

## Want to Know More?

Additional information and detailed specifications about North Star water softeners and drinking water products are available online at [www.northstarconditioning.com](http://www.northstarconditioning.com).

MEMBER



### Warranty\*

*(See owner's manuals for specifics.)*

#### Softeners

- 1 year on complete unit
- 3 years on electronic control board
- 3 years on valve body
- 10 years on salt storage tank
- 10 years on mineral tank

#### Reverse Osmosis

- 1 year on parts
- 90 days on membrane

\*From date of installation.



**North Star**<sup>®</sup>  
WATER CONDITIONING

1890 Woodlane Drive • Woodbury, MN 55125  
(phone) 1.800.972.0135 (fax) 651.731.7497  
[www.northstarconditioning.com](http://www.northstarconditioning.com)



*The Professionals' Choice*

For further information contact:

**MORTON**  
**SYSTEM SAVER**<sup>®</sup>  
**PELLETS**

RECOMMENDED  
FOR THIS  
WATER  
SOFTENER



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05/16

**North Star**<sup>®</sup>  
WATER CONDITIONING

A Marmon Water/Berkshire Hathaway Company

# North Star® Drinking Water Systems

The Professionals' Choice



North Star  
Reverse Osmosis drinking water system  
provides the ultimate  
in purified drinking water...



## Designer Faucet Finishes

Ceramic disc design with adjustable flow rate.  
Polished Chrome (comes standard)  
Brushed Nickel (purchased separately)

## Water Quality Monitor

When the faucet is IN USE indicator lights show RO performance and when to change filters.



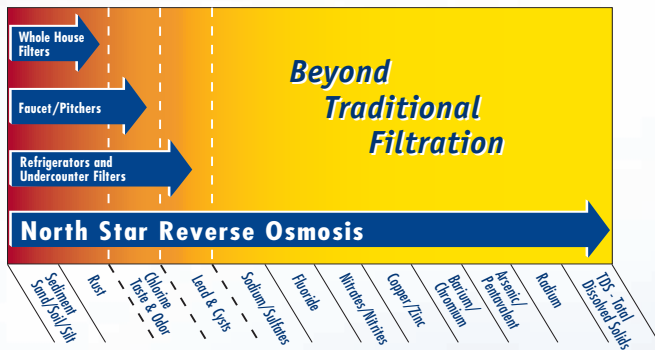
PRE/POST FILTERS O.K.



CHANGE PRE/POST FILTERS



CHANGE MEMBRANE



## North Star Drinking Water Systems



NSR042C4

## Specifications

Model	NSR042C4
Daily Production Rate	18 gallons
Storage Tank Size/Capacity	4/2.4 gallons
Flow Rate at Faucet	Up to 1.0 gpm
Pre/Post Carbon Filter Life	750 gal./6 months
Membrane Life	1 - 3 years

## Warranty (See Owner's manual for specifics)

1 year on parts

90 days on membrane

Model	NSR042C4	Typical Refrigerator and Undercounter Filters	Typical Faucet/Pitcher Pitcher Filters
<b>Reduces:</b>			
Sediment (Sand, Soil, Silt)	✓	✓	✓
Rust	✓	✓	✓
Chlorine (Taste & Odor)	✓	✓	
Lead and Cysts	✓	✓	
Sodium/Sulfates	✓		
Fluoride	✓		
Nitrates/Nitrites	✓		
Copper/Zinc	✓		
Barium/Chromium	✓		
Arsenic/Pentavalent	✓		
Radium	✓		
TDS (Total Dissolved Solids)	✓		



## Why Choose North Star?

North Star is the choice of professionals for four reasons: Experience, quality, innovation and service.

### Experience

North Star is an established company with a reputation for quality, reliability and service since 1925. *That's experience.*

### Quality

Quality is built into every North Star water softener. North Star manufactures 95% of every water softener part. North Star's manufacturing facility is ISO 9001-2008 certified to ensure the highest level of quality. In addition, North Star water softeners are designed and built with fewer moving parts—and no metallic parts to become rusted or corroded. *That's quality.*

### Innovation

North Star uses advanced filtration technology and state-of-the-art computer controls to give you uniformly consistent softened water— together with the greatest salt and water savings possible. *That's innovation.*

