENSOR (DTS)



ORDERING INFORMATION

Model	Description
FMP-DTS-U	Discriminating turbine sump sensor (EVO™ 200/400, EVO™ ONE, EVO™ 600/6000)
FMP-DTS	Discriminating turbine sump sensor (EVO™ 550/5000, EVO™ 600/6000)
TSP-KS	Unistrut™ mounting kit

Note: The FMP-DDS-U communicates with EVO™ 600 and EVO™ 6000 using the Universal Device Protocol Module (FMP-UDP9) or Probe Module (TS-PRB). The FMP-DDS communicates with the EVO™ 550, EVO™ 5000, EVO™ 600, and EVO™ 6000 using the 3-Wire Sensor Module (TS-3WSNS).

DISCRIMINATING MAGNETOSTRICTIVE SENSOR (DMS)



ORDERING INFORMATION

Model	Description
TSP-DMS-12	Discriminating magnetostrictive sensor, monitors 12" (305 mm) of liquid & measures 22" (559 mm) in length (all EVO™ Series)
TSP-DMS-24	Discriminating magnetostrictive sensor, monitors 24" (610 mm) of liquid & measures 34" (864 mm) in length (all EVO™ Series).
TSP-KS	Unistrut™ mounting kit

Note: The TSP-DMS communicates with the EVO™ 550, EVO™ 5000, EVO™ 600, and EVO™ 6000 using the Probe Module (TS-PRB).



UNIVERSAL LIQUID SENSOR (ULS)

ORDERING INFORMATION

Model	Description
FMP-ULS	Universal liquid sump sensor (all EVO™ Series)
TSP-ULS	Universal liquid sump sensor (for use with S940 only)
TSP-KI2	Interstitial sensor riser cap kit for 2" (51 mm) riser pipes

Note: The FMP-ULS communicates with EVO™ 600 and EVO™ 6000 using the Universal Device Protocol Module (FMP-UDP9). The FMP-ULS also communicates with the EVO™ 550, EVO™ 5000, EVO™ 600, and EVO™ 6000 using the 2-Wire Sensor Module (TS-2WSNS) or the 3-Wire Sensor Module (TS-3WSNS).



UNIVERSAL HYDROSTATIC SENSOR (UHS)

ORDERING INFORMATION

Model	Description
FMP-UHS	Universal hydrostatic sensor (all EVO™ Series)
TSP-UHS	Universal hydrostatic sensor (for use with S940 only)
HM-KIT	Hydrostatic monitoring installation kit. Includes: flexible brine tube, sensor housing clamp, sensor housing, sensor cap, and hardware

Note: The FMP-UHS communicates with EVO™ 600 and EVO™ 6000 using the Universal Device Protocol Module (FMP-UDP9). The FMP-UHS also communicates with the EVO™ 550, EVO™ 5000, EVO™ 600, and EVO™ 6000 using the 2-Wire Sensor Module (TS-2WSNS) or the 3-Wire Sensor Module (TS-3WSNS).



ELECTRO-OPTIC INTERSTITIAL SENSOR (EIS)

ORDERING INFORMATION

Model	Description
FMP-EIS-U	Electro-optic interstitial sensor (EVO™ 200/400, EVO™ ONE, EVO™ 600/6000)
FMP-EIS	Electro-optic interstitial sensor (EVO™ 550/5000, EVO™ 600/6000)
TSP-KI2	Interstitial sensor riser cap kit for 2" riser pipes

Note: The FMP-EIS-U communicates with EVO™ 600 and EVO™ 6000 using the Universal Device Protocol Module (FMP-UDP9) or Probe Module (TS-PRB). The FMP-EIS communicates with the EVO™ 550, EVO™ 5000, EVO™ 600, and EVO™ 6000 using the 3-Wire Sensor Module (TS-3WSNS).



HORIZONTAL FLOAT SWITCH SENSOR (HFS)

ORDERING INFORMATION

Model	Description
FMP-HFS2	Horizontal float switch sensor (EVO™ 550/5000, EVO™ 600/6000)
TSP-KI2	Interstitial sensor riser cap kit for 2" riser pipes
TSP-KW4	Interstitial sensor riser cap kit for 4" riser pipes

Note: The FMP-HFS2 communicates with the EVO™ 550, EVO™ 5000, EVO™ 600, and EVO™ 6000 using the 2-Wire Sensor Module (TS-2WSNS) or the 3-Wire Sensor Module (TS-3WSNS). The FMP-HFS2 cannot communicate with the Universal Device Protocol Module (FMP-UDP9).



DISCRIMINATING INTERSTITIAL SENSOR (DIS)

ORDERING INFORMATION

Model	Description
FMP-DIS-U	Discriminating interstitial sensor (EVO™ 200/400, EVO™ ONE, EVO™ 600/6000)
FMP-DIS	Discriminating interstitial sensor (EVO™ 550/5000, EVO™ 600/6000)
TSP-KI2	Interstitial sensor riser cap kit for 2" riser pipes

The FMP-DIS-U communicates with EVO™ 600 and EVO™ 6000 using the Universal Device Protocol Module (FMP-UDP9) or Probe Module (TS-PRB). The FMP-DIS communicates with the EVO™ 550, EVO™ 5000, EVO™ 600, and EVO™ 6000 using the 3-Wire Sensor Module (TS-3WSNS).



HYDROSTATIC INTERSTITIAL SENSOR (HIS)

ORDERING INFORMATION

Model	Description
FMP-HIS-U	Hydrostatic interstitial sensor, 11" (EVO™ 200/400, EVO™ ONE, EVO™ 600/6000)
FMP-HIS-XL-U	Hydrostatic interstitial sensor, 21" (EVO™ 200/400, EVO™ ONE, EVO™ 600/6000)
FMP-HIS	Hydrostatic interstitial sensor, 11"* (EVO™ 550/5000, EVO™ 600/6000)
FMP-HIS-XL	Hydrostatic interstitial sensor, 21"* (EVO™ 550/5000, EVO™ 600/6000)
TSP-KV4*	Hydrostatic sensor vented riser pipe cap kit for 4" riser pipes



HIGH PRODUCT LEVEL SENSOR (HLS)

ORDERING INFORMATION

Model	Description
TSP-HLS-15	High product level sensor, 15" long, installed in tank (EVO™ 550/5000, EVO™ 600/6000)
TSP-HLS-15/SS	High product level sensor, stainless steel 15" long, installed in tanks containing alternative fuels (EVO™ 550/5000, EVO™ 600/6000)
TSP-HLS-30	High product level sensor, 30" long, installed in tank (EVO™ 550/5000, EVO™ 600/6000)
TSP-HLS-30/SS	High product level sensor, stainless steel 30" long, installed in tanks containing alternative fuels (EVO™ 550/5000, EVO™ 600/6000)



CORROSION CONTROL™ CORROSION DETECTION SENSOR (CDS)

ORDERING INFORMATION

Model	Description
FMP-CDS-U	Corrosion Detection Sensor (all EVO™ Series consoles)
FMSP-RDS1	Replacement detection screen, qty 1
FMSP-RDS10	Replacement detection screen, qty 10
TSP-KS	Unistrut® mounting kit

Note: this sensor communicates with the console via a TS-PRB probe module (EVO™ 550, EVO™ 5000, EVO™ 600, and EVO™ 6000) or via an IS channel (EVO™ 200/400 & EVO™ ONE).

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SPECIFICATIONS

Application	Monitoring for a corrosive environment within a tank ullage space
Operation	The CDS can be installed in the ullage space of tanks or in dispenser or STP sumps. The intrinsically safe sensor utilizes an included quick disconnect cable to wire to any EVO™ Series console via the probe module (EVO™ 550/5000, EVO™ 600/6000) or any Intrinsically Safe (IS) channel (EVO™ 200/400 and EVO™ ONE). The sensor utilizes a sacrificial metal screen which is used to detect the formation of corrosion. This screen can be removed and replaced upon the formation of corrosion.



CORROSION CONTROL™ DESICCANT PACK & DESICCANT PACK SENSOR (DPS)

ORDERING INFORMATION

Model	Description
FMP-DPS-U	Desiccant Pack Sensor with single and multi-pack hanger and installation kit
407750906	Desiccant Pack (qty 6)

Note: The FMP-DPS-U wires to the probe module on EVO™ 600 and EVO™ 6000 consoles and to the UDP input channel on EVO™ 200/400 and EVO™ ONE consoles.

SPECIFICATIONS

Application	Maintain a non-corrosive environment within the sump with the Desiccant Pack(s) and remotely monitor when the Desiccant Pack(s) need to be changed to maintain optimal low humidity
Operation	<ul style="list-style-type: none">– Installed within the sump environment to maintain optimal non-corrosive levels of humidity.– Able to hang one or two Desiccant Packs.– The sensor measures the weight of the Desiccant Pack and calculates an estimated percent of life remaining via an EVO™ Series.



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Unistrut® is a registered trademark Unistrut Corporation.*



SENSOR INSTALLATION ACCESSORIES

ORDERING INFORMATION

Model	Description
TSP-KI2	Interstitial sensor riser cap kit for 2" (5 cm) riser pipes

INTERSTITIAL SENSOR RISER CAP INSTALLATION KIT



ORDERING INFORMATION

Model	Description
TSP-KV4	Hydrostatic sensor vented riser cap kit for 4" (10 cm) riser pipes

HYDROSTATIC SENSOR VENTED RISER CAP INSTALLATION KIT



ORDERING INFORMATION

Model	Description
TSP-KW4	Interstitial/monitoring well pipe cap kit for 4" (10 cm) riser pipes

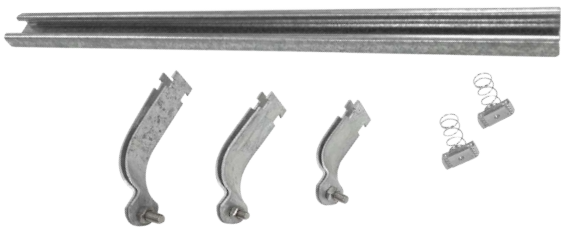
INTERSTITIAL/MONITORING WELL PIPE CAP INSTALLATION KIT



ORDERING INFORMATION

Model	Description
TSP-KS	Unistrut® mounting kit

UNISTRUT® MOUNTING KIT



ORDERING INFORMATION

Model	Description
TSP-DB1	One direct burial splice connector kit
TSP-DB10	Pack of 10 direct burial splice connector kits
TSP-DBTOOL	Epoxy dispensing tool

DIRECT BURIAL SPLICE CONNECTOR KITS



ORDERING INFORMATION

Model	Description
TSP-KW30	22-14 AWG (blue) splice connectors, 30 pack

SPLICE CONNECTOR



Unistrut® is a registered trademark of Unistrut Corporation.

EASY-ACCESS SENSOR BRACKET SYSTEM

ORDERING INFORMATION

Model	Description
FMP-SIB-DMS	Easy-Access Sensor Bracket for all models of the DDS, DTS, and DMS sensors
FMP-SIB-ULS	Easy-Access Sensor Bracket for all models of the ULS sensors

Model	Description
FMP-SIB-UDC	Easy-Access Sensor Bracket conversion kit for dispenser sumps

Note: The conversion kit must be installed with the FMP-SIB-DMS or FMP-SIB-ULS Easy-Access Sensor Bracket.

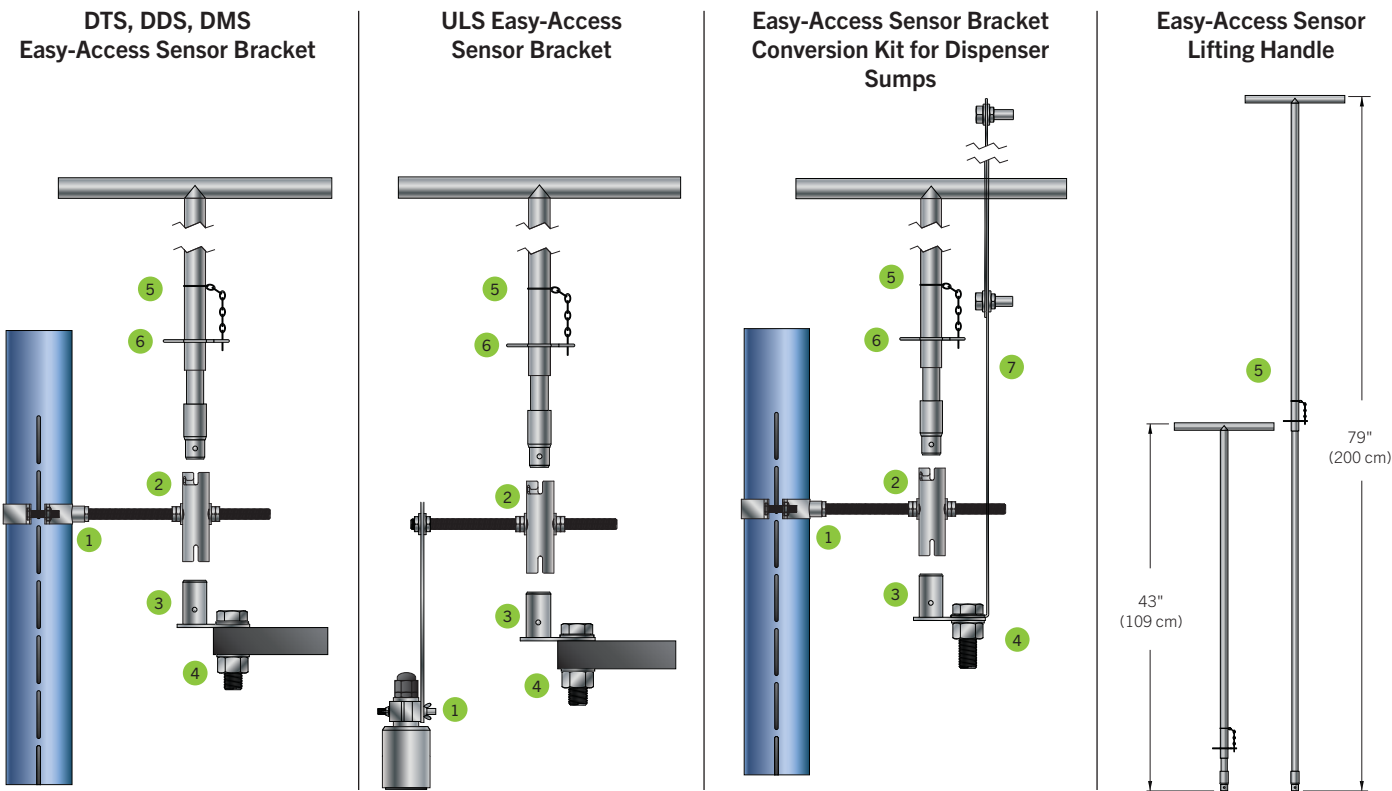
Model	Description
FMP-SIB-HDL	Easy-Access Sensor Bracket lifting handle, extends from 43" (109 cm) to 79" (200 cm)



SPECIFICATIONS

Components

- 1 Sensor clamp
- 2 Sensor bracket holder
- 3 Bracket seat
- 4 Mounting bolt
- 5 Extendable lifting handle
- 6 Spring clip to fix handle length
- 7 Conversion kit arm (bolts to stabilizer bar kit)



DC400 DISPENSING CUTOFF SYSTEM



ORDERING INFORMATION

Model	Description
DC404	S404 liquid sensor and controller
DC404C	S404 liquid sensor and controller for Canadian applications
TS-FE	FE PETRO® STP electric junction box adapter
TS-RJ	Red Jacket™ STP electric junction box adapter
TS-RJQ	Red Jacket™ Quantum™ STP electric junction box adapter

Note: Electric junction box adapters are for STP installations.

DC400 Replacement Parts

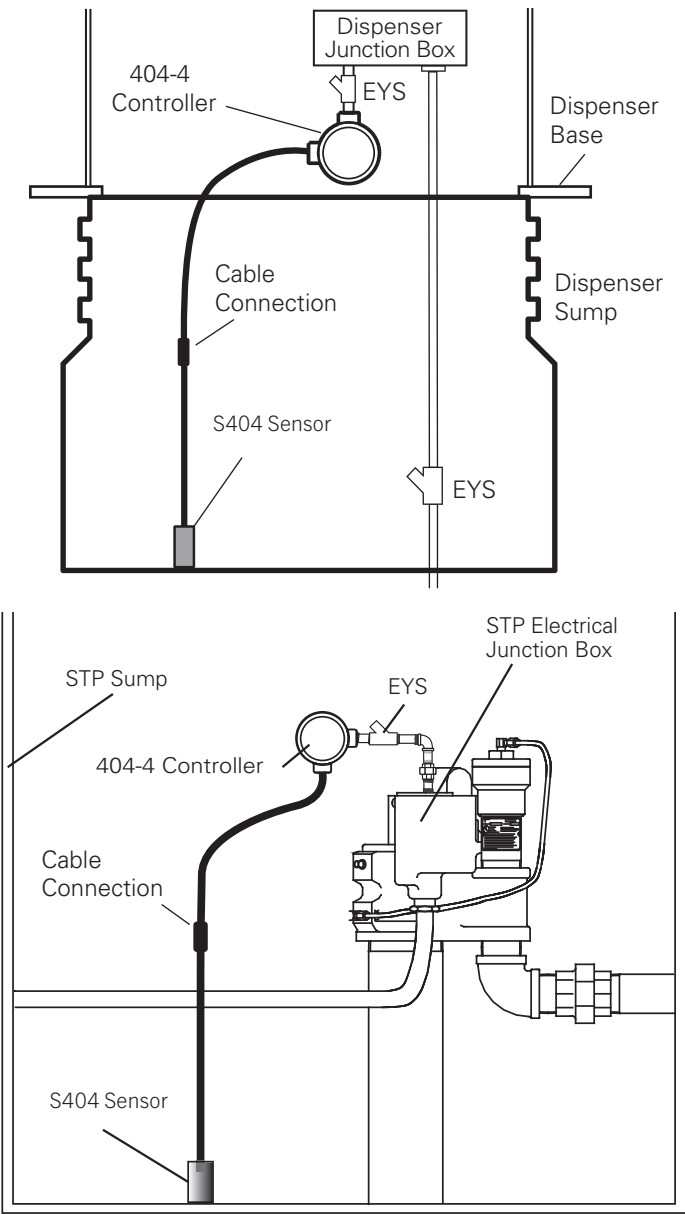
Model	Description
404-4	Controller
404-4C	Controller for Canadian applications
S404	Float switch sensor

Note: Replacement parts not compatible with legacy DC400 systems. Both controller and sensor must be replaced. Order DC404 system to replace legacy components.

SPECIFICATIONS

404-4 Controller	Compatible with S404 liquid sensor*
404-4 Controller dimensions	6.6" × 6.2" × 3.2"
404-4 Input power	90-250 VAC, 50/60 Hz, 0.25 A
404-4 Relay contacts	12A, 2 hp @ 250 VAC, 12A, 1.5 hp @ 120 VAC
Operating temperature	-4° F to 140° F (-20° C to +60° C)
Enclosures	All sensors intrinsically safe, controller explosion-proof
Detection time	<1 second
S404 Sensor minimum detectable water limit	0.98" (25 mm)
Capabilities	<ul style="list-style-type: none">— Cutoff power to submersible pumps or dispensers when liquid is detected in containment sumps— Automatic reset on liquid removal

*Previous versions of the 404-4, S406, and S404 are not compatible. Both the controller and sensor must be replaced if either requires it. Core credit available for legacy items.



ORDERING INFORMATION

Model	Description
TS-RA1	Standard intensity, tank overfill alarm with light and horn
TS-RK	Remote tank overfill alarm acknowledge unit

TS-RA1 REMOTE AUDIBLE AND VISIBLE ALARM UNIT



TS-RA2 REMOTE AUDIBLE AND VISIBLE ALARM UNIT



ORDERING INFORMATION

Model	Description
TS-RA2	High intensity, tank overfill alarm with light and horn
TS-RK	Remote tank overfill alarm acknowledge unit

TS-RK REMOTE ALARM ACKNOWLEDGE UNIT



ORDERING INFORMATION

Model	Description
TS-RK	Remote tank overfill alarm acknowledge unit

NEMA® is a registered trademark of National Electrical Manufacturers Association.

LEGACY CONSOLE REPLACEMENT PARTS

EVO™ 550 and EVO™ 5000

Model	Description
TSSP-10ARLY	Spare 6 output 10 amp relay module
TSSP-2WSNS	Spare 12 input 2-wire sensor module
TSSP-3WSNS	Spare 8 input 3-wire sensor module
TSSP-420IB	Spare 8 input 4-20ma module
TSSP-420EXP	Spare 8 input EXP 4-20ma module
TSSP-ACI	Spare 12 input AC input module
TSSP-IO	Spare input output module
TSSP-PRB	Spare 12 input probe module
TSSP-RLY	Spare 8 output relay module
TSSP-PS	Power supply module
TSSP-TMPTR	Thermal printer assembly for TS-550, TS-5000, and TS-EMS
TSSP-TRMBLK	Package of 10 assorted terminal blocks
TSSP-T550MB	TS-550 motherboard (for use with TS-EMS also)
TSSP-T5000MB	TS-5000 motherboard
TSSP-SP5FUSE	Spare fuse kit
TSSP-EXPPS	Expansion console power supply
EVO-CM	Spare TS-550/5000 EVO™ controller module, standard features only, no software options
EVO-CM/R	Replacement TS-550/5000 EVO™ controller module, factory programmed with required options
EVO-CMUPG	Upgrade kit for EVO-CM in stock to add original options
EVO-LCD	Replacement color LCD display for existing Interface Board REV 5 or higher (for REV 4 or lower, use EVO-DISPREP)
EVO-DISPREP	Display upgrade for an EVO™ 600/6000, EVO™ 550/5000 with existing Interface Board REV 4 or lower
EVO-IFB	Replacement display/printer interface board
EVO-TMPTR	Thermal printer assembly for TS-550/5000 EVO™
TS-EXPC	Secondary console to add eleven additional plug-in modules to the primary TS-550/5000 console, comes without a display or printer
TS-EXPC2	Secondary console to add six additional plug-in modules to the primary TS-550/5000 console, comes without a display or printer
TS-TT (T)	Statistical Continuous Automatic Leak Detection, 24 hour continuous tank testing software
TS-DIMIB (I)	Internal dispenser interface module, dispenser interface cable must be ordered separately

TS-550, TS-5000 & EMS

Model	Description
TSSP-10ARLY	Spare 6 output 10 amp relay module
TSSP-2WSNS	Spare 12 input 2-wire sensor module
TSSP-3WSNS	Spare 8 input 3-wire sensor module
TSSP-420IB	Spare 8 input 4-20ma module
TSSP-420EXP	Spare 8 input EXP 4-20ma module
TSSP-ACI	Spare 12 input AC input module
TSSP-IO	Spare input output module
TSSP-PRB	Spare 12 input probe module
TSSP-RLY	Spare 8 output relay module
TSSP-PS	Power supply module
TSSP-TMPTR	Thermal printer assembly for TS-550, TS-5000, TS-EMS
TSSP-TRMBLK	Package of 10 assorted terminal blocks
TSSP-EXPPS	Expansion console power supply
TS-EXPC	Secondary console to add eleven additional plug-in modules to the primary TS-550/5000 console, comes without a display or printer
EVO-CM	Spare TS-550/5000 EVO™ controller module, standard features only, no software options
EVO-CM/R	Replacement TS-550/5000 EVO™ controller module, factory programmed with required options
TSA-CMUPG	Upgrade kit for TSSP-CM in stock to add original options
TSSP-LCDIFB5X	LCD display and interface board kit for TS-550, TS-5000
TSSP-T550MB	TS-550 motherboard (for use with TS-EMS also)
TSSP-T5000MB	TS-5000 motherboard
TSSP-SP5FUSE	Spare fuse kit
TS-TP5000	TS-550 and TS-5000 impact printer paper
TS-TP5000C	12 rolls of impact printer paper
TS-INKRB	TS-550 and TS-5000 ink ribbon

TS-5 Only Replacement Parts

Accessories

Model	Description
430-0033	3 amp fuse for TS-ROM2/4 or /8
TSP-ENCD	Replacement encoder for TS-VFM



LEGACY CONSOLE REPLACEMENT PARTS

Colibri™

Model	Description
CL-MBWD	Replacement main board/display
TS-TT (T)	Statistical Continuous Automatic Leak Detection, 24 hour continuous tank testing software
TS-TRAC (R)	Tank inventory reconciliation and autocalibration

Note: The serial number of the old main board must be provided when ordering the CL-MBWD/R. Provide the serial number of the old and new main boards when ordering the CL-MBUPG.

