



# Vortech

DISTRIBUTION TECHNOLOGY

SAVES WATER. SAVES SALT.  
SAVES THE ENVIRONMENT.





## WHAT IS VORTECH®

**Vortech®** is the world's most innovative and efficient universal distribution system for water treatment systems, in filtration and softening applications. The design creates fluidity of the media bed and extends contaminant removal capacity; which means less regenerations and significant reduction of water use.

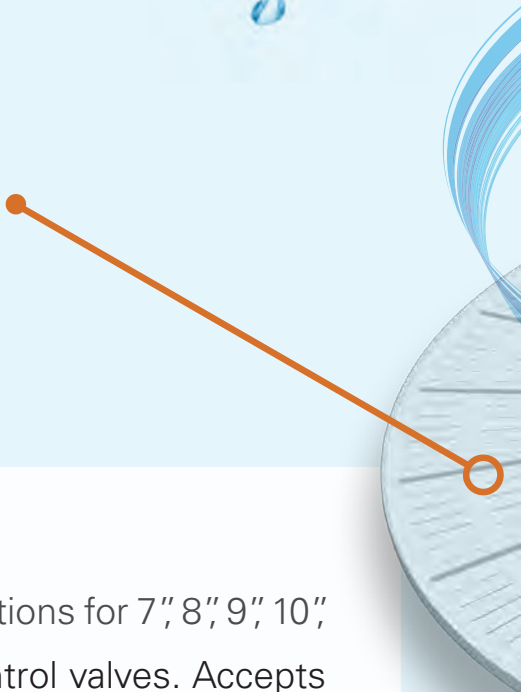
Our patented self-cleaning nozzle design accelerates the velocity of water across the co-polymer polypropylene distributor, preventing the potential build-up of iron and other potential contaminants, in a wide range of water treatment applications. It is just another example of the type of innovation you've come to expect from **ENPRESS®**.

### IMPROVES EFFICIENCY

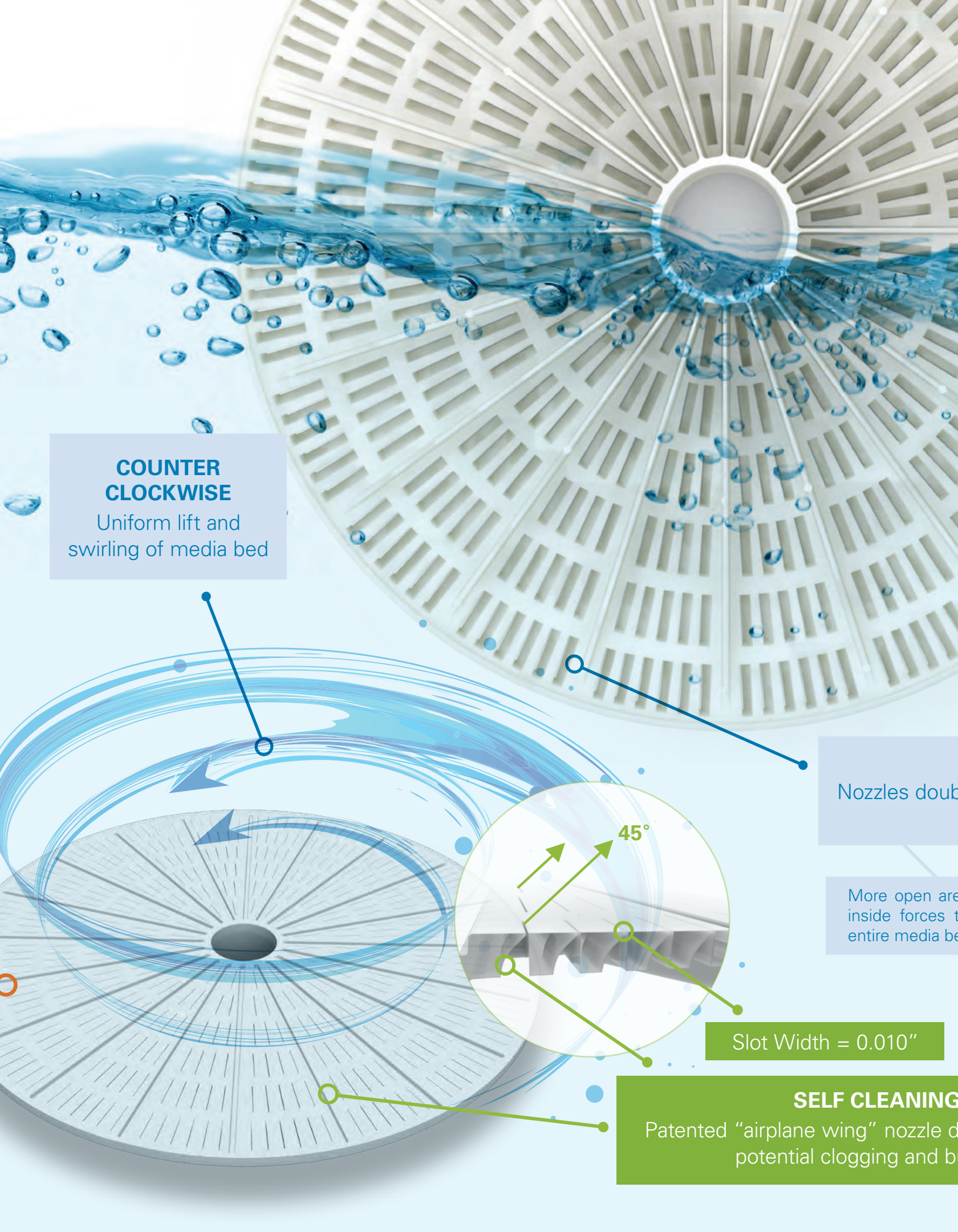
2.5x or more open surface area of traditional distributors

