

Submersible Turbine Pump Products

Application Guide

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Example Illustrations

Illustrations used in this guide may contain components that are customer supplied and not included with the Red Jacket Submersible Turbine Pump. Please check with your Veeder-Root Distributor for recommended installation accessories.

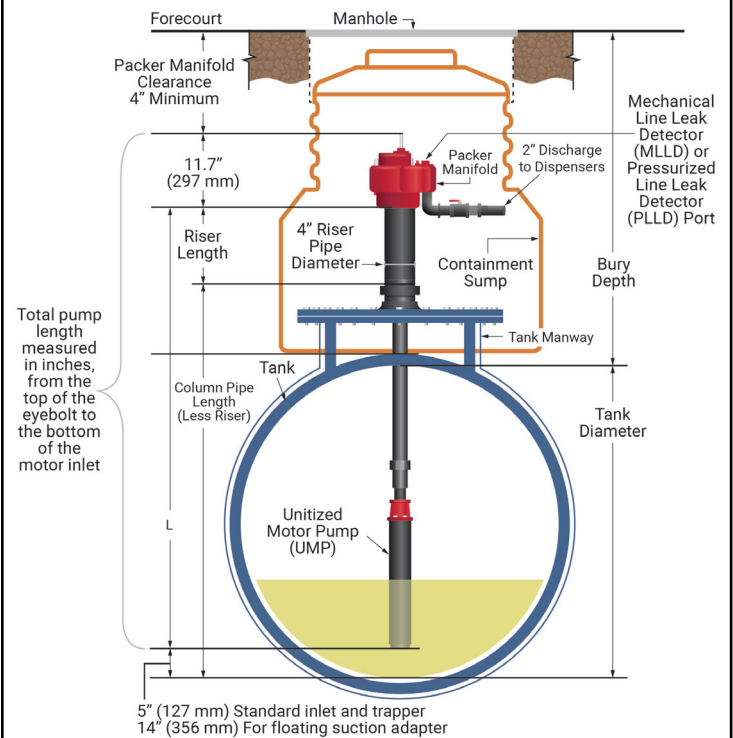
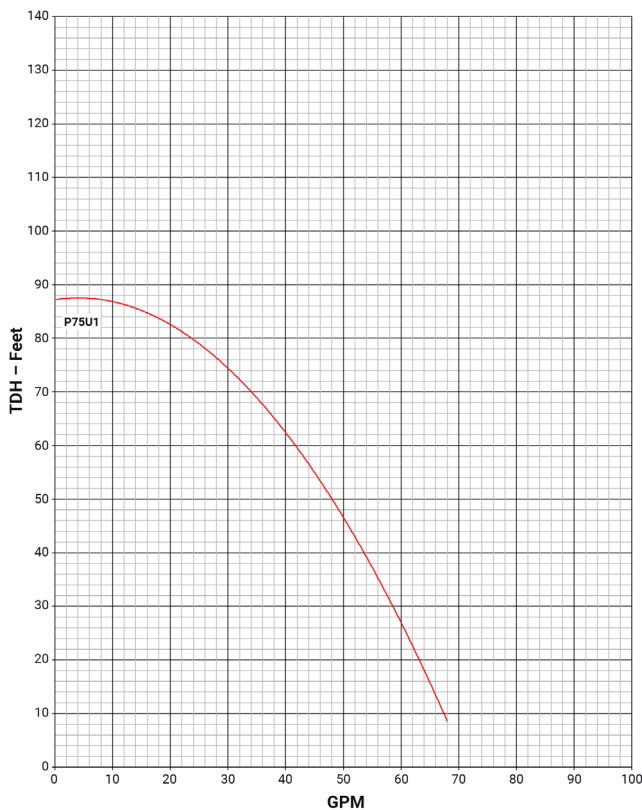
The Red Jacket[®] Submersible Turbine Pumps **60Hz**




STP Description	<p>The Red Jacket Submersible Turbine Pump (STP) is responsible for driving fuel from the storage tank, through the piping infrastructure and into the vehicle through the use of pressure energy. It optimizes fuel flow and dispensing, and its advanced packer manifold design makes it the industry's easiest and safest STP to install and service. Available in 3/4 HP to 2 HP configurations and fixed or variable Quick Set® lengths. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.</p>																									
4" Red Jacket STP	<table border="1"> <thead> <tr> <th>Part #</th> <th>Description</th> <th>Model #</th> </tr> </thead> <tbody> <tr> <td>0410140-001</td> <td>4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 72" - 102" Length</td> <td>P75U1 RJ1</td> </tr> <tr> <td>0410140-002</td> <td>4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 102" - 162" Length</td> <td>P75U1 RJ2</td> </tr> <tr> <td>0410140-003</td> <td>4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 162" - 222" Length</td> <td>P75U1 RJ3</td> </tr> <tr> <td>0410140-004</td> <td>4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 74.4" - 104.4" Length</td> <td>P75U1 RJ1 FSA</td> </tr> <tr> <td>0410140-005</td> <td>4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 104.4" - 164.4" Length</td> <td>P75U1 RJ2 FSA</td> </tr> <tr> <td>0410140-006</td> <td>4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 164.4" - 224.4" Length</td> <td>P75U1 RJ3 FSA</td> </tr> </tbody> </table>	Part #	Description	Model #	0410140-001	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 72" - 102" Length	P75U1 RJ1	0410140-002	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 102" - 162" Length	P75U1 RJ2	0410140-003	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 162" - 222" Length	P75U1 RJ3	0410140-004	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 74.4" - 104.4" Length	P75U1 RJ1 FSA	0410140-005	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 104.4" - 164.4" Length	P75U1 RJ2 FSA	0410140-006	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 164.4" - 224.4" Length	P75U1 RJ3 FSA		<table border="1"> <thead> <tr> <th>Notes</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> • 3/4 HP, 0.56 KW, 208/230 Voltage, single-phase. • Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet. • FSA stands for Floating Suction Adapter. </td> </tr> </tbody> </table>	Notes	<ul style="list-style-type: none"> • 3/4 HP, 0.56 KW, 208/230 Voltage, single-phase. • Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet. • FSA stands for Floating Suction Adapter.
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Fuel Compatibility	<p>The Red Jacket Submersible Turbine Pump Model is UL Listed for:</p> <ul style="list-style-type: none"> • 100% Gasoline • 100% Diesel • 80% Gasoline with 20% TAME, ETBE or MTBE Gasoline • 85% Gasoline with 15% Methanol • 90% Gasoline with 10% Ethanol 		<p>STP Application Description</p> <p>STP shall be of submersible centrifugal type which installs through a standard 4" threaded tank opening. Motor size shall be from 3/4 through 2 HP, depending upon required flow rates and head loss of a given piping system.</p>																							
Mechanical Features	<p>Pump</p> <p>Pump shall be multi-stage, dependent upon required flow rate, self-lubricating and easily removed from storage tank without disconnecting discharge piping, mechanical or electronic leak detectors or siphon systems. The pump and motor assembly shall be readily separable from the pump column pipe to allow for simple field replacement of the pump and motor.</p>		<p>Impellers and Diffusers</p> <p>Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.</p>																							
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Mechanical Features (Continued)	Electrical Disconnect	Check Valve with "Lock-n-Lift" Feature
	The electrical disconnect shall be an integral part of the manifold assembly. The electrical disconnect shall automatically disconnect and sever electrical connection to the pump motor, without a swing joint, when the extractable packer assembly is removed. Re-insertion of the extractable packer and tightening of the flange nuts shall remake the electrical connection.	The check valve shall incorporate a "Lock-n-Lift" feature that mechanically locks the check valve and lifts to provide a larger path to depressurize the line and manifold head assembly, returning fuel to the tank preventing service spills. The check valve shall provide pressure relief of the product line and be optimized for compatibility with Veeder-Root PLLD systems.
Mechanical Features (Continued)	Vacuum Sensor Siphon System	Quick Set®
	The vacuum sensor siphon system shall be capable of drawing 25" of mercury vacuum through a venturi. The vacuum sensor siphon shall incorporate a check valve to maintain the siphon system vacuum after the pump has been turned off. Check valves shall be incorporated on the siphon inlet and fuel source inlet to the venturi. The inlet shall incorporate a screen that reduces clogs and failures that can cause false alarms on vacuum monitor systems. The vacuum sensor siphon system shall incorporate a swivel top for easy connection to siphon tubing. The vacuum sensor siphon system shall be designed to integrate with Veeder-Root Vacuum Sensors. The manifold head assembly shall support dual vacuum sensor siphon systems for vacuum monitoring or siphon manifold applications. Unused vacuum siphon ports shall be sealed with a plug designed specifically for that purpose.	The Quick Set feature shall be capable of varying the overall pump length. The Quick Set shall incorporate a collet gripping mechanism and setscrew as a locking mechanism allowing future resizing.
Electrical Features	Electric Motors – 4" Models	Connections
	The motor shall be 208/230 volt, 60Hz, single-phase, 3450 RPM, permanent split capacitor type continuous duty, rated explosion proof in Class 1, Group D, petroleum products. The motor windings shall be hermetically sealed against leakage of product or moisture, and shall have a thermal overload device with automatic reset built into the motor windings for motor cut-off when motor temperature reaches a level which may cause damage to the motor.	The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting wires. Wiring connections to the motor shall be disconnected by the quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/female connector.
Construction	Accessibility	Assembly Order
	All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge piping, leak detection equipment and vacuum sensor siphon systems.	The pump shall be assembled with the pump inlet and impellers at the bottom for maximum liquid draw. The motor is to be mounted above the pump inlet, so that the motor is both cooled and lubricated by the liquid flow through and past the motor.
Environmental	<ul style="list-style-type: none"> • The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products. • The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment. • The product temperature must not exceed 105°F (40.5°C). • Petroleum shall not exceed the specific gravity as stated in the installation manuals (ranging from 0.86 - 0.95) based upon the specific pump model. • Maximum viscosity allowable – 70SSU @ 60°F (15°C). 	
Approvals	UL 79, cUL	
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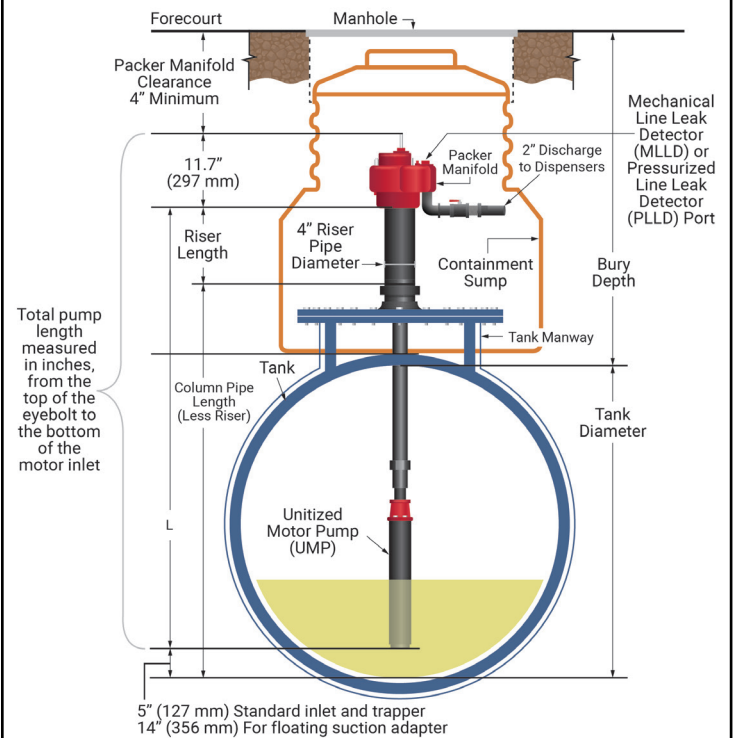
Bill of Materials	4" Red Jacket STP Models		
	Component	Material	Surface Finish
	Packer/Manifold Head	Gray Cast Iron	Low Volatile Organic Compound Paint
	Elastomers – "O" Rings	Fluorocarbon	None
	Check Valve Seat	Stainless Steel	None
	Check Valve Lock Down Screw	Brass	None
	Column Pipes	Steel Tubing	Powder Primer
	Conduit Pipe	1/2" Steel Pipe	Mill Finish
	Quick Set Connector	Gray Cast Iron	Phosphate and Oil
	Discharge Head	Gray Cast Iron	Corrosion Inhibitor
	Retaining Nuts	Steel	Zinc Plating
	Die Springs	Spring Steel	Enamel Paint
	Purge Screw	Brass	None
	Siphon Cartridge	Brass	None
	Pump/Motor		
	Outer Shell	Stainless Steel	None
	Stator Shell	Stainless Steel	None
Rotor Shaft	Stainless Steel	None	
Impellers & Diffusers	(Acetel) Celcon® Plastic	None	
Motor Bearings	Carbon	None	


The Red Jacket STP Performance
The Red Jacket STP Dimensions
Performance @ 230V; SG=0.78


STP Description	<p>The Red Jacket Submersible Turbine Pump (STP) is responsible for driving fuel from the storage tank, through the piping infrastructure and into the vehicle through the use of pressure energy. It optimizes fuel flow and dispensing, and its advanced packer manifold design makes it the industry's easiest and safest STP to install and service. Available in 3/4 HP to 2 HP configurations and fixed or variable Quick Set® lengths. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.</p>			
4" Red Jacket STP	Part #	Description	Model #	Notes
	0410141-001	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 74.5" - 105" Length	P150U1 RJ1	<ul style="list-style-type: none"> • 1.5 HP, 1.13 KW, 208/230 Voltage, single-phase.
	0410141-002	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 104.5" - 165" Length	P150U1 RJ2	<ul style="list-style-type: none"> • Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.
	0410141-003	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 164.5" - 225" Length	P150U1 RJ3	<ul style="list-style-type: none"> • FSA stands for Floating Suction Adapter.
	0410141-004	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 76.9" - 107.4" Length	P150U1 RJ1 FSA	
	0410141-005	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 106.9" - 167.4" Length	P150U1 RJ2 FSA	
	0410141-006	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 166.9" - 227.4" Length	P150U1 RJ3 FSA	
Fuel Compatibility	The Red Jacket Submersible Turbine Pump Model is UL Listed for:			STP Application Description
	<ul style="list-style-type: none"> • 100% Gasoline • 100% Diesel • 80% Gasoline with 20% TAME, ETBE or MTBE Gasoline • 85% Gasoline with 15% Methanol • 90% Gasoline with 10% Ethanol 			<p>STP shall be of submersible centrifugal type which installs through a standard 4" threaded tank opening. Motor size shall be from 3/4 through 2 HP, depending upon required flow rates and head loss of a given piping system.</p>
Mechanical Features	Pump			Impellers and Diffusers
	<p>Pump shall be multi-stage, dependent upon required flow rate, self-lubricating and easily removed from storage tank without disconnecting discharge piping, mechanical or electronic leak detectors or siphon systems. The pump and motor assembly shall be readily separable from the pump column pipe to allow for simple field replacement of the pump and motor.</p>			<p>Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.</p>
	Pump Intake Inlet			Manifold Head Assembly
	<p>Pump intake inlet shall be horizontal to prevent drawing sediment from the tank bottom into the pump inlet. The intake inlet shall be compatible with the particulate "Trapper" to prevent particulate from being ingested into the motor.</p>			<p>Manifold head assembly shall consist of a manifold and extractable packer assembly and shall be completely sealed against product leakage into the ground and exterior water intrusion into the storage tank. The discharge outlet shall be a 2" NPT opening. The manifold shall have a built-in air purge screw, line check valve, pressure relief valve, and shall support dual vacuum sensor siphon systems when required. The extractable packer shall incorporate industrial die springs to break loose the o-ring seals, when the flange nuts holding the extractable packer in place are removed. No physical lifting effort or special equipment shall be required to break the extractable packer seals. The contractor's box shall be built into the manifold head assembly and be completely isolated from the fuel path. The extractable packer assembly shall incorporate a lifting eye for safe extraction of the pump motor.</p>

Mechanical Features (Continued)	Electrical Disconnect	Check Valve with "Lock-n-Lift" Feature
	The electrical disconnect shall be an integral part of the manifold assembly. The electrical disconnect shall automatically disconnect and sever electrical connection to the pump motor, without a swing joint, when the extractable packer assembly is removed. Re-insertion of the extractable packer and tightening of the flange nuts shall remake the electrical connection.	The check valve shall incorporate a "Lock-n-Lift" feature that mechanically locks the check valve and lifts to provide a larger path to depressurize the line and manifold head assembly, returning fuel to the tank preventing service spills. The check valve shall provide pressure relief of the product line and be optimized for compatibility with Veeder-Root PLLD systems.
Mechanical Features (Continued)	Vacuum Sensor Siphon System	Quick Set®
	The vacuum sensor siphon system shall be capable of drawing 25" of mercury vacuum through a venturi. The vacuum sensor siphon shall incorporate a check valve to maintain the siphon system vacuum after the pump has been turned off. Check valves shall be incorporated on the siphon inlet and fuel source inlet to the venturi. The inlet shall incorporate a screen that reduces clogs and failures that can cause false alarms on vacuum monitor systems. The vacuum sensor siphon system shall incorporate a swivel top for easy connection to siphon tubing. The vacuum sensor siphon system shall be designed to integrate with Veeder-Root Vacuum Sensors. The manifold head assembly shall support dual vacuum sensor siphon systems for vacuum monitoring or siphon manifold applications. Unused vacuum siphon ports shall be sealed with a plug designed specifically for that purpose.	The Quick Set feature shall be capable of varying the overall pump length. The Quick Set shall incorporate a collet gripping mechanism and setscrew as a locking mechanism allowing future resizing.
Electrical Features	Electric Motors – 4" Models	Connections
	The motor shall be 208/230 volt, 60Hz, single-phase, 3450 RPM, permanent split capacitor type continuous duty, rated explosion proof in Class 1, Group D, petroleum products. The motor windings shall be hermetically sealed against leakage of product or moisture, and shall have a thermal overload device with automatic reset built into the motor windings for motor cut-off when motor temperature reaches a level which may cause damage to the motor.	The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting wires. Wiring connections to the motor shall be disconnected by the quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/female connector.
Construction	Accessibility	Assembly Order
	All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge piping, leak detection equipment and vacuum sensor siphon systems.	The pump shall be assembled with the pump inlet and impellers at the bottom for maximum liquid draw. The motor is to be mounted above the pump inlet, so that the motor is both cooled and lubricated by the liquid flow through and past the motor.
Environmental	<ul style="list-style-type: none"> • The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products. • The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment. • The product temperature must not exceed 105°F (40.5°C). • Petroleum shall not exceed the specific gravity as stated in the installation manuals (ranging from 0.86 - 0.95) based upon the specific pump model. • Maximum viscosity allowable – 70SSU @ 60°F (15°C). 	
Approvals	UL 79, cUL	
Product Installation Guide	https://www.veeder.com/us/technical-document-library	

Bill of Materials	4" Red Jacket STP Models		
	Component	Material	Surface Finish
	Packer/Manifold Head	Gray Cast Iron	Low Volatile Organic Compound Paint
	Elastomers – "O" Rings	Fluorocarbon	None
	Check Valve Seat	Stainless Steel	None
	Check Valve Lock Down Screw	Brass	None
	Column Pipes	Steel Tubing	Powder Primer
	Conduit Pipe	1/2" Steel Pipe	Mill Finish
	Quick Set Connector	Gray Cast Iron	Phosphate and Oil
	Discharge Head	Gray Cast Iron	Corrosion Inhibitor
	Retaining Nuts	Steel	Zinc Plating
	Die Springs	Spring Steel	Enamel Paint
	Purge Screw	Brass	None
	Siphon Cartridge	Brass	None
	Pump/Motor		
Outer Shell	Stainless Steel	None	
Stator Shell	Stainless Steel	None	
Rotor Shaft	Stainless Steel	None	
Impellers & Diffusers	(Acetel) Celcon® Plastic	None	
Motor Bearings	Carbon	None	

The Red Jacket STP Performance
The Red Jacket STP Dimensions
Performance @ 230V; SG=0.78


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4" Red Jacket STP	Part #	Description	Model #	Notes
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	0410143-002	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 105.5" - 165.5" Length	X3P150U1 RJ2	<ul style="list-style-type: none"> • Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.
	0410143-003	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 165.5" - 225.5" Length	X3P150U1 RJ3	<ul style="list-style-type: none"> • FSA stands for Floating Suction Adapter.
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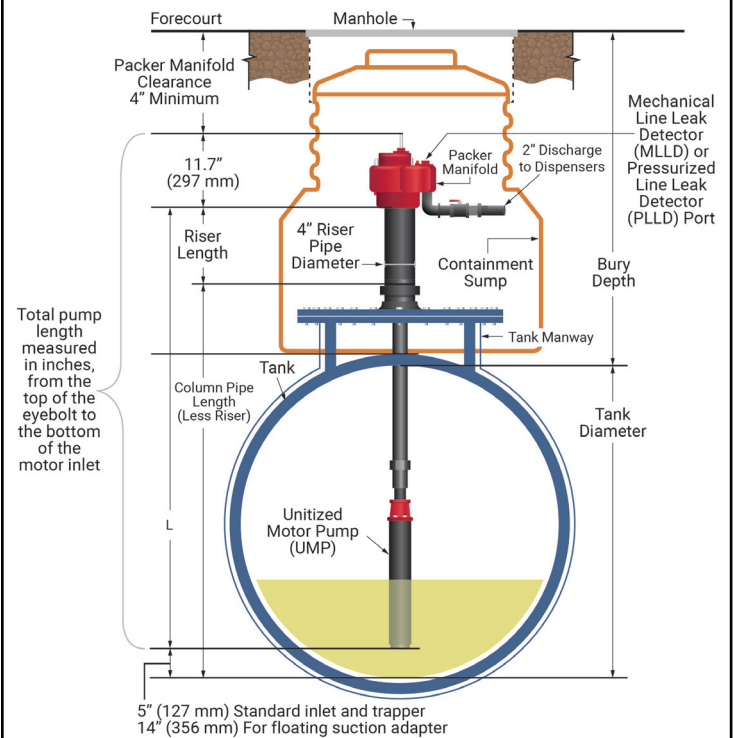
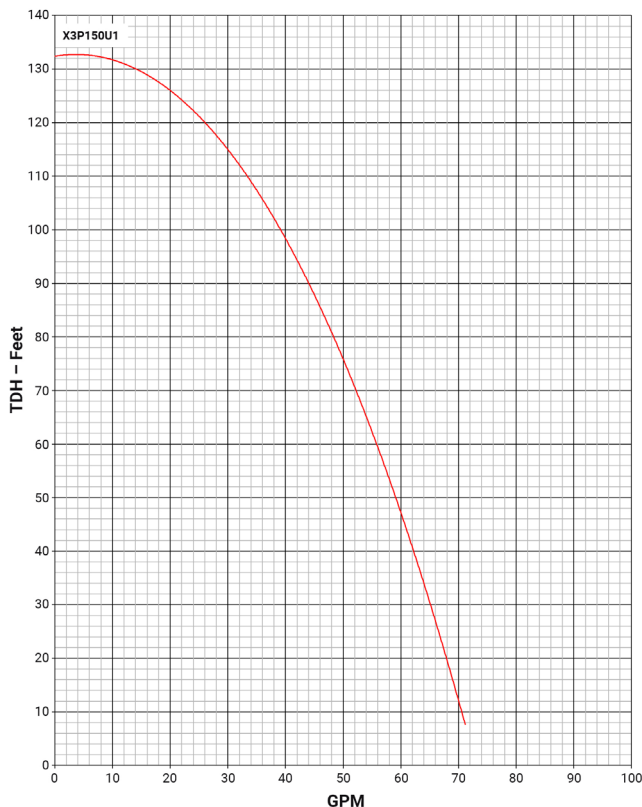
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Electrical Features	Electric Motors – 4" Models	Connections
	The motor shall be 208/230 volt, 60Hz, single-phase, 3450 RPM, permanent split capacitor type continuous duty, rated explosion proof in Class 1, Group D, petroleum products. The motor windings shall be hermetically sealed against leakage of product or moisture, and shall have a thermal overload device with automatic reset built into the motor windings for motor cut-off when motor temperature reaches a level which may cause damage to the motor.	The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting wires. Wiring connections to the motor shall be disconnected by the quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/female connector.
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	Elastomers – "O" Rings	Fluorocarbon	None
	Check Valve Seat	Stainless Steel	None
	Check Valve Lock Down Screw	Brass	None
	Column Pipes	Steel Tubing	Powder Primer
	Conduit Pipe	1/2" Steel Pipe	Mill Finish
	Quick Set Connector	Gray Cast Iron	Phosphate and Oil
	Discharge Head	Gray Cast Iron	Corrosion Inhibitor
	Retaining Nuts	Steel	Zinc Plating
	Die Springs	Spring Steel	Enamel Paint
	Purge Screw	Brass	None
	Siphon Cartridge	Brass	None
	Pump/Motor		
	Outer Shell	Stainless Steel	None
	Stator Shell	Stainless Steel	None
Rotor Shaft	Stainless Steel	None	
Impellers & Diffusers	(Acetel) Celcon® Plastic	None	
Motor Bearings	Carbon	None	

The Red Jacket STP Performance

The Red Jacket STP Dimensions

Performance @ 230V; SG=0.78

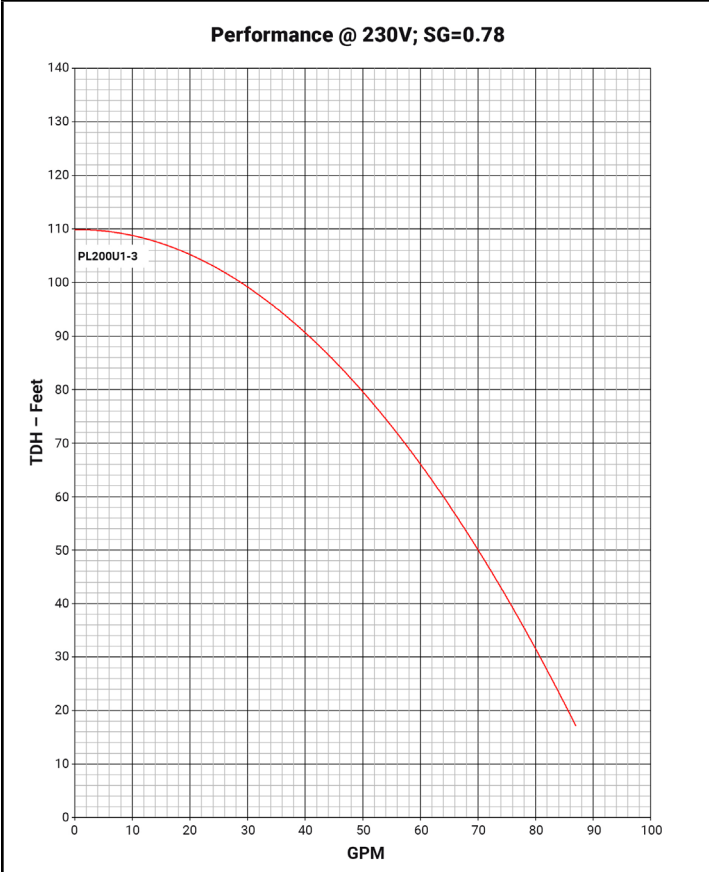


STP Description	<p>The Red Jacket Submersible Turbine Pump (STP) is responsible for driving fuel from the storage tank, through the piping infrastructure and into the vehicle through the use of pressure energy. It optimizes fuel flow and dispensing, and its advanced packer manifold design makes it the industry's easiest and safest STP to install and service. Available in 3/4 HP to 2 HP configurations and fixed or variable Quick Set® lengths. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.</p>																								
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Fuel Compatibility	<p>The Red Jacket Submersible Turbine Pump Model is UL Listed for:</p> <ul style="list-style-type: none"> • 100% Gasoline • 100% Diesel • 80% Gasoline with 20% TAME, ETBE or MTBE Gasoline • 85% Gasoline with 15% Methanol • 90% Gasoline with 10% Ethanol 		<p>STP Application Description</p> <p>STP shall be of submersible centrifugal type which installs through a standard 4" threaded tank opening. Motor size shall be from 3/4 through 2 HP, depending upon required flow rates and head loss of a given piping system.</p>																						
Mechanical Features	<p>Pump</p> <p>Pump shall be multi-stage, dependent upon required flow rate, self-lubricating and easily removed from storage tank without disconnecting discharge piping, mechanical or electronic leak detectors or siphon systems. The pump and motor assembly shall be readily separable from the pump column pipe to allow for simple field replacement of the pump and motor.</p>	<p>Impellers and Diffusers</p> <p>Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.</p>																							
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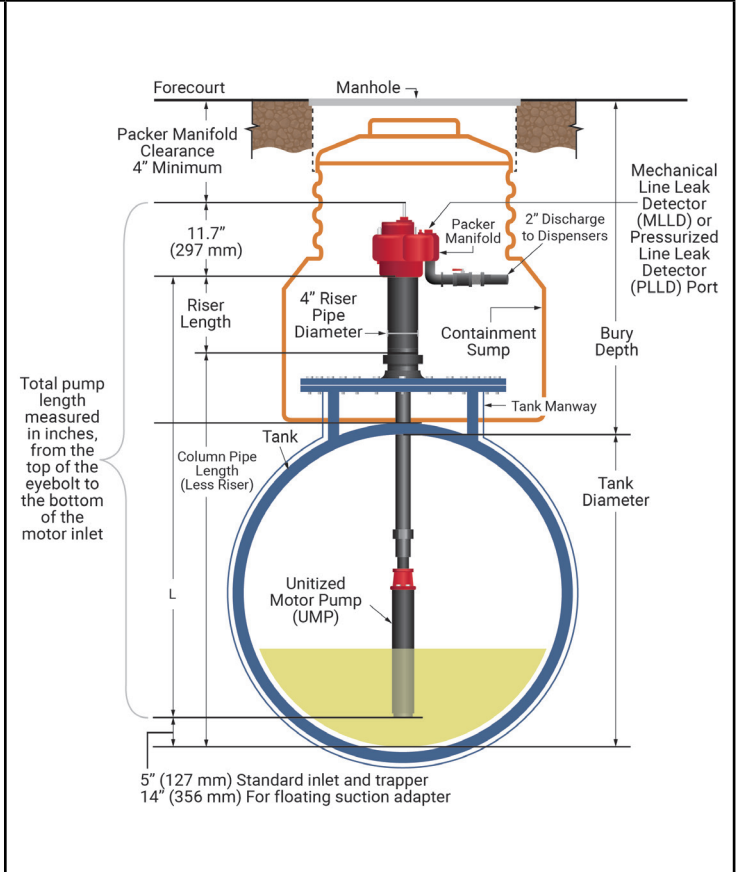
Mechanical Features (Continued)	Electrical Disconnect	Check Valve with "Lock-n-Lift" Feature
	The electrical disconnect shall be an integral part of the manifold assembly. The electrical disconnect shall automatically disconnect and sever electrical connection to the pump motor, without a swing joint, when the extractable packer assembly is removed. Re-insertion of the extractable packer and tightening of the flange nuts shall remake the electrical connection.	The check valve shall incorporate a "Lock-n-Lift" feature that mechanically locks the check valve and lifts to provide a larger path to depressurize the line and manifold head assembly, returning fuel to the tank preventing service spills. The check valve shall provide pressure relief of the product line and be optimized for compatibility with Veeder-Root PLLD systems.
Mechanical Features (Continued)	Vacuum Sensor Siphon System	Quick Set®
	The vacuum sensor siphon system shall be capable of drawing 25" of mercury vacuum through a venturi. The vacuum sensor siphon shall incorporate a check valve to maintain the siphon system vacuum after the pump has been turned off. Check valves shall be incorporated on the siphon inlet and fuel source inlet to the venturi. The inlet shall incorporate a screen that reduces clogs and failures that can cause false alarms on vacuum monitor systems. The vacuum sensor siphon system shall incorporate a swivel top for easy connection to siphon tubing. The vacuum sensor siphon system shall be designed to integrate with Veeder-Root Vacuum Sensors. The manifold head assembly shall support dual vacuum sensor siphon systems for vacuum monitoring or siphon manifold applications. Unused vacuum siphon ports shall be sealed with a plug designed specifically for that purpose.	The Quick Set feature shall be capable of varying the overall pump length. The Quick Set shall incorporate a collet gripping mechanism and setscrew as a locking mechanism allowing future resizing.
Electrical Features	Electric Motors – 4" Models	Connections
	The motor shall be 208/230 volt, 60Hz, single-phase, 3450 RPM, permanent split capacitor type continuous duty, rated explosion proof in Class 1, Group D, petroleum products. The motor windings shall be hermetically sealed against leakage of product or moisture, and shall have a thermal overload device with automatic reset built into the motor windings for motor cut-off when motor temperature reaches a level which may cause damage to the motor.	The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting wires. Wiring connections to the motor shall be disconnected by the quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/female connector.
Construction	Accessibility	Assembly Order
	All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge piping, leak detection equipment and vacuum sensor siphon systems.	The pump shall be assembled with the pump inlet and impellers at the bottom for maximum liquid draw. The motor is to be mounted above the pump inlet, so that the motor is both cooled and lubricated by the liquid flow through and past the motor.
Environmental	<ul style="list-style-type: none"> • The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products. • The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment. • The product temperature must not exceed 105°F (40.5°C). • Petroleum shall not exceed the specific gravity as stated in the installation manuals (ranging from 0.86 - 0.95) based upon the specific pump model. • Maximum viscosity allowable – 70SSU @ 60°F (15°C). 	
Approvals	UL 79, cUL	
Product Installation Guide	https://www.veeder.com/us/technical-document-library	


