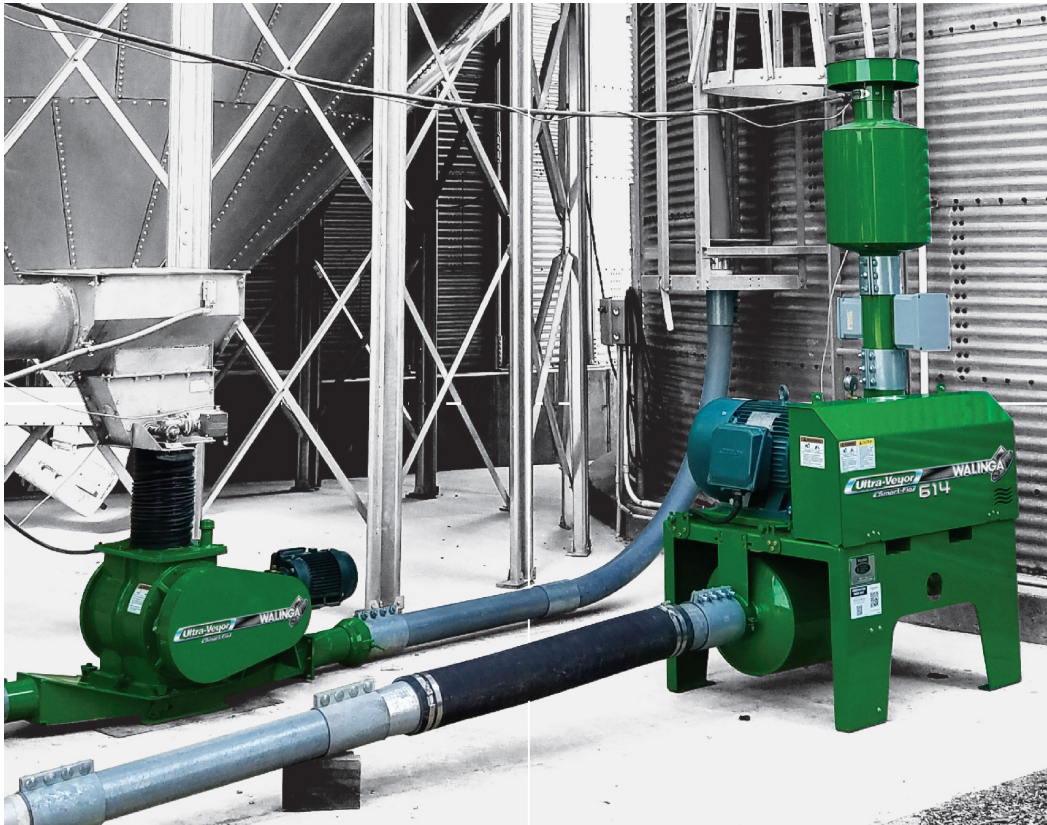


# ULTRA-VEYOR WITH SMART-FLO OPERATOR'S MANUAL



**Ultra-Veyor**  
WITH **Smart-Flo**





## WALINGA Start-up/Commissioning Form

<i>This form must be filled out by the sales representative and/or dealer; and signed by both the sales representative and/or dealer and the customer at the time of delivery.</i>			
<i>Delivery date: MM/DD/YYYY</i>			
<i>Owner Operator Name</i>		<i>Sales Representative / Dealer Name</i>	
<i>Phone</i>		<i>Phone</i>	
<i>Email</i>		<i>Email</i>	
<i>Address</i>		<i>Address</i>	
<i>City</i>	<i>Prov/State</i>	<i>City</i>	<i>Prov/State</i>
<i>Postal Code/ZIP</i>	<i>Country</i>	<i>Postal Code/ZIP</i>	<i>Country</i>
<i>Unit Serial Number</i>			
<i>Blower Serial Number</i>		<i>Airlock Serial Number</i>	

<b>CONFIRMATION OF ACTIONS COMPLETED</b>	
	All items and features accounted for
	Pre-delivery inspection
	Review of warranty terms
	Review of standard notes and terms
	Review operating and safety instructions
	Operator manual supplied
	Supplemental documents supplied
	Guards installed and secured
	All safety signs identified and reviewed
	Discussion regarding applicable standards (see statement on reverse)

# WALINGA Start-up/Commissioning Form

It is the responsibility of the Owner Operator to review and determine compliance to local and federal regulations. These regulations include, but are not limited to, local and federal laws as well as standards published by the NFPA (National Fire Protection Agency), ISO (International Organization for Standardization), OSHA (Occupational Safety and Health Administration) or OH&S (Occupational Health and Safety Standards), and ANSI (American National Standards Institute). *Please note: It is a requirement in NFPA 652 that the final operator completes a dust hazard analysis (DHA) of their facility and the products and processes it contains.* Based on this, Walinga understands that a DHA is required to be completed by the owner/operator prior to start-up/commissioning. In the event that a DHA is not available at start-up/commissioning, the owner/operator must provide written acknowledgement of their responsibility and intention to complete a DHA. The owner/operator also agrees that they shall be solely responsible for ensuring that any applicable NFPA standards and regulations shall be satisfied in conjunction with the incorporation of Walinga's equipment into the buyer's specific system of operations.

Date: \_\_\_\_\_ Owner Operator's  
Signature: \_\_\_\_\_

The above equipment has been received by me and I confirm that the sales representative / dealer has completed the start-up/commissioning process.

Date: \_\_\_\_\_ Owner Operator's  
Signature: \_\_\_\_\_

I have completed the actions listed above and confirm that the owner operator has completed the start-up/commissioning process.

Date: \_\_\_\_\_ Dealer Representative's  
Signature: \_\_\_\_\_

I have completed the actions listed above and confirm that the owner operator has completed the start-up/commissioning process.

