

 <p>U.S. ENVIRONMENTAL PROTECTION AGENCY Office of Pesticide Programs Registration Division (7504C) 401 "M" St., S.W. Washington, D.C. 20460</p> <p><b>NOTICE OF PESTICIDE:</b> <u>  X  </u> Registration <u>      </u> Reregistration</p> <p>(under FIFRA, as amended)</p>	<p>EPA Reg. Number: 35900-20</p>	<p>Date of Issuance: NOV 19 1998</p>
	<p>Term of Issuance: Conditional</p>	
	<p>Name of Pesticide Product: General Ionics Model G.I. 2 Bacteriostatic Post Filter for a Reverse Osmosis</p>	
<p>Name and Address of Registrant (include ZIP Code): Ionics, Inc. P. O. Box 99 Bridgeville, Pennsylvania 15017</p>		
<p><b>Note:</b> Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.</p>		
<p>On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act.</p> <p>Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.</p> <p>This product is conditionally registered in accordance with FIFRA sec. 3(c)(7)(A) provided that you:</p> <ol style="list-style-type: none"> <li>Submit and/or cite all data required for registration of your product under FIFRA sec. 3(c)(5) when the Agency requires all registrants of similar products to submit such data; and submit acceptable responses required for reregistration of your product under FIFRA section 4.</li> <li>Make the following label changes:             <ol style="list-style-type: none"> <li>Revise the EPA Registration Number to read, "EPA Reg. No.35900-20".</li> <li>The appropriate EPA Establishment Number should appear on the product labeling.</li> </ol> </li> </ol>		
<p>Signature of Approving Official: Marshall Swindell, Product Manager 33 </p>	<p>Date: NOV 19 1998</p>	

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EPA Reg. No.

3. Submit two copies of the revised final printed label for the record.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

  
Marshall Swindell  
Product Manager 33  
Regulatory Management Branch I  
Antimicrobial Division (7510W)

# GENERAL IONICS®MODEL G.I. 2 BACTERIOSTATIC POST FILTER

• This product is designed to remove objectionable tastes, odors, and color from municipally treated tap water.

• This product is designed to inhibit the growth of bacteria in the filter media to prolong the life of the filter.

KEEP OUT OF REACH OF CHILDREN

## CAUTION

EPA REGISTRATION NO. 35900- EN

EPA ESTABLISHMENT NO. 35900 PA 01

ACTIVE INGREDIENT: Silver as metallic .....	0.89%
INERT INGREDIENTS: Total Inert Ingredients.....	99.11%

**STORAGE OF HYGENE® MEDIA**—Store in closed container which excludes moisture and chemical fumes.

**DISPOSAL OF SPENT MEDIA**—When contents are exhausted, wrap in newspaper and discard in the trash.

**DIRECTIONS FOR USE**—See enclosed Owner's Manual and Instruction booklet.

**USEFUL LIFE OF MEDIA**—Post Filter should be replaced ever 500 gallons or 1 year.

NET CONTENTS: One (1) General Ionics Model G.I. 2 Bacteriostatic Post Filter for Reverse Osmosis Drinking Water Appliance

IONICS, INCORPORATED. 3039 WASHINGTON PIKE, BRIDGEVILLE, PA 15017



ACCEPTED  
with COMMENTS  
in EPA Letter Dated:

NOV 19 1998

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act as  
amended, for the pesticide,  
registered under EPA Reg. No.

35900-20

# General Ionics Model G.I. 2 Bacteriostatic Post Filter for Reverse Osmosis (RO) Drinking Water Appliance.

## Operation and Maintenance Manual

### INTRODUCTION

This manual explains operation and maintenance of General Ionics Model G.I. 2 Bacteriostatic Post Filter for Reverse Osmosis (RO) Drinking Water Appliances. Please read each section of this manual carefully.

The General Ionics undercounter RO drinking water appliance is designed to connect permanently to a home plumbing system. The specific model chosen should be appropriate for your local water conditions and needs. Check the Table of Contents to locate the Product Data Sheet for your specific model. Failure to operate and maintain the system as instructed will VOID the warranty.

