

FIXED SPEED SUBMERGED TURBINE PUMPS

STP



**MagShell™ SETS A NEW STANDARD
FOR SUBMERSIBLE PUMP PERFORMANCE**



FE PETRO™
Franklin Fueling Systems

SUBMERGED TURBINE PUMPS

Since the mid 1950's, FE Petro's parent company, Franklin Electric, has been involved in the design and manufacture of submersible motors for use in pumping motor fuels. Building on this extensive history, FE Petro has contributed innovative product designs for submersible pumps throughout the 1990's, and into the 21st Century.

Marketers concerned about fueling times, efficiency, serviceability, reliability and overall product quality find it an easy choice to specify FE Petro.

Consider these unique FE Petro features to improve the profitability of your retail operations:

FE PETRO FEATURE

FASTER FUELING TIMES



BENEFIT TO YOU

FE Petro 1 1/2 and 2HP turbines fuel cars faster during peak business hours due to higher pump performance. One reason your customers will keep coming back.

FE PETRO FEATURE

VARIABLE LENGTH OPTION



One pump fits 94% of all known tank diameters and tank bury depth combinations. Two other model lengths are available to handle installations shorter or longer than this range. The telescoping connection is patented by FE Petro.

BENEFIT TO YOU

Pump length is set at the job site by making one simple measurement and setting the pump length. All in about 20 minutes and without affecting the UL listing of the pump.

FE PETRO FEATURE

SUPERIOR BEARING COOLING

Our STP's use the FE Petro cooling system. This unique system continually passes over 1 GPM through a fine bronze filter and directly through motor bearings whenever pump is operating.



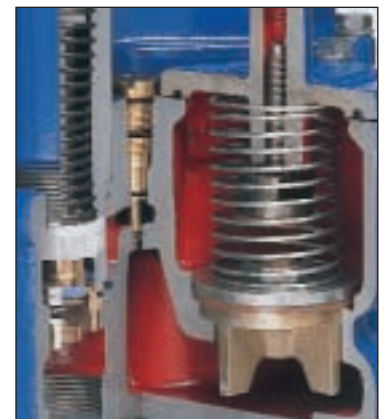
BENEFIT TO YOU

This system has been designed to extend critical bearing and motor life.

FE PETRO FEATURE

A RELIABLE CHECK VALVE

The STP uses FE Petro's proven line check valve. At 2 3/4" (70mm) in diameter, this valve reduces pressure loss at high flow rates, resulting in faster fueling times and lower power consumption.



BENEFIT TO YOU

The FE Petro check valve is proven to seal. You can avoid purchasing additional check valves when the STP is used with some popular electronic line leak detectors because of this proven reliability.

FE PETRO FEATURE**MANUAL PRESSURE RELIEF**

A standard FE Petro feature. When necessary during maintenance to bleed line pressure to zero, a vent screw is provided. By turning this screw, product is diverted back to the tank, dropping line pressure to zero.

**BENEFIT TO YOU**

Reduces fuel discharged into the sump manhole or dispenser pan during servicing, further protecting service technicians and the environment.

FE PETRO FEATURE**SIMPLE SERVICING**

If ever required, the pump can be easily removed from the tank by unthreading three bolts. There is no need to disconnect the syphon system, or remove the leak detector from the system to service the STP.

**BENEFIT TO YOU**

This feature reduces the risk of correcting one problem and causing another.

FE PETRO FEATURE**VERTICAL DISCHARGE**

Another unique feature of FE Petro. Provides for a simple connection to underground piping.

**BENEFIT TO YOU**

This feature allows for fewer fittings to connect the pump to the discharge line, and requires less space in the sump.

TWO HP FIXED SPEED MODELS**FE PETRO FEATURE****HIGHEST FLOW**

The STPM200 with **MagShell™** provides flow rates previously unavailable in 4" fixed speed submersible pumps.

**BENEFIT TO YOU**

One pump can provide good flow rates for up to 8-10 retail nozzles flowing simultaneously.

FE PETRO FEATURE**MagShell™**

MagShell™ is a standard feature on our 2 HP models. The motor shell is expanded to increase the flow area around the motor by 45%, resulting in significantly higher flow rates.

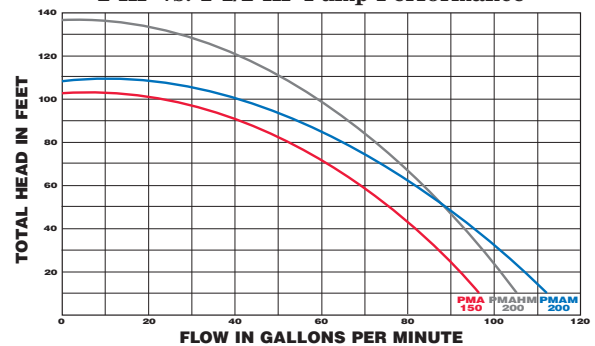
MagShell™ is constructed of 304 stainless steel.