TS-504 and TS-750 Consoles

Model	Description
TSSP-PTRC1	Printer cable
TSSP-SPFUSE	Spare fuse kit

TS-508 Console

Model	Description
TSSP-PTRC1	Printer cable
TSSP-SPFUSE	Spare fuse kit

*TSSP-SVKT8-SM includes one of the following: TSSP-SMSB8, TSSP-DSP1, TSSP-PSTB8-SM, TSSP-PTR, TSSP-PTRC1, TSSP-DSPKC1, TSSP-SPFUSE, TSSP-ENCLK and TSSP-BAT.

TS-ST5 Sump Test Kit

Model	Description
282-0058	Split ring
TS-TP2	One box of 5 rolls of thermal printer paper
TSP-SSP	Stainless steel probe float
TSSP-PTRC1	Printer cable
TSSP-SPFUSE	Spare fuse kit
TSSP-T1KEY	Replacement key

TS-LLD

Model	Description
010-0072	Control unit terminal interface board
020-1503	Hardware kit
430-0010	0.5 Amp fuse
TS-CU	Control unit
TS-FC	Line filter capacitor
TS-FPU	Face plate unit
TS-LSU	Leak sensor unit

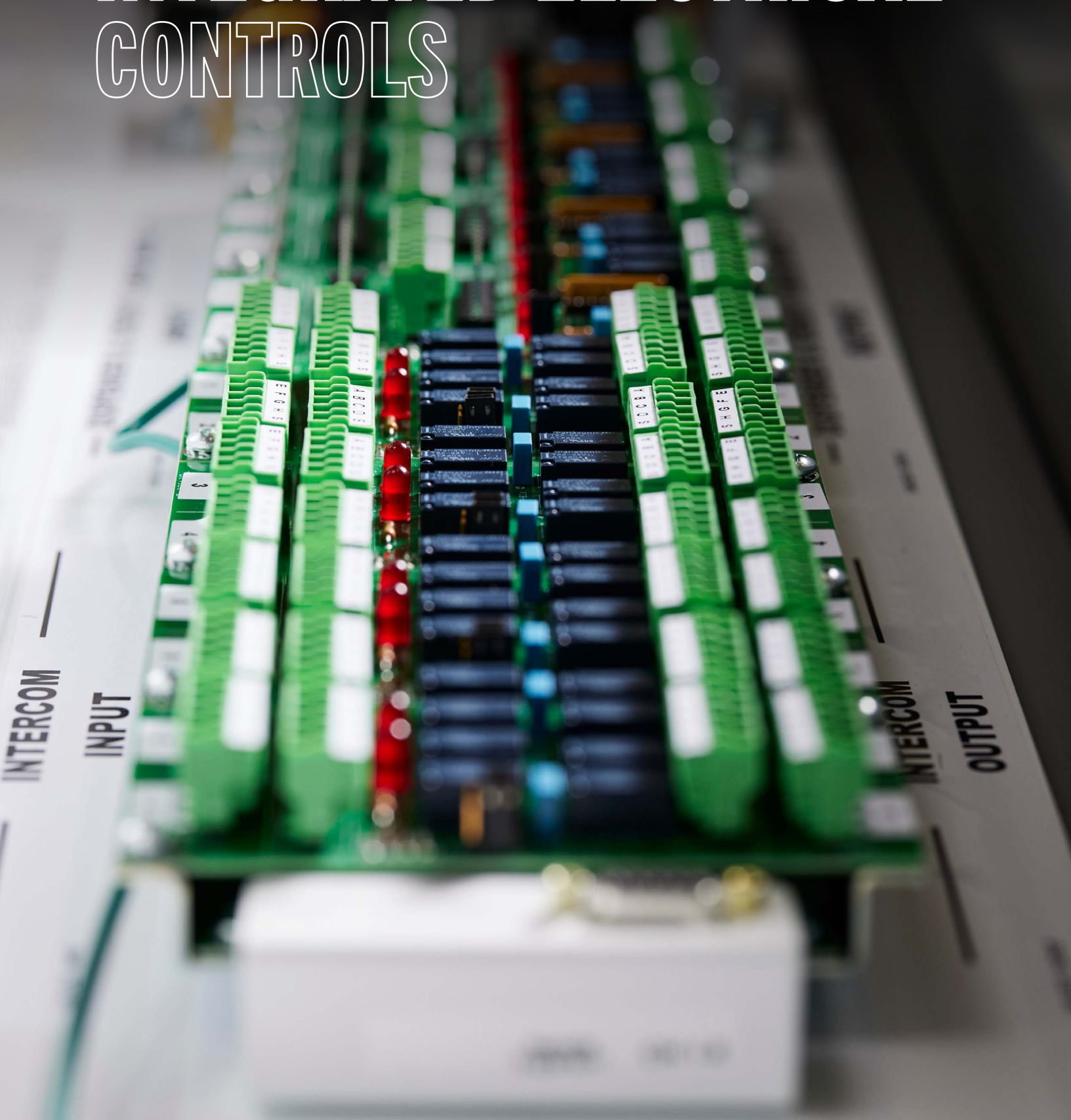
TS-LS300

Model	Description
600-0180	Transducer quick disconnect cable
TS-ALCAL	3.0 gph calibration kit
TS-ALFUSE	AutoLearn™ fuse kit
TS-AFALNIP	Alternative fuels needle valve kit
TS-ALNIP	Needle valve kit
TS-LSU300	Intrinsically safe pressure transducer
TSSP-ALPTRC	Ribbon cable, display board to main board

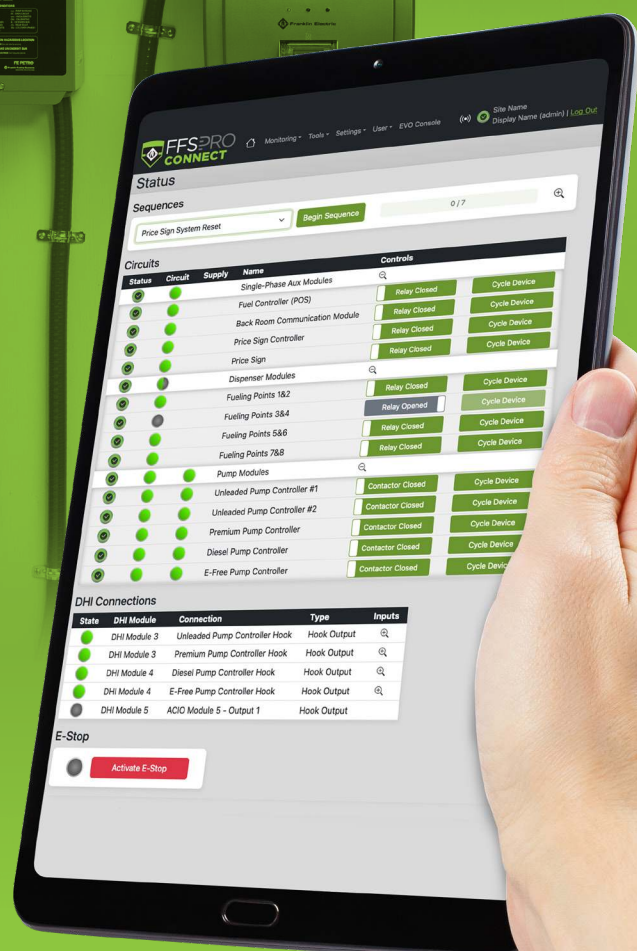
TS-LS500

Model	Description
600-0080	Transducer quick disconnect cable
TS-ALCAL	3.0 gph calibration kit
TS-AFALNIP	Alternative fuels needle valve kit
TS-ALNIP	Needle and valve kit
TS-LSU500	Intrinsically safe 4-20 mA pressure transducer
TS-LSU500E	Explosion proof 4-20 mA pressure transducer

INTEGRATED ELECTRICAL CONTROLS



REMOTE CONTROL SOLUTION WITH OVERSITE™



INCREASE C-STORE UPTIME &

- Avoid costly maintenance calls of critical assets
- Increase workload efficiency, mitigate downtime
- Simplify compliance with National Electrical Code® (NEC & NFPA)

REMOTE CONTROL SOLUTION

WITH OVERSITE™

ORDERING INFORMATION

Ordering Guide

Complete part numbers have a specific order and are created using the following guidelines. Replace any bold character with the chosen option(s).

RCS - XDN YPNN - NDGT NCB NEQR - FZANT NKL

RCS = Remote Control Solution

NDT NCB NEQR = Low Voltage Disconnect Options

F = Full Enclosure

XDN = # of Dispensers

N or D or T = Dispenser Data (Choose One)

ZANT = # of Extra 120V, 15A, 1-Phase Modules (Control 4 Devices Each)

04 = 4 Dispensers

N = No Dispenser Data Disconnect

N = No extra 120V 1-Phase Modules

08 = 8 Dispensers

D = Twisted Pair (No data surge protection)

1 = 1, 120V 1-Phase Modules (4 devices total)

12 = 12 Dispensers

T = Ethernet

2 = 2, 120V 1-Phase Modules (8 devices total)

16 = 16 Dispensers

N or C or B = Intercom Data (Choose One)

3 = 3, 120V 1-Phase Modules (12 devices total)

YPNN = # of Pumps

N = No Dispenser Intercom Disconnect

4 = 4, 120V 1-Phase Modules (16 devices total)

2 = 2 Pumps

C = 4 conductors per dispenser

N or K or L = Extra Isolation Modules (Choose One)

3 = 3 Pumps

B = 8 conductors per dispenser

N = No Extra Isolation Modules

4 = 4 Pumps

N or E or Q or R = Media/Network Data (Choose One)

K = 2 Extra Isolation Modules (4 inputs, 2 outputs each)

5 = 5 Pumps

N = No Dispenser Media Disconnect

L = 4 Extra Isolation Modules (4 inputs, 2 outputs each)

6 = 6 Pumps

E = Ethernet

7 = 7 Pumps

Q = 4 conductors per dispenser

8 = 8 Pumps

R = 8 conductors per dispenser

Example: RCS-04DN3PNN-TBE-F2ANTK = 4 dispensers, 3 pumps, Ethernet dispenser data disconnect, 8 conductors per dispenser intercom data disconnect, Ethernet media/network data disconnect, (2) 120V 1-phase modules, 2 extra isolation modules.

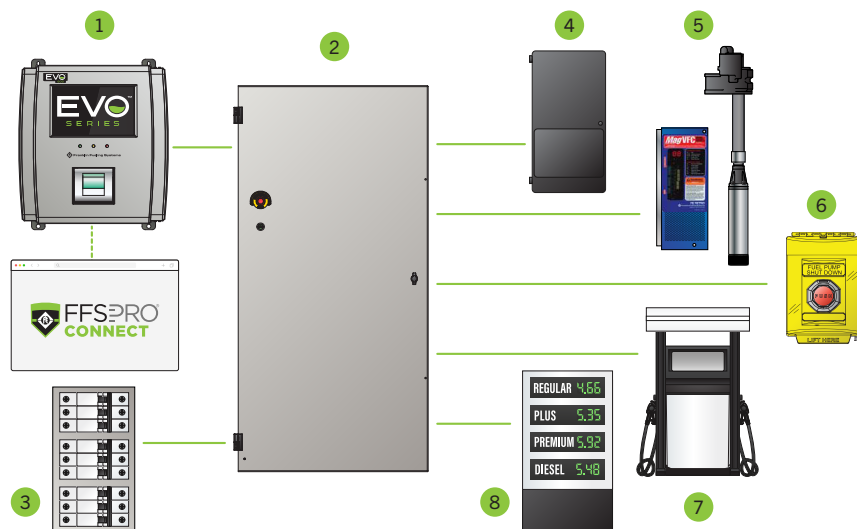


SPECIFICATIONS

OVERSITE™ Critical Asset Network

With OVERSITE™, the RCS serves as a central hub that controls and monitors essential site asset power connections and interfaces them with the EVO™ Series console, enabling remote notifications, monitoring, and control functionalities.

- 1 EVO™ Series Console
- 2 Remote Control Solution with OVERSITE™
- 3 Circuit Breakers
- 4 Fueling Controller
- 5 Pump Controllers
- 6 E-Stops
- 7 Dispensers
- 8 Price Sign



Environmental

Operating Temperature	-40° C to 45° C (-40° F to 113° F)
Storage Temperature	-40° C to 85° C (-40° F to 185° F)
Operating Humidity	0 to 90% relative humidity
Dimensions - Enclosed RCS	60" H x 30" W x 7" D
Weight - Enclosed RCS	200 lbs (90.7 kg) or less
Line Voltage	110-120 V
Line Frequency	50-60 Hz
Location	Install the unit indoors, in a non-hazardous environment
Circuit Breaker	20A dedicated circuit breaker required
Approvals/Certifications	cULus 508A

ACIO Module

Input Terminals	4 (Line and Neutral)
Output Terminals	2 (Supply and Output)
Operating Voltage	100-240 VAC
Operating Input Current	35 mA
Operating Output Current	0.3 A
Operating Frequency	50/60Hz

1-Ph Modules

Input Terminals	1 (Line and Neutral)
Output Terminals	1 (Line and Neutral)
Operating Voltage	100-240 VAC
Operating Current	15A AC
Operating Frequency	50/60Hz

Pump Modules

Input Terminals	3
Output Terminals	3
Operating Voltage	100-240 VAC
Operating Current	35A Resistive, 250 VAC 5HP
Operating Frequency	50/60Hz

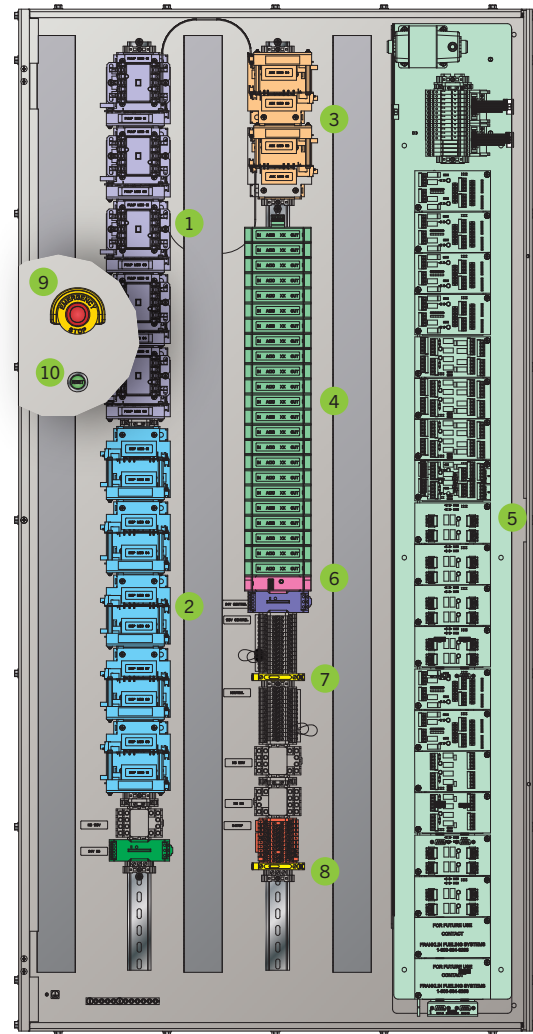
NEC® Compliance

Emergency Disconnects Controlled by E-Stop	NEC® 514.11 & NFPA® 30A
Dispenser Hook Isolation	NEC® 514.13
Low Voltage Dispenser Data Disconnects	NEC® 514.13

SPECIFICATIONS CONTINUED

Components

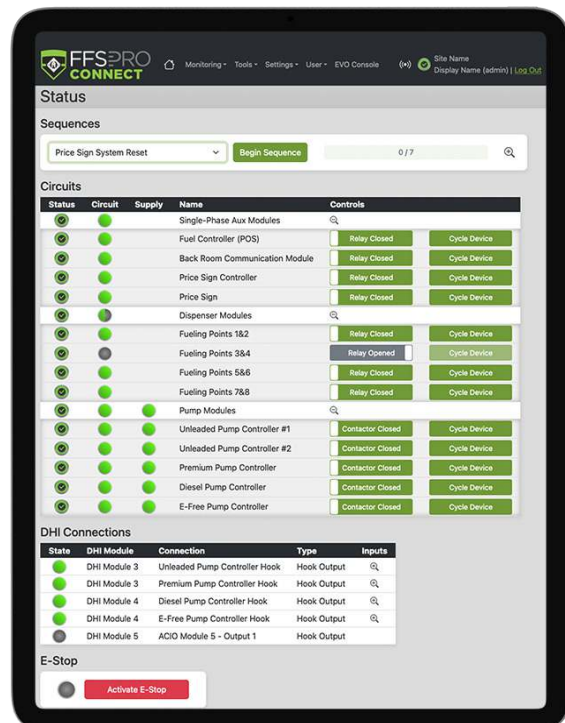
- 1 Pump Power Module(s) (E-Stop controlled)
- 2 Dispenser Power Module(s) (E-Stop controlled)
- 3 Auxiliary Single Phase Power Module(s) (Separate from E-Stop)
- 4 AC Isolation Modules:
 - Dispenser Hook Isolation Modules
 - E-Stop Push Button Identification Module
- 5 Low Voltage Dispenser Disconnect
- 6 Health Monitoring Controller (HMC)
- 7 Fuse Holder for Control Circuit
- 8 Fuse Holder for E-Stop Circuit
- 9 E-Stop Push Button
- 10 E-Stop Reset Push Button



Remote Web Interface

Through the FFS PRO® Connect Web Interface, operators can access the tools to monitor and control their critical assets remotely.

- Remotely power cycle assets
- Program and initiate power cycling sequences
- Generate user-defined email and SMS notifications
- Track outage events
- Create custom reports



CONFIGURED CONTROLS

PETROLEUM CONTROL SOLUTIONS

ORDER INFORMATION

Ordering Guide

Complete part numbers have a specific order and are created using the following guidelines:

PCS-XDS YPS HM - N DGT CB EQR

PCS = Petroleum Control System

XD = # of Dispensers

- 4 = 4 Dispensers
- 6 = 6 Dispensers
- 8 = 8 Dispensers
- 10 = 10 Dispensers
- 12 = 12 Dispensers

S = Dispenser Disconnect Switch (optional)

YP = # of Pumps

- 2 = 2 Pumps
- 3 = 3 Pumps
- 4 = 4 Pumps
- 5 = 5 Pumps
- 6 = 6 Pumps

S = Pump Disconnect Switch (optional)

N DGT CB EQR = Low Voltage Circuit Disconnects

N = No Low Voltage Disconnect Options

or

DGT CB EQR = Low Voltage Disconnect Options

D or G or T = Dispenser Data (choose one)

D = Twisted Pair (No data surge protection)

G = Twisted Pair with data surge protection for current loop

T = Ethernet

C or B = Intercom Data (choose one)*

C = 4 conductors per dispenser

B = 8 conductors per dispenser

E or Q or R = Media/Network Data (choose one)*

E = Ethernet

Q = 4 conductors per dispenser

R = 8 conductors per dispenser



Examples:

PCS-6DS4P-GB = Petroleum Control Solution, (6) dispensers, (4) pumps, with Twisted Pair (with Data Surge Protection for Current Loop) Low Voltage Dispenser Data Disconnects, with (2) Speakers & (2) Call Buttons per Dispenser.

PCS-12D6P-TBE = Petroleum Control Solution, (12) dispensers, (6) pumps, with Ethernet Low Voltage Dispenser Data Disconnects, with (2) Speakers & (2) Call Buttons per Dispenser, with Ethernet Media/Network Data circuit.

PCS-6D4PS-N = Petroleum Control Solution, (6) dispensers, (4) pumps, Pump Disconnect Switch, No Low Voltage Disconnects.

*Dispenser Data Disconnect must be selected for secondary Disconnect Options (e.g. D, G, or T)

Common Petroleum Control Solutions

Model	Description
PCS-4D4P	Petroleum Control Solution, (4) dispensers, (4) pumps
PCS-6D4P	Petroleum Control Solution, (6) dispensers, (4) pumps
PCS-8D4P	Petroleum Control Solution, (8) dispensers, (4) pumps

Common Petroleum Control Solutions + Low Voltage Disconnect

Model	Description
PCS-4D4P-DBE	Petroleum Control Solution, (4) dispensers, (4) pumps, with Twisted Pair Low Voltage Circuits, with (2) Speakers & (2) Call Buttons per Dispenser, with Ethernet Circuits
PCS-6D4P-DBE	Petroleum Control Solution, (6) dispensers, (4) pumps, with Twisted Pair Low Voltage Circuits, with (2) Speakers & (2) Call Buttons per Dispenser, with Ethernet Circuits
PCS-8D4P-DBE	Petroleum Control Solution, (8) dispensers, (4) pumps, with Twisted Pair Low Voltage Circuits, with (2) Speakers & (2) Call Buttons per Dispenser, with Ethernet Circuits

SPECIFICATIONS

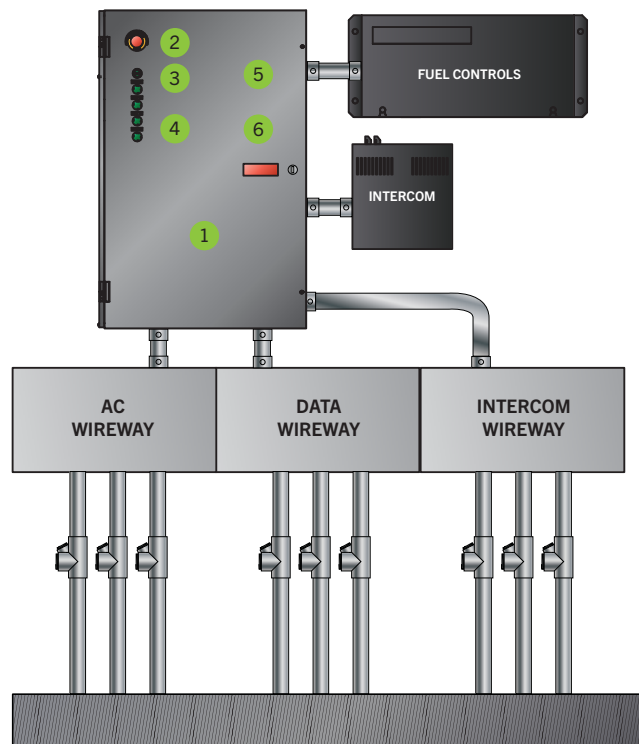
Dispenser Capacity	4, 6, 8, 10, & 12
Submersible Pump Capacity	2 - 6
Dispenser Data Circuits	1 Data Pair, 1 Credit Card Pair
Intercom Circuits	<ul style="list-style-type: none"> – 1 Speaker, 1 Call Button per Dispenser (4 Conductors) – 2 Speakers, 2 Call Buttons per Dispenser (8 Conductors)
Media Circuits	<ul style="list-style-type: none"> – Ethernet Circuits – 2-Wire Circuits
Approvals	cULus listed
Certifications	<ul style="list-style-type: none"> – For compliance with NEC® 514.11 and NFPA® 30A Section 6.7 requirements for Emergency Disconnects at Motor Fuel Dispensing Facilities (controlled by E-Stop system) – For compliance with NEC® 514.13 requirements for Maintenance Disconnects at Motor Fuel Dispensing Facilities (switches to disconnect individual dispenser circuits for servicing)

System Components

The Petroleum Control Solutions can be installed with or without integrated low voltage circuit disconnects.