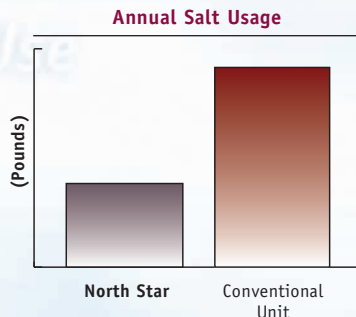
### Service

North Star water softeners are The Professionals' Choice and are sold exclusively through professional contractors so you know the job will be done right the first time. Also, each North Star water softener is backed by an industry-leading warranty ensuring quality and reliability. *That's service.*

*Water is your home's most precious resource.*

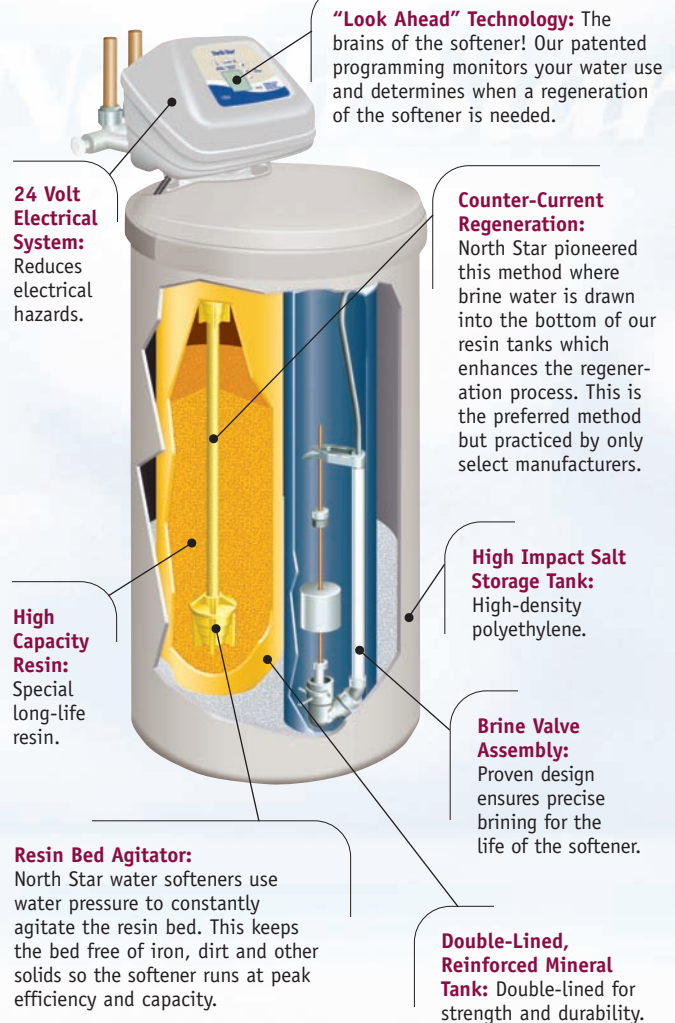
## Uses Less Water And Up To 60% Less Salt

*With Patented North Star "Look Ahead" Technology*



## Why Choose North Star Water Softeners?

North Star water softeners are the professionals' choice. Here's why.



### Learn How It Works

Go to [www.northstarconditioning.com](http://www.northstarconditioning.com) to see an animated water softener.

## How a Water Softener Protects Your Investment:

- Better lathering of shampoos and soaps.
- Makes your skin feel smoother.
- Makes cleaning the shower easy.
- Provides softer, cleaner, brighter clothes—using 1/3 less detergent.
- Helps your clothes last longer.
- Protects your plumbing, dishwasher, clothes washer, water heater, faucets and fixtures and washbasins from damaging hard water deposits.
- Less spotting on glassware.
- Can improve ice quality.
- Leaves less soap residue so your showers, tubs and sinks are easier to clean.
- Gives you cleaner dishes with less spotting.



CITY WATER SUPPLY

**Increases**  
the *heating efficiency*  
of your **water heater**  
up to **29%**.

Example of mineral buildup in an unprotected water heater.





**North Star** is the  
choice of  
professionals

professionals

(Ultra Demand-UD)



(Electronic Demand-ED)



## Which North Star Water Softener Is Right for You?

All North Star water softeners are built with the same quality and efficiency and are designed to save you time and money. Which model is right for you? Use the steps below to help guide you in your decision.

### Step 1—Capacity

**Determine the grain capacity of the unit for you.** Family size, peak flow rate needs, hardness and iron minerals in water, and desired regeneration frequency, are some of the considerations to use when sizing the proper system. The chart below is a general reference.

