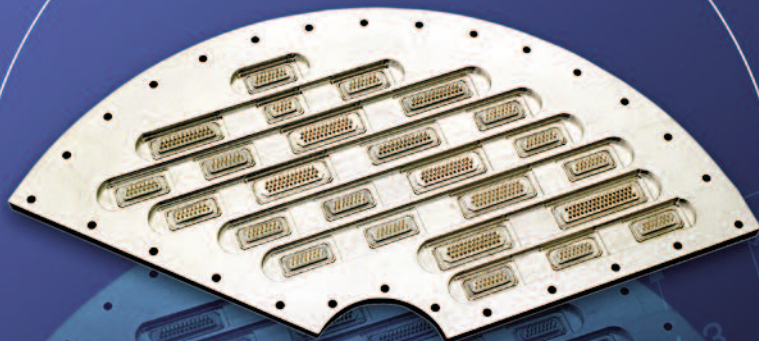
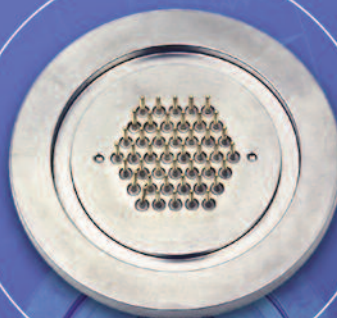


MULTIPIN

CUSTOM MULTIPIN CONNECTOR ASSEMBLIES



Multipin Connector



*Advanced Ceramic-to-Metal &
Glass-Ceramic Sealing Technology*

ULTRA-HIGH VACUUM | CRYOGENICS | HIGH VOLTAGE | HIGH TEMPERATURE | HIGH CURRENT
MICROWAVE | SEMICONDUCTOR EQUIPMENT | PHOTOVOLTAIC | NUCLEAR | FUSION
HIGH ENERGY PHYSICS | ACCELERATORS | SUPERCONDUCTIVITY | LASER TECHNOLOGY

Description

CeramTec's multipin connector category of products describes hermetic feedthroughs of two or more conducting pins that accept plugs on the air side. Some connectors allow for plugs on the vacuum side as well.

Product variations include Sub D (MIL-C-24308) type and circular connector types MIL-C-26482 and MIL-C-5015.

The products in this section are used primarily to provide instrumentation signals, voltage and/or current into an ultra-high vacuum environment, high pressure, or many other extreme environments, with an in-line connection to outside instrumentation. Designs adapt a Ceramaseal® feedthrough (receptacle) with an industry-standard plug.

The connector assembly is characterized by the Mil Spec designation, installation method and number of pins. In situations where voltage and current requirements are moderate, CeramTec is able to achieve a very high pin density using glass-ceramic technology. CeramTec's designs include both single-ended and double-ended connector assemblies.

Standard Specifications

- Voltages to 12 kV DC
- Current to 40 Amps per pin
- Temperature Range: -269° C to 450° C
- Internal Pressure 1×10^{-10} torr to 600 psig
- Up to 51 pins/conductors

Extreme / Custom Design

- 940-pin connector using thermocouple and instrumentation leads
- Combination multipin and coaxial connectors with a custom plug
- Multiple combinations of circular and D connectors in a flange
- Plugs bakeable to 650° C



Installation

Standard installation mountings include:

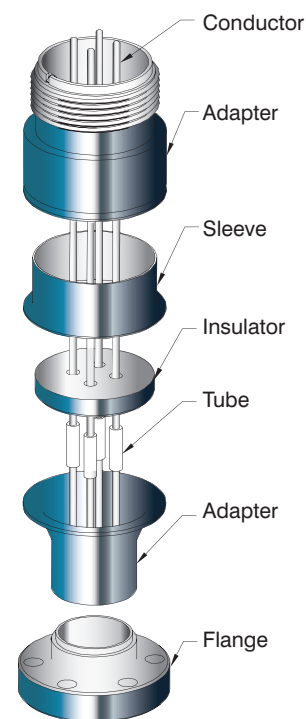
- Weld (Pulse-TIG, TIG, Laser, E-Beam)
- ISO KF flange
- ConFlat flange
- NPT fitting (see Pressure section)
- 1" Baseplate


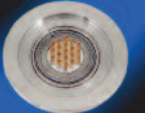




For details and information on connector assembly installation, please refer to the Technical Reference section. For additional vacuum-side attachments, see the contacts and plugs in the Accessories section.

