



• ScaleX2

- Water Treatment for Humidification Systems
- Non-Chemical Scale Prevention
- Installation for 5 Micron and ScaleX2 Grouped
- Installation & Cartridge Replacement (7 pgs)

# ScaleX2® (SX2)

## A Water Softener Alternative

### Water Pre-Treatment for Humidity Control Systems



### Chemical Free Scale Prevention

### Template Induced Crystallization (TIC)

Effective Scale Prevention.

Instantly transforms dissolved calcium carbonate ions into harmless inactive microscopic crystals suspended in solution – reducing the potential for scale formation

- No Salt
- No Chemicals
- No Electricity

• **Tested** by an independent laboratory against the international protocol for scale prevention.

*ScaleX2 achieved a 99.6% effectiveness rating – the highest among all water softener alternatives.*

ScaleX2 technology has been used in business applications successfully and now routinely for 12 years.

### Simple & Efficient Operation.

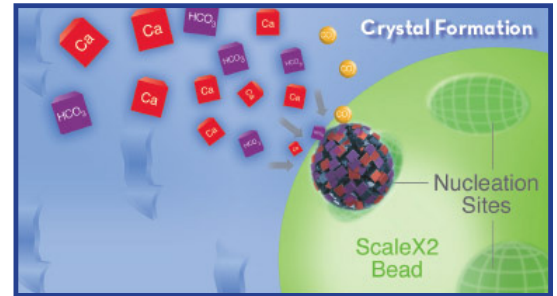
*Converts dissolved hardness ions (scale-causing calcium carbonate) into harmless, inactive microcrystals.*

*No backwash water waste.*

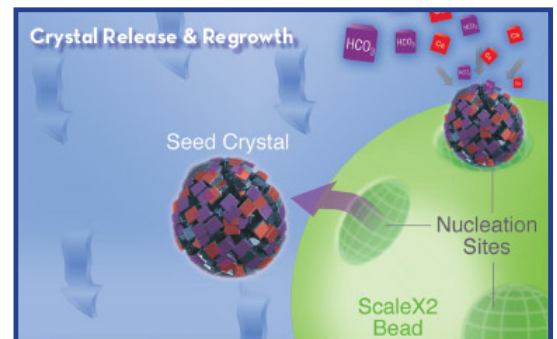
*Long Lasting media which is not consumed by the reactions.*

*An environmentally friendly technology.*

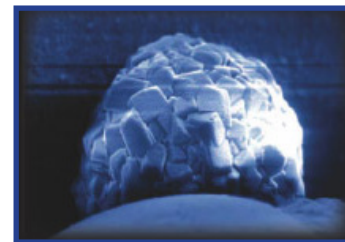
**Note: See page 2 for cartridge replacement information.**



Atom sized nucleation sites on the surface of small polymer beads convert dissolved hardness into microscopic crystals.



Once the crystals grow to a certain size they are released from the bead. The crystals in solution keep the hardness out of the water so that it can't form scale or interfere with soap



When the crystals are large enough, they break free and are carried away with the flow of water.

Nano-Crystal observed on the ScaleX2 media surface. (Photo by the Scanning Electron Microscope)

## Effective – Low Cost – Low Maintenance Scale Prevention



### • ScaleX2

- Water Treatment for Humidification Systems
- Non-Chemical Scale Prevention
- Installation for 5 Micron and ScaleX2 Grouped
- Installation & Cartridge Replacement (7 pgs)

### Specifications:

#### Water Chemistry Components & Application Ranges

(Use only on municipal water)

- |                          |   |
|--------------------------|---|
| • pH                     | between 6.5 to 8.5                      |
| • Hardness, max.         | 25 grains (428 mg/l CaCO <sub>3</sub> ) |
| • Water Temperature      | 41 to 140° F (5-60°C)                   |
| • Chlorine               | less than 3 ppm                         |
| • Iron                   | maximum 0.3 mg/l                        |
| • Manganese              | maximum 0.05 mg/l                       |
| • Copper                 | maximum 0.3 mg/l                        |
| • Oil & H <sub>2</sub> S | Remove prior to <b>ScaleX2®</b>         |
| • Polyphosphates         | Remove prior to <b>ScaleX2®</b>         |

### Regulatory Approvals:



COMPONENT

The ScaleX2® filter cartridge in the SX2-11 and SX2-12 is Tested and Certified by NSF International against NSF/ANSI Standard 42 for materials and structural integrity requirements only.

