

VERDERFLEX®

Peristaltic Cased Tube Pump

Appendix D

Analogue Remote Control Options

Vantage 5000

Version 1.6v-09/2019

Print-No. 01



VERDER
passion for pumps



Version 1.6v-09/2019
Print-No. 01

Vantage 5000

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Appendix D

1 Analogue Remote Control Options

1.1 Introduction

This document refers to the analogue remote control options. For information regarding any other control options, please refer to relevant appendices below:

Control Mode		Relevant Digital Control Appendices
25 WAY Remote I/O Connector		Appendix E
Scada/Breakout box		Appendix F
Fieldbus	Modbus	Appendix J
	ASCII	Appendix K
	Profibus	Not available
WiFi		Not available

Table 1 Remote Control Appendices

1.2 Selecting Speed Control Method (local speed control)

1.2.1 HMI (Human Machine Interface or Screen Module)

The default for Speed Control and Start/Stop Control will be set to HMI as shown in the *Figure 1*.

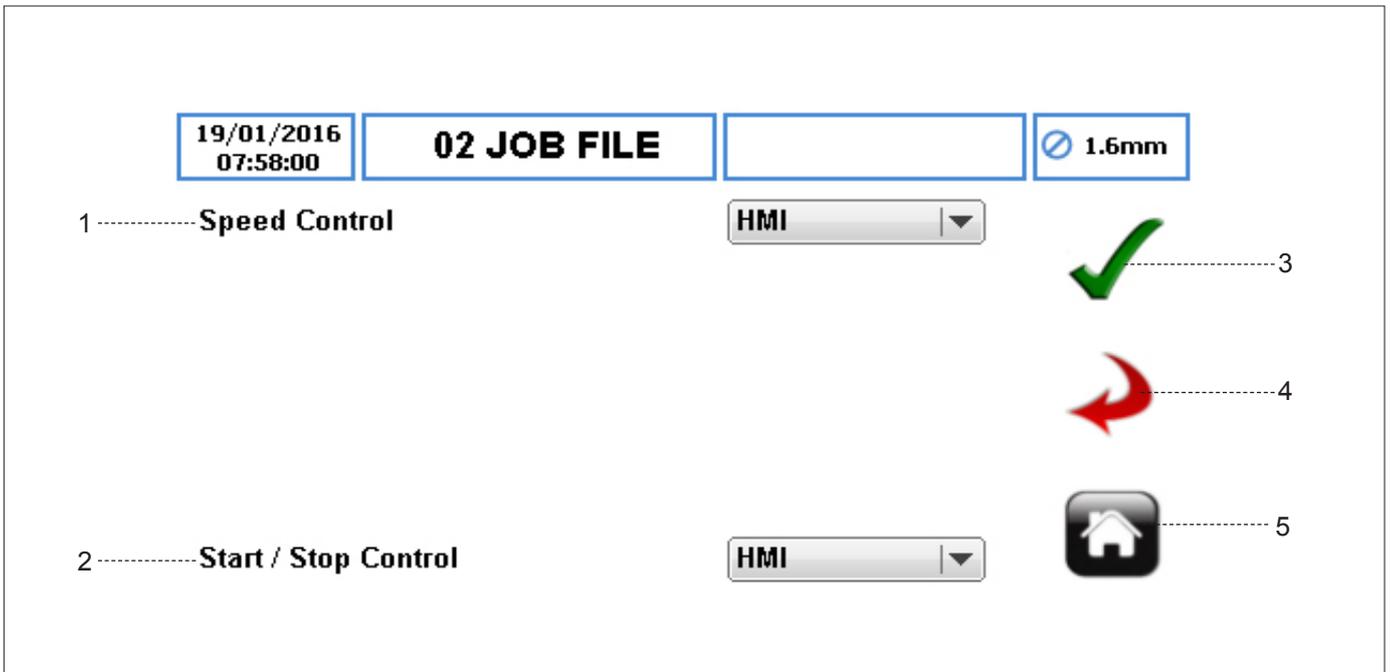


Figure 1 Remote Control Menu

Note

Depending on the pump model, some options for speed control and/or start/stop control may not be selectable.