Date: \_\_\_\_\_ Manufacturer Representative's  
Signature: \_\_\_\_\_

Additional notes:

## TO OUR VALUED CUSTOMERS:

The Walinga network of distribution centres and authorized dealers are dedicated to providing worldwide coverage of original parts and accessories for Walinga Conveying Systems.

Our parts reflect Walinga's continued commitment to provide our customers with the highest quality parts as well as service.

On behalf of all of us at Walinga Inc., Thank you for your continued support!

For your convenience, should you require any information related to Parts, Service or Technical Engineering, please contact one of the following Walinga Personnel

### TECHNICAL - ENGINEERING:

Duane Swaving \*226-979-8227 [mail to:pcs.techsupport@walinga.com](mailto:pcs.techsupport@walinga.com)

Ken Swaving \*519 787-8227 (ext:100) <mailto:ks@walinga.com>

To speak with a Walinga Warranty Coordinator, contact:

- Canada 1-888-WALINGA (ext 258)  
International +1-519-824-8520 (ext 258) Email – [warranty.canada@walinga.com](mailto:warranty.canada@walinga.com)
- USA 1-800-466-1197 (ext 8) Email – [warranty.usa@walinga.com](mailto:warranty.usa@walinga.com)
- Australia 07-4634-7344 Email – [mail@customvac.com.au](mailto:mail@customvac.com.au)

### GUELPH SERVICE:

Kevin VanderZwaag \*(519) 763-7000 (ext:273) [kevin.vanderzwaag@walinga.com](mailto:kevin.vanderzwaag@walinga.com)

### ORIGINAL PARTS SALES:

#### Ontario and Eastern Canada:

(ext: 224) [parts.canada@walinga.com](mailto:parts.canada@walinga.com)

Parts Department Fax: (519) 824-0367

#### Manitoba and Western Canada:

Chad Yeo \* 204-745-2951 (ext: 424) [chad.yeo@walinga.com](mailto:chad.yeo@walinga.com)

#### USA:

John VanMiddlekoop \* (800) 466-1197 (ext 3) [parts.usa@walinga.com](mailto:parts.usa@walinga.com)

### SALES MANAGER:

Tom Linde \*519-787-8227 (ext 5) <mailto:thl@walinga.com>

Peter Kingma (800) 466-1197 [jpk@walinga.com](mailto:jpk@walinga.com)

### CORPORATE HEAD OFFICE:

5656 Highway 6N

RR#5, Guelph, Ontario, N1H 6J2

PHONE: (888) 925-4642 FAX: (519) 824-5651

[www.walinga.com](http://www.walinga.com)

### FACTORY DISTRIBUTION AND SERVICE CENTRES:

938 Glengarry Cres. Fergus, Ontario Canada N1M 2W7

Tel: (519) 787-8227 Fax: (519) 787-8210

1190 Electric Ave. Wayland , MI.USA 49348

Tel: (800) 466-1197 Fax: (616) 877-3474

70 3rd Ave. N.E. Box 1790 Carman, Manitoba Canada R0G 0J0

Tel: (204) 745-2951 Fax: (204) 745-6309

24 Molloy St, Toowoomba, Queensland Australia 4350

Tel: 07-4634-7344 Email: [mail@customvac.com.au](mailto:mail@customvac.com.au)

Walinga Inc.  
Pneumatic Conveying System  
Warranty Terms

Walinga Inc. is committed to providing a quality product that will meet or exceed your expectations for many years to come. Our warranty terms and our warranty claim process has been designed to ensure that each warranty claim will be resolved in an orderly, fair and timely manner.

#### The Warranty

Walinga Inc. (“Walinga”) warrants that all new pneumatic products sold by Walinga Inc. will be free from defects in material and workmanship (the “Walinga Warranty”).

#### Warranty Period

The warranty period for the Walinga Warranty shall expire on the date that is the earlier of: two (2) years after the date of delivery to the original customer; or upon the expiration of five hundred (500) hours of operation; whichever date comes first.

#### Limitations of and exclusions from the Walinga Warranty

- The Walinga Warranty applies to material and workmanship only.
- With respect to any component parts that are supplied or manufactured by others, the warranty coverage on such component parts will be strictly limited to the warranties of the manufacturers of such component parts.
- The Walinga Warranty shall only be for the benefit of the original purchaser of the pneumatic products.
- A Walinga Warranty may be transferable by the original purchaser to a third party for the balance of the warranty period then remaining, provided that Walinga consents in writing to such transfer of warranty.
- The Walinga Warranty is conditional upon proper storage, installation, use, maintenance, operation and compliance with any applicable recommendations of Walinga.

#### Warranty Claim Procedure

Should you encounter any difficulties with your unit within its warranty period, please contact your local Walinga dealer or sales representative, your local Walinga Service department or Walinga's Warranty Department to submit a warranty claim application.

To speak with a Walinga Warranty Coordinator, contact:

- Canada                      1-888-WALINGA (ext 258)
- International              +1-519-824-8520 (ext 258)  
   Email – [warranty.canada@walinga.com](mailto:warranty.canada@walinga.com)
- USA                            1-800-466-1197 (ext 8)  
   Email – [warranty.usa@walinga.com](mailto:warranty.usa@walinga.com)
- Australia                    07-4634-7344  
   Email – [mail@customvac.com.au](mailto:mail@customvac.com.au)

#### Required Warranty Claim information

The following information must be provided to Walinga in order for us to properly process and consider your warranty application:

- Customer name and contact information (email if available).
- The equipment serial number and/or Vehicle Identification Number (if applicable).
- Date of claimed failure.
- Equipment hours of operation.
- Details, description and photos (upon request) of the claimed failure and the corrective repairs attempted.

