

# FP-321 Series Version 2.1 Fuel Primer



*Shown: Left-To-Right Flow, Marine Version*

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## System Description

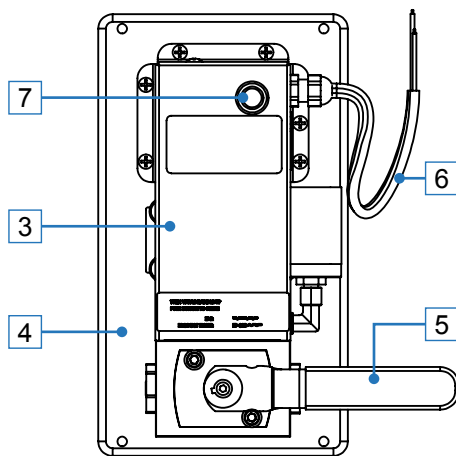
Use the fuel primer as an in-line component to make the priming of a diesel engine fuel system easier, faster, and safer.

It is preset at 15psi or 22psi to accommodate most major engine manufacturers.

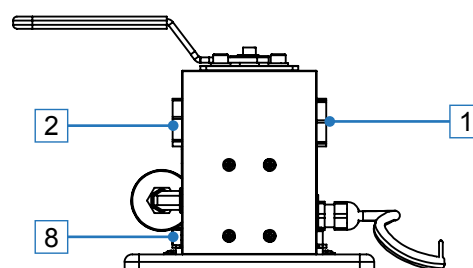
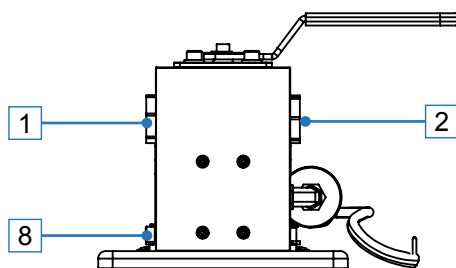
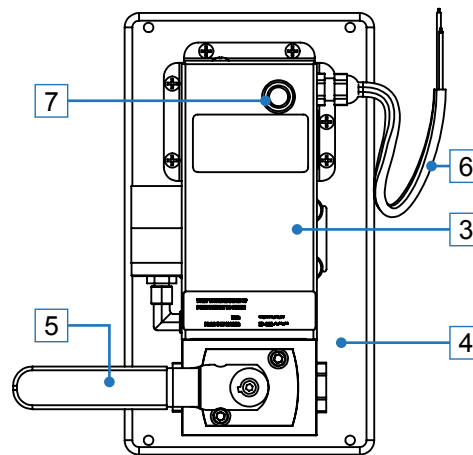
## Overview

- 1 Inlet - 1-1/16" x 12 UNF (straight o-ring boss)
- 2 Outlet - 1-1/16" x 12 UNF (straight o-ring boss)
- 3 Cover
- 4 Base
- 5 Valve handle (shown in run position)
- 6 Power input (12 / 24 volt)
- 7 Momentary button with LED power indicator
- 8 Ground screw

