



Franklin Electric
FUELING SYSTEMS

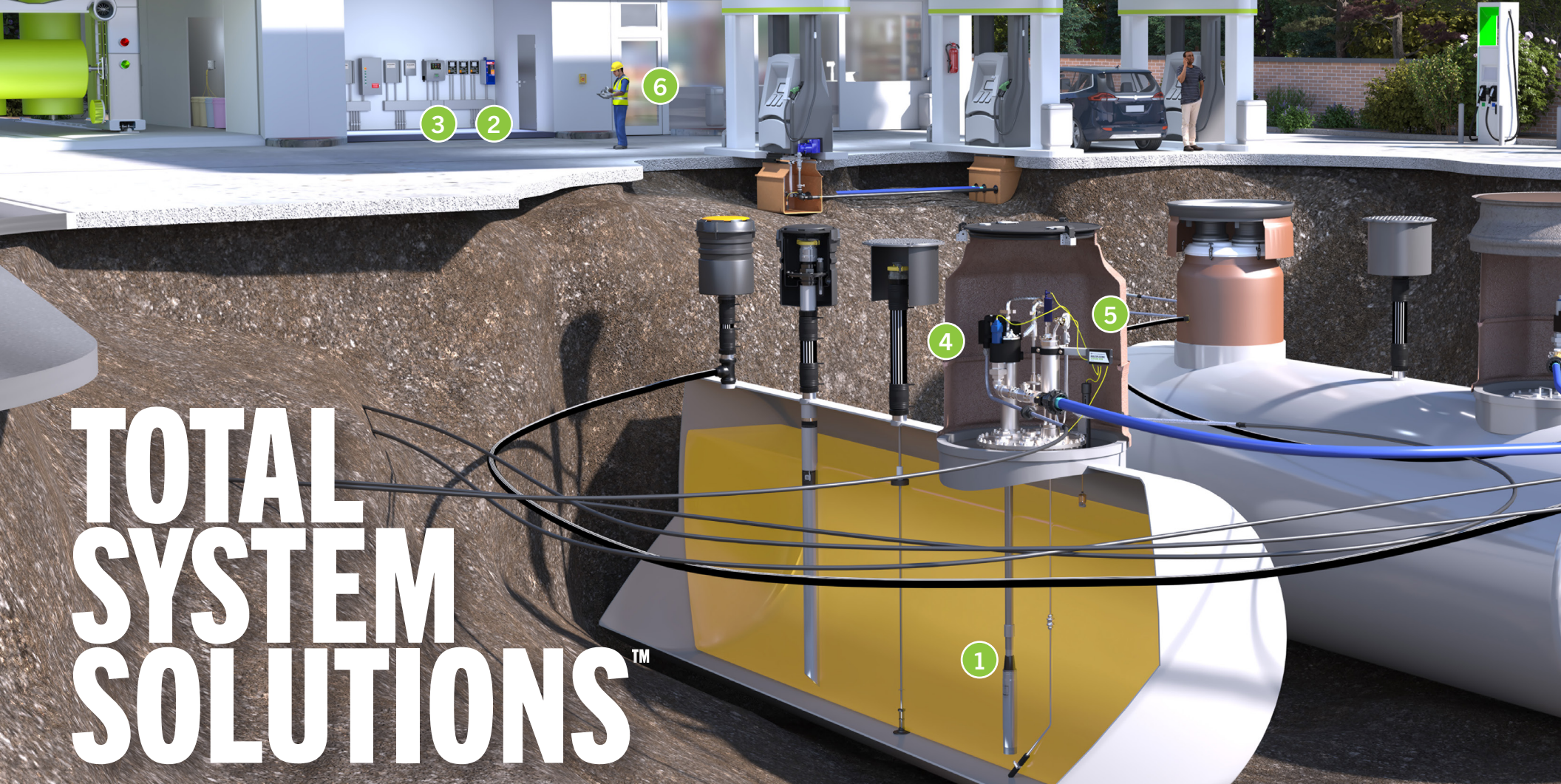
FE PETRO[®]



SUBMERSIBLE PUMPING SYSTEMS



Fill cars faster & smarter
Advanced pumping system control
Superior system & equipment protection



TOTAL SYSTEM SOLUTIONS™

FE PETRO® Submersible Pumping Systems deliver industry-leading performance, efficiency, and reliability for every fueling application. Engineered for maximum uptime, these systems provide consistent fuel flow, advanced protection features, and intelligent controls to optimize every aspect operation. With a full lineup of high-quality pumps, controllers, and monitoring solutions, FE PETRO® ensures fast, efficient, and worry-free fueling at even the busiest sites.

