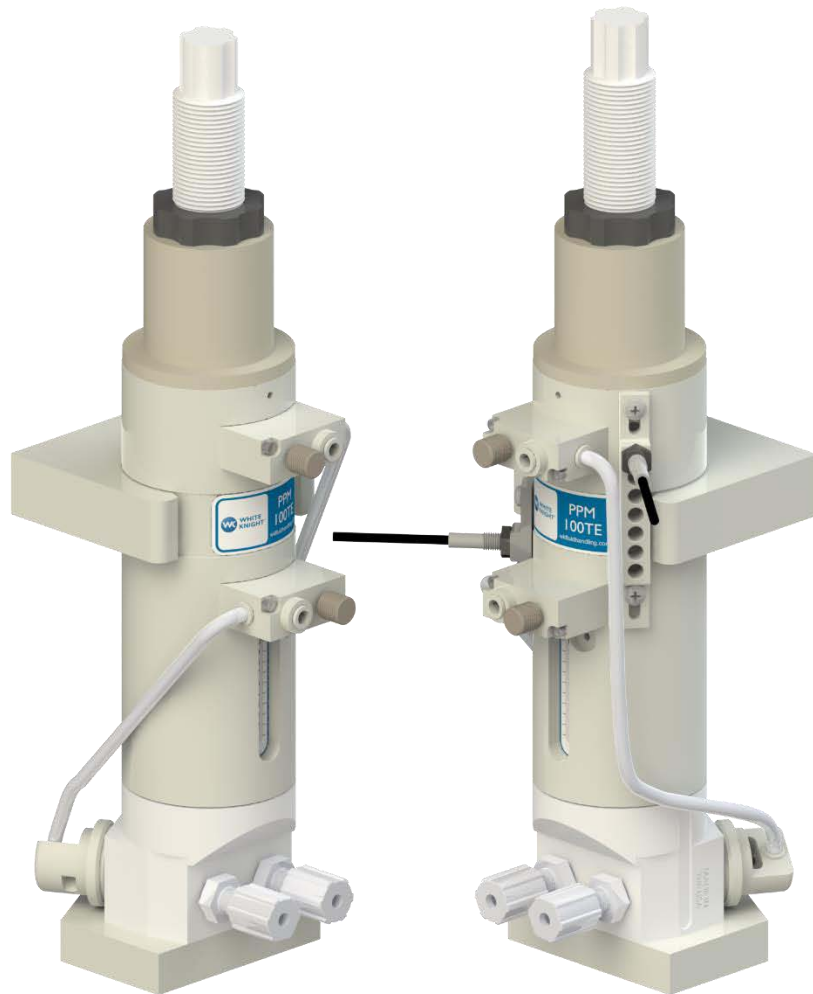


# PPM100 Owner's Manual

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# 1 Introduction

## Thank You for Purchasing White Knight Products

You have purchased a White Knight product that has been designed to our exacting specifications and built by a team of technicians with the highest commitment to quality!

White Knight is the world leader in zero-metal, ultra high-purity pumps and continues to drive the industry with new technology and products. Since the inception of White Knight in 1995, we have been awarded over 14 US patents for our designs and have multiple other patents pending! White Knight currently produces over 30 sizes/models of pumps in varying materials to meet our customers' stringent requirements in numerous applications including ultra-high temperature re-circulation; slurry and high pressure chemical delivery systems.

White Knight has been the recipient of multiple prestigious industry awards for its designs and continues to lead the industry in quality because White Knight manufactures products from raw material to finished goods in our own facility located in Kamas, UT. This allows us to rigorously manage our quality assurance process to ensure that our strict cleanliness procedures are always followed and that components are built using consistent methods and conditions to make our products reliable and consistent.

Our strict process controls include assembling and testing our products in a class 100, temperature and humidity-controlled cleanroom. White Knight products also pass functional tests and are then dried with CDA and double bagged in the cleanroom to ensure cleanliness and operational integrity.

Before installing your White Knight product, please carefully review the product manual. There are many helpful hints and ways to optimize the set up and use of your White Knight product as well as instructions and requirements for installation. In addition, there are many accessories in this manual will enhance the functionality of your White Knight product.

Our team has gone to great lengths to provide you with the highest quality products at the best value and we back them up with excellent warranties and world class support! We hope you agree our products will serve your exacting needs and meet your stringent requirements every time you use a White Knight Product.

