WHITE KNIGHT®
engineer approved™

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https://wkfluidhandling.com

PXA140B Owner's Manual

Table of Contents

Version 1.0.0 | 7 May 2018
Subject to change without notice

Dear valued customer,

Thank you for purchasing a White Knight PXA140B pump.

Our dedicated team designs products to meet your exacting specifications with the highest commitment to quality.

White Knight provides the highest quality fluid handling products through controlled, consistent in-house engineering and manufacturing. Our safe, reliable products offer superior performance, optimized efficiency, and simplified maintenance. We continue to lead the industry with new technologies and products.

Our patented designs offer a variety of size and material options to meet stringent requirements of high-pressure chemical delivery systems; high-temperature re-circulation processes; chemical reclaim and bulk transport applications; as well as slurry systems.

White Knight has received many prestigious awards for innovation and manufacturing programs. We rigorously manage our quality assurance processes to ensure consistency and reliability. Our quality controls include strict cleanliness procedures and consistent manufacturing processes. For example, product assembly and testing is done in a temperature and humidity-controlled cleanroom.

Please peruse this manual before installing your White Knight product. It details installation requirements and setup instructions, and provides additional information and accessories to enhance the product's functionality.

Our team has gone to great lengths to ensure our products serve your needs and meet your requirements.

Further, we provide the highest quality products at the best value, and we back them up with excellent warranties and world class support.

Sincerely,

Steve Smith, CEO
White Knight Fluid Handling

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1. Product Information

1.1 Specifications & Performance

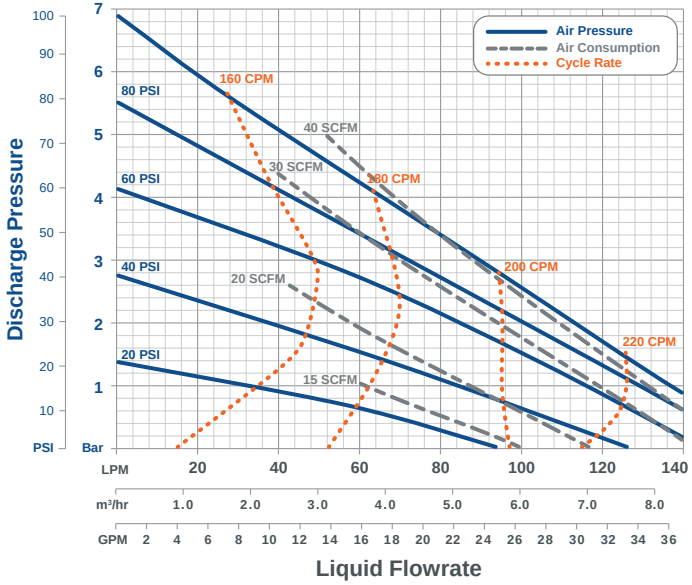
Model		PXA140B
Max Flow Rate*		159 lpm (42 gpm)
Displacement Per Cycle*		0.5 liters (0.132 gal)
Cycles per min		230 max
Air Connection		3/8 in
Weight		15.5 kg (34.2 lb)
Suction Lift*		3 m (10 ft)
Sound	Pressure**	76.9 dB(a) at 100 psi 50 CPM 80.19 dB(a) at 100 psi max CPM
	Power**	74.22 dB(a) at 100 psi 50 CPM 76.42 dB(a) at 100 psi max CPM

** May vary by configuration or system. Suction lift diminishes over time. Recommended installation level less than 3 ft above source. To calculate displacement, divide flow rate by CPM.*
*** Sound measured in accordance with ISO9614-2:1997.*

Max Fluid Temperature	100°C (212°F)
Environmental Temperature	min: 0°C (32°F) max: 50°C (122°F)
Max Supply Air Pressure	7 Bar (100 psi)
Min Startup Air Pressure	1.4 bar (20 psi)
Fluid Path Materials	PTFE, PFA
Non-Fluid Path Materials	PTFE, PFA, PP, SS

Stroke Detection	Proximity stroke detection
Leak Detection	Fiber optic with or without sensor, or conductivity
Electronic Control	CPC, CPT, or custom. Call for details.

PXA140B Performance

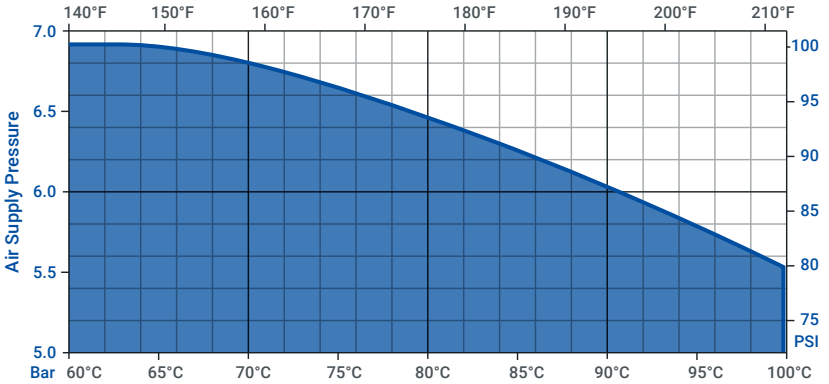


How to Read Charts
Draw a horizontal line at your discharge pressure and vertical line at desired flow rate. At line intersect, estimate required air pressure, resultant cycle rate and air consumption.

Example
At 2 Bar (30 psi) discharge pressure and 80 psi supply pressure, PXA140B pumps provide 120 lpm (31.7 gpm) flow rates. They would cycle at 215 CPM and exhaust 38 SCFM of air.

