

AerationPlus

Model 1800

Operation & Maintenance Manual



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AerationPlus Model 1800 Operation & Maintenance Manual

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Safety

IMPORTANT

**YOU MUST COMPLETELY
READ AND FULLY
UNDERSTAND THESE
INSTRUCTIONS BEFORE
INSTALLING, OPERATING,
OR SERVICING THIS UNIT.**

Be sure you have read all installation, operation, maintenance and safety instructions before you install, service or begin to operate this unit.

Accidents occur every year because of careless use of industrial equipment. You can avoid hazards by following these safety instructions, and applying some ordinary common sense when operating or servicing this unit.

Keep in mind that **full operator attention and alertness** are required when operating or servicing this unit.

USE COMMON SENSE!! Most accidents can be avoided by using **common sense and concentration** on the job being done.



Carefully read safety information when you see any safety symbols.



Safety

IMPORTANT

YOU MUST COMPLETELY READ AND FULLY UNDERSTAND THESE INSTRUCTIONS BEFORE INSTALLING, OPERATING, OR SERVICING THIS UNIT.

Identify all possible hazards. Determine what safeguards are needed and implement them. **Only you, the user,** understand your product and system characteristics fully. *The ultimate responsibility for safety is with you. Your safety ultimately rests in your hands.* Do your part and you will enjoy safe, trouble free operation for years to come. This instruction manual is not intended to include a comprehensive listing of all details for all procedures required for placement, operation and maintenance. If you have a question about a procedure or are uncertain about any detail, **Do Not Proceed.** Please contact Ixom Watercare Customer Service at **866-437-8076** to speak to a representative.



IMPORTANT!!!

Follow all federal and state laws in regards to safety regulations of working at heights, confined spaces, rescue, etc. as required by the U.S. Department of Labor, Occupational Safety and Health Administration. Use necessary PPE when placing and servicing this unit.



Thin Ice Hazard

WARNING: ICE SURROUNDING MACHINE MAY NOT SUPPORT WEIGHT, KEEP CLEAR OF THIN ICE.



ELECTRICAL HAZARD

WARNING: THIS EQUIPMENT CONTAINS HIGH VOLTAGE! ELECTRICAL SHOCK CAN CAUSE SERIOUS OR FATAL INJURY. ONLY QUALIFIED PERSONNEL SHOULD ATTEMPT PLACEMENT, OPERATION AND MAINTENANCE OF ELECTRICAL EQUIPMENT. REMOVE ALL SOURCES OF ELECTRICAL POWER BEFORE PERFORMING ANY SERVICE WORK TO THE MACHINE. USE PROPER LOCKOUT TAGOUT (LOTO) PROCEDURES TO ENSURE A SAFE WORK ENVIRONMENT.



Crush Hazard

WARNING: DO NOT REMOVE ANY FLOAT ASSEMBLY BOLTS OR PINS WHILE EQUIPMENT IS FLOATING IN WATER. EQUIPMENT MUST BE SECURELY SUPPORTED BEFORE PERFORMING SERVICE.



Rotating Hazard

CAUTION: KEEP BODY APPENANDAGES OR LOOSE CLOTHING AWAY FROM EQUIPMENT WHILE OPERATING. ENSURE EQUIPMENT IS OFF BEFORE ATTEMPTING SERVICE.



Entanglement Hazard

WARNING: ENSURE THAT PERSONNEL ARE CLEAR OF THE ELECTRIC CORD AND CHAIN TO AVOID ENTANGLEMENT.



Laceration Hazard

CAUTION: EDGES MAY BE SHARP AND CAUSE LACERATION IF PROPER CARE IS NOT USED.

Safety

Protect Yourself

It is important that you comply with all relative OSHA and local regulations while installing and performing any maintenance to the mixer circulation equipment.

Key OSHA Compliance Standards that must be followed (and not limited to) are:

- **1910.146 Permit-required confined spaces**
- **1910.147 Lockout/Tagout**
- **1926.500 Fall Protection**

Fall Protection Tips

- Identify all potential tripping and fall hazards before work starts.
- Look for fall hazards such as unprotected floor openings/edges, shafts, open hatches, stairwells, and roof openings/edges.
- Inspect fall protection and rescue equipment for defects before use.
- Select, wear, and use fall protection and rescue equipment appropriate for the task.
- Secure and stabilize all ladders before climbing.
- Never stand on the top rung/step of a ladder.
- Use handrails when you go up or down stairs.
- Practice good housekeeping. Keep cords, welding leads and air hoses out of walkways or adjacent work areas.