BENEFIT TO YOU

The highest performing 2 HP fixed speed submersibles ever offered. Higher flow means faster fill rates during peak business periods, increasing daily throughput and your profit potential.

**FE PETRO FEATURE****EASY UPGRADE**

If you have existing STP's in your stations and want faster flow rates, consider upgrading to a 2 HP **MagShell™** pump motor from FE Petro. The pump motor is compatible with existing FE Petro and competitive make submersible pumps.

2 HP vs. 1 1/2 HP Pump Performance**BENEFIT TO YOU**

Increase flow rates 1 to 2 GPM per nozzle with 5-8 nozzles operating. Get the newest technology available and go easy on your budget at the same time. FE Petro pump motors sell for about 1/3 the cost of a complete pump change-out.

ACCESSORIES

The FE Petro optional single phase motor control box is available in two configurations. These control boxes are UL listed, CSA Certified or C-UL listed and fit any horsepower fixed speed 4" submersible. Models are available in both 120 volt and 220 volt coils for 50 and 60 Hz power supplies.

STP-SCI: The Smart Controller™ using power monitoring technology offers all the features of our standard STP-CBS control box, plus the following protection and diagnostics:

- Dry Running Protection with Auto Reset
- Low Voltage Detection
- Pump Motor Failure Detection
- Open Circuit Detection
- Extended Pump Run Detection
- Slave Pump(s) Auto Start Operation
- Alternating Pump Control
- Remote Diagnostic Polling Capability
- Push button last 5 fault recall for quick service diagnostics
- System abnormalities are identified by an indicator light and audible alarm.



STP-CBS: Control Box with wiring terminals, contactor relay and pilot light with lock out toggle switch.

One required per pump.
Enclosure size is 8 1/2" x 5" x 3"
(215mm x 127mm x 76mm).



IFS: Our intake filter screen option utilizes 316 stainless steel to filter particles .009" (.23mm/230 microns) and larger. It can significantly reduce dispenser filter changes.



FE PETRO FEATURE

SERIAL COMMUNICATION

The STP-SCI Smart Controller incorporates a RS 485 serial communications system for communication and intelligence sharing with INCON fuel management systems.



BENEFIT TO YOU

Pump diagnostics is reported within moments to remote monitoring parties, reducing service call time. Serial link allows ATG to control pump preventing water from being pumped, elimination of syphon piping, and other functions designed to reduce station operating costs.

STP SPECIFICATIONS

POWER SUPPLY OPTIONS:

- 60 Hz Applications: Available in 1/3, 3/4, 1 1/2, 2 HP and 1 1/2 and 2 HP high pressure models in 208-230 volt, single phase.
- 50 Hz Applications: Available in 3/4, 1 1/2 and 1 1/2 HP high pressure models in 220-240 volt, single phase, and 380-415 volt 3 phase.

PUMP MOTOR:

- Centrifugal type, directly interchangeable with most competitive makes.
- Maximum liquid viscosity: 70 SSU at 60° F. (15.5° C).
- Thermally protected: Automatic thermal overload turns motor off at approximately 205° F (95° C) and resets on at approximately 115° F (45° C).

LIQUID COMPATIBILITY:

- Standard units compatible with fuel mixtures containing up to 15% ethanol or methanol with gasoline and 20% MTBE, 20% ETBE, or 17% TAME with gasoline, and diesel fuels.
- Alcohol/Gasoline models (designated with AG in model number) are compatible in fuel mixtures containing any combination of ethanol or methanol and gasoline and 20% MTBE, 20% ETBE, or 17% TAME with gasoline, and diesel fuels.

CHECK VALVE:

- 2 3/4" (70mm) diameter constructed of aluminum and steel with fluorocarbon seal. Alcohol gas compatible.

PRESSURE RELIEF VALVE:

- Standard valve is set to relieve static line pressure at 35-50 PSI (2.38 to 3.4 bar), reseals above 30 PSI (2.0 bar). Other settings available.

AIR ELIMINATOR:

- Returns air to tank with one way check valve to prevent back flow.

SEAL ELASTOMERS:

- All wetted seals on standard units are fluorocarbon.
- Alcohol/Gasoline (AG) models use high grade fluorocarbon seals.

