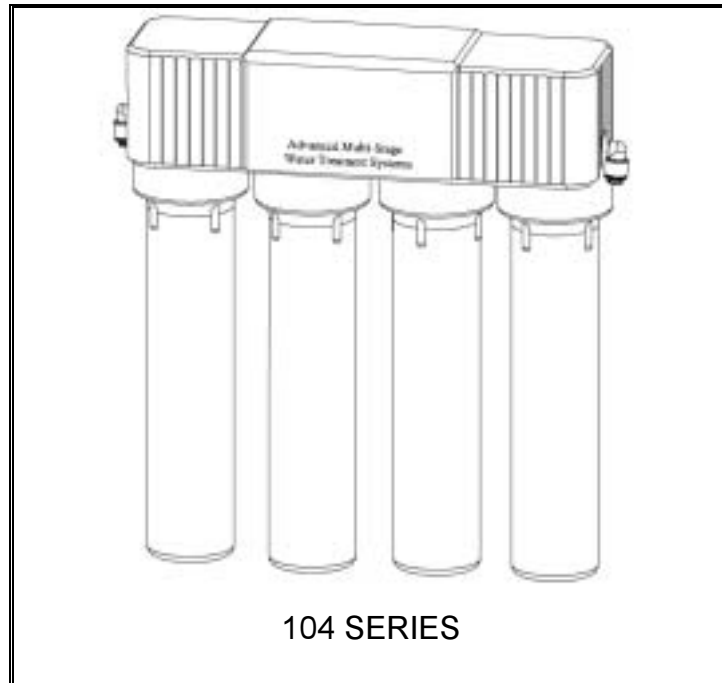


OWNER'S GUIDE

104 Series

ADVANCED MULTI STAGE WATER TREATMENT SYSTEM



INTRODUCTION

THIS GUIDE IS APPLICABLE TO ALL 104 SERIES MODELS

TABLE 1

| SYSTEM CONFIGURATION | | |
|---|----------------------|-----------------|
| Filtration Unit | Flow Monitor | Non-NSF* |
| 104 Series 4 Vessel Unitary Manifold | Faucet Smartap® | 10403002-## |
| | Push Button Smartap® | 10403001-## |
| | None | 10401000-## |

* Note: ## - refers to specific branding of the 104 Series product.

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 |
|---|
| <p>The optional Smartap® Monitor indicates filter cartridge status by measuring the volume of water passing through the 104 Series Advanced Multi-Stage 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. Power is provided by nine-volt alkaline battery. 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.</p> |
| PUSH BUTTON ACTUATED SMARTAP® FLOW MONITOR |
| <p>A light illuminates when the test button is pressed. Push Button Actuator and Indicator Lights are located on the Manifold Cover.</p> |
| FAUCET ACTUATED SMARTAP® FLOW MONITOR |
| <p>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 (Stainless Steel) or front of faucet body (Polymer). To prolong battery life, the monitor indicator lights extinguish after a few seconds, even if water is being dispensed.</p> |

NOTE: Monitor Indicators and Common Solutions are found in Table 3, Page 13.

