

## Resin Capacity Calculations - Quick Method

The chart below lists capacities for new ResinTech resins on once-through systems based on the following assumptions:

1. The pH of the solution to be treated is between 6 to 8.
2. The endpoint of the two-bed cation/anion is 100,000 ohm.
3. The endpoint of the mixed bed run is 1 megohm.
4. One micromho conductivity equals 0.5 ppm TDS as CaCO<sub>3</sub>.
5. Virgin resin regenerated to Nuclear Grade specification minimum.

PRODUCT NAME	TYPE OF MEDIA	IONIC FORM	CAPACITY IN KILOGRAINS/CU.FT.	
			10% Safety	20% Safety
ResinTech CG8-H	Cation resin	Hydrogen	36.0	32.0
ResinTech SBG1-OH	Anion resin	Hydroxide	23.5	21.0
ResinTech MBD-10	Mixed bed	H/OH	12.0	10.7

The capacity per cubic foot for any of the above resins can be calculated:

$$\frac{(\text{CAPACITY in kilograins/cu.ft.} \times 17.1 \text{ grains per gallon per ppm} \times 1,000 \text{ grains per kilograin})}{(\text{MICROMHOS CONDUCTIVITY} \times 0.5 \text{ ppm per micromho})}$$

For example, to find the capacity of cation resin on a 400 micromho conductivity water, using a 10% safety factor:

$$\frac{(36 \times 17.1 \times 1,000)}{(400 \times 0.5)} = 3,078 \text{ gallons/cu.ft.}$$

