

## PRODUCT DATA SHEET

# Macronet™ MN102

Hyper-crosslinked Polystyrenic  
Macroporous, Adsorbent Resin,  
Weak Base Functionality, Free Base  
form

## PRINCIPAL APPLICATIONS

- Sorption
- Hydrophobic organic species separation
- Decolorization - Sweeteners
- Decolorization - Beer Broths
- Decolorization - Sugar Solutions
- Patulin Removal

## ADVANTAGES

- High mechanical strength
- High surface area compared to a standard adsorbent
- Dual IEX/hydrophobic interaction

## REGULATORY APPROVALS

- IFANCA Halal Certified
- OK Kosher Certified
- Compliant with FDA Regulation 21 CFR 173.25 for Food Treatment, Ion Exchangers
- Compliant with Europe Resolution ResAP (2004)3
- GMO/TSE/BSE free

## TYPICAL PACKAGING

- 1 ft<sup>3</sup> Sack
- 25 L Sack
- 5 ft<sup>3</sup> Drum (Fiber)
- 1 m<sup>3</sup> Supersack
- 42 ft<sup>3</sup> Supersack

## TYPICAL PHYSICAL & CHEMICAL CHARACTERISTICS:

Polymer Structure	Macroporous polystyrene crosslinked with divinylbenzene
Appearance	Spherical Beads
Functional Group	Tertiary Amine
Ionic Form	FB
Total Capacity	0.1 - 0.3 eq/L (FB form)
Moisture Retention	50 - 60 % (FB form)
Particle Size Range	300 - 1200 µm
Reversible Swelling, FB → Cl <sup>-</sup> (max.)	5 %
Typical Pore Diameter by nitrogen adsorption (Meso/Macro/ Transport Pores)	350 Å
Typical Pore Diameter by nitrogen adsorption (Micropores)	15 Å
Typical Pore Volume by nitrogen adsorption	0.4 mL/g
Typical Surface Area by nitrogen adsorption	800 m <sup>2</sup> /g
Specific Gravity	1.07
Shipping Weight (approx.)	610 - 640 g/L (38.1 - 40.0 lb/ft <sup>3</sup> )
pH Limits, Stability	0 - 14
Temperature Limit	60 °C (140.0 °F) (FB form)



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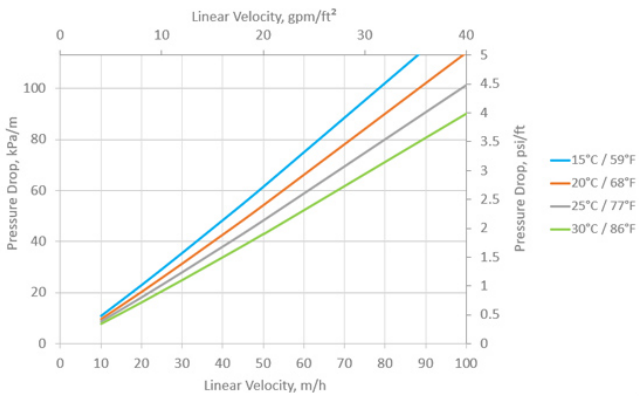
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# Hydraulic Characteristics

## PRESSURE DROP

The pressure drop across a bed of ion exchange resin depends on the particle size distribution, bed depth, and voids volume of the exchange material, as well as on the flow rate and viscosity of the influent solution. Factors affecting any of these parameters—such as the presence of particulate matter filtered out by the bed, abnormal compressibility of the resin, or the incomplete classification of the bed—will have an adverse effect, and result in an increased head loss. Depending on the quality of the influent water, the application and the design of the plant, service flow rates may vary from 10 to 40 BV/h.

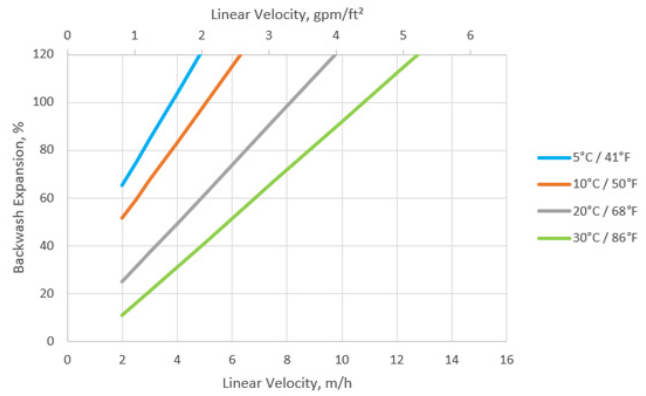
### PRESSURE DROP ACROSS RESIN BED



## BACKWASH

During up-flow backwash, the resin bed should be expanded in volume between 50 and 70% for at least 10 to 15 minutes. This operation will free particulate matter, clear the bed of bubbles and voids, and reclassify the resin particles ensuring minimum resistance to flow. When first putting into service, approximately 30 minutes of expansion is usually sufficient to properly classify the bed. It is important to note that bed expansion increases with flow rate and decreases with influent fluid temperature. Caution must be taken to avoid loss of resin through the top of the vessel by over expansion of the bed.

### BACKWASH EXPANSION OF RESIN BED



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