INTRODUCTION

CONDITIONS FOR USE

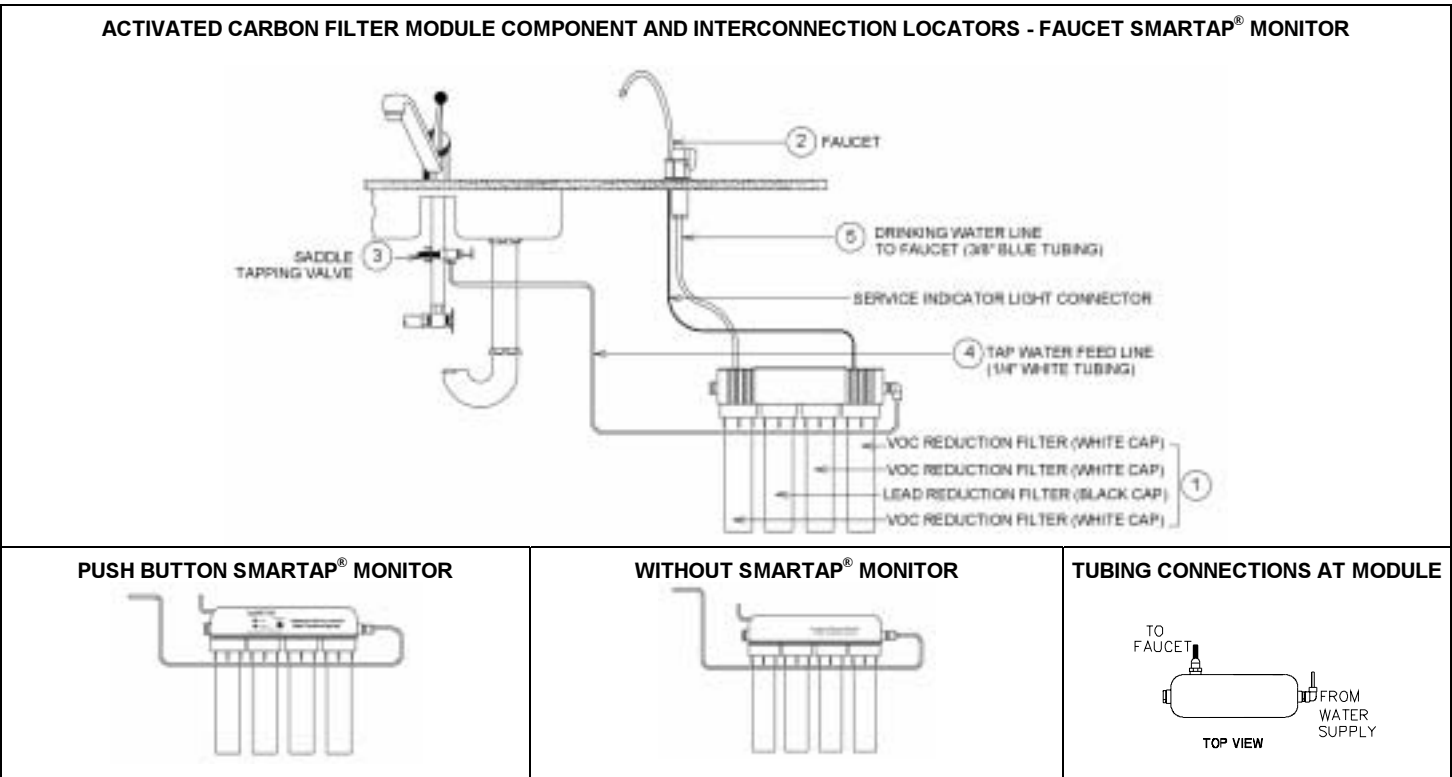
OPTIONS AND ACCESSORIES

| Source Water Supply Profile | | Metal Or Polymer Faucet |
|--|-----------------------------|---|
| Community/Private | Chlorinated/Non-Chlorinated | Product water faucets are available in Chrome-Plated Brass, (EPA and California Proposition 65 Compliant), Polished Stainless Steel, or a Chrome-Plated molded Polymer with black accents. Units are available with or without Light Bar. Standard faucets are Chrome-Plated Brass. |
| 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). | | |

CONTACT YOUR LOCAL WATER TREATMENT DEALER TO PURCHASE REPLACEMENT PARTS OR ACCESSORIES. TO LOCATE YOUR LOCAL DEALER, CALL:

IN THE UNITED STATES 763-571-9001

IN CANADA 306-761-3247



| Item | Description | Part No. |
|------|---|---------------|
| 1 | Module, 104 Series Advanced Multi-Stage Water Treatment System | Page 1, |
| | Faucet Actuated Smartap® Water Quality Monitor | Table 1 |
| | Push Button Smartap® Water Quality Monitor | |
| 2 | Module Only, No Monitor | |
| | Product Water Faucet | |
| | Chrome or Stainless Steel | Page 6, Fig 7 |
| | Polymer, Plain Front or with Light Bar | Page 8, Fig 9 |

| Item | Description | Part No. |
|------|---------------------------------------|-----------------|
| | Installation Kit | 42902003 |
| 3 | Supply Valve Assembly, Saddle Tapping | 34900001 |
| 4 | Tubing, 1/4" x 54" White | 20300014 |
| 5 | Tubing, 3/8" x 60" Blue | 20300013 |
| n/s* | Screw, Mounting Bracket (2 each) | 32701006 |
| | * not shown | |
| n/s* | Owner's Guide 104 Series | 36101004 |

Figure 1 Component and Interconnection Locators, 104 Series

INSTALLATION REQUIREMENTS

READ THIS ENTIRE INSTALLATION AND SERVICE GUIDE BEFORE BEGINNING INSTALLATION

This 104 Series Advanced Multi-Stage 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 10).

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 2.

| 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 |
| <p>* 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.</p> <p>HOLD THE MODULE BY THE FILTER HOUSINGS WHEN PICKING UP OR CARRYING THE UNIT</p> | |

Table 2 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 CERTIFIED FOR CYST REDUCTION MAY BE USED ON DISINFECTED WATER THAT MAY CONTAIN FILTERABLE CYSTS.

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

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

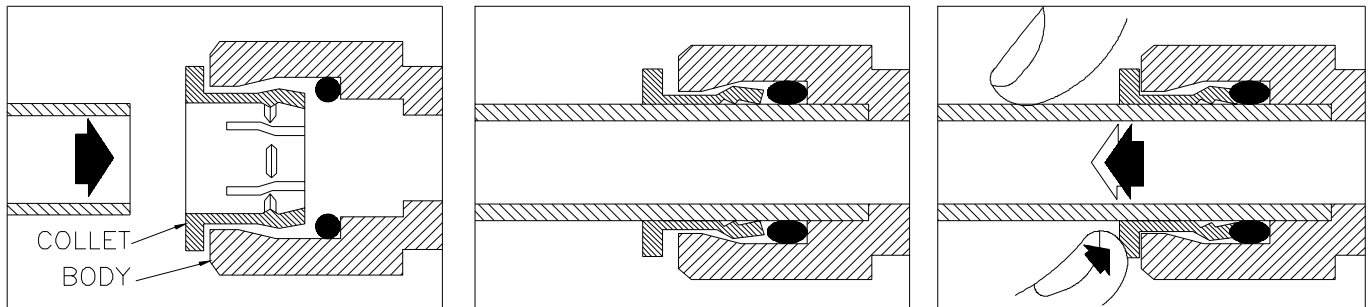
1. Cut tube ends square and straight. Do not deform the tube (i.e., cause tube to compress its diameter so it is no longer round).
2. Make sure the outer surface of the tube is clear of marks or scratches for a length equal to twice the tube diameter. This allows the "O" ring to seat properly against 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

SADDLE-TAPPING VALVE INSTALLATION ON COPPER TUBE

CAUTION: This saddle-tapping valve is not designed for installation on flex line tubing.

NOTE: State and local plumbing codes may prohibit use of saddle-tapping valves.

1. **CAUTION:** If no shut off valve is installed under sink, close main water valve during this installation.
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. **CAUTION:** Do not install feed water assembly on hot water line.

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

3. **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.

Assemble saddle-tapping valve assembly on tube.

