

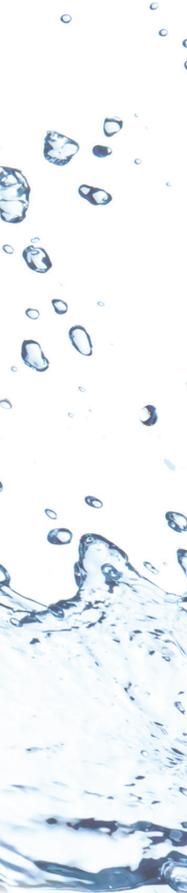
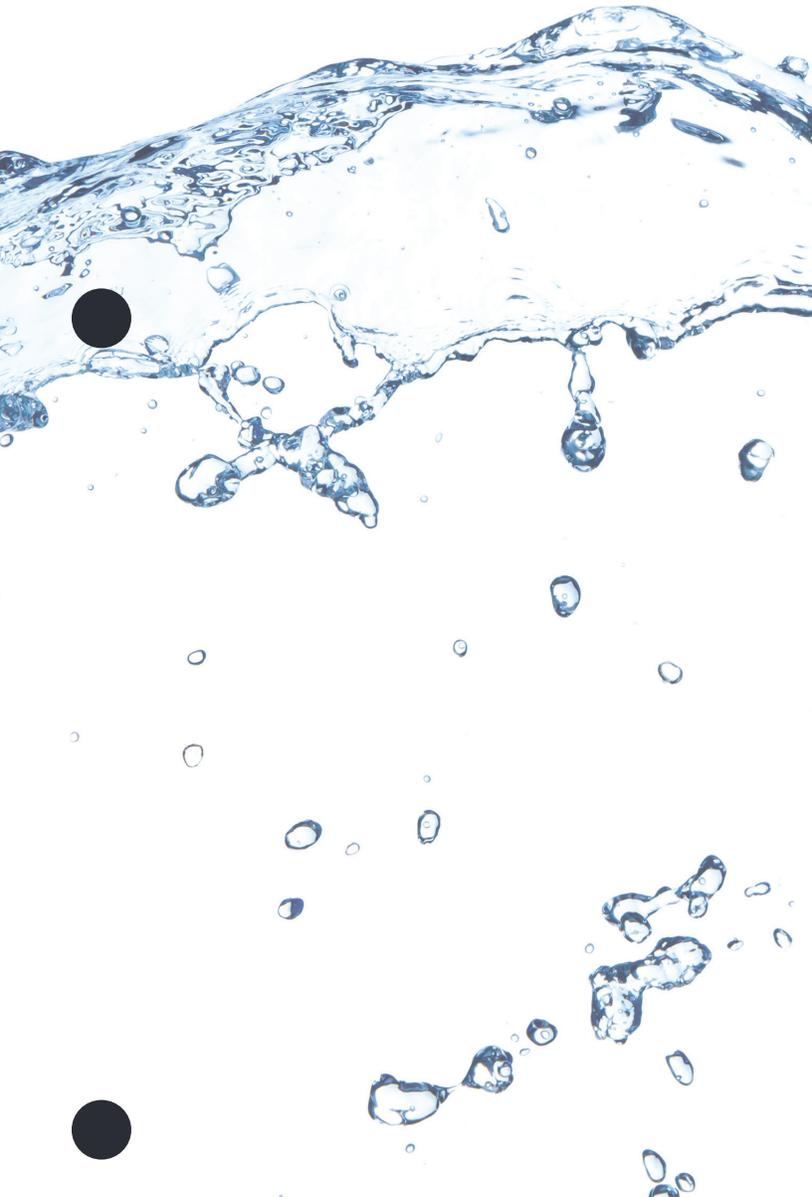


**NORTH STAR**  
**COMMERCIAL**  
WATER SOLUTIONS

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Commercial Water  
Treatment  
for Residential  
Applications

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## Large homes can be challenging

As the average size of homes increases, customers have high expectations for the performance of their water treatment systems. They expect their water treatment equipment to perform on par with their existing plumbing infrastructure. Ensure your customers continued satisfaction with a commercial water treatment system for their home.



## Life doesn't have to be so hard.

With all the problems hard water can cause, it's easy to see how you can save money and resources by conditioning your water.

### Save on Energy Expenses

Use up to 29 percent less energy to heat soft water because it minimizes the scale that prevents heat transfer inside boilers and water heaters.



