

## Product Data Sheet

## DIAION™ HP50

DIAION™ HP50 is based on a unique rigid styrene-DVB matrix. A controlled pore size distribution and large surface area offer excellent resolution and the capacity for a wide range of molecules, from peptides and oligonucleotides up to large proteins. DIAION™ HP50 has relatively larger pore radius and smaller specific surface area than DIAION™ HP20.

## Product

Grade Name	DIAION™ HP50
Type	Synthetic Adsorbents
Matrix	Styrene-DVB, Porous

## Specification

Water Content	%	45 - 55
Particle Size Distribution thr. 250 µm	%	10 max.
Effective Size	mm	0.25 - 0.40
Uniformity Coefficient	-	1.6 max.

## Properties

Shipping Density	g/L	670
Particle Density	g/mL	1.02
Specific Surface Area	m <sup>2</sup> /g	450
Pore Volume	mL/g	0.9
Pore Radius	Å	750

## Recommended Operating Conditions

Maximum Operating Temperature	°C	130
Operating pH Range		0 - 14
Minimum Bed Depth	mm	800
Flow rate	BV/h	Loading 0.5 - 5
	BV/h	Displacement 0.5 - 2
	BV/h	Regeneration 0.5 - 2
	BV/h	Rinse 1 - 5
	Regenerant	
	Organic solvents for hydrophobic compounds	
	Bases for acidic compounds	
	Acids for basic compounds	
	Buffer solution for pH sensitive compounds	
	Water for an ionic solution	
	Hot steam for volatile compounds	
	1 BV(Bed Volume)=1 m <sup>3</sup> /m <sup>3</sup> -resin	

### Pore size distribution

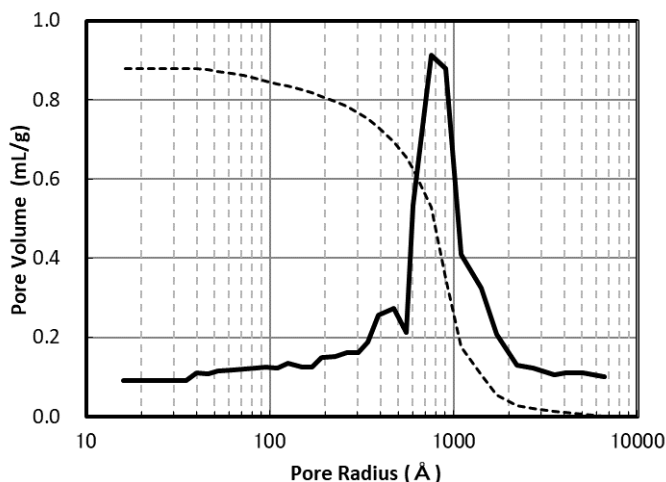


Fig. 1 Pore size distribution of HP50

### Swelling Ratio In Various Solvents

Methanol	1.20
Ethanol	1.21
2-Propanol	1.23
Acetone	1.25
Toluene	1.27
Acetonitrile	1.22
Water	1.00

### Hydraulic Characteristics

The approximate pressure drop at various temperatures and flow rates for each meter of bed depth of DIAION™ HP50 resin in normal down flow operation is shown in the graphs below.

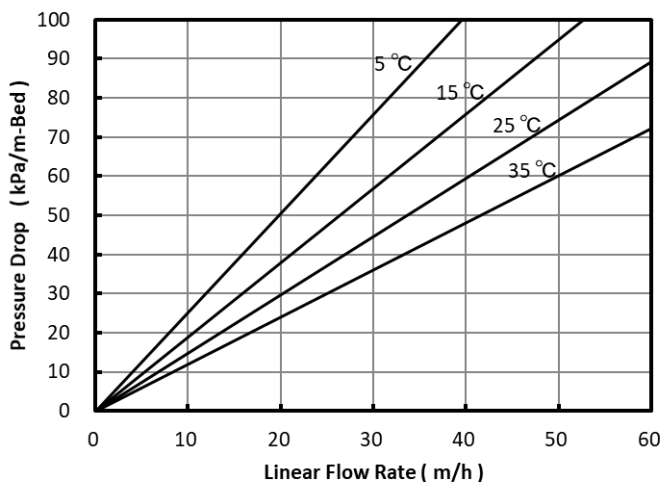


Fig. 2 Pressure Drop of HP50

### Indicative Applications

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- Purification of peptides, oligonucleotides and proteins
- Adsorption of vitamins, antibiotics, enzymes, steroids and other substance from fermentation solutions
- Immobilization supports of enzymes and proteins
- Decolorization of various sugar solutions
- Adsorption of fatty acids
- Removal of Ginkgolic acids from ginkgo leaf extracts
- Adsorption of various perfume
- Adsorption and purification of anthocyanin pigments and various chemicals

### Storage condition

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Synthetic adsorbents are at high risk of mold growth. Accordingly, synthetic adsorbents should be stored properly. Properly stored synthetic adsorbent resins may be stored for up to one year after production before the onset of any mold growth is detected. Optimal storage is with a 20% alcohol solution such as ethanol or isopropanol. A 10% or higher concentration of salt solution, such as NaCl, is also recommended to preserve new or used resin for storage. In case salt cannot be used, a 0.01 to 0.02 N NaOH solution may be acceptable as mold cannot withstand survival at pH higher than 12. Storage at freezing temperatures should be avoided as it may cause breakage or crush certain resin particles.

### Notice

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