# Columns for Polymer-based Hydrophilic Interaction Chromatography (HILIC) (HILICpak)

## Features

**New VG-50**

- Suitable for saccharides analysis by hydrophilic interaction chromatography (HILIC)
- High recovery ratio of reducing saccharides
- Polymer-based packing material provides excellent chemical stability and minimum deterioration over extended time period
- Easily regenerated by washing in a alkaline solution
- Also suitable for evaporative light scattering detector, corona charged aerosol detector, and LC/MS

**New VT-50**

- Suitable for anionic substances analysis by hydrophilic interaction chromatography (HILIC)
- Depends on the eluent selected, the column adds ion exchange mode
- Polymer-based packing material provides excellent chemical stability and minimum deterioration over extended time period
- Suitable for LC/MS

### Standard columns

#### ● VG-50

**(Housing Material : SUS)**

| Product Code | Product Name | Plate Number (TP/column) | Functional Group | Particle Size (μm) | Pore Size (Å) | Column Size (mm) I.D. x Length | Shipping Solvent |
|---|---|---|---|---|---|---|---|
| F7630200 | New **HILICpak VG-50 4D** | ≥ 5,500 | Amino | 5 | 100 | **4.6 × 150** | $H_2O/CH_3CN$=20/80 |
| F7630100 | New **HILICpak VG-50 4E** | ≥ 7,500 | Amino | 5 | 100 | **4.6 × 250** | $H_2O/CH_3CN$=20/80 |
| F6711100 | New **HILICpak VG-50G 4A** | (guard column) | Amino | 5 | 100 | **4.6 × 10** | $H_2O/CH_3CN$=20/80 |

Base Material : Polyvinyl alcohol

**(Housing Material : PEEK)**

| Product Code | Product Name | Plate Number (TP/column) | Functional Group | Particle Size (μm) | Pore Size (Å) | Column Size (mm) I.D. x Length | Shipping Solvent |
|---|---|---|---|---|---|---|---|
| F7630300 | New **HILICpak VG-50 2D** | ≥ 3,500 | Amino | 5 | 100 | **2.0 × 150** | $H_2O/CH_3CN$=15/85 |
| F6711200 | New **HILICpak VG-50G 2A** | (guard column) | Amino | 5 | 100 | **2.0 × 10** | $H_2O/CH_3CN$=15/85 |

Base Material : Polyvinyl alcohol

#### ● VT-50

**(Housing Material : PEEK)**

| Product Code | Product Name | Plate Number (TP/column) | Functional Group | Particle Size (μm) | Pore Size (Å) | Column Size (mm) I.D. x Length | Shipping Solvent |
|---|---|---|---|---|---|---|---|
| F7630400 | New **HILICpak VT-50 2D** | ≥ 4,500 | Quaternary ammonium | 5 | 100 | **2.0 × 150** | 25mM $HCOONH_4$ aq. /$CH_3CN$=15/85 |
| F6711300 | New **HILICpak VT-50G 2A** | (guard column) | Quaternary ammonium | 5 | 100 | **2.0 × 10** | 25mM $HCOONH_4$ aq. /$CH_3CN$=15/85 |

Base Material : Polyvinyl alcohol

MZ ANALYSENTECHNIK

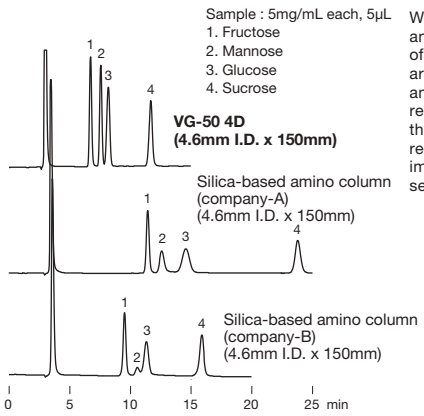
AUTHORIZED DISTRIBUTOR

MZ-Analysentechnik GmbH, Barcelona-Allee 17 • D-55129 Mainz

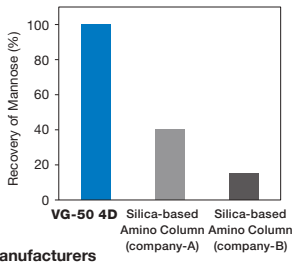
Tel +49 6131 880 96-0, Fax +49 6131 880 96-20

e-mail: info@mz-at.de, www.mz-at.de

## Recovery of reducing sugar

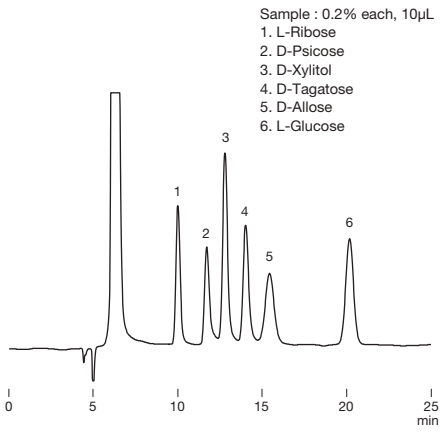



When an amino column is used for analyzing saccharides, the recovery ratio of reducing saccharides such as mannose, arabinose or xylose is low because the amino group forms Schiff base with reducing saccharides. HILICpak VG-50 is the amino column that the recovery ratio of reducing saccharides is improved. By the improvement of the recovery ratio, the sensitivity of the analysis gets higher.