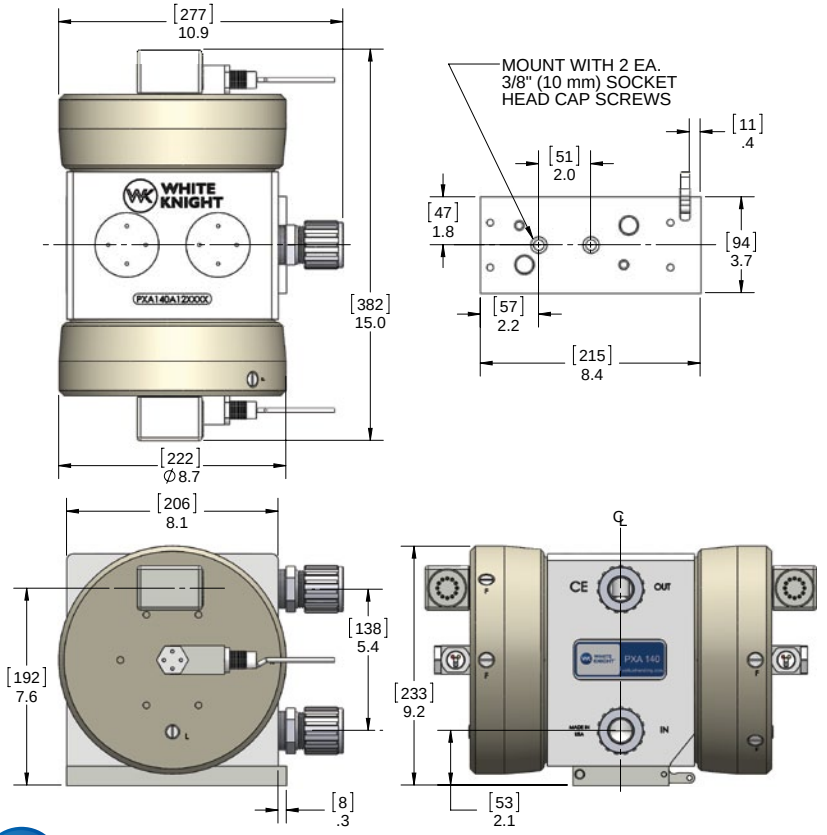
**Graph is for reference only. Performance was measured utilizing 1/2 in (3/8 in ID) air line and 1-1/4 in (1-1/8 in ID) liquid lines with 1 ft flooded suction. Performance may vary in your system.*