1. SPEED CONTROL – set the speed control mode from a drop-down list:
 - a. HMI
 - b. 4-20 mA
 - c. 0-10 V
 - d. Proportional Flow Mode
 - e. Fieldbus
 - f. WiFi
2. START/STOP CONTROL – set the start/stop control mode from a drop-down list:
 - a. HMI
 - b. 25 WAY REMOTE I/O CONNECTOR
 - c. Fieldbus
 - d. Fieldbus + 25 WAY REMOTE I/O CONNECTOR
 - e. WiFi
3. ACCEPT – accepts all changes within the Job File. Changes made on this screen are not saved until this icon is pressed.

4. GO BACK/CANCEL – cancels any changes and return to the Job File Menu. If the user has made changes, there will be a prompt asking the user if the changes should be saved.
5. HOME – returns the user to the Home Screen. If the user has made changes, there will be a prompt asking if the changes should be saved.

1.2.1 4-20mA Speed Control Parameter Definition

When the pump's speed control is set in 4-20mA mode, the icon  will be shown as per Figure 2.

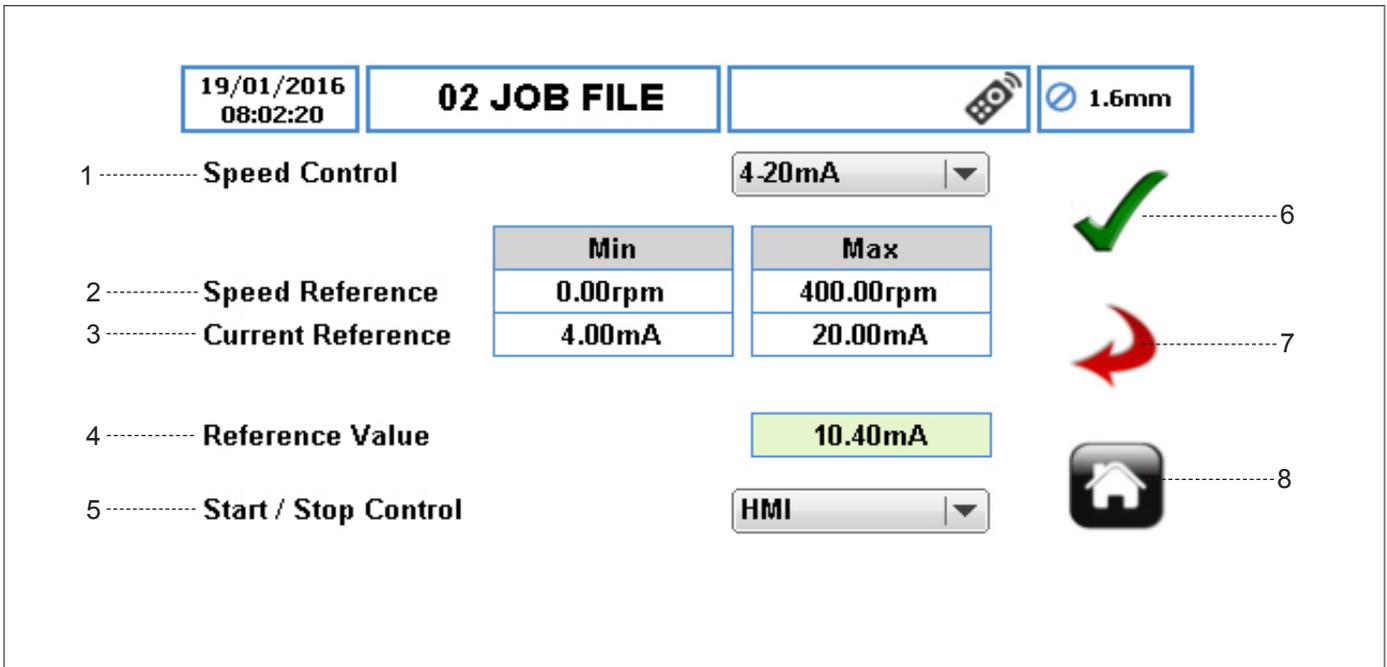


Figure 2 4-20 mA Speed Control

1. SPEED CONTROL – sets the speed control reference via the 4-20mA input pins on the 25WAY REMOTE I/O CONNECTOR (→ Appendix E).
2. SPEED REFERENCE – sets the minimum and maximum pump speed.
3. CURRENT REFERENCE – sets the minimum and maximum current references.
4. REFERENCE VALUE – indicates the measured current coming into the pump via the 25WAY REMOTE I/O CONNECTOR. It is a read-only value.
5. START/STOP CONTROL – sets the start/stop control separately from the speed control.
6. ACCEPT – accepts all changes within the Job File. Changes made on this screen are not saved until this icon is pressed.
7. GO BACK/CANCEL – cancels any changes and return to the Job File Menu. If the user has made changes, there will be a prompt asking the user if the changes should be saved.
8. HOME – returns the user to the Home Screen. If the user has made changes, there will be a prompt asking if the changes should be saved.