### Reduce Plumbing Repairs

Eliminate hard water-related plumbing system malfunctions including hard water mineral buildup that causes flow restrictions and pipe damage.



### Prolong Appliance Life

Commercial warewashers and other machines last longer without harmful scale buildup that can damage parts and restrict operation.



### Reduce Chemical Use

Soft water cuts detergent and chemical use by as much as 75 percent since it doesn't require extra chemicals to create desired results.

### Make Cleaning Easier

Spend less time cleaning without the scale and scum associated with hard water.



### Reduce Fixture Wear

Prevent damage-causing scale buildup on faucets,

sinks and tubs. Eliminate additional scrubbing that can cause premature wear.

### Eliminate Hard Water Spots on Glassware and Flatware

Avoid hard water spots that can spoil customer experiences and require additional cleaning of dishes, glasses and flatware.



### Prolong Linen and Textile Life

Prolong the life of commercial linens and textiles without the damaging effects of hard water minerals like premature wear and fading.



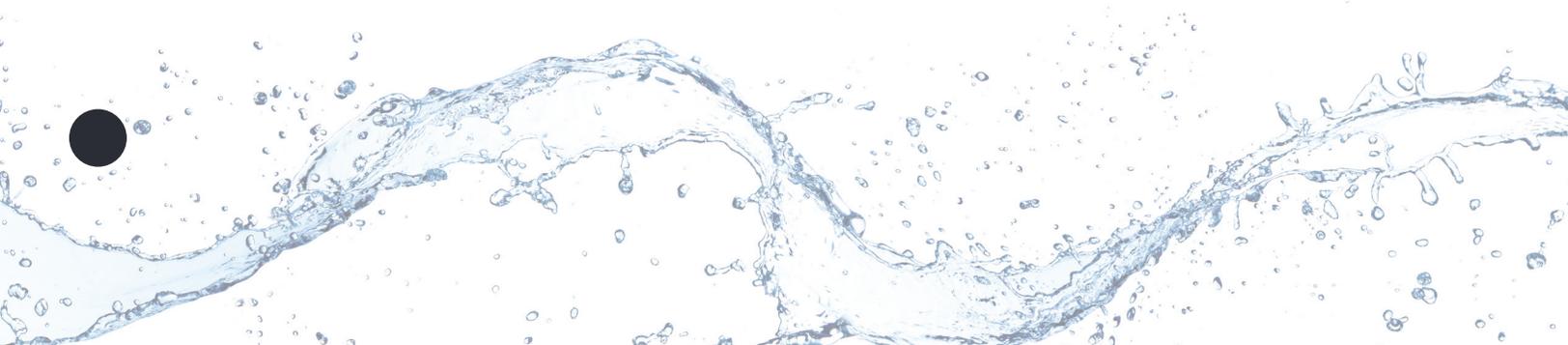
### Provide a Better Customer Experience

Customers who use soft water for cleaning and bathing enjoy luxuriously softer, silkier skin and hair, and less soap and.



### Additional Advantages for Steam Boiler Pretreatment

Reduce scale buildup that requires additional cleaning and downtime in commercial steam applications.



# The PA071 Family of Commercial Water Softeners

## EcoWater Commercial Water Softening Systems

### Economical, Heavy-Duty Water Conditioning for Large Homes and small commercial applications

For more than 100 years, EcoWater has been engineering and manufacturing the most innovative water treatment technologies available. That experience and ingenuity goes into every commercial series water softener we make. Our exacting standards make the EcoWater commercial series our most advanced commercial system ever and the optimal choice for your application.

The true test of even the most advanced water conditioning system is how well it softens water while conserving salt and water, and minimizing operator intervention. Our robust feature set provides distinct advantages that will allow your business to enjoy the benefits of soft water while saving considerable time and money.



Single and Multi Tank Systems



Demand Regeneration



Countercurrent Regeneration



Proportional Brining



Non-Volatile Memory



Turbine Meter with Low Flow Accuracy



Water Totalizer



Lockout Feature



#### EcoWater Has You Covered

Resin Tanks - 10 years  
Salt Tanks - 3 years  
Electronics - 3 years  
Parts - 1 Year

### Advanced Electronic Controls with EPA and Smart Memory

Sophisticated electronics serve as the brains of the EcoWater commercial series, constantly monitoring your water usage and automatically adjusting system performance for optimum operating efficiency, all while delivering the clean, soft water your business demands.