1.2 Temperature Limits

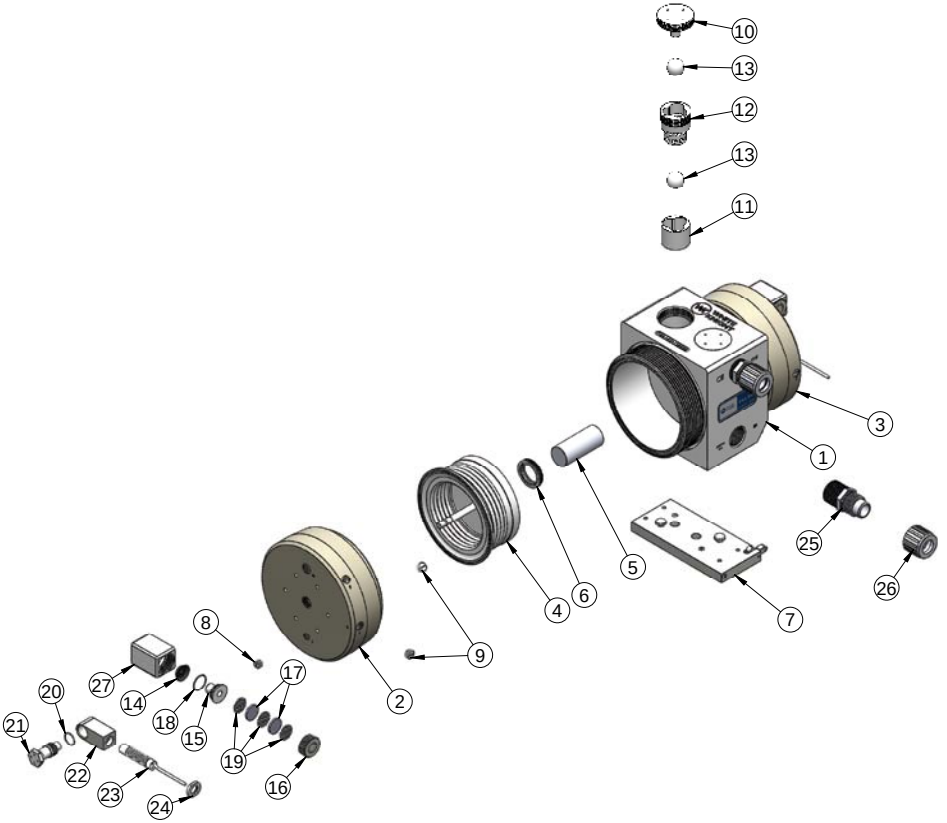


1.3 Dimensions

Dimensions in [mm] in



1.4 Bill of Materials



PXA140 BILL OF MATERIALS

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	1125-TE-0018	BODY, PUMP	1
2	2127-EP-0026	HEAD, RIGHT, PXA140	1
3	2127-EP-0027	HEAD, LEFT, PXA140	1
4	14300-MP-0023	BELLOWS ASSEMBLY, 140L, PROXIMITY	2
5	5144-PF-0022	SHAFT	1
6	5143-MP-0003	SEAL, SHAFT	2
7	14200-NP-0007	PLATE, BASE, ASSEMBLY	1
8	10040-TE-0003	PLUG, NPT, 1/4"	2
9	10040-TE-0006	PLUG, 5/8", .300"	4
10	4140-TE-0004	CHECK PLUG	2
11	4135-MP-0004	SEAT, CHECK, BOTTOM, HI-FLOW	2
12	4142-MP-0003	CAGE, CHECK, TOP, HI-FLOW	2
13	4100-MP-0003	BALL, CHECK, 1-1/8"	4
14	3200-VI-0002	DIAPHRAGM, ∅ 1.190	2
15	6150-UH-0002	SEAT, QEV EXHAUST, 140L	2
16	6150-NP-0008	CAP, MUFFLER, QEV, 140L	2
17	6140-FP-0001	BAFFLE POROUS POLY 140 L QEV	4
18	10080-VI-023-75	O-RING, 023 x .070	2
19	6140-PP-0005	MESH, QEV 06 & 07	6
20	10080-VI-019-75	O-RING, .019 X .070	2
21	8200-TE-0001	ADAPTER, CAP, PROXIMITY	2
22	8110-NP-0005	HOUSING, SENSOR	2
23	8600-XX-0008	SENSOR, PROXIMITY	2
24	10010-TE-0019	NUT, JAM	2
25	7200-PF-0010	BODY, FLARETEK® 1"	2
26	7210-PF-0005	NUT, FLARETEK® 1"	2
27	6090-UH-0004	BODY, QEV, 07	2

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2. Installation

2.1 Precautions

Handling

Do NOT lift pump by proximity cables, quick exhaust valves nor air tubing.

Installation Orientation

PXA140B pumps must be installed in an upright position. The check valves are actuated by gravity and/or flow, and they will not seat if the pump is not upright.

Timer Mode

PXA140B pumps require an end of stroke detection mechanism (pressure switch) to prevent over stroking in timer mode. Operating a PXA140B in timer mode without stroke detection will void the pump warranty.

Required Air Flow (Shuttle Valve)

PXA140B pumps require 3/8 in minimum orifice with unrestricted air flow.

Required Air Flow (Solenoid Valve)

PXA140B pumps require a 3 Cv solenoid. Using a reduced Cv will reduce flow rates. Using a valve with more than 20% greater Cv will change operating parameters, reduce pump life and void the warranty.

Under Supply of Air

PXA140B pumps operate erratically or stall when air supply is insufficient. Ensure use of air supply pressures higher than averaged air consumption lines in performance charts. Air supply lines and fittings must meet minimal inner diameter requirements shown in the installation instructions.

Air Supply Pressure

Operating PXA140B pumps ~35% below max air pressure may significantly extend pump life. PXA140B pumps require 20 psi minimum air pressure. Operation above 7 Bar (100 psi) may damage the pump and void the warranty.

Using Proximity Sensors

Pumps using a proximity sensor are not intrinsically safe and do not qualify for use in explosion-proof environments.

Suction Lift

PXA140B pumps have initial suction lift of 3 ft. For best results minimize suction lift.

Liquid Inlet/Outlet Connections

PXA140B liquid ports are not NPT nor any other standard. Use of connectors other than those supplied by White Knight will damage the pump and void the warranty.

Liquid Line Restriction

PXA140B pumps may be controlled by closing liquid outlet lines. However, restricting liquid supply lines increases wear and should be avoided. Do NOT pump against a closed liquid inlet. It will damage the pump and void the warranty.

Running Dry

PXA140B pumps use the pumped liquid to lubricate their shafts. The pumps will cycle faster and wear more than normal when run dry, which may cause damage and loss of self-prime abilities. PXA140B pumps should not be run dry after start-up and are not warrantied under dry run conditions.

Pulse Dampener with Shuttle Valve

Air supply pressure to PXA140B pumps should be at least ten psi higher than the liquid line pressure when using a pulsation dampener. Failure to do so may cause erratic operation.

Cross Contamination

PXA140B pumps use porous material that may retain chemicals. Take precautions to avoid cross contamination.

2.2 Warnings

Pressurized Material

Pumps in use contain pressurized materials. Eliminate liquid and air pressure via shut off valves before pump is serviced or removed from the system.

High Temperature

Heat may transfer to exterior surfaces when pumps operate with high temperature fluids. Avoid direct contact with the pump when high temperature fluids are present.

Hazardous Chemical

Use appropriate personal protective equipment when handling pump. Reference Material Safety Data Sheet (MSDS) for information specific to your chemicals.

Loud Noise

Pump exhaust air contributes to work area noise levels. Only operate pumps with approved muffler media, and use ear protection in noisy conditions.

2.3 Advantages

Head Pressure / Dead-Head

PXA140B pumps can be controlled by adjusting their liquid outlet pressures and can be installed with head pressures up to dead-head (e.g. equal liquid and air pressures) with no damage to the pump.

Thermal Cycling

PXA140B pumps require no maintenance when operated within their performance range, even in thermal cycling applications.

2.4 Environment & System

Oversized Inlet Line

Pumps operate optimally with liquid inlet lines larger than the liquid outlet lines. This reduces strain on the bellows and may reduce pulsation in the pump outlet.

Clean Supply Air (CDA)

PXA140B pumps require use of Class 2 air for particles and moisture per ISO 8573-1. Use 10 micron filter; maintain -40°C dew point. A point-of-use filter is recommended during first six months of operation in new fabs/systems due to high risks of debris that can damage pumps and void warranty.

