### 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<sup>®</sup> Submersible Turbine Pumps 60Hz





STP Description	driving fuel from into the vehicle and dispensing industry's easie HP to 2 HP cor Veeder-Root fla	t Submersible Turbine Pump (STP) is respon m the storage tank, through the piping infrast e through the use of pressure energy. It optim g, and its advanced packer manifold design n est and safest STP to install and service. Ava figurations and fixed or variable Quick Set <sup>®</sup> I agship product line, Red Jacket is backed by ributors and authorized service contractors o		
	Part #	Description	Model #	Notes
	0410140-001	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 72" - 102" Length	P75U1 RJ1	<ul> <li>3/4 HP, 0.56 KW, 208/230 Voltage, single-phase.</li> </ul>
	0410140-002	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 102" - 162" Length	P75U1 RJ2	<ul> <li>Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.</li> </ul>
4" Red Jacket STP	0410140-003	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 162" - 222" Length	P75U1 RJ3	FSA stands for Floating Suction Adapter.
	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	
	The Red Ja	cket Submersible Turbine Pump Model is Ul	. Listed for:	STP Application Description
Fuel Compatibility	• 85% Gasolin			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.
		Pump		Impellers and Diffusers
	lubricating and discharge pipir systems. The p	multi-stage, dependent upon required flow ra easily removed from storage tank without d ng, mechanical or electronic leak detectors or pump and motor assembly shall be readily se mn pipe to allow for simple field replacement	sconnecting siphon parable from	Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.
		Pump Intake Inlet		Manifold Head Assembly
Mechanical Features	the tank bottor	let shall be horizontal to prevent drawing sec n into the pump inlet. The intake inlet shall be ulate "Trapper" to prevent particulate from be	e compatible	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.



	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	Vacuum Sensor Siphon System	Quick Set®
(Continued)	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.
	Electric Motors – 4" Models	Connections
	The motor shall be 208/230 volt, 60Hz, single-phase, 3450 RPM,	The motor shall have a quick-disconnect type
Electrical Features	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.	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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	4" Red Jacket STP Models	
Component	Material	Surface Finish
Packer/Manifold Head	Gray Cast Iron	Low Volatile Organic Compound Pair
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 <sup>®</sup> Plastic	None
Motor Bearings	Carbon	None
The Red Jacket STP Performance	The Red Ja	cket STP Dimensions
	Length P	Manhole
	Packer/Manifold Head         Elastomers – "0" Rings         Check Valve Seat         Check Valve Lock Down Screw         Column Pipes         Conduit Pipe         Quick Set Connector         Discharge Head         Retaining Nuts         Die Springs         Purge Screw         Siphon Cartridge         Outer Shell         Rotor Shaft         Impellers & Diffusers	Component         Material           Packer/Manifold Head         Gray Cast Iron           Elastomers - "0" Rings         Fluorocarbon           Check Valve Seat         Stainless Steel           Check Valve Lock Down Screw         Brass           Column Pipes         Steel Tubing           Conduit Pipe         1/2" Steel Pipe           Quick Set Connector         Gray Cast Iron           Discharge Head         Gray Cast Iron           Retaining Nuts         Steel           Die Springs         Spring Steel           Purge Screw         Brass           Siphon Cartridge         Brass           Siphon Cartridge         Brass           Stator Shell         Stainless Steel           Stator Shell         Stainless Steel           Rotor Shaft         Stainless Steel           Motor Bearings         Carbon           The Red Jacket STP Performance         The Red Jacket STP Performance           Performance @ 230V; SG=0.78         Total pump motor inlet motor inlet         Total pump motor inlet

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	Part #	Description	Model #	Notes
	0410141-001	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 74.5" - 105" Length	P150U1 RJ1	<ul> <li>1.5 HP, 1.13 KW, 208/230 Voltage, single-phase.</li> </ul>
	0410141-002	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 104.5" - 165" Length	P150U1 RJ2	<ul> <li>Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.</li> </ul>
4" Red Jacket STP	0410141-003	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 164.5" - 225" Length	P150U1 RJ3	<ul> <li>FSA stands for Floating Suction Adapter.</li> </ul>
	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	
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		Pump Intake Inlet		Manifold Head Assembly
Mechanical Features	the tank bottor	ilet shall be horizontal to prevent drawing sec n into the pump inlet. The intake inlet shall be ulate "Trapper" to prevent particulate from be	e compatible	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



	Electrical Disconnect	Check Valve with "Lock-n-Lift" Feature
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	Electric Motors – 4" Models	Connections
		The motor shall have a quick-disconnect type
Electrical Features	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.	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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							4" Red Jack	et STP Models	
			Compon	ent			Ма	terial	Surface Finish
			anifold Head					Cast Iron	Low Volatile Organic Compound Pain
		Elastome	Elastomers – "O" Rings					ocarbon	None
		Check Va	Check Valve Seat				Stainle	ess Steel	None
		Check Va	ve Lock Dow	n Screv	w		Bi	ass	None
		Column P	ipes				Steel	Tubing	Powder Primer
		Conduit P	ipe				1/2" St	teel Pipe	Mill Finish
		Quick Set	Connector				Gray C	Cast Iron	Phosphate and Oil
Rill of	f Materials	Discharge	Head				Gray C	Cast Iron	Corrosion Inhibitor
	i watenais	Retaining	Nuts				S	teel	Zinc Plating
		Die Spring	js				Sprin	g Steel	Enamel Paint
		Purge Scr	ew				Bi	ass	None
		Siphon Ca	rtridge				Bi	ass	None
							Pump	/Motor	
		Outer She					Stainle	ess Steel	None
		Stator Sho	ell				Stainle	ess Steel	None
		Rotor Sha	ft				Stainle	ess Steel	None
		Impellers	& Diffusers				(Acetel) Ce	lcon® Plastic	None
		Motor Bea	arings				Са	rbon	None
		The Red Jacket	STP Perform	nance				The Red	Jacket STP Dimensions
140	0 <sub>1</sub>	Performance	@ 230V; SG=	0.78					
130 122 110 90 94 100 94 100 96 96 96 96 96 96 96 96 96 96 96 96 96	p p p p p p p p p p p p p p p p p p p	Performance	@ 230V; SG=	0.78			Total pump length measured in inches, from the top of the eyebolt to the bottom of the motor inlet	Column Pipe Length (Less Riser)	Manhole Packer Pipe Containment Sump Tank Manway Tank Diameter Tank Diameter
130 122 110 90 90 90 90 90 90 90 90 90 90 90 90 90	p p p p p p p p p p p p p p p p p p p		@ 230V; SG=	0.78			Total pump length measured in inches, from the top of the eyebolt to the bottom of the	Packer Manifold Clearance 4" Minimum 11.7" (297 mm) Riser Length Column Pipe Length (Less Riser)	d inlet and trapper

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	Part #	Description	Model #	Notes
	0410143-001	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 75.5" - 105.5" Length	X3P150U1 RJ1	<ul> <li>1.50 HP – High Pressure, 1.13 KW, 208/230 Voltage, single-phase.</li> </ul>
	0410143-002	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 105.5" - 165.5" Length	X3P150U1 RJ2	<ul> <li>Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.</li> </ul>
4" Red Jacket STP	0410143-003	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 165.5" - 225.5" Length	X3P150U1 RJ3	FSA stands for Floating Suction Adapter.
	0410143-004	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 77.9" - 107.9" Length	X3P150U1 RJ1 FSA	
	0410143-005	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 107.9" - 167.9" Length	X3P150U1 RJ2 FSA	
	0410143-006	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 167.9" - 227.9" Length	X3P150U1 RJ3 FSA	
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Fuel Compatibility	• 85% Gasolin			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.
		Pump		Impellers and Diffusers
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Mechanical Features	the tank bottor	nlet shall be horizontal to prevent drawing so m into the pump inlet. The intake inlet shall ulate "Trapper" to prevent particulate from b	be compatible	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



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	Vacuum Sensor Siphon System	Quick Set®
Mechanical Features (Continued)	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.
	Electric Motors – 4" Models	Connections
Electrical Features	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.
Electrical Features	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	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
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	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. Accessibility All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge	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. <b>Assembly Order</b> 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. nd 105°F (40.5°C) in non-gelling 0°F (-4°C) and 125°F (51°C) ambient environment.
Construction	<ul> <li>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.</li> <li>Accessibility</li> <li>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.</li> <li>The pump assembly shall be rated for operation between -40°F (-40°C) a petroleum products.</li> <li>The pump assembly shall be listed under UL 79 for operation between -2</li> <li>The product temperature must not exceed 105°F (40.5°C).</li> <li>Petroleum shall not exceed the specific gravity as stated in the installatio the specific pump model.</li> </ul>	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. <b>Assembly Order</b> 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. nd 105°F (40.5°C) in non-gelling 0°F (-4°C) and 125°F (51°C) ambient environment.



#### The Red Jacket<sup>®</sup> 1.5 HP High Pressure Submersible Turbine Pump – 60Hz

		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
Dill ( Manadala	Discharge Head	Gray Cast Iron	Corrosion Inhibitor
Bill of Materials	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
Т	he Red Jacket STP Performance	The Red Ja	cket STP Dimensions
140 130 120 100 90 90 90 90 90 90 90 90 90		Length P	Pump (P) let and trapper

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STP Description	fuel from the s vehicle through and dispensing industry's easie HP to 2 HP cor Veeder-Root fla	t Submersible Turbine Pump (STP) is response torage tank, through the piping infrastructur in the use of pressure energy. It optimizes fu g, and its advanced packer manifold design est and safest STP to install and service. An infigurations and fixed or variable Quick Set <sup>®</sup> agship product line, Red Jacket is backed b ributors and authorized service contractors		
	Part #	Description	Model #	Notes
	0410142-075	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 78.5" - 108.5" Length	PL200U1-3 RJ1	<ul> <li>2 HP – Low Pressure, 1.5 KW, 208/230 Voltage, single-phase.</li> </ul>
	0410142-076	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 108.5" - 168.5" Length	PL200U1-3 RJ2	<ul> <li>Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.</li> </ul>
4" Red Jacket STP	0410142-077	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 168.5" - 228.5" Length	PL200U1-3 RJ3	FSA stands for Floating Suction Adapter.
	0410142-078	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 80.9" - 110.9" Length	PL200U1-3 RJ1 FSA	
	0410142-079	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 110.9" - 170.9" Length	PL200U1-3 RJ2 FSA	
	0410142-080	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 170.9" - 230.5" Length	PL200U1-3 RJ3 FSA	
	The Red Ja	cket Submersible Turbine Pump Model is	UL Listed for:	STP Application Description
Fuel Compatibility	• 85% Gasolin			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.
		Pump		Impellers and Diffusers
	lubricating and discharge pipir systems. The p	multi-stage, dependent upon required flow easily removed from storage tank without 1g, mechanical or electronic leak detectors 10mp and motor assembly shall be readily s 10mp pipe to allow for simple field replaceme	disconnecting or siphon separable from	Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.
		Pump Intake Inlet		Manifold Head Assembly
Mechanical Features	tank bottom in	let shall be horizontal to prevent drawing so to the pump inlet. The intake inlet shall be o "Trapper" to prevent particulate from being	compatible with	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



	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®
Mechanical Features (Continued)	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.
	Electric Motors – 4" Models	Connections
Electrical Features	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.
Electrical Features	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	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
Electrical Features	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.	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.
	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. Accessibility All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge	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. <b>Assembly Order</b> 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. nd 105°F (40.5°C) in non-gelling 0°F (-4°C) and 125°F (51°C) ambient environment.
Construction	<ul> <li>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.</li> <li>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.</li> <li>The pump assembly shall be rated for operation between -40°F (-40°C) at petroleum products.</li> <li>The pump assembly shall be listed under UL 79 for operation between -2</li> <li>The product temperature must not exceed 105°F (40.5°C).</li> <li>Petroleum shall not exceed the specific gravity as stated in the installatio the specific pump model.</li> </ul>	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. <b>Assembly Order</b> 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. nd 105°F (40.5°C) in non-gelling 0°F (-4°C) and 125°F (51°C) ambient environment.



