DIAION WK11 - Weakly Acidic Resin

TDS 020424

DIAION WK11

DIAION WK11 is a porous type weakly acidic cation exchange resin with a structure based on a methacrylic matrix.

This resin, compared to its homologous type, DIAION WK10, shows a higher total capacity value and mechano-osmotic resistance, while maintaining a quite satisfactory reaction rate associated to a small volume change in front of monovalent ionic forms.

DIAION WK11 is mainly used for special applications such as purification of pharmaceuticals, foods and organic chemicals.

Its composition complies with the existing food processing rules and regulations.

TYPICAL CHARACTERISTICS

Matrix	:	Porous copolymer methacrylate-DVB	
Functional group	:	Carboxylic	
Colour and physical form	:	White opaque beads	
Particle size range	:	0.3 ÷ 1.18	m m
Effective size	:	0.40 min	m m
Uniformity Coefficient	:	1.6	max
Ionic form at the delivery	:	H^+	
Volume change	:	+ 40 % max	H^+ --> Na^+ form
Total exchange capacity	:	2.9 min	eq/l
Water retention	:	45 ÷ 52	%
pH stability range	:	0 ÷ 14	
Operating pH range	:	5 ÷ 14	
Operating temperature	:	150 max	°C
Shipping weight	:	665	g/l approx.
Standard packaging	:	25 ÷ 50	liter bags

RECOMMENDED OPERATING CONDITIONS

Minimum bed depth	:	800	m m				
Linear operating flowrate	:	2 ÷ 60	m/h				
Backwash expansion	:	50 ÷ 80	%				
Regenerants	:	HCl	H_2SO_4	NaOH	NH_4OH	Na_2CO_3	
Regenerant level range	:	40 ÷ 120	50 ÷ 150	100 ÷ 130	80 ÷ 120	130 ÷ 170	g/l
Concentration range	:	1 ÷ 5	0.7 ÷ 5	2 ÷ 3	1.5 ÷ 3	5 ÷ 7	%
Slow rinse volume	:	1.5 ÷ 2	BV				
Fast rinse volume	:	3 ÷ 5	BV				

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OPERATING CAPACITY

Operating capacity depends on various parameters, such as inlet composition, endpoint, kinetic load and regenerant level.

In case of need, please contact our TECHNICAL DEPARTMENT.

Fig. 1 BED EXPANSION IN WATER

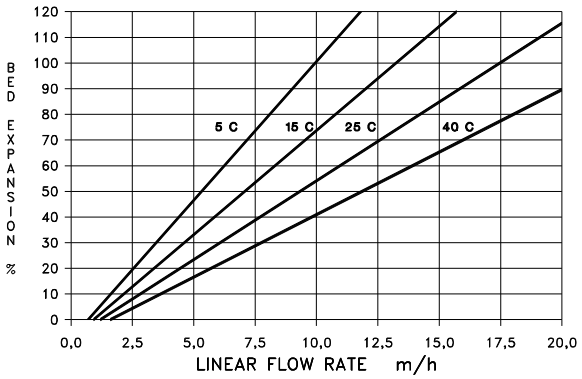
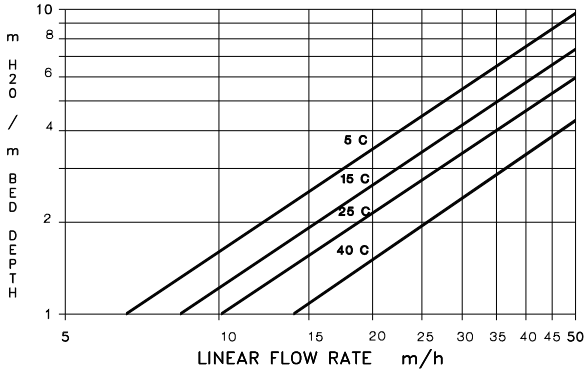


Fig. 2 PRESSURE DROP IN WATER



RECOMMENDED HCl QUALITY FOR REGENERATION (*)

Suspended solids	0 ppm
Chlorine	10 ppm
Iron	20 ppm
Heavy metals	10 ppm
Sulphates	5000 ppm

(*) Values referred to HCl 100%.

RECOMMENDED H2SO4 QUALITY FOR REGENERATION (*)

Purity	95	%
Suspended solids	0	ppm
Iron	50	ppm
Arsenic	5	ppm
Lead	5	ppm

(*) Values referred to H_2SO_4 100%.

RECOMMENDED NaOH QUALITY FOR REGENERATION (*)

Silica	10	ppm
Iron	10	ppm
Mercury	2	ppm
Heavy metals	5	ppm
Chlorates	10	ppm as O_2
Sodium carbonate	0.5	%
Sodium chloride	0.5	%
Sodium sulphate	0.2	%
Hardness	0	%
Suspended solids	0	%

(*) Values referred to NaOH 100%.