- a. Hold back plate against tube.
 - 3/8" copper tubing use back plate smaller radius.
 - 1/2" copper tubing, use back plate larger radius
- b. Hold valve saddle against tubing in a position directly opposite back plate.
- c. Tighten screw enough so valve saddle and back plate are held securely against tube.
- d. Rotate assembly so tubing connection is aligned toward 104 Series Module feed port.
- e. Tighten screw firmly. Do not crush tube.

4. Connect source water feed tubing to valve body 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 body.
 - d. Thread compression nut onto valve body, tighten.

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

6. **CAUTION:** Supply line is pierced and valve is closed. Do not open valve until system is activated (Page 10).

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.

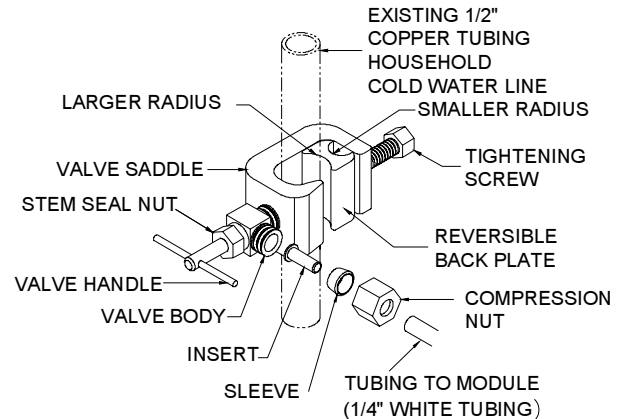


Figure 3: Saddle-Tapping Valve Assembly P/N 34900013 installed on 1/2" Copper Tubing

ADDITIONAL POINT OF USE CONNECTION

NOTE: Ice makers typically use 1/4" tubing as feed line. Use a reducing union (P/N 33503407) for this connection.

NOTE: Reduce the 3/8" line to 1/4" as close as possible to the additional point-of-use device to minimize flow loss.

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 33503703) in 3/8" blue line between faucet and back of 104 Series 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 33503407).

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.

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

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. **CAUTION:** do not install feed water assembly on hot water line.

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: All item callouts refer to Figure 4 unless noted otherwise.

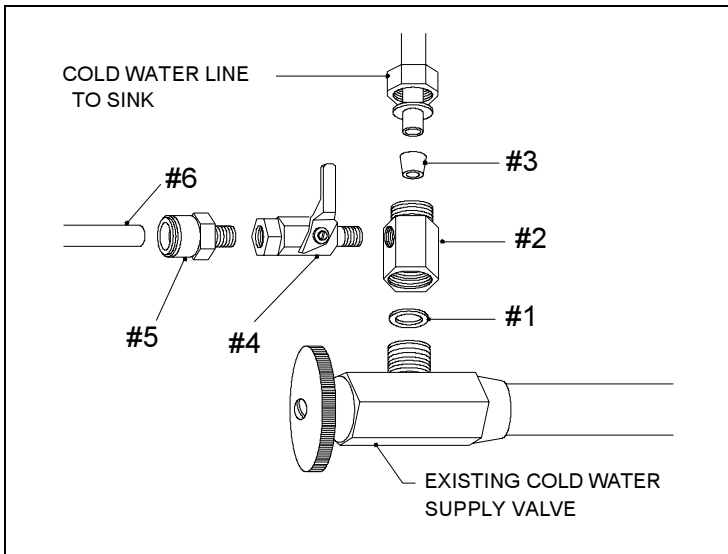
3. **CAUTION:** Place container or towel below shut-off valve to catch any water remaining in pipe.

Disconnect cold water supply line to sink at inlet valve end of line.
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 location of RO Module.

5. Replace existing rubber grommet on cold water supply line with grommet supplied in kit (Item 3).
6. **CAUTION:** Use thread-sealing tape (P/N 35700002) on male threaded connections in Steps 4, 6, 7, and 8. 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 7 on Page 9, Figure 10).
10. Close inlet valve by turning handle so it is at a right angle (90°) to valve body.
11. **CAUTION:** Do not open valve until system is activated (Page 10).

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. |
|---|----------------------------------|----------|
| <u>Inlet Assembly</u> | | |
| 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 |
| <u>Component of Installation Kit</u> | | |
| 6 | Tubing, 1/4" White | 20300014 |

* United States *National Pipe Thread*

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

PRODUCT WATER FAUCET SITE PREPARATION

Refer to Faucet Installation Instructions (Pages 5 & 7) 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

1. **CAUTION:** A heavy duty, variable speed drill motor with a spring-loaded porcelain drill set (Figure 5.B.) is strongly recommended for this procedure.

CAUTION: The 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.

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

NOTE: Practice on discarded sinks to become familiar with operation of porcelain cutter kit.

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

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. Re-insert saw into hole and cut through remaining material.
5. Installation hole is ready, install faucet.

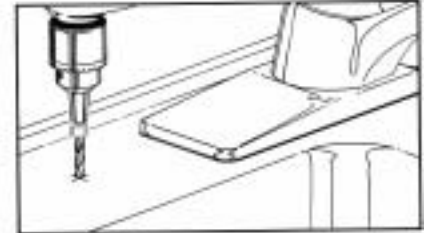
TILE COUNTER TOP

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

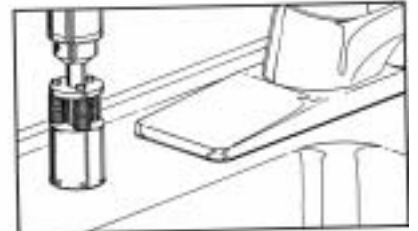
STAINLESS STEEL SINK

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).
4. Installation hole is ready, install faucet.