Note

With the default settings the 4 mA will correspond to 0 rpm and the 20 mA will correspond to 400 rpm. These settings can be reversed (minimum 20 mA and maximum 4 mA).

In electrical noisy environments, it may be necessary to adjust the range to eliminate false pump stats e.g from 5 to 19mA.

4. REFERENCE VALUE – indicates the measured current coming into the pump via the 25WAY REMOTE I/O CONNECTOR. It is a read-only value.
5. START/STOP CONTROL – sets the start/stop control separately from the speed control.
6. ACCEPT – accepts all changes within the Job File. Changes made on this screen are not saved until this icon is pressed.

1.2.2 0-10V Speed Control Parameter Definition

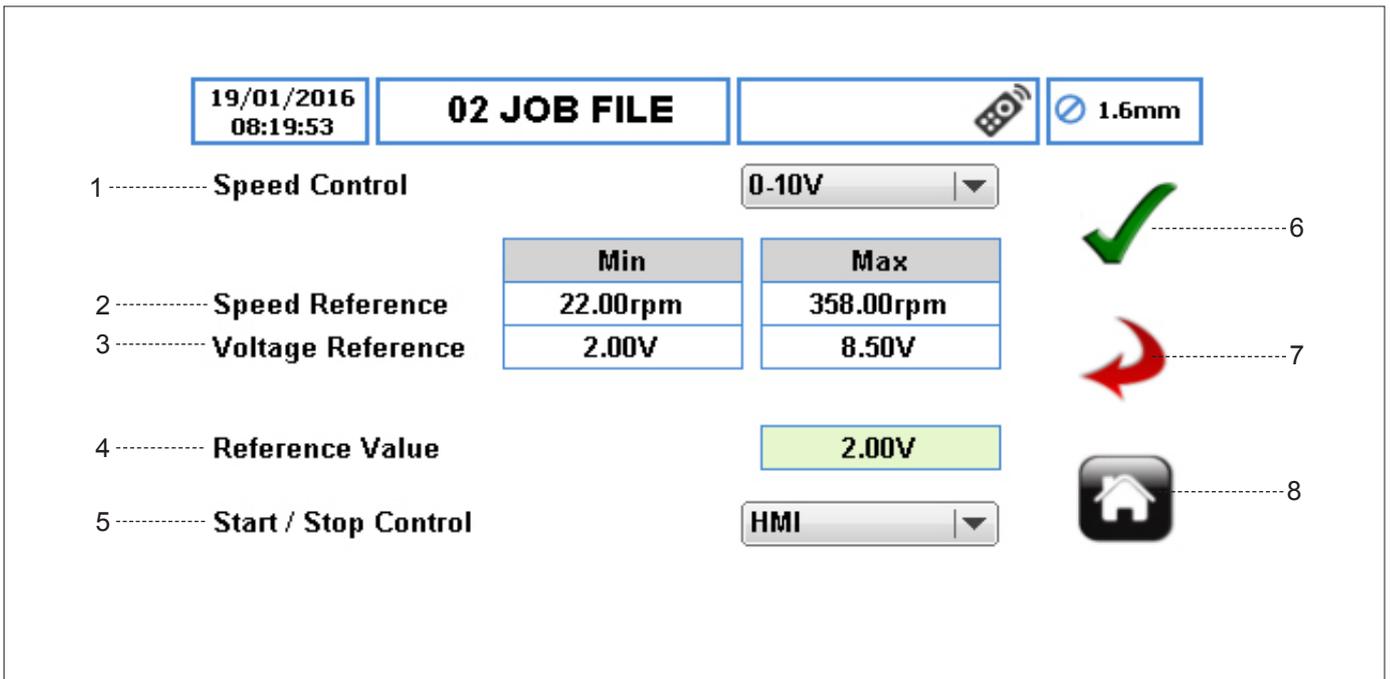


Figure 3 0-10V Speed Control

1. SPEED CONTROL – sets the speed control reference via the 0-10V input pins on the 25WAY REMOTE I/O CONNECTOR (→ Appendix E).
2. SPEED REFERENCE – sets the minimum and maximum pump speed.
3. VOLTAGE REFERENCE – sets the minimum and maximum voltage references.