SUBMERSIBLE PUMPING SYSTEMS

- 1 Submersible turbine pumps (STPs)
- 2 Intelligent pump controllers
- 3 Fuel management system
- 4 Leak detection
- 5 Corrosion control system
- 6 Remote access & control



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SUBMERSIBLE TURBINE PUMPS

Since hitting the market in 1988, FE PETRO® Submersible Turbine Pumps (STPs) 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 and smarter.

With best-in-class flow rates backed by a long history of dependability, FE PETRO® STPs are responsible for delivering fuel to thousands of customers around the globe, day in and day out.

4 Hp, 2Hp, 1 ½ Hp, ¾ Hp, and ½ Hp options

Biofuel compatibility handles ethanol / biodiesel blends

Advanced protection prevents corrosion / extends pump life

Variable speed maximizes profits with high flow rates

MagShell® increases flow rates for higher throughput

Variable length adjustment ensures perfect onsite fit

Active air elimination for smooth fuel delivery

Safe and simple service disconnects and pressure relief

Intake filter screen keeps debris out / reduces wear

Intelligent pump controllers maximize uptime



VARIABLE SPEED TECHNOLOGY

With faster fill times during peak hours and power savings during non-peak hours, variable speed submersible pumping systems allow you to maximize profits with consistent flow rates while mitigating operating expenses and system wear.



MAGSHELL® PUMP DESIGN

The patented stainless steel MagShell®, available on 2 Hp and 4 Hp pumps, is designed to maximize flow rate capabilities, potential throughput, and profits. By expanding the pump motor shell, the MagShell® increases the area for product flow by 45%.



TURBINE PUMP INTERFACE

Network pump controllers with the EVO™ Series for remote enhanced pump monitoring and control features including pump-in-water automation, clogged intake escalation, tank leveling/priority, and more.



THE BENEFITS OF VARIABLE SPEED PUMPING



FASTER, SMARTER FUELING

With faster fill times during peak hours and power savings during non-peak hours, FE PETRO® 2 Hp and 4 Hp variable speed submersible pumping systems allow operators to maximize profits while mitigating operating expenses.



CONSISTENT CUSTOMER EXPERIENCE

Variable speed pumps ensure consistent flow rates, even during peak demand, providing customers with faster fueling and a smoother experience at the dispenser, reducing wait times and improving overall satisfaction.



PREVENT EQUIPMENT WEAR

Minimize sudden pressure spikes, known as hydraulic hammer, that occur during sudden stoppages in flow. These spikes can be exaggerated in fixed speed systems and lead to accelerated equipment wear and damage.



The FE PETRO® MagVFC™ Variable Frequency Pump Controller brings advanced performance and efficiency to fueling operations. Designed to optimize flow rates, this intelligent controller adjusts pump motor speeds in real time to maintain consistent fuel flow, even during peak demand.



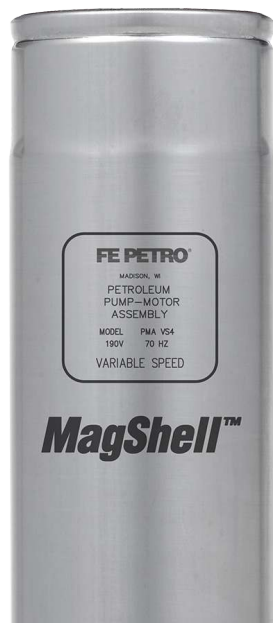
MAXIMIZE PUMP PERFORMANCE

Upgrade your Pump Motor Assembly (PMA) with components designed for enhanced performance and reduced maintenance.

