

PRODUCT DATA SHEET

AMBERJET™ 4400 OH
Industrial Grade Strong Base Anion Exchanger

AMBERJET 4400 OH resin is a uniform particle size, strongly basic anion exchange resin of the type 1 with a clear gel structure, based on crosslinked polystyrene. Due to its uniform particle size distribution, AMBERJET 4400 OH resin has an excellent rinse performance and an outstanding physical stability, illustrated by its very high bead integrity and its resistance to osmotic shock and mechanical stress. The resin is delivered in the fully

regenerated OH⁻ form which makes it particularly suitable for use in applications where initial regeneration is not feasible or not desired. This includes condensate polishing, where the high capacity and outstanding stability of AMBERJET 4400 OH resin make it an excellent choice as a combination with AMBERJET 1600 H resin or AMBERJET 1500 H resin.

PROPERTIES

Physical form _____	Light amber spherical beads
Matrix _____	Styrene divinylbenzene copolymer
Functional group _____	Trimethyl ammonium
Ionic form as shipped _____	OH ⁻
Total exchange capacity ^[1] _____	≥ 1.10 eq/L (OH ⁻ form)
Moisture holding capacity ^[1] _____	54 to 60 % (OH ⁻ form)
Shipping weight _____	690 g/L
Particle size	
Uniformity coefficient ^[1] _____	≤ 1.20
Harmonic mean size ^[1] _____	0.58 to 0.68 mm
< 0.425 mm ^[1] _____	0.5 % max
Maximum reversible swelling _____	OH ⁻ → Cl ⁻ ≤ 30 %

^[1] Contractual value
 Test methods are available on request.

SUGGESTED OPERATING CONDITIONS

Maximum operating temperature _____	60°C
Minimum bed depth _____	800 mm
Service flow rate _____	5 - 50 BV*/h for make-up water 30 - 120 BV/h for condensate polishing
Maximum service velocity _____	60 m/h for make-up water 120 m/h for condensate polishing
Regeneration	
Regenerant _____	NaOH
Regenerant level _____	40 to 100 g/L 80 to 200 g/L for condensate polishing
Regenerant concentration _____	2 to 5 % NaOH
Minimum contact time _____	20 minutes
Slow rinse _____	2 BV at regeneration flow rate
Fast rinse _____	3 to 6 BV at service flow rate

* 1 BV (Bed Volume) = 1 m³ solution per m³ resin

APPLICATIONS

AMBERJET 4400 OH resin is particularly suited for use in mixed bed units together with AMBERJET 1500 H resin. The combination of these two high capacity, uniform particle size resins will result in long service runs with excellent treated water quality and minimal pressure drop. AMBERJET 4400 OH resin is particularly useful for condensate polishing applications. In this case, it can be used in mixed bed units at a flow rate up to 120 BV/h or 120 m/h.

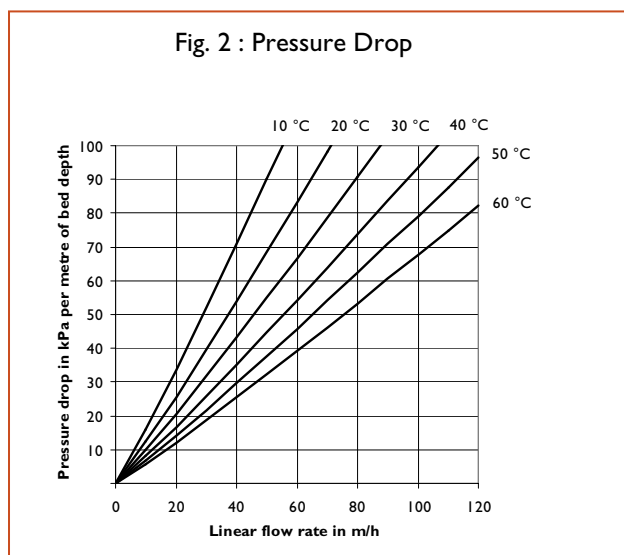
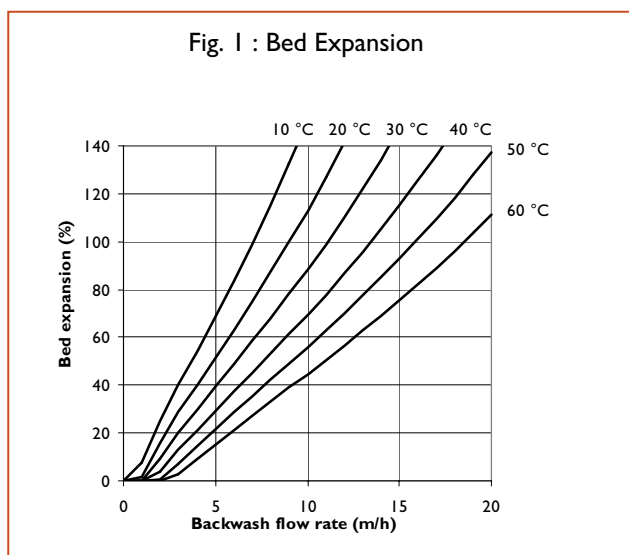
LIMITS OF USE

AMBERJET 4400 OH 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 4400 OH resin as a function of backwash flow rate and water temperature. Figure 2 shows the pressure drop data for AMBERJET 4400 OH 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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