Note

With the default settings the 0V will correspond to 0 rpm and the 10V will correspond to 400 rpm. These settings can be reversed (minimum 20 mA and maximum 4 mA).

4. REFERENCE VALUE – indicates the measured voltage read into the pump via the 25WAY REMOTE I/O CONNECTOR. It is read-only value.
5. START/STOP CONTROL – sets the start/stop control separately from the speed control.
6. ACCEPT – accepts all changes within the Job File. Changes made on this screen are not saved until this icon is pressed.
7. GO BACK/CANCEL – cancels any changes and return to the Job File Menu. If the user has made changes, there will be a prompt asking the user if the changes should be saved.
8. HOME – returns the user to the Home Screen. If the user has made changes, there will be a prompt asking if the changes should be saved.

1.2.3 Proportional Flow Mode (Tachometer) Parameter Definition

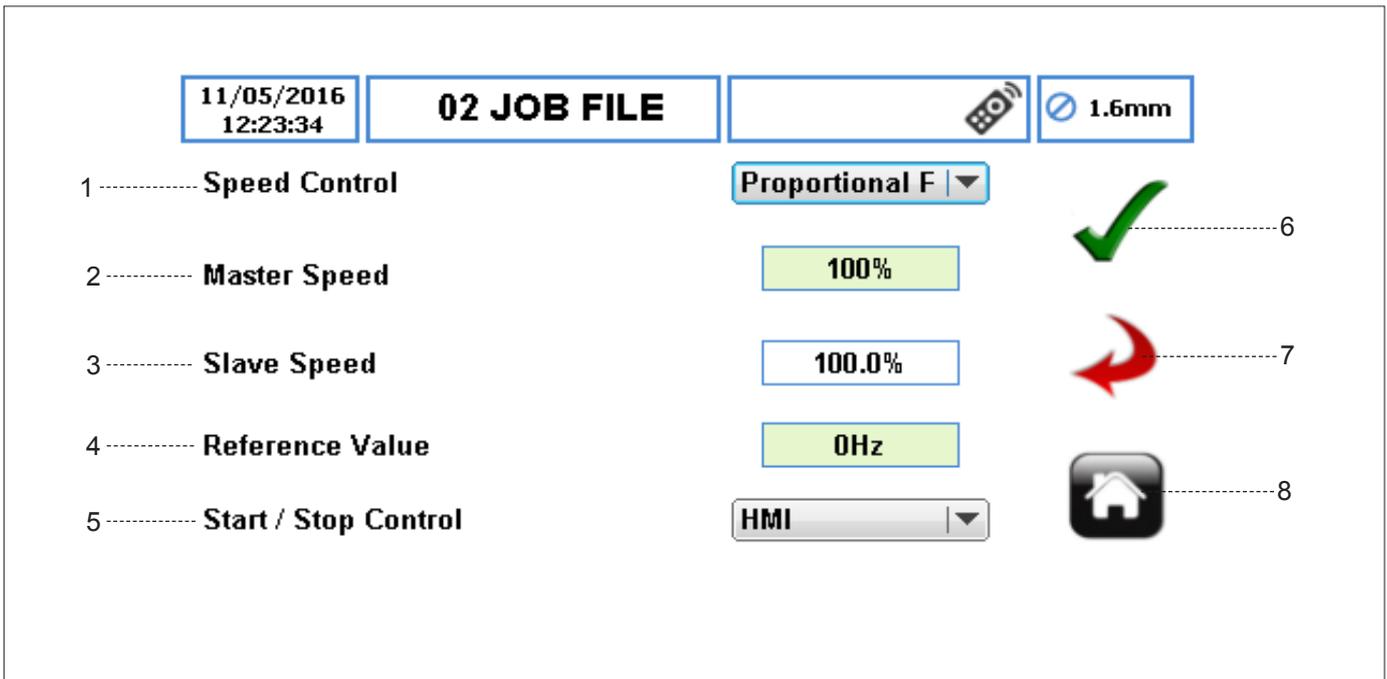


Figure 4 Proportional Flow Mode Speed Control

Note

The proportional flow mode is for use on the slave device only. The master device is used in its normal operating mode.