## Warranty Conditions

- Equipment must be registered within 30 days of being received by the buyer. It will be within the sole and unfettered discretion of Walinga as to whether it will honour its warranty on non-registered equipment.
- The buyer is responsible for promptly notifying Walinga of any defects to the equipment. The buyer is also responsible for making the equipment available to Walinga or its authorized repair facility for evaluation and repair.
- Prior to making any repairs or parts replacements, a warranty application and any estimated associated costs must be approved with the issuance of a claim number by an authorized Walinga representative. Undertaking any work prior to receiving warranty authorization may result in a partial or complete loss of warranty coverage.
- At Walinga's discretion, warranty repairs may be authorized to be completed at a repair facility convenient to the buyer. In such situations the estimated labour time must be approved by Walinga prior to undertaking any work. Labour hours will be reimbursed at the facilities posted hourly labour rate.
- At Walinga's request, parts in question must be returned to the nearest Walinga service facility for evaluation. In such situations a Returned Goods Authorization (RGA) number will be provided to the buyer. The returning shipment must be clearly labeled with the assigned RGA number and include a copy of the RGA form. Unless otherwise arranged, these parts are to be returned to Walinga within 30 days to ensure timely processing of your warranty claim. Failure to return such parts may result in partial or complete loss of warranty coverage.
- Replacement parts provided under warranty are covered for the remainder of the original equipment warranty period.
- Walinga reserves the right to use new, remanufactured or refurbished components when performing warranty repairs and replacements.
- Walinga is entitled to a reasonable amount of time and a reasonable number of attempts to assess the claim, diagnose the problem, and perform any necessary repairs.
- The warranty offered on used or refurbished equipment is limited to that specified on the purchase contract. Where a warranty period has not been stipulated on the purchase contract., and where such equipment is "used", then such equipment is considered by Walinga to be sold "as is, where is" without the Walinga Warranty. Where such equipment is refurbished, then the Walinga Warranty shall apply.

Without limitation, Walinga reserves the right to reject a warranty claim or for any one or more of the following reasons:

- The warranty claim information provided is insufficient.
- The product evaluation does not substantiate the claim.
- The unit has been operated above and beyond its capacity or not maintained or serviced properly, resulting in damages incurred to major components.
- If the unit was equipped with a factory installed hour meter which has been disconnected, altered or inoperative for an extended period of time; with the result being that the equipment's operating hours cannot be verified.
- It is apparent that the operator's manuals have not been followed.
- The equipment is not registered.

Without limitation, Walinga's Warranty does not cover:

- Damage or deterioration due to lack of reasonable care or maintenance.
- Damage caused or affected by unapproved modifications to the equipment.
- Damage caused by negligence or misuse of the equipment.
- Damage caused by using the equipment for purposes for which it was not designed or intended.

Walinga's liability under this warranty, whether in contract or tort, is limited to the repair, replacement or adjustment of defective materials and workmanship. In no event will Walinga be responsible for any direct, indirect, loss of time, incidental or consequential expenses including, but not limited to, equipment rental expenses, towing, downtime, inconvenience, or any losses resulting from the inability to use the equipment. Further, Walinga shall not be liable for any damages or inconvenience caused by any delay in the supply or delivery of any equipment or component parts thereof.

The selling Dealer/Sales Person makes no warranty of its own and has no authority to make any representation or promise on behalf of Walinga, or to modify the terms or limitations of the Walinga Warranty in any way.

Punitive, exemplary or multiple damages may not be recovered unless applicable law prohibits their disclaimer.

Warranty related claims may not be brought forward as a class representative, a private attorney general, a member of a class of claimants or in any other representative capacity. The Walinga Warranty and all questions regarding its enforceability and interpretation are governed by the law of the country, state or province in which you purchased your Walinga equipment. The laws of some jurisdictions limit or do not allow the disclaimer of consequential damages. If the laws of such a jurisdiction apply to any claim against Walinga, the limitations and disclaimers contained here shall be to the greatest extent permitted by law.





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## SERIAL NUMBER LOCATION

Always give your Dealer the Serial Number of your Walinga Smart-Flo System when ordering parts or requesting service or other information.



Figure 1 Smart Flo Serial Number

## 1. INTRODUCTION

Congratulations on your choice of a Walinga Smart-Flo System to complement your operation. This equipment has been designed and manufactured to meet the needs of the discriminating buyer for the efficient moving of granular or powder products.

Safe, efficient and trouble free operation of your Smart-Flo System requires that you and anyone else who will be operating or maintaining the machine, read and understand the Safety, Operation, Maintenance and Troubleshooting information contained within the Operator's Manual.

This manual covers all Smart-Flo Systems made by Walinga Inc. Many systems are custom designed for the specific application. However they are all similar and specific differences are explained where appropriate.

Keep this manual handy for frequent reference and to pass on to new operators or owners. Call your Walinga dealer if you need assistance, information or additional copies of the manual. Contact your dealer for a complete listing of parts.

## EMPLOYEE SIGN-OFF FORM

Walinga® Inc. follows the general Safety Standards specified by the American Society of Agricultural and Biological Engineers (ASABE) and the Occupational Safety and Health Administration (OSHA). Anyone who will be operating and/or maintaining a Walinga® built machine must read and clearly understand ALL Safety, Operating and Maintenance information presented in this manual.

Do not operate or allow anyone else to operate this equipment until such information has been reviewed. Annually review this information before the season start-up.

Make these periodic reviews of SAFETY and OPERATION a standard practice for all of your equipment. We feel that an untrained operator is unqualified to operate this machine. A sign-off sheet is provided for your record keeping to show that all personnel who will be working with the equipment have read and understand the information in the Operator's Manual and have been instructed in the operation of the equipment.

### SIGN-OFF FORM

DATE	EMPLOYEE'S SIGNATURE	EMPLOYER'S SIGNATURE

## 2. SAFETY SIGN LOCATIONS

### TO THE NEW OPERATOR OR OWNER

The Walinga Ultra-Veyor System is specifically designed to convey grain, powder or other granular material and move it in a stream of pressurized air to cyclones, deadheads or deflectors. Be familiar with all operating and safety procedures before starting.

It is the responsibility of the owner and operator to read this manual and to train all other operators before they start working with the machine. Follow all safety instructions exactly. Safety is everyone's business. By following recommended procedures, a safe working environment is provided for the operator, bystanders and the area around the worksite. Untrained operators are not qualified to operate the machine.

