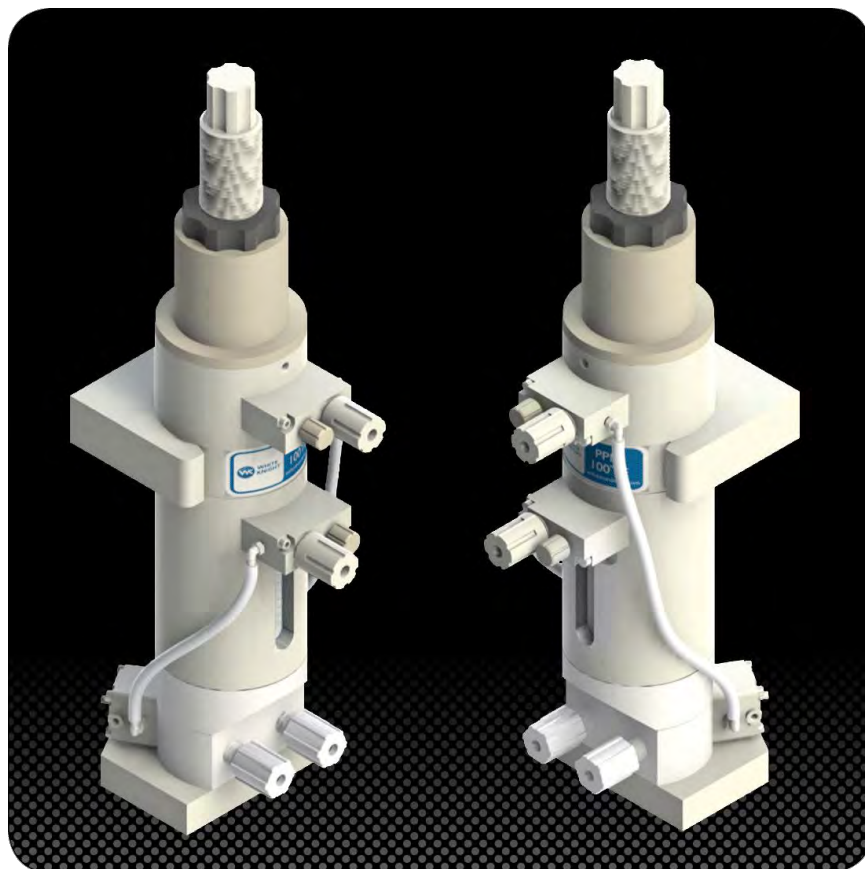




PPM100 Installation Instructions



Installation and Precautions

Precautions

Handling	
DO NOT LIFT PUMP BY LIQUID FITTINGS OR AIR TUBING!	
Air Supply	
The operation of the PPM-100 requires a minimum of 60PSI air supply pressure, ran through a minimum 1/8" ID airline. Supplying less than 60 PSI air supply pressure to the pump will not allow the positively controlled inlet/outlet valves to fully actuate. Max air supply pressure is 85 psi.	
Controlling Shot Size	
The shot size is manually set by loosening the lock ring on the top of the pump, rotating the adjustable stroke stem on the top of the pump clockwise for decreased shot size, counterclockwise for increased shot size, and tightening the lock ring down again. The indicator on the front of the pump is a reference to stroke position and is not specific to units of measurement. Use a gravimetric scale to validate that the volume of fluid dispensed matches the amount desired for a specific application.	
Dry Priming/Air Purging	
Initial priming and air purging of the PPM-100 requires that both speed controllers are partially open and that the Adjustable Stroke Stem on the top of the pump is set to 5 or higher on the indicator on front of pump. Cycle the pump several times until no air bubbles are present in the inlet or outlet lines before validating the desired shot size.	
Dispense/ Fill Speed	
The adjustor-knobs on the front of the pump may be used to control dispense and fill speeds of the pump.	
External Valves Required For Operation	
Operation of the PPM-100 requires (2) two-way-three-port pneumatic valves OR (1) five-port-three-way valve.	
Pumping Liquids with Solids	
For liquids containing solids, such as slurries, mount the PPM-100 with the liquid inlet/outlet ports at the bottom of the pump, pump orientation is non critical in most other applications.	
Restriction of Liquid Inlet Line	
Restricting the liquid supply of the pump forces the pump to work harder than normal and should be avoided when possible. Pumping against a closed liquid inlet will cause serious damage to your pump and will void the pump warranty.	
Cross Contamination	
PTFE and many other plastics are very porous and may retain chemicals in the pores of the material. Record chemistries used in a pump to avoid cross contamination.	
WARNING: Liquids and Gasses Under Pressure	
	While in a live system, pumps contain pressurized liquids and gasses. All pressure, liquid and air must be eliminated via shut off valves before the pump may be removed or detached from the system.
WARNING: Handling of Chemicals	
	In the event that hazardous chemicals are used in or around the pump, ensure that appropriate personal protective equipment is used before handling. Reference the chemistry's Material Safety Data Sheet (MSDS) for handling instructions or other information specific to that chemical.

