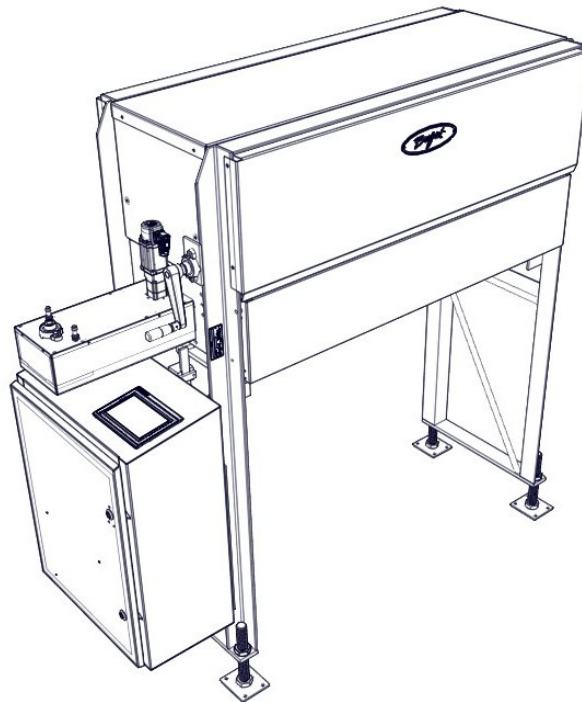




Pattern Splitter

MODEL DPS1000 / 1100 - UL



Copyright © 2018 by Burford® Corp.
Fourth Edition - Date: April 2017
Manual Part No. _____
Serial # _____

SAFETY PRECAUTIONS

As Burford® Corp. strives to promote safety in the maintenance and operation of Burford® equipment; we request that the following safety procedures be followed, along with any additional safety procedures set by the customer's in-plant safety officers or local codes.

1. Read the manual completely before attempting installation or operation of this unit.
2. This machine may contain programs that are password protected. Contact your supervisor or Burford® Corp. for password.
3. Incoming electrical power must be properly shielded, routed, and grounded. All safety codes should be followed. Study wiring diagrams before attempting installation.
4. Disconnect power to equipment before removing any guards or covers. Replace guards or covers before resuming operation of the unit.
5. Loose clothing, jewelry, and long hair should be considered a safety hazard around mechanical equipment. Ensure that they will not be entangled in the equipment.
6. Keep clear of moving machine parts. Bodily harm and/or serious injury may result from contact with moving gears, sprockets, chains or pneumatically controlled machine components.
7. Do not bypass safety switches.
8. Do not attempt repairs while equipment is running.
9. Use only original equipment parts designed for safe operation of the equipment.
10. Only authorized personnel should be allowed to operate or perform maintenance on the unit.
11. This unit is not wash-down ready. Do not wash the unit or any of its electrical or mechanical components, with any form of high pressure or running liquids.

Orange boxes indicate bodily harm may incur if instructions are not followed.

Red boxes indicates important instructions to prevent unit damage or adverse effects.

Blue boxes indicates useful information to assist in installation and operation of the unit.

DISCLAIMER WARNING

The descriptions and specifications contained in this Service Manual were in effect when this manual was approved for printing. Our policy is one of continuous improvements, and we do hereby reserve the right to discontinue models at any time, or to change specifications, prices, or design without notice and without incurring obligations.

Burford® Corp. expressly disclaims any liability for damages and/or injuries caused because of negligence or misuse of its product. Such negligence or misuse includes, but is not limited to, software/program alteration, removal of guards, faulty wiring due to improper installation, subjecting the unit to wash-down environments or any physical or mechanical changes made to a Burford® unit, by anyone other than a qualified Burford® Technician.

Burford® equipment should only be used for the purpose for which it was sold, and should not be modified in any way without notifying the General Manager of Burford® Corp. in writing of the modification.

The original language for this document is English. Translations to other languages may not be accurate.

Contact Us

Questions, comments, concerns? Let us know.

Mail: 11284 OK-74, Maysville, OK 73057

Phone: (877) 287-3673 or (405) 867-4467

Email: info@burford.com

Web: burford.com

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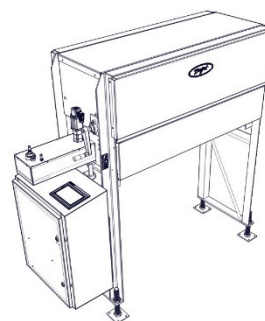
Chapter 1

Introduction

CHAPTER 1: INTRODUCTION

Congratulations on the purchase of your new Burford® DPS1000 Splitter. We are confident that you will enjoy many years of dependable service from your new unit.

The Burford® Pattern Splitter is a new, innovative Burford® design, backed by over 50 years of manufacturing experience. It is designed to work with your existing product line.



The name Burford® is synonymous with innovation. Since the beginning with the first Twist Tyer machine, Burford® is focused on bringing innovation to the baking industry. Our passion is developing equipment that increases productivity and uniformity while decreasing production costs.

The Burford® DPS1000 Splitter is designed to provide a knife-like split, of a diagonal or straight pattern on top of proofed dough. This system provides precise split location in relation to the pan shape and program stored in the motion controller. The Burford® DPS1000 Splitter brings together precise application, convenience of operation and ease of maintenance in one system.

The following pages contain installation, operation, and maintenance instructions. To ensure maximum performance, these instructions should be followed with care. All operators should be trained to set up for your specific application and product.

Burford® offers a large lineup of bakery solutions from Oilers to Topper. We invite you to visit our website at [**www.burford.com**](http://www.burford.com) to see the other innovative equipment that we can offer to benefit your bakery today.

■ Specifications

ELECTRICAL

- ☐ 190 - 220 V_{AC}, 50/60 Hz, 1 Φ , 20 A
- ☐ 480 V_{AC}, 50/60 Hz, 3 Φ , 15 A

AIR REQUIREMENTS

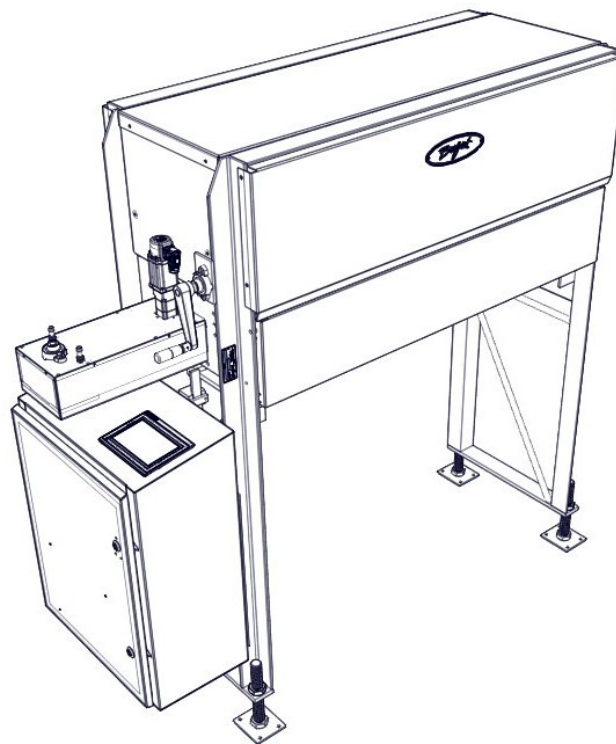
.370 CFM@80 psi maximum

WATER

40 PSI @ 30 GPH

MODELS

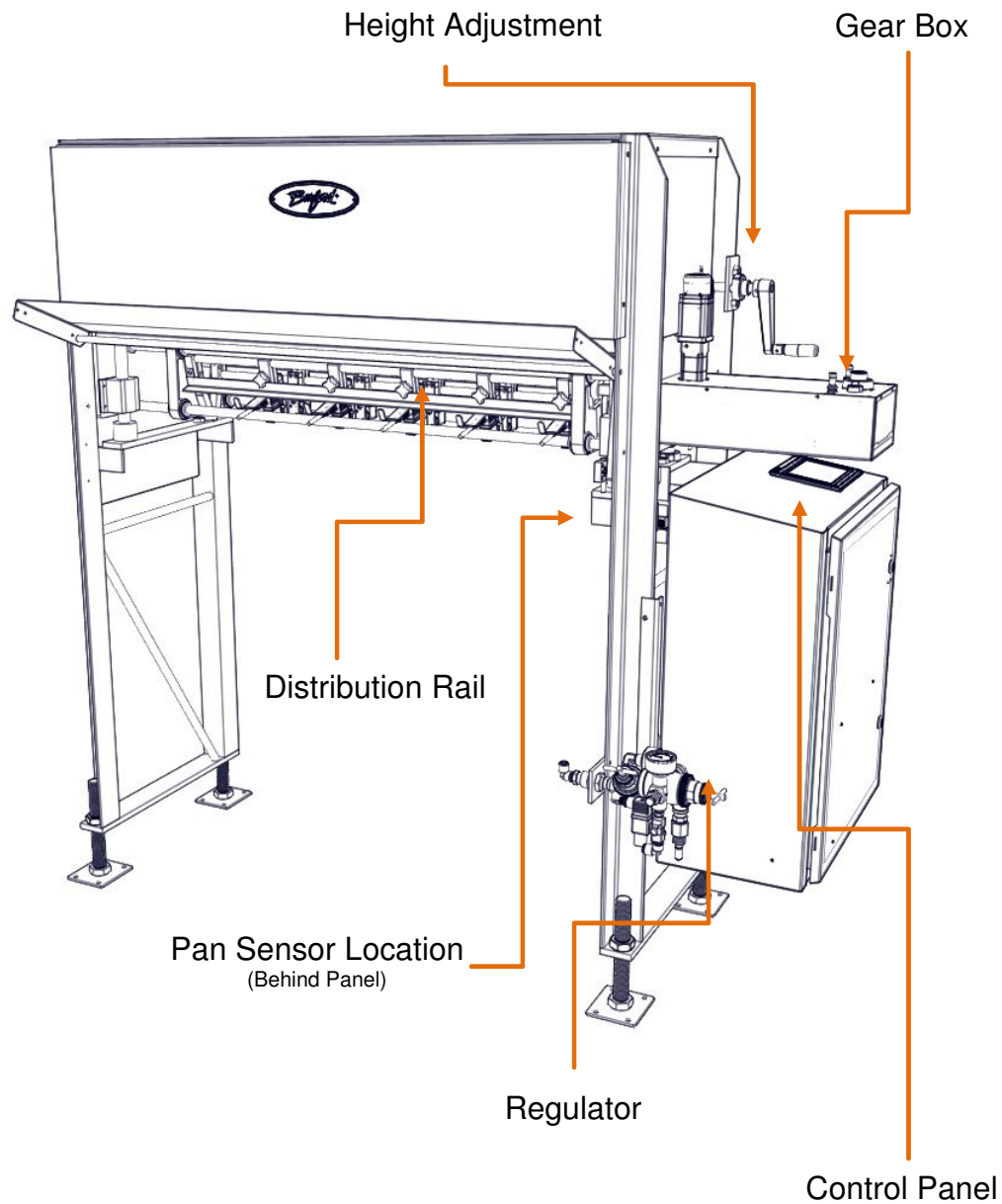
- ☐ DPS1000R Product travels left to right viewed from operator side.
- ☐ DPS1100L Product travels right to left viewed from operator side.



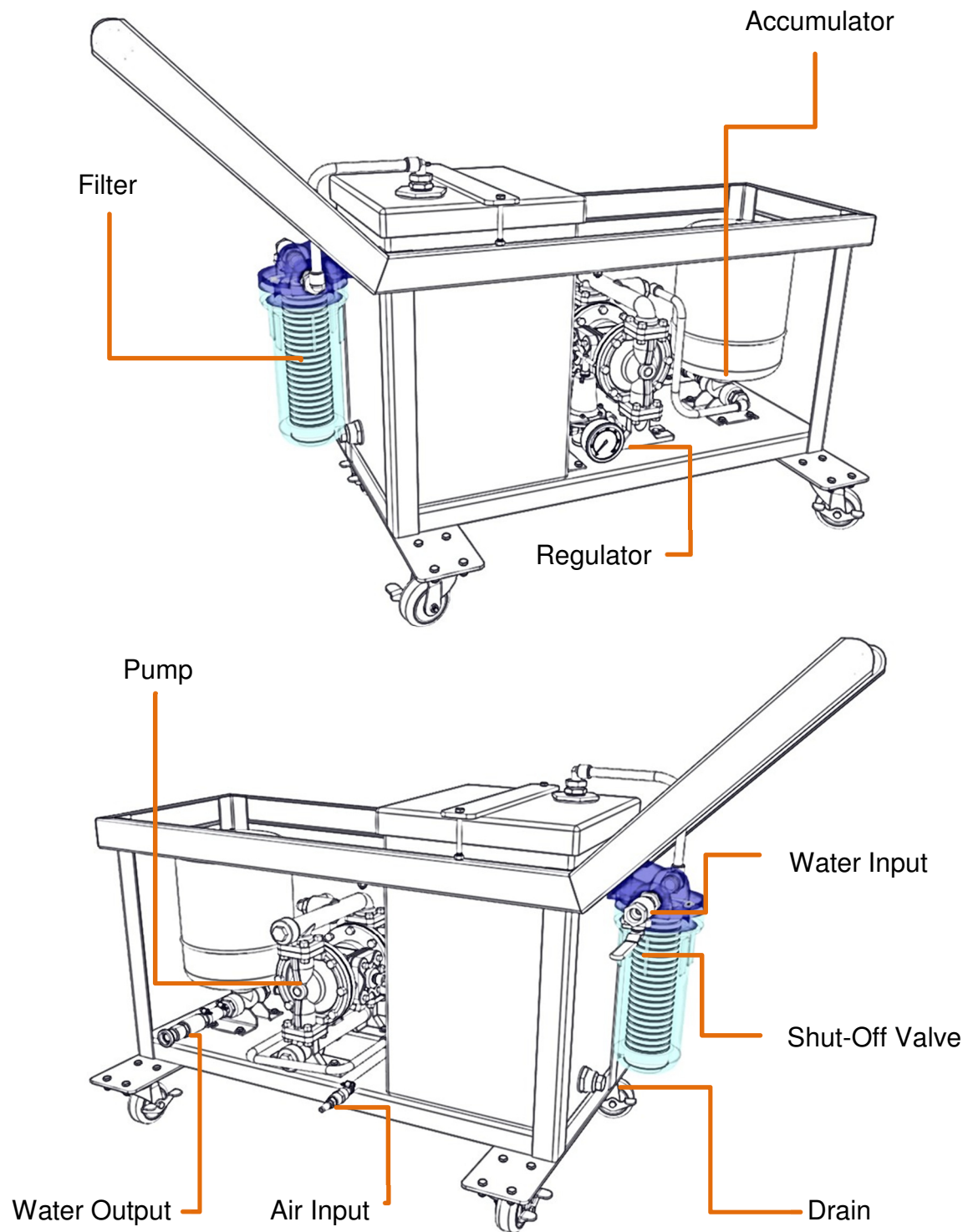
**Model DPS1000
Shown**

■ Unit Identification

Below are the main components that make up your Splitter. Take a few minutes to familiarize yourself with the unit.



■ Pump Cart Identification



Chapter 2

Key Components

CHAPTER 2: KEY COMPONENTS

Below is a list of key components that you must familiarize yourself with to gain a better understanding of how the Splitter functions.

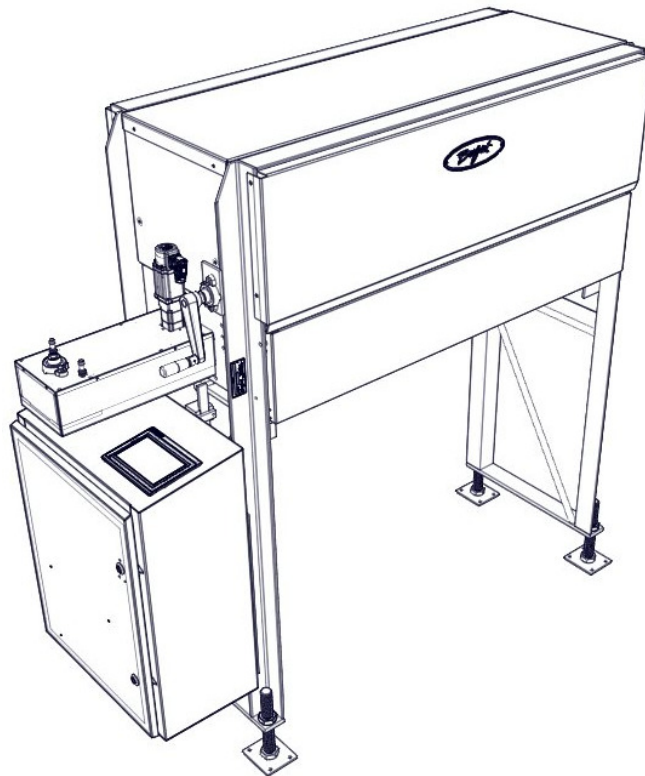
■ Splitter

The Splitter contains components to ensure a desirable split to your product. The unit is able to deliver two different modes of operations: Straight and Pattern splits.

- The Pattern Split is used to create a diagonal split in the dough.
- The Straight Split is used if the dough is to be split parallel to pan travel.

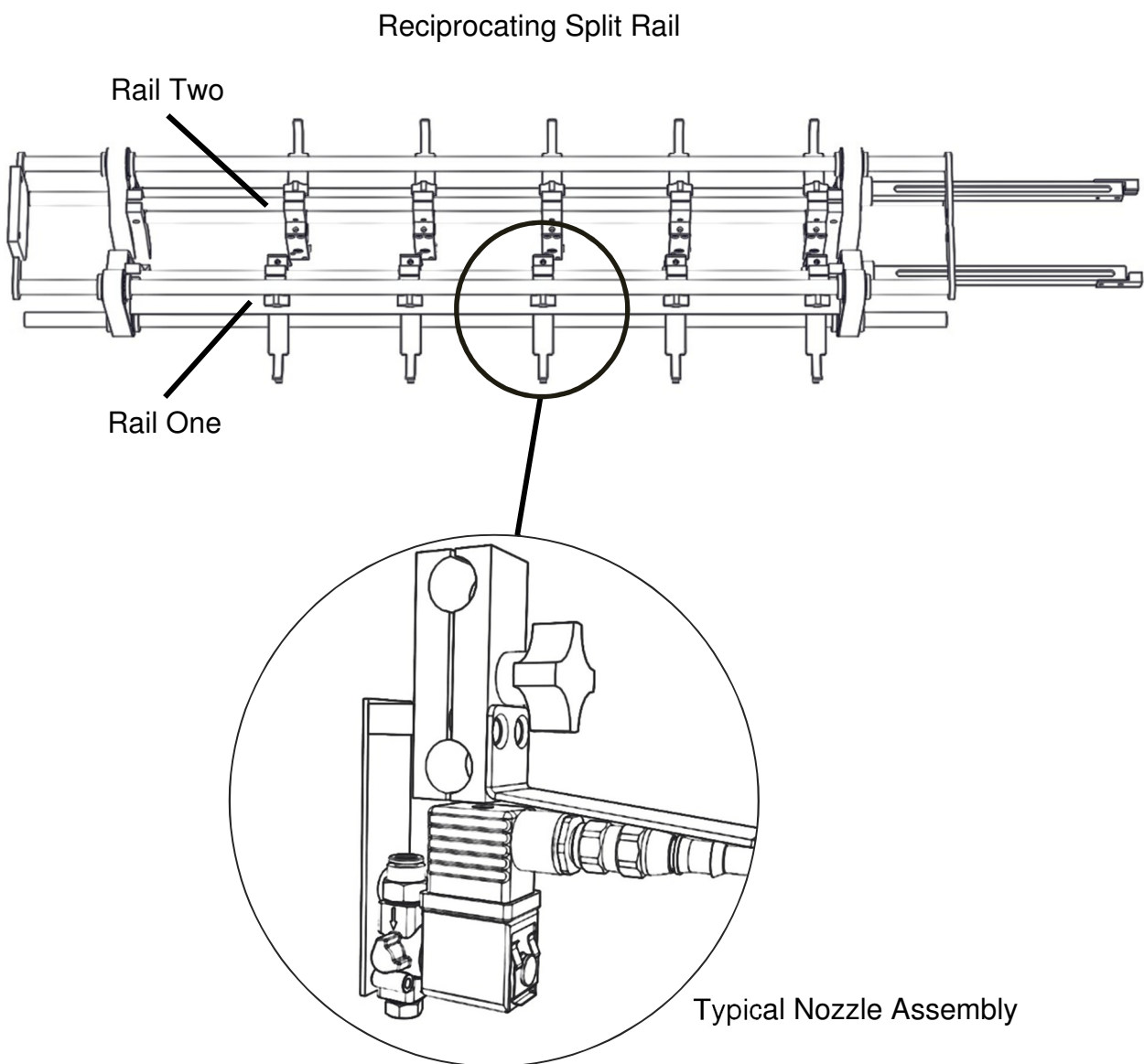
The split valves apply a high pressure jet of water to the dough. When the high pressure jet comes in contact with the dough, a split will occur. The pressure of the water is adjustable to achieve the desired results.

The Splitter contains the Regulator, Split Valves, Pan Sensor, and the Control Panel. All of these components work in unison to deliver a consistent split to your product.



■ Reciprocating Split Rail

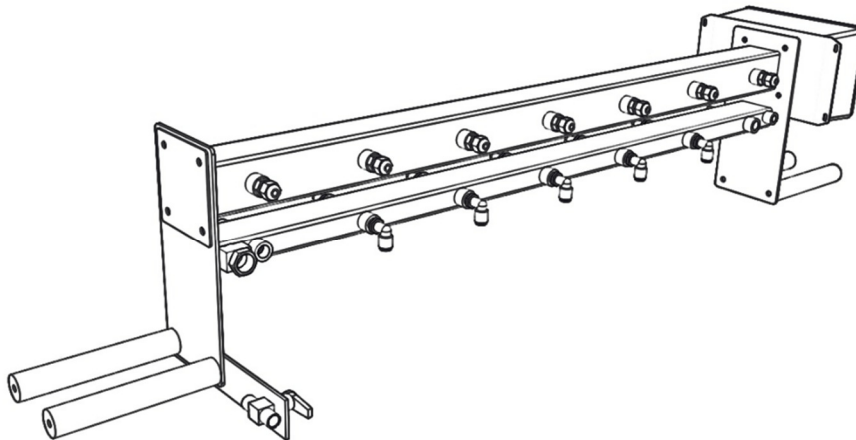
The Reciprocating Split Rail directs the high pressure jets of water to the exact location of your product. The rail consists of two shafts with adjustable positioning split nozzles to accommodate different varieties. In pattern mode, the shafts oscillate back and forth to achieve the same direction of split with each pan. In Straight mode, the split will be parallel to direction of travel of the product and oscillation of the split rail does not occur.



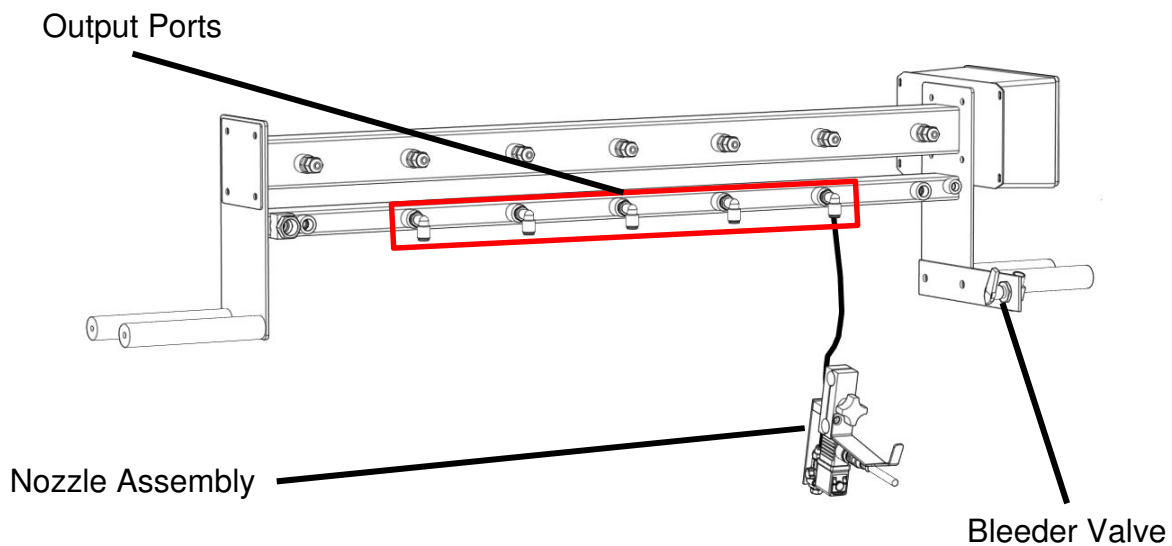
■ Distribution Rail

The Distribution Rail supplies the individual split nozzles with pressurized water. A hose is connected from each of the Distribution Rails output ports to the input ports on each split nozzle.

A Bleeder Valve is located on the Distribution Rail for first stage purging.