Many features incorporated into this machine are the result of suggestions made by customers like you. Read this manual carefully to learn how to operate the machine safely and how to set it to provide maximum efficiency. By following the operating instructions in conjunction with a good maintenance program, your Ultra-Veyor System will provide many years of trouble-free service.



Figure 2 - Caution Read Manual

### 3. INSTALLATION

Remove PLC Panel from shipping location and install in a dry location.

#### 1. Wiring to be done by Electrician:

- Note: When wiring an AS3 with single phase power it will only work if connected to line 1 and line 2, otherwise the drive will fault.
- Disconnect all power
  - Terminate power going to the PLC Control Panel
  - Terminate all power going to the Blower and Airlock.
  - Failure to do so may result in severe injury or death
- Prepare 4 different two wire cables (22Ga. minimum, shielded wire is preferred) to be run from the PLC Control Panel to the Blower VFD (x2), Airlock Starter, and the Signal Conditioner located at the Blower.
- Blower Run Command:
  - The signal for the Blower Run is a dry contact (no voltage, see wiring diagram).
  - Starting from the PLC Control Panel, run cable 1 (wire 1) from A1 in the PLC wiring module to the Blower VFD (models VF-S15, VF-S11, VF-AS3, VF-AS1) and connect it to the F terminal.
  - Starting from the PLC Control Panel, run cable 1 (wire 2) from A2 in the PLC wiring module to the Blower VFD (models VF-S15, VF-S11, VF-AS3, VF-AS1) and connect it to the CC terminal.
- Airlock Run Command:
  - The signal for the Airlock run is a dry contact (no voltage, see wiring diagram).
    - The relay contacts inside of the Smart-Flo panel are rated for maximum power of:
      - 12A / 28VDC
      - 12A / 277VAC
  - Starting from the PLC Control Panel, run cable 2 from B1 and B2 in the PLC wiring module to Airlock Starter and connect it to Airlock Forward Run Signal if using a VFD, or Airlock Starter.
- Blower Speed Command:
  - Starting from the PLC Control Panel, run cable 3 (wire 1) from I02 in the PLC wiring module to the Blower VFD and connect them to:
    - VIC if operating with a VF-S15 system
    - VIA if operating with a VF-S11 system
    - II if operating with a VF-AS3 system
    - VI/II if operating with a VF-AS1 system
  - Starting from the PLC Control Panel, run cable 3 (wire 2) from AGND in the PLC wiring module to the Blower VFD and connect them to:
    - CC if operating with a VF-S15, VF-S11, or VF-AS3 system
    - CCA if operating with a VF-AS1 system
- Speed Sensor Wiring:
  - Starting from the PLC Control Panel, run cable 4 (wire 1) from +24 in the PLC wiring module to the junction box on the blower and connect it to the Positive Terminal on the Signal Conditioner.
  - Starting from the PLC Control Panel, run cable 4 (wire 2) from IN2+ in the PLC wiring module to the Negative Terminal on the Signal Conditioner.
- External Start Command
  - If the Smart-Flo is to be started and stopped via an external signal (signal from the dryer) a 5th cable will be required, connect the start signal (unload auger start signal) to +24 and X7 in the PLC wiring module. The start signal must be dry contacts.