Flammable Solvents

PXA140B pumps are not constructed from conductive materials. System that pump flammable solvents should be properly grounded to avoid ignition by static charge. A River's Edge test of isolative pumps with flammable liquids indicated that liquids must be grounded and other procedures should be followed. Copy of test available.

Pumping Liquids Near Boiling Point

Minimizing suction lift reduces pulsation and the potential for boiling or outgassing of liquid in the inlet of the pump. Although reciprocating pumps can pull suction lift, pump performance and life increase when suction lift is minimized or eliminated.

Abrasive Slurry

Pumping abrasive slurry may accelerate wear of components. PXA140B pumps are warrantied when used with slurry. However, normal wear is not covered by warranty.

Environmental Temperature

PXA140B pumps are rated for 0°C (32°F) - 50°C (122°F) environmental temperatures. Do not freeze fluid in pump. Operation below 0°C may accelerate wear. Normal wear is not covered by warranty.

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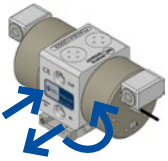
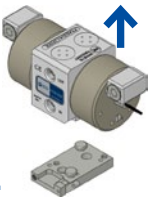
D10 amplifier must be calibrated before attaching fiber optic probes to the pump.

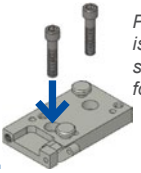
2.5 Installation Instructions



1. Set lever to up position. Slide base plate forward or pump body backward.

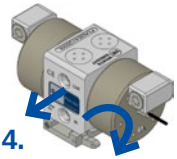


2. Lift pump off of base plate.

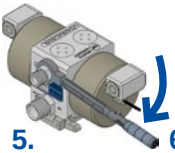


Pull-back dismount is standard. See steps 3.1-3.3 for forward dismount.

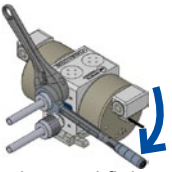
3. Screw base plate to surface with 3/8 in or 10 mm socket head cap screws into pre-drilled holes.



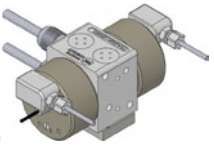
4. Set pump on base knobs; slide it forward. Set lever to down position.



5. Attach fittings to pump. Tighten to 80 inch-lbs.



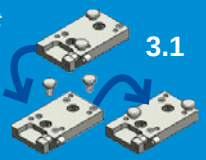
6. Attach tubes and fittings per manufacturer instructions. Use backer wrench to hold fitting in place at pump.



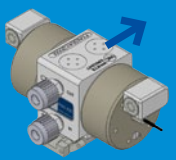
7. Set air line via 3/8 in FNPT ports on quick exhaust valves. Line must be 3/8 in minimum orifice.

Push-Forward Dismount Configuration Setup

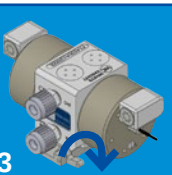
Replace step 4 with steps 3.1-3.3 to re-configure the base plate to push-forward dismount.



3.1 Move knobs to opposite sides.

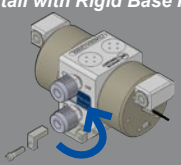


3.2 Set pump on base knobs; slide it backward.

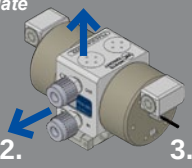


3.3 Move lever down to locked position.

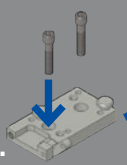
Install with Rigid Base Plate



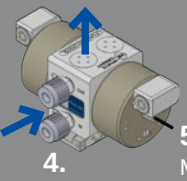
1. Remove L bracket. Set lever in neutral (up) position.



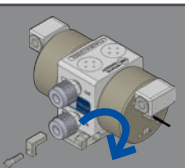
2. Slide pump forward; lift it off base plate.



3. Fix base plate to work station. *See step 4 above.*



4. Return pump to base plate.



5. Move lock lever to down position. Reattach L bracket. Tighten hand tight.

Liquid Inlet/Outlet

Liquid ports are not NPT nor any other standard. Use of connectors other than those supplied by White Knight will damage the pump.

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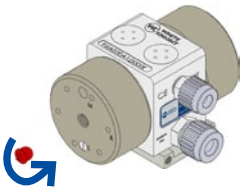
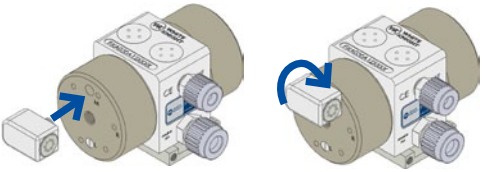
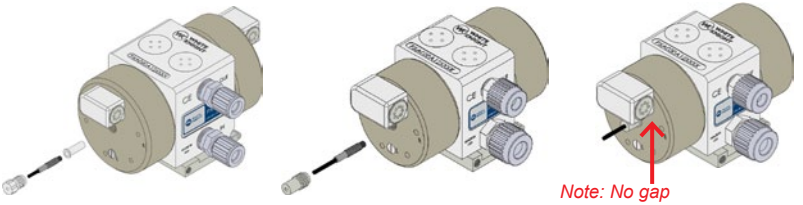
2.6 Proximity Sensor Installation



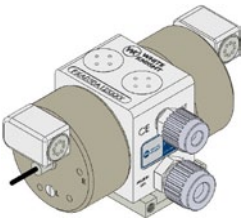
1.
Remove proximity plug. Ensure proximity cover remains in head.