### Left-to-Right Flow

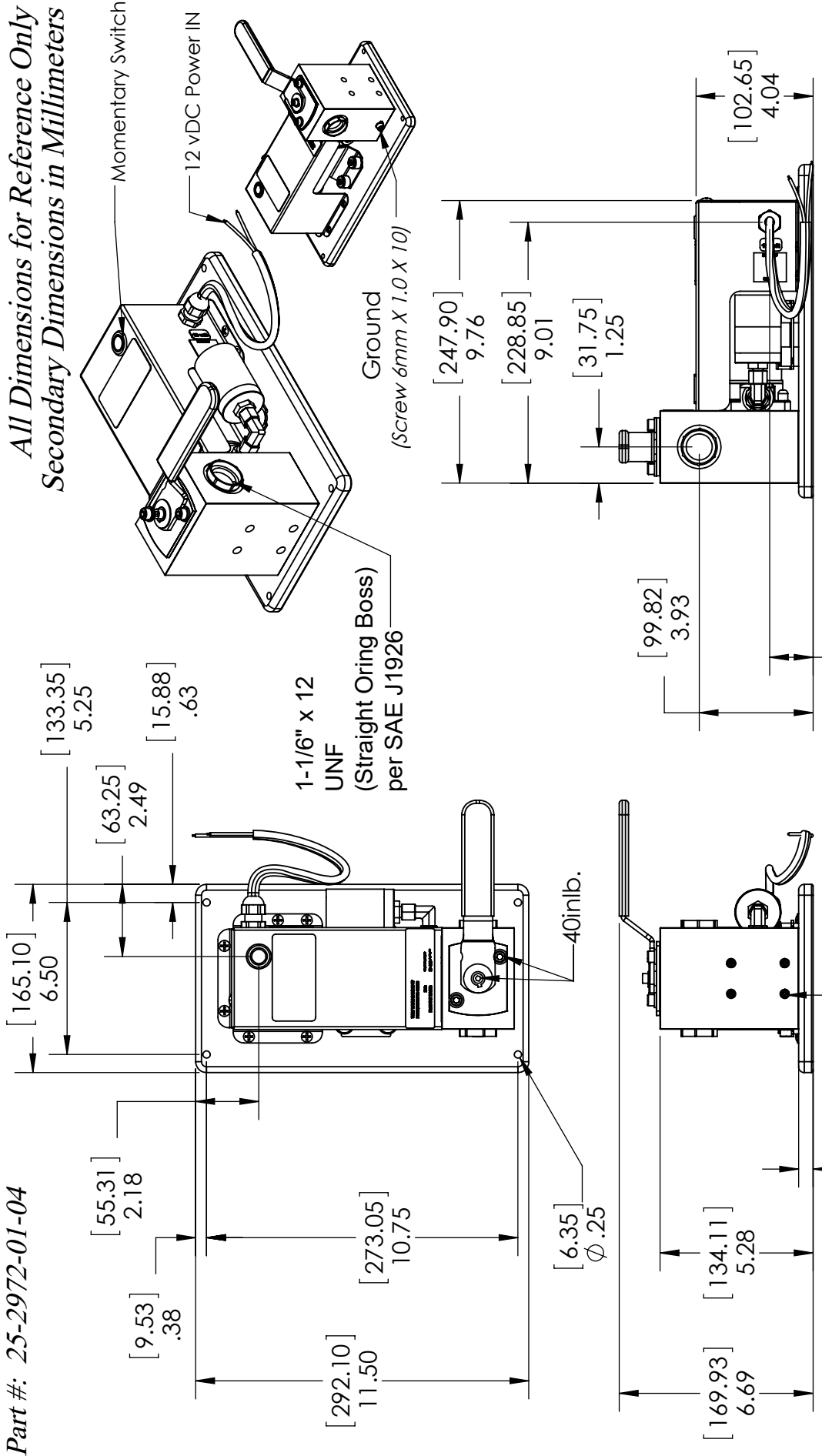


### Right-to-Left Flow



Part #: 25-2972-01-04

All Dimensions for Reference Only  
Secondary Dimensions in Millimeters



REVERSO PUMPS		TITLE:	
NAME	DATE	FP-321-L-12-22 Marine	
DRAWN	11/3/2016	Version V2.1 - 12V DC - 22	
CHECKED	3/13/2019	PSI	
ENG APPR.		SIZE	REV
MFG APPR.		A	FP-321 V2.1-ER-C
Q.A.		SCALE: 1:8	WEIGHT: 11 lbs.
COMMENTS:		SHEET 2 OF 16	