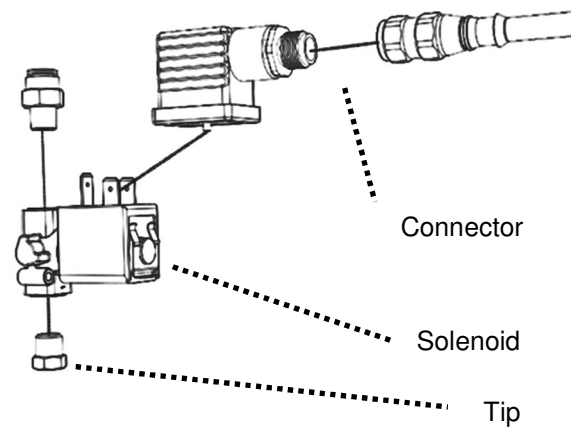


Distribution Rail



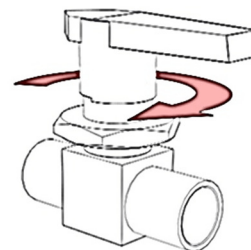
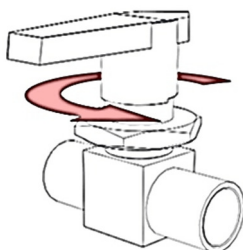
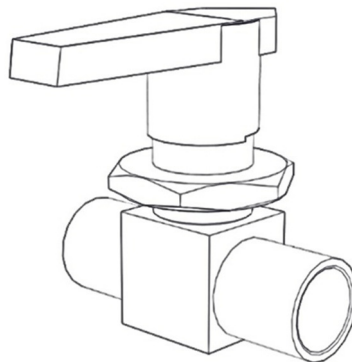
■ Split Nozzle

The Split Nozzle contains the components to ensure a desirable split. A tip is used to direct the water into a pressurized jet with an orifice size specific for your needs. Different orifice sizes are available to meet a wide range of applications. Contact your Burford® for more information.



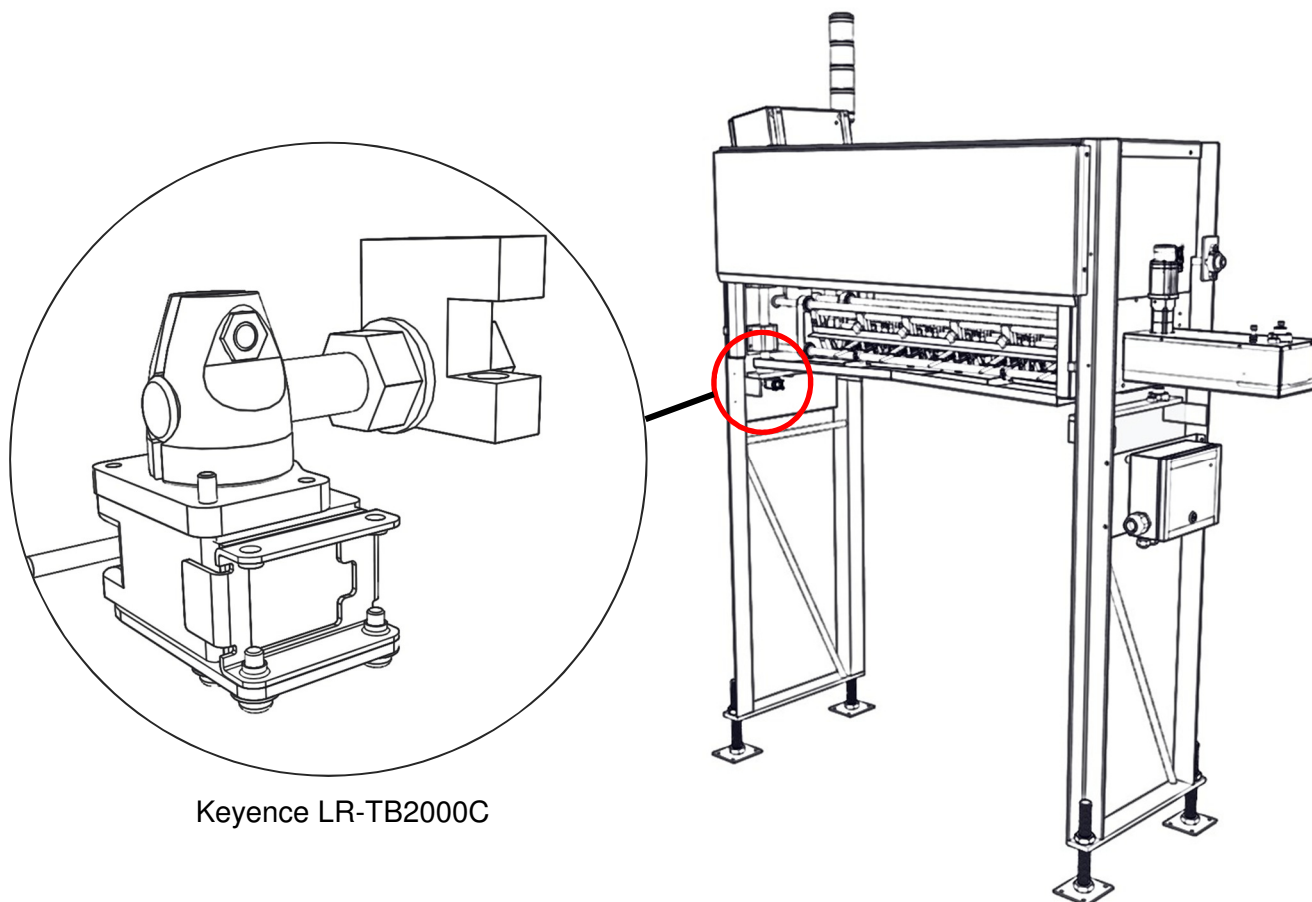
■ Bleeder Valve

The Bleeder Valves are used to purge the system from air. Open the valve to remove any air from the system. There is a Bleeder Valve on the Distribution Rail.



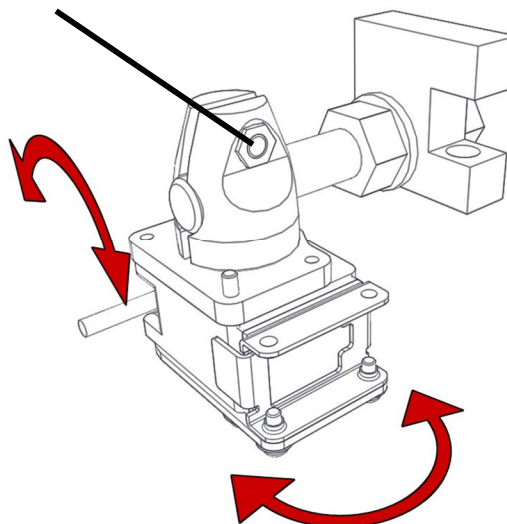
■ Sensor

The Keyence Product sensor deploys the latest laser technology in the industry for accurate product detection. It is used to detect the pan and begin the Split cycle. The mounting bracket is mounted on a rod that allows adjustment of the sensor.



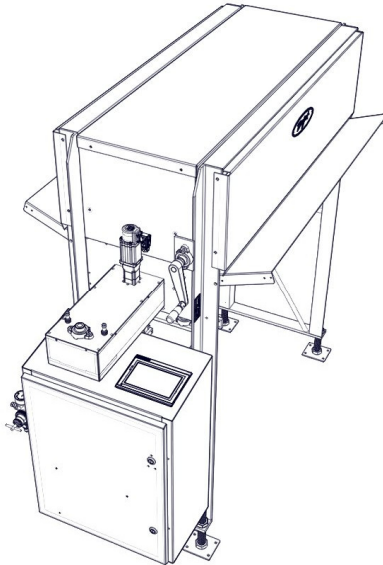
Keyence LR-TB2000C

Loosen Mount Nut to
Adjust Sensor Position



■ Control Panel

The Control Panel contains the Operator Interface, the E-Stop, and the Main Disconnect.



■ HMI

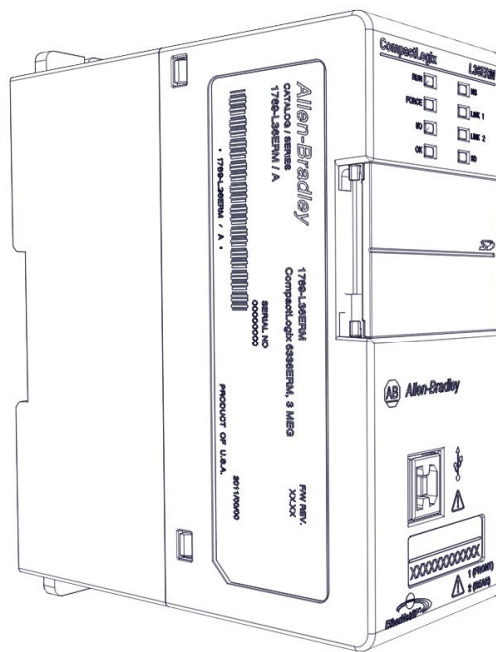
The HMI, (Human Machine Interface), is where the interactions between the unit and software occur. It allows the operator to input parameters that controls the unit.



Allen Bradley Panel View 800 Plus

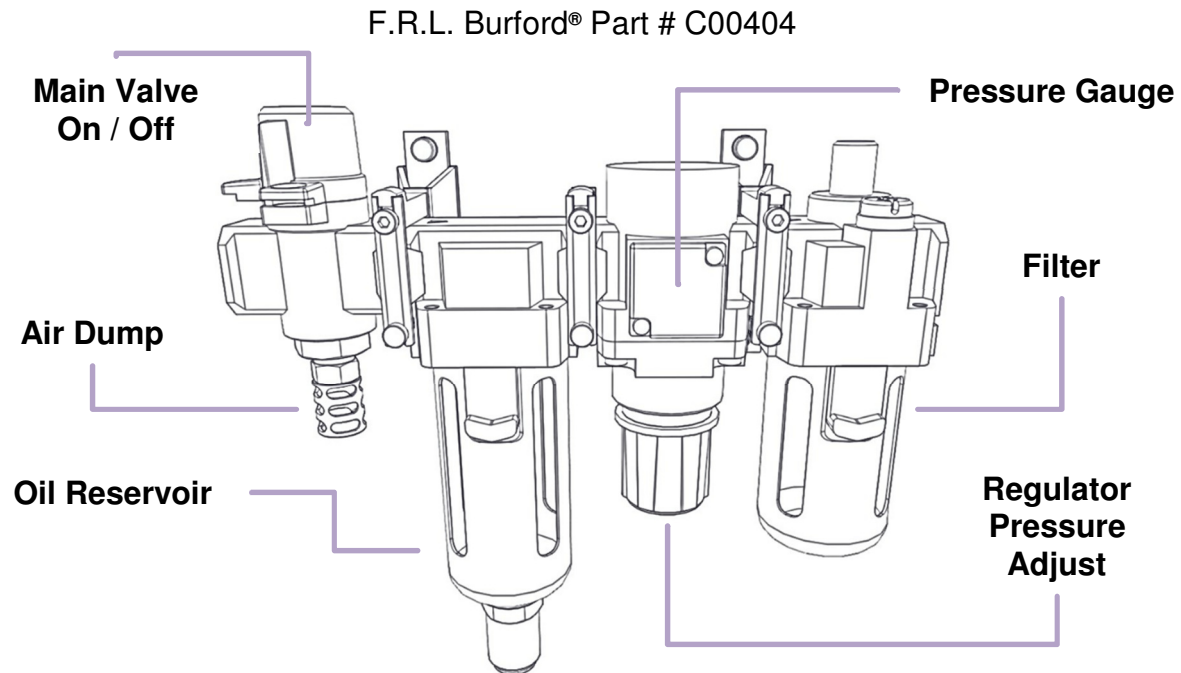
■ PLC

The PLC (Programmable Logic Controller) is a digital computer used for the automation of the unit. The PLC contains proprietary Burford® software that executes the operations of the unit. Shown below is a typical PLC, the one in your unit may be different. Reference the Electrical Schematic that came with your unit for information regarding the particular PLC in your unit.

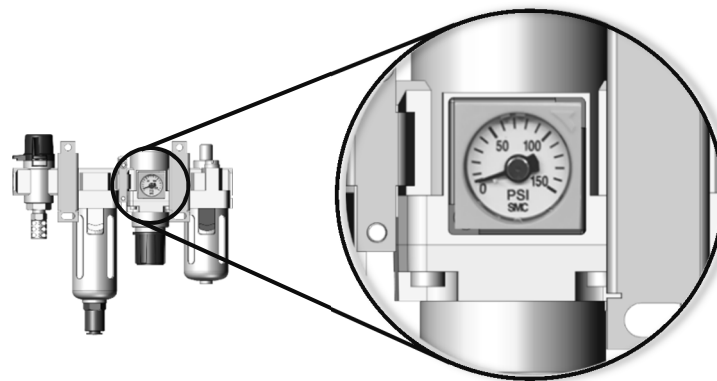


■ F.R.L. Description (if equipped)

The F.R.L. (Filter, Regulator, and Lubricator) controls the amount of air pressure delivered to the unit. Depending on options purchased, your unit may have a F.R.L.



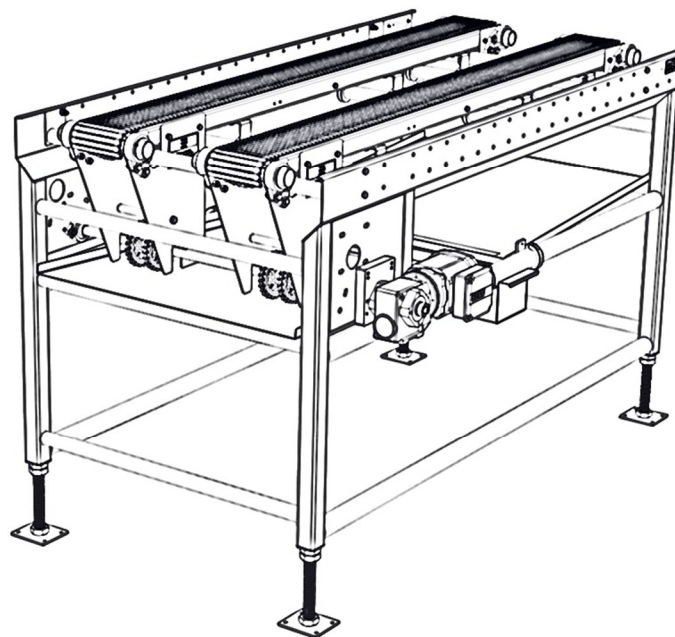
A pressure gauge indicates the output pressure of the F.R.L. The normal operating pressure is 60 psi.



Pneumatic Oil must be kept in the Oil Reservoir at all times. Burford® recommends Parker Pneumatic Oil F442. Check Reservoir weekly.

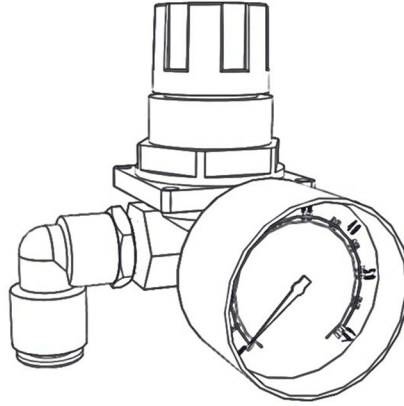
■ Conveyor (Optional)

An optional conveyor is available for your Splitter. The conveyor transfers product through the unit. Contact Burford® today to inquire about the great benefits of our conveyor systems.



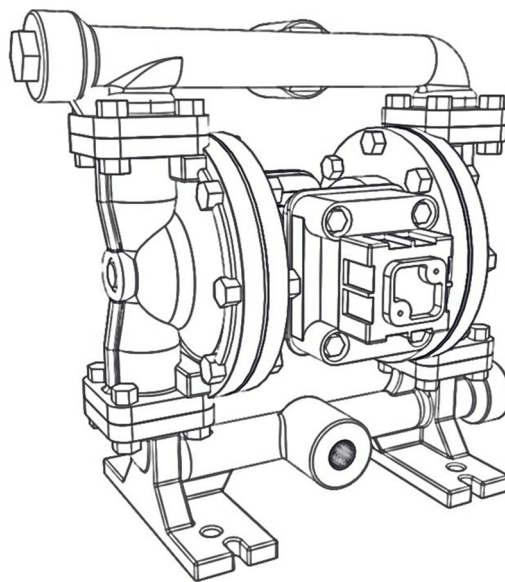
■ Pressure Regulator

The pressure regulator is a valve that automatically cuts off the flow of liquid at a certain pressure. An adjustable knob is used to control the amount of pressure desired. In our application it is used to control the amount of water pressure supplied to the split nozzles.



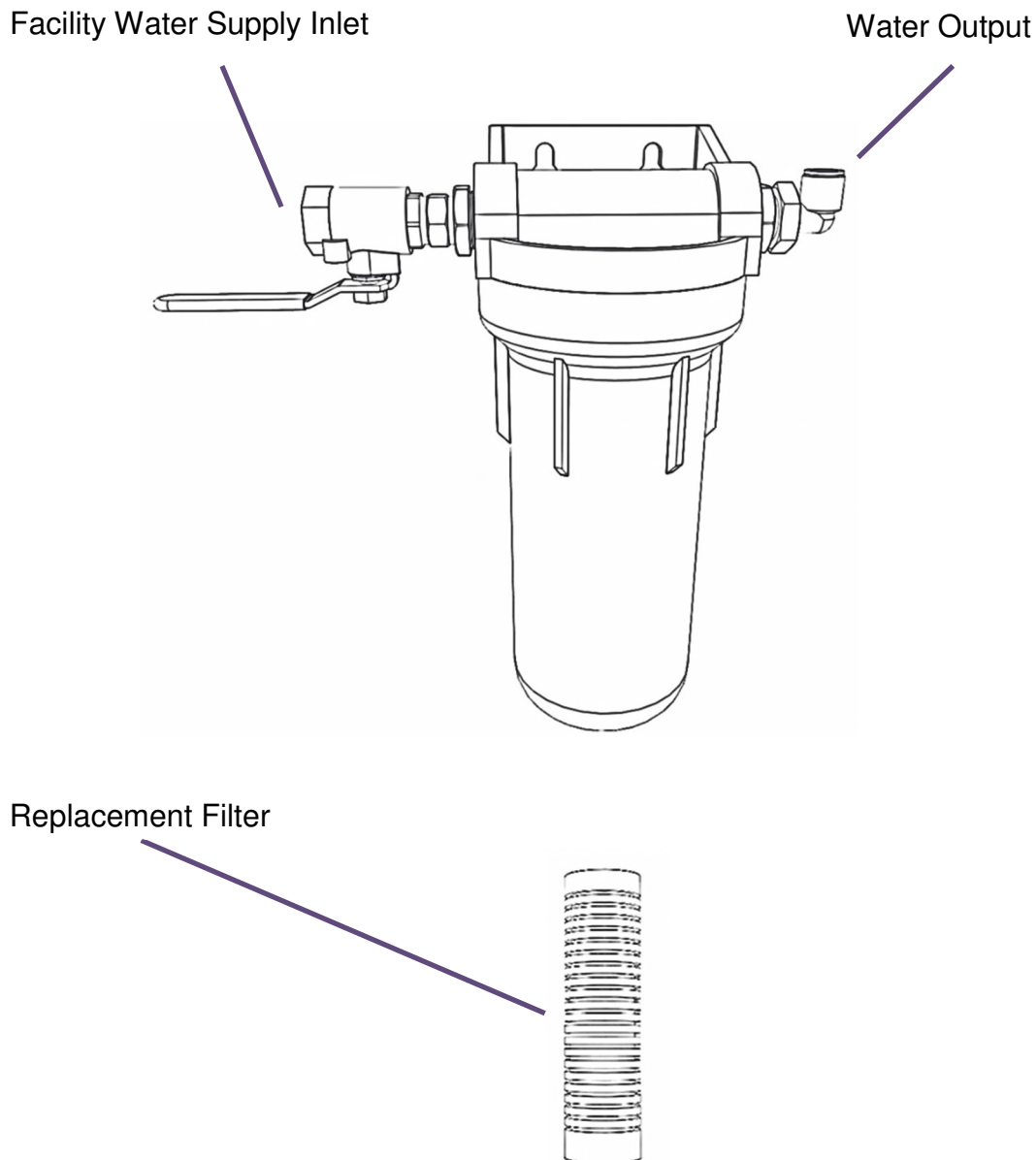
■ Diaphragm Pump

The Diaphragm Pump is a positive displacement pump that uses a reciprocating rubber diaphragm and valves on either sides to pump the water into the hydraulic system. The pump is powered by a supply of air and pressure can be controlled by the air regulator feeding the pump. The Output pressure of the pump is a 1:1 ratio of the input air pressure.



■ Water Filter

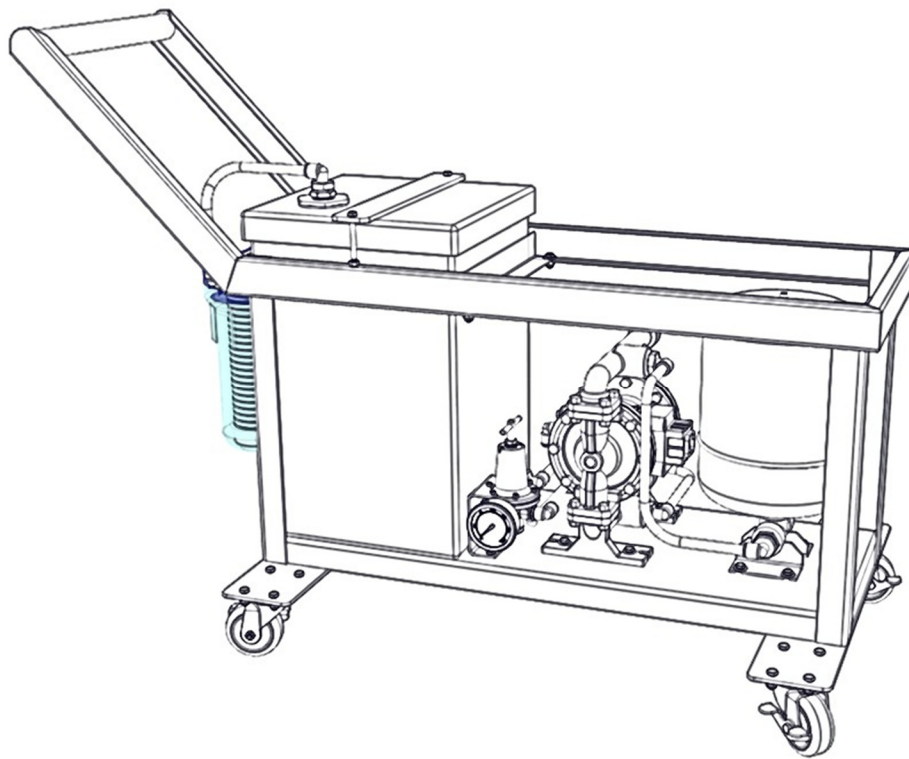
The Water Filter removes any contaminations from the water source. The filter supplied is rated at 10 microns. Replacement is recommended every 4 weeks but may differ depending upon the quality of the source water supply.



Order your replacement filters from Burford®.
Call 1-877-Burford (1-877-287-3673) today. Part Number: C00578

■ Pump Cart

The Pump Cart contains the necessary components to ensure uniform water pressure during the split sequence. It includes an air regulator, the water filter, reservoir, pump, and accumulator. All of these components work in unison to deliver consistent water pressure during the split sequence.

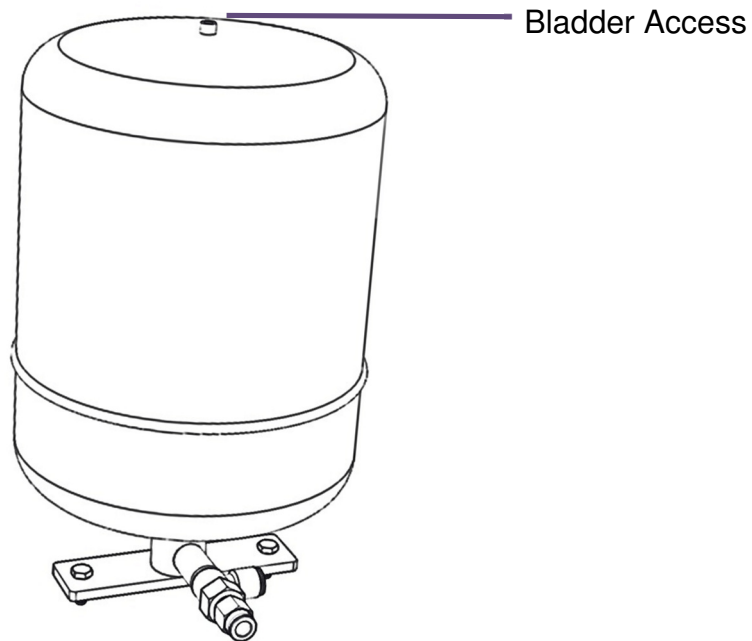


It is vital that there are not any water pressure fluctuations during the split sequence. Any variations in water pressure may cause undesirable splits in the final product.

■ Accumulator

The Accumulator is a pressure storage reservoir in which the fluid is held under pressure by an internal bladder filled with compressed gas kept at a constant pressure, also known as a hydro-pneumatic accumulator. The use of an accumulator allows the hydraulic system to respond more quickly to a temporary demand and to smooth out any pulsations that may be present in the system. The internal bladder must be kept at 80% psi of the running pressure.

Determine running pressure. Depressurize Splitter system completely. Set Accumulator to 80% of the determined running pressure. A standard Schrader valve is used to fill the bladder. Compressed air may be used to fill bladder.

