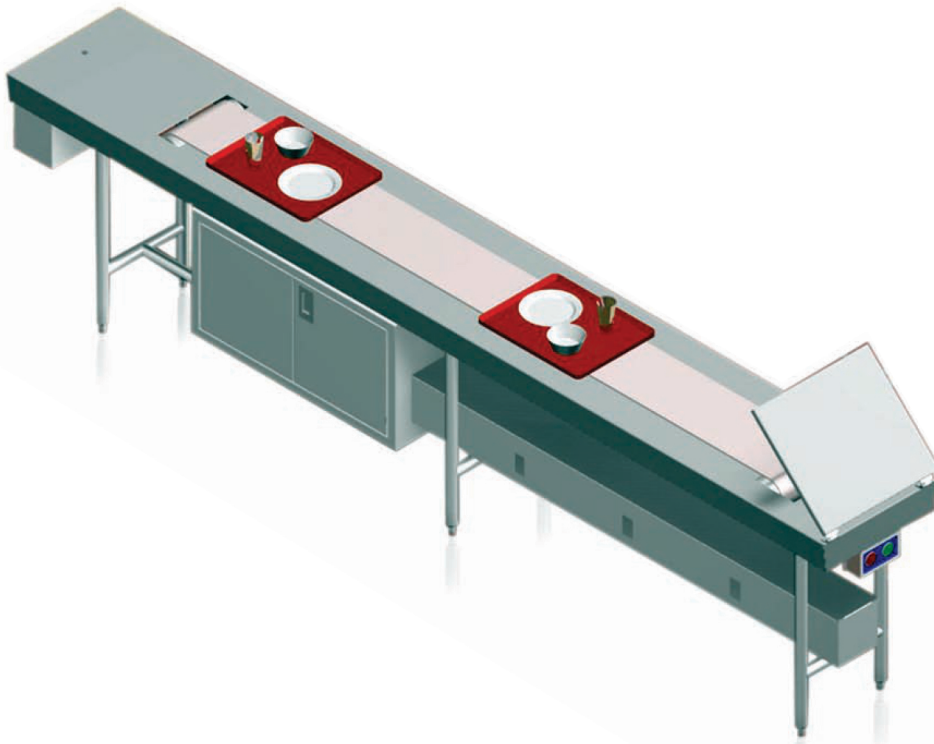




**TragenFlex**

INSTRUCTION MANUAL FOR MODEL SIMPLEX

# FABRIC BELT TRAY MAKEUP CONVEYOR



	DC power supply is not working.	Check the resistance across the T1, T2 and T3 terminals to verify there is no short circuit or open circuit. If there is either trace the wire and ensure its integrity is correct. Check to ensure the "24V O.K." light is on. If the light is on verify with an electrical meter that it is outputting 24VDC. If the light is off then check the fuses and connections supplying the DC power supply.
2. Accumulation light will not go off.	Accumulation is triggered.	There is something covering the accumulation sensor end of the table. Remove the item.
3. The speed control is not working.	<p>The knob has become loose and is not turning the speed.</p> <p>The cord has become damaged or loose.</p> <p>The potentiometer is burned out.</p>	<p>Tighten the screws on the knob to make it tight to the potentiometer handle.</p> <p>Verify the integrity of the cord to ensure it is not cut or damaged. Check to ensure the connection to the VFD is tight and correct.</p> <p>In order to verify that the measurements are being taken from the proper terminal, remove the VFD cover and check the terminals on the VFD. Check the resistance from T1 to T2. On the minimum setting you should have 5K ohm and on the maximum setting 0.1 ohm with a variance in between. With the exact opposite effect when measuring T2 and T3. If you are not measuring those values then it is possible you need to replace your potentiometer. Refer to the section below for assistance on replacing the potentiometer.</p>

## 5. REPLACING THE POTENTIOMETER

In order to replace the potentiometer the following tools are required:

- Solder gun
- Solder
- Wire cutters
- Channel grips
- New potentiometer (call TragenFlex for replacement 855-363-0335 )

Follow these steps to replace the potentiometer:



1. Remove the screws from the front of the panel.



2. Loosen the screws on the dial and pull the dial off.



3. Loosen the nut on the potentiometer and pull it off so it can be removed.



4. \*\* Ensure power is disconnected\*\* Pull the potentiometer out and cut the wires.



