Column Care and Use Instructions
YMC-Pack Polyamine Ⅱ
YMC-Pack NH_2
YMC-Pack PA-G

Thank you for purchasing this product. To ensure optimal performance and durability of the column, please read these instructions carefully before using this column.

1. Specifications

Packing material	Functional group	Usable pH range	Usable temperature range	
			Regular use (recommended)	Upper limit
Polyamine Ⅱ	polyamine	2–7.5	25–35℃	50℃
NH_2	aminopropyl			40℃
PA-G	polyamine	4–7.5		

2. Shipping solvent

Indicated in the COLUMN INSPECTION REPORT. Replace with this solvent for storage. When replacing a mobile phase containing buffer salts/additives, extra care must be taken to prevent salt precipitation.

3. Mobile phase

- The correct direction of the solvent flow is indicated by an arrow on the column identification label.
- Aqueous or non-aqueous solvent can be used as a mobile phase. Repetitive replacement among solvents with large difference in polarities might degrade the column performance. In general, acetonitrile, methanol, tetrahydrofuran (THF), and *n*-hexane are recommended for regular use. When using THF or non-aqueous solvent as a mobile phase, be mindful of the solvent resistance of your system or tubing (PEEK parts are especially unsuitable for use with THF).
- Acetonitrile aqueous solution is a typical mobile phase for the analysis of saccharides.
- The mobile phase containing buffer salts/additives can be used for separation of ionic compounds. After using these mobile phase, the same column is not recommended for saccharide analysis using acetonitrile/water, because it may change the retention characteristics and peak shapes.
- Recommendations of pH and temperature for column use are shown in the specifications table in section 1. Column lifetime varies depending on conditions of use such as pH, temperature, and mobile phase composition. In general, high temperature and concentration of buffer or additive, low organic solvent concentration will shorten column lifetime.
- When using the column at pH near the upper or lower limit, the column lifetime will shorten under certain conditions by temperature and mobile phase composition.
- When replacing the mobile phase between aqueous and non-aqueous solvent, flush the column with more than 10 column volumes of 2-propanol etc. For example, acetonitrile/water (75/25) → 2-propanol → *n*-hexane/2-propanol (90/10).

4. Column cleaning (general method)

- When mixture of acetonitrile/water is used as a mobile phase for saccharides analysis, wash the column with a solvent containing a higher ratio of water than the mobile phase and replace with the shipping solvent for storage.
- In the case that the adsorption of polar substances is estimated after the normal phase separation with a non-aqueous mobile phase, flush the column with ethanol or 2-propanol. After cleaning, replace with n-hexane/2-propanol (90/10) for storage.
- For YMC-Pack Polyamine Ⅱ, when change in peak shape or retention time of acidic analyses or reducing sugars is observed, wash the column with acetonitrile/water/28% ammonia solution (70/30/0.1).

5. Other environments

- The operating pressure should be kept under 15 MPa (2,175 psi) for 150 mm length column or less, under 20 MPa (2,900 psi) for 250 mm length column, under 10 MPa (1,450 psi) for 10 mmI.D. column or more.
- To prevent exposure of the column to excessive pressure, the sample solution should be filtered through a 0.2 μm membrane or smaller to remove particulates. We recommend using a pre-column filter to prevent the column frit from being clogged with samples.

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- Avoid using a column repeatedly near the pressure limit or abrupt change in pressure to prevent shortening of the column life.
- Adjust the flow rate appropriately because the pressure changes depending on the column length, temperature, types of organic solvent etc.

● Please note that specifications and appearance may change without notice.

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