Refer to 29 CFR 1926.500 for complete regulations set by OSHA. Refer to your state's regulations if your state established and operates their own safety and health programs approved by OSHA.

Lockout Tagout

When the On/Off switch is in the "ON" position, the mixer may start up at any time if not already operating. The mixer's On/Off switch can be locked out by placing a pad lock thru the door latch of the controller after the switch has been turned to the "OFF" position. The On/Off switch is to be used as the emergency stop.



Permit-Required Confined Spaces

A confined space has limited openings for entry or exit, is large enough for entering and working, and is not designed for continuous worker occupancy. Confined spaces include underground reservoirs, ground storage tanks, elevated tanks, silos, manholes, and pipelines.

Confined Space Tips

- Do not enter permit-required confined spaces without being trained and without having a permit to enter.
- Review, understand and follow employer's procedures before entering permit-required confined spaces and know how and when to exit.
- Before entry, identify any physical hazards.
- Before and during entry, test and monitor for oxygen content, flammability, toxicity or explosive hazards as necessary.
- Use fall protection, rescue, air monitoring, ventilation, lighting and communication equipment according to entry procedures.
- Maintain contact at all times with a trained attendant either visually, via phone, or by two-way radio. This monitoring system enables the attendant and entry supervisor to order you to evacuate and to alert appropriately trained rescue personnel to rescue entrants when needed.

Refer to 29 CFR 1910.146 for complete regulations set by OSHA. Refer to your state's regulations if your state established and operates their own safety and health programs approved by OSHA.