5. Strip the wires and solder them on in the following configuration (white, red, black).



6. Ensure the top wires match from left to right (white red, black)

Reattach everything back to its designated position making sure it is safe electrically. Then the system can be tested to ensure the speed control works as required.

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# INSTRUCTION MANUAL FOR MODEL SIMPLEX FABRIC BELT TRAY MAKEUP CONVEYOR

## 1. OPERATION

### 1.1. START AND STOP INSTRUCTIONS

1. Make sure that the fabric belt is properly engaging all the pulleys and the conveyor bed is free from any obstructions such as spoons, knives, forks and napkins, etc.
2. Turn the MAIN DISCONNECT SWITCH located on the main control panel to the "ON" position.
3. Then push the green 'START' button to run the Fabric Belt Conveyor.
4. Before shutting down the conveyor push the red 'STOP' button. Finally turn the 'MAIN DISCONNECT SWITCH' to the 'OFF' position.

## 2. MAINTENANCE

TragenFlex Conveyor Systems are built high quality standards to provide a reliable service and trouble free operation. The life of the equipment can be extended by regular maintenance. It is strongly recommended to have the equipment serviced by TragenFlex or its authorized service agent.

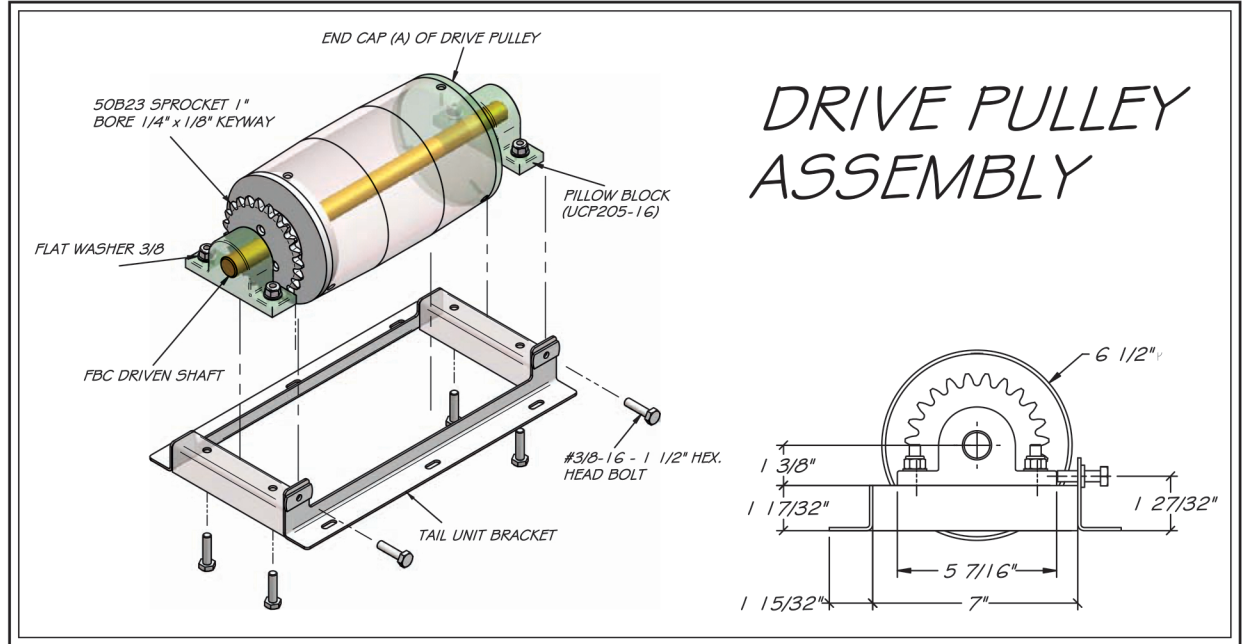
Following is the recommended maintenance schedule. (A spare part reference sheet is provided at the end of this manual). Please refer to this list when ordering your parts.