Applications

- A few of the many applications in which these multipin connectors are commonly used are:
- Semiconductor processing equipment
 - Analytical test and measurement equipment
 - Pressure transducers
 - Power generation: measurement and control
 - Particle accelerators
 - Furnaces
 - Energy research
 - Commercial & military aircraft

Typical Multipin Connector Construction



Type	Voltage DC	Current (Amps per conductor)	# of Conductors	Conductor Material	Sub-section	Section Pages
	500 V	5 Amps	9, 15, 25 and 50	Gold-Plated 300 Series Stainless Steel	Sub D Type MIL-C-24308	B.1 56-57
	1 kV	5 Amps	3, 6, 10, 19, 32 and 41	Gold-Plated 300 Series Stainless Steel	Circular Type MIL-C-26482	B.2 58-61
	700 V	7 Amps	4, 6, 10, 20, and 35	Alumel	Circular Type MIL-C-5015	B.3 62-63
	700 V	to 40 Amps	2 and 4	Nickel, Molybdenum	Circular Type Power: MIL-C-5015	B.4 64-67
	12 kV	13 Amps	2, 4, and 7	Molybdenum	High Voltage	B.5 68-69
	to 700 V	7 Amps	8 and 10	Alumel	Baseplate	B.6 70-71

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Technical Reference

Feedthrough

Multipin Connector

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Viewport

Pressure

Accessories

Technical Reference

Sub D Type (MIL-C-24308) Connectors

CeramTec's hermetic Subminiature D type connectors are designed to meet MIL-C-24308 specifications. Standard configurations include 9, 15, 25, and 50 gold plated pin connectors, which are available as a weldable unit or in a ConFlat® or ISO flange. Custom configurations are commonplace and available upon request. CeramTec is able to achieve a very high pin/lead density (standard - up to 50 pins) using glass-ceramic sealing technology. The rugged stainless steel shell design is built to withstand severe environments and reduces seal failure due to overheating while welding. These connectors are used primarily to provide instrumentation signals, voltage and/or current into a high-vacuum or ultra-high vacuum environment, with an in-line connection to outside instrumentation.

In-Vacuum Ribbon Cable

CeramTec's in-vacuum ribbon cable is designed to complement our Sub D Type (MIL-C-24308) hermetic multipin connector product line and therefore cable configurations include 9, 15, or 25 conductor cable. Note that 50 conductor cables are created by using two 25 conductor cables. Each of the Kapton® wrapped (19 x 0.0063) 22 AWG silver plated copper conductors are woven with a PEEK (polyether ether ketone) monofilament in order to achieve the ribbon cable form. The multistranded wrapped cable offers the most flexible solution and has a temperature range up to 200° C. All ribbon cable assembly materials are ultra-high vacuum (UHV) compatible. The ribbon cables are vacuum baked out prior to shipping. Additional vacuum bake out prior to use is also recommended. All cable assembly components are sold separately.

Specifications

Materials

- Shell: 304 Stainless steel
- Pins: 300 Series Stainless steel (Gold Plated)
- Insulation: Glass-ceramic
- Magnetic Materials: No

Voltage Rating 500 V DC

Current Rating 5 Amps per pin

Temperature Range -269°C to 450°C, ISO KF -25°C to 205°C

Pressure @ 20°C ISO KF 0 PSIG

- 9 Pin - 1350 PSIG (93.1 Bar)
- 15 Pin - 1250 PSIG (86.2 Bar)
- 25 Pin - 1200 PSIG (82.7 Bar)
- 50 Pin - 900 PSIG (62.1 Bar)