#### The Red Jacket<sup>®</sup> 2 HP Low Pressure Submersible Turbine Pump – 60Hz

Bill of Materials Bill of Materials Bill of Materials Elaston Check V Column Conduit Quick S Dischar Retaini Die Spr Purge S Siphon Outer S Stator S Impelle Motor B The Red Jac Performane	Component kker/Manifold Head stomers — "O" Rings stok Valve Seat stok Valve Seat stok Valve Lock Down Screw umn Pipes aduit Pipe ck Set Connector charge Head aining Nuts Springs ge Screw hon Cartridge er Shell tor Shell tor Shell or Shaft sellers & Diffusers tor Bearings Jacket STP Performance mance @ 230V; SG=0.78	Fluorocarbon         Stainless Steel         Brass         Steel Tubing         1/2" Steel Pipe         Gray Cast Iron         Gray Cast Iron         Gray Cast Iron         Steel         Brass         Brass         Brass         Brass         Brass         Stainless Steel         Stainless Steel         Stainless Steel         Stainless Steel         (Acetel) Celcon® Plastic         Carbon	Surface Finish latile Organic Compound Paint None None None Powder Primer Mill Finish Phosphate and Oil Corrosion Inhibitor Zinc Plating Enamel Paint Xone None None None None None None None N
Bill of Materials Bill of Mate	stomers – "O" Rings eck Valve Seat eck Valve Lock Down Screw umn Pipes eduit Pipe eck Set Connector charge Head aining Nuts Springs ge Screw hon Cartridge er Shell tor Shell or Shaft eellers & Diffusers tor Bearings Jacket STP Performance	Fluorocarbon         Stainless Steel         Brass         Steel Tubing         1/2" Steel Pipe         Gray Cast Iron         Gray Cast Iron         Gray Cast Iron         Steel         Brass         Brass         Brass         Brass         Brass         Stainless Steel         Stainless Steel         Stainless Steel         Stainless Steel         (Acetel) Celcon® Plastic         Carbon	None None None Powder Primer Mill Finish Phosphate and Oil Corrosion Inhibitor Zinc Plating Enamel Paint None None None None None None
Bill of Materials Bill of Mate	eck Valve Seat eck Valve Lock Down Screw umn Pipes aduit Pipe ck Set Connector charge Head aining Nuts Springs ge Screw hon Cartridge er Shell tor Shell or Shaft sellers & Diffusers tor Bearings Jacket STP Performance	Stainless Steel         Brass         Steel Tubing         1/2" Steel Pipe         Gray Cast Iron         Gray Cast Iron         Gray Cast Iron         Steel         Spring Steel         Brass         Brass         Stainless Steel         Stainless Steel         Stainless Steel         Stainless Steel         (Acetel) Celcon® Plastic         Carbon	NoneNonePowder PrimerMill FinishPhosphate and OilCorrosion InhibitorZinc PlatingEnamel PaintNone
Bill of Materials Bill of Materials Bill of Materials Bill of Materials Bill of Materials Bill of Materials Bill of Materials Column Quick S Dischar Retainin Die Spr Purge S Siphon Outer S Stator S Impelle Motor B The Red Jac Performance 100 100 100 100 100 100 100 10	eck Valve Lock Down Screw umn Pipes aduit Pipe ck Set Connector charge Head aining Nuts Springs ge Screw hon Cartridge er Shell tor Shell or Shaft sellers & Diffusers tor Bearings Jacket STP Performance	Brass         Steel Tubing         1/2" Steel Pipe         Gray Cast Iron         Gray Cast Iron         Gray Cast Iron         Steel         Spring Steel         Brass         Brass         Pump/Motor         Stainless Steel         Stainless Steel         Gtainless Steel         Carbon	None Powder Primer Mill Finish Phosphate and Oil Corrosion Inhibitor Zinc Plating Enamel Paint None None None None None None None None
Sill of Materials Sill of Materials Sill of Materials Column Quick S Dischar Retainin Die Spr Purge S Siphon Outer S Stator S Impelle Motor B The Red Jac Performance 140 120 100 100 100 100 100 100 10	umn Pipes aduit Pipe ck Set Connector charge Head aining Nuts Springs ge Screw hon Cartridge er Shell tor Shell or Shaft sellers & Diffusers tor Bearings Jacket STP Performance	Steel Tubing         1/2" Steel Pipe         Gray Cast Iron         Gray Cast Iron         Gray Cast Iron         Steel         Steel         Brass         Brass         Pump/Motor         Stainless Steel         Stainless Steel         Stainless Steel         (Acetel) Celcon® Plastic         Carbon	Powder Primer Mill Finish Phosphate and Oil Corrosion Inhibitor Zinc Plating Enamel Paint None None None None None None
sill of Materials sill of Materials Sill of Materials Condui Quick S Dischar Retainin Die Spr Purge S Siphon Outer S Stator S Impelle Motor B The Red Jac Performant 10 90	aduit Pipe ck Set Connector charge Head aining Nuts Springs ge Screw hon Cartridge er Shell tor Shell or Shaft sellers & Diffusers tor Bearings Jacket STP Performance	1/2" Steel Pipe         Gray Cast Iron         Gray Cast Iron         Gray Cast Iron         Steel         Spring Steel         Brass         Brass         Pump/Motor         Stainless Steel         Stainless Steel         Stainless Steel         (Acetel) Celcon® Plastic         Carbon	Mill Finish Phosphate and Oil Corrosion Inhibitor Zinc Plating Enamel Paint None None None None None None None None
Quick S Dischar Retainin Die Spr Purge S Siphon Outer S Stator S Rotor S Impelle Motor B The Red Jac	ck Set Connector charge Head aining Nuts Springs ge Screw hon Cartridge er Shell tor Shell or Shaft sellers & Diffusers tor Bearings Jacket STP Performance	Gray Cast Iron         Gray Cast Iron         Gray Cast Iron         Steel         Spring Steel         Brass         Brass         Pump/Motor         Stainless Steel         Stainless Steel         Stainless Steel         Stainless Steel         (Acetel) Celcon® Plastic         Carbon	Phosphate and Oil Corrosion Inhibitor Zinc Plating Enamel Paint None None None None None
ill of Materials Dischar Retainin Die Spr Purge S Siphon Outer S Stator S Impelle Motor B The Red Jac Performant 100 100 100 100 100 100 100 10	charge Head aining Nuts Springs ge Screw hon Cartridge er Shell tor Shell or Shaft sellers & Diffusers tor Bearings Jacket STP Performance	Gray Cast Iron         Steel         Spring Steel         Brass         Brass         Pump/Motor         Stainless Steel         Stainless Steel         Stainless Steel         (Acetel) Celcon® Plastic         Carbon	Corrosion Inhibitor Zinc Plating Enamel Paint None None None None None
Ill of Materials Retainin Die Spr Purge S Siphon Outer S Stator S Rotor S Impelle Motor B The Red Jac	aining Nuts Springs ge Screw hon Cartridge er Shell tor Shell or Shaft ellers & Diffusers tor Bearings Jacket STP Performance	Steel         Spring Steel         Brass         Brass         Pump/Motor         Stainless Steel         Stainless Steel         Stainless Steel         (Acetel) Celcon® Plastic         Carbon	Zinc Plating Enamel Paint None None None None None
Retainin Die Spr Purge S Siphon Outer S Stator S Impelle Motor B The Red Jac	Springs ge Screw hon Cartridge er Shell tor Shell or Shaft sellers & Diffusers tor Bearings Jacket STP Performance	Spring Steel         Brass         Brass         Pump/Motor         Stainless Steel         Stainless Steel         Stainless Steel         (Acetel) Celcon® Plastic         Carbon	Enamel Paint None None None None None
Purge S Siphon Outer S Stator S Rotor S Impelle Motor B The Red Jac Performance 140 130 120 10 90	ge Screw hon Cartridge er Shell tor Shell or Shaft ellers & Diffusers tor Bearings Jacket STP Performance	Brass       Brass       Pump/Motor       Stainless Steel       Stainless Steel       Stainless Steel       (Acetel) Celcon® Plastic       Carbon	None None None None None
Siphon Outer S Stator S Rotor S Impelle Motor B The Red Jac Performance 140 100 90	hon Cartridge er Shell tor Shell or Shaft ellers & Diffusers tor Bearings Jacket STP Performance	Brass       Pump/Motor       Stainless Steel       Stainless Steel       Stainless Steel       (Acetel) Celcon® Plastic       Carbon	None None None None
Outer S Stator S Rotor S Impelle Motor B The Red Jac Performance 140 120 100 90	er Shell tor Shell or Shaft ellers & Diffusers tor Bearings Jacket STP Performance	Pump/Motor         Stainless Steel         Stainless Steel         Stainless Steel         (Acetel) Celcon® Plastic         Carbon	None None None
Stator S Rotor S Impelle Motor B The Red Jac Performant PL20001-3 90	tor Shell or Shaft ellers & Diffusers tor Bearings Jacket STP Performance	Stainless Steel         Stainless Steel         Stainless Steel         (Acetel) Celcon® Plastic         Carbon	None None
Stator S Rotor S Impelle Motor B The Red Jac Performant 140 120 110 PL20001-3 100 90	tor Shell or Shaft ellers & Diffusers tor Bearings Jacket STP Performance	Stainless Steel       Stainless Steel       (Acetel) Celcon® Plastic       Carbon	None None
Rotor S Impelle Motor E The Red Jac Performance 140 130 120 110 PL20001-3 100 90	or Shaft ellers & Diffusers tor Bearings Jacket STP Performance	Stainless Steel (Acetel) Celcon® Plastic Carbon	None
Impelle Motor E The Red Jac Performant	ellers & Diffusers tor Bearings Jacket STP Performance	(Acetel) Celcon® Plastic Carbon	
Motor E The Red Jac Performance 140 130 120 100 PL20001-3 100 90	tor Bearings Jacket STP Performance	Carbon	None
The Red Jac Performance 140 130 120 110 PL20001-3 100 90	Jacket STP Performance		
Performance 140 130 120 110 PL200U1-3 100 90	and the second second second		None
140 130 120 110 PL200U1-3 100 90	nance @ 230V· SG=0 79	The Red Jacket STP D	Dimensions
<b>19 10 10 10 10 10 10 10 10</b>		Total pump length measured in inches, from the top of the eyebolit to of the motor inlet	Packer Vanifold vo Dispensers Manifold vo Dispensers Containment Sump Tank Manway Tank Diameter

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STP Description	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.			
	Part # Description Model #		Notes	
	0410142-001	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 78.5" - 108.5" Length	P200U1-3 RJ1	• 2 HP, 1.5 KW, 208/230 Voltage, single-phase.
	0410142-002	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 108.5" - 168.5" Length	P200U1-3 RJ2	<ul> <li>Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.</li> </ul>
4" Red Jacket STP	0410142-003	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 168.5" - 228.5" Length	P200U1-3 RJ3	<ul> <li>FSA stands for Floating Suction Adapter.</li> </ul>
	0410142-004	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 80.9" - 110.9" Length	P200U1-3 RJ1 FSA	
	0410142-005	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 110.9" - 170.9" Length	P200U1-3 RJ2 FSA	
	0410142-006	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 170.9" - 230.5" Length	P200U1-3 RJ3 FSA	
	The Red Jac	cket Submersible Turbine Pump Model is UL	. Listed for:	STP Application Description
Fuel Compatibility	<ul> <li>100% Gasoline</li> <li>100% Diesel</li> <li>80% Gasoline with 20% TAME, ETBE or MTBE Gasoline</li> <li>85% Gasoline with 15% Methanol</li> <li>90% Gasoline with 10% Ethanol</li> </ul>		Pump 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.	
		Pump		Impellers and Diffusers
	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. Pump Intake Inlet		Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.	
			Manifold Head Assembly	
Mechanical Features			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 contractors 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.	



	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®
Mechanical Features (Continued)	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.
	Electric Motors – 4" Models	Connections
		1
Electrical Features	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.
Electrical Features	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	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
Electrical Features	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.	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.
	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. Accessibility 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 assembly shall be rated for operation between -40°F (-40°C) a	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. <b>Assembly Order</b> 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.
	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. Accessibility 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.	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. <b>Assembly Order</b> 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. nd 105°F (40.5°C) in non-gelling 0°F (-4°C) and 125°F (51°C) ambient environment.
Construction	<ul> <li>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.</li> <li>Accessibility</li> <li>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.</li> <li>The pump assembly shall be rated for operation between -40°F (-40°C) a petroleum products.</li> <li>The pump assembly shall be listed under UL 79 for operation between -2</li> <li>The product temperature must not exceed 105°F (40.5°C).</li> <li>Petroleum shall not exceed the specific gravity as stated in the installation the specific pump model.</li> </ul>	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. <b>Assembly Order</b> 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. nd 105°F (40.5°C) in non-gelling 0°F (-4°C) and 125°F (51°C) ambient environment.



		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
Bill of Materials	Discharge Head	Gray Cast Iron	Corrosion Inhibitor
Dill Of Waterials	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 None
	Rotor Shaft	Stainless Steel	
	Impellers & Diffusers	(Acetel) Celcon® Plastic	None
	Motor Bearings	Carbon	None
The Red Jacket STP Performance		The Red Jacket STP Dimensions	
140 130 P200U1-3 120 100 90 90 90 90 90 90 90 90 90	Performance @ 230V; SG=0.78	Packer Manifold Clearance 4" Minimum 11.7" (297 mm) Biser 4" Ri	eter Containment Sump Depth Tank Manway Tank Diameter

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STP Description	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 <sup>®</sup> lengths. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.			
	Part #	Description	Model #	Notes
	0410140-019	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 72" - 102" Length	AGP75S1 RJ1	<ul> <li>3/4 HP, 0.56 KW, 208/230 Voltage, single-phase.</li> </ul>
	0410140-020	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 102" - 162" Length	AGP75S1 RJ2	<ul> <li>Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.</li> </ul>
4" Red Jacket AG STP	0410140-021	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 162" - 222" Length	AGP75S1 RJ3	FSA stands for Floating Suction Adapter.
	0410140-022	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 74.4" - 104.4" Length	AGP75S1 RJ1 FSA	
	0410140-023	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 104.4" - 164.4" Length	AGP75S1 RJ2 FSA	
	0410140-024	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 164.4" - 224.4" Length	AGP75U1 RJ3 FSA	
	The Red Jack	ket AG Submersible Turbine Pump Model is	UL Listed for:	STP Application Description
Fuel Compatibility	<ul> <li>100% Gasoline</li> <li>100% Diesel</li> <li>UL 79A: 85% Ethanol (E85)</li> <li>UL 79B: 0-20% Biodiesel (B20), 100% Biodiesel (B100)</li> <li>UL 79B: Kerosene and Fuel Oil</li> <li>Gasoline and up to: 15% Methanol, 20% MTBE, 20% ETBE, 20% TAME</li> </ul>			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.
	Pump			Impellers and Diffusers
	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.			Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.
	Pump Intake Inlet			Manifold Head Assembly
Mechanical Features	Pump Intake Inlet 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.			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.



	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	Vacuum Sensor Siphon System	Quick Set®	
(Continued)			
	Electric Motors – 4" Models	Connections	
Electrical Features	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.	
	Accessibility	Assembly Order	
Construction	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> <li>The Red Jacket AG STP has a 30% increase in stainless steel hardware.</li> <li>The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products.</li> <li>The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment.</li> <li>The product temperature must not exceed 105°F (40.5°C).</li> <li>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.</li> <li>Maximum viscosity allowable – 70SSU @ 60°F (15°C).</li> </ul>		
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 Pain	
	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	
Bill of Materials	Discharge Head	Gray Cast Iron	Corrosion Inhibitor	
Sill Of Materials	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 Jac	The Red Jacket AG STP Dimensions	
140 130 120 110 100 90 80 AGP75S1 <b>40</b> 30 20		Total pump length measured in inches, from the top of the eyebolt to the bottom of the motor inlet	Manhole Packer Pipe ameter Containment Sump Tank Manway Tank Manway Tank Diameter Jized Pump Manhold	

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STP Description	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 <sup>®</sup> lengths. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.			
	Part #	Description	Model #	Notes
	0410141-019	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 74.5" - 105" Length	AGP150S1 RJ1	<ul> <li>1.5 HP, 1.13 KW, 208/230 Voltage, single-phase.</li> </ul>
	0410141-020	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 104.5" - 165" Length	AGP150S1 RJ2	• Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.
4" Red Jacket AG STP	0410141-021	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 164.5" - 225" Length	AGP150S1 RJ3	FSA stands for Floating Suction Adapter.
	0410141-022	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 76.9" - 107.4" Length	AGP150S1 RJ1 FSA	
	0410141-023	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 106.9" - 167.4" Length	AGP150S1 RJ2 FSA	
	0410141-024	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 166.9" - 227.4" Length	AGP150U1 RJ3 FSA	
	The Red Jack	ket AG Submersible Turbine Pump Model is	UL Listed for:	STP Application Description
Fuel Compatibility	<ul> <li>100% Gasoline</li> <li>100% Diesel</li> <li>UL 79A: 85% Ethanol (E85)</li> <li>UL 79B: 0-20% Biodiesel (B20), 100% Biodiesel (B100)</li> <li>UL 79B: Kerosene and Fuel Oil</li> <li>Gasoline and up to: 15% Methanol, 20% MTBE, 20% ETBE, 20% TAME</li> </ul>			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.
	Pump			Impellers and Diffusers
	Pump 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.			Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.
	Pump Intake Inlet			Manifold Head Assembly
Mechanical Features			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.	



	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	Vacuum Sensor Siphon System	Quick Set®	
(Continued)	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.		
	Electric Motors – 4" Models	Connections	
<b>Electrical Features</b> 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.	
	Accessibility	Assembly Order	
Construction	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> <li>The Red Jacket AG STP has a 30% increase in stainless steel hardware.</li> <li>The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products.</li> <li>The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment.</li> <li>The product temperature must not exceed 105°F (40.5°C).</li> <li>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.</li> <li>Maximum viscosity allowable – 70SSU @ 60°F (15°C).</li> </ul>		
Approvals	UL 79, UL 79A, UL 79B, cUL		
	UL 79, UL 79A, UL 79B, CUL 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 Pair	
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 None	
Impellers & Diffusers	(Acetel) Celcon® Plastic		
Motor Bearings	Carbon	None	
Red Jacket AG STP Performance	The Red Jacket AG STP Dimensions		
	Total pump length measured in inches, from the eyebolt to the bottom of the motor inlet	Manhole Packer Packer Riser Pipe Containment Sump Tank Diameter Tank Diameter	
	Packer/Manifold HeadElastomers – "O" RingsCheck Valve SeatCheck Valve Lock Down ScrewColumn PipesConduit PipeQuick Set ConnectorDischarge HeadRetaining NutsDie SpringsPurge ScrewSiphon CartridgeOuter ShellStator ShellRotor ShaftImpellers & Diffusers	Packer/Manifold Head       Gray Cast Iron         Elastomers - "0" Rings       High Grade Fluorocarbon         Check Valve Seat       Stainless Steel         Check Valve Lock Down Screw       Stainless Steel         Column Pipes       Steel Tubing         Conduit Pipe       1/2" Steel Pipe         Quick Set Connector       Gray Cast Iron         Discharge Head       Gray Cast Iron         Retaining Nuts       Steel         Die Springs       Spring Steel         Purge Screw       Stainless Steel         Siphon Cartridge       Stainless Steel         Stator Shell       Stainless Steel         Stator Shell       Stainless Steel         Impellers & Diffusers       (Acetel) Celcon® Plastic         Motor Bearings       Carbon         Red Jacket AG STP Performance       The Red Jacket Maintum         Performance @ 230V; SG = 0.78       The Red Jacket Maintum	

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#### The Red Jacket<sup>®</sup> 1.5 HP High Pressure <u>Alcohol Gas</u> Submersible Turbine Pump – 60Hz

STP Description	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 <sup>®</sup> lengths. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.			
	Part #	Description	Model #	Notes
	0410143-019	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 75.5" - 105.5" Length	X3AGP150S1 RJ1	<ul> <li>1.5 HP – High Pressure, 1.13 KW, 208/230 Voltage, single-phase.</li> </ul>
	0410143-020	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 105.5" - 165.5" Length	X3AGP150S1 RJ2	• Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.
4" Red Jacket AG STP	0410143-021	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 165.5" - 225.5" Length	X3AGP150S1 RJ3	FSA stands for Floating Suction Adapter.
	0410143-022	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 77.9" - 107.9" Length	X3AGP150S1 RJ1 FSA	
	0410143-023	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 107.9" - 167.9" Length	X3AGP150S1 RJ2 FSA	
	0410143-024	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 167.9" - 227.9" Length	X3AGP150S1 RJ3 FSA	
	The Red Jack	ket AG Submersible Turbine Pump Model is	SUL Listed for:	STP Application Description
Fuel Compatibility	<ul> <li>100% Gasoline</li> <li>100% Diesel</li> <li>UL 79A: 85% Ethanol (E85)</li> <li>UL 79B: 0-20% Biodiesel (B20), 100% Biodiesel (B100)</li> <li>UL 79B: Kerosene and Fuel Oil</li> <li>Gasoline and up to: 15% Methanol, 20% MTBE, 20% ETBE, 20% TAME</li> </ul>			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.
	Pump			Impellers and Diffusers
	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.			Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.
	Pump Intake Inlet		Manifold Head Assembly	
Mechanical Features	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.		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.	