SYPHON:

- Syphon Primer is venturi type, capable of 26" Hg (66cm) vacuum.
- Syphon Check Valve is machined brass.

MagShell™

- 304 stainless steel construction. Shell is expanded .084" results in increased flow area through motor 45%.
- Magshell is standard on 2 HP models. Not available on 1/2 through 1 1/2 HP.

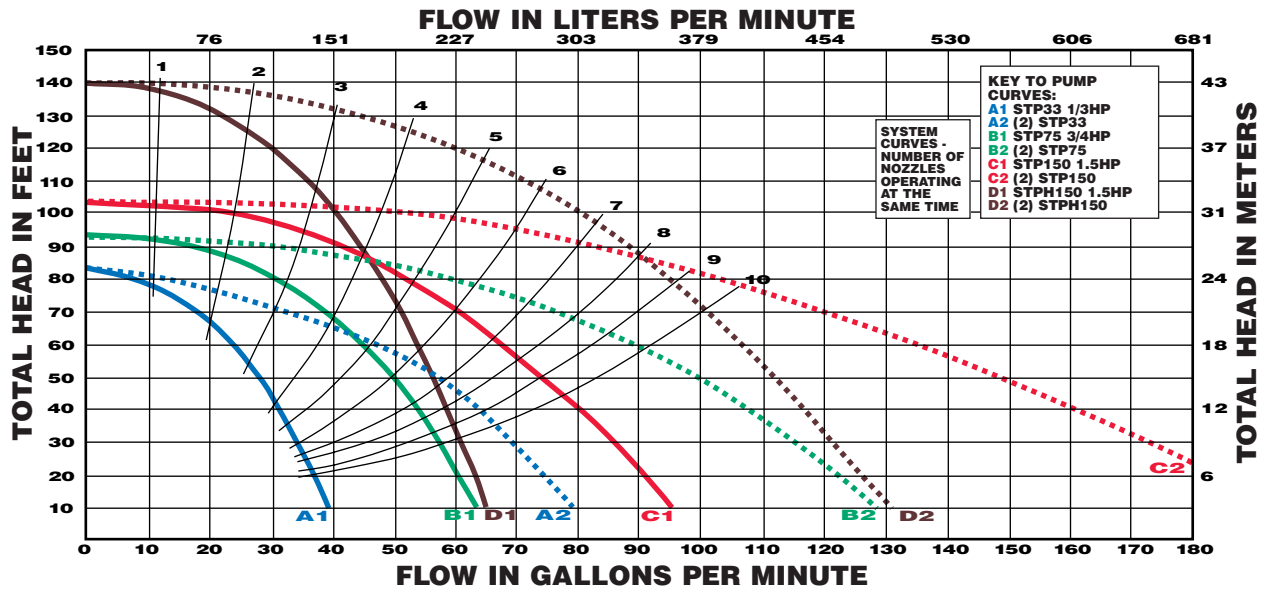
APPROVALS AND/OR LISTINGS:

- UL, cUL, ATEX, BASEEFA, TUV, SAA, BKI, INMETRO, TIIS, KHK, FTZU, ROSTEST, others pending (Approvals vary by model. Consult factory for approvals by model number).

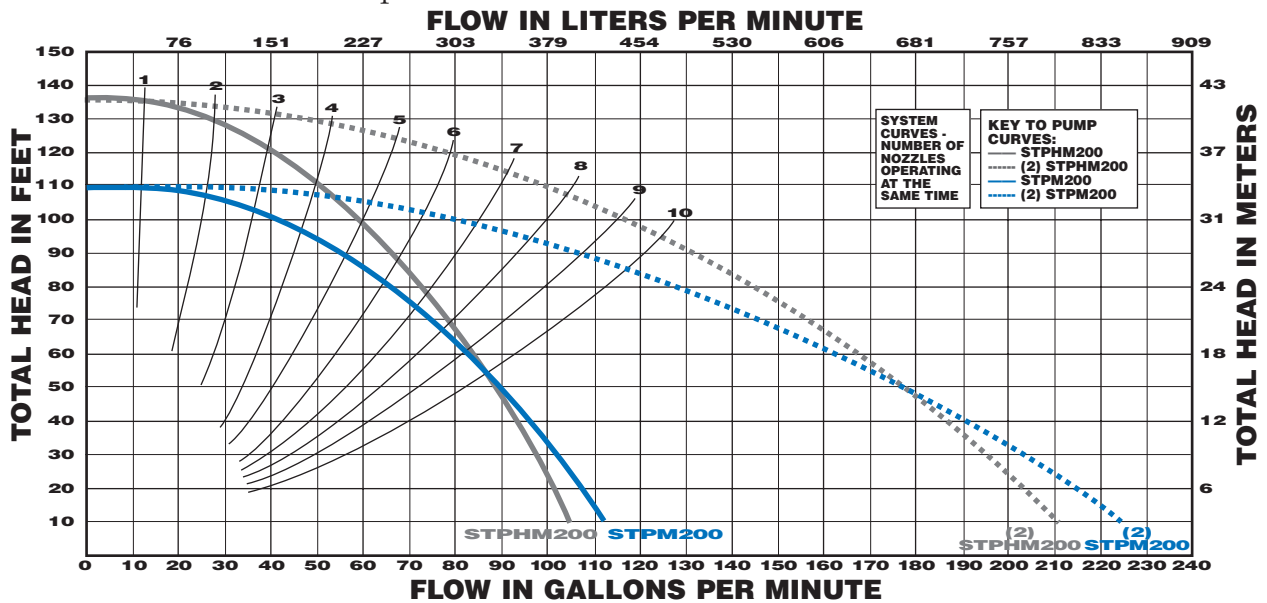
QUALITY CERTIFICATION:

- FE Petro is an ISO 9001 Certified Manufacturer.

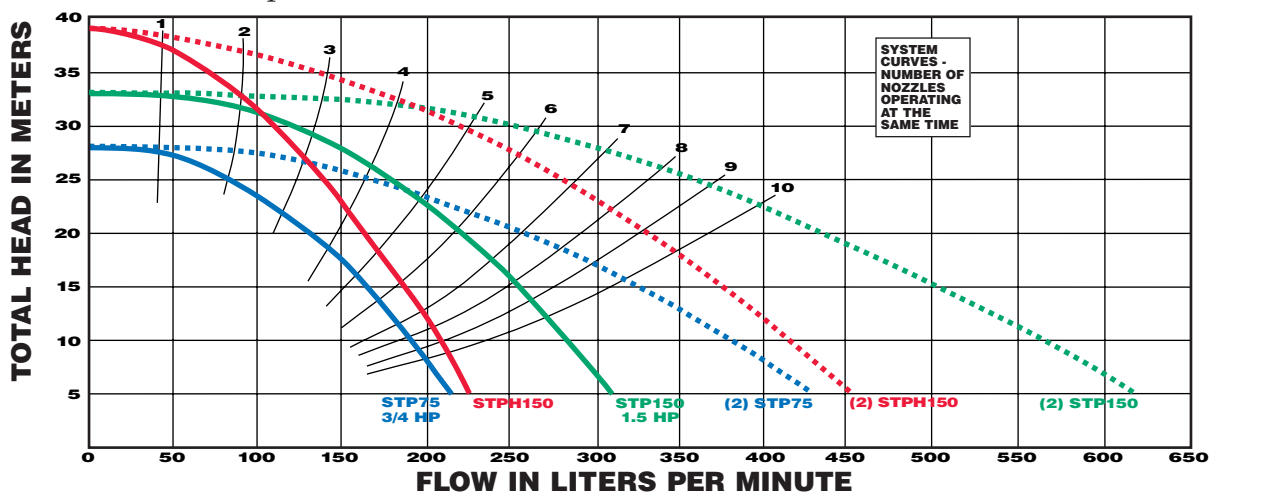
60 HZ 1/3 through 1-1/2 HP Pump Performance Chart



60HZ 2 HP Fixed Speed Models



50 HZ Pump Performance Chart



NOTES: PERFORMANCE IS BASED ON PUMPING SOLVENT (SG=.78). PRESSURE IS TAKEN AT THE DISCHARGE MANIFOLD OUTLET. SYSTEM CURVES ARE BASED ON 125' (38.5 METERS) OF 2" PIPE, AN AVERAGE NUMBER OF FITTINGS, AND A TYPICAL AUTOMATIC NOZZLE AT THE MIDDLE SETTING.