1. SPEED CONTROL – sets the speed control reference to come via the slave steps input pin on the 25WAY REMOTE I/O CONNECTOR (→ Appendix E).
2. MASTER SPEED – displays the master speed as a percentage of maximum pump speed. It is a ready-only value.
3. SLAVE SPEED – when the box is selected, a keypad will appear where the user can enter the percentage of the master speed.
4. REFERENCE VALUE – indicates the measured reference frequency coming from the master pump. It is a read-only value.
5. START/STOP CONTROL – sets the start/stop control separately from the speed control.
6. ACCEPT – accepts all changes within the Job File. Changes made on this screen are not saved until this icon is pressed.
7. GO BACK/CANCEL – cancels any changes and return to the Job File Menu. If the user has made changes, there will be a prompt asking the user if the changes should be saved.
8. HOME – returns the user to the Home Screen. If the user has made changes, there will be a prompt asking if the changes should be saved.

1.3 Start/Stop Control

1.3.1 HMI (Human Machine Interface or Screen Module)

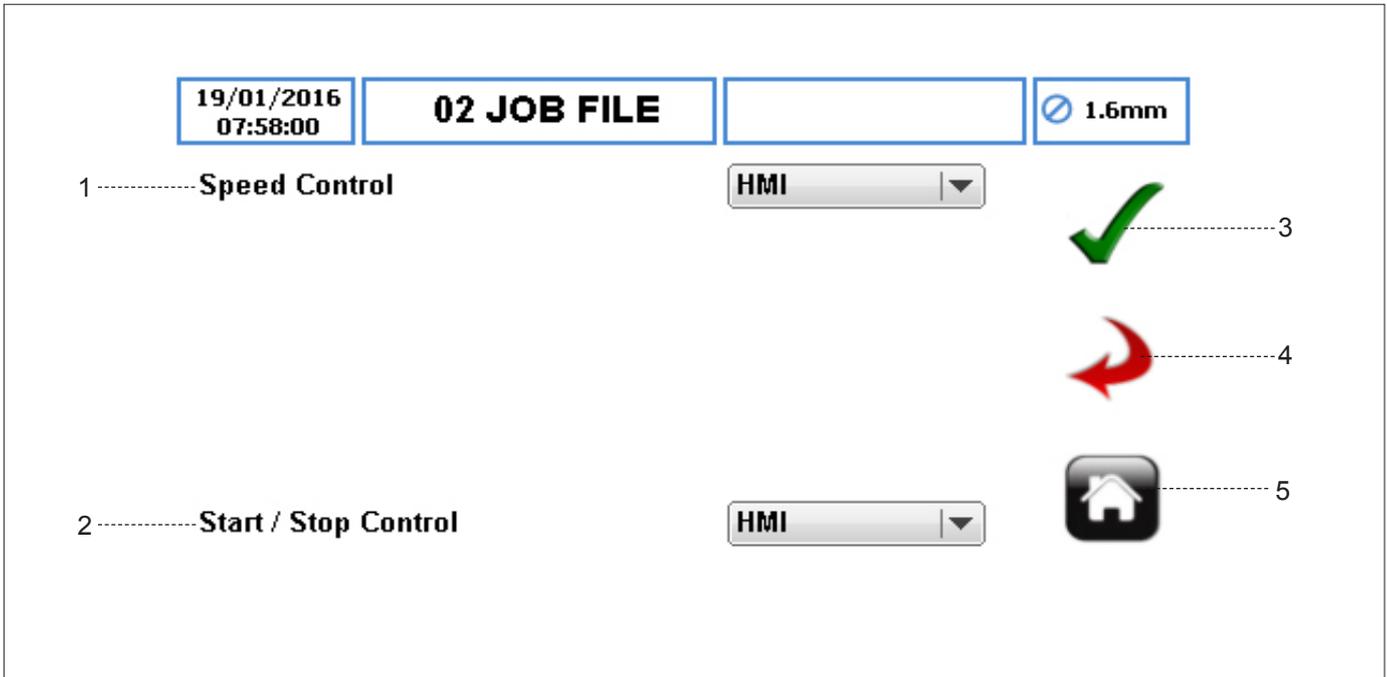


Figure 5 HMI Start/Stop Control

1. SPEED CONTROL – is not applicable.
2. START/STOP CONTROL – defines the start/stop method.
3. ACCEPT – accepts all changes within the Job File. Changes made on this screen are not saved until this icon is pressed.
4. GO BACK/CANCEL – cancels any changes and return to the Job File Menu. If the user has made changes, there will be a prompt asking the user if the changes should be saved.
5. HOME – returns the user to the Home Screen. If the user has made changes, there will be a prompt asking if the changes should be saved.

