

# Ferrules

CRS provides a wide range of ferrules made from Vespel®, Vespel/Graphite, Graphite and PTFE. Ferrule sizes refer to the size of the compression fittings into which they fit.



Graphite Ferrules



1/16 in Graphite Ferrules:  
Blank, 0.5 mm ID, Straight



211165

## Graphite Ferrules - Upper temp. 450°C

Packages of 10; except as noted

Description	Item No.	
<b>Straight Ferrules - for tubing with ODs listed</b>		
1/16 in	211100	
1/8 in	211200	
1/4 in	211400	
3/8 in	211600	
1/2 in, 5/pk	211800	
3/4 in, 5/pk	211120	
<b>Blank Ferrules - no holes</b>		
1/16 in	2111XX	
1/8 in	2112XX	
1/4 in	2114XX	
<b>Capillary Column Ferrules</b>		
	<b>For Capillary Sizes - ID</b>	
1/16 in to 0.4 mm	0.25 mm	211104
1/16 in to 0.5 mm	0.32 mm	211105
1/16 in to 0.8 mm	0.53 mm	211108
1/16 in to 1.0 mm	0.65 mm	211110
1/16 in to 1.2 mm	0.75 mm	211112
1/16 in, two-hole, 0.5 mm; each	0.32 mm	211125
<b>Short Ferrules for Agilent Inlets*</b>		
1/16 in to 0.4 mm	0.18 mm	211164
1/16 in to 0.5 mm	0.25 - 0.32 mm	211165
1/16 in to 0.8 mm	0.53 mm	211168
1/16 in to 1.0 mm	0.53 - 0.65 mm	211160
*Short ferrules for Agilent inlet systems: 5890, 6890 and 7890.		
<b>For Tubing (Fitting Size to Tubing OD)</b>		
1/16 in to 1/16 in straight ferrule	1/16 in	211170

<b>Reducing Ferrules</b>	<b>For Capillary Sizes - ID</b>	
1/8 in to 0.4 mm	0.25 mm	211204
1/8 in to 0.5 mm	0.32 mm	211205
1/8 in to 0.8 mm	0.53 mm	211208
1/8 in, two-hole, 0.5 mm; each	0.32 mm	211222
1/4 in to 0.5 mm	0.32 mm	211405
1/4 in to 0.8 mm	0.53 mm	211408



211205

	<b>For Tubing Sizes - OD</b>	
1/8 in to 1/16 in	1/16 in	211210
1/4 in to 4 mm	4 mm	211440
1/4 in to 6 mm	6 mm	211406
1/4 in to 1/16 in	1/16 in	211410
1/4 in to 1/8 in	1/8 in	211420



211410

<b>Shimadzu Ferrules</b>		
5 mm, Shimadzu 5 mm OD columns		211500



211500

<b>Capillary Column Ferrules</b>	<b>For Capillary Sizes - ID</b>	
Shimadzu 17A, 2010, & 2014 GCs 0.4 mm	0.25 mm and less	211174
Shimadzu 17A, 2010, & 2014 GCs 0.5 mm	0.32 mm	211175
Shimadzu 17A, 2010, & 2014 GCs 0.8 mm	0.53 mm	211178



211174

<b>Thermo Instrument Ferrules - M8 Nut</b>		
0.5 mm ID		211905
0.8 mm ID		211908



211905

<b>Cup Ferrules - M4 Nut</b>	<b>For Capillary Sizes - ID</b>	
0.28 mm ID	0.10 mm	211982-10
0.38 mm ID	0.25 mm	211983-10
0.48 mm ID	0.32 mm	211984-10
0.80 mm ID	0.53 mm	211988-10



211983-10

# Ferrules



216973

## Liner Seals; O-Rings - Graphite and Fluoroelastomer

Description	Similar Part No.	Qty	Item No.
<b>For Agilent Instruments</b>			
Graphite Liner Seal, 6.4 mm ID	5180-4168	10	216635
Graphite Liner Seal, 6.5 mm ID	5180-4173	10	216652
O-Ring made of Fluoroelastomer		12	216973

### For Varian Instruments 1078/1079

Graphite Liner Ferrule		10	211550
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### For PerkinElmer Instruments

Graphite O-Ring		10	216637
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### For Shimadzu Instruments

Graphite Liner Seal		10	211195
Graphite O-Ring, Split	221-48393-91	10	216638
Graphite O-Ring, Splitless	221-47222-91	10	216639



216949



216948

### For Thermo Instruments Trace GC

5 mm Graphite Seal		2	216949
8 mm Graphite Liner Seal		each	216948



Vespel® Ferrules

## Vespel® Ferrules - Upper temp. 350°C

Packages of 10

Description	Item No.
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### Straight Ferrules - for tubing with ODs as listed

1/16 in	212100
1/8 in	212200
1/4 in	212400



1/16 in Vespel Ferrules:  
Blank, 0.5 mm ID, Straight

### Blank Ferrules - no holes

1/16 in	2121XX
1/8 in	2122XX
1/4 in	2124XX

Capillary Column Ferrules	For Capillary Sizes - ID	
1/16 in to 0.3 mm	0.10 - 0.18 mm	212103
1/16 in to 0.4 mm	0.25 mm	212104
1/16 in to 0.5 mm	0.32 mm	212105
1/16 in to 0.8 mm	0.53 mm	212108
1/16 in to 1.0 mm	0.65 mm	212110
1/16 in to 1.2 mm	0.75 mm	212112
1/16 in, two-hole, 0.4 mm; each	0.25 mm	212124
1/16 in, two-hole, 0.5 mm; each	0.32 mm	212125



212104

Short Ferrules for Agilent Inlets*		
1/16 in to 0.4 mm	0.25 mm	212164
1/16 in to 0.5 mm	0.32 mm	212165
1/16 in to 0.8 mm	0.53 mm	212168



212165

\*Short ferrules for Agilent inlet systems: 5890, 6890 and 7890.