2.
Attach QEV. Thread is NPT. Do not overtighten.



3.
Verify proximity switch cover is in place. Attach proximity switch and cap to pump head. Tighten to bottom out.



4.
Repeat steps for both pump heads.

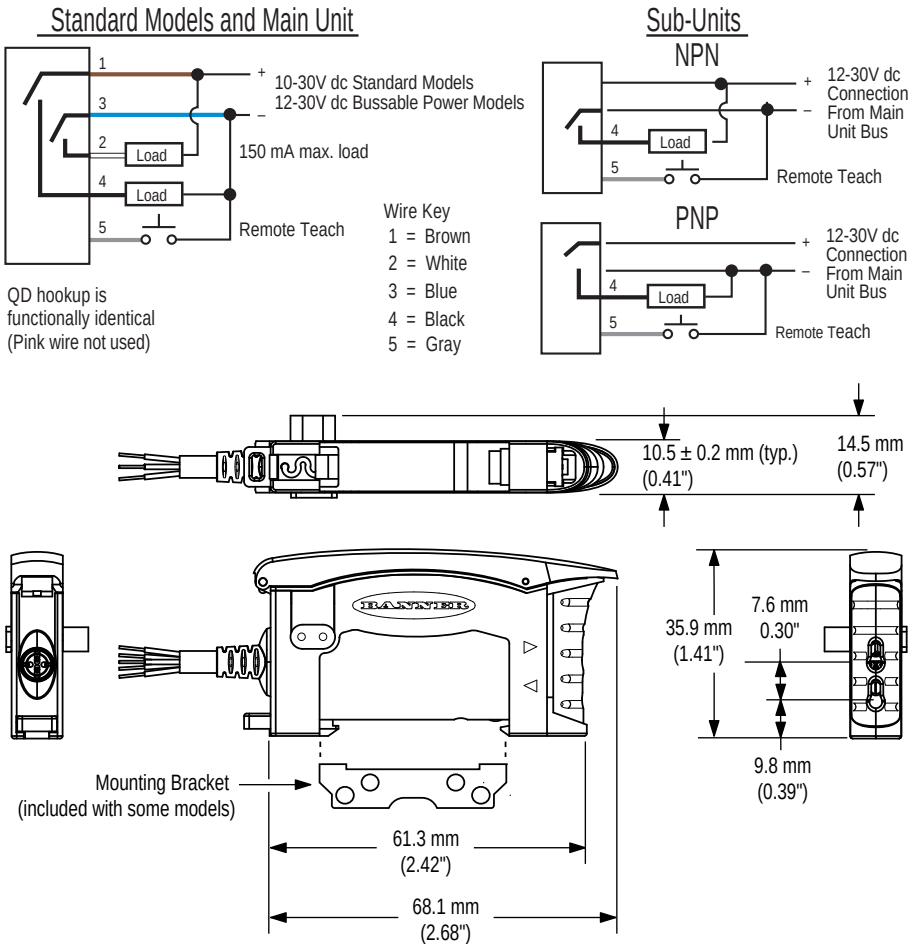
3. Control & Monitoring

Programmable Control

White Knight CPT-1 controllers monitor and adjust run mode, flow rate, leak detection and other pump operations.

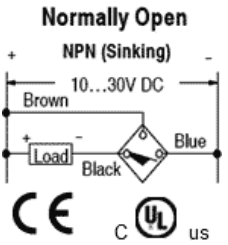
D10 Amplifier Electrical Hookups & Dimensions

White Knight recommends Expert™ D10 amplifier for use with fiber optic stroke and leak detection assemblies.



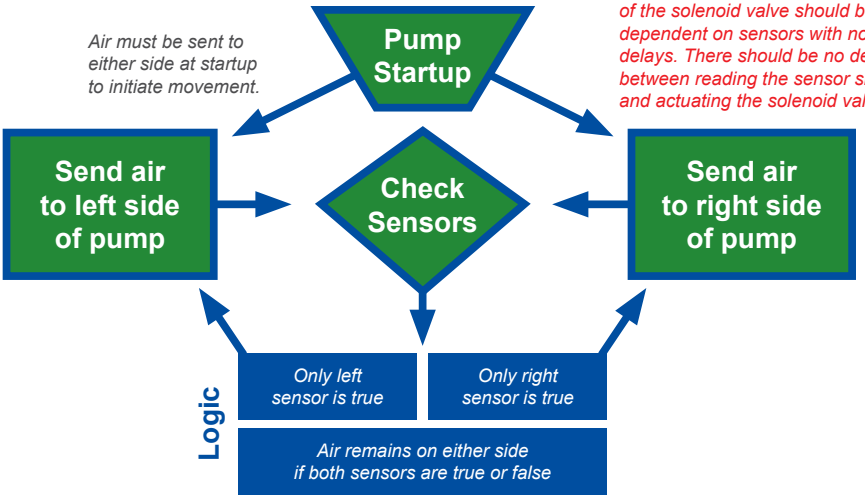
3.1 Proximity Detection Wiring Information

- 10-30 V DC
- ≤ 200 mA
- NPN-normally open
- Listed IND.CONT.EQ 81u2
- For use in the secondary of a Class 2 source of supply
- Use of Proximity Sensors does not qualify for intrinsically safe environments.

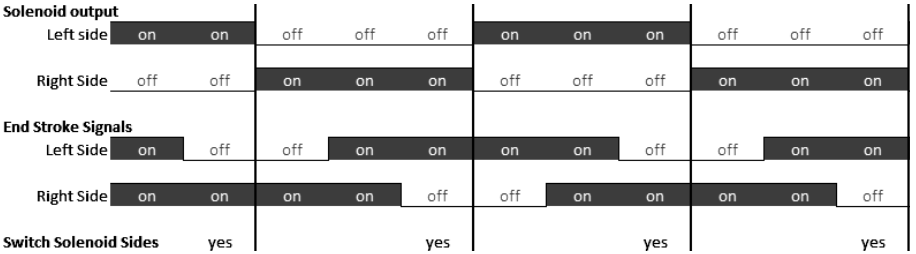


3.2 Shift Logic for Proximity Pumps

During pump operation, the timing of the solenoid valve should be dependent on sensors with no time delays. There should be no delay between reading the sensor signal and actuating the solenoid valve.