*NOTE: Testing was performed under standard laboratory conditions, actual performance may vary. It is recommended that you have your water supply tested to determine your actual water treatment requirements.*

#### Model SX2-11

**Capacity**  
1 gpm

**Dimensions**  
14.5" H  
8.5" W  
5" D

**\$262.00**

**Weight**  
8 lbs

**Cartridge**  
Annual  
Cartridge  
Replacement  
SCLX2-1

**\$90.75**



#### Model SX2-12

**Capacity**  
2 gpm

**Dimensions**  
25" H  
8" W  
5" D

**\$352.00**

**Weight**  
10 lbs

**Cartridge**  
Annual  
Cartridge  
Replacement  
SCLX2-2

**\$137.75**



#### Model SX2-12B

**Capacity**  
4 gpm

**Dimensions**  
28.25" H  
11.75" W  
8" D

**\$523.00**

**Weight**  
16 lbs

**Cartridge**  
Annual  
Cartridge  
Replacement  
SCLX2-4

**\$295.50**



- Each New ScaleX2 Model Includes 1 Cartridge at time of order (1 year supply / 1 cartridge per year).
- Larger Systems available.
- Operation: with adequate system pressure and yearly filter change, normal operation is completely automatic.
- Routine Maintenance: yearly filter change and/or replacement of sump O-rings if needed.
- Maximum pressure: 125 psi; Inlet/Outlet Connections: 1/2" frpt; Max. Temp: 100° F / Min. Temp: 35° F
- Install a 1/2" full-flow ball valve on the water supply side to the ScaleX2 unit.
- ScaleX2, when included upon ordering a new high pressure system from IHC, is shipped separately to the customer location and installed either on the pump skid or on in a convenient location on the incoming water supply line.
- Replacement Parts for all three sizes which may be special ordered include: the cartridge filter, sump housing, sump O-ring, Inlet Ball Valve, Wrench and Pressure Relief Button Kit.



### • ScaleX2

- Water Treatment for Humidification Systems
- Non-Chemical Scale Prevention
- Installation for 5 Micron and ScaleX2 Grouped
- Installation & Cartridge Replacement (7 pgs)

### Installation of ScaleX2 & 5 Micron Sediment Pre-filter (Grouped Together – Wall Mounted)

- Locate both ScaleX2 and the 5 Micron Sediment Pre-filter to be plumbed inline and grouped together wall mounted and located where they are easily accessible for cartridge replacement.

- The Pump Station comes with 10 feet of 1/2" low pressure nylon tube. Make sure location of the grouped housings are located within 10' of the water inlet end of the pump station.

- The pump station will have a 1/2" Slip-Lok connection to receive the water supply from the 5 micron pre-filter. The order of flow is first through the ScaleX2, then the 5 micron pre-filter with an installed drain valve between the 5 micron filter and the Slip-Lok "Inlet" connection to the pump. Pump connections will be labeled.

**Installing ScaleX2 (Models SX2-11 – SX2-12 – SX2-12B):** Install 1/2" full-flow ball valve prior to ScaleX2 which is mounted upright and vertical. Make incoming supply water connections to the inlet ball valve on the left side of the ScaleX2. Use 2-3 wraps of teflon tape and brace the the inlet ball valve on the system with a wrench when connecting the feed water line. Do not overtighten connection fitting into ball valve.