A. PILOT DRILL



B. SPRING LOADED PORCELAIN SAW



C. FINISH HOLE SAW



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 4.

Replacement Faucet Installation

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

NOTE: Item callouts refer to Page 6, Figure 7 unless noted otherwise. Part numbers for each callout are specified according to faucet type:

Chrome-Plated Faucets (brass faucet nipple):
Table A.

Stainless Steel Faucets (copper faucet nipple):
Tables B and C.

1. **Push Button Smartap®:** Verify faucet body, rubber body washer, metal base washer, and rubber base washer are in place above sink (Items 1, 12, 2 and 8).

Optional Faucet Smartap®: Verify faucet body, rubber body washer, metal base washer, light bar base washer, light bar assembly, and washboard gasket are in place above sink (Items 1, 12, 2, 9, 10, and 11).

2. **Push Button Smartap®:** Place faucet over hole.

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

3. **CAUTION:** Do not pinch, kink, or otherwise deform monitor cord. Align cord with cutout in plastic spacer.

Push Button Smartap®: Install locating washer, faucet washer, and nut on faucet nipple below sink and snug them up (Items 7A, 6, and 5). Be sure to align faucet properly before tightening. Do not over tighten.

Optional Faucet Smartap®: Install slotted washer, spacer, faucet washer, and nut on faucet nipple below sink and snug them up (Items 7, 3, 6, and 5). Be sure to align faucet properly before tightening. Do not over tighten.

4. Install faucet connector (Item 4, packaged with faucet) onto faucet nipple. Do not over tighten.
5. Install 3/8" blue tube into faucet connector.
6. **CAUTION:** Blue 3/8" tube connecting module to the faucet must run with no sharp bends or loops (See Page II, Figure 1).
Connect 3/8" blue tube to 3/8" swivel elbow located on the rear of module.
7. **Optional Faucet Smartap®:** Connect monitor cord to telephone-style connector located on manifold cover (Figure 6).
8. The basic installation is complete and system is ready for activation (see Page 10).

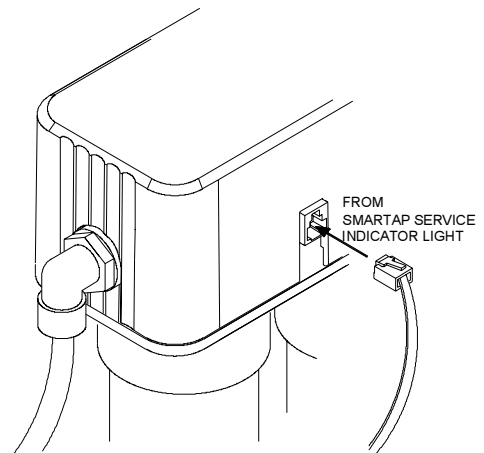
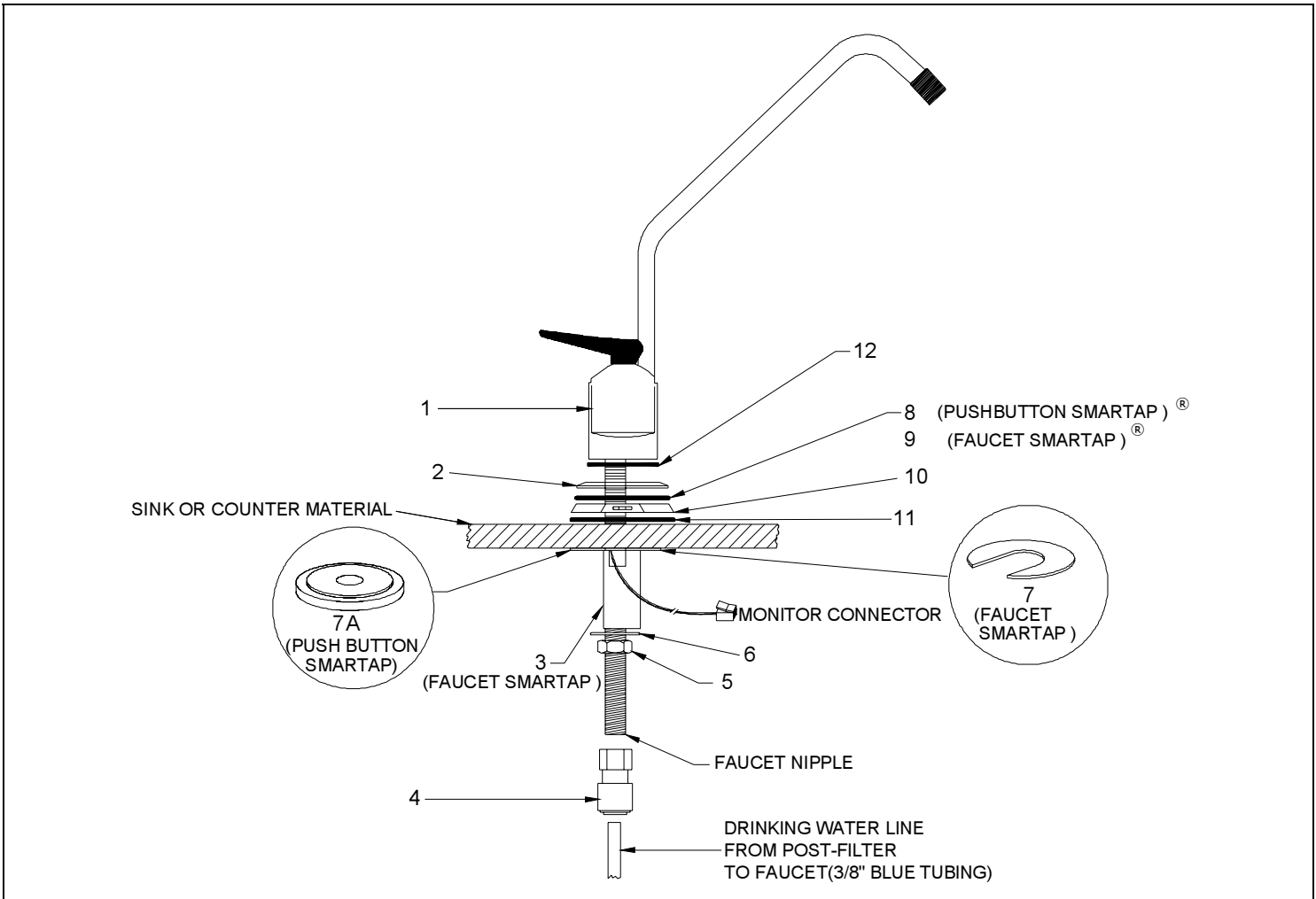