## AVAILABILITY

The **Vortech®**, available in all vessel diameters and configurations for 7", 8", 9", 10", 12", 13", 14" and 16"; maximizes today's high efficiency control valves. Accepts all riser pipe diameters up to 2".







**COUNTER  
CLOCKWISE**

Uniform lift and  
swirling of media bed

Nozzles double

More open area  
inside forces the  
entire media bed

45°

Slot Width = 0.010"

**SELF CLEANING**

Patented "airplane wing" nozzle design  
prevents potential clogging and backflow



## FEATURES & BENEFITS

### EXPANDING ARRAY

Double as plate expands from the center, eliminating channeling

area of the distributor to the outside versus the  
es the water in downflow service to utilize the  
a bed, increasing efficiency and filtration capacity.

NG

the design eliminates  
d build-up

Universal distributor for use in filtration and softening applications

Spin-welded plate to inner bottom dome, designed to handle over 6500 lbs. of force and differential pressure

Permanent attachment of dip tube to distributor, so when servicing a valve, distributor stays in place

Increase in softening and filtration capacity, due to improved flow through media

More than 30% reduction in required backwash times and flow rates compared to standard systems, due to improved bed lift at lower flow rates

Elimination of gravel, saving on overall cost and unit weight, for shipping

Most efficient softening regeneration, reducing annual consumption of salt

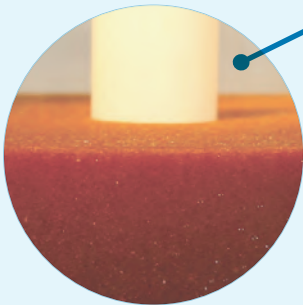
Up to 40% less pressure drop thru the system, improving system flow characteristics and design



## HOW VORTECH® WORKS

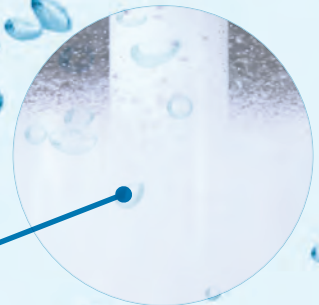
### WATER FLOW

Evenly Distributed  
Eliminates Channeling



### MEDIA FRIENDLY

Works for ALL Medias  
Eliminates Channeling  
Upflow and/or Downflow Service  
No Dead Spaces