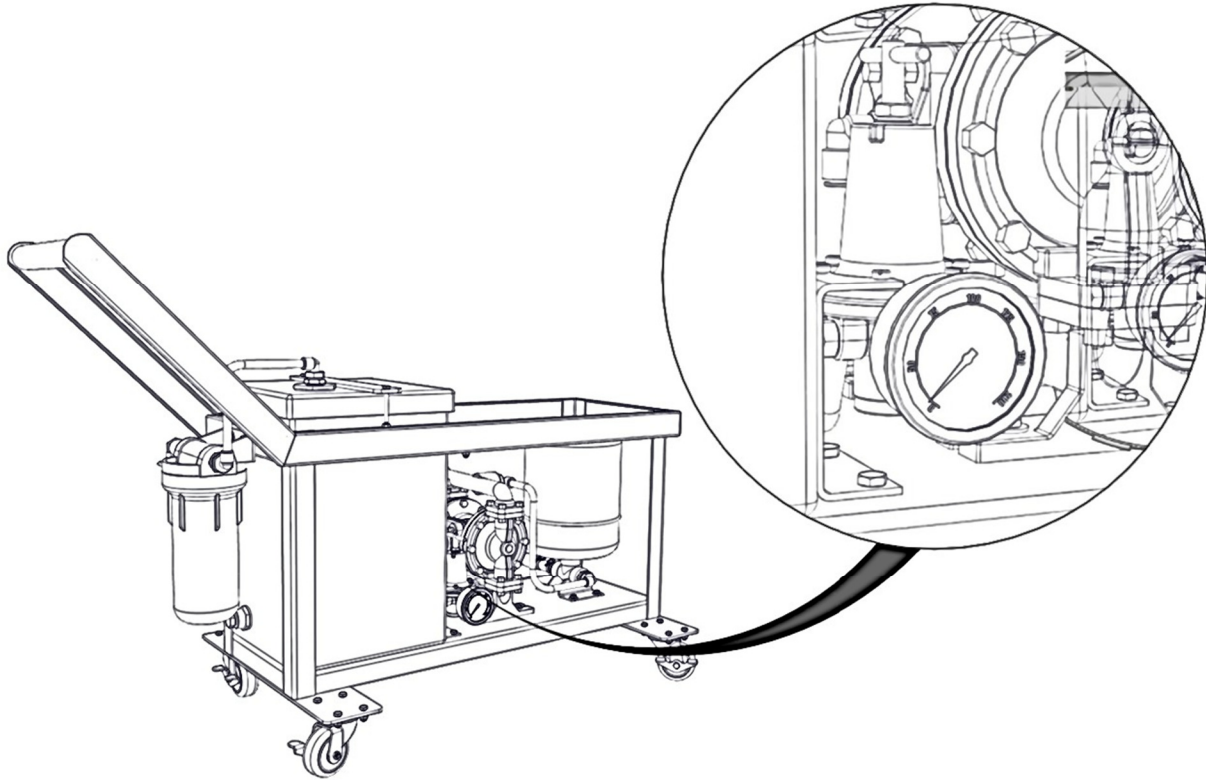


Dampener must be charged before use. Set Accumulator pressure with Unit completely depressurized. Verify proper pressure before initial operations.

Example: If running pressure is 50 psi then the accumulator should be filled to 40 psi.

■ Pump Cart Air Regulator

The Pump Cart Air Regulator controls the pressure of the air operating the diaphragm pump. The air pressure is at a 1:1 ratio of the output water pressure of the pump. The air pressure should be set at 20% above the max operating pressure of the water pressure.



Chapter 3

Installation

CHAPTER 3: INSTALLATION

The Burford® DPS1000 Splitter was shipped to you completely assembled. There are two ways to purchase the unit. Mounted onto a Burford® conveyor ready to roll into a given location or assembled to mount onto an existing conveyor system.

Electrical connection and hookups should be done by a qualified electrician to incorporate suitable service in compliance with all safety requirements and local codes.

A factory-trained technician may be hired for the installation of your D P S . Arrangements can be made by calling the Service Manager at Burford® Corp. located in:

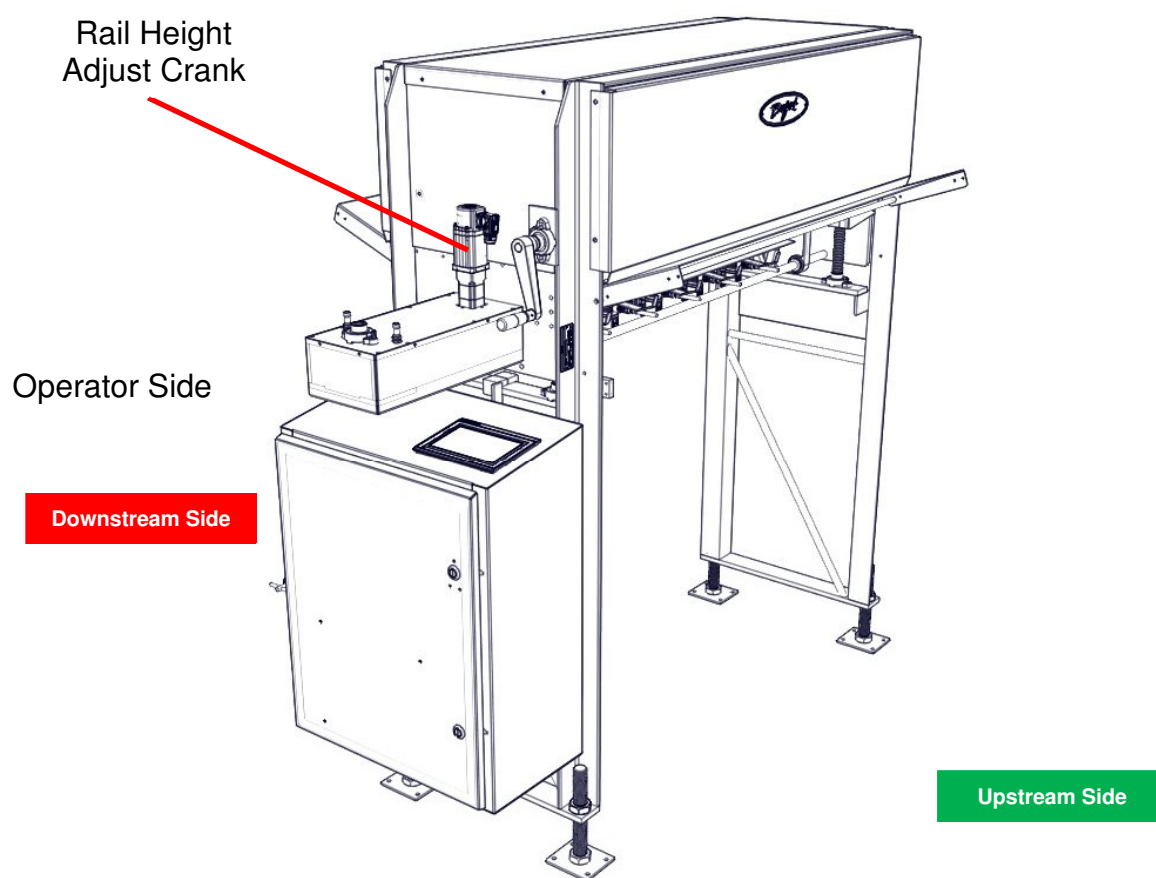
Maysville, Oklahoma, USA.
1-887-BURFORD® or (405)-867-4467

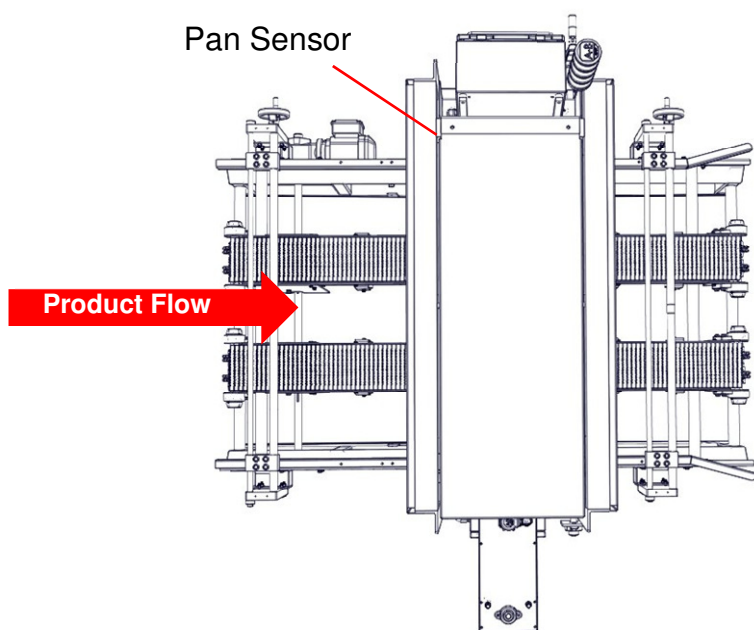
To install the unit, the following instructions are recommended:

1. After uncrating, check for damage. If there is any, notify the carrier.
2. Find the location for the unit to be installed. This will have been determined by the drawings that were sent to Burford® Corp. showing conveyor width, height, and nearby obstructions.
3. Pan guides should be provided in the area of the Splitter to keep pans straight.
4. The conveyor must not allow pans to backup, turn, or interfere with other pans entering or leaving the Splitter area.
5. Area around Splitter installation site should be clear of any obstructions and Splitter shall not be installed in such a way as to create a safety hazard, or block a normal passageway. Clearance must conform to all local safety codes.
6. The conveyor used should have at least 35 inches of free length. This distance should be measured from the conveyor sides only, since some conveyor chains extend past the conveyor sides.
7. The sides and under of the conveyor must be free of any interference from bolts, conduit, motors, shafts, junction boxes, guarding, support members, etc.

■ Unit Overview

Overview

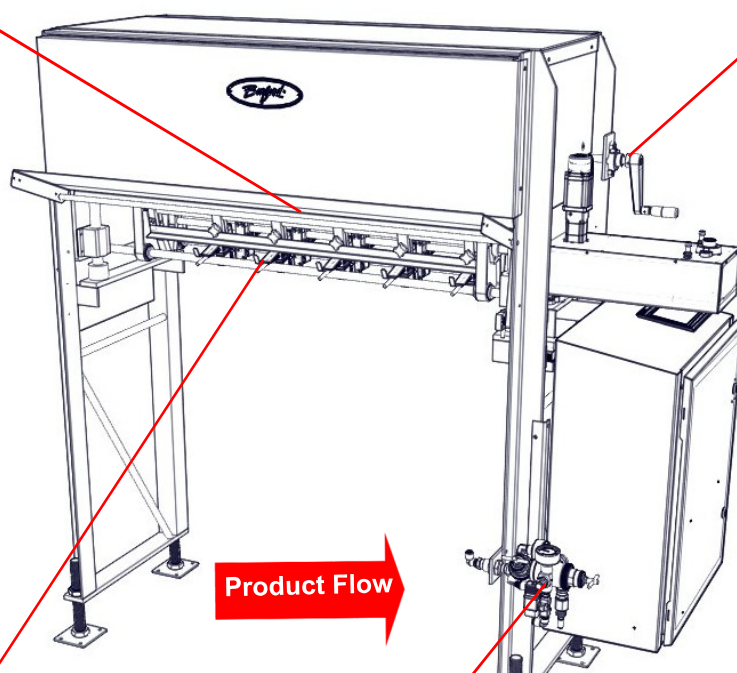


■ Unit Dimensions**Top View**

Distribution Manifold

Rail Height Adjust

Drive System



Split Rail

Output Pressure Adjust

Side View

■ Installation

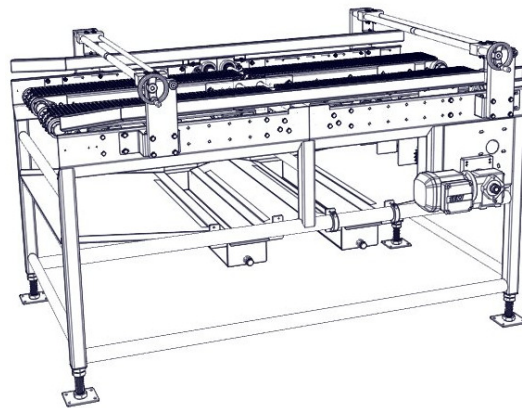
Below are the steps to install the unit onto your conveyor.

FAILURE TO FOLLOW INSTALLATION INSTRUCTIONS MAY RESULT IN SERIOUS PHYSICAL HARM OR EVEN DEATH.

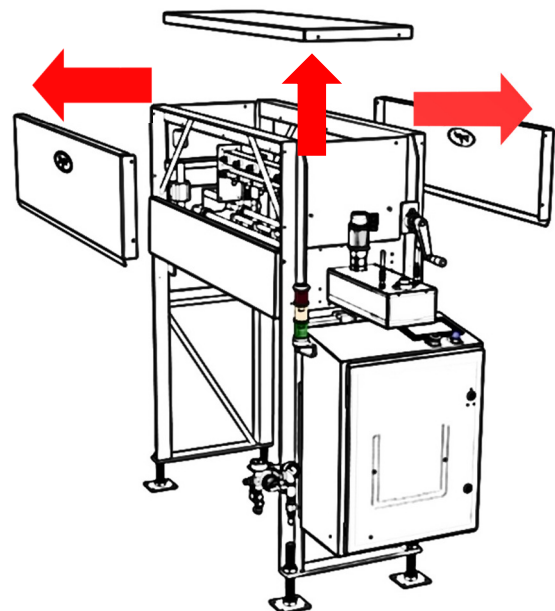
IMPROPER INSTALLATION COULD RESULT IN DAMAGE TO THE UNIT WHICH MAY NOT BE COVERED BY WARRANTY.

■ Determine Location

Determine a suitable location to install the DPS1000. The conveyor that the unit is installed on should have pan guides to ensure that the pan is perpendicular to the split rail on entry and that the splits are consistent.



THE UNIT IS HEAVY. USE LIFTING EQUIPMENT WHEN PLACING UNIT ONTO CONVEYOR.

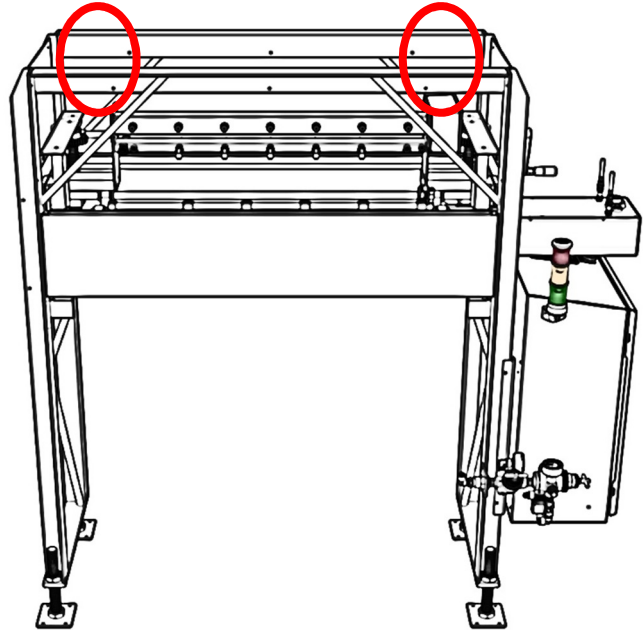


Remove covers as shown.

■ Determine Location, continued

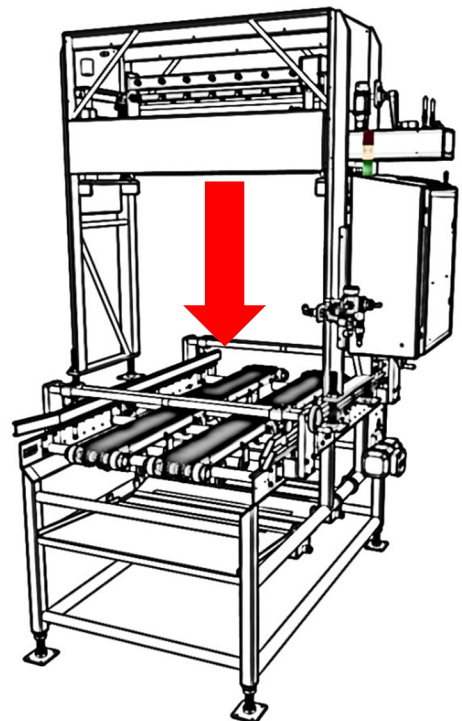
THE UNIT IS HEAVY. USE LIFTING EQUIPMENT WHEN PLACING UNIT ONTO CONVEYOR.

Carefully fasten hoist belts/lifting slings through openings in frame.



ANCHOR POINTS FOR LIFTING UNIT SHOULD BE CLOSE TO THE ENDS OF FRAME TO MAINTAIN STABILITY.

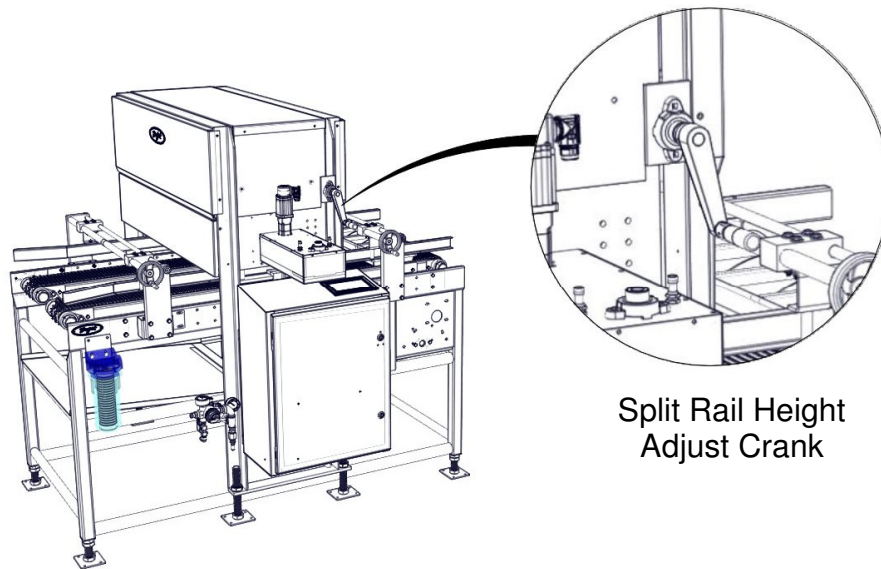
Raise the unit over the conveyor, then lower the unit into position. Reattach covers when unit is in place.



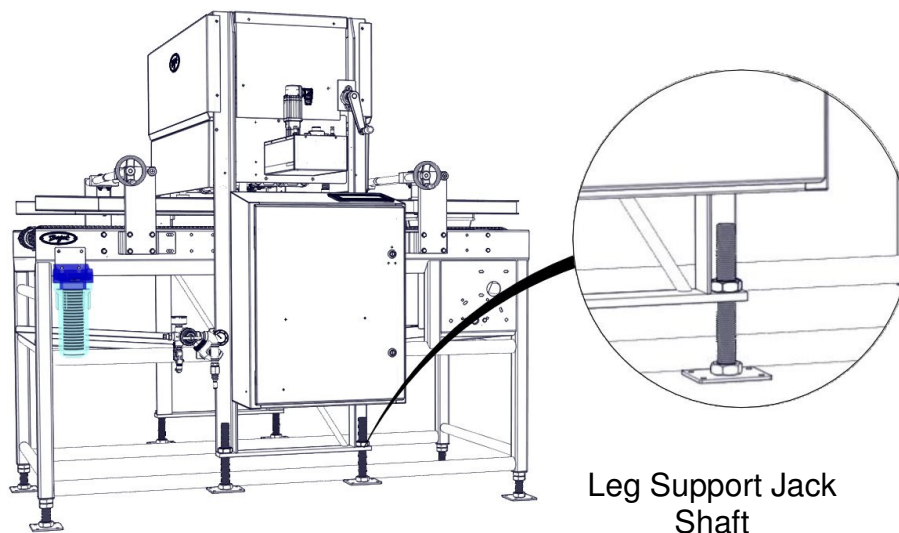
■ Adjust Height

Determine the proper height of the unit. Rotate the height adjust crank until the split rail is at the lowest position. When at lowest position, adjust the four (4) leg support Jack Shafts until the split rail is 1-2 inches above your shortest product.

Position the Split Rail to Lowest Position



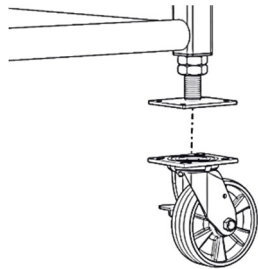
Adjust Jack Shafts So Split Rail is 1-2 Inches
Above Shortest Product



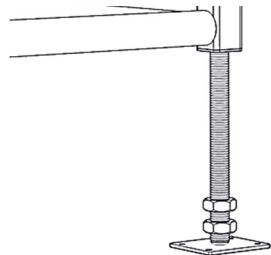
■ Casters

The Unit may have been shipped with temporary casters for easy portability. The temporary casters must be removed prior to operation. Damage to the unit, or injury to personnel may occur.

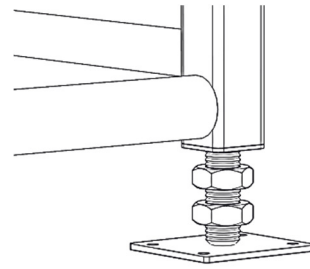
The unit must be permanently secured to the floor.



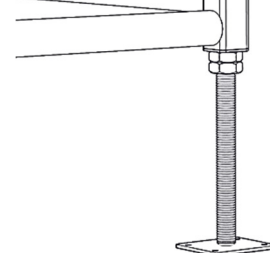
Remove all of the temporary casters.



Rotate shaft to adjust height.



Loosen the jam nuts.



When level with existing conveyor system tighten the jam nuts.

Drill holes matching the bolt pattern of the castor mount and secure with concrete anchors.

■ Level Unit

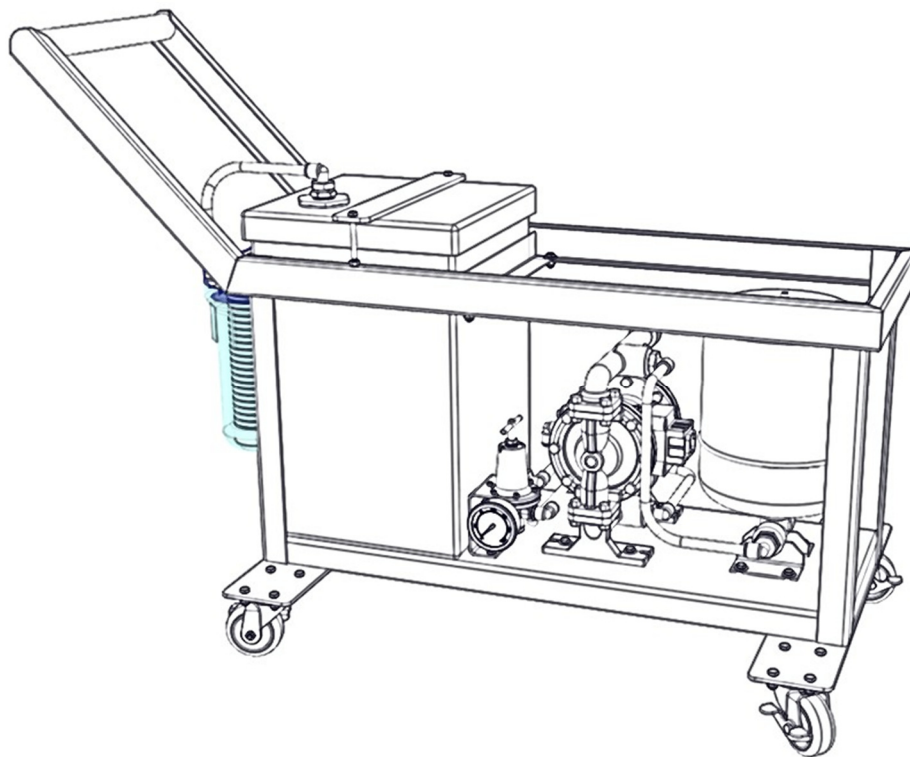
The unit will need to be level during operations to function properly. The support legs are adjustable. Match the height of your existing conveyor system to that of the Burford® conveyor. There are four leg supports with foot pads. The foot pads are mounted to a threaded shaft rod. The threaded shaft rod is able to extend and retract approximately 6" of travel within the leg support.

■ Place Pump Cart

Locate a suitable place for the Pump Cart. It should be out of the way, close proximity to utilities, and accessible. Fill the accumulator bladder on the Pump Cart to proper pressure.

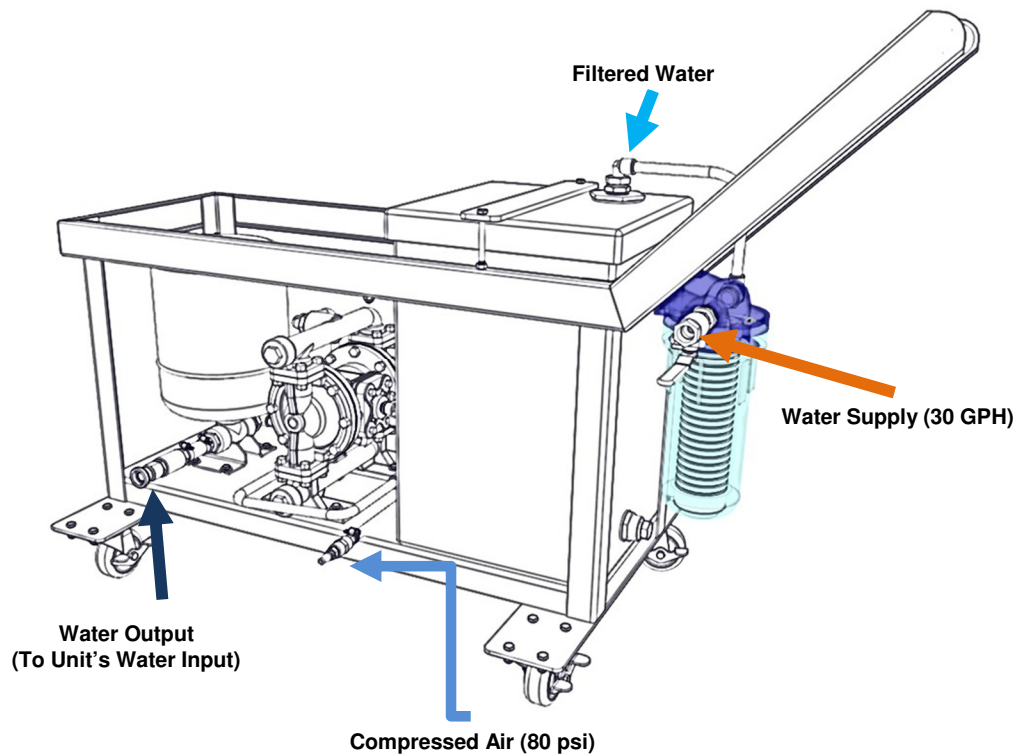
The internal bladder must be kept at 80% psi of the running pressure. Determine running pressure. Depressurize Splitter system. Set Accumulator to 80% of the determined running pressure.