Package Contents

AerationPlus Model 1800

Package Contents

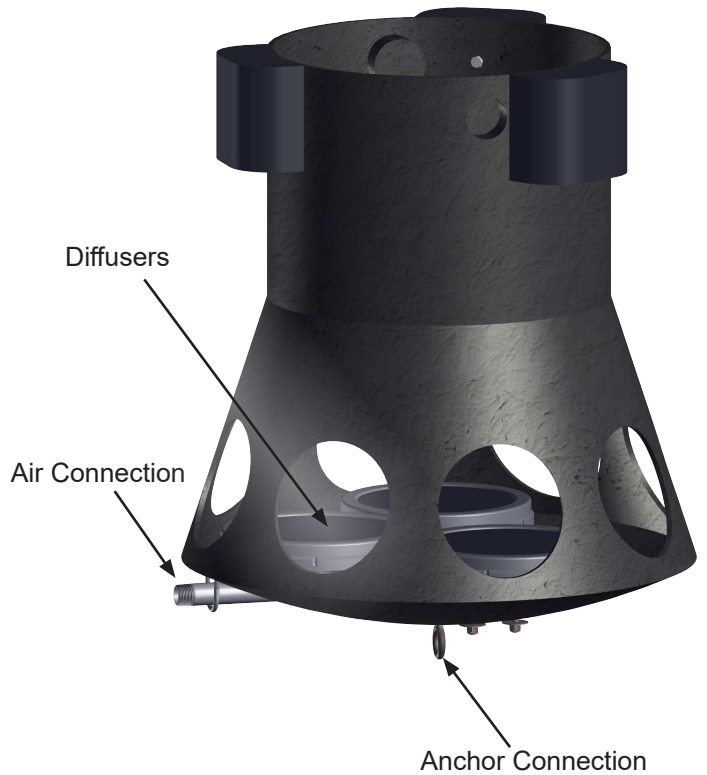


PN: 102585 AU200
Air Pump Option



PN: 101032 1.0 HP AC655
Air Compressor Option

PN: 100693 - AerationPlus Model 1800 Machine



PN: 12558025 - Anchor,
11.5" dia x 3", Concrete



PN: 100670 - 1" Air Hose
Black EPDM, 50FT



PN: 26010107 - 3/4" Air Hose
Weighted Black PVC, 100FT



PN: 10014505 - Anchor
Chain, 5/32, T316SS



PN: 100258 - Timer, 120vAC
Receptacle and Plug,
7 Day, Outdoor

Hose Layout

AerationPlus Model 1800

3/4" Hose Connection Diagram

P/N: 100691

1. The connection point from the Air Supply requires the following: Attach 3/4" hose to air supply unit using a hose clamp.
2. 50 Feet of EPDM, this hose can be omitted or cut shorter as required. Optional additional 50FT of hose may be purchased.
3. 3/4" Hose to 3/4" Hose connection requires the following: Connect the Female quick coupling x 3/4" Hose barb into the 3/4" PVC hose. Connect Male quick coupling x 3/4" hose barb into 3/4" EPDM hose. Secure all hose barbs with hose clamps.
4. 100 Feet of 3/4" Weighted PVC Hose, maybe cut shorter as required.
5. Connect 3/4" PVC hose to Machine. Insert the Female quick coupling into the 3/4" PVC hose and secure using hose clamp. Connect to machine.

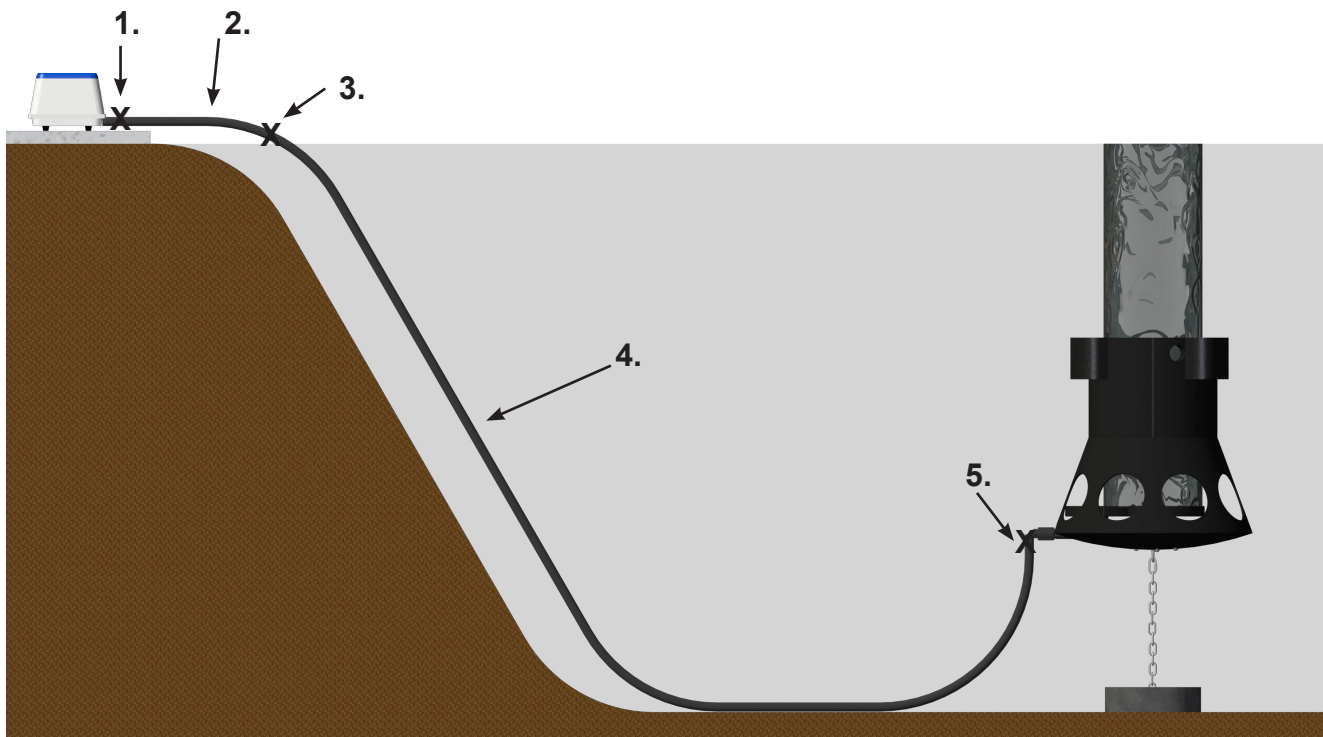


Figure 1: Typical Deployment (Not to scale) Air unit should be located away from water.