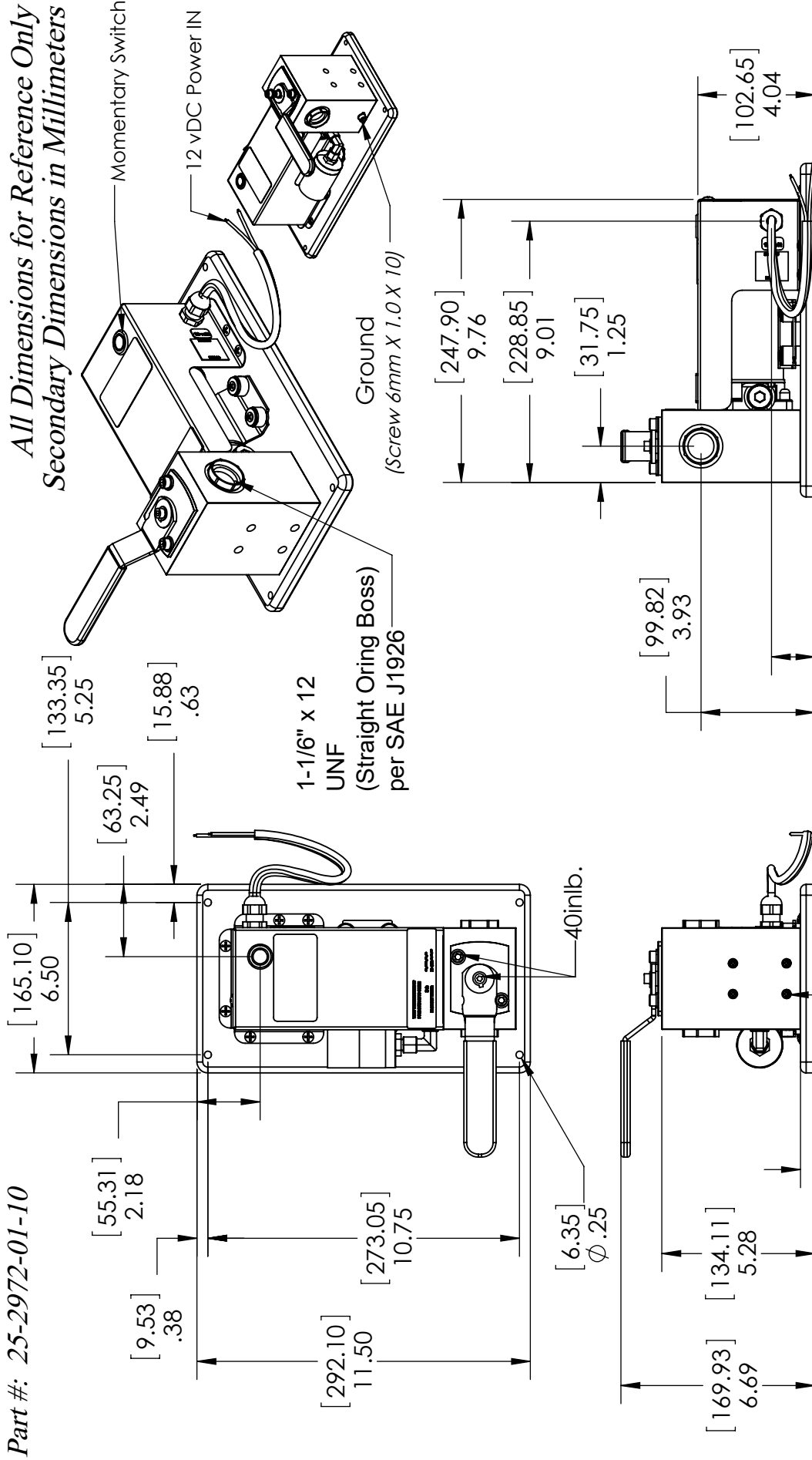
TECHNICAL SPECIFICATIONS	
Port Size - 1-1/6" x 12 UNF (Straight Oring Boss)	
Weight - 11 lbs.	
Power - 12 vDC	

PROPRIETARY AND CONFIDENTIAL	
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL +1/64 ANGULAR-MACH +0.2 TWO PLACE DECIMAL +0.1 THREE PLACE DECIMAL ±.005 DO NOT SCALE DRAWING	

Part #: 25-2972-01-10

All Dimensions for Reference Only  
Secondary Dimensions in Millimeters



<b>REVERSO PUMPS</b>	
TITLE: <i>FP-321-R-12-22 Marine Version V2.1 - 12V DC - 22 PSI</i>	
SIZE <b>A</b>	DWG. NO. FP-321 V2.1-ER-R_C
SCALE: 1:8	WEIGHT: 11 lbs.
	SHEET 6 OF 16

NAME JC	DATE 11/3/2016
CHECKED JC	3/13/2019
ENG APPR.	
MFG APPR.	
Q.A.	
COMMENTS:	

UNLESS OTHERWISE SPECIFIED:  
DIMENSIONS ARE IN INCHES  
TOLERANCES:  
FRACTIONAL +1/64  
ANGULAR: MACH +0.2  
TWO PLACE DECIMAL +0.1  
THREE PLACE DECIMAL ±.005  
DO NOT SCALE DRAWING

**PROPRIETARY AND CONFIDENTIAL**  
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF REVERSO PUMPS  
ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF REVERSO PUMPS IS PROHIBITED.

