



Centrifugal Blowers, Air Knives & Drying Systems  
www.paxtonproducts.com



# Installation & Operation Manual

Instruction sheet # 8006090

Please read this manual BEFORE installing your **PowerDry™** System

**ITW Air Management**

10125 Carver Road • Cincinnati, OH 45242 • 513-891-7474 • Fax 513-891-4092  
www.itw-air.com

**Welcome** to Paxton Products. We manufacture what we believe are the finest centrifugal blowers and air knife drying systems in the world. Paxton has been *the* name in centrifugal blowers and drying systems for over 50 years. Our products are the choice of leading companies and organizations worldwide because of unsurpassed performance, service and leading edge innovation. Proper installation, operation and maintenance of your Paxton **PowerDry** system will ensure years of reliable and trouble free service.

**Safety First!** When installing, operating, or servicing the equipment, always use proper safety procedures in accordance with Federal, State and Local laws and regulations. To avoid injury to yourself, others, or damage to the equipment, adhere to the following safety practices.

- **Always use qualified personnel and electricians** for installation, maintenance, and servicing of all Paxton blowers and motors. Electrical connections, servicing and maintenance should be performed **only** by properly **trained, certified, and licensed** electrician.
- **Always disconnect the electrical power** at the circuit breaker or fuse box, before working on the motor and / or blower assembly. Take special precautions to ensure that **the power cannot be turned "ON"** while you are working on the motor and/or blower assembly. Observe proper lockout/tagout procedures.
- **Always wear safety glasses** while working on any Paxton blower assembly.
- **Do not operate** the motor / blower assembly without the belt guard properly installed, or with the blower inlet unprotected by a proper filter element assembly or inlet screen to guard the blower inlet. Failure to operate blowers without proper guarding could result in personal injury or death.
- **Do not operate** the motor/ blower assembly with the discharge outlet open. Always connect the outlet to the system hose and air delivery device. Failure to operate blowers under a working load could result in high current draw, damaging the motor and electrical systems.
- **Always** keep hands, tools, long hair, loose clothing, neckties, jewelry or similar loose items away from all moving or rotating parts.
- **Always** install motor current protectors (for 3-phase units), circuit breakers or fuses for line protection. Devices should be sized per motor nameplate data.

#### **1. Equipment Arrival and Inspection:**

- At the time of receipt, fully inspect motor / blower assembly, enclosure, and all contents for shipping damage or missing components. Check the list below to confirm that all equipment and parts have been received. **If any equipment or parts are damaged or missing due to shipping, you must make a claim against the freight carrier.** Notify Paxton of damages or shortages immediately. We will assist in replacing a damaged blower assembly or parts shortages as quickly as possible. Contact our **Customer Service Dept.** at **800-441-7475** or by e-mail at [techsupport@paxtonproducts.com](mailto:techsupport@paxtonproducts.com) if you have any problems.
- Care should be exercised to not drop or damage the blower / motor assembly when moving it.

Contents:

- Blower/motor, enclosure and base
- 6-nozzle Air Tube with adjustable mounting
- 3" FDA-compliant flex hose 8' length with 2 clamps

## **2. Procedures for Installation:**

### **Adjustable Arm Air Tube Mounting**

Locate a suitable mounting surface on the side of conveyor or other location where air is to be directed at the container, package, or item to be dried. Determine the vertical location of the mounting bracket based on the height of the item or container and the height or reach of the adjustable arm (See Figure 1). Generally, the end of the air nozzles should be about ½" from the item. For most beverage applications drying cans and PET bottles, the mounting bracket should be located no more than 2"(50mm) below the surface of the conveyor.

Mount the bracket securely using suitable hardware or tack welding. The bracket can often be mounted by affixing it to holes in existing vertical guide rail supports on conveyors. A mounting plate or metal straps may be helpful.

### **Blower Enclosure Mounting**

Locate the motor / blower enclosure within an appropriate proximity to the air delivery device as determined by the length of the supplied hose. If alternate hose or tubing is used, avoid using hose length in excess of 15 feet (4.6m) as pressure drop will affect performance.

Position the enclosure so that access to service doors can be made.

Avoid locating the motor/blower enclosure in areas where it would be subjected to excessive, constant water or other liquids. While the enclosure is designed for washdown procedures and wet environments, a heavy or forceful concentration of liquids on or near the enclosure or the floor near its air inlet, could damage the unit.