Sincerely,

Steve Smith  
CEO  
White Knight Fluid Handling

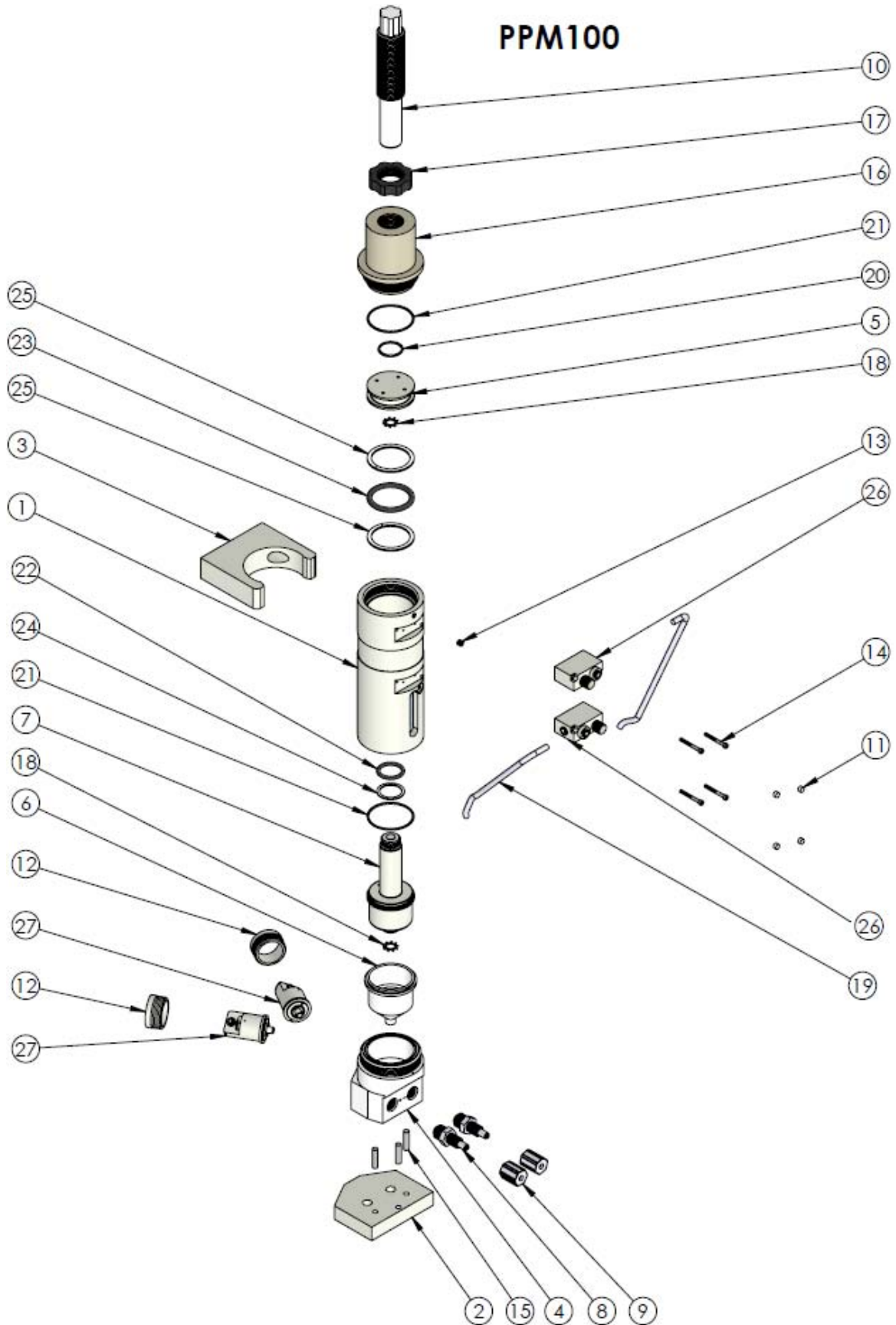
## 2 Specifications & Performance

### 2.1 Pump Specifications

| PPM100 Pump Specifications             |                        |   |                                    |  |                      |                         |                   |                       |
|--|------------------------|---|------------------------------------|--|----------------------|-------------------------|-------------------|-----------------------|
| Dispense Range per Stroke <sup>1</sup> | Max Discharge Pressure | Repeatability (Full Scale) <sup>2</sup> | Max Cycles Per Minute <sup>3</sup> | Air Consumption SCF per Cycle Max/Min <sup>4</sup> | Fluid Path Materials | Fluid Temperature range | Weight            | Suction Lift          |
| 100 ml Max<br>10 ml Min                | 85 PSI                 | +/- 0.1%                                | 12                                 | .048/.038  | PTFE                 | 0-100°C<br>32-212°F     | 1.6 KG<br>3.5 LBS | 4.6 meters<br>15 feet |

1. White Knight does not recommend dispensing less than 10 ml per shot as repeatability is not consistent below this level
2. Repeatability can be affected by many things. Optimization of dispense nozzle, complete air purge of fluid chamber, changes in inlet fluid pressure and many other factors can affect system repeatability. White Knight recommends that the pump be mounted with liquid fittings at the top of the pump to aid in air purge.
3. White Knight only warrants the PPM100 to 500,000 cycles, test ran with 100ml dispense  
Note: all tests ran with water at ambient temperature
4. Max represents full stroke at 80 PSI supply pressure, min represents full stroke at 60 PSI supply pressure

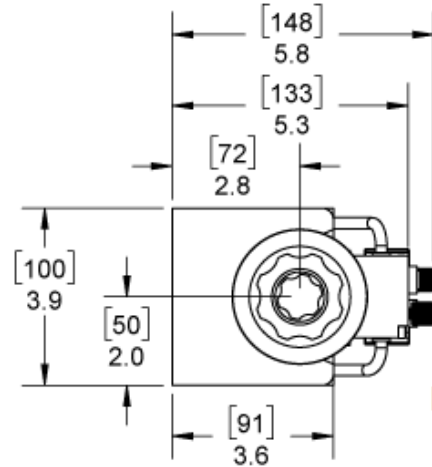
## 2.2 Exploded View, Dimensions, and Bill of Materials