Proximity End Stroke Operation



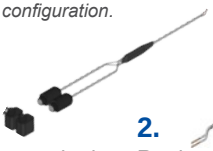
** The proximity sensors on the pump can both be seen in the middle of the stroke; thus it is required that the solenoid not be switched until just one sensor is seen.*
** Vertical line denotes when the solenoid was switched.*

3.3 Conductivity Leak Detection Installation

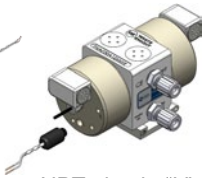
Leaks are identified if conductive fluid contacts a sensor. Sensor provides a Sink (NPN) or Source (PNP) signal, depending on the wire setup. See the wiring diagrams below.

Conductive leak detection does not qualify for use in explosion-proof environments. Conductive fluid required.

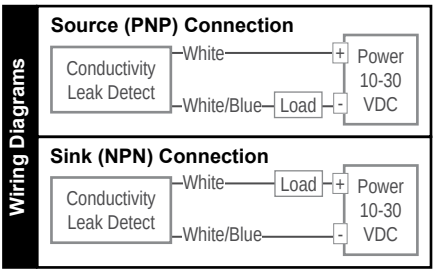
See below for elbow out configuration.



1. Remove leak adapter from assembly.



2. Replace NPT plug in "L" port with probe. Hand Tighten. Attach cable to signal translator (e.g. PLC).

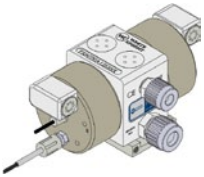


3.4 Fiber Optic Leak Detection Installation

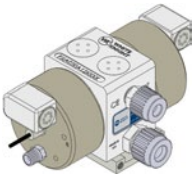
D10 amplifier must be calibrated before attaching fiber optic probes to the pump.
Fiber optic sensors can melt if used at >130°C (266°F), causing leak detect failure.

See below for elbow out configuration.

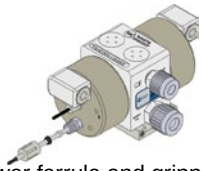
1. Remove leak adapter and leak detect probe from fiber optic assembly.



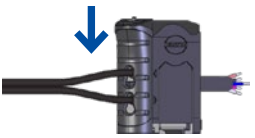
2. For straight out configuration replace NPT plug in "L" port with the probe. Hand-tighten.



3. Insert the fiber optic cable until it contacts the bottom of the probe.

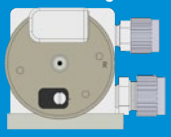


4. Lower ferrule and gripper until snug against the probe. Hand tighten female gripper nut.



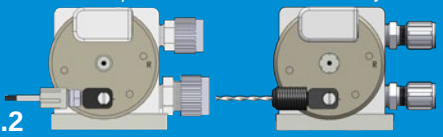
5. Open the top and slide the front face of the D10 up. Press the fiber optic ends into the holes on its front. Slide the face down to lock cables in place.

For elbow out configuration:



1.1 Replace NPT plug in "L" port with elbow adapter.

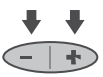
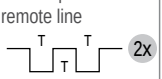
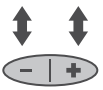
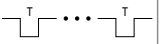
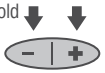
Fiber optic *Conductivity*



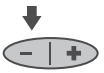
1.2 Attach fiber optic or conductivity leak detect probe per instructions above.

3.5 Calibrating D10 Amplifier for Fiber Optic Leak Detection

Step 1: Power On D10 Amplifier & Set "Dark Operate" Mode:

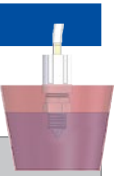
	Push Button *0.04 s ≤ "Click" ≤ 0.8 s*	Remote Line *0.04 s ≤ T ≤ 0.8 s*	Result
Access Setup Mode	Press and hold both buttons > 2 seconds. 	Double-pulse remote line 	• Green Power LED turns OFF. • Output LED remains active. • Icons continue to display current setup. • Bargraph turns OFF. 
Select Settings	Press either button until LEDs show desired settings. 	Pulse the remote line until LEDs show desired settings.  Note: Double-pulsing remote line causes setting to "back up" one step.	Sensor toggles through these setting combinations: LO - Normal Speed - No Delay (default) DO - Normal Speed - No Delay LO - High Speed - No Delay DO - High Speed - No Delay LO - Normal Speed - Delay DO - Normal Speed - Delay LO - High Speed - Delay DO - High Speed - Delay
Return to Run Mode	Press and hold both buttons >2 seconds. 	Hold remote line low > 2 seconds. 	• Green Power LED turns ON. • Sensor returns to Run mode with new settings. 

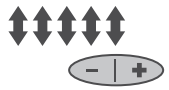
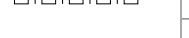
Step 2: Access "Single-Point Dark Set" Mode

	Push Button *0.04 s ≤ "Click" ≤ 0.8 s*	Remote Line *0.04 s ≤ T ≤ 0.8 s*	Result
Access Set Mode	Press and hold static button > 2 seconds. 	Single-pulse remote line 	• Power LED: OFF. • Output LED: ON (push button) OFF (remote line) • Static LEDs: LO & DO alternately flashing 

Step 3: Set Sensing Condition

Set condition to "leak detection" sensing while probe tip is submerged in liquid. Then, remove the leak probe from liquid and reinserted into the "L" port. Amplifier will now signal when moisture if detected on the probe tip.