Mount the motor / blower enclosure on a solid flat surface. Be sure that all mounting bolts and hardware are secure. Level the unit as necessary by adjusting the leveling feet of the base.

### **Hose Connections**

**Warning:** Uncontrolled blower airflow may overload the motor. Connect the blower outlet to the air tube assembly **before** operating the blower motor in order to create some restriction of airflow.

Determine length of hose required between air tube and blower outlet. Allow enough length for routing the hose and providing full adjustability of the air tube arm. Excessive hose length should be avoided to minimize pressure drop. Cut hose to appropriate length and attach to blower outlet and to air tube using supplied clamps.

Note: In some applications, the Paxton **PowerDry**<sup>™</sup> blower may accommodate two air tubes. See **Accessories** list of available components and part numbers.

### **Electrical Connection**

**Warning:** This centrifugal blower cannot be operated until the electrical connections, and proper phase wiring have been determined for correct motor and blower rotation. It can be wired for 208-230 volt or 460 volt service. After proper electrical connections have been made, correct blower rotation will need to be verified.

- Read and strictly follow all "**Safety First**" procedures.
- Connect the blower outlet to the air tube using the supplied hose or other suitable ducting material. Uncontrolled airflow may overload the motor.

- **Switch off, and disconnect electricity at the circuit** where the electrical connections are to be made. **Ensure that the power cannot be turned on** while you are working on the machine.
- Follow the wiring diagram on the motor nameplate when making all necessary electrical connections. The wiring diagram and motor specifications are provided at the end of these instructions. Also, ensure that the motor is grounded in the event of a short. Refer to motor nameplate for power supply requirements. Install an appropriate power switch to the unit.
- Ensure that all electrical connections are tight and well insulated to protect against moisture.

***Important:*** After making electrical connections, proper electrical phase rotation must be determined. Correct motor shaft rotation is “clock-wise” while facing the motor pulley and shaft end of the motor. Bump start the motor a few times to determine the direction. Then **turn all electrical power “OFF”**. Take care to ensure power cannot be turned back on while you continue the installation.

- Remove the belt guard cover by removing the two mounting screws.
- Switch the power “ON” to the blower unit. Start the unit, while taking care to avoid all moving parts of the drive belt system. The drive belt system should be operating smoothly. Switch the power “off” to the blower unit.
- Reinstall the belt guard cover with the two mounting screws.

### **3. Operating and adjusting:**

The **PowerDry™** system comes equipped with a 6-nozzle air delivery tube which should be ideal for most applications. This configuration will replicate or exceed the performance of typical compressed air jets and plastic comb or fan nozzles. Some applications, such as the drying of PET beverage bottles for coding, may require less force and increased air dispersion over a larger area. For maximum drying and blow-off force, adjust the position of the air tube arm so that the ends of the air nozzles are about ½” from the item surface (See Figure 1).

Figure 2 provides sample illustrations of applications showing how nozzles might be positioned. In most cases, nozzles should be directed downward and away from the forward flow of containers or product on a conveyor. Some experimentation may be necessary to achieve optimal performance. If further modification of the nozzles is needed, adjustable, segmented plastic nozzle extensions, flared ends, valves, elbows, and other snap-on components are readily available from most local and national distributors. The **PowerDry™** air tube nozzles are Loc-Line brand.

### **4. Maintenance:**

There are two (2) serviceable parts; the air filter element and the drive belt. Both of these items are specially made to Paxton’s specifications and are designed for high performance and longer service life. Use only Paxton parts to maintain your **PowerDry™** system.

***Important:*** Before performing any maintenance, **turn all electrical power “OFF”**. Take care to ensure power cannot be turned back on while you service the unit.

- The blower unit is designed to operate with clean and dry filtered air. **Improper filtration will void the warranty.** Filter change frequency is dependent on the operating environment. Higher levels of moisture and airborne debris will necessitate more frequent filter changes. It is recommended to inspect the filter regularly, especially during the first few months of operation to determine how often the filter should be replaced. Recommended replacement interval is every **3 months** of service under normal conditions.
- To replace the **air filter element**, remove the access door on the back of the enclosure, and remove the wing nut on the end of the filter assembly. Replace the old element with part **#8006108**. Reinstall the wing nut and access door.