The unit may need to be ran to determine the desired pressure for your splits. Run unit, determine desired split pressure. Calculate 80% of running pressure. Depressurize entire system. Fill accumulator bladder on pump cart to the calculate pressure (80% of operating pressure). Pressurize entire system and test results.



■ Connect Water

Connect the water supply line to inlet of water filter. A shut off valve is recommended at filter location. The filter must be plumbed according to the direction of flow indicted on filter. Make the connections in the illustration below.



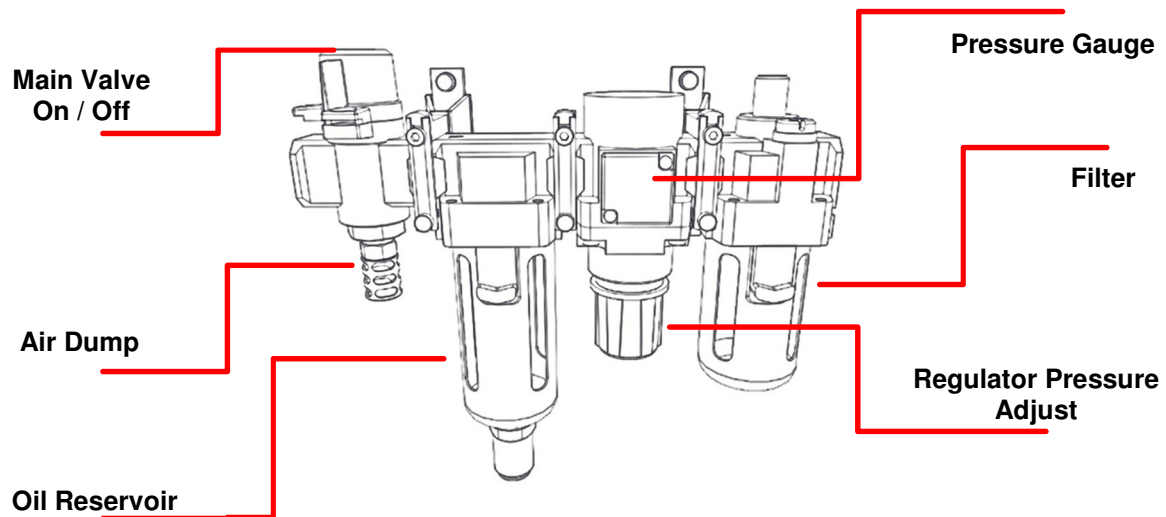
Make the appropriate connections as indicated on the illustration above.

■ Connect Electricity

Have an Electrician connect power to the unit that is specified on the Electrical Schematic supplied.

■ Connect Air

Connect the Main Air Supply to the F.R.L. The Air supply must be .370 CFM@80 psi maximum. Add lubricant to the F.R.L. Connect a filtered supply of water to the Water input connector.



■ Purge Unit

When the Splitter is initially installed, all water lines must be purged, which can take 15-20 minutes to accomplish. However, once the main lines have been purged, they will stay full of water so that subsequent purging can be done more quickly. The proper procedure is as follows.

Ensure that the mode is in the “STANDBY”.

Open the bleeder valve on the distribution rail and use the purge function to “PURGE”. Allow the water to flow until a smooth continuous stream appears. Close the valve and open the bleeder valve and use the purge function to “PURGE”. Allow the water to flow until a smooth continuous stream appears. Close the valve and then open another bleeder valve, bleeding the second bank of nozzles the same way. Repeat until all nozzle banks have been purged. All nozzles should shut the water flow off very abruptly. Close the bleeder valve and test for proper performance of nozzle.

The test procedure to ensure that the air is removed from the hydraulic assembly is as follows.

By operating the purge function, every time the water is turned off, the stream spraying from the tips should have a clean and instant cut off. There should be no dribbling or slow stopping of water. If this occurs, you will need to repeat the steps for purging until a clean stop of water is apparent, then switch to the “RUN” mode.

NOTE: It is very important to purge all the air from the water lines and nozzles for proper operation of the Splitter. Air in the system will cause inconsistent nozzle operation.

Chapter 4

Operation

CHAPTER 4: OPERATION

■ Theory of Operation

The Burford® DPS1000 series Splitter creates one of two different types of split patterns (straight or pattern) on the top of the dough piece. The location and type of the split is determined by the data entered by the user when setting up individual varieties (this function is password protected). Individual varieties are selected by using the display located on the control panel.

Pattern Split

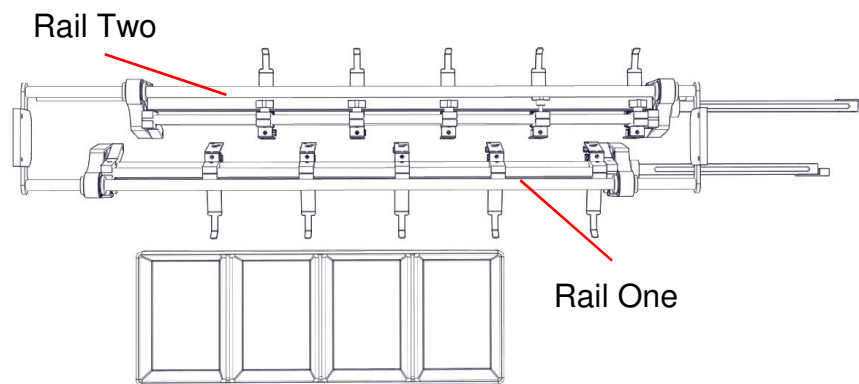
The pattern split sequence is performed while the pan is moving through the unit. At the start of the variety's production run, rail one nozzles are placed at a home offset that positions the split nozzles on rail one at the center of each cup. Rail two nozzles are offset from rail one so that after the first cycle they are at the center of each cup. As the pan travels toward the splitter, the leading edge of the pan triggers a pan sensor. When a trigger is detected from the pan sensor, the PLC begins a cycle, utilizing the selected variety's settings from the operator interface, the unit then begins the split on the pan. The reciprocating split rail contains a bank of nozzles on each of the two shafts. The nozzles from rail one and two are offset from each other exactly the linear distance the nozzle travels during the pattern split sequence for that variety. As rail one travels to perform the first pattern split with active nozzles generating a split into the product, rail two, being mechanically linked to rail one, travels inversely proportional to rail one, (the opposite direction), with the nozzles not active. As rail one completes the movement for the first pan, rail two is now in the same position that rail one was in when it began the previous cycle. Rail two is now ready for pan two. Each cycle will reciprocate the nozzles thus ensuring that the split from pan to pan is always starts at the same location and travels the same angle.

Straight Split

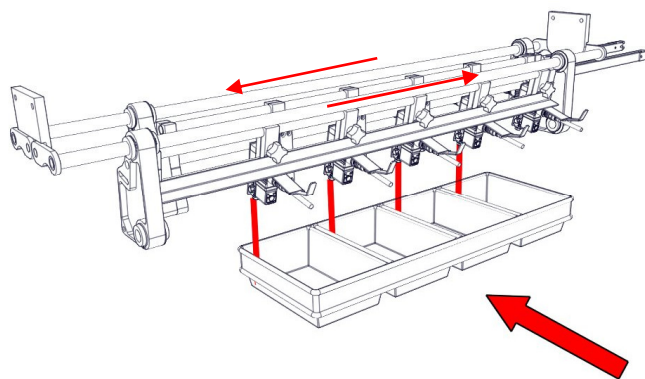
The straight split sequence is performed while the pan is moving through the unit. At the start of the variety's production run, the nozzles are placed at a home offset that positions the split nozzles to be used on the rail at the center of each cup. As the pan travels toward the splitter, the leading edge of the pan triggers a pan sensor. When a trigger is detected from the pan sensor, the PLC begins a cycle, and begins the split on the pan after the time delay entered from the operator interface.

■ Pattern Mode Demonstration – 1 of 3

There are two Split rails; rail one and rail two.
During a cycle the rails travel on a linear path,
one moves left while the other moves right.

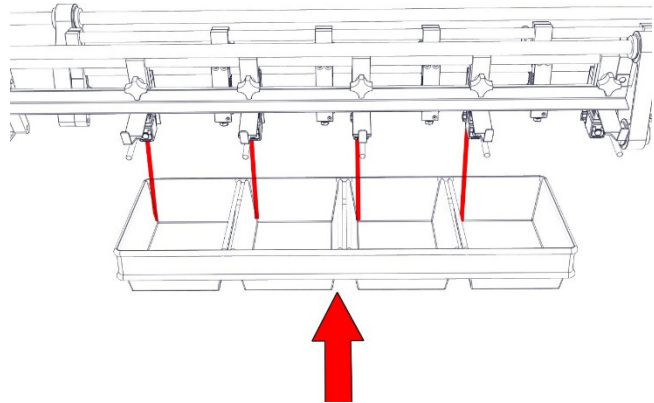


As the pan is traveling downstream, the split rails
are traveling perpendicular to the travel of the
pan.

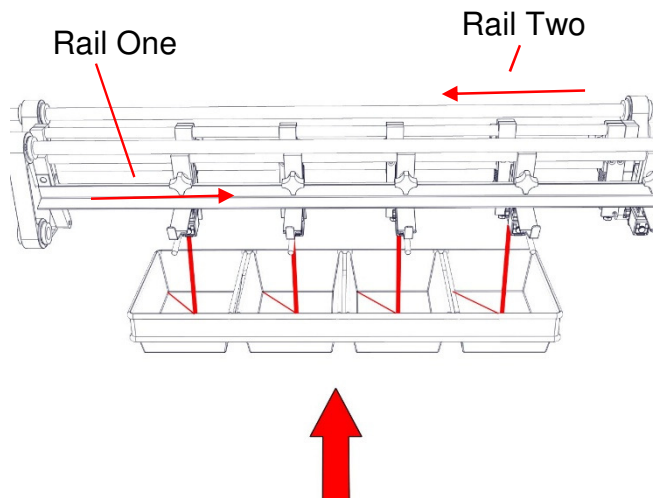


■ Pattern Mode Demonstration – 2 of 3

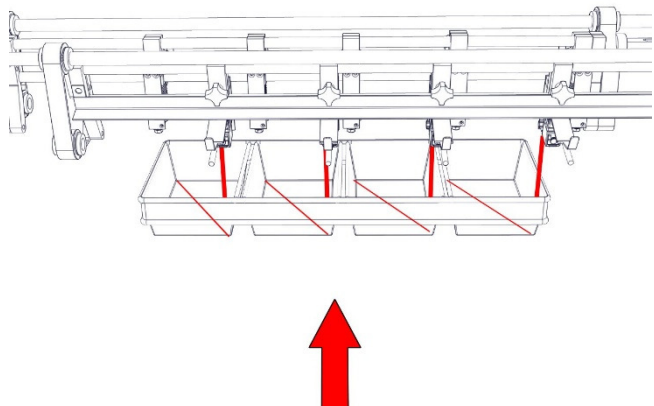
The first pan will encounter the first active split rail in position (left corner in our example).



As the pan travels forward, split rail one travels perpendicular, creating a diagonal split onto the product. Split rail two is mechanically linked and is traveling in the opposite direction of split rail one.

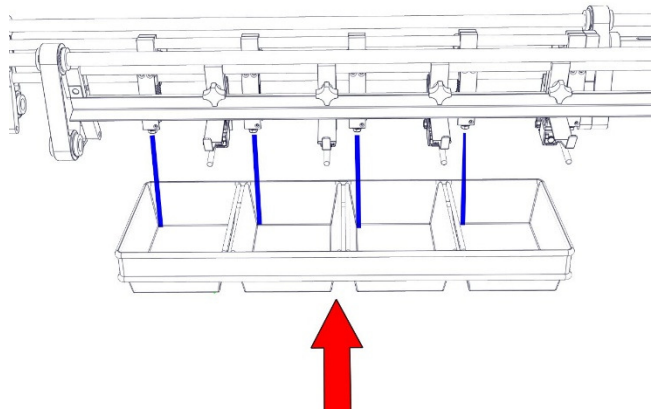


As rail one completes its linear path, rail two is at the desired starting position for the next pan, left corner.

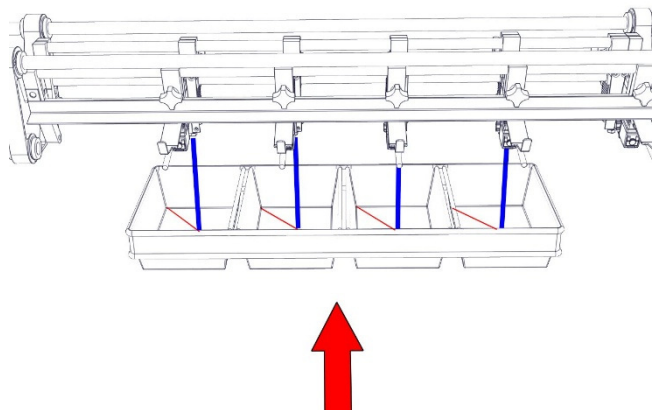


■ Pattern Mode Demonstration – 3 of 3

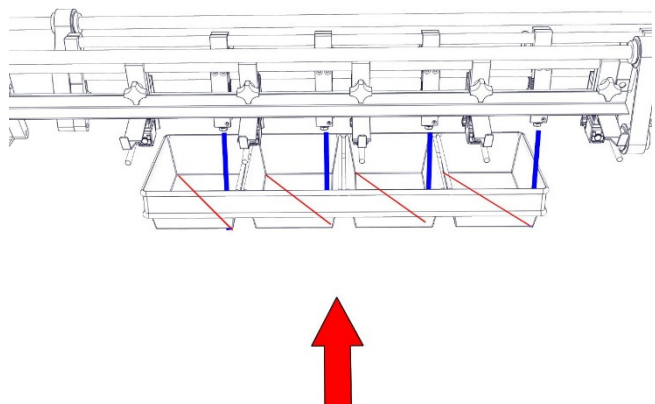
The next pan arrives and rail two begins splitting from the same starting position as the previous pan.



As the pan travels forward, split rail two is now traveling in the desired direction, creating a diagonal split onto the product. Split rail one is traveling in the opposite direction, back to the desired starting position.



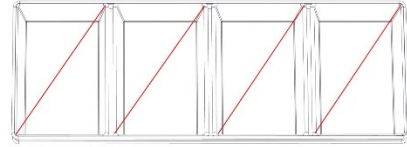
The split rails will continue reciprocating back and forth, alternating active rail each cycle to ensure starting position of split remains the same on each pan.



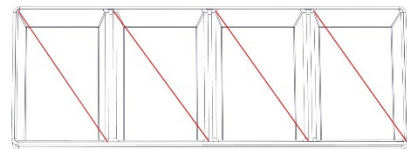
■ Unit Split Capabilities

Some of the possible split patterns with the new DPS1000. There are many more split possibilities with this unit, below are the most common.

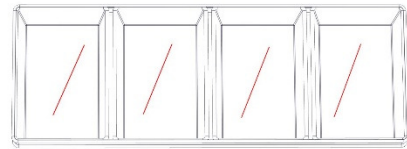
A diagonal pattern split.



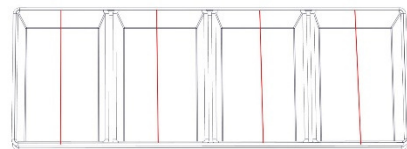
Change the direction of the pattern split.



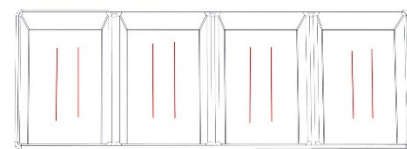
Change the on time and duration to achieve artisan style splits.



Straight splits.

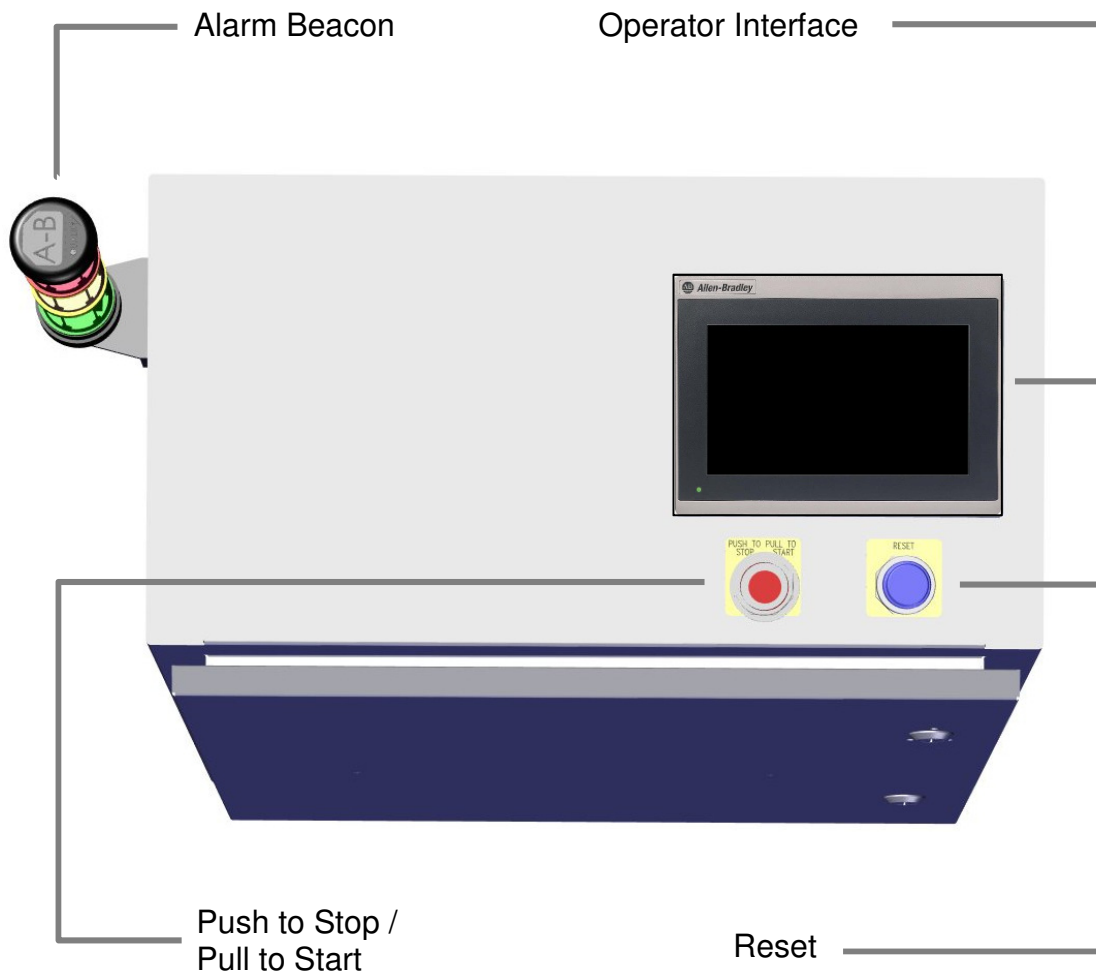


Utilize both rails to achieve dual straight splits.



■ Control Panel

Below are the descriptions for the Control Panel. The control panel houses the electronic controllers for the unit. The HMI, E-Stops, Alarm indicators are located here.



FUNCTION	DESCRIPTION
Alarm Beacon	Signals the operator there is an issue with the drive unit.
Operator Interface	This is the primary means of control for the machine. Allows access to screens required for setup and operation of the unit.
“Push to Stop / Pull to Start”	Removes electrical power from the PLC, disabling all machine functions. (Push – Off / Pull – On)
“Reset”	Button lights up when safeties are broken. Must be depressed to restore safety circuit.

■ Operator Interface

The touch screen Operator Interface is where variety setups and parameters will be adjusted, and any error messages will be displayed.

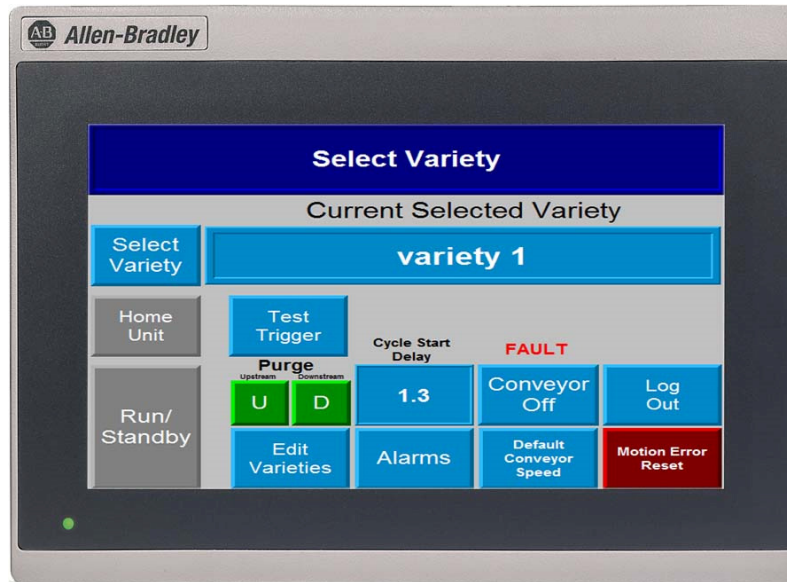


■ Startup Screen



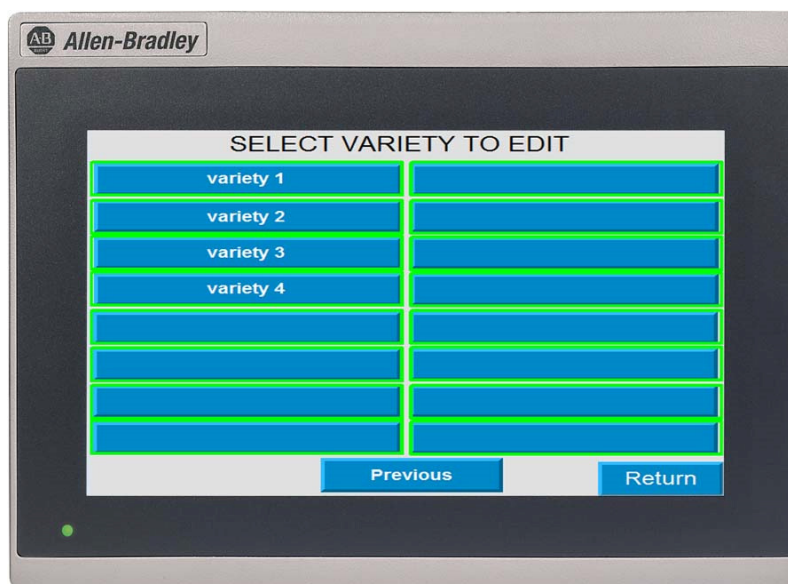
FUNCTION	DESCRIPTION
"Splitter Axis State"	Displays the current status of the splitter encoder.
"Conveyor Encoder Axis State"	Displays the current status of the conveyor encoder.
"RUN"	Displays the current status of the conveyor.
"Conveyor Off / On"	This button toggles the conveyor "Off" or "On".
"Close Covers and Press Reset / Press Start"	This button displays instructions necessary to advance to the main screen. When conditions are met the button will read "Press Start" and allow access to the main screen.
"Purge Upstream"	This button instructs the unit to actuate the upstream splitter nozzles while pressed. Purge is used to remove air from the fluid lines.
"Purge Downstream"	This button instructs the unit to actuate the downstream splitter nozzles while pressed. Purge is used to remove air from the fluid lines.

■ Main Screen



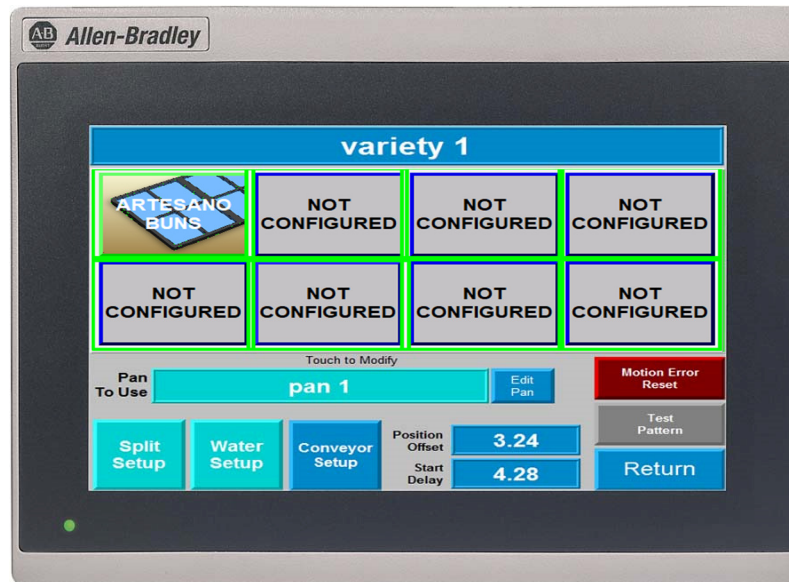
FUNCTION	DESCRIPTION
"Select Variety"	The status of the unit and other important messages are displayed here.
"Current Selected Variety"	Displays the current variety selected. Press the "Select Variety" button to advance to the variety selection screen.
"Home Unit"	Press to return splitter nozzles to starting position.
"Test Trigger"	Press to run a single split cycle.
"FAULT"	Status indicator for the conveyor drive.
"Run / Standby"	This button toggles the unit between "Run" and "Standby" modes. When in the "Standby" mode the Pan Sensor is disabled, allowing pans to travel through the unit without splitting product.
"Purge U / D"	This button instructs the unit to actuate the Splitter nozzles of the corresponding split rail (upstream or downstream) while pressed. Purge is used to remove air from the fluid lines.
"Edit Varieties"	This button signals the display to advance to the variety setup screens. NOTE: THESE SCREENS ARE PASSWORD PROTECTED.
"Cycle Start Delay"	This is the distance (in inches) the pan travels downstream before the splitter nozzles actuate after the product sensor is triggered.
"Alarms"	This button instructs the display to advance to the alarm screen.
"Conveyor Off / On"	This button toggles the conveyor "Off" or "On".
"Default Conveyor Speed"	This button returns the conveyor run speed when no variety is selected.
"Log Out"	This button allows the operator to log out of the unit.
"Motion Error Reset"	Resets motion errors; turns red when error exists.