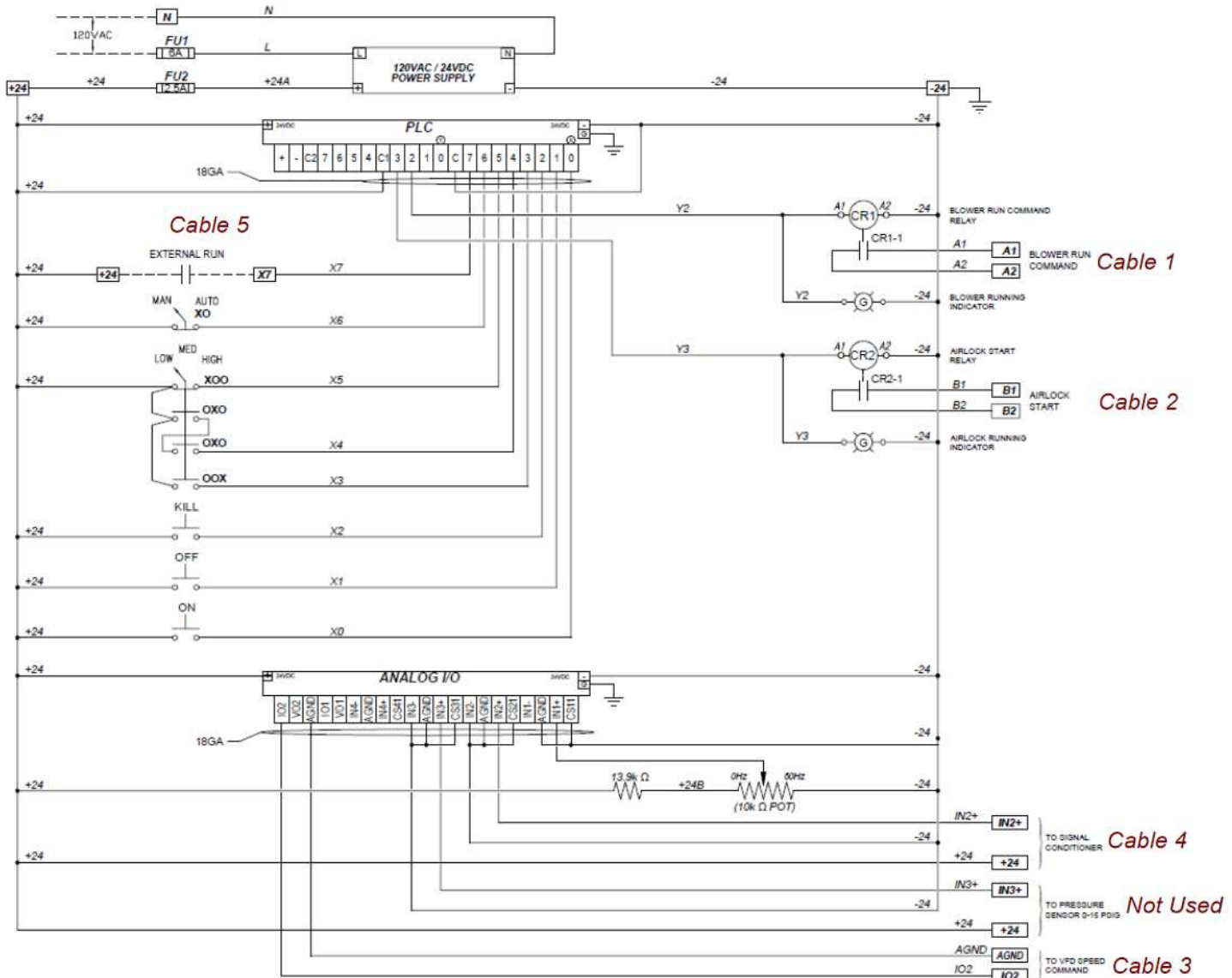


Figure 3 - VF-S15 Control Panel

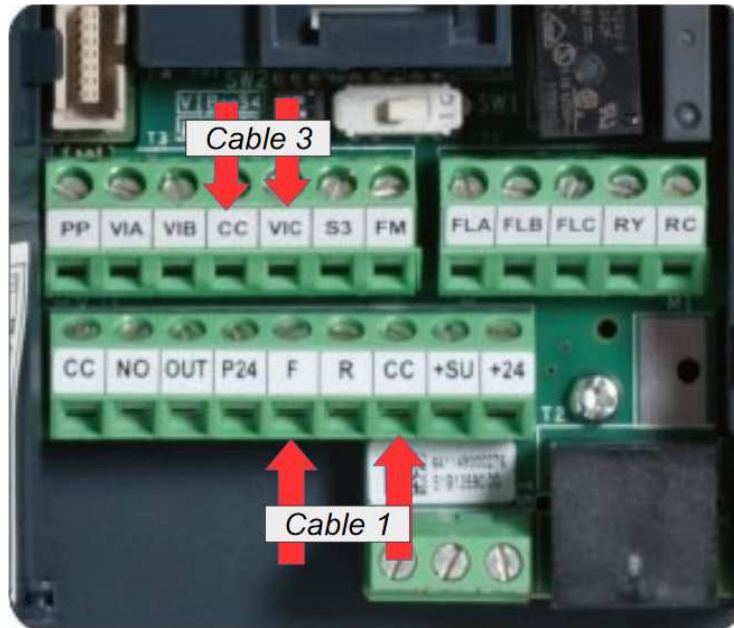


Figure 4 - VF-S15 Terminals

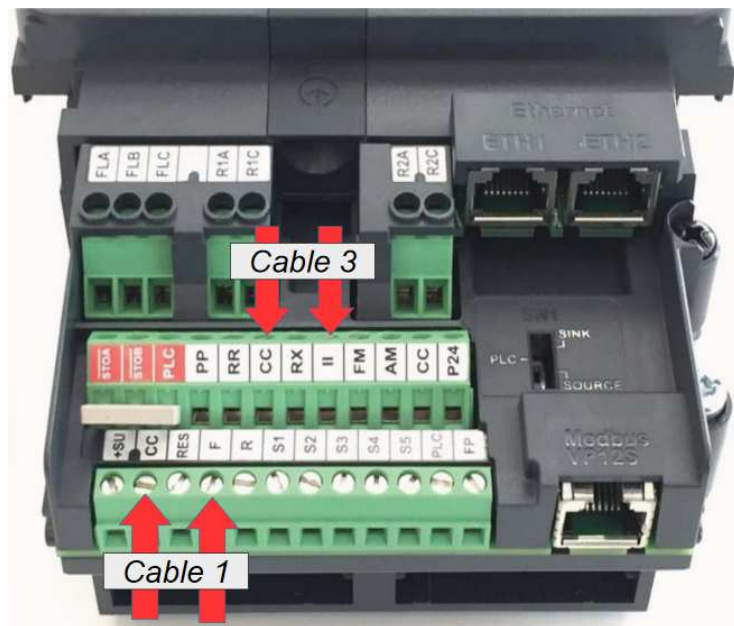


Figure 5 - VF-AS3 Terminals



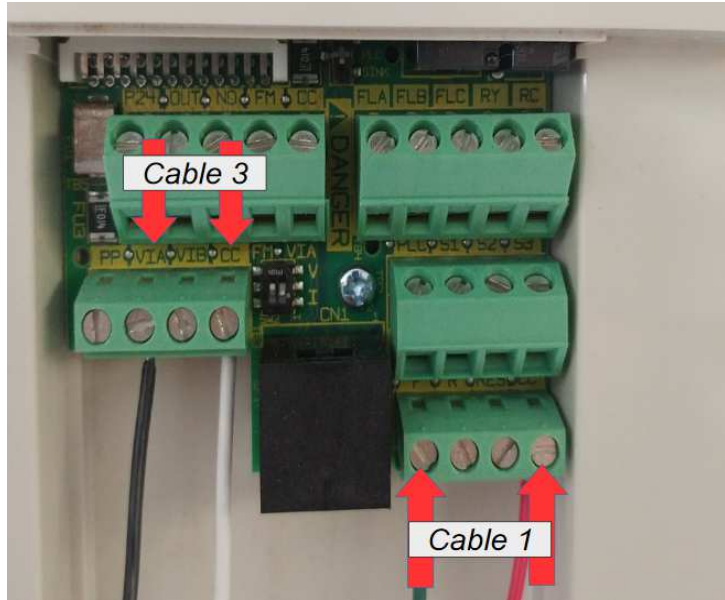


Figure 6 - VF-S11 Terminals

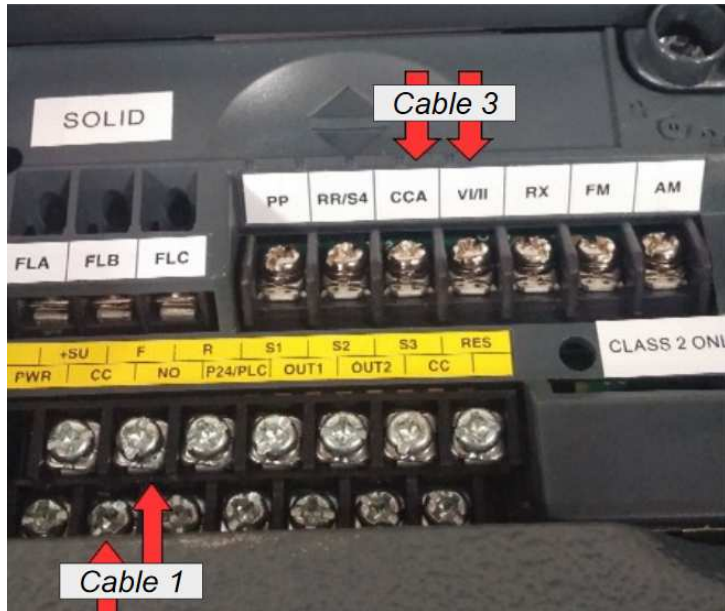


Figure 7 - VF-AS1 Terminals



Figure 8 - PLC Wiring Module

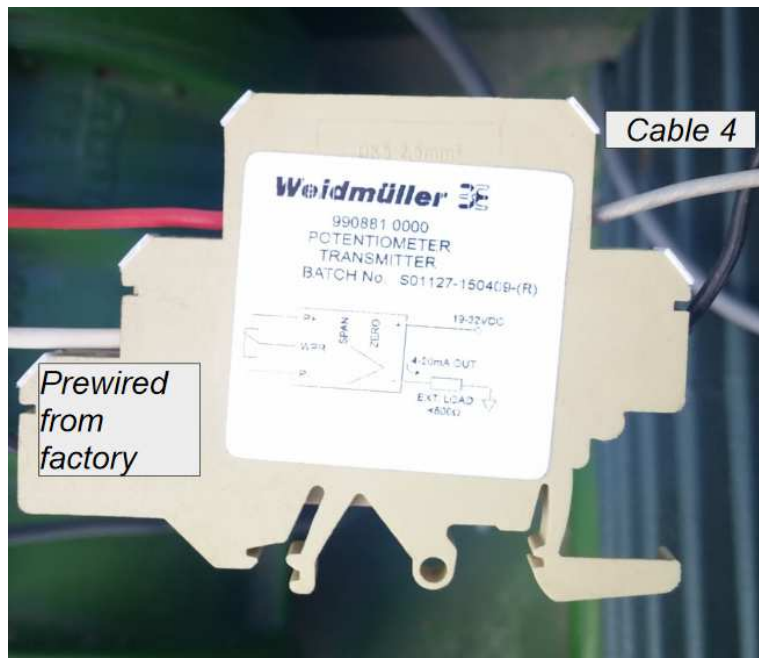


Figure 9 - Signal Conditioner Wiring (Front)

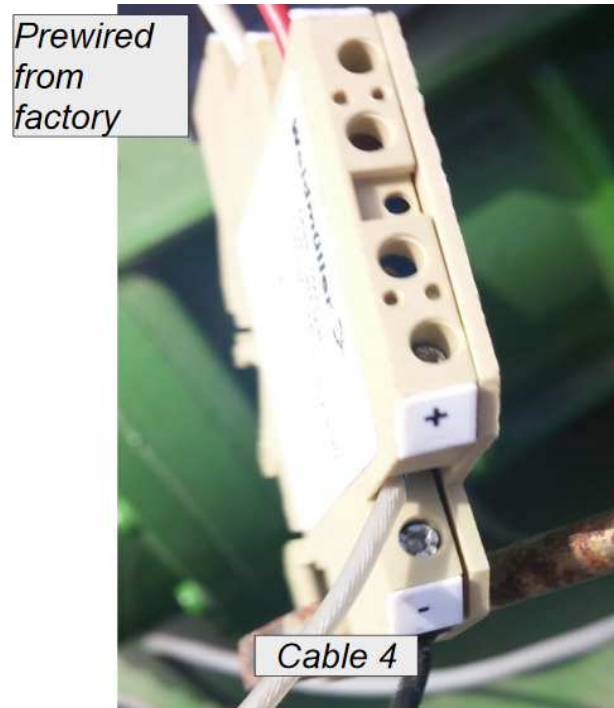


Figure 10 - Signal Conditioner Wiring (Top)

## 2. Programming:

- Engage the power to the PLC Control Panel.
- Engage the power to the Blower VFD
- Follow instructions below for the appropriate VFD model

### VF-S11 Model

- Press the 'MODE' button until AUX is displayed on the screen
- Press the up arrow until CNOD is reached on the screen, press 'ENT' button to select.
  - Set the value for CNOD to 0, press the 'ENT' button.
- Press the up arrow until FNOD is reached on the screen, press 'ENT' button to select.
  - Set the value for FNOD to 1, press the 'ENT' button.
- Be sure that the VIA slide switch is in the I (current) position

### VF-S15 Model

- Click then scroll the wheel until CNOD is reached on the screen, click the scroll wheel to select.
  - Set the value for CNOD to 0, click the scroll wheel.
    - CNOD and 0 should flash for 2 seconds.
- Scroll the wheel until FNOD is reached, click the scroll wheel.
  - Set the value for FNOD to 8, click the scroll wheel.
    - FNOD and 8 should flash for 2 seconds.
- Scroll until F1-- is displayed on the screen, click the scroll wheel
  - Scroll until F216. Click the wheel and set the value to 20. If it is already the correct value, click the wheel a second time.
  - Scroll until F217. Click the wheel and set the value to 0.0. If it is already the correct value, click the wheel a second time.
  - Scroll until F218. Click the wheel and set the value to 100. If it is already the correct value, click the wheel a second time.
  - Scroll until F219. Click the wheel and set the value to 60.0. If it is already the correct value, click the wheel a second time.