#### The Red Jacket<sup>®</sup> 1.5 HP High Pressure <u>Alcohol Gas</u> Submersible Turbine Pump – 60Hz

	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	Vacuum Sensor Siphon System	Quick Set®		
(Continued)	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.		
	Electric Motors – 4" Models	Connections		
Electrical Features	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.		
	Accessibility	Assembly Order		
Construction	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 puint liquid draw. The motor is to be mounted a the pump inlet, so that the motor is both c and lubricated by the liquid flow through a past the motor.			
Environmental	<ul> <li>The Red Jacket AG STP has a 30% increase in stainless steel hardware.</li> <li>The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products.</li> <li>The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment.</li> <li>The product temperature must not exceed 105°F (40.5°C).</li> <li>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.</li> <li>Maximum viscosity allowable – 70SSU @ 60°F (15°C).</li> </ul>			
Approvals	UL 79, UL 79A, UL 79B, cUL	UL 79, UL 79A, UL 79B, cUL https://www.veeder.com/us/technical-document-library		



#### The Red Jacket<sup>®</sup> 1.5 HP High Pressure Alcohol Gas Submersible Turbine Pump – 60Hz

		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 Conduit Pipe		Steel Tubing	Powder Primer	
		1/2" Steel Pipe	Mill Finish	
	Quick Set Connector	Gray Cast Iron	Phosphate and Oil	
Bill of Materials	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 None	
	Motor Bearings	Carbon		
The F	Red Jacket AG STP Performance	The Red Jacket AG STP Dimensions		
140 X3AGP150S1 130 120 110 100 90 80 90 80 <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b></b>	erformance @ 230V; SG = 0.78	Length P	Pump	

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#### The Red Jacket<sup>®</sup> 2 HP Low Pressure Alcohol Gas Submersible Turbine Pump – 60Hz

STP Description	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 <sup>®</sup> lengths. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.			
	Part #	Description	Model #	Notes
	0410142-081	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 78.5" - 108.5" Length	AGPL200S1-3 RJ1	<ul> <li>2 HP – Low Pressure, 1.5 KW, 208/230 Voltage, single-phase.</li> </ul>
	0410142-082	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 108.5" - 168.5" Length	AGPL200S1-3 RJ2	• Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.
4" Red Jacket AG STP	0410142-083	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 168.5" - 228.5" Length	AGPL200S1-3 RJ3	FSA stands for Floating Suction Adapter.
	0410142-084	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 80.9" - 110.9" Length	AGPL200S1-3 RJ1 FSA	
	0410142-085	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 110.9" - 170.9" Length	AGPL200S1-3 RJ2 FSA	
	0410142-086	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 170.9" - 230.9" Length	AGPL200S1-3 RJ3 FSA	
	The Red Jacket AG Submersible Turbine Pump Model is UL Listed for:		STP Application Description	
Fuel Compatibility	<ul> <li>• 100% Gasoline</li> <li>• 100% Diesel</li> <li>• UL 79A: 85% Ethanol (E85)</li> <li>• UL 79B: 0-20% Biodiesel (B20), 100% Biodiesel (B100)</li> <li>• UL 79B: Kerosene and Fuel Oil</li> <li>• Gasoline and up to: 15% Methanol, 20% MTBE, 20% ETBE, 20% TAME</li> </ul>			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.
	Pump		Impellers and Diffusers	
	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.			Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.
	Pump Intake Inlet		Manifold Head Assembly	
Mechanical Features			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.	



#### The Red Jacket<sup>®</sup> 2 HP Low Pressure <u>Alcohol Gas</u> Submersible Turbine Pump – 60Hz

	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	Vacuum Sensor Siphon System	Quick Set®		
(Continued)	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.		
	Electric Motors – 4" Models	Connections		
Electrical Features	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.		
	Accessibility	Assembly Order		
Construction	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> <li>The Red Jacket AG STP has a 30% increase in stainless steel hardware.</li> <li>The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products.</li> <li>The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment.</li> <li>The product temperature must not exceed 105°F (40.5°C).</li> <li>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.</li> <li>Maximum viscosity allowable – 70SSU @ 60°F (15°C).</li> </ul>			
Approvals	UL 79, UL 79A, UL 79B, cUL			
Product Installation	https://www.veeder.com/us/technical-document-library			



#### The Red Jacket<sup>®</sup> 2 HP Low Pressure Alcohol Gas Submersible Turbine Pump – 60Hz

		4" Red Jacket AG STP Models		
	Component	Material	Surface Finish	
	Packer/Manifold Head	Gray Cast Iron	Low Volatile Organic Compound Pain	
	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	
ill of Materials	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	
Th	e Red Jacket AG STP Performance	The Red Jacket AG STP Dimensions		
140	Performance @ 230V; SG = 0.78			
140 130 120 100 AGPL200S1-3 90 80 <b>50</b> 40 30 20 10	Performance @ 230V; SG = 0.78	Total pump length measured in inches, from the top of the eyebolt to the bottom of the motor inlet	Manhole Packer Riser Pipe ameter Containment Sump Tank Marway Tank Diameter	

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STP Description	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 <sup>®</sup> lengths. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.			
	Part #	Description	Model #	Notes
	0410142-019	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 78.5" - 108.5" Length	AGP200S1-3 RJ1	<ul> <li>2 HP, 1.5 KW, 208/230 Voltage, single-phase.</li> </ul>
	0410142-020	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 108.5" - 168.5" Length	AGP200S1-3 RJ2	<ul> <li>Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.</li> </ul>
4" Red Jacket AG STP	0410142-021	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 168.5" - 228.5" Length	AGP200S1-3 RJ3	FSA stands for Floating Suction Adapter.
	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	
	The Red Jacket AG Submersible Turbine Pump Model is UL Listed for:		STP Application Description	
Fuel Compatibility	<ul> <li>100% Gasoline</li> <li>100% Diesel</li> <li>UL 79A: 85% Ethanol (E85)</li> <li>UL 79B: 0-20% Biodiesel (B20), 100% Biodiesel (B100)</li> <li>UL 79B: Kerosene and Fuel Oil</li> <li>Gasoline and up to: 15% Methanol, 20% MTBE, 20% ETBE, 20% TAME</li> </ul>			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.
	Pump		Impellers and Diffusers	
	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.			Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.
	Pump Intake Inlet		Manifold Head Assembly	
Mechanical Features	Pump Intake Inlet         nical Features         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.		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.	



	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	Vacuum Sensor Siphon System	Quick Set®		
(Continued) 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.		
	Electric Motors – 4" Models	Connections		
Electrical Features	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.		
	Accessibility	Assembly Order		
Construction	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> <li>The Red Jacket AG STP has a 30% increase in stainless steel hardware.</li> <li>The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products.</li> <li>The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment.</li> <li>The product temperature must not exceed 105°F (40.5°C).</li> <li>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.</li> <li>Maximum viscosity allowable – 70SSU @ 60°F (15°C).</li> </ul>			
Approvals	UL 79, UL 79A, UL 79B, cUL			
Product Installation	https://www.veeder.com/us/technical-document-library			



	<u>4" Red Jacket AG STP Models</u>				
	Component	Material	Surface Finish		
	Packer/Manifold Head	Gray Cast Iron	Low Volatile Organic Compound Pair		
	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		
l of Materials	Discharge Head	Gray Cast Iron	Corrosion Inhibitor		
I OI Materiais	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			
130     AGP200S1-3       120     AGP200S1-3       110		Total pump length measured in inches, from the eyebolt to the bottom of the motor inlet	Manhole Packer Packer Pipe Containment Sump Tank Manway Tank Diameter		
30					

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STP Description	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 <sup>®</sup> lengths. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.			
	Part #	Description	Model #	Notes
	0410140-086	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 72" - 102" Length	AGP75S1 RA1	<ul> <li>3/4 HP, 0.56 KW, 208/230 Voltage, single-phase.</li> </ul>
	0410140-087	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 102" - 162" Length	AGP75S1 RA2	<ul> <li>Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.</li> </ul>
4" Red Jacket RA STP	0410140-088	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 162" - 222" Length	AGP75S1 RA3	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	
	The Red Jacket RA Submersible Turbine Pump Model is UL Listed for:		STP Application Description	
Fuel Compatibility	<ul> <li>100% Gasoline</li> <li>100% Diesel</li> <li>80% Gasoline with 20% TAME, ETBE or MTBE Gasoline</li> <li>85% Gasoline with 15% Methanol</li> <li>90% Gasoline with 10% Ethanol</li> </ul>			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.
	Pump		Impellers and Diffusers	
	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.			Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.
	Pump Intake Inlet		Manifold Head Assembly	
Mechanical Features	Pump Intake Inlet 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.		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.	



	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	Vacuum Sensor Siphon System	Quick Set <sup>®</sup>	
(Continued)	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.	
	Electric Motors – 4" Models	Connections	
Electrical Features	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.	
	Accessibility	Assembly Order	
Construction	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.	
	<ul> <li>The Red Jacket RA STP has an additional 30% increase in stainless steel hardware from The Red Jacket AG STP.</li> <li>The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products.</li> <li>The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment.</li> <li>The product temperature must not exceed 105°F (40.5°C).</li> <li>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.</li> <li>Maximum viscosity allowable – 70SSU @ 60°F (15°C).</li> </ul>		
Environmental	<ul> <li>The product temperature must not exceed 105°F (40.5°C).</li> <li>Petroleum shall not exceed the specific gravity as stated in the installation the specific pump model.</li> </ul>		
Environmental Approvals	<ul> <li>The product temperature must not exceed 105°F (40.5°C).</li> <li>Petroleum shall not exceed the specific gravity as stated in the installation the specific pump model.</li> </ul>		



		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
Bill of Materials	Discharge Head	Gray Cast Iron	Powder Coat
Bill of Materials	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 Jack	et RA STP Dimensions
Performance @ 230V; SG = 0.78		Forecourt Man Packer Manifold Clearance 4" Minimum 11.7" (297 mm) Riser Length Unitized Column Pipe Length (Less Riser) Unitized Motor Pump (UMP)	Mechanical Line Leak Detector (MLLD) or Pressurized Line Leak Detector (PLLD) Port

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STP Description	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 <sup>®</sup> lengths. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.			
	Part #	Description	Model #	Notes
	0410141-088	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 74.5" - 105" Length	AGP150S1 RA1	<ul> <li>1.5 HP, 1.13 KW, 208/230 Voltage, single-phase.</li> </ul>
	0410141-089	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 104.5" - 165" Length	AGP150S1 RA2	Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.
4" Red Jacket RA STP	0410141-090	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 164.5" - 225" Length	AGP150S1 RA3	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	
	The Red Jack	tet RA Submersible Turbine Pump Model is	JL Listed for:	STP Application Description
Fuel Compatibility	<ul> <li>100% Gasoline</li> <li>100% Diesel</li> <li>80% Gasoline with 20% TAME, ETBE or MTBE Gasoline</li> <li>85% Gasoline with 15% Methanol</li> <li>90% Gasoline with 10% Ethanol</li> </ul>		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.	
		Pump		Impellers and Diffusers
	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.		Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.	
		Pump Intake Inlet		Manifold Head Assembly
Mechanical Features	Pump Intake Inlet 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.		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.	



	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	Vacuum Sensor Siphon System	Quick Set®
(Continued)	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.
	Electric Motors – 4" Models	Connections
Electrical Features	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.
	Accessibility	
		Assembly Order
Construction	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.
Construction	disassembly and servicing from above without disrupting the discharge	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. hardware from The Red Jacket AG STP. hd 105°F (40.5°C) in non-gelling D°F (-4°C) and 125°F (51°C) ambient environment.
	<ul> <li>disassembly and servicing from above without disrupting the discharge piping, leak detection equipment and vacuum sensor siphon systems.</li> <li>The Red Jacket RA STP has an additional 30% increase in stainless steel</li> <li>The pump assembly shall be rated for operation between -40°F (-40°C) at petroleum products.</li> <li>The pump assembly shall be listed under UL 79 for operation between -2</li> <li>The product temperature must not exceed 105°F (40.5°C).</li> <li>Petroleum shall not exceed the specific gravity as stated in the installation the specific pump model.</li> </ul>	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. hardware from The Red Jacket AG STP. hd 105°F (40.5°C) in non-gelling D°F (-4°C) and 125°F (51°C) ambient environment.



	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
Red Jacket RA STP Performance	The Red Jack	et RA STP Dimensions
erformance @ 230V; SG = 0.78	Forecourt Man	nhole –
	Packer Manifold Clearance 4" Minimum 11.7" (297 mm) Riser Length Column Pipe Length (Less Riser) Unitized Motor Pump (UMP)	Packer Manifold to Dispensers Manifold to Dispensers Containment Sump Tank Manway Tank Diameter
	Packer/Manifold Head         Elastomers - "O" Rings         Check Valve Seat         Check Valve Lock Down Screw         Column Pipes         Conduit Pipe         Quick Set Connector         Discharge Head         Retaining Nuts         Die Springs         Purge Screw         Siphon Cartridge         Outer Shell         Stator Shell         Rotor Shaft         Impellers & Diffusers         Motor Bearings         Ret Jacket RA STP Performance	Component         Material           Packer/Manifold Head         Gray Cast Iron           Elastomers - "0" Rings         High Grade Fluorocarbon           Check Valve Seat         Stainless Steel           Check Valve Lock Down Screw         Stainless Steel           Column Pipes         Stainless Steel           Conduit Pipe         1/2" Steel Pipe           Quick Set Connector         Stainless Steel           Discharge Head         Gray Cast Iron           Retaining Nuts         Stainless Steel           Die Springs         Stainless Steel           Purge Screw         Stainless Steel           Siphon Cartridge         Stainless Steel           Subn Cartridge         Stainless Steel           Stator Shell         Stainless Steel           Rotor Shaft         Stainless Steel           Impellers & Diffusers         (Acetel) Celcon® Plastic           Motor Bearings         Carbon           Ved Jacket RA STP Performance         The Red Jack           Packer Manifold         """"""""""""""""""""""""""""""""""""

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# The Red Jacket® 1.5 HP High Pressure Red Armor® Submersible Turbine Pump – 60Hz

STP Description	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 <sup>®</sup> lengths. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.			
	Part #	Description	Model #	Notes
	0410143-083	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 75.5" - 105.5" Length	X3AGP150S1 RA1	<ul> <li>1.5 HP – High Pressure, 1.13 KW, 208/230 Voltage, single-phase.</li> </ul>
	0410143-084	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 105.5" - 165.5" Length	X3AGP150S1 RA2	<ul> <li>Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.</li> </ul>
4" Red Jacket RA STP	0410143-085	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 165.5" - 225.5" Length	X3AGP150S1 RA3	• 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	
	The Red Jack	et RA Submersible Turbine Pump Model is	UL Listed for:	STP Application Description
Fuel Compatibility	<ul> <li>• 100% Gasoline</li> <li>• 100% Diesel</li> <li>• 80% Gasoline with 20% TAME, ETBE or MTBE Gasoline</li> <li>• 85% Gasoline with 15% Methanol</li> <li>• 90% Gasoline with 10% Ethanol</li> </ul>		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.	
		Pump		Impellers and Diffusers
	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.		Impellers shall be splined to the pump shaft to	
	discharge pipir systems. The p the pump colur	ng, mechanical or electronic leak detectors of pump and motor assembly shall be readily s	or siphon eparable from	provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.
	discharge pipir systems. The p the pump colur	ng, mechanical or electronic leak detectors of pump and motor assembly shall be readily s	or siphon eparable from	



	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	Vacuum Sensor Siphon System	Quick Set®	
(Continued)	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.	able of drawing 25" of sensor siphon shall n system vacuum after Il be incorporated on the cause false alarms or siphon system shall siphon tubing. The d to integrate with and assembly shall support in monitoring or siphon	
	Electric Motors – 4" Models	Connections	
Electrical Features	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.	
	Accessibility	Assembly Order	
Construction	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> <li>The Red Jacket RA STP has an additional 30% increase in stainless steel hardware from The Red Jacket AG STP.</li> <li>The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products.</li> <li>The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment.</li> <li>The product temperature must not exceed 105°F (40.5°C).</li> <li>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.</li> <li>Maximum viscosity allowable – 70SSU @ 60°F (15°C).</li> </ul>		
Approvals	UL 79, UL 79A, UL 79B, cUL		
Product Installation Guide	https://www.veeder.com/us/technical-document-library		