Bill of Materials	4" Red Jacket STP Models		
	Component	Material	Surface Finish
	Packer/Manifold Head	Gray Cast Iron	Low Volatile Organic Compound Paint
	Elastomers – "O" Rings	Fluorocarbon	None
	Check Valve Seat	Stainless Steel	None
	Check Valve Lock Down Screw	Brass	None
	Column Pipes	Steel Tubing	Powder Primer
	Conduit Pipe	1/2" Steel Pipe	Mill Finish
	Quick Set Connector	Gray Cast Iron	Phosphate and Oil
	Discharge Head	Gray Cast Iron	Corrosion Inhibitor
	Retaining Nuts	Steel	Zinc Plating
	Die Springs	Spring Steel	Enamel Paint
	Purge Screw	Brass	None
	Siphon Cartridge	Brass	None
	Pump/Motor		
	Outer Shell	Stainless Steel	None
	Stator Shell	Stainless Steel	None
	Rotor Shaft	Stainless Steel	None
Impellers & Diffusers	(Acetel) Celcon® Plastic	None	
Motor Bearings	Carbon	None	

The Red Jacket STP Performance



The Red Jacket STP Dimensions



STP Description	<p>The Red Jacket Submersible Turbine Pump (STP) is responsible for driving fuel from the storage tank, through the piping infrastructure and into the vehicle through the use of pressure energy. It optimizes fuel flow and dispensing, and its advanced packer manifold design makes it the industry's easiest and safest STP to install and service. Available in 3/4 HP to 2 HP configurations and fixed or variable Quick Set® lengths. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.</p>																								
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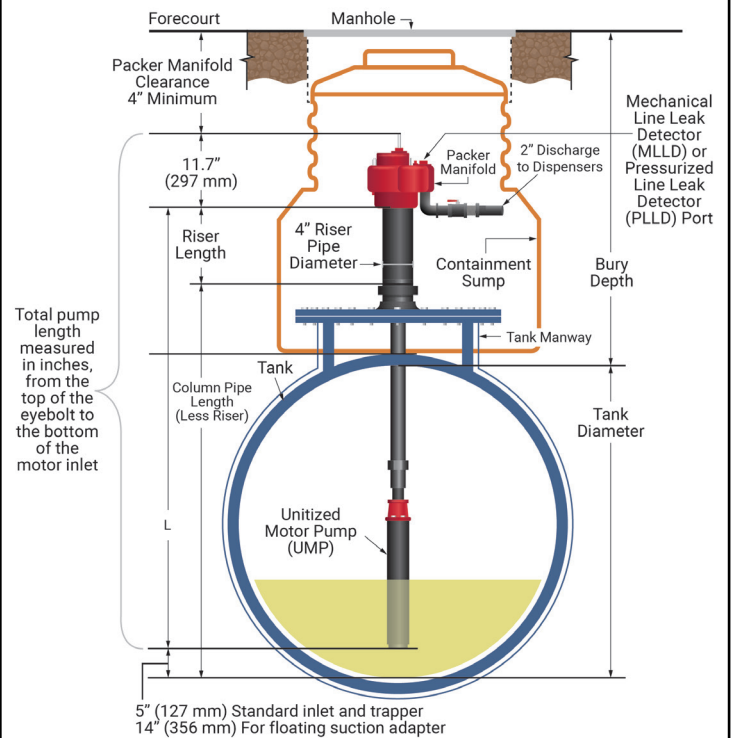
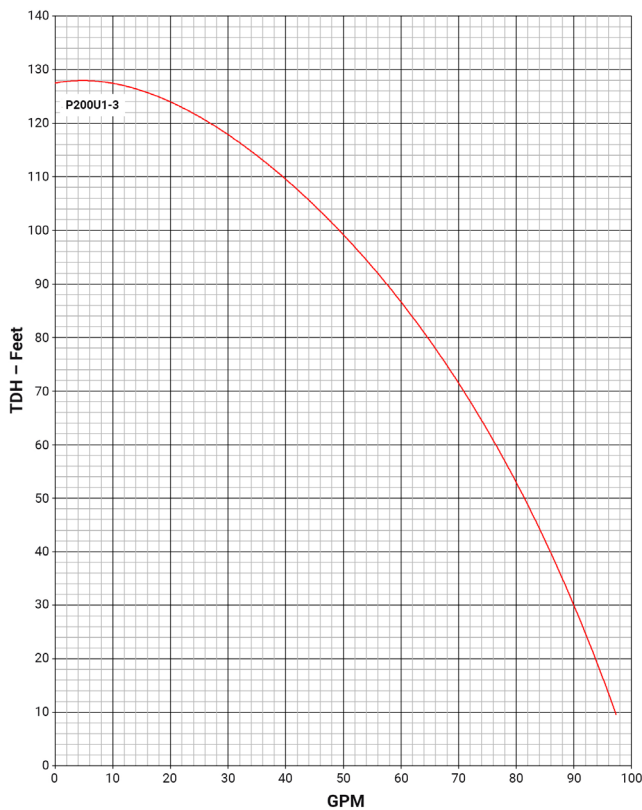
Mechanical Features (Continued)	Electrical Disconnect	Check Valve with "Lock-n-Lift" Feature
	The electrical disconnect shall be an integral part of the manifold assembly. The electrical disconnect shall automatically disconnect and sever electrical connection to the pump motor, without a swing joint, when the extractable packer assembly is removed. Re-insertion of the extractable packer and tightening of the flange nuts shall remake the electrical connection.	The check valve shall incorporate a "Lock-n-Lift" feature that mechanically locks the check valve and lifts to provide a larger path to depressurize the line and manifold head assembly, returning fuel to the tank preventing service spills. The check valve shall provide pressure relief of the product line and be optimized for compatibility with Veeder-Root PLLD systems.
	Vacuum Sensor Siphon System	Quick Set®
The vacuum sensor siphon system shall be capable of drawing 25" of mercury vacuum through a venturi. The vacuum sensor siphon shall incorporate a check valve to maintain the siphon system vacuum after the pump has been turned off. Check valves shall be incorporated on the siphon inlet and fuel source inlet to the venturi. The inlet shall incorporate a screen that reduces clogs and failures that can cause false alarms on vacuum monitor systems. The vacuum sensor siphon system shall incorporate a swivel top for easy connection to siphon tubing. The vacuum sensor siphon system shall be designed to integrate with Veeder-Root Vacuum Sensors. The manifold head assembly shall support dual vacuum sensor siphon systems for vacuum monitoring or siphon manifold applications. Unused vacuum siphon ports shall be sealed with a plug designed specifically for that purpose.	The Quick Set feature shall be capable of varying the overall pump length. The Quick Set shall incorporate a collet gripping mechanism and setscrew as a locking mechanism allowing future resizing.	
Electrical Features	Electric Motors – 4" Models	Connections
	The motor shall be 208/230 volt, 60Hz, single-phase, 3450 RPM, permanent split capacitor type continuous duty, rated explosion proof in Class 1, Group D, petroleum products. The motor windings shall be hermetically sealed against leakage of product or moisture, and shall have a thermal overload device with automatic reset built into the motor windings for motor cut-off when motor temperature reaches a level which may cause damage to the motor.	The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting wires. Wiring connections to the motor shall be disconnected by the quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/female connector.
Construction	Accessibility	Assembly Order
	All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge piping, leak detection equipment and vacuum sensor siphon systems.	The pump shall be assembled with the pump inlet and impellers at the bottom for maximum liquid draw. The motor is to be mounted above the pump inlet, so that the motor is both cooled and lubricated by the liquid flow through and past the motor.
Environmental	<ul style="list-style-type: none"> • The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products. • The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment. • The product temperature must not exceed 105°F (40.5°C). • Petroleum shall not exceed the specific gravity as stated in the installation manuals (ranging from 0.86 - 0.95) based upon the specific pump model. • Maximum viscosity allowable – 70SSU @ 60°F (15°C). 	
Approvals	UL 79, cUL	
Product Installation Guide	https://www.veeder.com/us/technical-document-library	


Bill of Materials	4" Red Jacket STP Models		
	Component	Material	Surface Finish
	Packer/Manifold Head	Gray Cast Iron	Low VOC Paint
	Elastomers – "O" Rings	Fluorocarbon	None
	Check Valve Seat	Stainless Steel	None
	Check Valve Lock Down Screw	Brass	None
	Column Pipes	Steel Tubing	Powder Primer
	Conduit Pipe	1/2" Steel Pipe	Mill Finish
	Quick Set Connector	Gray Cast Iron	Phosphate and Oil
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	Die Springs	Spring Steel	Enamel Paint
	Purge Screw	Brass	None
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	Pump/Motor		
Outer Shell	Stainless Steel	None	
Stator Shell	Stainless Steel	None	
Rotor Shaft	Stainless Steel	None	
Impellers & Diffusers	(Acetel) Celcon® Plastic	None	
Motor Bearings	Carbon	None	

The Red Jacket STP Performance

The Red Jacket STP Dimensions

Performance @ 230V; SG=0.78



STP Description	<p>The Red Jacket Alcohol Gas (AG) Submersible Turbine Pump (STP) is responsible for driving fuel from the storage tank, through the piping infrastructure and into the vehicle through the use of pressure energy. It optimizes fuel flow and dispensing, and its advanced packer manifold design makes it the industry's easiest and safest STP to install and service. Available in 3/4 HP to 2 HP configurations in variable Quick Set® lengths. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.</p>																								
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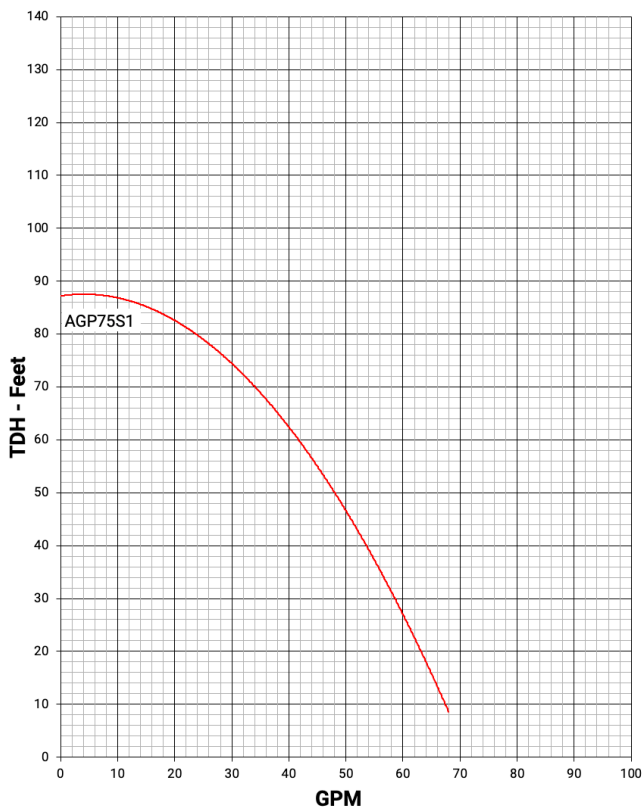
Mechanical Features (Continued)	Electrical Disconnect	Check Valve with "Lock-n-Lift" Feature
	The electrical disconnect shall be an integral part of the manifold assembly. The electrical disconnect shall automatically disconnect and sever electrical connection to the pump motor, without a swing joint, when the extractable packer assembly is removed. Re-insertion of the extractable packer and tightening of the flange nuts shall remake the electrical connection.	The check valve shall incorporate a "Lock-n-Lift" feature that mechanically locks the check valve and lifts to provide a larger path to depressurize the line and manifold head assembly, returning fuel to the tank preventing service spills. The check valve shall provide pressure relief of the product line and be optimized for compatibility with Veeder-Root PLLD systems.
Mechanical Features (Continued)	Vacuum Sensor Siphon System	Quick Set®
	The vacuum sensor siphon system shall be capable of drawing 25" of mercury vacuum through a venturi. The vacuum sensor siphon shall incorporate a check valve to maintain the siphon system vacuum after the pump has been turned off. Check valves shall be incorporated on the siphon inlet and fuel source inlet to the venturi. The inlet shall incorporate a screen that reduces clogs and failures that can cause false alarms on vacuum monitor systems. The vacuum sensor siphon system shall incorporate a swivel top for easy connection to siphon tubing. The vacuum sensor siphon system shall be designed to integrate with Veeder-Root Vacuum Sensors. The manifold head assembly shall support dual vacuum sensor siphon systems for vacuum monitoring or siphon manifold applications. Unused vacuum siphon ports shall be sealed with a plug designed specifically for that purpose.	The Quick Set feature shall be capable of varying the overall pump length. The Quick Set shall incorporate a collet gripping mechanism and setscrew as a locking mechanism allowing future resizing.
Electrical Features	Electric Motors – 4" Models	Connections
	The motor shall be 208/230 volt, 60Hz, single-phase, 3450 RPM, permanent split capacitor type continuous duty, rated explosion proof in Class 1, Group D, petroleum products. The motor windings shall be hermetically sealed against leakage of product or moisture, and shall have a thermal overload device with automatic reset built into the motor windings for motor cut-off when motor temperature reaches a level which may cause damage to the motor.	The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting wires. Wiring connections to the motor shall be disconnected by the quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/female connector.
Construction	Accessibility	Assembly Order
	All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge piping, leak detection equipment and vacuum sensor siphon systems.	The pump shall be assembled with the pump inlet and impellers at the bottom for maximum liquid draw. The motor is to be mounted above the pump inlet, so that the motor is both cooled and lubricated by the liquid flow through and past the motor.
Environmental	<ul style="list-style-type: none"> • The Red Jacket AG STP has a 30% increase in stainless steel hardware. • The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products. • The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment. • The product temperature must not exceed 105°F (40.5°C). • Petroleum shall not exceed the specific gravity as stated in the installation manuals (ranging from 0.86 - 0.95) based upon the specific pump model. • Maximum viscosity allowable – 70SSU @ 60°F (15°C). 	
Approvals	UL 79, UL 79A, UL 79B, cUL	
Product Installation Guide	https://www.veeder.com/us/technical-document-library	

4" Red Jacket AG STP Models		
Component	Material	Surface Finish
Packer/Manifold Head	Gray Cast Iron	Low Volatile Organic Compound Paint
Elastomers – "O" Rings	High Grade Fluorocarbon	None
Check Valve Seat	Stainless Steel	None
Check Valve Lock Down Screw	Stainless Steel	None
Column Pipes	Steel Tubing	Powder Primer
Conduit Pipe	1/2" Steel Pipe	Mill Finish
Quick Set Connector	Gray Cast Iron	Phosphate and Oil
Discharge Head	Gray Cast Iron	Corrosion Inhibitor
Retaining Nuts	Steel	Zinc Plating
Die Springs	Spring Steel	Enamel Paint
Purge Screw	Stainless Steel	Passivation
Siphon Cartridge	Stainless Steel	Passivation
Pump/Motor		
Outer Shell	Stainless Steel	None
Stator Shell	Stainless Steel	None
Rotor Shaft	Stainless Steel	None
Impellers & Diffusers	(Acetel) Celcon® Plastic	None
Motor Bearings	Carbon	None

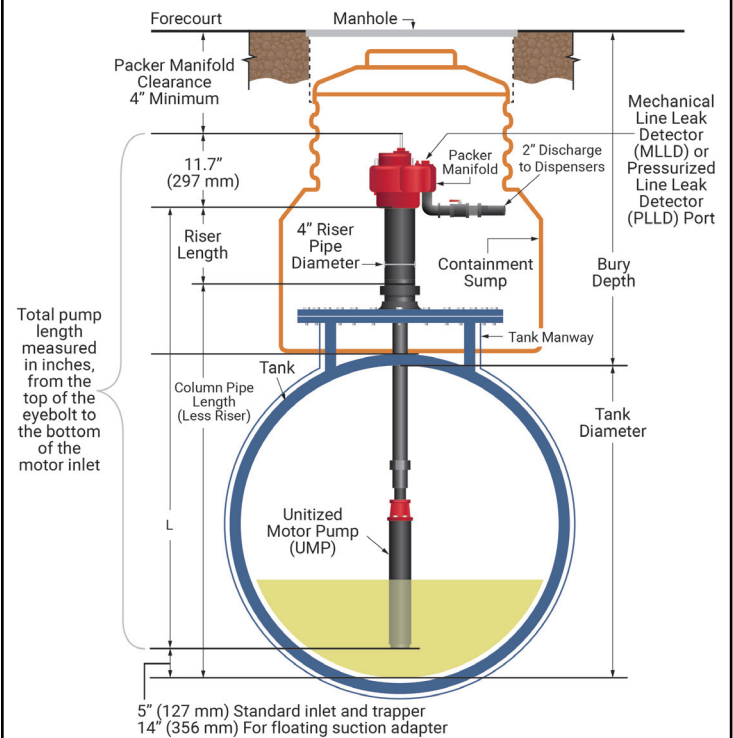
Bill of Materials

The Red Jacket AG STP Performance


Performance @ 230V; SG = 0.78



The Red Jacket AG STP Dimensions

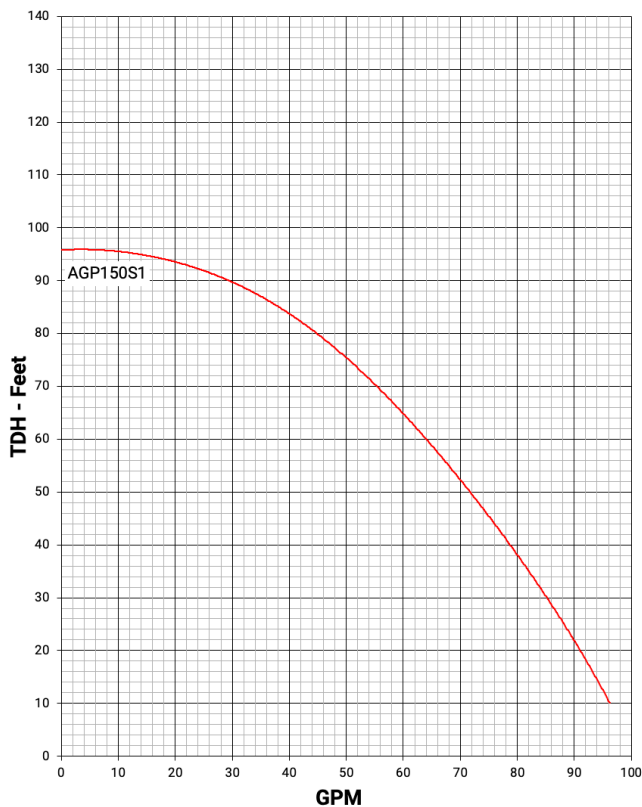
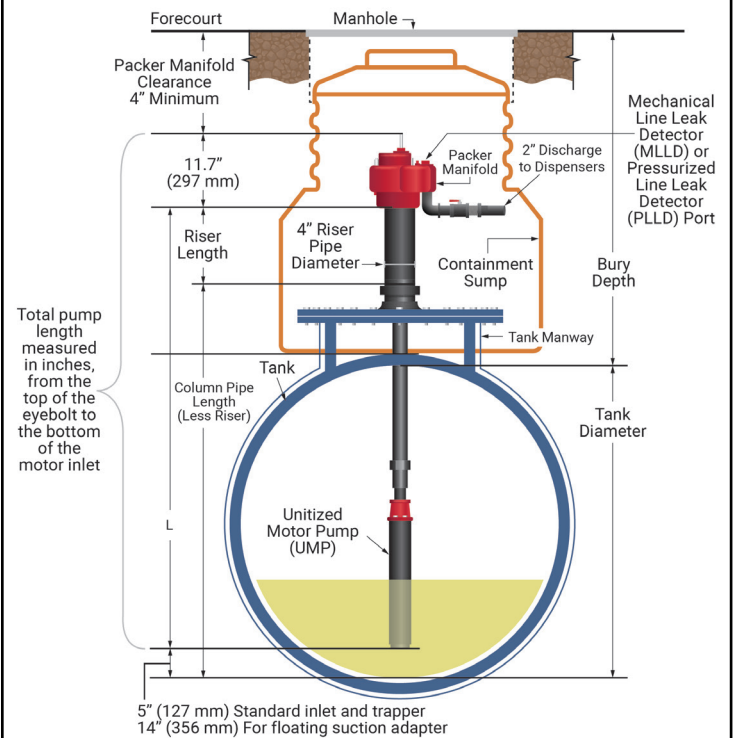



Total pump length measured in inches, from the top of the eyebolt to the bottom of the motor inlet

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Electrical Features	Electric Motors – 4" Models	Connections
	The motor shall be 208/230 volt, 60Hz, single-phase, 3450 RPM, permanent split capacitor type continuous duty, rated explosion proof in Class 1, Group D, petroleum products. The motor windings shall be hermetically sealed against leakage of product or moisture, and shall have a thermal overload device with automatic reset built into the motor windings for motor cut-off when motor temperature reaches a level which may cause damage to the motor.	The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting wires. Wiring connections to the motor shall be disconnected by the quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/female connector.
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Environmental	<ul style="list-style-type: none"> • The Red Jacket AG STP has a 30% increase in stainless steel hardware. • The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products. • The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment. • The product temperature must not exceed 105°F (40.5°C). • Petroleum shall not exceed the specific gravity as stated in the installation manuals (ranging from 0.86 - 0.95) based upon the specific pump model. • Maximum viscosity allowable – 70SSU @ 60°F (15°C). 	
Approvals	UL 79, UL 79A, UL 79B, cUL	
Product Installation Guide	https://www.veeder.com/us/technical-document-library	

Bill of Materials	4" Red Jacket AG STP Models		
	Component	Material	Surface Finish
	Packer/Manifold Head	Gray Cast Iron	Low Volatile Organic Compound Paint
	Elastomers – "O" Rings	High Grade Fluorocarbon	None
	Check Valve Seat	Stainless Steel	None
	Check Valve Lock Down Screw	Stainless Steel	None
	Column Pipes	Steel Tubing	Powder Primer
	Conduit Pipe	1/2" Steel Pipe	Mill Finish
	Quick Set Connector	Gray Cast Iron	Phosphate and Oil
	Discharge Head	Gray Cast Iron	Corrosion Inhibitor
	Retaining Nuts	Steel	Zinc Plating
	Die Springs	Spring Steel	Enamel Paint
	Purge Screw	Stainless Steel	Passivation
	Siphon Cartridge	Stainless Steel	Passivation
	Pump/Motor		
	Outer Shell	Stainless Steel	None
	Stator Shell	Stainless Steel	None
Rotor Shaft	Stainless Steel	None	
Impellers & Diffusers	(Acetel) Celcon® Plastic	None	
Motor Bearings	Carbon	None	

The Red Jacket AG STP Performance
Performance @ 230V; SG = 0.78

The Red Jacket AG STP Dimensions


STP Description	<p>The Red Jacket Alcohol Gas (AG) Submersible Turbine Pump (STP) is responsible for driving fuel from the storage tank, through the piping infrastructure and into the vehicle through the use of pressure energy. It optimizes fuel flow and dispensing, and its advanced packer manifold design makes it the industry's easiest and safest STP to install and service. Available in 3/4 HP to 2 HP configurations in variable Quick Set® lengths. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.</p>																								
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Fuel Compatibility	<p>The Red Jacket AG Submersible Turbine Pump Model is UL Listed for:</p> <ul style="list-style-type: none"> 100% Gasoline 100% Diesel UL 79A: 85% Ethanol (E85) UL 79B: 0-20% Biodiesel (B20), 100% Biodiesel (B100) UL 79B: Kerosene and Fuel Oil Gasoline and up to: 15% Methanol, 20% MTBE, 20% ETBE, 20% TAME 		<p>STP Application Description</p> <p>STP shall be of submersible centrifugal type which installs through a standard 4" threaded tank opening. Motor size shall be from 3/4 through 2 HP, depending upon required flow rates and head loss of a given piping system.</p>																						
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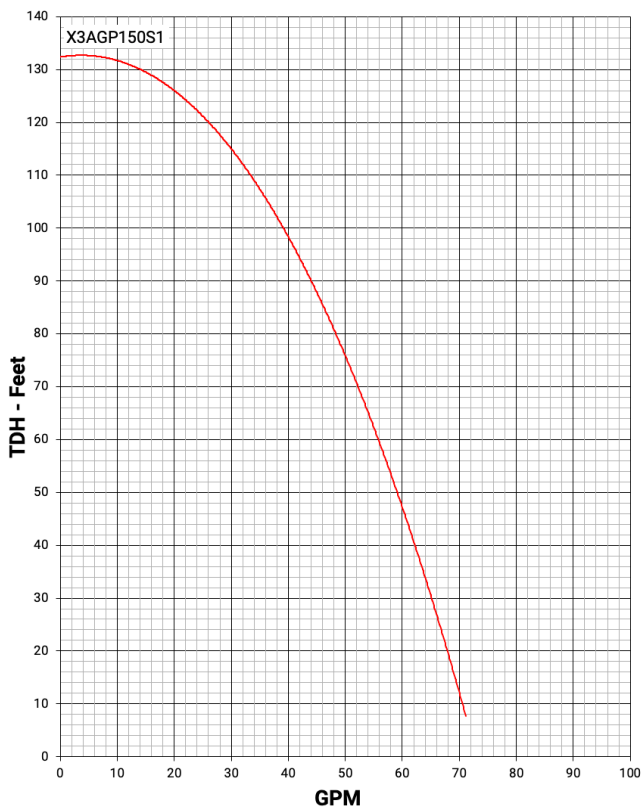
Mechanical Features (Continued)	Electrical Disconnect	Check Valve with "Lock-n-Lift" Feature
	The electrical disconnect shall be an integral part of the manifold assembly. The electrical disconnect shall automatically disconnect and sever electrical connection to the pump motor, without a swing joint, when the extractable packer assembly is removed. Re-insertion of the extractable packer and tightening of the flange nuts shall remake the electrical connection.	The check valve shall incorporate a "Lock-n-Lift" feature that mechanically locks the check valve and lifts to provide a larger path to depressurize the line and manifold head assembly, returning fuel to the tank preventing service spills. The check valve shall provide pressure relief of the product line and be optimized for compatibility with Veeder-Root PLLD systems.
Mechanical Features (Continued)	Vacuum Sensor Siphon System	Quick Set®
	The vacuum sensor siphon system shall be capable of drawing 25" of mercury vacuum through a venturi. The vacuum sensor siphon shall incorporate a check valve to maintain the siphon system vacuum after the pump has been turned off. Check valves shall be incorporated on the siphon inlet and fuel source inlet to the venturi. The inlet shall incorporate a screen that reduces clogs and failures that can cause false alarms on vacuum monitor systems. The vacuum sensor siphon system shall incorporate a swivel top for easy connection to siphon tubing. The vacuum sensor siphon system shall be designed to integrate with Veeder-Root Vacuum Sensors. The manifold head assembly shall support dual vacuum sensor siphon systems for vacuum monitoring or siphon manifold applications. Unused vacuum siphon ports shall be sealed with a plug designed specifically for that purpose.	The Quick Set feature shall be capable of varying the overall pump length. The Quick Set shall incorporate a collet gripping mechanism and setscrew as a locking mechanism allowing future resizing.
Electrical Features	Electric Motors – 4" Models	Connections
	The motor shall be 208/230 volt, 60Hz, single-phase, 3450 RPM, permanent split capacitor type continuous duty, rated explosion proof in Class 1, Group D, petroleum products. The motor windings shall be hermetically sealed against leakage of product or moisture, and shall have a thermal overload device with automatic reset built into the motor windings for motor cut-off when motor temperature reaches a level which may cause damage to the motor.	The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting wires. Wiring connections to the motor shall be disconnected by the quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/female connector.
Construction	Accessibility	Assembly Order
	All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge piping, leak detection equipment and vacuum sensor siphon systems.	The pump shall be assembled with the pump inlet and impellers at the bottom for maximum liquid draw. The motor is to be mounted above the pump inlet, so that the motor is both cooled and lubricated by the liquid flow through and past the motor.
Environmental	<ul style="list-style-type: none"> • The Red Jacket AG STP has a 30% increase in stainless steel hardware. • The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products. • The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment. • The product temperature must not exceed 105°F (40.5°C). • Petroleum shall not exceed the specific gravity as stated in the installation manuals (ranging from 0.86 - 0.95) based upon the specific pump model. • Maximum viscosity allowable – 70SSU @ 60°F (15°C). 	
Approvals	UL 79, UL 79A, UL 79B, cUL	
Product Installation Guide	https://www.veeder.com/us/technical-document-library	

4" Red Jacket AG STP Models		
Component	Material	Surface Finish
Packer/Manifold Head	Gray Cast Iron	Low Volatile Organic Compound Paint
Elastomers – "O" Rings	High Grade Fluorocarbon	None
Check Valve Seat	Stainless Steel	None
Check Valve Lock Down Screw	Stainless Steel	None
Column Pipes	Steel Tubing	Powder Primer
Conduit Pipe	1/2" Steel Pipe	Mill Finish
Quick Set Connector	Gray Cast Iron	Phosphate and Oil
Discharge Head	Gray Cast Iron	Corrosion Inhibitor
Retaining Nuts	Steel	Zinc Plating
Die Springs	Spring Steel	Enamel Paint
Purge Screw	Stainless Steel	Passivation
Siphon Cartridge	Stainless Steel	Passivation
Pump/Motor		
Outer Shell	Stainless Steel	None
Stator Shell	Stainless Steel	None
Rotor Shaft	Stainless Steel	None
Impellers & Diffusers	(Acetel) Celcon® Plastic	None
Motor Bearings	Carbon	None

