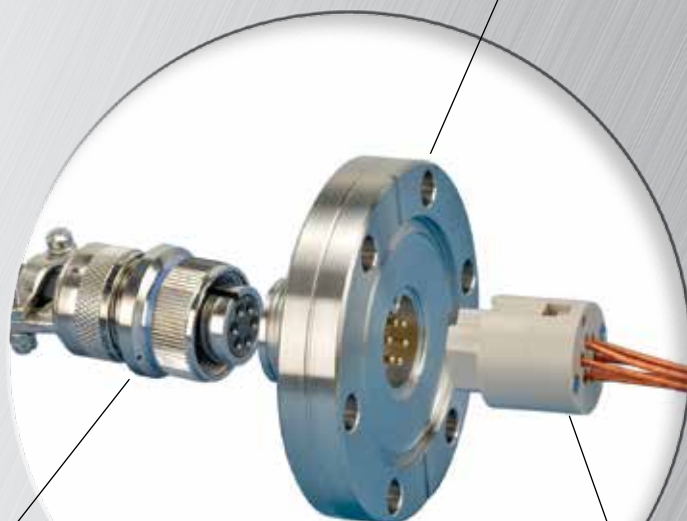




Mil-DTL-5015 Circular

Accu-Glass 3 and 6 Pin Feedthrough

UHV Feedthrough, 110630, Conflat®
Compatible Flange



Air-Service Female Cable
Assembly, 110705,
Nickel Plated Aluminum
Connector and PVC
Insulated Cable⁵

UHV Female Cable Assembly,
110661, PEEK Vacuum Side
Connector and Kapton® Insulated
Wire⁵

Mil-DTL-5015 Interface

Circular hermetic power feedthroughs are designed to meet Mil-DTL-5015 specifications. These feedthroughs are available in either a 3-pin or 6-pin configuration. Gold-plated pins are in a straight through pin-to-pin design and are hermetically sealed and electrically insulated in a stainless steel shell using the latest in glass-ceramic bonding technology.

Ultrahigh vacuum cable assemblies with PEEK connectors and Kapton® insulated 18 AWG cables are available to meet the demands of UHV environments. They are fitted with a captured stainless steel vented screw that provides a means of securely locking them to their mating feedthrough. Air-service cable assemblies use standard Mil-DTL-5015 connectors. Custom air-service cable assemblies are available on request.

Mil-DTL-5015 feedthroughs are sold individually or as kits, where each kit contains one feedthrough and one each of both vacuum and air side cable assemblies.

Features

- Mil-DTL-5015 3 and 6-Pin Interface
- High temperature rated to 250°C
- UHV compatible construction
- Conflat® and ISO NW compatible mounts
- Kapton® insulated vacuum cables
- PEEK connector with locking screw
- Air Service Cables / Connectors
- Custom Solutions on Request

Specifications

Electrical

Voltage ¹ , Maximum	700 VDC
Current ² , Per Pin Maximum @ 20°C	10 A

Material

Shell	304 Stainless Steel
Pins	Au plated, Ni-Fe alloy
Seal / Insulator	Glass-Ceramic
Connector, Air	Ni plated Aluminum Alloy
Connector, Vacuum ³	PEEK Polymer

Vacuum Range

UHV, Ultrahigh vacuum	1x10 ⁻¹⁰ Torr
HV, High vacuum	1x10 ⁻⁸ Torr

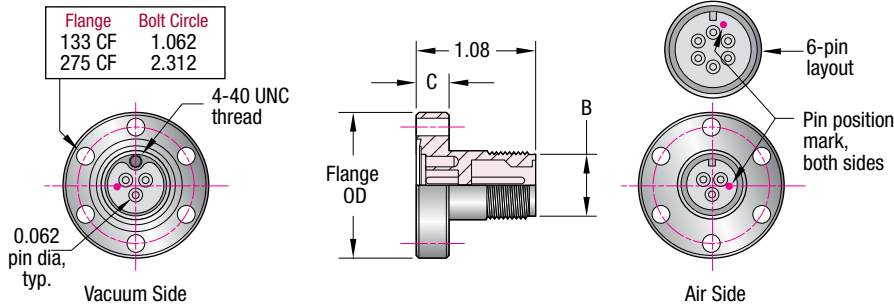
Temperature Range⁴

Feedthrough	-200° to 250°C
Flange Mount, Conflat®	-200° to 450°C
Flange Mount, ISO	-26° to 150°C
Connector / Cable, Air	80°C
Connector / Cable, Vacuum	250°C
Thermal Gradient	25°C / Minute Maximum

