

# ARION® / ASTRA® COLUMN CARE AND PROTECTION GUIDE

## 1. Introduction

Thank you for purchasing Arion® / Astra® HPLC column.

Every ARION® / ASTRA® HPLC column is a precision product which will provide excellent performance, reproducibility and column lifetime if cared for properly. The information and recommendations contained in this manual are designed to guide you in the care and use of your column. Please follow the instructions herein to maximize column performance and lifetime. If you have any questions, please contact our technical department.

### UPON RECEIPT OF THE COLUMN

- Verify the column you received is the column you ordered
- Check the column for physical damage which may have occurred during shipping
- All columns are shipped in the testing solvent, unless otherwise specified

Each ARION® / ASTRA® HPLC column is individually packed and tested to ensure high column quality. Every column is supplied with its Test Chromatogram. The warranty period is 3 months and begins upon receipt of the column.

## 2. Specifications

Arion® Phases	Particle size ( $\mu\text{m}$ )	Pore size ( $\text{\AA}$ )	Surface area ( $\text{m}^2/\text{g}$ )	Carbon load (%)	Stability pH
Arion® Plus	3, 5	100	420	18	1 to 10
Arion® Polar	3, 5	120	325	16	1,5 to 7

Astra® Phases	Particle size ( $\mu\text{m}$ )	Pore size ( $\text{\AA}$ )	Surface area ( $\text{m}^2/\text{g}$ )	Carbon load (%)	Stability pH
Astra® C18	5	100	350	16	1,5 to 9

### **3. Mobile phase consideration**

- The correct direction of the solvent flow is indicated by an arrow on the column identification label.
- Use only HPLC or LC/MS grade solvents and water
- Use only highest purity chemicals and reagents
- Filter and degas all mobile phases and sample prior to use through suitable membrane filter
- Repetitive replacement among solvents with large difference in polarities might degrade the column performance
- In general, organic solvents like acetonitrile, methanol and tetrahydrofuran (THF) are recommended for regular use. When using THF as a mobile phase, be mindful of the solvent resistance of your system or tubing (PEEK parts are especially unsuitable for use with THF).
- Recommendations of pH stability of column are shown in the specification table. When using the column at pH near the upper or lower limit, the column life time may shorten under certain conditions by temperature and mobile phase composition.

### **4. Shipping solvent and column storage**

- Shipping solvent is specified on "Certificate of Analysis", which is enclosed with each column
- Make sure solvents are miscible - **using solvents that are immiscible with the solvent in the column can permanently damage the column.**
- **Salt and buffer precipitation from the mobile phase can permanently damage the column.**
- **Never store columns containing buffers or ion-pairing reagents.**
- Flush with 10 column volumes of mobile phase without buffer to remove any buffers or salts
- Use storage solvent 65% Acetonitrile/35% Water for C18 column stationary phase

## 5. Column cleaning (general method for reversed phase)

Before starting any kind of cleaning procedure, make sure, your in-column solvent or mobile phase is miscible with the recommended cleaning solvent. Flow rates should be 1/5 – 1/2 of the typical flow rate.

Rinse with 10 Column Volumes each of:

- 95 % Water/5 % Acetonitrile (for buffer removal)
- THF
- 95 % Acetonitrile/5 % Water
- Mobile Phase

## 6. ARION® Guard System (AGS)



ARION® Guard System (AGS) is a universal guard system, which can be connected to almost any column hardware on the market. It is easy to use and it offers the shortest retention time shift of analytes in comparison with other major manufacturers. The AGS consists of guard holder and guard cartridge, which is offered with various silica materials according to the stationary phase in the HPLC column used.



Universal - virtually fits to any column

- The **lowest influence on retention times** compare to other guard systems
- Small size for easier installation in the column oven
- **Any orientation** of the cartridge
- Pressure rating up to **900 bars**

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### 7. *Other environments*

- The operating pressure should be kept under **350 bars** for fully porous particles.
- Avoid using a column repeatedly near the pressure limit or abrupt change in pressure to prevent shortening of the column life.
- We recommend using a pre-column filter to prevent the column frit from being clogged with samples.
- Suggested maximum temperature for Arion® LC columns is 100°C, however temperature limits are dependent on your running parameters.,
- Suggested maximum temperature for Astra® LC columns is 50°C, however temperature limits are dependent on your running parameters.

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