Vacuum Side Plug Specifications

Materials

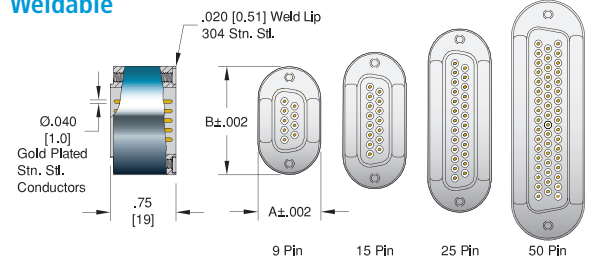
- Shell/Insulation: PEEK (polyether ether ketone)
- Crimp Contacts: Copper alloy (Gold Plated)
- Magnetic Materials: No

Voltage Rating 500 V DC

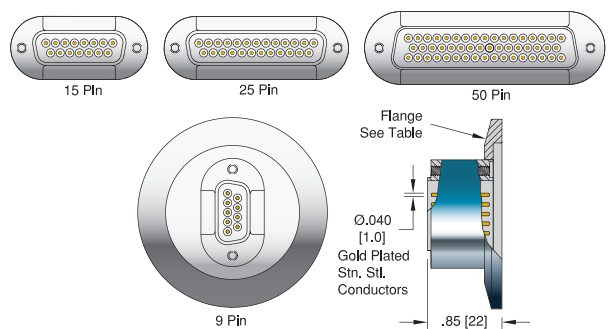
Current Rating 15 Amps

Temperature Range -269°C to 200°C

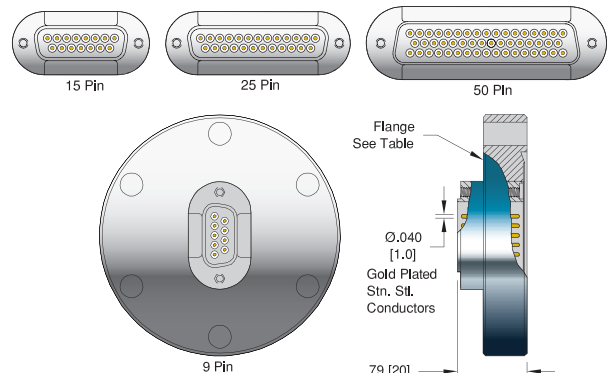
Weldable



ISO KF



ConFlat



Ribbon Cable Specifications

Materials

- Insulation: Kapton® Type FN
- Weave: PEEK (polyether ether ketone) monofilament

Number of Conductors 9, 15, 25

Conductor

22 AWG 19 / 0.0063" stranded silver plated copper

Voltage Rating 600 V AC, 850 V DC

Current Rating 5 Amps per conductor

Temperature Range -55°C to 200°C

Resistance @ 20°C 119Ω/km



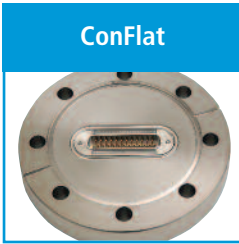
Weldable

NO. PINS	INSTALLATION	DIMENSIONS		PART NUMBER
		A	B	
9	Weld	0.720 [18.29]	1.234 [31.34]	16800-01-W
15	Weld	0.720 [18.29]	1.562 [39.67]	16801-01-W
25	Weld	0.720 [18.29]	2.102 [53.39]	16802-01-W
50	Weld	0.832 [21.13]	2.738 [69.54]	16804-01-W



ISO KF

ISO FLANGE				
NO. PINS	INSTALLATION	A	B	PART NUMBER
9	NW40KF	-	-	18605-01-KF
15	NW50KF	-	-	18606-01-KF
25	NW63LF	-	-	20306-01-CLF
50	NW100LF	-	-	20307-01-CLF