Notes

1. Electrical ratings are maximum test values, with vacuum side at $\leq 1 \times 10^{-4}$ Torr.
2. For proper heat dissipation, a maximum of 20% of the pins on a feedthrough may carry the maximum pin current at any given time.
3. PEEK is a polyether ether ketone thermoplastic.
4. Overall assembly ratings must be adjusted to that of its lowest rated component. For cryogenic service, the lowest recommended temperature is -200°C.
5. Unless designated a 'kit,' connectors and cable assemblies are not included with feedthrough and must be purchased separately.

§ Unless specified otherwise, dimensional units in all sections of this catalog are expressed in inches.



• Pin 1 reverses position from vacuum side to air side.

CF Flange — 3 or 6-Pin Circular / 700 VDC, 10 Amp / 250°C / UHV to 1×10^{-10} Torr

Number Contacts	Flange Type	OD	B	C	Model Number	Part Number	Unit Price \$
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Kit — Feedthrough with Female Cable Assemblies, 96 Inch Air / 19 Inch Vacuum

3	133 CF	1.33	—	—	3CP-KIT-133	110806	435
6	275 CF	2.73	—	—	6CP-KIT-275	110807	465

Feedthrough — Feedthrough without Cables

3	133 CF	1.33	0.620	0.30	3CP-133	110600	230
3	275 CF	2.73	0.620	0.50	3CP-275	110601	240
6	275 CF	2.73	0.875	0.50	6CP-275	110630	260

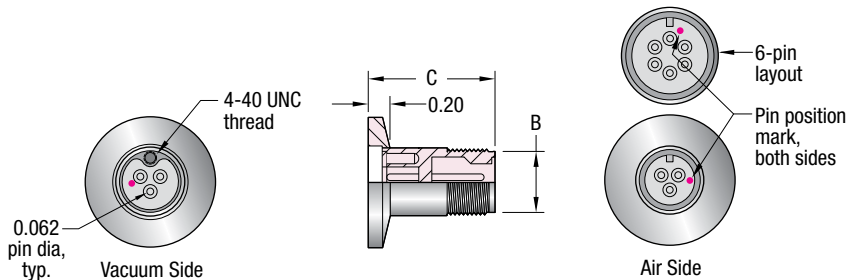
Compatible with Conflat® flanges and hardware



110807 / UHV CF 6-Pin Complete Kit



110600 / UHV CF 3-Pin Feedthrough (Vacuum Side)



• Pin 1 reverses position from vacuum side to air side.

ISO KF Flange — 3 or 6-Pin Circular / 700 VDC, 10 Amp / 150°C / HV to 1×10^{-9} Torr

Number Contacts	Flange Type	OD	B	C	Model Number	Part Number	Unit Price \$
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Kit — Feedthrough with Female Cable Assemblies, 96 Inch Air / 19 Inch Vacuum

3	NW16 KF	1.18	—	—	3CP-KIT-K16	110808	435
6	NW40 KF	2.16	—	—	6CP-KIT-K40	110809	465

Feedthrough — Feedthrough without Cables

3	NW16 KF	1.18	0.620	1.14	3CP-K16	110620	230
3	NW40 KF	2.16	0.620	1.04	3CP-K40	110621	240
6	NW40 KF	2.16	0.875	1.04	6CP-K40	110640	260