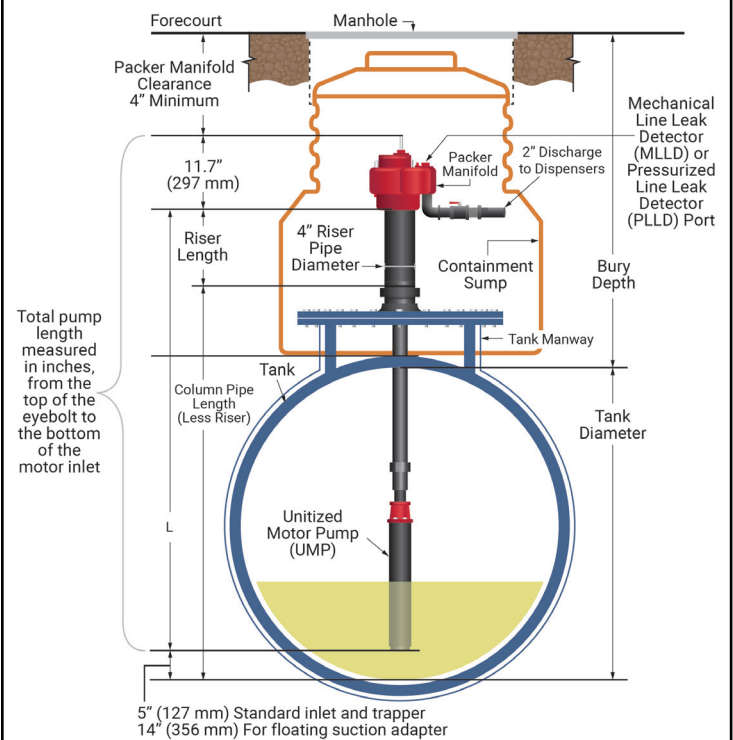
Bill of Materials


The Red Jacket AG STP Performance

Performance @ 230V; SG = 0.78



The Red Jacket AG STP Dimensions

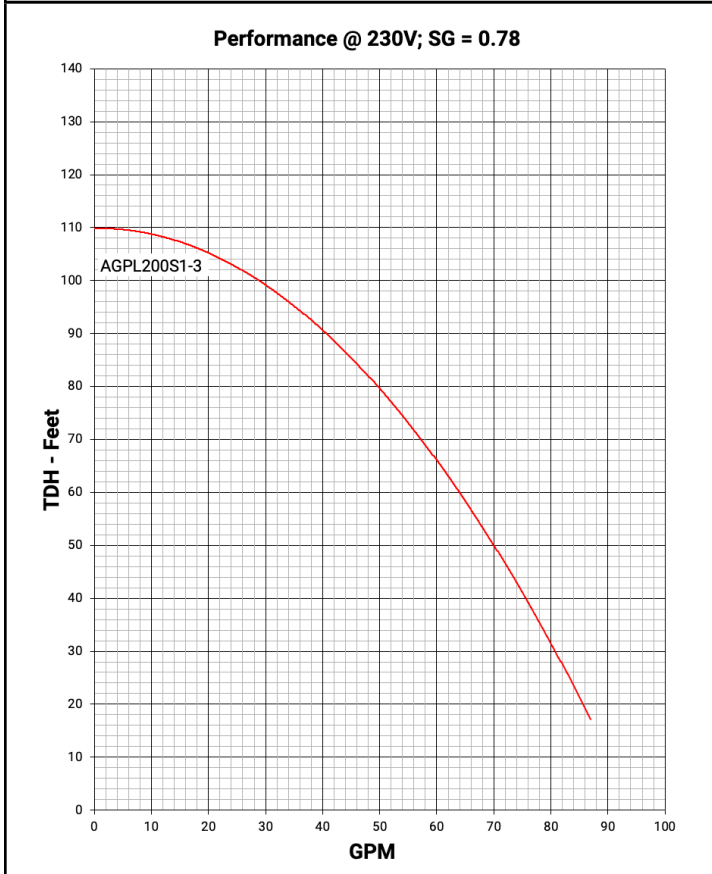


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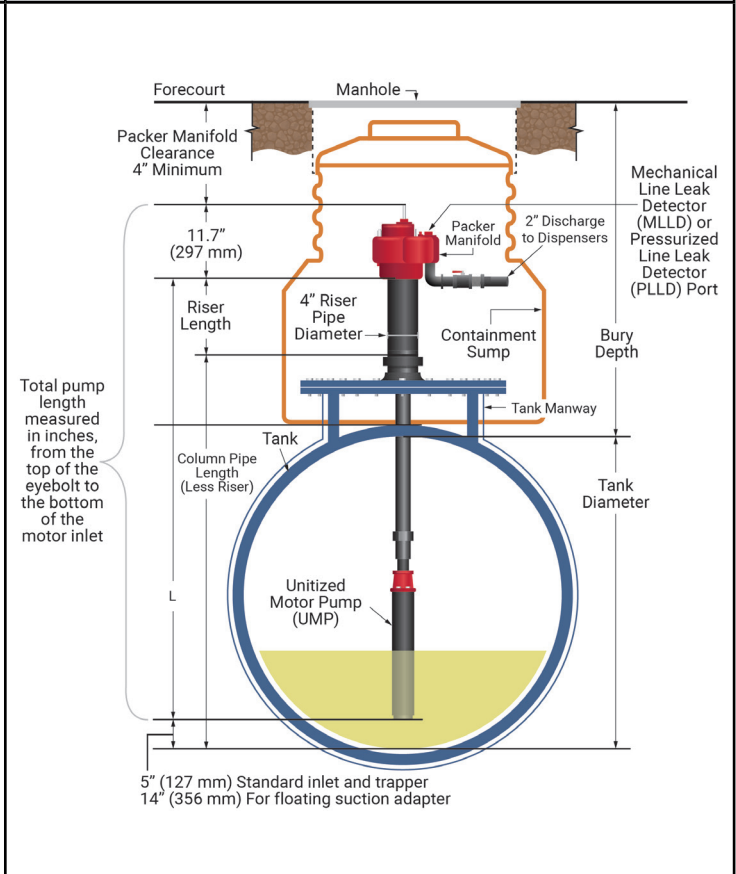
Mechanical Features (Continued)	Electrical Disconnect	Check Valve with "Lock-n-Lift" Feature
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Mechanical Features (Continued)	Vacuum Sensor Siphon System	Quick Set®
	The vacuum sensor siphon system shall be capable of drawing 25" of mercury vacuum through a venturi. The vacuum sensor siphon shall incorporate a check valve to maintain the siphon system vacuum after the pump has been turned off. Check valves shall be incorporated on the siphon inlet and fuel source inlet to the venturi. The inlet shall incorporate a screen that reduces clogs and failures that can cause false alarms on vacuum monitor systems. The vacuum sensor siphon system shall incorporate a swivel top for easy connection to siphon tubing. The vacuum sensor siphon system shall be designed to integrate with Veeder-Root Vacuum Sensors. The manifold head assembly shall support dual vacuum sensor siphon systems for vacuum monitoring or siphon manifold applications. Unused vacuum siphon ports shall be sealed with a plug designed specifically for that purpose.	The Quick Set feature shall be capable of varying the overall pump length. The Quick Set shall incorporate a collet gripping mechanism and setscrew as a locking mechanism allowing future resizing.
Electrical Features	Electric Motors – 4" Models	Connections
	The motor shall be 208/230 volt, 60Hz, single-phase, 3450 RPM, permanent split capacitor type continuous duty, rated explosion proof in Class 1, Group D, petroleum products. The motor windings shall be hermetically sealed against leakage of product or moisture, and shall have a thermal overload device with automatic reset built into the motor windings for motor cut-off when motor temperature reaches a level which may cause damage to the motor.	The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting wires. Wiring connections to the motor shall be disconnected by the quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/female connector.
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	Check Valve Lock Down Screw	Stainless Steel	None
	Column Pipes	Steel Tubing	Powder Primer
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	Quick Set Connector	Gray Cast Iron	Phosphate and Oil
	Discharge Head	Gray Cast Iron	Corrosion Inhibitor
	Retaining Nuts	Steel	Zinc Plating
	Die Springs	Spring Steel	Enamel Paint
	Purge Screw	Stainless Steel	Passivation
	Siphon Cartridge	Stainless Steel	Passivation
	Pump/Motor		
	Outer Shell	Stainless Steel	None
	Stator Shell	Stainless Steel	None
	Rotor Shaft	Stainless Steel	None
Impellers & Diffusers	(Acetel) Celcon® Plastic	None	
Motor Bearings	Carbon	None	

The Red Jacket AG STP Performance



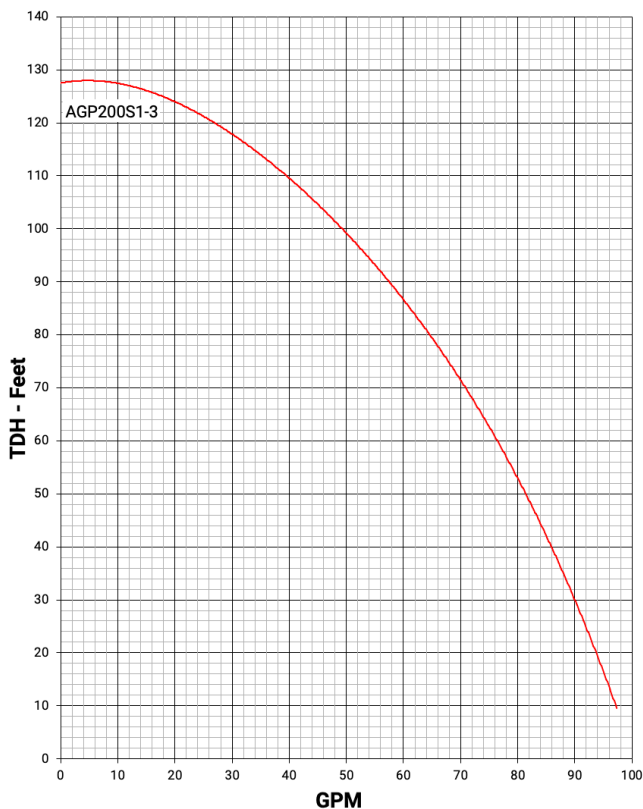
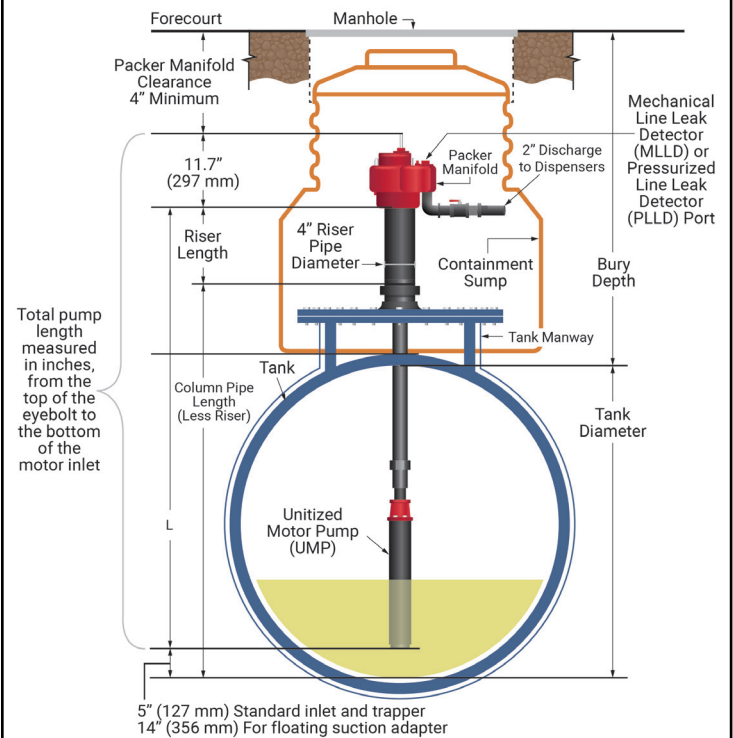
The Red Jacket AG STP Dimensions




STP Description	<p>The Red Jacket Alcohol Gas (AG) Submersible Turbine Pump (STP) is responsible for driving fuel from the storage tank, through the piping infrastructure and into the vehicle through the use of pressure energy. It optimizes fuel flow and dispensing, and its advanced packer manifold design makes it the industry's easiest and safest STP to install and service. Available in 3/4 HP to 2 HP configurations in variable Quick Set® lengths. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.</p>																										
4" Red Jacket AG STP	<table border="1"> <thead> <tr> <th>Part #</th> <th>Description</th> <th>Model #</th> </tr> </thead> <tbody> <tr> <td>0410142-019</td> <td>4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 78.5" - 108.5" Length</td> <td>AGP200S1-3 RJ1</td> </tr> <tr> <td>0410142-020</td> <td>4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 108.5" - 168.5" Length</td> <td>AGP200S1-3 RJ2</td> </tr> <tr> <td>0410142-021</td> <td>4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 168.5" - 228.5" Length</td> <td>AGP200S1-3 RJ3</td> </tr> <tr> <td>0410142-022</td> <td>4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 80.9" - 110.9" Length</td> <td>AGP200S1-3 RJ1 FSA</td> </tr> <tr> <td>0410142-023</td> <td>4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 110.9" - 170.9" Length</td> <td>AGP200S1-3 RJ2 FSA</td> </tr> <tr> <td>0410142-024</td> <td>4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 170.9" - 230.9" Length</td> <td>AGP200S1-3 RJ3 FSA</td> </tr> </tbody> </table>	Part #	Description	Model #	0410142-019	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 78.5" - 108.5" Length	AGP200S1-3 RJ1	0410142-020	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 108.5" - 168.5" Length	AGP200S1-3 RJ2	0410142-021	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 168.5" - 228.5" Length	AGP200S1-3 RJ3	0410142-022	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 80.9" - 110.9" Length	AGP200S1-3 RJ1 FSA	0410142-023	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 110.9" - 170.9" Length	AGP200S1-3 RJ2 FSA	0410142-024	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 170.9" - 230.9" Length	AGP200S1-3 RJ3 FSA	<table border="1"> <thead> <tr> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>• 2 HP, 1.5 KW, 208/230 Voltage, single-phase.</td> </tr> <tr> <td>• Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.</td> </tr> <tr> <td>• FSA stands for Floating Suction Adapter.</td> </tr> </tbody> </table>	Notes	• 2 HP, 1.5 KW, 208/230 Voltage, single-phase.	• Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.	• FSA stands for Floating Suction Adapter.
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Fuel Compatibility	<p>The Red Jacket AG Submersible Turbine Pump Model is UL Listed for:</p> <ul style="list-style-type: none"> • 100% Gasoline • 100% Diesel • UL 79A: 85% Ethanol (E85) • UL 79B: 0-20% Biodiesel (B20), 100% Biodiesel (B100) • UL 79B: Kerosene and Fuel Oil • Gasoline and up to: 15% Methanol, 20% MTBE, 20% ETBE, 20% TAME 		<p>STP Application Description</p> <p>STP shall be of submersible centrifugal type which installs through a standard 4" threaded tank opening. Motor size shall be from 3/4 through 2 HP, depending upon required flow rates and head loss of a given piping system.</p>																								
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Mechanical Features (Continued)	Electrical Disconnect	Check Valve with "Lock-n-Lift" Feature
	The electrical disconnect shall be an integral part of the manifold assembly. The electrical disconnect shall automatically disconnect and sever electrical connection to the pump motor, without a swing joint, when the extractable packer assembly is removed. Re-insertion of the extractable packer and tightening of the flange nuts shall remake the electrical connection.	The check valve shall incorporate a "Lock-n-Lift" feature that mechanically locks the check valve and lifts to provide a larger path to depressurize the line and manifold head assembly, returning fuel to the tank preventing service spills. The check valve shall provide pressure relief of the product line and be optimized for compatibility with Veeder-Root PLLD systems.
Mechanical Features (Continued)	Vacuum Sensor Siphon System	Quick Set®
	The vacuum sensor siphon system shall be capable of drawing 25" of mercury vacuum through a venturi. The vacuum sensor siphon shall incorporate a check valve to maintain the siphon system vacuum after the pump has been turned off. Check valves shall be incorporated on the siphon inlet and fuel source inlet to the venturi. The inlet shall incorporate a screen that reduces clogs and failures that can cause false alarms on vacuum monitor systems. The vacuum sensor siphon system shall incorporate a swivel top for easy connection to siphon tubing. The vacuum sensor siphon system shall be designed to integrate with Veeder-Root Vacuum Sensors. The manifold head assembly shall support dual vacuum sensor siphon systems for vacuum monitoring or siphon manifold applications. Unused vacuum siphon ports shall be sealed with a plug designed specifically for that purpose.	The Quick Set feature shall be capable of varying the overall pump length. The Quick Set shall incorporate a collet gripping mechanism and setscrew as a locking mechanism allowing future resizing.
Electrical Features	Electric Motors – 4" Models	Connections
	The motor shall be 208/230 volt, 60Hz, single-phase, 3450 RPM, permanent split capacitor type continuous duty, rated explosion proof in Class 1, Group D, petroleum products. The motor windings shall be hermetically sealed against leakage of product or moisture, and shall have a thermal overload device with automatic reset built into the motor windings for motor cut-off when motor temperature reaches a level which may cause damage to the motor.	The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting wires. Wiring connections to the motor shall be disconnected by the quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/female connector.
Construction	Accessibility	Assembly Order
	All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge piping, leak detection equipment and vacuum sensor siphon systems.	The pump shall be assembled with the pump inlet and impellers at the bottom for maximum liquid draw. The motor is to be mounted above the pump inlet, so that the motor is both cooled and lubricated by the liquid flow through and past the motor.
Environmental	<ul style="list-style-type: none"> • The Red Jacket AG STP has a 30% increase in stainless steel hardware. • The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products. • The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment. • The product temperature must not exceed 105°F (40.5°C). • Petroleum shall not exceed the specific gravity as stated in the installation manuals (ranging from 0.86 - 0.95) based upon the specific pump model. • Maximum viscosity allowable – 70SSU @ 60°F (15°C). 	
Approvals	UL 79, UL 79A, UL 79B, cUL	
Product Installation Guide	https://www.veeder.com/us/technical-document-library	

Bill of Materials	4" Red Jacket AG STP Models		
	Component	Material	Surface Finish
	Packer/Manifold Head	Gray Cast Iron	Low Volatile Organic Compound Paint
	Elastomers – "O" Rings	High Grade Fluorocarbon	None
	Check Valve Seat	Stainless Steel	None
	Check Valve Lock Down Screw	Stainless Steel	None
	Column Pipes	Steel Tubing	Powder Primer
	Conduit Pipe	1/2" Steel Pipe	Mill Finish
	Quick Set Connector	Gray Cast Iron	Phosphate and Oil
	Discharge Head	Gray Cast Iron	Corrosion Inhibitor
	Retaining Nuts	Steel	Zinc Plating
	Die Springs	Spring Steel	Enamel Paint
	Purge Screw	Stainless Steel	Passivation
	Siphon Cartridge	Stainless Steel	Passivation
	Pump/Motor		
	Outer Shell	Stainless Steel	None
	Stator Shell	Stainless Steel	None
Rotor Shaft	Stainless Steel	None	
Impellers & Diffusers	(Acetel) Celcon® Plastic	None	
Motor Bearings	Carbon	None	

The Red Jacket AG STP Performance
Performance @ 230V; SG = 0.78

The Red Jacket AG STP Dimensions


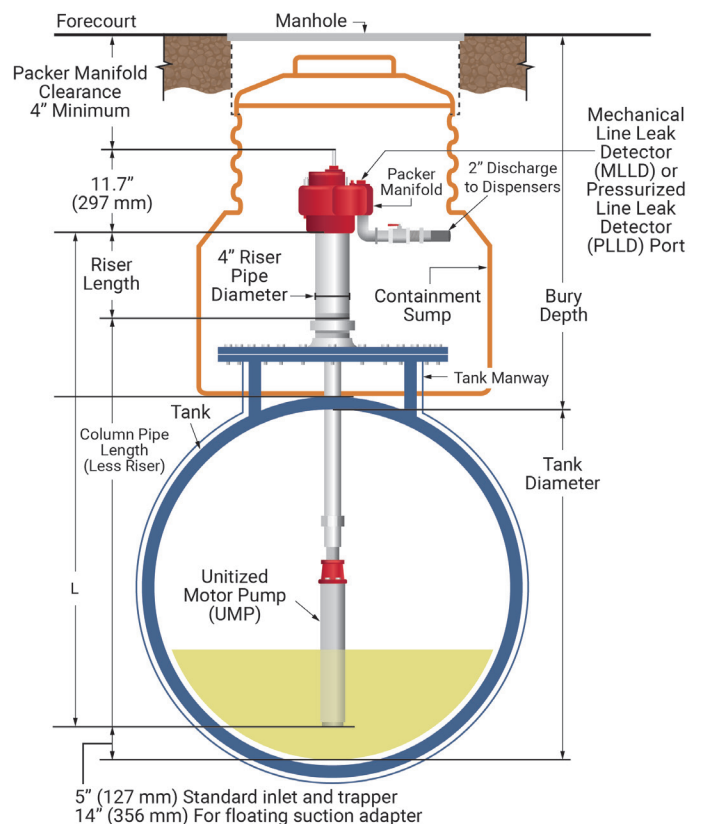
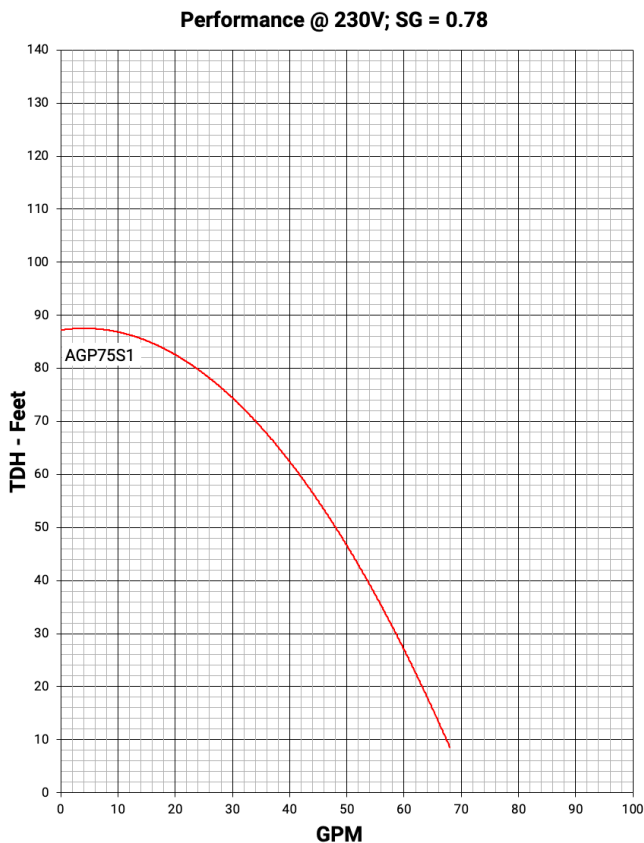
STP Description	<p>The Red Jacket Red Armor (RA) Submersible Turbine Pump (STP) is responsible for driving fuel from the storage tank, through the piping infrastructure and into the vehicle through the use of pressure energy. It optimizes fuel flow and dispensing, and its advanced packer manifold design makes it the industry's easiest and safest STP to install and service. Available in 3/4 HP to 2 HP configurations in variable Quick Set® lengths. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.</p>			
4" Red Jacket RA STP	Part #	Description	Model #	Notes
	0410140-086	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 72" - 102" Length	AGP75S1 RA1	<ul style="list-style-type: none"> • 3/4 HP, 0.56 KW, 208/230 Voltage, single-phase.
	0410140-087	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 102" - 162" Length	AGP75S1 RA2	<ul style="list-style-type: none"> • Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.
	0410140-088	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 162" - 222" Length	AGP75S1 RA3	<ul style="list-style-type: none"> • FSA stands for Floating Suction Adapter.
	0410140-089	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 74.4" - 104.4" Length	AGP75S1 RA1 FSA	
	0410140-090	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 104.4" - 164.4" Length	AGP75S1 RA2 FSA	
	0410140-091	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 164.4" - 224.4" Length	AGP75U1 RA3 FSA	
Fuel Compatibility	The Red Jacket RA Submersible Turbine Pump Model is UL Listed for:			STP Application Description
	<ul style="list-style-type: none"> • 100% Gasoline • 100% Diesel • 80% Gasoline with 20% TAME, ETBE or MTBE Gasoline • 85% Gasoline with 15% Methanol • 90% Gasoline with 10% Ethanol 			<p>STP shall be of submersible centrifugal type which installs through a standard 4" threaded tank opening. Motor size shall be from 3/4 through 2 HP, depending upon required flow rates and head loss of a given piping system.</p>
Mechanical Features	Pump			Impellers and Diffusers
	<p>Pump shall be multi-stage, dependent upon required flow rate, self-lubricating and easily removed from storage tank without disconnecting discharge piping, mechanical or electronic leak detectors or siphon systems. The pump and motor assembly shall be readily separable from the pump column pipe to allow for simple field replacement of the pump and motor.</p>			<p>Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.</p>
	Pump Intake Inlet			Manifold Head Assembly
	<p>Pump intake inlet shall be horizontal to prevent drawing sediment from the tank bottom into the pump inlet. The intake inlet shall be compatible with the particulate "Trapper" to prevent particulate from being ingested into the motor.</p>			<p>Manifold head assembly shall consist of a manifold and extractable packer assembly and shall be completely sealed against product leakage into the ground and exterior water intrusion into the storage tank. The discharge outlet shall be a 2" NPT opening. The manifold shall have a built-in air purge screw, line check valve, pressure relief valve, and shall support dual vacuum sensor siphon systems when required. The extractable packer shall incorporate industrial die springs to break loose the o-ring seals, when the flange nuts holding the extractable packer in place are removed. No physical lifting effort or special equipment shall be required to break the extractable packer seals. The contractor's box shall be built into the manifold head assembly and be completely isolated from the fuel path. The extractable packer assembly shall incorporate a lifting eye for safe extraction of the pump motor.</p>


Mechanical Features (Continued)	Electrical Disconnect	Check Valve with "Lock-n-Lift" Feature
	The electrical disconnect shall be an integral part of the manifold assembly. The electrical disconnect shall automatically disconnect and sever electrical connection to the pump motor, without a swing joint, when the extractable packer assembly is removed. Re-insertion of the extractable packer and tightening of the flange nuts shall remake the electrical connection.	The check valve shall incorporate a "Lock-n-Lift" feature that mechanically locks the check valve and lifts to provide a larger path to depressurize the line and manifold head assembly, returning fuel to the tank preventing service spills. The check valve shall provide pressure relief of the product line and be optimized for compatibility with Veeder-Root PLLD systems.
Mechanical Features (Continued)	Vacuum Sensor Siphon System	Quick Set®
	The vacuum sensor siphon system shall be capable of drawing 25" of mercury vacuum through a venturi. The vacuum sensor siphon shall incorporate a check valve to maintain the siphon system vacuum after the pump has been turned off. Check valves shall be incorporated on the siphon inlet and fuel source inlet to the venturi. The inlet shall incorporate a screen that reduces clogs and failures that can cause false alarms on vacuum monitor systems. The vacuum sensor siphon system shall incorporate a swivel top for easy connection to siphon tubing. The vacuum sensor siphon system shall be designed to integrate with Veeder-Root Vacuum Sensors. The manifold head assembly shall support dual vacuum sensor siphon systems for vacuum monitoring or siphon manifold applications. Unused vacuum siphon ports shall be sealed with a plug designed specifically for that purpose.	The Quick Set feature shall be capable of varying the overall pump length. The Quick Set shall incorporate a collet gripping mechanism and setscrew as a locking mechanism allowing future resizing.
Electrical Features	Electric Motors – 4" Models	Connections
	The motor shall be 208/230 volt, 60Hz, single-phase, 3450 RPM, permanent split capacitor type continuous duty, rated explosion proof in Class 1, Group D, petroleum products. The motor windings shall be hermetically sealed against leakage of product or moisture, and shall have a thermal overload device with automatic reset built into the motor windings for motor cut-off when motor temperature reaches a level which may cause damage to the motor.	The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting wires. Wiring connections to the motor shall be disconnected by the quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/female connector.
Construction	Accessibility	Assembly Order
	All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge piping, leak detection equipment and vacuum sensor siphon systems.	The pump shall be assembled with the pump inlet and impellers at the bottom for maximum liquid draw. The motor is to be mounted above the pump inlet, so that the motor is both cooled and lubricated by the liquid flow through and past the motor.
Environmental	<ul style="list-style-type: none"> • The Red Jacket RA STP has an additional 30% increase in stainless steel hardware from The Red Jacket AG STP. • The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products. • The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment. • The product temperature must not exceed 105°F (40.5°C). • Petroleum shall not exceed the specific gravity as stated in the installation manuals (ranging from 0.86 - 0.95) based upon the specific pump model. • Maximum viscosity allowable – 70SSU @ 60°F (15°C). 	
Approvals	UL 79, UL 79A, UL 79B, cUL	
Product Installation Guide	https://www.veeder.com/us/technical-document-library	

Bill of Materials	4" Red Jacket RA STP Models		
	Component	Material	Surface Finish
	Packer/Manifold Head	Gray Cast Iron	Powder Coat
	Elastomers – "O" Rings	High Grade Fluorocarbon	None
	Check Valve Seat	Stainless Steel	None
	Check Valve Lock Down Screw	Stainless Steel	None
	Column Pipes	Stainless Steel	None
	Conduit Pipe	1/2" Steel Pipe	Mill Finish
	Quick Set Connector	Stainless Steel	Passivation
	Discharge Head	Gray Cast Iron	Powder Coat
	Retaining Nuts	Stainless Steel	Passivation
	Die Springs	Stainless Steel	Passivation
	Purge Screw	Stainless Steel	Passivation
	Siphon Cartridge	Stainless Steel	Passivation
	Pump/Motor		
	Outer Shell	Stainless Steel	None
	Stator Shell	Stainless Steel	None
Rotor Shaft	Stainless Steel	None	
Impellers & Diffusers	(Acetel) Celcon® Plastic	None	
Motor Bearings	Carbon	None	