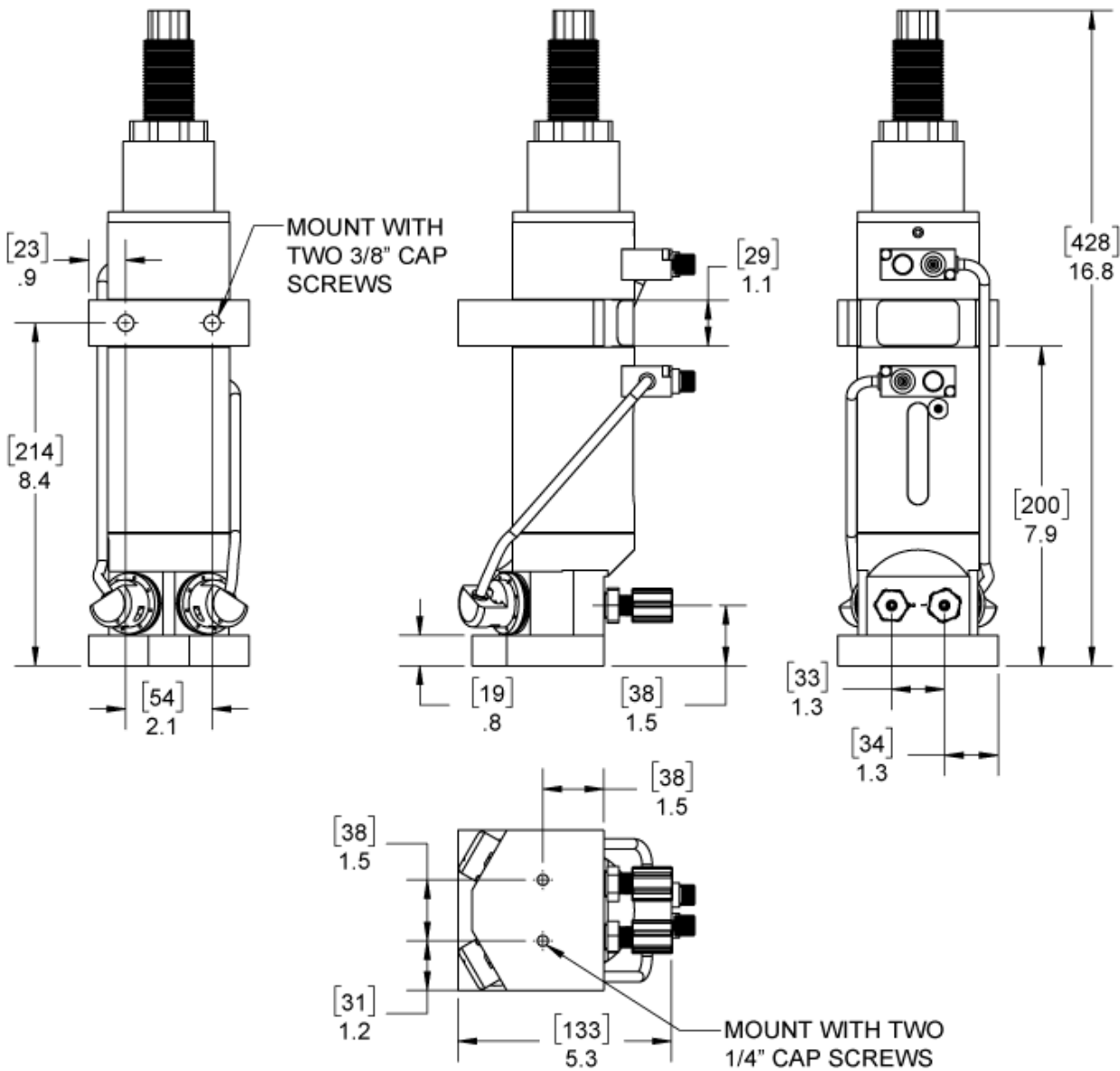
## PPM100 BILL OF MATERIALS

| ITEM NO. | PART NUMBER     | DESCRIPTION                  | QTY. |
|----------|-----------------|------------------------------|------|
| 1        | 1125-NP-0003    | BODY, PPM100                 | 1    |
| 2        | 1146-NP-0014    | PLATE, BASE                  | 1    |
| 3        | 1146-NP-0015    | CLAMP, MOUNTING              | 1    |
| 4        | 2127-TE-0077    | HEAD                         | 1    |
| 5        | 3135-NP-0001    | PISTON                       | 1    |
| 6        | 3200-MP-0001    | DIAPHRAGM, ROLLING           | 1    |
| 7        | 5144-NP-0001    | SHAFT                        | 1    |
| 8        | 7200-PF-0012    | 1/4" FLARETEK LIQUID FITTING | 2    |
| 9        | 7210-PF-0001    | 1/4" FLARETEK NUT            | 2    |
| 10       | 8140-UH-0001    | STEM, STROKE, ADJUSTABLE     | 1    |
| 11       | 10010-NP-0008   | COVER, SCREW                 | 4    |
| 12       | 10010-NP-0010   | NUT, VALVE, 1/4" WK          | 2    |
| 13       | 10010-NY-0001   | SET SCREW                    | 1    |
| 14       | 10010-SS-0002   | SCREW                        | 4    |
| 15       | 10020-SS-0001   | PIN, DOWEL                   | 3    |
| 16       | 10040-EP-0001   | CAP, END, PISTON             | 1    |
| 17       | 10050-BP-0002   | RING, LOCK                   | 1    |
| 18       | 10050-SS-0004   | WASHER, LOCK                 | 2    |
| 19       | 10070-PF-0001   | TUBING, 1/4", THICK WALL     | 1    |
| 20       | 10080-VI-022-75 | O-RING, 022 X .070           | 1    |
| 21       | 10080-VI-033-75 | O-RING, 033 X .070           | 2    |
| 22       | 10080-VI-214-75 | O-RING, 214 X .139           | 1    |
| 23       | 10080-VI-327-75 | O-RING, 327 X .210           | 1    |
| 24       | 10081-TE-214-55 | RING, BACK-UP, 214 X .119    | 1    |
| 25       | 10081-TE-327-55 | RING, BACK-UP, 327 X .183    | 2    |
| 26       | 14460-XX-0001   | CONTROLLER, SPEED, ASSEMBLY  | 2    |
| 27       | 14470-XX-0002   | VALVE ASSEMBLY               | 2    |