**Note:** Make sure the Owner's Warranty Record Card is filled out and mailed within 30 days of installation.

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**IONICS**

PO BOX 99 BRIDGEVILLE, PA 15017

## IMPORTANT WATER QUALITY ASSURANCE REQUIREMENTS

Reverse Osmosis drinking water appliances contain treatment components that are critical for effective reduction of Total Dissolved Solids as well as inorganic chemical contaminants. Ionics strongly recommends that the user test the water periodically (every six months minimum) to verify that the system is performing satisfactory. Some models have a Percent Rejection (PR) Water Quality Monitor to provide the user with a means to test the water at anytime. If a PR Monitor is not used, your dealer will offer a biannual water testing service. Routine maintenance is necessary in the form of prefilter, post filter, and membrane replacement, based on the following guidelines:

**A) Sediment, Carbon, or Sediment/Carbon Prefilters, and Carbon Postfilters:**

-Change every six months to one year depending on feedwater quality.

**B) Membrane:**

- Change as required based on a built-in Percent Rejection Water Quality Monitor (PR). A bi-annual testing service will be offered by your dealer if a PR Monitor is not used. Recommended maximum service life is 36 months.

## II. REPLACING FILTER CARTRIDGES

The life of prefilter cartridge(s) generally depends on local water conditions (i.e., dirt, rust and/or chlorine levels) while the life of post filters is generally determined by the length of service.

### When To Replace Sediment or Sediment Carbon Prefilter

- A)** Every six months to one year, based upon your dealer's recommendation and knowledge of local water conditions.

- B)** A noticeable decrease in water production is an indication that the prefilter requires changing.
- C)** As a rule, private wells require more frequent sediment prefilter changes while softened feedwater usually requires only yearly replacement.
- D)** Recommended maximum sediment or sediment carbon prefilter service life is one year.

### When To Replace Carbon Prefilter

The carbon prefilter removes free chlorine from the feedwater supply to protect the TFCM membrane from chlorine attack.

To find out the chlorine level in a water supply, the water should be tested for free chlorine or call the public water supplier.

- A)** With free chlorine levels up to 1 mg/L, the carbon prefilter should be changed every year.
- B)** With free chlorine levels exceeding 1 mg/L, the carbon Prefilter should be changed every six months.

### When To Replace Carbon Post filter

- A)** If the filter is being used to control tastes and odors, replace every year.
- B)** If the filter is being used to reduce chloramines, change every six months. For critical applications such as aquariums, base the filter change on periodic chloramine (combined chlorine) test.
- C)** If the filter is being used to meet standards for a regulated organic chemical contaminant, then replacement should be based on a monitoring program established with a public health agency.

### How To Replace Prefilter And Postfilter Cartridges (See Fig. A)

Replacement of filter cartridges generally requires:

- \* New replacement filter cartridges
  - \* Supplies for cleansing (See Section IV)
- A)** Turn the saddle valve clockwise until significant tension is obtained. If Possible, close water

supply line to entire house. Open faucet to drain tank and turn off feed water valve. Wait five minutes for filtration assembly to depressurize.

- B) Twist the filter cartridge 1/4 turn counterclockwise so that the ears on the cartridge are able to disengage from the head. Then firmly pull cartridge from the head. (It may be necessary to twist the cartridge slightly from side to side to help free it).
- C) Remove new filter cartridge from its sanitary sealed wrapper. (Double check that it is the correct replacement by comparing labels.)
- D) Using tap water (or food grade silicone lubricant or glycerin), wet the O-dng seals to make insertion easier
- E) Use up the cartridge ears, insert cartridge and push into the head until fully seated. Twist the cartridge 1/4 turn clockwise to lock in place.
- F) Turn on the feed water and carefully check for leaks.

### III. REPLACING RO MEMBRANE MODULE

The life of the RO membrane depends on local water chemistry and proper maintenance, e.g., regular filter changes. Under typical conditions, the RO membrane life ranges from 18 months to three years. Unlike filter cartridges, membrane life is not determined by the amount of water used because of its self cleaning feature.

#### When To Replace The Membrane Module

- A) As determined by a built-in percent rejection (PR) monitor. The monitor is factory preset so that a green light will be displayed when the water quality is good, and a red or yellow light indicates that replacement may be necessary. If a red or yellow light is displayed, the faucet should be opened and the storage tank drained. After it has refilled, check the system again. If a red or yellow light is still displayed, the membrane should be replaced.
- B) If a PR monitor is not used, your dealer or supplier will offer a bi-annual testing service.  
NOTE: Recommended membrane service life is 36 months, maximum.

