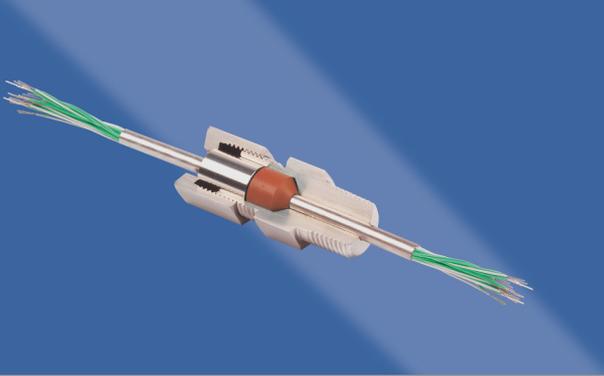


## Series HF

### High density, insulated wire, sealed tube assemblies

A PTFE-lined, stainless steel tube is swaged over multiple, insulated, single-core copper and/or thermocouple-material wires to make a continuous wire, high-density, sealed feedthrough tube. These are used for thermocouples, resistance thermometers and low voltage instrumentation. The sealed tube assembly is usually mounted in a series PF or MF feedthrough. Series HF feedthroughs are manufactured with customer-specified wire lengths.

Epoxies and other sealants are not used in the construction of HF feedthroughs. They are suitable for use where outgassing is not permitted.



- ATEX / IECEx Approved to Ex II 2 GD, Ex d IIC Gb / Ex e IIC Gb, Ex ta IIIC Da (when sealed with appropriate PF/MF fitting)
- Saves time and costs as multiple sensor wires pass through one feedthrough
- Sealed tubes with continuous, multiple, insulated conductors
- Stainless steel tube (316L) is sealed without potting, epoxies or glues
- Copper or thermocouple-material wires types J, K, T & N
- Max. current rating 500mA at 100Vdc
- Pressure range: Vacuum to 350 bar with low leak rate
- 4 tube sizes carrying 12, 24, 40 or 60 size 24AWG copper or thermocouple material wires

## Order Code examples:

HF2 — 24 — Cu — 1000mm / 2500mm — EX  
OR  
HF1 — 12 — K — 1700mm / 3600mm — EX

Type    No. of wires<sup>2</sup>    Wire material    Wire lengths each side of sealed tube<sup>1</sup>  
(specify to nearest 100mm)

HF - High density tube assembly

No. of wires	12	24	40	60
Type				
HF1	✓			
HF2		✓		
HF3			✓	
HF4				✓

1 The wire lengths on each side of the sealed tube are the actual lengths of wire specified and do not include the length of the metal tube. Dimensions of the sealed tube can be found in the table below. Both ends of each wire, or thermocouple pair, are identified with numbered markers. Minimum wire length 500mm each side. To specify the wire length, add (Y mm. / Z mm.) to the order code after the type of sealant specified. Y mm. is the length of wire required on the cap side of the feedthrough. Z mm. is the length of wire required on the process side of the feedthrough. Both dimensions to the nearest 100mm.

2 The number of wires refers to the total number of single wires, both copper and thermocouple-material wires passing through each size of sealed tube. Each series HF assembly can be specified, if required, with a combination of single copper wires and thermocouple pairs.

When a combination is specified the following typical examples show how the order code can be configured:

HF2 - 12Cu, 12J - 1000mm (Y) / 2000mm (Z) - EX and HF3 - 20K, 12T, 8Cu - 1200mm (Y) / 2800mm (Z) - EX

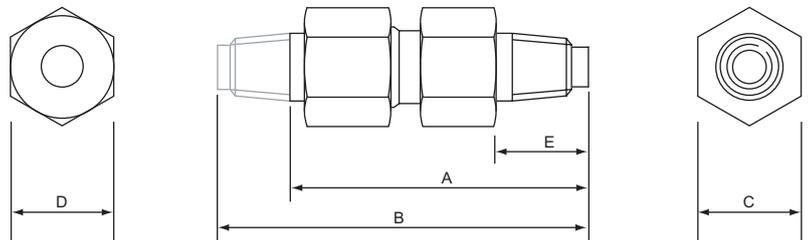
In the first example 12 single copper wires and 6 type-J thermocouple pairs are specified – total 24 wires. In the second example 10 type-K pairs, 6 type-T pairs and 8 single copper wires are specified – total 40 wires. When configuring these combinations of wires it is essential to verify that the total number of wires specified equals the possible number of wires for the size of tube assembly required, remembering that each thermocouple-material pair is two wires.

Temperature rating: -40°C to +125°C.

## Dimensions (mm)

Type	HF1	HF2	HF3	HF4
Tube diameter	4.5	6.0	8.0	10.0
Tube length	80	100	100	100
Wire length	Customer specified			

## Dimensions - Series WF Feedthroughs (mm)



Process Connection	Overall length with plain cap	Overall length with cap with extension thread	Body hex.	Cap hex.	Body to process end
	Dim A	Dim B	Dim C	Dim D	Dim E
1/8"	35.0	-	15.0	15.0	12.0
1/4"	58.0	72.5	19.0	19.0	17.5
1/2"	75.5	95.5	25.4	25.4	25.0
3/4"	94.0	114.0	32.0	38.0	25.0

For further information on cap styles, see page 5 under 'ordering information' and the back cover of this catalogue.