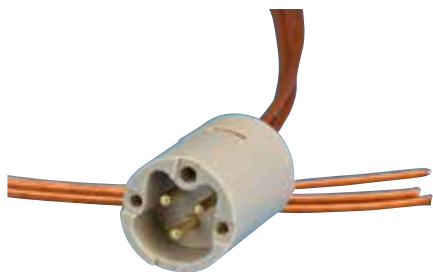
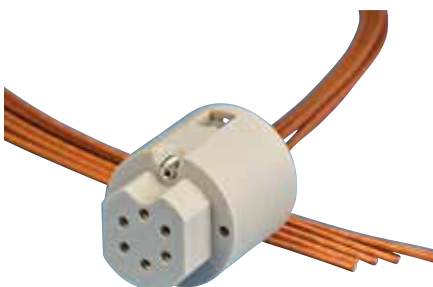
Compatible with ISO 2861/1 specification flanges and hardware

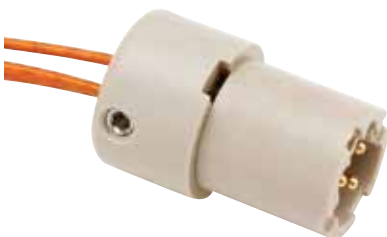
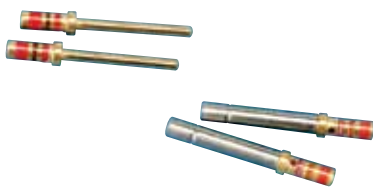


110809 / HV ISO-KF 6-Pin Complete Kit



110620 / HV ISO-3Pin Feedthrough (Vacuum Side)


110650 / Male Pin UHV Connector to Cable

110661 / Female Socket UHV Connector to Cable

110685 / Female Socket UHV Connector
(Contacts Sold Separately)

112509 / Male Pin UHV Connector with Strain Relief
(Contacts Sold Separately)

110700 and 110701 / Male and Female Contacts

Ultrahigh Vacuum Cable Assemblies

Connector to Cable UHV cable assemblies are fitted with female Mil-DTL-5015 type PEEK 3-pin or 6-pin connectors at one end and either three or six, non-terminated Kapton® insulated wires at the other. The female cable connectors mate directly onto the vacuum-side of Mil-DTL-5015 feedthroughs shown on page 35. The individual conductors are 18 AWG, 10 Amp silver plated copper wire, stranded 19 x 0.009, with a Kapton® insulation.

Connector to Connector Extension cables have the same physical properties as Connector to Cable assemblies, except both ends are fitted with female connectors.

Cable Assemblies — 3 or 6-Pin Circular / 250°C / UHV to 1x10⁻¹⁰ Torr

Number Contacts	Wire		Connector			Model Number	Part Number	Unit Price \$
	Length	Dia.	Gender	OD	Length			

Connector to Cable — 3 Power

3	19	3x 0.060	M	0.620	1.02	3KAP-TYP13-19PC	110650	145
3	39	3x 0.060	M	0.620	1.02	3KAP-TYP13-39PC	110652	170
3	19	3x 0.060	F	0.620	1.10	3KAP-TYP13-19SC	110651	145
3	39	3x 0.060	F	0.620	1.10	3KAP-TYP13-39SC	110653	170

Connector to Cable — 6 Power

6	19	6x 0.060	M	0.875	1.02	6KAP-TYP13-19PC	110660	195
6	39	6x 0.060	M	0.875	1.02	6KAP-TYP13-39PC	110662	245
6	19	6x 0.060	F	0.875	1.10	6KAP-TYP13-19SC	110661	195
6	39	6x 0.060	F	0.875	1.10	6KAP-TYP13-39SC	110663	245

Connector to Connector Extension — 3 and 6 Power

3	19	—	F / F	—	—	3KAP-TYP13-192SC	110670	247
3	39	—	F / F	—	—	3KAP-TYP13-392SC	110671	275
6	19	—	F / F	—	—	6KAP-TYP13-192SC	110672	330
6	39	—	F / F	—	—	6KAP-TYP13-392SC	110673	385

Ultrahigh Vacuum Connectors and Contacts

Components in this section are sold as the most basic components. Connectors do not include contacts and must be purchased separately. Connectors are made of UHV compatible PEEK material.

- Wires must be threaded through the connector back-piece before crimping contacts.
- The pins and sockets listed below are intended for use with ultrahigh vacuum PEEK connectors listed in this section.