1.3.2 25WAY REMOTE Start/Stop Control

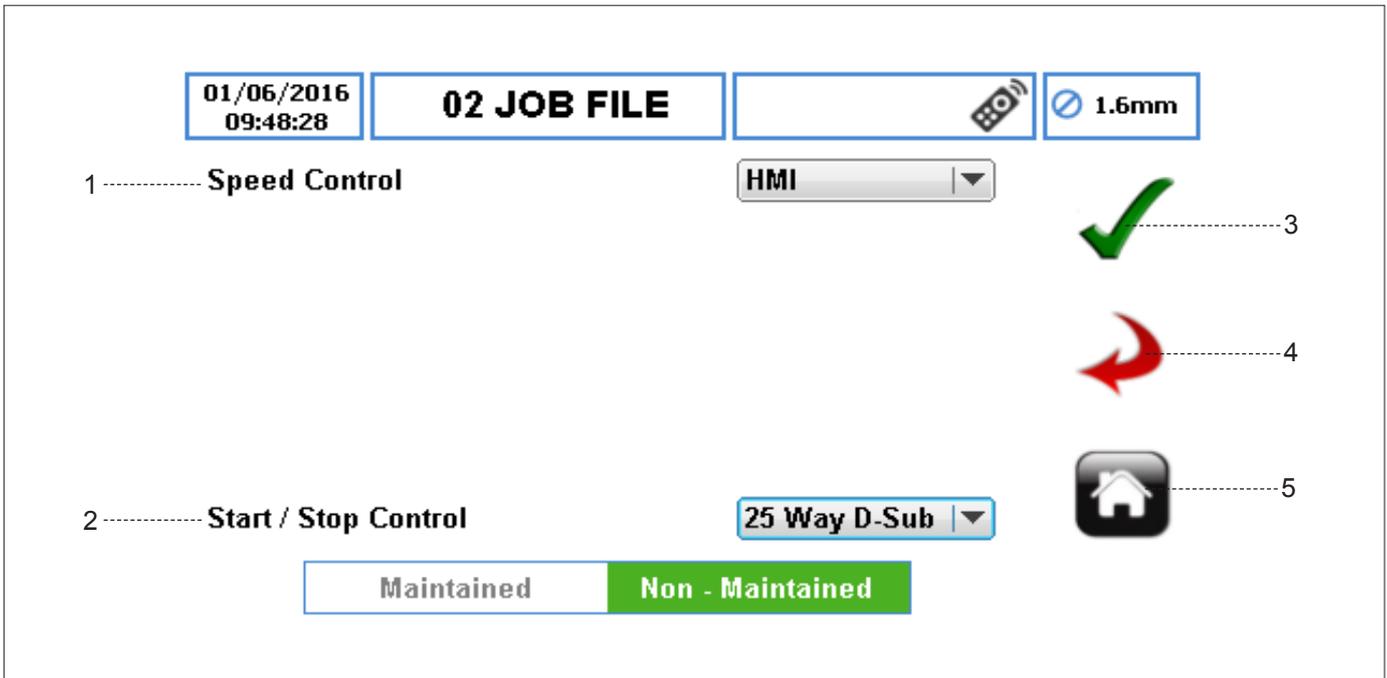


Figure 6 25WAY REMOTE I/O CONNECTOR Start/Stop Control

1. SPEED CONTROL – is not applicable.
2. START/STOP CONTROL – enables the start/stop functionality via the 25WAY REMOTE I/O CONNECTOR (→ Appendix E).
 - a. Maintained – when selected, the start signal must be held on to run the pump.

The pump will stop in maintained mode if an additional stop condition is detected or the start signal is removed.
 - b. Non-Maintained – when selected, the start signal can be a momentary pulse to run the pump.

The pump will only stop in non-maintained mode if an additional stop condition is detected.

Note

The STOP button on the front of the pump will override all other control signals.

3. ACCEPT – accepts all changes within the Job File. Changes made on this screen are not saved until this icon is pressed.
4. GO BACK/CANCEL – cancels any changes and return to the Job File Menu. If the user has made changes, there will be a prompt asking the user if the changes should be saved.
5. HOME – returns the user to the Home Screen. If the user has made changes, there will be a prompt asking if the changes should be saved.