



**FILTRATION**



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# SYMPTOM

# CURE

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SEDIMENT IN WATER

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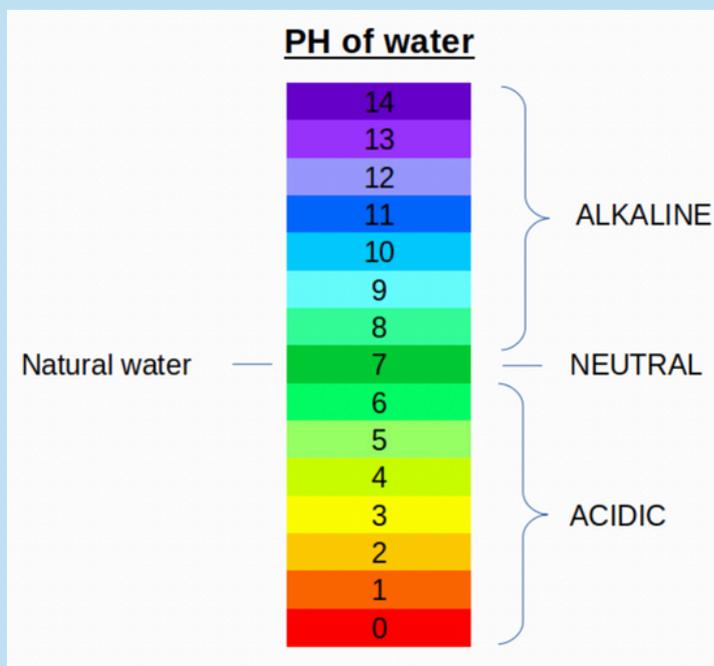
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**STREAMLINE SUPPLIED ITEMS**

# ACID NEUTRALIZERS

## BASICS

Acid neutralizers are used to raise the pH of household water so that fittings and fixtures do not corrode and deteriorate and leak. An acid neutralizer should be installed if the pH is 6.4 or below.



## SCIENCE

The way acid neutralizers (or pH neutralizers) work is they slowly dissolve their filter's "media" into the water as the water flows through the filter. Filter media is calcite. Once the media makes contact with the water, the water pH increases and the water becomes more alkaline.

# ULTRA-VIOLET LIGHT

## BASICS

Ultra-violet lights are used to kill bacteria in the water as it passes near the light.

### UV Light We Install



### Bulb Replacement



## SCIENCE

The UV water disinfection process utilizes special UV lamps that emit UV light of a particular wavelength. These UV light waves have the ability, based on their length, to disrupt the DNA of microorganisms.

# IRON FILTER

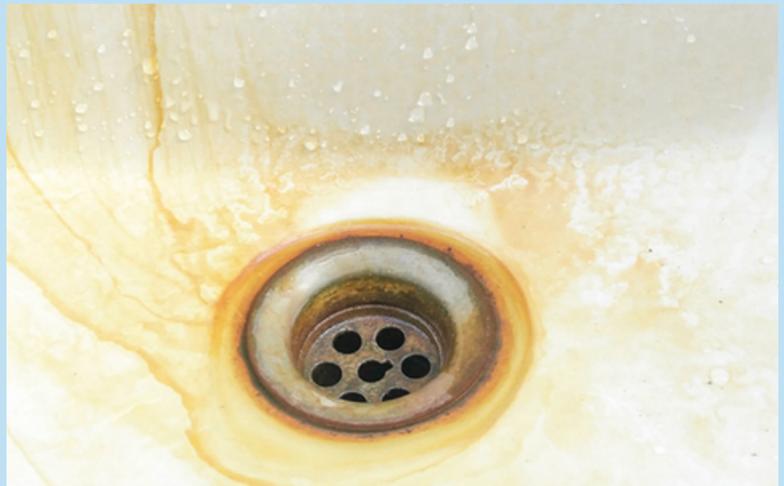
## BASICS

Iron filters pull out iron in the water to avoid staining fixtures and metallic tasting water.