### The Red Jacket<sup>®</sup> 1.5 HP High Pressure Red Armor<sup>®</sup> Submersible Turbine Pump – 60Hz

		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
ill of Materials	Discharge Head	Gray Cast Iron	Powder Coat
in or materials	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 Jack	ket RA STP Dimensions
	Performance @ 230V; SG = 0.78	Forecourt Ma	nhole –
140			
X3AGP150S1		Packer Manifold	
X3AGP150S1		Packer Manifold Clearance 4" Minimum	Mechanic
130		Clearance	Line Leal
130		Clearance 4" Minimum	Packer 2" Discharge (MLLD) c Manifold to Dispensers
130		4" Minimum	Packer 2" Discharge (MLLD) c Manifold to Dispensers Line Leal Detector Manifold Dispensers Line Leal Detector
130		Clearance 4" Minimum 11.7" (297 mm) Riser	Packer Manifold 2" Discharge Manifold to Dispensers Line Lea Detecto Pressurize Line Lea Detecto
130 120 110		Clearance 4" Minimum 11.7" (297 mm)	Packer 2" Discharge (MLLD) c Manifold to Dispensers Line Leal Detector Manifold Dispensers Line Leal Detector
130 120 110 90		Clearance 4" Minimum 11.7" (297 mm) Riser Pipe	Packer 2" Discharge Manifold to Dispensers Manifold to Dispensers Containment Bury
130 120 110 90 80		Clearance 4" Minimum 11.7" (297 mm) Riser Length Length Diameter	Packer 2" Discharge Manifold to Dispensers Manifold to Dispensers Containment Bury
130 120 110 90 80		Clearance 4" Minimum 11.7" (297 mm) Riser Length Tank	Packer Manifold Containment Sump Packer Manifold Packer V Discharge to Dispensers Dispensers Pressurize Line Lea Detector (PLLD) c Pressurize (PLLD) c (PLLD) c
130 120 110 90 80		Clearance 4" Minimum 11.7" (297 mm) Riser Length Length Diameter	Packer Manifold Containment Sump Tank Manway Tank
130 120 110 90 80 80 70 40 60		Clearance 4" Minimum 11.7" (297 mm) Riser Length Tank	Packer Manifold Manifold Containment Sump Tank Manway
130 120 110 90 80		Clearance 4" Minimum 11.7" (297 mm) Riser Length Diameter- Tank Column Pipe Length (Less Riser)	Packer Manifold Containment Sump Tank Manway Tank
130 120 110 90 80 80 70 60		Clearance 4" Minimum 11.7" (297 mm) Riser Length Diameter- Diameter- Length (Less Riser) Unitized Motor Pump	Packer Manifold Containment Sump Tank Manway Tank
130 120 110 100 90 80 80 50 50		Clearance 4" Minimum 11.7" (297 mm) Riser Length Column Pipe Length (Less Riser) Unitized	Packer Manifold Containment Sump Tank Manway Tank
130 120 110 100 90 80 80 <b>10</b> 90 <b>80</b> <b>10</b> <b>10</b> 90 <b>80</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>1</b>		Clearance 4" Minimum 11.7" (297 mm) Riser Length Diameter- Diameter- Length (Less Riser) Unitized Motor Pump	Packer Manifold Containment Sump Tank Manway Tank
130 120 110 100 90 80 <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>80</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>90</b> <b>9</b>		Clearance 4" Minimum 11.7" (297 mm) Riser Length Diameter- Diameter- Length (Less Riser) Unitized Motor Pump	Manifol to Dispensers Line Leal Detector (PLLD) Po Containment Sump Tank Manway Tank
130 120 110 100 90 80 80 <b>10</b> 90 <b>80</b> <b>10</b> <b>10</b> 90 <b>80</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>1</b>		Clearance 4" Minimum 11.7" (297 mm) Riser Length Diameter- Diameter- Length (Less Riser) Unitized Motor Pump	Packer Manifold Containment Sump Tank Manway Tank

**veeder.com** +1.800.873.3313 125 Powder Forest Drive • PO Box 2003 • Simsbury, CT 06070 • ©2022 Veeder-Root • P/N 577014-468-13 Rev. A All information contained in this document is subject to change without notice.



### The Red Jacket® 2 HP Low Pressure Red Armor® Submersible Turbine Pump – 60Hz

STP Description	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 <sup>®</sup> lengths. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.			
	Part #	Description	Model #	Notes
	0410142-087	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 78.5" - 108.5" Length	AGPL200S1-3 RA1	<ul> <li>2 HP – Low Pressure, 1.5 KW, 208/230 Voltage, single-phase.</li> </ul>
	0410142-088	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 108.5" - 168.5" Length	AGPL200S1-3 RA2	<ul> <li>Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.</li> </ul>
4" Red Jacket RA STP	0410142-089	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 168.5" - 228.5" Length	AGPL200S1-3 RA3	FSA stands for Floating Suction Adapter.
	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	
	The Red Jack	tet RA Submersible Turbine Pump Model is	UL Listed for:	STP Application Description
Fuel Compatibility	<ul> <li>• 100% Gasoline</li> <li>• 100% Diesel</li> <li>• 80% Gasoline with 20% TAME, ETBE or MTBE Gasoline</li> <li>• 85% Gasoline with 15% Methanol</li> <li>• 90% Gasoline with 10% Ethanol</li> </ul>		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.	
	Pump			Impellers and Diffusers
	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.		Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.	
		Pump Intake Inlet		Manifold Head Assembly
	Pump Intake Inlet 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.		Mannou nead Assembly	



	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	Vacuum Sensor Siphon System	Quick Set®	
(Continued)	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.	
	Electric Motors – 4" Models	Connections	
Electrical Features	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.	
	Accessibility	Assembly Order	
Construction	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> <li>The Red Jacket RA STP has an additional 30% increase in stainless steel hardware from The Red Jacket AG STP.</li> <li>The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products.</li> <li>The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment.</li> <li>The product temperature must not exceed 105°F (40.5°C).</li> <li>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.</li> <li>Maximum viscosity allowable – 70SSU @ 60°F (15°C).</li> </ul>		
Approvals	UL 79, UL 79A, UL 79B, cUL		
Product Installation	https://www.veeder.com/us/technical-document-library		



#### The Red Jacket® 2 HP Low Pressure Red Armor® Submersible Turbine Pump – 60Hz

		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
II of Motoviola	Discharge Head	Gray Cast Iron	Powder Coat
II of Materials	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
Th	e Red Jacket RA STP Performance	The Red Jacke	et RA STP Dimensions
140 130 120 100 AGPL200S1-3 90 80 50 40 30	Performance @ 230V; SG = 0.78	Forecourt Man Packer Manifold Clearance 4" Minimum 11.7" (297 mm) Riser Length Column Pipe Length (Less Riser) Length (Less Riser) Unitized Motor Pump (UMP)	hole Packer Manifold Containment Sump Tank Diameter Mechanica Line Leak Detector (PLLD) or Tank Diameter
	0 30 40 50 60 70 80 90 1 GPM	5" (127 mm) Standard inlet a 14" (356 mm) For floating su	nd trapper ction adapter

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STP Description	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 <sup>®</sup> lengths. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.			
	Part #	Description	Model #	Notes
	0410142-063	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 78.5" - 108.5" Length	AGP200S1- 3RA1	<ul> <li>2 HP, 1.5 KW, 208/230 Voltage, single-phase.</li> </ul>
	0410142-064	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 108.5" - 168.5" Length	AGP200S1- 3RA2	<ul> <li>Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.</li> </ul>
4" Red Jacket RA STP	0410142-065	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 168.5" - 228.5" Length	AGP200S1- 3RA3	FSA stands for Floating Suction Adapter.
	0410142-066	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 80.9" - 110.9" Length	AGP200S1- 3RA1 FSA	
	0410142-067	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 119.9" - 170.9" Length	AGP200S1- 3RA2 FSA	
	0410142-068	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 170.9" - 230.5" Length	AGP200S1- 3RA3 FSA	
	The Red Jack	ket RA Submersible Turbine Pump Model is	UL Listed for:	STP Application Description
Fuel Compatibility	<ul> <li>100% Gasoline</li> <li>100% Diesel</li> <li>80% Gasoline with 20% TAME, ETBE or MTBE Gasoline</li> <li>85% Gasoline with 15% Methanol</li> <li>90% Gasoline with 10% Ethanol</li> </ul>		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.	
	Pump		Impellers and Diffusers	
	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.		Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.	
		Pump Intake Inlet		Manifold Head Assembly
Mechanical Features	Pump Intake Inlet 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.		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	



	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	Vacuum Sensor Siphon System	Quick Set®	
(Continued)	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.	
	Electric Motors – 4" Models	Connections	
Electrical Features	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.	
	Accessibility	Assembly Order	
Construction	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.	
	<ul> <li>The Red Jacket RA STP has an additional 30% increase in stainless steel hardware from The Red Jacket AG STP.</li> <li>The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products.</li> <li>The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment</li> <li>The product temperature must not exceed 105°F (40.5°C).</li> <li>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.</li> <li>Maximum viscosity allowable – 70SSU @ 60°F (15°C).</li> </ul>		
Environmental	<ul> <li>The pump assembly shall be rated for operation between -40°F (-40°C) as petroleum products.</li> <li>The pump assembly shall be listed under UL 79 for operation between -2</li> <li>The product temperature must not exceed 105°F (40.5°C).</li> <li>Petroleum shall not exceed the specific gravity as stated in the installation</li> </ul>	nd 105°F (40.5°C) in non-gelling 0°F (-4°C) and 125°F (51°C) ambient environment.	
Environmental Approvals	<ul> <li>The pump assembly shall be rated for operation between -40°F (-40°C) as petroleum products.</li> <li>The pump assembly shall be listed under UL 79 for operation between -2</li> <li>The product temperature must not exceed 105°F (40.5°C).</li> <li>Petroleum shall not exceed the specific gravity as stated in the installation the specific pump model.</li> </ul>	nd 105°F (40.5°C) in non-gelling 0°F (-4°C) and 125°F (51°C) ambient environment.	



	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	1
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
Red Jacket RA STP Performance	The Red Jack	tet RA STP Dimensions
	Packer Manifold Clearance 4" Minimum 11.7" (297 mm) Riser Length Length Column Pipe Length (Less Riser) Unitized Motor Pump (UMP)	Packer 2" Discharge Manifold to Dispensers Manifold to Dispensers Containment Bury Depth Tank Manway Tank Diameter
	Packer/Manifold HeadElastomers - "O" RingsCheck Valve SeatCheck Valve Lock Down ScrewColumn PipesConduit PipeQuick Set ConnectorDischarge HeadRetaining NutsDie SpringsPurge ScrewSiphon CartridgeOuter ShellRotor ShaftImpellers & DiffusersMotor Bearings	Component         Material           Packer/Manifold Head         Gray Cast Iron           Elastomers - "0" Rings         High Grade Fluorocarbon           Check Valve Seat         Stainless Steel           Check Valve Lock Down Screw         Stainless Steel           Column Pipes         Stainless Steel           Conduit Pipe         1/2" Steel Pipe           Quick Set Connector         Stainless Steel           Discharge Head         Gray Cast Iron           Retaining Nuts         Stainless Steel           Die Springs         Stainless Steel           Purge Screw         Stainless Steel           Siphon Cartridge         Stainless Steel           Stator Shell         Stainless Steel           Rotor Shaft         Stainless Steel           Impellers & Diffusers         (Acetel) Celcon® Plastic           Motor Bearings         Carbon           Red Jacket RA STP Performance         The Red Jacket           erformance @ 230V; SG = 0.78         Forecourt         Ma           Packer Manifold         Clearner Pipe         Pipe           Unitized         Unitized         Unitized         Unitized

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# The Red Jacket<sup>®</sup> Submersible Turbine Pumps **50Hz**





STP Description	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.			
	Part #	Description	Model #	Notes
	0410140-046	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 74" - 104.5" Length	P75U3-3 RJ1	<ul> <li>3/4 HP, 0.56 KW, 220/240 Voltage, single-phase.</li> </ul>
	0410140-047	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 104" - 164.5" Length	P75U3-3 RJ2	<ul> <li>Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.</li> </ul>
4" Red Jacket STP	0410140-048	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 164" - 224.5" Length	P75U3-3 RJ3	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	
	The Red Ja	cket Submersible Turbine Pump Model is Ul	Listed for:	STP Application Description
Fuel Compatibility	• 85% Gasolin			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.
		Pump		Impellers and Diffusers
	self-lubricating disconnecting detectors or si readily separat	multi-stage, dependent upon required flow ra and easily removed from storage tank witho discharge piping, mechanical or electronic le phon systems. The pump and motor assemb ole from the pump column pipe to allow for s f the pump and motor.	ut ak ly shall be	Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.
		Pump Intake Inlet		Manifold Head Assembly
Mechanical Features	the tank bottor	let shall be horizontal to prevent drawing sea n into the pump inlet. The intake inlet shall b ulate "Trapper" to prevent particulates from b	e compatible	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.



	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	Vacuum Sensor Siphon System	Quick Set®
(Continued)	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.
	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	The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting withing connections to the
Electrical Features	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.	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.
Electrical Features	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	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/
Electrical Features	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.	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.
	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. Accessibility All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge	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. <b>Assembly Order</b> 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. nd 105°F (40.5°C) in non-gelling 0°F (-4°C) and 125°F (51°C) ambient environment.
Construction	<ul> <li>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.</li> <li>Accessibility</li> <li>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.</li> <li>The pump assembly shall be rated for operation between -40°F (-40°C) at petroleum products.</li> <li>The pump assembly shall be listed under UL 79 for operation between -2</li> <li>The product temperature must not exceed 105°F (40.5°C).</li> <li>Petroleum shall not exceed the specific gravity as stated in the installation the on specific pump model.</li> </ul>	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. <b>Assembly Order</b> 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. nd 105°F (40.5°C) in non-gelling 0°F (-4°C) and 125°F (51°C) ambient environment.



		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
Dill of Motoriala	Discharge Head	Gray Cast Iron	Corrosion Inhibitor
Bill of Materials	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
TI	ne Red Jacket STP Performance	The Red Ja	acket STP Dimensions
140 130 120 110 90 P75U3-3 80 40 30 20 10 0	Performance @ 230V; SG = 0.78	Total pump length measured in inches, from the top of the eyebolt to the bottom of the motor inlet	nlet and trapper

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STP Description	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.Part # Description			
	Part #	Description	Model #	Notes
	0410141-048	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 76" - 106.5" Length	P150U3-3 RJ1	<ul> <li>1.5 HP, 1.13 KW, 220/240 Voltage, single-phase.</li> </ul>
	0410141-049	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 106" - 166.5" Length	P150U3-3 RJ2	<ul> <li>Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.</li> </ul>
4" Red Jacket STP	0410141-050	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 166" - 226.5" Length	P150U3-3 RJ3	FSA stands for Floating Suction Adapter.
	0410141-051	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 78.4" - 108.9" Length	P150U3-3 RJ1 FSA	
	0410141-052	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 108.4" - 168.9" Length	P150U3-3 RJ2 FSA	
	0410141-053	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 168.4" - 228.9" Length	P150U3-3 RJ3 FSA	
	The Red Ja	cket Submersible Turbine Pump Model is Ul	. Listed for:	STP Application Description
Fuel Compatibility	• 85% Gasolin			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.
		Pump		Impellers and Diffusers
	self-lubricating disconnecting detectors or si readily separat	multi-stage, dependent upon required flow ra and easily removed from storage tank witho discharge piping, mechanical or electronic le ohon systems. The pump and motor assemb ole from the pump column pipe to allow for si the pump and motor.	ut ak ly shall be	Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.
		Pump Intake Inlet		Manifold Head Assembly
Mechanical Features	the tank bottor	let shall be horizontal to prevent drawing sec n into the pump inlet. The intake inlet shall be llate "Trapper" to prevent particulates from b	e compatible	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.



	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	Vacuum Sensor Siphon System	Quick Set®
(Continued)	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.
	Electric Motors – 4" Models	Connections
	The motor shall be 220/240 volt, 50 Hz, single-phase, 2850 RPM,	The motor shall have a quick-disconnect type male/female connector to be readily separable
Electrical Features	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.	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.
Electrical Features	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	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/
Electrical Features	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.	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.
	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. Accessibility All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge	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. <b>Assembly Order</b> 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. nd 105°F (40.5°C) in non-gelling 0°F (-4°C) and 125°F (51°C) ambient environment.
Construction	<ul> <li>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.</li> <li>Accessibility</li> <li>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.</li> <li>The pump assembly shall be rated for operation between -40°F (-40°C) at petroleum products.</li> <li>The pump assembly shall be listed under UL 79 for operation between -2</li> <li>The pump assembly shall be listed under UL 79 for operation between -2</li> <li>The product temperature must not exceed 105°F (40.5°C).</li> <li>Petroleum shall not exceed the specific gravity as stated in the installation the on specific pump model.</li> </ul>	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. <b>Assembly Order</b> 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. nd 105°F (40.5°C) in non-gelling 0°F (-4°C) and 125°F (51°C) ambient environment.