- To service the **drive belt**, turn off the power, and **ensure that the power will remain off**. Remove the two (2) screws securing the belt guard cover to the blower unit. Remove the cover and carefully inspect the belt for any signs of wear. If belt replacement is needed, carefully “walk” the new belt off the blower pulley, by pulling the belt outward while rotating the motor pulley – **keep fingers clear of “belt to pulley” surfaces**. A threaded handle is supplied to aid in rotating the motor pulley for belt removal and replacement. The handle can be temporarily placed into one of the two threaded holes in the motor pulley in order to crank the pulley rotation. A 5/16”-18 threaded bolt approximately 3” long could also be used as a temporary handle. Reverse the procedure for belt installation. Carefully inspect for proper belt to pulley groove alignment before reinstalling the belt cover. Refer to illustration at the end of these instructions. Recommended inspection and possible replacement is every **12 months** of service.

## 5. **Recommended replacement parts:**

Paxton highly recommends the following spare/replacement parts be maintained in your service area to enable quick servicing of your Paxton **PowerDry™** system. This will minimize the chance of any unnecessary unit downtime due to lack of these routine service parts at your facility.

# 8006108-2 **PowerDry™** Air Filter element, 2-pack high performance filters

# 8006105 **PowerDry™** drive belt

In the unlikely event of a blower head failure, contact Paxton’s Service Department to determine the correct blower head replacement for your system. **Locate and record the serial number of the existing unit, prior to calling.**

## 6. **Accessories:**

In many applications, the **PowerDry™** blower unit can be connected to a second air tube to accommodate another nearby location for drying or blow-off cleaning. If a single air tube is providing good performance, a second air tube could be added to the system (maximum of 12 air nozzles) if the second location is within a recommended distance of 15’ (4.6m) or less. For such an installation, the following is available from Paxton Products:

# 8006150 **PowerDry™** Auxiliary Air Tube and Mounting Kit

Includes 6-Nozzle Air Tube, Adjustable Mounting Arms and Brackets, and HDPE Y-Splitter

# 2748220 Flex Hose, 3” diameter, FDA compliant (specify length in feet needed)

# 1055970 Hose Clamp, 3” diameter, stainless steel

## 7. **Warranty:**

The blower head of the **PowerDry™** unit is covered by Paxton’s 3-Year Warranty Program. All other system components have a one year warranty, with the exception of the air inlet filter. Other conditions and limitations do apply. For full warranty details, contact a Paxton customer service representative.

*Thank you for choosing Paxton.*



Visit Paxton’s website at [www.paxtonproducts.com](http://www.paxtonproducts.com)

**ITW Air Management**

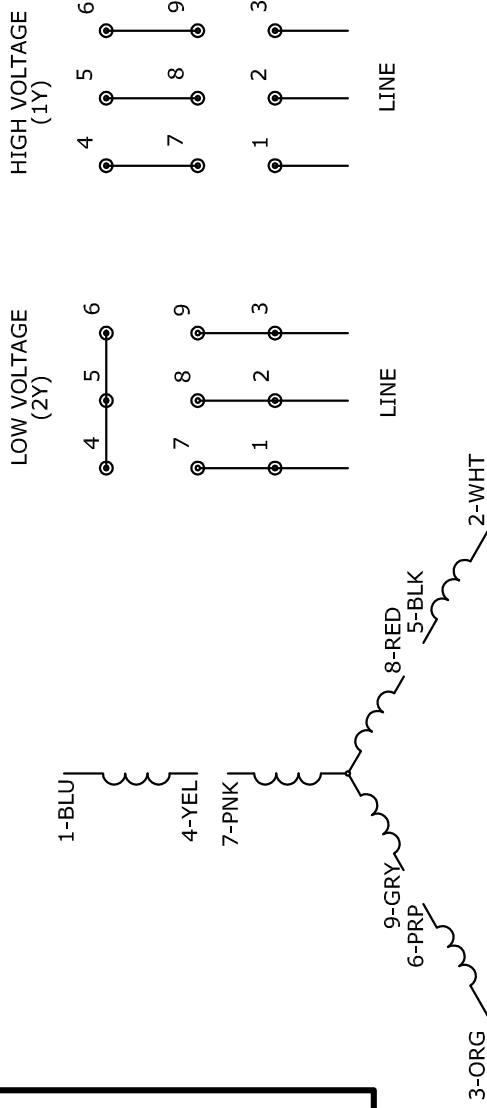
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# MOTOR WIRING DIAGRAM