FILL CARS FASTER WITH MAGSHELL™

Available on FE PETRO® 2 Hp and 4 Hp PMAs, the MagShell® provides an expanded flow area, creating significantly higher flow rates equivalent to having one more nozzle open during peak operating times.

A 4 Hp variable speed STP with MagShell® provides the highest flow rates of any single 4" submersible pump available on the market today.



MAGSHELL™ PMA



INTAKE FILTER SCREEN

FILTER FUEL WITHOUT SACRIFICING PERFORMANCE

Stop debris from entering the pumping system and causing system damage or slowdowns. An Intake Filter Screen (IFS) provides fuel filtration for the entire system down to about the size of a grain of sand.

The self-cleaning IFS keeps harmful debris, sediment, and tank corrosion from entering the pumping system, minimize service events including dispenser filter changes.



INTELLIGENT PUMP CONTROL

Maximize efficiency, reliability, and control with intelligent pump controllers. Designed to optimize fuel flow and system performance, these intelligent controllers provide advanced functionality to meet the demands of any fueling operation.



GUARDIAN SERIES™ FIXED SPEED CONTROLLERS

The Guardian Series™ controllers provide intelligent submersible turbine pump (STP) control and protection for fixed speed pumps.

Built upon the solid FE PETRO® brand smart controller platform, Guardian Series™ controllers feature an enhanced user interface, greater functionality, and facilitate higher performance compared to standard control boxes.

Intelligent submersible turbine pump control and protection

Enhanced user interface for easy setup & troubleshooting

Overload and underload protection to prevent pump damage

Dry-run detection to avoid unnecessary wear

Compatible with FE PETRO® single- & three-phase fixed speed STPs



MAGVFC™ VARIABLE SPEED CONTROLLERS

For applications with varying demand, the MagVFC™ variable frequency controller provides control for both 2 Hp and 4 Hp variable speed STPs.

The MagVFC™ controller adjusts the pump's speed to maintain optimal flow rates, resulting in faster, more consistent fueling compared to fixed speed systems, all while minimizing energy consumption and costs.

Automatically adjusts pump speed dynamically for optimal flow rates

Provides more consistent fueling compared to fixed speed systems

Maintains stable performance with fluctuating demand

Reduces energy consumption and system wear

Compatible with FE PETRO® 2 Hp and 4 Hp variable speed pumps

ADVANCED PUMP CONTROL

Turbine Pump Interface (TPI) is a powerful tool that creates a network between intelligent pump controllers and EVO™ Series fuel management system consoles. Through TPI, the EVO™ has access to the submersible pumping system status and the capability to react with intelligence that pump controllers alone cannot. The devices share data to provide enhanced system capabilities.



TURBINE PUMP INTERFACE CAPABILITIES

Remote access to pumps

Response automation

Pump in water prevention

Pump event history reporting

Clogged pump escalation

Overfill prevention automation

Primary / secondary pump management

Adjusted pump priority / leveling

- ✓ Detect and automatically react to offline systems for faster reset and avoided downtime.
- ✓ Provide remote troubleshooting, preventing maintenance calls and trip charges.
- ✓ Prevent fuel runouts, dry runs, tank overfills, and water being pumped into a vehicle.



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LEAK DETECTION

Preventing and detecting fuel leaks is critical for maintaining compliance and protecting the environment. Leak detection systems help identify leaks early, reducing the risk of costly downtime and regulatory fines.



MECHANICAL LEAK DETECTORS (MLD)

MLDs provide a simple, reliable way to detect leaks in pressurized fuel lines. These devices respond to pressure drops by restricting flow, alerting operators to potential leaks without requiring electronic monitoring.



ELECTRONIC LINE LEAK DETECTION (ELLD)

ELLD systems offer advanced monitoring with real-time data and automated alerts. ELLD continuously monitors line pressure, detecting leaks with precision accuracy, enabling remote diagnostics for improved operational efficiency.