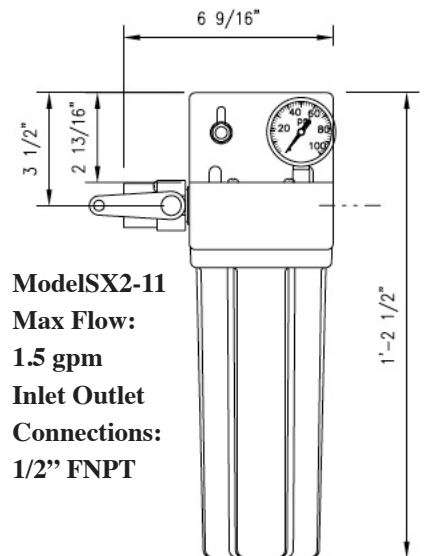
The only maintenance required are yearly filter changes. Filter changes are needed after either twelve months of operation or reduced water flow. See detailed ScaleX2 user manual in reference section.

**Installing the 5 Micron Sediment Pre-filter Canister:** Install in line after the ScaleX2. Distance between the two canisters is dependent on location circumstances and is not a factor.

The canister will have inlet and outlet 1/2" FNPT ports which receive 1/2" MNPT fittings with 1/2" Slip-Lok connections for 1/2" line.

From the outlet side again is the same fitting connections using 1/2" MNPT to 1/2" Slip-Lok. The canister will have a mounting bracket to fix the cannister inline to the wall.

Plumb an inline drain valve in a Tee after the micron filter and before the connection to the "Inlet" to the pump. The purpose is to perform flushing of the ScaleX2 as final preparation and when changing filters. Again, it is advised to install a shut off valve prior to the grouped filters.



Once water is opened to the 5 micron filter, there is a red button to hold down releasing any trapped air. Release all trapped air until all air is purged.

Note: This pump is equipped with an inlet solenoid valve which will prevent water from running through the system when the pump is turned off. The water supply should be left on at all times.



• ScaleX2

- Water Treatment for Humidification Systems
- Non-Chemical Scale Prevention
- Installation for 5 Micron and ScaleX2 Grouped
- Installation & Cartridge Replacement (7 pgs)



Installation, Operation & Maintenance Manual

Reduce Scale

For ScaleX2® Models: SX2-11, SX2-12, SX2-12B

DO NOT DISCARD - GIVE THIS MANUAL TO THE OWNER AFTER INSTALLATION.

DO NOT DISCARD THIS MANUAL AFTER INSTALLATION. THIS MANUAL CONTAINS IMPORTANT OPERATION, MAINTENANCE AND PRECAUTIONARY INFORMATION. PLEASE PRESENT THIS MANUAL TO USER/OPERATOR/OWNER AFTER INSTALLATION.

IT IS STRONGLY ENCOURAGED THAT YOU READ THIS MANUAL BEFORE INSTALLING SYSTEM TO ENSURE THE BEST POSSIBLE INSTALLATION.

INSTALLATION MUST CONFORM TO ALL LOCAL AND STATE PLUMBING CODES AND REGULATIONS.

CONNECT SYSTEM TO COLD WATER SUPPLY ONLY. WATER TEMP. CAN NOT EXCEED 100°F/38°C.

SYSTEM MUST BE INSTALLED IN A VERTICAL AND UPRIGHT POSITION.

SCALEX2® SYSTEMS MUST NOT BE USED IN CONJUNCTION WITH POLYPHOSPHATE OR ANY OTHER SCALE INHIBITOR.

DO NOT INSTALL FILTERS DOWNLINE FROM THE SCALEX2® SYSTEM. SCALEX2® MUST BE THE LAST FILTER SYSTEM BEFORE THE EQUIPMENT.

DO NOT USE WITH WATER THAT IS MICROBIOLOGICALLY UNSAFE OR OF UNKNOWN QUALITY WITHOUT ADEQUATE DISINFECTION BEFORE OR AFTER THE SYSTEM.

FAILURE TO CHANGE CARTRIDGES PER RECOMMENDED INTERVALS WITH OPTIPURE REPLACEMENT CARTRIDGES MAY LEAD TO SYSTEM FAILURE AND PROPERTY DAMAGE.