- | | | |
|------------------------------|-----------------------|------------------------|
| 1 Petroleum Control Solution | 3 Reset Operator | 5 Primary Disconnect |
| 2 E-Stop Operator | 4 Pump Run Indicators | 6 Secondary Disconnect |

Petroleum Control Solutions + Low Voltage Disconnects



CONFIGURED CONTROLS

CONFIGURED PANEL SOLUTIONS

SPECIFICATIONS

AC Power Distribution Capabilities	Electrical distribution fuel panel
AC Power Controls Capabilities	<div><div></div>E-stop & reset push buttons</div> <div><div></div>Emergency stop controls</div> <div><div></div>Pump hook isolation</div> <div><div></div>Pump status lights</div> <div><div></div>Pump contactors</div> <div><div></div>Dispenser contactors</div> <div><div></div>AC connected surge suppression</div> <div><div></div>Lighting controls</div>
Dispenser Capabilities	<div><div></div>Low voltage disconnect</div> <div><div></div>Data circuit protection</div>
Enclosure Options	UL Type 1 indoor
Approvals	cULus listed
Certifications	<div><div></div>For compliance with NEC® 514.11 and NFPA® 30A Section 6.7 requirements for Emergency Disconnects at Motor Fuel Dispensing Facilities (controlled by E-Stop system)</div> <div><div></div>For compliance with NEC® 514.13 requirements for Maintenance Disconnects at Motor Fuel Dispensing Facilities (switches to disconnect individual dispenser circuits for servicing)</div>



System Components

- 1

 Configured Panel Solution
- 2

 E-Stop & Reset Operator
- 3

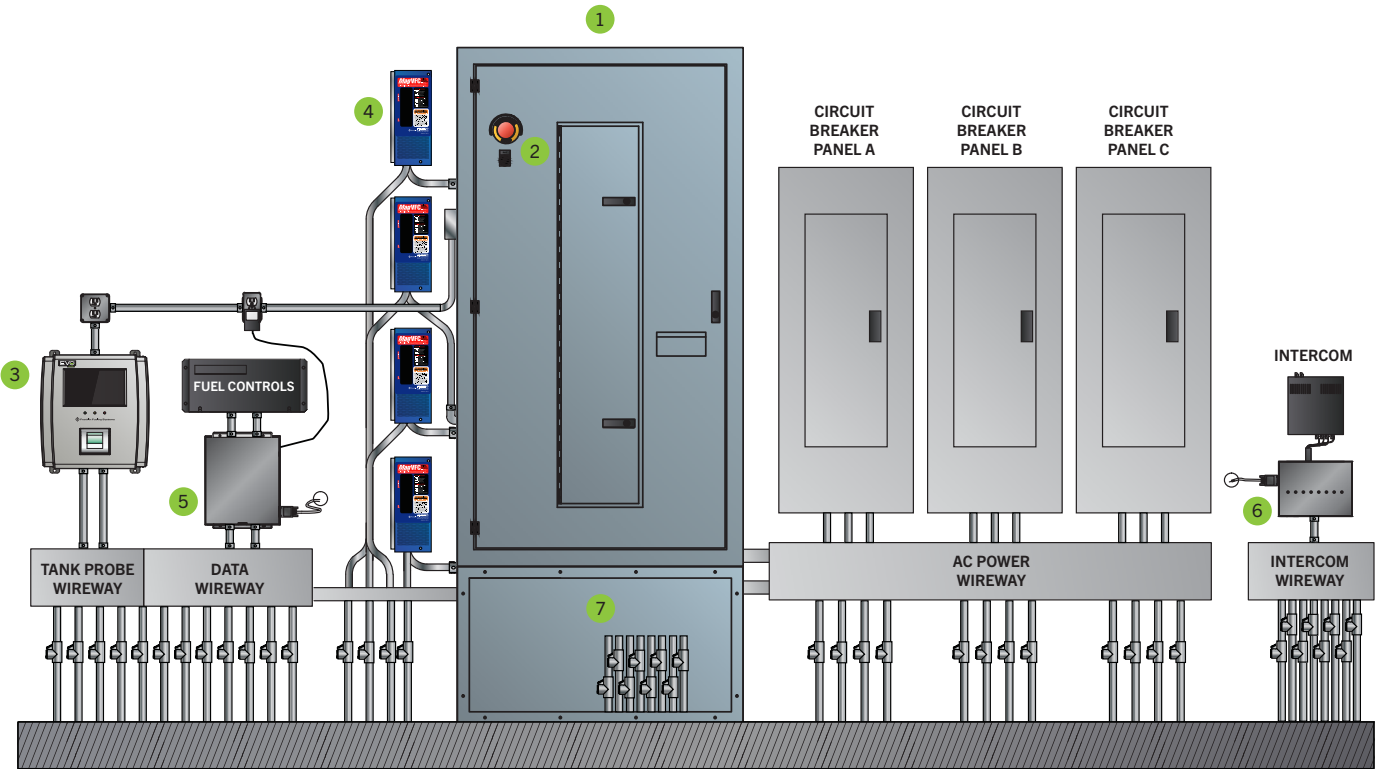
 EVO™ Series Console
- 4

 Submersible Pump Controller
- 5

 Primary Disconnect
- 6

 Secondary Disconnect
- 7

 Open-Bottom Conduit Pedestal (Optional)



PRIMARY & SECONDARY DISPENSER DISCONNECTS

QUICK SELECTION GUIDE

PRIMARY DISPENSER DISCONNECTS


The primary dispenser disconnect provides the emergency stop interface and the service switches. The primary is used to disconnect dispenser data and credit card data. One primary disconnect must be selected when configuring a system.

Dispenser Data Twisted Pairs

Disconnect cards are provided for both dispenser data pairs and credit card data pairs.

Dispenser Data Ethernet

Newer dispenser technologies use Ethernet for dispenser data. Solutions are available in both wall and rack mount enclosures.



Feature/Model	Twisted Pair Disconnects	Ethernet Disconnects
Dispenser Circuit Type	Twisted Pairs	Ethernet
Circuit Disconnects	Data & Credit Card Data	Data & Credit Card Data
Dispenser Channels	8, 12, or 16	8 or 16
Number of Conductors Disconnected per Dispenser	4 (14 Gauge Max)	1-2 Ethernet Cables per Dispenser
Surge Protection	Optional	No
Mounting Method	Wall	Wall or Rack

SECONDARY DISPENSER DISCONNECTS


Secondary dispenser disconnects are controlled by a primary dispenser disconnect and are used to add additional disconnects for other circuits connecting to a dispenser. The secondary can be located in an area away from the primary for easy installation near circuits.

Communication / Intercom Disconnects

Secondary communication and intercom disconnects are available for either 4 or 8 conductors per dispenser.

Ethernet Disconnects

Secondary Ethernet disconnects are available for either 1 or 2 Ethernet cables per dispenser.



Feature/Model	Communication / Intercom	Ethernet Disconnects	Ethernet Disconnects
Dispenser Circuit Type	Twisted Pairs	Ethernet	Ethernet
Circuit Disconnects	Communication / Intercom & Media / Video	Communication / Intercom & Media / Video	Communication / Intercom & Media / Video
Dispenser Channels	8	8 or 16	8 or 16
Number of Conductors Disconnected per Dispenser	4 or 8	1-2 Ethernet Cables per Dispenser	1-2 Ethernet Cables per Dispenser
Surge Protection	Optional	No	No
Mounting Method	Wall	Wall	Rack

System Components

Disconnects are installed in-line with dispenser data wiring and adjacent to site controls. The primary provides individual disconnect switches. Each switch disconnects both the corresponding dispenser data circuits and associate channels in secondary disconnects.

-
- The diagram illustrates a three-wire system architecture. It features three main wireway sections: **DATA WIREWAY**, **INTERCOM WIREWAY**, and **MEDIA WIREWAY**. The **DATA WIREWAY** is connected to a **DATA DISTRIBUTION BOX**. The **INTERCOM WIREWAY** is connected to **INTERCOM EQUIPMENT**. The **MEDIA WIREWAY** is connected to **TO OTHER SECONDARY DISCONNECTS**. A **E-STOP CONTROLLED OUTLET** is also shown. The connections are numbered 1 through 4, indicating the sequence of wiring connections between the components.

PRIMARY DISCONNECT

TWISTED PAIR DISPENSER DISCONNECTS

ORDER INFORMATION

8 Dispenser Primary Disconnects



Model	Description
DDS-8DM4GE	Primary Dispenser Disconnect, 4 Conductors x 8 Dispensers (Wayne® or Gilbarco®), for dispenser data and card reader circuits
DDS-8DM4GPE	Primary Dispenser Disconnect, 4 Conductors x 8 Gilbarco® Dispensers, for dispenser data and card reader circuits, with data surge protection for current loop
DDS-8DM4WPE	Primary Dispenser Disconnect, 4 Conductors x 8 Wayne® Dispensers, for dispenser data and card reader circuits, with data surge protection for current loop and RS-485

12 & 16 Dispenser Primary Disconnects



Model	Description
DDS-12DT4GE	Primary Dispenser Disconnect, 4 Conductors x 12 Dispensers (Wayne® or Gilbarco®), for dispenser data and card reader circuits
DDS-12DT4GPE	Primary Dispenser Disconnect, 4 Conductors x 12 Gilbarco® Dispensers, for dispenser data and card reader circuits, with data surge protection for current loop
DDS-12DT4WPE	Primary Dispenser Disconnect, 4 Conductors x 12 Wayne® Dispensers, for dispenser data and card reader circuits, with data surge protection for current loop and RS-485

Note: For 16 dispenser Primary Disconnects, contact Customer Service.

SPECIFICATIONS

Number of Dispenser Channels	8, 12, or 16 Dispensers
E-Stop Control Input	8 Dispenser Models: Powered by Class 2 24VAC Transformer, Connected to 120VAC E-Stop Controlled Outlet 12 Or 16 Dispenser Models: NEMA 5-15P Cord Connected to 120VAC, E-Stop Controlled Outlet
Number of Conductors Disconnected per Dispenser	4 (14 Gauge Max)
Signal Circuit Rating	Class 2, 48V Max, 3 Amp
Surge Protection Available	Optional
Individual Channel Control Switches	Yes
Lockable Channel Control Switches	Yes
Secondary Remote Expansion Output	Yes
Approvals	cUL Listed 1238
Certifications	<ul style="list-style-type: none"> For compliance with NEC® 514.11 and NFPA® 30A Section 6.7 requirements for Emergency Disconnects at Motor Fuel Dispensing Facilities (controlled by E-Stop system) For compliance with NEC® 514.13 requirements for Maintenance Disconnects at Motor Fuel Dispensing Facilities (switches to disconnect individual dispenser circuits for servicing)

Surge Protection Specifications (Gilbarco® Dispensers)

Dispenser Data Circuit & Credit Card Communication Circuit	2 Wire Current Loop
— Standoff Voltage	47.8V
— Breakdown Voltage	56V Max +/- 5%
— Clamp Voltage	77V Max
— Peak Pulse Current	19.7A

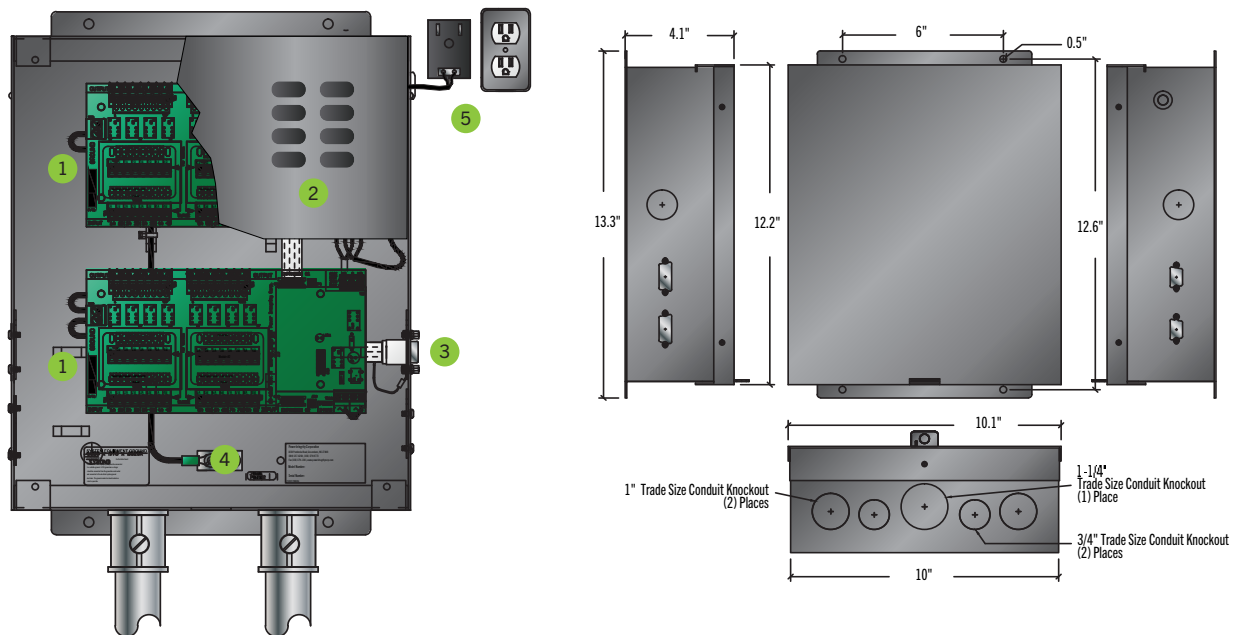
Gilbarco® is a registered trademark of Gilbarco Inc.



SPECIFICATIONS CONTINUED

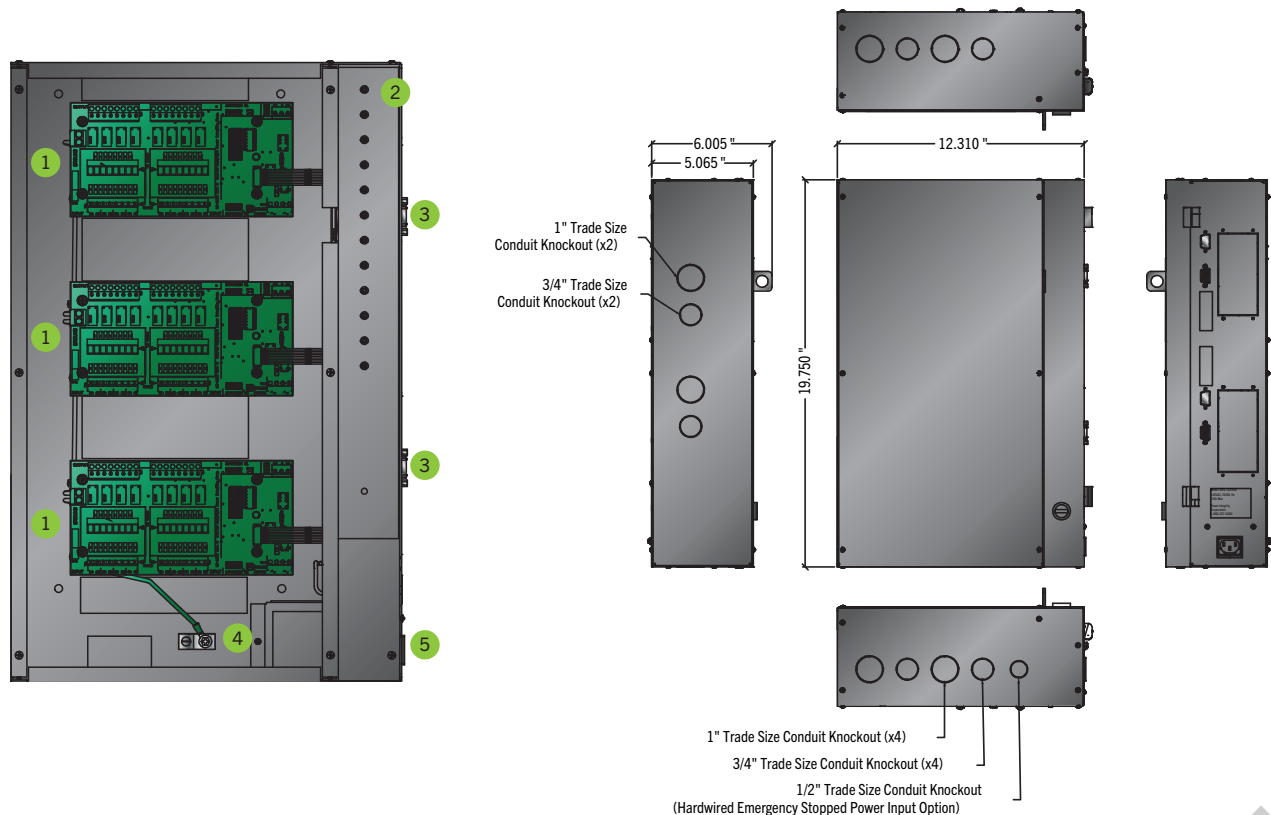
8 Dispenser Primary Disconnect Components & Dimensions

- 1 Dispenser Control Board 3 Control Output to Secondary Disconnect Controller 5 Output Power, Controlled by Site E-Stop
- 2 Disconnect Switches 4 Ground Connection



12 & 16 Dispenser Primary Disconnect Components & Dimensions

- 1 Dispenser Control Board 3 Control Output to Secondary Disconnect Controller 5 Output Power, Controlled by Site E-Stop or Hardwire
- 2 Disconnect Switches 4 Ground Connection



PRIMARY DISCONNECT

ETHERNET DISPENSER DISCONNECTS

ORDER INFORMATION

Wall Mounted Primary Ethernet Disconnects

Model	Description
DDS-EXP8D	Primary Ethernet Dispenser Disconnect, 1 Ethernet Cable for 8 Dispensers
DDS-EXP88D	Primary Ethernet Dispenser Disconnect, 2 Ethernet Cables for 8 Dispensers
DDS-EXP16D	Primary Ethernet Dispenser Disconnect, 1 Ethernet Cable for 16 Dispensers

Rack Mounted Primary Ethernet Disconnects

Model	Description
DDS-ERP8D	Rack Mounted Primary Ethernet Dispenser Disconnect, 1 Ethernet Cable for 8 Dispensers
DDS-ERP88D	Rack Mounted Primary Ethernet Dispenser Disconnect, 2 Ethernet Cables for 8 Dispensers
DDS-ERP16D	Rack Mounted Primary Ethernet Dispenser Disconnect, 1 Ethernet Cable for 16 Dispensers



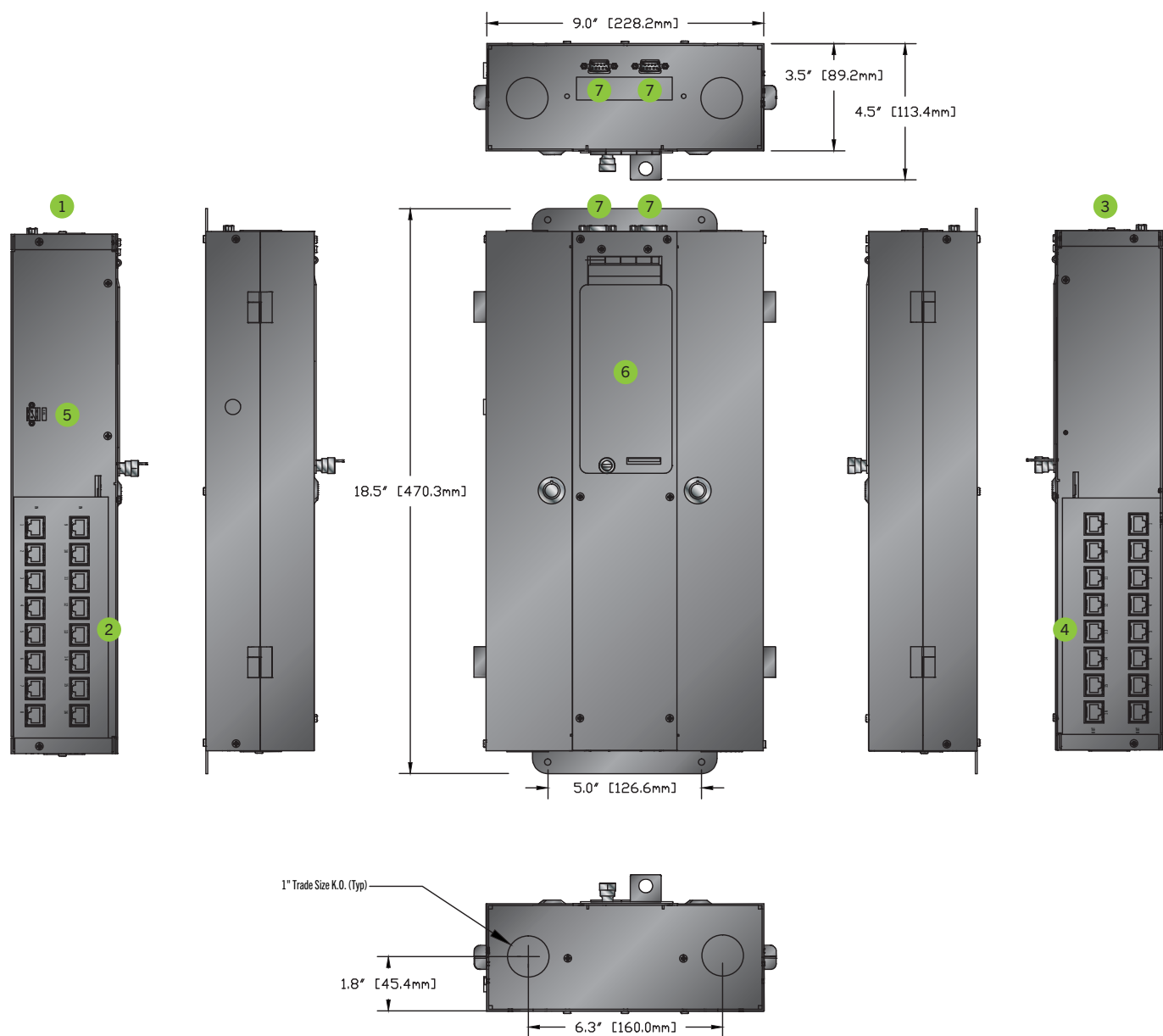
SPECIFICATIONS

Number of Dispenser Channels	8 or 16 Dispensers	Secondary Remote Expansion Output	Yes
E-Stop Control Input	Powered by Class 2 24VAC Transformer Connected to 120VAC E-Stop Controlled Outlet	Approvals	cULus Listed 1238
Number of Conductors Disconnected per Dispenser	8D and 16D Models = 1 Ethernet Cable per Dispenser 88D = 2 Ethernet Cables per Dispenser	Certifications	<ul style="list-style-type: none">For compliance with NEC® 514.11 and NFPA® 30A Section 6.7 requirements for Emergency Disconnects at Motor Fuel Dispensing Facilities (controlled by E-Stop system)For compliance with NEC® 514.13 requirements for Maintenance Disconnects at Motor Fuel Dispensing Facilities (switches to disconnect individual dispenser circuits for servicing)
Signal Circuit Rating	Class 2, 48V Max, 3 Amp		
Surge Protection Available	No		
Individual Channel Control Switches	Yes		
Lockable Channel Control Switches	Yes		

SPECIFICATIONS CONTINUED

Wall Mounted Primary Ethernet Disconnect Components & Dimensions

- 1 Input Connection Panel
- 2 Ethernet Input Jacks
- 3 Output Connection Panel
- 4 Ethernet Output Jacks
- 5 Input Power Connection
- 6 Service Disconnects (Behind Cover)
- 7 Control Output to Secondary Disconnect Controller