Deployment

AerationPlus Model 1800

Deployment

Machine Deployment

1. Lay out hose from air unit location to edge of water. Air unit should be located a safe distance away from waters edge.
2. Attach end of air hose to AerationPlus Model 1800 machine.
3. Attach anchor chain to unit at the desired distance from the bottom with quick link. If anchor chain is longer than needed, you do not need to cut it to length.
4. Attach air hose to air unit.
5. Deploy machine in desired spot by first lowering in anchor and then let the anchor slowly pull the machine to the desired depth.
6. Plug in air unit and ensure that air is coming out of the machine. You should see flow coming out of the machine after 15 seconds.

Adjusting Intake Depth

To adjust the intake depth you must adjust the anchor chain. The Anchor chain is connected to the bottom of the unit and the anchor. To raise the intake depth, lengthen the anchor chain and to lower the intake depth, shorten the anchor chain. The length of anchor chain is measured off the bottom and add 6" to achieve accurate intake depth.

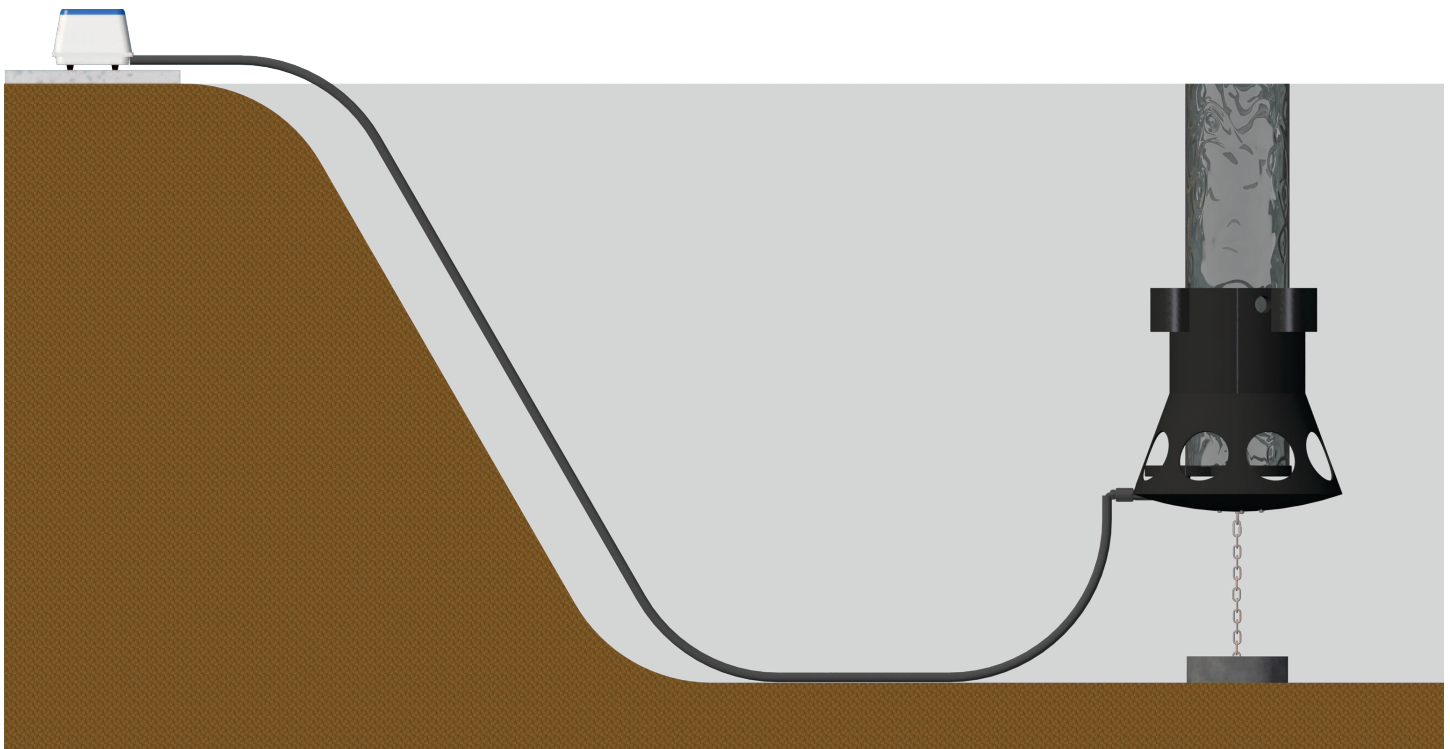


Figure 1: Typical Deployment (Not to scale) Air unit should be located away from water.