Introduction

Your new OptiPure ScaleX2® FoodService Filtration System will condition the tap water, providing optimum water characteristics for specified applications. Results include reduced equipment-maintenance requirements, longer equipment life and improved quality and consistency of your products. Proper system installation and routine filter changes ensure years of trouble-free operation and performance.

The OptiPure System is built with the finest and most advanced materials. Each system is quality inspected and pressure-tested prior to shipment. With proper installation and routine maintenance, you should have years of trouble-free operation.

Please refer to this manual when performing routine filter changes. The instructions make periodic maintenance quick and easy, and ensure that you should receive maximum benefit from your system.

Operating Specifications

Maximum Pressure: 125 psi/8.6 bar

Maximum Temperature: 100°F/38°C

Minimum Temperature: 35°F/2°C

Installation Precautions

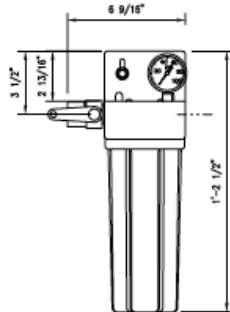
- Do NOT install system on line pressure above 125 psi.
- Do NOT install the system backwards with the feed water line connected to the outlet.
- Do NOT use liquid pipe compounds for fitting connections. USE two to three wraps of teflon tape.
- Do NOT solder plumbing connections attached to filter housing or inlet valve. Inlet valve and filter housing will be damaged by high temperature.
- Do NOT allow system to freeze. Turn off water supply to housing and drain housing if temperature falls below 32°F.
- Do NOT install system in direct sunlight or where system is exposed to harsh chemicals, or where it may be subjected to being struck by moving equipment, carts, mops or any other item that may cause damage.
- ALLOW a minimum of 3" under the housing to allow for filter replacement.
- IF water hammer is evident, install water hammer arrestors before OptiPure unit.
- Do NOT overtighten fitting connections into inlet valve our housing outlet.
- Always back-up valves and fittings with a wrench when installing a fitting to avoid turning the valve.
- Do NOT install the unit behind equipment where it may be difficult to access the system for filter replacement.



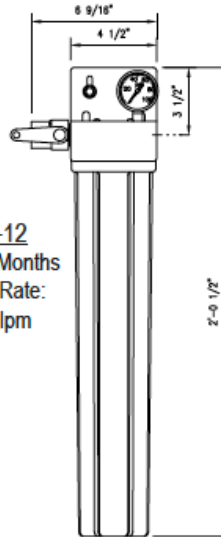
### • ScaleX2

- Water Treatment for Humidification Systems
- Non-Chemical Scale Prevention
- Installation for 5 Micron and ScaleX2 Grouped
- Installation & Cartridge Replacement (7 pgs)

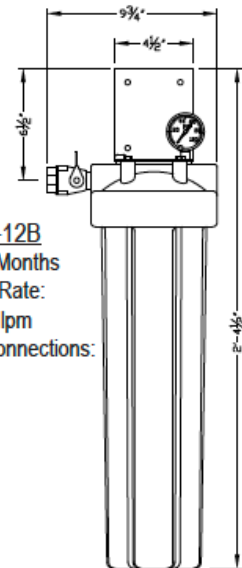
### System Dimensions



**Model: SX2-11**  
 Capacity: 12 Months  
 Service Flow Rate:  
 1.5 gpm/5.7 lpm  
 Inlet/Outlet Connections:  
 1/2" FNPT



**Model: SX2-12**  
 Capacity: 12 Months  
 Service Flow Rate:  
 3.0 gpm/11.4 lpm  
 Inlet/Outlet  
 Connections:  
 1/2" FNPT



**Model: SX2-12B**  
 Capacity: 12 Months  
 Service Flow Rate:  
 4.0 gpm/15.1 lpm  
 Inlet/Outlet Connections:  
 3/4" FNPT

Position the OptiPure unit in a suitable location. The direction of flow through the OptiPure unit is always left to right, keep this in mind when determining installation location. Do NOT mount the OptiPure system near any source of heat. Also, do not mount the system above any device or area that would be adversely affected by water.