SPECIFICATIONS CONTINUED

Rack Mounted Primary Ethernet Disconnect Components & Dimensions

- 1

Input Connection Panel
- 2

Ethernet Input Jacks
- 3

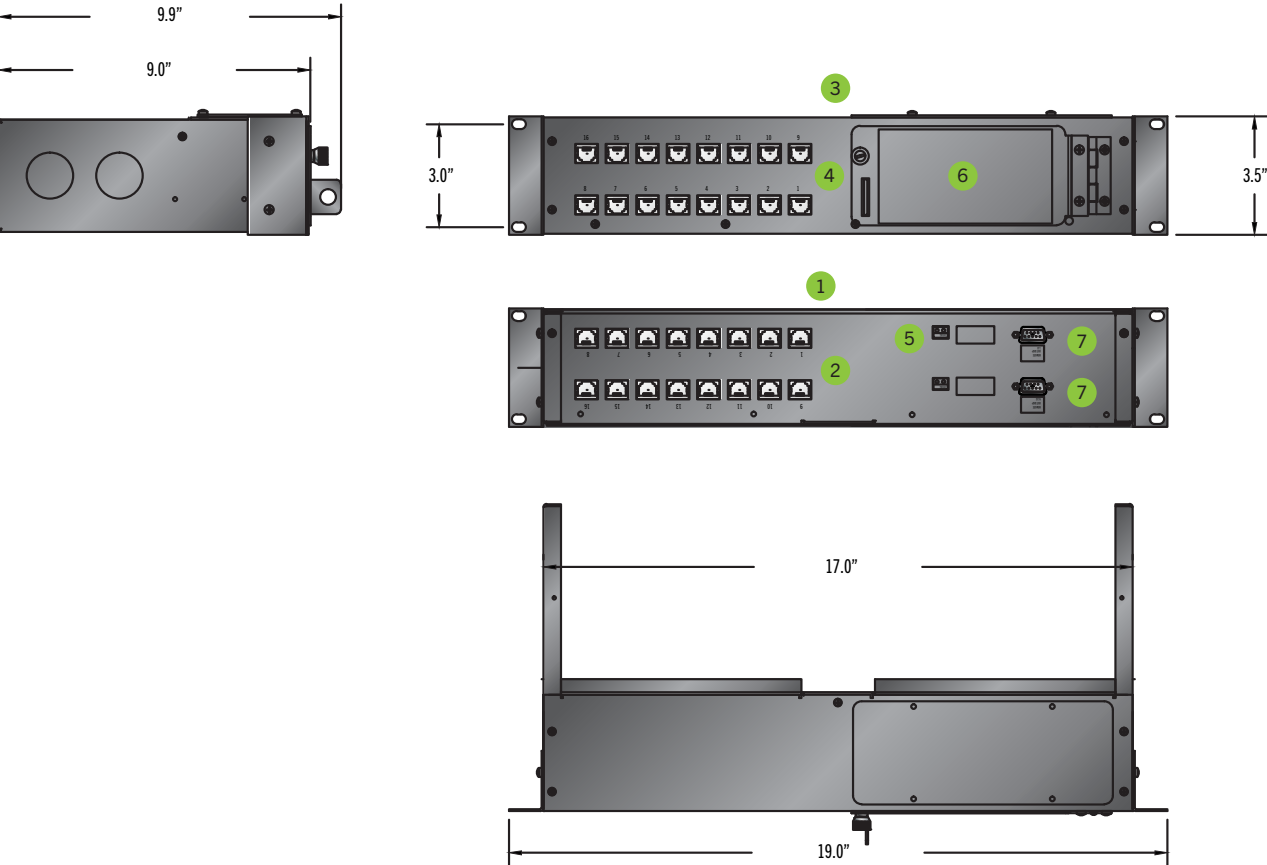
Output Connection Panel
- 4

Ethernet Output Jacks
- 5

Input Power Connection
- 6

Service Disconnects (Behind Cover)
- 7

Control Output to Secondary Disconnect Controller



SECONDARY DISCONNECT

COMMUNICATION/INTERCOM DISCONNECTS

ORDER INFORMATION

8 Dispenser, 4 Conductor Communication/Intercom Secondary Disconnects

Model	Description
DDS-8DB4C	Communication/Intercom Secondary Disconnect, 4 Conductors 1-8 Dispensers (for (4) intercom conductors for (8) dispensers ie: (1) call button & (1) speaker per dispenser)



8 Dispenser, 8 Conductor & 16 Dispenser, 4 Conductor Communication/Intercom Secondary Disconnects

Model	Description
DDS-8DA44CE	Communication/Intercom Secondary Disconnect, 8 Conductors 1-8 Dispensers (for (8) intercom conductors for (8) dispensers ie: (2) call buttons & (2) speakers per dispenser)
DDS-16DA4CE	Communication/Intercom Secondary Disconnect, 4 Conductors 1-16 Dispensers (for (4) intercom conductors for (16) dispensers ie: (1) call button & (1) speaker per dispenser)



SPECIFICATIONS

Number of Dispenser Channels	8 or 16	Secondary Remote Expansion Output	Yes
E-Stop Control Input	Connects to Remote Control Output of Primary Disconnect	Approvals	cULus Listed 1238
Number of Conductors Disconnected per Dispenser	4 Conductors + (Shield – Not Disconnected) 8 Conductors + (Shield – Not Disconnected)	Certifications	<ul style="list-style-type: none">For compliance with NEC® 514.11 and NFPA® 30A Section 6.7 requirements for Emergency Disconnects at Motor Fuel Dispensing Facilities (controlled by E-Stop system)For compliance with NEC® 514.13 requirements for Maintenance Disconnects at Motor Fuel Dispensing Facilities (switches to disconnect individual dispenser circuits for servicing)
Signal Circuit Rating	Class 2, 48V Max, 3 Amp		
Surge Protection Available	No		
Individual Channel Control Switches	Provided by the Primary Disconnect		

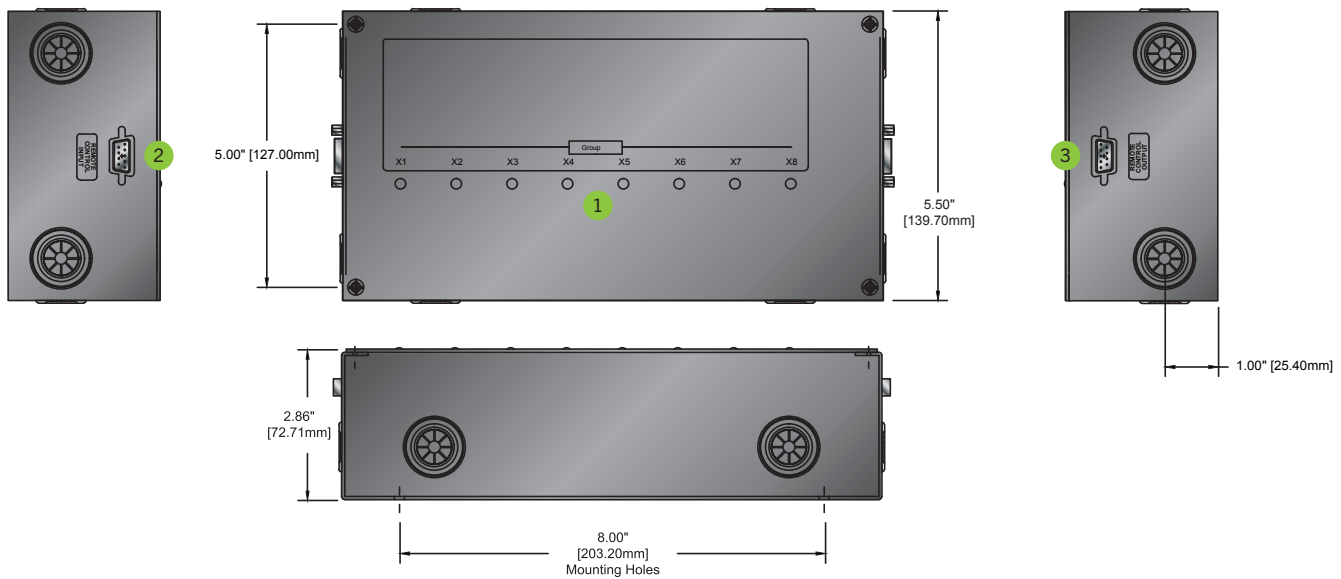
INTEGRATED ELECTRICAL CONTROLS



SPECIFICATIONS CONTINUED

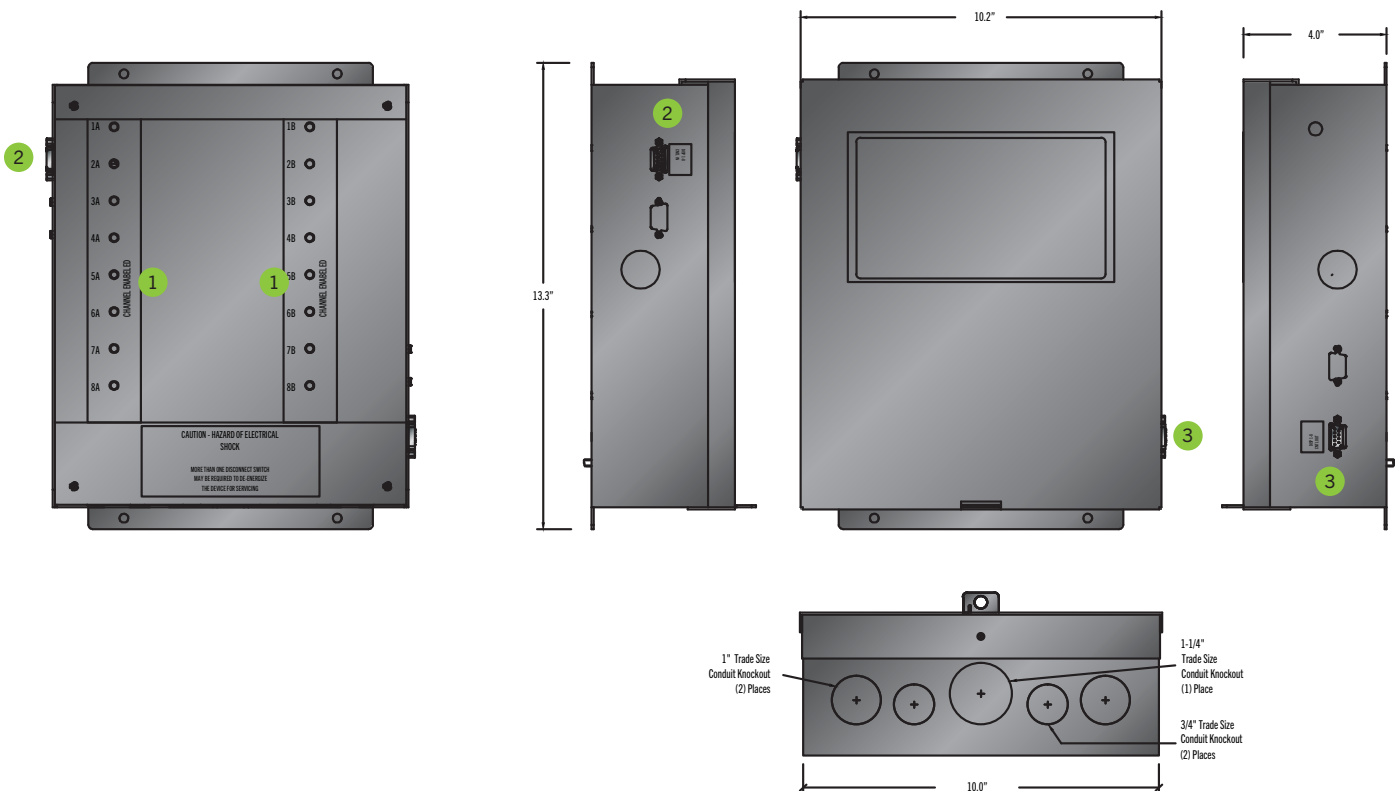
8 Dispenser, 4 Conductor Communication/Intercom Secondary Disconnects Components & Dimensions

- 1 Active Status Indicators 2 Control Input 3 Control Output



8 Dispenser, 8 Conductor & 16 Dispenser, 4 Conductor Communication/Intercom Secondary Disconnects Components & Dimensions

- 1 Active Status Indicators 2 Control Input 3 Control Output



SECONDARY DISCONNECT

ETHERNET DISCONNECTS

ORDER INFORMATION

Model	Description
DDS-EWS8D	Ethernet Secondary Disconnect, 1 Ethernet Cable for 8 Dispensers
DDS-EWS88D	Ethernet Secondary Disconnect, 2 Ethernet Cables for 8 Dispensers
DDS-EWS16D	Ethernet Secondary Disconnect, 1 Ethernet Cable for 16 Dispensers

SPECIFICATIONS

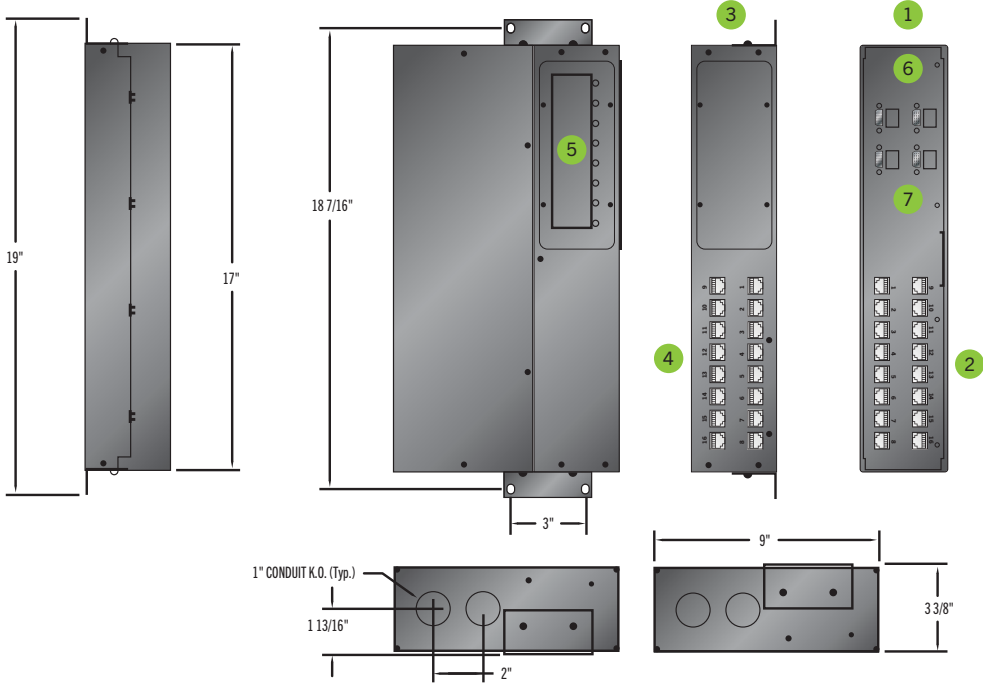
Number of Dispenser Channels	8 or 16
E-Stop Control Input	Connects to Remote Control Output of Primary Disconnect
Number of Conductors Disconnected per Dispenser	8D and 16D Models = 1 Ethernet Cable per Dispenser 88D = 2 Ethernet Cables per Dispenser
Signal Circuit Rating	Class 2, 48V Max, 3 Amp
Surge Protection Available	No
Individual Channel Control Switches	Provided by the Primary Disconnect
Secondary Remote Expansion Output	Yes



Dimensions	19" H x 9" W x 3.4" D
Approvals	cULus Listed 1238
Certifications	<ul style="list-style-type: none"> For compliance with NEC® 514.11 and NFPA® 30A Section 6.7 requirements for Emergency Disconnects at Motor Fuel Dispensing Facilities (controlled by E-Stop system) For compliance with NEC® 514.13 requirements for Maintenance Disconnects at Motor Fuel Dispensing Facilities (switches to disconnect individual dispenser circuits for servicing)

Components & Dimensions

- 1 Input Connection Panel
- 2 Ethernet Input Jacks
- 3 Output Connection Panel
- 4 Ethernet Output Jacks
- 5 Active Status Indicators
- 6 Control Output to Secondary Disconnect Controller
- 7 Control Output from Secondary Disconnect Controller



INTEGRATED ELECTRICAL CONTROLS



SECONDARY DISCONNECT

RACK MOUNTED ETHERNET DISCONNECTS

ORDER INFORMATION

Model	Description
DDS-ERS8D	Rack Mounted Ethernet Secondary Disconnect, 1 Ethernet Cable for 8 Dispensers
DDS-ERS88D	Rack Mounted Ethernet Secondary Disconnect, 2 Ethernet Cables for 8 Dispensers
DDS-ERS16D	Rack Mounted Ethernet Secondary Disconnect, 1 Ethernet Cable for 16 Dispensers

SPECIFICATIONS

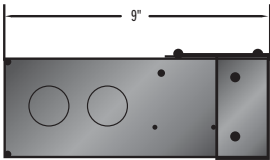
Number of Dispenser Channels	8 or 16
E-Stop Control Input	Connects to Remote Control Output of Primary Disconnect
Number of Conductors Disconnected per Dispenser	8D and 16D Models = 1 Ethernet Cable per Dispenser 88D = 2 Ethernet Cables per Dispenser
Signal Circuit Rating	Class 2, 48V Max, 3 Amp
Surge Protection Available	No
Individual Channel Control Switches	Provided by the Primary Disconnect
Secondary Remote Expansion Output	Yes



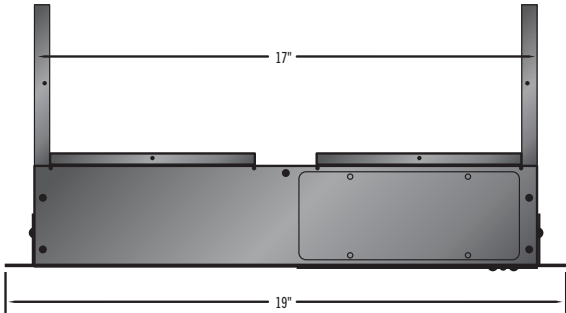
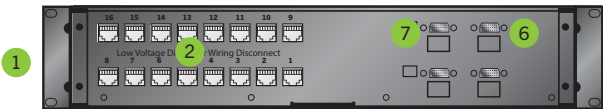
Dimensions	3.5" (2U) H x 19" W x 9" D
Approvals	cUL Listed 1238
Certifications	<ul style="list-style-type: none"> For compliance with NEC® 514.11 and NFPA® 30A Section 6.7 requirements for Emergency Disconnects at Motor Fuel Dispensing Facilities (controlled by E-Stop system) For compliance with NEC® 514.13 requirements for Maintenance Disconnects at Motor Fuel Dispensing Facilities (switches to disconnect individual dispenser circuits for servicing)

Components & Dimensions

- Input Connection Panel
- Ethernet Input Jacks
- Output Connection Panel
- Ethernet Output Jacks
- Active Status Indicators
- Control Output to Secondary Disconnect Controller
- Control Output from Secondary Disconnect Controller



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ALL-IN-ONE

DISPENSER DISCONNECTS

ORDER INFORMATION

Ordering Guide

Complete part numbers have a specific order and are created using the following guidelines:

DDS-A XD Y E P

DDS-A = All-In-One Dispenser Disconnect

XD = # of Dispensers

4, 6, 8, 10, 12, 16 = 4, 6, 8, 10, 12, 16 Dispensers

Y = # of Intercom Conductors

4 = 4 Intercom Conductors per Dispenser

8 = 8 Intercom Conductors per Dispenser

E = Ethernet Circuits

Blank = No Ethernet Circuits

E = 1 Ethernet Circuit per Dispenser

P = Surge Protection

Blank = No Surge Protection

P = Surge Protection

Example:

DDS-A10D8EP = All-In-One Dispenser Disconnect, 10 Dispensers, Data & Credit Card Twisted Pairs, 8 Intercom Conductors, Ethernet Cable Disconnect, with Surge Protection.



Common All-In-One Dispenser Data, Credit Card Data, Intercom Disconnects

Model	Description
DDS-A4D8	All-In-One Dispenser Disconnect, 4 Dispensers, Data & Credit Card Twisted Pairs, 8 Intercom Conductors, 22" enclosure
DDS-A6D8	All-In-One Dispenser Disconnect, 6 Dispensers, Data & Credit Card Twisted Pairs, 8 Intercom Conductors, 22" enclosure
DDS-A8D8	All-In-One Dispenser Disconnect, 8 Dispensers, Data & Credit Card Twisted Pairs, 8 Intercom Conductors, 22" enclosure
DDS-A10D8	All-In-One Dispenser Disconnect, 10 Dispensers, Data & Credit Card Twisted Pairs, 8 Intercom Conductors, 30" enclosure
DDS-A12D8	All-In-One Dispenser Disconnect, 12 Dispensers, Data & Credit Card Twisted Pairs, 8 Intercom Conductors, 30" enclosure
DDS-A16D8	All-In-One Dispenser Disconnect, 16 Dispensers, Data & Credit Card Twisted Pairs, 8 Intercom Conductors, 30" enclosure

Common All-In-One Dispenser Data, Credit Card Data, Intercom, & Ethernet Disconnects

Model	Description
DDS-A4D8E	All-In-One Dispenser Disconnect, 4 Dispensers, Data & Credit Card Twisted Pairs, 8 Intercom Conductors, Ethernet Cable Disconnect, 22" enclosure
DDS-A6D8E	All-In-One Dispenser Disconnect, 6 Dispensers, Data & Credit Card Twisted Pairs, 8 Intercom Conductors, Ethernet Cable Disconnect, 30" enclosure
DDS-A8D8E	All-In-One Dispenser Disconnect, 8 Dispensers, Data & Credit Card Twisted Pairs, 8 Intercom Conductors, Ethernet Cable Disconnect, 30" enclosure
DDS-A10D8E	All-In-One Dispenser Disconnect, 10 Dispensers, Data & Credit Card Twisted Pairs, 8 Intercom Conductors, Ethernet Cable Disconnect, 42" enclosure
DDS-A12D8E	All-In-One Dispenser Disconnect, 12 Dispensers, Data & Credit Card Twisted Pairs, 8 Intercom Conductors, Ethernet Cable Disconnect, 42" enclosure
DDS-A16D8E	All-In-One Dispenser Disconnect, 16 Dispensers, Data & Credit Card Twisted Pairs, 8 Intercom Conductors, Ethernet Cable Disconnect, 42" enclosure

INTEGRATED ELECTRICAL
CONTROLS

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SPECIFICATIONS

Number of Dispenser Channels	4 to 16 Dispensers	Secondary Remote Expansion Output	Yes
E-Stop Control Input	120VAC Hard-Wired Connection	Approvals	cULus Listed 508A
Number of Conductors Disconnected per Dispenser (Dependent on Model)	Dispenser Data: 4 Conductors Intercom Circuits: 4 or 8 Conductors Ethernet: RJ45	Certifications	<ul style="list-style-type: none"> For compliance with NEC® 514.11 and NFPA® 30A Section 6.7 requirements for Emergency Disconnects at Motor Fuel Dispensing Facilities (controlled by E-Stop system) For compliance with NEC® 514.13 requirements for Maintenance Disconnects at Motor Fuel Dispensing Facilities (switches to disconnect individual dispenser circuits for servicing)
Signal Circuit Rating	Class 2, 48V Max, 3 Amp		
Surge Protection Available	Optional for Dispenser Data Circuits		
Individual Channel Control Switches	Yes		
Dispenser Power Sensing	Yes		
Lockable Channel Control Switches	Yes		

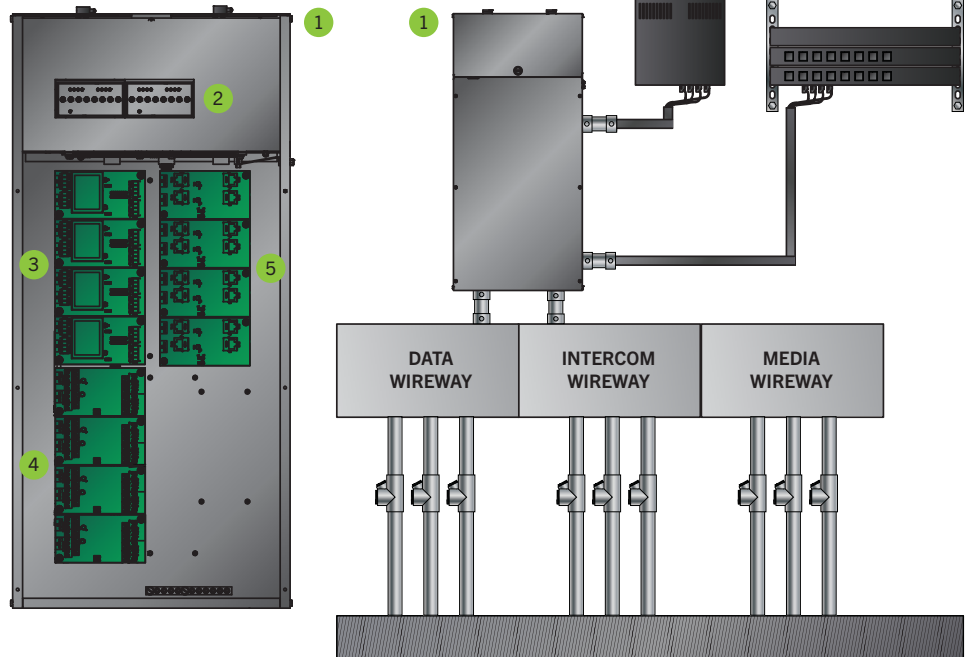
Surge Protection Specifications (Generic “P” Option)

Dispenser Data & Credit Card Circuits	2 Wire Current Loops
- Standoff Voltage	47.8V
- Breakdown Voltage	56V Max +/- 5%
- Clamp Voltage	77V Max
- Peak Pulse Current	19.7A

System Components

The disconnect is installed in-line with dispenser data wiring and adjacent to site controls. The disconnect provides individual disconnect cards. Each card disconnects the corresponding dispenser data circuits.