ConFlat

CONFLAT FLANGE				
NO. PINS	INSTALLATION	A	B	PART NUMBER
9	2 3/4" (NW35CF)	-	-	18607-01-CF
15	3 3/8" (NW50CF)	-	-	18608-01-CF
15	4 1/2" (NW63CF)	-	-	21108-01-CF
25	4 1/2" (NW63CF)	-	-	18609-01-CF
50 (2x25)	4 1/2" (NW63CF)	-	-	21109-01-CF
50	6" (NW100CF)	-	-	18610-01-CF
100 (2x50)	6" (NW100CF)	-	-	21641-01-CF



Air Side Plug

TYPE	VOLTAGE DC	QTY	CONTACTS		DIMENSIONS	TEMPERATURE °C	MAGNETIC MATERIALS	PART NUMBER			
			AMPS	MATERIAL					D	W	H
Air Side	500 V	9	5	Copper Alloy	1.7 [43]	1.2 [31]	0.6 [15]	-55	105	Yes	18076-01-A
Air Side	500 V	15	5	Copper Alloy	1.6 [41]	1.6 [41]	0.6 [15]	-55	105	Yes	18076-02-A
Air Side	500 V	25	5	Copper Alloy	1.9 [48]	2.2 [56]	0.6 [15]	-55	105	Yes	18076-03-A†
Air Side	500 V	50	5	Copper Alloy	2.0 [51]	2.6 [66]	0.7 [18]	-55	105	Yes	18076-04-A
Vacuum Side-Female	500 V	9	5	Copper Alloy	1.3 [33]	0.4 [11]	0.63 [16]	-200	200	No	16810-01-A
Vacuum Side-Female	500 V	15	5	Copper Alloy	1.6 [40]	0.4 [11]	0.63 [16]	-200	200	No	16811-01-A
Vacuum Side-Female	500 V	25	5	Copper Alloy	2.2 [55]	0.4 [11]	0.63 [16]	-200	200	No	16812-01-A†
Vacuum Side-Female	500 V	50	5	Copper Alloy	2.7 [69]	0.5 [14]	0.63 [16]	-200	200	No	16814-01-A
Vacuum Side-Male	500 V	9	5	Copper Alloy	1.3 [33]	0.4 [11]	0.63 [16]	-200	200	No	19827-01-A
Vacuum Side-Male	500 V	15	5	Copper Alloy	1.6 [40]	0.4 [11]	0.63 [16]	-200	200	No	19828-01-A
Vacuum Side-Male	500 V	25	5	Copper Alloy	2.2 [55]	0.4 [11]	0.63 [16]	-200	200	No	17411-01-A
Vacuum Side-Male	500 V	50	5	Copper Alloy	2.7 [69]	0.5 [14]	0.63 [16]	-200	200	No	19829-01-A

Note that contacts are included with all plugs.



Vacuum Side Plugs



Ribbon Cable 22 AWG

CONDUCTOR QUANTITY*	CABLE LENGTH	CABLE WIDTH	INSULATION DIAMETER	WIRE DIAMETER	PART NUMBER
9	19"	0.4	Ø .035	19 X 0.0063	20370-19-WW
9	39"	0.4	Ø .035	19 X 0.0063	20370-39-WW
15	19"	0.7	Ø .035	19 X 0.0063	20371-19-WW
15	39"	0.7	Ø .035	19 X 0.0063	20371-39-WW
25	19"	1.2	Ø .035	19 X 0.0063	20372-19-WW
25	39"	1.2	Ø .035	19 X 0.0063	20372-39-WW

Adjustable Wire Stripper For 20 - 30 AWG (0.25 - 0.80 mm)Cable

*The 50 conductor cables are created by using two 25 conductor cables. Contact CeramTec for custom lengths.

