

## Product Data Sheet

# SEPABEADS™ SP20SS

SEPABEADS™ SP20SS is small particle grade based on DIAION™ HP20. A controlled pore size distribution and large surface area offer excellent resolution and the capacity for a wide range of molecules, from small peptides and oligonucleotides up to large proteins. It offers nice balance of pressure flow characteristics and true chromatographic fractionation and has also been successfully applied in simulated moving bed applications for a variety of small bio molecules.

## Product

Grade Name	SEPABEADS™ SP20SS
Type	Synthetic Adsorbents
Matrix	Styrene-DVB, Porous

## Specification

Water Content	%	55 - 65
Particle Size Distribution on 75 µm	%	30 max.
Particle Size Distribution 63 - 75 µm	%	55 min.
Particle Size Distribution thr. 63 µm	%	15 max.

## Properties

Shipping Density*	g/L	680
Particle Density*	g/mL	1.01
Specific Surface Area*	m <sup>2</sup> /g	560
Pore Volume*	mL/g	1.2
Pore Radius*	Å	290

## 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

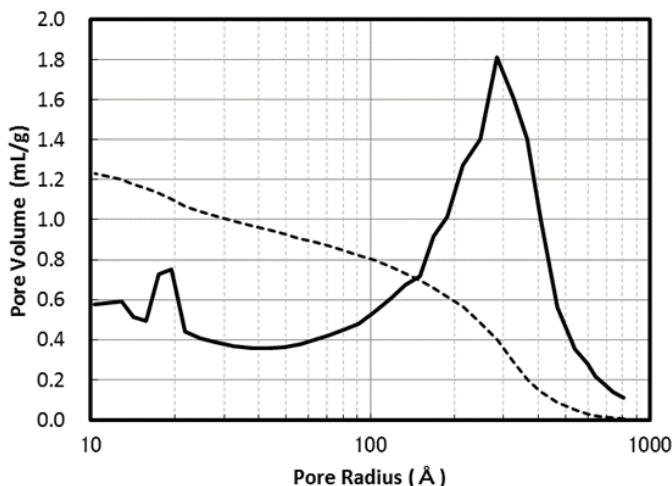


Fig. 1 Pore size distribution of SP20SS

## Swelling Ratio In Various Solvents

Methanol	1.21
Ethanol	1.21
2-Propanol	1.29
Acetone	1.30
Toluene	1.26
Acetonitrile	1.24
Water	1.00

## Hydraulic Characteristics

The approximate pressure drop at various temperatures and flow rates for each meter of bed depth of DIAION™ SP20SS resin in normal down flow operation is shown in the graph below.

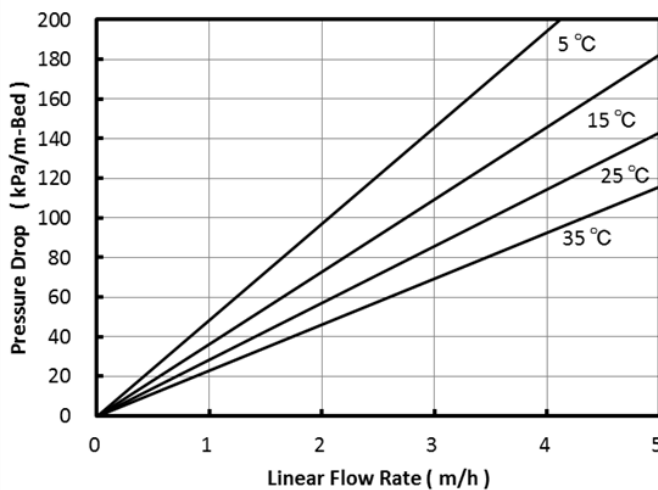


Fig. 2 Pressure Drop of SP20SS

### Indicative Applications

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- Purification of small peptides, oligonucleotides and proteins
- Adsorption of vitamins, antibiotics, enzymes, steroids and other substance from fermentation solutions
- Decolorization of various sugar solutions
- Adsorption of fatty acids
- Removal of phenol
- Adsorption of various perfume
- Decolorization and purification of various chemicals

### Storage condition

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Synthetic adsorbents are recommended to store properly in order to avoid a high risk for mold growth. The proper storage typically allows any synthetic adsorbent resin to last for a year after production before onset of any such growth.

The best storage condition is with 20% of alcohol 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 long storage.

In case salt cannot be used, a 0.01 to 0.02 N of NaOH solution could be accepted as mold cannot withstand survival at pH higher than 12.

Storage at freezing temperature should be avoided at all cost as it may cause breakage or crush of resin particles.

### Notice

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