Using our exclusive EcoWater Predictive Algorithm (EPA), your system schedules regenerations based on your water demand instead of a preset schedule so it won't waste water and salt by cleaning itself unnecessarily. Unlike competitive systems that regenerate more often than necessary wasting water, salt, and wearing out system components earlier, EcoWater's commercial series regenerates only when necessary using up to 65 percent less water and 33 percent less salt.

Programmed memory is permanent, even during a power outage. And our permanent backup capacitor stores power to ensure operation during more than 48 hours of interrupted power.

### Dependable, Reliable, Solid-State Controls with LCD Display

More accurate than systems with knobs or mechanical dials. No moving parts to wear out. Minimal maintenance. Set options at the touch of a button. The LCD control panel displays time, flow rates, regeneration time, hardness setting capacity remaining and other helpful information.



### Industrial Grade High-Flow Six-Cycle Valve

Our patented six-cycle double disc valve delivers the high flow rates required by today's demanding applications allowing you to minimize system footprint without sacrificing performance. And our valves have fewer than 25 moving parts, so they require less service than competitive valves that commonly contain up to 85 components. Available in 1", 1-1/2" and 2" inlet/outlet sizes.

### Turbine Flow Meter with Low Flow Accuracy

The turbine flow meter provides precise water usage information to the EcoWater Smart Control, even at flows as low as .2 gpm. The sensor and non-corrosive materials used in the turbine provide for long-term reliability.

### 24-Volt Power Supply

Our low voltage supply eliminates special wiring requirements, providing additional installation flexibility.

### High Performance Softening Media

EcoWater uses only FDA-approved\* long-lasting softening resin in every commercial softener to condition your water more effectively.

\* Resin meets U.S. FDA Standard No. 21CFR173.2500.

### Washed Quartz Underbedding

Washed quartz doesn't impart hardness into softened water and allows for more powerful countercurrent regeneration.

### Industrial Grade Media and Salt Storage Tanks

Durable, high-pressure resin tanks and rugged, long-lasting salt storage tanks withstand impact and environmental abuse.



# Patented EcoGizer Regeneration



Not all water conditioners work the same way. Subtle changes in the process can have a big effect on the quality of your water. Here are some of the key features you'll find only with the EcoWater EcoGizer Regeneration Process that will save you money, hassle and time.

## Countercurrent Flow

The softener cleans the resin bed in the opposite direction of the service flow, from the bottom up. This process raises the bed with a piston action, lifting the hardness up and out of the tank., a critical difference from other systems that use co-current regeneration (same direction as service flow). This older regeneration process deposits hardness from the top of the media bed into the cleaner resin below where it requires additional salt and water for removal.

## Econo-Brine System with Positive Action Brine Valve and Dynamic Soft Water Brining

Makes only the amount of brine needed for regeneration. Keeps the salt tank free from the effects of hard water and allows for more efficient regenerations. Dry salt storage eliminates the need for a salt platform, helps prevent salt bridging and conserves salt. Positive action helps prevent overfilling and eliminates air draw during slow rinse cycle.

## Adjustable Backwash

Features high flow backwash hardware to ensure proper bed cleaning.

Customizable backwash duration based on initial water analysis.

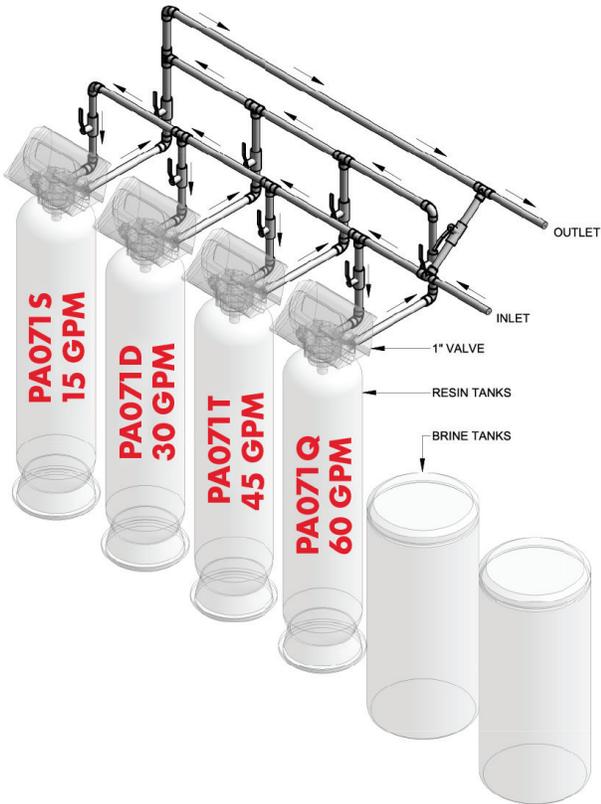
## Fast Rinse Cycle

Provides a final media bed cleaning to prepare it for service.