TYPE	MATERIAL	DESCRIPTION	PART NUMBER
0.040 Female Crimp Contacts	Copper Alloy	Female accepts wire up to 0.040 [1.0]	16757-02-A
0.040 Male/Pin Crimp Contacts	Copper Alloy	Male/Pin contact - 0.040 [1.0] Pin	17412-02-A
Crimp Tool		For 0.025" – 0.075" Crimp Diameters	2840-05

**Contacts priced and sold in packages of 5. See the Accessories section for more information on all accessories.



Contacts

Feedthrough
Multipin Connector
Coaxial
Thermocouple
Isolator
Viewport
Pressure
Accessories
Technical Reference

Feedthrough

Multipin Connector

Coaxial

Thermocouple

Isolator

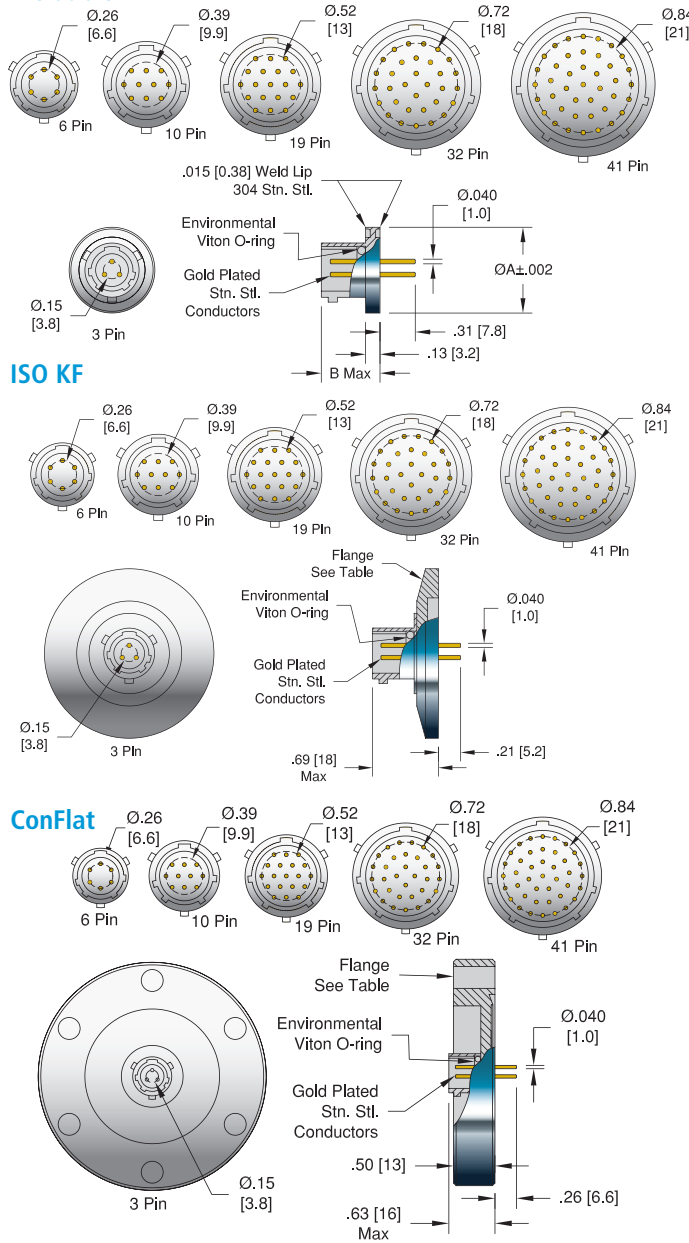
Viewport

Pressure

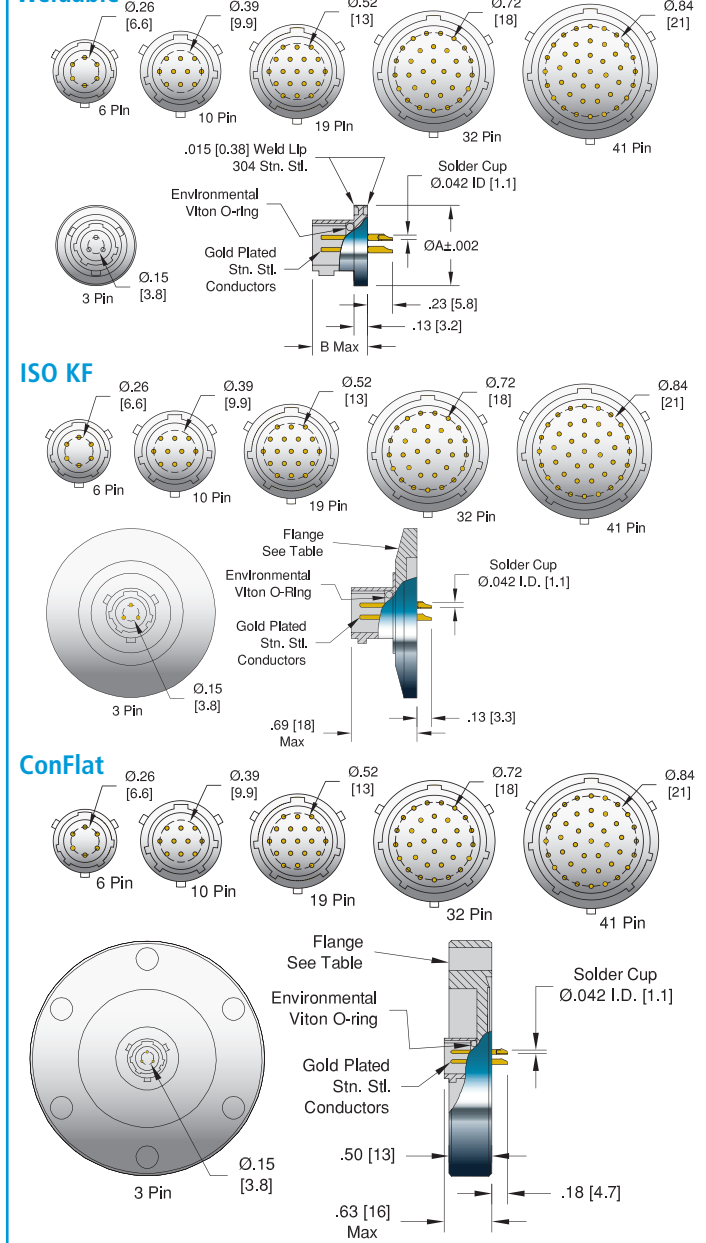
Accessories

Technical Reference

Single Ended - Straight Pin Weldable



Single Ended - Solder Cup Weldable



Specifications

Materials

- Shell: 304 Stainless steel
- Pins: 300 Series Stainless steel (Gold plated)
- Insulation: Glass-ceramic
- Magnetic Materials: No

Voltage Rating 1 kV DC

Current Rating 5 Amps per pin

Temperature Range -269°C to 450°C, ISO KF -25°C to 205°C

Pressure @ 20°C ISO KF 0 PSIG

