

Reducing Ferrules



Reducing ferrules provide an inexpensive way to connect small temporary transfer lines to valves or fittings designed for larger tubing. For long term use, we recommend our reducing unions, internal reducers (IZRs), or external reducers (EZRs), as appropriate.

Internal ZDV (zero dead volume) reducing ferrules are designed for use with all standard Valco internal style fittings – that is, those with a male nut and female fitting detail. The ferrule features an integral pilot which fills the pilot cavity (the space between the end of the ferrule and the bottom of the detail), yielding a zero dead volume fitting.

External ZDV reducing ferrules are designed for use with all standard external style fittings – that is, those with a female nut and a male fitting detail. This ferrule has a slightly longer pilot than the internal version, to accommodate the longer external detail. The result is a zero dead volume fitting. A single groove indicates that the ferrule has the longer pilot and is for use in an external detail.



Standard reducing ferrules can be used where mixing is not a problem, such as with liquid or gas delivery. A 1/16" to 1/32" ferrule of this style is simply a 1/16" ferrule with a 1/32" hole.

Internal reducing ferrules

Use these ferrules in internal type fitting details, with nuts that have external threads.

	Prod No	Price	Prod No	Price	Prod No	Price
Package of 5:	PTFE, Glass-filled		PEEK		Polyimide, Valcon	
1/16" to 1/32"	ZRF1.5TFG-5		ZRF1.5PK-5		ZRF1.5V-5	
1/8" to 1/32"	ZRF2.5TFG-5		ZRF2.5PK-5		ZRF2.5V-5	
1/8" to 1/16"	ZRF21TFG-5		ZRF21PK-5		ZRF21V-5	
1/4" to 1/16"	ZRF41TFG-5		ZRF41PK-5		ZRF41V-5	
1/4" to 1/8"	ZRF42TFG-5		ZRF42PK-5		ZRF42V-5	
Package of 5:	CTFE		Polyimide, Virgin			
1/16" to 1/32"	ZRF1.5KF-5		ZRF1.5V1-5			
1/8" to 1/32"	ZRF2.5KF-5		ZRF2.5V1-5			
1/8" to 1/16"	ZRF21KF-5		ZRF21V1-5			
1/4" to 1/16"	ZRF41KF-5		ZRF41V1-5			
1/4" to 1/8"	ZRF42KF-5		ZRF42V1-5			

MORE INFORMATION

Internal reducers (IZR)..... page 34
 External reducers (EZR)..... 35
 Ferrule removal kits.... 16

For 1/16" and 1/32" reducing ferrules with smaller ODs for use with fused silica, see the FS and FSR adapters on pages 16-17.

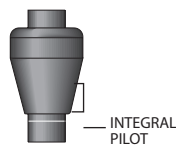
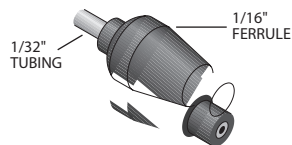
TECH TIP

Fittings for 360 micron tubing are available on pages 57-58.

TECH TIP

If you are doing resistive heating of traps or columns, note that our virgin polyimide ferrules are effective electrical insulators.

Virgin polyimide is produced as Vespel®.



Internal reducing ferrule (ZRF)



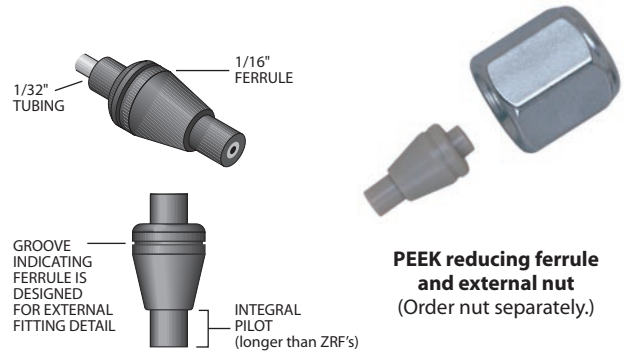
PEEK reducing ferrule and internal nut
(Order nut separately.)



External reducing ferrules

Use these ferrules in external type fitting details, with nuts that have internal threads.

	Prod No	Price	Prod No	Price	Prod No	Price
<i>Package of 5:</i>	PTFE, Glass-filled		PEEK		Polyimide, Valcon	
	1/16" to 1/32"	EZRF1.5TFG-5	EZRF1.5PK-5		EZRF1.5V-5	
	1/8" to 1/32"	EZRF2.5TFG-5	EZRF2.5PK-5		EZRF2.5V-5	
	1/8" to 1/16"	EZRF21TFG-5	EZRF21PK-5		EZRF21V-5	
	1/4" to 1/16"	EZRF41TFG-5	EZRF41PK-5		EZRF41V-5	
	1/4" to 1/8"	EZRF42TFG-5	EZRF42PK-5		EZRF42V-5	
<i>Package of 5:</i>	CTFE					
	1/16" to 1/32"	EZRF1.5KF-5				
	1/8" to 1/32"	EZRF2.5KF-5				
	1/8" to 1/16"	EZRF21KF-5				
	1/4" to 1/16"	EZRF41KF-5				
	1/4" to 1/8"	EZRF42KF-5				

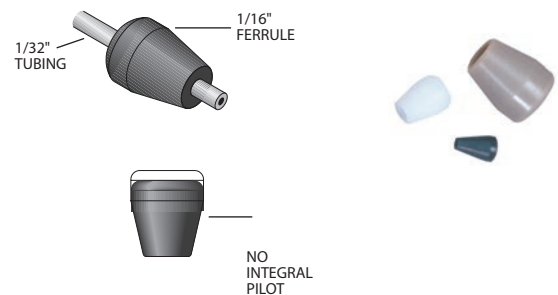


External reducing ferrule (EZRF)

Standard reducing ferrules

Use these ferrules for bulk distribution only, since the resulting connection will not be zero dead volume. These ferrules can be used in either internal or external type fitting details.

	Prod No	Price	Prod No	Price	Prod No	Price
<i>Package of 5:</i>	PTFE, Glass-filled		PEEK		Polyimide, Valcon	
	1/16" to 1/32"	RF1.5TFG-5	RF1.5PK-5		RF1.5V-5	
	1/8" to 1/32"	RF2.5TFG-5	RF2.5PK-5		RF2.5V-5	
	1/8" to 1/16"	RF21TFG-5	RF21PK-5		RF21V-5	
	1/4" to 1/16"	RF41TFG-5	RF41PK-5		RF41V-5	
	1/4" to 1/8"	RF42TFG-5	RF42PK-5		RF42V-5	
<i>Package of 5:</i>	CTFE					
	1/16" to 1/32"	RF1.5KF-5				
	1/8" to 1/32"	RF2.5KF-5				
	1/8" to 1/16"	RF21KF-5				
	1/4" to 1/16"	RF41KF-5				
	1/4" to 1/8"	RF42KF-5				



Standard reducing ferrule (RF)

0.25 mm = .010"
0.50 mm = .020"
0.75 mm = .030"
1.0 mm = .040"
1.5 mm = .060"
2.0 mm = .080"
4.6 mm = .180"
6.0 mm = .236"
6.4 mm = .253"
7.0 mm = .275"
10.0 mm = .400"
27.0 mm = 1.08"
1/32" = 0.8 mm
1/16" = 1.6 mm
1/8" = 3.2 mm
1/4" = 6.4 mm
3/8" = 9.5 mm
1/2" = 12.7 mm