

## HiScreen DEAE FF

### Product Information

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**Cat#No#** Hi-220P

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### Product Overview

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HiScreen DEAE FF columns are prepacked with DEAE Sepharose Fast Flow, a weak anion exchanger, and are part of the process development platform available. The columns are an excellent choice for method optimization and parameter screening.

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### Description

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The small column volume of 4.7 mL and bed height of 10 cm make HiScreen columns excellent tools for method optimization, parameter screening, robustness testing, and convenient scale-up. Process fluid velocities can be applied, since the 10 cm bed height gives enough residence time and the results can then serve as basis for linear process scale-up.

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### Characteristic

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DEAE Sepharose Fast Flow is a weak anion exchanger and IEX Sepharose Fast Flow resin are well-proven, industrial standards for ion exchange chromatography.

Prepacked, ready-to-use columns for convenient process development optimization.

10 cm bed height of HiScreen columns is designed to allow method optimization and parameter screening.

Easily connected in series to achieve 20 cm bed height.

Small bed volume gives fast results and minimal sample/buffer consumption.

Reproducible results, scalable to BioProcess columns packed with the same resin using the same linear fluid velocity.

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### Maximum operating pressure

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1.5 bar [0.15 MPa] (22 psi)

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### Sample preparation

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1. Adjust the sample to the composition of the start buffer, using one of these methods: Dilute the sample with start buffer. Exchange buffer using a HiPrep 26/10 Desalting, HiTrap Desalting or PD-10 Desalting column.
2. Filter the sample through a 0.45 µm filter or centrifuge at 10 000 × g for 10 min immediately before loading it to the column. This prevents clogging and increases the life time of the column when loading large sample

## HiScreen DEAE FF

volumes.

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**Metal ion capacity**

0.11 to 0.16 mmol Cl<sup>-</sup> /mL resin

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**Matrix**

Cross-linked agarose, 6%, spherical

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**Ionic Exchanger Type**

Weak anion

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**Average particle size**

~ 90 µm

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**Dynamic binding capacity**

~ 110 mg HAS/mL resin

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**Recommended flow rate**

< 450 cm/h

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**Recommended column height**

100 mm

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**Chemical stability**

Stable to commonly used aqueous buffers, 1 M NaOH, 8 M urea, 6 M guanidine hydrochloride, 70% ethanol.

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**pH working range**

2 to 12

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**CIP stability**

2 to 14

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**Storage**

4 to 30°C, 20% Ethanol

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**Elution buffer**

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## HiScreen DEAE FF

20 mM Tris-HCl, 1 M NaCl, pH 8.0.

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### Cleaning-in-place

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1. Wash with 2 column volumes (CV) 2 M NaCl. If detergents have been used, wash with 5 CV distilled water followed by 2 CV of 2 M NaCl.
  2. Re-equilibrate the column with at least 5 CV start buffer or until the UV baseline and pH/conductivity values are stable.
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### Purification procedures

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1. Remove the stoppers and connect the column to the system. Avoid introducing air into the column.
  2. Wash with 1 column volume (CV) distilled water. This step removes the ethanol and avoids the precipitation of buffer salts upon exposure to ethanol. The step can be omitted if precipitation is not likely to be a problem.
  3. Equilibrate the column with at least 5 CV start buffer or until the UV baseline, eluent pH and conductivity are stable.
  4. Adjust the sample to the chosen starting pH and conductivity and load on the column.
  5. Wash with 5 to 10 CV start buffer or until the UV trace of the effluent returns to near baseline.
  6. Elute, either by linear gradient elution or a step elution, see below. If required, the collected eluted fractions can be buffer exchanged or desalted.
  7. Wash with 5 CV of 1 M NaCl (100% elution buffer) to elute any remaining ionically bound material.
  8. If required, perform a CIP to clean the column.
  9. Re-equilibrate with 5 to 10 CV start buffer or until the UV baseline, eluent pH, and conductivity reach the required values.
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### Pack size

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1 × 4.7 mL

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### Maximum flow velocity

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450 cm/h (3.5 mL/min)

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### Dimensions

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7.7 × 100 mm

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## HiScreen DEAE FF

**Column volume**

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4.7 mL

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**Column i.d.**

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7.7 mm

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**Column hardware pressure limit**

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0.8 MPa (8 bar, 115 psi)

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**Functional group**

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-N<sup>+</sup> (C<sub>2</sub>H<sub>5</sub>)<sub>2</sub>H

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