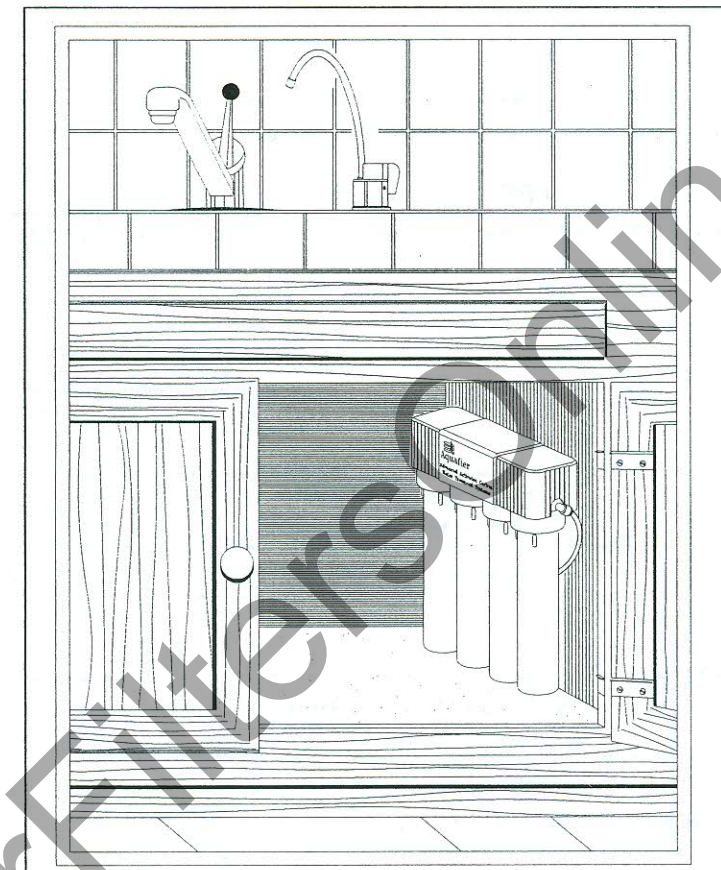
OWNER'S GUIDE

AQUAFIER®

ADVANCED ACTIVATED CARBON
WATER TREATMENT SYSTEM



Model Series
10401, 10402, 10403

hydrotech®

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INTRODUCTION

THIS GUIDE IS APPLICABLE TO ALL AQUAFIER® MODELS

TABLE A

SYSTEM CONFIGURATION		FAUCET TYPE		
Filtration Unit	**Flow Monitor**	**Chrome**	**Stainless or Polymer**	**None**
Aquafier® 4 Vessel Unitary Manifold	Faucet Smartap®	10403002	10403102*	10402102*
	Pushbutton Smartap®	10403001	10403101*	10402101*
	None	10401000	10401100*	10402100*

*** System Tested and Certified By NSF International Against ANSI/NSF 53 and ANSI/NSF 42.**

CERTIFIED CONTAMINANT REDUCTION PERFORMANCE

SYSTEM TESTED AND CERTIFIED BY NSF INTERNATIONAL AGAINST ANSI/NSF 53 AND ANSI/NSF 42 FOR REDUCTION OF				
ASBESTOS	LEAD	PARTICULATES	CYSTS*	TURBIDITY
AESTHETICS: TASTE, AND ODOR	CHLORINE REDUCTION CLASS I	VOLATILE ORGANIC CHEMICALS (VOC's)		

* Certification for reduction of Cysts including Cryptosporidium parvum ococysts and cysts of Giardia and Entamoeba.

SYSTEM STATISTICS

SYSTEM CAPACITY without Smartap® Flow Monitor	SYSTEM CAPACITY with Smartap® Flow Monitor	SERVICE FLOW RATE at the Manifold Unit Outlet
3969 Litres (1050 gallons)	6615 Litres (1750 gallons)	1.9 Liters/minute (0.5 Gallons/minute)

PERFORMANCE INDICATOR

SMARTAP® WATER FLOW MONITOR

The optional Smartap® Monitor indicates filter cartridge status by measuring the volume of water passing through the Aquafier® Water Treatment System. When water is dispensed, it flows through the system actuating the monitor and recording the elapsed time for each dispense. Monitor indication is based on the cumulative number of gallons passed through the system (elapsed time multiplied by flow rate). A green light indicates filters are functioning normally. A yellow light indicates filters are nearing useful capacity and should be replaced.

Disconnecting the battery from the clip resets the Monitor. Installing a new battery each time filter cartridges are replaced ensures an accurate indication of system performance and a continuing supply of high quality drinking water.

FAUCET ACTUATED SMARTAP® FLOW MONITOR	PUSHBUTTON ACTUATED SMARTAP® FLOW MONITOR
A light illuminates in a Light Bar each time a faucet or additional point-of-use device is activated. Light Bar Assembly is located at faucet base (Chrome or Stainless Steel) or front of faucet body (Polymer). Power is provided by nine volt alkaline battery.	A light illuminates when the test button is pressed. Pushbutton Actuator and Indicator Lights are located on the Manifold Cover. Power is provided by nine-volt alkaline battery.

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INTRODUCTION

CONDITIONS FOR USE

Source Water Supply Profile	
Community/Private	Chlorinated/Non-Chlorinated
Feed Water Pressure[1]	173-690 kPa (25-100 psig)
Temperature	4°-38° C (40°-100° F)

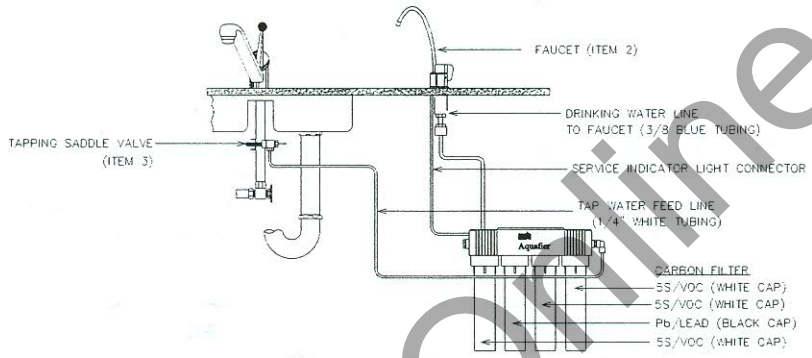
1. Pressure Regulator is recommended for feed water pressures exceeding 552 kPa (80 psig).

TECHNICAL DATA UPDATES

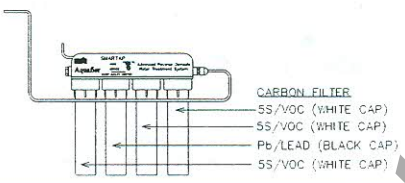
This Manual Incorporates The Following Technical Changes

Technical Bulletin 98-002:
Optional Components - Polymer Product Water Faucet
Installation Instructions - Polymer Faucet - Page 8
Parts Breakdown, Polymer Faucet - Page 9, Figure 9

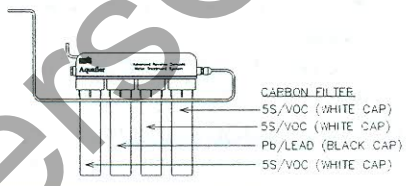
ITEM #1 - FAUCET SMARTAP® MONITOR WITH CONNECTIONS AND STANDARD FAUCET



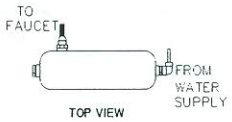
ITEM #1A - PUSHBUTTON SMARTAP® MONITOR



ITEM #1B - WITHOUT SMARTAP® MONITOR



TUBING CONNECTIONS AT MODULE



Item	Description	Part No.
	Module, Aquafier® Carbon Filtration System	
1	Faucet Actuated Smartap® Water Quality	Page I,
1A	Monitor	Table A
1B	Pushbutton Smartap® Water Quality Monitor	
2	Module Only, No Monitor	
	Product Water Faucet	Page 7, Fig 7
	Chrome or Stainless Steel	Page 9, Fig 9
	Polymer, Plain Front or with Light Bar	

Item	Description	Part No.
	Installation Kit, All Faucets	**42902003**
3	Supply Valve Assembly, Saddle Tapping	34900001
n/s*	Tubing, 1/4" x 54" White	20300014
n/s*	Tubing, 3/8" x 60" Blue	20300013
n/s*	Screw, Mounting Bracket (2 each)	32701002
n/s*	Owner's Guide, Aquafier® 104 Series	36101004
n/s*	Performance Data Sheet (104 Series NSF Listed)	36101194

* not shown

Figure 1 Component and Interconnection Locators, 104 Series

OPTIONS AND ACCESSORIES

METAL OR POLYMER FAUCET

The product water faucets are available in Chrome-Plated Brass (EPA and California Proposition 65 Compliant), Polished Stainless Steel, or a decorator color molded Polymer (five colors). Units are available with or without Light Bar. NSF Listed Systems require either a Stainless Steel or Polymer faucet.

