

## PRODUCT DATA SHEET

### AMBERJET™ I 500 H Industrial Grade Strong Acid Cation Exchanger

AMBERJET 1500 H resin is a uniform particle size, premium grade, gel type, cation exchange resin designed to be used in mixed bed applications commonly encountered in power plant, high flow rate condensate polishing. Its sulfonated styrene divinylbenzene copolymer structure is formulated to provide high capacity coupled with exceptional physical and chemical stability. These properties make AMBERJET 1500 H resin the ideal choice for

use in regenerable mixed bed applications combined with AMBERJET 4400 resin. The uniform particle size distribution of AMBERJET 1500 H resin has been specifically selected to give optimum performance in AMBERPACK™ systems, reverse flow packed bed demineralisation configuration. AMBERJET 1500 H resin is supplied in the hydrogen form.

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#### PROPERTIES

Physical form _____	Dark amber spherical beads
Matrix _____	Styrene divinylbenzene copolymer
Functional group _____	Sulfonic acid
Ionic form as shipped _____	H <sup>+</sup>
Total exchange capacity <sup>[1]</sup> _____	≥ 2.00 eq/L (H <sup>+</sup> form)
Moisture holding capacity <sup>[1]</sup> _____	45 to 51 % (H <sup>+</sup> form)
Shipping weight _____	820 g/L
Particle size	
Uniformity coefficient <sup>[1]</sup> _____	≤ 1.20
Harmonic mean size _____	0.60 - 0.70 mm
< 0.425 mm <sup>[1]</sup> _____	0.5 % max
Maximum reversible swelling _____	Na <sup>+</sup> → H <sup>+</sup> < 8 %

<sup>[1]</sup> Contractual value

Test methods are available on request.

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#### SUGGESTED OPERATING CONDITIONS

Maximum operation temperature _____	135 °C
Minimum bed depth _____	800 mm
Service flow rate (Linear Velocity) _____	10 to 120 BV*/h
Regeneration	
Regenerant _____	HCl                      H <sub>2</sub> SO <sub>4</sub>
Level (g/L) _____	80 to 200              125 to 250
Concentration (%) _____	5 to 6                      1.5 to 4
Minimum contact time _____	30 minutes
Slow rinse _____	2 BV at regeneration flow rate
Fast rinse _____	1 to 3 BV at service flow rate

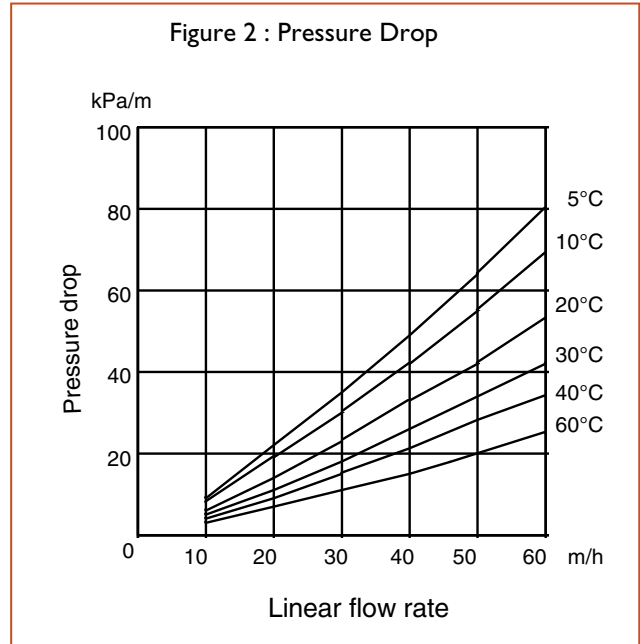
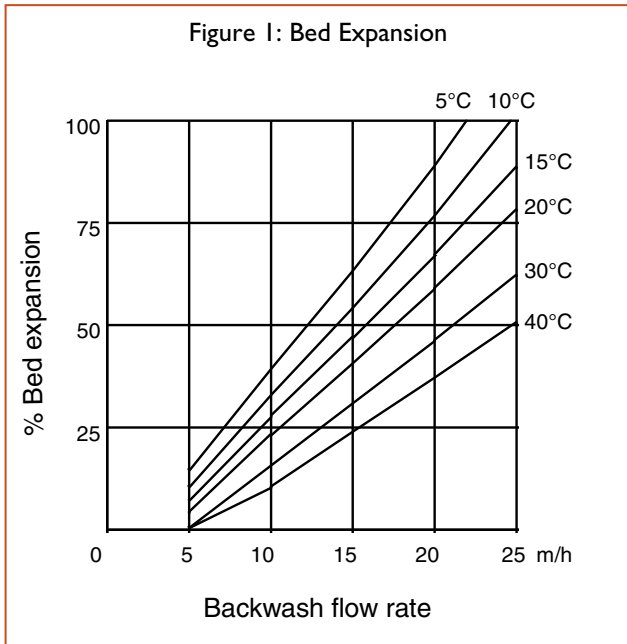
\* 1 BV (Bed Volume) = 1 m<sup>3</sup> solution per m<sup>3</sup> resin

## LIMITS OF USE

AMBERJET 1500 H resin is suitable for industrial uses. For all other specific applications such as pharmaceutical, food processing or potable water applications, it is recommended that all potential users seek advice from Rohm and Haas in order to determine the best resin choice and optimum operating conditions.

## HYDRAULIC CHARACTERISTICS

Figure 1 shows the bed expansion of AMBERJET 1500 H resin as a function of backwash flow rate and water temperature. Figure 2 shows the pressure drop data for AMBERJET 1500 H resin, as a function of service flow rate and water temperature. Pressure drop data are valid at the start of the service run with clear water and a correctly classified bed.



All our products are manufactured in ISO 9001 certified facilities.

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Ion exchange resins and polymeric adsorbents, as produced, contain by-products resulting from the manufacturing process. The user must determine the extent to which organic by-products must be removed for any particular use and establish techniques to assure that the appropriate level of purity is achieved for that use. The user must ensure compliance with all prudent safety standards and regulatory requirements governing the application. Except where specifically otherwise stated, Rohm and Haas Company does not recommend its ion exchange resins or polymeric adsorbents, as supplied, as being suitable or appropriately pure for any particular use. Consult your Rohm and Haas technical representative for further information. Acidic and basic regenerant solutions are corrosive and should be handled in a manner that will prevent eye and skin contact. Nitric acid and other strong oxidising agents can cause explosive type reactions when mixed with Ion Exchange resins. Proper design of process equipment to prevent rapid buildup of pressure is necessary if use of an oxidising agent such as nitric acid is contemplated. Before using strong oxidising agents in contact with Ion Exchange Resins, consult sources knowledgeable in the handling of these materials.

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