Figure 6 Connecting Monitor cord to Manifold.



| | | |
|----------|-----------------------------------|--------------------|
| A | Chrome Plated Metal Faucet | Two Options |
|----------|-----------------------------------|--------------------|

| | | |
|--------------|--|-----------------|
| B + C | Stainless Steel Faucet with Light Bar | 11702002 |
|--------------|--|-----------------|

| Item | Description | Part No. |
|----------|---|-----------------|
| A | Chrome Plated Metal Faucet (Faucet not available in California) | 40301102 |
| A | Chrome Plated Metal Faucet (EPA and California Proposition 65 Compliant) | 40301002 |
| 1 | Body, Faucet - Chrome | |
| 2 | Washer, Faucet Base - Chrome | |
| 4 | Connector, Faucet - 3/8" x 7/16" | |
| 5 | Nut, Faucet | |
| 6 | Washer, Faucet | |
| 7A | Washer, Locating (Replaces Items 3 and 7, Shape may vary) | |
| 8 | Washer, Rubber - Faucet Base | |
| 12 | Washer, Rubber - Body Base | |

| Item | Description | Part No. |
|----------|---|-----------------|
| B | Stainless Steel Faucet | 40301003 |
| 1 | Body, Faucet - Stainless Steel | |
| 2 | Washer, Faucet Base - Stainless Steel | |
| 4 | Connector, Faucet - 3/8" x 7/16" | |
| 5 | Nut, Faucet | |
| 6 | Washer, Faucet | |
| 7A | Washer, Locating (Replaces Items 3 and 7) | |
| 8 | Washer, Rubber - Faucet Base | |
| 12 | Washer, Rubber - Body Base | |

| | | |
|----------|--|-----------------|
| C | Light Bar Assembly 2LED | 41200002 |
| 3 | Spacer, Plastic (with cutout) | |
| 7 | Washer, Slotted | |
| 9 | Washer, Faucet Base Lt Bar (replaces Item 8) | |
| 10 | Light Bar - 2 Indicator Lights | |
| 11 | Gasket, Washboard F/M | |

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

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 4.

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 (Figure 8) prior to installation by breaking them off at faucet base.

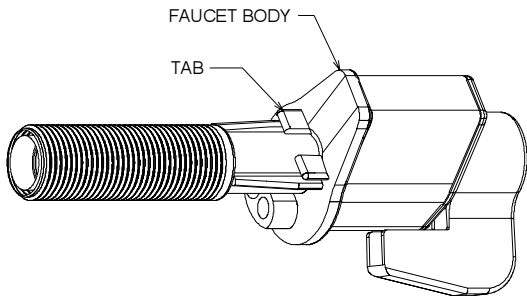


Figure 8 Faucet Locator Tabs and Air Gap.

1. Remove mounting nut and "U" bracket from faucet.
2. Install 3/8" blue tube into blue collet in faucet base.
3. **CAUTION:** Do not pinch, kink, pull, or otherwise deform monitor cord.

Hydrotap® Logo (without Light Bar): Insert blue tube into mounting hole and place faucet over hole. Align faucet body with narrow face forward.

Smartap® Logo (with Light Bar): Insert blue tube and monitor cord into mounting hole and place faucet over hole. Align faucet body with light bar forward.