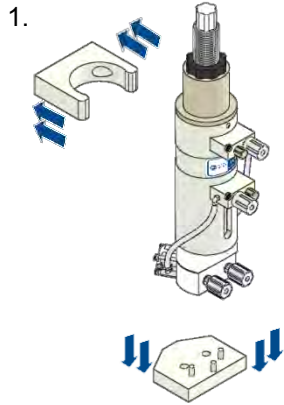
System and Pump Environment Recommendations/Requirements

Clean Supply Air (CDA)
White Knight high purity pumps require the use of class 2 air for particles and moisture per ISO 8573-1. (Use 10 micron filter, maintain -40° C dew point)
Flammable Solvents
The PPM-100 is not constructed from conductive materials. Any system used to pump flammable solvents should be properly grounded to avoid ignition by static charge. A test from River's Edge on using isolative pumps to pump flammable liquids indicated that the liquid itself must be grounded and that other procedures should be followed. A copy of the test is available upon request from White Knight.
Abrasive Slurries
Pumping of abrasive slurries will shorten the life of any pump. White Knight high purity pumps are still warrantied when used in abrasive applications however; wear of components will be accelerated. Normal wear is not a condition covered by warranty.
Environmental Temperature
This pump is rated to withstand environmental temperatures up to 80°C.

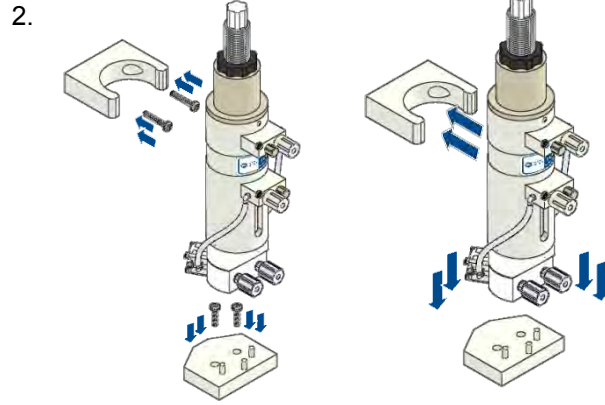
Installation Advantages

High Discharge Pressure
The PPM-100 is capable of discharging at pressures up to 85 psi, allowing the PPM-100 to pump directly into pressurized vessels or lines.
Mounting Orientation
The PPM-100 can be mounted in any orientation to better fit specific mounting locations. When pumping fluids with solids (i.e. slurries) the pump should be mounted vertically with the fluid ports on bottom.

Installation Instructions

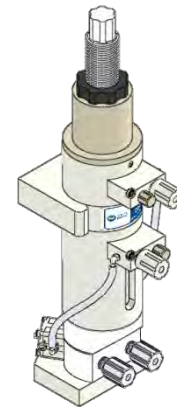


- Remove PPM-100 from mounting brackets.

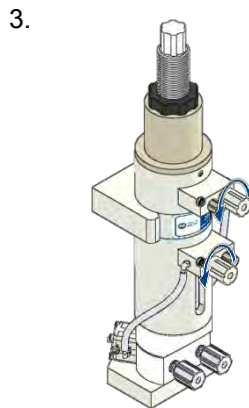


- Fix bracket(s) to work station using 1/4" or 6 mm socket screwed into pre-drilled/tapped holes. (Mounting bolts are not included). Orientation of pump is non-critical in most applications.

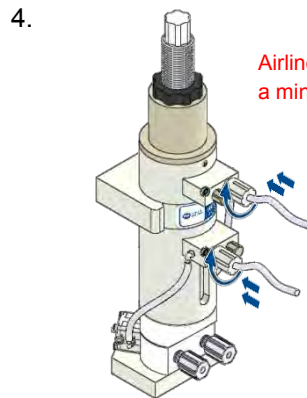
Utilize appropriate bracket(s) for specific application/location in tool



- Place pump onto bottom bracket aligning pin holes on bottom of pump head with pins in base plate AND/OR "snap" pump into mounting clamp.

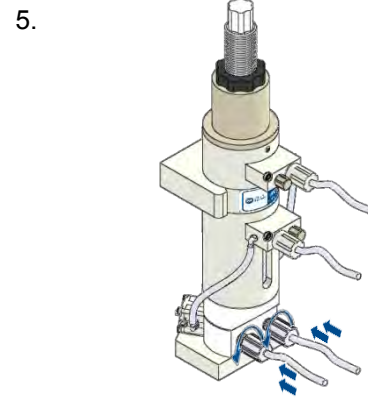


- Loosen (counter-clockwise rotation) but do not remove 1/4" gripper nuts on speed controllers.

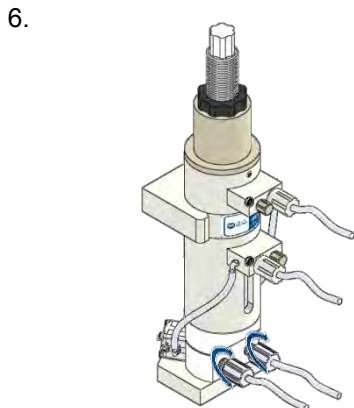


Airlines must have a minimum ID of 1/8"

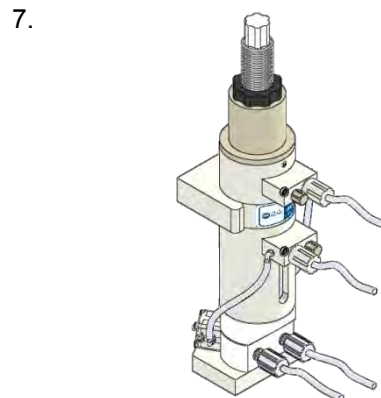
- Fully insert airline into 1/4" gripper assembly on speed controllers and tighten (clockwise rotation) gripper nuts.



- Loosen (counter clockwise rotation) 1/4" flare fittings on pump head and attach liquid lines. Pumps are shipped standard with left port inlet and right port dispense.



- Tighten flare fittings (clockwise rotation).



Verify speed controllers are open. (See next page).

- Cycle until no air bubbles are visible in liquid lines and fine tune shot size and fill/dispense speeds.