3 Pin - 550 PSIG (38 Bar)	19 Pin - 400 PSIG (28 Bar)
6 Pin - 500 PSIG (34 Bar)	32 Pin - 375 PSIG (26 Bar)
10 Pin - 450 PSIG (31 Bar)	41 Pin - 350 PSIG (24 Bar)



NO. PINS	PIN TYPE	INSTALLATION	DIMENSIONS		PART NUMBER
			A	B	
3	Straight	Weld	0.745 [18.92]	0.51 [13.0]	16130-02-W
6	Straight	Weld	0.870 [22.10]	0.51 [13.0]	16131-02-W
10	Straight	Weld	0.995 [25.27]	0.51 [13.0]	16132-02-W
19	Straight	Weld	1.120 [28.45]	0.51 [13.0]	16133-02-W
32	Straight	Weld	1.370 [34.80]	0.51 [13.0]	16134-02-W
41	Straight	Weld	1.495 [37.97]	0.57 [14.5]	16135-02-W
ISO FLANGE					
3	Straight	NW25KF	-	-	17160-01-KF
6	Straight	NW40KF	-	-	17161-01-KF
10	Straight	NW40KF	-	-	17162-01-KF
19	Straight	NW40KF	-	-	17163-01-KF
32	Straight	NW40KF	-	-	17164-01-KF
41	Straight	NW50KF	-	-	17165-01-KF
CONFLAT FLANGE					
3	Straight	2 3/4" (NW35CF)	-	-	18894-01-CF
6	Straight	2 3/4" (NW35CF)	-	-	18895-01-CF
10	Straight	2 3/4" (NW35CF)	-	-	18896-01-CF
19	Straight	2 3/4" (NW35CF)	-	-	18897-01-CF
32	Straight	2 3/4" (NW35CF)	-	-	18898-01-CF
41	Straight	3 3/8" (NW50CF)	-	-	18899-01-CF
Female Crimp Contacts Female accepts wire up to 0.040 [1.0]					16757-02-A