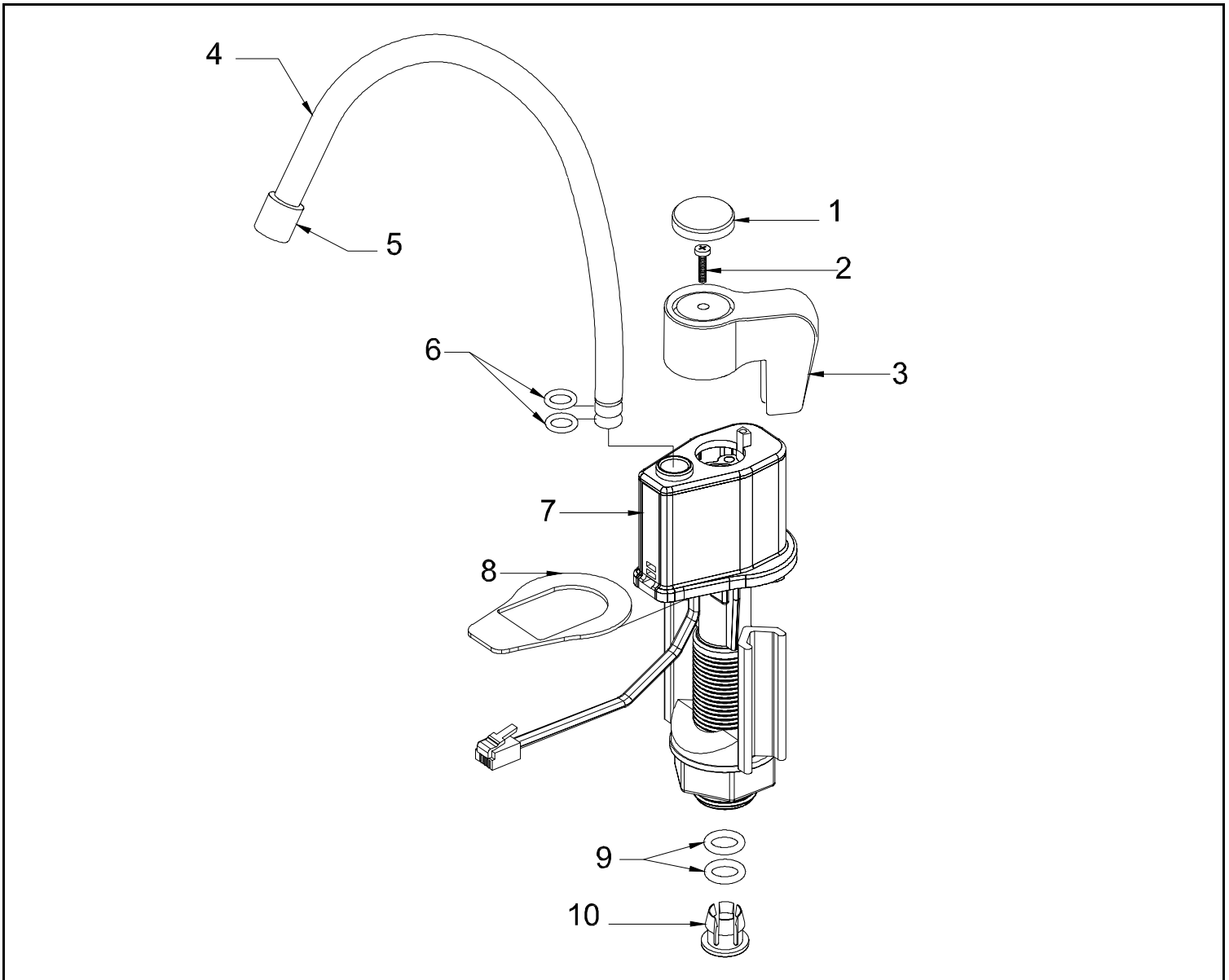
4. Install "U" bracket and mounting nut below sink. Tighten mounting nut **by hand** so that faucet does not move. **Do not over tighten.**

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

NOTE: Item callouts in Step 5 refer to Page 8, 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 handle counterclockwise 90°, and re-install knob.
 - 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. **Light Bar:** Connect monitor cord to module. Insert cord into a telephone-style connector located on module cover (See Page 5, Figure 6).
8. **CAUTION:** Blue 3/8" tube connecting module to the product water faucet must run with no sharp bends or loops (See Page II, Figure 1).
Connect 3/8" blue tube to swivel elbow located on rear of module.
9. The basic installation is complete and system is ready for activation (see Page 10).

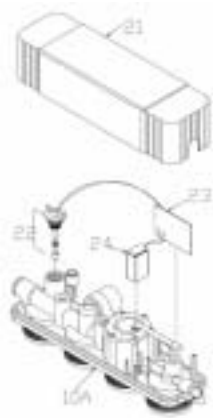
CLEAN FAUCET SURFACE USING DISHWASHING DETERGENT ONLY. DO NOT USE ABRASIVES OR SOLVENTS.



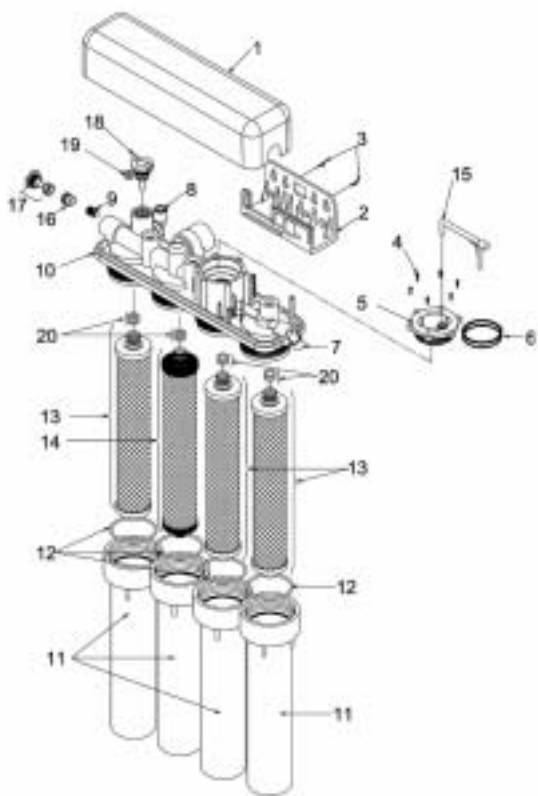
| Item | Description | Part No. |
|------|-------------------------------|----------|
| 1 | Cover, Knob - Chrome - Plated | 35800502 |
| 2 | Screw, Knob | 32701021 |
| 3 | Knob, Faucet - Black | 20800904 |
| 4 | Spout, Faucet Polished | 35801308 |
| 5 | Tip, Spout - Black | 20801504 |

| Item | Description | Part No. |
|------|-------------------------------------|----------|
| 6 | "O" ring, Spout | 34201004 |
| 7 | Body Assembly - Chrome Plated Plain | ----- |
| | Body Assembly - Chrome Plated 3 LED | ----- |
| 8 | Gasket, Sink | 20819001 |
| 9 | "O" ring, Tube Spacer/Stop | 34201019 |
| 10 | Collet 3/8" Blue | 33502005 |