The Red Jacket RA STP Performance

The Red Jacket RA STP Dimensions

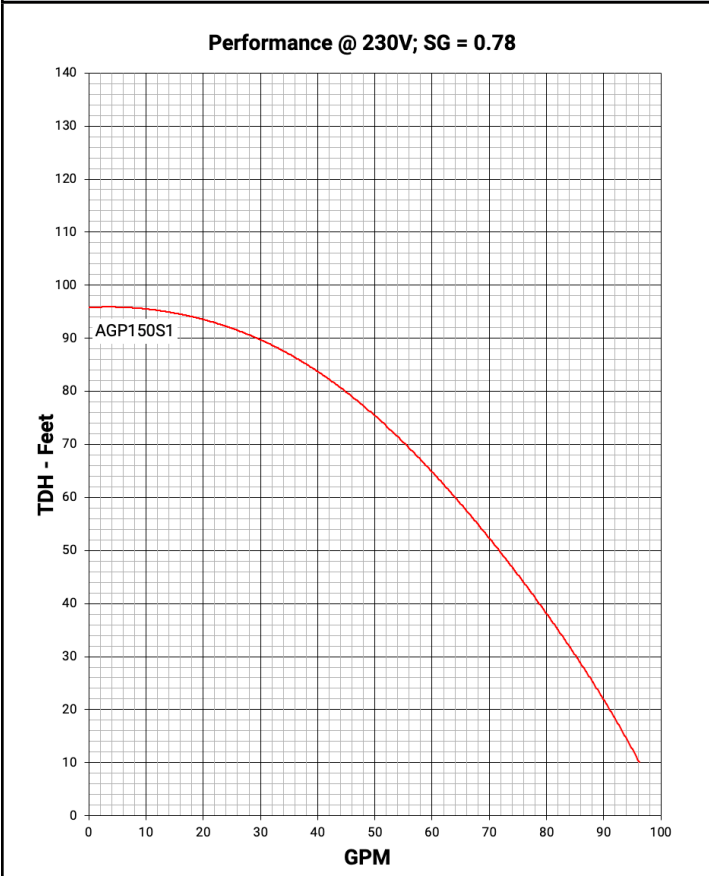


STP Description	<p>The Red Jacket Red Armor (RA) Submersible Turbine Pump (STP) is responsible for driving fuel from the storage tank, through the piping infrastructure and into the vehicle through the use of pressure energy. It optimizes fuel flow and dispensing, and its advanced packer manifold design makes it the industry's easiest and safest STP to install and service. Available in 3/4 HP to 2 HP configurations in variable Quick Set® lengths. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.</p>			
4" Red Jacket RA STP	Part #	Description	Model #	Notes
	0410141-088	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 74.5" - 105" Length	AGP150S1 RA1	<ul style="list-style-type: none"> 1.5 HP, 1.13 KW, 208/230 Voltage, single-phase.
	0410141-089	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 104.5" - 165" Length	AGP150S1 RA2	<ul style="list-style-type: none"> Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.
	0410141-090	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 164.5" - 225" Length	AGP150S1 RA3	<ul style="list-style-type: none"> FSA stands for Floating Suction Adapter.
	0410141-091	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 76.9" - 107.4" Length	AGP150S1 RA1 FSA	
	0410141-092	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 106.9" - 167.4" Length	AGP150S1 RA2 FSA	
	0410141-093	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 166.9" - 227.4" Length	AGP150U1 RA3 FSA	
Fuel Compatibility	The Red Jacket RA Submersible Turbine Pump Model is UL Listed for:			STP Application Description
	<ul style="list-style-type: none"> 100% Gasoline 100% Diesel 80% Gasoline with 20% TAME, ETBE or MTBE Gasoline 85% Gasoline with 15% Methanol 90% Gasoline with 10% Ethanol 			<p>STP shall be of submersible centrifugal type which installs through a standard 4" threaded tank opening. Motor size shall be from 3/4 through 2 HP, depending upon required flow rates and head loss of a given piping system.</p>
Mechanical Features	Pump			Impellers and Diffusers
	<p>Pump shall be multi-stage, dependent upon required flow rate, self-lubricating and easily removed from storage tank without disconnecting discharge piping, mechanical or electronic leak detectors or siphon systems. The pump and motor assembly shall be readily separable from the pump column pipe to allow for simple field replacement of the pump and motor.</p>			<p>Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.</p>
	Pump Intake Inlet			Manifold Head Assembly
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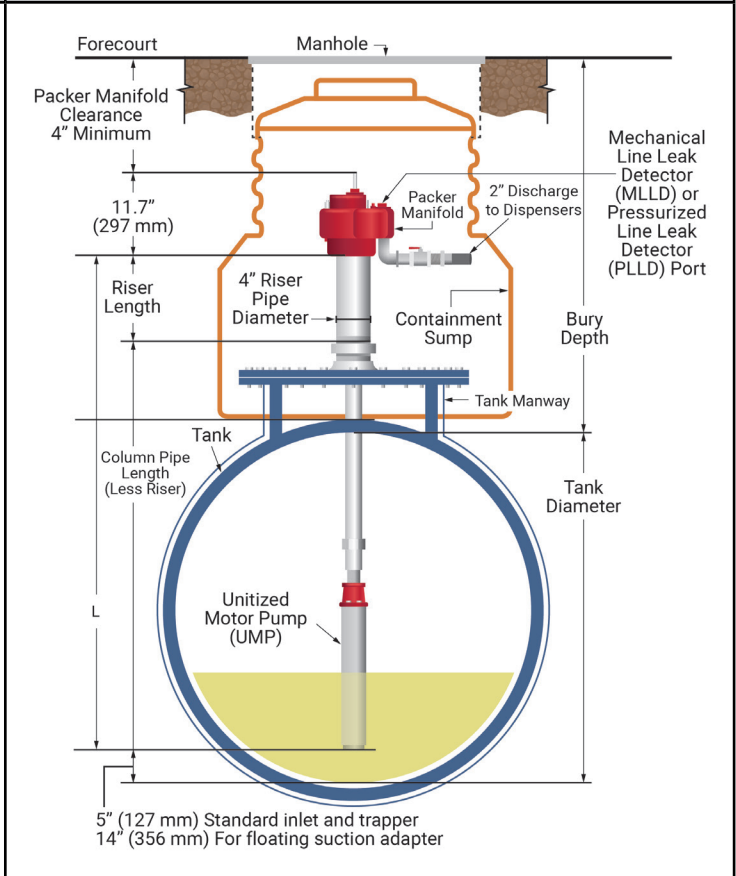
Mechanical Features (Continued)	Electrical Disconnect	Check Valve with "Lock-n-Lift" Feature
	The electrical disconnect shall be an integral part of the manifold assembly. The electrical disconnect shall automatically disconnect and sever electrical connection to the pump motor, without a swing joint, when the extractable packer assembly is removed. Re-insertion of the extractable packer and tightening of the flange nuts shall remake the electrical connection.	The check valve shall incorporate a "Lock-n-Lift" feature that mechanically locks the check valve and lifts to provide a larger path to depressurize the line and manifold head assembly, returning fuel to the tank preventing service spills. The check valve shall provide pressure relief of the product line and be optimized for compatibility with Veeder-Root PLLD systems.
Mechanical Features (Continued)	Vacuum Sensor Siphon System	Quick Set®
	The vacuum sensor siphon system shall be capable of drawing 25" of mercury vacuum through a venturi. The vacuum sensor siphon shall incorporate a check valve to maintain the siphon system vacuum after the pump has been turned off. Check valves shall be incorporated on the siphon inlet and fuel source inlet to the venturi. The inlet shall incorporate a screen that reduces clogs and failures that can cause false alarms on vacuum monitor systems. The vacuum sensor siphon system shall incorporate a swivel top for easy connection to siphon tubing. The vacuum sensor siphon system shall be designed to integrate with Veeder-Root Vacuum Sensors. The manifold head assembly shall support dual vacuum sensor siphon systems for vacuum monitoring or siphon manifold applications. Unused vacuum siphon ports shall be sealed with a plug designed specifically for that purpose.	The Quick Set feature shall be capable of varying the overall pump length. The Quick Set shall incorporate a collet gripping mechanism and setscrew as a locking mechanism allowing future resizing.
Electrical Features	Electric Motors – 4" Models	Connections
	The motor shall be 208/230 volt, 60Hz, single-phase, 3450 RPM, permanent split capacitor type continuous duty, rated explosion proof in Class 1, Group D, petroleum products. The motor windings shall be hermetically sealed against leakage of product or moisture, and shall have a thermal overload device with automatic reset built into the motor windings for motor cut-off when motor temperature reaches a level which may cause damage to the motor.	The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting wires. Wiring connections to the motor shall be disconnected by the quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/female connector.
Construction	Accessibility	Assembly Order
	All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge piping, leak detection equipment and vacuum sensor siphon systems.	The pump shall be assembled with the pump inlet and impellers at the bottom for maximum liquid draw. The motor is to be mounted above the pump inlet, so that the motor is both cooled and lubricated by the liquid flow through and past the motor.
Environmental	<ul style="list-style-type: none"> • The Red Jacket RA STP has an additional 30% increase in stainless steel hardware from The Red Jacket AG STP. • The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products. • The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment. • The product temperature must not exceed 105°F (40.5°C). • Petroleum shall not exceed the specific gravity as stated in the installation manuals (ranging from 0.86 - 0.95) based upon the specific pump model. • Maximum viscosity allowable – 70SSU @ 60°F (15°C). 	
Approvals	UL 79, UL 79A, UL 79B, cUL	
Product Installation Guide	https://www.veeder.com/us/technical-document-library	


Bill of Materials	4" Red Jacket RA STP Models		
	Component	Material	Surface Finish
	Packer/Manifold Head	Gray Cast Iron	Powder Coat
	Elastomers – "O" Rings	High Grade Fluorocarbon	None
	Check Valve Seat	Stainless Steel	None
	Check Valve Lock Down Screw	Stainless Steel	None
	Column Pipes	Stainless Steel	None
	Conduit Pipe	1/2" Steel Pipe	Mill Finish
	Quick Set Connector	Stainless Steel	Passivation
	Discharge Head	Gray Cast Iron	Powder Coat
	Retaining Nuts	Stainless Steel	Passivation
	Die Springs	Stainless Steel	Passivation
	Purge Screw	Stainless Steel	Passivation
	Siphon Cartridge	Stainless Steel	Passivation
	Pump/Motor		
	Outer Shell	Stainless Steel	None
	Stator Shell	Stainless Steel	None
Rotor Shaft	Stainless Steel	None	
Impellers & Diffusers	(Acetel) Celcon® Plastic	None	
Motor Bearings	Carbon	None	

The Red Jacket RA STP Performance



The Red Jacket RA STP Dimensions



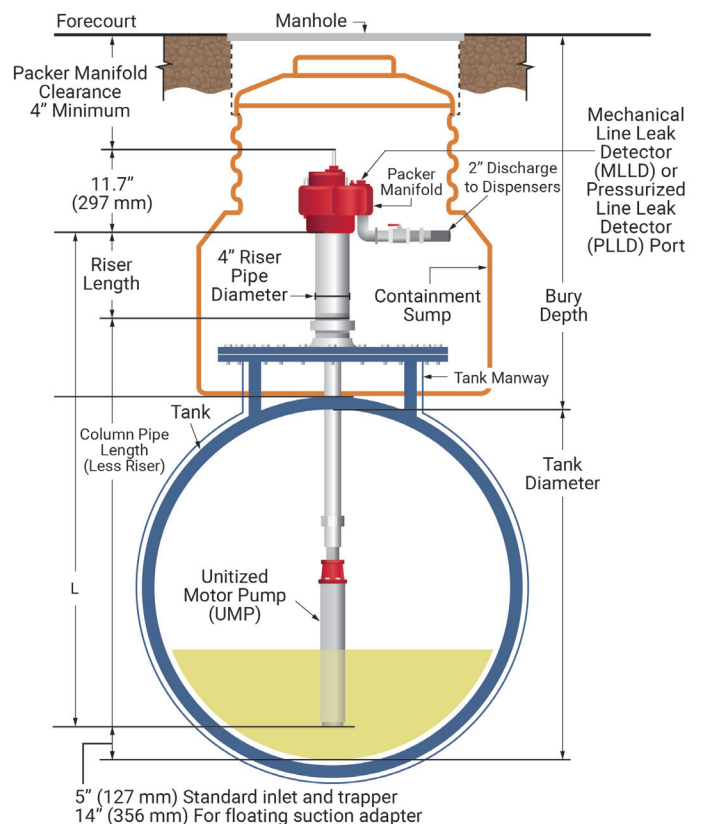
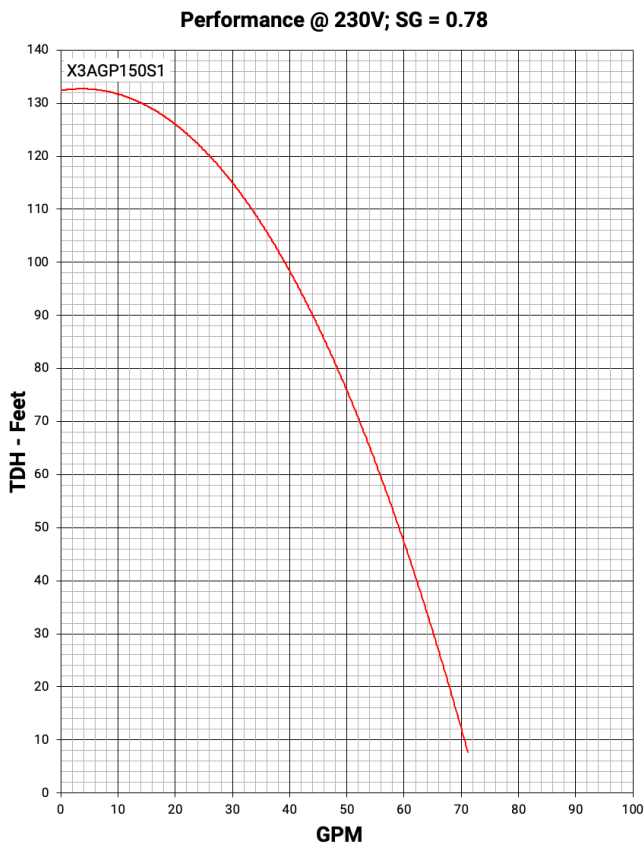
STP Description	<p>The Red Jacket Red Armor (RA) Submersible Turbine Pump (STP) is responsible for driving fuel from the storage tank, through the piping infrastructure and into the vehicle through the use of pressure energy. It optimizes fuel flow and dispensing, and its advanced packer manifold design makes it the industry's easiest and safest STP to install and service. Available in 3/4 HP to 2 HP configurations in variable Quick Set® lengths. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.</p>			
4" Red Jacket RA STP	Part #	Description	Model #	Notes
	0410143-083	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 75.5" - 105.5" Length	X3AGP150S1 RA1	<ul style="list-style-type: none"> • 1.5 HP – High Pressure, 1.13 KW, 208/230 Voltage, single-phase.
	0410143-084	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 105.5" - 165.5" Length	X3AGP150S1 RA2	<ul style="list-style-type: none"> • Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.
	0410143-085	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 165.5" - 225.5" Length	X3AGP150S1 RA3	<ul style="list-style-type: none"> • FSA stands for Floating Suction Adapter.
	0410143-086	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 77.9" - 107.9" Length	X3AGP150S1 RA1 FSA	
	0410143-087	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 107.9" - 167.9" Length	X3AGP150S1 RA2 FSA	
	0410143-088	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 167.9" - 227.9" Length	X3AGP150S1 RA3 FSA	
Fuel Compatibility	The Red Jacket RA Submersible Turbine Pump Model is UL Listed for:			STP Application Description
	<ul style="list-style-type: none"> • 100% Gasoline • 100% Diesel • 80% Gasoline with 20% TAME, ETBE or MTBE Gasoline • 85% Gasoline with 15% Methanol • 90% Gasoline with 10% Ethanol 			<p>STP shall be of submersible centrifugal type which installs through a standard 4" threaded tank opening. Motor size shall be from 3/4 through 2 HP, depending upon required flow rates and head loss of a given piping system.</p>
Mechanical Features	Pump			Impellers and Diffusers
	<p>Pump shall be multi-stage, dependent upon required flow rate, self-lubricating and easily removed from storage tank without disconnecting discharge piping, mechanical or electronic leak detectors or siphon systems. The pump and motor assembly shall be readily separable from the pump column pipe to allow for simple field replacement of the pump and motor.</p>			<p>Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.</p>
	Pump Intake Inlet			Manifold Head Assembly
	<p>Pump intake inlet shall be horizontal to prevent drawing sediment from the tank bottom into the pump inlet. The intake inlet shall be compatible with the particulate "Trapper" to prevent particulate from being ingested into the motor.</p>			<p>Manifold head assembly shall consist of a manifold and extractable packer assembly and shall be completely sealed against product leakage into the ground and exterior water intrusion into the storage tank. The discharge outlet shall be a 2" NPT opening. The manifold shall have a built-in air purge screw, line check valve, pressure relief valve, and shall support dual vacuum sensor siphon systems when required. The extractable packer shall incorporate industrial die springs to break loose the o-ring seals, when the flange nuts holding the extractable packer in place are removed. No physical lifting effort or special equipment shall be required to break the extractable packer seals. The contractor's box shall be built into the manifold head assembly and be completely isolated from the fuel path. The extractable packer assembly shall incorporate a lifting eye for safe extraction of the pump motor.</p>


Mechanical Features (Continued)	Electrical Disconnect	Check Valve with "Lock-n-Lift" Feature
	The electrical disconnect shall be an integral part of the manifold assembly. The electrical disconnect shall automatically disconnect and sever electrical connection to the pump motor, without a swing joint, when the extractable packer assembly is removed. Re-insertion of the extractable packer and tightening of the flange nuts shall remake the electrical connection.	The check valve shall incorporate a "Lock-n-Lift" feature that mechanically locks the check valve and lifts to provide a larger path to depressurize the line and manifold head assembly, returning fuel to the tank preventing service spills. The check valve shall provide pressure relief of the product line and be optimized for compatibility with Veeder-Root PLLD systems.
Mechanical Features (Continued)	Vacuum Sensor Siphon System	Quick Set®
	The vacuum sensor siphon system shall be capable of drawing 25" of mercury vacuum through a venturi. The vacuum sensor siphon shall incorporate a check valve to maintain the siphon system vacuum after the pump has been turned off. Check valves shall be incorporated on the siphon inlet and fuel source inlet to the venturi. The inlet shall incorporate a screen that reduces clogs and failures that can cause false alarms on vacuum monitor systems. The vacuum sensor siphon system shall incorporate a swivel top for easy connection to siphon tubing. The vacuum sensor siphon system shall be designed to integrate with Veeder-Root Vacuum Sensors. The manifold head assembly shall support dual vacuum sensor siphon systems for vacuum monitoring or siphon manifold applications. Unused vacuum siphon ports shall be sealed with a plug designed specifically for that purpose.	The Quick Set feature shall be capable of varying the overall pump length. The Quick Set shall incorporate a collet gripping mechanism and setscrew as a locking mechanism allowing future resizing.
Electrical Features	Electric Motors – 4" Models	Connections
	The motor shall be 208/230 volt, 60Hz, single-phase, 3450 RPM, permanent split capacitor type continuous duty, rated explosion proof in Class 1, Group D, petroleum products. The motor windings shall be hermetically sealed against leakage of product or moisture, and shall have a thermal overload device with automatic reset built into the motor windings for motor cut-off when motor temperature reaches a level which may cause damage to the motor.	The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting wires. Wiring connections to the motor shall be disconnected by the quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/female connector.
Construction	Accessibility	Assembly Order
	All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge piping, leak detection equipment and vacuum sensor siphon systems.	The pump shall be assembled with the pump inlet and impellers at the bottom for maximum liquid draw. The motor is to be mounted above the pump inlet, so that the motor is both cooled and lubricated by the liquid flow through and past the motor.
Environmental	<ul style="list-style-type: none"> • The Red Jacket RA STP has an additional 30% increase in stainless steel hardware from The Red Jacket AG STP. • The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products. • The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment. • The product temperature must not exceed 105°F (40.5°C). • Petroleum shall not exceed the specific gravity as stated in the installation manuals (ranging from 0.86 - 0.95) based upon the specific pump model. • Maximum viscosity allowable – 70SSU @ 60°F (15°C). 	
Approvals	UL 79, UL 79A, UL 79B, cUL	
Product Installation Guide	https://www.veeder.com/us/technical-document-library	

Bill of Materials	4" Red Jacket RA STP Models		
	Component	Material	Surface Finish
	Packer/Manifold Head	Gray Cast Iron	Powder Coat
	Elastomers – "O" Rings	High Grade Fluorocarbon	None
	Check Valve Seat	Stainless Steel	None
	Check Valve Lock Down Screw	Stainless Steel	None
	Column Pipes	Stainless Steel	None
	Conduit Pipe	1/2" Steel Pipe	Mill Finish
	Quick Set Connector	Stainless Steel	Passivation
	Discharge Head	Gray Cast Iron	Powder Coat
	Retaining Nuts	Stainless Steel	Passivation
	Die Springs	Stainless Steel	Passivation
	Purge Screw	Stainless Steel	Passivation
	Siphon Cartridge	Stainless Steel	Passivation
	Pump/Motor		
	Outer Shell	Stainless Steel	None
	Stator Shell	Stainless Steel	None
Rotor Shaft	Stainless Steel	None	
Impellers & Diffusers	(Acetel) Celcon® Plastic	None	
Motor Bearings	Carbon	None	

The Red Jacket RA STP Performance

The Red Jacket RA STP Dimensions



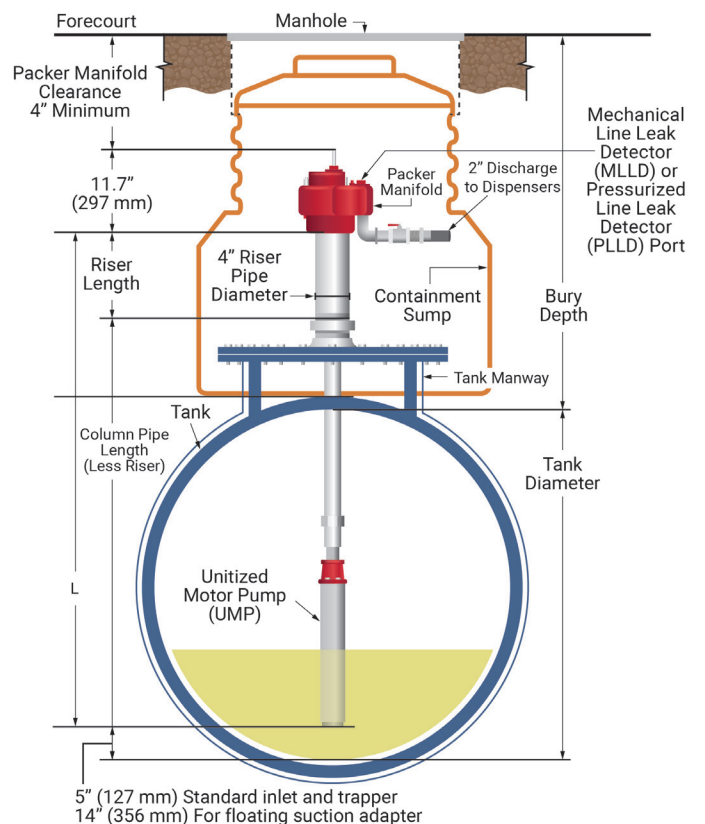
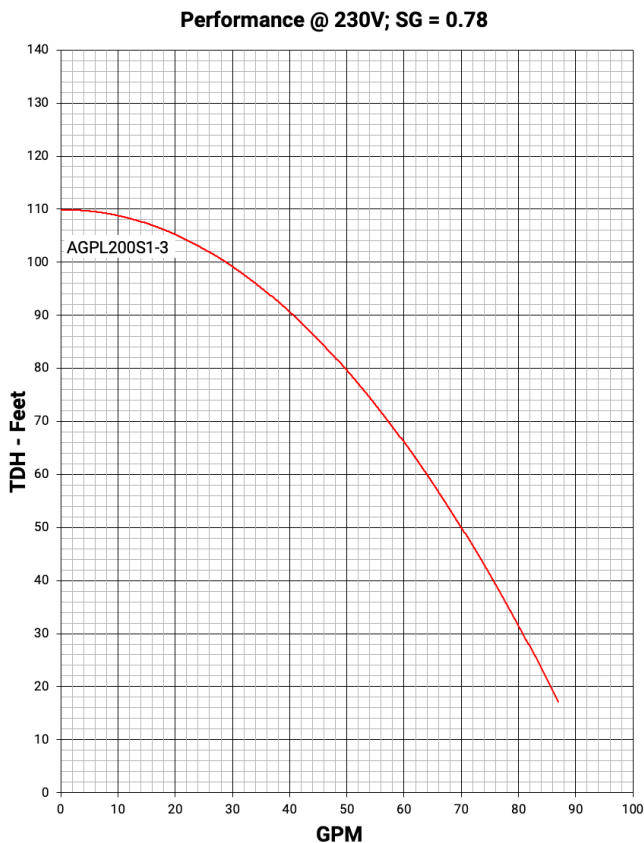
STP Description	<p>The Red Jacket Red Armor (RA) Submersible Turbine Pump (STP) is responsible for driving fuel from the storage tank, through the piping infrastructure and into the vehicle through the use of pressure energy. It optimizes fuel flow and dispensing, and its advanced packer manifold design makes it the industry's easiest and safest STP to install and service. Available in 3/4 HP to 2 HP configurations in variable Quick Set® lengths. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.</p>																									
4" Red Jacket RA STP	<table border="1"> <thead> <tr> <th>Part #</th> <th>Description</th> <th>Model #</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>0410142-087</td> <td>4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 78.5" - 108.5" Length</td> <td>AGPL200S1-3 RA1</td> <td rowspan="7"> <ul style="list-style-type: none"> • 2 HP – Low Pressure, 1.5 KW, 208/230 Voltage, single-phase. • Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet. • FSA stands for Floating Suction Adapter. </td> </tr> <tr> <td>0410142-088</td> <td>4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 108.5" - 168.5" Length</td> <td>AGPL200S1-3 RA2</td> </tr> <tr> <td>0410142-089</td> <td>4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 168.5" - 228.5" Length</td> <td>AGPL200S1-3 RA3</td> </tr> <tr> <td>0410142-090</td> <td>4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 80.9" - 110.9" Length</td> <td>AGPL200S1-3 RA1 FSA</td> </tr> <tr> <td>0410142-091</td> <td>4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 119.9" - 170.9" Length</td> <td>AGPL200S1-3 RA2 FSA</td> </tr> <tr> <td>0410142-092</td> <td>4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 170.9" - 230.5" Length</td> <td>AGPL200S1-3 RA3 FSA</td> </tr> </tbody> </table>	Part #	Description	Model #	Notes	0410142-087	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 78.5" - 108.5" Length	AGPL200S1-3 RA1	<ul style="list-style-type: none"> • 2 HP – Low Pressure, 1.5 KW, 208/230 Voltage, single-phase. • Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet. • FSA stands for Floating Suction Adapter. 	0410142-088	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 108.5" - 168.5" Length	AGPL200S1-3 RA2	0410142-089	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 168.5" - 228.5" Length	AGPL200S1-3 RA3	0410142-090	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 80.9" - 110.9" Length	AGPL200S1-3 RA1 FSA	0410142-091	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 119.9" - 170.9" Length	AGPL200S1-3 RA2 FSA	0410142-092	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 170.9" - 230.5" Length	AGPL200S1-3 RA3 FSA		
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Fuel Compatibility	<p>The Red Jacket RA Submersible Turbine Pump Model is UL Listed for:</p> <ul style="list-style-type: none"> • 100% Gasoline • 100% Diesel • 80% Gasoline with 20% TAME, ETBE or MTBE Gasoline • 85% Gasoline with 15% Methanol • 90% Gasoline with 10% Ethanol 			<p>STP Application Description</p> <p>STP shall be of submersible centrifugal type which installs through a standard 4" threaded tank opening. Motor size shall be from 3/4 through 2 HP, depending upon required flow rates and head loss of a given piping system.</p>																						
Mechanical Features	<p style="text-align: center;">Pump</p> <p>Pump shall be multi-stage, dependent upon required flow rate, self-lubricating and easily removed from storage tank without disconnecting discharge piping, mechanical or electronic leak detectors or siphon systems. The pump and motor assembly shall be readily separable from the pump column pipe to allow for simple field replacement of the pump and motor.</p>		<p style="text-align: center;">Impellers and Diffusers</p> <p>Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.</p>																							
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Mechanical Features (Continued)	Electrical Disconnect	Check Valve with "Lock-n-Lift" Feature
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	Vacuum Sensor Siphon System	Quick Set®
	The vacuum sensor siphon system shall be capable of drawing 25" of mercury vacuum through a venturi. The vacuum sensor siphon shall incorporate a check valve to maintain the siphon system vacuum after the pump has been turned off. Check valves shall be incorporated on the siphon inlet and fuel source inlet to the venturi. The inlet shall incorporate a screen that reduces clogs and failures that can cause false alarms on vacuum monitor systems. The vacuum sensor siphon system shall incorporate a swivel top for easy connection to siphon tubing. The vacuum sensor siphon system shall be designed to integrate with Veeder-Root Vacuum Sensors. The manifold head assembly shall support dual vacuum sensor siphon systems for vacuum monitoring or siphon manifold applications. Unused vacuum siphon ports shall be sealed with a plug designed specifically for that purpose.	The Quick Set feature shall be capable of varying the overall pump length. The Quick Set shall incorporate a collet gripping mechanism and setscrew as a locking mechanism allowing future resizing.
Electrical Features	Electric Motors – 4" Models	Connections
	The motor shall be 208/230 volt, 60Hz, single-phase, 3450 RPM, permanent split capacitor type continuous duty, rated explosion proof in Class 1, Group D, petroleum products. The motor windings shall be hermetically sealed against leakage of product or moisture, and shall have a thermal overload device with automatic reset built into the motor windings for motor cut-off when motor temperature reaches a level which may cause damage to the motor.	The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting wires. Wiring connections to the motor shall be disconnected by the quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/female connector.
Construction	Accessibility	Assembly Order
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Environmental	<ul style="list-style-type: none"> • The Red Jacket RA STP has an additional 30% increase in stainless steel hardware from The Red Jacket AG STP. • The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products. • The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment. • The product temperature must not exceed 105°F (40.5°C). • Petroleum shall not exceed the specific gravity as stated in the installation manuals (ranging from 0.86 - 0.95) based upon the specific pump model. • Maximum viscosity allowable – 70SSU @ 60°F (15°C). 	
Approvals	UL 79, UL 79A, UL 79B, cUL	
Product Installation Guide	https://www.veeder.com/us/technical-document-library	

Bill of Materials	4" Red Jacket RA STP Models		
	Component	Material	Surface Finish
	Packer/Manifold Head	Gray Cast Iron	Powder Coat
	Elastomers – "O" Rings	High Grade Fluorocarbon	None
	Check Valve Seat	Stainless Steel	None
	Check Valve Lock Down Screw	Stainless Steel	None
	Column Pipes	Stainless Steel	None
	Conduit Pipe	1/2" Steel Pipe	Mill Finish
	Quick Set Connector	Stainless Steel	Passivation
	Discharge Head	Gray Cast Iron	Powder Coat
	Retaining Nuts	Stainless Steel	Passivation
	Die Springs	Stainless Steel	Passivation
	Purge Screw	Stainless Steel	Passivation
	Siphon Cartridge	Stainless Steel	Passivation
	Pump/Motor		
	Outer Shell	Stainless Steel	None
	Stator Shell	Stainless Steel	None
	Rotor Shaft	Stainless Steel	None
Impellers & Diffusers	(Acetel) Celcon® Plastic	None	
Motor Bearings	Carbon	None	

