

# Patriot & Patriot Jr.

The Patriot series Residential Water Softeners are suitable for applications up to 76,000 grains of hardness removal capacity at peak flow rates of up to 21 gpm

## Operation of The Softener

Hard water contains dissolved minerals in the form of Calcium (Ca), Magnesium (Mg), Iron (Fe), Copper (Cu) & Zinc (Zn). Removal of these contaminants is accomplished by softening the water through an ion exchange process. As water flows through the mineral tank, the dissolved minerals become attached onto and inside the resin. Over a period of time the resin will become saturated with contaminants, and the softener will require regeneration using a sodium or potassium brine solution.

## Softening Media - Hydrolyte 525-1 Hybrid

The exchange media is a high quality, FDA certified, commercial grade strong acid hybrid (Cation) structured matrix resin with a very high whole bead count, no color throw, physically hard, and is moderately chlorine resistant. Hybrid media is engineered to encompass all the attributes of 525-1 softening media and leverage select functions of 525-2 Conditioning media when working together with Pur-Gard or Pur-gard Plus. The media combines high operating capacity with excellent chemical and physical stability for a long dependable life.

## Controller/Meter

Regeneration of the system is initiated by a simplified electronic control timer, which electronically meters softened water flow to the home and makes decisions to regenerate based on water consumption and program settings.

## Regeneration

These softener models are controlled electronically. A fully programmable microprocessor controls System Protector, Tank Fill, Percolation, Inject Pur-Gard, Ion Exchange, Vortex Rinse and return to service cycles.

## Control Valve

A hydraulically balanced, EPDM diaphragm utilizes a composite drivetrain. All parts in the water-way are either stainless steel or composite noryl® materials for a long and reliable service life.

## Resin Tanks

All softener models feature a non-corrosive fiberglass tank, with a one piece thermoplastic inner liner. The tank has a maximum working pressure of 90 psi and a working temperature up to 120°F. The tank is approved by NSF, UL, FDA, and meets WQA Standard S-100. All fiberglass tanks carry a limited lifetime warranty.

## Brine Tank

An 18 x 33 inch brine tank is included as part of the system. The brine tank is a combination brine maker and salt storage vessel and is made of tough, high-density polyethylene. Larger tanks are available for extra salt storage capacity, if required. Brine tanks 24" diameter and smaller feature a grid plate for maximum saturation of brine.

## Brine System

Brine refill is automatically controlled by the computer to provide the exact amount of brine for each regeneration. The Brine System has a float and safety valve shut-off, which minimizes the chance of overflowing the brine tank. All units are equipped with an air check.

## Pur-Gard & Pur-Gard Plus

A high-efficiency capillary Pur-Gard dispenser & reservoir is included with this system to ensure peak performance and maximum protection from inorganic metals and minerals while maximizing system efficiency and maintaining bacteriostatic protection.

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