Iron filter



Iron Stain



## SCIENCE

The iron filtration unit contains a “media bed,” like a water softener, but in this case, the media is not resin but an oxidizing agent such as manganese dioxide. When water passes through the bed, the media attracts soluble ferrous iron and converts it to an insoluble state. That allows a filter to capture the iron precipitate, leaving the water iron-free.

# WATER SOFTENER

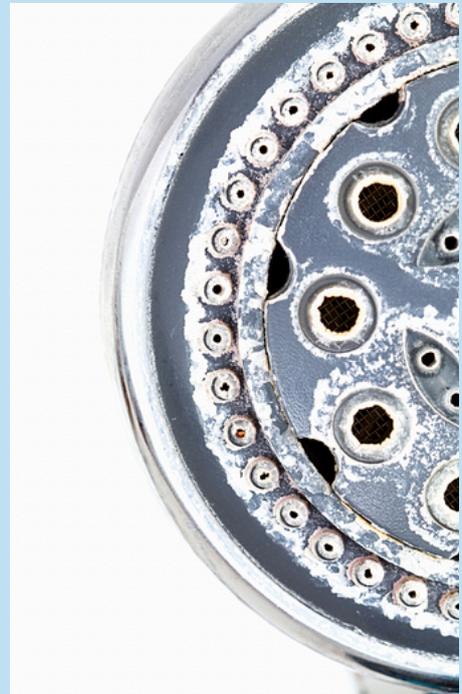
## BASICS

A water softener is made up of three components: a control valve, a mineral tank, and a brine tank (that needs to be refilled with salt roughly once a year). These three work in conjunction to remove the minerals from hard water, monitor the flow of water, and periodically clean the system through a regeneration process.

Water Softener



Hard Water Deposits



## SCIENCE

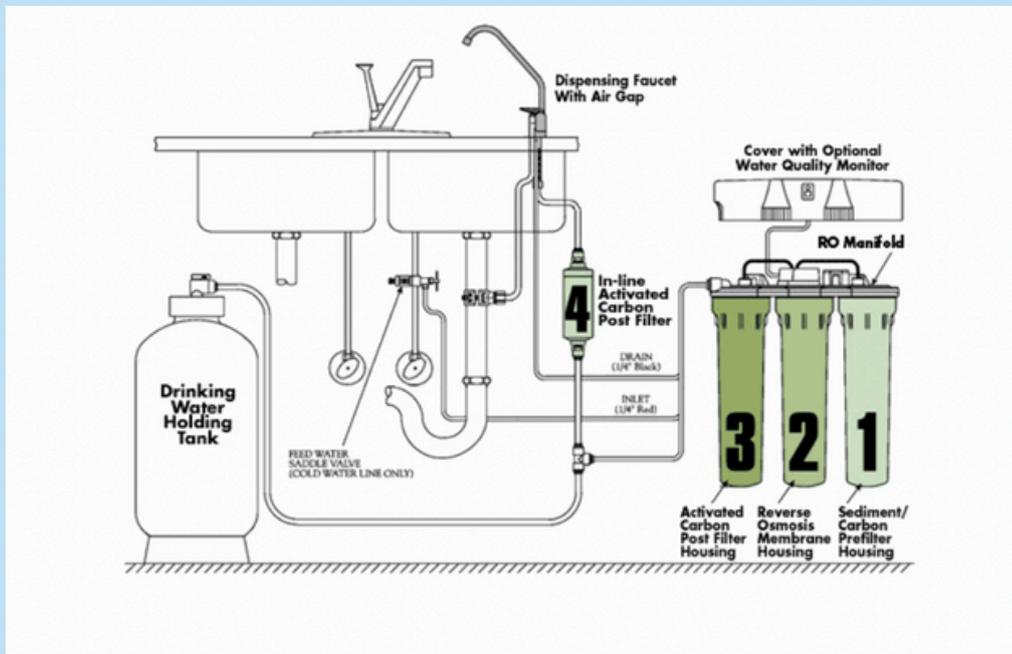
Home water softeners, also called ion exchange units, are appliances that remove calcium, magnesium, and other minerals from drinking water. Resin beads inside the softener trap the calcium and magnesium and exchange them for sodium or potassium.

