

Capillary GC Columns and Guard Columns/Retention Gaps

Chiral Columns: Group 3: Inclusion Interactions

Astec CHIRALDEX® A-DA Capillary GC Column

Incorporates a phase consisting of a 2,6-di-O-pentyl-3-methoxy derivative of α -cyclodextrin. This phase is good for separations of heterocyclic amines. It has different selectivity from other phases and often shows reversal in elution from the PH phases. MAOT = 200 °C isothermal, 220 °C programmed. GC capillary column

fused silica

Temp. Limits:

- 10 °C to 200 °C isothermal, 220 °C programmed

phase non-bonded; 2,6-di-O-pentyl-3-methoxy derivative of α -cyclodextrin

I.D. (mm)	d _f (μm)	Length (m)	Beta Value	Cat. No.	Qty
0.25	0.12	30	500	72003AST	1 ea

Astec CHIRALDEX® B-DA Capillary GC Column

CHIRALDEX B-DA requires that analytes possess a minimum of two ring structures, one of which is unsaturated (aromatic) α , β to the stereogenic center. Examples include fluoxetine, methylphenidate and chlorpheniramine. Inclusion complexation or proper fit between the analyte and cyclodextrin cavity is the dominant enantioselectivity mechanism for the DA series. There must be an includable group α or β to the stereogenic center for chiral recognition. Since CHIRALDEX DA columns most effectively separate multi-ring analytes, analysis temperatures are often higher than 150°C. Enantioselectivity has been observed at temperatures >200°C (fluoxetine acetyl derivative).

Temp. Limits:

- 10 °C to 200 °C isothermal, 220 °C programmed

phase non-bonded; 2,6-di-O-pentyl-3-methoxy derivative of β -cyclodextrin

I.D. (mm)	d _f (μm)	Length (m)	Beta Value	Cat. No.	Qty
0.25	0.12	30	500	72023AST	1 ea

Astec CHIRALDEX® G-DA Capillary GC Column

Incorporates a phase consisting of a 2,6-di-O-pentyl-3-methoxy derivative of γ -cyclodextrin. This phase is good for separations of heterocyclic amines. It has different selectivity from other phases and often shows reversal in elution from the PH phases. MAOT = 200 °C isothermal, 220 °C programmed. GC capillary column

fused silica

Temp. Limits:

- 10 °C to 200 °C isothermal, 220 °C programmed

phase non-bonded; 2,6-di-O-pentyl-3-methoxy derivative of γ -cyclodextrin

I.D. (mm)	d _f (μm)	Length (m)	Beta Value	Cat. No.	Qty
0.25	0.12	30	500	72033AST	1 ea

Astec CHIRALDEX® B-PH Capillary GC Column

CHIRALDEX B-PH shows at least some selectivity to a great variety of analytes, but is especially effective for saturated analytes with minimal functionality, saturated cyclics and bicyclics. The CHIRALDEX PH series of columns shows less of a necessity for inclusion complexation for chiral recognition than the DA columns. This phase often shows a reversal of elution order (enantioreversal) compared to the B-DA phase.

Temp. Limits:

- 10 °C to 200 °C isothermal, 220 °C programmed

phase non-bonded; (S)-2-hydroxy propyl methyl ether derivative of β -cyclodextrin

I.D. (mm)	d _f (μm)	Length (m)	Beta Value	Cat. No.	Qty
0.25	0.12	30	500	71023AST	1 ea

PLOT Columns

We offer a wide variety of Porous Layer Open Tubular (PLOT) GC columns, including those made with our specialty carbon adsorbents. A proprietary procedure is used to fix adsorbent particles to the inside of fused silica tubing, and ensures they will not be dislodged in normal use. PLOT GC columns are commonly used for separations of small molecules, such as permanent gases, light hydrocarbons, and volatile sulfur compounds. Choose:

- Carboxen®-1010 PLOT** for separations of hydrogen, oxygen, nitrogen, carbon monoxide, methane, carbon dioxide, and C2/C3 hydrocarbons. This is the only column that can separate all these permanent gases.
- Carboxen®-1006 PLOT** for most permanent gases and C1-C3, using above ambient initial temperatures. Also for resolving formaldehyde/water/methanol (formalin) mixtures and monitoring impurities in ethylene.
- Supel-Q PLOT** for analyses of sulfur gases, alcohols, ketones, aldehydes, and many polar compounds. Also for carbon dioxide and C1-C4 hydrocarbons at above ambient temperatures, and for gasoline and other petroleum fractions.
- Alumina sulfate PLOT** for C1-C4 hydrocarbons, specifically methane from the C2 hydrocarbons, with reduced peak tailing. Also for elution of acetylene after n-butane, and the elution of methyl acetylene after n-pentane and 1,3-butadiene.
- Alumina chloride PLOT** for C1-C4 hydrocarbons. Also for excellent separation of many common fluorocarbon compounds
- Mol Sieve 5A PLOT** for oxygen, nitrogen, carbon monoxide, and methane in less than 5 minutes. For more difficult separations, such as argon from oxygen, by using subambient temperatures (15 °C or below).

Carboxen®-1010 PLOT Capillary GC Column

Application: This column is ideal for the separation of all major components in permanent gas (helium, hydrogen, oxygen, nitrogen, carbon monoxide, methane, and carbon dioxide) and light hydrocarbons (C2-C3) in the same analysis. It is the only column commercially available that is able to separate all major components in permanent gas. This column can also separate oxygen from nitrogen at subambient temperatures.

USP Code: None

Phase:

- Carbon molecular sieve

Temp. Limits:

- Subambient to 250 °C (isothermal or programmed)

I.D. (mm)	L (m)	Cat. No.	Qty
0.32	30	24246	1 ea
0.53	30	25467	1 ea

Carboxen®-1006 PLOT Capillary GC Column

Application: This column is ideal for the separation of many permanent gas components (such as helium, hydrogen, nitrogen, carbon monoxide, methane, and carbon dioxide), and light hydrocarbons (C2-C3) in the same analysis. It is ideal for resolving formaldehyde/water/methanol (formalin) mixtures and monitoring impurities in ethylene. This column can be used with high flow rates and rapid temperature programs to ensure excellent, fast separations.

USP Code: None

Phase:

- Carbon molecular sieve

Temp. Limits:

- Subambient to 250 °C (isothermal or programmed)

I.D. (mm)	L (m)	Cat. No.	Qty
0.32	30	24241-U	1 ea
0.53	30	25461	1 ea