# PPM100

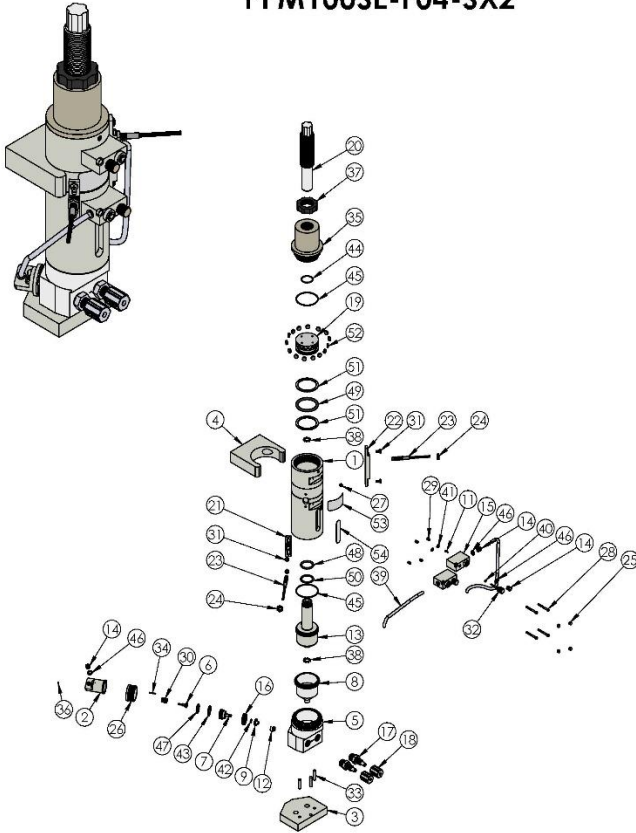


MAIN DIMENSIONS ARE IN INCHES  
[BRACKETED] DIMENSIONS ARE IN mm



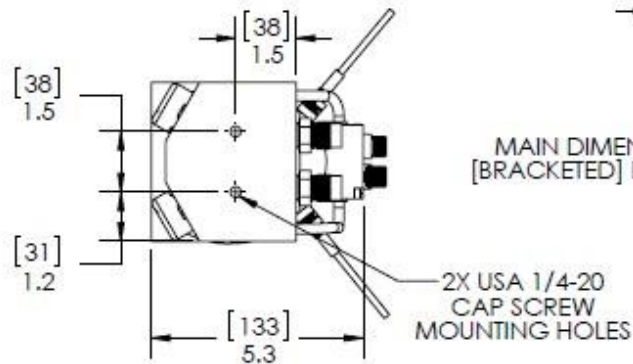
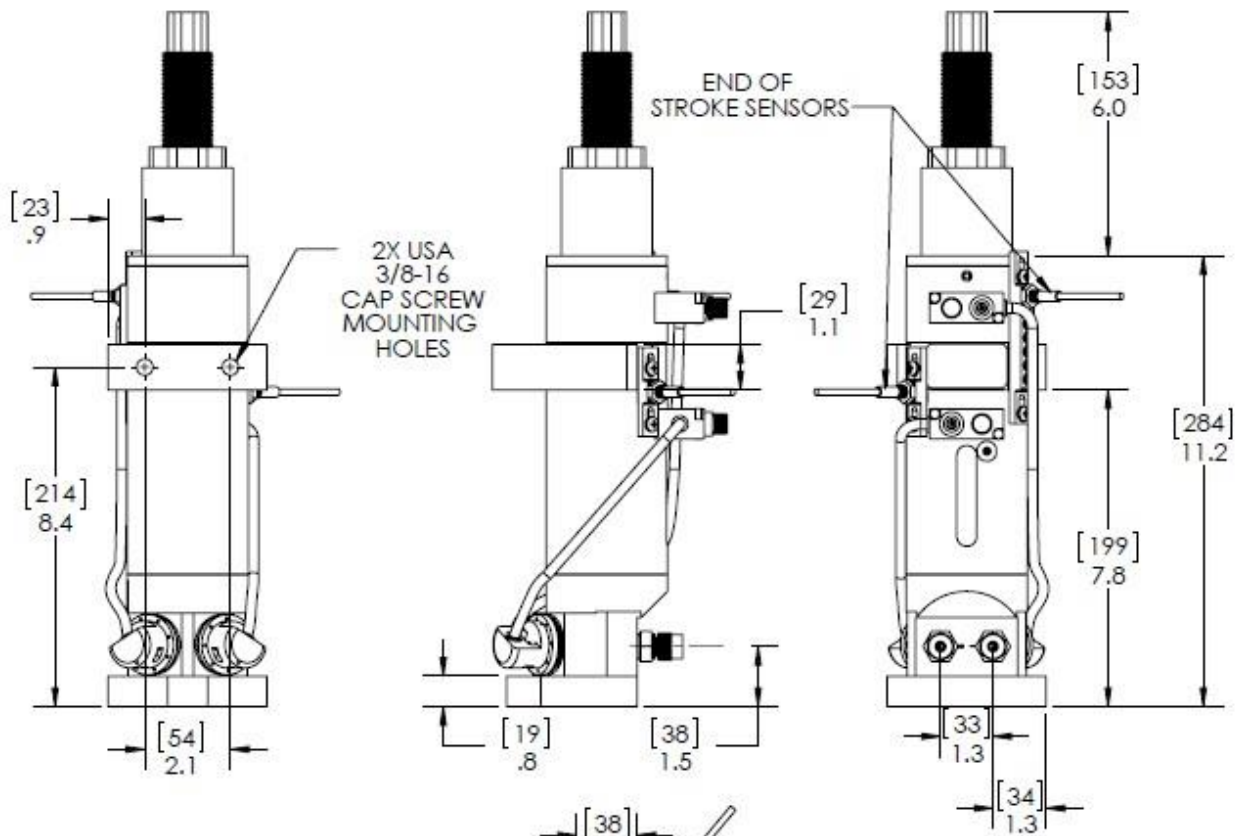
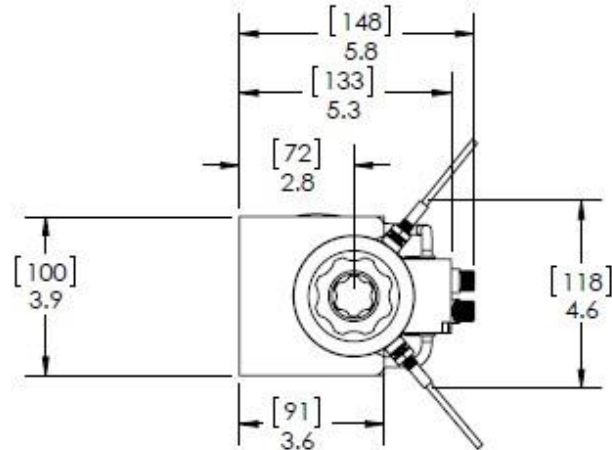


# PPM100SE-F04-SX2



| ITEM NO. | PART NUMBER                 | DESCRIPTION                        | QTY. |
|----------|-----------------------------|------------------------------------|------|
| 1        | 1125-NP-0010                | BODY, PUMP, PPM100SE               | 1    |
| 2        | 1126-NP-0001                | BODY, VALVE, 1/4", WK              | 2    |
| 3        | 1146-NP-0014                | PLATE, BASE, PPM100/PEM100         | 1    |
| 4        | 1146-NP-0015                | CLAMP, MOUNTING                    | 1    |
| 5        | 2127-TE-0073                | HEAD, PUMP, PPM100-02              | 1    |
| 6        | 3135-SP-0001                | PISTON, VALVE, 1/4", WK, PART B    | 2    |
| 7        | 3135-NP-0002                | PISTON, VALVE, 1/4", WK, PART A    | 2    |
| 8        | 3200-MP-0001                | DIAPHRAGM, ROLLING, 100ML          | 1    |
| 9        | 3200-MP-0005                | DIAPHRAGM, 1/4", WK, POPPIT        | 2    |
| 10       | 4135-NP-0001                | SEAT, DUCKBILL                     | 2    |
| 11       | 4143-EM-0001                | VALVE, CHECK, DUCKBILL             | 2    |
| 12       | 4144-MP-0001                | SEAT, VALVE, 1/4", Metering Pumps  | 2    |
| 13       | 5144-NP-0001                | SHAFT, PPM100                      | 1    |
| 14       | 6080-PP-0001                | GRIPPER, 250, ONE-TOUCH            | 6    |
| 15       | 6091-NP-0001                | BODY, CONTROLLER, SPEED            | 2    |
| 16       | 6150-NP-0011                | GLAND, VALVE, 1/4", WK             | 2    |
| 17       | 7200-PF-0012                | 1/4" FLARETEK LIQUID FITTING       | 2    |
| 18       | 7210-PF-0001                | 1/4" FLARETEK NUT                  | 2    |
| 19       | 8110-NP-0006                | MAGNET HOLDER SUSS PPM             | 1    |
| 20       | 8140-UH-0001                | STEM, STROKE, ADJUSTABLE           | 1    |
| 21       | 8180-NP-0001                | SENSOR BRACKET                     | 1    |
| 22       | 8180-NP-0002                | FULL SENSOR MOUNT BRACKET          | 1    |
| 23       | 8600-XX-0070                | Switch Inductive, NPN, 5m Cable    | 2    |
| 24       | 8600-XX-0070 (nut included) | SENSOR NUT                         | 2    |
| 25       | 10010-NP-0008               | COVER SCREW, 6-32                  | 4    |
| 26       | 10010-NP-0010               | NUT, VALVE, 1/4" WK                | 2    |
| 27       | 10010-NY-0001               | SCREW, SET, 1/4-28 x3/16           | 1    |
| 28       | 10010-SS-0002               | SCREW, SOCKET HEAD, 6-32 x 1.25    | 4    |
| 29       | 10010-SS-0011               | INSERT, THREADED, 6-32 x .276      | 4    |
| 30       | 10010-SS-0036               | SPRING, VALVE, 1/4" WK             | 2    |
| 31       | 10010-SS-0066               | 10-32 PAN HEAD SCREW, 3/75 LONG    | 4    |
| 32       | 10020-PK-0001               | KNOB, SPEED CONTROL                | 2    |
| 33       | 10020-SS-0001               | PIN, DOWEL, 1/4" x 1"              | 3    |
| 34       | 10020-SS-0002               | DOWEL PIN, .0625 X .625 (316 S.S.) | 2    |
| 35       | 10040-EP-0001               | CAP. END, PISTON, PPM100           | 1    |
| 36       | 10040-SS-0003               | PLUG, BALL, 316 S.S., 3/32"        | 2    |
| 37       | 10050-BP-0002               | RING, LOCK                         | 1    |
| 38       | 10050-SS-0004               | WASHER, LOCK, M10                  | 2    |
| 39       | 10070-PF-0001               | TUBING, 1/4", THICK WALL           | 2 ft |
| 40       | 10080-VI-004-75             | O-RING 004 x .070                  | 2    |
| 41       | 10080-VI-008-75             | O-RING 008 x .070                  | 4    |
| 42       | 10080-VI-009-75             | O-RING, 009 x .070                 | 2    |
| 43       | 10080-VI-020-75             | O-RING, 020 x .070                 | 2    |
| 44       | 10080-VI-022-75             | O-RING, 022 x .070                 | 1    |
| 45       | 10080-VI-033-75             | O-RING, 033 x .070                 | 2    |
| 46       | 10080-VI-108-75             | O-RING, 108 X .103                 | 6    |
| 47       | 10080-VI-115-75             | O-RING, 115 X .103                 | 2    |
| 48       | 10080-VI-214-75             | O-RING, 214 X .139                 | 1    |
| 49       | 10080-VI-327-75             | O-RING, 327 X .210                 | 1    |
| 50       | 10081-TE-214-55             | RING, BACK-UP, 214 X .119          | 1    |
| 51       | 10081-TE-327-55             | RING, BACK-UP, 327 X .183          | 2    |
| 52       | 10090-MG-0001               | MAGNET                             | 15   |
| 53       | 19100-PP-0006               | LABEL, PRODUCT, PPM100             | 1    |
| 54       | 19100-PP-0007               | LABEL, PRODUCT WINDOW, PPM 100     | 1    |