The Red Jacket RA STP Performance

The Red Jacket RA STP Dimensions



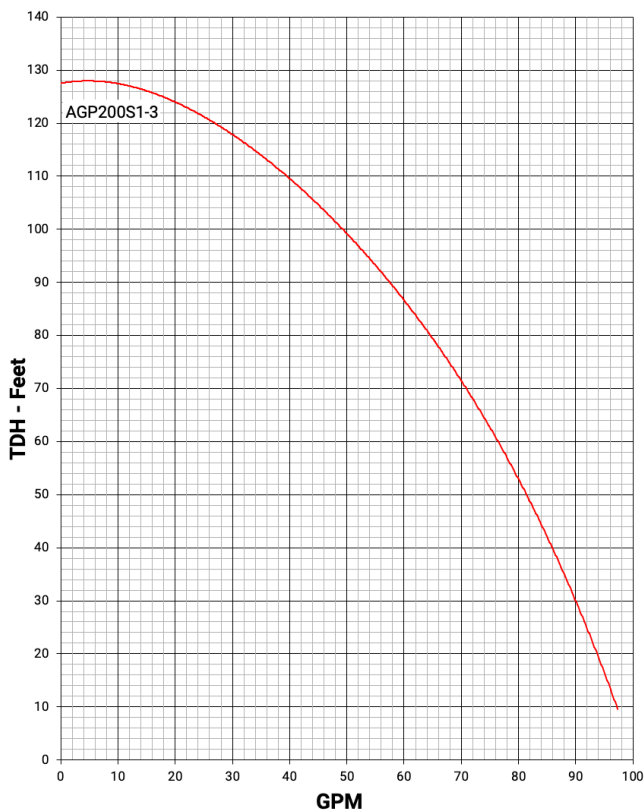
STP Description	<p>The Red Jacket Red Armor (RA) Submersible Turbine Pump (STP) is responsible for driving fuel from the storage tank, through the piping infrastructure and into the vehicle through the use of pressure energy. It optimizes fuel flow and dispensing, and its advanced packer manifold design makes it the industry's easiest and safest STP to install and service. Available in 3/4 HP to 2 HP configurations in variable Quick Set® lengths. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.</p>																									
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Mechanical Features (Continued)	Electrical Disconnect	Check Valve with "Lock-n-Lift" Feature
	The electrical disconnect shall be an integral part of the manifold assembly. The electrical disconnect shall automatically disconnect and sever electrical connection to the pump motor, without a swing joint, when the extractable packer assembly is removed. Re-insertion of the extractable packer and tightening of the flange nuts shall remake the electrical connection.	The check valve shall incorporate a "Lock-n-Lift" feature that mechanically locks the check valve and lifts to provide a larger path to depressurize the line and manifold head assembly, returning fuel to the tank preventing service spills. The check valve shall provide pressure relief of the product line and be optimized for compatibility with Veeder-Root PLLD systems.
Mechanical Features (Continued)	Vacuum Sensor Siphon System	Quick Set®
	The vacuum sensor siphon system shall be capable of drawing 25" of mercury vacuum through a venturi. The vacuum sensor siphon shall incorporate a check valve to maintain the siphon system vacuum after the pump has been turned off. Check valves shall be incorporated on the siphon inlet and fuel source inlet to the venturi. The inlet shall incorporate a screen that reduces clogs and failures that can cause false alarms on vacuum monitor systems. The vacuum sensor siphon system shall incorporate a swivel top for easy connection to siphon tubing. The vacuum sensor siphon system shall be designed to integrate with Veeder-Root Vacuum Sensors. The manifold head assembly shall support dual vacuum sensor siphon systems for vacuum monitoring or siphon manifold applications. Unused vacuum siphon ports shall be sealed with a plug designed specifically for that purpose.	The Quick Set feature shall be capable of varying the overall pump length. The Quick Set shall incorporate a collet gripping mechanism and setscrew as a locking mechanism allowing future resizing.
Electrical Features	Electric Motors – 4" Models	Connections
	The motor shall be 208/230 volt, 60Hz, single-phase, 3450 RPM, permanent split capacitor type continuous duty, rated explosion proof in Class 1, Group D, petroleum products. The motor windings shall be hermetically sealed against leakage of product or moisture, and shall have a thermal overload device with automatic reset built into the motor windings for motor cut-off when motor temperature reaches a level which may cause damage to the motor.	The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting wires. Wiring connections to the motor shall be disconnected by the quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/female connector.
Construction	Accessibility	Assembly Order
	All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge piping, leak detection equipment and vacuum sensor siphon systems.	The pump shall be assembled with the pump inlet and impellers at the bottom for maximum liquid draw. The motor is to be mounted above the pump inlet, so that the motor is both cooled and lubricated by the liquid flow through and past the motor.
Environmental	<ul style="list-style-type: none"> • The Red Jacket RA STP has an additional 30% increase in stainless steel hardware from The Red Jacket AG STP. • The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products. • The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment. • The product temperature must not exceed 105°F (40.5°C). • Petroleum shall not exceed the specific gravity as stated in the installation manuals (ranging from 0.86 - 0.95) based upon the specific pump model. • Maximum viscosity allowable – 70SSU @ 60°F (15°C). 	
Approvals	UL 79, UL 79A, UL 79B, cUL	
Product Installation Guide	https://www.veeder.com/us/technical-document-library	

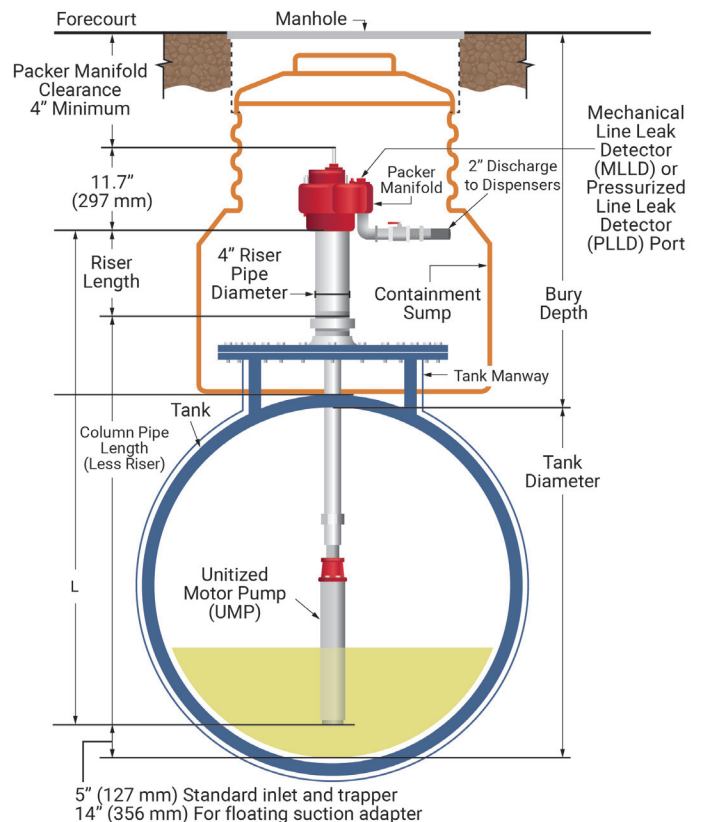
Bill of Materials	4" Red Jacket RA STP Models		
	Component	Material	Surface Finish
	Packer/Manifold Head	Gray Cast Iron	Powder Coat
	Elastomers – "O" Rings	High Grade Fluorocarbon	None
	Check Valve Seat	Stainless Steel	None
	Check Valve Lock Down Screw	Stainless Steel	None
	Column Pipes	Stainless Steel	None
	Conduit Pipe	1/2" Steel Pipe	Mill Finish
	Quick Set Connector	Stainless Steel	Passivation
	Discharge Head	Gray Cast Iron	Powder Coat
	Retaining Nuts	Stainless Steel	Passivation
	Die Springs	Stainless Steel	Passivation
	Purge Screw	Stainless Steel	Passivation
	Siphon Cartridge	Stainless Steel	Passivation
	Pump/Motor		
Outer Shell	Stainless Steel	None	
Stator Shell	Stainless Steel	None	
Rotor Shaft	Stainless Steel	None	
Impellers & Diffusers	(Acetel) Celcon® Plastic	None	
Motor Bearings	Carbon	None	


The Red Jacket RA STP Performance

Performance @ 230V; SG = 0.78



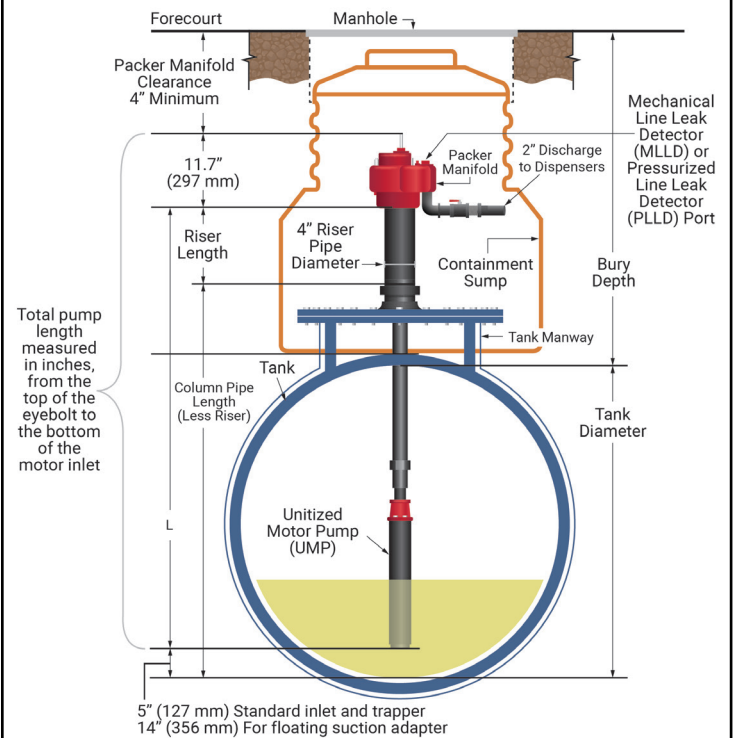
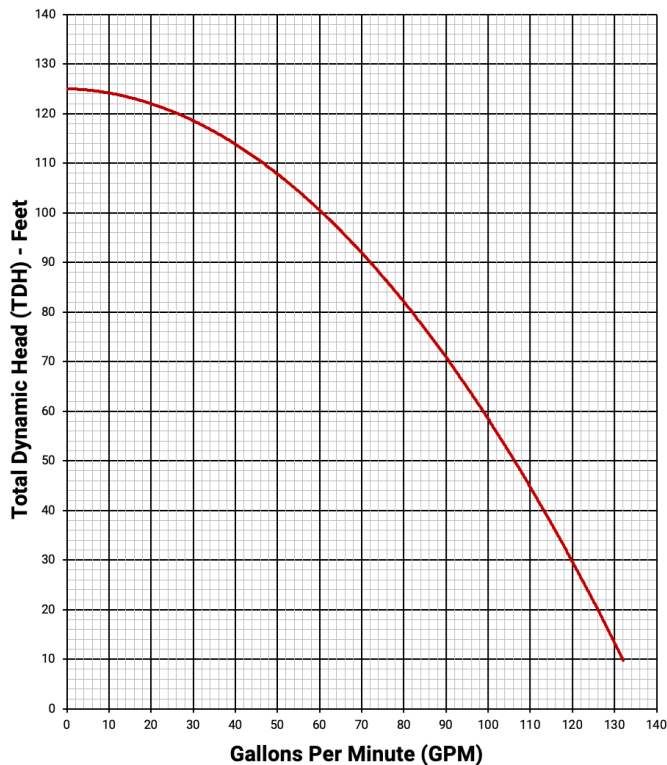
The Red Jacket RA STP Dimensions



STP Description	<p>The Red Jacket Submersible Turbine Pump (STP) is responsible for driving fuel from the storage tank, through the piping infrastructure and into the vehicle through the use of pressure energy. It optimizes fuel flow and dispensing, and its advanced packer manifold design makes it the industry's easiest and safest STP to install and service. Available in 3/4 HP to 4 HP configurations with variable Quick Set® lengths. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.</p>			
4" Red Jacket RA STP	Part #	Description	Model #	Notes
	0411000-001	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 81.6" – 111.6" Length	P400U4-3 RJ1	<ul style="list-style-type: none"> • 4 HP, 3 KW, 208/230 Voltage, Three-phase. • Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.
	0411000-002	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 111.6" – 171.6" Length	P400U4-3 RJ2	
	0411000-003	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 171.6" – 231.6" Length	P400U4-3 RJ3	
Fuel Compatibility	The Red Jacket Submersible Turbine Pump Model is UL Listed for:			STP Application Description
	<ul style="list-style-type: none"> • 100% Gasoline • 100% Diesel • 80% Gasoline with 20% TAME, ETBE or MTBE Gasoline • 85% Gasoline with 15% Methanol • 90% Gasoline with 10% Ethanol 			<p>STP shall be of submersible centrifugal type which installs through a standard 4" threaded tank opening. Motor size shall be from 3/4 through 4 HP, depending upon required flow rates and head loss of a given piping system.</p>
Mechanical Features	Pump			Impellers and Diffusers
	<p>Pump shall be multi-stage, dependent upon required flow rate, self-lubricating and easily removed from storage tank without disconnecting discharge piping, mechanical or electronic leak detectors or siphon systems. The pump and motor assembly shall be readily separable from the pump column pipe to allow for simple field replacement of the pump and motor.</p>			<p>Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.</p>
	Pump Intake Inlet			Manifold Head Assembly
	<p>Pump intake inlet shall be horizontal to prevent drawing sediment from the tank bottom into the pump inlet. The intake inlet shall be compatible with the particulate "Trapper" to prevent particulate from being ingested into the motor.</p>			<p>Manifold head assembly shall consist of a manifold and extractable packer assembly and shall be completely sealed against product leakage into the ground and exterior water intrusion into the storage tank. The discharge outlet shall be a 2" NPT opening. The manifold shall have a built-in air purge screw, line check valve, pressure relief valve, and shall support dual vacuum sensor siphon systems when required. The extractable packer shall incorporate industrial die springs to break loose the o-ring seals, when the flange nuts holding the extractable packer in place are removed. No physical lifting effort or special equipment shall be required to break the extractable packer seals. The contractor's box shall be built into the manifold head assembly and be completely isolated from the fuel path. The extractable packer assembly shall incorporate a lifting eye for safe extraction of the pump motor.</p>

Mechanical Features (Continued)	Electrical Disconnect	Check Valve with "Lock-n-Lift" Feature
	The electrical disconnect shall be an integral part of the manifold assembly. The electrical disconnect shall automatically disconnect and sever electrical connection to the pump motor, without a swing joint, when the extractable packer assembly is removed. Re-insertion of the extractable packer and tightening of the flange nuts shall remake the electrical connection.	The check valve shall incorporate a "Lock-n-Lift" feature that mechanically locks the check valve and lifts to provide a larger path to depressurize the line and manifold head assembly, returning fuel to the tank preventing service spills. The check valve shall provide pressure relief of the product line and be optimized for compatibility with Veeder-Root PLLD systems.
	Vacuum Sensor Siphon System	Quick Set®
	The vacuum sensor siphon system shall be capable of drawing 25" of mercury vacuum through a venturi. The vacuum sensor siphon shall incorporate a check valve to maintain the siphon system vacuum after the pump has been turned off. Check valves shall be incorporated on the siphon inlet and fuel source inlet to the venturi. The inlet shall incorporate a screen that reduces clogs and failures that can cause false alarms on vacuum monitor systems. The vacuum sensor siphon system shall incorporate a swivel top for easy connection to siphon tubing. The vacuum sensor siphon system shall be designed to integrate with Veeder-Root Vacuum Sensors. The manifold head assembly shall support dual vacuum sensor siphon systems for vacuum monitoring or siphon manifold applications. Unused vacuum siphon ports shall be sealed with a plug designed specifically for that purpose.	The Quick Set feature shall be capable of varying the overall pump length. The Quick Set shall incorporate a collet gripping mechanism and setscrew as a locking mechanism allowing future resizing.
Electrical Features	Electric Motors – 4" Models	Connections
	The motor shall be 208/230 volt, 60Hz, 3-phase, 3450 RPM, permanent type continuous duty, rated explosion proof in Class 1, Group D, petroleum products. The motor windings shall be hermetically sealed against leakage of product or moisture, and shall have a thermal overload device with automatic reset built into the motor windings for motor cut-off when motor temperature reaches a level which may cause damage to the motor.	The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting wires. Wiring connections to the motor shall be disconnected by the quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/female connector.
Construction	Accessibility	Assembly Order
	All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge piping, leak detection equipment and vacuum sensor siphon systems.	The pump shall be assembled with the pump inlet and impellers at the bottom for maximum liquid draw. The motor is to be mounted above the pump inlet, so that the motor is both cooled and lubricated by the liquid flow through and past the motor.
Environmental	<ul style="list-style-type: none"> • The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products. • The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment. • The product temperature must not exceed 105°F (40.5°C). • Petroleum shall not exceed the specific gravity as stated in the installation manuals (ranging from 0.86 - 0.95) based upon the on specific pump model. • Maximum viscosity allowable – 70SSU @ 60°F (15°C). 	
Approvals	UL 79, cUL	
Product Installation Guide	https://www.veeder.com/us/technical-document-library	


Bill of Materials	4" Red Jacket STP Models		
	Component	Material	Surface Finish
	Packer/Manifold Head	Gray Cast Iron	Low Volatile Organic Compound Paint
	Elastomers – "O" Rings	Fluorocarbon	None
	Check Valve Seat	Stainless Steel	None
	Check Valve Lock Down Screw	Brass	None
	Column Pipes	Steel Tubing	Powder Primer
	Conduit Pipe	1/2" Steel Pipe	Mill Finish
	Quick Set Connector	Gray Cast Iron	Phosphate and Oil
	Discharge Head	Gray Cast Iron	Corrosion Inhibitor
	Retaining Nuts	Steel	Zinc Plating
	Die Springs	Spring Steel	Enamel Paint
	Purge Screw	Brass	None
	Siphon Cartridge	Brass	None
	Pump/Motor		
	Outer Shell	Stainless Steel	None
	Stator Shell	Stainless Steel	None
Rotor Shaft	Stainless Steel	None	
Impellers & Diffusers	(Acetel) Celcon® Plastic	None	
Motor Bearings	Carbon	None	

The Red Jacket STP Performance
The Red Jacket STP Dimensions
Performance @ 230VAC 60Hz; SG = 0.73


The Red Jacket®
Submersible Turbine Pumps
50Hz

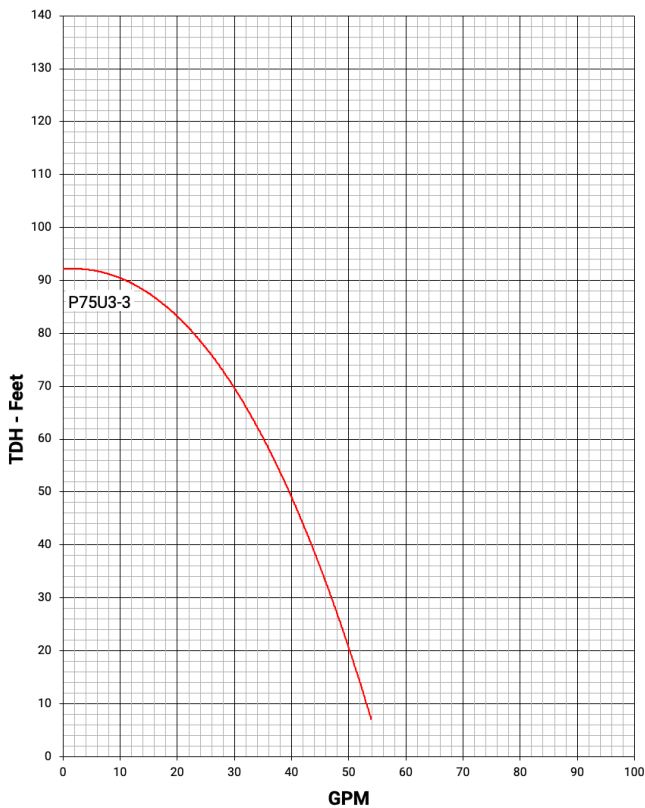
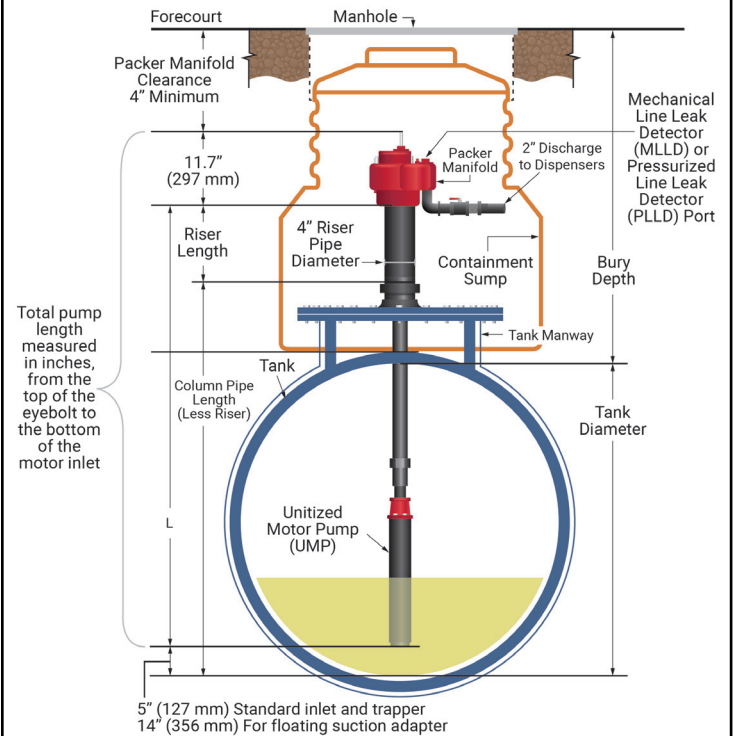



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4" Red Jacket STP	Part #	Description	Model #	Notes
	0410140-046	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 74" - 104.5" Length	P75U3-3 RJ1	<ul style="list-style-type: none"> • 3/4 HP, 0.56 KW, 220/240 Voltage, single-phase.
	0410140-047	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 104" - 164.5" Length	P75U3-3 RJ2	<ul style="list-style-type: none"> • Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.
	0410140-048	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 164" - 224.5" Length	P75U3-3 RJ3	<ul style="list-style-type: none"> • FSA stands for Floating Suction Adapter.
	0410140-049	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 76.4" - 106.9" Length	P75U3-3 RJ1 FSA	
	0410140-050	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 106.4" - 166.9" Length	P75U3-3 RJ2 FSA	
	0410140-051	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 166.4" - 226.9" Length	P75U3-3 RJ3 FSA	
Fuel Compatibility	The Red Jacket Submersible Turbine Pump Model is UL Listed for:			STP Application Description
	<ul style="list-style-type: none"> • 100% Gasoline • 100% Diesel • 80% Gasoline with 20% TAME, ETBE or MTBE Gasoline • 85% Gasoline with 15% Methanol • 90% Gasoline with 10% Ethanol 			<p>STP shall be of submersible centrifugal type which installs through a standard 4" threaded tank opening. Motor size shall be from 3/4 through 2 HP, depending upon required flow rates and head loss of a given piping system.</p>
Mechanical Features	Pump			Impellers and Diffusers
	<p>Pump shall be multi-stage, dependent upon required flow rate, self-lubricating and easily removed from storage tank without disconnecting discharge piping, mechanical or electronic leak detectors or siphon systems. The pump and motor assembly shall be readily separable from the pump column pipe to allow for simple field replacement of the pump and motor.</p>			<p>Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.</p>
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Mechanical Features (Continued)	Electrical Disconnect	Check Valve with "Lock-n-Lift" Feature
	The electrical disconnect shall be an integral part of the manifold assembly. The electrical disconnect shall automatically disconnect and sever electrical connection to the pump motor, without a swing joint, when the extractable packer assembly is removed. Re-insertion of the extractable packer and tightening of the flange nuts shall remake the electrical connection.	The check valve shall incorporate a "Lock-n-Lift" feature that mechanically locks the check valve and lifts to provide a larger path to depressurize the line and manifold head assembly, returning fuel to the tank preventing service spills. The check valve shall provide pressure relief of the product line and be optimized for compatibility with Veeder-Root PLLD systems.
Mechanical Features (Continued)	Vacuum Sensor Siphon System	Quick Set®
	The vacuum sensor siphon system shall be capable of drawing 25" of mercury vacuum through a venturi. The vacuum sensor siphon shall incorporate a check valve to maintain the siphon system vacuum after the pump has been turned off. Check valves shall be incorporated on the siphon inlet and fuel source inlet to the venturi. The inlet shall incorporate a screen that reduces clogs and failures that can cause false alarms on vacuum monitor systems. The vacuum sensor siphon system shall incorporate a swivel top for easy connection to siphon tubing. The vacuum sensor siphon system shall be designed to integrate with Veeder-Root Vacuum Sensors. The manifold head assembly shall support dual vacuum sensor siphon systems for vacuum monitoring or siphon manifold applications. Unused vacuum siphon ports shall be sealed with a plug designed specifically for that purpose.	The Quick Set feature shall be capable of varying the overall pump length. The Quick Set shall incorporate a collet gripping mechanism and setscrew as a locking mechanism allowing future resizing.
Electrical Features	Electric Motors – 4" Models	Connections
	The motor shall be 220/240 volt, 50 Hz, single-phase, 2850 RPM, permanent split capacitor type continuous duty, rated explosion proof in Class 1, Group D, petroleum products. The motor windings shall be hermetically sealed against leakage of product or moisture, and shall have a thermal overload device with automatic reset built into the motor windings for motor cut-off when motor temperature reaches a level which may cause damage to the motor.	The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting wires. Wiring connections to the motor shall be disconnected by the quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/female connector.
Construction	Accessibility	Assembly Order
	All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge piping, leak detection equipment and vacuum sensor siphon systems.	The pump shall be assembled with the pump inlet and impellers at the bottom for maximum liquid draw. The motor is to be mounted above the pump inlet, so that the motor is both cooled and lubricated by the liquid flow through and past the motor.
Environmental	<ul style="list-style-type: none"> • The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products. • The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment. • The product temperature must not exceed 105°F (40.5°C). • Petroleum shall not exceed the specific gravity as stated in the installation manuals (ranging from 0.86 - 0.95) based upon the on specific pump model. • Maximum viscosity allowable – 70SSU @ 60°F (15°C). 	
Approvals	UL 79, cUL	
Product Installation Guide	https://www.veeder.com/us/technical-document-library	

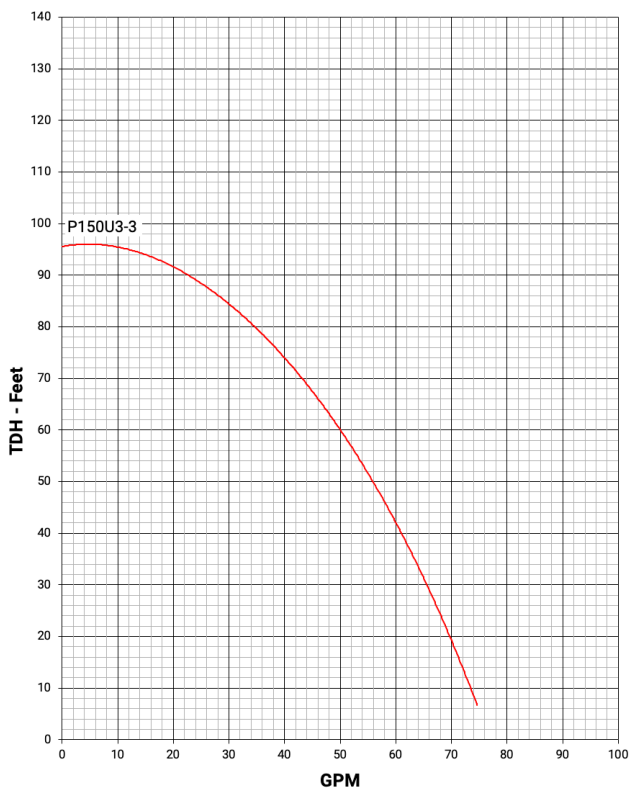
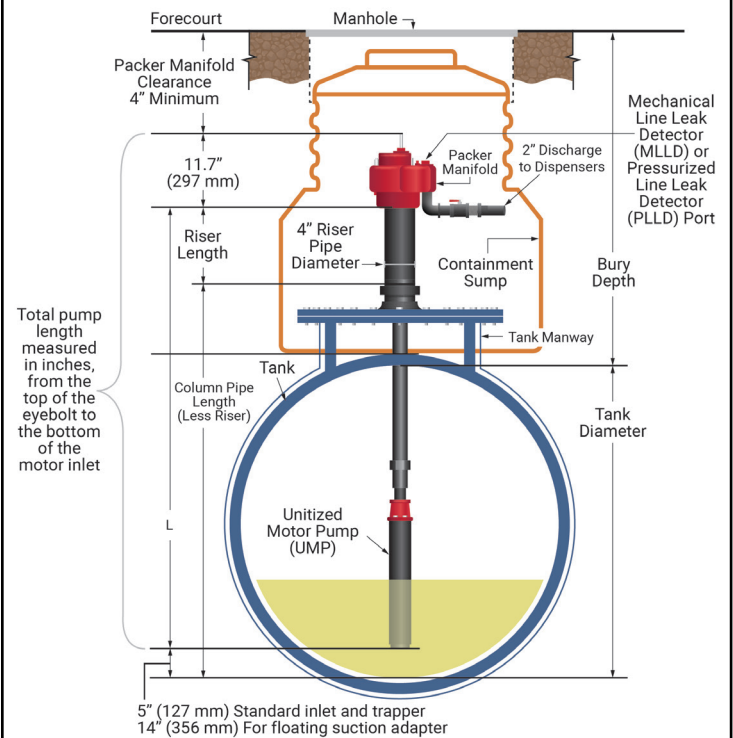
Bill of Materials	4" Red Jacket STP Models		
	Component	Material	Surface Finish
	Packer/Manifold Head	Gray Cast Iron	Low Volatile Organic Compound Paint
	Elastomers – "O" Rings	Fluorocarbon	None
	Check Valve Seat	Stainless Steel	None
	Check Valve Lock Down Screw	Brass	None
	Column Pipes	Steel Tubing	Powder Primer
	Conduit Pipe	1/2" Steel Pipe	Mill Finish
	Quick Set Connector	Gray Cast Iron	Phosphate and Oil
	Discharge Head	Gray Cast Iron	Corrosion Inhibitor
	Retaining Nuts	Steel	Zinc Plating
	Die Springs	Spring Steel	Enamel Paint
	Purge Screw	Brass	None
	Siphon Cartridge	Brass	None
	Pump/Motor		
	Outer Shell	Stainless Steel	None
	Stator Shell	Stainless Steel	None
Rotor Shaft	Stainless Steel	None	
Impellers & Diffusers	(Acetel) Celcon® Plastic	None	
Motor Bearings	Carbon	None	