## MOTOR WIRING DIAGRAM PER BALDOR CD0005



### MOTOR INFORMATION IS PROVIDED FOR REFERENCE PURPOSE

FOR THE MOST CURRENT INFORMATION: [www.baldor.com](http://www.baldor.com)

Baldor Catalog Number: CM3559T  
 Specification Number: 35T856T886H1  
 Horsepower: 3  
 Voltage: 208-230/460  
 Hertz: 60  
 Phase: 3  
 Full Load Amps: 8-7.4/3.7  
 Usable at 208 Volts: 8  
 RPM: 3450  
 Frame Size: 145TC  
 Service Factor: 1.15  
 Rating: 40C AMB-CONT  
 Locked Rotor Code: M  
 NEMA Design Code: B  
 Insulation Class: F  
 Full Load Efficiency: 85.5  
 Power Factor: 89  
 Enclosure: TEFC  
 Baldor Type: 3535M  
 DE Bearing: 6205  
 ODE Bearing: 6203  
 Electrical Specification No.: 35WGT886  
 Mechanical Specification No.: 35T856  
 Base: RG  
 Mounting: F1

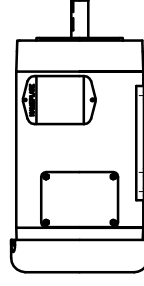
**IMPORTANT:** Immediately check for proper motor and blower head rotation, referring to the rotation arrow on the motor/blower mounting plate. Interchange leads L1 & L2 as necessary for correct rotation.

Each lead may have one or more cables comprising that lead. In such case, each cable will be marked with the appropriate lead number.

Actual number of internal parallel circuits may be a multiple of those shown above.

Lead colors are optional. Leads must always be numbered as shown.

**MOTOR, PAXTON P/N: 8006103  
 (BALDOR MODEL No.: CM3559T)  
 MOTOR, 3HP TEFC 145TC  
 208-230/460V 3PH 60HZ 3450RPM**



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DRAWN BY ASP	DATE 04.16.07	SIZE A	DWG NO. 8006103
SCALE: 1:1	Wire Diagram.dwg		SHEET: 1 of 1