	Push Button *0.04 s ≤ "Click" ≤ 0.8 s*	Remote Line *0.04 s ≤ T ≤ 0.8 s*	Result
Set Sensing Condition	• Present sensing condition • Five-click static button 	Present sensing condition • Five-pulse remote lne 	• Power LED: ON. • Output LED: ON (push button) OFF (remote line) • Bargraph: 4 indicators flash. Sensor returns to Run mode with new settings 
			• Power LED: ON. • Output LED: ON (push button) OFF (remote line) • Bargraph: #1, 3, 5, 7 flash for failure. Sensor returns to Set sensing condition. 

4. Pump Service

4.1 Ordering Instructions

https://wkfluidhandling.com/ordering-instructions/

Standard

Required Options		Additional Options				Rev.
PXA140B-	F16	- LF0 -	SX2 -	TF16 -	A	-
Model	Inlet	Leak	Stroke	Outlet	QEV	Rev.

Select Required Options.
Only add desired Additional Options.
Only add Outlet if different than Inlet.

Contact support for revision level or copy exact code activation details.

Pump Model	
Standard	PXA140B

Inlet Fitting
Front Straight Only

Flaretek Compatible	3/4 in.	F12
	1 in.	F16
	1-1/4 in.	F20
Tube Out	3/4 in.	T12
	1 in.	T16
	1-1/4 in.	T20
Weldable	3/4 in.	W12
	1 in.	W16
Pillar S-300	3/4 in.	P12
	1 in.	P16
	1-1/4 in.	P20
FNPT	3/4 in.	N12
	1 in.	N16
Synchro-Flare	3/4 in.	S12
	1 in.	S16
PrimeLock	3/4 in.	L12
	1 in.	L16

Leak Detection	
15 ft fiber optic cable with no amplifier	LF0
15 ft fiber optic cable with D10 amplifier	LF1
25 ft fiber optic cable with no amplifier	LF2
25 ft fiber optic cable with D10 amplifier	LF3
15 ft conductivity cable	LC0

Stroke Detection	
15 ft NPN normally open proximity switch with PVC jacketed cable	SX2
15 ft NPN normally open proximity switch with FEP jacketed cable	SX3

**** Proximity switch ordered separately.***
Proximity switch is required for operation. Standard configuration does NOT include proximity switch.

Timer mode operation requires end-of-stroke detection. Use of timer mode without stroke detection voids the warranty.

This pump includes Quick Exhaust Valves (QEVs). QEVs must be used with this pump. Running it without QEVs voids its warranty. Customers may use their own QEVs with the optional NPT adapter.

Outlet Style	
Front Straight (default)	F
Top Straight	T

Outlet Fitting

Flaretek Compatible	3/4 in.	F12
	1 in.	F16
	1-1/4 in.	F20
Tube Out	3/4 in.	T12
	1 in.	T16
	1-1/4 in.	T20
Weldable	3/4 in.	W12
	1 in.	W16
Pillar S-300	3/4 in.	P12
	1 in.	P16
	1-1/4 in.	P20
FNPT	3/4 in.	N12
	1 in.	N16
Synchro-Flare	3/4 in.	S12
	1 in.	S16
PrimeLock	3/4 in.	L12
	1 in.	L16

Quick Exhaust/Air Inlet	
7/16 in NPT Adapter	A

4.2 Rebuild Information

Pumps fully rebuilt by White Knight, certified rebuilders, or technicians certified by White Knight receive full warranty renewal. Details below.

White Knight Rebuilds

Request factory rebuilds by web form at: https://wkfluidhandling.com/support/rma/. An RMA# will be provided after processing.

**Customers must follow decontamination instructions in Section 4.4 when returning a pump to White Knight.*

Certified Rebuilders

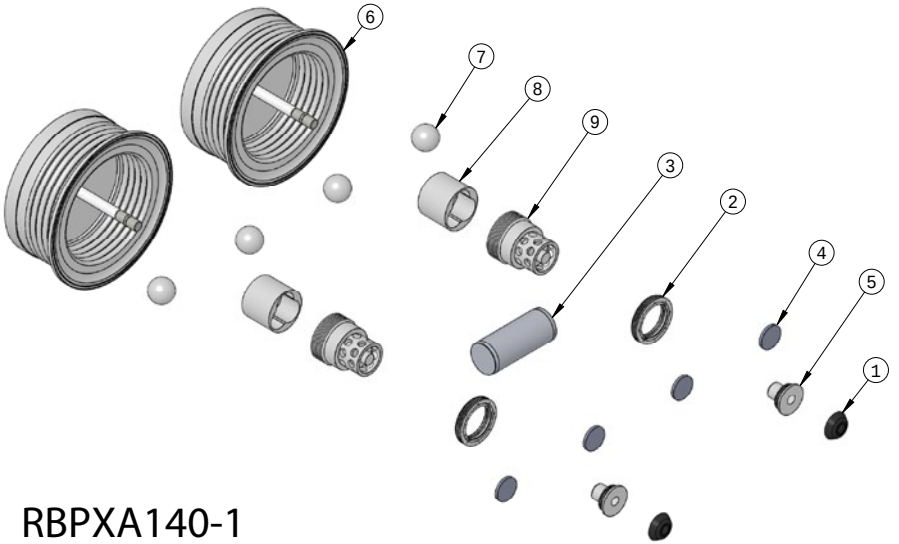
White Knight's global network of certified rebuilders expedite rebuild turn-around time and minimize shipping costs. Find certified rebuilders at: https://wkfluidhandling.com/rebuilders/

Rebuild Pump as Certified Technician

White Knight offers trainings to certify technicians to rebuild pumps. Technicians who pass the training are issued a two-year certification. During the two years, parts in pumps rebuilt by the technician receive a full warranty. See: https://wkfluidhandling.com/virtual-rebuilds/

4.3 Rebuild Kits & Parts

Rebuild kit for PXA140B is RBPXA140B-1. To request rebuilds by White Knight, use RBPXA140B-5 (labor included). Pump rebuilds require tool kit: 12200-XX-0021 (Legacy# PXA140-170).