#### MINIMUM CAPACITY NEEDED

Number of People in House	Grains of Hardness in Water			
	3-6	5-11	10-21	21+
2	15,000–30,000			
3		25,000–30,000		
4		25,000–30,000		
5+			40,000+	

### Step 2—Style

Choose between the space saving cabinet models or the versatile two-tank models.

### Step 3—Electronics

With some models you can choose the electronic package.

#### Ultra Demand-UD

- Backlit LCD Display—Easier to read.
- Perfect for basement or poorly lit locations.
- Features patented “Look Ahead” technology for peak performance.
- Quick Set-up. Set the time and hardness and you are done.
- Display shows:  
Time, Hardness, Regeneration Time  
% Remaining Capacity, Current Flow  
Total Daily Usage and Average Daily Usage
- Efficiency Selector—Choose either normal or high efficiency mode.
- Diagnostics:  
Electronic Self Diagnosis, Days in Service  
Total Number of Regenerations, Turbine  
Check and Switches Check
- Gallons/Liters choice
- 12 or 24 hour choice
- Selectable Fixed Recharge Frequency
- Adjustable Backwash Setting

#### Electronic Demand-ED

- Standard LCD Display.
- Features patented “Look Ahead” technology for peak performance.
- Quick Set-up. Set the time and hardness and you are done.
- Display shows:  
Time, Hardness and  
Regeneration Time
- Efficiency Selector—Choose either normal or high efficiency mode.

## Specifications

### CABINET MODELS (All-in-one construction)

Model	Max Capacity (Grains)	Resin (ft³)	Standard Connection Size	Valve	Rated Service Flow Rate (gpm)	Intermittent Flow Rate (gpm @ 15 psi drop)	Rated Clearwater Iron Removal (ppm)	Electronics	Efficiency (grains removed per lb of salt)
NSC15ED	15,700	0.55	1"	Standard	5.3	10.1	4	ED	4160
NSC25ED	26,600	0.7	1"	Standard	6	7.5	7	ED	5000
NSC30UD	30,200	0.78	1"	Standard	7.3	7.3	8	UD	5120
NSC30UD1	34,300	0.97	1"	High Flow	7.5	11.0	5	UD	5030
NSC40UD1	39,000	1.08	1"	High Flow	10	10.2	5	UD	5100
NSR17CS	18,900	0.62	1"	Standard	6	8.2	—	UD	5075

### TWO-TANK MODELS (Separate resin tank and brine tank, Versatile installation options)

Model	Max Capacity (Grains)	Resin (ft³)	Standard Connection Size	Valve	Rated Service Flow Rate (gpm)	Intermittent Flow Rate (gpm @ 15 psi drop)	Rated Clearwater Iron Removal (ppm)	Electronics	Efficiency (grains removed per lb of salt)
NST25ED*	26,600	0.7	1"	Standard	6	7.5	7	ED	5000
NST30UD	30,200	0.78	1"	Standard	7.3	7.3	8	UD	5120
NST45UD1	45,400	1.26	1"	High Flow	10	12.1	12	UD	5120
NST70UD1	70,000	1.94	1"	High Flow	13.5**	13.5	19	UD	5110

\* Comes with Clear-Vu™ tank wrap in place of resin tank shroud.

