

VORTECH® BY THE NUMBERS

TESTING

RESULTS OF A 16X65 VORTECH VESSEL CARBON SYSTEM

BACKWASH

Vortech Carbon's "Sweet Spot" for backwash
5.76 gpm/ft2

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	Standard Tank
One cubic foot of 10 percent resin	One cubic foot of 10 percent resin

The Results

Full Plate Distributor Tank	Standard Tank
Bed expansion in backwash 10.5 inches of lift = 2.0 min.	Bed expansion in backwash 5 inches of lift = 4.25 min.
Four min. backwash time = 8.0 gal.	Eight min. backwash time = 16.0 gal.
Fast rinse reduced from six to two min. at 2.0 = 4.0 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	Standard Tank
Water used during backwash and fast rinse = 12.0 gal.	Water used during backwash and fast rinse = 28.0 gal.
Water used to fill brine tank = 3.0 gal.	Water used to fill brine tank = 3.0 gal.
Water used in slow rinse = 27.0 gal.	Water used in slow rinse = 27.0 gal.
Total water used for complete cycle = 42.0 gal.	Total water used for complete cycle = 58.0 gal.
Flow rate at 10.7 psi drop = 12.7 gpm	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.

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