MECHANICAL LEAK DETECTORS (MLD)

UL, cUL, National Workgroup

3rd Party Certifications

ELECTRONIC LINE LEAK DETECTION (ELLD)

UL, cUL, National Workgroup

Varying models for different fuel/biofuel combinations	Fuel Compatibility	Designed for various motor fuels
Requires 2" NPT Leak Detector Port or Tee Housing	Installation Method	Requires standard 2" Female NPT Opening
Manual 3 gph Test after install to verify	Startup Requirements	EVO™ Series process AUTO-LEARN® and verifies install
Pump ON testing after Pump OFF line pressure < 3 psi	Testing Methodology	Pump OFF testing after every dispense cycle
None - restricts output until next dispense cycle	Leak Test Result Validation	Yes - thermally stabilizes line before declaring results
Yes - restricts pump output to 3 gpm system flow	3 gph Leak Detection Capability	Yes - positive pump shutdown
None - smaller leaks will increase test time	Precision Leak Detection Capability	Yes - 0.2 gph monthly and 0.1 gph annual options
Operator restricted (slow flow) reporting only	Line Test Results Reporting	EVO™ Series history reporting options



HIGH-CAPACITY PUMPS

Available in either 3 Hp or 5 Hp, FE PETRO® High Capacity Submersible Turbine Pumps (STPs) deliver efficient, reliable and quiet performance when high volumes or high speed deliveries of gasoline or diesel fuel are required.



BUILT FOR RELIABLE, CONTINUOUS OPERATION

The continuous duty, three phase Franklin Electric motor with carbon bearings and stainless steel journals are just some of the heavy-duty features that keep our 3 Hp and 5 Hp pumps in action at some of the world's highest capacity stations.



PRESSURE PROTECTION

Dual 3" horizontal discharge ports and two built-in line check valves allow maximum output flow potential. One line pressure relief valve protects the dispensers and piping from abnormal pressures due to thermal expansion.



BUILT FOR HEAVY DUTY APPLICATIONS

Motors are all three phase for smooth operation and are available in various voltages. Units come standard with a 6" diameter riser pipe to mount the pump to the tank.



FUEL FILTERING

A built-in mesh screen on the pump inlet prevents large particles from entering the pumping system and causing system damage or slowdowns.



The multi-stage, high capacity centrifugal pump is coupled with a dependable Franklin Electric motor to provide higher heads, faster fuel delivery and lower cost of operation.





Pump manifolding is the practice of connecting multiple pumps together in a shared piping system.

MANIFOLDED PUMPS

When designing a fuel system for high-flow applications, selecting the right pump configuration is critical. Instead of relying on a single high capacity pump, such as a 5 Hp or 3 Hp high capacity model, you may achieve the same or better performance by manifolded configurations of smaller horsepower pumps, such as 4 Hp or 2 Hp models. Manifolding multiple pumps offers several advantages.



SAME HIGH-PERFORMANCE FLOW RATES

A properly manifolded system can deliver the same high throughput rates as a single high-capacity pump, ensuring fast fueling and efficient operation.



BUILT-IN REDUNDANCY

With multiple pumps in operation, the system can stage operation of the pumps to ensure they are ready when called into service.



ENHANCED SERVICEABILITY

Manifolded pumps allow for staged maintenance, where one pump can remain in service while another is being troubleshot, keeping fuel flowing and minimizing operational disruptions.

Instead of relying on one high-horsepower pump, two or more smaller pumps work in tandem to achieve the required flow rates. This configuration enables the combined flow rates of the individual pumps to meet the total system demand.



CORROSION CONTROL™ WATER SEPARATOR

When combined with an FE PETRO® pump, the Corrosion Control™ Water Separator provides proactive in-tank corrosion control by removing tank bottom corrosion contributors including water and acid while taking up minimal space inside the containment sump.



SYSTEM AUTOMATION

Control and monitoring are managed through an EVO™ Series console, which automates separator run times and signals when the vessel is ready for emptying. Get access to system data including Water Separator status, water levels, flow status, and more.



