

Ion Technologies X-ONEi

Submersible Sump/Sewage Pump

OPERATION MANUAL

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Document Name: X-ONEi_OM

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Description	Part Number
X-ONEi, Pump with 6" Ion	M5000A4107
Ion Switch, 6" Range, 10' Cord	IN-006-010-10PA

Thank you for purchasing your Ion|StormPro® Pump. To help ensure years of trouble-free operation, please read the following manual carefully.

Before Installation

This manual contains important information for the safe use of this product. Read this manual completely and follow the instructions carefully. Reasonable care and safe methods relating to the installation and operation of this product should be practiced. Check local codes and requirements before installation.

Do not throw away or lose this manual. Keep it in a safe place so that you may refer to it often for the continued safe operation of the product.

MARKS AND MEANINGS



DANGER

Keep pump equipment out of the reach of children! Failure to follow the directions given could cause serious risk to individuals or objects.



WARNING / CAUTION

This sign warns the operator that the failure to follow an instruction may damage the pump and/or the system.

SAFETY WARNINGS



WARNING: Risk of Electrical Shock or Electrocution. May result in serious injury or death or fire hazard. Installer must disconnect all electrical sources prior to installation, handling or servicing. Only qualified personnel may install this pump. NFPA 70/National Electric Code (NEC) or local codes must be followed. Pump must be properly grounded according to NEC. Do not lift pump by power cord.



WARNING: Biohazard Risk. Once wastewater source has been connected to system, biohazard risk exists. Installer(s) and/or service personnel must use proper Personal Protective Equipment and follow handling procedures per OSHA 29 CFR 1910.1030 when handling equipment after wastewater source has been connected to system.



WARNING: Risk of Asphyxiation. Installer(s) and/or service personnel must use proper Personal Protective Equipment and follow OSHA 29 CFR 1910.146 or OSHA 29 CFR 1926. Pump may be installed in a location classified by as a confined space.



WARNING: Risk of Fire or Explosion. Do not smoke or use open flames in or around this system. This system is not intended for use in hazardous locations per NFPA 70 National Electric Code. Do not pump flammable liquids. Consult factory for optional equipment rated for hazardous location use.



WARNING: Cutting Risk. Risk of serious cutting or amputation exists. Disconnect all power sources prior to servicing pump. Pump may

start without warning.



CAUTION: Do not modify the cord and plug. When using the cord and plug, plug into a grounded outlet only. When wiring to a system control, connect the pump ground lead to the system ground.



CAUTION: Do not run the pump dry. Dry running can overheat the pump (causing burns to anyone handling it) and will void the warranty.



CAUTION: The pump normally runs hot. To avoid burns, allow it to cool for 30 minutes after shutdown before handling it.

OVERVIEW

These important instructions must be followed for satisfactory performance of your pump. Before installation, check your local electrical and plumbing codes. Be careful not to exceed the given specifications in the use of your pump.

Motor HP.....	1/2
Pump Discharge.....	2"
Solids.....	2"
Head Rating.....	10'
Flow Rate at 10' of Head.....	60 GPM
Maximum Head Rating.....	0 GPM @ 20'
Maximum Flow Rating.....	90 GPM @ 0'
Dimension (L,W,H).....	15-3/4" x 9-1/2" X 9-1/4"
Weight	22 Lbs
Motor full load amps.....	8.2

Limitations:

This pump is suitable to pump water or sewage and also can be used both for permanent and temporary installation. The pump can be placed in a basin to pump water containing suspended solid particles 3/8" to 2" in diameter.

INSTALLATION



DANGER: Do not work on pump until power is unplugged.



DANGER: Do not cut off ground pin or use an adapter fitting.



DANGER: Do not use an extension cord.

The pump power cord should be connected to a separately fused, grounded line with a minimum capacity of 20 amps. It can be connected to non-fused breaker at the recommended amperes.

1. Before installing or servicing this pump, be certain pump source is disconnected.
2. Installation and electrical wiring must adhere to state and local codes and must be completed before priming pump. Check appropriate community agencies, or contact local electrical and pump professionals.
3. Call an electrician when in doubt. Pump should be connected to a separate 20 amp circuit breaker or 20 amp fuse block. Note that plugging into existing outlets may cause low voltage at motor. This could cause blown fuses, tripping of motor overload or burned out motor.
4. A permanent ground connection from pump to the grounding bar at the service panel is mandatory. These pumps come with a grounding conductor and a grounding-type attachment plug. Do not connect pump to a power supply until permanently grounded. Voltage of power supply must match the voltage of the pump.
5. Before installing pump, clear basin of any water, debris or sediment.