Contact your Hydrotech® Dealer to purchase these items or to obtain more information.

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INSTALLATION REQUIREMENTS

READ THIS ENTIRE INSTALLATION AND SERVICE GUIDE BEFORE BEGINNING INSTALLATION

This Aquafier® Drinking Water Treatment System is designed for ease of installation and serviceability.
It is constructed with the finest materials available.

Using these instructions and paying close attention to parameters outlined within "CONDITIONS FOR USE" detailed on Page ii will ensure a successful installation.

This system must be installed in accordance with applicable city, state, and local plumbing codes.
To insure the system continues to operate at its optimum level,
it is necessary to have a routine maintenance and replacement schedule (Page 11).
The frequency at which filters need changing will depend on quality of feed water supply and level of system usage.

PREPARATION

1. Check that all appropriate components are packed with your system (Page II, Figure 1). Refer to applicable Component Parts Breakdown (Figure 7, 9, or 10) for a complete list of its constituent parts.
2. Determine locations for component installation. Two requirements for consideration are: access to cold water supply line and to household sink. Specific requirements are detailed in Table 1.

PRODUCT WATER FAUCET	FILTRATION MODULE
Faucet may be installed in any convenient location. Make sure underside of location is free of obstructions.	Module may be installed under a sink or in any convenient location. within 15 feet of source water supply and faucet

*** DO NOT PLACE MODULE WHERE IT WILL BE EXPOSED TO FREEZING AND/OR DIRECT SUNLIGHT.**
Mount Module on side of cabinet using bracket (attached to Module) and two screws provided in the Installation Kit.

HOLD THE MODULE BY THE FILTER HOUSINGS WHEN PICKING UP OR CARRYING THE UNIT

Table 1 Component Location Requirements

NOTE

THIS DRINKING WATER SYSTEM IS FOR USE ON POTABLE WATER SUPPLIES ONLY.
COMMONWEALTH OF MASSACHUSETTS PLUMBING CODES 248 CMR SHALL BE ADHERED TO.
CONSULT WITH YOUR LICENSED PLUMBER FOR INSTALLATION OF THIS SYSTEM.

CAUTION

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

SYSTEMS CLAIMING CYST REDUCTION

SYSTEMS CERTIFIED FOR CYST REDUCTION
MAY BE USED ON DISINFECTED WATERS THATMAY CONTAIN FILTERABLE CYSTS.

IF SIGNIFICANT INLET WATER PRESSURE DIFFERENTIALS OCCUR, PRESSURE REGULATOR MUST BE USED.

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INTER-COMPONENT CONNECTIONS

Connections between the cold water supply line, filtration unit, product water faucet, and optional accessories are accomplished using plastic tubing and push-together quick-connect type fittings.

PLASTIC TUBING

1. Cut tube ends square and straight. Do not deform the tube (i.e., cause tube to compress its diameter so it is no longer round).

2. Make sure the outer surface of the tube is clear of marks or scratches for a length equal to twice the tube diameter. This allows the "O" ring to seat properly against the tube.

3. Avoid sharp changes in direction when routing the tubing. Sharp turns cause the tubing to flex and deform which reduces its flow capacity and may increase lateral stress on the fittings, causing leaks.

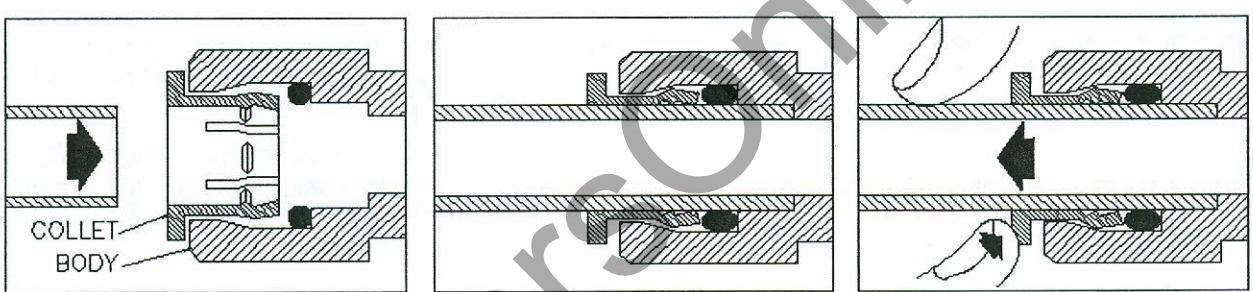
QUICK-CONNECT FITTINGS

Fittings consist of two parts: a Body and a colored Collet. The Collet color corresponds to the tubing color to be used at that connection (See Figure 2A.).

1. To install a tube, push it through Collet until it seats firmly at bottom of fitting (Figures 2.A. and 2.B.).

2. To remove a tube, push and hold the Collet against the Body while pulling the tube out (Figure 2.C.).

NOTE: Systems are shipped with a plug in each fitting (prevents leakage of sanitizing fluid). Remove a plug in the same manner as a tube.



A. Push tube through Collet into Body

B. Tube must seat firmly at bottom of fitting

C. Push Collet against Body to release tube

Figure 2 How to Use Quick-Connect Fittings

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SADDLE TAPPING VALVE INSTALLATION ON COPPER TUBE

NOTE: State and local plumbing codes may prohibit use of saddle tapping valves. An Inlet Adapter Valve Assembly (P/N 42500004) is available as an alternate installation (See Page 4).

1. Locate shut off valves on water lines under sink. To identify hot supply pipe and cold supply pipe, turn both faucets on and let water run. As water flows, hot water pipe becomes noticeably warmer.

CAUTION: DO NOT INSTALL FEED WATER ASSEMBLY ON HOT WATER LINE.

2. Turn off cold water supply by closing shut off valve. Drain line by opening sink faucet. Some mixing type faucets may require hot water supply be shut off as well.

NOTE: If no shut-off valve is installed under sink, close main water valve during this installation.

All instructions refer to components shown in Figure 3A unless otherwise noted.

CAUTION: Do not turn valve handle before or while installing saddle tapping valve. Make sure piercing lance does not protrude beyond rubber gasket before installing valve.

3. Assemble saddle tapping valve assembly on tube.

   a. Hold Back Plate against tube.

      - 3/8" O.D. and smaller tubing, use bracket with side projections.
      - 1/2" or larger tubing, use "V" side of bracket (See Figure 3B).

   b. Hold Valve Saddle against tubing in a position directly opposite Back Plate.

   c. Install screws far enough so Saddle and Back Plate are held securely against tube.

   d. Rotate assembly so tubing connection is aligned toward Filtration Module input port.

   e. Tighten screws evenly (brackets must be parallel). Tighten each screw firmly. Do not crush tube.

4. Connect source water tubing to valve housing using compression fitting.

   a. Slide nut and sleeve onto tubing (in that order).

   b. Install insert into plastic tubing.

   c. Install tube with insert and sleeve into valve housing.

   d. Thread compression nut onto housing, tighten.

5. Connect tubing from saddle tapping valve to Filtration Module inlet elbow (Item 8 on Page 10, Figure 10).

6. Turn saddle tapping valve handle clockwise until it is firmly seated and piercing lance is fully extended.

NOTE: Supply line is pierced and valve is closed. **Do not open valve until system is activated (Page 11).**

7. Turn on cold water supply. Check saddle tapping valve installation for leaks. Allow water to run from faucet for a few minutes to clear any debris in the line caused by installation.

NOTE: If flow from sink faucet is reduced, clean faucet aerator.