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REMOVE WATER & ACID

The Water Separator removes any water/acid mixture off the bottom of the diesel tank and separates it from the clean fuel. The water/acid is collected in the vessel for disposal while the clean fuel is directed back into the tank.



POWERED BY THE PUMP

The Water Separator uses the flow of fuel created by a 4" FE PETRO® submersible turbine pump to generate a vacuum which suctions the tank bottom.



EASY MAINTENANCE

The element-free vessel has no filter to change, eliminating ongoing replacement costs. The collected water/acid mixture is removed 2-3 times per year by a service technician, keeping the tank clear of the harmful corrosion-causing mixture.



PUMP FEATURES

	 4 HP	 2 HP	 1 1/2 HP	 3/4 HP	 5 HP HIGH CAPACITY	 3 HP HIGH CAPACITY
Variable Speed	✓	✓				
Fixed Speed		✓	✓	✓	✓	✓
MagShell®	✓	✓				
Biofuel Compatibility*	✓	✓	✓	✓		
Variable Length	✓	✓	✓	✓		
Fixed Length		✓	✓	✓	✓	✓
Advanced Protection	✓	✓	✓	✓		
Turbine Pump Interface	✓	✓	✓	✓	✓	✓
Intake Filter Screen	✓	✓	✓	✓		

*Up to 85% Ethanol and up to 20% or 100% Biodiesel.

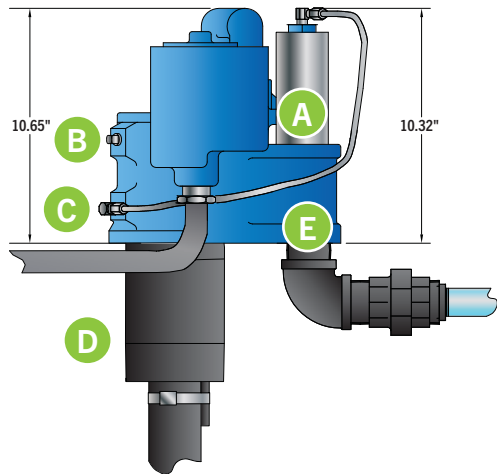
FUEL COMPATIBILITY

	 4" STP	 4" STPAG	 4" STPAP	 6" STP3
Model	4" STP	4" STPAG	4" STPAP	6" STP3
Description	Standard Pump	Alcohol-Gas Pump	Advanced Protection Pump	3 Hp High Capacity Pump
Pump Speed	Variable Speed / Fixed Speed	Fixed Speed	Fixed Speed	Fixed Speed
Compatibility	Up to 10% Ethanol w/ Gas	Up to E85, up to B20, B100	Up to E85, up to B20, B100	Up to E10
Model		4" IST	4" ISTAP	6" STP5
Description		Alcohol-Gas Pump	Advanced Protection Pump	5 Hp High Capacity Pump
Pump Speed		Variable Speed	Variable Speed	Fixed Speed
Compatibility		Up to E85, up to B20, B100	Up to E85, up to B20, B100	Up to E10