WARNING: Sump/Sewage basin must be vented in accordance with local plumbing codes. These sump/sewage pumps are not designed for and CANNOT be installed in locations classified as hazardous.

6. The following may cause severe damage to pump and will void the warranty.
 - a. Using an extension cord.
 - b. Cutting off the ground pin or using an adapter fitting.
 - c. Working on pump or switch while plugged in.

- d. Removing motor housing, unscrewing impeller, or otherwise removing impeller seal. Running the pump continuously. Pumping chemicals or corrosive liquids.
- e. Pumping gasoline or other flammable liquids
- f. Plastic PVC pipe can be installed in the outlet piping. Drain hose, galvanized steel or copper pipe may be used if desired. All piping must be clean and free of all foreign matter to prevent clogging.
- g. Pump will be inadequate if suspension liquids contain solid particles larger than 2".

7. To insure proper operation prior to installing in the basin, plug the pump into the Ion™ switch and plug the Ion™ switch plug into the wall as shown on **Page 3, Figure A**. Push up on the sensing plate through the center hole on the underside of the switch until the pump turns on. Release the switch and the pump will turn off.

Note: The Ion™ switch does not operate like a standard pressure switch. There are no contacts to wear out, so when pressure is applied, there will not be a click.

8. Unplug the pump and switch from the wall outlet and install in the basin.
9. After the pump is installed and plumbed, measure up 6" from the bracket mounting screw on the Ion™ switch. This is the On level, +/- 5%. **See Page 3, Figure B.**

FIGURE A

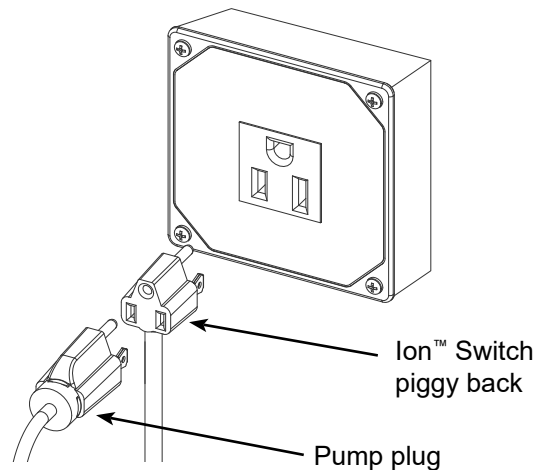
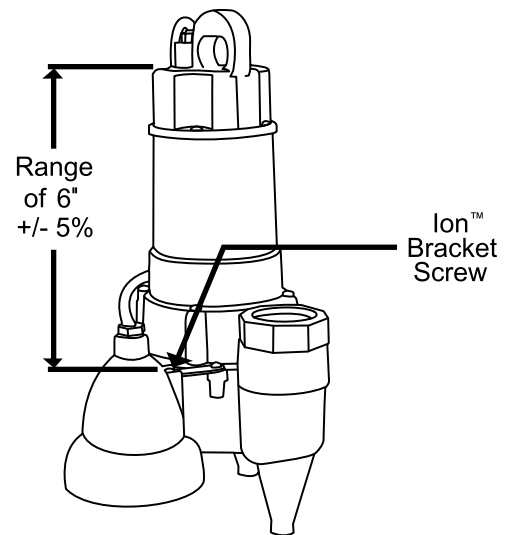


FIGURE B



ELECTRICAL WIRE CONNECTION



CAUTION: Verify that the voltage and frequency of the pump shown on the nameplate corresponds to those available on the mains. The installer must make sure that the electric system is grounded in accordance with code.

- For outdoor use it is necessary to use cable with a length of at least 10'. The plug and connection should be protected from water splashes. Before using the pump, always inspect it visually (especially power cable and plug)

- Do not use pump if it is damaged
- If the pump is damaged, have it inspected by an authorized service center.
- Make sure that electric connections are protected from flooding. Protect the plug and the power cable from heat or sharp edges.



CAUTION: The power cable must be replaced by qualified personnel only.

Grounding

The plug of the power cable has a double grounding contact, so that grounding can be performed by

simply inserting the plug.

Overload Protection

This pump series has a built in thermal protection switch. The pump stops if an overload condition occurs. The motor restarts automatically after it has cooled down.