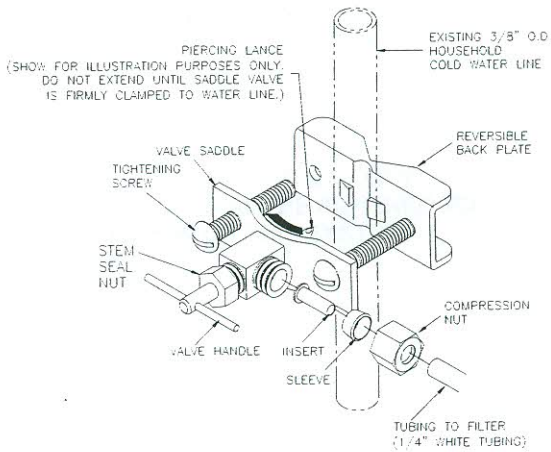

Figure 3A Saddle Tapping Valve Assembly P/N 34900001 installed on 3/8" O.D. Tubing

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SADDLE TAPPING VALVE INSTALLATION ON THICK WALL PIPE

NOTE: State and local plumbing codes may prohibit use of saddle tapping valves. An Inlet Adapter Valve Assembly (P/N 42500004) is available as an alternate installation (See Page 4).

1. Locate and shut off source water supply line (See Page 2, Steps 1 & 2 with associated Notes).

CAUTION: DO NOT INSTALL FEED WATER ASSEMBLY ON HOT WATER LINE.

CAUTION: Use a battery powered hand drill to avoid shock hazard.

NOTE: If no shut-off valve is installed under sink, close main water valve during this installation.

All instructions refer to components shown in Figure 3B unless otherwise noted.

Place a container or towel below shut-off valve to catch any remnant water.

Use a clean drill bit for this procedure.

2. Drill a 3/16" hole in pipe. Hole must be located so that tubing connection will be oriented toward Filtration Module input port.

3. Assemble saddle tapping valve assembly on pipe.

   a. Turn Valve handle to expose lance beyond rubber gasket no more than 3/16".

   b. Place Valve Saddle against pipe. Make sure lance fits into hole.

   c. Hold Back Plate in a position directly opposite Valve Saddle.

   d. Install screws far enough so Valve Saddle and Back Plate are held firmly against pipe.

   e. Tighten screws evenly (brackets must be parallel). Tighten each screw firmly. Do not crush pipe.

4. Connect source water tubing to valve housing using compression fitting (See Page 2, Step 4).

5. Connect tubing from saddle tapping valve to Filtration Module inlet elbow (Item 8 on Page 10, Figure 10).

6. Turn saddle tapping valve handle clockwise until it is firmly seated and piercing lance is fully extended.

NOTE: Supply line is pierced and valve is closed. **Do not open valve until system is activated (Page 11).**

7. Turn on cold water supply. Check saddle tapping valve installation for leaks. Allow water to run from faucet for a few minutes to clear any debris in the line caused by installation.

NOTE: If flow from sink faucet is reduced, clean faucet aerator.

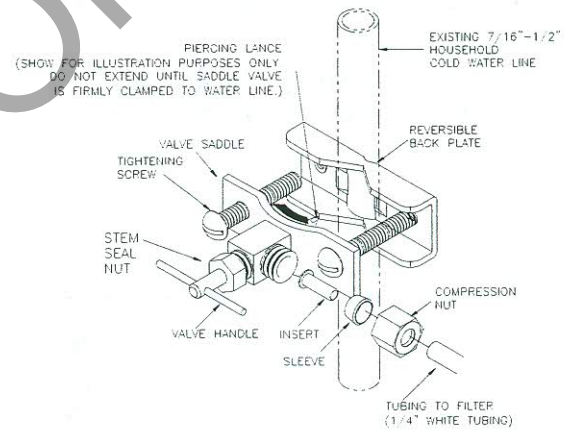

Figure 3B Saddle Tapping Valve Assembly P/N 34900001 installed on 7/16" – 1/2" O.D. Tubing

ADDITIONAL POINT OF USE CONNECTION

NOTE: Icemakers typically use 1/4" tubing as feed line. Use a reducing union (P/N 33501043) for this connection.

1. To connect an additional point of use (icemaker, extra faucet in wet bar and/or another use for treated water), place a "tee" connector (P/N 33501040) in 3/8" blue line between faucet and back of RO Module.

2. Connect "tee" to point-of-use with 3/8" blue tubing (P/N 60602001). Connect tubing to point-of-use. Connector requirements are based on type of delivery device i.e., a typical icemaker uses 3/8" x 1/4" reducing device (P/N 33501043)

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INLET ADAPTER VALVE INSTALLATION

NOTE: This assembly is offered as an optional installation method. Make sure it is approved for use under State and local plumbing codes before ordering kit (P/N 42500004).

NOTE: Use this assembly on U.S.N.P.T.* pipe thread fittings only.

CAUTION: DO NOT INSTALL FEED WATER ASSEMBLY ON HOT WATER LINE.

1. Locate shut off valves on water lines under sink. To identify hot supply pipe and cold supply pipe, turn both faucets on and let water run. As water flows, hot water pipe becomes noticeably warmer.

2. Turn off cold water supply by closing shut off valve. Drain line by opening sink faucet. Some mixing type faucets may also require turning off hot water supply.

NOTE: If no shut off valve is installed under sink, close main water valve during this installation.

Place a container or towel below shut-off valve to catch any water remaining in pipe.

All item callouts refer to Figure 4 unless noted otherwise.

3. Disconnect cold water supply line to sink at inlet valve end of line.

NOTE: Use Teflon tape (P/N 35700002) on male threaded connections in Steps 4, 6, 7, and 8.

4. Insert rubber washer (Item 1) into inlet adapter (Item 2) and install adapter onto supply valve. Align outlet hole (in side of adapter) toward Filtration Module.

5. Replace existing rubber grommet on cold water supply line with grommet supplied in kit (Item 3).

6. Attach cold water supply line to inlet adapter.

7. Install ball valve (Item 4) into inlet adapter.

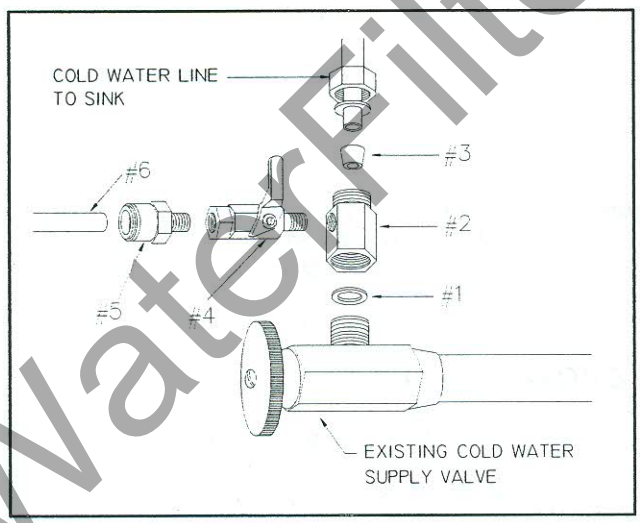
8. Install male connector (Item 5) into inlet ball valve.

9. Install ¼" white tubing (Item 6) from male connector to Filtration Module inlet elbow (Item 8 on Page 10, Figure 10).

10. Close inlet valve by turning handle so it is at a right angle (90°) to valve body.

11. Turn on cold water supply. Check installation for leaks. Allow water to run from faucet for a few minutes to clear any debris in the supply line caused by this installation.

NOTE: If flow from faucet is reduced, clean faucet aerator.



Item	Description	Part No.
	Inlet Assembly	
1	Rubber Washer	33400002
2	Inlet Adapter 1/2" x 1/2" x 1/8"	33201001
3	Rubber Grommet	33400003
4	Inlet Ball Valve 1/8"	34900002
5	Male Connector 1/4" x 1/8" NPT*	33503301
	Component of Installation Kit	
6	Tubing, 1/4" White	20300014

* United States *National Pipe Thread*

Figure 4 Inlet Adapter Assembly P/N 42500004 Installation and Parts Breakdown

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PRODUCT WATER FAUCET SITE PREPARATION

Refer to Faucet Installation Instructions (Pages 6 and 8) for site location and mounting hole specifications.

Primary considerations for site selection are convenience of use and an open area under sink. Always check underside of selected location for obstructions.

PORCELAIN/ENAMEL OVER STEEL OR CAST IRON SINKS

NOTE: A heavy duty, variable speed drill motor is recommended for this procedure.