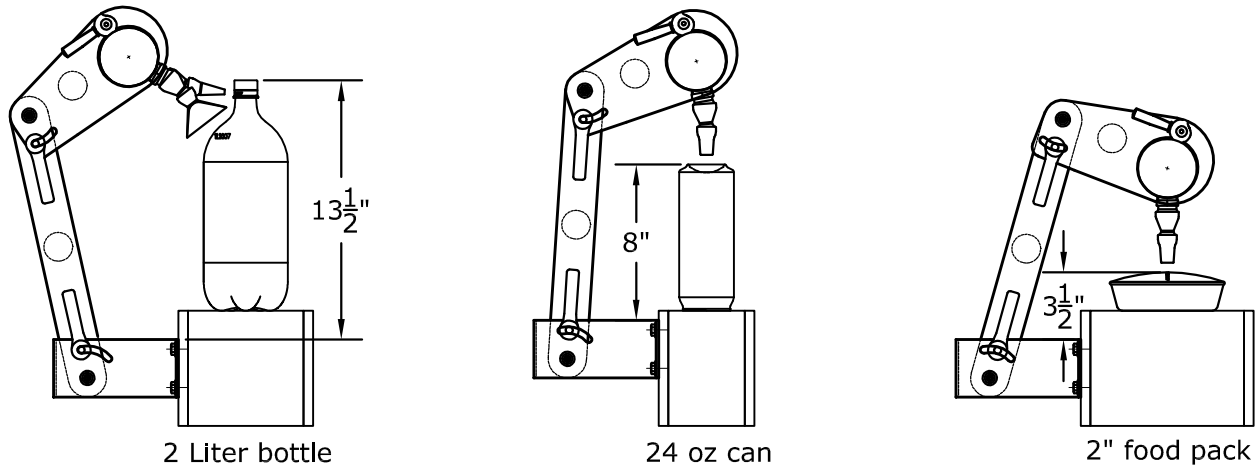


Figure 1

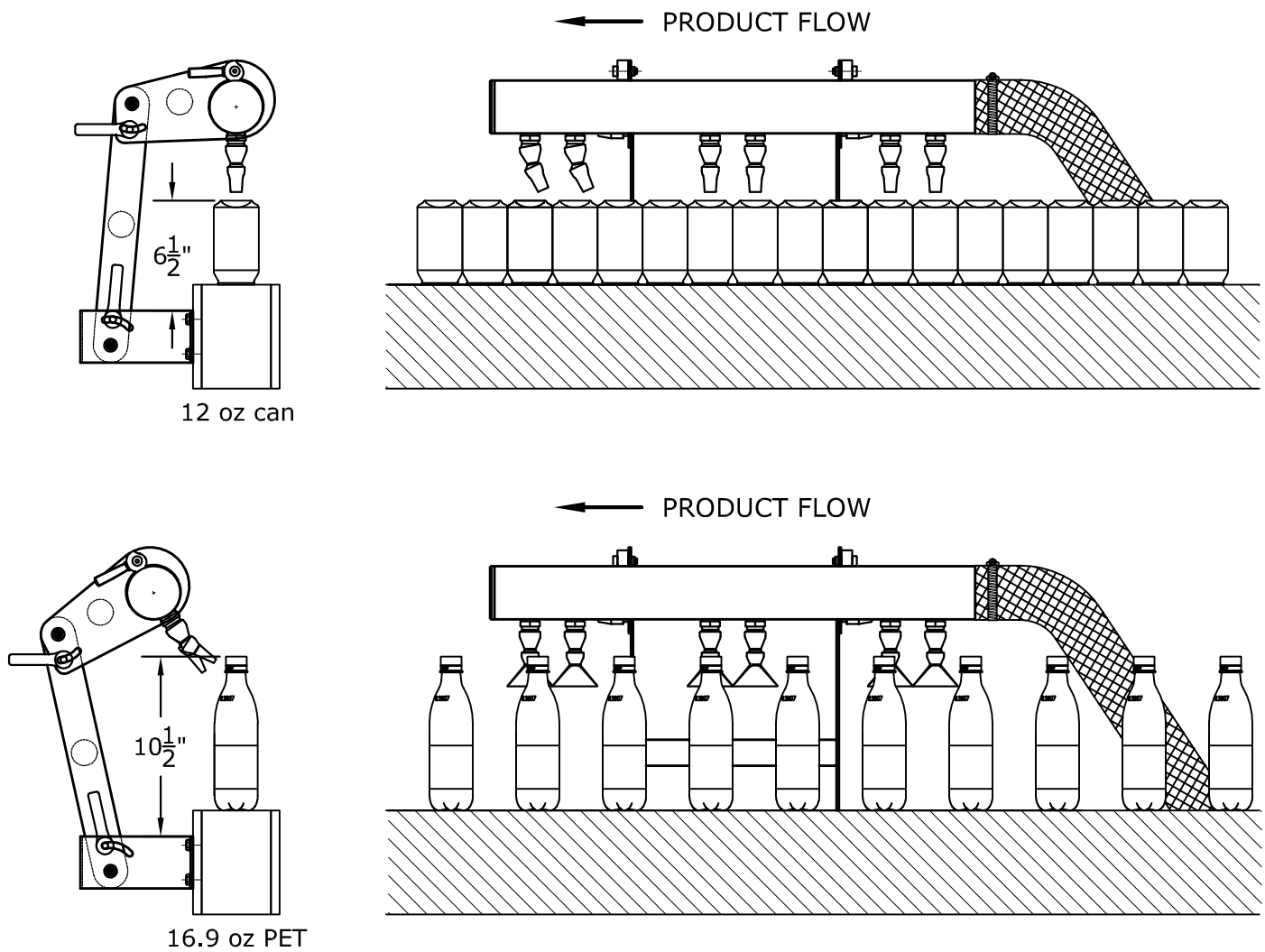


