Product Data Sheet

DIAION™ USMT100

DIAION™ USMT100 is a mixed resin with strongly acidic cation exchange resin, DIAION™ UBK08HUP, and strongly basic anion exchange resin, DIAION™ UBA120OHUP. It is used for non-regenerable mixed bed for ultrapure water.

Product

Grade Name	DIAION™ USMT100
Type	Mixed
Matrix	Styrene-DVB, Gel
Functional Group	Sulfonic acid / Type I (trimethyl ammonium groups)
Ionic Form	H^+ / OH^-
Chemical Equivalent Ratio	1 / 1

Specification

Component		Mixed resin
ΔTOC	ppb	2 max.
Outlet Resistivity	MΩ·cm	18 min.

Component		Cation exchange resin DIAION™ UBK08HUP	Anion exchange resin DIAION™ UBA120OHUP
Salt Splitting Capacity	meq/mL	1.8 min.	1.0 min.
Water Content	%	50 - 56	62 - 70
Mean Particle Size	µm	570 - 670	570 - 670
Uniformity Coefficient	-	1.10 max	1.10 max.
Ionic Form Conversion (H^+)	eq%	99.9 min.	-
Ionic Form Conversion (OH^-)	eq%	-	90 min.
Ionic Form Conversion (Cl^-)	eq%	-	1 max.
ΔTOC	ppb	20 max.	20 max.
Outlet Resistivity	MΩ·cm	12 min.	15 min.

Typical Properties

Component		Mixed resin
Shipping Density	g/L	710

Component		Cation exchange resin DIAION™ UBK08HUP	Anion exchange resin DIAION™ UBA120OHUP
Mean Particle Size	µm	630	630
Particle Density	g/mL	1.20	1.07
Total Swelling (Na^+ to H^+)	%	9	-
Total Swelling (Cl^- to OH^-)	%	-	24

Recommended Operating Conditions

Maximum Operating Temperature	°C	60
Operating pH Range		0 - 14
Minimum Bed Depth	mm	800
Service Flow Rate	BV/h	10 - 60

1 BV(Bed Volume)=1 m^3/m^3-resin

Hydraulic Characteristics

The approximate pressure drop at various temperatures and flow rates for each meter of bed depth of DIAION™ USMT100 resin in normal down flow operation is shown in the graphs below.

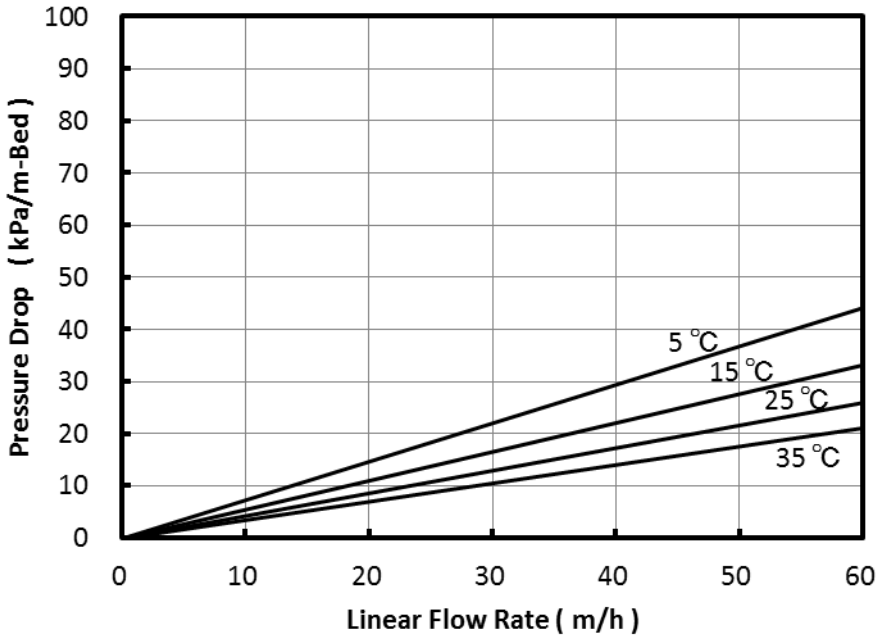

Fig. 1 Pressure Drop of USMT100

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Rinse Performance

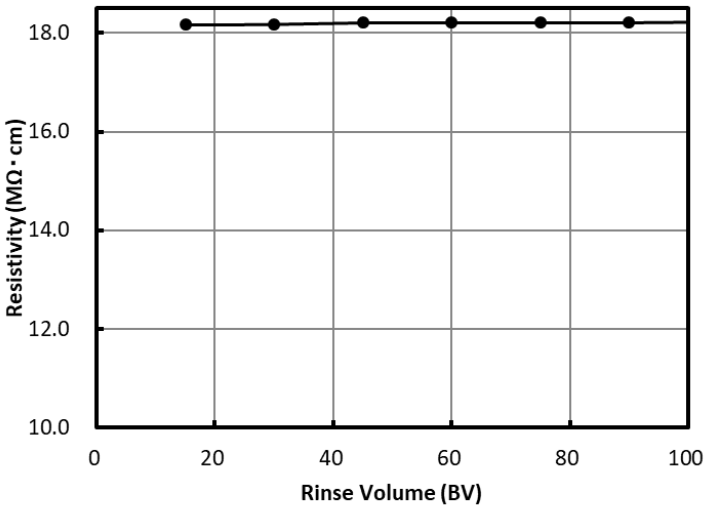

Fig. 2 Resistivity versus Rinse Volume for USMT100
Flow rate : SV 30 (15 L/hr), Resin volume : 500 mL-R

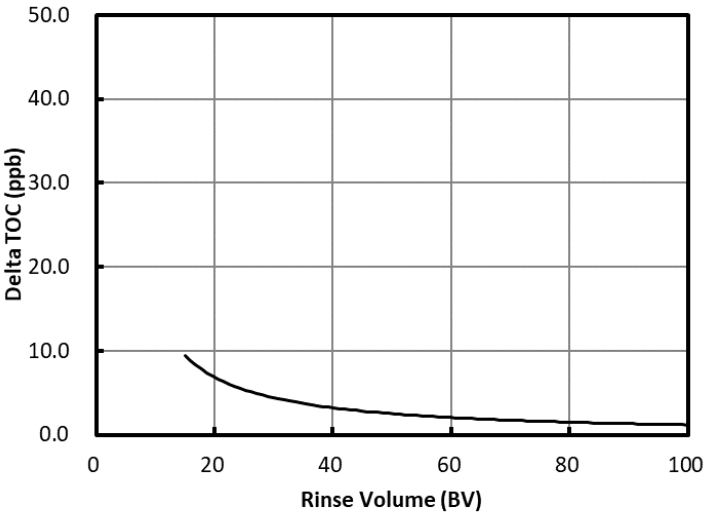

Fig. 3 Delta TOC versus Rinse Volume for USMT100
Flow rate : SV 30 (15 L/hr), Resin volume : 500 mL-R

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