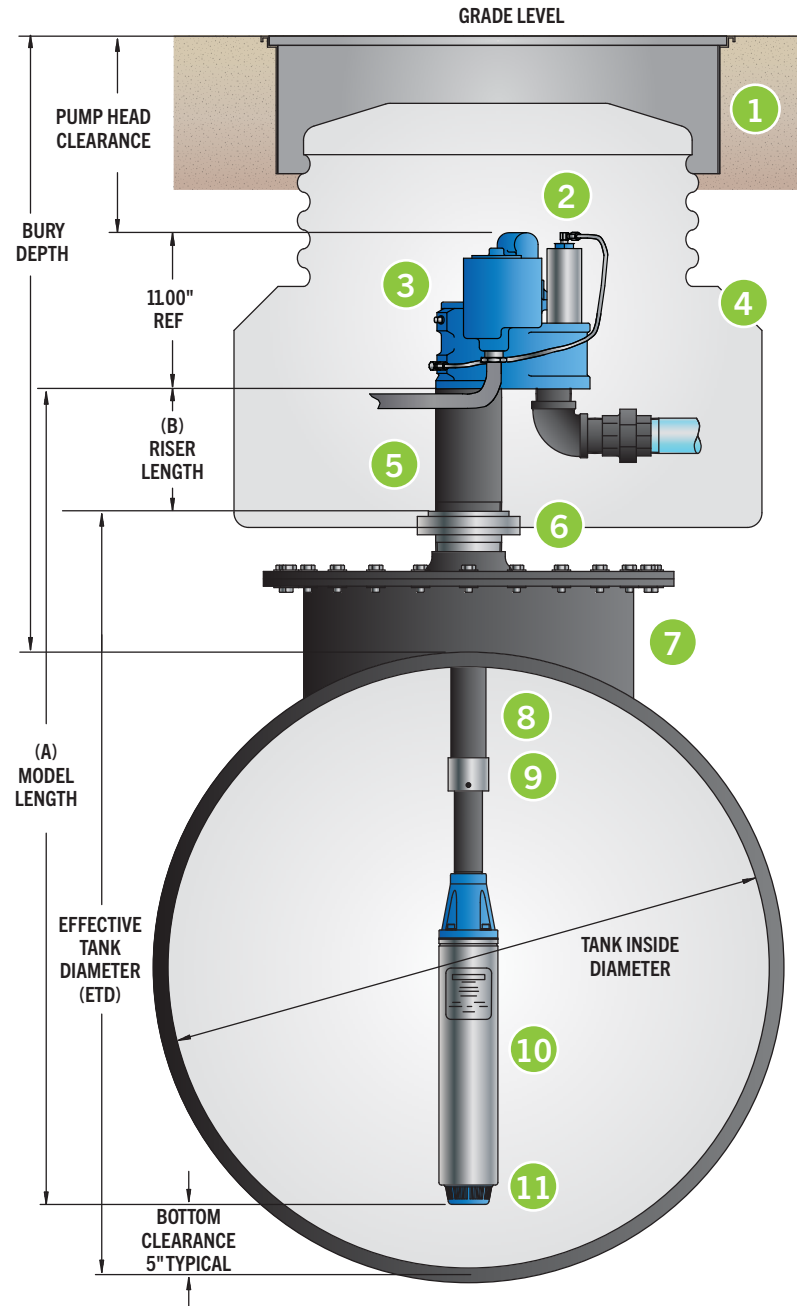
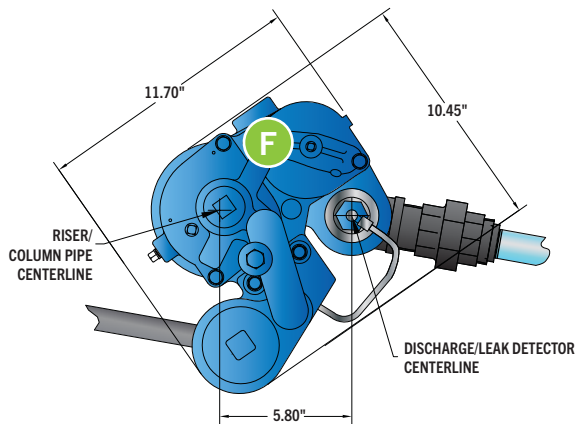


COMPONENTS & DIMENSIONS

- 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



- A Leak Detector Port, 2" NPT
- B Syphon Port, 1/4" NPT
- C Tank Port, 1/4" NPT
- D Riser Pipe, 4" NPT
- E Discharge Outlet, 2" NPT
- F Line Test Port, 1/4" NPT



UPGRADE TO VARIABLE SPEED

With Variable Speed Conversion Kits, operators can upgrade their existing fixed speed pumps to variable speed for enhanced performance. This cost-effective solution integrates seamlessly with current equipment to dynamically adjust flow rates as more nozzles begin fueling.

+ All-in-one kits include PMA, MagVFC™, & hardware

Compatible with FE PETRO® & competitive 4" STPs

Provides the right flow at the right time

Achieve higher, more consistent flow rates



TOTAL SYSTEM SOLUTIONS™



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FUELING SYSTEMS

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