■ Variety Selection Screen



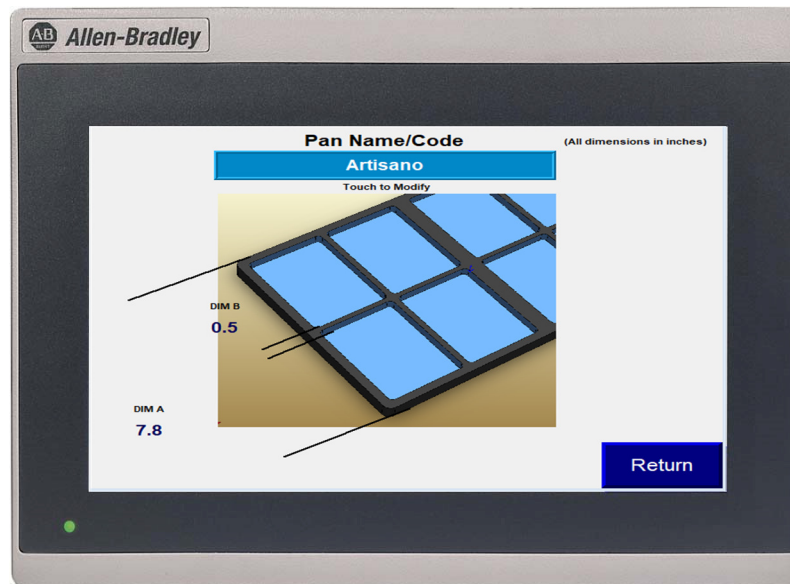
FUNCTION	DESCRIPTION
Variety Names/Buttons	Pressing the button of a variety will allow the user to edit/run the selected variety.
"Previous / Next"	Advances/returns to next/previous page to show additional varieties.
"Return"	Returns the operator display to the previous screen.

■ Variety Setup Screen



FUNCTION	DESCRIPTION
“variety 1”	Displays the current variety being set up.
“Pattern Type Selection”	Press the button of the general split type desired for the variety.
“Pan To Use”	Shows the current pan this variety is configured to use.
“Edit Pan”	This button advances the display to the Pan Setup Screen.
“Split Setup”	This button advances the display to the Split Setup Screen for the selected variety.
“Water Setup”	This button advances the display to the Nozzle Setup Screen for the selected variety.
“Conveyor Setup”	This button advances the display to the Conveyor Setup Screen for the selected variety.
“Position Offset”	Left/Right carriage position adjust in inches (only available in single-row varieties).
“Start Delay”	This is the distance (in inches) the pan travels downstream before the splitter nozzles actuate after the product sensor is triggered.
“Motion Error”	Resets motion errors; turns red when error exists.
“Test Pattern”	Press to run a single split cycle.
“Return”	Returns the operator display to the previous screen.

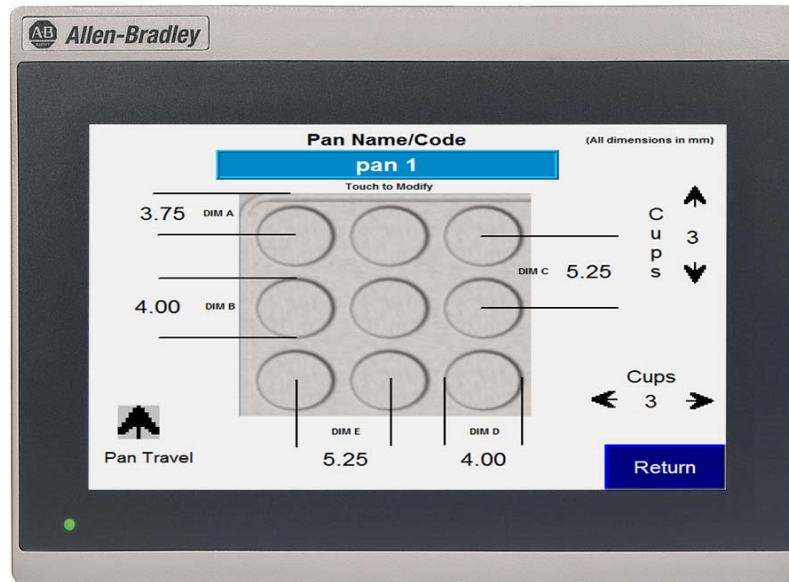
■ Special Pan Setup Screen



FUNCTION	DESCRIPTION
“Pan Name/Code”	The current name of the pan being set up is displayed below. Press the button to enter or change the pan name.
“DIM A”	Distance between the leading and trailing edges of the pan.
“DIM B”	This dimension is the width of the ridge found between the leading and trailing edges of the pan.
“Return”	Returns the operator display to the previous screen.

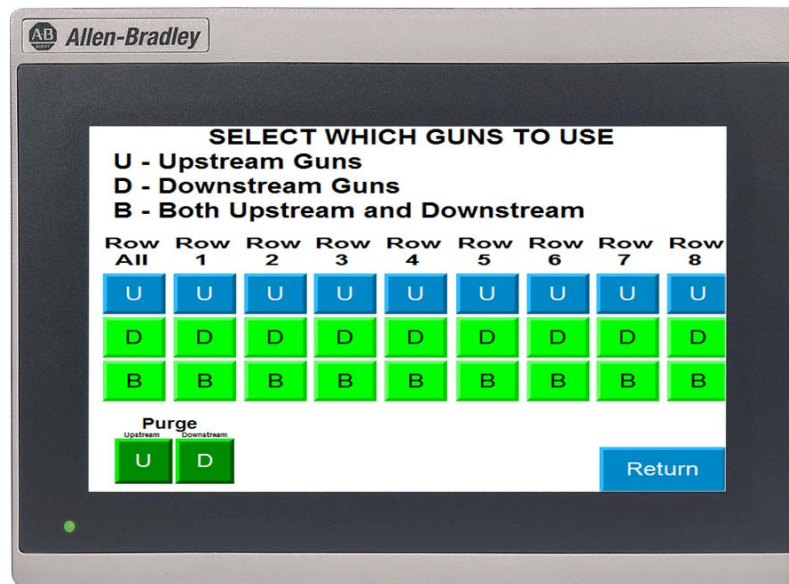
NOTE: This screen is only available for certain pattern types.

■ Pan Setup Screen



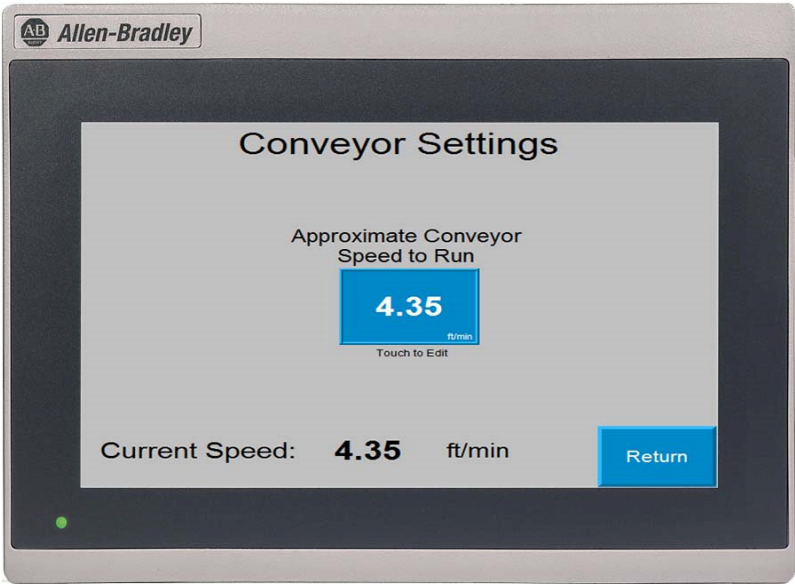
FUNCTION	DESCRIPTION
"Pan Name/Code"	The current name of the pan being set up is displayed below. Press the button to enter or change the pan name.
"DIM A"	Distance between the leading edge of the pan and the center of the cup.
"DIM B"	This dimension is the length of the cup.
"DIM C"	Distance between the centers of the cups in each row.
"DIM D"	This dimension is the width of the cup.
"DIM E"	Distance between the centers of the cups in each column.
"Cups" (Vertical)	Total number of rows of cups for the pan being set up.
"Cups" (Horizontal)	Total number of columns of cups for the pan being set up.
"Return"	Returns the operator display to the previous screen.

■ Nozzle Setup Screen



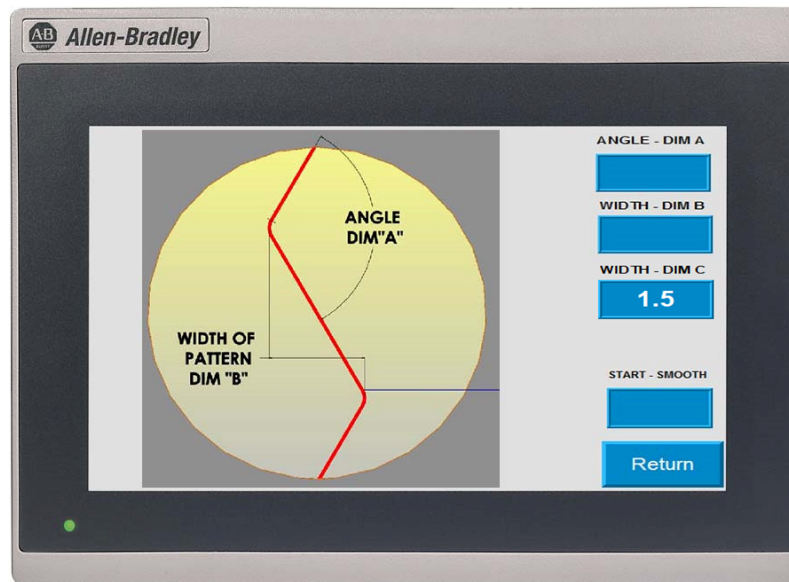
FUNCTION	DESCRIPTION
Nozzle Status Indicators	Allow the operator to select active nozzles for current variety.
"Purge"	This button instructs the unit to actuate the Splitter nozzles of the corresponding split rail while pressed. Purge is used to remove air from the fluid lines.
"Return"	Returns the operator display to the previous screen.

■ Conveyor Setup Screen



FUNCTION	DESCRIPTION
“Approximate Conveyor Speed to Run”	Press to modify the target speed of the conveyor.
“Current Speed”	Displays the current measured conveyor speed.
“Return”	Returns the operator display to the previous screen.

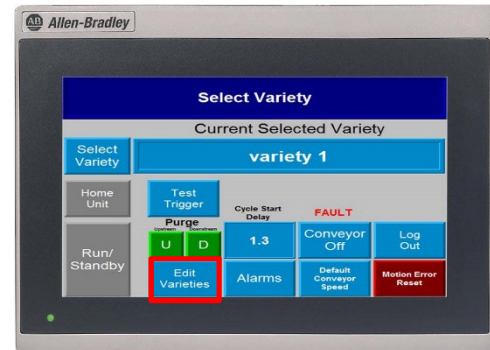
■ Split Setup Screen



FUNCTION	DESCRIPTION
"ANGLE – DIM A"	This button changes the value of the angle for the selected split type.
"WIDTH – DIM B"	This button changes the value of the width for the selected split type.
"WIDTH – DIM C"	This button changes the value of the split width (cup width) for the selected pattern type. NOTE: this value is only available for certain pattern types.
"START - SMOOTH"	Initial movement setting. Adjust for smooth split start.
"Return"	Returns the operator display to the previous screen.

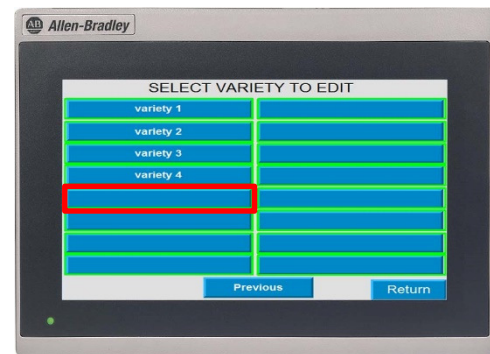
■ Creating A New Pattern Split Variety

From the Main Screen, touch “Edit Varieties” to advance to the Variety Selection Screen.

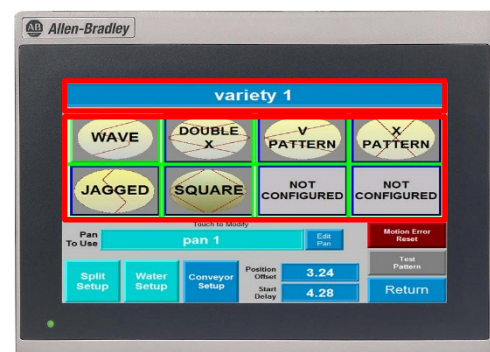


NOTE: The following screens are password protected to prevent inadvertent and/or unauthorized changes to variety set-up information.

Once at the Variety Selection Screen, press a button with no name to set up a new variety. The display should then advance to the Variety Setup Screen.

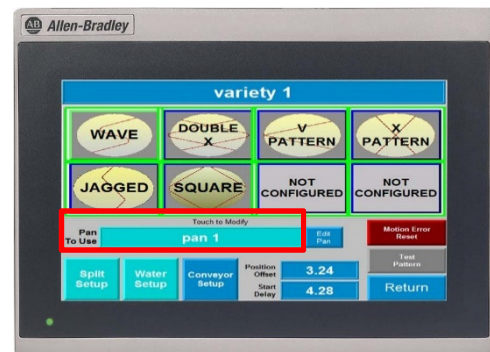


Touch the banner at the top of the screen to enter a name for the variety being set up, then select a pattern type from the options below.

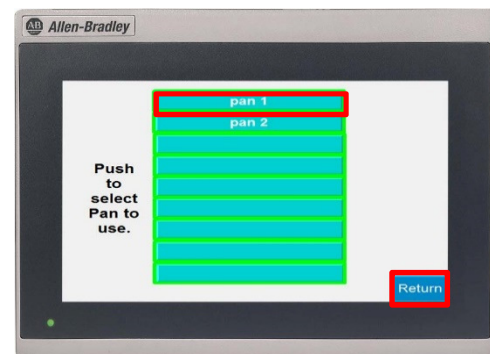


■ Creating A New Pattern Split Variety, continued

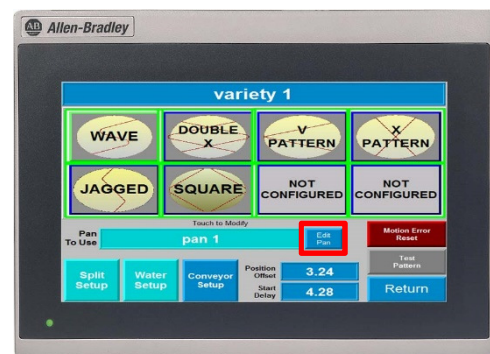
Press the “Pan To Use” button to advance to the Pan Select Screen.



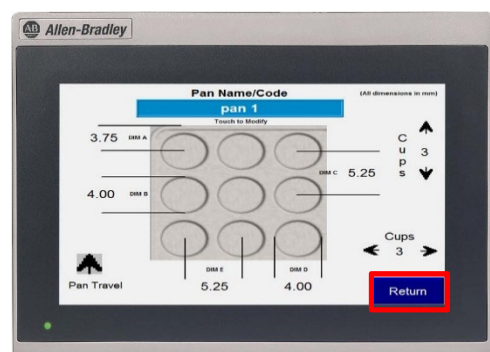
Select the appropriate pan for this variety or select a blank box to create a new pan, then press “Return”.



Press “Edit Pan” to make changes to an existing pan or to set up a new one.

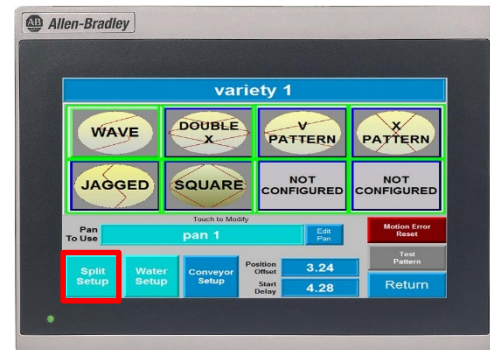


Press the box beneath “Pan Name/Code” to enter or change the name of the pan. Press each of the corresponding values on this screen to set the dimensions and number of cups for this pan. Refer to page 56 for more about the Pan Setup Screen. Press “Return” when finished.

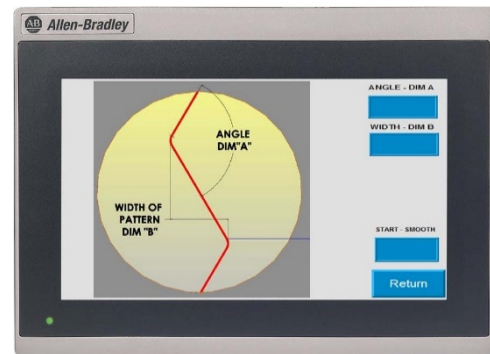


■ Creating A New Pattern Split Variety, continued

Press “Split Setup.”

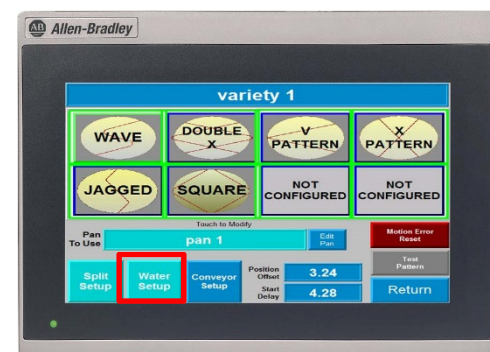


The Split Setup Screen will display the pattern type selected by the user as well as the settings applicable to it. Change these settings as needed to modify the default pattern, pressing “Return” when finished.



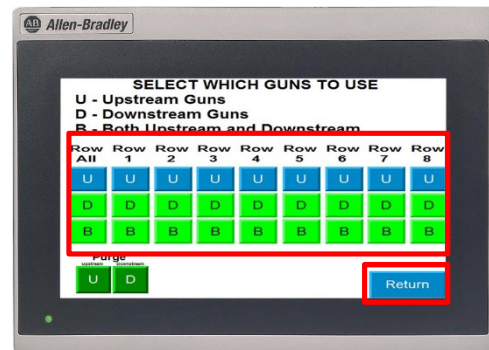
NOTE: The options available on the Split Setup Screen may vary depending on the pattern type selected.

Press “Water Setup” to advance to the Water Setup Screen.

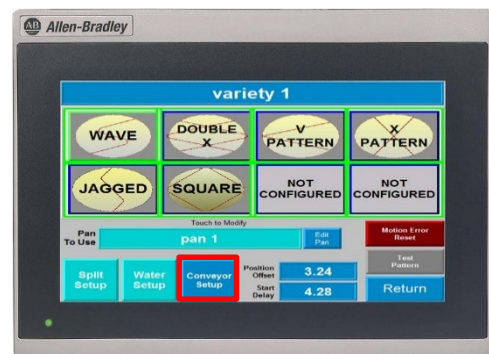


■ Creating A New Pattern Split Variety, continued

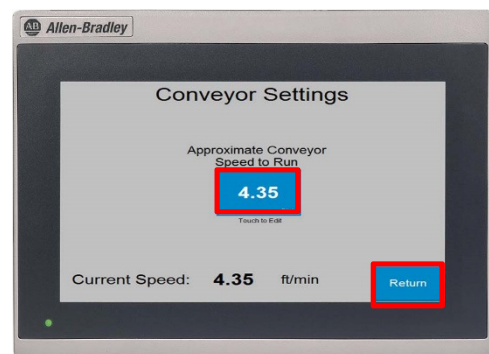
Use the boxes to indicate which guns (upstream, downstream or both) to use for each row. Press “Return” when satisfied with settings.



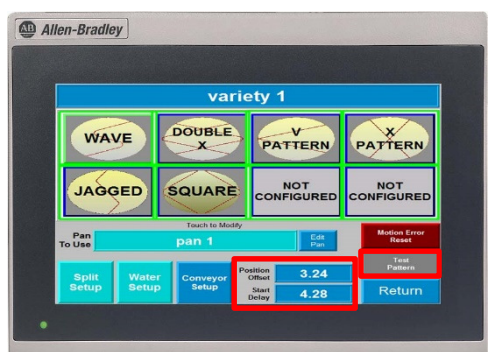
Press “Conveyor Setup” to advance to the Conveyor Setup Screen.



Use this screen to edit the conveyor speed. Press “Return” when finished.



Set the “Position Offset” and “Start Delay” values as needed and test the variety using the “Test Pattern” button, making changes to the variety as needed. After all settings are verified correct, press “Return” to go back to the Main Screen to begin operation.



■ Alarm Dialog Box

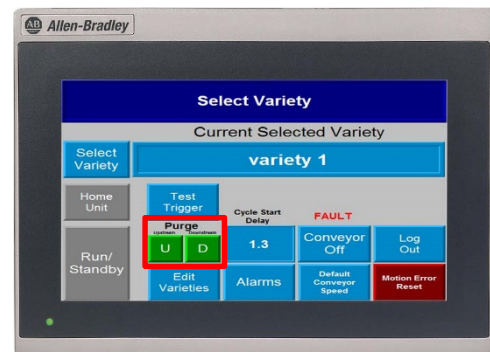
The Alarm Dialog Box will appear to display fault codes. Press “ACK” to clear the fault and close the Alarm Dialog Box.

■ Purging the Unit

To free any air from the fluid lines the operator must press the “Purge” buttons. These buttons actuate the Splitter nozzles while pressed.



The Purge buttons perform the same function when pressed from any screen.



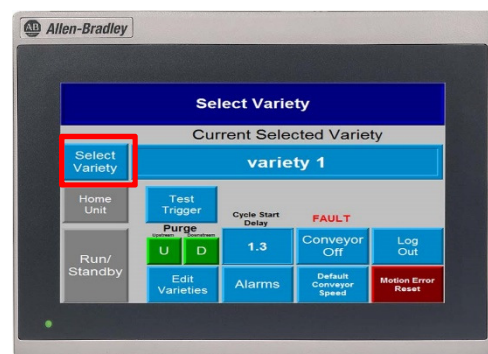
■ Daily Startup Procedure

Turn the main disconnect to the “ON” position and allow the display to boot up. This may take several minutes. Pull the “STOP” button to the “START” position.

Touch “Press To Start” on the operator display.

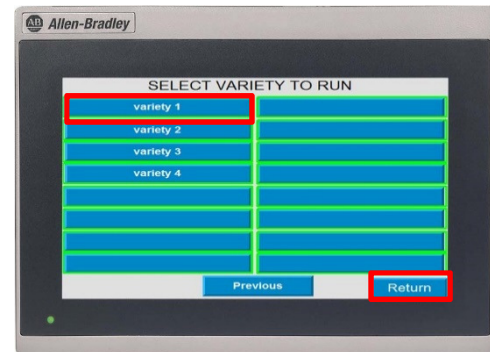


Verify the unit is in “Run” mode. Touch “Select Variety” to advance to screen shown in the next step.

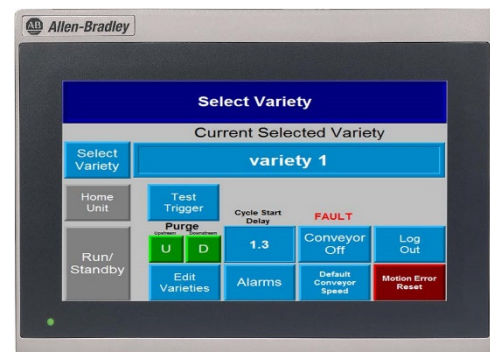


■ Daily Startup Procedure, continued

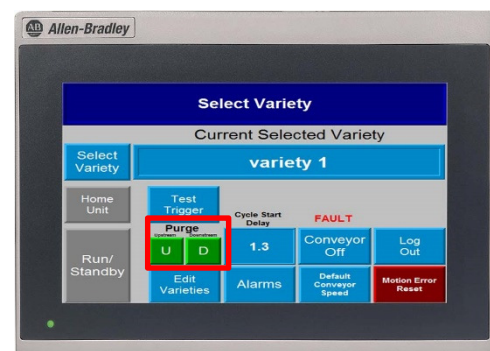
Press the button of the desired variety to select it and press “Return”.



When a variety is selected, the split rail(s) will move to the Home Offset value that was configured at setup.