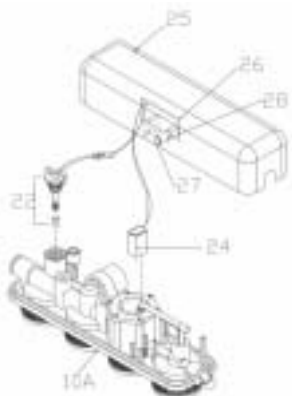
Figure 9 Parts Breakdown, Non-Air Gap Product Water Faucet, Polymer Chrome-Plated - Black, Hydrotap® Logo P/N 11411100 and Smartap® Logo (with Light Bar) P/N 11402320



Faucet Smartap® Monitor
Module Cover and Flow Switch Assembly



Push Button Smartap® Monitor
Module Cover and Flow Switch Assembly



| Item | Description | Part No. |
|--|--|----------|
| 1 | Cover, 4-vessel Manifold - No Monitor | 43014055 |
| 2 | Bracket, Mounting | 21100001 |
| 3 | Screw, Mounting Bracket | 32701006 |
| 4 | Screw, Retaining Plate | 32701038 |
| 5 | Cover Assy, Inlet Valve w/"O" Rings | 42200002 |
| 6 | "O" Ring, Inlet Valve Cover | 34201024 |
| 7 | Elbow, 1/4" Stem w/white collet | 33503502 |
| 8 | Elbow, 3/8" Stem w/blue collet | 33503503 |
| 9 | Control Assembly, Flow 0.5 GPM | 40600009 |
| 10* | Manifold 4 vessel, 104 Series No Monitor | 41300042 |
| 10A** | Manifold 4 vessel, 104 Series with Monitor | 41300033 |
| 11 | Housing, Filter | 20500023 |
| 12 | "O" Ring, Filter Housing | 34201026 |
| 13 | Cartridge, Carbon VOC Reduction | 41400011 |
| 14 | Cartridge, Carbon Lead Reduction | 41400010 |
| 15 | Tube, Parallel Cross-over | 42200001 |
| 16 | Tube Stop | 20500094 |
| 17 | Plug Assy, Port Retainer w/O-Rings | 42200008 |
| 18 | Plug, Switch Housing | 20500026 |
| 19 | "O" Ring, Switch Housing Plug | 34201021 |
| 20 | "O" Ring, Cartridge | 34201010 |
| Optional Faucet Smartap® Flow Monitor | | |
| 21 | Cover, 4-vessel Manifold - Faucet Monitor | 43014057 |
| 22 | Switch Assembly, Flow Meter | 40200043 |
| 23 | Monitor, Flow - Faucet Smartap® | 40200102 |
| 24 | Battery, Alkaline 9 volt | 31300001 |
| Optional Push Button Smartap® Monitor | | |
| 25 | Cover, 4-vessel Manifold - Push Button | 43014056 |
| 26 | Switch Assembly, Flow Meter | 40200043 |
| 23 | Monitor, Flow, Push Button Smartap® | 40200103 |
| 27 | Battery, Alkaline 9 volt | 31300001 |
| 25 | Push Button, Monitor | 20500080 |
| 28 | Guard, Push Button | 20500050 |
| *Includes Items 4, 5, 6, 7, 8, 9, 15, 16, 17, 18 and 19. | | |
| **Includes Items 4, 5, 6, 7, 8, 9, 15, 16, 17, and 22. | | |

Figure 10 Parts Breakdown, 104 Series Four Vessel Manifold Module

ACTIVATING THE SYSTEM

CAUTION: Make sure all water supply lines, drain lines, and fittings are secure and free from leakage.

1. Open saddle-tapping 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
Icemaker/Extra point of use: Check connections on these supply lines for leaks.
5. **CAUTION:** Verify battery connector alignment before making connection (Figure 11).
Connect battery (Item 24) by pressing clip onto battery terminals.
6. Replace module cover and tighten screws.
7. Test battery connection by activating monitor. Open product water faucet or press push button, whichever is applicable. If an indicator light illuminates, connection is good.

NOTE: Item Callouts refer to Page 9, Figure 10 unless noted otherwise.

Systems with Smartap Water Flow Monitor complete Steps 4 through 7.

4. **CAUTION:** Wiring within module cover connects monitor components. If wires, circuit board, or connections are damaged and/or wetted, monitor will not function.

Loosen mounting bracket screws (Item 3). Gently pull module cover (Item 1) up and away from the manifold body.

NOTE: Close faucet immediately after light illuminates. Test is to confirm battery connection, not water quality.

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

8. System is ready to use. Should there be any aftertaste or odor to water or ice cubes, repeat Steps 6 and 7.

MAINTENANCE - WARRANTY INFORMATION

| Recommended Service Intervals | 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 |

CRITICAL COMPONENTS

| Non-Air Gap Metal Faucet | Part Number | Non-Air Gap Polymer Faucet Black/Chrome | Part Number | Carbon Cartridges | Part Number |
|--------------------------------|-------------|---|-------------|----------------------------|-------------|
| Chrome Plated Brass* | 40301102 | Polymer, Hydrotap® Logo | 11411100 | Lead Reduction (Black Cap) | 41400010 |
| Chrome Plated Brass** | 40301002 | Polymer, Smartap® Logo | 11402320 | VOC Reduction (White Cap) | 41400011 |
| Stainless Steel | 40301003 | (with Light Bar) | | | |
| Stainless Steel with Light Bar | 11702002 | | | | |