Figure 2

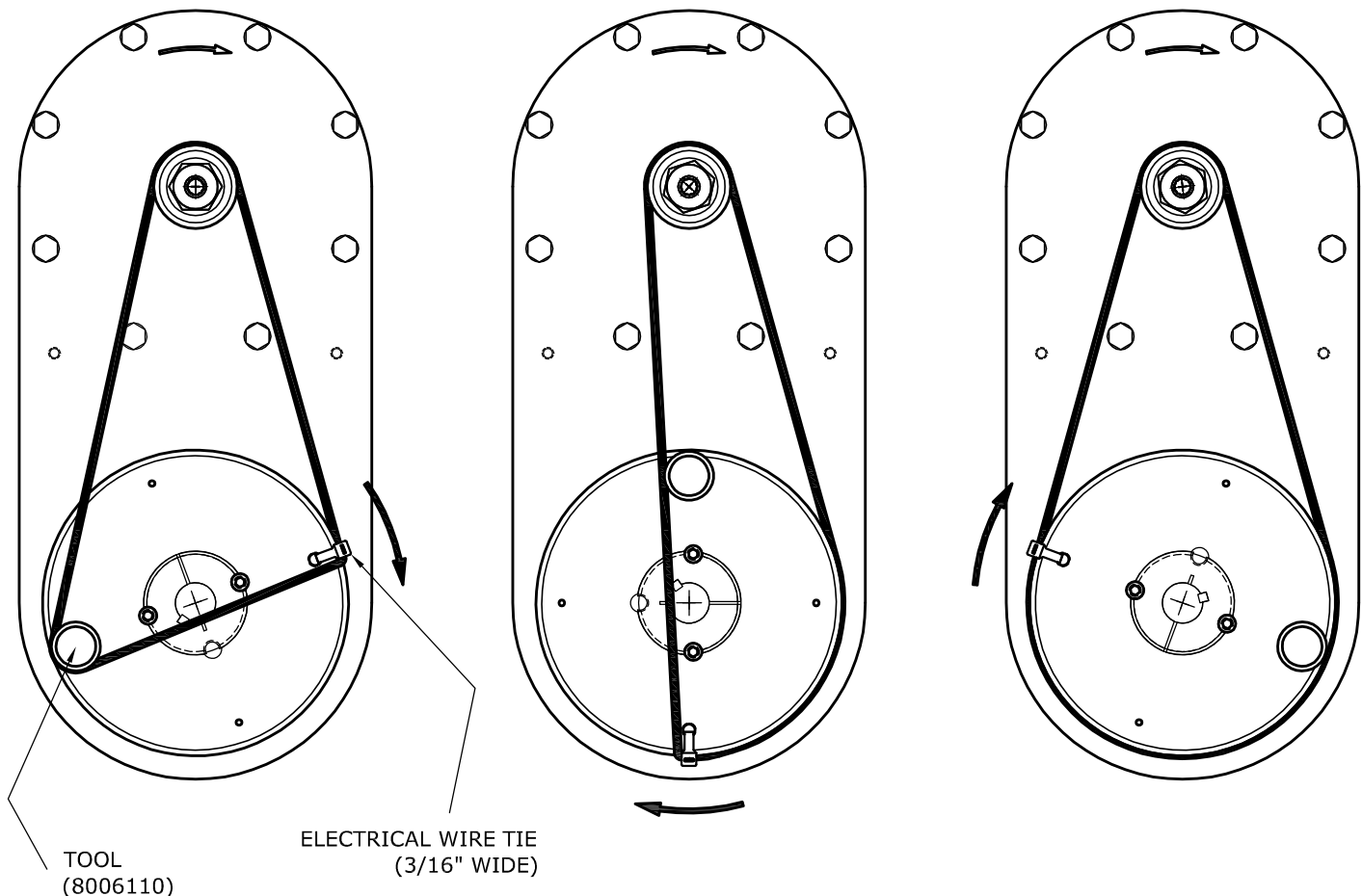
BELT CHANGE PROCEDURE:

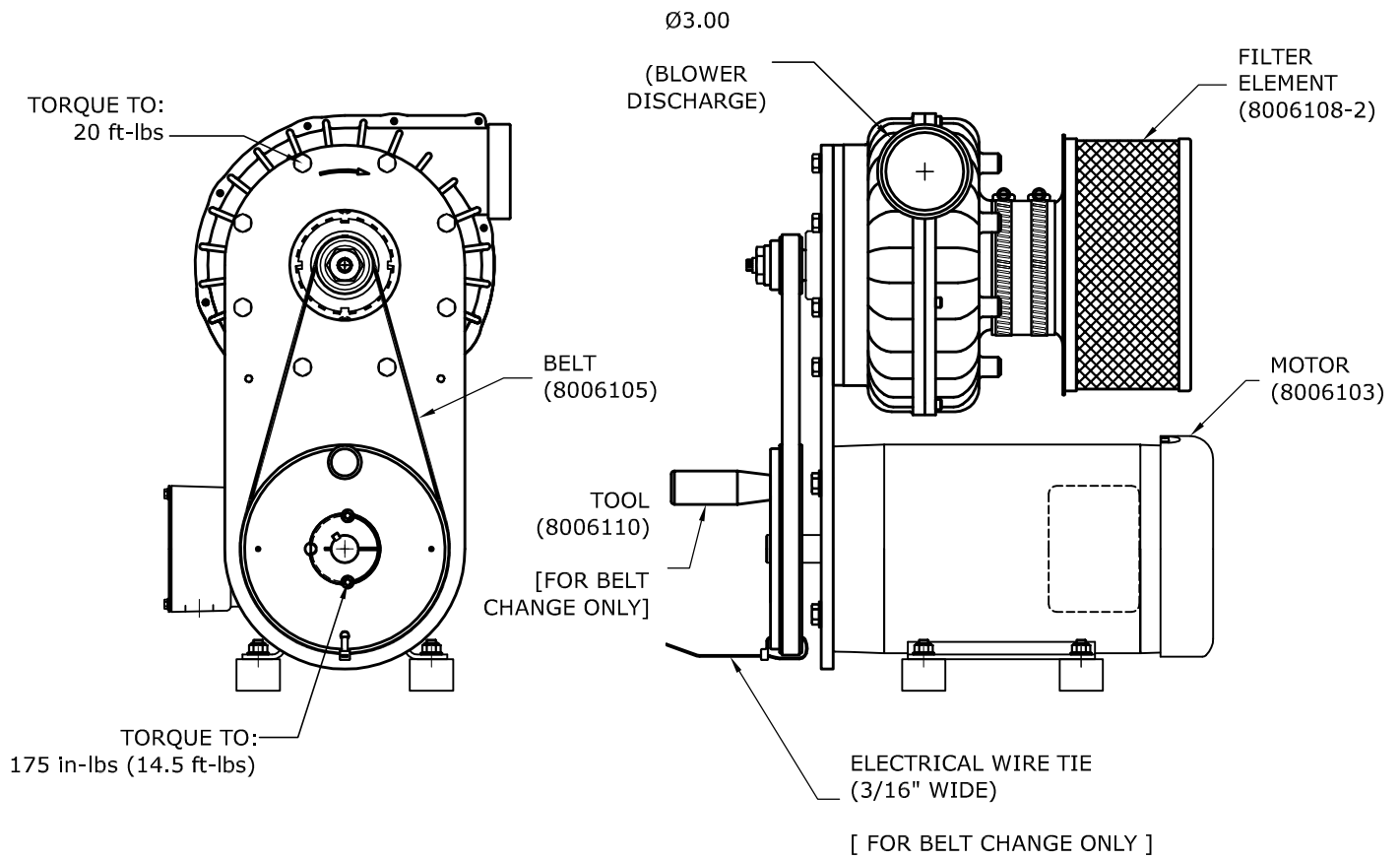
- 1) Turn OFF power (LOCK-OUT / TAG-OUT).
- 2) Remove belt guard.
- 3) Place belt over blower (smaller) pulley.
- 4) "WIRE TIE" belt to motor pulley (through 5/16-18 threaded hole)
- 5) Insert TOOL (8006110) into threaded hole.
- 6) Manually rotate the motor (larger) pulley until belt is properly seated.

Remove "WIRE TIE", remove TOOL, and replace the Belt Guard.

NOTE: This belt is an engineered "AUTOTENSION" belt. It is normal for the belt to be "stretched" to span the pulley center to center distance. This "stretch" allows for the belt to be properly tensioned. The belt drive has been preset at the factory, and no field adjustments are required for the life of the belt.

TO AVOID COSTLY BLOWER HEAD FAILURES,  
Use only genuine PAXTON AUTOTENSION belts.





KEY PARTS		
ITEM	PART #	DESCRIPTION
MOTOR	8006103	MOTOR, 3HP TEFC 145TC 208-230/460V 3PH 60HZ 3450RPM, BALDOR CM3559T
TOOL	8006110	TOOL, BELT INSTALLATION, XT300 HANDLE, BLACK, 5/16-18 x 3"LG REID SUPPLY P/N: JCL-790 or MCMASTER CARR P/N: 62385K21
BELT	8006105	BELT, 6GRV, POLY-V, 810PJ AUTOMATIC/SELF TENSIONING BELT
ELEMENT	8006108-2	ELEMENT, 2-PACK, 200CFM, 10 MIC.@98 % HI-FLOW SYNTHETIC, 30H