## Automatic Bypass

Provides water during regeneration should you need it.

Every business uses water differently. That's why flexibility is so important. EcoWater commercial water softeners remain among the best in class at conserving water and salt during the regeneration process and they're designed to match your specific usage requirements – today and tomorrow.



- Industry Leading Salt Efficiency
- 24 Hour Soft Water Available
- Demand Initiated Regeneration Software that Learns Your Water Use Patterns
- Flow Rates Up To 60 GPM Continuous, 100 GPM Peak



# Commercial Heavy Duty Water System with 1" Ecowater Valve

Specifications S = Single D = Duplex T = Triplex Q = Quadplex

MODEL	PA071S	PA071D	PA071T	PA071Q
SALT DOSAGE	Grains Capacity			
4 lbs./cu. ft.	37,000	74,000	111,000	148,000
6 lbs./cu. ft.	50,000	100,000	150,000	200,000
8 lbs./cu. ft.	61,000	122,000	183,000	244,000
10 lbs./cu. ft.	67,000	134,000	201,000	268,000
12 lbs./cu. ft.	71,000	142,000	213,000	284,000

MODEL	Flow Rate (GPM) and Pressure (PSI) Loss (ΔP)							
Flow Rate (GPM)	5	10	15	20	25	30	35	40
PA071S	2.6 ΔP	6.6 ΔP	11.8 ΔP	18.3 ΔP	26.0 ΔP	34.8 ΔP	-	-
Flow Rate (GPM)	10	20	30	40	50	60	70	80
PA071D	2.6 ΔP	6.6 ΔP	11.8 ΔP	18.3 ΔP	26.0 ΔP	34.8 ΔP	-	-
Flow Rate (GPM)	15	30	45	60	75	90	105	120
PA071T	2.6 ΔP	6.6 ΔP	11.8 ΔP	18.3 ΔP	26.0 ΔP	34.8 ΔP	-	-
Flow Rate (GPM)	20	40	60	80	100	120	140	160
PA071Q	2.6 ΔP	6.6 ΔP	11.8 ΔP	18.3 ΔP	26.0 ΔP	34.8 ΔP	-	-

System design flow rates For intermittent use only Not for use at these flow rates

Nominal Resin Tank Size (in.)	12.3" x 54"
Resin Quantity (cu. ft.)	2
Connecting Pipe Size	1"
Drain Line Connection Size (in.)	5/8" I.D. Hose
Salt Tank Size (in.)	17" x 38.5"
Salt Tank Capacity (lbs.)	340
Operating Pressure	30 - 125 psi
Operating Temperature	35 - 100°F
Max. Drain Flow (gpm)	5
Recharge Water Used (gal.)	108
Max. Clear Water Iron <sup>3</sup>	20 ppm
Electrical Rating	24VDC - 65 Watts

071S SOFTENER DIMENSIONS							
Model	A - Resin Tank Diameter	B - Resin Tank Height	C - Inlet-Outlet Height	D - Overall Height	E - Brine Tank Diameter	F - Brine Tank Height	G - Overall Length
071S	12.00"	54.00"	58.00"	63.75"	17.00"	38.50"	36.00"

071D SOFTENER DIMENSIONS							
Model	A - Resin Tank Diameter	B - Resin Tank Height	C - Inlet-Outlet Height	D - Overall Height	E - Brine Tank Diameter	F - Brine Tank Height	G - Overall Length
071D	12.00"	54.00"	58.00"	63.75"	17.00"	38.50"	55.00"

071T SOFTENER DIMENSIONS							
Model	A - Resin Tank Diameter	B - Resin Tank Height	C - Inlet-Outlet Height	D - Overall Height	E - Brine Tank Diameter	F - Brine Tank Height	G - Overall Length
071T	12.00"	54.00"	58.00"	63.75"	17.00"	38.50"	98.00"

071Q SOFTENER DIMENSIONS							
Model	A - Resin Tank Diameter	B - Resin Tank Height	C - Inlet-Outlet Height	D - Overall Height	E - Brine Tank Diameter	F - Brine Tank Height	G - Overall Length
071Q	12.00"	54.00"	58.00"	63.75"	17.00"	38.50"	117.00"