Connectors and Contacts — 3 or 6-Pin Circular / 250°C / UHV to 1x10⁻¹⁰ Torr

Number Contacts	Connector				Use With	Model Number	Part Number	Unit Price \$
	Gender	Material	OD	Length				

Connectors

3	M	PEEK	0.620	1.02	110700	3C-PKP	110680	100
6	M	PEEK	0.875	1.02	110700	6C-PKP	110690	120
3	F	PEEK	0.620	1.10	110701	3C-PKS	110685	100
6	F	PEEK	0.875	1.10	110701	6C-PKS	110695	120

Connectors with Strain Relief

3	M	PEEK	0.750	1.16	110700	3C-PKP-SR	112509	170
6	M	PEEK	0.875	1.43	110700	6C-PKP-SR	112511	195
3	F	PEEK	0.750	1.22	110701	3C-PKS-SR	112510	170
6	F	PEEK	0.875	1.50	110701	6C-PKS-SR	112512	195

Contacts, Type-T5p — 10 per Pack

1 Pack	M	—	0.060	0.066	—	GP-M60-10	110700	28
1 Pack	F	—	0.060	0.066	—	GS-M60-10	110701	28

See page 34 for **Specifications**

* Use PN-110702 tool located on next page.

Air-service Round Cable Assemblies

Connector to Cable air-service round cable assemblies are fitted with an aluminum shell, electroless nickel finish, Mil-DTL-5015 3-pin or 6-pin female connector at one end. The cables are 18 AWG stranded tinned-copper conductors. The non-terminated end has either three or six color coded PVC insulated wires. The conductors are shielded with an aluminum-polyester foil shield, stranded tinned-copper draw wire. The gray PVC jacket is either 0.20 OD with three conductors or 0.30 OD with six conductors. Rated 300 volt at 80°C.

Round Cable Assemblies — 3 or 6-Pin Circular / 80°C / Air Atmosphere

Number Contacts	Wire		Connector			Model Number	Part Number	Unit Price \$
	Length	Dia.	Gender	OD	Length			

Connector to Cable — 3 Power

3	48	.20	F	0.88	2.05	AIR-CP3-48SC	110703	120
3	96	.20	F	0.88	2.08	AIR-CP3-96SC	110704	125
6	48	.30	F	1.13	2.17	AIR-CP6-48SC	110705	130
6	96	.30	F	1.13	2.17	AIR-CP6-96SC	110706	145

Air-service Connectors, Contacts and Tools

Connectors accept up to 16 AWG wires. Contacts are gold-plated and the shell is aluminum with an electroless nickel finish. Rear removable crimp contacts provide easy assembly. Connectors are available with straight or 90-degree angled strain reliefs.

Components in this section are sold as the most basic components. Connectors do not include contacts and must be purchased separately.

Connectors and Contacts — 3 or 6-Pin Circular / 80°C / Air Atmosphere

Number Contacts	Connector			Use With	Model Number	Part Number	Unit Price \$
	Gender	OD	Length				

Connectors

3	F	0.88	2.05	110701	3C-AIR	110710	60
3	F-90	0.88	2.05	110701	3C-AIR-90	112703	82
6	F	1.13	2.17	110701	6C-AIR	110711	68
6	F-90	1.13	2.15	110701	6C-AIR-90	112704	88

Contacts, Type-T5p — 10 per Pack

1 Pack	F	0.060	0.066	—	GS-M60-10	110701	28
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Tools — for Wiring 3 or 6-Pin Circular Air-Service Connectors

Contents	Description	Model Number	Part Number	Unit Price \$
1 Unit	Crimping Tool for Type-T5 Contacts	DCT-5	110702	494
1 Unit	Extraction Tool for Type-T5p Contacts	ET-M60	111614	54
1 Unit	Insertion Tool for Type-T5p Contacts	IT-M60	111613	50



110703 / Air-Service Female Cable Assembly



110706 / Air-Service Female Cable Assembly



110710 / Air-Service Female Connector
(Contacts Sold Separately)



110711 / Air-Service Female Connector
(Contacts Sold Separately)

↙ Set First Dial to #16 / Blue



↖ Set Second Dial to #16

110702 / Contact Crimp Tool

See page 34 for **Specifications**