TROUBLESHOOTING

Electrical Precautions



CAUTION: Before servicing a pump, always shut off the main power breaker and then unplug the pump. Make sure you are not standing in water and are wearing insulated protective sole shoes, under flooded conditions. Contact your local electric company or a qualified licensed electrician for disconnecting electrical service prior to pump removal.

1. Pump Does Not Run and Hums

- a. Inadequate supply voltage. Verify that voltage at outlet matches the voltage of the pump.
- b. Pump cord is not making contact in receptacle.
- c. Ion switch may not be working properly.
 - i. Plug pump directly into wall outlet without the Ion plug. If pump runs, the Ion switch may need to be replaced.
- d. If all of the above are OK, then the motor could be malfunctioning.

2. Pump Runs But Does Not Deliver Water

- a. Check valve may be installed backwards.
- b. Arrow on check valve should point direction of flow.
- c. Discharge shut-off valve (if used) may be closed.
- d. Impeller or volute openings are fully or partially clogged. Remove pump and clean.
- e. Pump is air-locked. Start and stop several times by plugging and unplugging cord. Check for clogged vent hole in pump case.
- f. Inlet holes in pump base are clogged. Remove pump and clean the openings.

- g. Vertical pumping distance is too high. Reduce distance or change the discharge fittings of the pump.

3. Pump Runs And Pumps Out Basin But Does Not Stop

- a. Unplug the pump/Ion™ plug from the inverter.
- b. Plug the pump back into the Ion™ plug and plug the Ion plug into a wall outlet.
 - i. If the pump does not turn on right away, and the water level is not at the On level, let the pump go through an On / Off cycle a few times to insure that the switch is functioning properly. The basin may need to be filled with a garden hose or bucket. Plug pump/Ion plug back into one outlet on the inverter and test again.
 - ii. If the pump turns on right away, and the water level is not at the On level, the switch may have to be replaced.

4. Pump Runs But Only Delivers a Small Amount of Water

- a. Pump is air-locked. Start and stop several times by plugging in and unplugging cord. Check for clogged vent hole in pump case or discharge pipe.
- b. Vertical pumping distance is too high. Reduce distance or change the discharge fitting of the pump. Inlet holes in pump base are clogged. Remove pump and clean the strainer and openings.
- c. Impeller or volute openings are fully or partially clogged. Remove pump and clean.
- d. Pump impeller is partially clogged with tar or paint, causing motor to run slow and overload. Remove pump and clean.

5. Fuse Blows or Circuit Breaker Trips When Pump Starts

- a. Pump impeller is partially clogged causing motor to run slow and overload. Remove pump and clean.
- b. Motor stator may be defective.
- c. Fuse size or circuit breaker may be too small. (must be 20 amps).
- d. Impeller or volute opening are fully or

partially clogged. Remove pump and clean.

6. Motor Runs for a Short Time Then Stops

- a. Inlet holes in pump base are clogged. Remove pump and clean the openings.
- b. Pump impeller is partially clogged causing motor to run slow and overload. Remove pump and clean.
- c. Motor stator may be defective.
- d. Impeller or volute openings are fully or partially clogged. Remove pump and clean. Also clean the strainer if one is installed.

7. Pump Does Not Turn On

- a. Test the pump without the Ion™ switch
 - i. Plug the pump directly into a wall outlet, without plugging it into the Ion plug.
 - ii. If pump still does not run, the pump may be defective.
 - iii. If the pump does run, continue to the next step.
- b. Test the switch with the pump
 - i. Plug the pump into the Ion™ switch and plugging the Ion™ switch plug into the wall.
 - ii. Push up on the sensing plate through the center hole on the underside of the switch. Note that, being an electronic switch, you will not hear a clicking sound.
 - iii. If the pump does not turn on, the switch may have to be replaced.
 - iv. If the pump does turn on, continue to the next step.
- c. Verify the range of the switch. Your system should have been supply with an 6" range switch.
 - i. The part number can be found on the switch cord tag.
 01. IN-006... = 6" range
 02. IN-085... = 8.5" range
 03. IN-010... = 10" range (optional for special applications)
 - ii. See **Page 3, Figure B** to verify that the On level is appropriate for your basin.

01. If the On level is still too high, consult the installing contractor.

WARRANTY VOID IF...

