

# CalRes™ 2103

## Perchlorate and Nitrate Removal



CalRes™ 2103 is an advanced macroporous, anion ion exchange resin with excellent capacity for perchlorate and more than three times the selectivity for nitrate ions when compared to the best available products. It is tested and certified by the Water Quality Association under ANSI/NSF 61. CalRes™ 2103 has a new chemistry that prevents nitrate spiking in the effluent water. CalRes™ 2103 is characterized by a high degree of porosity, very stable structure and limited reversible swelling, which results in a kinetically superior and durable resin.

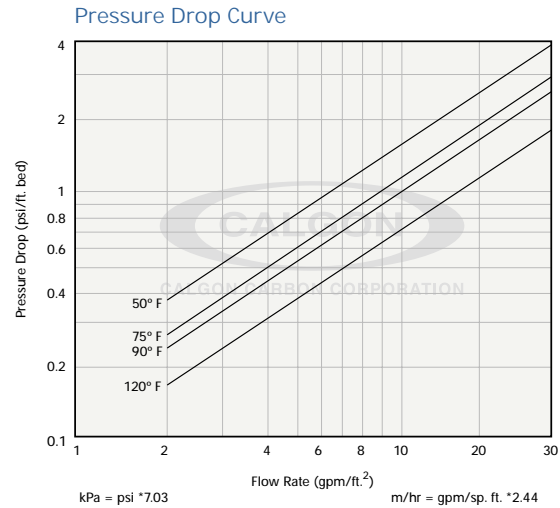
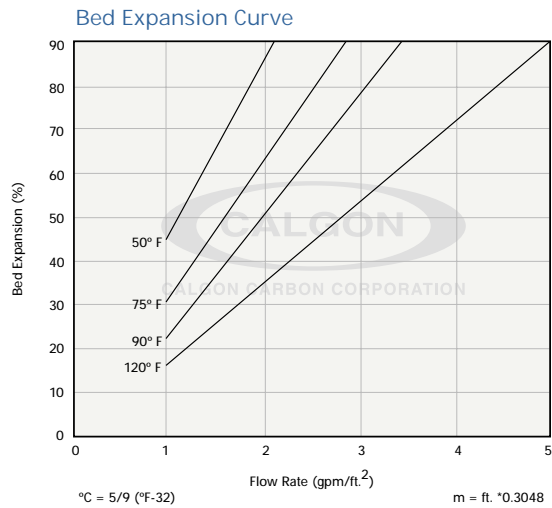
### Typical Physical and Chemical Properties

		U.S. Units	International Units
Ionic Form as Shipped		Cl	Cl
Bead Size		US Mesh 16-60 (90% > 60 mesh)	0.3-1.20 mm
Effective Size		0.50 ± 0.05 mm	0.47 ± 0.06 mm
Shipping Weight		42 lbs./ft <sup>3</sup>	670 g/l
Density		63.68 lbs./ft <sup>3</sup>	1.02 g/ml
Water Retention		50-70% weight	50-70% weight
Total Capacity, min.		18 kgr CaCO <sub>3</sub> /ft <sup>3</sup>	0.8 eq/l
Volume Change	Cl <sup>-</sup> >> NO <sub>3</sub>	5% max.	5% max.
Process Stability	Temperature Range	35-200° F	1-100° C
	pH Range	0-14	0-14
Storability	of Product	2 years min.	2 years min.
	Temperature Range	0-105° F	-17-41° C

### Recommended Operating Parameters

		U.S. Units	International Units
Operating Temperature		160° F max.	70° C max.
Operating pH Range		5-10	5-10
Bed Depth		2 ft. min.	610 mm min.
Pressure Drop		See Chart	See Chart
Max. Adm. Pressure Drop		28 psi	200 kPa
Surface Flow Rate	Exhaustion	2-10 gpm/ft. <sup>2</sup>	5-24 m/h
	Backwash	See Chart	See Chart
Bulk Flow Rate	Exhaustion	1-6 gpm/ft. <sup>3</sup>	8-48 BV/h
Bed Expansion		50-65%	50-65%
Freeboard	% of Bed Depth	90-100%	90-100%

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## Calgon Carbon's Commitment to You

For more than 40 years, Calgon Carbon Corporation has been a leader in the municipal drinking water market. From the use of activated carbon technology for taste, odor, color, and VOC removal, to our innovations in UV technology for disinfection, to our development of ion exchange technologies for perchlorate and nitrate removal, Calgon Carbon has been at the forefront of drinking water treatment. Our scientific research and innovative, yet practical, technologies are being used every minute of every day, helping provide safe, clean drinking water to millions of people worldwide.



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