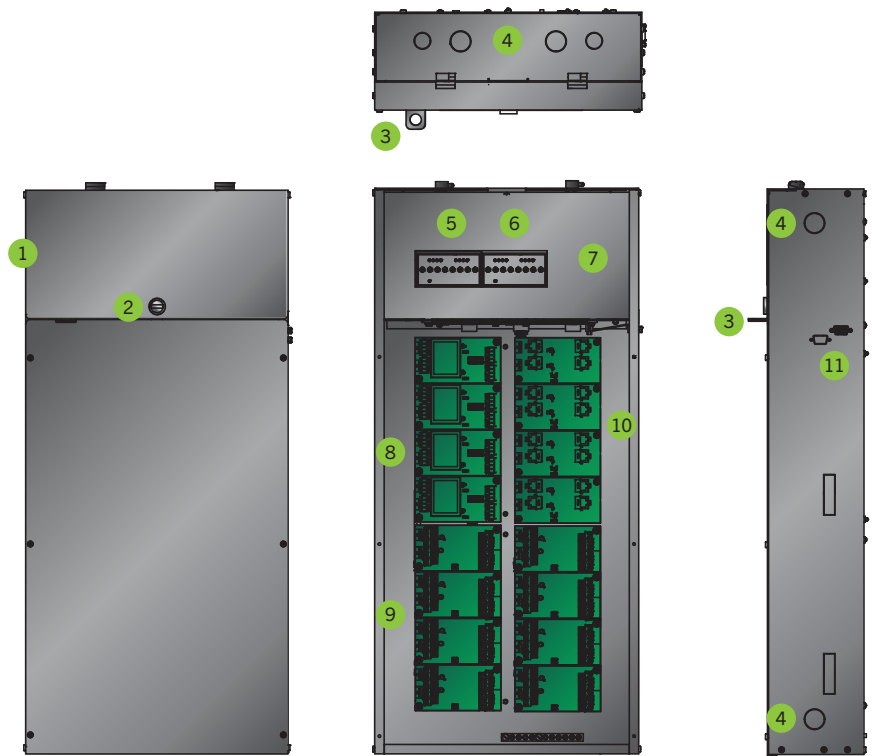
- 1 All-In-One low voltage dispenser disconnect
- 2 Disconnect AC interface
- 3 Dispenser & credit card reader data cards
- 4 Dispenser intercom cards
- 5 Dispenser Ethernet / media cards



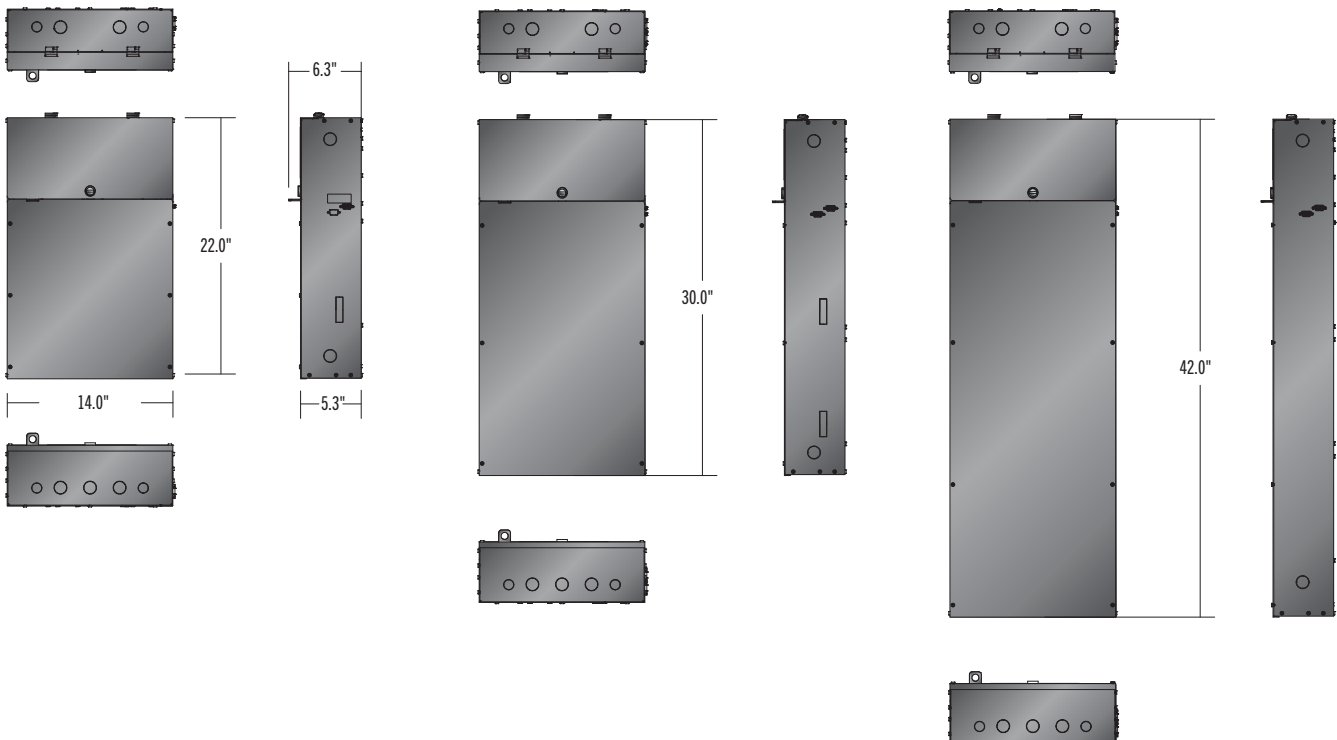
SPECIFICATIONS CONTINUED

Components

- 1 Switch access door
- 2 Door latch
- 3 Padlock hasp
- 4 Conduit knockouts
- 5 Dispenser isolation switches
- 6 AC power interface
- 7 AC power section
- 8 Dispenser & credit card reader data cards
- 9 Dispenser intercom cards
- 10 Dispenser Ethernet / media cards
- 11 Remote outputs
(add additional disconnects)



Dimensions



E-STOP SOLUTIONS

EMERGENCY STOP OPERATORS

ORDER INFORMATION

Emergency Stop Operators

Model	Description
IA-ESOC	Emergency Stop Operator with lift-up clear cover (yellow)
IA-ESOCA	Emergency Stop Operator with lift-up clear cover and alarm (yellow)
IA-ESOCA-RD	Emergency Stop Operator with lift-up clear cover and alarm (red)
IA-ESOC-T	Emergency Stop Operator, twist to release with lift-up clear cover (yellow)
IA-ESOCA-T	Emergency Stop Operator, twist to release with lift-up clear cover and alarm (yellow)
IA-ESOCA-T-RD	Emergency Stop Operator, twist to release with lift-up clear cover and alarm (red)
IA-ESOC-F-T	Emergency Stop Operator, twist to release with lift-up clear cover, French language (yellow)
IA-ESOC-F	Emergency Stop Operator with lift-up clear cover, French language (yellow)

Emergency Stop Operator Accessories

Model	Description
IA-ESPLATE	Emergency Stop Operator mounting plate with “EMERGENCY FUEL SHUTOFF” nameplate
IA-ESPLATE-F	Emergency Stop Operator mounting plate with “EMERGENCY FUEL SHUTOFF” nameplate, French language
IA-BREKATAB	Locking mechanism block with (5) one-time use breakaway seals

Emergency Stop Replacement Parts

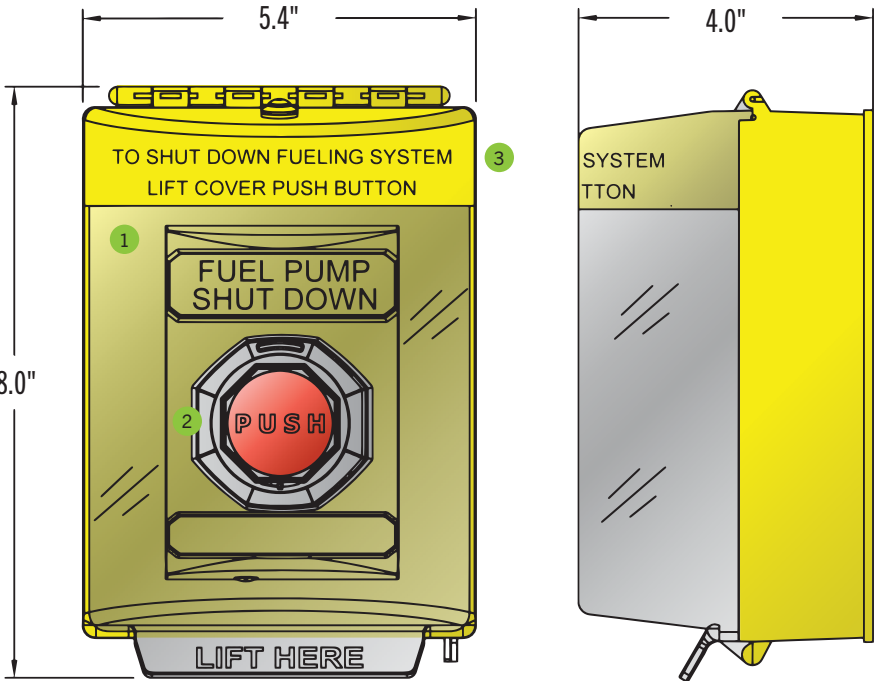
Model	Description
IA-PBCOVS	Emergency Stop Operator replacement cover (yellow)
IA-PBCOVSA	Emergency Stop Operator replacement cover with integrated audible alarm (yellow)
IA-PBCOVSA-RD	Emergency Stop Operator replacement cover (red)

SPECIFICATIONS

Approvals	cULus listed
Certifications	For compliance with NEC® 514.11 and NFPA® 30A Section 6.7 requirements for Emergency Disconnects at Motor Fuel Dispensing Facilities (controlled by E-Stop system)

Components & Dimensions

- 1 Clear protective cover
- 2 Emergency stop push button
- 3 Integrated audible alarm (optional)



E-STOP SOLUTIONS

CASHIER CONTROL STATIONS

ORDER INFORMATION

Model	Description
IA-ESOS	Cashier Control Station with emergency stop button
IA-ESORS	Cashier Control Station with emergency stop button, with shroud to prevent accidental pressing, and reset button

SPECIFICATIONS

Approvals	cULus listed
Certifications	For compliance with NEC® 514.11 and NFPA® 30A Section 6.7 requirements for Emergency Disconnects at Motor Fuel Dispensing Facilities (controlled by E-Stop system)

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HIGH VOLTAGE SURGE PROTECTION

SURGE MANAGEMENT SYSTEM

ORDER INFORMATION

Surge Management Systems

Model	Description
SMS-06	Surge Management System with (6) ZTAS-03 modules
SMS-09	Surge Management System with (9) ZTAS-03 modules
SMS-12-09	Surge Management System with (9) ZTAS-03 modules, plus 3 spaces
SMS-12	Surge Management System with (12) ZTAS-03 modules

Replacement ZTAS Surge Modules

Model	Description
ZTAS-03-15-2	Replacement ZTAS Surge Module for Power Integrity Configured Controls Panels (IEEE MLV rated)
ZTAS-03-15-H2	Replacement ZTAS Surge Module for Surge Management System (UL 1449 Type 2 SPD)

SPECIFICATIONS

Approvals | UL Listed 1449

Surge Management System

Protection Type	Series Connected
Number of Circuits	6, 9, or 12 Circuits
Connection	– Hardwired (12-14 Ga) – Line-In, Line-Out, Neutral-In, Neutral-Out – Surge Ground (#4 CU)
Installation Type	Indoor

Surge Protection Module

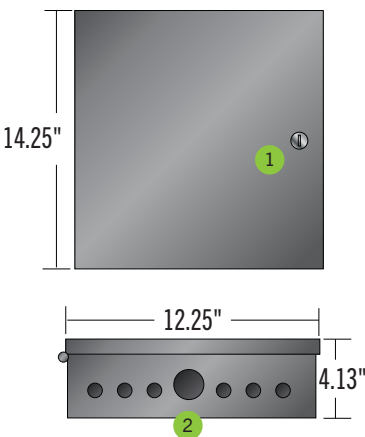
Nominal Operating Ratings	120VAC, 1ph, 50/60 Hz, 15A
Max Continuous Operating Voltage	130 VAC
In	3kA
SCCR	5kA
VPR	
L-N	900Vpk
L-G	900Vpk
N-G	800Vpk



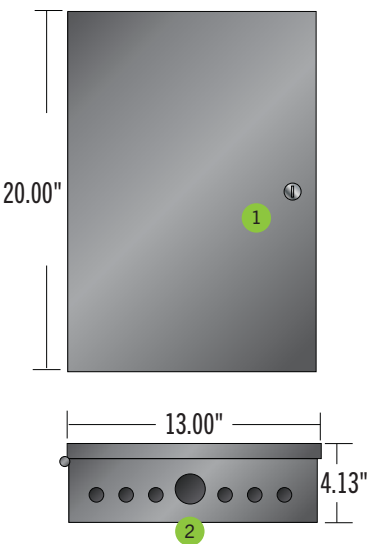
Components & Dimensions

- 1 Lock
- 2 Conduit knockouts
- 3 Surge Modules
- 4 Grounding Bar

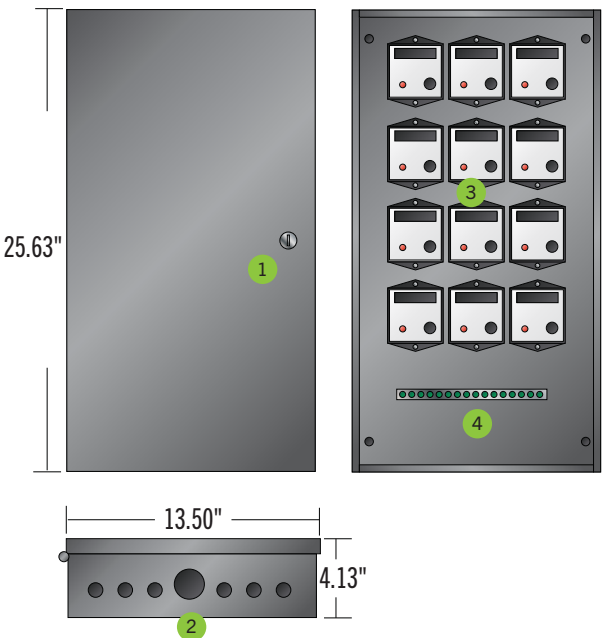
(6) Module Surge Management System



(9) Module Surge Management System



(12) Module Surge Management System



HIGH VOLTAGE SURGE PROTECTION
DISPENSER SURGE SUPPRESSION KITS



ORDER INFORMATION

Model	Description
SPK-G4CL	Dispenser Surge Protection Kit for (1) Gilbarco® Dispenser

Gilbarco® is a registered trademarks of Gilbarco Inc.
Wayne® is a registered trademark Wayne Fueling Systems LLC.

SPECIFICATIONS

Power Requirements	120 VAC
Safety	15 amp fused protection modules for use on a 20 amp circuit
Terminal Strip	5 position



LOW VOLTAGE SURGE PROTECTION

DISPENSER DATA

CIRCUIT PROTECTORS

ORDER INFORMATION

Dispenser Data Circuit Protectors

Model	Description
DCP-8CLH1	Dispenser Data Circuit Protector, (8) current loop circuits - up to (8) Gilbarco® dispensers
DCP-16CLH4	Dispenser Data Circuit Protector, (16) current loop circuits - up to (8) Gilbarco® dispensers
DCP-4CLRS4H1	Dispenser Data Circuit Protector, (4) current loop circuits & (4) RS-485 circuits - up to (4) Wayne® dispensers
DCP-8CLRS4H4	Dispenser Data Circuit Protector, (8) current loop circuits & (8) RS-485 circuits - up to (8) Wayne® dispensers
DCP-16CLRS4H4	Dispenser Data Circuit Protector, (16) current loop circuits & (16) RS-485 circuits - up to (16) Wayne® dispensers

SPECIFICATIONS

Surge Protection System Components

- 1 Dispenser Data Circuit Protector
- 2 Point-of-Sale Data Circuit Protector
- 3 Telephone Line Circuit Protector

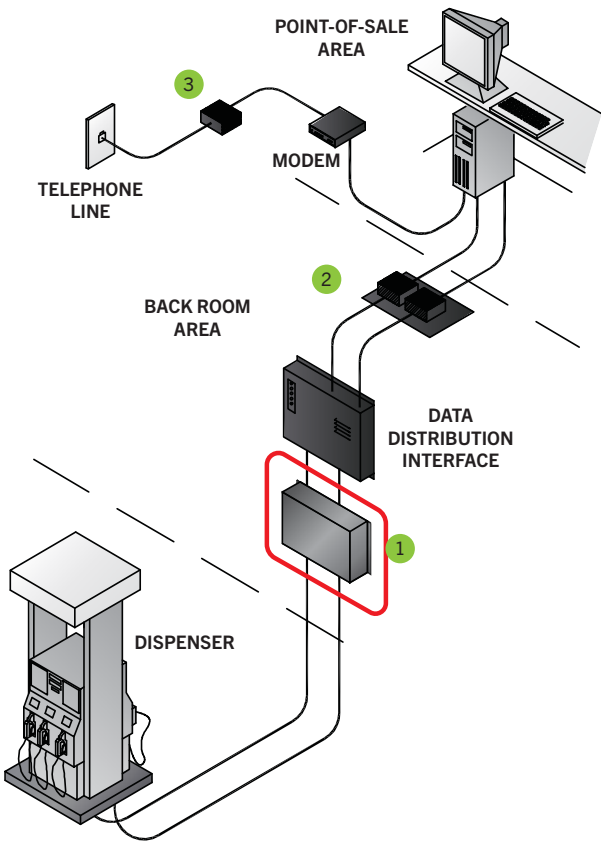
Connection Method	Screw terminals, 22-14 awg wire
Wiring Configurations	8 data circuit pairs per module
Protection Modes	L - G all lines protected
Max Surge Current	120A (per pair)
Max Energy Dissipation	1200 Watts (per pair)
Over Current Protection	180 mAmp
Module Service Voltage	50V
Module Typical Let Through Voltage	56V

Gilbarco® is a registered trademarks of Gilbarco Inc.
Wayne® is a registered trademark Wayne Fueling Systems LLC.