# REVERSE OSMOSIS

## BASICS

Reverse osmosis systems will remove common chemical contaminants such as sodium, chloride, copper, chromium, and lead which improves taste and feel of water.

### Typical RO System Setup



## SCIENCE

A reverse osmosis system removes sediment and chlorine from water with a pre-filter before it forces water through a semipermeable membrane to remove dissolved solids. After water exits the RO membrane, it passes through a post-filter to polish the drinking water before it enters a holding tank ready to supply pressurized water to the dedicated faucet.

# CARTRIDGE SEDIMENT FILTER

## BASICS

Cartridge filters have a single layer of filter media made of synthetic fabrics attached in pleats to a cylindrical core. Water is pumped through the filter and passes through the cartridge, trapping dirt and debris in the fabric. 20 micron is for most sediment conditions and 5 is for cloudy water where more sediment seems present.

### Installed Filter



### Our Cartridge Filter Setup



## SCIENCE

Cartridge filters remove dirt, debris, and even microscopic particles from water. The pore size of a filter cartridge is measured in microns. The smaller the micron rating, the finer the particulate removed.

# SPIN DOWN SEDIMENT FILTER

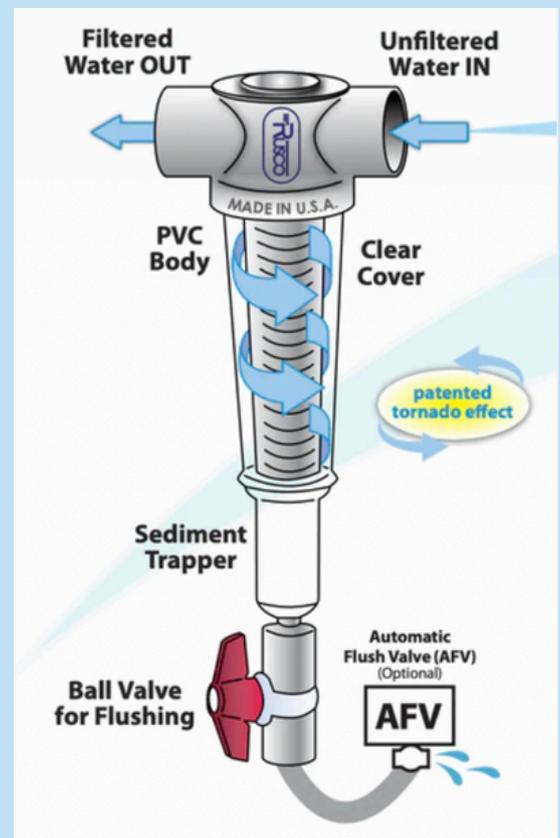
## BASICS

Regular sediment filters have cartridges that vary from 5 to 20 microns. However, spin-down filters have larger micron capacities from 50 to 1000 microns that can vary for every unit.

### Spin Down Filter We Install



### How It Works



## SCIENCE

Unlike a fine micron sediment filter, a spin-down filter is designed to trap large chunks of debris and sand.

Water comes in the top of a spin-down filter and spins in a centrifugal motion. The design of the head diverts water into the chamber in a fashion that circulates the water through the filter housing.