Use of a spring-loaded porcelain drill set is strongly recommended (Figure 5).

Plastic sleeve supplied on pilot drill (Figure 5.A.) is to be positioned on drill bit against drill chuck. This prevents chuck from contacting porcelain after pilot hole has been completed.

Suggestion: Practice on discarded sinks to familiarize yourself with operation of porcelain cutter kit.

CAUTION: Avoid high motor R.P.M. during initial penetration of porcelain, as high drill speed will cause excessive chipping.

1. Using carbide tipped bit with plastic sleeve (Figure 5.A.), drill pilot hole completely through porcelain and metal underneath.

2. Place spring-loaded porcelain saw (Figure 5.B.) into drill chuck. Make sure pilot guide is inserted tightly. Insert pilot guide into pilot hole. Push down gently on drill motor to apply light pressure to porcelain surface. Start drill motor turning as slowly as possible.

   After initial cut has started, motor speed may be gradually increased. The cut may require three to four minutes to complete. Going faster could result in excessive chipping. Be sure a complete ring has been cut through porcelain to material underneath.

3. Place finish hole saw (Figure 5.C.) into drill chuck. Make sure pilot guide is inserted tightly. Insert pilot guide into pilot hole. Begin cut using a slow speed and light pressure until porcelain (inside ring cut in Step 2) has been penetrated to material underneath.

4. Remove saw from hole and clean all debris from porcelain surface. Reinsert saw into hole and cut through remaining material.

TILE COUNTER TOP

1. Follow procedures detailed in section labeled "Porcelain/Enamel Over Steel" (substitute "tile" for "Porcelain" in instructions).

STAINLESS STEEL SINK

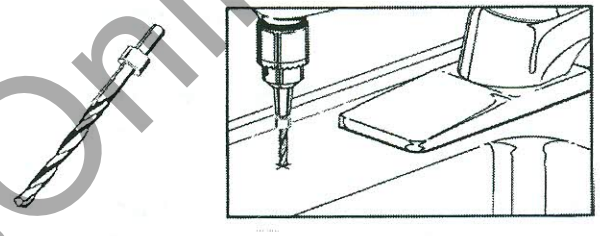
1. Use a center punch to make a small indentation to mark center of desired location.

2. Drill a pilot hole with a 1/8" metal drill bit, then enlarge hole with a 3/8" metal drill bit.

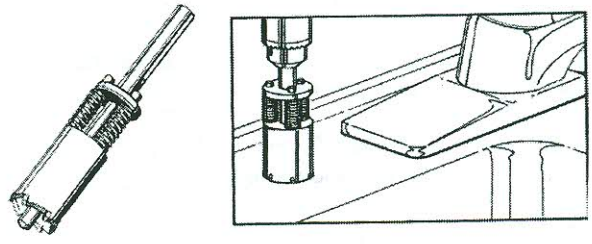
3. Complete hole size by using a 1 1/4" chassis punch available from your dealer (P/N 36201006).

NOTE: Installation hole is ready, install faucet.

A. PILOT DRILL



B. SPRING LOADED PORCELAIN SAW



C. FINISH HOLE SAW

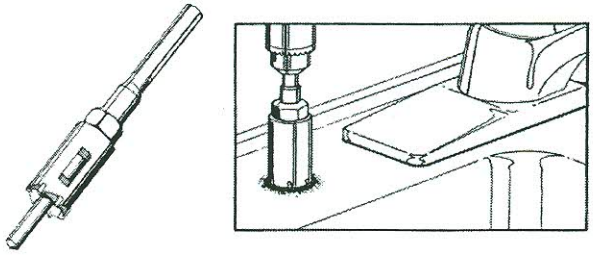


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Figure 5 Porcelain Cutter Kit P/N 36201003

PRODUCT WATER FAUCET INSTALLATION - STAINLESS STEEL OR CHROME FAUCET

Install faucet on flat surface at least 2" in diameter. Unused 1 1/4" hole is ideal.
Steps unique to a specific configuration are so noted. All other steps are common to either configuration.

New Faucet Installation

Refer to Faucet Site Preparation, Page 5.

Replacement Faucet Installation

Verify size of existing hole is 1 1/4" ± 1/4".

NOTE: Item callouts refer to Page 7, Figure 7 unless otherwise noted.

Part numbers for each callout are determined by faucet material:

Chrome-Plated Faucets (brass faucet nipple): Tables A and B.

Stainless Steel Faucet (copper faucet nipple) Tables C and D).

1. **Pushbutton Smartap®:** Verify faucet body, metal faucet base washer, and rubber base washer are in place above sink (Items 2, 3, and 4).

   Optional Faucet Smartap®: Verify faucet body, metal faucet base washer, light bar base washer, light bar assembly, and washboard gasket are in place above sink (Items 2, 3, 14, 12, and 13).

2. Install 3/8" blue tube into faucet connector (Item 8).

3. **Pushbutton Smartap®:** Insert tube into mounting hole and place faucet over hole.

   Optional Faucet Smartap®: Insert tube and monitor cord into mounting hole and place faucet over hole.

   NOTE: Do not pinch, kink, or otherwise deform monitor cord.

4. Install slotted washer, washer, and nut on faucet nipple below sink and snug them up. Align faucet before tightening. Do not over tighten.

5. Connect 3/8" blue tubing to swivel elbow located on rear of module.

6. **Optional Faucet Smartap®:** Connect monitor cord to telephone-style connector located on manifold cover (See Figure 6).

NOTE: The basic installation is complete and system is ready for activation (See Page 11).

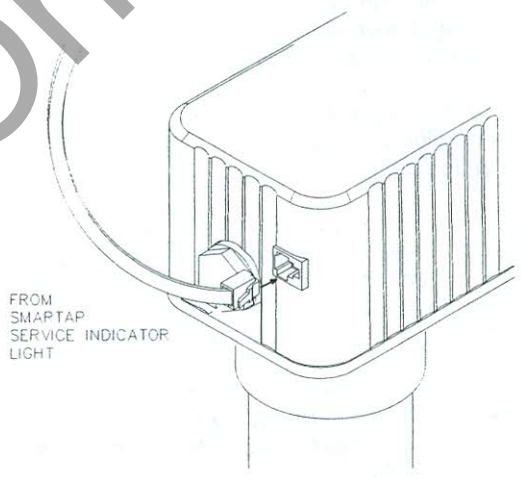

Figure 6 Connecting Monitor cord to Manifold.