* Faucet not available in California

**EPA and California Proposition 65 Compliant

PARTS AND SERVICE ARE AVAILABLE THROUGH YOUR LOCAL WATER TREATMENT 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

P/N 41400011 Carbon Filter, VOC Reduction (White Cap) - 1 each
P/N 41400010 Carbon Filter, Lead Reduction (Black Cap) - 3 each

"O" RINGS

P/N 34201010 Filter Cartridge
P/N 34201026 Filter Housing

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.
3. **CAUTION:** Do not attempt to remove filter housings until water flow stops. This reduces pressure inside the system so housings may be removed safely.
CAUTION: Additional point-of-use devices (i.e., icemakers) may use filters along their supply line. Remove any filter or treatment device installed between module and delivery device before proceeding.
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.
4. **CAUTION:** 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.
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.

5. **CAUTION:** Do not get the Smartap[®] Flow Monitor electronics, wiring, or connectors wet.
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.

WARNING: WEAR SAFETY GLASSES WHILE PERFORMING THIS PROCEDURE.

WARNING: READ THE "WARNINGS" ON THE BLEACH CONTAINER BEFORE USING.

WARNING: HANDLE SANITIZING SOLUTION CAREFULLY. AVOID CONTACT WITH UNPROTECTED AREAS.

CLEANING, SANITIZING, AND CARTRIDGE REPLACEMENT

9. **CAUTION:** Excessive concentrations of bleach will damage plastic and rubber components. Rinse all parts that contact bleach thoroughly with clean potable water.

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. **CAUTION:** Tighten filter housings by hand only. Do not use tools as they will over-tighten and damage housings. Take care not to cut or pinch "O" rings.

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.

11. Slowly open the feed water supply valve.
12. Open product water faucet. Keep it 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.
16. **CAUTION:** Do not attempt to remove filter housings until water flow stops. This reduces pressure inside the system so housings may be removed safely.
- Remove the filter housings and dispose of the water. Rinse housings and manifold ports thoroughly with clean potable water.
17. **CAUTION:** Do not remove protective plastic bag from filters until so instructed.

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.

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 it.

CAUTION: Tighten filter housings by hand only. Do not use tools as they will over-tighten and damage housings. Take care not to cut or pinch "O" rings.

Replace each filter housing as each cartridge is installed.

NO WATER FLOW MONITOR:
Complete Steps 26 - 29

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

Smartap® Flow Monitor Operation Requirements:

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 (Item 24) is disconnected from the clip. Failure to replace battery may result in yellow light when system is reconnected.

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.

18. **CAUTION:** The wiring within the module cover connects the monitor components. If wires, circuit board, or connections are damaged and/or wetted, monitor will not function.

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.
23. **CAUTION:** Verify battery connector alignment before making connection (Figure 11).
Reconnect the battery by pressing the clip onto the battery terminals.
24. Replace the module cover and tighten screws.
25. Turn feed water valve slowly to the open position.
26. Test battery connection by activating the monitor. Pressing the test button or open the product water faucet. If an indicator light illuminates, connection is good.

NOTE: Close faucet after light illuminates. Test confirms connection, not system status.

CLEANING, SANITIZING, AND CARTRIDGE REPLACEMENT

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.

30. System is ready to use. Should there be any aftertaste or odor to the water or ice cubes, repeat Step 29.

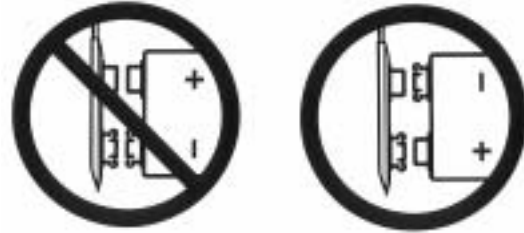


Figure 11 Smartap® Battery Connection

TROUBLE SHOOTING GUIDE

| 104 SERIES ADVANCED MULTI-STAGE WATER TREATMENT SYSTEM | | |
|--|--|---|
| Symptom | Probable Cause | Solution |
| No water. | Water supply is turned OFF. | Turn water ON. |
| Not enough water. | Water supply is blocked. Clogged filter cartridges are restricting water flow. | Clear restriction, rotate valve handle on tap water feed valve. 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. Defective tube. Worn or damaged "O" Ring. | Push tube into fitting past "O" Ring seal. Cut damaged area off of tube or replace tube. (refer to Page 1, Figure 2) Replace "O" Ring*. |
| Leak at filter housing. | "O" Ring has not seated. "O" Ring has nick or scratches. | Lube and Reseat "O" Ring*. Replace "O" Ring*. |
| Leak at saddle tapping valve. | Loose clamp. Tubing deformed. | Tighten clamp screws, do not crush source water tubing. Cut damaged area from 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. Battery not replaced when filters changed. | Replace filters. 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 3 System Troubleshooting Indicators, Common Solutions, and Correction Procedures

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 | | | |
| | | | |
| | | | |

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 | | | |
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| | | | |
|-------------------|-----------------|-----------------------|--------|
| 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 | | | |
| | | | |
| | | | |

LIMITED WARRANTY

Subject to the conditions and limitations described below, WaterGroup warrants its Model 104 Series Advanced Multi-Stage Water Treatment Systems (excluding cartridge filters and battery), when installed in accordance with our 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. WaterGroup 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. If any part is found defective, WaterGroup also reserves the right to replace the drinking water appliance with a comparable 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 our specifications. If the drinking water system is altered by anyone other than WaterGroup, 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.

WATERGROUP'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.

WaterGroup Inc.

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Tel. # - 306-761-3247 (CANADA)