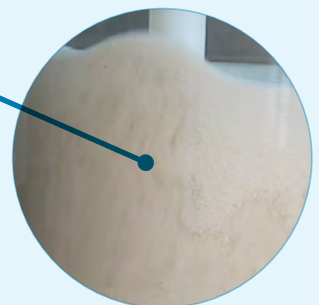
### HIGH EFFICIENCY

Increased Softening and  
Filtration Capacity



### WATER SAVINGS

Uniform Backwashing and  
Media Lift at Lower Flow Rates





# VORTECH® BY THE NUMBERS

## TESTING

### RESULTS OF A 16X65 VORTECH VESSEL CARBON SYSTEM

#### BACKWASH

Vortech Carbon's "Sweet Spot" for backwash  
5.76 gpm/ft<sup>2</sup>

Standard specification is 8 to 10 gpm

Volume savings and fluidization time with full  
expansion of bed in less than 2 minutes

Vortech backwashes for 7 to 8 minutes (compared  
to typical carbon filters of 14 minutes or more)

## COMPARISONS VORTECH VERSUS STANDARD DISTRIBUTORS

#### The System

##### Full Plate Distributor Tank

One cubic foot of 10 percent resin

##### Standard Tank

One cubic foot of 10 percent resin

#### The Results

##### Full Plate Distributor Tank

Bed expansion in backwash 10.5 inches of lift

Time to lift bed to full expansion at 2.0 gpm  
= 2.0 min.

Four min. backwash time = 8.0 gal.

Fast rinse reduced from six to two min. at 2.0  
= 4.0 gal.

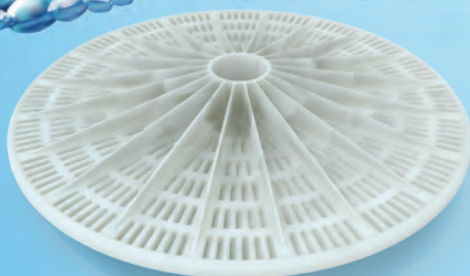
##### Standard Tank

Bed expansion in backwash 5 inches of lift

Time to lift bed to full expansion at 2.0 gpm  
= 4.25 min.

Eight min. backwash time = 16.0 gal.

Fast rinse had to stay at six min. at 2.0 =  
12.0 gal.



## TESTING

### VORTECH THIRD-PARTY VALIDATION AND TESTING RESULTS

#### WQA/NSF 44 COMPARISON TESTING OF A 1 CUBIC FOOT SOFTNER

##### CAPACITY TEST @ 4.5 POUNDS OF SALT

Cone and gravel = 3472 grains  
Vortech = 4333 grains  
Increase of 25%

##### GALLONS TO DRAIN

Cone and gravel = 53.7  
Vortech = 31  
Decrease of 42%

##### PRESSURES/DELTA P

Cone and gravel = 13.4 gpm @ 15psig Delta P  
Vortech = 13.4 gpm @ 9.8psig Delta P  
Vortech @ 15psig Delta P, Flow rate is 17.8 gpm  
Equals a 33% increase in flow rate

#### Notes on system comparison and results

##### Full Plate Distributor Tank

Water used during backwash and fast  
rinse = 12.0 gal.

Water used to fill brine tank = 3.0 gal.

Water used in slow rinse = 27.0 gal.

Total water used for complete cycle  
= 42.0 gal.

Flow rate at 10.7 psi drop = 12.7 gpm

##### Standard Tank

Water used during backwash and fast  
rinse = 28.0 gal.

Water used to fill brine tank = 3.0 gal.

Water used in slow rinse = 27.0 gal.

Total water used for complete cycle  
= 58.0 gal.

Flow rate at 10.7 psi drop = 11.6 gpm

#### Example of usage for family of four on 20-grain hard water

60 gal. per person per day x four = 240.0 gal. of water per day

240.0 x 20.0 grains of hardness = 4,800 grains of hardness removed per day

4,800 grains removed ~ capacity of 28,200 grains capacity = 5.88 days between regenerations

5.88 ~ 30 days per month = 5.10 regenerations per month

5.10 per month x 10.0 lbs of salt (medium setting) = 51.0 lbs of salt used

5.10 regenerations x 42.0 gal. used = 214 gal. used per month down the drain

**214.0 gal. per month = 7.13 gal. per day savings, equivalent to each person in the family flushing a low consumption toilet (1.6 gal.) one time less per day.**

(Independent third party testing: Data provided by Abendroth Water Conditioning Inc.)

Performance claims are based on independent lab results and manufacturer's internal test data. Actual performance is dependent on influent water quality, flow rates, system design and applications. Your results may vary.

For more information, visit [enpress.com](http://enpress.com)

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