# PPM100 with Sensors



MAIN DIMENSIONS ARE IN INCHES  
[BRACKETED] DIMENSIONS ARE IN mm

### 3 Pump Warranty

White Knight Fluid Handling follows strict procedures in all phases of manufacturing, assembly, and testing to ensure reliability of its products. Each pump is individually tested to assure its functional operation integrity.

White Knight Fluid Handling warrants the PPM100 metering pump, subassemblies and components to be free from defects in materials and workmanship to one year from date of start-up, 18 months from the date of shipment or upon completion of 500,000 cycles, whichever applies. Failures due to misuse, abuse or any unauthorized disassembly of a White Knight® pump will nullify this warranty.

The PPM100 metering pump is warranted for up to 85 PSI air supply pressures. It is not covered under dry run condition. Wearable parts are not covered if used to pump abrasive slurries.

Due to the broad and ever-evolving applications for usage of White Knight® pumps we cannot guarantee the suitability of any pump component or subassembly for any particular or specific application. White Knight Fluid Handling shall not be liable for any consequential damage or expense arising from the use or misuse of its products in any application. Responsibility is limited solely to the replacement or repair of defective White Knight® pumps, components or subassemblies. All options to rebuild or replace aforementioned items shall remain under the judgment of White Knight Fluid Handling. Decisions as to the cause of failure shall be solely determined by White Knight Fluid Handling.



Prior written, faxed or emailed approval must be obtained from White Knight Fluid Handling before returning any pump component or subassembly for warranty consideration.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED INCLUDING ANY WARRANTIES OF SUITABILITY FOR ANY PARTICULAR PURPOSE. NO VARIATIONS OF THIS WARRANTY BY ANYONE OTHER THAN THE PRESIDENT OF WHITE KNIGHT FLUID HANDLING IN A SELF-SIGNED AGREEMENT SHALL BE HONORED OR CONSIDERED LEGALLY BINDING.

Steve Smith  
CEO  
White Knight Fluid Handling

## 4 Installation and Precautions

### 4.1 Precautions

| <b>Handling</b>   |  |
|---|--|
| DO NOT LIFT PUMP BY LIQUID FITTINGS OR AIR TUBING!  |  |
| <b>Air Supply</b>   |  |
| The operation of the PPM100 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.  |  |
| <b>Controlling Shot Size</b>  |  |
| 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.                     |  |
| <b>Dry Priming/Air Purging</b>  |  |
| Initial priming and air purging of the PPM100 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. Failure to purge all air will affect repeatability. Mounting the pump with the liquid ports at the top of the pump (reversed from standard) will maximize purge efficiency. |  |
| <b>Dispense/ Fill Speed</b>   |  |
| The adjustor-knobs on the front of the pump may be used to control dispense and fill speeds of the pump.  |  |
| <b>External Valves Required For Operation</b>   |  |
| Operation of the PPM100 requires (2) two-way-three-port pneumatic valves OR (1) five-port-three-way valve.  |  |
| <b>Pump Orientation</b>   |  |
| For liquids containing solids, such as slurries, as well as to optimize repeatability, mount the PPM100 with the liquid inlet/outlet ports at the bottom of the pump.   |  |
| <b>Restriction of Liquid Inlet Line</b>   |  |
| 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.   |  |
| <b>Cross Contamination</b>  |  |
| 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.   |  |
| <b>WARNING: Liquids and Gasses Under Pressure</b>   |  |
|    | 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.  |
| <b>WARNING: Handling of Chemicals</b>   |  |
|    | 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. |

## 4.2 System and Pump Environment Recommendations/Requirements

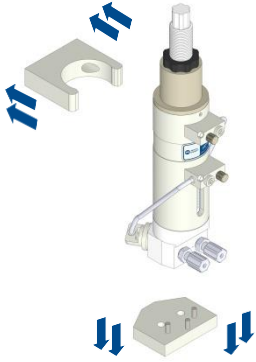
| Clean Supply Air (CDA)  |
|---|
| White Knight high purity pumps require the use of class 2 air for particles and moisture per ISO 8573-1. (Use 10-micron filter, maintain -40° C dew point)  |
| Flammable Solvents  |
| The PPM100 is not constructed from conductive materials. Any system used to pump 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 warranted 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.  |

## 4.3 Installation Advantages

| High Discharge Pressure  |
|--|
| The PPM100 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 PPM100 can be mounted in any orientation. For optimal air purge, resulting in highest accuracy, the pump should be mounted with liquid ports up (motor bottom configuration). When pumping slurries/abrasives the pump should be mounted with liquid ports on bottom (motor top configuration) to help increase the life of the diaphragm. |

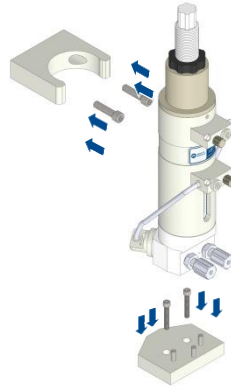
## 4.4 Installation Instructions

1.



