

Installation and Operation Manual

 Proptec™ PT100
Series Rotary Atomizer

Document Version 3



Installation and Operation Manual for Proptec PT100 Series Rotary Atomizer (v3)

Important Note: Teflon® tape should never be used on any hydraulic fitting. Use a paste or other liquid sealant such as LOCTITE® 545 if a sealant is required. Use of Teflon tape anywhere in the system will void the warranty.

Flow Control Device:

There is an in-line flow control device installed on the pressure port of the motor. **Do not remove this device or attempt to use an atomizer without the flow control device. This device will only work on the PRESSURE port of the atomizer so confirm that you have not reversed the lines when attaching.** Removal or improper installation of the flow control device will void the warranty and risk damage to the atomizer.

Pressure and Return Lines:

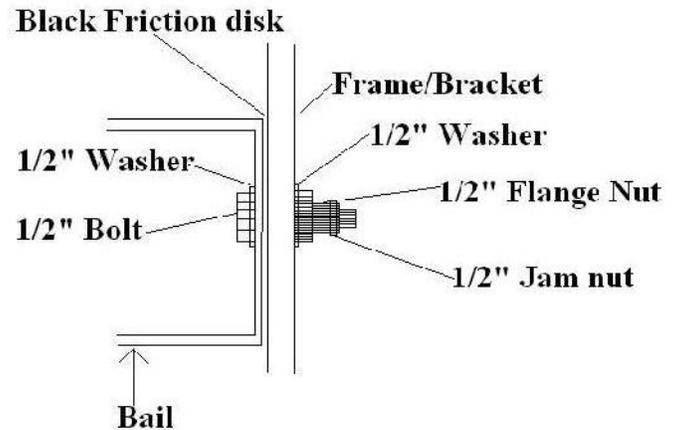
Pressure and return lines should be at least #6 hydraulic hose and rated for 2500 PSI or higher. The pressure line must be attached to the flow restrictor. The flow restrictor is on the larger of the two 90 degree fittings coming out of the sides of the motor. The smaller 90 degree fitting is the return line. When plumbed properly, the fan will spin in a clockwise direction and push air past the atomizer basket. **Improperly attached pressure and return lines will void the warranty.**

Case Drain:

The case drain is the straight fitting coming straight out the back of the motor. The case drain hose should be at least #4, but does not need a pressure rating. **Failure to return case drains directly into tank will void the warranty.** Routing case drains through the normal return circuit can cause pressure spikes and damage the motor. For 3-4 case drain flows joined together, use #6 hose to prevent damaging back pressure. For 5-8 drains, use #8 hose.

Attach Atomizer to Machine Frame:

Special nuts, bolts and friction discs are supplied for attaching the bail to the sprayer frame/mounting bracket. Refer to the sketch at right for the order of installation. In this configuration, the atomizer can be tightened into place without vibrating loose during operation. It can also be loosened and adjusted without damage to painted surfaces.



Run-In:

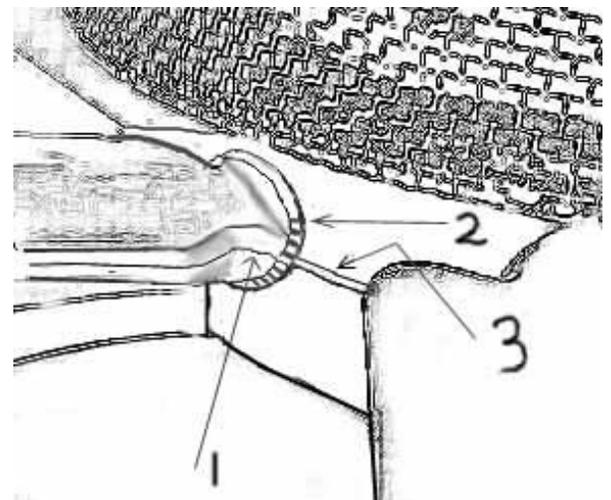
Please remember to check the blade pitch before running any atomizer. Atomizer motors are ultra-high efficiency, and because of tight manufacturing tolerances, may need to be manually started when new out of the box. If the motor does not start when pressurized oil is applied, nudge the fan with a broomstick or similar item and it should immediately begin to rotate. This normally only happens during the first hour or two of operation. If this continues to occur, please consult Ledebuhr Industries.

Adjusting Air Speed/Blade Pitch - Setting the Blades:

A Proptec rotary atomizer creates airflow from the adjustable blade pitch. To adjust the airflow, locate the calibration marks on the base of each Proptec blade. There are six marks; three on each side of the part line of the blade (#1 in figure below). Six calibration marks have been indicated because the blade can be used in both directions.

Maximum Blade Pitch:

Maximum blade pitch is specified when the outermost mark (#2 in figure) is lined up with the parting line between the retaining rings. This is considered to be the first mark. For consistency, line up all blades with the top edge of the parting line at the retaining ring (#3 in figure). This setting will create the highest velocity air possible.



Limitations:

Depending on the sprayer's hydraulic design and operating conditions (e.g. cold oil or very high LPM spray applications), the highest setting may not be possible. Certain situations can cause the Proptec sprayer to use more horsepower than its ratings. This will be indicated by hydraulic pressures in excess of 2500 PSI (normal is 1800-2400 PSI). Damage will not occur in pressure compensated systems, but atomizer speed will be reduced.

Attempting to pitch the blades beyond the maximum setting will not increase air velocity but will use excess horsepower, or in pressure compensated systems, will reduce the atomizer speed and performance. **Do not set beyond the maximum pitch under any circumstance.**

Minimum or Least Blade Pitch:

The third calibration mark is generally considered to be the minimum blade pitch. Angles below this setting will produce virtually no forward movement of air from the Proptec atomizer.

Loss of Pitch or Loose Blades:

From time to time, an atomizer will lose the blade pitch for no apparent reason. If this happens, remove the fan hub and the basket and tighten the blade retaining bolts. Taking this action should eliminate the problem.

Verify Atomizer Speed:

Once you have selected a blade pitch, each atomizer should be tested with a tachometer to verify that it is running in the proper range of speed. Each atomizer should be operating within 200-300 RPM of the average speed. If an atomizer is running fast or slow, increase or decrease the pitch of the blade accordingly on that atomizer only. If the atomizer continues to run outside of the proper speed range, re-torque the bolts on the hydraulic motor to 30 foot-pounds and retest. The atomizer does not need to be disassembled to perform this task.

Hardware:

All fasteners are stainless steel except for the 1/2", grade 8 mounting bolt assembly. To prevent galling, use anti-seize on any bolt that is removed for service. Avoid use of impact wrenches as they will increase the risk of galling. Nuts and bolts should be tightened to approximately 6 foot-pounds (hand-tighten with a 3/8" socket wrench).

Operational Parameters:

Max Hydraulic Flow: 15 LPM (4 GPM)

Max Hydraulic PSI: 2500

Max Continuous RPM: 5000

Max Airflow: 10,000 CFM

Max Water Spray: 11.3 LPM (3 GPM) with one injector tube, 22.7 LPM (6 GPM) with dual injector tube

Mounting Holes: 3, 1/2" holes