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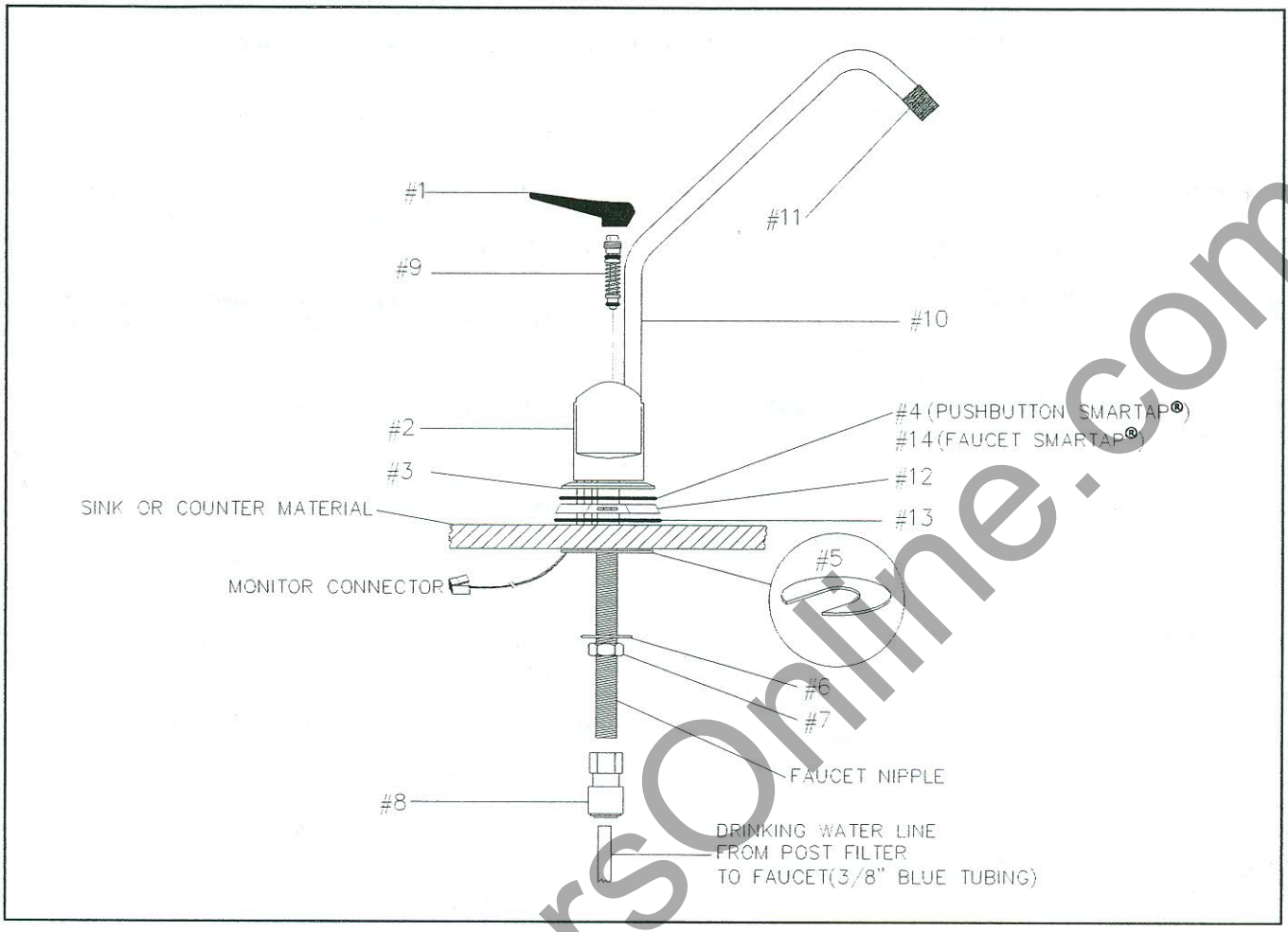

A + B	Chrome Faucet with Light Bar	11702001

Item	Description	Part No.
A	**Chrome Faucet**	**40301002**
1	Handle, Faucet	35902032
2	Body, Faucet - Chrome	35902003
3	Washer, Faucet Base - Chrome	35902078
4	Washer, Rubber - Faucet Base	35902080
5	Washer, Slotted	35902105
6	Washer, Faucet	35902104
7	Nut, Faucet	31901108
8	Connector, Faucet - 3/8" x 7/16"	33503302
9	Kit, Rebuild Faucet - Chrome	35903001
10	Long Reach Spout - Chrome	35902055
11	Sani tip, Black	35902042

B	Components - Optional Light Bar	
12	Light Bar - 2 Indicator Lights	41200002
13	Gasket, Washboard F/M	20400018
14	Washer, Faucet Base Lt Bar (replaces Item 4)	21000002

C + D	Stainless Steel Faucet with Light Bar	11702002

Item	Description	Part No.
C	**Stainless Steel Faucet**	**40301007**
1	Handle, Faucet	35902032
2	Body, Faucet - Stainless Steel	35902016
3	Washer, Faucet Base - Stainless Steel	35902079
4	Washer, Rubber - Faucet Base	35902080
5	Washer, Slotted	35902105
6	Washer, Faucet	35902104
7	Nut, Faucet	31901108
8	Connector, Faucet - 3/8" x 7/16"	33503302
9	Kit, Rebuild Faucet - Stainless Steel	35903002
10	Long Reach Spout - Stainless Steel	35902061
11	Sani tip, Black	35902042

D	Components - Optional Light Bar	
12	Light Bar - 2 Indicator Lights	41200002
13	Gasket, Washboard F/M	20400018
14	Washer, Faucet Base Lt Bar (replaces Item 4)	21000002

Figure 7 Parts Breakdown, Non-Air Gap Product Water Faucet Assemblies, Chrome, or Stainless Steel

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PRODUCT WATER FAUCET INSTALLATION - POLYMER FAUCET

Install on flat surface at least 2 7/16" in diameter. Unused 1 1/4"- 1 7/16" opening is ideal.

New Faucet Installation

Refer to Faucet Site Preparation, Page 5.

Replacement Faucet Installation

Verify size of existing hole. If hole measures 1 7/16", faucet may be installed without changes. If hole measures 1 1/4", remove two locator tabs (See Figure 8) prior to installation by breaking them off at faucet base.

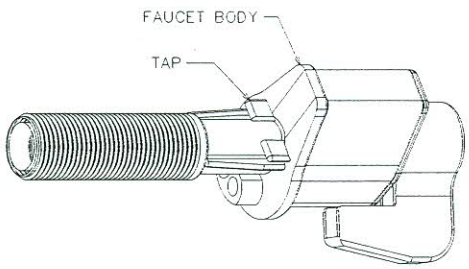

Figure 8 Faucet Locator Tabs.

NOTE: Item callouts refer to Page 9, Figure 9 unless otherwise noted.

1. Remove mounting nut (Item 23) and bracket (Item 22) from faucet.
2. Install 3/8" blue tube into blue collet in faucet base.
3. **Plain Front:** Insert tube into mounting hole and place faucet over hole. Align faucet body with narrow face forward.

   Light Bar: Insert tube and monitor cord into mounting hole and place faucet over hole. Align faucet body with light bar forward.

NOTE: Do not pinch, kink, pull, or otherwise deform monitor cord.

4. Install mounting bracket and nut below sink. Tighten mounting nut ***by hand*** so that faucet does not move. **Do not over tighten.**

NOTE: Faucet is packaged for right-hand operation. For left-hand operation, realign knob by completing Step 5.

NOTE: Item callouts in Step 5 refer to Page 9, Figure 9.

5. Align faucet knob for left-hand operation.
   a. Rotate knob to rear of faucet (closed position).
   b. Remove knob cover (Item 1) using a thin, flat tool to pry cover from knob.
   c. Remove knob attachment screw (Item 2) using a Phillips-head screwdriver.
   d. Remove knob (Item 3) by pulling it (by hand) straight up. Rotate knob counterclockwise 90°, and re-install.
   e. Install knob attachment screw. Tighten screw until free movement (i.e., rocking) is eliminated.
   f. Snap knob cover into place.
6. Install spout into faucet body. Lubricate "O" ring with FDA approved Silicone Lubricant. Align spout with faucet outlet, gently push spout to bottom of outlet.
7. Connect 3/8" blue tubing to swivel elbow located on rear of module.
8. **Light Bar:** Connect monitor cord to module. Insert cord into a telephone-style connector located on Filtration Module cover (See Page 6, Figure 6).

NOTE: The basic installation is complete and system is ready for activation (See Page 11).

CLEAN FAUCET SURFACE USING DISHWASHING DETERGENT ONLY. DO NOT USE ABRASIVES OR SOLVENTS.