### 2.1. FABRIC BELT TENSION ADJUSTMENT

The Fabric Belt will be under continuous tension during the operation. However over a period of time, the tension in the belt produces permanent stretch and requires an adjustment for a normal operation.

Follow these steps adjust the tension in the belt.

<b>Step 1:</b>	Open the drive unit access door and locate the take-up pulley assembly mounted on take-up brackets on either side.
<b>Step 2:</b>	Loosen the lock nut of one of the assembly and change its position within the slots to attain a desired tension in the belt.
<b>Step 3:</b>	Repeat same step 2 for other arm adjustment of the lock nut in the pulley assembly.
<b>Step 4:</b>	Run the conveyor and inspect the belt for smooth operation. If the tension is not adequate or excess, repeat steps 2 & 3.



## 2.2. ELECTRICAL SYSTEM

The electrical system control unit contains all the relays, starters and other devices required for operation of the conveyor control. There may be auxiliary start-stop stations in addition to the main control panel. Check schematic drawing for details. Main control panel is **NOT** waterproof. Under no circumstances shall the control panel be hosed down with water.

A 15-amp main disconnect circuit breaker completely disconnects motor and panel from line and serves as a short circuit protection for the motor. In addition, the motor controller has built in overload protection.

- INSTANT STOP SWITCH:** Stops the conveyor when switch is depressed.

## **2.3. GEAR BOX**

First oil change is mandatory after the first 100 hours of operation. Then every year or 2500 hours of normal service, whichever comes first. Use a turbine type of oil or SAE 50 grade oil. The oil viscosity for the particular unit is specified on the metal plate fixed on the gearbox. To drain the oil from the gearbox, take out the socket headed screw located at the bottom. When the oil is drained completely, replace the screw. Remove the oil breather located on top of the gearbox and fill the fresh oil until the specified level is reached. Replace the oil breather. A level glass is provided in the gearbox to check and monitor the oil level. replace the screw. Remove the oil breather located on top of the gearbox and fill the fresh oil until the specified level is reached. Replace the oil breather. A level glass is provided in the gearbox to check and monitor the oil level.

### **2.3.1. REPLACING GEAR BOX**

The first step is to turn off the main power breaker to the system. Loosen the bolt that secures the adjustable pulley to release the tension on the fabric belt. Remove all the bolts connecting the gearbox to the motor. Finally remove the bolts which secure the gearbox to the drive unit frame. When re-assembling the gearbox, go through the same steps but in the reverse order. Also see section 2.1 on adjusting tension in the belt.

## **2.4. MOTOR**

The motor has been lubricated for life and hence no lubrication is required.

### **2.4.1. REPLACING DRIVE MOTOR**

To replace the motor, turn off the main power breaker to cut off the supply. Remove the cables connecting the motor. Remove the bolts that fasten the motor to the gearbox. An electrician should do this job.

## **2.5. FABRIC BELT CONVEYOR MAINTENANCE**

The Conveyor has been built to withstand the extreme stress and workload of today's dish room. This however does not exempt it from regular maintenance. The following steps and procedures should be brought to the attention of all the operators and maintenance staff.

### **2.5.1. DAILY**

1. Remove any foreign material spilled over the conveyor bed. Use the soapy sponge or rag to clean the conveyor.
2. Your unit is equipped with an accumulation switch. Make sure that it is free from obstructions. Unit will not start unless the obstructions are cleared.

### **2.5.2. WEEKLY**

1. Clean out any foreign matter from the conveyor bed, underneath the belt and on the return side.

### **2.5.3. MONTHLY**

1. The belt should run smooth. If not, refer to the trouble shooting section of this manual.
2. Make sure that all the switches are functioning.

