Fast GC/Comprehensive GC Columns

Fast GC Using 0.10mm and 0.18mm ID Capillary Columns and Comprehensive GC

- Significantly reduces analysis time without sacrificing resolution.
- Highest column efficiencies, great for GC/MS.
- Excellent for comprehensive GC (GCxGC) as second dimension column.

Narrow bore (0.10mm ID) columns are attractive alternatives to conventional-diameter capillary columns because they provide faster analysis times and higher resolving power. As column ID decreases, column efficiency (plates/meter) greatly increases. For instance, a 0.18mm ID column (5,150 plates/meter) is much more efficient than a 0.25mm ID column (2,500 plates/meter). Therefore, resolution can be achieved with a shorter column, which decreases the analysis time. When switching from a 0.25mm ID column to a 0.10mm ID column (8,500 plates/meter), the improvement in column efficiency is even more dramatic.

Typically, 0.18mm ID columns are used for fast GC analysis, and methods are easily converted. The 0.10mm ID columns require more research to switch methods to the smaller ID due to higher back pressures and lower column capacity.

The outer diameter of the 0.10mm and 0.18mm ID tubing is the same as 0.25mm ID tubing, which makes connections less complicated.

Rxi®-1ms Columns (fused silica)

(Crossbond® 100% dimethyl polysiloxane)

ID	df (µm)	temp. limits	10-Meter	20-Meter
0.10mm	0.10	-60 to 330/350°C	13301	
0.18mm	0.18	-60 to 330/350°C		13302

Rxi®-5ms Columns (fused silica)

(Crossbond® 5% diphenyl/95% dimethyl polysiloxane)

ID	df (µm)	temp. limits	10-Meter	20-Meter
0.10mm	0.10	-60 to 330/350°C	13401	
0.18mm	0.18	-60 to 330/350°C		13402
	0.30	-60 to 330/350°C		13409
	0.36	-60 to 330/350°C		13411

Rxi®-5Sil MS Columns (fused silica)

(Crossbond®, selectivity similar to 5% diphenyl/95% dimethyl polysiloxane)

ID	df (µm)	temp. limits	10-Meter	20-Meter
0.10mm	0.10	-60 to 330/350°C	43601	
0.18mm	0.18	-60 to 330/350°C		43602
	0.36	-60 to 330/350°C		43604

Rxi®-17 Columns (fused silica)

(Crossbond® 50% diphenyl/50% dimethyl polysiloxane)

ID	df (µm)	temp. limits	10-Meter	20-Meter
0.10mm	0.10	40 to 280/320°C	13501	
0.18mm	0.18	40 to 280/320°C		13502

tech tip

Operating considerations for 0.10mm ID columns

The small degree of extra care involved in using 0.10mm ID columns will be more than repaid by faster analyses and higher column efficiencies. 0.10mm ID columns require higher operating pressures (>40psig), which can result in more ferrule leaks, septum leaks, and sample flashback through leaking syringe plungers. Connections must be monitored and leak-checked more often. Operating a 0.10mm ID column below optimum pressure will cause poor resolution and other poor performance. Sample capacity also is reduced, relative to wider-bore columns. Take care to not overload the column, and make sure you inject quickly when using split injection.

Stabilwax® Columns (fused silica)

(Crossbond® Carbowax® polyethylene glycol)

ID	df (µm)	temp. limits	10-Meter	20-Meter
0.10mm	0.10	40 to 250°C	42601	
0.18mm	0.18	40 to 250°C		40602

Rt®-LC50 Columns (fused silica)

ID	df (µm)	temp. limits	10-Meter
0.10mm	0.10	100°C to 270°C	19736
0.18mm	0.10	100°C to 270°C	19735

Rtx®-CLPesticides (fused silica)

ID	df (µm)	temp. limits	10-Meter	20-Meter
0.10mm	0.10	-60 to 310/330°C	43101	
0.18mm	0.18	-60 to 310/330°C	42101	42102

Rtx®-CLPesticides2 (fused silica)

ID	df (µm)	temp. limits	10-Meter	20-Meter
0.10mm	0.10	-60 to 310/330°C	43301	43302
0.18mm	0.14	-60 to 310/330°C	42301	42302

GCxGC Selectivity Kit A

The selectivity kit contains four columns of different selectivity for method development. Includes one each of the following:

NEW!

- Rxi®-17, 1.1m (±3cm), 0.10mm ID, 0.10µm, 50% diphenyl dimethylpolysiloxane
- Rtx®-CLPesticides, 1.1m (±3cm), 0.10mm ID, 0.10µm, trifluoropropyl containing polymer
- Stabilwax®, 1.1m (±3cm), 0.10mm ID, 0.10µm, polar polyethylene glycol
- Rt®-LC350, 1.1m (±3cm), 0.15mm ID, 0.10µm, liquid crystalline phase selective for aromatic compounds

Description	qty.	cat.#	price
GCxGC Selectivity Kit A	kit	15105	
Columns can also be purchased individually.			
Rxi-17, 1.1m (±3cm), 0.10mm ID, 0.10µm	ea.	15104	
Rtx-CLPesticides, 1.1m (±3cm), 0.10mm ID, 0.10µm	ea.	15103	
Stabilwax, 1.1m (±3cm), 0.10mm ID, 0.10µm	ea.	15102	
Rt-LC350, 1.1m (±3cm), 0.15mm ID, 0.10µm	ea.	15101	