		4" Red Jacket STP Models	
	Component	Material	Surface Finish
	Packer/Manifold Head	Gray Cast Iron	Low Volatile Organic Compound Pain
	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
ill of Materials	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 <sup>®</sup> Plastic	None
	Motor Bearings	Carbon	None
Th	e Red Jacket STP Performance		acket STP Dimensions
140 130 120 100 P150U3-3 90 80 70 50 40 30		Total pump length measured in inches, from the top of the eyebolt to the bottom of the motor inlet	Pump

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STP Description	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.			
	Part #	Description	Model #	Notes
	0410143-043	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 76.5" - 107" Length	X4P150U3 RJ1	<ul> <li>1.5 HP – High Pressure, 1.13 KW, 220/240 Voltage, single-phase.</li> </ul>
	0410143-044	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 106.5" - 167" Length	X4P150U3 RJ2	<ul> <li>Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.</li> </ul>
4" Red Jacket STP	0410143-045	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 166.5" - 227" Length	X4P150U3 RJ3	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	
	The Red Jac	cket Submersible Turbine Pump Model is UL	Listed for:	STP Application Description
Fuel Compatibility	• 85% Gasolin			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.
		Pump		Impellers and Diffusers
	self-lubricating disconnecting detectors or sig readily separat	multi-stage, dependent upon required flow ra and easily removed from storage tank witho discharge piping, mechanical or electronic le phon systems. The pump and motor assemb ole from the pump column pipe to allow for si f the pump and motor.	ut ak ly shall be	Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.
		Pump Intake Inlet		Manifold Head Assembly
Mechanical Features	the tank bottor	let shall be horizontal to prevent drawing sec n into the pump inlet. The intake inlet shall be ulate "Trapper" to prevent particulates from b	e compatible	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



	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	Vacuum Sensor Siphon System	Quick Set®
(Continued)	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.
	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	The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of
Electrical Features	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.	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.
Electrical Features	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	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/
Electrical Features	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.	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.
	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. Accessibility All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge	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. <b>Assembly Order</b> 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. nd 105°F (40.5°C) in non-gelling 0°F (-4°C) and 125°F (51°C) ambient environment.
Construction	<ul> <li>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.</li> <li>Accessibility</li> <li>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.</li> <li>The pump assembly shall be rated for operation between -40°F (-40°C) at petroleum products.</li> <li>The pump assembly shall be listed under UL 79 for operation between -2</li> <li>The product temperature must not exceed 105°F (40.5°C).</li> <li>Petroleum shall not exceed the specific gravity as stated in the installation the on specific pump model.</li> </ul>	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. <b>Assembly Order</b> 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. nd 105°F (40.5°C) in non-gelling 0°F (-4°C) and 125°F (51°C) ambient environment.



### The Red Jacket<sup>®</sup> 1.5 HP High Pressure Submersible Turbine Pump – 50Hz

Bill of Materials	Component         Packer/Manifold Head         Elastomers – "O" Rings         Check Valve Seat         Check Valve Lock Down Screw         Column Pipes         Conduit Pipe         Quick Set Connector         Discharge Head         Retaining Nuts	Material         Gray Cast Iron         Fluorocarbon         Stainless Steel         Brass         Steel Tubing         1/2" Steel Pipe         Gray Cast Iron         Gray Cast Iron	Surface Finish Low Volatile Organic Compound Paint None None Powder Primer Mill Finish Phosphate and Oil
Bill of Materials	Elastomers – "O" Rings Check Valve Seat Check Valve Lock Down Screw Column Pipes Conduit Pipe Quick Set Connector Discharge Head Retaining Nuts	Fluorocarbon Stainless Steel Brass Steel Tubing 1/2" Steel Pipe Gray Cast Iron Gray Cast Iron	None None None Powder Primer Mill Finish Phosphate and Oil
Bill of Materials	Check Valve Seat Check Valve Lock Down Screw Column Pipes Conduit Pipe Quick Set Connector Discharge Head Retaining Nuts	Stainless Steel Brass Steel Tubing 1/2" Steel Pipe Gray Cast Iron Gray Cast Iron	None None Powder Primer Mill Finish Phosphate and Oil
Bill of Materials	Check Valve Lock Down Screw Column Pipes Conduit Pipe Quick Set Connector Discharge Head Retaining Nuts	Brass Steel Tubing 1/2" Steel Pipe Gray Cast Iron Gray Cast Iron	None Powder Primer Mill Finish Phosphate and Oil
Bill of Materials	Column Pipes Conduit Pipe Quick Set Connector Discharge Head Retaining Nuts	Steel Tubing 1/2" Steel Pipe Gray Cast Iron Gray Cast Iron	Powder Primer Mill Finish Phosphate and Oil
Bill of Materials	Conduit Pipe Quick Set Connector Discharge Head Retaining Nuts	1/2" Steel Pipe Gray Cast Iron Gray Cast Iron	Mill Finish Phosphate and Oil
Bill of Materials	Quick Set Connector Discharge Head Retaining Nuts	Gray Cast Iron Gray Cast Iron	Phosphate and Oil
Bill of Materials	Discharge Head Retaining Nuts	Gray Cast Iron	
Bill of Materials	Retaining Nuts		
	-		Corrosion Inhibitor
-		Steel	Zinc Plating
	Die Springs	Spring Steel	Enamel Paint
	Purge Screw	Brass	None
:	Siphon Cartridge	Brass	None
		Pump/Motor	-
<u> </u>	Outer Shell	Stainless Steel	None
1	Stator Shell	Stainless Steel	None
	Rotor Shaft	Stainless Steel	None
	Impellers & Diffusers	(Acetel) Celcon® Plastic	None
	Motor Bearings	Carbon	None
I ne R	ted Jacket STP Performance	I ne Ked Jac	cket STP Dimensions
	Performance @ 230V; SG = 0.78	Total pump length measured in inches, from the top of the eyebolt to the bottom of the motor inlet	Pump P)

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STP Description	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.			
	Part #	Description	Model #	Notes
	0410488-001	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 80" - 110.5" Length	P200U3-4 RJ1	<ul> <li>2 HP, 1.5 KW, 220/240 Voltage, single-phase.</li> <li>Length is in inches, measured from top of the</li> </ul>
	0410488-002	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 110" - 170.5" Length	P200U3-4 RJ2	eyebolt to the bottom of the motor inlet.
4" Red Jacket STP	0410488-003	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 170" - 230.5" Length	P200U3-4 RJ3	<ul> <li>FSA stands for Floating Suction Adapter.</li> </ul>
	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	
	The Red Ja	cket Submersible Turbine Pump Model is UL	Listed for:	STP Application Description
Fuel Compatibility	• 85% Gasolin			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.
		Pump		Impellers and Diffusers
	self-lubricating disconnecting detectors or si readily separat	multi-stage, dependent upon required flow ra and easily removed from storage tank witho discharge piping, mechanical or electronic le phon systems. The pump and motor assemb ole from the pump column pipe to allow for si f the pump and motor.	ut ak ly shall be	Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.
		Pump Intake Inlet		Manifold Head Assembly
Mechanical Features	the tank bottor	let shall be horizontal to prevent drawing sec n into the pump inlet. The intake inlet shall be ulate "Trapper" to prevent particulates from b	e compatible	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



	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	Vacuum Sensor Siphon System	Quick Set®
(Continued)	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.
	Electric Motors – 4" Models	Connections
Electrical Features	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.
	Accessibility	Assembly Order
Construction	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.
Construction	disassembly and servicing from above without disrupting the discharge	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. nd 105°F (40.5°C) in non-gelling 0°F (-4°C) and 125°F (51°C) ambient environment
	<ul> <li>disassembly and servicing from above without disrupting the discharge piping, leak detection equipment and vacuum sensor siphon systems.</li> <li>The pump assembly shall be rated for operation between -40°F (-40°C) a petroleum products.</li> <li>The pump assembly shall be listed under UL 79 for operation between -2</li> <li>The product temperature must not exceed 105°F (40.5°C).</li> <li>Petroleum shall not exceed the specific gravity as stated in the installation the on specific pump model.</li> </ul>	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. nd 105°F (40.5°C) in non-gelling 0°F (-4°C) and 125°F (51°C) ambient environment



ComponentPacker/Manifold HeadPacker/Manifold HeadElastomers – "O" RingsCheck Valve SeatCheck Valve Lock Down ScrewColumn PipesConduit PipeQuick Set ConnectorDischarge HeadRetaining NutsDie SpringsPurge ScrewSiphon CartridgeDuter ShellStator ShellRotor Shaftmpellers & Diffusers	Material Gray Cast Iron Fluorocarbon Stainless Steel Stainless Steel Brass Steel Tubing 1/2" Steel Pipe Gray Cast Iron Gray Cast Iron Gray Cast Iron Steel Spring Steel Brass Brass Brass Pump/Motor Stainless Steel Stainless Steel (Acetel) Celcon® Plastic	Surface Finish         Low Volatile Organic Compound Pain         None         None         None         Powder Primer         Mill Finish         Phosphate and Oil         Corrosion Inhibitor         Zinc Plating         Enamel Paint         None
Elastomers – "O" Rings Check Valve Seat Check Valve Lock Down Screw Column Pipes Conduit Pipe Quick Set Connector Discharge Head Retaining Nuts Die Springs Purge Screw Siphon Cartridge Duter Shell Stator Shell Rotor Shaft mpellers & Diffusers	Fluorocarbon Stainless Steel Brass Steel Tubing 1/2" Steel Pipe Gray Cast Iron Gray Cast Iron Gray Cast Iron Steel Spring Steel Brass Brass <b>Pump/Motor</b> Stainless Steel Stainless Steel Stainless Steel	None         None         None         Powder Primer         Mill Finish         Phosphate and Oil         Corrosion Inhibitor         Zinc Plating         Enamel Paint         None
Check Valve Seat Check Valve Lock Down Screw Column Pipes Conduit Pipe Quick Set Connector Discharge Head Retaining Nuts Die Springs Purge Screw Siphon Cartridge Couter Shell Stator Shell Rotor Shaft mpellers & Diffusers	Stainless Steel         Brass         Steel Tubing         1/2" Steel Pipe         Gray Cast Iron         Gray Cast Iron         Steel         Spring Steel         Brass         Brass         Brass         Stainless Steel         Stainless Steel         Stainless Steel         Stainless Steel         Stainless Steel	None         None         Powder Primer         Mill Finish         Phosphate and Oil         Corrosion Inhibitor         Zinc Plating         Enamel Paint         None         None         None         None         None         None         None         None         None
Check Valve Lock Down Screw Column Pipes Conduit Pipe Quick Set Connector Discharge Head Retaining Nuts Die Springs Purge Screw Siphon Cartridge Couter Shell Retain Shell Ret	Brass Steel Tubing 1/2" Steel Pipe Gray Cast Iron Gray Cast Iron Steel Spring Steel Brass Brass Pump/Motor Stainless Steel Stainless Steel Stainless Steel	None         Powder Primer         Mill Finish         Phosphate and Oil         Corrosion Inhibitor         Zinc Plating         Enamel Paint         None
Column Pipes         Conduit Pipe         Quick Set Connector         Discharge Head         Retaining Nuts         Die Springs         Purge Screw         Siphon Cartridge         Duter Shell         Stator Shell         Rotor Shaft         mpellers & Diffusers	Steel Tubing         1/2" Steel Pipe         Gray Cast Iron         Gray Cast Iron         Steel         Spring Steel         Brass         Brass         Stainless Steel         Stainless Steel         Stainless Steel         Stainless Steel         Stainless Steel	Powder Primer Mill Finish Phosphate and Oil Corrosion Inhibitor Zinc Plating Enamel Paint None None None None None
Conduit Pipe Quick Set Connector Discharge Head Retaining Nuts Die Springs Purge Screw Siphon Cartridge Duter Shell Stator Shell Rotor Shaft mpellers & Diffusers	1/2" Steel Pipe         Gray Cast Iron         Gray Cast Iron         Steel         Spring Steel         Brass         Brass         Pump/Motor         Stainless Steel         Stainless Steel         Stainless Steel	Mill Finish Phosphate and Oil Corrosion Inhibitor Zinc Plating Enamel Paint None None None None None None None None
Quick Set Connector         Discharge Head         Retaining Nuts         Die Springs         Purge Screw         Siphon Cartridge         Duter Shell         Stator Shell         Rotor Shaft         mpellers & Diffusers	Gray Cast Iron Gray Cast Iron Steel Spring Steel Brass Brass Pump/Motor Stainless Steel Stainless Steel Stainless Steel	Phosphate and Oil Corrosion Inhibitor Zinc Plating Enamel Paint None None None None None
Discharge Head Cetaining Nuts Die Springs Purge Screw Siphon Cartridge Duter Shell Stator Shell Rotor Shaft mpellers & Diffusers	Gray Cast Iron Steel Spring Steel Brass Brass <b>Pump/Motor</b> Stainless Steel Stainless Steel Stainless Steel	Corrosion Inhibitor Zinc Plating Enamel Paint None None None None None
Retaining Nuts       Die Springs       Durge Screw       Siphon Cartridge       Duter Shell       Stator Shell       Rotor Shaft       mpellers & Diffusers	Steel         Spring Steel         Brass         Brass         Pump/Motor         Stainless Steel         Stainless Steel         Stainless Steel         Stainless Steel         Stainless Steel	Zinc Plating Enamel Paint None None None None None
Die Springs Durge Screw Siphon Cartridge Duter Shell Stator Shell Rotor Shaft mpellers & Diffusers	Spring Steel Brass Brass Pump/Motor Stainless Steel Stainless Steel Stainless Steel	Enamel Paint None None None None None
Purge Screw Siphon Cartridge Duter Shell Stator Shell Rotor Shaft mpellers & Diffusers	Brass Brass Pump/Motor Stainless Steel Stainless Steel Stainless Steel	None None None None None
Siphon Cartridge Duter Shell Stator Shell Rotor Shaft mpellers & Diffusers	Brass Pump/Motor Stainless Steel Stainless Steel Stainless Steel	None None None None
Duter Shell Stator Shell Rotor Shaft mpellers & Diffusers	Pump/Motor         Stainless Steel         Stainless Steel         Stainless Steel	None None None
Stator Shell Rotor Shaft mpellers & Diffusers	Stainless Steel Stainless Steel Stainless Steel	None
Stator Shell Rotor Shaft mpellers & Diffusers	Stainless Steel Stainless Steel	None None
Rotor Shaft mpellers & Diffusers	Stainless Steel	None
mpellers & Diffusers		
-	(Acetel) Celcon® Plastic	None
-		
Notor Bearings	Carbon	None
ed Jacket STP Performance	The Red Jac	cket STP Dimensions
	Total pump length measured in inches, from the top of the eyebolt to the bottom of the motor inlet	Manhole - Packer 2" Discharge Packer to Dispensers Riser Packer to Dispensers Riser Packer to Dispensers Packer to Dispensers Persouriz Line Lea Detecto (PLLD) Po (PLLD) Po Tank Manway Tank Diameter Packer to Dispensers Tank Diameter Packer to Dispensers Tank Diameter Packer to Dispensers Packer to Dispenser
		the bottom of the motor inlet

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STP Description	responsible for infrastructure a optimizes fuel design makes service. Availal lengths, and de Red Jacket Sul fuel pump with submersible fu additional 30% STP. It has all t constructed wi a Veeder-Root	t Alcohol Gas (AG) Submersible Turbine Purr driving fuel from the storage tank, through t and into the vehicle through the use of press flow and dispensing, and its advanced packe it the industry's easiest and safest STP to ins ole in 3/4 HP to 2 HP configurations in varial signed for alternative fuels – such as alcoho omersible Turbine Pump AG is a fixed-speed a motor that delivers a higher flow rate than el motors, to optimize fuel flow and dispensi increase in stainless steel hardware from Th he advantages of The Red Jacket STP design th stainless steel on all parts exposed to the flagship product line, Red Jacket is backed b ributors and authorized service contractors	he piping ure energy. It er manifold tall and ble Quick Set® ol and ethanol. alcohol gas comparable ng. It has an ne Red Jacket n, but was fuel path. As y the largest	
	Part #	Description	Model #	Notes
	0410140-058	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 74" - 104.5" Length	AGP75S3-3 RJ1	<ul> <li>3/4 HP, 0.56 KW, 220/240 Voltage, single-phase</li> </ul>
	0410140-059	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 104" - 164.5" Length	AGP75S3-3 RJ2	<ul> <li>Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.</li> </ul>
4" Red Jacket AG STP	0410140-060	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 164" - 224.5" Length	AGP75S3-3 RJ3	FSA stands for Floating Suction Adapter.
	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	
	The Red Ja	cket Submersible Turbine Pump Model is Ul	Listed for:	STP Application Description
Fuel Compatibility	• UL 79B: Kerd		., 20% TAME	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.
		Pump		Impellers and Diffusers
	self-lubricating disconnecting detectors or si readily separat	multi-stage, dependent upon required flow ra and easily removed from storage tank witho discharge piping, mechanical or electronic le ohon systems. The pump and motor assemb ole from the pump column pipe to allow for s the pump and motor.	ut ak ly shall be	Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.
		Pump Intake Inlet		Manifold Head Assembly
Mechanical Features	the tank bottor	let shall be horizontal to prevent drawing sec n into the pump inlet. The intake inlet shall b Jate "Trapper" to prevent particulates from b	e compatible	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.