#### How To Replace The Membrane Module (See Fig. A)

Replacement of the RO membrane module generally requires:

- New replacement membrane module of the same type and performance
- Supplies for cleansing (See Section IV)

- A) Open faucet to drain tank completely and turn off feed water. Wait five minutes for filtration assembly to completely depressurize.
  - B) Make sure there is a slack in the red SFC tubing connected to the fitting at the bottom of the RO membrane cartridge. Twist cartridge 1/4 turn counterclockwise so the tubing connection is accessible.
  - C) Remove the red SFC tubing by depressing small gray collet and pulling tubing away from fitting.
  - D) Firmly pull cartridge away from the head (It may be necessary to twist the cartridge slightly from side to side.). E) Remove new RO membrane cartridge from its sanitary sealed wrapper. (Double check that it is the correct replacement by comparing labels.)
  - F) Using tap water (or food grade silicone lubricant or glycerin), wet the O-ring seals to make insertion easier.
  - G) Line up cartridge ears, insert cartridge and push into the head until fully seated. Reconnect red SFC reject tubing by inserting into the fitting at the bottom of the new RO membrane cartridge as far as it will go.
- Note: It is advisable to check the end of the red SFC tubing for nicks or scratches. If observed, cut 1/4' from the end with a sharp razor knife.
- H) Give the final 1/4 twist clockwise to lock the cartridge in place.
  - I) Turn on the feed water and carefully check for leaks.

Carefully inspect the fitting at the bottom of the new RO membrane cartridge.

- J) Follow disinfection and start up procedures for the storage tank and filtration assembly outlined in Section IV.

## IV. CLEANSING THE RO APPLIANCE

To assure the highest quality water from your Ionics RO drinking water appliance, it is important to routinely cleanse both the storage tank and the filtration assembly.

**IMPORTANT:** These procedures are intended to be part of a routine maintenance program & are not designed to cleanse systems that have become highly contaminated from misuse.

### When To Cleanse The Storage Tank

- A) Upon start-up as described in Section 5 of the Installation Manual. Note: Standard Ionics RO storage tanks incorporate a special cleansing agent which is activated when the storage tank is initially filled. (See Section 5 in the Installation Manual.)
- B) After any servicing or routine maintenance which involves the membrane, postfilter(s), tank, or faucet.

### When To Cleanse The Filtration Assembly

- A) After any servicing or routine maintenance which involves the prefilter(s) or membrane.
- B) After any extended period of non-use (over 30 days) unless cartridges are stored in a sealed plastic bag in a refrigerator.

### How To Cleanse The Storage Tank

Cleansing the storage tank generally requires:

- The Ionics Tank Cleansing Unit (P/N 50-011) or equivalent device such as an empty filter housing with fittings and tubing. (Fig. B)
- Common EPA Registered household bleach for use as a sanitizer

• Measuring spoon or 0-10 ml graduated cylinder

- A) Shut off feed water and open the RO faucet to empty out any water in the tank (it should feel "light").
- B) Turn off RO faucet and valve at the top of tank. Disconnect tube to tank. (Refer to use of special "Push-in" connectors, Fig. C). Remove tank from its location and drain into sink by turning upside down and opening valve. Make sure outlet fitting is pointing away from your face and into the sink.
- C) Make sure feedwater is off completely and disconnect feed tubing from filtration assembly. Connect end of feedwater line to Cleansing device and tank as shown in diagram. (Fig. B)
- D) Fill the Cleansing device with an EPA pesticide bleach product registered for use as a sanitizer as follows: standard 2.5 gallon tank - 1/2 teaspoon (3 ml)  
Alternate size tanks - 1/2 teaspoon (3 ml) per 2.5 gallons of tank capacity
- E) Turn on the feedwater valve to force water and Cleanser into the tank. Allow about three minutes of fill time for a standard 2.5 gallon tank. (it should feel heavy.)
- F) The Cleansing agent should remain in the tank a minimum of 15 minutes. Turn off feed valve and tank valve. Disconnect the Cleansing device and reinstall the storage tank and reconnect feed tubing.
- G) Turn on feed valve to pressurize system. Turn on tank valve and open faucet to drain tank of Cleansing solution. When tank is empty, the faucet should steadily drip.
- H) Close faucet and allow tank to fill for at least six hours. Drain tank again and discard water. The appliance should be ready to use as soon as the tank refills. If any objectionable taste is noticed, drain tank again and allow to refill.