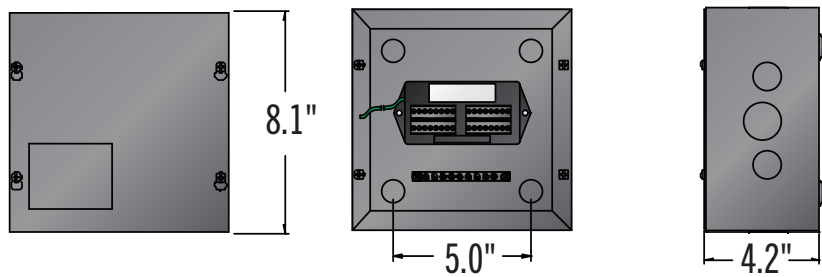
Replacement Individual Dispenser Data Protection Modules

Model	Description
DCP-4PCL	Replacement module for individual dispenser Data Circuit Protector, 4 Pair, 50V, Plug In Module, Current Loop
DCP-4PRS4	Replacement module for individual dispenser Data Circuit Protector, 4 Pair, 5V, Plug In Module, RS-485

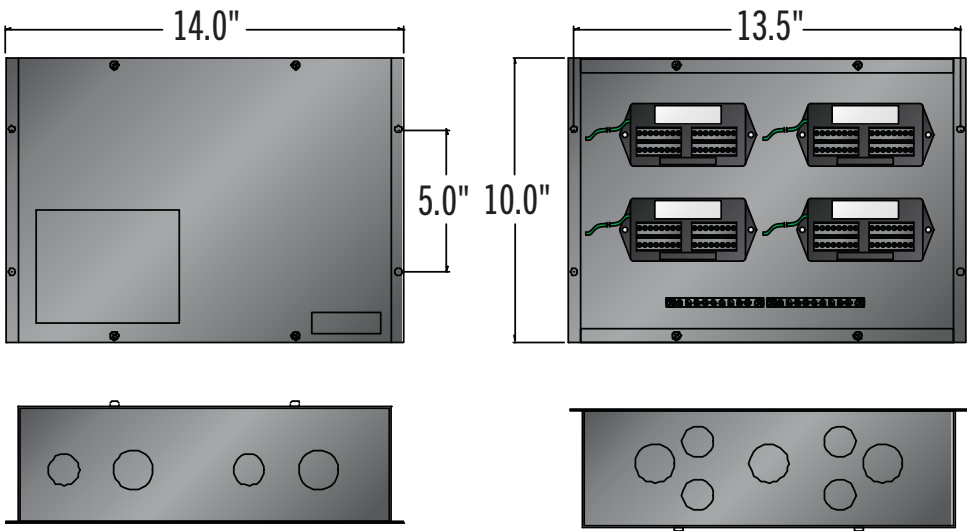


SPECIFICATIONS CONTINUED

1 Module Dispenser Data Circuit Protector Dimensions



4 Module Dispenser Data Circuit Protector Dimensions



LOW VOLTAGE SURGE PROTECTION

POINT-OF-SALE DATA CIRCUIT PROTECTORS

ORDER INFORMATION

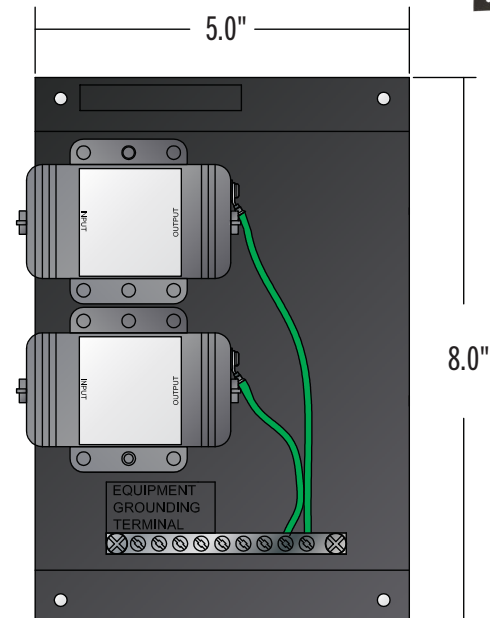
Point-of-Sale Data Circuit Protectors

Model	Description
DCP-2MB22	Point-of-Sale Data Circuit Protector with (2) RS-232 circuit protectors, modular plug
DCP-2MBCC	Point-of-Sale Data Circuit Protector with (2) current loop protectors, modular plug
DCP-2MBEE	Point-of-Sale Data Circuit Protector with (2) Ethernet circuit protectors, modular plug

Replacement Individual Point-of-Sale Data Protection Modules

Model	Description
DCP-AM8-232	Replacement module for individual Point-of-Sale data protector, single RS-232 circuit, 12V, in-line, modular 8 pin connectors with cable
DCP-AM8CL	Replacement module for individual Point-of-Sale data protector, single current loop circuit, 50V, in-line with modular 8 pin connectors with cable
DCP-CM8-CAT5	Replacement module for individual Point-of-Sale data protector, single Cat 5 circuit, 5V, in-line with modular 8 pin connectors with cable

Dimensions

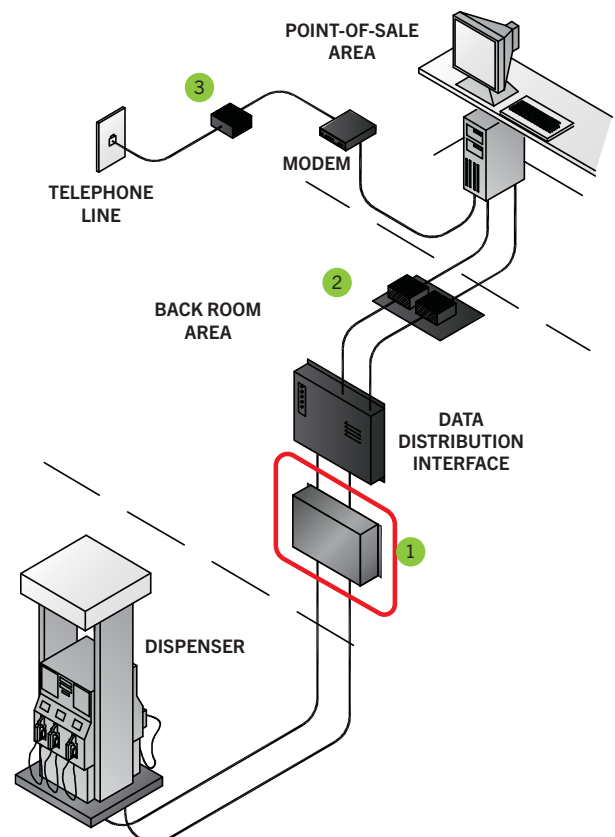


SPECIFICATIONS

Class	Modular Line Protector (4 pair)
Installation Point	In-line with the data circuits
Connection Method	8 Pin Modular Female In & Out
Protection Modes	L - G (all modes)
Continuous Current	0.150 Amps
Response Time	<5 nSec
Maximum Continuous Operating Voltage	18VDC
Service Voltage	15V
Maximum Surge Current	2000A (per pair)
Maximum Energy Dissipation	8 Joules (per pair)
Typical Let Through Voltage	20.0 - 24.0 (per pair)
Approvals	Circuit protection modules are UL Listed 497A

Surge Protection System Components

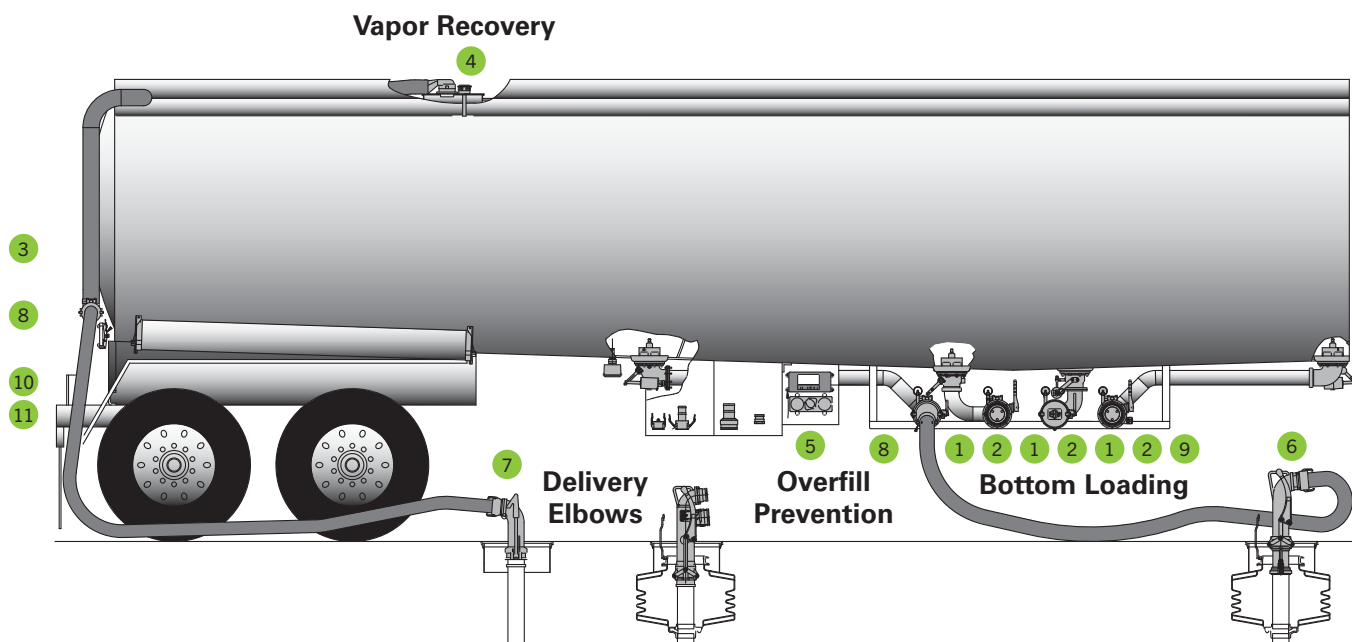
- 1 Dispenser Data Circuit Protector
- 2 Point-of-Sale Data Circuit Protector
- 3 Telephone Line Circuit Protector



TANK TRANSPORTATION SYSTEMS



FUEL AND VAPOR TRANSFER SOLUTIONS



Bottom Loading

Item	Model	Description
1	88050002	API adapter, short stroke three position, no sight glass
	88050004	API adapter, short stroke three position, 3" bubbled sight glass
	88050007	API adapter, short stroke three position, no sight glass, removable handle
2	88033001	Female gravity drop adapter
	88041101	Male gravity drop adapter

Vapor Recovery

Item	Model	Description
3	30130001	3" N.P.S.M. vapor recovery adapter with poppet
	30344404	4" N.P.S.M. vapor recovery adapter, no poppet
4	88034301	Air-operated sequential vapor valve

Overfill Prevention

Item	Model	Description
5	90822101	Optic socket

Product Drop Elbows

Item	Model	Description
6	88049302	Product drop elbow with cam and groove adapter and sight glass
	88045501	Product drop elbow with sight glass
7	88046501	Dual point vapor recovery elbow

Accessories

Item	Model	Description
8	88015001	Three-way air interlock valve
	88015002	Three-way air interlock valve with roller top
	88015003	Three-way air interlock valve with offset actuator
9	88040301	API adapter dust cap
10	77432002	Vapor return hose coupler
11	78430003	Hose tube door

Victaulic™ is a trademark of Victaulic Company of America.



API BOTTOM- LOADING ADAPTERS

ORDERING INFORMATION

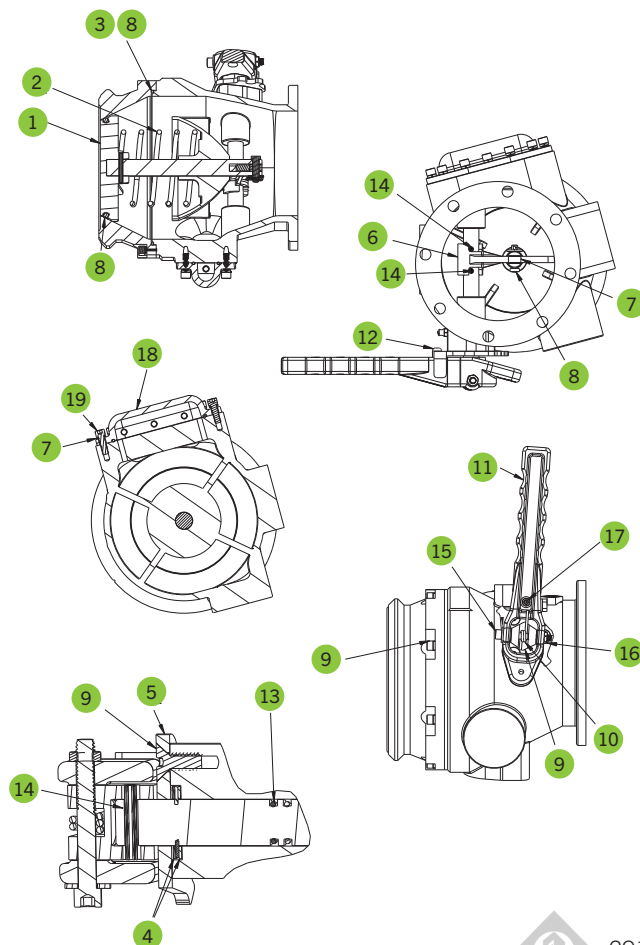
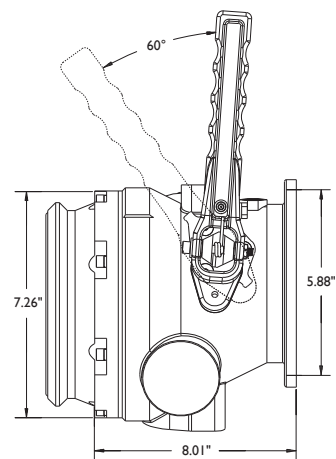
Model	Description
88050002	Short stroke, three position, no sight glass
88050004	Short stroke, three position, 3½" sight glass
88050007	Short stroke, removable handle, no sight glass
88012001	Dust boot air cylinder
88050701	Replacement poppet kit with handles
88050702	Replacement poppet kit for bottom loaders with handles

SPECIFICATIONS

Long life	<ul style="list-style-type: none"> Front API head may be rotated up to seven times to maximize the life of the adapter Enhanced 3½" sight glass provides greater impact strength and is compatible with biofuels including E85 and Biodiesel
Safety	Free-floating poppet is opened by pressure from the terminal adapter probe to minimize spills during loading
Speed of delivery	The cam design utilized to retract the adapter poppet minimizes product flow restriction during off-loading and loading

API Bottom- Loading Adapter Spare Parts

Item	Model	Description	880-500 Model
1	88050901	Poppet head	-02, -04, -07
2	88012701	Spring, poppet	-02, -04, -07
3	1103938	O-ring	-02, -04, -07
4	88019101	Washer, flat, ⅝" ID	-02, -04, -07
5	88050601	Latch dual	-02, -04, -07
6	88021501	Cam, loading arm	-02, -04, -07
7	88019001	Roller, cam	-02, -04, -07
8	88018901	Pin, roller cam	-02, -04, -07
9	88019801	Hex, permanent handle	-02, -04
10	88010201	Spring, handle	-02, -04
11	88050501	Handle, dual latching	-02, -04
	88050503	Handle, dual latching (Canada)	-07
12	88019201	Pin, latch	-02, -04, -07
13	1103912	O-ring, cross shaft	-02, -04, -07
14	1108604	Pin, ⅜", spiral	-02, -04, -07
15	1117016	Cap screw, socket head ¼-20 × 2"	-02, -04
16	1104105	Locknut, ¼-20	-02, -04
17	1103010	Cap screw, socket head, 10-24 × ⅝"	-02, -04, -07
18	88051201	Sight glass, 3½" bubble	-04
19	1117017	Cap screw, socket head, ¼-20 × ¾"	-04
--	1103937	O-ring, sight glass, 3.5" bubble	-04
--	88050101AN	Replacement anodized adapter face	-02, -04, -05, -07



DUST CAP

ORDERING INFORMATION

Model	Description
88040301	API bottom-loading adapter dust cap
88020601	API bottom-loading adapter gasket

SPECIFICATIONS

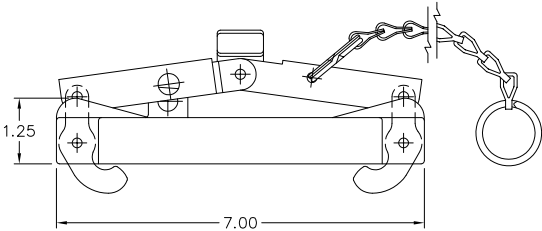
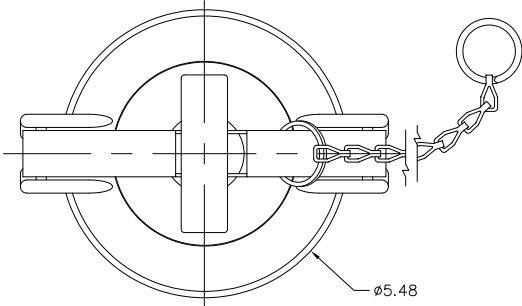
Model	88040301	88020601
Description	Dust Cap	Gasket
Inches	4	4
Millimeters	101.6	101.6
Pounds	3.06	--
Kilograms	1.39	--



VAPOR CAPS

ORDERING INFORMATION

Model	Description
30420006	Glass-filled PBT, AGB
30420007	Glass filled PBT w/chain, AGB
30430103	Epoxy coated aluminum, AGB
30430104	Epoxy coated aluminum w/chain, AGB



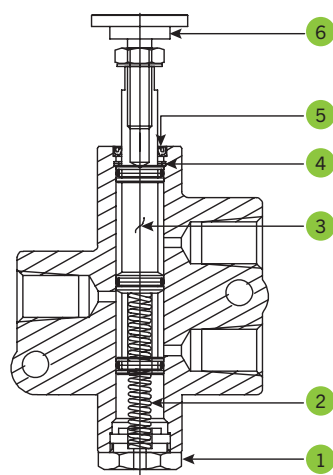
THREE-WAY AIR VALVES

ORDERING INFORMATION

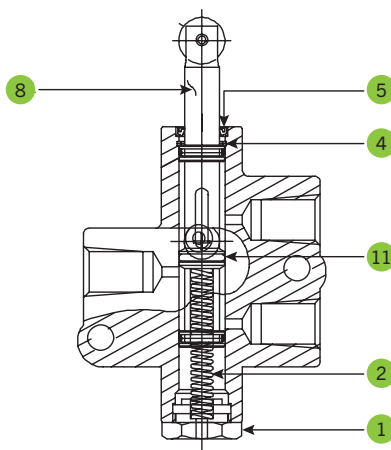
Model	Description
88011301	Screw adjustor assembly 1½" button
88015001	Three-way air interlock valve
88015002	Three-way air interlock valve, roller tip
88015003	Three-way air interlock valve, offset actuator

SPECIFICATIONS

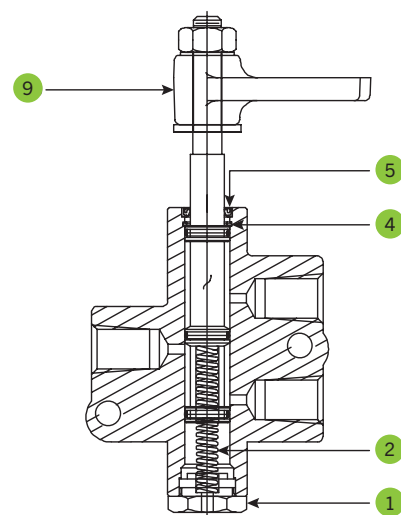
Model	88015001	88015002	88015003
Width (Inches/Millimeters)	3"/76.2 mm	3"/76.2 mm	3"/76.2 mm
Length (Inches/Millimeters)	4.25"/ 107.96 mm	4.25"/ 107.96 mm	4.25"/ 107.95 mm
Pounds	0.69	0.69	0.69
Kilograms	0.31	0.31	0.31



-01 MODEL



-02 MODEL



-03 MODEL

Item	Model	Description	Qty. Req.		
			-01	-02	-03
1	88014501	Plug - nut	1	1	1
2	88014801	Spring	1	1	1
3	88017101	Spool and O-ring assembly	1	0	1
4	1109004	Retaining ring	1	1	1
5	88014201	Dust Seal	1	1	1
6	88014401	Screw adjuster 1.0"	1	0	0
8	88017102	Spool and O-ring assembly, roller tip	0	1	0
9	88112001	Actuator - offset	0	0	1
--	1106307	Screw ¼-20 x 1¾" Hex head	2	2	2
--	90012	88015001 Service kit*	1	0	0
--	90055	88015002 Service kit**	0	1	0
--	90056	88015003 Service kit***	0	0	1

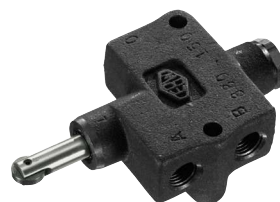
*Note: Service Kit includes: (1) #2, (1) #3, (1) #4, (1) #5, (1) #6

**Note: Service Kit includes: (1) #2, (1) #4, (1) #5, (1) #8

***Note: Service Kit includes: (1) #2, (1) #4, (1) #5, (1) #9



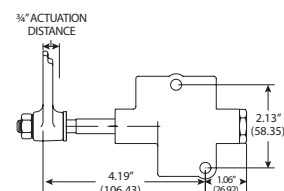
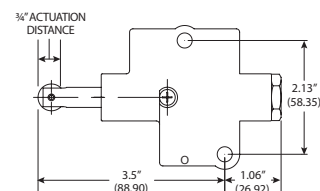
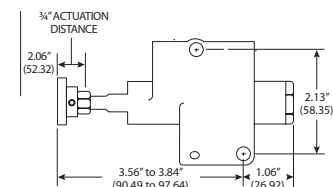
88015001



88015002



88015003



SIX-WAY AIR VALVES

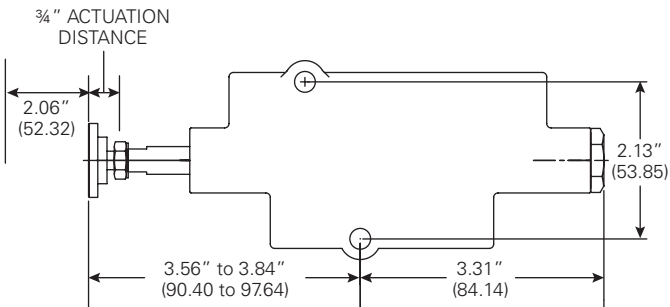
ORDERING INFORMATION

Model	Description
88025601	¼" - 1" Button six-way air valve
88025602	¼" - 1" Roller tip six-way air Valve
88025603	¼" - 1" Duckfoot six-Way air Valve
90020	Service kit for 880-256-01
90059	Service kit for 880-256-02

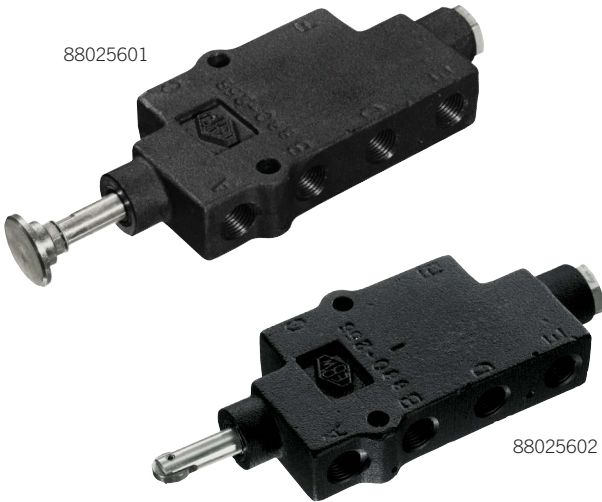
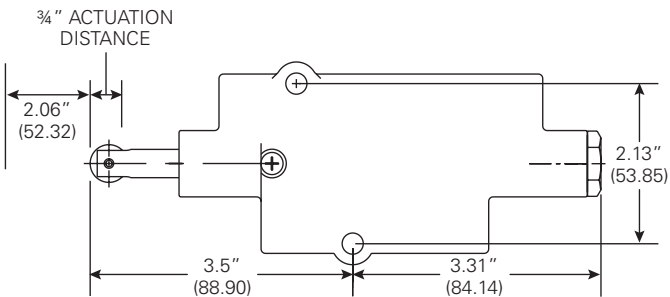
SPECIFICATIONS

Model	88025601 / 88025602 / 88025603
Width (Inches/Millimeters)	3" / 76.2 mm
Pounds	0.69
Kilograms	0.31

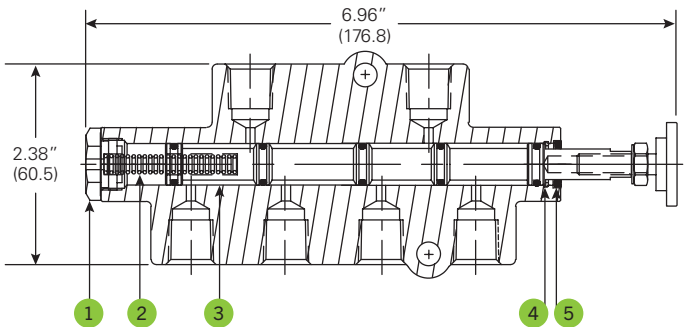
88025601



88025602



Item	Model	Description
1	88014501	Plug - nut
2	88014801	Spring
3	88025801	Spool and O-ring assembly
4	1109004	Retaining ring
5	88014201	Dust seal



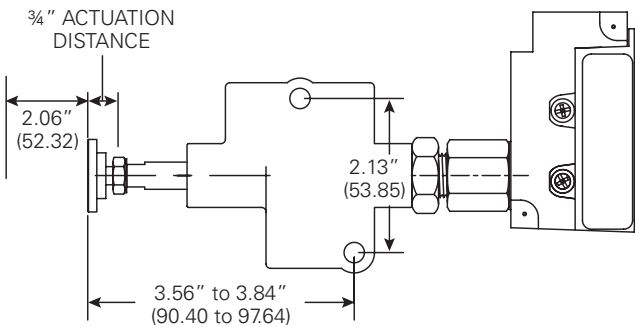
AIR INTERLOCK WITH LIMIT SWITCH

ORDERING INFORMATION

Model	Description
88015501	¼" - 1" Button with limit switch
88015502	¼" - 1" Roller Tip with limit switch

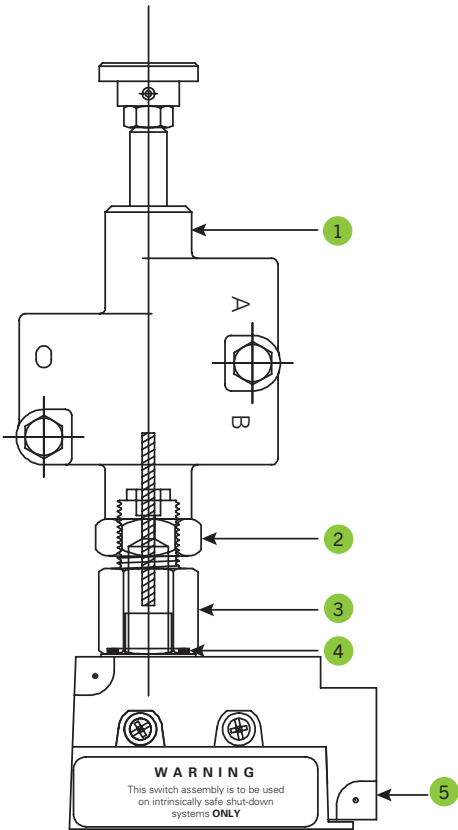


SPECIFICATIONS



Item	Description	Model
1	Air valve assembly	88115601
2	*Nut - Hex jam	1102104
3	*Adapter - valve to switch	88115501
4	O-ring	1100325
5	Limit switch	1121902
--	Service kit for 880-155-01	90012