	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	Vacuum Sensor Siphon System	Quick Set®
(Continued)	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.
	Electric Motors – 4" Models	Connections
	The motor shall be 220/240 volt, 50 Hz, single-phase, 2850 RPM,	The motor shall have a quick-disconnect type male/female connector to be readily separable
Electrical Features	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.	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.
Electrical Features	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	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
Electrical Features	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.	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.
	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. Accessibility All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge	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. <b>Assembly Order</b> 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. nd 105°F (40.5°C) in non-gelling 0°F (-4°C) and 125°F (51°C) ambient environment.
Construction	<ul> <li>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.</li> <li>Accessibility</li> <li>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.</li> <li>The pump assembly shall be rated for operation between -40°F (-40°C) a petroleum products.</li> <li>The pump assembly shall be listed under UL 79 for operation between -2</li> <li>The product temperature must not exceed 105°F (40.5°C).</li> <li>Petroleum shall not exceed the specific gravity as stated in the installatio the specific pump model.</li> </ul>	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. <b>Assembly Order</b> 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. nd 105°F (40.5°C) in non-gelling 0°F (-4°C) and 125°F (51°C) ambient environment.



Component         eker/Manifold Head         stomers – "O" Rings         eck Valve Seat         eck Valve Seat         eck Valve Lock Down Screw         umn Pipes         nduit Pipe         ck Set Connector         charge Head         aining Nuts         Springs         ge Screw         hon Cartridge	Material         Gray Cast Iron         High Grade Fluorocarbon         Stainless Steel         Stainless Steel         Steel Tubing         1/2" Steel Pipe         Gray Cast Iron         Gray Cast Iron         Steel         Stainless Steel         Stainless Steel         Stainless Steel         Stainless Steel	Surface Finish Low Volatile Organic Compound Pair None None None Powder Primer Mill Finish Phosphate and Oil Corrosion Inhibitor Zinc Plating Enamel Paint Passivation
stomers – "O" Rings eck Valve Seat eck Valve Lock Down Screw umn Pipes aduit Pipe ck Set Connector charge Head aining Nuts Springs ge Screw hon Cartridge	High Grade Fluorocarbon         Stainless Steel         Stainless Steel         Steel Tubing         1/2" Steel Pipe         Gray Cast Iron         Gray Cast Iron         Steel         Spring Steel         Stainless Steel         Stainless Steel         Stainless Steel         Pump/Motor	None         None         None         Powder Primer         Mill Finish         Phosphate and Oil         Corrosion Inhibitor         Zinc Plating         Enamel Paint         Passivation
eck Valve Seat eck Valve Lock Down Screw umn Pipes aduit Pipe ck Set Connector charge Head aining Nuts Springs ge Screw hon Cartridge er Shell	Stainless Steel         Stainless Steel         Steel Tubing         1/2" Steel Pipe         Gray Cast Iron         Gray Cast Iron         Steel         Spring Steel         Stainless Steel         Stainless Steel         Stainless Steel         Pump/Motor	None None Powder Primer Mill Finish Phosphate and Oil Corrosion Inhibitor Zinc Plating Enamel Paint Passivation
eck Valve Lock Down Screw umn Pipes nduit Pipe ck Set Connector charge Head aining Nuts Springs ge Screw hon Cartridge er Shell	Stainless Steel         Steel Tubing         1/2" Steel Pipe         Gray Cast Iron         Gray Cast Iron         Steel         Spring Steel         Stainless Steel         Stainless Steel         Pump/Motor	NonePowder PrimerMill FinishPhosphate and OilCorrosion InhibitorZinc PlatingEnamel PaintPassivation
umn Pipes aduit Pipe ck Set Connector charge Head aining Nuts Springs ge Screw hon Cartridge er Shell	Steel Tubing         1/2" Steel Pipe         Gray Cast Iron         Gray Cast Iron         Steel         Spring Steel         Stainless Steel         Stainless Steel         Pump/Motor	Powder Primer Mill Finish Phosphate and Oil Corrosion Inhibitor Zinc Plating Enamel Paint Passivation
er Shell	1/2" Steel Pipe         Gray Cast Iron         Gray Cast Iron         Steel         Spring Steel         Stainless Steel         Stainless Steel         Pump/Motor	Mill Finish Phosphate and Oil Corrosion Inhibitor Zinc Plating Enamel Paint Passivation
ck Set Connector charge Head aining Nuts Springs ge Screw hon Cartridge er Shell	Gray Cast Iron Gray Cast Iron Steel Spring Steel Stainless Steel Stainless Steel Pump/Motor	Phosphate and Oil Corrosion Inhibitor Zinc Plating Enamel Paint Passivation
charge Head aining Nuts Springs ge Screw hon Cartridge er Shell	Gray Cast Iron Steel Spring Steel Stainless Steel Stainless Steel Pump/Motor	Corrosion Inhibitor Zinc Plating Enamel Paint Passivation
aining Nuts Springs ge Screw hon Cartridge er Shell	Steel Spring Steel Stainless Steel Stainless Steel Pump/Motor	Zinc Plating Enamel Paint Passivation
Springs ge Screw hon Cartridge er Shell	Spring Steel Stainless Steel Stainless Steel Pump/Motor	Enamel Paint Passivation
ge Screw hon Cartridge er Shell	Stainless Steel Stainless Steel Pump/Motor	Passivation
er Shell	Stainless Steel Pump/Motor	
er Shell	Pump/Motor	Passivation
	Stainless Steel	
		None
tor Shell	Stainless Steel	None
or Shaft	Stainless Steel	None
ellers & Diffusers	(Acetel) Celcon® Plastic	None
tor Bearings	Carbon	None
acket AG STP Performance	The Red Jacke	t AG STP Dimensions
	Total pump length measured in inches, from the top of the eyebolt to the bottom of the motor inlet	eter - Containment Sump Tank Manway Tank Diameter
	-	Acket AG STP Performance     The Red Jacket       prmance @ 230V; SG = 0.78     Forecourt       Packer Manifold     Clearance       4" Minimum       11.7"       (297 mm)       Riser       Length       rom the top of the bottom       the bottom       motor inlet

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STP Description	responsible for infrastructure a optimizes fuel design makes i service. Availal lengths, and de Red Jacket Sul fuel pump with submersible fu additional 30% STP. It has all t constructed wi a Veeder-Root	t Alcohol Gas (AG) Submersible Turbine Purr driving fuel from the storage tank, through t and into the vehicle through the use of press flow and dispensing, and its advanced packe it the industry's easiest and safest STP to ins oble in 3/4 HP to 2 HP configurations in varial signed for alternative fuels – such as alcoho omersible Turbine Pump AG is a fixed-speed a motor that delivers a higher flow rate than the motors, to optimize fuel flow and dispensi increase in stainless steel hardware from Th he advantages of The Red Jacket STP design th stainless steel on all parts exposed to the flagship product line, Red Jacket is backed b ributors and authorized service contractors of	he piping ure energy. It er manifold stall and ble Quick Set® bl and ethanol. alcohol gas comparable ng. It has an he Red Jacket h, but was fuel path. As y the largest	
	Part #	Description	Model #	Notes
	0410141-060	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 76" - 106.5" Length	AGP150S3-3 RJ1	<ul> <li>1.5 HP, 1.13 KW, 220/240 Voltage, single-phase.</li> </ul>
	0410141-061	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 106" - 166.5" Length	AGP150S3-3 RJ2	<ul> <li>Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.</li> </ul>
4" Red Jacket AG STP	0410141-062	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 166" - 226.5" Length	AGP150S3-3 RJ3	FSA stands for Floating Suction Adapter.
	0410141-063	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 78.4" - 108.9" Length	AGP150S3-3 RJ1 FSA	
	0410141-064	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 108.4" - 168.9" Length	AGP150S3-3 RJ2 FSA	
	0410141-065	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 168.4" - 228.9" Length	AGP150S3-3 RJ3 FSA	
	The Red Jac	cket Submersible Turbine Pump Model is Ul	Listed for:	STP Application Description
Fuel Compatibility	• UL 79B: Kerd		E, 20% TAME	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.
		Pump		Impellers and Diffusers
	self-lubricating disconnecting	multi-stage, dependent upon required flow ra and easily removed from storage tank witho discharge piping, mechanical or electronic le	out	Impellers shall be splined to the pump shaft to
	readily separab	phon systems. The pump and motor assemb ble from the pump column pipe to allow for s f the pump and motor.	ly shall be	provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.
	readily separab	ble from the pump column pipe to allow for s	ly shall be	



	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	Vacuum Sensor Siphon System	Quick Set®
(Continued)	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.
	Electric Motors – 4" Models	Connections
Electrical Features	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.
Electrical Features	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	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/
Electrical Features	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.	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.
	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. Accessibility All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge	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. <b>Assembly Order</b> 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. nd 105°F (40.5°C) in non-gelling 20°F (-4°C) and 125°F (51°C) ambient environment.
Construction	<ul> <li>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.</li> <li>Accessibility</li> <li>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.</li> <li>The pump assembly shall be rated for operation between -40°F (-40°C) a petroleum products.</li> <li>The pump assembly shall be listed under UL 79 for operation between -2</li> <li>The product temperature must not exceed 105°F (40.5°C).</li> <li>Petroleum shall not exceed the specific gravity as stated in the installation the specific pump model.</li> </ul>	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. <b>Assembly Order</b> 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. nd 105°F (40.5°C) in non-gelling 20°F (-4°C) and 125°F (51°C) ambient environment.



Component         fold Head         "O" Rings         Seat         Lock Down Screw         S         Innector         ad         'S         indector         ad         'S         iffusers         gs         S <th>Material         Gray Cast Iron         High Grade Fluorocarbon         Stainless Steel         Stainless Steel         Steel Tubing         1/2" Steel Pipe         Gray Cast Iron         Gray Cast Iron         Gray Cast Iron         Steel         Spring Steel         Stainless Steel</th> <th>Surface Finish         Low Volatile Organic Compound Pair         None         Orrosion Inhibitor         Zinc Plating         Enamel Paint         Passivation         None         None</th>	Material         Gray Cast Iron         High Grade Fluorocarbon         Stainless Steel         Stainless Steel         Steel Tubing         1/2" Steel Pipe         Gray Cast Iron         Gray Cast Iron         Gray Cast Iron         Steel         Spring Steel         Stainless Steel	Surface Finish         Low Volatile Organic Compound Pair         None         Orrosion Inhibitor         Zinc Plating         Enamel Paint         Passivation         None
"O" Rings     Seat     Lock Down Screw     S     Innector     ad     rs     dge	High Grade Fluorocarbon Stainless Steel Steinless Steel Steel Tubing 1/2" Steel Pipe Gray Cast Iron Gray Cast Iron Steel Steel Stainless Steel Stainless Steel Stainless Steel Stainless Steel Stainless Steel Stainless Steel Stainless Steel Stainless Steel (Acetel) Celcon® Plastic Carbon	None         None         None         Powder Primer         Mill Finish         Phosphate and Oil         Corrosion Inhibitor         Zinc Plating         Enamel Paint         Passivation         None         None         None         None         None         None         None
Seat Lock Down Screw Screw Lock Down Screw Screw Lock Down Screw S	Stainless Steel         Stainless Steel         Steel Tubing         1/2" Steel Pipe         Gray Cast Iron         Gray Cast Iron         Steel         Spring Steel         Stainless Steel	None         None         None         Powder Primer         Mill Finish         Phosphate and Oil         Corrosion Inhibitor         Zinc Plating         Enamel Paint         Passivation         Passivation         None         None         None         None         None         None
Lock Down Screw	Stainless Steel Steel Tubing 1/2" Steel Pipe Gray Cast Iron Gray Cast Iron Steel Spring Steel Stainless Steel Stainless Steel Stainless Steel Stainless Steel Stainless Steel Stainless Steel Stainless Steel Stainless Steel Carbon	None         Powder Primer         Mill Finish         Phosphate and Oil         Corrosion Inhibitor         Zinc Plating         Enamel Paint         Passivation         Passivation         None         None         None         None         None         None
s innector ad is innector ad is innector is innector is innector is innector is innector is innector is influence is in influence is influence is influence is in influence is	Steel Tubing         1/2" Steel Pipe         Gray Cast Iron         Gray Cast Iron         Steel         Spring Steel         Stainless Steel	Powder Primer Mill Finish Phosphate and Oil Corrosion Inhibitor Zinc Plating Enamel Paint Passivation Passivation None None None None
innector ad ad s ad ad s ad	1/2" Steel Pipe Gray Cast Iron Gray Cast Iron Steel Spring Steel Stainless Steel Stainless Steel Stainless Steel Stainless Steel Stainless Steel Stainless Steel (Acetel) Celcon® Plastic Carbon	Mill Finish Phosphate and Oil Corrosion Inhibitor Zinc Plating Enamel Paint Passivation Passivation None None None None None None None No
ad solutions and	Gray Cast Iron Gray Cast Iron Steel Spring Steel Stainless Steel Stainless Steel Pump/Motor Stainless Steel Stainless Steel Stainless Steel Stainless Steel (Acetel) Celcon® Plastic Carbon	Phosphate and Oil Corrosion Inhibitor Zinc Plating Enamel Paint Passivation Passivation None None None None None
ad solutions and	Gray Cast Iron Steel Spring Steel Stainless Steel Stainless Steel Pump/Motor Stainless Steel Stainless Steel Stainless Steel (Acetel) Celcon® Plastic Carbon	Corrosion Inhibitor Corrosion Inhibitor Cinc Plating Enamel Paint Passivation Passivation None None None None None None None
iffusers	Steel Spring Steel Stainless Steel Stainless Steel <b>Pump/Motor</b> Stainless Steel Stainless Steel Stainless Steel (Acetel) Celcon® Plastic Carbon	Zinc Plating Enamel Paint Passivation Passivation None None None None
dge	Spring Steel Stainless Steel Stainless Steel Pump/Motor Stainless Steel Stainless Steel Stainless Steel (Acetel) Celcon® Plastic Carbon	Enamel Paint Passivation Passivation None None None None None None
iffusers gs	Stainless Steel Stainless Steel Pump/Motor Stainless Steel Stainless Steel Stainless Steel (Acetel) Celcon® Plastic Carbon	Passivation Passivation None None None None None None None
iffusers gs	Stainless Steel Pump/Motor Stainless Steel Stainless Steel Stainless Steel (Acetel) Celcon® Plastic Carbon	Passivation Passivation None None None None None None
iffusers gs	Pump/Motor Stainless Steel Stainless Steel Stainless Steel (Acetel) Celcon® Plastic Carbon	None None None None
gs	Stainless Steel Stainless Steel Stainless Steel (Acetel) Celcon® Plastic Carbon	None None None
gs	Stainless Steel Stainless Steel (Acetel) Celcon® Plastic Carbon	None None None
gs	Stainless Steel (Acetel) Celcon® Plastic Carbon	None
gs	(Acetel) Celcon® Plastic Carbon	None
gs	Carbon	
-		None
-		
	I he Red Ja	acket AG STP Dimensions
	Total pump length measured in inches, from the top of the eyebolt to the bottom of the motor inlet	Manhole Packer, 2" Discharge Versuritie 4" Riser Pipe Diameter Diameter Unitized Unitized Unitized
	5" (127 mm) Standar	d inlet and trapper
	230V; SG = 0.78	Total pump length reasured in inches, forecourt Packer Manifold Clearance 4" Minimum Riser Length Column Pipe Length (Less Riser) (Less Riser) (Less Riser) (Less Riser) Column Dipe Length (Less Riser) Column Dipe Length Column Dipe Column Dipe Length Column Dipe Column Dipe Colum

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# The Red Jacket<sup>®</sup> 1.5 HP High Pressure Alcohol Gas Submersible Turbine Pump – 50Hz

STP Description	responsible for infrastructure a optimizes fuel design makes service. Availal lengths, and de Red Jacket Sul fuel pump with submersible fu additional 30% STP. It has all t constructed wi a Veeder-Root	t Alcohol Gas (AG) Submersible Turbine Pun driving fuel from the storage tank, through t and into the vehicle through the use of press flow and dispensing, and its advanced packe it the industry's easiest and safest STP to ins ole in 3/4 HP to 2 HP configurations in variat esigned for alternative fuels – such as alcoho omersible Turbine Pump AG is a fixed-speed a motor that delivers a higher flow rate than el motors, to optimize fuel flow and dispens increase in stainless steel hardware from Th he advantages of The Red Jacket STP desig th stainless steel on all parts exposed to the flagship product line, Red Jacket is backed b ributors and authorized service contractors	he piping ure energy. It er manifold stall and ble Quick Set® bl and ethanol. alcohol gas comparable ng. It has an he Red Jacket h, but was fuel path. As y the largest	
	Part #	Description	Model #	Notes
	0410143-055	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 76.5" - 107" Length	X4AGP150S3 RJ1	<ul> <li>1.5 HP – High Pressure, 1.13 KW, 220/240 Voltage, single-phase.</li> </ul>
	0410143-056	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 106.5" - 167" Length	X4AGP150S3 RJ2	<ul> <li>Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.</li> </ul>
4" Red Jacket AG STP	0410143-057	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 166.5" - 227" Length	X4AGP150S3 RJ3	FSA stands for Floating Suction Adapter.
	0410143-058	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 78.9" - 109.4" Length	X4AGP150S3 RJ1 FSA	
	0410143-059	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 108.9" - 169.4" Length	X4AGP150S3 RJ2 FSA	
	0410143-060	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 168.9" - 229.4" Length	X4AGP150S3 RJ3 FSA	
		cket Submersible Turbine Pump Model is U	Listed for:	STP Application Description
Fuel Compatibility	<ul> <li>UL 79B: Kerd</li> </ul>		5, 20% TAME	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.
		Pump		Impellers and Diffusers
	self-lubricating disconnecting detectors or si readily separat	multi-stage, dependent upon required flow ra and easily removed from storage tank witho discharge piping, mechanical or electronic le ohon systems. The pump and motor assemb ele from the pump column pipe to allow for s the pump and motor.	out ak Iy shall be	Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.
		Pump Intake Inlet		Manifold Head Assembly
Mechanical Features	the tank bottor	let shall be horizontal to prevent drawing sec n into the pump inlet. The intake inlet shall b Jate "Trapper" to prevent particulates from b	e compatible	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.