### How To Cleanse The Filtration Assembly

Cleansing the filtration Assembly generally requires:

- New prefilter cartridge(s)
- Common EPA Registered household bleach for use as a sanitizer (5.25% - NON scented) Standard eyedropper or equivalent

- A) Shut off feed water valve and open RO faucet to empty tank.
- B) Follow instructions on changing prefilter.
- C) Before attaching new cartridge(s), use eye dropper to inject one teaspoon (approx. 5 ml) of an EPA pesticide bleach product registered for use as a sanitizer into the center of the filter cartridge that is just prior to the RO membrane cartridge.
- D) Turn on feedwater valve and allow system to run for at least six hours. Drain tank and discard water. The appliance should be ready to use as soon as the tank refills.  
Note: If any objectionable taste is noticed, drain tank again and allow to refill.

## V. LONG TERM NON-USE

If the RO system is to be left unused for long periods (>30 days), follow this procedure:

- A) Open faucet to drain tank and turn off feedwater valve. Wait five minutes for filtration assembly to depressurize.
- B) Remove all cartridges. Turn cartridges upside down in sink or container to drain out as much water as possible.
- C) Place cartridges in a plastic bag with air tight seal and store in refrigerator. Cartridges must not be allowed to freeze or permanent damage may occur.
- D) When RO system is ready to be put into service, reinstall cartridges in the filtration assembly heads and cleanse storage tank as described in section IV. Match the symbols on the top of the cartridge label with the ones on the cartridge head. The filtration assembly can also be cleansed at this time if desired.
- E) Follow start up procedure outlined in section IV.



**APPLICATION GUIDELINES / SPECIFICATIONS AND FEATURES**

Model	G.I. 2	WATER SUPPLY PARAMETERS	
		CHEMICAL	LIMIT
Membrane Type	TFCM	Hardness	<350 mg/L
Water Supply Community or Private Well	Chlorinated Only	Iron	<0.1 mg/L
Water Pressure	40-100 psi (3-7 Kg/cm <sup>2</sup> )	Manganese	<0.05 mg/L
Water Temperature	40° - 100° F (4° - 38° C)	Hydrogen Sulfide	0
pH Range	4-11		
Maximum TDS Level	2000 ppm	Turbidity	1 NTU

- For use on municipally treated water only.
- Water supplies that exceed limits for Hardness, Iron, Manganese, Hydrogen sulfide require pretreatment.

<p><b>Filtration Assembly Components</b></p> <p>Sediment/Carbon Prefilter: 5 micron Depth Cartridge and Activated Carbon</p> <p>Membrane Type: Thin Film Composite (TFCM)</p> <p>Bacteriostatic Postfilter: Silver Impregnated Activated Carbon. (HYgene)</p>	<p><b>General Performance</b></p> <p>Testing Laboratory:*</p> <p>System Production: 9.25 gal/day (35 L/day)</p> <p>Minimum TDS Reduction: 96%</p> <p>*Rated at 50 psi, 77°F, 750 mg/L NaCl, product to storage tank.</p>
<p>Standard Tank Capacity: 2.6 Gallons Maximum Factory cleansed and ready to install.</p> <p>Reject Water: This drinking water appliance has a self cleaning feature that requires approximately 3 gallons of rinse for every gallon of high quality water consumed.</p>	<p><b>Factory Specifications:**</b></p> <p>Membrane Production: 14-20 gal/day (53-76 liters/day) High Flow membrane</p> <p>Membrane TDS Reduction: 96% Minimum</p> <p>** Rated at 60 psi, 77°F, 350+ mg/L TDS, product to atmosphere. Note: Actual production rate and TDS reduction will depend upon temperature, water pressure, TDS level, membrane variation and usage pattern</p>

**All Drinking Water Appliances are Factory tested, cleansed, and prepared for installation.**

**Important Quality Assurance Requirements**

This Reverse Osmosis Drinking Water Appliance contains treatment components that are critical for effective reduction of Total Dissolved Solids as well as inorganic contaminants. We strongly recommend that the user test the water a minimum of every 6 months to verify that the appliance is performing satisfactorily. A built-in Percent Rejection (PR) water quality monitor is available to provide the user with a means to test the water at any time, or your dealer will offer a semi-annual testing service.

**Routine Maintenance**

**Sediment Prefilter, Sediment/Carbon Prefilter and Carbon Postfilter:** Change every 6 months to one year depending on feedwater quality.