RBPXA140-1

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	3200-VI-0002	DIAPHRAGM, ∅1.190	2
2	5143-MP-0003	SEAL, SHAFT, 140L	2
3	5144-PF-0022	SHAFT, SOLID, PFA, 140L	1
4	6140-FP-0001	BAFFLE, 1.100"	4
5	6150-UH-0002	SEAT, QEA	2
6	14300-MP-0023	BELLOWS ASSEMBLY, PROX, 140L	2
7	4100-MP-0003	CHECK BALL- 1-1/8"	4
8	4135-MP-0004	BOTTOM CHECK SEAT-120/140L HIGH FLOW	2
9	4142-MP-0003	TOP CHECK SEAT-30GPM HIGH FLOW	2

4.4 Return Pump for Service

Follow decontamination instructions when returning a pump for service.

DO NOT REMOVE PAGE FROM MANUAL.

Copy page from manual or download at https://wkfluidhandling.com/support/rma/.

Decontamination Instructions

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 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 stay if needed for replacement pump to be used.
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 above.
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.

P: 435.783.6040 | support@wkfluidhandling.com | https://wkfluidhandling.com

DO NOT REMOVE PAGE FROM MANUAL.

Copy page from manual or download at https://wkfluidhandling.com/support/rma/.

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 used in a Metal Process. ☐ Yes ☐ No

Product was used in a Copper Metal Process. ☐ Yes ☐ No

Product was used with:

☐ 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: _____

5. Warranty

White Knight follows strict manufacturing, assembly and testing procedures to ensure consistency and reliability.

White Knight warrants PXA140B pumps and components are free from defects in materials and workmanship for two years from our shipment date or your installation date if provided within 90 days of shipment from our facility.

Failures due to normal wear, misuse, abuse or unauthorized disassembly nullify this warranty.

White Knight does not guarantee the suitability of products for specific applications. White Knight is not liable for any damage or expense resulting from use or misuse of its products in any application. Responsibility is limited solely to repair or replacement of defective products or components.

Prior written, faxed or emailed approval must be obtained from White Knight before returning any product or component for warranty consideration. All determinations regarding cause of failure are made by White Knight, and all decisions regarding warranty fulfillment or nullification are made by White Knight.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING ANY GUARANTEE OF SUITABILITY FOR ANY PURPOSE. NO VARIATIONS OF THIS WARRANTY SHALL BE HONORED NOR CONSIDERED LEGALLY BINDING, EXCEPT WRITTEN AGREEMENTS SIGNED BY THE CEO OF WHITE KNIGHT FLUID HANDLING.

Steve Smith, CEO
White Knight Fluid Handling

Accessories

See ordering instructions or contact us for details.

Stroke Detection
- Fiber Optic stroke detection with or without sensor
- Solid state pressure switch
- Solid state dual pressure switch

Leak Detection
- Fiber Optic leak detection with or without sensor
- Conductivity leak detection

CPT-1
- Control/monitor run mode and flow rate.

Catcher™ Pre-Filters
- In-line and pump-mounted options
- Large through holes to avoid loading
- Filter may be removed without removing the Catcher™ from the pump or the line.
- Pumps damaged by passing solids that use a Catcher™ are repaired as in warranty.

Filter Housing
- 100% non-metallic
- Allows for filter changing without disconnecting the inlet/outlet lines
- Rated for temperatures up to 210°C
- Install with industry standard connections
- Designed to allow for thermal cycling
- Upright and inverted installation options

Quick Exhaust Valves
- Allows for immediate escape of exhaust air reducing pulsation and exposure of solenoid valve to corrosive fumes
- In-line and pump-mounted options
- UHMW-PE design
- Comes standard with a one-year warranty

Pulse Dampeners
- Uses same CDA as supplied to pump
- In-line and pump-mounted options
- Sizes available for all PXA Series pumps
- Self-adjusting, Auto-Level Valve is regulated by liquid line pressure

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, PSA015, PSR050, PSR025, PFA030, PFA060, PFA140, PFH030, PFH060, PFH140, PFU030, PFU060, PFU140, PXA030, PXA060, PXA140, PXH030, PXH060, PXH140, PXU030, PXU060, PXU140, PFA015, LHA015, LHA030, LHA070

Diaphragm Pump Line (Non Conductive)
PSD04TE, PSD06TE, PSD08TE, PSD16TE, PSD24TE, PSD04UH, PSD06UH, PSD08UH, PSD16UH, PSD24UH, PSB100

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, PPMA

TPA07 Pressure Transducer

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.

White Knight Support
187 E. 670 S.
Kamas, UT 84036

Phone: 435.783.6040
Toll Free: 888.796.2476
Fax: 435.783.6128

support@wkfluidhandling.com

https://wkfluidhandling.com/support/

CE

Part No. 18200-LM-0010

Version 1.0.0 | 7 May 2018
Subject to change without notice