### **2.5.4. SEMI-ANNUALLY**

Inspect the tension in the belt caused by stretching. The tension in the belt can be corrected by adjusting the position of the tail pulley. Please refer the section 2.1 of this manual for details. Check the oil quality and the level in the gearbox. For the gearbox oil change, please refer the section 2.3 for more information.



### 3. ELECTRICAL PANEL COMPONENTS

The electrical control panel contains many different electrical components that are used on a case by case basis. These components are DC power supplies, disconnects, fuse blocks, programmable logic controllers (PLC), Variable Frequency Drives (VFD), and relays.



#### 3.1. DC POWER SUPPLY

The control system of the conveyor is powered by 24VDC power supply unit. This power supply will supply the entire control system with power. It will be protected with fuses depending on your panel requirements. Always refer to the electrical diagram for further information regarding the part.



#### 3.2. DISCONNECT

This switch will isolate the electricity so you can work on the panel safely. Always refer to the nameplate before supplying the panel with any power supply.



#### 3.3. FUSE BLOCKS

All fuses are sized individually for control or power circuit so it is important to refer to the electrical wiring schematics when replacing fuses. The fuses are class CC and will always be labeled with the correct fuse size on the fuse block.



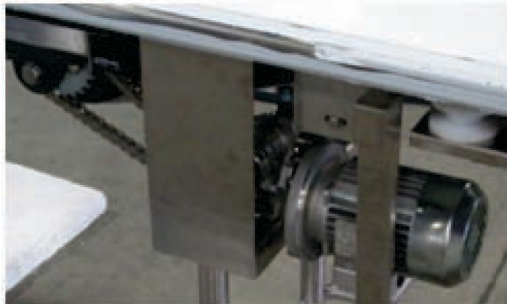
### 3.4. VFD

The variable frequency drive (VFD) controls the AC motor speed and current by varying motor input frequency. The VFD's display will show the frequency of the drive when it is running. The VFD will be covered in more detail further on in the manual.



### 3.5. RELAY

The relay is used in some cases to replace the PLC or for higher current operations. The relay is 24V controlled and will be either of a three or four pole type.



### 3.6. MACHINE COMPONENTS

Please note that these components will vary depending on the conveyor.

### 3.7. MOTOR

The motor for the Fabric belt will be located under the belt end. The VFD will drive this motor when the conveyor is running.

## 4. TROUBLESHOOTING

A qualified mechanic or an authorized service agent shall service the conveyor unit. Not doing so will void the warranty. Please make sure to have service manual and electrical schematics readily available, before performing any work on the unit. If you require contacting TragenFlex for technical support, please have the Serial number for our reference (located on the main control panel). The Serial number is a 6-digit number starting with the letter 'J' (Ex. J000000)

PROBLEM	POSSIBLE CAUSE	SOLUTION
<p>1. Start Button is pushed and conveyor is not running.</p>	<p>System is not getting power</p> <p>Conveyor speed is set to zero</p> <p>The accumulation light is on.</p> <p>Excessive mechanical load.</p> <p>VFD Fault.</p> <p>Motor is damaged or not receiving power.</p>	<p>Verify if the main power breaker is on and the system is getting power.</p> <p>Increase the conveyor speed.</p> <p>Photo-call</p> <p>To verify if there is an excessive mechanical load, do the following: open the panel, turn the power on, look for the VFD it will have a large label on the lower right side of it "VFD", press the start button, check the VFD and if it has (AC.Lt) or (lt.AC) on the display then the load is excessive. The entire belt and return track must be checked for any snags or obvious damage. There could also be instances with utensils or tools lodged in the belt.</p> <p>To verify if there is VFD fault, do the following: open the panel, turn the power on, look for the VFD it will have a large label on the lower right side of it "VFD", press the start button, check the VFD. If there is an error code other than (AC.Lt) or (lt. AC) please contact TragenFlex for further assistance.</p> <p>First remove the T1, T2, and T3 wires from the bottom of the red terminal blocks on the problem motor. Check to make sure the VFD will respond correctly by showing an FR 10.0 to FR 55.0 depending on the speed setting (If not call TragenFlex). Check the wire connections to ensure they are correct.</p>