1. Using an extension cord.
2. The power or float cord has been cut or the grounding prongs removed or using an adapter fitting.
3. Working on the pump or switch while plugged in.
4. Removing motor housing, unscrewing impeller, or otherwise removing impeller seal of pump.
5. Running the pump continuously.
6. Pumping chemicals or corrosive liquids.
7. Pumping gasoline or other flammable liquids.
8. Pump has been installed in an application other than what it's designed for.
9. Any tags or labels have been removed from the pump or switch.

3 Year Residential Warranty

1. **Coverage and Term.** Metropolitan Industries, Inc. (“**Metropolitan**”) warrants to the original purchaser (the “**Buyer**”) of each StormPro/Sumpro product (the “**product**”), that any part thereof which proves to be defective in material or workmanship within three (3) years from date of manufacture, will be replaced at no charge with a new or remanufactured part, F.O.B. factory. Buyer shall be responsible for all freight charges and all costs of field labor or other charges incurred in the removal and/or reinstallation of any product, part or component thereof.

2. **Exclusions. THE WARRANTY IS SUBJECT TO THE FOLLOWING CONDITIONS AND EXCLUSIONS:**

(a) The Warranty excludes products or workmanship which becomes defective as a result of: (i) earthquake, fire, storms, the elements or any other acts of God; (ii) normal wear and tear from use; (iii) accident, misuse, abuse or neglect; (iv) modifications made by Buyer or any third party, other than **Metropolitan**; and (v) Buyer’s failure to properly install, maintain, service and/or operate the product under normal conditions and according to manufacturer’s instructions.

(b) **Metropolitan** shall not be responsible for, and the Warranty shall not cover, extended damage which occurs because of Buyer’s failure to notify **Metropolitan** promptly in writing of apparent defects.

(c) Any part or component designated as manufactured by anyone other than **Metropolitan** shall be covered only by the express warranty of the manufacturer thereof.

(d) The Warranty shall lapse upon Buyer’s failure to fully comply with the terms and conditions of its contract with **Metropolitan**, including Buyer’s failure to pay the purchase price for the product or any portion thereof. Buyer’s subsequent compliance with the terms and conditions of any such contract, will not cause the term of the Warranty to extend beyond the time period set forth above.

(e) No actions taken by **Metropolitan** to correct a defect in a product shall extend the Warranty beyond the period set forth above. **Metropolitan** shall not be obligated to remedy any defect, where otherwise required pursuant to the Warranty unless and until Buyer notifies **Metropolitan** in writing of the defect and then only if such notification is made prior to the expiration of the period set forth above.

3. **Process of Claims and Repairs.** **Metropolitan** agrees that if the product or any part or component thereof shall fail to conform to the terms of this Warranty, **Metropolitan** shall replace such nonconforming product, part or component at the original point of delivery and furnish instruction for its disposition. Any transportation charges involved in such disposition and all costs of field labor or other charges incurred in the removal and/or reinstallation of any product, part or component thereof shall be the responsibility of Buyer.

4. **Limitation on Liability.** Notwithstanding any provision to the contrary, **Metropolitan’s** entire liability under this Warranty shall not in the aggregate exceed, and Buyer’s exclusive and sole remedies are, to the extent permitted by law, shall be to secure replacement of the defective product. **UNDER NO CIRCUMSTANCES SHALL METROPOLITAN BE LIABLE UNDER THE WARRANTY FOR ANY INDIRECT, PUNITIVE, SPECIAL, EXEMPLARY, CONSEQUENTIAL OR INCIDENTAL DAMAGES (INCLUDING LOST PROFITS, REVENUE, USE OR ECONOMIC ADVANTAGE).**

5. **Express Waiver of Any Other Warranties.** **THE EXPRESS WARRANTY SET FORTH IN THIS WRITTEN WARRANTY IS THE ONLY WARRANTY MADE BY METROPOLITAN, OR ANY OTHER PARTY, IN CONNECTION WITH ANY PRODUCT PURCHASED FROM METROPOLITAN. NEITHER METROPOLITAN, NOR ANY OTHER PARTY, MAKES ANY OTHER EXPRESS OR IMPLIED WARRANTY WHICH IS NOT SET FORTH HEREIN, AND METROPOLITAN HEREBY DISCLAIMS AND BUYER HEREBY WAIVES ALL IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.**

6. **Not Transferable.** The Warranty may not be transferred and shall be void on the sale or other transfer of the product.

7. **Products and Warranty Subject to Change.** **Metropolitan** reserves the right to make revisions to its products and their specifications, and to revise this Warranty and related information without notice.