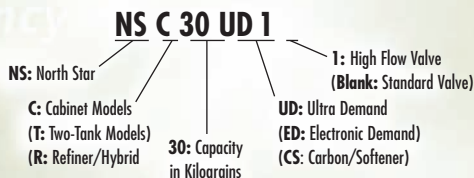
\*\* Peak flow is 22.7 @ 30 psi drop

## Dimensions

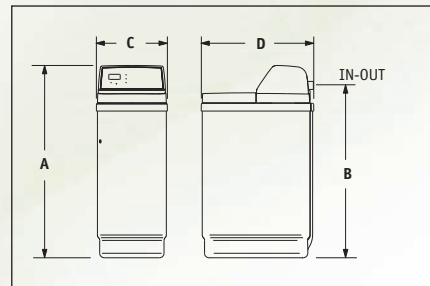
Model	A	B	C	D	E
<b>Cabinet Models</b>					
NSC15ED	32"	27 <sup>1</sup> / <sub>4</sub> "	11 <sup>1</sup> / <sub>2</sub> "	18 <sup>3</sup> / <sub>4</sub> "	—
NSC25ED	48 <sup>3</sup> / <sub>4</sub> "	41 <sup>1</sup> / <sub>4</sub> "	18 <sup>1</sup> / <sub>4</sub> "	—	—
NSC30UD	48 <sup>3</sup> / <sub>4</sub> "	41 <sup>1</sup> / <sub>4</sub> "	18 <sup>1</sup> / <sub>4</sub> "	—	—
NSC30UD1	50 <sup>3</sup> / <sub>8</sub> "	41 <sup>5</sup> / <sub>8</sub> "	18 <sup>1</sup> / <sub>4</sub> "	—	—
NSC40UD1	50 <sup>3</sup> / <sub>8</sub> "	41 <sup>5</sup> / <sub>8</sub> "	18 <sup>1</sup> / <sub>4</sub> "	—	—
NSR17CS	42"	37"	11 <sup>7</sup> / <sub>8</sub> "	18 <sup>3</sup> / <sub>8</sub> "	—
<b>Two-Tank Models</b>					
NST25ED	48 <sup>3</sup> / <sub>4</sub> "	41 <sup>1</sup> / <sub>4</sub> "	11 <sup>1</sup> / <sub>2</sub> "	39"	18"
NST30UD	48 <sup>3</sup> / <sub>4</sub> "	41 <sup>1</sup> / <sub>4</sub> "	11 <sup>1</sup> / <sub>2</sub> "	39"	18"
NST45UD1	50 <sup>3</sup> / <sub>8</sub> "	41 <sup>5</sup> / <sub>8</sub> "	14"	39"	18"
NST70UD1	64"	55 <sup>1</sup> / <sub>2</sub> "	14"	39"	18"

Note: All models include by-pass valve, manual, transformer, drain tubing and installation parts bag.

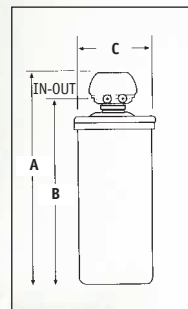
### SAMPLE NORTH STAR MODEL NUMBER BREAKDOWN:



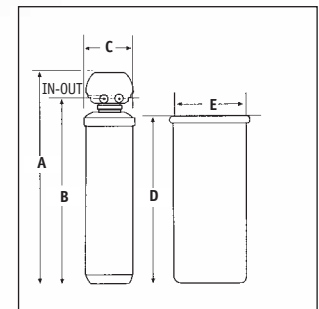
### SPACE SAVER MODEL (NSC15ED)



### CABINET MODEL



### TWO-TANK MODEL



## WHOLE HOME CENTRAL WATER SYSTEM MODEL # EPWHCW

### A PROVEN SYSTEM FOR REMOVING CHLORINE TASTE AND ODOR

- Delivers clean, filtered premium water to every faucet in your home, including your shower!
- Removes unpleasant chlorine taste and odor, leaving great-tasting water
- Eco-friendly
  - No salt is used
  - Low energy usage, 24V power supply
  - No plastic bottles in the landfill
- Designed for high performance and maximum efficiency
  - Sediment, chlorine taste and other adverse contaminants that affect taste and odor are removed
  - Automatically cleans itself, no filter cartridges to change or replace, saving you time and money
  - High flow rate of 9.6 gpm
  - High-tech LED display with push button controls
  - Space-saver, less than 1 sq. ft. footprint



## AUTOMATIC SEDIMENT FILTER MODEL # EPASF1

### PRODUCT FEATURES

- Point of Entry
  - Intended to filter water for entire home
- Rated 35 gpm
- Self-Cleaning
  - Effectively rinses loose particulate from the filter screen
  - Minimal pressure drop due to dirty/plugged filters
  - Programmable cleaning
  - Backlit LCD display shows number of days until next clean cycle
- Battery Operated - 9V
  - Optional 24 volt transformer
  - Low battery indicator
- 1" NPT Connections
  - Quick Insert/Clip System
  - 90° Elbows for easy up or down installation
- Large Capacity Filter Screen
  - More screen area for less pressure drop
  - Longer interval between cleaning
  - Filter can be manually cleaned by using the Clean Now button
- Filter Screens
  - Heavy-duty stainless steel screen
  - Three mesh sizes available to fit all applications
  - 60 micron standard
- Clear Sump
  - Allows viewing flow, sediment removal and auto clean feature
- Includes All Necessary Installation Equipment
  - Drain Line - 3/8" I.D. x 10 ft.
  - Battery
  - Bracket



## WHOLE HOME FILTRATION



EPW2

### 3/4" WHOLE HOME FILTER HOUSING

- Protects your home and appliances from sediment build-up
- Pressure relief vent make filter changes easy