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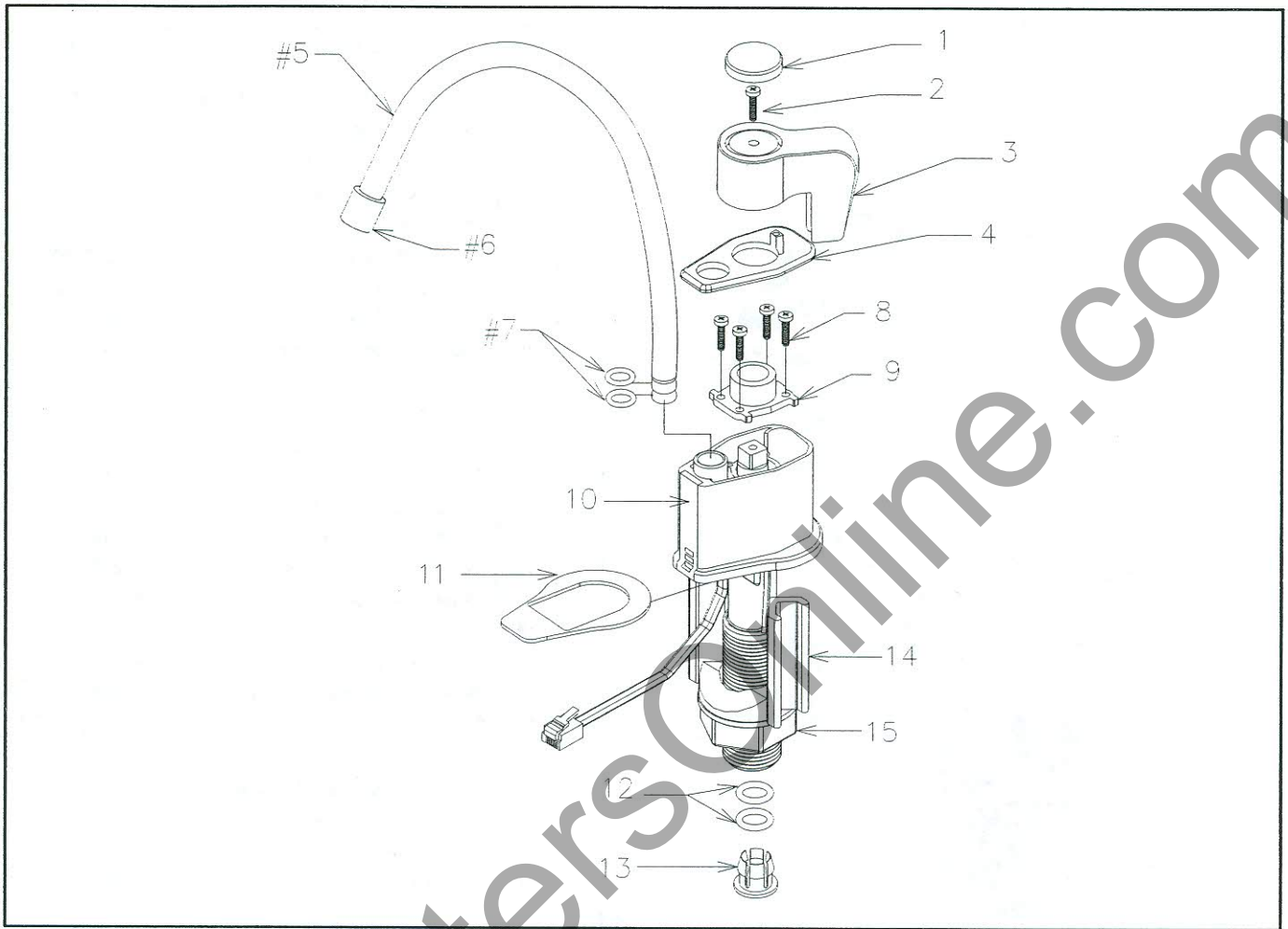

Item	Description	Part No.
1	Cover, Knob - Color	2080050*
	Cover, Knob - Plated	3580050*
2	Screw, Knob	32701021
3	Knob, Faucet	2080090*
4	Cover, Body - Color	2081700*
	Cover, Body - Plated	3581700*
5	Spout, Faucet	3580130*
6	Tip, Spout	2080150*
7	"O" ring, Spout	34201004

Item	Description	Part No.
8	Screw, Bearing	32701022
9	Bearing	20800101
10	Body Assembly	403039‡*
11	Gasket, Sink	20819001
12	"O" ring, Tube Spacer/Stop	34201019
13	Collet 3/8" Blue	33502005
14	Bracket, Mounting	20800301
15	Nut, Mounting	20821001

‡ SEVENTH DIGIT OF PART NUMBER IS CODE SPECIFYING FAUCET BODY CONFIGURATION

Code 0 designates faucet body with plain front. Code 1 designates faucet body with 1 LED.
Code 2 designates faucet body with 2 LED. Code 3 designates faucet body with 3 LED.
Example: 40303935 is a Faucet Body Assembly (3 LED)

* EIGHTH DIGIT OF PART NUMBER IS CODE SPECIFYING PART COLOR.

Codes 1 (White), 3 (Almond), 4 (Black) designate plain color parts and assemblies.
Codes 0 (Chrome/Black), 2 (Chrome/White), 6 (Satin/Black), and 8 (Satin/White) designate electro-plated parts and assemblies.
Codes 5 (Chrome/Black) and 7 (Chrome/White) designate vacuum-metalized parts and assemblies.
Example: 20800903 is a Faucet Knob in Almond or 40303935 is a Faucet Body Assembly (3 LED) in Chrome/Black.

Figure 9 Parts Breakdown, Non-Air Gap Product Water Faucet, Polymer Plain Front P/N 114001†, Light Bar P/N 114003†

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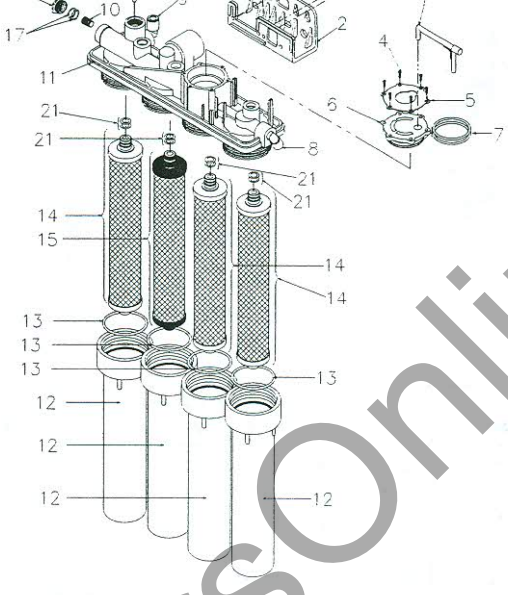

Pushbutton Smartap® Monitor Module Cover and Flow Switch

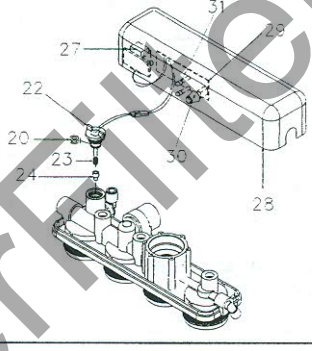

Figure 10 Parts Breakdown, 104 Series Four Vessel Manifold Module

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ACTIVATING THE SYSTEM

Turn on the Source Water

NOTE: Make sure all water lines and fittings are secure and free from leakage.

1. Open source water supply valve. Check for leakage.
2. Open product water faucet and let water flow to drain for at least 10 minutes. This will expel the air from the system.
3. Close product water faucet. In 5 minutes, check the connections for leaks and correct if necessary.

Connect The Smartap® Monitor Battery

NOTE: Battery is mounted inside the module cover. Battery may be connected prior to installation.

1. Loosen three mounting bracket screws. Gently pull module cover up and away from the module body.
2. Connect the battery by pressing the clip onto the battery terminals (See Page 13, Figure 11).
3. Replace module cover and tighten bracket screws.
4. To test connection, activate monitor by pressing test button or opening product water faucet. If an indicator light illuminates, connection is good.

SERVICING THE SYSTEM

MAINTENANCE - WARRANTY INFORMATION

Recommended Service Intervals	Hydrotech® Warranty
Replace filters as required based on Smartap® Water Flow Monitor indications or every 6 to 12 months depending on feed water quality.	System: 2 years limited Smartap®: 5 years

FAUCETS

Non-Air Gap Faucet	Part Number	Non-Air Gap Faucet	Part Number	Non-Air Gap Faucet	Part Number
Stainless Steel, Faucet Only	40301007	Chrome, Faucet Only	40301002	Polymer, Plain Front	1140010*
Stainless Steel, with Light Bar	11702002	Chrome, with Light Bar	11702001	Polymer, Light Bar	1140032*

* Color Suffix Codes: 0 (Chrome/Black), 1 (White), 2 (Chrome/White), 3 (Almond), 4 (Black), 5 (Chrome/Black), 6 (Satin/Black), 7 (Chrome/White), and 8 (Satin/White). Codes 0, 2, 6, and 8 designate electro-plated faucets. Codes 5 and 7 designate vacuum-metalized faucets

PARTS AND SERVICE ARE AVAILABLE THROUGH YOUR HYDROTECH® DEALER.

ROUTINE MAINTENANCE

RECOMMENDATIONS
HAVE ALL COMPONENTS ON HAND AND READY BEFORE BEGINNING PROCEDURE. A CLEAN WORK AREA AND EQUIPMENT ARE ESSENTIAL TO PROPERLY CLEAN AND/OR SANITIZE THE SYSTEM. (I.e., CLEAN HANDS, TOOLS, WORK SURFACE, AND CONTAINERS)

SERVICE REQUIREMENTS		
To insure the system operates at its optimum level, certain routine maintenance must be performed.	Frequency of maintenance performance will depend on feed water quality and level of system usage.	**CLEAN:** Each time filters are replaced **SANITIZE:** At least once every 12 months.