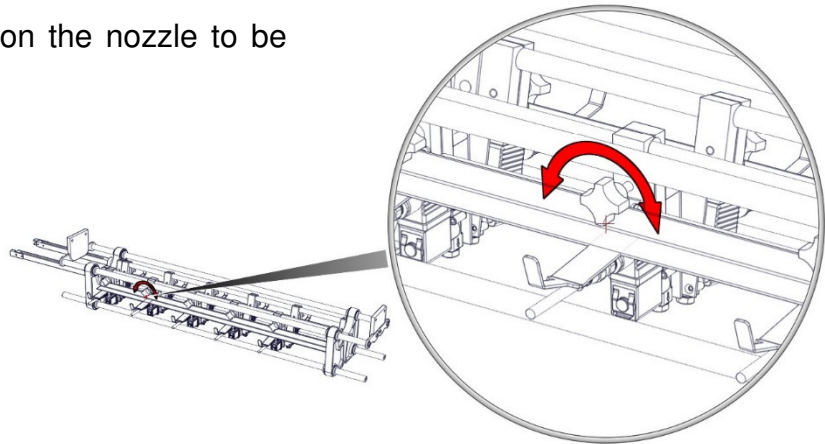
These buttons instruct the unit to actuate the Splitter nozzles while pressed. Purge unit, using the “U” and “D” buttons, until a clean stop/start of water split is established for each rail.



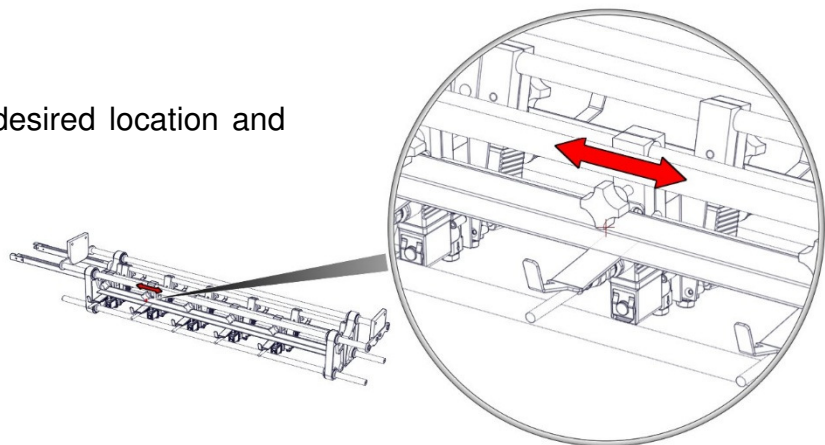
■ Adjust Nozzle Position

The nozzles can be adjusted laterally to place in the desired position relative to the cup of the pan. After the unit performs the Home Offset for the selected variety, the nozzles will need to be placed in the proper position designated for the variety. Rotate adjustment knob to loosen nozzle assembly on rail. Place in desired location according to supplied nozzle templates, and tighten. It is helpful to place an indicator for correct nozzle placement for each variety on the spray rails.

Rotate the adjustment knob on the nozzle to be repositioned.



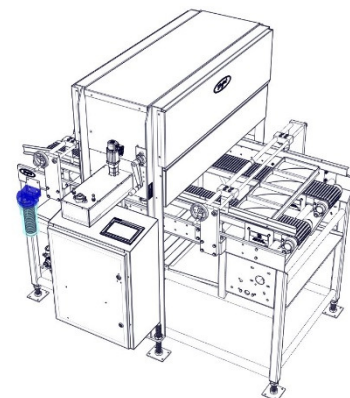
Move nozzle left or right to desired location and tighten adjustment knob.



Run a test pan to ensure proper coverage.

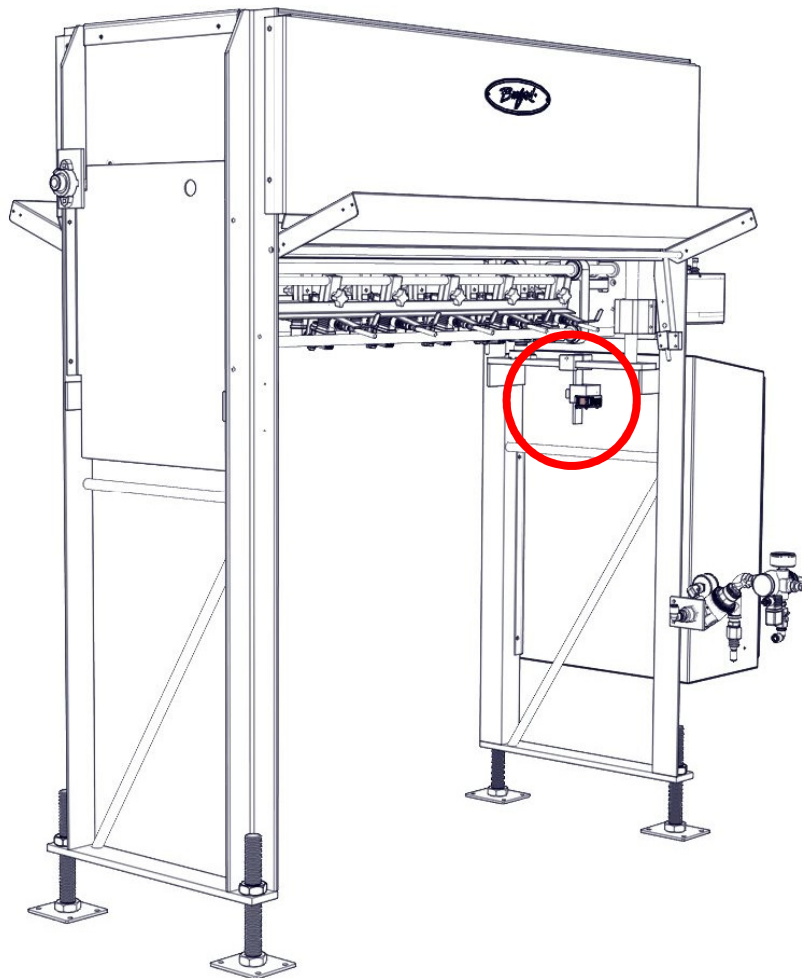
Adjust height of spray rail if needed.

Begin Production.



■ Pan Sensor

The Pan Sensor is used to signal when a pan has entered the Splitter area. Once a pan is sensed, the PLC initiates the split sequence specified on the control panel. The sensor is mounted beneath the split rail.

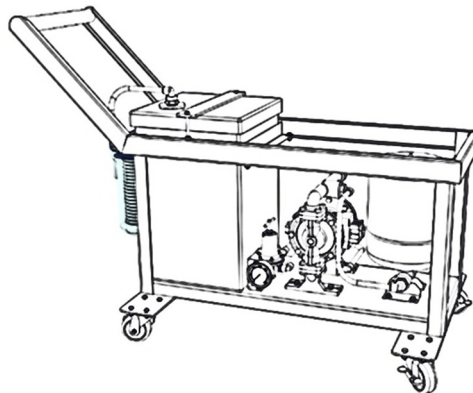


■ Pump Cart and Manifold Pressure

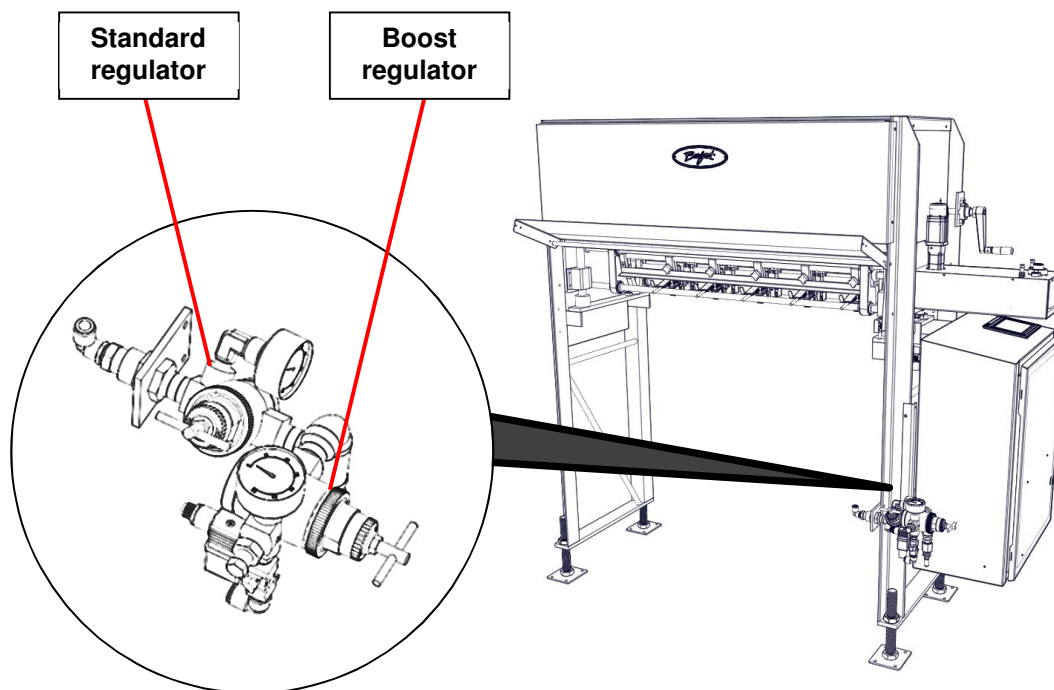
Pressure settings for the pump cart air pressure and the split rail fluid pressure are outlined below. There are two fluid regulators for this machine: one to control standard split rail pressure, and another provide amplified fluid pressure at the corners of the pan where dough tends to be lower than in the middle. Different dough will require changes in pressure settings to achieve the desired split depth. These settings are general and may differ from application to application.

Pump Cart Air Pressure: 80 psi max

Pump Cart Accumulator Pressure: 80% of operating psi



Split Rail Liquid Pressure: 25-35 psi for standard regulator/ 35-45 psi for boost regulator



Chapter 5

Maintenance

CHAPTER 5: MAINTENANCE

We strongly recommend the following be done periodically to ensure proper performance of your Burford® Splitter.

■ Recommended Weekly Maintenance

- ✓ Clean catch pans, empty catch tray (located beneath conveyor).
- ✓ Clean conveyor chain.
- ✓ Wipe off and clean Pan Sensor.
- ✓ Wipe off frame and conveyor.

■ Recommended Monthly Maintenance

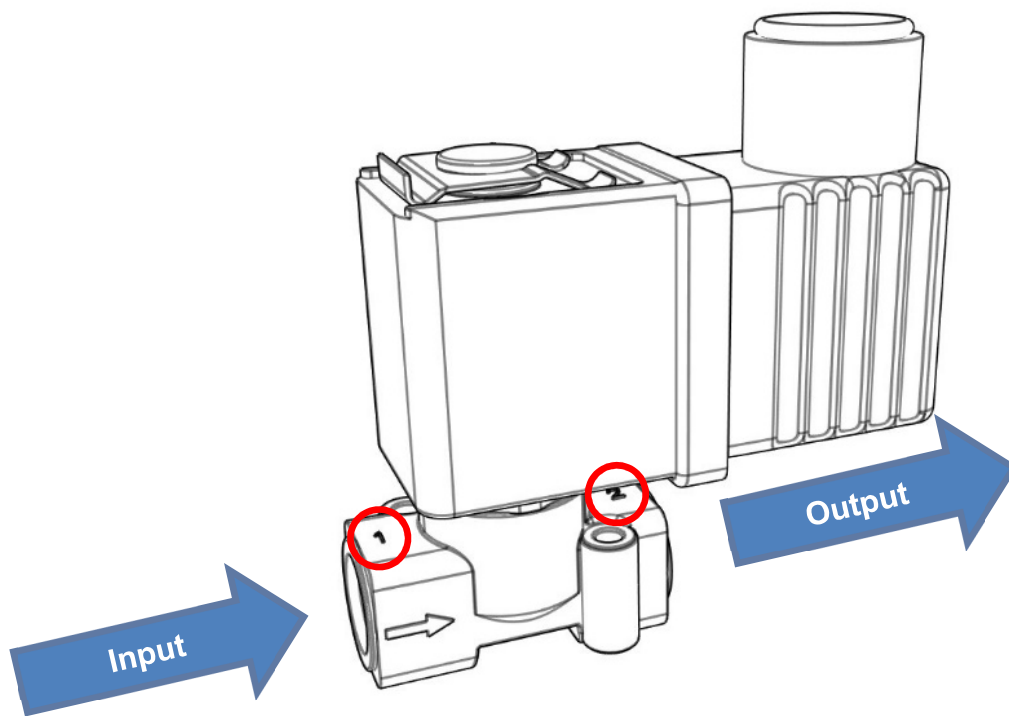
- ✓ Replace pump cart water filter.
- ✓ Remove all catch pans and catch trays from unit and thoroughly clean at a site away from the Splitter.
- ✓ Separate the conveyor chain and clean at a site away from the Splitter.
- ✓ Use compressed air to remove dust and debris from the Splitter.
- ✓ Use a soft cloth to clean observation windows on main covers.
- ✓ Wipe off frame and covers.

Do not use pressurized water near the unit. Damage or shock may occur.

Follow your facilities Lockout/Tag out procedures before beginning any maintenance or cleaning procedures.

■ Plumbing ASCO Valves (if equipped)

If your unit is equipped with ASCO valves it is important to the operation of the machine that they be plumbed correctly in order to optimize the flow of liquid through the valve. To properly plumb the valve, the input fitting should be connected to the “1” port as indicated on the valve. After securing the input fitting, the desired fitting may be fastened to the output port “2” (as indicated on the valve).



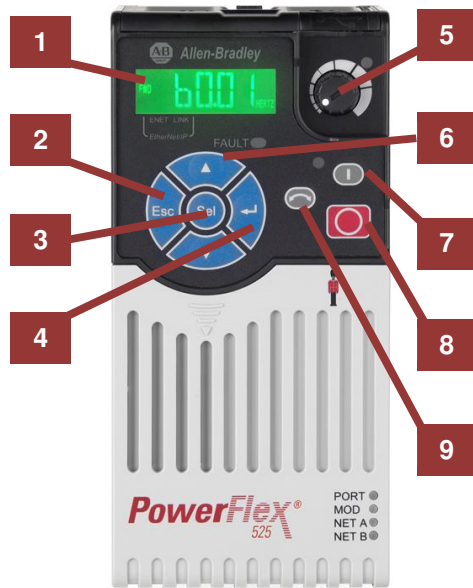
Note: It is recommended that some form of thread sealant be applied to fittings to ensure leaking does not occur.

Chapter 6

Settings & Adjustments

CHAPTER 6: SETTINGS AND ADJUSTMENTS

■ Drive Descriptions



This Burford® Unit is equipped with a Kinetix single axis EtherNet/IP servo drive to control the automation of the unit. The programmable motor controller is an example of the drives used. The unit may be equipped with a driver for an optional conveyor. The table below provides a brief description of the function keys for the Allen Bradley Driver. See supplied motor drive manual for information on the Kinetix.

REF	FUNCTION	DESCRIPTION
1	Display	Displays parameter groups and values. Also contains status LEDs. See accompanying owner manual for more information.
2	Escape	Back one step in programming menu. Cancels a change and exit programming mode.
3	Select	Advance one step in programming menu. Selects a digit when viewing parameter values.
4	Enter	Advance one step in programming menu. Save a change to a parameter value.
5	Speed Dial	Used to control speed of drive.
6	Scroll	Used to scroll through parameters or to increase/decrease parameter values.
7	Start	Used to start the drive.
8	Stop	Used to stop the drive or clear a fault.
9	Reverse	Used to reverse direction of drive.

■ Drive Settings

The motor controllers have been preset at Burford® Corp. for your particular application. The digital input function is used to configure the controllers for remote operation via the programmable logic controller and touch screen interface. See Drive Settings in Drawings and Parts for the settings of your unit.

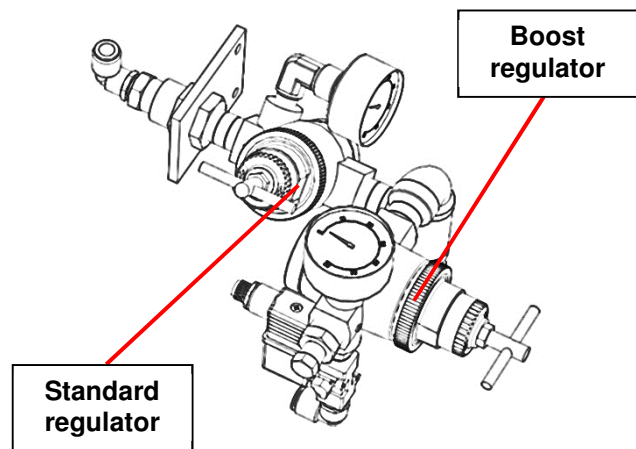
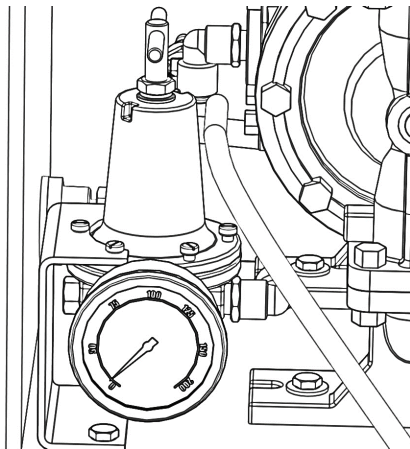
■ Water Pressure Settings

Pressure settings for the pump cart air pressure and the Split Rail fluid pressure are outlined below. Different dough will require changes in pressure settings to achieve the desired split depth. These settings are general and may differ from application to application.

Pump Cart Air Pressure: 80 psi max

Pump Cart Accumulator Pressure: 80% of operating psi

Split Rail Liquid Pressure: 25-35 psi for standard regulator/ 45-50 psi for boost regulator



Chapter 7

Troubleshooting

CHAPTER 7: TROUBLESHOOTING

■ Fault Light

The fault light is located on top of the control cabinet. It will flash when the processor detects a fatal motor drive fault. See the supplied motor drive owner manual for additional error code information.

Chapter 8

Drawings & Assemblies

CHAPTER 8: DRAWINGS & ASSEMBLIES

■ Recommended Spare Parts List

In order to prevent unnecessary down time, Burford® Corp. recommends the list of parts located in the Drawings and Parts section be kept in stock.

Contents

Recommended Spare Parts	1
Splitter Head Assembly	2
Splitter Nozzle Assembly	4
Motor Assembly	6
Conveyor Mount / Covers	8
Regulator Assembly	10
Pump Cart Assembly	12
Drive Settings	14
Electrical BOM	14-1
Electrical Ladder	16
Electrical Layout	18

Call 1-877-BURFORD or fax
405-867-4219 to order parts.

Proprietary

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Oklahoma and is confidential, provided only for reference.
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Drawings & Parts

Splitter Head Assembly 118569-100

Recommended Spare Parts

Please have the following machine information on hand before calling Burford®.

- Machine Voltage **480 Vac**
- Model Number **DPS1000BUL-SP**
- Serial Number **21057**

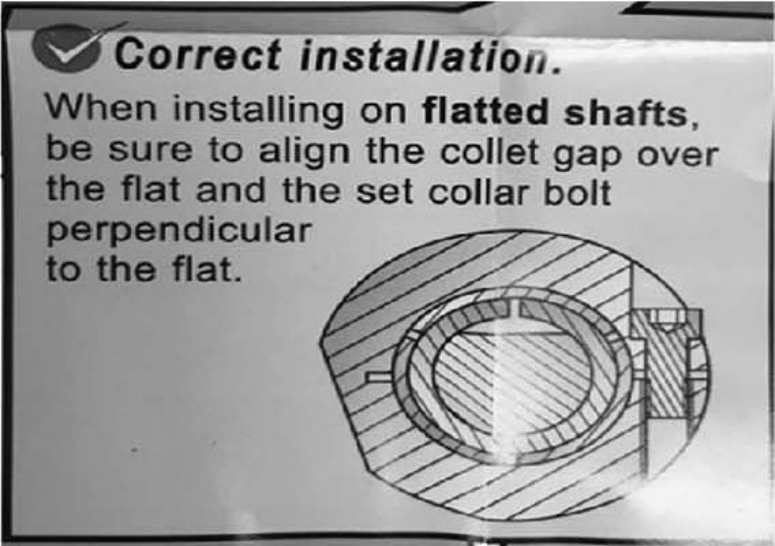
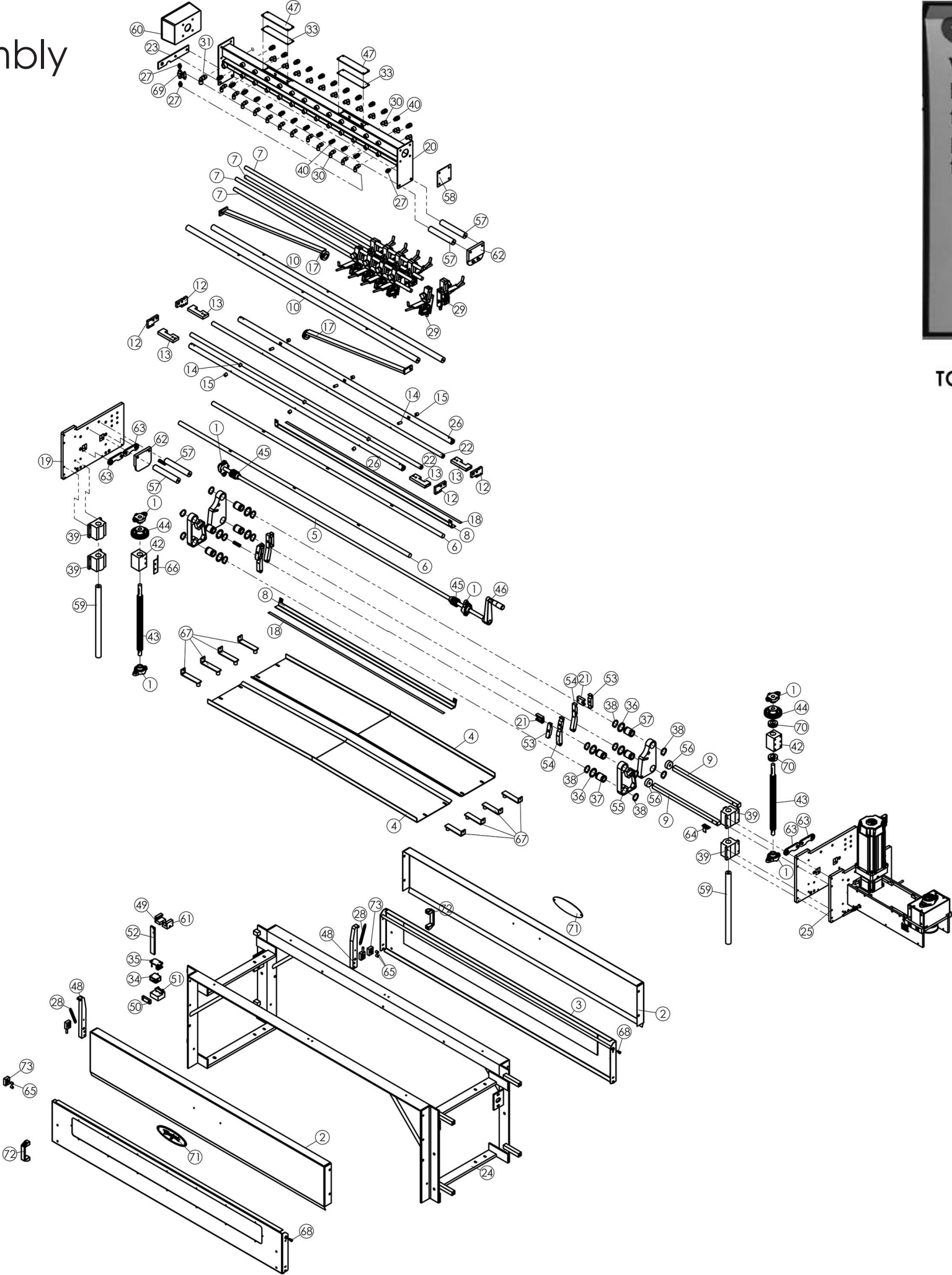
QTY.	PART #	DESCRIPTION
1	612196	Motor, VPL, DPS
1	610929	Power Supply,480VAC-24VDC,5A,3P
1	610913	Power Supply, 100-500VAC-24VDC, 10A
1	612405	Kinetix 5500,Driver,12.5A,480-phase
1	612323	Kinetix 5500, EMC Filter, 3-phase
3	304224-001	Prox. Sensor, 12mm, 10-30V, NC
2	C07062	Fuse, 20A, 600V
3	612520	Valve, 24VDC 2POS, H2O 1/8NPT,.17CV
3	611943	Connector, 24V Dincon, M12
1	612061	Laser Sensor, 2M
3	610404-001	Relay, Term Mtg, 24VDC, 6A, A/B
2	C00579	Replacement Water Filter
1	716365	Belt, Rwk 5MM HTD 25MM W x 1025MM PL

ITEM #	QTY.	PART #	DESCRIPTION	ITEM #	QTY.	PART #	DESCRIPTION
1	6	100380	BEARING, FLANGE 5/8, ENP	38	16	612202	SNAP RING, EXTERNAL, 1-1/4"
2	2	117781-204	CHANNEL, OUTER MAIN GUARD, DPS	39	4	612206	BEARING, PILLOWBLOCK, 1" DIA BORE
3	2	117781-205	LOWER COVER, W/ WINDOW	40	24	612207	CONNECTOR, STRAIN RELIEF
4	2	117781-213	CHANNEL, LWR DRIP TRAY, DPS	41	1	612308	ADHESIVE-BACK VERTICAL RULER
5	1	117781-214	SHAFT, CHASSIS HEIGHT DRIVE	42	2	711933	BLOCK, INNER CHASSIS, HEIGHT ADJ.
6	2	117781-215	SHAFT, LINEAR CHASSIS	43	2	711934	SHAFT, INNER CHASSIS, HEIGHT ADJ.
7	4	117781-216	TUBE, NOZZLE MNT ROD	44	2	711938	RWK, WORM GEAR
8	2	117781-217	A/W, SCALE MOUNT,DPS	45	2	711939	RWK, WORM STEEL, 5/8" B, 10 D.P.
9	2	117781-235	BAR, SLIDING GUIDE, DRIVE	46	1	711948	REWORK, CRANK HAND, V-SPLIT
10	2	117781-238	BAR, SHAFT STABILZER	47	2	712058	PLATE, TERMINAL MANIFOLD COVER
11	4	117781-239	SPACER, SHAFT STABILIZER	48	2	716540	LEVER ARM
12	4	117781-241	BLOCK, LOWER STABILIZER MNT.	49	1	716549	CLAMP OUTER HALF
13	4	117781-242	BLOCK, STAB. MNT. 2	50	1	716567	CLAMP BAR
14	6	117781-243	SPACER, SHAFT STABILIZER	51	1	716742	SENSOR MOUNT BLOCK
15	6	117781-244	SPACER, STABILIZER SHAFT MNT.	52	1	716743	VERTICAL ARM
16	1	117781-248	BAR, TOP BAR TIE	53	4	716922	BLOCK, CLAMP
17	2	117781-257	A/W, BRACE	54	4	716923	BLOCK, HINGE
18	2	117781-403	ADHESIVE-BACK VERTICAL RULER	55	4	716924	END BLOCK
19	1	117781-717872	PLATE, MOTOR MNT. SIDE, DPS	56	2	716925	SPACER
20	1	118569-101	A/W, MANIFOLD, 12 PORT, DPS	57	4	716927	LONG SPACER
21	2	118569-104	BLOCK, BELT CLAMP DPS BELT	58	1	716947	END COVER
22	2	118569-110	SHAFT, LINEAR CHASSIS	59	2	716949	SHAFT, LINEAR HEIGHT ADJ.
23	1	118569-116	ARM, VALVE MOUNT	60	1	716950	ENCLOSURE BOX
24	1	118569-120	A/W, MAIN FRAME, DPS1000S	61	1	716971	CLAMP INNER HALF
25	1	118569-121	ASSY., MOTOR DPS 5MM HTD BELT	62	2	716973	PLATE, DUAL PIN
26	2	118569-208	SHAFT, LOWER STABILZER	63	4	716974	ARM, SHAFT FLOATING
27	3	119534	FITTING,CONN,1/8MPT X 1/4T,ENP,Q.R.	64	2	717889	BRACKET, SENSOR FLAG, DPS
28	2	152192	SPRING EXTENSION	65	4	717930	SPACER, .38 OD x .19 ID x .438L,SS
29	10	211713	ASSY, NOZZLE V-SPLITTER NEW	66	1	717936	BRACKET, SCALE POINTER, DPS
30	24	610602	FITTING, ELL, 1/4NPT X 1/4T,ENP,Q.R	67	8	718126	A/W, DRIP PAN BRACKET, DPS
31	1	610826	FITTING, ELL, 3/8NPT X 3/8T, ENP, Q.R	68	4	978308	SCREW SOC HD CAP 1/4-20 X 1/2 SST
32	2	610836	SPRING, COMPRESSION, .48 OD X 1.63 L	69	1	A06866	VALVE PURGE ON/OFF SERVICE
33	2	611534	GASKET, TERMINAL MANIFOLD COVER	70	2	A07859	COLLAR, 2 PC, 1" SST
34	1	612061	SENSOR, KEYENCE LASER DISTANCE, 2M	71	2	A08049	NAMEPLATE,BURFORD LOGO,LARGE
35	1	612062	COVER, KEYENCE LASER PROTECT, 2M	72	2	C04663	HANDLE
36	8	612200	SS SHIM, 1.75 O.D. X 1.26 I.D. X .048 THK	73	2	C07678	SENSOR,INTLK,CODED MAGNETIC SAFETY
37	8	612201	BEARING, LINEAR, 3/4" I.D.				