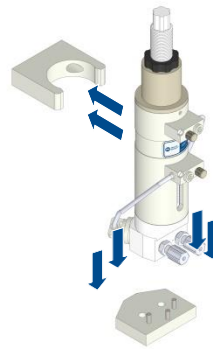
- Remove PPM-100 from mounting brackets.

2.



- Fix bracket(s) to work station using  $\frac{1}{4}$ " or 6 mm socket (for base plate),  $\frac{3}{8}$ " bolt (for clamp mount) 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.

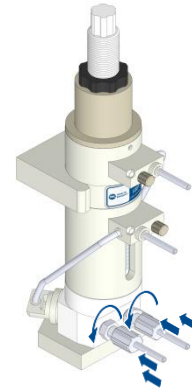
3.



- Press Air lines into the quick connect ports in the speed controllers. Top standard as dispense control, bottom as fill control. Verify that tubing is fully inserted and is secure

Airlines must have a minimum ID of  $\frac{1}{8}$ "

4.



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

5.



- Tighten flare fittings (clockwise rotation).

6.



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

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

Note: Mounting instructions are shown with liquid fittings down. Best performance is achieved with liquid fittings up.



## 4.5 Dispense Adjustment Guide

### To Adjust Shot Size

1. Loosen lock ring.
  - a. Counterclockwise rotation
2. Rotate adjustable stroke stem.
  - a. Counterclockwise rotation for a larger shot size (**DO NOT DISENGAGE O-RING SEAL**)
  - b. Clockwise rotation for smaller shot size
3. Tighten lock ring.
  - a. Clockwise rotation

Note: Indicator on front of pump is set as a guide for approximate shot size as follows:

| Number on Indicator | Approximate Shot Size |
|---------------------|-----------------------|
| 10                  | 100ml                 |
| 5                   | 50ml                  |
| 1                   | 5ml                   |

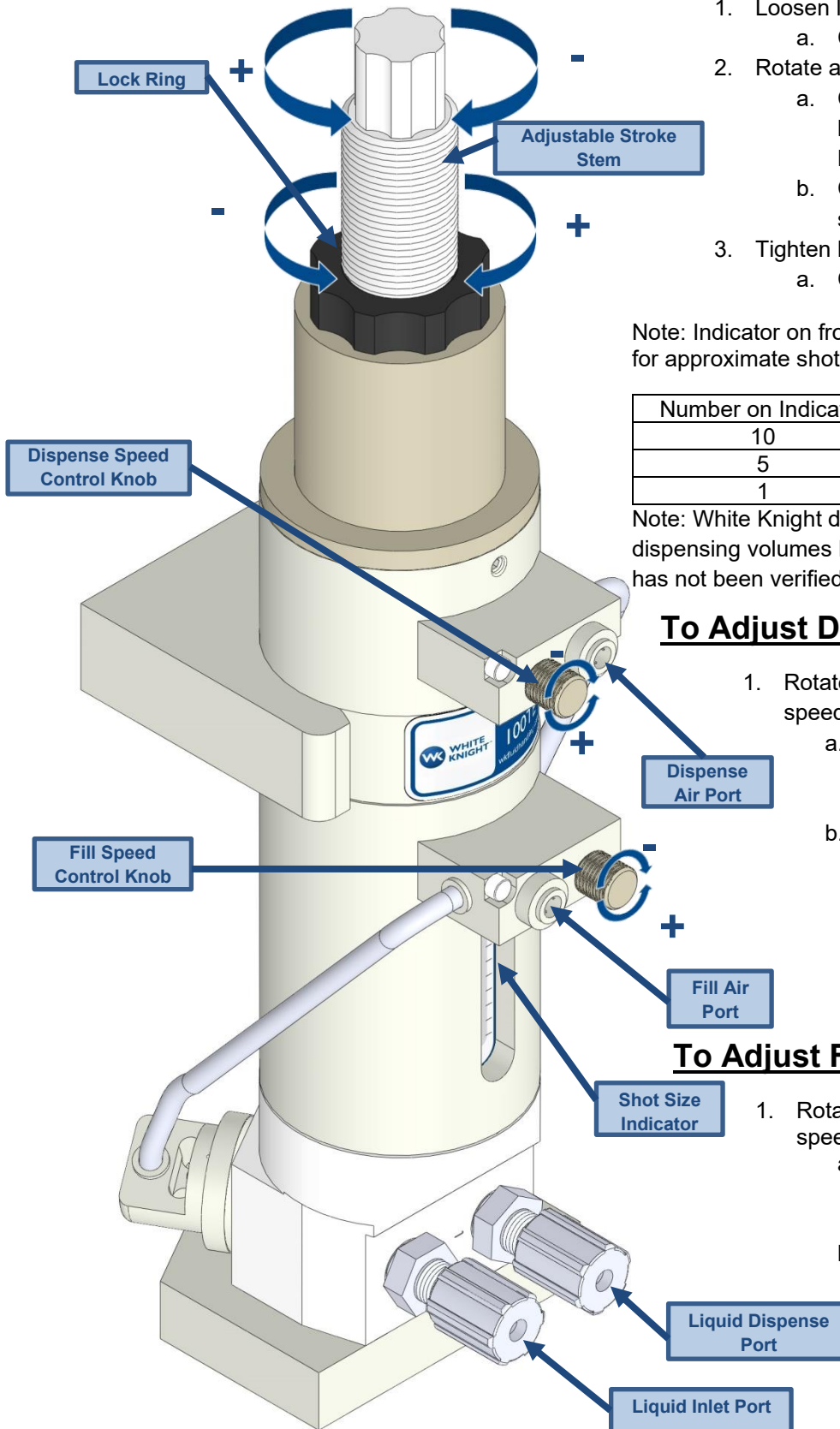
Note: White Knight does not recommend dispensing volumes less than 10ml as repeatability has not been verified at this level