# The Red Jacket<sup>®</sup> 1.5 HP High Pressure Alcohol Gas Submersible Turbine Pump – 50Hz

	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	Vacuum Sensor Siphon System	Quick Set®
(Continued)	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.
	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	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
Electrical Features	hermetically sealed against leakage of products rme 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.	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.
Electrical Features	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	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/
Electrical Features	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.	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.
	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. Accessibility All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge	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. <b>Assembly Order</b> 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. nd 105°F (40.5°C) in non-gelling petroleum 0°F (-4°C) and 125°F (51°C) ambient environment.
Construction	<ul> <li>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.</li> <li>Accessibility</li> <li>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.</li> <li>The pump assembly shall be rated for operation between -40°F (-40°C) are products.</li> <li>The pump assembly shall be listed under UL 79 for operation between -2</li> <li>The product temperature must not exceed 105°F (40.5°C).</li> <li>Petroleum shall not exceed the specific gravity as stated in the installation the specific pump model.</li> </ul>	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. <b>Assembly Order</b> 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. nd 105°F (40.5°C) in non-gelling petroleum 0°F (-4°C) and 125°F (51°C) ambient environment.



### The Red Jacket<sup>®</sup> 1.5 HP High Pressure Alcohol Gas Submersible Turbine Pump – 50Hz

Bill of Materials	Component         Packer/Manifold Head         Elastomers – "O" Rings         Elastomers – "O" Rings         Check Valve Seat         Check Valve Lock Down Screw         Column Pipes         Conduit Pipe         Quick Set Connector         Discharge Head         Retaining Nuts         Die Springs	Material         Gray Cast Iron         High Grade Fluorocarbon         Stainless Steel         Stainless Steel         Steel Tubing         1/2" Steel Pipe         Gray Cast Iron         Gray Cast Iron         Steel	Surface Finish         Low Volatile Organic Compound Paint         None         None         None         Powder Primer         Mill Finish         Phosphate and Oil         Corrosion Inhibitor
Bill of Materials	Elastomers – "O" Rings Check Valve Seat Check Valve Lock Down Screw Column Pipes Conduit Pipe Quick Set Connector Discharge Head Retaining Nuts Die Springs	High Grade Fluorocarbon Stainless Steel Stainless Steel Steel Tubing 1/2" Steel Pipe Gray Cast Iron Gray Cast Iron	None       None       None       Powder Primer       Mill Finish       Phosphate and Oil       Corrosion Inhibitor
Bill of Materials	Check Valve Seat Check Valve Lock Down Screw Column Pipes Conduit Pipe Quick Set Connector Discharge Head Retaining Nuts Die Springs	Stainless Steel Stainless Steel Steel Tubing 1/2" Steel Pipe Gray Cast Iron Gray Cast Iron	None       None       Powder Primer       Mill Finish       Phosphate and Oil       Corrosion Inhibitor
Bill of Materials	Check Valve Lock Down Screw Column Pipes Conduit Pipe Quick Set Connector Discharge Head Retaining Nuts Die Springs	Stainless Steel Steel Tubing 1/2" Steel Pipe Gray Cast Iron Gray Cast Iron	None         Powder Primer         Mill Finish         Phosphate and Oil         Corrosion Inhibitor
Bill of Materials	Column Pipes Conduit Pipe Quick Set Connector Discharge Head Retaining Nuts Die Springs	Steel Tubing 1/2" Steel Pipe Gray Cast Iron Gray Cast Iron	Powder Primer         Mill Finish         Phosphate and Oil         Corrosion Inhibitor
G Bill of Materials F F	Conduit Pipe Quick Set Connector Discharge Head Retaining Nuts Die Springs	1/2" Steel Pipe Gray Cast Iron Gray Cast Iron	Mill Finish Phosphate and Oil Corrosion Inhibitor
Bill of Materials	Quick Set Connector Discharge Head Retaining Nuts Die Springs	Gray Cast Iron Gray Cast Iron	Phosphate and Oil Corrosion Inhibitor
Bill of Materials	Discharge Head Retaining Nuts Die Springs	Gray Cast Iron	Corrosion Inhibitor
3ill of Materials F F	Retaining Nuts Die Springs		
R D F	Die Springs	Steel	
F			Zinc Plating
		Spring Steel	Enamel Paint
s	Purge Screw	Stainless Steel	Passivation
	Siphon Cartridge	Stainless Steel	Passivation
		Pump/Motor	
C	Duter Shell	Stainless Steel	None
5	Stator Shell	Stainless Steel	None
F	Rotor Shaft	Stainless Steel	None
	mpellers & Diffusers	(Acetel) Celcon® Plastic	None
I IIII	Motor Bearings	Carbon	None
The Red	Jacket AG STP Performance	The Red Jac	cket AG STP Dimensions
P 140 130 120 X4P150S3 100 90 80 70 60 50 40 30 20 10 0 0 0 0 0 0 0 0 0 0 0 0 0	erformance @ 230V; SG = 0.78	Total pump length measured in inches, from the top of the eyebolt to of the motor inlet	Manhole

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STP Description	responsible for infrastructure a optimizes fuel design makes service. Availal lengths, and de Red Jacket Sul fuel pump with submersible fu additional 30% STP. It has all t constructed wi a Veeder-Root	t Alcohol Gas (AG) Submersible Turbine Purr driving fuel from the storage tank, through t and into the vehicle through the use of press flow and dispensing, and its advanced packe it the industry's easiest and safest STP to ins ble in 3/4 HP to 2 HP configurations in varial esigned for alternative fuels – such as alcoho obmersible Turbine Pump AG is a fixed-speed a motor that delivers a higher flow rate than lel motors, to optimize fuel flow and dispensi increase in stainless steel hardware from Th he advantages of The Red Jacket STP design th stainless steel on all parts exposed to the flagship product line, Red Jacket is backed b tributors and authorized service contractors of	he piping ure energy. It r manifold tall and le Quick Set® ol and ethanol. alcohol gas comparable ng. It has an le Red Jacket n, but was fuel path. As y the largest	
	Part #	Description	Model #	Notes
	0410488-013	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 80" - 110.5" Length	AGP200S3-4 RJ1	2 HP, 1.5 KW, 220/240 Voltage, single-phase.
	0410488-014	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 110" - 170.5" Length	AGP200S3-4 RJ2	<ul> <li>Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.</li> </ul>
4" Red Jacket AG STP	0410488-015	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 170" - 230.5" Length	AGP200S3-4 RJ3	<ul> <li>FSA stands for Floating Suction Adapter.</li> </ul>
	0410488-016	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 82.4" - 112.9" Length	AGP200S3-4 RJ1 FSA	
	0410488-017	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 112.4" - 172.9" Length	AGP200S3-4 RJ2 FSA	
	0410488-018	4" TRJ AG STP - Quick Set (Adjustable) Final Assemblies, 172.4" - 232.9" Length	AGP200S3-4 RJ3 FSA	
	The Red Ja	cket Submersible Turbine Pump Model is UI	Listed for:	STP Application Description
Fuel Compatibility	• UL 79B: Kerd		;, 20% TAME	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.
		Pump		Impellers and Diffusers
	self-lubricating disconnecting detectors or si readily separat	multi-stage, dependent upon required flow ra and easily removed from storage tank withor discharge piping, mechanical or electronic le phon systems. The pump and motor assemb ole from the pump column pipe to allow for s f the pump and motor.	ut ak ly shall be	Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.
		Pump Intake Inlet		Manifold Head Assembly
Mechanical Features	the tank bottor	let shall be horizontal to prevent drawing sec n into the pump inlet. The intake inlet shall b ulate "Trapper" to prevent particulates from b	e compatible	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



	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	Vacuum Sensor Siphon System	Quick Set®
(Continued)	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.
	Electric Motors – 4" Models	Connections
		The meter shall have a guidt disconnect type
Electrical Features	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.
Electrical Features	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	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/
Electrical Features	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.	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.
	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. Accessibility All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge	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. <b>Assembly Order</b> 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. nd 105°F (40.5°C) in non-gelling 20°F (-4°C) and 125°F (51°C) ambient environment.
Construction	<ul> <li>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.</li> <li>Accessibility</li> <li>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.</li> <li>The pump assembly shall be rated for operation between -40°F (-40°C) a petroleum products.</li> <li>The pump assembly shall be listed under UL 79 for operation between -2</li> <li>The product temperature must not exceed 105°F (40.5°C).</li> <li>Petroleum shall not exceed the specific gravity as stated in the installation the specific pump model.</li> </ul>	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. <b>Assembly Order</b> 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. nd 105°F (40.5°C) in non-gelling 20°F (-4°C) and 125°F (51°C) ambient environment.



		4" Red Jacket AG STP Models	
	Component	Material	Surface Finish
	Packer/Manifold Head	Gray Cast Iron	Low Volatile Organic Compound Pair
	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
ill of Materials	Discharge Head	Gray Cast Iron	Corrosion Inhibitor
II OI Materiais	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 Jac	cket AG STP Dimensions
140 130 120 110 100	Performance @ 230V; SG = 0.78	Forecourt Packer Manifold Clearance 4" Minimum 11.7" (297 mm) Riser	Manhole - Packer 2" Discharge Manifold 0 Dispensers Wechanic Unte Leal Detector (MLLD) o Pressurize Line Leal Detector (MLLD) o Pressurize Detector (PLLD) Po
90 80 70 70 60 50 40 30 20 10		Total pump length measured in inches, from the top of the eyebolt to the bottom of the motor inlet	Pipe ameter Containment Sump Tank Manway Tank Diameter

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STP Description	responsible for infrastructure a optimizes fuel design makes service. Availal lengths, and de your site is stru- induced in-tank construction, tl Armor STP has from The Red S STP design, bu environments.	At Red Armor (RA) Submersible Turbine Pump r driving fuel from the storage tank, through t and into the vehicle through the use of press flow and dispensing, and its advanced packe it the industry's easiest and safest STP to ins ble in 3/4 HP to 2 HP configurations in variab esigned to withstand corrosive environments uggling with Ethanol-induced in-sump corrosis k corrosion, with its specialty coating and sta he Red Armor solution is designed to survive s an additional 30% increase in stainless stee Jacket AG STP. It has all the advantages of TI it was constructed specifically to withstand of As a Veeder-Root flagship product line, Red largest network of distributors and authorize orldwide.	he piping ure energy. It er manifold del and de Quick Set® . Whether on or ULSD- inless-steel . The Red d hardware ne Red Jacket corrosive Jacket is	
	Part #	Description	Model #	Notes
	0410140-092	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 74" - 104.5" Length	AGP75S3- 3RA1	<ul> <li>3/4 HP, 0.56 KW, 220/240 Voltage, single-phase.</li> </ul>
	0410140-093	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 104" - 164.5" Length	AGP75S3- 3RA2	• Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.
4" Red Jacket RA STP	0410140-094	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 164" - 224.5" Length	AGP75S3- 3RA3	FSA stands for Floating Suction Adapter.
	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	
	The Red Ja	cket Submersible Turbine Pump Model is Ul	Listed for:	STP Application Description
Fuel Compatibility	• 85% Gasolin		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.	
		Pump		Impellers and Diffusers
	self-lubricating disconnecting detectors or sig readily separat	multi-stage, dependent upon required flow ra g and easily removed from storage tank withor discharge piping, mechanical or electronic le phon systems. The pump and motor assemb ole from the pump column pipe to allow for s f the pump and motor.	ut ak ly shall be	Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.
		Pump Intake Inlet		Manifold Head Assembly
Mechanical Features	the tank bottor	ilet shall be horizontal to prevent drawing sec n into the pump inlet. The intake inlet shall b ulate "Trapper" to prevent particulates from b	e compatible	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



	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	Vacuum Sensor Siphon System	Quick Set®
(Continued)	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.
	Electric Motors – 4" Models	Connections
Electrical Features	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	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
	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.	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.
	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	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/
Construction	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.	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	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. Accessibility All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge	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. <b>Assembly Order</b> 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. nd 105°F (40.5°C) in non-gelling 0°F (-4°C) and 125°F (51°C) ambient environment.
	<ul> <li>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.</li> <li>Accessibility</li> <li>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.</li> <li>The pump assembly shall be rated for operation between -40°F (-40°C) at petroleum products.</li> <li>The pump assembly shall be listed under UL 79 for operation between -2 The product temperature must not exceed 105°F (40.5°C).</li> <li>Petroleum shall not exceed the specific gravity as stated in the installation the specific pump model.</li> </ul>	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. <b>Assembly Order</b> 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. nd 105°F (40.5°C) in non-gelling 0°F (-4°C) and 125°F (51°C) ambient environment.



		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
Dill of Manadala	Discharge Head	Gray Cast Iron	Powder Coat
Bill of Materials	Retaining Nuts	Stainless Steel	Passivation
	Die Springs	Stainless Steel	Passivation
	Purge Screw	Stainless Steel	Passivation
	Siphon Cartridge	Stainless Steel	Passivation
		Pump/Motor	1
	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	e Red Jacket RA STP Performance	The Red Jack	et RA STP Dimensions
140 130 120 100 90 97553-3 80 97553-3 80 90 97553-3 80 90 97553-3 80 90 97553-3 80 90 90 90 97553-3 80 90 90 97553-3 80 90 90 90 90 97553-3 80 90 90 90 90 90 97553-3 80 90 90 90 90 90 90 90 90 90 90 97553-3 80 90 90 90 90 90 90 90 90 90 90 90 90 90	Performance @ 230V; SG = 0.78	Forecourt Man Packer Manifold Clearance 4" Minimum 11.7" (297 mm) Riser Length Unitized Column Pipe Length (Less Riser) Unitized Motor Pump (UMP)	Mechanical Line Leak Detector (MLLD) or Pressurized Line Leak Detector (MLD) or Pressurized Line Leak Detector (PLD) Port

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STP Description	responsible for infrastructure a optimizes fuel design makes service. Availal lengths, and de your site is stru induced in-tank construction, th Armor STP has from The Red _ STP design, bu environments.	t Red Armor (RA) Submersible Turbine Pum r driving fuel from the storage tank, through and into the vehicle through the use of press flow and dispensing, and its advanced pack it the industry's easiest and safest STP to ir ble in 3/4 HP to 2 HP configurations in varia esigned to withstand corrosive environment uggling with Ethanol-induced in-sump corros the Red Armor solution is designed to survive an additional 30% increase in stainless ster Jacket AG STP. It has all the advantages of t was constructed specifically to withstand As a Veeder-Root flagship product line, Red largest network of distributors and authoriz orldwide.	the piping sure energy. It ser manifold istall and ble Quick Set <sup>®</sup> s. Whether sion or ULSD- ainless-steel e. The Red el hardware The Red Jacket corrosive Jacket is	
	Part #	Description	Model #	Notes
	0410141-094	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 76" - 106.5" Length	AGP150S3- 3RA1	<ul> <li>1.5 HP, 1.13 KW, 220/240 Voltage, single-phase.</li> </ul>
	0410141-095	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 106" - 166.5" Length	AGP150S3- 3RA2	<ul> <li>Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.</li> </ul>
4" Red Jacket RA STP	0410141-096	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 166" - 226.5" Length	AGP150S3- 3RA3	FSA stands for Floating Suction Adapter.
	0410141-097	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 78.4" - 108.9" Length	AGP150S3- 3RA1 FSA	
	0410141-098	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 108.4" - 168.9" Length	AGP150S3- 3RA2 FSA	
	0410141-099	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 168.4" - 228.9" Length	AGP150S3- 3RA3 FSA	
	The Red Jac	cket Submersible Turbine Pump Model is U	IL Listed for:	STP Application Description
Fuel Compatibility	• 85% Gasolin			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.
		Pump		Impellers and Diffusers
	self-lubricating disconnecting detectors or sig readily separat	multi-stage, dependent upon required flow and easily removed from storage tank with discharge piping, mechanical or electronic ohon systems. The pump and motor assem ole from the pump column pipe to allow for f the pump and motor.	out eak bly shall be	Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.
		Pump Intake Inlet		Manifold Head Assembly
Mechanical Features	the tank bottor	let shall be horizontal to prevent drawing se n into the pump inlet. The intake inlet shall l Jlate "Trapper" to prevent particulates from	be compatible	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.