EQUIPMENT NEEDED		
Safety glasses Rubber gloves, sanitary Wash Cloth, Clean and Lint-free	Household bleach - Unscented Only (5 1/4% sodium hypochlorite) Liquid dish soap	Plastic bucket, Plastic bowl "O" Ring Lube FDA Approved (P/N 30300026)

REPLACEMENT FILTER SETS	"O" RINGS
P/N 41400011 Carbon Filter, VOC Reduction (White Caps) P/N 41400010 Carbon Filter, Lead Reduction (Black Caps)	P/N 34201010 Carbon Cartridge P/N 34201026 Filter Housing

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ACTIVATING THE SYSTEM

Turn on the Source Water

NOTE: Make sure all water lines and fittings are secure and free from leakage.

1. Open source water supply valve. Check for leakage.
2. Open product water faucet and let water flow to drain for at least 10 minutes. This will expel the air from the system.
3. Close product water faucet. In 5 minutes, check the connections for leaks and correct if necessary.

Connect The Smartap® Monitor Battery

NOTE: Battery is mounted inside the module cover. Battery may be connected prior to installation.

1. Loosen three mounting bracket screws. Gently pull module cover up and away from the module body.
2. Connect the battery by pressing the clip onto the battery terminals (See Page 13, Figure 11).
3. Replace module cover and tighten bracket screws.
4. To test connection, activate monitor by pressing test button or opening product water faucet. If an indicator light illuminates, connection is good.

SERVICING THE SYSTEM

MAINTENANCE - WARRANTY INFORMATION

Recommended Service Intervals	Hydrotech® Warranty
Replace filters as required based on Smartap® Water Flow Monitor indications or every 6 to 12 months depending on feed water quality.	System: 2 years limited Smartap®: 5 years

FAUCETS

Non-Air Gap Faucet	Part Number	Non-Air Gap Faucet	Part Number	Non-Air Gap Faucet	Part Number
Stainless Steel, Faucet Only	40301007	Chrome, Faucet Only	40301002	Polymer, Plain Front	1140010*
Stainless Steel, with Light Bar	11702002	Chrome, with Light Bar	11702001	Polymer, Light Bar	1140032*

* Color Suffix Codes: 0 (Chrome/Black), 1 (White), 2 (Chrome/White), 3 (Almond), 4 (Black), 5 (Chrome/Black), 6 (Satin/Black), 7 (Chrome/White), and 8 (Satin/White). Codes 0, 2, 6, and 8 designate electro-plated faucets. Codes 5 and 7 designate vacuum-metalized faucets

PARTS AND SERVICE ARE AVAILABLE THROUGH YOUR HYDROTECH® DEALER.

ROUTINE MAINTENANCE

RECOMMENDATIONS
HAVE ALL COMPONENTS ON HAND AND READY BEFORE BEGINNING PROCEDURE. A CLEAN WORK AREA AND EQUIPMENT ARE ESSENTIAL TO PROPERLY CLEAN AND/OR SANITIZE THE SYSTEM. (I.e., CLEAN HANDS, TOOLS, WORK SURFACE, AND CONTAINERS)

SERVICE REQUIREMENTS		
To insure the system operates at its optimum level, certain routine maintenance must be performed.	Frequency of maintenance performance will depend on feed water quality and level of system usage.	**CLEAN:** Each time filters are replaced **SANITIZE:** At least once every 12 months.

EQUIPMENT NEEDED		
Safety glasses Rubber gloves, sanitary Wash Cloth, Clean and Lint-free	Household bleach - Unscented Only (5 1/4% sodium hypochlorite) Liquid dish soap	Plastic bucket, Plastic bowl "O" Ring Lube FDA Approved (P/N 30300026)

REPLACEMENT FILTER SETS	"O" RINGS
P/N 41400011 Carbon Filter, VOC Reduction (White Caps) P/N 41400010 Carbon Filter, Lead Reduction (Black Caps)	P/N 34201010 Carbon Cartridge P/N 34201026 Filter Housing

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CLEANING, SANITIZING, AND CARTRIDGE REPLACEMENT PROCEDURE

1. Mix a mild cleaning solution of dish soap and clean potable water in the plastic bowl.

2. Shut feed water supply valve and open product water faucet to relieve system pressure.

NOTE: Do not attempt to remove filter housings until water flow stops. This reduces pressure inside the system so housings may be safely removed.

3. Remove each filter housing by turning it counter-clockwise. Remove each filter cartridge as its housing is removed. Discard filters.

   Icemaker: Transfer ice cubes from bin/tray to clean freezer container for storage until procedure is done.

NOTE: Use sanitary rubber gloves for this procedure to avoid contaminating sanitizing solution or filters. Wear gloves whenever cleaning/ sanitizing system components or handling new filter cartridges.

4. Remove filter housing "O" rings and wash them with cleaning solution. Rinse them well with clean potable water. Inspect the "O" rings for damage (i.e., nicks or scratches). Replace damaged "O" rings.

NOTE: Use caution when cleaning module. Do not get the Smartap® Flow Monitor electronics, wiring, or connectors wet.

5. Clean filter housings and manifold ports, inside and outside with washcloth and cleaning solution. Do not use abrasive materials.

6. Rinse housings/manifold with clean potable water.

7. Inspect manifold and filter housing "O" ring groove area for damage (i.e., nicks or scratches). Replace damaged components.

8. Place a small amount of "O" ring lubricant over the surface of the filter housing "O" ring. Install the "O" ring into the filter housing groove.

TO SANITIZE SYSTEM: Complete Steps 9-29.

TO INSTALL FILTERS: Complete Steps 17-29.

CAUTION: WEAR SAFETY GLASSES WHILE PERFORMING THIS PROCEDURE.

CAUTION: EXCESSIVE CONCENTRATIONS OF BLEACH WILL DAMAGE PLASTIC AND RUBBER COMPONENTS. Rinse all parts that contact bleach thoroughly with clean potable water.

CAUTION: Read the "WARNINGS" on the bleach container before using.

CAUTION: Handle sanitizing solution carefully. Avoid contact with unprotected areas.

9. Mix sanitizing solution of 1.5 ml (1/3 teaspoon) of household bleach and 3.8 L (1 gallon) of clean, potable water in the bucket. Mix the solution well.

10. Add 236 ml (one cup or 8 oz.) of sanitizing solution to each of the filter housings and install them onto the manifold (do not install filters at this time). Tighten each filter housing by hand only.

    NOTE: TIGHTEN FILTER HOUSINGS BY HAND ONLY. Do not use tools as they will over-tighten and damage housings.

11. Slowly open the feed water supply valve.

12. Open product water faucet. Keep open for 5 seconds after water starts coming out.

13. Close the product water faucet.

14. Wait 30 minutes, open product water faucet and let water flow 5 minutes.

15. After 5 minutes, close feed water supply valve and allow water to flow until system pressure is relieved.

NOTE: Do not attempt to remove filter housings until water flow stops. This reduces pressure inside the system so housings may be safely removed.

16. Remove the filter housings and dispose of the water. Rinse housings and manifold ports thoroughly with clean potable water.

NOTE: Do not remove protective plastic bag from filters. Open the top of the bag only enough to expose the top cap and "O" rings. Place a small amount of "O" ring lubricant on surface of each "O" ring.

17. Install the filter cartridges. Hold cartridge by its protective plastic bag and insert the cartridge into the manifold turning it 1/2 turn as it enters the port (See Page II, Figure 1 for location of each cartridge).

    Slide bag from cartridge and discard. Replace each filter housing as each cartridge is installed.

    NOTE: TIGHTEN FILTER HOUSINGS BY HAND ONLY. Do not use tools as they will over-tighten and damage housings.

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CLEANING, SANITIZING, AND CARTRIDGE REPLACEMENT

NO WATER FLOW MONITOR:
Complete Steps 26 - 29

OPTIONAL SMARTAP® WATER FLOW MONITOR:
Complete Steps 18 – 29

NOTE: The water flow monitor and battery are mounted inside the manifold cover.