- Scroll until F209. Click the wheel and set the value to 64. If it is already the correct value, click the wheel a second time.
- If any of these settings are different, change it to the recommended settings.

#### VF-AS1 Model

- Press the Mode button.
  - Press the up arrow until CNOD is reached, press Enter.
    - Set the value for CNOD to 0, press Enter.
    - CNOD and 0 should flash for 2 seconds.
  - Press the up arrow until FNOD is reached, press Enter.
    - Set the value for FNOD to 1, press Enter.
    - FNOD and 1 should flash for 2 seconds.
  - Press the up arrow until F--- is reached, press Enter.
    - Press the up arrow until F108 is reached, press Enter.
    - Set the value to 1, press Enter.
    - F108 and 1 should flash for 2 seconds.
  - Press the up arrow until F201 is reached, press Enter.
    - Set the value to 20, press Enter.
    - F201 and 20 should flash for 2 seconds
  - If the operator is running a 3 phase motor/drive using single phase power, phase detection needs to be disabled.
    - Press the up arrow until F608 is reached, press Enter.
    - Set the value to 0, press Enter.
    - F608 and 0 should flash for 2 seconds.

#### VF-AS3 Model

- Switch to [Setting mode]
- Select "4. Basic parameter" and press the [OK] key. The basic parameter screen is displayed.
  - Select "CMOd: Run command select" and press the [OK] key.
    - Select "0: Terminal" and press the [OK] key. The basic parameter screen is displayed. Check that the setting value is "0"
  - Select "FMOD: Run command select" and press the [OK] key.
    - Select "3: Terminal II" and press the [OK] key. The basic parameter screen is displayed. Check that the setting value of is "3"
  - Set the ACC time to 20 seconds or less.
  - If the operator is running a 3 phase motor/drive using single phase power, phase detection needs to be disabled.
    - Press the up arrow until F--- is reached, press Enter.
    - Press the up arrow until F608 is reached, press Enter.
      - Set the value to 0, press Enter.
      - F608 and 0 should flash for 2 seconds.

### 3. Calibrating

After wiring and programing the VFD the Dealer needs to Calibrate:

Manual Operating:

- Set motor to full frequency (60 Hz).
- Feed product into the conveying lines at the desired capacity, this will need to be done for Low, Medium and High.
- Once operating for a few minutes at the desired capacity reduce air speed until

- the grain starts to settle in the conveying lines.
- Record the frequency for calibration steps found below<sup>(1)</sup>.

#### Calibrating:

- Set maximum possible air speed.
  - Set the Auto/Manual selector switch on the Smart-Flo to Manual
  - Turn the Speed selector switch all the way to the right (60 Hz)
  - Press and hold the Start button for 15 seconds
  - Release the Start button to save the calibrated value
- Set the blower speed for the Low speed setting.
  - Set the Auto/Manual selector switch on the Smart-Flo to Auto
  - Set the Low/Medium/High selector switch on the SmartFlo to Low
  - Turn the Speed selector switch until the desired motor speed found in previous steps<sup>(1)</sup> is reached.
  - Press and hold the Start button for 15 seconds
  - Release the Start button to save the calibrated value
- Set the blower speed for the Medium speed setting.
  - Set the Low/Medium/High selector switch on the Smart-Flo to Medium
  - Turn the Speed selector switch to the desired motor speed found in previous steps (1)
  - Press and hold the Start button for 15 seconds
  - Release the Start button to save the calibrated value
- Set the blower speed for the High speed setting.
  - Set the Low/Medium/High selector switch on the Smart-Flo to High
  - Turn the Speed selector switch to the desired motor speed found in previous steps (1)
  - Press and hold the Start button for 15 seconds
  - Release the Start button to save the calibrated value

\*\*Low/Medium/High setting vary based on products being conveyed, contact your Walinga representative for more details regarding your application.

- When this is complete, the Smart-Flo has been calibrated. If the set speed is incorrect (eg too fast), the Smart-Flo can be recalibrated to a new speed at any time by following the steps above.

- To run the SmartFlo:
  - In automatic mode, set the selector switches to Auto and Low.
    - This will cause the Smart-Flo system to automatically run the Blower at the optimal speed for the amount of product being conveyed. While idling, the system should stabilize at approximately 30.0Hz- 35.0Hz.

Note: If the system plugs while running in auto, set the speed selector switch to a higher setting. To obtain a higher running speed contact your Walinga representative.

- In manual mode, set the selector switch to Manual.
  - This will allow the operator to control the Blower speed using the dial located on the front of the Smart-Flo system.

## 4. CONTROLS

### NOTE:

Walinga supplies a standard Ultra-Veyor for Farm use, as well as a unit for Commercial applications equipped with a Smart-Flo Control Panel. Please ensure you or anyone else who will be operating or maintaining the machine understand the difference as outlined below as per Section 4.5.1 (Standard) and Section 4.5.2 (Commercial) with Smart-Flo panel.

### 4.1 (Standard Controls)

All controls for the machine are provided by the customer. Each installation should have provisions to lock out tag out the master panel for maintenance. Review your installation carefully to familiarize yourself with the function and movement of each control before starting.

### 4.2 Electrical Switches:

Smart-Flo panels can be integrated into a master panel with the capabilities of lock out tag, out for service/maintenance, and an on/off switch.

Review your installation details before starting.



Figure 11 - Master Panel Example



Figure 12 - Power Disconnect

## SMART-FLO CONTROLS:

(For units equipped with a Smart-Flo Control Panel only)

Each customer is responsible to provide the appropriate control panel and power supply to the machine. It is recommended that the customer have a licensed electrician provide the power per ANSI/NFPA70 Standard and all applicable local codes when providing power to the motor.

