

SEPARATION TECHNOLOGIES

ION EXCHANGE RESINS

DUOLITE A 102 D

PRODUCT DATA SHEET.



DESCRIPTION

DUOLITE A 102 D is a type 2 strong base anion exchange resin.

Its polystyrene matrix is prepared according to a special patented process which gives a homoporous gel structure. DUOLITE A 102 D is characterised by excellent chemical and osmotic stability and good resistance to organic fouling. Its particular use is for water demineralisation when maximum removal of silica is required. The physical & chemical properties are tested by the method specified in IS : 7330-1988.

PROPERTIES

Matrix _____	Polystyrene
Functional groups _____	Quaternary Ammonium, Type 2 Min 95% of TEC
Physical form _____	Cream coloured beads
Ionic form as supplied _____	Cl ⁻
Total exchange capacity _____	Minimum 1.30 eq / L (Cl ⁻ form)
Moisture holding capacity _____	47 - 53 % (Cl ⁻ form)
Specific gravity _____	1.07 to 1.11 (Cl ⁻ form)
Packing density _____	About 700 g / L (Cl ⁻ form)
Particle size _____	0.3 to 1.2 mm
Maximum reversible swelling _____	Cl ⁻ ↔ OH ⁻ : 17 %
Chemical stability _____	Insoluble in water, dilute solutions of acids or bases and common solvents.

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

Please refer our Technical Data Sheet on Duolite storage and handling instructions for storage of resin.

SUGGESTED OPERATING CONDITIONS

Maximum operating temperature _____	35 °C OH ⁻) 75°C (Cl ⁻)
Minimum bed depth _____	700 mm
Service flow rate _____	5 to 40 BV* / hr
Linear velocity _____	30 m / hr
Regenerant _____	Na OH
Level _____	50 to 100 g / L
Concentration _____	3% to 5 %
Flow rate _____	2 to 8 BV / hr (minimum contact time : 30 minutes)
Slow rinse _____	Minimum 2 BV at regeneration flow rate
Fast rinse _____	Same as service flow rate

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

Please refer the check list provided for safe operation and longer durability of resin.

AVOID EXCESSIVE REGENERANT TEMPERATURE TO DUOLITE IER FOR LONG & HEALTHY LIFE

APPLICATIONS

The main applications of Duolite A 102 D is in water demineralisation. Duolite A 102 D is recommended for waters having maximum 50% SiO₂ / T.A. ratio. Duolite A 102 D is specially recommended where useful capacity and regeneration cost are important factors.

It has a better regeneration efficiency compared to type 1 resins.

Preference is also given to Duolite A 102 D as polishing treatment if the water to be treated is heavily polluted with organic matter. Duolite A 102 D in Cl⁻ form reduces the alkalinity effectively. In the field of organic matter Duolite A 102 D proves superior to type 1 resins.

HYDRAULIC CHARACTERISTICS

Figure 1 shows the bed expansion of standard Duolite A 102 D, as a function of backwash flow rate and water temperature.

Figure 2 shows the pressure drop data for standard grade Duolite A 102 D, as a function of water flow rate and water temperature. Pressure drop data are valid at the start of the service run with a clear water and a correctly classified bed.

Figure 1

BED EXPANSION

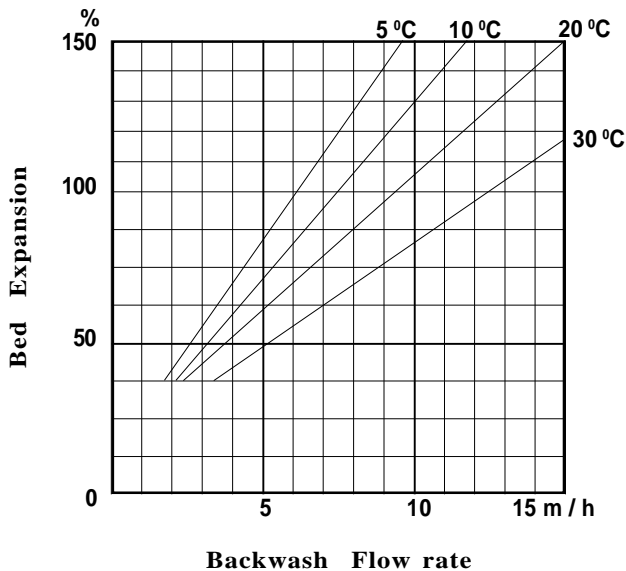
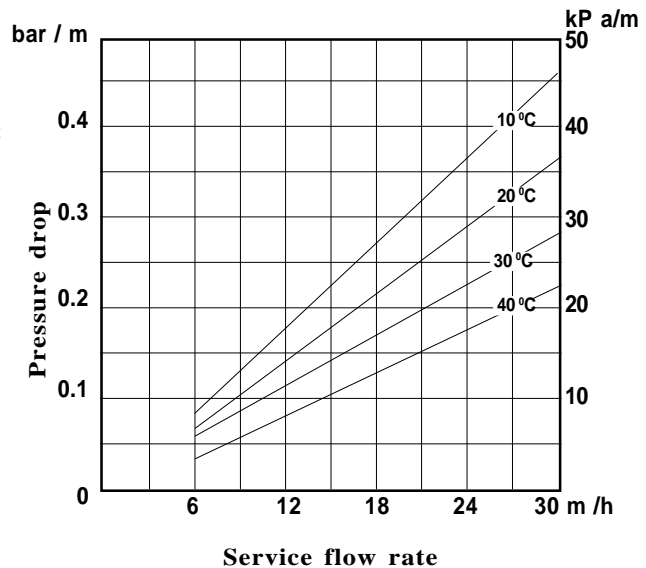


Figure 2

PRESSURE DROP



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