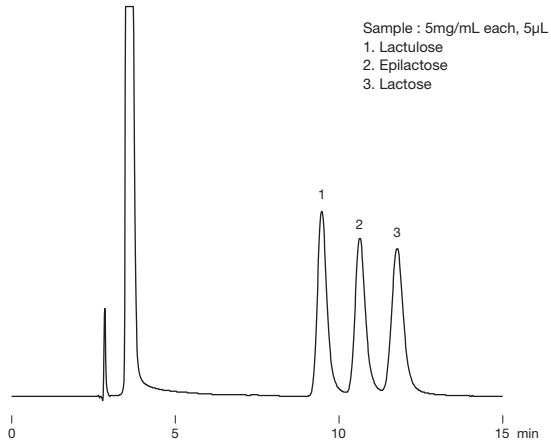

**Column : Shodex HILICpak VG-50 4D**
**Silica based amino columns from other manufacturers**
Eluent : $H_2O/CH_3CN$=20/80
Flow rate : 0.6mL/min (VG-50 4D)
1.0mL/min (Silica based amino column)
Detector : RI
Column temp. : 40°C

## Rare sugar



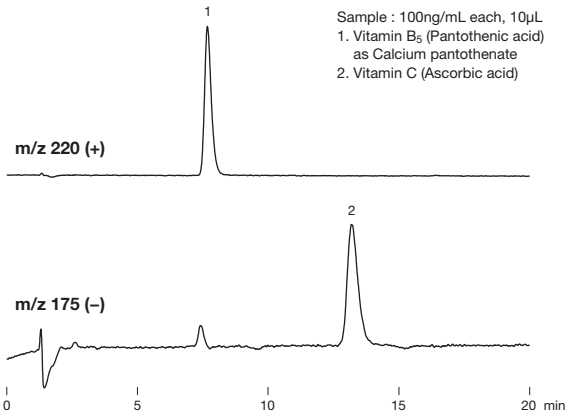

**Column : Shodex HILICpak VG-50 4E**
Eluent : $H_2O/CH_3CN/CH_3OH$=5/85/10
Flow rate : 0.6mL/min
Detector : RI
Column temp. : 50°C

## Lactose, epilactose, and aactulose



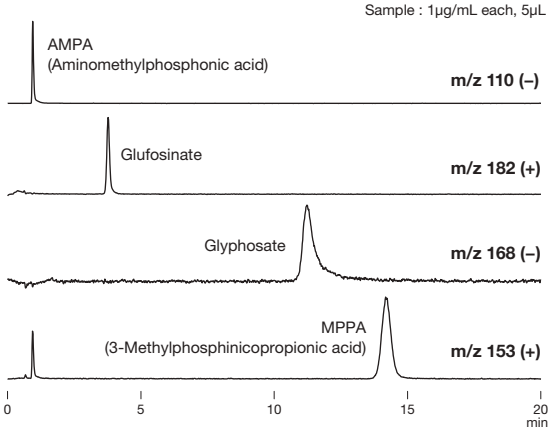

**Column : Shodex HILICpak VG-50 4E**
Eluent : $H_2O/CH_3CN/CH_3OH$=5/75/20
Flow rate : 1.0mL/min
Detector : RI
Column temp. : 40°C

## LC/MS analysis of pantothenic acid and vitamin C



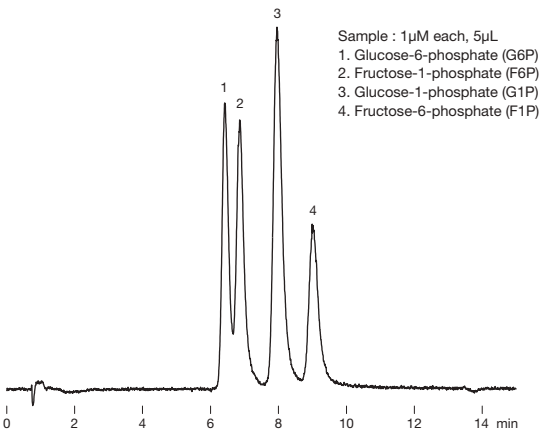

**Column : Shodex HILICpak VT-50 2D**
Eluent : 50mM $HCOONH_4$ aq./$CH_3CN$=30/70
Flow rate : 0.2mL/min
Detector : ESI-MS (SIM)
Column temp. : 30°C

## LC/MS analysis of glyphosate and glufosinate




**Column : Shodex HILICpak VT-50 2D**
Eluent : $H_2O$/1% HCOOH aq./$CH_3CN$=70/20/10
Flow rate : 0.3mL/min
Detector : ESI-MS (SIM)
Column temp. : 40°C

## LC/MS analysis of phosphorylated saccharides




**Column : Shodex HILICpak VT-50 2D**
Eluent : 25mM $HCOONH_4$ aq./$CH_3CN$=80/20
Flow rate : 0.3mL/min
Detector : ESI-MS (SIM Negative : m/z 259)
Column temp. : 60°C