### To Adjust Dispense Speed

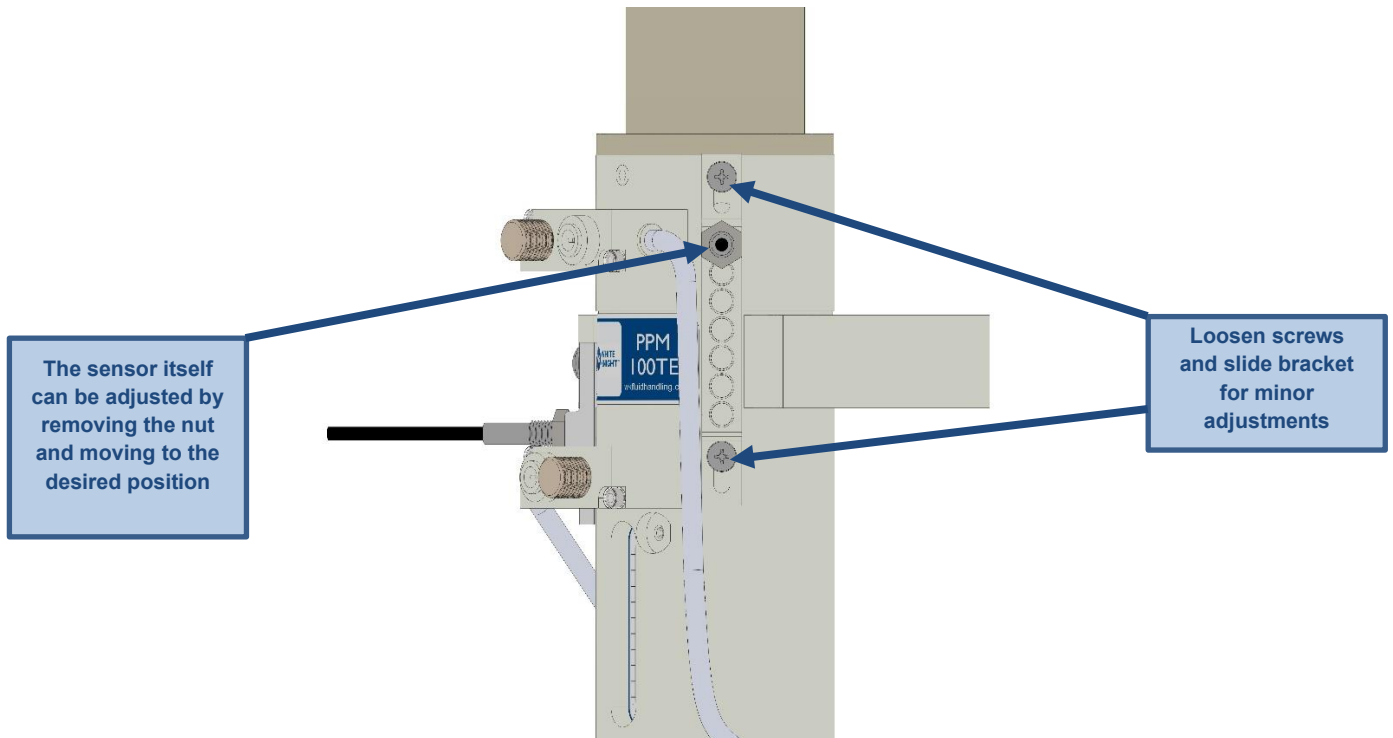
1. Rotate speed control knob on upper speed controller.
  - a. Clockwise rotation slows dispense speed (**DO NOT OVERTIGHTEN**).
  - b. Counterclockwise rotation increases dispense speed. (**DO NOT EXCEED (4) FOUR TURNS FROM FULLY CLOSED**).

### To Adjust Fill Speed

1. Rotate speed control knob on lower speed controller.
  - a. Clockwise rotation slows fill speed (**DO NOT OVERTIGHTEN**).
  - b. Counterclockwise rotation increases fill speed. (**DO NOT EXCEED (4) FOUR TURNS FROM FULLY CLOSED**).

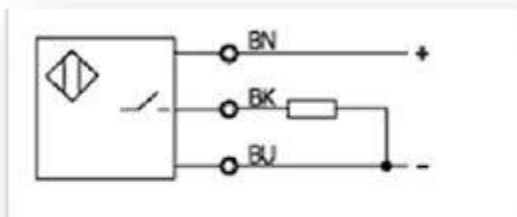


## 4.6 Sensor Adjustment

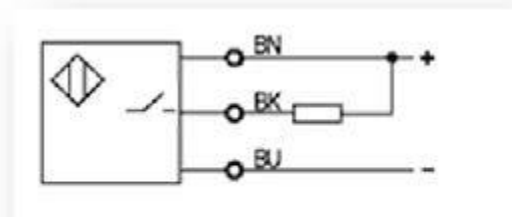


## 4.7 Wiring Diagrams

**PNP Sensor**



**NPN Sensor**



## 5 Pump Control

- **PROGRAMMABLE CONTROLLING:** White Knight offers the CPT-1 pump controller as an optional solution to control a White Knight pump.





# 6 Pump Service & Rebuilds

## 6.1 Ordering Instructions [wkfluidhandling.com/ordering-instructions](http://wkfluidhandling.com/ordering-instructions)

### Rebuild Parts for PPM100 Series Pumps

| Part Name                   | Part Number     | Req. Quantity |
|-----------------------------|-----------------|---------------|
| Controller, Speed, Assembly | 14460-XX-0001   | 2             |
| * Assembly, Valve, ¼"       | 14470-XX-0002   | 2             |
| * Diaphragm, Rolling, 100ML | 3200-MP-0001    | 1             |
| * Ring, Back-up, 214 X .119 | 10081-TE-214-55 | 1             |
| * Ring, Back-up, 327 X .183 | 10081-TE-327-55 | 2             |
| * O-Ring, 033 X .070        | 10080-VI-033-75 | 2             |
| * O-Ring, 022 X .070        | 10080-VI-022-75 | 1             |
| * O-Ring, 327 X .210        | 10080-VI-327-75 | 1             |
| * O-Ring, 214 X .139        | 10080-VI-214-75 | 1             |

| Kit Name     | Part Number |
|--------------|-------------|
| *Rebuild Kit | RBPPM100-1  |

### Items marked with "\*" are contained in RBPPM100-1

PPM100 pumps rebuilt by White Knight Fluid Handling or other authorized company receive a full 1-year/500,000 cycle warranty.

## 6.2 Return Instructions

Pumps can be returned to White Knight once an RMA number has been obtained from [customer.support@wkfluidhandling.com](mailto:customer.support@wkfluidhandling.com). RMA numbers can be requested online here: <https://wkfluidhandling.com/rma>. The information on the form below will be required by the system.