Maintenance

AerationPlus Model 1800

Maintenance

Unit Cleaning

The AerationPlus Model 1800 Unit is designed to provide continuous operation with little to no maintenance. However, in some locations significant debris within the pond may eventually get caught on the unit either restricting the flow pattern at the manifold or through the intake housing.

Debris may get caught in the air manifold, either being too large to pass through or resistant to sliding up the manifold housing. Often debris will eventually work its way loose and pass through the unit or may be pulled through as other debris passing through the unit will pull or slide snagged debris through. If significant debris is causing the unit to clog, occasional maintenance and cleaning may be required.

If required, debris should be carefully removed from the manifold and be wiped clean from any scum buildup on the outside of the pipes that may contribute to preventing debris from passing through the unit.

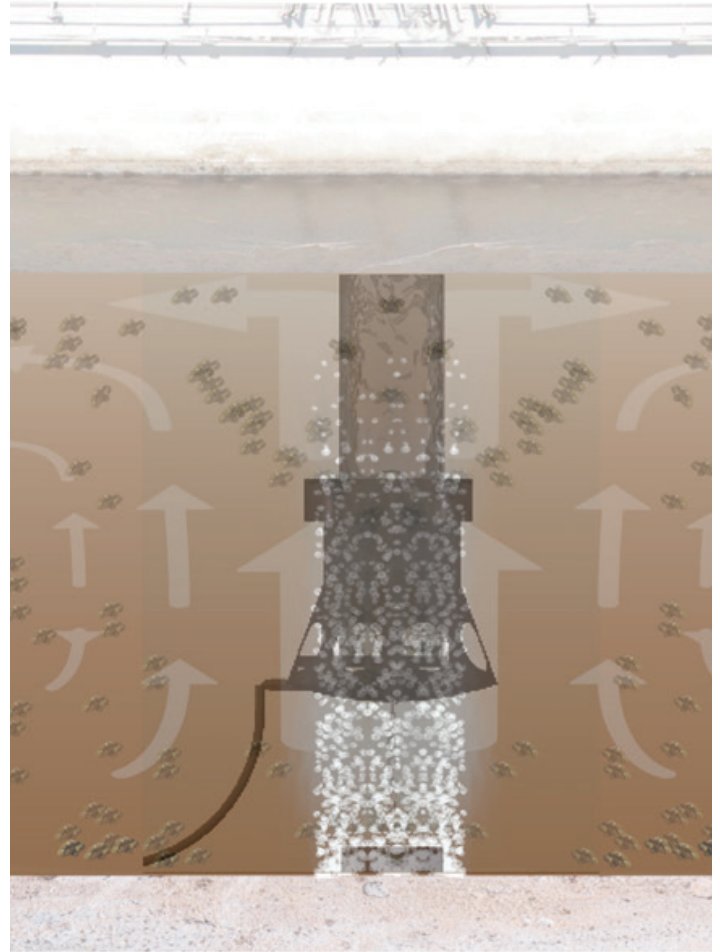


Figure 2: Machine passing debris

AerationPlus Model 1800

Technical Specifications

Technology Description- AerationPlus Model 1800 air powered circulation equipment are made of lightweight and long lasting plastic. Anchored from the bottom and self floating, the AerationPlus Model 1800 stays out of sight but allows for mixing of small ponds and lake with no part of the machine above the water. Specifically designed for small ponds and docks.

Materials of Construction - High density polyethylene shell and T316 stainless steel hardware. Syntactic foam flotation with rubberized coating. EPDM weighted air hose, and polypropylene air hose fittings.

50 ft (15.25 m) T316 stainless steel retrieval chain included for machine anchoring.

Recommended Air Flow - 3 to 15 standard cubic feet per minute (0.08 to 0.42 standard cubic meters per minute) @ 1psi (7.0 kiloPascal) + head pressure of water height above intake plate level. 3/4" MNPT air connection point.

Minimum Water Depth - Machine requires 36 inches (1M) of water to effectively circulate. No damage to machine when run dry in shallow water or drained condition.

Water Depth - For air manifold depth settings of less than 10ft (3 m), air pump configurations are recommended. For application at greater than 10ft (3 m), compressor configurations are recommended.