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Splitter Head Assembly

118569-100



TORQUE SPECIFICATIONS 19in/IBS OR 2.1 Nm

Splitter Nozzle Assembly

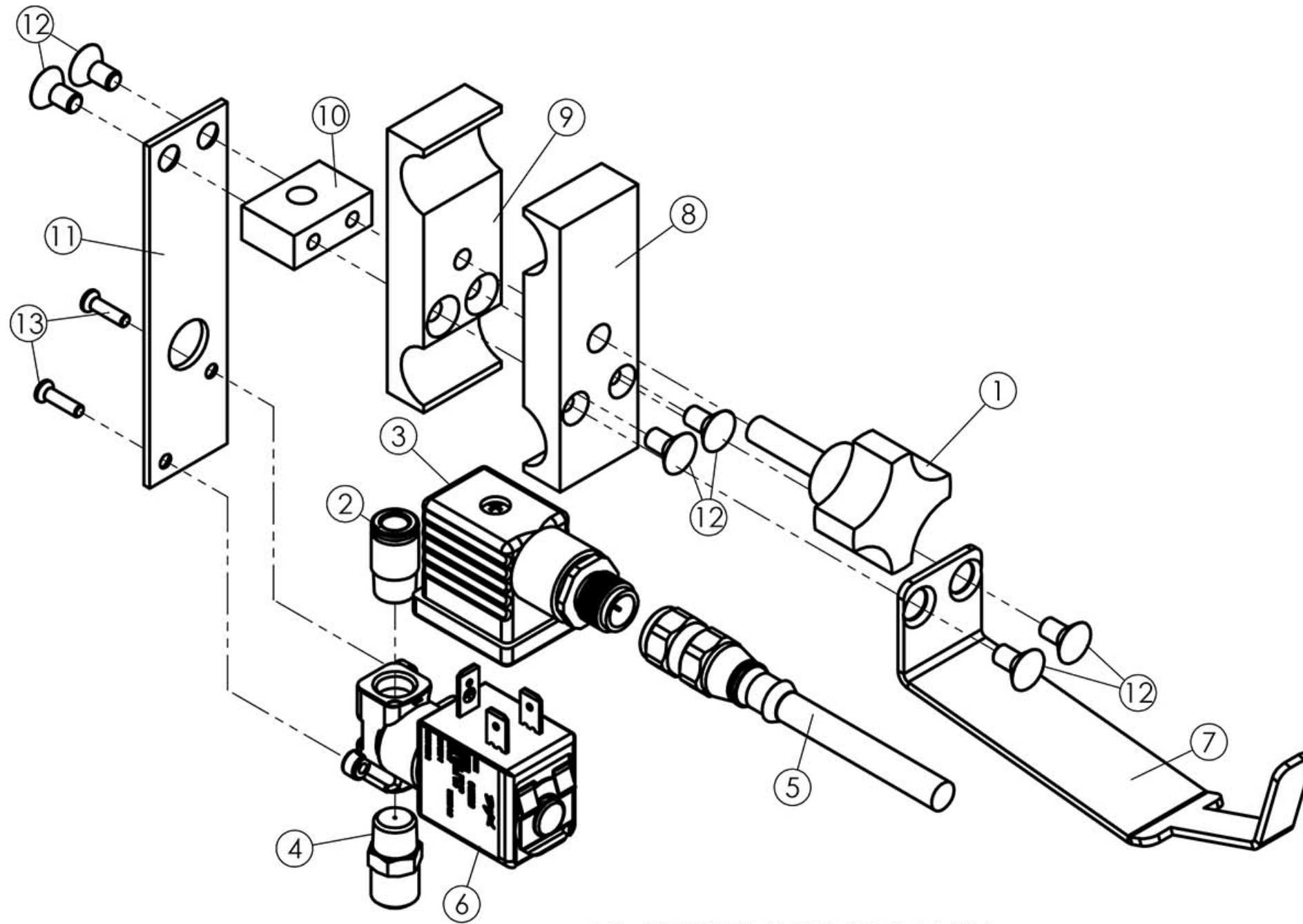
211713 Rev A

ITEM #	QTY.	PART #	DESCRIPTION
1	1	610915	KNOB, PLASTIC 1/4-20 X 1 SST
2	1	610966	FITTING,CONN,1/8NPT x 1/4T, Q.R.,HEX
3	1	611943	CONNECTOR, 24V VALVE DINCON M12
4	1	612018	TIP, SPLIT, BETE, .020", 1/8" NPT
5	1	612205	CABLE,SENSOR,M12,5WIRE,F,QC,STR
6	1	612520	VALVE, 24VDC 2POS, H2O 1/8NPT,.17CV
7	1	716917	GUIDING BRACKET
8	1	716918	BLOCK, NOZZLE MNT
9	1	716919	BLOCK, NOZZLE MNT THREADED
10	1	716920	BRACKET SPACER
11	1	716921	NOZZLE, BRACKET
12	6	982306	SCREW FLT HD SOC #10-24 X 3/8 SST
13	2	MC0312	SCREW, FLAT HD, 3 X 12 MM

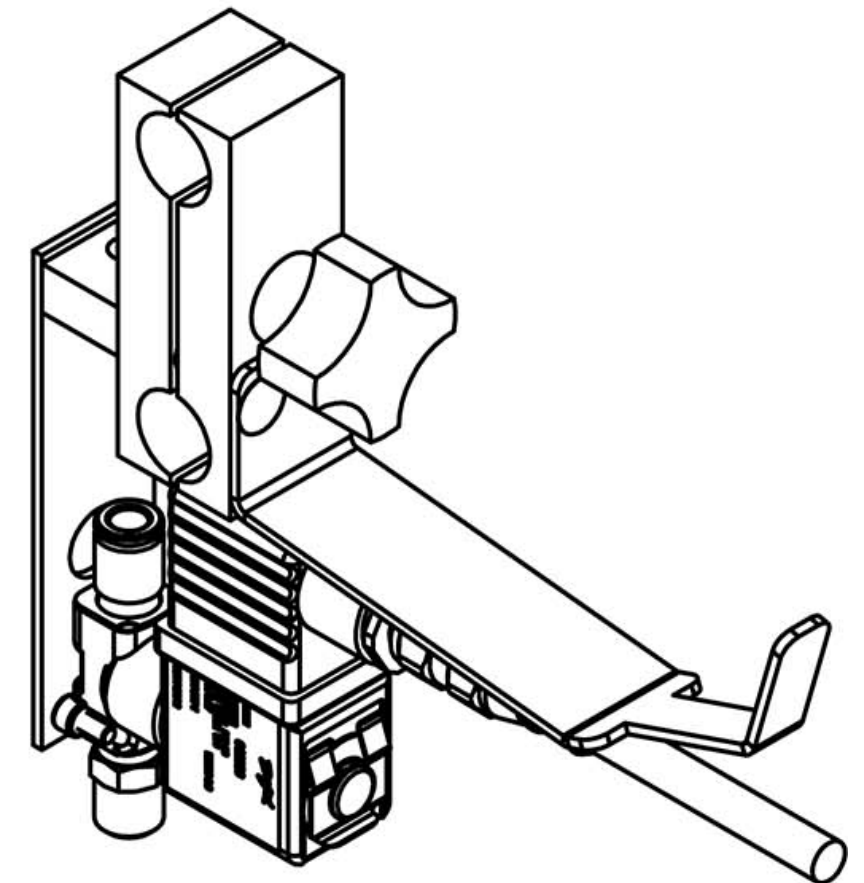
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Splitter Nozzle Assembly

211713 Rev A



FLOW THRU VALVE
INPUT: PORT 1
OUTPUT: PORT 2

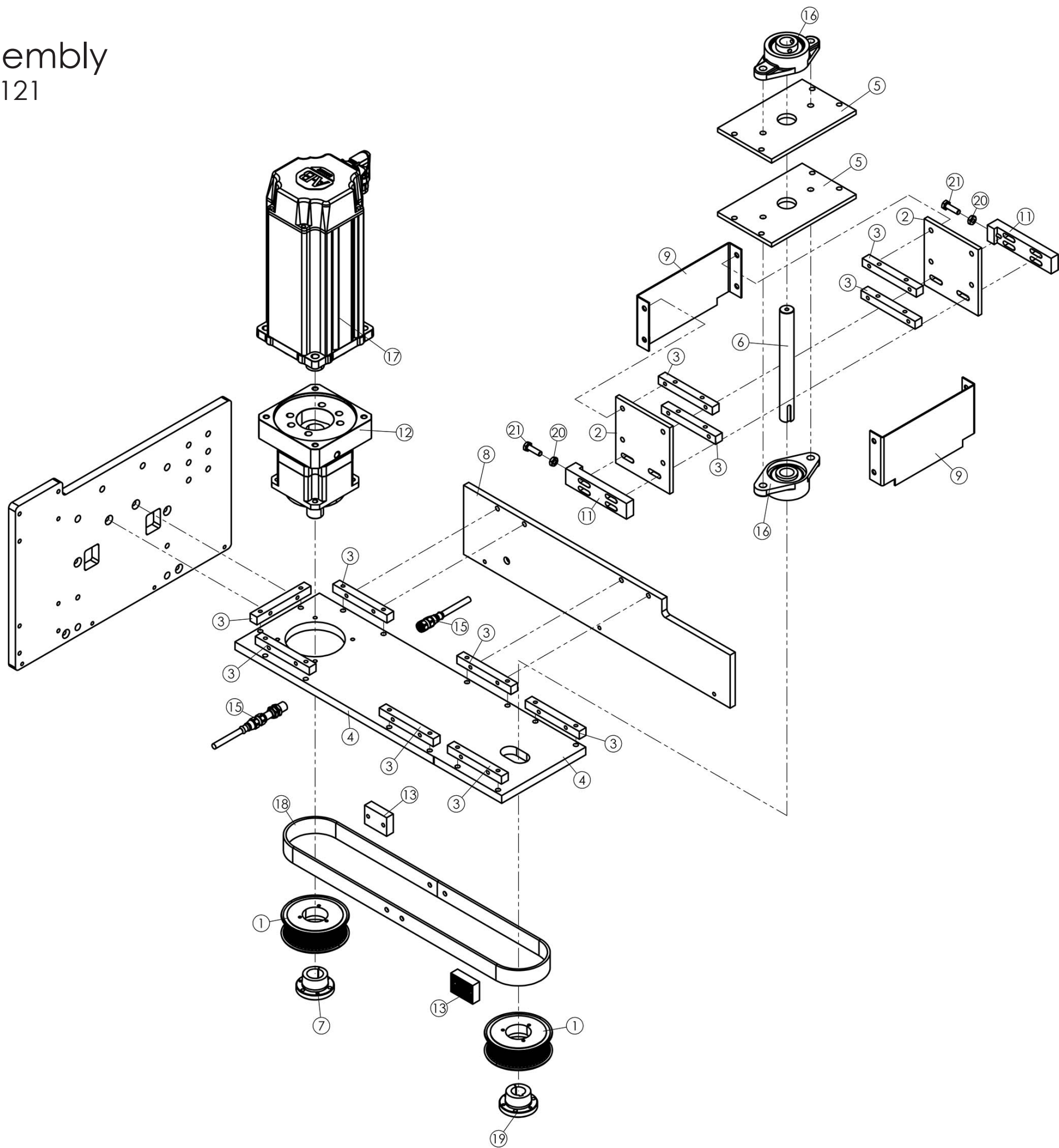


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Motor Assembly
118569-121

ITEM #	QTY.	PART#	DESCRIPTION
1	2	117781-221	REWORK, PULLEY 5MM HTD 52T 25MM
2	2	117781-222	PLATE, BEAR. MNT DPS BELT
3	11	117781-223	BLOCK, BEAR MNT DPS
4	1	117781-224	PLATE, MTR MNT DPS BELT
5	2	117781-225	PLATE, MAIN BEAR. MNT DPS BELT
6	1	117781-226	SHAFT, MAIN DRIVE DPS BELT
7	1	117781-227	REWORK, BUSHING 22MM BORE
8	2	117781-229	PLATE, SIDE DPS BELT
9	2	117781-232	GUARD, DPS BELT DRIVE UPPER
10	1	117781-233	GUARD, DPS MAIN LOWER
11	2	117781-237	BLOCK, BELT TENSION
12	1	117781-410	GEARBOX,PLANETARY
13	2	118569-105	BLOCK, BELT CLAMP DPS BELT
14	2	304224-001	SENSOR,PROX,12MM,10-30V,PNP,NC/O
15	2	304430	CABLE,SENSOR,M12,5WIRE,F,QC,STR
16	2	611387	BEARING, 3/4", 2 BOLT FLANGE, SST
17	1	612196	MOTOR,VPL DPS
18	1	716365	BELT RWK 5MM HTD 25MM W X 1025MM PL
19	1	717615	REWORK, BUSHING, QD JA .75 BORE
20	2	955409	NUT JAM 1/4-20 UNC
21	2	989914	SCREW FIN HEX 1/4-20 X 7/8 SST

Motor Assembly
118569-121

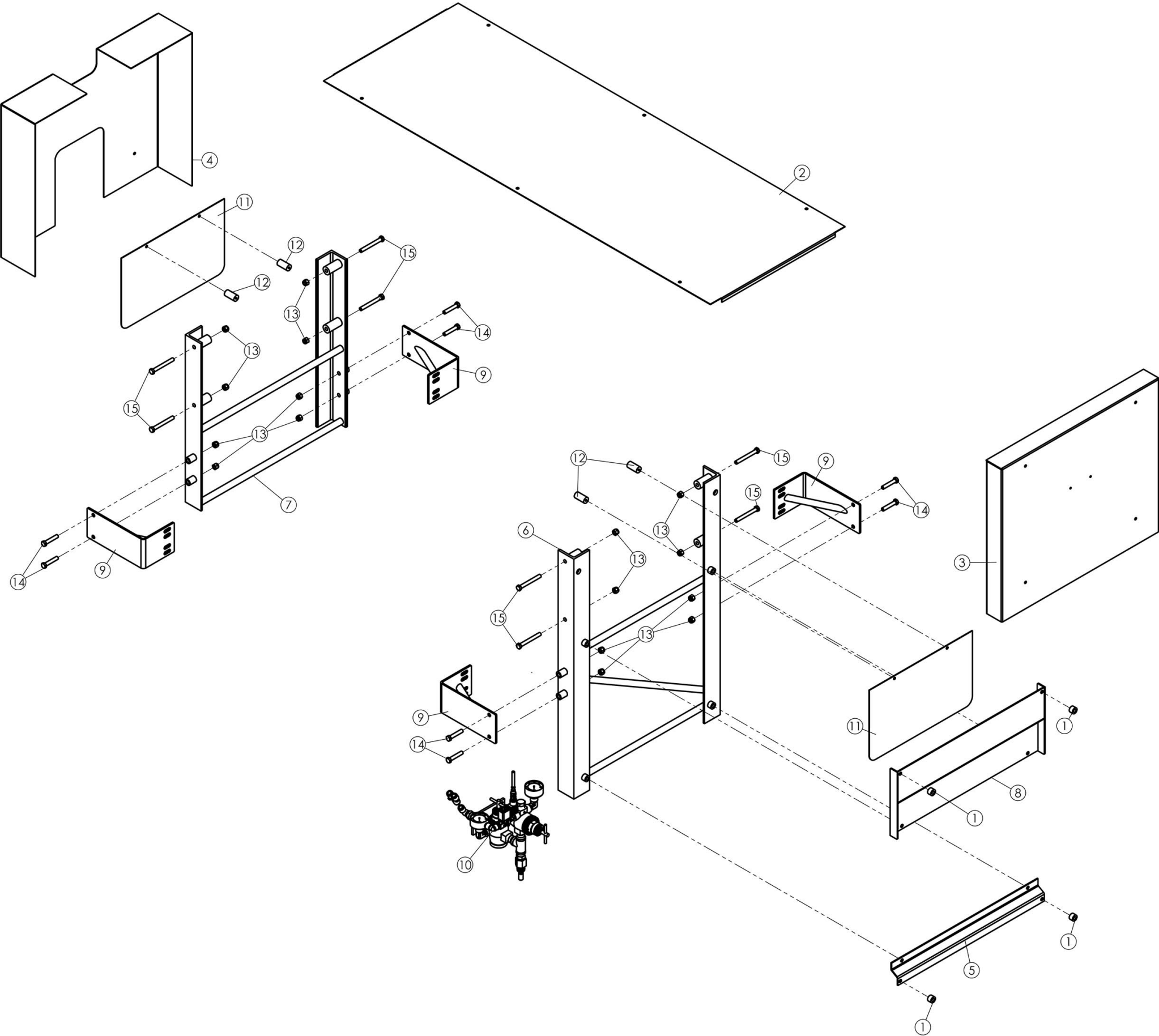


Conveyor Mount / Covers 118569-200

ITEM #	QTY.	PART #	DESCRIPTION
1	4	101136	SPACER, .75 OD x .38 ID x .50 L
2	1	117781-219	COVER, TOP SIDE, DPS
3	1	118569-106	COVER, NON MOTOR SIDE, DPS
4	1	118569-107	COVER, MOTOR SIDE, DPS
5	1	118569-108	BRACKET, ENCLOSURE MOUNT, DPS
6	1	118569-115	A/W,CONVEYOR ELEC. MNT. UPRIGHT,DPS
7	1	118569-119	A/W,CONVEYOR MNT UPRIGHT,DPS
8	1	118569-123	A/W, ELECTRICAL BOX MNT.
9	4	118569-205	A/W,DPS,CONV. MTG. BRKT,48" CONV.
10	1	211608	ASS'Y,REGULATOR,DPS1000
11	2	717880	COVER, DPS END
12	4	717935	STANDOFF, SPLASH GUARD MOUNT
13	16	955620	NUT HEX NYLOC 3/8-16 UNC SST
14	8	988932	SCREW FIN HEX 3/8-16 X 2 SST
15	8	988952	SCREW FIN HEX 3/8-16 X 3 1/4 SST

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Conveyor Mount / Covers
118569-200

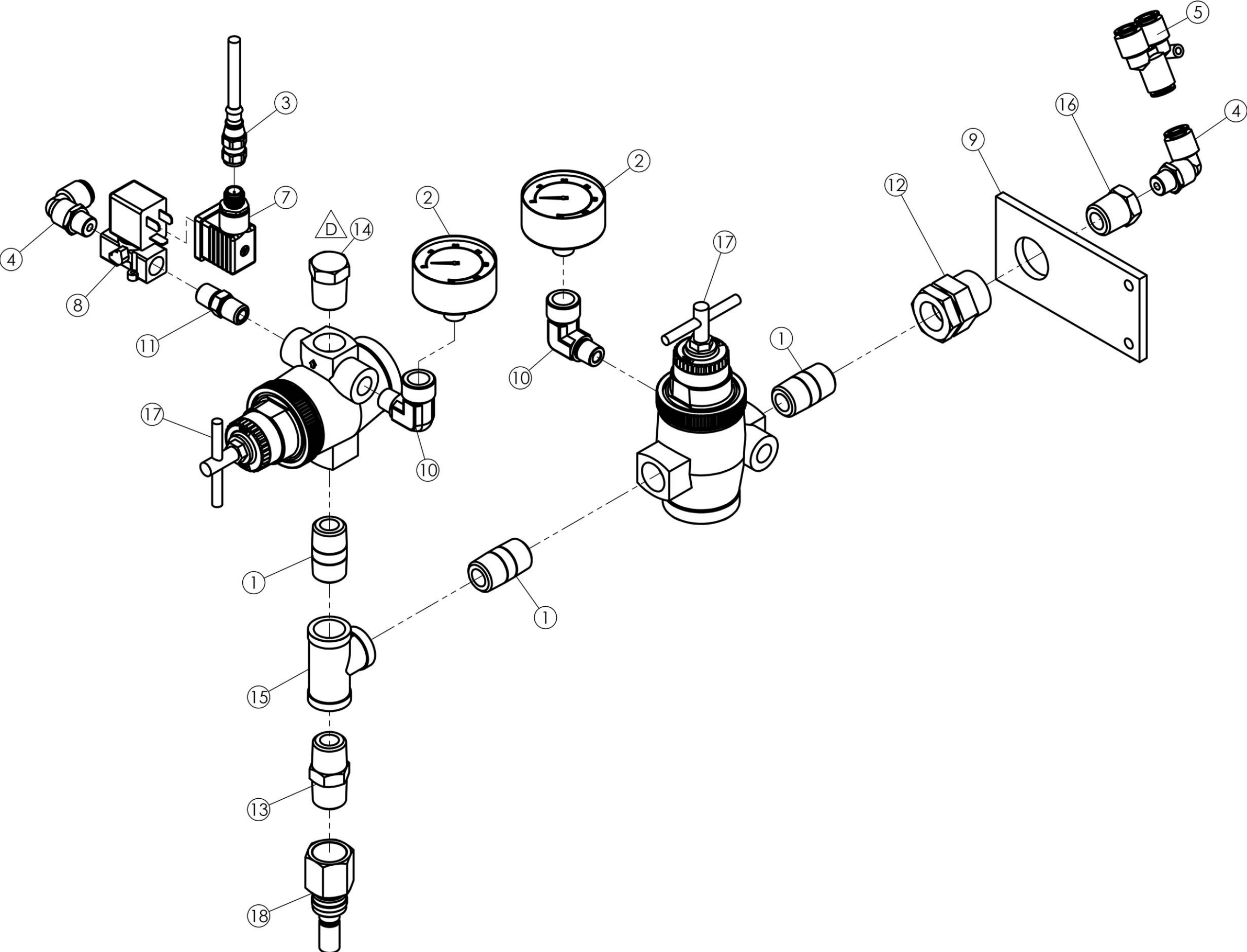


Regulator Assembly
211608 Rev D

ITEM #	QTY.	PART#	DESCRIPTION
1	3	110426	FITTING,NIPPLE,CLOSE,1/2 NPTM,BRS
2	2	118873	GAUGE,0-60 PSI,1/4 NPT,BACK MT,BRS
3	1	304430	CABLE,SENSOR,M12,5WIRE,F,QC,STR
4	2	610505	FITTING,ELL,1/4NPT X 3/8T, ENP, Q.R
5	1	610509	FITTING, UNION, "Y", 3/8 TUBE, Q.R.
6	12'	610886-05	TUBING, 3/8" POLYURETHANE, YELLOW
7	1	611943	CONNECTOR, 24V VALVE DINCON M12
8	1	611944	VALVE, SOL SS 1/4 NPT 2 WAY 6.9VDC
9	1	717951	BRACKET, BULKHEAD
10	2	A06857	FITTING,STREET ELL,1/4M X 1/4F,SST
11	1	A06878	FITTING,NIPPLE,HEX,1/4 NPTM,SST
12*	1	C00970	BULKHEAD FITTING 1/2"
13	1	C01018	FITTING,NIPPLE,HEX,1/2 NPTM,SST
14	1	C01920	FITTING, PLUG, 1/2" NPT, SST
15	1	C01924	FITTING, TEE, 1/2 NPTF, SST
16	1	C01951	FITTING, 1/2NPT X 1/4FPT REDUCING BUSHING
17	2	C07621	VALVE, WATER REGULATOR, 1/2NPT
18	1	C07622	FITTING,QC,STEM,LIQ,1/2 NPTF,SST