* Note: These items are components of Air Valve Assembly 88115601



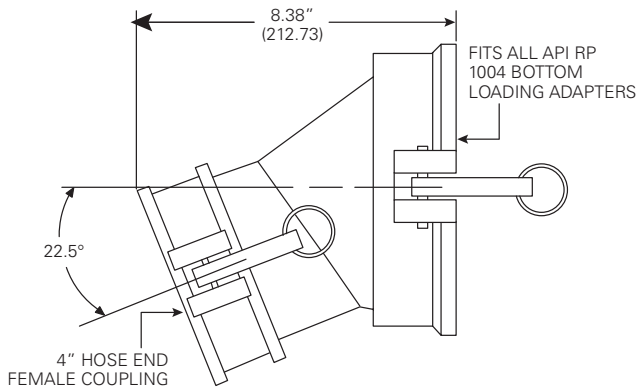
FEMALE GRAVITY DROP ADAPTER

ORDERING INFORMATION

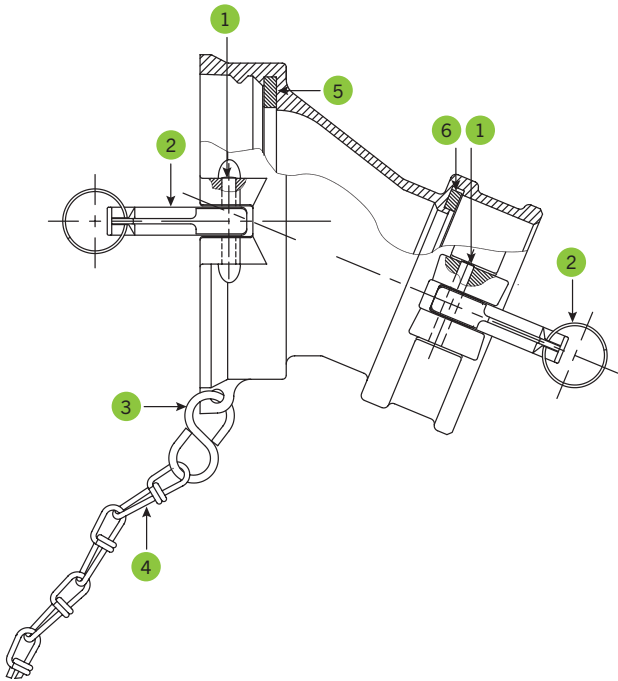
Model	Description
88033001	Female gravity drop adapter
88020601	Gasket - API end
77420204	Gasket - hose end

SPECIFICATIONS

Model	88033001
Size (inches/millimeters)	4"/101.6 mm
Weight (pounds/kilograms)	6.06 lbs/2.75 kg



Item	Model	Description
1	1112507	Groove pin
2	77411603	Cam arm and ring assembly
3	1111001	S-Hook
4	88011502	Double loop chain
5	88020601	Gasket
6	77420204	Gasket



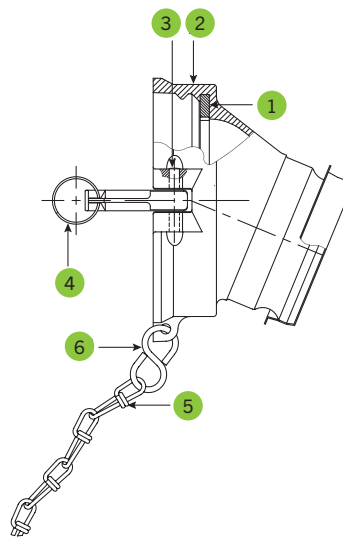
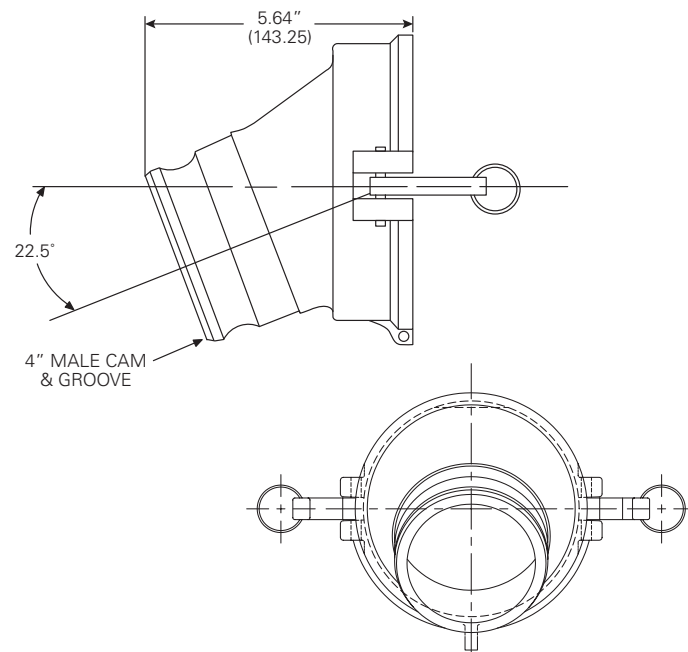
MALE GRAVITY DROP ADAPTER

ORDERING INFORMATION

Model	Description
88041001	3" Male cam and groove
88041101	4" Male cam and groove
88020601	Gasket - API end

SPECIFICATIONS

Item	Model	Description
1	88020601	Rubber gasket
2	88041201	4" Drop adapter - body only
3	1112507	Groove pin
4	77411603	Cam arm and pull ring assembly
5	88011502	Double loop chain
6	1111001	S-Hook



THREADED VAPOR CHECK VALVE

ORDERING INFORMATION

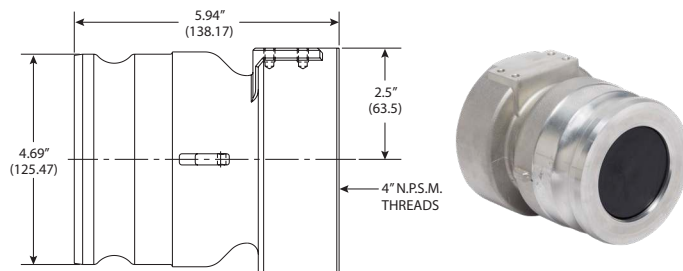
Model	Description
30130001	3" N.P.S.M. vapor recovery adapter, with poppet
30130003	3" BSPP vapor recovery adapter, with poppet
30130002	4" N.P.S.M. vapor recovery adapter, with poppet
30333303	3" N.P.S.M. vapor recovery adapter, no poppet
30344404	4" N.P.S.M. vapor recovery adapter, no poppet

SPECIFICATIONS

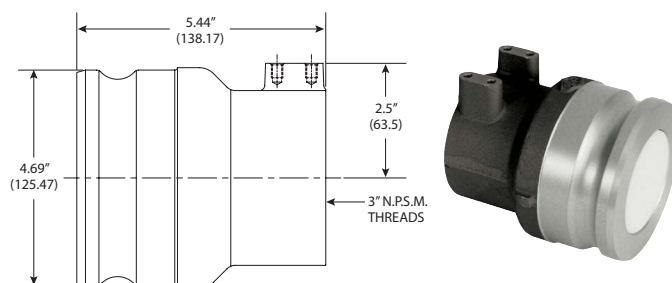
Model	Poppet	Thread Size	Weight (lbs/kg)
30130001	Yes	3-NPSM	4.5 lbs/2.04 kg
30130002	Yes	4-NPSM	4.81 lbs/2.18 kg
30130003	Yes	3-BSPP	2.55 lbs/1.16 kg
30333303	No	3-NPSM	3.81 lbs/1.73 kg
30344404	No	4-NPSM	4.31 lbs/1.96 kg

Item	Model	Description
1	30030502	Vapor recovery adapter - 3" N.P.S.M.
2	30030202	Vapor recovery adapter - 4" N.P.S.M.
3	30030532	Vapor recovery adapter - 3" B.S.P.P.
4	1103915	O-ring
5	30020301	Poppet
6	30010501	Spring - poppet
7	30020501	Guide - poppet stem
8	1109002	Retaining ring
9	77020102	3" Gasket cover
10	77020103	4" Gasket cover

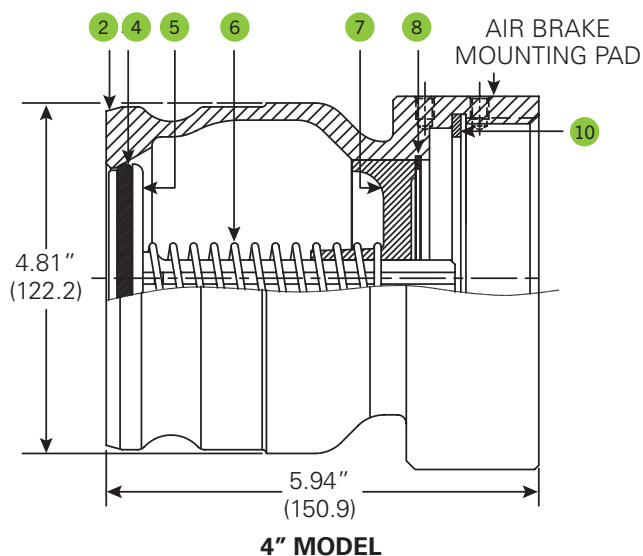
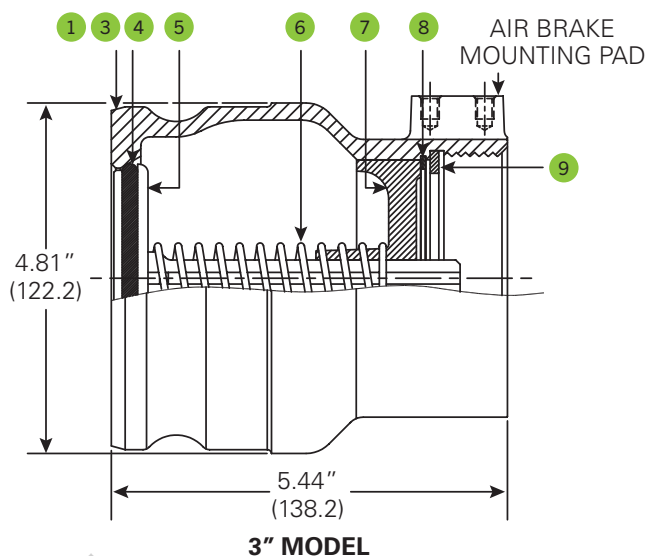
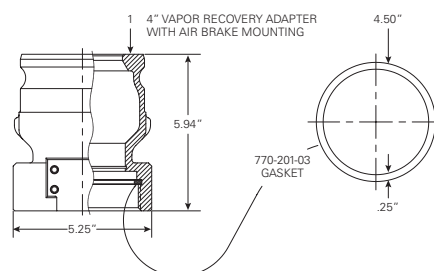
30344404



30130001



30130003



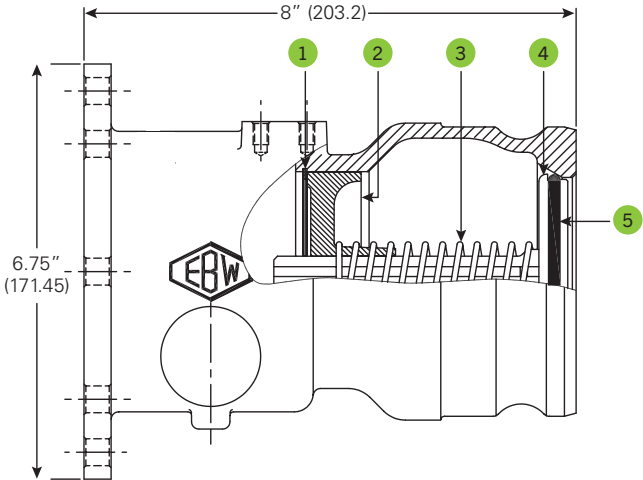
FLANGED VAPOR CHECK VALVE

ORDERING INFORMATION

Model	Description
30230012	Flanged vapor check valve without sight glass

SPECIFICATIONS

Item	Model	Description
1	1109002	Retaining ring
2	30020501	Poppet stem guide
3	30010501	Poppet spring
4	30020301	4" Poppet vapor recovery adapter
5	1103915	O-ring

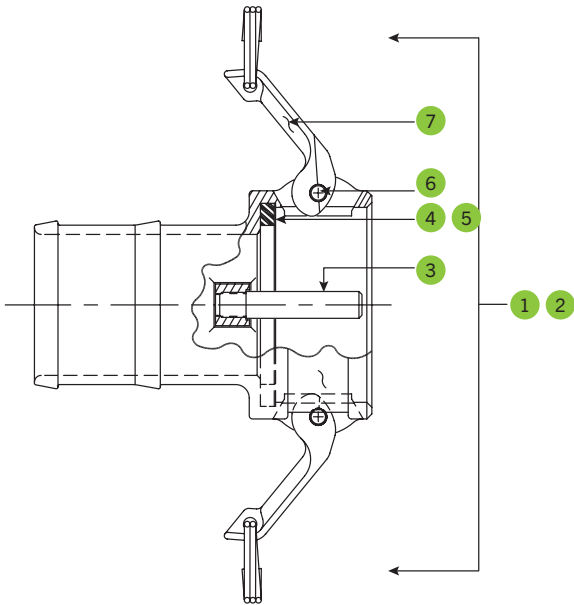
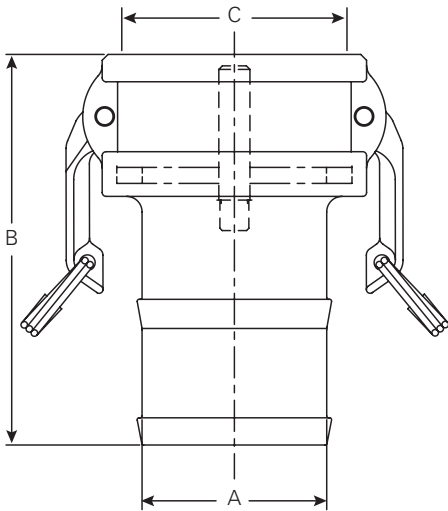


VAPOR RETURN HOSE COUPLERS

SPECIFICATIONS

Model	77432002	77432003
Dim. A (inches/millimeters)	3/76.2	4/101.6
Dim. B (inches/millimeters)	6.62/168.15	6.62/168.15
Dim. C (inches/millimeters)	4.75/120.65	4.75/120.65
Weight (pounds/kilograms)	3/1.36	3.38/1.53

Item	Model	Description
1	77432002	774-CV 4" × 3" assembly
2	77432003	774-CV 4" × 4" assembly
3	77411201	Probe
4	77420203	3" gasket
5	77420204	4" gasket
6	1112507	Groove pin
7	77411603	Cam and ring assembly



AIR-OPERATED SEQUENTIAL VAPOR VALVES



88034301

ORDERING INFORMATION

Model	Description
88034301	Flanged with hood
88034501	Threaded with hood

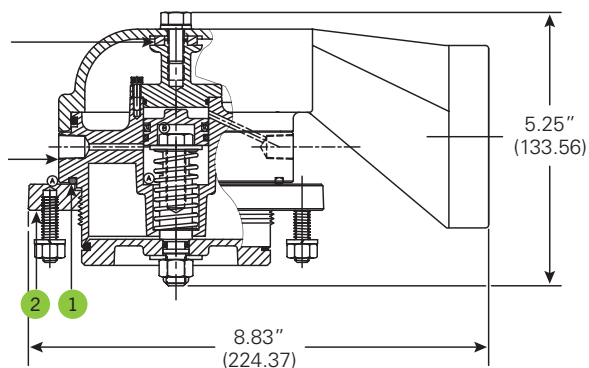
SPECIFICATIONS

Item	Model	Description
1	1100326	O-ring
2	88026701	Mounting assembly flange

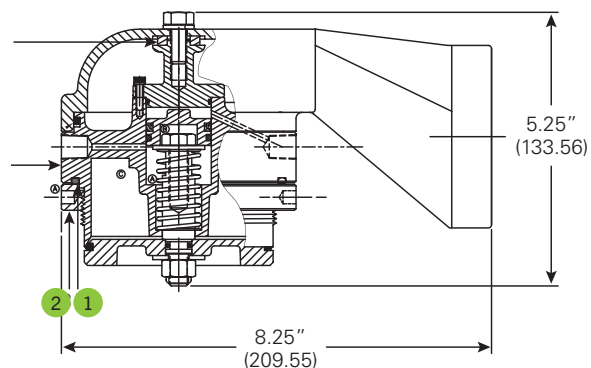


88034501

88034301



88034501



HOSE TUBE DOORS

ORDERING INFORMATION

Model	Description
78430003	6" plain door
78440003	8" plain door

SPECIFICATIONS

Model	78430003	78440003
Style	Plain	Plain
Size (inches/millimeters)	6/152.4	8/203.2
Weight (pounds/kilograms)	3/1.36	4/1.81



PRODUCT DROP ELBOWS

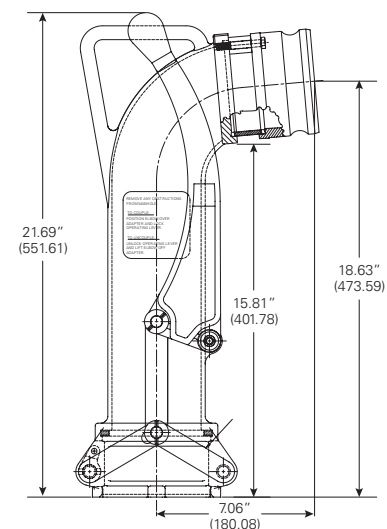
ORDERING INFORMATION

Model	Description
88049301	Product elbow dual point - no adapter
88049302	4" Cam and groove adapter with sight glass 21" tall
88049304	4" NPT adapter with sight glass
88049305	3" NPT adapter with sight glass
88045001	Body only
88045501	4" Male cam and groove with S.G.
88045502	3" Male cam and groove with S.G.
88045504	3" Male NPT with S.G.
88045505	4" Male NPT with S.G.

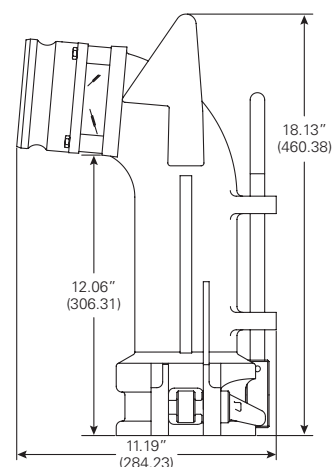
SPECIFICATIONS

Model	Weight (pounds/kilograms)	Size (inches/millimeters)
88049301	12.3/5.58	--
88049302	13/5.9	4/101.6
88049304	14.5/6.59	4/101.6
88049305	14.5/6.59	3/76.2
88045001	13.75/6.24	--
88045501	16/7.26	4/101.6
88045502	18/8.18	3/76.2
88045504	18/8.18	3/76.2
88045505	18/8.18	4/101.6

88049302



88045501

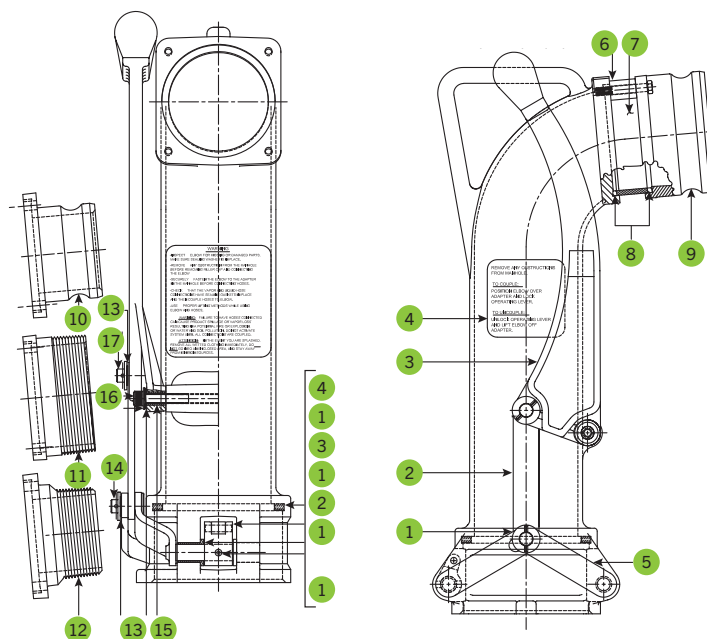


SPECIFICATIONS CONTINUED

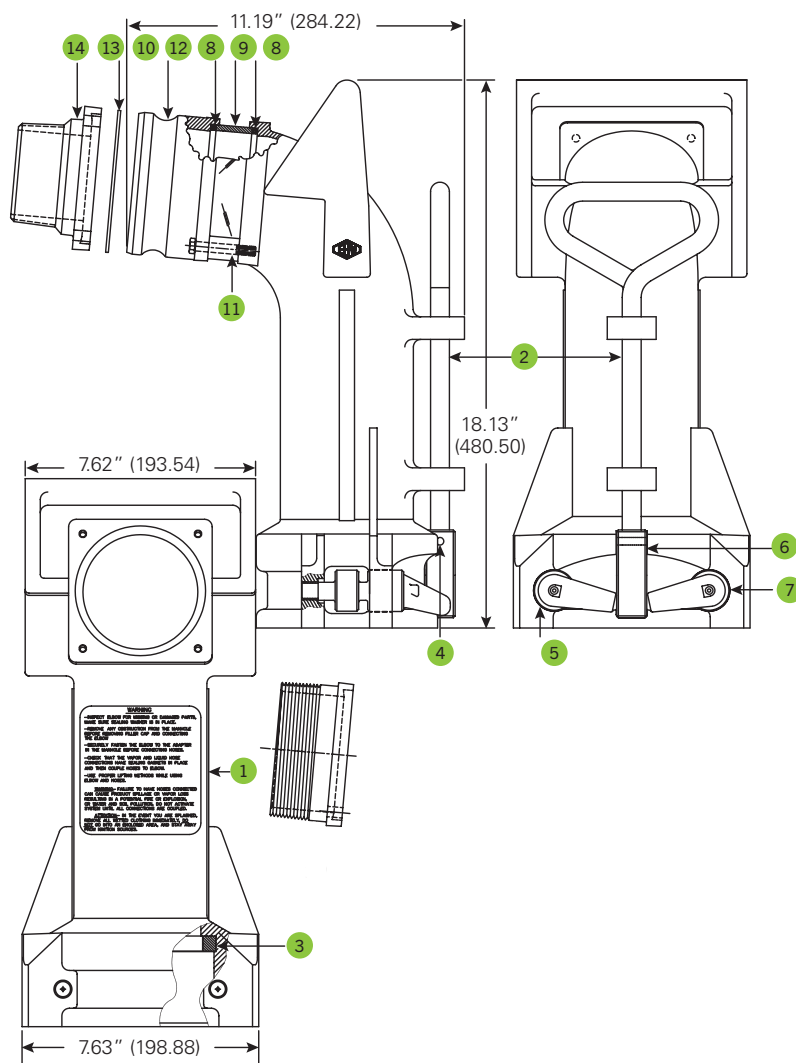
Item	Model	Description
1	88013601	Rear arm assembly
2	88013901	Connecting link
3	88048201	Operating handle
4	--	Operational instruction
5	88013501	Front arm assembly
6	88015101	Sight tube spacer
7	88016201	Sight tube
8	88014001	Sight glass seal
9	88028401	4" Dia. coupling adapter
10	88039601	3" Cam and groove adapter
11	88028901	4" NPT adapter
12	88039701	3" NPT adapter
13	1119001	Wave spring
14	88013801	Connecting pin
15	88014901	Shoulder spacer
16	1119601	Screw - 3/8-16 x 1½" Hex socket
17	88013802	Connecting pin
--	1118801	High alloy groove pin
--	1118601	Flanged bushing
--	88012101	Cam assembly insert
--	88014101	Seal