The Red Jacket STP Performance
Performance @ 230V; SG = 0.78

The Red Jacket STP Dimensions


STP Description	<p>The Red Jacket Submersible Turbine Pump (STP) is responsible for driving fuel from the storage tank, through the piping infrastructure and into the vehicle through the use of pressure energy. It optimizes fuel flow and dispensing, and its advanced packer manifold design makes it the industry's easiest and safest STP to install and service. Available in 3/4 HP to 2 HP configurations in variable Quick Set® lengths. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.</p>																									
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Fuel Compatibility	<p>The Red Jacket Submersible Turbine Pump Model is UL Listed for:</p> <ul style="list-style-type: none"> 100% Gasoline 100% Diesel 80% Gasoline with 20% TAME, ETBE or MTBE Gasoline 85% Gasoline with 15% Methanol 90% Gasoline with 10% Ethanol 		<p>STP Application Description</p> <p>STP shall be of submersible centrifugal type which installs through a standard 4" threaded tank opening. Motor size shall be from 3/4 through 2 HP, depending upon required flow rates and head loss of a given piping system.</p>																							
Mechanical Features	<p>Pump</p> <p>Pump shall be multi-stage, dependent upon required flow rate, self-lubricating and easily removed from storage tank without disconnecting discharge piping, mechanical or electronic leak detectors or siphon systems. The pump and motor assembly shall be readily separable from the pump column pipe to allow for simple field replacement of the pump and motor.</p>		<p>Impellers and Diffusers</p> <p>Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.</p>																							
	<p>Pump Intake Inlet</p> <p>Pump intake inlet shall be horizontal to prevent drawing sediment from the tank bottom into the pump inlet. The intake inlet shall be compatible with the particulate "Trapper" to prevent particulates from being ingested into the motor.</p>		<p>Manifold Head Assembly</p> <p>Manifold head assembly shall consist of a manifold and extractable packer assembly and shall be completely sealed against product leakage into the ground and exterior water intrusion into the storage tank. The discharge outlet shall be a 2" NPT opening. The manifold shall have a built-in air purge screw, line check valve, pressure relief valve, and shall support dual vacuum sensor siphon systems when required. The extractable packer shall incorporate industrial die springs to break loose the o-ring seals, when the flange nuts holding the extractable packer in place are removed. No physical lifting effort or special equipment shall be required to break the extractable packer seals. The contractor's box shall be built into the manifold head assembly and be completely isolated from the fuel path. The extractable packer assembly shall incorporate a lifting eye for safe extraction of the pump motor.</p>																							

Mechanical Features (Continued)	Electrical Disconnect	Check Valve with "Lock-n-Lift" Feature
	The electrical disconnect shall be an integral part of the manifold assembly. The electrical disconnect shall automatically disconnect and sever electrical connection to the pump motor, without a swing joint, when the extractable packer assembly is removed. Re-insertion of the extractable packer and tightening of the flange nuts shall remake the electrical connection.	The check valve shall incorporate a "Lock-n-Lift" feature that mechanically locks the check valve and lifts to provide a larger path to depressurize the line and manifold head assembly, returning fuel to the tank preventing service spills. The check valve shall provide pressure relief of the product line and be optimized for compatibility with Veeder-Root PLLD systems.
Mechanical Features (Continued)	Vacuum Sensor Siphon System	Quick Set®
	The vacuum sensor siphon system shall be capable of drawing 25" of mercury vacuum through a venturi. The vacuum sensor siphon shall incorporate a check valve to maintain the siphon system vacuum after the pump has been turned off. Check valves shall be incorporated on the siphon inlet and fuel source inlet to the venturi. The inlet shall incorporate a screen that reduces clogs and failures that can cause false alarms on vacuum monitor systems. The vacuum sensor siphon system shall incorporate a swivel top for easy connection to siphon tubing. The vacuum sensor siphon system shall be designed to integrate with Veeder-Root Vacuum Sensors. The manifold head assembly shall support dual vacuum sensor siphon systems for vacuum monitoring or siphon manifold applications. Unused vacuum siphon ports shall be sealed with a plug designed specifically for that purpose.	The Quick Set feature shall be capable of varying the overall pump length. The Quick Set shall incorporate a collet gripping mechanism and setscrew as a locking mechanism allowing future resizing.
Electrical Features	Electric Motors – 4" Models	Connections
	The motor shall be 220/240 volt, 50 Hz, single-phase, 2850 RPM, permanent split capacitor type continuous duty, rated explosion proof in Class 1, Group D, petroleum products. The motor windings shall be hermetically sealed against leakage of product or moisture, and shall have a thermal overload device with automatic reset built into the motor windings for motor cut-off when motor temperature reaches a level which may cause damage to the motor.	The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting wires. Wiring connections to the motor shall be disconnected by the quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/female connector.
Construction	Accessibility	Assembly Order
	All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge piping, leak detection equipment and vacuum sensor siphon systems.	The pump shall be assembled with the pump inlet and impellers at the bottom for maximum liquid draw. The motor is to be mounted above the pump inlet, so that the motor is both cooled and lubricated by the liquid flow through and past the motor.
Environmental	<ul style="list-style-type: none"> The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products. The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment. The product temperature must not exceed 105°F (40.5°C). Petroleum shall not exceed the specific gravity as stated in the installation manuals (ranging from 0.86 - 0.95) based upon the on specific pump model. Maximum viscosity allowable – 70SSU @ 60°F (15°C). 	
Approvals	UL 79, cUL	
Product Installation Guide	https://www.veeder.com/us/technical-document-library	

Bill of Materials	4" Red Jacket STP Models		
	Component	Material	Surface Finish
	Packer/Manifold Head	Gray Cast Iron	Low Volatile Organic Compound Paint
	Elastomers – "O" Rings	Fluorocarbon	None
	Check Valve Seat	Stainless Steel	None
	Check Valve Lock Down Screw	Brass	None
	Column Pipes	Steel Tubing	Powder Primer
	Conduit Pipe	1/2" Steel Pipe	Mill Finish
	Quick Set Connector	Gray Cast Iron	Phosphate and Oil
	Discharge Head	Gray Cast Iron	Corrosion Inhibitor
	Retaining Nuts	Steel	Zinc Plating
	Die Springs	Spring Steel	Enamel Paint
	Purge Screw	Brass	None
	Siphon Cartridge	Brass	None
	Pump/Motor		
	Outer Shell	Stainless Steel	None
	Stator Shell	Stainless Steel	None
Rotor Shaft	Stainless Steel	None	
Impellers & Diffusers	(Acetel) Celcon® Plastic	None	
Motor Bearings	Carbon	None	

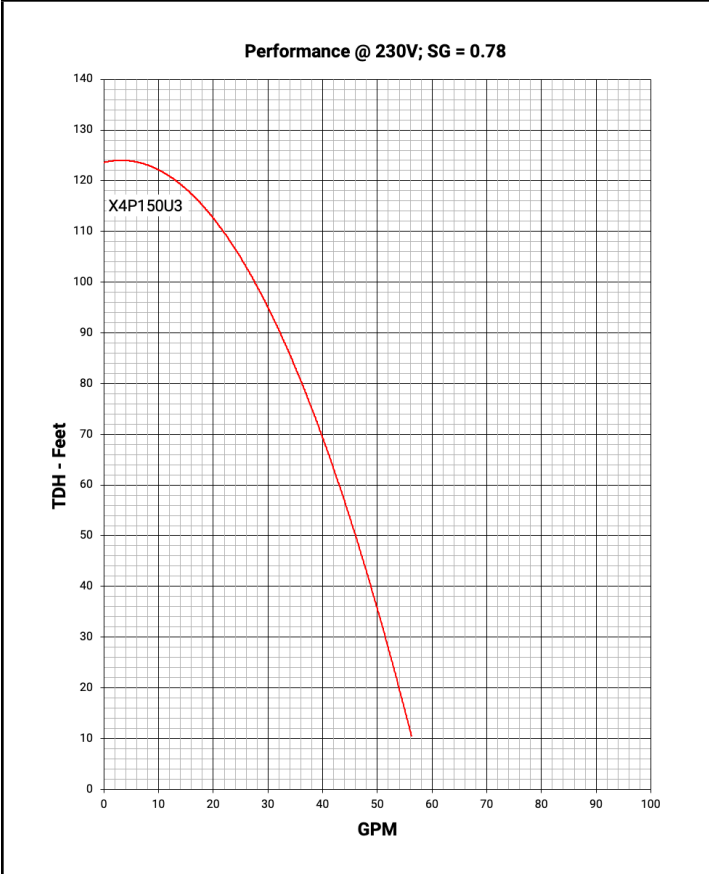
The Red Jacket STP Performance
Performance @ 230V; SG = 0.78

The Red Jacket STP Dimensions


STP Description	<p>The Red Jacket Submersible Turbine Pump (STP) is responsible for driving fuel from the storage tank, through the piping infrastructure and into the vehicle through the use of pressure energy. It optimizes fuel flow and dispensing, and its advanced packer manifold design makes it the industry's easiest and safest STP to install and service. Available in 3/4 HP to 2 HP configurations in variable Quick Set® lengths. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.</p>			
4" Red Jacket STP	Part #	Description	Model #	Notes
	0410143-043	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 76.5" - 107" Length	X4P150U3 RJ1	<ul style="list-style-type: none"> 1.5 HP – High Pressure, 1.13 KW, 220/240 Voltage, single-phase.
	0410143-044	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 106.5" - 167" Length	X4P150U3 RJ2	<ul style="list-style-type: none"> Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.
	0410143-045	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 166.5" - 227" Length	X4P150U3 RJ3	<ul style="list-style-type: none"> FSA stands for Floating Suction Adapter.
	0410143-046	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 78.9" - 109.4" Length	X4P150U3 RJ1 FSA	
	0410143-047	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 108.9" - 169.4" Length	X4P150U3 RJ2 FSA	
	0410143-048	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 168.9" - 229.4" Length	X4P150U3 RJ3 FSA	
Fuel Compatibility	The Red Jacket Submersible Turbine Pump Model is UL Listed for:			STP Application Description
	<ul style="list-style-type: none"> 100% Gasoline 100% Diesel 80% Gasoline with 20% TAME, ETBE or MTBE Gasoline 85% Gasoline with 15% Methanol 90% Gasoline with 10% Ethanol 			<p>STP shall be of submersible centrifugal type which installs through a standard 4" threaded tank opening. Motor size shall be from 3/4 through 2 HP, depending upon required flow rates and head loss of a given piping system.</p>
Mechanical Features	Pump			Impellers and Diffusers
	<p>Pump shall be multi-stage, dependent upon required flow rate, self-lubricating and easily removed from storage tank without disconnecting discharge piping, mechanical or electronic leak detectors or siphon systems. The pump and motor assembly shall be readily separable from the pump column pipe to allow for simple field replacement of the pump and motor.</p>			<p>Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.</p>
	Pump Intake Inlet			Manifold Head Assembly
	<p>Pump intake inlet shall be horizontal to prevent drawing sediment from the tank bottom into the pump inlet. The intake inlet shall be compatible with the particulate "Trapper" to prevent particulates from being ingested into the motor.</p>			<p>Manifold head assembly shall consist of a manifold and extractable packer assembly and shall be completely sealed against product leakage into the ground and exterior water intrusion into the storage tank. The discharge outlet shall be a 2" NPT opening. The manifold shall have a built-in air purge screw, line check valve, pressure relief valve, and shall support dual vacuum sensor siphon systems when required. The extractable packer shall incorporate industrial die springs to break loose the o-ring seals, when the flange nuts holding the extractable packer in place are removed. No physical lifting effort or special equipment shall be required to break the extractable packer seals. The contractor's box shall be built into the manifold head assembly and be completely isolated from the fuel path. The extractable packer assembly shall incorporate a lifting eye for safe extraction of the pump motor.</p>

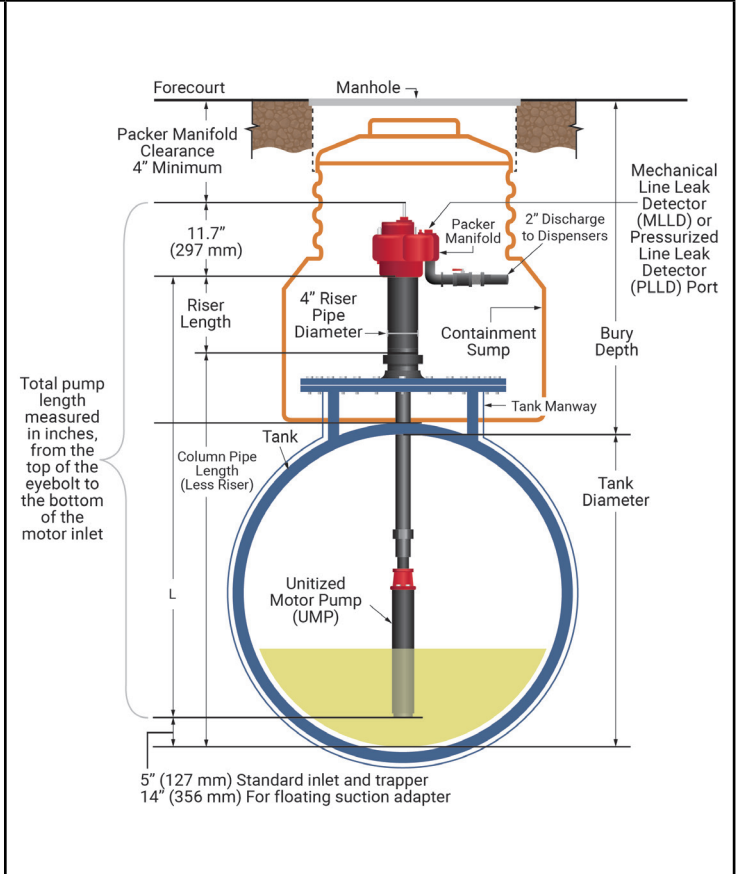
Mechanical Features (Continued)	Electrical Disconnect	Check Valve with "Lock-n-Lift" Feature
	The electrical disconnect shall be an integral part of the manifold assembly. The electrical disconnect shall automatically disconnect and sever electrical connection to the pump motor, without a swing joint, when the extractable packer assembly is removed. Re-insertion of the extractable packer and tightening of the flange nuts shall remake the electrical connection.	The check valve shall incorporate a "Lock-n-Lift" feature that mechanically locks the check valve and lifts to provide a larger path to depressurize the line and manifold head assembly, returning fuel to the tank preventing service spills. The check valve shall provide pressure relief of the product line and be optimized for compatibility with Veeder-Root PLLD systems.
	Vacuum Sensor Siphon System	Quick Set®
	The vacuum sensor siphon system shall be capable of drawing 25" of mercury vacuum through a venturi. The vacuum sensor siphon shall incorporate a check valve to maintain the siphon system vacuum after the pump has been turned off. Check valves shall be incorporated on the siphon inlet and fuel source inlet to the venturi. The inlet shall incorporate a screen that reduces clogs and failures that can cause false alarms on vacuum monitor systems. The vacuum sensor siphon system shall incorporate a swivel top for easy connection to siphon tubing. The vacuum sensor siphon system shall be designed to integrate with Veeder-Root Vacuum Sensors. The manifold head assembly shall support dual vacuum sensor siphon systems for vacuum monitoring or siphon manifold applications. Unused vacuum siphon ports shall be sealed with a plug designed specifically for that purpose.	The Quick Set feature shall be capable of varying the overall pump length. The Quick Set shall incorporate a collet gripping mechanism and setscrew as a locking mechanism allowing future resizing.
Electrical Features	Electric Motors – 4" Models	Connections
	The motor shall be 220/240 volt, 50 Hz, single-phase, 2850 RPM, permanent split capacitor type continuous duty, rated explosion proof in Class 1, Group D, petroleum products. The motor windings shall be hermetically sealed against leakage of product or moisture, and shall have a thermal overload device with automatic reset built into the motor windings for motor cut-off when motor temperature reaches a level which may cause damage to the motor.	The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting wires. Wiring connections to the motor shall be disconnected by the quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/female connector.
Construction	Accessibility	Assembly Order
	All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge piping, leak detection equipment and vacuum sensor siphon systems.	The pump shall be assembled with the pump inlet and impellers at the bottom for maximum liquid draw. The motor is to be mounted above the pump inlet, so that the motor is both cooled and lubricated by the liquid flow through and past the motor.
Environmental	<ul style="list-style-type: none"> • The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products. • The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment. • The product temperature must not exceed 105°F (40.5°C). • Petroleum shall not exceed the specific gravity as stated in the installation manuals (ranging from 0.86 - 0.95) based upon the on specific pump model. • Maximum viscosity allowable – 70SSU @ 60°F (15°C). 	
Approvals	UL 79, cUL	
Product Installation Guide	https://www.veeder.com/us/technical-document-library	


Bill of Materials	4" Red Jacket STP Models		
	Component	Material	Surface Finish
	Packer/Manifold Head	Gray Cast Iron	Low Volatile Organic Compound Paint
	Elastomers – "O" Rings	Fluorocarbon	None
	Check Valve Seat	Stainless Steel	None
	Check Valve Lock Down Screw	Brass	None
	Column Pipes	Steel Tubing	Powder Primer
	Conduit Pipe	1/2" Steel Pipe	Mill Finish
	Quick Set Connector	Gray Cast Iron	Phosphate and Oil
	Discharge Head	Gray Cast Iron	Corrosion Inhibitor
	Retaining Nuts	Steel	Zinc Plating
	Die Springs	Spring Steel	Enamel Paint
	Purge Screw	Brass	None
	Siphon Cartridge	Brass	None
	Pump/Motor		
	Outer Shell	Stainless Steel	None
	Stator Shell	Stainless Steel	None
Rotor Shaft	Stainless Steel	None	
Impellers & Diffusers	(Acetel) Celcon® Plastic	None	
Motor Bearings	Carbon	None	

The Red Jacket STP Performance



The Red Jacket STP Dimensions

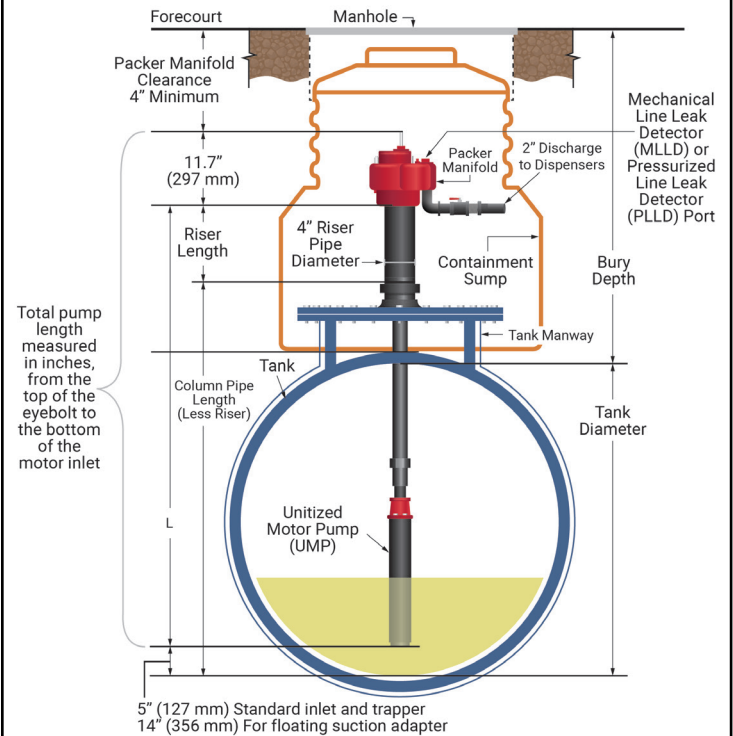



STP Description	<p>The Red Jacket Submersible Turbine Pump (STP) is responsible for driving fuel from the storage tank, through the piping infrastructure and into the vehicle through the use of pressure energy. It optimizes fuel flow and dispensing, and its advanced packer manifold design makes it the industry's easiest and safest STP to install and service. Available in 3/4 HP to 2 HP configurations in variable Quick Set® lengths. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.</p>																									
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0410488-002	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 110" - 170.5" Length	P200U3-4 RJ2																								
0410488-003	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 170" - 230.5" Length	P200U3-4 RJ3																								
0410488-004	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 82.4" - 112.9" Length	P200U3-4 RJ1 FSA																								
0410488-005	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 112.4" - 172.9" Length	P200U3-4 RJ2 FSA																								
0410488-006	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 172.4" - 232.9" Length	P200U3-4 RJ3 FSA																								
Notes																										
<ul style="list-style-type: none"> • 2 HP, 1.5 KW, 220/240 Voltage, single-phase. • Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet. • FSA stands for Floating Suction Adapter. 																										
Fuel Compatibility	<p>The Red Jacket Submersible Turbine Pump Model is UL Listed for:</p> <ul style="list-style-type: none"> • 100% Gasoline • 100% Diesel • 80% Gasoline with 20% TAME, ETBE or MTBE Gasoline • 85% Gasoline with 15% Methanol • 90% Gasoline with 10% Ethanol 		<p>STP Application Description</p> <p>STP shall be of submersible centrifugal type which installs through a standard 4" threaded tank opening. Motor size shall be from 3/4 through 2 HP, depending upon required flow rates and head loss of a given piping system.</p>																							
Mechanical Features	<p>Pump</p> <p>Pump shall be multi-stage, dependent upon required flow rate, self-lubricating and easily removed from storage tank without disconnecting discharge piping, mechanical or electronic leak detectors or siphon systems. The pump and motor assembly shall be readily separable from the pump column pipe to allow for simple field replacement of the pump and motor.</p>		<p>Impellers and Diffusers</p> <p>Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.</p>																							
	<p>Pump Intake Inlet</p> <p>Pump intake inlet shall be horizontal to prevent drawing sediment from the tank bottom into the pump inlet. The intake inlet shall be compatible with the particulate "Trapper" to prevent particulates from being ingested into the motor.</p>		<p>Manifold Head Assembly</p> <p>Manifold head assembly shall consist of a manifold and extractable packer assembly and shall be completely sealed against product leakage into the ground and exterior water intrusion into the storage tank. The discharge outlet shall be a 2" NPT opening. The manifold shall have a built-in air purge screw, line check valve, pressure relief valve, and shall support dual vacuum sensor siphon systems when required. The extractable packer shall incorporate industrial die springs to break loose the o-ring seals, when the flange nuts holding the extractable packer in place are removed. No physical lifting effort or special equipment shall be required to break the extractable packer seals. The contractor's box shall be built into the manifold head assembly and be completely isolated from the fuel path. The extractable packer assembly shall incorporate a lifting eye for safe extraction of the pump motor.</p>																							

Mechanical Features (Continued)	Electrical Disconnect	Check Valve with "Lock-n-Lift" Feature
	The electrical disconnect shall be an integral part of the manifold assembly. The electrical disconnect shall automatically disconnect and sever electrical connection to the pump motor, without a swing joint, when the extractable packer assembly is removed. Re-insertion of the extractable packer and tightening of the flange nuts shall remake the electrical connection.	The check valve shall incorporate a "Lock-n-Lift" feature that mechanically locks the check valve and lifts to provide a larger path to depressurize the line and manifold head assembly, returning fuel to the tank preventing service spills. The check valve shall provide pressure relief of the product line and be optimized for compatibility with Veeder-Root PLLD systems.
Mechanical Features (Continued)	Vacuum Sensor Siphon System	Quick Set®
	The vacuum sensor siphon system shall be capable of drawing 25" of mercury vacuum through a venturi. The vacuum sensor siphon shall incorporate a check valve to maintain the siphon system vacuum after the pump has been turned off. Check valves shall be incorporated on the siphon inlet and fuel source inlet to the venturi. The inlet shall incorporate a screen that reduces clogs and failures that can cause false alarms on vacuum monitor systems. The vacuum sensor siphon system shall incorporate a swivel top for easy connection to siphon tubing. The vacuum sensor siphon system shall be designed to integrate with Veeder-Root Vacuum Sensors. The manifold head assembly shall support dual vacuum sensor siphon systems for vacuum monitoring or siphon manifold applications. Unused vacuum siphon ports shall be sealed with a plug designed specifically for that purpose.	The Quick Set feature shall be capable of varying the overall pump length. The Quick Set shall incorporate a collet gripping mechanism and setscrew as a locking mechanism allowing future resizing.
Electrical Features	Electric Motors – 4" Models	Connections
	The motor shall be 220/240 volt, 50 Hz, single-phase, 2850 RPM, permanent split capacitor type continuous duty, rated explosion proof in Class 1, Group D, petroleum products. The motor windings shall be hermetically sealed against leakage of product or moisture, and shall have a thermal overload device with automatic reset built into the motor windings for motor cut-off when motor temperature reaches a level which may cause damage to the motor.	The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting wires. Wiring connections to the motor shall be disconnected by the quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/female connector.
Construction	Accessibility	Assembly Order
	All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge piping, leak detection equipment and vacuum sensor siphon systems.	The pump shall be assembled with the pump inlet and impellers at the bottom for maximum liquid draw. The motor is to be mounted above the pump inlet, so that the motor is both cooled and lubricated by the liquid flow through and past the motor.
Environmental	<ul style="list-style-type: none"> • The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products. • The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment • The product temperature must not exceed 105°F (40.5°C). • Petroleum shall not exceed the specific gravity as stated in the installation manuals (ranging from 0.86 - 0.95) based upon the on specific pump model. • Maximum viscosity allowable – 70SSU @ 60°F (15°C). 	
Approvals	UL 79, cUL	
Product Installation Guide	https://www.veeder.com/us/technical-document-library	

Bill of Materials	4" Red Jacket STP Models		
	Component	Material	Surface Finish
	Packer/Manifold Head	Gray Cast Iron	Low Volatile Organic Compound Paint
	Elastomers – "O" Rings	Fluorocarbon	None
	Check Valve Seat	Stainless Steel	None
	Check Valve Lock Down Screw	Brass	None
	Column Pipes	Steel Tubing	Powder Primer
	Conduit Pipe	1/2" Steel Pipe	Mill Finish
	Quick Set Connector	Gray Cast Iron	Phosphate and Oil
	Discharge Head	Gray Cast Iron	Corrosion Inhibitor
	Retaining Nuts	Steel	Zinc Plating
	Die Springs	Spring Steel	Enamel Paint
	Purge Screw	Brass	None
	Siphon Cartridge	Brass	None
	Pump/Motor		
	Outer Shell	Stainless Steel	None
	Stator Shell	Stainless Steel	None
Rotor Shaft	Stainless Steel	None	
Impellers & Diffusers	(Acetel) Celcon® Plastic	None	
Motor Bearings	Carbon	None	

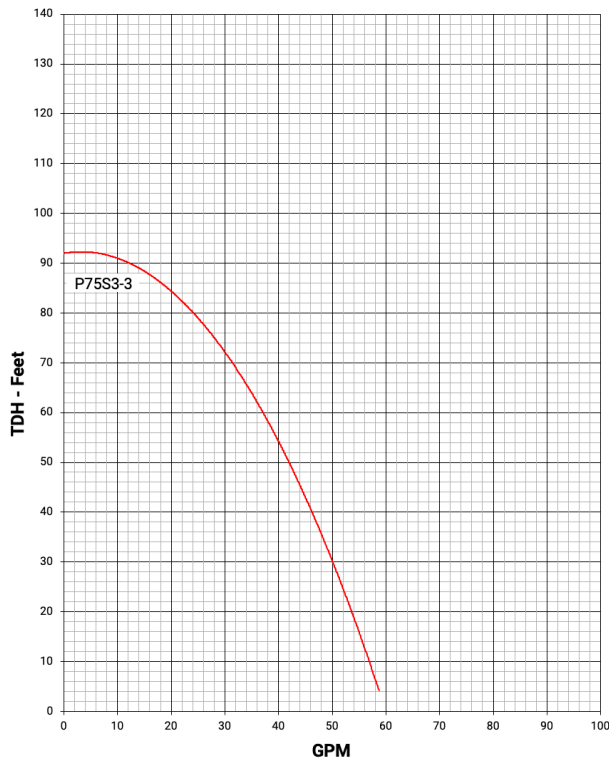
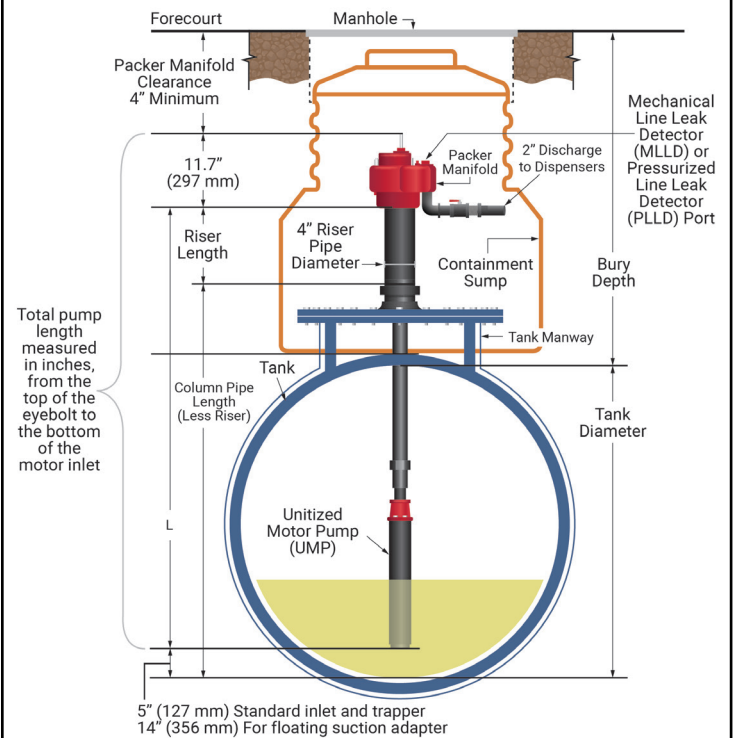
The Red Jacket STP Performance
Performance @ 230V; SG = 0.78