**Membrane:** Change as required based on periodic TDS Rejection tests or an on-site monitor (PR). The maximum recommended service life is 36 months. If a percent rejection (PR) is not used then your dealer will offer a semi-annual testing service.

**Warranty**

**Entire System: 3 Years**

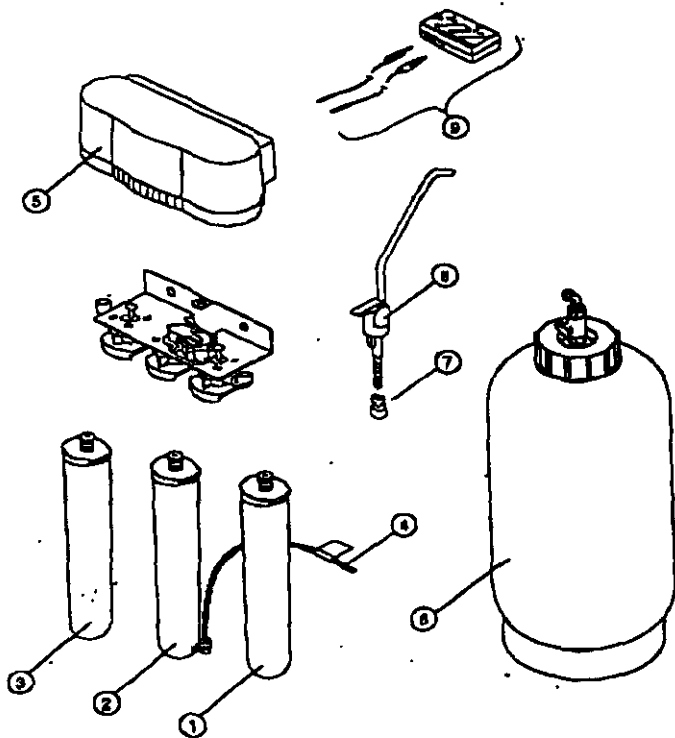
**Reverse Osmosis Membrane:**

First 90 days- full replacement at no charge.  
4<sup>th</sup> through 36<sup>th</sup> month- Prorated for each month the drinking water system has been in service

**G.I. 2 PARTS DIAGRAM**

**PARTS LIST**

G.I. 2 Parts Diagram



1. Sediment/Carbon Prefilter 47-55706G2
2. TFCM HF Membrane 66-4703G2
3. Silver Carbon Postfilter 47-55710G2
4. SFC HF Flow Control 52-3212266
5. Shroud 3-head 85-1650
6. Storage Tank 52-35138
7. Faucet Adapter 74-3130604
8. Faucet 69-11151
9. % Rejection Monitor 50-122