**TECHNICAL SPECIFICATIONS**  
*Port Size - 1-1/6" x 12 UNF (Straight Oring Boss)*  
*Weight - 11 lbs.*  
*Power - 12 vDC*

Marine		
Part #	Description	Voltage
25-2972-02-04	FP-321-L-24-22 Left-to-right 22psi	24V
25-2972-02-10	FP-321-R-24-22 Right-to-left 22psi	24V
25-2972-02-03	FP-321-L-24-15 Left-to-right 15psi	24V
25-2972-02-09	FP-321-R-24-15 Right-to-left 15psi	24V
25-2972-01-04	FP-321-L-12-22 Left-to-right 22psi	12V
25-2972-01-10	FP-321-R-12-22 Right-to-left 22psi	12V
25-2972-01-03	FP-321-L-12-15 Left-to-right 15psi	12V
25-2972-01-09	FP-321-R-12-15 Right-to-left 15psi	12V

Industrial		
Part #	Description	Voltage
25-2974-02-04	FP-321-L-24-22 Left-to-right 22psi	24V
25-2974-02-10	FP-321-R-24-22 Right-to-left 22psi	24V
25-2974-02-03	FP-321-L-24-15 Left-to-right 15psi	24V
25-2974-02-09	FP-321-R-24-15 Right-to-left 15psi	24V
25-2974-01-04	FP-321-L-12-22 Left-to-right 22psi	12V
25-2974-01-10	FP-321-R-12-22 Right-to-left 22psi	12V
25-2974-01-03	FP-321-L-12-15 Left-to-right 15psi	12V
25-2974-01-09	FP-321-R-12-15 Right-to-left 15psi	12V

## Primary Inspection

- Upon delivery inspect the shipment.
- If the shipment appears damaged upon delivery, reject the package.

## Installation

Do not mount with the pump head above the motor.

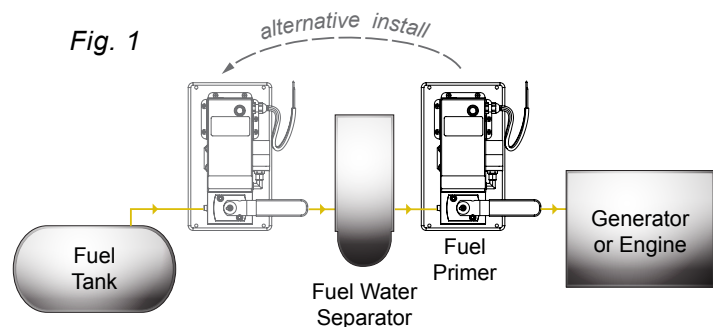
## Electrical

- Make sure that your unit and power supply are configured for the same voltage rating.
- Installation of unit should only be performed by qualified installation personnel who have thoroughly read and understands the installation instructions covered in this manual.
- To avoid the risk of electric shock, make sure that the power supply is disconnected. Ensure that the power supply is at zero volts with a multimeter before making any electrical connections.
- To ensure operator safety, the system must be connected to properly grounded power sources.

## Piping

Use quality approved diesel fuel line materials with at least 3/4" inner diameter line. Smaller plumbing will place excessive load on the motor and shorten its life.

It is recommended to install the fuel primer after the primary filter, however it can be located anywhere in the fuel system (Fig. 1). The valve handle points with the direction of flow.



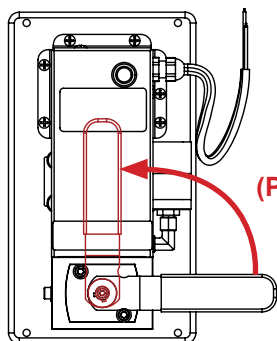
## Technical Specifications

<b>Flow Rate</b>	4 GPM / 15 LPM
<b>Inlet / Outlet</b>	1-1/6" x 12 UNF (Straight O-ring Boss) per SAE J1926
<b>Voltage</b>	12V or 24V
<b>Fuse</b> <i>(installer supplied)</i>	15A
<b>Max. Amp Draw</b>	8A / 12V, 4A / 24V
<b>Motor</b>	150W
<b>Self-priming</b>	5 ft / 1.5m
<b>Preset Pressure</b>	15 or 22 psi / 1 or 1.5 bar
<b>Ambient Temperature</b>	min. 14°F / -10°C max. 104°F / 40°C
<b>Seal</b>	Viton
<b>Gears</b>	Bronze
<b>Shaft</b>	Stainless Steel
<b>Body</b>	Nickel-plated brass
<b>Rated Pump</b>	IP67