Item	Model	Description
18	88045901	Product elbow body
19	88023701	Product elbow handle
20	1130801	Product elbow seal
21	1108605	Pin spiral
22	88031001	Locking "right" cam
23	88023801	Handle block
24	88031002	Locking "left" cam
25	88014001	Sight tube seal
26	88016201	Sight tube
27	88028401	4" Cam and groove adapter
28	88015101	Sight tube spacer
29	88039601	3" Cam and groove adapter
30	88024701	Adapter flange gasket
31	88039701	3" NPT adapter

88049302



88045501



DUAL POINT VAPOR RECOVERY ELBOW

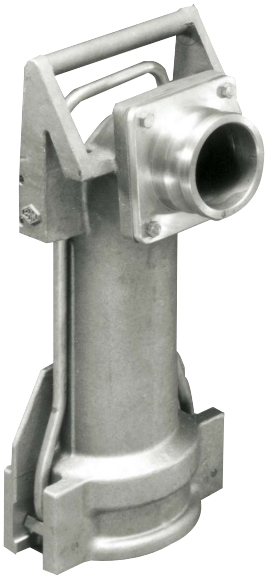
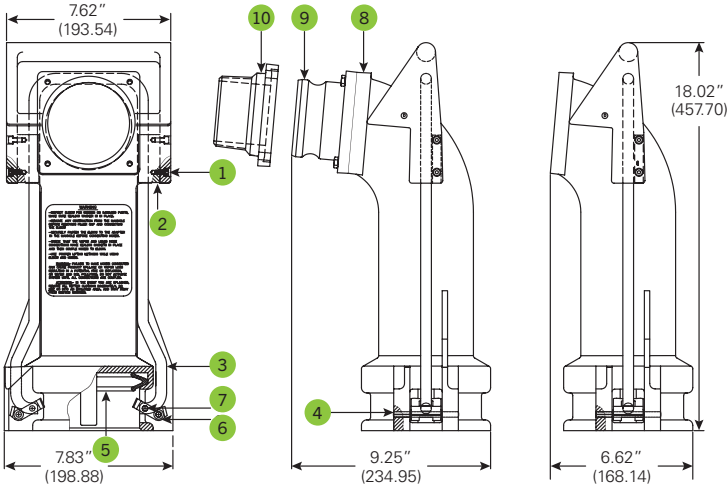
ORDERING INFORMATION

Model	Description
88046001	Body only
88046501	3" Male cam and groove adapter
88046502	3" Male NPT adapter

SPECIFICATIONS

Model Unit	880460	88046501	88046502
Size (inches/millimeters)	--	3/76.2	3/76.2
Weight (pounds/kilograms)	11/4.99	12.38/5.62	12.38/5.62

Item	Model	Description
1	1117012	#10 - 24 x 1/2" socket head cap screw
2	88024601	Handle retainer block
3	88039101	Vapor elbow locking bar
4	1112607	Grooved (straight) pin
5	87020001	Elbow seal
6	88024501	Locking cam
7	1112601	Grooved (straight) pin
8	88024701	Adapter flange gasket
9	88039601	3" Coupling adapter
10	88039701	3" NPT adapter



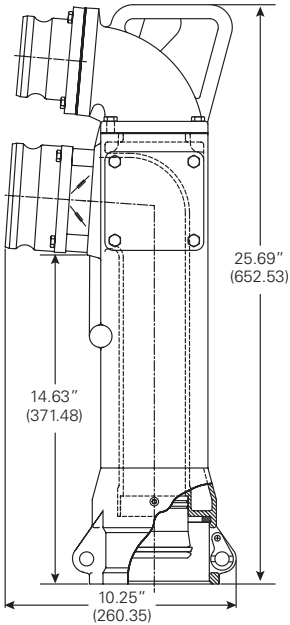
COAXIAL DELIVERY ELBOW

ORDERING INFORMATION

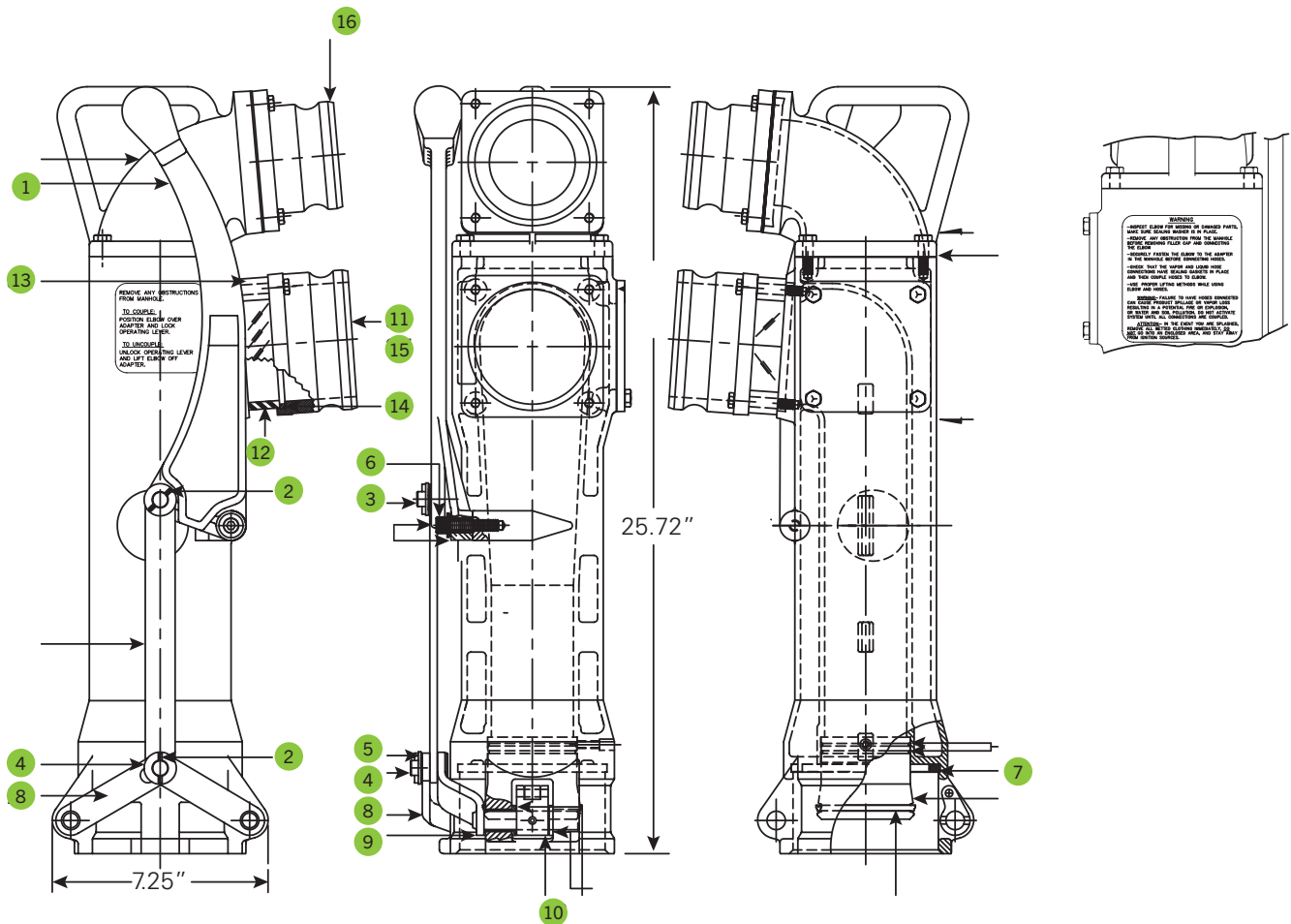
Model	Description
88049003	Over and under tall 4" NPT x 3" cam and groove

SPECIFICATIONS

Size (inches)	4 x 3
Weight (pounds/kilograms)	22.0/9.98



SPECIFICATIONS CONTINUED



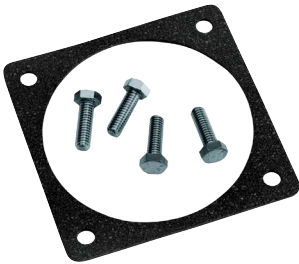
Item	Model	Description
1	88048201	Operating handle
2	1100403	Rollpin - 1/8" x 1"
3	88013802	Connecting pin
4	88013801	Connecting pin
5	1119001	Wave spring
6	1119601	Screw - 3/8", 16 x 1/2" Hex socket
7	88014101	Coaxial elbow seal
8	88013601	Rear arm assembly

Item	Model	Description
9	88013501	Front arm assembly
10	88012101	Cam assembly insert
11	88028401	Cam and groove 4" adapter
12	88016201	Sight tube
13	88015101	Sight tube spacer
14	88014001	Sight tube seal
15	88028901	4" NPT adapter
16	88039701	3" NPT adapter

ACCESSORIES

GASKET KIT*

Model	Weight (pounds/kilograms)
88024801	6.0/0.17



SIGHT GLASS KIT*

Model	Weight (pounds/kilograms)
88024901	13.0/0.37

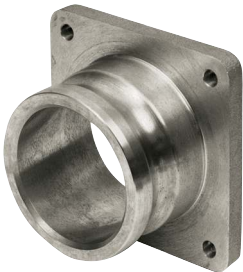


3" CAM AND GROOVE ADAPTER

Model	Weight (pounds/kilograms)
88039601	1.19/0.45

4" CAM AND GROOVE ADAPTER

Model	Weight (pounds/kilograms)
88028401	1.44/0.65



3" NPT MALE ADAPTER

Model	Weight (pounds/kilograms)
88039701	1.44/0.65



4" NPT MALE ADAPTER

Model	Weight (pounds/kilograms)
88028901	1.5/0.68

CAM AND GROOVE ADAPTERS

Model	Description
77421220	2" Cam and groove dust cap
77421240	2" Cam and groove dust cap

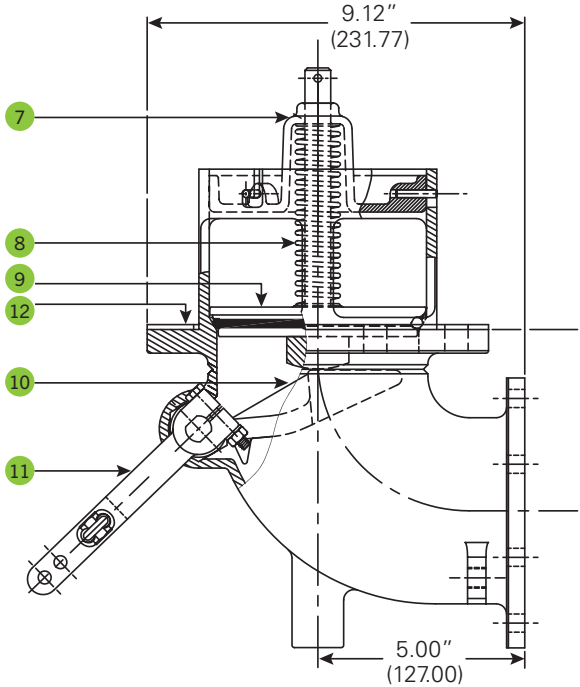
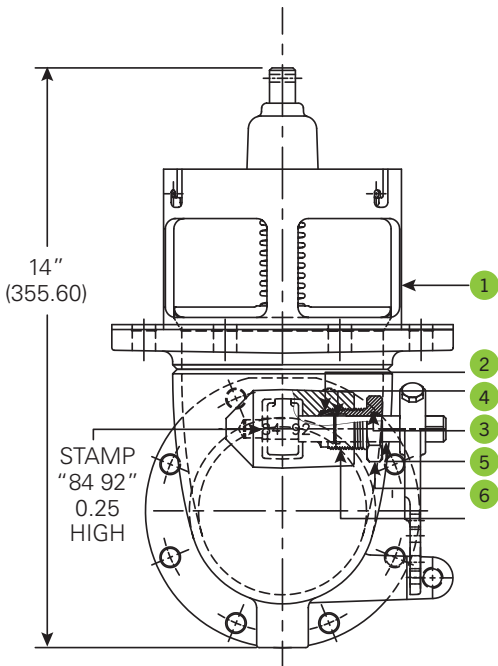


MECHANICALLY OPERATED 90° EMERGENCY VALVE (FLANGED)

ORDERING INFORMATION

Model	Description
88043101	4" Standard flanged outlet seal

SPECIFICATIONS



Item	Model	Description
1	88042801	Emergency valve flanged 4" body
2	1135801	3/16" SYN PTFE packing
3	1103920	O-ring FLC #2-114
4	1109008	Spiral retaining ring
5	88024101	Cam shaft
6	88024201	Stuffing box nut

Item	Model	Description
7	88026401	Emergency valve retainer assembly
8	1135701	Poppet spring
9	88026311	Poppet assembly
10	1103920	Cam
11	1109008	Cam lever assembly
12	88024101	Emergency valve sump gasket

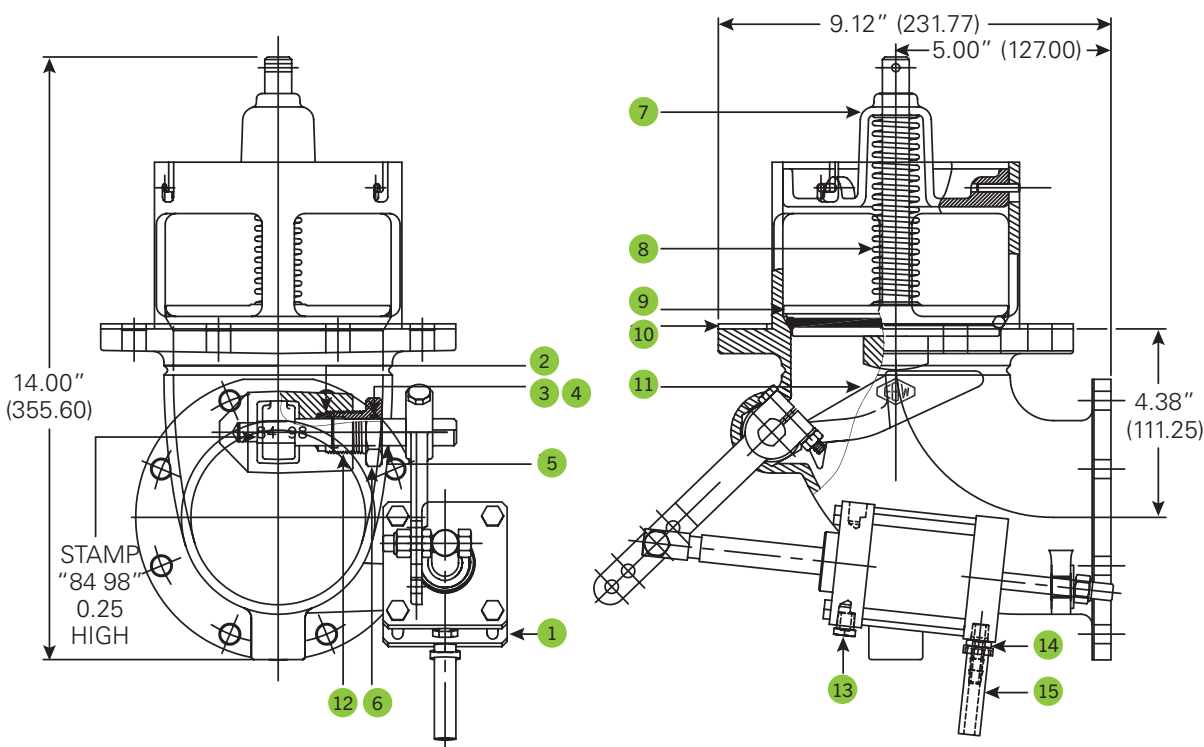


AIR-ASSISTED 90° EMERGENCY VALVE (FLANGED)

ORDERING INFORMATION

Model	Description
88043301	4" Standard flanged outlet seal with external air cylinder

SPECIFICATIONS



Item	Model	Description
1	88035002	Air cylinder
2	88042801	4" Flanged emergency valve body
3	1135801	3/16" SYN PTFE packing
4	1103920	O-ring FLC #2-114
5	1109008	Spiral retaining ring
6	88024101	Cam shaft
7	88024201	Stuffing box nut
8	88026401	Emergency valve retainer assembly

Item	Model	Description
9	1135701	Poppet spring
10	88026301	Poppet assembly
11	1138801	Emergency valve sump gasket
12	88026501	Cam lever assembly
13	1152601	Fusible metal pipe plug, 1/8-27" NPT
14	1149401	Male push-on hose fitting
15	88015901	Rubber hose - push-on fitting



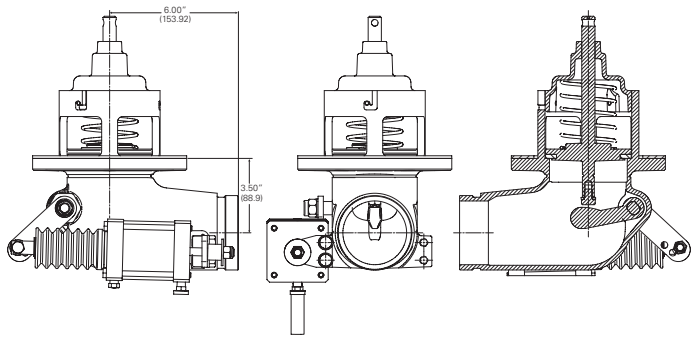
3" EMERGENCY VALVE

ORDERING INFORMATION

Model	Description	Size
88045601	Air operated valve	3" TTMA flanged × 3" Victaulic™ outlet
88044901	Cable operated valve	3" TTMA flanged × 3" Victaulic™ outlet

SPECIFICATIONS

- Certifications / Listings
- TTMA, RP84-92: shear section.
 - DOT 49 CRF 178.345-8: shear section.
 - DOT 406: shear groove.
 - TTMA, RP86-92: force rating.



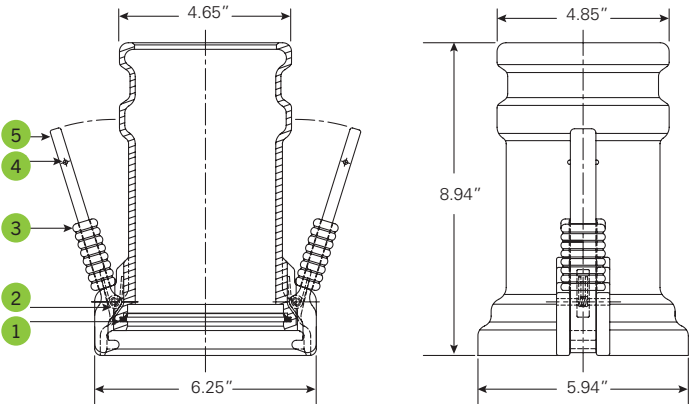
SIDE SEAL ADAPTER

ORDERING INFORMATION

Model	Description
88044501	Side seal adapter

SPECIFICATIONS

Item	Model	Description
1	88120201	Seal
2	88110301	Release lever spring
3	88120100	Release lever interlock
4	1145901	Pin, 0.125 × 0.875", groove type "E"
5	88120001	Release lever



SINGLE SOCKET SOLUTIONS

ORDERING INFORMATION

Model	Description
90821101	Thermistor socket with plastic cap
90822101	Optic socket with plastic cap
90811901	Plastic cap only
90812001	Optic conversion kit



WIRING KITS

ORDERING INFORMATION

Model	Description	Parts Included
90831501	Five compartment wiring kit	100' Cable and 22 watertight fittings
90831601	Six compartment wiring kit	100' Cable and 30 watertight fittings
90813101	Watertight fitting only	--
90813206	100' Seven conductor cable only	--

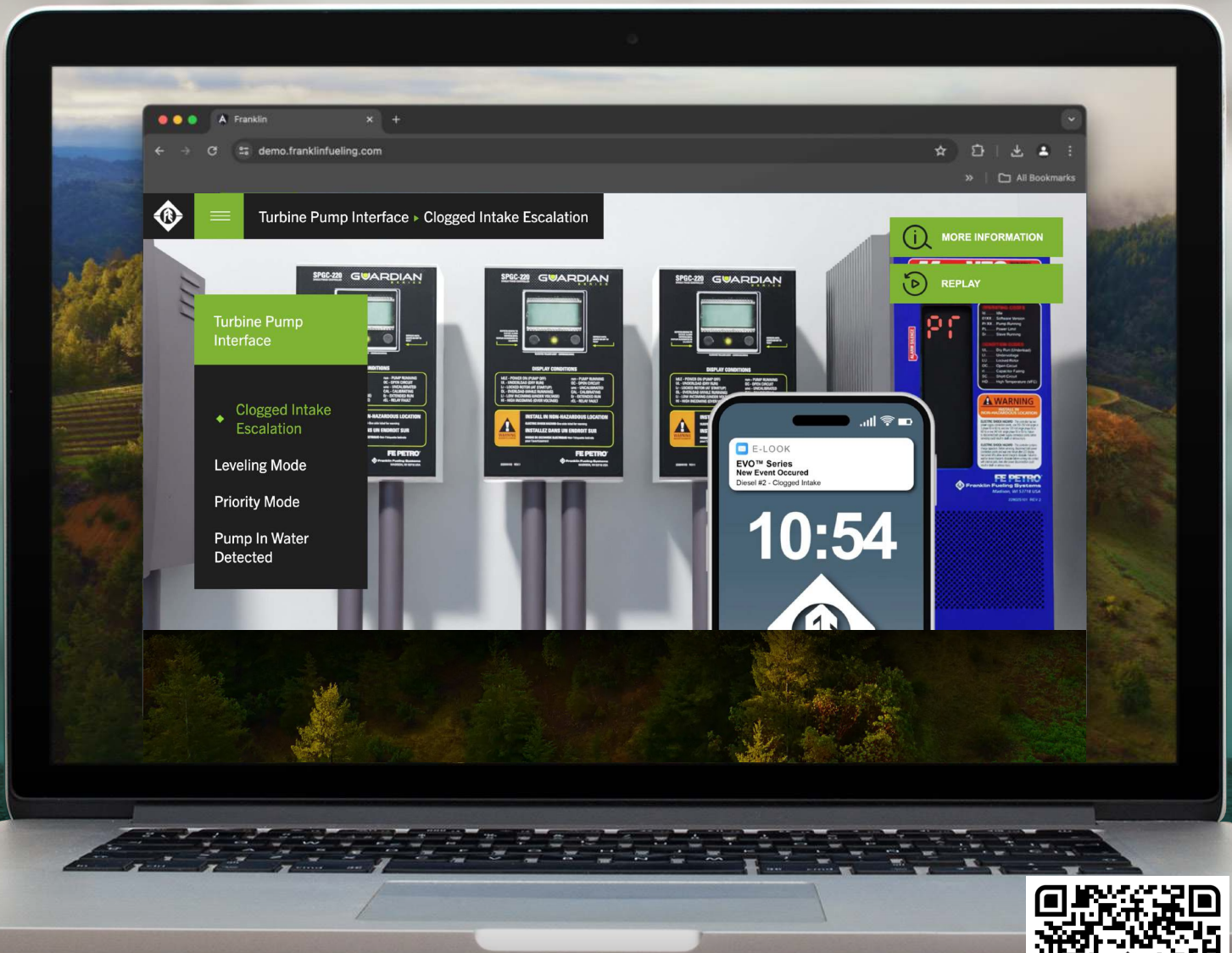


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