The Smart Flo System can be wired into a large control room away from the machine.

Be familiar with the specific control box system before starting.

### SMART FLO CONTROL PANEL:

#### Start:

This green two-position push-button is used to signal the VFD to run. Depress the button to run the VFD. When the button is depressed, the blower will run and the running light will illuminate, then after a 30 second delay, the A/L will run, and the running light will illuminate.

#### Stop:

This red two-position push-button is used to signal the VFD to stop. Depress the switch to signal the VFD to stop. When the button is depressed, the A/L will stop and the running light will turn off, then after a 30 second delay, the blower will stop and the running light will turn off.

#### Kill Button:

The kill button immediately stops the blower and the airlock, regardless of external commands.

#### Airlock Running:

This light is illuminated when the airlock is running, and turns off when the airlock stops.

#### Blower Running:

This light is illuminated when the blower is running, and turns off when the blower stops.

### IMPORTANT !

The blower is designed to run for approximately 30 seconds before the airlock turns on, and will continue for 30 seconds after the airlock shuts down. This ensures the lines are empty before turning off all air flow.

#### Auto/Manual Selector:

This 2 position selector switch is used to select the running mode of the Smart-Flo panel. Auto allows the system to adjust the blower speed based on product volume, condition, and conveying distance. Manual will allow a preset speed to be set, causing the Smart-Flow system to run at exactly that speed. The system should always be set in auto unless the system is running poorly.

#### Speed Selector:

This 3 position selector switch is used to select different blower speeds. Low, medium, and high set the idling speed of the blower. This selector only affects the blower speed when the system is in auto.

### Speed Dial.

This variable position dial allows the blower speed to be set when the Smart Flo system is in manual.

### RESET PROCEDURE:

If the Smart-Flo panel is receiving an external run signal (starts and stops from a dryer), and the kill button is depressed, a reset procedure needs to be followed.

- Release the kill button
- Press the start button
- Press the stop button

The external signal will now control the blower and airlock again.

### POWER DISCONNECTS:

The system is designed with switches close to the machine that allow the operator to disconnect the power to the respective motors as required. Turn the switch to its vertical configuration to provide power to the motor, and horizontal to disconnect power.

NOTE: these disconnects are not meant to be used to turn off your blower or airlock if the system is running. It can damage motors and VFDs



Figure 13 - Power Disconnect



## 5. MACHINE OPERATION:

Close and secure all guards, shields and access doors before starting.

- Starting the Ultra-Veyor:
  - Check that the master panel is not locked out.
    - If it is, identify cause and retrieve the tag. Turn master panel on.
  - Set the system to Auto
  - Select the desired running speed (low, med or high)
  - Turn power ON
  - Press the Start Button
  - Blower runs 30 seconds before airlock starts
  - Wait for blower speed to stabilize at the desired running speed.
  - Proceed with work
- Stopping the Ultra-Veyor:
  - Press the Stop button
  - Airlock stops
  - Blower runs for 30 seconds after airlock stops
  - Blower stops
  - Turn power OFF

### SAFETY OPERATING INSTRUCTIONS

- Before servicing, adjusting, repairing or maintaining unit, ensure that unit power source is completely shut down and can not start up.
- Establish a Lock-Out Tag-Out program for the worksite.
- Do not operate when any guards are damaged or removed, Install and secure guards before starting.
- Keep hands, feet, clothing and hair away from all moving and/or rotating parts.
- Lock-out tag-out master panel before opening airlock door.
- Clear the area of all bystanders, especially small children, before starting.
- Before supplying electrical power to the machine, be sure you have adequate amperage at the proper phase and voltage to run it. If you do not know or are unsure, consult a licensed electrician.
- Ground all lines and hoses to prevent static build-up and electrical discharge.
- Maintain electrical continuity between material intake and airlock/blower to prevent sparks, shocks or electrical discharges.
- Wear appropriate ear protection when operating machine.
- Review safety instructions annually

When operating the Ultra-Veyor System, follow this procedure:

- Clear the area of bystanders, especially small children, before starting.
- Review and follow the Pre-Operation Checklist.
- Before starting the system in an automatic operation consider the following:
  - Start system manually to ensure blower and airlock turn freely.
  - Check all product lines, switch hoses to each line.
  - Manually run the blower without product. Check pressure gauge to ensure each line is free of obstructions.

- Starting Machine:
  - Check that the master panel is not locked out.
    - If it is, identify cause and retrieve the tag. Turn master panel on.
  - Turn machine on using the smart flo panel
- Stopping Machine:
  - Turn the machine off using the Smart-Flo panel . This will shut down both the blower and the airlock.

## 6. TROUBLESHOOTING

The Walinga Ultra-Veyor System is a high capacity air pump. It is a simple and reliable system that requires minimum maintenance.

In the following section, we have listed many of the problems, causes and solutions to the problems that you may encounter.

If you encounter a problem that is difficult to solve, even after having read through this trouble shooting section, please call your Walinga dealer. Before you call, please have this Operator's Manual and the serial number from your Ultra-Veyor ready.

- If the systems speed fluctuates more than 1-2 Hz, then shuts off:
  - The flap may be seized. The flap should open and close with little resistance.
    - Open the 8×8×4 junction box
    - Remove the hammer weight, shaft should turn with no resistance.
    - If there is resistance:
      - The bushings may need to be cleaned.
      - The lock nuts may be too tight
      - The Compression couplings may have been installed too tight, warping the pipe
- If the system speeds up to full rpm:
  - Motor direction may be wrong
  - Signal Conditioner could be connected backwards
  - Double checked wiring
- If the SmartFlo system is running slower than desired, or is plugging unexpectedly:
  - Check to make sure the correct setting is being used.
  - Run the calibration steps found above at a higher calibration speed
  - If the problem persists contact your service representative





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