	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	Vacuum Sensor Siphon System	Quick Set®
(Continued)	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.
	Electric Motors – 4" Models	Connections
Electrical Features	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	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 mater shall be disconnected by the
	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.	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.
	have a thermal overload device with automatic reset built into the motor windings for motor cut-off when motor temperature reaches a level which	quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/
Construction	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.	quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/ female connector.
Construction	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. Accessibility All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge	quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/ female connector. <b>Assembly Order</b> 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. nd 105°F (40.5°C) in non-gelling 0°F (-4°C) and 125°F (51°C) ambient environment.
	<ul> <li>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.</li> <li>Accessibility</li> <li>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.</li> <li>The pump assembly shall be rated for operation between -40°F (-40°C) at petroleum products.</li> <li>The pump assembly shall be listed under UL 79 for operation between -2</li> <li>The product temperature must not exceed 105°F (40.5°C).</li> <li>Petroleum shall not exceed the specific gravity as stated in the installatio the specific pump model.</li> </ul>	quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/ female connector. <b>Assembly Order</b> 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. nd 105°F (40.5°C) in non-gelling 0°F (-4°C) and 125°F (51°C) ambient environment.



		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
Bill of Materials	Discharge Head	Gray Cast Iron	Powder Coat
Din of Materials	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 Jac	ket RA STP Dimensions
	Performance @ 230V; SG = 0.78	Forecourt Ma	anhole –
140			
		Packer Manifold	
130		Packer Manifold Clearance 4" Minimum	Mechanical
130			Mechanical Line Leak Detector
120		Clearance 4" Minimum	Packer 2" Discharge (MLLD) or Manifold to Dispensers Pressurized
		Clearance 4" Minimum	Packer Manifold Packer Manifold Packer Manifold Packer Pac
120		Clearance 4" Minimum 11.7" (297 mm) Riser 4" Riser	Packer Manifold Packer Manifold Packer Manifold Pressurized Line Leak Packer Pressurized Line Leak
120		Clearance 4" Minimum 11.7" (297 mm)	Packer Manifold Containment Bury
120 110 100 - P150S3-3		Clearance 4" Minimum 11.7" (297 mm) Riser Riser Pipe	Packer 2" Discharge Manifold to Dispensers Manifold to Dispensers Pressurized Line Leak Detector (PLLD) Port
120 110 100 P150S3-3 90 80		Clearance 4" Minimum 11.7" (297 mm) Riser Length Diameter	Packer Manifold Containment Bury
120 110 100 P150S3-3 90 80		Clearance 4" Minimum 11.7" (297 mm) Riser Length Diameter-	Packer 2" Discharge Manifold to Dispensers Manifold to Dispensers Containment Bury Sump Depth
120 110 100 P150S3-3 90 80		Clearance 4" Minimum 11.7" (297 mm) Riser Length Diameter	Packer 2" Discharge Manifold to Dispensers Manifold to Dispensers Containment Bury Sump Depth Tank Manway
120 110 100 P150S3-3 90 80		Clearance 4" Minimum 11.7" (297 mm) Riser Length Diameter-	Packer 2" Discharge Manifold to Dispensers Manifold to Dispensers Containment Bury Sump Depth
120 110 100 P150S3-3 90 80 70 60 60		Clearance 4" Minimum 11.7" (297 mm) Riser Length Column Pipe Length Column Pipe Length (Less Riser)	Packer 2" Discharge Manifold to Dispensers Manifold to Dispensers Containment Bury Sump Depth Tank Manway
120 110 100 P150S3-3 90 80 80 70 60 50 40		Clearance 4" Minimum 11.7" (297 mm) Riser Length Column Pipe Length (Less Riser) Unitized Motor Pump	Packer 2" Discharge Manifold to Dispensers Manifold to Dispensers Containment Bury Sump Depth Tank Manway Tank Diameter
120 110 100 P150S3-3 90 80 80 70 60 50		Clearance 4" Minimum 11.7" (297 mm) Riser Length Column Pipe Length (Less Riser) Unitized	Packer 2" Discharge Manifold to Dispensers Manifold to Dispensers Containment Bury Depth Tank Manway Tank Diameter
120 110 100 P150S3-3 90 80 80 70 60 50 40		Clearance 4" Minimum 11.7" (297 mm) Riser Length Column Pipe Length (Less Riser) Unitized Motor Pump	Packer 2" Discharge Manifold to Dispensers Manifold to Dispensers Containment Bury Depth Tank Manway Tank Diameter
120 110 110 P150S3-3 90 80 70 60 50 40 30		Clearance 4" Minimum 11.7" (297 mm) Riser Length Column Pipe Length (Less Riser) Unitized Motor Pump	Packer 2" Discharge Manifold to Dispensers Manifold to Dispensers Containment Bury Sump Depth Tank Manway Tank Diameter
120 110 100 P150S3-3 90 80 80 70 60 50 40 30 20		Clearance 4" Minimum 11.7" (297 mm) Riser Length Column Pipe Length (Less Riser) Unitized Motor Pump	Packer 2" Discharge Manifold to Dispensers Manifold to Dispensers Containment Bury Sump Depth Tank Manway Tank Diameter
120 110 100 P150S3-3 90 80 70 60 50 40 30 20 10 0		Clearance 4" Minimum 11.7" (297 mm) Riser Length Column Pipe Length (Less Riser) Unitized Motor Pump	Packer 2" Discharge Manifold to Dispensers Containment Bury Containment Bury Tank Manway Tank Diarmeter

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## The Red Jacket<sup>®</sup> 1.5 HP High Pressure <u>Red Armor<sup>®</sup></u> Submersible Turbine Pump – 50Hz

STP Description	responsible for infrastructure a It optimizes fue design makes i service. Availal lengths, and de your site is stru- induced in-tank construction, th Armor STP has from The Red _ STP design, bu environments.	t Red Armor (RA) Submersible Turbine Pump driving fuel from the storage tank, through t and into the vehicle through the use of presse el flow and dispensing, and its advanced pac it the industry's easiest and safest STP to ins oble in 3/4 HP to 2 HP configurations in variab esigned to withstand corrosive environments uggling with Ethanol-induced in-sump corrosis c corrosion, with its specialty coating and sta he Red Armor solution is designed to survive a n additional 30% increase in stainless stee Jacket AG STP. It has all the advantages of T t was constructed specifically to withstand of As a Veeder-Root flagship product line, Red a largest network of distributors and authorize orldwide.	he piping ure energy. ker manifold stall and ble Quick Set <sup>®</sup> . Whether on or ULSD- inless-steel . The Red I hardware he Red Jacket corrosive Jacket is	
	Part #	Description	Model #	Notes
	0410143-089	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 76.5" - 107" Length	X4AGP150S3 RJ1	<ul> <li>1.5 HP – High Pressure, 1.13 KW, 220/240 Voltage, single-phase.</li> </ul>
	0410143-090	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 105.5" - 165.5" Length	X4AGP150S3 RJ2	<ul> <li>Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.</li> </ul>
4" Red Jacket RA STP	0410143-091	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 166" - 226.5" Length	X4AGP150S3 RJ3	FSA stands for Floating Suction Adapter.
	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	
	The Red Jac	cket Submersible Turbine Pump Model is U	Listed for:	STP Application Description
Fuel Compatibility	• 85% Gasolin			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.
		Pump		Impellers and Diffusers
	lubricating and discharge pipir systems. The p	multi-stage, dependent upon required flow ra easily removed from storage tank without d ng, mechanical or electronic leak detectors o pump and motor assembly shall be readily se mn pipe to allow for simple field replacement	isconnecting r siphon parable from	Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.
		Pump Intake Inlet		Manifold Head Assembly
Mechanical Features	the tank bottor	let shall be horizontal to prevent drawing seo n into the pump inlet. The intake inlet shall b Jlate "Trapper" to prevent particulates from b	e compatible	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.



## The Red Jacket<sup>®</sup> 1.5 HP High Pressure <u>Red Armor<sup>®</sup></u> Submersible Turbine Pump – 50Hz

	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	Vacuum Sensor Siphon System	Quick Set®
(Continued)	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.
	Electric Motors – 4" Models	Connections
Electrical Features	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.
	Accessibility	Assembly Order
Construction	Accessibility 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.	
Construction Environmental	All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge	Assembly Order 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. and 105°F (40.5°C) in non-gelling petroleum 0°F (-4°C) and 125°F (51°C) ambient environment.
	<ul> <li>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.</li> <li>The pump assembly shall be rated for operation between -40°F (-40°C) as products.</li> <li>The pump assembly shall be listed under UL 79 for operation between -2</li> <li>The product temperature must not exceed 105°F (40.5°C).</li> <li>Petroleum shall not exceed the specific gravity as stated in the installatio the specific pump model.</li> </ul>	Assembly Order 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. and 105°F (40.5°C) in non-gelling petroleum 0°F (-4°C) and 125°F (51°C) ambient environment.



## The Red Jacket<sup>®</sup> 1.5 HP High Pressure Red Armor<sup>®</sup> Submersible Turbine Pump – 50Hz

		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
Bill of Materials	Discharge Head	Gray Cast Iron	Powder Coat
Sin or materials	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 Jac	ket RA STP Dimensions
140	Performance @ 230V; SG = 0.78	Forecourt Ma	anhole -
130		Clearance 4" Minimum	Mechanica
120		+ 3	Line Leak
X4P150S3		11.7"	Packer 2" Discharge (MLLD) or Manifold to Dispensers Pressurize
110		(297 mm)	Line Leak Detector
100		Riser 4" Riser Length Pipe	(PLLD) Por
90		Length Diameter-	Containment Bury Sump Depth
80			-
			- Tank Manway
HOL 60		Column Pipe	
E 60		Column Pipe Length (Less Riser)	Tank Diameter
50			Diameter
			<u>u</u>
40		L Unitized Motor Pump	
30		(UMP)	
20			
20			
10			
10			
10	0 30 40 50 60 70 80 90 1 GPM	<sup>00</sup> 5" (127 mm) Standard inlet 14" (356 mm) For floating :	and trapper

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STP Description	responsible for infrastructure a lt optimizes fue design makes service. Availal lengths, and de your site is stru- induced in-tank construction, tl Armor STP has from The Red S STP design, bu environments.	t Red Armor (RA) Submersible Turbine Pump driving fuel from the storage tank, through t and into the vehicle through the use of press el flow and dispensing, and its advanced pac it the industry's easiest and safest STP to ins oble in 3/4 HP to 2 HP configurations in variab esigned to withstand corrosive environments uggling with Ethanol-induced in-sump corrosis a corrosion, with its specialty coating and sta he Red Armor solution is designed to survive a an additional 30% increase in stainless stee Jacket AG STP. It has all the advantages of TI t was constructed specifically to withstand of As a Veeder-Root flagship product line, Red v argest network of distributors and authorize rldwide.	he piping are energy. ker manifold tall and le Quick Set® . Whether on or ULSD- inless-steel . The Red I hardware he Red Jacket orrosive Jacket is	
-	Part #	Description	Model #	Notes
	0410488-025	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 80" - 110.5" Length	AGP200S3- 4RA1	• 2 HP, 1.5 KW, 220/240 Voltage, single-phase.
	0410488-026	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 110" - 170.5" Length	AGP200S3- 4RA2	<ul> <li>Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet.</li> </ul>
4" Red Jacket RA STP	0410488-027	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 170" - 230.5" Length	AGP200S3- 4RA3	<ul> <li>FSA stands for Floating Suction Adapter.</li> </ul>
	0410488-028	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 82.4" - 112.9" Length	AGP200S3- 4RA1 FSA	
	0410488-029	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 112.4" - 172.9" Length	AGP200S3- 4RA2 FSA	
	0410488-030	4" TRJ RA STP - Quick Set (Adjustable) Final Assemblies, 172.4" - 232.9" Length	AGP200S3- 4RA3 FSA	
	The Red Ja	cket Submersible Turbine Pump Model is UI	Listed for:	STP Application Description
Fuel Compatibility	• 85% Gasolin			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.
		Pump		Impellers and Diffusers
	lubricating and discharge pipir systems. The p	multi-stage, dependent upon required flow ra easily removed from storage tank without d ng, mechanical or electronic leak detectors o pump and motor assembly shall be readily se nn pipe to allow for simple field replacement	sconnecting siphon parable from	Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.
		Pump Intake Inlet		Manifold Head Assembly
Mechanical Features	the tank bottor	let shall be horizontal to prevent drawing sec n into the pump inlet. The intake inlet shall b ulate "Trapper" to prevent particulates from b	e compatible	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.



	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	Vacuum Sensor Siphon System	Quick Set®
(Continued)	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.
	Electric Motors – 4" Models	Connections
	The motor shall be 220/240 volt, 50 Hz, single-phase, 2850 RPM,	The motor shall have a quick-disconnect type male/female connector to be readily separable
Electrical Features	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.	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.
Electrical Features	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	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/
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ComponentPacker/Manifold HeadElastomers – "O" RingsCheck Valve SeatCheck Valve Lock Down ScrewColumn PipesConduit PipeQuick Set ConnectorDischarge HeadRetaining Nuts	MaterialSurface FiniteGray Cast IronPowder CoatHigh Grade FluorocarbonNoneStainless SteelNoneStainless SteelNoneStainless SteelNone1/2" Steel PipeMill FinishStainless SteelPassivationGray Cast IronPowder Coat	at
Elastomers – "O" Rings         Check Valve Seat         Check Valve Lock Down Screw         Column Pipes         Conduit Pipe         Quick Set Connector         Discharge Head	High Grade Fluorocarbon       None         Stainless Steel       None         Stainless Steel       None         Stainless Steel       None         1/2" Steel Pipe       Mill Finish         Stainless Steel       Passivation	
Check Valve Seat Check Valve Lock Down Screw Column Pipes Conduit Pipe Quick Set Connector Discharge Head	Stainless Steel       None         Stainless Steel       None         Stainless Steel       None         1/2" Steel Pipe       Mill Finish         Stainless Steel       Passivation	
Check Valve Lock Down Screw         Column Pipes         Conduit Pipe         Quick Set Connector         Discharge Head	Stainless SteelNoneStainless SteelNone1/2" Steel PipeMill FinishStainless SteelPassivation	
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Conduit Pipe Quick Set Connector Discharge Head	1/2" Steel Pipe     Mill Finish       Stainless Steel     Passivation	
Quick Set Connector Discharge Head	Stainless Steel Passivation	
Discharge Head		
	Gray Cast Iron Powder Coa	ו
Retaining Nuts		at
	Stainless Steel Passivation	า
Die Springs	Stainless Steel Passivation	า
Purge Screw	Stainless Steel Passivation	า
Siphon Cartridge	Stainless Steel Passivation	ו
· · · · ·	Pump/Motor	
Outer Shell	Stainless Steel None	
Stator Shell	Stainless Steel None	
Rotor Shaft	Stainless Steel None	
Impellers & Diffusers	(Acetel) Celcon <sup>®</sup> Plastic None	
Motor Bearings	Carbon None	
ed Jacket RA STP Performance	The Red Jacket RA STP Dimensions	
	(297 mm) Riser Length Tank Column Pipe Length Tank Column Pipe Length Length Tank Column Pipe Length Length Tank Column Pipe Length Tank Column Pipe Length Tank	Mechanica Line Leak Detector (MLLD) or Pressurize Line Leak Detector (PLLD) Por ury pth
	Outer Shell       Stator Shell       Rotor Shaft       Impellers & Diffusers       Motor Bearings	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           ed Jacket RA STP Performance         The Red Jacket RA STP Dimensions

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