# STREAMLINE SUPPLIED ITEMS

## ITEM

ACID  
NEUTRALIZER



## WHERE/HOW

TO BUY

VAMAC

**IMPBF-  
1054MAN**

PRICE: \$3181

ULTRA-VIOLET  
LIGHT



VAMAC

**ARROS 15 VIQUA UV  
MAX D SERIES 5 TO  
14 GPM W/ 3/4"  
IN/OUT NPT 650375  
650694-R**

PRICE: \$1297

## IRON FILTER



VAMAC

**IMPAF-  
1054MGS**

PRICE: \$3181

## WATER SOFTENER



VAMAC

**IMP-1054**

PRICE: \$3481

## REVERSE OSMOSIS



VAMAC

**CTFC35APLXWR  
WATER RIGHT 35 GPD  
ECLIPSE REVERSE  
OSMOSIS SYSTEM W/  
FAUCET TDS MONITOR**

PRICE: \$1456

## CARTRIDGE SEDIMENT FILTER



VAMAC

**14FHK-GC-1010 1" X 10"  
GIANT CLR FILTER  
HOUSING W/ PR,  
BRACKET, WRENCH &  
SPARE O-RING BOSHART**

PRICE: \$632

# SPIN DOWN SEDIMENT FILTER



VAMAC

**14SFHK-15SM500 1-1/2" T-  
STYLE 30 MICRON 500  
MESH SCREEN FILTER W/  
1/2" PURGE VALVE &  
BRACKET BOSHART**

PRICE: \$632

# Servicing Equipment

## Acid Neutralizer

What you will need:

- 2-3 bags of Calcite
- A funnel
- The water transfer pump
- WetVac

### Manual

Generally needs to be serviced once a year

Step 1:

Shut the water off and depressurize the system.

Step 2:

If there is space and flexibility, remove the entire control head from the top of the neutralizer. If not, simply open the service port on the side of the filter with channel locks and be prepared to vacuum extra water as you open it.

Step 3: Use the transfer pump to remove most of the water from the tank so you have enough space to add the calcite.

Step 4: Add the calcite to the filter, trying to make as little mess as possible, until the tank is roughly 2/3 of the way full of calcite.

Step 5: Replace the service port cap or control head and pressurize the system checking for any leaks keeping the control head valves in the “servicing” position.

Step 6: Set the control head to a backwash cycle to rinse the media. Once the water is running pretty clear you can set the control head valves to the “filtering” position.

Step 7: Clean up and leave!

# Ultra-Violet Light

What you will need:

- VA15LU – UV lamp for Arros 15
- 602732 VIQUA QUARTZ SLEEVE F/ D SERIES

## Manual

The UV bulb should be replaced once a year

Step 1:

Shut the water off and depressurize the system.

Step 2:

Unplug the system.

Step 3:

Remove the existing bulb and sleeve and install new one making sure to not touch the bulb or the sleeve with your fingers as you install them.

Step 4:

Pressurize system, plug the system back in, and check to make sure everything is functioning and that the control box is reset.

# Iron Filter

What you will need:

- Manganese Greensand
- Or potassium permanganate

## Manual

Servicing an iron filter may never be necessary but adding potassium permanganate can help with its effectiveness. Some people replenish the Manganese Greensand but this is uncommon

Step 1:

Shut off water supply or put the valves in the bypass position

Step 2:

Relieve pressure wherever it is most convenient

Step 3:

Beyond this the steps for each type of iron filter can vary. Try to find the manual for the filter you are working on and service it based off of that.

# Water Softener

What you will need:

- Salt
- Possibly Resin Cleaner

## Manual

Servicing an iron filter may never be necessary but adding potassium permanganate can help with its effectiveness. Some people replenish the Manganese Greensand but this is uncommon

Step 1:

Check Salt Level:

Open the brine tank lid and check the salt level. The salt should be above the water level in the tank. Refill with water softener salt if necessary. Break up any salt chunks that have formed.

Step 2:

Clean the brine tank if it seems necessary

Step 3:

Add Resin Cleaner:

For water softeners with high iron content, add a resin cleaner (like Iron-Out) to the brine tank. Follow the manufacturer's instructions for the correct amount and frequency.

Step 4:

Check the Brine Line and Valve:

Inspect the brine line (the tube that connects the brine tank to the control valve) for any kinks, blockages, or leaks. Ensure the valve is functioning properly and is free of debris.

Step 5:

Regenerate the System:

Manually regenerate the system by following the manufacturer's instructions. This process will flush the resin beads and recharge them with sodium ions. Ensure the regeneration cycle completes fully.

# **STREAMLINE PLUMBING**

GUIDE 4