

Chromatographic Specialties Inc. is pleased to offer our premium line of CHROMSPEC ferrules, to meet every chromatographer's needs! Other ferrule sizes are available; please inquire.

CHROMSPEC UNIVERSAL GRAPHITE FERRULES

- Produced from specially formulated 100% graphite
- Ideal for glass to metal connections
- Temperature range: subambient to 450°C



What type of ferrule should I choose?

Graphite or graphite/Vespel® ferrules are used to seal the column to the injector and detector in capillary gas chromatography. Both ferrule types have advantages and disadvantages. Graphite ferrules are the easiest to use, and they are leak-free, universal for most systems, and preferred by most beginning capillary chromatographers. Because graphite ferrules are soft, they easily conform to column outside diameters and different types of instrument fittings. However, they can flake or fragment upon removal, causing particles to lodge in the injector or detector sleeves; and they will not hold a seal under vacuum. Graphite/Vespel® ferrules are hard and they must match the column and fitting dimensions closely to seal properly. In addition, because graphite/Vespel® ferrules can deform during initial heating, they need to be re-tightened or leakage will occur. Graphite/Vespel® ferrules do not fragment, can be re-used many times, and are preferred by mass spectroscopists since they do not contaminate the ion source with particles and maintain their seal under vacuum. In all cases, it is best to choose a ferrule that fits snugly or is slightly larger than the capillary tubing outer diameter.

Product Number	Description	Qty	Price
C19000	Front Ferrules, 1/4" *	10	\$29.50
C19010	Front Ferrules, 1/8" *	10	29.50
C19020	Front Ferrules, 1/16" *	10	29.50
C19025	Reducing Front Ferrules, 1/16" - 0.5mm *	10	29.50
C19030	Reducing Front Ferrules, 1/16" - 1.0mm *	10	29.50
C19710	Single Ferrules, 1/16"	10	29.50
C19700	Single Ferrules, 1/8"	10	29.50
C19720	Single Ferrules, 1/4"	10	29.50
C19725	Single Ferrules, 3/8"	10	62.30
C19726	Single Ferrules, 1/2"	10	77.80
C19790	Reducing Single Ferrules, 1/16" - 1.0mm	10	29.50
C19760	Reducing Single Ferrules, 1/8" - 1/16"	10	29.50
C19740	Reducing Single Ferrules, 1/4" - 1/16"	10	29.50
C19730	Reducing Single Ferrules, 1/4" - 1/8"	10	29.50
C19774	Reducing Single Ferrules, 1/16" - 0.3mm	10	34.10
C19805	Reducing Single Ferrules, 1/16" - 0.4mm	10	34.10
C19810	Reducing Single Ferrules, 1/16" - 0.5mm	10	29.50
C19800	Reducing Single Ferrules, 1/16" - 0.8mm	10	29.50
C19835	Reducing Single Ferrules, 1/8" - 0.4mm	10	34.10
C19775	Reducing Single Ferrules, 1/8" - 0.5mm	10	29.50
C19845	Reducing Single Ferrules, 1/8" - 0.8mm	10	29.50
C19820	Two Hole Ferrules, 1/16", 0.5mm/0.5mm	10	38.90
C19824	Two Hole Ferrules, 1/8", 0.5mm/0.5mm	10	38.90
C19772	No Hole Single Ferrules, 1/16"	10	29.50
C19773	No Hole Single Ferrules, 1/8"	10	29.50
C19777	No Hole Single Ferrules, 1/4"	10	34.10

* Brass back ferrule required, see page 66.

Prices are subject to change without advance notice.
For current pricing, contact the CSI Customer Service Team
at 1-800-267-8103 or email sales@chromspec.com

FERRULE REMOVAL KIT



When ferrules get stuck in a fitting, these little spears will save the day! Each kit includes two sizes of tapered stabbers for retrieving capillary size ferrules.

Product Number	Description	Price
VFRK1	Ferrule Removal Kit	\$25.30

CHROMSPEC™ GC FERRULES

TECH TIP — Signs that a ferrule needs to be replaced:

- Background noise from oxygen diffusing into the system
- Column bleed catalyzed by oxygen
- Sample degradation
- Loss of sample
- Increase in detector signal/noise
- Poor retention time reproducibility

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CHROMSPEC UNIVERSAL GRAPHITE/VESPEL FERRULES

- 40% graphite
- Ideal for GC/MS applications
- Temperature limit of 400°C



Product Number	Description	Qty	Price
C19705	Single Ferrules, 1/16"	10	\$70.10
C19721	Single Ferrules, 1/8"	10	97.30
C19722	Single Ferrules, 1/4"	10	116.80
C75004	Reducing Single Ferrules, 1/16" - 0.4mm	10	23.40
C75005	Reducing Single Ferrules, 1/16" - 0.5mm	10	23.40
C75008	Reducing Single Ferrules, 1/16" - 0.8mm	10	23.40
C75800	No Hole Single Ferrules, 1/16"	10	21.90
C75110	Two Hole Ferrules, 1/16", 0.4mm/0.4mm	10	27.80
C75112	Two Hole Ferrules, 1/16", 0.5mm/0.5mm	10	27.80

FERRULE SIZE CHART

Ferrule ID	Fits Column ID
0.4mm	0.05mm
0.4mm	0.10mm
0.4mm	0.18mm
0.4mm	0.25mm
0.5mm	0.32mm
0.8mm	0.53mm

CHROMSPEC UNIVERSAL VESPEL FERRULES

- One piece design
- Machined from 100% polyimide
- Temperature limit of 350°C



C11015	Single Ferrules, 1/16"	10	\$65.40
C11030	Single Ferrules, 1/8"	10	68.80
C11020	Single Ferrules, 1/4"	10	85.20
C11035	Reducing Single Ferrules, 1/8" - 1/16"	10	68.80
C11040	Reducing Single Ferrules, 1/4" - 1/8"	10	84.30

CHROMSPEC UNIVERSAL TEFLON FERRULES

- Ferrules have precision-drilled IDs
- PTFE is completely inert and does not stick to glass
- Temperature limit of 200°C



C37290	Single Ferrules, 1/16"	10	\$20.10
C37280	Single Ferrules, 1/8"	10	20.10
C37260	Single Ferrules, 1/4"	10	20.10
C37250	Reducing Single Ferrules, 1/8" - 1/16"	10	22.40
C37220	Reducing Single Ferrules, 1/4" - 1/16"	10	22.40
C37210	Reducing Single Ferrules, 1/4" - 1/8"	10	22.40

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CHROMSPEC™ ...The Name for Affordable Quality

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