Intake - The chain from anchor to the bottom of the AerationPlus Model 1800 determines the intake level. The Intake draws water in a horizontal layer from the set distance off of the reservoir floor.

Timer - Input voltage: 120 VAC, 60 HZ, 15 Amps General Purpose, 1000 Watts Tungsten, 1/4 Horsepower, 8.3 Amps Ballast (Standard) (Inductive), 500 VA Electronic Ballast. Programmable digital timer for outdoor applications.

Enclosed Area Warning - Air powered mixers should not be used in enclosed areas where methane or other explosive gases could build up. Some gases can explode when combined with air. Please verify that you have proper ventilation to prevent a buildup of methane gas or other gases in the headspace above the explosion limit.

Shipping Size/Weight

- 48" x 40" x 36", 160lbs.

Maintenance / Warranty- Limited maintenance. Limited manufacturer's warranty. See Warranty Statement for details.

Patent Pending

Subject to change without notice



Figure 1: AerationPlus Model 1800

Warranty



AerationPlus Mixers

Limited Replacement Warranty

AerationPlus Mixers. These units are warranted to be free of defective parts, materials, and workmanship for a period of two years from the date of installation. This warranty is limited to the repair or replacement of defective components only and does not apply to normal wear and tear. If the factory's service crews performed the original on-site placement and startup, then this warranty also includes labor. Where labor is included, in lieu of sending a factory service crew to the site for minor repairs, Ixom Watercare, Inc. may choose to send the replacement parts to the owner postage-paid and may pay the owner a reasonable labor allowance, as determined solely by Ixom Watercare, Inc., to install the parts.

GridBee air pumps, air compressors, control panels, and any optional accessories. These items are considered "buyout" items for Ixom, and as such include a warranty against defects in material and workmanship for one year from the date of purchase. This warranty covers parts only, not labor. Parts that are determined by Ixom to be defective in material or workmanship under normal use during the one year warranty period will be repaired or replaced. Shipping charges are the responsibility of the customer.

Terms applicable to all equipment. This Limited Replacement Warranty is subject to the terms of Ixom Watercare, Inc.'s General Terms and Conditions of Sale. In the event of any inconsistency between the terms of this Limited Replacement Warranty and Ixom Watercare, Inc.'s General Terms and Conditions of Sale, the terms of this Limited Replacement Warranty shall prevail to the extent of that inconsistency.

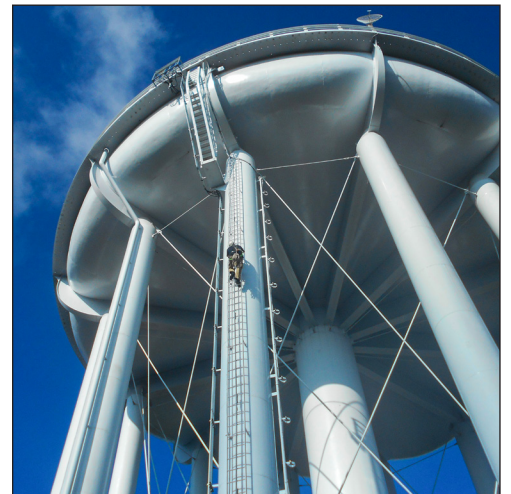
IXOM

WATERCARE

Nationwide Installation & Service

EVERYONE DESERVES GREAT CUSTOMER SUPPORT

Ixom Watercare earns customer trust with unparalleled service start to finish. Every department in Ixom is dedicated to the support of our Customers and the improvement of water quality. Complete life cycle support is much, much more than a returned phone call or an email. It centers around direct access and communication to those who can help when help is needed from the beginning of a project throughout the life of the equipment.



ABOUT IXOM

Ixom combines innovative water quality solutions with top notch manufacturing and nationwide in-field service capabilities to create trusted, full circle support our Customers depend on.

We design and manufacture many trusted brands including GridBee®, SolarBee®, MIEX®, and ResidualHQ® for use across the water quality spectrum. This includes solutions for Water Treatment, Distribution Treatment, Wastewater Treatment and Lakes & Source Water Reservoirs.

Ixom has thousands of installations and is an industry-leader solving water quality problems across the United States, Canada and the world.

Contact us today to discuss your water quality and service needs.

ixomwatercare.com
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