## Decontamination Instructions

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**PRINT COMPLETED DECONTAMINATION CERTIFICATION. IT MUST BE INCLUDED IN YOUR RMA SHIPMENT.**

**White Knight products are designed for use with caustic and otherwise dangerous liquids. Handle every product as if it contains dangerous chemicals whether or not it actually does.**

- Only those with adequate safety training should attempt to handle used pumps.
- Wear adequate safety gear appropriate for chemicals that have been in the pump.
- Review relevant Material Safety Data Sheets (MSDS) before handling the pump.
- Review emergency numbers for use in event of an accident.
- Prepare Ph papers, showers, antidotes, clean-up equipment, neutralizers, and other safety devices used to detect, neutralize or minimize effects of chemicals described in appropriate MSDS documents.

### Rinse with DI Water

Circulate DI water through pump for twenty minutes before disassembly and/or double bagging for shipment. If pump is nonfunctional, force DI water from inlet through outlet for 40 minutes before shipment preparations.

### Remove Pump from Station:

1. Disconnect liquid tubing connectors from front of pump (opposite externally-mounted shuttle valve).
2. Plug NPT fittings with PTFE plug, Flare fittings with flare nose cover and cap, or other plug or cap as recommended by connector supplier.
3. Disconnect air supply tubing from face of shuttle valve.
4. Loosen mount screw from base plate. (Note: do not remove screw from base plate).
5. Remove base plate using proper tool for the fastening devices (e.g. Allen wrench or screw driver).  
Note: Base plate may remain if needed for a White Knight pump used to replace the returned pump.
6. Return all removed parts to the pump.

### Return Pump to White Knight:

1. Rinse pump with DI water as described above after removing it from its station.
2. Drain remaining DI water from the pump inlet and outlet liquid tubing connectors.
3. Plug liquid outlets as described in the *Remove Pump from Station* section of this document.
4. Dry the pump, double bag it, and seal it in thick polyethylene bags.
5. Return the pump to its original packaging.
6. Include MSDS for the chemical that the pump was handling in the box with the pump.
7. Obtain RMA number from White Knight and write it on the outside of the box.
8. Ship to White Knight following all rules, regulations and laws regarding shipment of dangerous materials. Ship freight pre-paid. No collect shipments will be accepted. Unauthorized use of White Knight shipping accounts will result in the adding of freight to the bill in addition to a service charge.

### Include All Pump Components:

Pumps returned to White Knight for evaluation, service or repair must be complete with all components, including but not limited to base plate, mount screws, tubing connectors, tubing connector caps, flare noses, shuttle valves, mufflers, and tubing. Missing parts will be added to the pump and charged to the customer.

# Decontamination Certification

**COMPLETE AND PRINT THIS FORM. IT MUST BE INCLUDED IN YOUR RMA SHIPMENT.**

I, the undersigned employee of \_\_\_\_\_, certify that all decontamination and safety procedures described in Decontamination Instructions section have been followed for return of product below.

**RMA#:** \_\_\_\_\_

*(We cannot process returns without an RMA number.)*

**Serial#:** \_\_\_\_\_

*(We cannot process returns without a product serial number.)*

## Metal Exposure:

*(Check all that apply. Write in other metals if necessary.)*

Product was **NOT** used in a Metal Process.

Product was used in a **Copper** Metal Process.

Product was used in another Metal Process (Non-Copper).

Aluminum  Cobalt  Gold  Lead  Nickel  Platinum  Silver  Tin  Titanium  Tungsten  Zinc

Other: \_\_\_\_\_

## Chemical Exposure:

*(Check all that apply. Write in other chemicals if necessary.)*

Product was **NOT** used in chemicals (DI Water only).

Product was used in chemicals.

Ammonia  Ammonium Hydroxide  Hydrochloric Acid  Hydrofluoric Acid  Hydrogen Peroxide  IPA

Nitric Acid  Phosphoric Acid  Sulfuric Acid Other: \_\_\_\_\_

## Shipping Information:

Please indicate metal processes to which the product has been exposed by clearly and conspicuously labeling the outside of the return package with the metal.

Products exposed to Metal Processes must be sent to the following address:

White Knight Fluid Handling  
187 East 670 South, **Suite B**  
Kamas, UT 84036

Products **NOT** exposed to Metal Processes must be sent to the following address:

White Knight Fluid Handling  
187 East 670 South, **Suite C**  
Kamas, UT 84036

**Print Name:** \_\_\_\_\_

**Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_



# Barclay-Phelps

CE MARKING SPECIALISTS  
Hoi Yuen Road, Kwun Tong, Kowloon, Hong Kong

## CERTIFICATE & DECLARATION OF CONFORMITY FOR CE MARKING

**Company contact details:**

White Knight Fluid Handling Inc.  
187 E. 670 S., Kamas, Utah, 84036, USA

**White Knight Fluid Handling Inc. declares that their:**

**Bellows Pump Line**

PSA030, PSA060, PSA140, PSH030, PSH060, PSH140, PSU030, PSU060, PSU140, PSA025, PSA050, PFA030, PFA060, PFA140, PFH030, PFH060, PFH140, PFU030, PFU060, PFU140, PXA030, PXA060, PXA140, PXH030, PXH060, PXH140, PXJ030, PXJ060, PXJ140

**Diaphragm Pump Line (Non Conductive)**

PSD04TE, PSD06TE, PSD08TE, PSD16TE, PSD24TE, PSD04UH, PSD06UH, PSD08UH, PSD16UH, PSD24UH

**Diaphragm Pump Line (Conductive)**

PSD04TC, PSD06TC, PSD08TC, PSD16TC, PSD24TC, PSD04UC, PSD06UC, PSD08UC, PSD16UC, PSD24UC

**Legacy Pump Line**

PLS30, PLS60, PLS120, PLX30, PLX60, PLX120, PX30, PX60, PX120, PLF30, PLF60, PLF120

**Metering Pumps**

PPM100, PEM100, PEM050

**Plastic Pumps**

PHC40-2, PPMC300

**are classified within the following EU Directives as applicable:**

Machinery Directive 2006/42/EC  
Low Voltage Directive 2014/35/EU  
Electromagnetic Compatibility Directive 2014/30/EU  
RoHS 2 Directive 2011/65/EU

**and further conform with the following EU Harmonized Standards as applicable:**

EN 809:1998+A1:2009 EN 60204-1:2006 + A1:2009 EN 61000-6-2:2005 EN 61000-6-4:2007+A1:2011

**Dated:** 16 January 2017

**Position of signatory:** Product Manager **Name of Signatory:** Cory Ammon Simmons

**Signed below:** on behalf of White Knight Fluid Handling Inc.

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