### Installation Procedure

1. Turn off all equipment to be fed by the ScaleX2® System, locate water supply cut-off valve and turn off.
2. Determine if water line has an existing water treatment system. If so, examine system for use of polyphosphate or other scale inhibitors. ScaleX2® will not be effective if used in conjunction with other scale inhibitors. Remove the scale inhibitors from the water line or discontinue installation.
3. Install a 1/2" full-flow ball valve on the water supply side that will feed the water system.
4. Anchor the ScaleX2® System on a wall stud or suitable mounting material spanning wall studs. System must be upright and vertical.
5. Run a suitable line from the 1/2" full-flow ball valve at the tap water source to the inlet ball valve on the left side of the ScaleX2® system. Use 2-3 wraps of teflon tape and brace the inlet ball valve on the system with a wrench when connecting the feed water line. NOTE: DO NOT OVERTIGHTEN CONNECTION FITTING INTO BALL VALVE.
6. Select the appropriate size tubing for the equipment being fed and connect it to the outlet of the ScaleX2® System. NOTE: DO NOT connect the tubing to the equipment at this time. Prior to making connection to the equipment this line will be used to facilitate flushing the system. As an option, a drain valve in a tee on the outlet side of the ScaleX2® system could be provided in the line to facilitate flushing when changing filters.
7. With System inlet valve closed, slowly open the 1/2" full-flow ball valve at the tap water source. Check for leaks.
8. If a drain valve was not installed on the outlet side of the system, hold the tubing that will connect to equipment in a clean bucket or over sink or drain. Open the system inlet feed valve and allow water to flush through system for 10 minutes at the specified system flow rate to allow air and any carbon fines to escape. NOTE: NO ACTIVATION IS REQUIRED FOR THE OPTIPURE SYSTEM TO PERFORM PROPERLY. FLUSHING IS RECOMMENDED TO ALLOW AIR TO ESCAPE THE SYSTEM AND REMOVE ANY CARBON FINES PRIOR TO CONNECTING TO EQUIPMENT.
9. Make certain that the end of the tubing to be connected to the equipment is clean and sanitized.
10. Connect tubing to equipment. Open all water supply valves and check for leaks.
11. If there are no leaks turn on equipment and check for normal operation.
12. Attach the Service Log to the Installed OptiPure System and fill in install date.



### • ScaleX2

- Water Treatment for Humidification Systems
- Non-Chemical Scale Prevention
- Installation for 5 Micron and ScaleX2 Grouped
- Installation & Cartridge Replacement (7 pgs)

### Operation

With adequate pressure, normal operation of the ScaleX2® System is completely automatic. Dependable operation involves only periodic filter changes and service documentation.

### Maintenance

The only routine maintenance your ScaleX2® System should ever require is periodic filter cartridge changes or replacement sump O-rings. Filter changes are necessary for optimum performance of your foodservice equipment. If the system sizing recommendations have been followed, the ScaleX2® System is designed to provide a twelve (12) month filter replacement interval on most tap water.

### Filter Change Frequency

Several situations will mandate filter changes. Complete filter sets should be changed when any of the following apply:

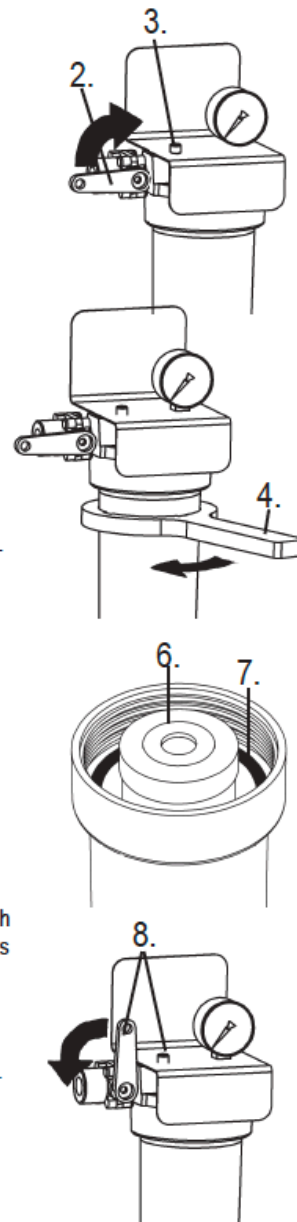
- Twelve (12) Months have passed since unit installation or previous filter change.
- Reduced water flow.