EPW2V

### 3/4" WHOLE HOME FILTER HOUSING WITH BYPASS VALVE

- Protects your home and appliances from sediment build-up
- Built in by-pass valve and pressure relief vent make filter changes easy
- Includes sediment filter and wrench
- 20 micron rating



EPW4

### HEAVY-DUTY WHOLE HOME FILTER HOUSING

- Heavy-duty construction for larger homes
- Protects your home and appliances from sediment build-up
- High flow sized for 3/4" or 1" plumbing
- Metal thread inserts for plumbing connections
- Includes sediment filter, (30 micron, EPW4P) wrench and mounting bracket

## WHOLE HOME REPLACEMENT FILTERS



EPW4C

### HEAVY-DUTY CARBON WHOLE HOME REPLACEMENT FILTER

- Carbon construction
- Guaranteed to fit all major brands
- 25 micron rating
- 10 gpm



EPW4P

### HEAVY-DUTY PLEATED WHOLE HOME REPLACEMENT FILTER

- Pleated construction
- Guaranteed to fit all major brands
- 30 micron rating
- 20 gpm



EPW2C

### CARBON WHOLE HOME REPLACEMENT FILTERS

- Carbon construction
- Guaranteed to fit all major brands
- 5 micron rating
- 5 gpm



EPW2B

### MELT BLOWN WHOLE HOME REPLACEMENT FILTERS

- Melt blown construction
- Graded depth technology means longer filter life
- Guaranteed to fit all major brands
- 20 micron rating
- 10 gpm



EPW2S

### STRING WOUND WHOLE HOME REPLACEMENT FILTERS

- String wound construction
- Guaranteed to fit all major brands
- 10 micron rating
- 10 gpm



EPW2P

### PLEATED WHOLE HOME REPLACEMENT FILTERS

- Pleated construction
- Guaranteed to fit all major brands
- 20 micron rating
- 12 gpm





## UNDERSINK FILTRATION



ECOP20

### DUAL-STAGE DRINKING WATER FILTRATION SYSTEM

- Convenient twist and pull encapsulated filters
- Sleek space-saving design
- Includes chrome faucet with filter change reminder light
- Uses replacement filters ECODWF
- 1 micron rating
- Reduces VOCs\*



EPWUFF1

### MAIN FAUCET DRINKING WATER FILTRATION SYSTEM

- Full flow design, 2 gpm
- Convenient twist and pull encapsulated filter
- No need for separate faucet
- Reduces chlorine taste and odor, and cysts
- Uses replacement filters EPWURF1



EPU2G

### GRANULAR CARBON REPLACEMENT FILTER

- Granular carbon construction
- Guaranteed to fit all major brands
- 20 micron rating

## ADDITIONAL WATER FILTRATION



EPINL20

### IN-LINE REFRIGERATOR FILTER

- Better tasting water and ice cubes
- Simple to install 1/4" push connect fittings
- 6 month life



EPINL30

### IN-LINE REFRIGERATOR FILTER

- Great tasting water and ice cubes
- Heavy duty compression and push fitting connections
- 5 year life



3493099

### WATER TEST KIT

- Tests for water hardness, iron, pH
- Good for many tests
- Reagents available for purchase