The Red Jacket STP Dimensions


STP Description	<p>The Red Jacket Alcohol Gas (AG) Submersible Turbine Pump (STP) is responsible for driving fuel from the storage tank, through the piping infrastructure and into the vehicle through the use of pressure energy. It optimizes fuel flow and dispensing, and its advanced packer manifold design makes it the industry's easiest and safest STP to install and service. Available in 3/4 HP to 2 HP configurations in variable Quick Set® lengths, and designed for alternative fuels – such as alcohol and ethanol. Red Jacket Submersible Turbine Pump AG is a fixed-speed alcohol gas fuel pump with a motor that delivers a higher flow rate than comparable submersible fuel motors, to optimize fuel flow and dispensing. It has an additional 30% increase in stainless steel hardware from The Red Jacket STP. It has all the advantages of The Red Jacket STP design, but was constructed with stainless steel on all parts exposed to the fuel path. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.</p>																									
4" Red Jacket AG STP	<table border="1"> <thead> <tr> <th>Part #</th> <th>Description</th> <th>Model #</th> </tr> </thead> <tbody> <tr> <td>0410140-058</td> <td>4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 74" - 104.5" Length</td> <td>AGP75S3-3 RJ1</td> </tr> <tr> <td>0410140-059</td> <td>4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 104" - 164.5" Length</td> <td>AGP75S3-3 RJ2</td> </tr> <tr> <td>0410140-060</td> <td>4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 164" - 224.5" Length</td> <td>AGP75S3-3 RJ3</td> </tr> <tr> <td>0410140-061</td> <td>4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 76.4" - 106.9" Length</td> <td>AGP75S3-3 RJ1 FSA</td> </tr> <tr> <td>0410140-062</td> <td>4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 106.4" - 166.9" Length</td> <td>AGP75S3-3 RJ2 FSA</td> </tr> <tr> <td>0410140-063</td> <td>4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 166.4" - 226.9" Length</td> <td>AGP75S3-3 RJ3 FSA</td> </tr> </tbody> </table>	Part #	Description	Model #	0410140-058	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 74" - 104.5" Length	AGP75S3-3 RJ1	0410140-059	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 104" - 164.5" Length	AGP75S3-3 RJ2	0410140-060	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 164" - 224.5" Length	AGP75S3-3 RJ3	0410140-061	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 76.4" - 106.9" Length	AGP75S3-3 RJ1 FSA	0410140-062	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 106.4" - 166.9" Length	AGP75S3-3 RJ2 FSA	0410140-063	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 166.4" - 226.9" Length	AGP75S3-3 RJ3 FSA		<table border="1"> <thead> <tr> <th>Notes</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> • 3/4 HP, 0.56 KW, 220/240 Voltage, single-phase • Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet. • FSA stands for Floating Suction Adapter. </td> </tr> </tbody> </table>	Notes	<ul style="list-style-type: none"> • 3/4 HP, 0.56 KW, 220/240 Voltage, single-phase • Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet. • FSA stands for Floating Suction Adapter.
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Fuel Compatibility	<p>The Red Jacket Submersible Turbine Pump Model is UL Listed for:</p> <ul style="list-style-type: none"> • 100% Gasoline • 100% Diesel • UL 79A: 85% Ethanol (E85) • UL 79B: 0-20% Biodiesel (B20), 100% Biodiesel (B100) • UL 79B: Kerosene and Fuel Oil • Gasoline and up to: 15% Methanol, 20% MTBE, 20% ETBE, 20% TAME 		<p>STP Application Description</p> <p>STP shall be of submersible centrifugal type which installs through a standard 4" threaded tank opening. Motor size shall be from 3/4 through 2 HP, depending upon required flow rates and head loss of a given piping system.</p>																							
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Mechanical Features (Continued)	Electrical Disconnect	Check Valve with "Lock-n-Lift" Feature
	The electrical disconnect shall be an integral part of the manifold assembly. The electrical disconnect shall automatically disconnect and sever electrical connection to the pump motor, without a swing joint, when the extractable packer assembly is removed. Re-insertion of the extractable packer and tightening of the flange nuts shall remake the electrical connection.	The check valve shall incorporate a "Lock-n-Lift" feature that mechanically locks the check valve and lifts to provide a larger path to depressurize the line and manifold head assembly, returning fuel to the tank preventing service spills. The check valve shall provide pressure relief of the product line and be optimized for compatibility with Veeder-Root PLLD systems.
Mechanical Features (Continued)	Vacuum Sensor Siphon System	Quick Set®
	The vacuum sensor siphon system shall be capable of drawing 25" of mercury vacuum through a venturi. The vacuum sensor siphon shall incorporate a check valve to maintain the siphon system vacuum after the pump has been turned off. Check valves shall be incorporated on the siphon inlet and fuel source inlet to the venturi. The inlet shall incorporate a screen that reduces clogs and failures that can cause false alarms on vacuum monitor systems. The vacuum sensor siphon system shall incorporate a swivel top for easy connection to siphon tubing. The vacuum sensor siphon system shall be designed to integrate with Veeder-Root Vacuum Sensors. The manifold head assembly shall support dual vacuum sensor siphon systems for vacuum monitoring or siphon manifold applications. Unused vacuum siphon ports shall be sealed with a plug designed specifically for that purpose.	The Quick Set feature shall be capable of varying the overall pump length. The Quick Set shall incorporate a collet gripping mechanism and setscrew as a locking mechanism allowing future resizing.
Electrical Features	Electric Motors – 4" Models	Connections
	The motor shall be 220/240 volt, 50 Hz, single-phase, 2850 RPM, permanent split capacitor type continuous duty, rated explosion proof in Class 1, Group D, petroleum products. The motor windings shall be hermetically sealed against leakage of product or moisture, and shall have a thermal overload device with automatic reset built into the motor windings for motor cut-off when motor temperature reaches a level which may cause damage to the motor.	The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting wires. Wiring connections to the motor shall be disconnected by the quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/female connector.
Construction	Accessibility	Assembly Order
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Environmental	<ul style="list-style-type: none"> The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products. The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment. The product temperature must not exceed 105°F (40.5°C). Petroleum shall not exceed the specific gravity as stated in the installation manuals (ranging from 0.86 - 0.95) based upon the specific pump model. Maximum viscosity allowable – 70SSU @ 60°F (15°C). 	
Approvals	UL 79, UL 79A, UL 79B, cUL	
Product Installation Guide	https://www.veeder.com/us/technical-document-library	

Bill of Materials	4" Red Jacket AG STP Models		
	Component	Material	Surface Finish
	Packer/Manifold Head	Gray Cast Iron	Low Volatile Organic Compound Paint
	Elastomers – "O" Rings	High Grade Fluorocarbon	None
	Check Valve Seat	Stainless Steel	None
	Check Valve Lock Down Screw	Stainless Steel	None
	Column Pipes	Steel Tubing	Powder Primer
	Conduit Pipe	1/2" Steel Pipe	Mill Finish
	Quick Set Connector	Gray Cast Iron	Phosphate and Oil
	Discharge Head	Gray Cast Iron	Corrosion Inhibitor
	Retaining Nuts	Steel	Zinc Plating
	Die Springs	Spring Steel	Enamel Paint
	Purge Screw	Stainless Steel	Passivation
	Siphon Cartridge	Stainless Steel	Passivation
	Pump/Motor		
	Outer Shell	Stainless Steel	None
	Stator Shell	Stainless Steel	None
Rotor Shaft	Stainless Steel	None	
Impellers & Diffusers	(Acetel) Celcon® Plastic	None	
Motor Bearings	Carbon	None	

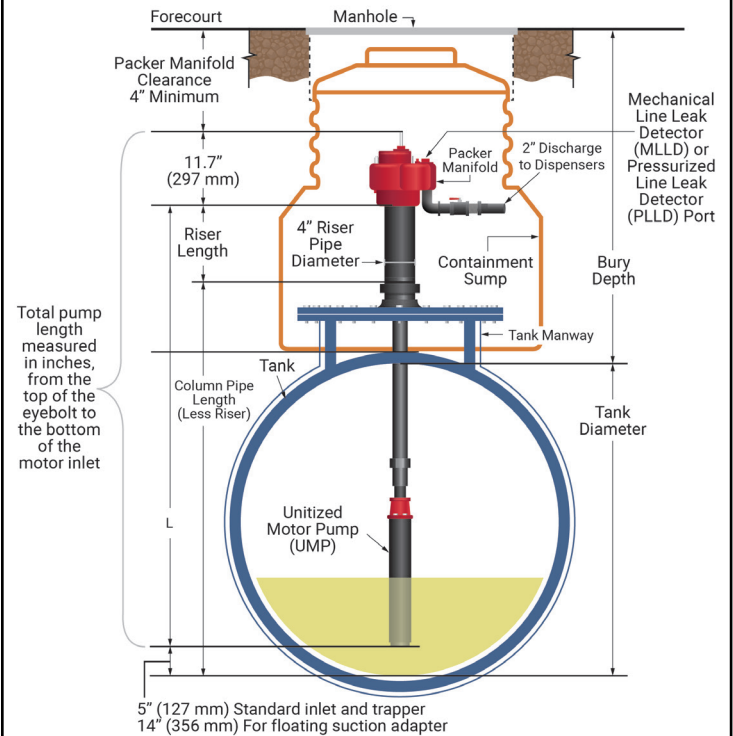
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Mechanical Features (Continued)	Electrical Disconnect	Check Valve with "Lock-n-Lift" Feature
	The electrical disconnect shall be an integral part of the manifold assembly. The electrical disconnect shall automatically disconnect and sever electrical connection to the pump motor, without a swing joint, when the extractable packer assembly is removed. Re-insertion of the extractable packer and tightening of the flange nuts shall remake the electrical connection.	The check valve shall incorporate a "Lock-n-Lift" feature that mechanically locks the check valve and lifts to provide a larger path to depressurize the line and manifold head assembly, returning fuel to the tank preventing service spills. The check valve shall provide pressure relief of the product line and be optimized for compatibility with Veeder-Root PLLD systems.
Mechanical Features (Continued)	Vacuum Sensor Siphon System	Quick Set®
	The vacuum sensor siphon system shall be capable of drawing 25" of mercury vacuum through a venturi. The vacuum sensor siphon shall incorporate a check valve to maintain the siphon system vacuum after the pump has been turned off. Check valves shall be incorporated on the siphon inlet and fuel source inlet to the venturi. The inlet shall incorporate a screen that reduces clogs and failures that can cause false alarms on vacuum monitor systems. The vacuum sensor siphon system shall incorporate a swivel top for easy connection to siphon tubing. The vacuum sensor siphon system shall be designed to integrate with Veeder-Root Vacuum Sensors. The manifold head assembly shall support dual vacuum sensor siphon systems for vacuum monitoring or siphon manifold applications. Unused vacuum siphon ports shall be sealed with a plug designed specifically for that purpose.	The Quick Set feature shall be capable of varying the overall pump length. The Quick Set shall incorporate a collet gripping mechanism and setscrew as a locking mechanism allowing future resizing.
Electrical Features	Electric Motors – 4" Models	Connections
	The motor shall be 220/240 volt, 50 Hz, single-phase, 2850 RPM, permanent split capacitor type continuous duty, rated explosion proof in Class 1, Group D, petroleum products. The motor windings shall be hermetically sealed against leakage of product or moisture, and shall have a thermal overload device with automatic reset built into the motor windings for motor cut-off when motor temperature reaches a level which may cause damage to the motor.	The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting wires. Wiring connections to the motor shall be disconnected by the quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/female connector.
Construction	Accessibility	Assembly Order
	All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge piping, leak detection equipment and vacuum sensor siphon systems.	The pump shall be assembled with the pump inlet and impellers at the bottom for maximum liquid draw. The motor is to be mounted above the pump inlet, so that the motor is both cooled and lubricated by the liquid flow through and past the motor.
Environmental	<ul style="list-style-type: none"> The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products. The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment. The product temperature must not exceed 105°F (40.5°C). Petroleum shall not exceed the specific gravity as stated in the installation manuals (ranging from 0.86 - 0.95) based upon the specific pump model. Maximum viscosity allowable – 70SSU @ 60°F (15°C). 	
Approvals	UL 79, UL 79A, UL 79B, cJUL	
Product Installation Guide	https://www.veeder.com/us/technical-document-library	

Bill of Materials	4" Red Jacket AG STP Models		
	Component	Material	Surface Finish
	Packer/Manifold Head	Gray Cast Iron	Low Volatile Organic Compound Paint
	Elastomers – "O" Rings	High Grade Fluorocarbon	None
	Check Valve Seat	Stainless Steel	None
	Check Valve Lock Down Screw	Stainless Steel	None
	Column Pipes	Steel Tubing	Powder Primer
	Conduit Pipe	1/2" Steel Pipe	Mill Finish
	Quick Set Connector	Gray Cast Iron	Phosphate and Oil
	Discharge Head	Gray Cast Iron	Corrosion Inhibitor
	Retaining Nuts	Steel	Zinc Plating
	Die Springs	Spring Steel	Enamel Paint
	Purge Screw	Stainless Steel	Passivation
	Siphon Cartridge	Stainless Steel	Passivation
	Pump/Motor		
	Outer Shell	Stainless Steel	None
	Stator Shell	Stainless Steel	None
Rotor Shaft	Stainless Steel	None	
Impellers & Diffusers	(Acetel) Celcon® Plastic	None	
Motor Bearings	Carbon	None	

The Red Jacket AG STP Performance
Performance @ 230V; SG = 0.78

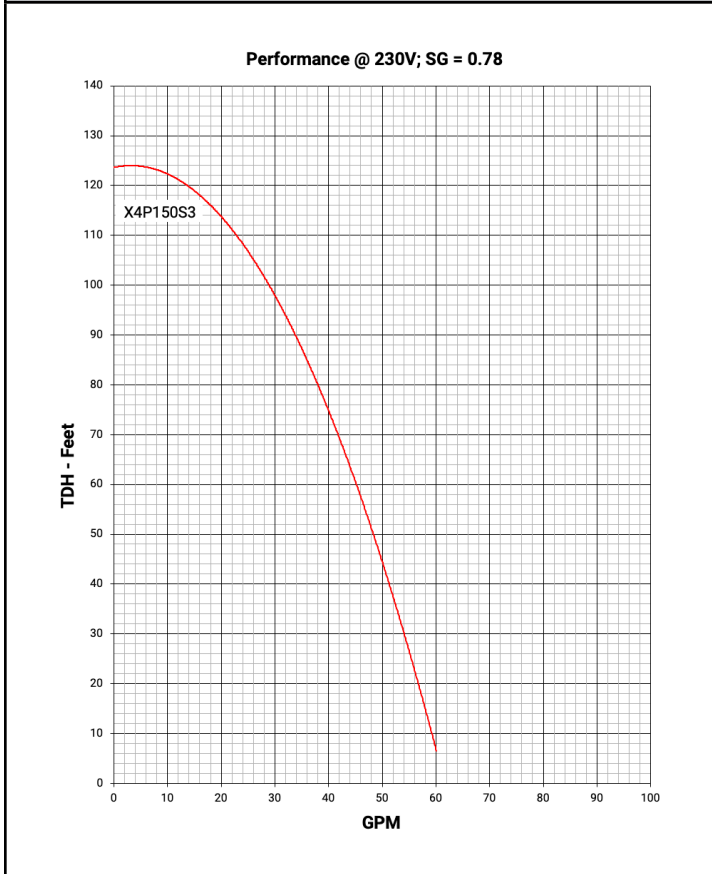
The Red Jacket AG STP Dimensions


STP Description	<p>The Red Jacket Alcohol Gas (AG) Submersible Turbine Pump (STP) is responsible for driving fuel from the storage tank, through the piping infrastructure and into the vehicle through the use of pressure energy. It optimizes fuel flow and dispensing, and its advanced packer manifold design makes it the industry's easiest and safest STP to install and service. Available in 3/4 HP to 2 HP configurations in variable Quick Set® lengths, and designed for alternative fuels – such as alcohol and ethanol. Red Jacket Submersible Turbine Pump AG is a fixed-speed alcohol gas fuel pump with a motor that delivers a higher flow rate than comparable submersible fuel motors, to optimize fuel flow and dispensing. It has an additional 30% increase in stainless steel hardware from The Red Jacket STP. It has all the advantages of The Red Jacket STP design, but was constructed with stainless steel on all parts exposed to the fuel path. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.</p>																									
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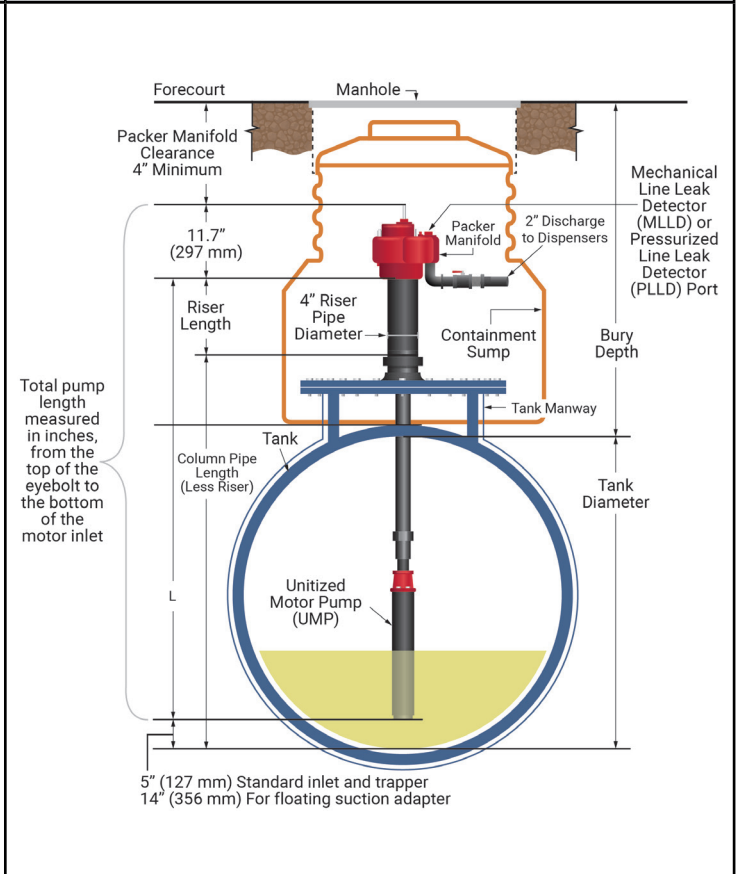
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Electrical Features	Electric Motors – 4" Models	Connections
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Impellers & Diffusers	(Acetel) Celcon® Plastic	None	
Motor Bearings	Carbon	None	

The Red Jacket AG STP Performance



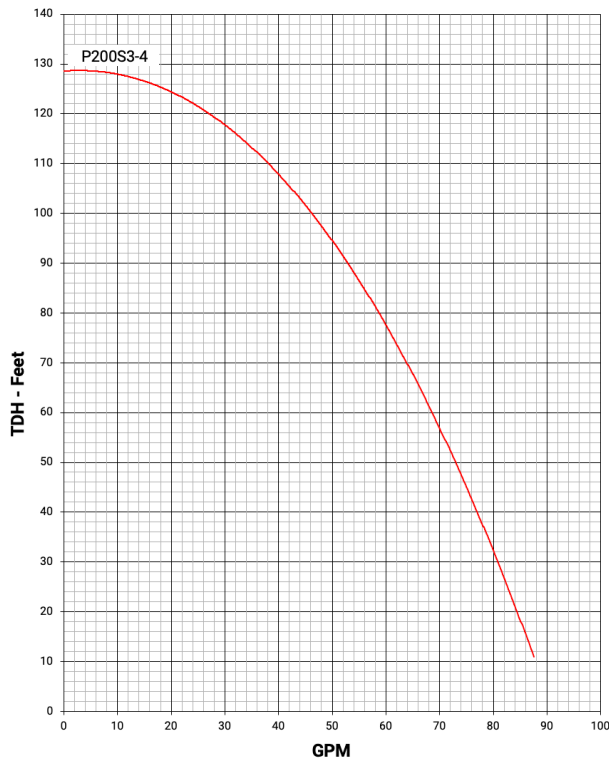
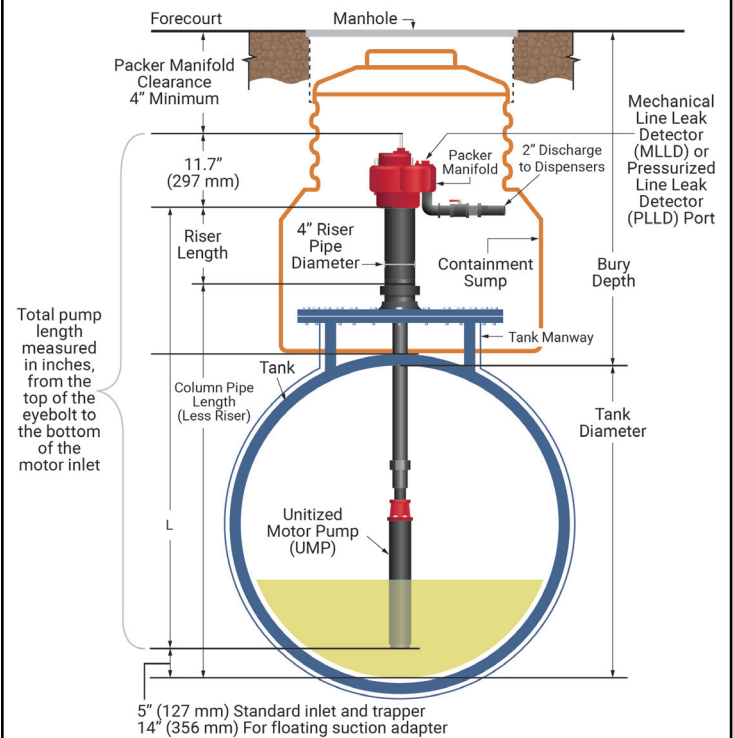
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Mechanical Features	<p>Pump</p> <p>Pump shall be multi-stage, dependent upon required flow rate, self-lubricating and easily removed from storage tank without disconnecting discharge piping, mechanical or electronic leak detectors or siphon systems. The pump and motor assembly shall be readily separable from the pump column pipe to allow for simple field replacement of the pump and motor.</p>		<p>Impellers and Diffusers</p> <p>Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.</p>																							
	<p>Pump Intake Inlet</p> <p>Pump intake inlet shall be horizontal to prevent drawing sediment from the tank bottom into the pump inlet. The intake inlet shall be compatible with the particulate "Trapper" to prevent particulates from being ingested into the motor.</p>		<p>Manifold Head Assembly</p> <p>Manifold head assembly shall consist of a manifold and extractable packer assembly and shall be completely sealed against product leakage into the ground and exterior water intrusion into the storage tank. The discharge outlet shall be a 2" NPT opening. The manifold shall have a built-in air purge screw, line check valve, pressure relief valve, and shall support dual vacuum sensor siphon systems when required. The extractable packer shall incorporate industrial die springs to break loose the o-ring seals, when the flange nuts holding the extractable packer in place are removed. No physical lifting effort or special equipment shall be required to break the extractable packer seals. The contractor's box shall be built into the manifold head assembly and be completely isolated from the fuel path. The extractable packer assembly shall incorporate a lifting eye for safe extraction of the pump motor.</p>																							

Mechanical Features (Continued)	Electrical Disconnect	Check Valve with "Lock-n-Lift" Feature
	The electrical disconnect shall be an integral part of the manifold assembly. The electrical disconnect shall automatically disconnect and sever electrical connection to the pump motor, without a swing joint, when the extractable packer assembly is removed. Re-insertion of the extractable packer and tightening of the flange nuts shall remake the electrical connection.	The check valve shall incorporate a "Lock-n-Lift" feature that mechanically locks the check valve and lifts to provide a larger path to depressurize the line and manifold head assembly, returning fuel to the tank preventing service spills. The check valve shall provide pressure relief of the product line and be optimized for compatibility with Veeder-Root PLLD systems.
Mechanical Features (Continued)	Vacuum Sensor Siphon System	Quick Set®
	The vacuum sensor siphon system shall be capable of drawing 25" of mercury vacuum through a venturi. The vacuum sensor siphon shall incorporate a check valve to maintain the siphon system vacuum after the pump has been turned off. Check valves shall be incorporated on the siphon inlet and fuel source inlet to the venturi. The inlet shall incorporate a screen that reduces clogs and failures that can cause false alarms on vacuum monitor systems. The vacuum sensor siphon system shall incorporate a swivel top for easy connection to siphon tubing. The vacuum sensor siphon system shall be designed to integrate with Veeder-Root Vacuum Sensors. The manifold head assembly shall support dual vacuum sensor siphon systems for vacuum monitoring or siphon manifold applications. Unused vacuum siphon ports shall be sealed with a plug designed specifically for that purpose.	The Quick Set feature shall be capable of varying the overall pump length. The Quick Set shall incorporate a collet gripping mechanism and setscrew as a locking mechanism allowing future resizing.
Electrical Features	Electric Motors – 4" Models	Connections
	The motor shall be 220/240 volt, 50 Hz, single-phase, 2850 RPM, permanent split capacitor type continuous duty, rated explosion proof in Class 1, Group D, petroleum products. The motor windings shall be hermetically sealed against leakage of product or moisture, and shall have a thermal overload device with automatic reset built into the motor windings for motor cut-off when motor temperature reaches a level which may cause damage to the motor.	The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting wires. Wiring connections to the motor shall be disconnected by the quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/female connector.
Construction	Accessibility	Assembly Order
	All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge piping, leak detection equipment and vacuum sensor siphon systems.	The pump shall be assembled with the pump inlet and impellers at the bottom for maximum liquid draw. The motor is to be mounted above the pump inlet, so that the motor is both cooled and lubricated by the liquid flow through and past the motor.
Environmental	<ul style="list-style-type: none"> The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products. The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment. The product temperature must not exceed 105°F (40.5°C). Petroleum shall not exceed the specific gravity as stated in the installation manuals (ranging from 0.86 - 0.95) based upon the specific pump model. Maximum viscosity allowable – 70SSU @ 60°F (15°C). 	
Approvals	UL 79, UL 79A, UL 79B, cUL	
Product Installation Guide	https://www.veeder.com/us/technical-document-library	

Bill of Materials	4" Red Jacket AG STP Models		
	Component	Material	Surface Finish
	Packer/Manifold Head	Gray Cast Iron	Low Volatile Organic Compound Paint
	Elastomers – "O" Rings	High Grade Fluorocarbon	None
	Check Valve Seat	Stainless Steel	None
	Check Valve Lock Down Screw	Stainless Steel	None
	Column Pipes	Steel Tubing	Powder Primer
	Conduit Pipe	1/2" Steel Pipe	Mill Finish
	Quick Set Connector	Gray Cast Iron	Phosphate and Oil
	Discharge Head	Gray Cast Iron	Corrosion Inhibitor
	Retaining Nuts	Steel	Zinc Plating
	Die Springs	Spring Steel	Enamel Paint
	Purge Screw	Stainless Steel	Passivation
	Siphon Cartridge	Stainless Steel	Passivation
	Pump/Motor		
	Outer Shell	Stainless Steel	None
	Stator Shell	Stainless Steel	None
Rotor Shaft	Stainless Steel	None	
Impellers & Diffusers	(Acetel) Celcon® Plastic	None	
Motor Bearings	Carbon	None	

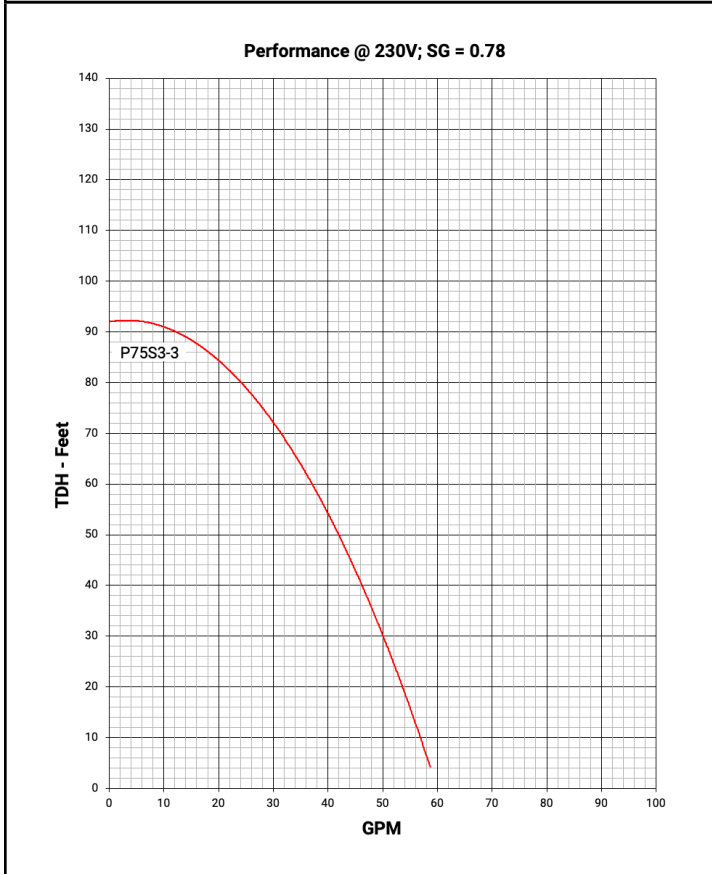
The Red Jacket AG STP Performance
Performance @ 230V; SG = 0.78