If filter change frequency is less than 12 months due to pressure drop, it may be necessary to add additional prefiltration or evaluate system sizing recommendations.

### Filter Cartridge Replacement Procedure

**IMPORTANT:** Determine whether all equipment connected to the ScaleX2® System must be turned off prior to shutting off water supply from filters.

1. If required, turn off equipment.
2. Turn OFF water to ScaleX2® System by closing Inlet Ball Valve.
3. Press the red button to release pressure.
4. Remove housing(s) - use filter wrench if necessary.
5. Clean inside of housing sumps with warm water. If desired, disinfect housings using a teaspoon of household bleach in a filter bowl of water. Let stand 5 minutes, and then discard.
6. Insert new cartridges into filter housings. Match cartridge model numbers to model numbers on bracket.
7. Make certain the O-ring is properly positioned and reinstall filter housings (hand tighten only). Check O-ring for damage and replace if damaged or distorted.
8. Slightly open the inlet ball valve; push the red pressure relief button to release trapped air until a small amount of water comes out - release the red button and fully open the ball valve.
9. Open the flush valve downline from the filter housing (if equipped) and flush the new cartridges to drain or bucket for ten (10) minutes or until water runs clear. If no flush valve is present, disconnect line from equipment to flush to drain.
10. **VERY IMPORTANT:** With water supply inlet valve OPEN and water flow confirmed, turn on connected equipment. Failure to supply water to equipment may cause serious damage.
11. Record filter change on the service log or at FilterTrak.





### • ScaleX2

- Water Treatment for Humidification Systems
- Non-Chemical Scale Prevention
- Installation for 5 Micron and ScaleX2 Grouped
- Installation & Cartridge Replacement (7 pgs)

### Replacement Filter Cartridges

OptiPure Filter Systems are designed, tested, and certified with FilterXpress filter cartridges with proven performance, size and operating capacities. Use of replacement cartridges other than those specified will void warranties and certifications, and may compromise equipment protection, water quality and cartridge life.

### Replacement Parts for:

SX2-11, SX2-12, SX2-12B

Part #	Description
600-10050	Sump for SX2-11
600-10059	Sump for SX2-12
600-10014	Sump for SX2-12B
600-99003	O-Ring - for SX2-11 & 12
600-99004	O-Ring - for SX2-12B
520-12055	Valve, Inlet Ball for SX2-11, 12
520-12010	Valve, Inlet Ball for SX2-12B
600-99007	Wrench for SX2-11, 12
600-99009	Wrench for SX2-12B
600-99205	Pressure Relief Button Kit
160-52910	(Optional) Flush Valve Kit 1/2" for SX2-11, 12
160-52914	(Optional) Flush Valve Kit 3/4" for SX2-12B only



### Replacement Cartridges

System	Cartridge	Qty
SX2-11	SCLX2-1	1
SX2-12	SCLX2-2	1
SX2-12B	SCLX2-4	1



The ScaleX2® filter cartridge in the SX2-11, SX2-12 and SX2-12B is Tested and Certified by NSF International against NSF/ANSI Standard 42 for material requirements only.

NOTE: Testing was performed under standard laboratory conditions; actual performance may vary. It is recommended that you have your water supply tested to determine your actual water treatment requirements.

OptiPure warrants the quality of workmanship of their system components and assembly, except for replacement cartridges and membranes, for a period of 60 months. OptiPure Systems are designed, tested and certified with OptiPure cartridges. Use of replacement cartridges or parts other than those specified will void warranties and certifications, and compromise equipment protection, water quality and cartridge life.