- Before priming, shut down engine. The fuel primer is not designed to be used while engine is running.
- Confirm that tank suction valve is open.
- Open vent plug on filter(s) / engines.
- Verify LED momentary button is lit blue (indicates power is supplied to the unit).

1

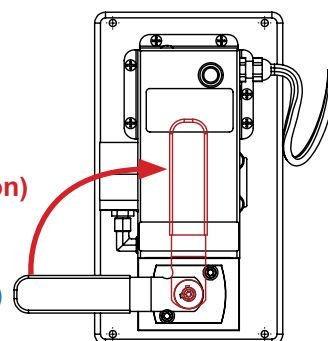
Move control handle from run position to priming position. Supply a small amount of fuel to the priming pump inlet to prime the pump before initial use.



To Prime  
(Priming Position)

(Run Position)

Left-to-Right Version

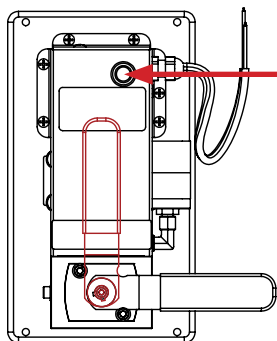


To Prime  
(Priming Position)

(Run Position)

Right-to-Left Version

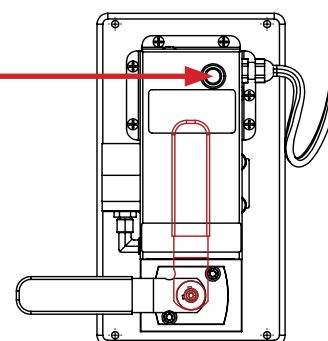
2



Left-to-Right Version

**Momentary button**

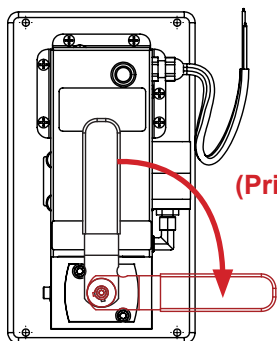
- Press and hold momentary button.
- When fuel appears at the filter vent plug, close the vent.
- Once the system bypass pressure has been exceeded (the system is primed), the motor will stop and maintain pressure.
- Release the momentary button.



Right-to-Left Version

3

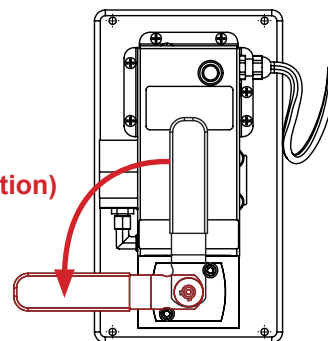
The fuel system is primed. Move control handle from priming position to to run position before starting engine(s).



(Priming Position)

To Run  
(Run Position)

Left-to-Right Version



(Priming Position)

To Run  
(Run Position)

Right-to-Left Version

Description	Possible Resolution
<b>Insufficient or no fuel delivery</b>	<ul style="list-style-type: none"><li>• Ensure correct voltage is powering the unit</li><li>• Check for air leak in fuel supply to pump</li><li>• Reduce distance if lift is too high</li><li>• Check for closed or partially closed valves installed in-line</li><li>• Check for debris in the gears</li><li>• Check for working condition of gears, key, and o-ring in pump head</li><li>• Check for properly sized piping and length</li></ul>
<b>Noisy operation</b>	<ul style="list-style-type: none"><li>• Check for debris in gears</li></ul>
<b>Tripping breaker</b>	<ul style="list-style-type: none"><li>• Check for debris in gears</li></ul>
<b>Does not turn on</b>	<ul style="list-style-type: none"><li>• Check the correct voltage is powering the unit</li><li>• Check the momentary button is lit blue</li></ul>