Monitor must be reset to zero each time system is serviced and cartridges replaced.

If monitor is not reset, there is no way to determine when filters were changed or if the system is still operating within specifications.

Monitor is reset when the battery is disconnected from the clip.

Installing a new battery when filter cartridges are replaced ensures an accurate indication of system performance and a continuing supply of high quality drinking water.

Failure to replace battery may result in yellow light when system is reconnected.

Use caution when working with module. The wiring therein connects the control board to the sending unit. If these wires are damaged, the monitor will not function.

Do not get the monitor components wet (includes circuit board, phone jack, and battery connections).

18. Loosen three mounting bracket screws. Gently pull module cover up and away from module body.

19. Disconnect the battery. The connection to the battery is a snap type connector (See Figure 11).

20. Remove the battery by sliding it out of its holder.

21. Replace the battery with a new alkaline 9-volt transistor battery (P/N 31300001).

22. Carefully slide the battery into its holder.

NOTE: Use caution when reconnecting the battery (See Figure 11).

23. Reconnect the battery by pressing the clip onto the battery terminals.

24. Replace the module cover and tighten bracket screws.

25. Turn feed water valve slowly to the open position.

26. To test the connections, activate the Smartap® monitor by pressing the test button or opening the product water faucet. If an indicator light illuminates, connections are good.

27. Open product water (and extra point-of-use) faucet. Let water flow until all air has been expelled from system.

28. Close product water (and extra point-of-use) faucet. In 5 minutes, check the connections for leaks and correct if necessary.

    Icemaker: Let the tray/bin fill with ice cubes. Discard all ice cubes to the drain. This flushes sanitizing solution from the lines to the icemaker.

29. Open product water (and extra point-of-use) faucet. Let the water flow for 10 minutes. This will expel any remaining air from the system.

NOTE: The system is ready to use. Should there be any aftertaste or odor to the water or ice cubes, repeat Step 29.

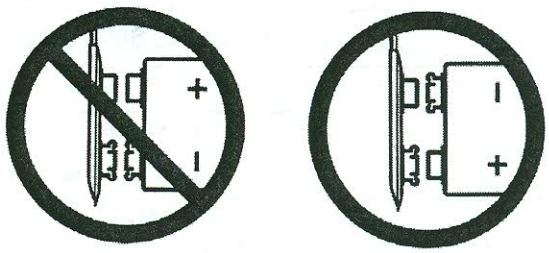

Figure 11 Smartap® Battery Connection

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TROUBLE SHOOTING GUIDE

AQUAFIER® FILTRATION SYSTEM		
Symptom	**Probable Cause**	**Solution**
No water.	Water supply is turned OFF.	Turn water ON.
Not enough water.	Water supply is blocked.	Clear restriction, rotate valve handle on tap water feed valve.
	Clogged filter cartridges are restricting water flow.	Replace filter cartridges.
Water has an offensive taste and/or odor.	Filters depleted.	Replace filters, clean and sanitize system.
Leak at fitting.	Tubing not pushed completely into fitting.	Push tube into fitting past "O" Ring seal.
	Defective tube.	Cut damaged area off of tube or replace tube. (refer to Page 1, Figure 2)
	Worn or damaged "O" Ring.	Replace "O" Ring*.
Leak at filter housing.	"O" Ring has not seated.	Lube and Reseat "O" Ring*.
	"O" Ring has nick or scratches.	Replace "O" Ring *.
Leak at saddle tapping valve.	Loose clamp.	Tighten clamp screws, do not crush source water tubing.
	Tubing deformed.	Cut damaged area off of tube or replace tube and sleeve.

* Always check there is adequate lubricant (P/N 30300026) on "O" Rings before installation.

OPTIONAL SMARTAP® WATER FLOW MONITOR		
Symptom	**Probable Cause**	**Solution**
Yellow Service Light.	Filters depleted.	Replace filters.
	Battery not replaced when filters changed.	Replace battery.
No Lights.	Light assembly is not connected.	Plug connector into phone jack.
CAUTION: Change the battery only when changing the filters as removal and replacement of the battery resets the Aquafier® monitor.		
CAUTION: Change the battery each time the filters are changed. If battery is not replaced, user/technician cannot determine system status within cycle.		

Table 2 System Troubleshooting Indicators, Common Solutions, and Correction Procedures

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INSTALLATION AND SERVICE RECORD

DATE INSTALLED	SYSTEM:	SERVICE FLOW 0.5 GPM

DATE SERVICED	SERVICED BY	COMPANY	
SERVICE PERFORMED	☐ CLEANING ONLY	☐ CLEANING & SANITIZING	☐ REPAIR
FILTERS REPLACED	☐ CARBON Pb1 LEAD		☐ CARBON 5s VOC's
COMMENTS			

DATE SERVICED	SERVICED BY	COMPANY	
SERVICE PERFORMED	☐ CLEANING ONLY	☐ CLEANING & SANITIZING	☐ REPAIR
FILTERS REPLACED	☐ CARBON Pb1 LEAD		☐ CARBON 5s VOC's
COMMENTS			

DATE SERVICED	SERVICED BY	COMPANY	
SERVICE PERFORMED	☐ CLEANING ONLY	☐ CLEANING & SANITIZING	☐ REPAIR
FILTERS REPLACED	☐ CARBON Pb1 LEAD		☐ CARBON 5s VOC's
COMMENTS			

DATE SERVICED	SERVICED BY	COMPANY	
SERVICE PERFORMED	☐ CLEANING ONLY	☐ CLEANING & SANITIZING	☐ REPAIR
FILTERS REPLACED	☐ CARBON Pb1 LEAD		☐ CARBON 5s VOC's
COMMENTS			

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LIMITED WARRANTY

Subject to the conditions and limitations described below, Hydrotech® warrants its Aquafier® Model 104 Series Reverse Osmosis Drinking Water Treatment Systems (excluding cartridge filters and battery), when installed in accordance with Hydrotech® specifications, to be free from defects in materials and workmanship under normal use within the operating specifications for a periods of two (2) years from the date of purchase. Hydrotech® also warrants the Smartap® Water Quality Monitor to be free from defects in materials and workmanship under normal use within the operating specifications for a periods of five (5) years from the date of purchase. This warranty shall apply only to the original end-user of the drinking water system.

Other than the cartridge filters and battery, any part found defective within the terms of this warranty will be repaired or replaced by Hydrotech®. If any part is found defective, Hydrotech® also reserves the right to replace the drinking water appliance with a comparable Hydrotech® drinking water system of equal or greater quality. You pay only freight for repaired or replaced parts from our factory and local dealer charges, including but not limited to labor charges, travel and transportation expenses and handling fees.

This warranty shall not apply to any part damaged by accident, fire, flood, freezing, Act of God, bacterial attack, sediment, misuse, misapplication, neglect, alteration, installation, or operation contrary to our printed instructions, or by the use of accessories or components which do not meet Hydrotech® specifications. If the drinking water system is altered by anyone other than Hydrotech®, the warranty shall be void.

ALL IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE, ARE LIMITED TO THE DURATION OF THE PERIOD SPECIFIED ABOVE FOR THE PARTS DESCRIBED IN THIS LIMITED WARRANTY.

As a manufacturer, we do not know the characteristics of your water supply. The quality of water supplies may vary seasonably or over a period of time. Your water usage may vary as well. Water characteristics can also change if the drinking water appliance is moved to a new location. For these reasons, we assume no liability for the determination of the proper equipment necessary to meet your requirements, and we do not authorize others to assume such obligation for us. Further, we assume no liability and extend no warranties, express or implied, for the use of this product with a non-potable water source or a water source which does not meet the conditions for use as described in this Owner's Guide.

HYDROTECH'S OBLIGATIONS UNDER THIS WARRANTY ARE LIMITED TO THE REPAIR OR REPLACEMENT OF THE FAILED PARTS OF THE DRINKING WATER SYSTEM, AND WE ASSUME NO LIABILITY WHATSOEVER FOR DIRECT, INDIRECT, INCIDENTAL, CONSEQUENTIAL, SPECIAL, GENERAL OR OTHER DAMAGES, WHETHER FROM CORROSION OR OTHER CAUSES.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you. Similarly, some states do not allow the exclusion of incidental or consequential damage, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may have other rights that vary from state to state.

hydrotech®

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