The Red Jacket AG STP Dimensions


STP Description	<p>The Red Jacket Red Armor (RA) Submersible Turbine Pump (STP) is responsible for driving fuel from the storage tank, through the piping infrastructure and into the vehicle through the use of pressure energy. It optimizes fuel flow and dispensing, and its advanced packer manifold design makes it the industry's easiest and safest STP to install and service. Available in 3/4 HP to 2 HP configurations in variable Quick Set® lengths, and designed to withstand corrosive environments. Whether your site is struggling with Ethanol-induced in-sump corrosion or ULSD-induced in-tank corrosion, with its specialty coating and stainless-steel construction, the Red Armor solution is designed to survive. The Red Armor STP has an additional 30% increase in stainless steel hardware from The Red Jacket AG STP. It has all the advantages of The Red Jacket STP design, but was constructed specifically to withstand corrosive environments. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.</p>																									
4" Red Jacket RA STP	<table border="1"> <thead> <tr> <th>Part #</th> <th>Description</th> <th>Model #</th> </tr> </thead> <tbody> <tr> <td>0410140-092</td> <td>4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 74" - 104.5" Length</td> <td>AGP75S3-3RA1</td> </tr> <tr> <td>0410140-093</td> <td>4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 104" - 164.5" Length</td> <td>AGP75S3-3RA2</td> </tr> <tr> <td>0410140-094</td> <td>4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 164" - 224.5" Length</td> <td>AGP75S3-3RA3</td> </tr> <tr> <td>0410140-095</td> <td>4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 76.4" - 106.9" Length</td> <td>AGP75S3-3 RA1 FSA</td> </tr> <tr> <td>0410140-096</td> <td>4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 106.4" - 166.9" Length</td> <td>AGP75S3-3 RA2 FSA</td> </tr> <tr> <td>0410140-097</td> <td>4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 166.4" - 226.9" Length</td> <td>AGP75S3-3 RA3 FSA</td> </tr> </tbody> </table>	Part #	Description	Model #	0410140-092	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 74" - 104.5" Length	AGP75S3-3RA1	0410140-093	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 104" - 164.5" Length	AGP75S3-3RA2	0410140-094	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 164" - 224.5" Length	AGP75S3-3RA3	0410140-095	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 76.4" - 106.9" Length	AGP75S3-3 RA1 FSA	0410140-096	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 106.4" - 166.9" Length	AGP75S3-3 RA2 FSA	0410140-097	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 166.4" - 226.9" Length	AGP75S3-3 RA3 FSA		<table border="1"> <thead> <tr> <th>Notes</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> • 3/4 HP, 0.56 KW, 220/240 Voltage, single-phase. • Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet. • FSA stands for Floating Suction Adapter. </td> </tr> </tbody> </table>	Notes	<ul style="list-style-type: none"> • 3/4 HP, 0.56 KW, 220/240 Voltage, single-phase. • Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet. • FSA stands for Floating Suction Adapter.
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Fuel Compatibility	<p>The Red Jacket Submersible Turbine Pump Model is UL Listed for:</p> <ul style="list-style-type: none"> • 100% Gasoline • 100% Diesel • 80% Gasoline with 20% TAME, ETBE or MTBE Gasoline • 85% Gasoline with 15% Methanol • 90% Gasoline with 10% Ethanol 		<p>STP Application Description</p> <p>STP shall be of submersible centrifugal type which installs through a standard 4" threaded tank opening. Motor size shall be from 3/4 through 2 HP, depending upon required flow rates and head loss of a given piping system.</p>																							
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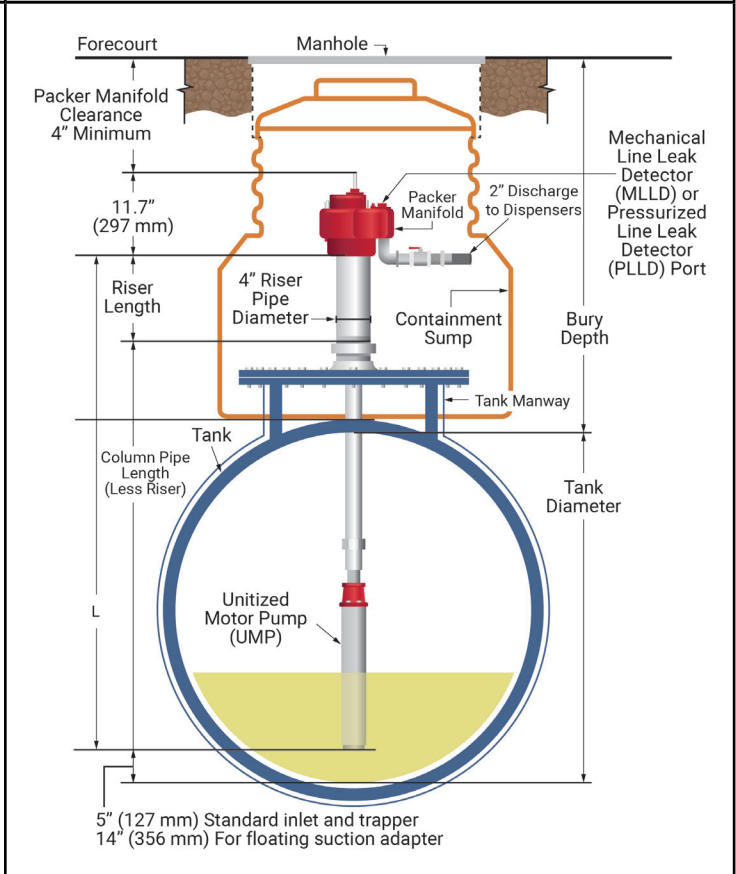
Mechanical Features (Continued)	Electrical Disconnect	Check Valve with "Lock-n-Lift" Feature
	The electrical disconnect shall be an integral part of the manifold assembly. The electrical disconnect shall automatically disconnect and sever electrical connection to the pump motor, without a swing joint, when the extractable packer assembly is removed. Re-insertion of the extractable packer and tightening of the flange nuts shall remake the electrical connection.	The check valve shall incorporate a "Lock-n-Lift" feature that mechanically locks the check valve and lifts to provide a larger path to depressurize the line and manifold head assembly, returning fuel to the tank preventing service spills. The check valve shall provide pressure relief of the product line and be optimized for compatibility with Veeder-Root PLLD systems.
Mechanical Features (Continued)	Vacuum Sensor Siphon System	Quick Set®
	The vacuum sensor siphon system shall be capable of drawing 25" of mercury vacuum through a venturi. The vacuum sensor siphon shall incorporate a check valve to maintain the siphon system vacuum after the pump has been turned off. Check valves shall be incorporated on the siphon inlet and fuel source inlet to the venturi. The inlet shall incorporate a screen that reduces clogs and failures that can cause false alarms on vacuum monitor systems. The vacuum sensor siphon system shall incorporate a swivel top for easy connection to siphon tubing. The vacuum sensor siphon system shall be designed to integrate with Veeder-Root Vacuum Sensors. The manifold head assembly shall support dual vacuum sensor siphon systems for vacuum monitoring or siphon manifold applications. Unused vacuum siphon ports shall be sealed with a plug designed specifically for that purpose.	The Quick Set feature shall be capable of varying the overall pump length. The Quick Set shall incorporate a collet gripping mechanism and setscrew as a locking mechanism allowing future resizing.
Electrical Features	Electric Motors – 4" Models	Connections
	The motor shall be 220/240 volt, 50 Hz, single-phase, 2850 RPM, permanent split capacitor type continuous duty, rated explosion proof in Class 1, Group D, petroleum products. The motor windings shall be hermetically sealed against leakage of product or moisture, and shall have a thermal overload device with automatic reset built into the motor windings for motor cut-off when motor temperature reaches a level which may cause damage to the motor.	The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting wires. Wiring connections to the motor shall be disconnected by the quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/female connector.
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Approvals	UL 79, cUL	
Product Installation Guide	https://www.veeder.com/us/technical-document-library	


Bill of Materials	4" Red Jacket RA STP Models		
	Component	Material	Surface Finish
	Packer/Manifold Head	Gray Cast Iron	Powder Coat
	Elastomers – "O" Rings	High Grade Fluorocarbon	None
	Check Valve Seat	Stainless Steel	None
	Check Valve Lock Down Screw	Stainless Steel	None
	Column Pipes	Stainless Steel	None
	Conduit Pipe	1/2" Steel Pipe	Mill Finish
	Quick Set Connector	Stainless Steel	Passivation
	Discharge Head	Gray Cast Iron	Powder Coat
	Retaining Nuts	Stainless Steel	Passivation
	Die Springs	Stainless Steel	Passivation
	Purge Screw	Stainless Steel	Passivation
	Siphon Cartridge	Stainless Steel	Passivation
	Pump/Motor		
	Outer Shell	Stainless Steel	None
	Stator Shell	Stainless Steel	None
Rotor Shaft	Stainless Steel	None	
Impellers & Diffusers	(Acetel) Celcon® Plastic	None	
Motor Bearings	Carbon	None	

The Red Jacket RA STP Performance



The Red Jacket RA STP Dimensions



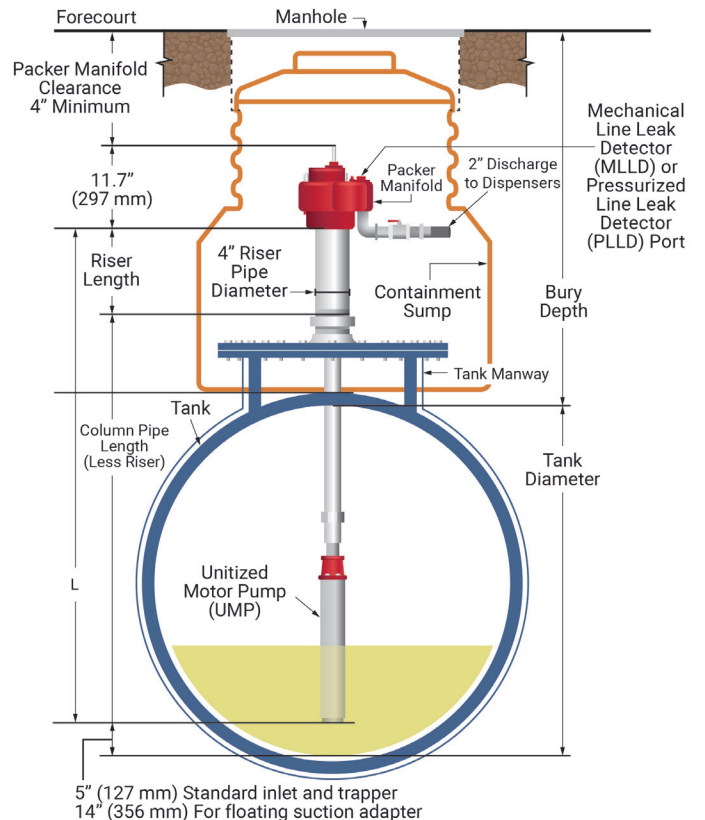
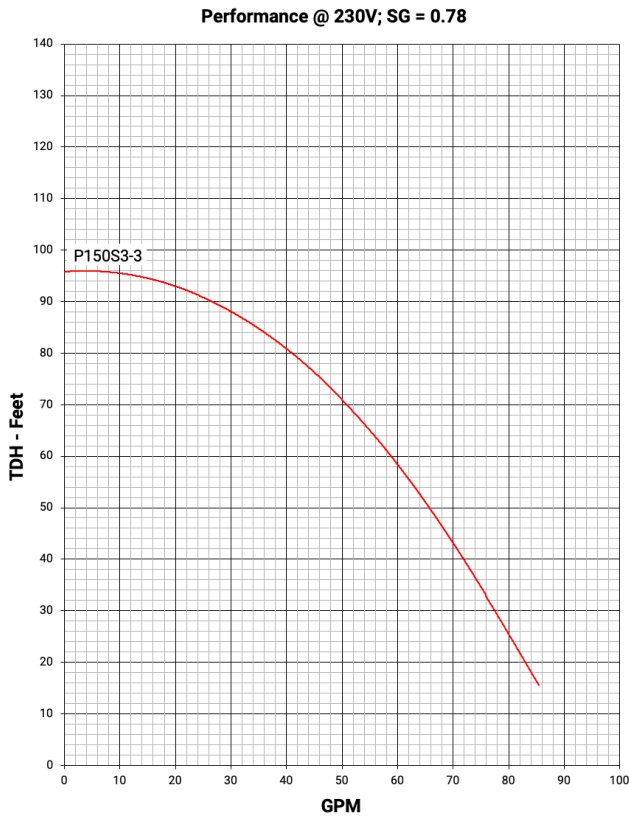
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Mechanical Features (Continued)	Electrical Disconnect	Check Valve with "Lock-n-Lift" Feature
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	Vacuum Sensor Siphon System	Quick Set®
	The vacuum sensor siphon system shall be capable of drawing 25" of mercury vacuum through a venturi. The vacuum sensor siphon shall incorporate a check valve to maintain the siphon system vacuum after the pump has been turned off. Check valves shall be incorporated on the siphon inlet and fuel source inlet to the venturi. The inlet shall incorporate a screen that reduces clogs and failures that can cause false alarms on vacuum monitor systems. The vacuum sensor siphon system shall incorporate a swivel top for easy connection to siphon tubing. The vacuum sensor siphon system shall be designed to integrate with Veeder-Root Vacuum Sensors. The manifold head assembly shall support dual vacuum sensor siphon systems for vacuum monitoring or siphon manifold applications. Unused vacuum siphon ports shall be sealed with a plug designed specifically for that purpose.	The Quick Set feature shall be capable of varying the overall pump length. The Quick Set shall incorporate a collet gripping mechanism and setscrew as a locking mechanism allowing future resizing.
Electrical Features	Electric Motors – 4" Models	Connections
	The motor shall be 220/240 volt, 50 Hz, single-phase, 2850 RPM, permanent split capacitor type continuous duty, rated explosion proof in Class 1, Group D, petroleum products. The motor windings shall be hermetically sealed against leakage of product or moisture, and shall have a thermal overload device with automatic reset built into the motor windings for motor cut-off when motor temperature reaches a level which may cause damage to the motor.	The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting wires. Wiring connections to the motor shall be disconnected by the quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/female connector.
Construction	Accessibility	Assembly Order
	All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge piping, leak detection equipment and vacuum sensor siphon systems.	The pump shall be assembled with the pump inlet and impellers at the bottom for maximum liquid draw. The motor is to be mounted above the pump inlet, so that the motor is both cooled and lubricated by the liquid flow through and past the motor.
Environmental	<ul style="list-style-type: none"> The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products. The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment. The product temperature must not exceed 105°F (40.5°C). Petroleum shall not exceed the specific gravity as stated in the installation manuals (ranging from 0.86 - 0.95) based upon the specific pump model. Maximum viscosity allowable – 70SSU @ 60°F (15°C). 	
Approvals	UL 79, cUL	
Product Installation Guide	https://www.veeder.com/us/technical-document-library	

Bill of Materials	4" Red Jacket RA STP Models		
	Component	Material	Surface Finish
	Packer/Manifold Head	Gray Cast Iron	Powder Coat
	Elastomers – "O" Rings	High Grade Fluorocarbon	None
	Check Valve Seat	Stainless Steel	None
	Check Valve Lock Down Screw	Stainless Steel	None
	Column Pipes	Stainless Steel	None
	Conduit Pipe	1/2" Steel Pipe	Mill Finish
	Quick Set Connector	Stainless Steel	Passivation
	Discharge Head	Gray Cast Iron	Powder Coat
	Retaining Nuts	Stainless Steel	Passivation
	Die Springs	Stainless Steel	Passivation
	Purge Screw	Stainless Steel	Passivation
	Siphon Cartridge	Stainless Steel	Passivation
	Pump/Motor		
	Outer Shell	Stainless Steel	None
	Stator Shell	Stainless Steel	None
Rotor Shaft	Stainless Steel	None	
Impellers & Diffusers	(Acetel) Celcon® Plastic	None	
Motor Bearings	Carbon	None	

The Red Jacket RA STP Performance

The Red Jacket RA STP Dimensions

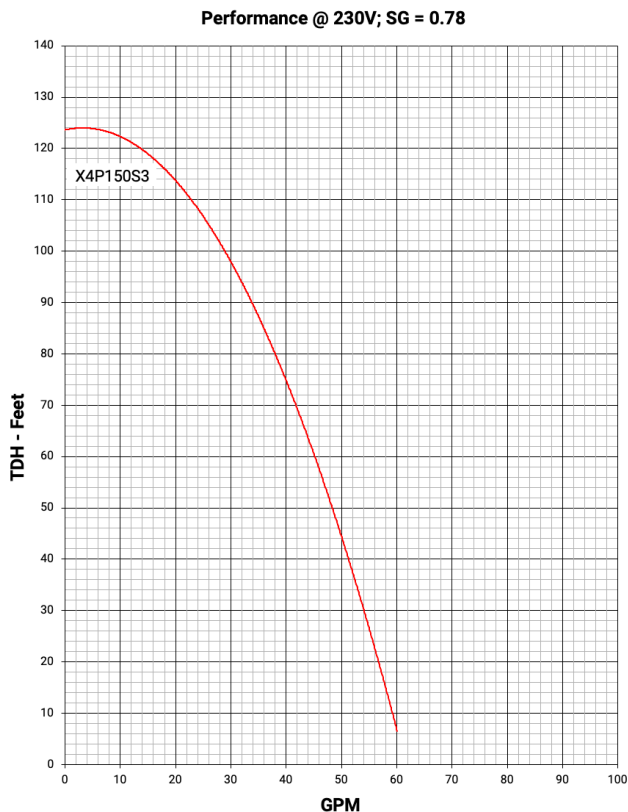


<p>STP Description</p>	<p>The Red Jacket Red Armor (RA) Submersible Turbine Pump (STP) is responsible for driving fuel from the storage tank, through the piping infrastructure and into the vehicle through the use of pressure energy. It optimizes fuel flow and dispensing, and its advanced packer manifold design makes it the industry's easiest and safest STP to install and service. Available in 3/4 HP to 2 HP configurations in variable Quick Set® lengths, and designed to withstand corrosive environments. Whether your site is struggling with Ethanol-induced in-sump corrosion or ULSD-induced in-tank corrosion, with its specialty coating and stainless-steel construction, the Red Armor solution is designed to survive. The Red Armor STP has an additional 30% increase in stainless steel hardware from The Red Jacket AG STP. It has all the advantages of The Red Jacket STP design, but was constructed specifically to withstand corrosive environments. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.</p>																							
<p>4" Red Jacket RA STP</p>	<table border="1"> <thead> <tr> <th>Part #</th> <th>Description</th> <th>Model #</th> </tr> </thead> <tbody> <tr> <td>0410143-089</td> <td>4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 76.5" - 107" Length</td> <td>X4AGP150S3 RJ1</td> </tr> <tr> <td>0410143-090</td> <td>4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 105.5" - 165.5" Length</td> <td>X4AGP150S3 RJ2</td> </tr> <tr> <td>0410143-091</td> <td>4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 166" - 226.5" Length</td> <td>X4AGP150S3 RJ3</td> </tr> <tr> <td>0410143-092</td> <td>4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 78.9" - 109.4" Length</td> <td>X4AGP150S3 RJ1 FSA</td> </tr> <tr> <td>0410143-093</td> <td>4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 108.9" - 169.4" Length</td> <td>X4AGP150S3 RJ2 FSA</td> </tr> <tr> <td>0410143-094</td> <td>4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 168.9" - 229.4" Length</td> <td>X4AGP150S3 RJ3 FSA</td> </tr> </tbody> </table>	Part #	Description	Model #	0410143-089	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 76.5" - 107" Length	X4AGP150S3 RJ1	0410143-090	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 105.5" - 165.5" Length	X4AGP150S3 RJ2	0410143-091	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 166" - 226.5" Length	X4AGP150S3 RJ3	0410143-092	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 78.9" - 109.4" Length	X4AGP150S3 RJ1 FSA	0410143-093	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 108.9" - 169.4" Length	X4AGP150S3 RJ2 FSA	0410143-094	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 168.9" - 229.4" Length	X4AGP150S3 RJ3 FSA		<p>Notes</p> <ul style="list-style-type: none"> • 1.5 HP – High Pressure, 1.13 KW, 220/240 Voltage, single-phase. • Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet. • FSA stands for Floating Suction Adapter.
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<p>Mechanical Features</p>	<p>Pump</p> <p>Pump shall be multi-stage, dependent upon required flow rate, self-lubricating and easily removed from storage tank without disconnecting discharge piping, mechanical or electronic leak detectors or siphon systems. The pump and motor assembly shall be readily separable from the pump column pipe to allow for simple field replacement of the pump and motor.</p>		<p>Impellers and Diffusers</p> <p>Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.</p>																					
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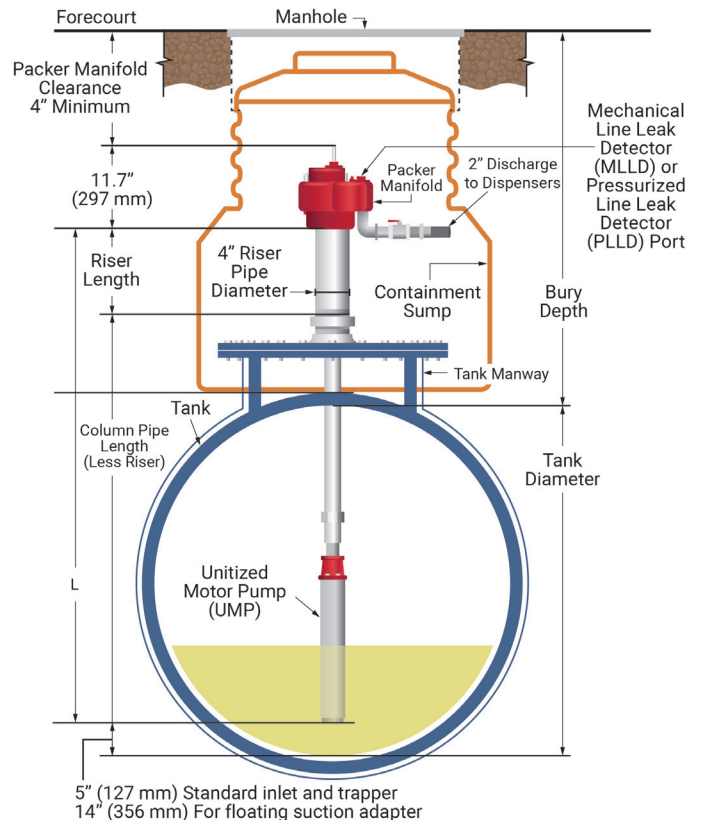
Mechanical Features (Continued)	Electrical Disconnect	Check Valve with "Lock-n-Lift" Feature
	The electrical disconnect shall be an integral part of the manifold assembly. The electrical disconnect shall automatically disconnect and sever electrical connection to the pump motor, without a swing joint, when the extractable packer assembly is removed. Re-insertion of the extractable packer and tightening of the flange nuts shall remake the electrical connection.	The check valve shall incorporate a "Lock-n-Lift" feature that mechanically locks the check valve and lifts to provide a larger path to depressurize the line and manifold head assembly, returning fuel to the tank preventing service spills. The check valve shall provide pressure relief of the product line and be optimized for compatibility with Veeder-Root PLLD systems.
Mechanical Features (Continued)	Vacuum Sensor Siphon System	Quick Set®
	The vacuum sensor siphon system shall be capable of drawing 25" of mercury vacuum through a venturi. The vacuum sensor siphon shall incorporate a check valve to maintain the siphon system vacuum after the pump has been turned off. Check valves shall be incorporated on the siphon inlet and fuel source inlet to the venturi. The inlet shall incorporate a screen that reduces clogs and failures that can cause false alarms on vacuum monitor systems. The vacuum sensor siphon system shall incorporate a swivel top for easy connection to siphon tubing. The vacuum sensor siphon system shall be designed to integrate with Veeder-Root Vacuum Sensors. The manifold head assembly shall support dual vacuum sensor siphon systems for vacuum monitoring or siphon manifold applications. Unused vacuum siphon ports shall be sealed with a plug designed specifically for that purpose.	The Quick Set feature shall be capable of varying the overall pump length. The Quick Set shall incorporate a collet gripping mechanism and setscrew as a locking mechanism allowing future resizing.
Electrical Features	Electric Motors – 4" Models	Connections
	The motor shall be 220/240 volt, 50 Hz, single-phase, 2850 RPM, permanent split capacitor type continuous duty, rated explosion proof in Class 1, Group D, petroleum products. The motor windings shall be hermetically sealed against leakage of product or moisture, and shall have a thermal overload device with automatic reset built into the motor windings for motor cut-off when motor temperature reaches a level which may cause damage to the motor.	The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting wires. Wiring connections to the motor shall be disconnected by the quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/female connector.
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Approvals	UL 79, cUL	
Product Installation Guide	https://www.veeder.com/us/technical-document-library	


Bill of Materials	4" Red Jacket RA STP Models		
	Component	Material	Surface Finish
	Packer/Manifold Head	Gray Cast Iron	Powder Coat
	Elastomers – "O" Rings	High Grade Fluorocarbon	None
	Check Valve Seat	Stainless Steel	None
	Check Valve Lock Down Screw	Stainless Steel	None
	Column Pipes	Stainless Steel	None
	Conduit Pipe	1/2" Steel Pipe	Mill Finish
	Quick Set Connector	Stainless Steel	Passivation
	Discharge Head	Gray Cast Iron	Powder Coat
	Retaining Nuts	Stainless Steel	Passivation
	Die Springs	Stainless Steel	Passivation
	Purge Screw	Stainless Steel	Passivation
	Siphon Cartridge	Stainless Steel	Passivation
	Pump/Motor		
	Outer Shell	Stainless Steel	None
	Stator Shell	Stainless Steel	None
Rotor Shaft	Stainless Steel	None	
Impellers & Diffusers	(Acetel) Celcon® Plastic	None	
Motor Bearings	Carbon	None	

The Red Jacket RA STP Performance



The Red Jacket RA STP Dimensions

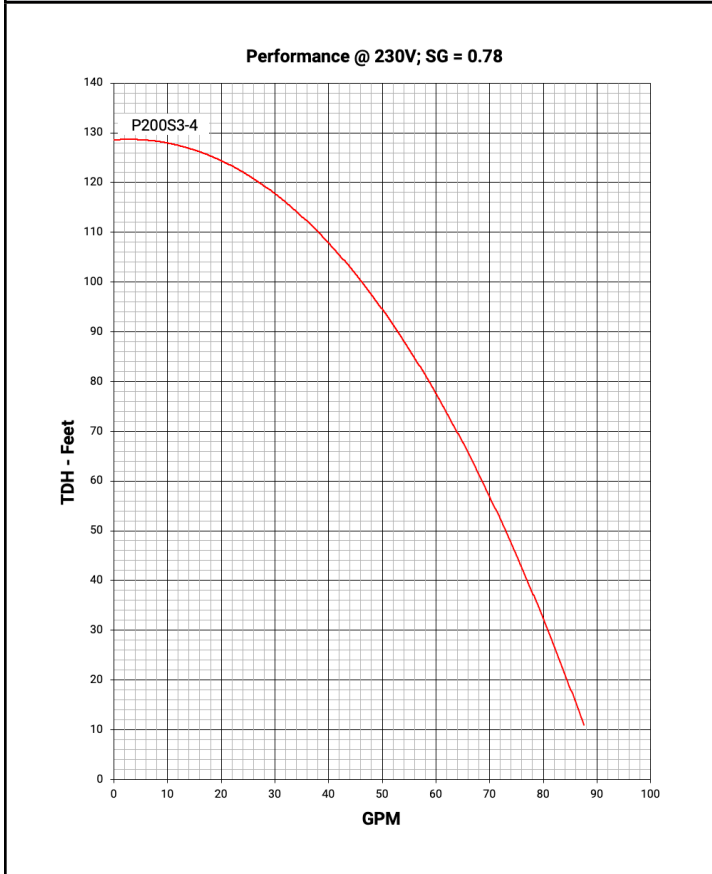


STP Description	<p>The Red Jacket Red Armor (RA) Submersible Turbine Pump (STP) is responsible for driving fuel from the storage tank, through the piping infrastructure and into the vehicle through the use of pressure energy. It optimizes fuel flow and dispensing, and its advanced packer manifold design makes it the industry's easiest and safest STP to install and service. Available in 3/4 HP to 2 HP configurations in variable Quick Set® lengths, and designed to withstand corrosive environments. Whether your site is struggling with Ethanol-induced in-sump corrosion or ULSD-induced in-tank corrosion, with its specialty coating and stainless-steel construction, the Red Armor solution is designed to survive. The Red Armor STP has an additional 30% increase in stainless steel hardware from The Red Jacket AG STP. It has all the advantages of The Red Jacket STP design, but was constructed specifically to withstand corrosive environments. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.</p>																								
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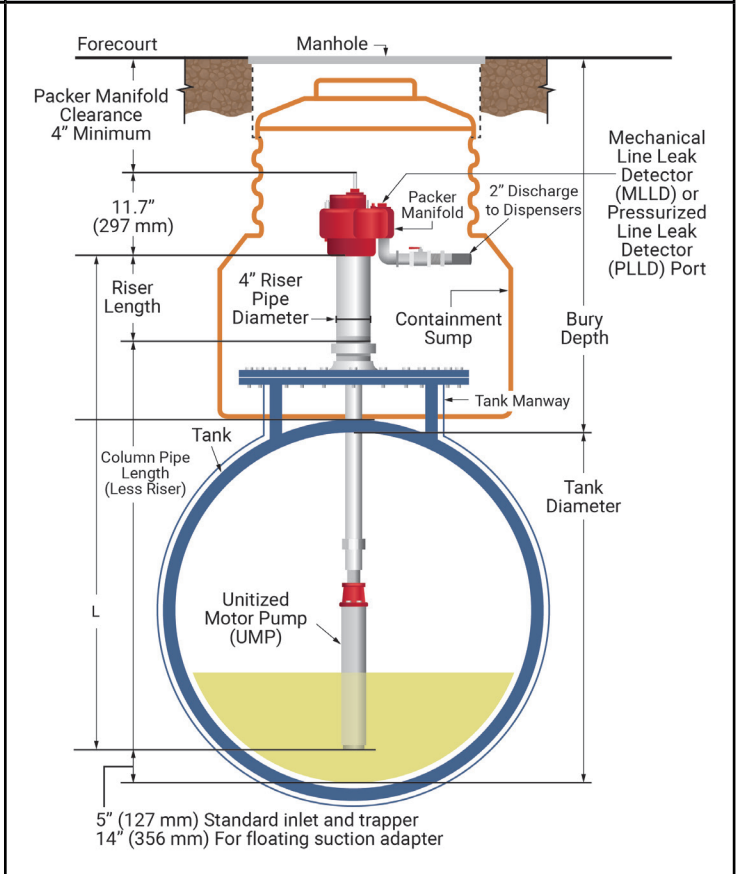
Mechanical Features (Continued)	Electrical Disconnect	Check Valve with "Lock-n-Lift" Feature
	The electrical disconnect shall be an integral part of the manifold assembly. The electrical disconnect shall automatically disconnect and sever electrical connection to the pump motor, without a swing joint, when the extractable packer assembly is removed. Re-insertion of the extractable packer and tightening of the flange nuts shall remake the electrical connection.	The check valve shall incorporate a "Lock-n-Lift" feature that mechanically locks the check valve and lifts to provide a larger path to depressurize the line and manifold head assembly, returning fuel to the tank preventing service spills. The check valve shall provide pressure relief of the product line and be optimized for compatibility with Veeder-Root PLLD systems.
	Vacuum Sensor Siphon System	Quick Set®
	The vacuum sensor siphon system shall be capable of drawing 25" of mercury vacuum through a venturi. The vacuum sensor siphon shall incorporate a check valve to maintain the siphon system vacuum after the pump has been turned off. Check valves shall be incorporated on the siphon inlet and fuel source inlet to the venturi. The inlet shall incorporate a screen that reduces clogs and failures that can cause false alarms on vacuum monitor systems. The vacuum sensor siphon system shall incorporate a swivel top for easy connection to siphon tubing. The vacuum sensor siphon system shall be designed to integrate with Veeder-Root Vacuum Sensors. The manifold head assembly shall support dual vacuum sensor siphon systems for vacuum monitoring or siphon manifold applications. Unused vacuum siphon ports shall be sealed with a plug designed specifically for that purpose.	The Quick Set feature shall be capable of varying the overall pump length. The Quick Set shall incorporate a collet gripping mechanism and setscrew as a locking mechanism allowing future resizing.
Electrical Features	Electric Motors – 4" Models	Connections
	The motor shall be 220/240 volt, 50 Hz, single-phase, 2850 RPM, permanent split capacitor type continuous duty, rated explosion proof in Class 1, Group D, petroleum products. The motor windings shall be hermetically sealed against leakage of product or moisture, and shall have a thermal overload device with automatic reset built into the motor windings for motor cut-off when motor temperature reaches a level which may cause damage to the motor.	The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting wires. Wiring connections to the motor shall be disconnected by the quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/female connector.
Construction	Accessibility	Assembly Order
	All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge piping, leak detection equipment and vacuum sensor siphon systems.	The pump shall be assembled with the pump inlet and impellers at the bottom for maximum liquid draw. The motor is to be mounted above the pump inlet, so that the motor is both cooled and lubricated by the liquid flow through and past the motor.
Environmental	<ul style="list-style-type: none"> • The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products. • The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment. • The product temperature must not exceed 105°F (40.5°C). • Petroleum shall not exceed the specific gravity as stated in the installation manuals (ranging from 0.86 - 0.95) based upon the specific pump model. • Maximum viscosity allowable – 70SSU @ 60°F (15°C). 	
Approvals	UL 79, cUL	
Product Installation Guide	https://www.veeder.com/us/technical-document-library	

Bill of Materials	4" Red Jacket RA STP Models		
	Component	Material	Surface Finish
	Packer/Manifold Head	Gray Cast Iron	Powder Coat
	Elastomers – "O" Rings	High Grade Fluorocarbon	None
	Check Valve Seat	Stainless Steel	None
	Check Valve Lock Down Screw	Stainless Steel	None
	Column Pipes	Stainless Steel	None
	Conduit Pipe	1/2" Steel Pipe	Mill Finish
	Quick Set Connector	Stainless Steel	Passivation
	Discharge Head	Gray Cast Iron	Powder Coat
	Retaining Nuts	Stainless Steel	Passivation
	Die Springs	Stainless Steel	Passivation
	Purge Screw	Stainless Steel	Passivation
	Siphon Cartridge	Stainless Steel	Passivation
	Pump/Motor		
	Outer Shell	Stainless Steel	None
	Stator Shell	Stainless Steel	None
Rotor Shaft	Stainless Steel	None	
Impellers & Diffusers	(Acetel) Celcon® Plastic	None	
Motor Bearings	Carbon	None	

The Red Jacket RA STP Performance



The Red Jacket RA STP Dimensions





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other assistance, please visit:
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