HOW TO ORDER VARIABLE LENGTH MODELS

SPECIFY MODEL VL1, VL2 OR VL3 FROM CHART BELOW

MODEL LENGTH = ETD + riser - bottom clearance

DETERMINING MODEL LENGTH

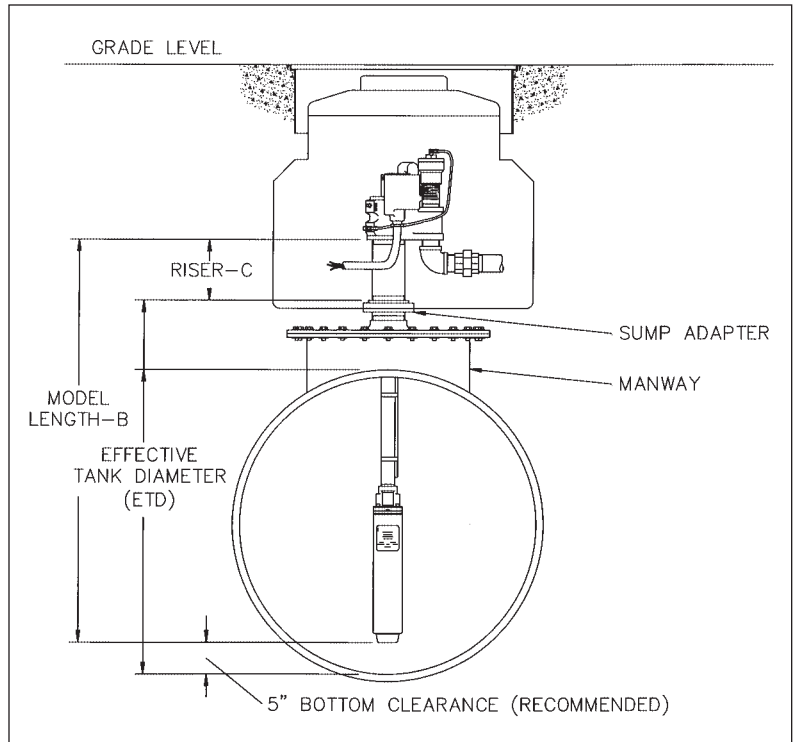
Effective Tank Diameter (ETD) is the combination of any or all of the following:

Tank Diameter (to top of 4" bung)
+ Manway
+ Sump Adapter

Riser to be determined by bury depth

BURY DEPTH	RISER LENGTH	
	MIN.	MAX.
2'	7"	7"
2.5'	7"	11"
3'	7"	17"
4'	7"	29"
5'	7"	41"
6'	7"	53"
7'	7"	65"

Note: Above ground tanks have a minimum riser length of 7".



Note: The **VL2** length can be used in **94%** of all known installations. This table shows installations where a VL1 or VL3 is required:

1/3 HP	USE IF MODEL LENGTH IS 86 - 147" (218 CM to 373 CM) Use VL1 if model length is shorter than 84 down to 55" (213 CM to 139 CM) Use VL3 if model length is longer than 118 up to 202" (299 CM to 513 CM)
3/4 HP	USE IF MODEL LENGTH IS 89 - 149" (226 CM to 378 CM) Use VL1 if model length is shorter than 86 down to 57" (218 CM to 114 CM) Use VL3 if model length is longer than 120 up to 205" (305 CM to 520 CM)
1 1/2 HP	USE IF MODEL LENGTH IS 91 - 152" (231 CM to 386 CM) Use VL1 if model length is shorter than 89 down to 60" (226 CM to 152 CM) Use VL3 if model length is longer than 123 up to 208" (312 CM to 528 CM)
1 1/2 HP High Pressure	USE IF MODEL LENGTH IS 91 - 153" (231 CM to 388 CM) Use VL1 if model length is shorter than 90 down to 60" (228 CM to 152 CM) Use VL3 if model length is longer than 123 up to 208" (312 CM to 528 CM)
2 HP Fixed Speed	USE IF MODEL LENGTH IS 94 - 155" (238 CM to 393 CM) Use VL1 if model length is shorter than 92 down to 63" (233 CM to 160 CM) Use VL3 if model length is longer than 126 up to 211" (320 CM to 536 CM)

HOW TO ORDER STANDARD EXACT LENGTH UNITS*

To size pump correctly, the following information is needed:

1. Pump Model/Horsepower?
2. Effective tank (Inside) Diameter?
3. Steel or Fiberglass Tank?
4. If Fiberglass:
 - Manufacturer?
 - Single Wall or Double Wall?
 - Will pump mount on tank or on manway?
5. Bury Depth?
6. Containment Sump?

The FE Petro Model Number is designated STP-A-B-C, using the critical dimensions shown above, where:

A = Pump Horsepower

B = Model Length

C = Riser Length.

Minimum riser length = **7"**.

*2HP fixed speed models are not available in fixed length.



FE Petro, Inc. • P.O. Box 139 • McFarland, WI 53558 USA
Phone: +1 (608) 838-8786 • USA & Canada: 1-800-225-9787 • Mexico: 001-800-738-7610 • Fax: +1 (608) 838-6433
• fepetro@fepetro.com • Visit our website at: www.fepetro.com or www.franklinfueling.com