FIG. A Changing Cartridges

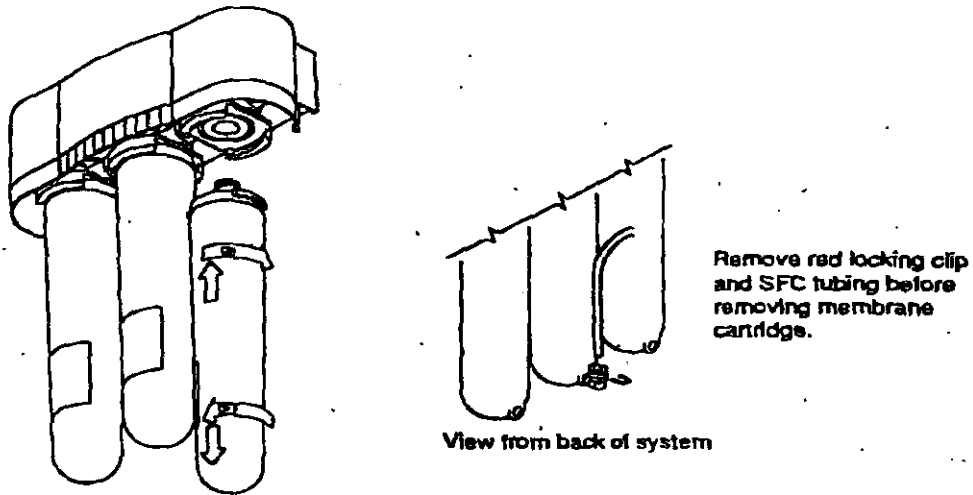


FIG. B Sanitizing the Storage Tank

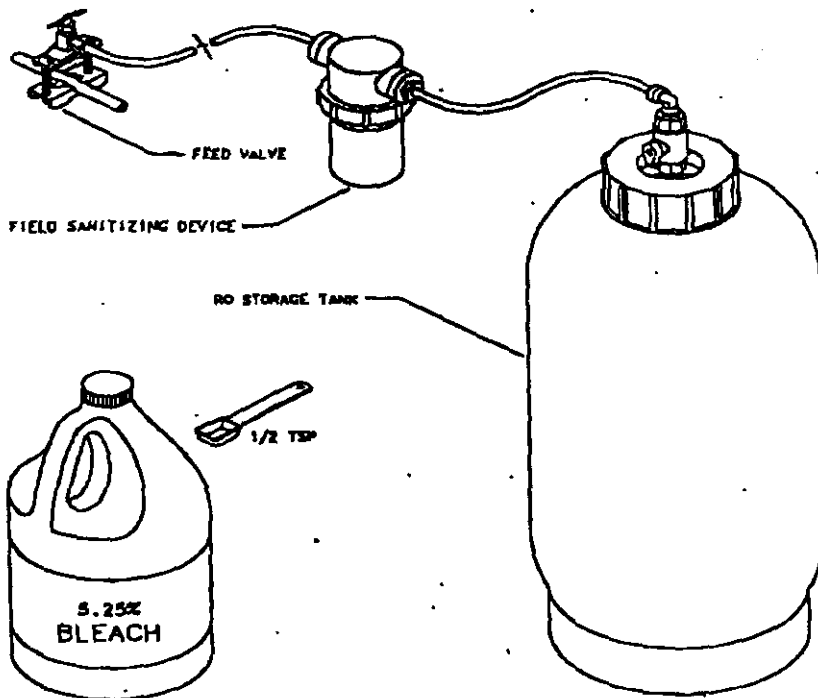


FIG. C "Push-In" Connectors

## How to use our new user-friendly 'Push-In' connectors.

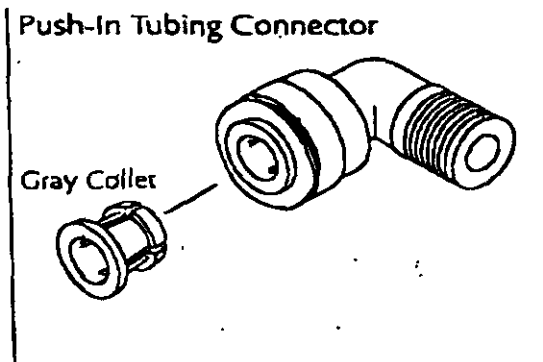
This Reverse Osmosis system is outfitted with the new generation of user-friendly 'Push In' connectors. Proper use of the connectors is shown in the diagrams.

It is important that the tubing selected for use with these connectors be of high quality, exact size and roundness, and with no surface nicks or scratches. If it is necessary to cut the tubing, use a plastic tubing cutter or sharp razor knife. Make a clean square cut.

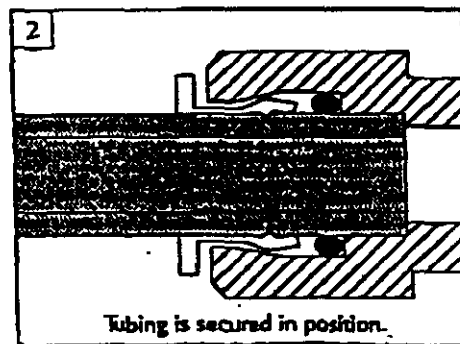
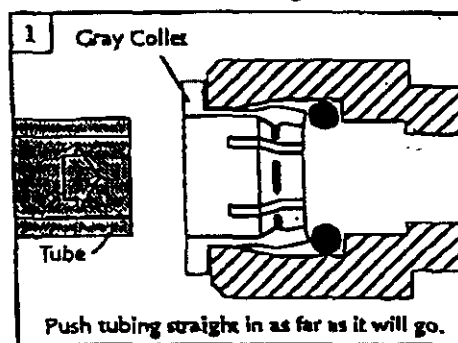
Should a leak occur at a 'Push-In' connector, the cause is usually defective tubing.

**To fix**

- Relieve pressure.
- Release tubing.
- Cut off at least 1/4" from end.
- Re-attach tubing.
- Confirm connection is leak free.



### To Attach Tubing



### To Release Tubing