Reducing Ferrules for Capillary Columns		
1/8 in to 0.4 mm	0.25 mm	212204
1/8 in to 0.5 mm	0.32 mm	212205
1/8 in to 0.8 mm	0.53 mm	212208
1/8 in, two-hole, 0.5 mm; each	0.32 mm	212222



212222

Reducing Ferrules for Tubing (Fitting Size to Tubing OD)		
1/8 in to 1/16 in	1/16 in	212210
1/4 in to 1/16 in	1/16 in	212410
1/4 in to 1/8 in	1/8 in	212420

**Please note for all ferrules:**

- 0.4 mm ID ferrules fit 0.25 mm ID capillary columns
- 0.5 mm ID ferrules fit 0.32 mm ID capillary columns
- 0.8 mm ID ferrules fit 0.53 mm ID capillary columns
- Straight ferrules are used for packed columns

**Ferrule Remover**

These are effective tools for removing ferrules. The threaded end locks in the ferrule hole to allow a good grip. Two tools are supplied for ferrules from 0.4 mm to 0.8 mm ID.

Description	Item No.
Ferrule Remover	205315



205315

# Ferrules



Vespel/Graphite Ferrules



213200



213105



213164

## Vespel®/Graphite Ferrules - Upper temp. 400°C

Packages of 10; except as noted

- Precision drilled ID

Description	Item No.	
<b>Straight Ferrules - for tubing with ODs as listed</b>		
1/16 in	213100	
1/8 in	213200	
1/4 in	213400	
1/2 in, 5/pk	213800	
<b>Blank Ferrules - no holes</b>		
1/16 in	2131XX	
1/8 in	2132XX	
1/4 in	2134XX	
<b>Capillary Column Ferrules</b>		
<b>For Capillary Size - ID</b>		
1/16 in to 0.3 mm	0.10 mm	213103
1/16 in to 0.4 mm	0.25 mm	213104
1/16 in to 0.5 mm	0.32 mm	213105
1/16 in to 0.8 mm	0.53 mm	213108
1/16 in to 1.0 mm	0.65 mm	213110
1/16 in, two-hole, 0.4 mm; each	0.25 mm	213124
1/16 in, two-hole, 0.5 mm; each	0.32 mm	213125
<b>Short Ferrules for Agilent Inlets*</b>		
1/16 in to 0.3 mm	0.10 mm	213163
1/16 in to 0.4 mm	0.25 mm	213164
1/16 in to 0.5 mm	0.32 mm	213165
1/16 in to 0.8 mm	0.53 mm	213168
<i>*Short ferrules for Agilent inlet systems: 5890, 6890 and 7890.</i>		
<b>Reducing Ferrules</b>		
1/8 in to 0.4 mm	0.25 mm	213204
1/8 in to 0.5 mm	0.32 mm	213205
1/8 in to 0.8 mm	0.53 mm	213208
1/8 in, two-hole, 0.5 mm; each	0.32 mm	213222
1/8 in, two-hole, 0.8 mm; each	0.53 mm	213228
1/4 in to 0.4 mm	0.25 mm	213404
1/4 in to 0.5 mm	0.32 mm	213405
1/4 in to 0.8 mm	0.53 mm	213408
<b>For Tubing Sizes - OD</b>		
1/8 in to 1/16 in	1/16 in	213210
1/4 in to 1/16 in	1/16 in	213410
1/4 in to 6 mm	6 mm	213406
1/4 in to 1/8 in	1/8 in	213420

**PTFE Ferrules - Upper temp. 250°C**

Packages of 10  
 • 100% PTFE

Description		Item No.
<b>Straight Ferrules - for tubing with ODs as listed</b>		
1/16 in		214100
1/8 in		214200
3/16 in		214300
1/4 in		214400
<b>Blank Ferrules - no holes</b>		
1/16 in		2141XX
1/8 in		2142XX
1/4 in		2144XX
<b>Capillary Column Ferrules</b>	<b>For Capillary Sizes - OD</b>	
1/16 in to 0.3 mm	0.10 mm	214103
1/16 in to 0.4 mm	0.25 mm	214104
1/16 in to 0.5 mm	0.32 mm	214105
1/16 in to 0.8 mm	0.53 mm	214108
1/16 in to 1.0 mm	0.65 mm	214110
1/16 in to 1.2 mm	0.75 mm	214112
<b>Reducing Ferrules</b>		
1/8 in to 0.4 mm	0.25 mm	214204
1/8 in to 0.5 mm	0.32 mm	214205
1/8 in to 0.8 mm	0.53 mm	214208
	<b>For Tubing Sizes - ID</b>	
1/8 in to 1/16 in	1/16 in	214210
1/4 in to 6 mm	6 mm	214406
1/4 in to 1/16 in	1/16 in	214410
1/4 in to 1/8 in	1/8 in	214420
1/4 in to 3/16 in	3/16 in	214430



PTFE Ferrules



214300



2144XX



214410