\*Volatile Organic Compounds

# City Softener

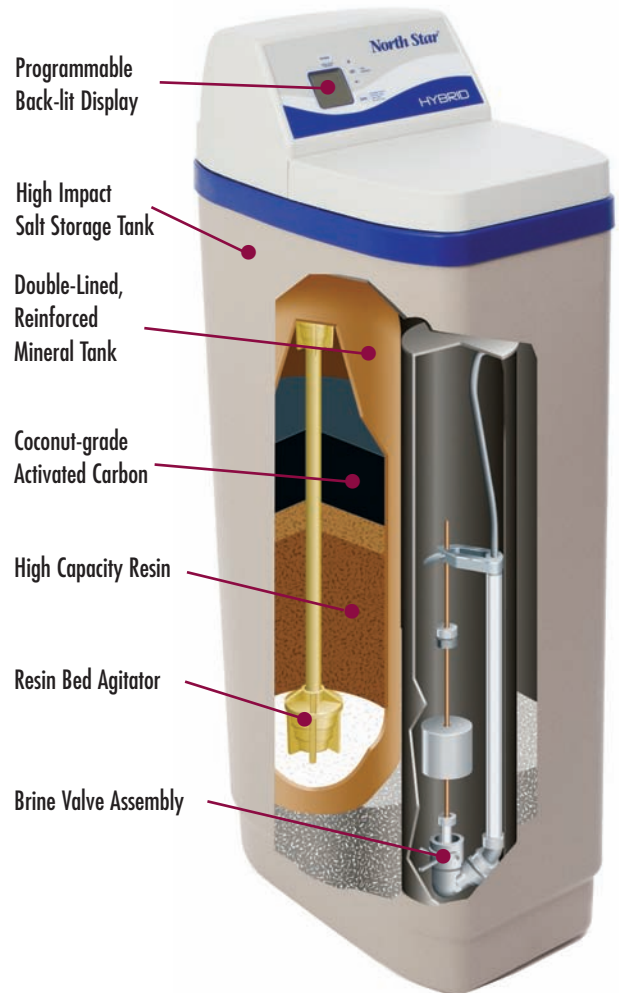
## Model NSR17CS

(2-in-1 Hybrid Softener and Whole Home Filter)

*Softens and filters water throughout the home*

### Features & Benefits

- **Large capacity whole-home softening and filtration** – Great for most homes and family sizes
- **No filters to change** – Saving you time and money
- **Space-saving compact design** – Two products in one compact system for easier installation
- **High capacity resin** – Special long-life resin for efficient use of salt and water
- **Coconut-grade activated carbon** – Eliminates chlorine taste & odor
- **“Look Ahead” technology** – Patented programming monitors and learns your water use to optimize regeneration, saving you salt and water
- **Custom blending valve** – Allows you to select how soft you want your water
- **Bypass valve** – Provides ease of servicing and cleaning
- **Ultra demand controller** – Includes backlit display, with fully programmable settings and diagnostics
- **Heavy duty valve** – Has fewer moving parts for reliable operation
- **Super Cap® time keeper** – Maintains accurate time and settings in the event of a power loss
- **Counter-current regeneration** – Optimized regeneration process that minimizes the use of salt and water
- **Resin bed agitator** – Keeps the bed free of iron, dirt and other solids for maximum efficiency
- **Double-lined, reinforced mineral tank** – Providing added strength and durability
- **Low voltage system** – 24 V electrical system reduced chance of electrical hazards
- **Installation kit included**



Designed, Engineered & Assembled in the U.S.A.



# Scale Management System

## NSAS Series

- *Helps prevent scale buildup*
- *Protects plumbing*
- *Chemical free*

## Features & Benefits

- Eco-friendly
- Clean and easy-to-use
- Compact installation
- Easy to maintain
- Inhibits scale build-up (mineral)
- No electricity needed
- No drain required
- No corrosive citric acid
- No poly-phosphates added
- Extends plumbing life
- SMS media – Patent pending



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# NoXS Scale Manager

Models **NSSM10** (Scale Manager) &  
**NSSM10C** (Scale Manager + Carbon)

*Environmental choices for water treatment*

## Features & Benefits

- **SMS anti-scale media** – Reduces hard water scale from forming in plumbing and appliances.
- **Up-flow design** – Increases contact time with media for improved scale reduction and higher flow rates.
- **By-pass valve** – Allows for easy maintenance and servicing.
- **Coconut-shell carbon\*** – Filters the water throughout the home without compromising water flow. Removes chlorine taste and odor and eliminates the need for separate carbon filter changes.
- **Multi-wrap fiberglass reinforced tank** – Durable; doesn't deteriorate, rust, or corrode.
- **Self-cleaning distributors** – Distributors exhibit excellent flow rates and are cleaned automatically by counter-current water pressure.
- **No electricity** – Simplifies installation, maintenance and reduces electrical hazards.
- **No salt or added chemicals needed** – Uses environmentally friendly "green" technology for areas with water or brine-discharge restrictions.
- **Zero waste water** – No backwashing required and zero discharge.
- **Sediment filter** – 50 micron sediment filter included with both systems.
- **Standard plumbing connection** – 1" NPT Male connection for easy installation. Larger 1-1/4" and 1-1/2" plumbing adapters available.

\*Available on NSCU10 only



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# Upflow Acid Neutralizer

## Models UAN10 and UAN12

- Raises pH from 6.0-7
- Eliminates corrosion of metallic pipes and fixtures
- No water or chemicals required

### Features & Benefits

- Neutralizes pH of 6.0 or higher
- Chemical free
- High flow rate – 10/12 gpm
- Suitable for most homes
- Multiple parallel units can be used for maximum flows
- Upflow design does not require water for backwashing
- Large 1" connections with bypass
- 75% Calcium Carbonate/  
25% Magnesium Oxide
- Fill port on IN/OUT adapter allows addition of media without removing the adapter

### How It Works:

Water flows up through the neutralizing media bed, preventing caking and channeling. Calcium and magnesium are dissolved into the water, raising pH and neutralizing the acidic water.