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Regulator Assembly
211608 Rev D

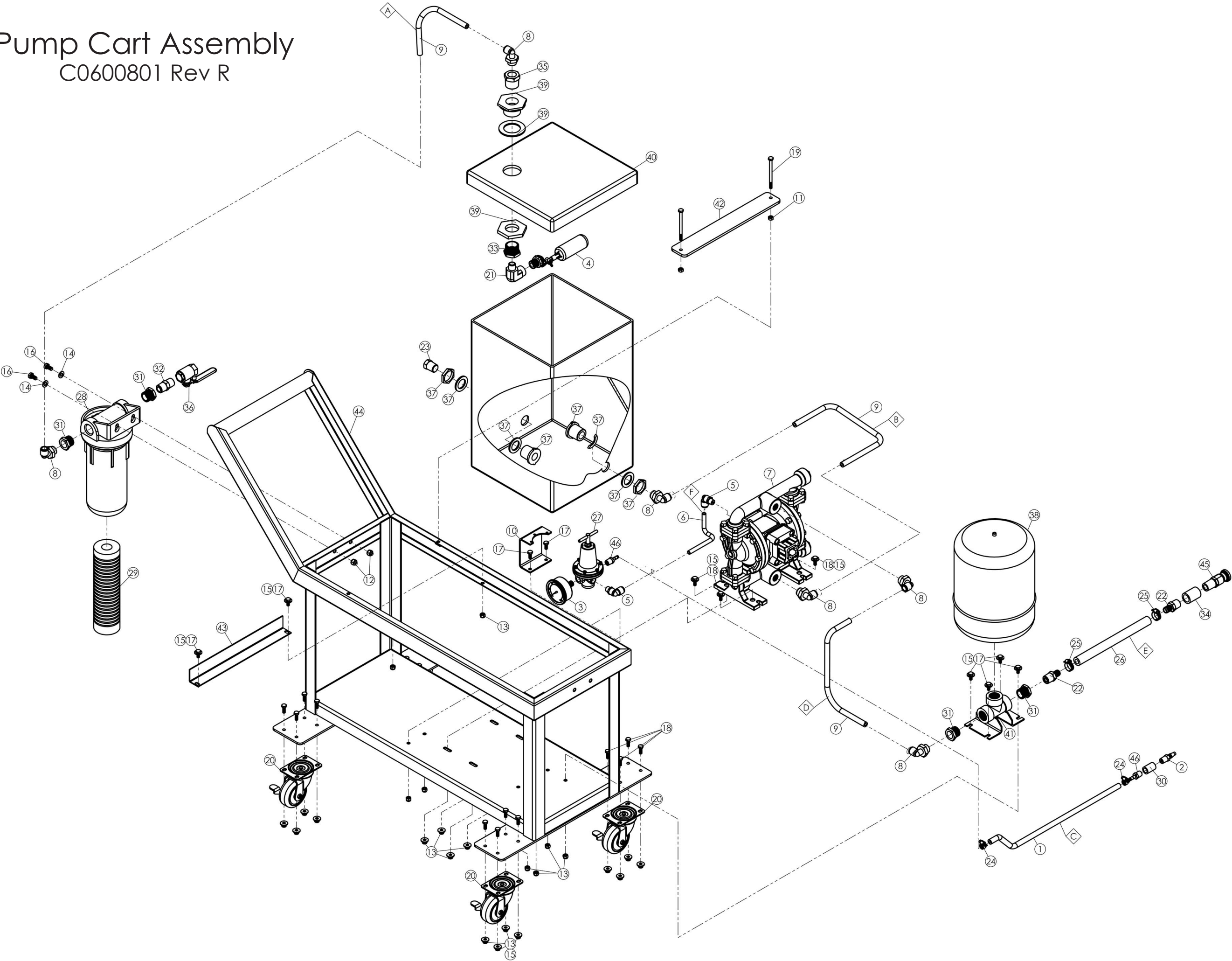


Pump Cart Assembly
C0600801 Rev R

FOLD OUT TO VIEW DRAWING

ITEM #	QTY	PART#	DESCRIPTION	ITEM #	QTY	PART#	DESCRIPTION
1	23'	103878	HOSE, AIR 1/4" DIA NEOPRENE	24	2	C00414	CLAMP 1/4" TO 5/8" SST
2	1	118871	FITTING,QC,STEM,AIR,1/4 NPTM	25	2	C00415	CLAMP #6 STAINLESS HOSE
3	1	303674	GAUGE 0-200 PSI 1/4 NPT BACK MT SST	26	24'	C00435	HOSE, 1/2" VINYL W/ POLYESTER
4	1	305716	FLOAT VALVE MINI ADJ 1/2"	27	1	C00537	REGULATOR, AIR, 1/4 NPT PORTS
5	2	610505	FITTING,ELL,1/4NPT X 3/8T, ENP, Q.R	28	1	C00578	FILTER, WATER, 3/4" NPTF
6	3'	610886-07	TUBING, 3/8" POLYURETHANE, CLEAR	29	1	C00579	FILTER REPLACEMENT # AP110
7	1	611121	PUMP, AIR POWERED DBL DIAPHRAGM	30	1	C00900	FITTING,COUPLING,1/4 NPTF,SST
8	6	611343	FITTING,ELL,1/2NPT X 1/2,ENP,Q.R.	31	4	C01013	FITTING, REDUCER, 3/4MPT X 1/2FPT, SST
9	5'	611350-05	TUBING,1/2" POLYURETHANE,YELLOW	32	1	C01018	FITTING,NIPPLE,HEX,1/2 NPTM,SST
10	1	713714	REGULATOR BRACKET, PUMP CART	33	1	C01958	FITTING,REDUCER,1" MPT X 3/8FPT,SST
11	2	955409	NUT HEX JAM 1/4-20 UNC SST	34	1	C03613	FITTING,COUPLING,1/2 NPTF,SST
12	2	955619	NUT HEX NYLOC 5/16-18 UNC SST	35	1	C05339	FITTING, REDUCER, 1" x 1/2" PVC
13	28	955661	NUT HEX NYLOC 1/4-20 UNC SST	36	1	C05431	VALVE, 1/2 NPT 2-WAY, BALL, SST
14	2	955976	WASHER FLAT 5/16 SST	37	2	C05576	FITTING, 1/2 NPT BULKHEAD, PL.
15	30	955977	WASHER FLAT 1/4" SST	38	1	C06171	TANK, WATER RECHARGER
16	2	989710	SCREW FIN HEX 5/16-18 X 5/8 SST	39	1	C06174	FITTING, BULKHEAD 1" POLY
17	8	989910	SCREW FIN HEX 1/4-20 X 5/8" SST	40	1	C06176	RWK, TANK & COVER
18	20	989912	SCREW FIN HEX 1/4-20 X 3/4" SST	41	1	C06183	TEE MOUNT A/W
19	2	989956	SCREW FIN HEX 1/4-20 X 3 1/2 SST	42	1	C06195	PLATE, COVER CLAMP
20	4	A04225	CASTER, 3" LOCKING/SWIVEL, 145#	43	1	C06196	BRACKET, UPPER TANK
21	1	A06856	FITTING, REDUCING ELL 1/2F X 3/8M SS	44	1	C06200	A/W, TANK BASE
22	2	A06859	FITTING, 1/2MPT X 1/2 TUBE	45	1	C07623	QUICK CONNECT BODY, 1/2 MPT
23	1	A07726	FITTING, PLUG 1/2" PVC	46	2	C01953	FITTING,HOSE BARB,1/4MPT X 1/4H,SST

Pump Cart Assembly
C0600801 Rev R



FOLD OUT TO VIEW DRAWING

Drive Settings/ Electrical Schematics

Drive Settings

Parameters not listed below should remain at the manufacturer's default values. Verify the Inverter that is installed in your unit before checking the settings below.

KINETIX SINGLE AXIS ETHERNET/IP SERVO DRIVE	
STATUS INDICATOR	DESCRIPTION
Hx.xx	Hardware revision. For example, H2.00.
Fx.xx	Firmware revision. For example, F2.06.
dHCP	Ethernet DHCP Configuration: 0='dhcp' is disabled; 1='dhcp' is enabled. = 0
IP_1	Modify the first octet of the IP address. = 192
IP_2	Modify the second octet of the IP address. = 168
IP_3	Modify the third octet of the IP address. = 16
IP_4	Modify the fourth octet of the IP address. = 204
nEt1	Modify the first octet of the netmask. = 255
nEt2	Modify the second octet of the netmask. = 255
nEt3	Modify the third octet of the netmask. = 0
nEt4	Modify the fourth octet of the netmask. = 0
gat1	Modify the first octet of the gateway.
gat2	Modify the second octet of the gateway.
gat3	Modify the third octet of the gateway.
gat4	Modify the fourth octet of the gateway.

*Power cycle inverter for any changes to take affect.

Electrical BOM

118569-WD

118569-900 ASSY, MAIN ELEC ENCLOSURE				
REF	SYMBOL	P/N	QTY.	DESCRIPTION
1	CB1	C07650-310	1	CIRCUIT BREAKER,600V,10, TRIPLE-POLE
3	CB3	C07650-303	1	CIRCUIT BREAKER,600V,3AMP, TRIPLE-POLE
	CB4	C07650-302	1	CIRCUIT BREAKER,600V,2AMP, TRIPLE-POLE
	CB5	C07649-005	1	CIRCUIT BREAKER,600V,5AMP, DIN-MTG
4	CB6	C07649-010	1	CIRCUIT BREAKER,600V,10AMP,DIN-MTG
5	ECBL1,2	304502	2	CABLE,YELLOW PATCH,2' SHIELDED
6	ECBL3,4	304502-003	2	CABLE,YELLOW PATCH,3' SHIELDED
7	CBL5	612181-005	REF	CABLE,MOTOR,KINTX5500,PWR-FEED,5M
8	CR1,2,3	610404-001	3	RELAY,TERM MTG,24VDC,6A,1PDT A/B
9	CR1,2,3 P/O	610387-001	3	RELAY,TERM MTG,SEPARATION PLATE A/B
10	DISP1	612563	1	PLC,DISPLAY,PANELVIEW PLUS 7,TCH,ETH,6.5"
11	DRV1	612405	1	KINETIX 5500,DRIVER,12.5A,480-PHASE
12	ENCL1	118569-901	1	ENCLOSURE,REWORK W/ARC (118569-415)
13	ENCL1 P/O	611811	1	LOCK, COVER, 1/4 TURN
14	EXC1	610741-001	1	HEAT EXCHANGER, 24VDC UL APPROVED
15	EXC1 P/O	611163	1	HEAT EXCHANGER,AIR FILTER,HOUSING
17	FLTR1	612323	1	KINETIX 5500, EMC FILTER, 3 PHASE
18	FU4-6	C07062	3	FUSE,LPCC,20A,600V,13/32 X 1-1/2
	FB4-6	C07076-001	3	FUSE,HOLDER,AC,600V,13/32X1-1/2,IND
21	GND	C06488	1	LUG,GROUNDING,ENCLOSURE
22	HUB1	304500	1	PLC,ETHERNET MODULE,HIRSCHMANN
23	LT1	611226	1	LIGHT, TREE,24V(RD,YL,BU,GN,HN)SIDE
24	PB1	C07715	1	SWITCH,PUSH/PULL,RED MUSHROOM 800T
25	PB1 P/O	C05397	1	NAMEPLATE,PUSH STOP/PULL START 800T
26	PB1 P/O	111659	1	SWITCH,CONTACT CARTRIDGE 800T
27	PB2	C07205	1	SWITCH,PUSHBUTTON,BLUE
28	PB2 P/O	C07208	1	NAMEPLATE,RESET (800T)
29	PLC1	612020	1	PLC,COMPACTLOGIX,L18ERM,512KB
30	PLC1 P/O	612183	1	PLC, COMPACTLOGIX, FDP MODULE
31	PLC1 P/O	612184	3	PLC,COMPACTLOGIX,OUTPUT MODULE 80U
32	PLC1 P/O	612224	3	PLC,COMPACTLOGIX I/O TERMINAL BASE
33	PNL1	118569-902	1	PANEL,REWORK (118569-416)
34	PSM2	610913	1	POWER SUPPLY,480VAC-24VDC,10A,3PH
35	PSM1	610929	1	POWER SUPPLY,400-500VAC-24VDC,5A,3P
35	SUP1-24	C05724	24	VARISTOR,SURGE,125A,25VAC,31VDC
36	SUP1-24 P/O	C07113	24	TERMINAL,DIODE,RECEPTACLE
37	SUP1-24 P/O	C07114	24	TERMINAL,DIODE,COMPONENT,PLUG
38	SUP1-24 P/O	C07115	2	TERMINAL,DIODE,END COVER
39	SR1	611423	1	RELAY,SAFETY MONITORING MODULE
40	TB1 P/O	C05843	232	TERMINAL,STRIP,MARKER,BLANK
41	TB1 P/O	C06463	5	TERMINAL,JUMPER,10-POLE
42	TB1,2,3 P/O	C06464	42"	TERMINAL,DIN RAIL
43	TB1,2,3 P/O	C06465	12	TERMINAL,ANCHOR,ENDCLAMP, A/B
44	TB1 P/O	C06525	7	TERMINAL,GROUNDING
45	TB1 P/O	C07117	59	TERMINAL,BLOCK,DUAL
46	TB1 P/O	C07118	6	TERMINAL,END COVER,DUAL
47	DISC1 P/O	211208	1	KIT, VOLTAGE TEST MONITOR
48	T1	118569-411	1	TRANSFORMER,100VA,200/600VAC,INT
49	T1 P/O	118569-412	1	COVER,TRANSFORMER,FUSE
50	FU7	118569-413	1	FUSE,LPCC,1/2A,600V,13/32 X 1-1/2
51		C07687	2'	DUCT,WIRE,1.25"X1.625" WHITE
52		C07689	2'	DUCT,WIRE,COVER,1.25" WHITE
53		113320	1	DECAL,440/460/480 VOLTS,3 PHASE
54		C07695	1	DECAL, LIGHTNING BOLT
55		611909	3	TERMINAL,INSERT BRIDGE,10-POS,MINI
56	ACO	611662-001	1	CONNECTOR,ETHERENET,120 GFCI PLUG,3A
ASSEMBLY DPS1000 FRAME*MOD				
REF	SYMBOL	P/N	QTY.	DESCRIPTION
1	ENCL2	612203	1	ENCL. 6 7/8X4 1/2X3 1/16, CAST ALUM
2	INTLK1,2	C07678	1	SENSOR,INTLK,CODED MAGNETIC SAFETY
3	INTLK1,2	C07679	1	SENSOR,INTERLOCK,ACTUATOR MAGNET
4	MTR1	117781-402	1	MOTOR,SERVO,VPL
5	PRS2,3,4 P/O	304224-001	3	SENSOR,PROX,12MM,10-30V,PNP,NC/O TK
6	PRS2-4,PSC1	304430	4	CABLE,SENSOR,M12,5WIRE,F,QC,STR
7	PSC1	612061	1	SENSOR, KEYENCE LASER DISTANCE, 2M
8	PSC1 P/O	612062	1	COVER,KEYENCE LASER PROTECTION,2M
9	PSC1 P/O	612063	1	MOUNT, KEYENCE ADJUSTABLE, 2M
10	PSC1 P/O	612064	1	ARM, KEYENCE ADJUSTABLE, 12MMX85MM
11	SOL1-25	612008	24	VALVE,SOL SS 1/8NPT 2 WAY 24VDC
12	SOL1-25 P/O	611943	24	CONNECTOR, 24V VALVE DINCON M12
13	SOL1-25 P/O	304430	24	CABLE,SENSOR,M12,5WIRE,F,QC,STR
14		610967	3	TERMINAL,STRIP,BREAK-A-PART MINI 12
210122 ASSY, DISC-BOX ARC FLASH				
REF	SYMBOL	P/N	QTY.	DESCRIPTION
1	DISC1	C07631	1	SWITCH,DISC,CIRCUIT BREAKER,FUSIBLE
2	DISC1 P/O	C07632	1	SWITCH,DISC,CIRCUIT BREAKER,HANDLE
3	DISC1 P/O	C07633	1	SWITCH,DISC,CIRCUIT BREAKER,SHAFT
4	ENCL3	C07740	1	ENCLOSURE,REWORK,MIST COLLECTOR
5	FU1,2,3	C07062	3	FUSE,LPCC,20A,600V,13/32 X 1-1/2
6	GND	C06488	1	LUG,GROUNDING,ENCLOSURE
7	PNL3	C07741	1	PANEL,ELEC,REWORK,MIST COLLECTOR
118569-910 ASSY, ENCODER KIT				
REF	SYMBOL	P/N	QTY.	DESCRIPTION
1	ECBL5 P/O	304501	1	ETHERNET COUPLER,RJ45 PASS-THROUGH
2	TB10	610967	1	TERMINAL,STRIP,BREAK-A-PART MINI 12
3	CBL10	117781-407	1	CABLE,ENCODER,ETH,2M,M12-RJ45
4	CBL11	117781-408	1	CABLE,ENCODER,M12,POWER,2M
5	ENC01	117781-409	1	ENCODER,ETH,CIP,MULTI-TURN,1/2"HOLLOW
6	ECBL5	304502-025	1	CABLE,YELLOW PATCH,25' SHIELDED

FOLD OUT TO VIEW DRAWING

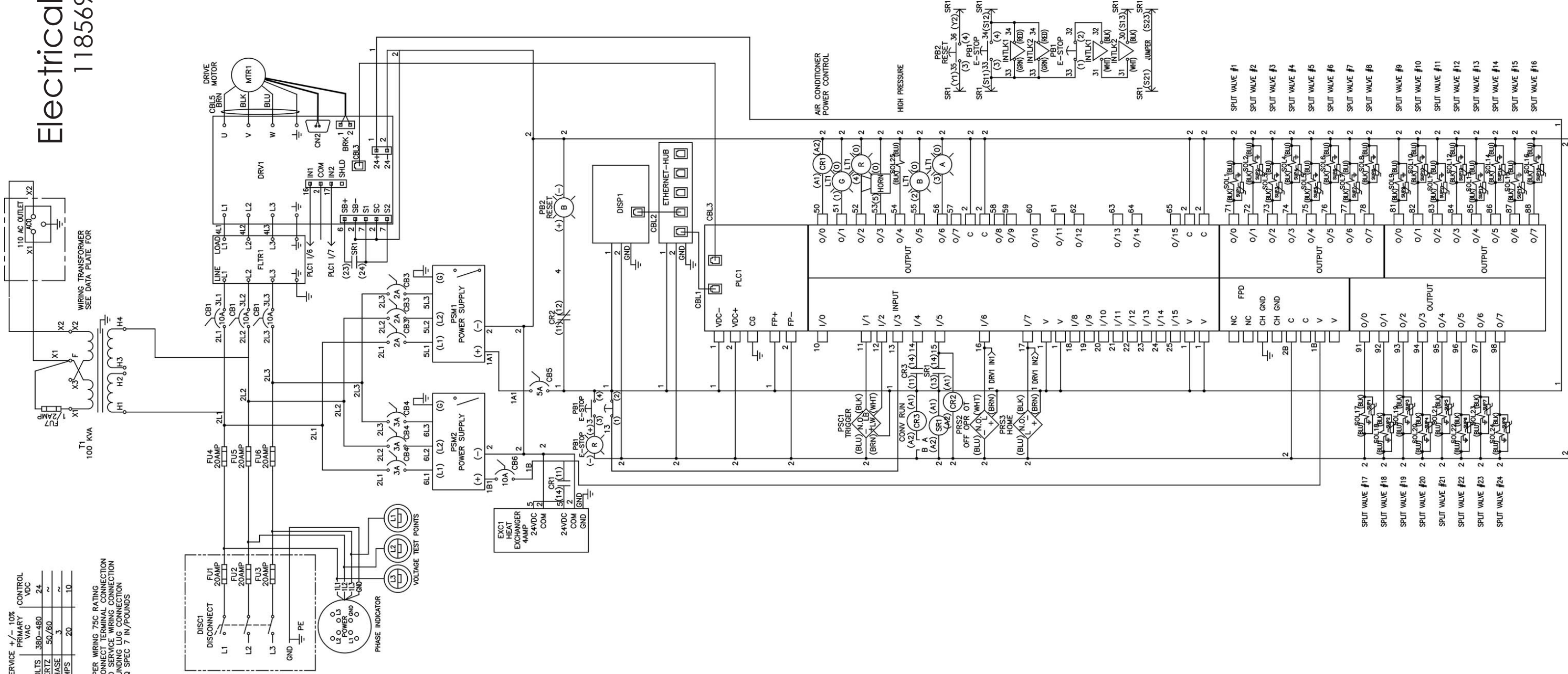
Electrical Ladder
118569-WD

SERVICE	+/- 10%	PRIMARY	CONTROL
VOLTS	380-480	VAC	VDC
HERTZ	50/60	~	~
PHASE	3	~	~
AMPS	20		10

COPPER WIRING 75C RATING
DISCONNECT TERMINAL CONNECTION
FIELD SERVICE WIRING CONNECTION
GROUNDING LUG CONNECTION
TORQ SPEC 7 IN/POUNDS

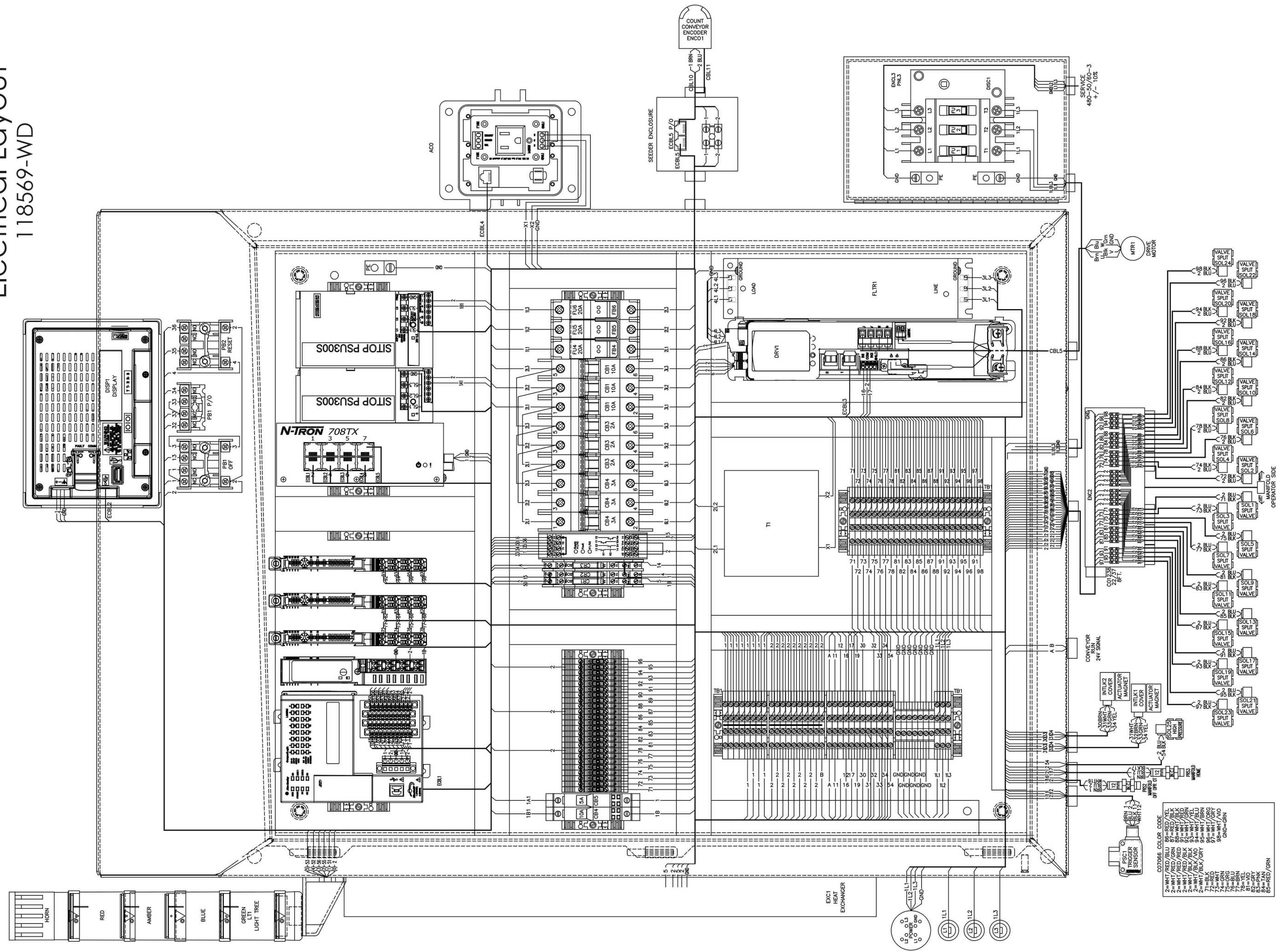
Electrical Ladder

118569-WD



FOLD OUT TO VIEW DRAWING

Electrical Layout
118569-WD



FOLD OUT TO VIEW DRAWING