The neutralizing media dissolves into the water and will need to be replenished. The unshrouded tank will pass light shined through it for easy determination of amount of remaining media without taking the filter out of service and removing the IN/OUT adapter.

Fill port on IN/OUT adapter allows addition of media without removing the adapter

Large 1" connections

Upflow design does not require water for backwashing

Riser tube

Neutralizing zone

Distribution zone



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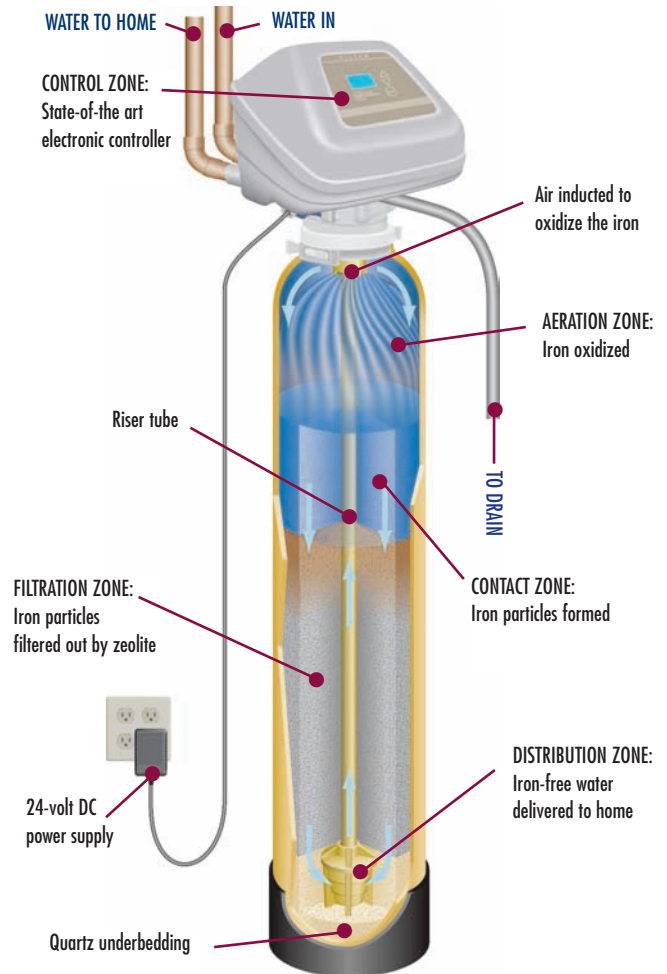
## "OH2-Iron" Iron Filter

Model NSAIV (Air Aspirated Chemical-Free Iron Filter)

*Removes up to 10 ppm Clear or Red Iron*

### Features & Benefits

- No bleach, no potassium permanganate, no chemicals
- Naturally aspirated air used to oxidize contaminants, Zeolite media filters contaminants out and backwashes them to the drain
- No pumps, air is aspirated into system after the backwash cycle
- One inch plumbing connections
- Easy-to-use 24-volt controller – just plug power supply into wall outlet
- Full one-inch diameter riser tube – for increased flow rate
- Multi-wrap™ fiberglass reinforced resin tank
- Multi-cycle valve with easy-clamp ring and patented coated disc
- Zeolite with washed quartz underbedding
- Includes bypass valve and installation kit



U.S. Patent # 5,919,373



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# "NSCC" Chloramine Reduction System

Model NSCCTOSSA (Chloramines, Chlorine Taste & Odor Filter)

- Greatly reduces chloramines from city water
- Greatly reduces chlorine taste & odor from city water
- Backwashing for extended media life

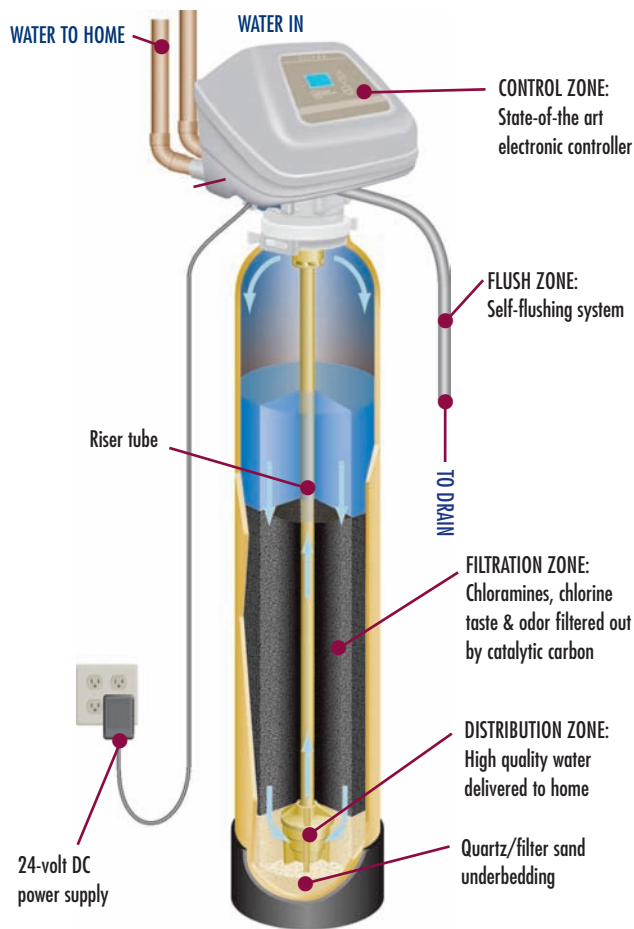
## Features & Benefits

- Clean and easy-to-use
- Chemical free
- High flow rate – 14 gpm
- Suitable for most homes
- Multiple parallel units can be used for maximum flows
- Self-flushing
- Skin protection from chlorine and chloramines
- Large 1" connections
- Coconut shell, high activity catalytic carbon
- Reduces some hydrogen sulfide when present

## How It Works:

Water is passed through a bed of catalytic carbon, trapping chloramines, chlorine taste & odor. Occasionally, the system needs to be backwashed to flush any trapped particles from the system.

Catalytic carbon eventually loses its ability to trap tastes and odors, and the bed must be replaced. The carbon life is dependent on the amount of water used and the severity of the problem.



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## Commercial Heavy Duty Water Softening System With 1" High Molecular Weight (HM) Plastic Valve

All systems are available in single, duplex, triplex, and quadplex operation.

**Models: PA071, PA101, PA131, PA191, PA251, and PA321**

### Features

- Electronic demand control module
- Six-cycle HM plastic valve with easy-clamp ring
- Counter-current brining
- Washed quartz underbedding
- Automatic bypass during regeneration
- Easy install bypass prevention kits for multiple units
- Fiberglass reinforced resin tank
- Water usage is metered by turbine
- 24-Volt transformer
- Self-cleaning upper and lower distributors
- High-density salt storage tank
- Exceptional flow rates
- Water totalizer to keep track of volume history
- Control lockout feature protects control settings from accidental changes
- NSF certified to NSF/ANSI 61 for Materials Safety and NSF/ANSI 372 Lead Free



Designed, Engineered & Assembled in the U.S.A.



Certified to NSF/ANSI 61 and NSF 372 Lead Free



## Commercial Heavy Duty Water Softening System With 2" High Molecular Weight (HM) Plastic Valve

All systems are available in single, duplex, triplex, and quadplex operation.

**Models: PA102, PA132, PA162, PA192, PA252, PA322, PA362, PA452 and PA602**



**2" HM Plastic Valve**  
Another North Star Innovation

- 1 Snap Clamp Rings for Ease of Connecting
- 2 Screened Top Distributor
- 3 Brine Make-Up Flow Control
- 4 Pin Quick Disconnect Injector Housing
- 5 2" NPT Union Connections
- 6 Adjustable Backwash Flow Control
- 7 Full 2" Ported Flow Passage In Valve Housing
- 8 High Torque 24 V-DC Motor
- 9 Valve Tank Adaptor Allows Easy Access Into Tank With Clamp Ring Connector
- 10 High-Strength Non-Corrosive Piston



## Features

- Innovative 2" HM plastic valve
- Lead-free
- Fully programmable
- Electronic demand control module
- Selectable for parallel, parallel delayed, alternating, and peak flow demand
- Counter-current brining
- Water usage is metered by turbine
- Safe 24-Volt electronics
- Self-cleaning upper and lower distributors
- Exceptional flow rates
- Controller lockout feature
- Control has totalizing gallon count
- Non-volatile memory
- Non-corrosive plastic piston