*Contacts priced and sold in packages of 5.

NO. PINS	PIN TYPE	INSTALLATION	DIMENSIONS		PART NUMBER
			A	B	
3	Solder Cup	Weld	0.745 [18.92]	0.51 [13.0]	16010-02-W
6	Solder Cup	Weld	0.870 [22.10]	0.51 [13.0]	16011-02-W
10	Solder Cup	Weld	0.995 [25.27]	0.51 [13.0]	16012-02-W
19	Solder Cup	Weld	1.120 [28.45]	0.51 [13.0]	16013-02-W
32	Solder Cup	Weld	1.370 [34.80]	0.51 [13.0]	16014-02-W
41	Solder Cup	Weld	1.495 [37.97]	0.57 [14.5]	16015-02-W
ISO FLANGE					
3	Solder Cup	NW25KF	-	-	17171-01-KF
6	Solder Cup	NW40KF	-	-	17172-01-KF
10	Solder Cup	NW40KF	-	-	17173-01-KF
19	Solder Cup	NW40KF	-	-	17174-01-KF
32	Solder Cup	NW40KF	-	-	17175-01-KF
41	Solder Cup	NW50KF	-	-	17176-01-KF
CONFLAT FLANGE					
3	Solder Cup	2 3/4" (NW35CF)	-	-	17148-01-CF
6	Solder Cup	2 3/4" (NW35CF)	-	-	17343-01-CF
10	Solder Cup	2 3/4" (NW35CF)	-	-	17149-01-CF
19	Solder Cup	2 3/4" (NW35CF)	-	-	17787-01-CF
32	Solder Cup	2 3/4" (NW35CF)	-	-	17697-01-CF
41	Solder Cup	3 3/8" (NW50CF)	-	-	17156-01-CF

TYPE	VOLTAGE DC	CONDUCTOR AMPS	NO. CONTACTS	DIMENSIONS		PART NUMBER
				H	L	
Air Side	1 kV	1	3	0.8 [20]	1.9 [48]	16060-01-A
Air Side	1 kV	1	6	1.0 [25]	1.9 [48]	16060-02-A
Air Side	1 kV	1	10	1.0 [25]	1.9 [48]	16060-03-A
Air Side	1 kV	1	19	1.2 [31]	1.9 [48]	16060-04-A
Air Side	1 kV	1	32	1.4 [36]	2.1 [53]	16060-05-A
Air Side	1 kV	1	41	1.5 [38]	2.3 [58]	16060-06-A

Note that contacts are included with all plugs. See the Accessories section for more information on all accessories.

Feedthrough
Multipin Connector
Coaxial
Thermocouple
Isolator
Viewport
Pressure
Accessories
Technical Reference

Feedthrough

Specifications

Materials

Shell: Stainless steel
Pins: 300 Series Stainless steel (Gold plated)
Insulation: Glass-ceramic
Magnetic Materials: No

Voltage Rating 1 kV DC

Current Rating 5 Amps per pin

Temperature Range -269°C to 450°C, ISO KF -25°C to 205°C

Pressure @ 20°C ISO KF 0 PSIG

3 Pin - 550 PSIG (38 Bar)
6 Pin - 500 PSIG (34 Bar)
10 Pin - 450 PSIG (31 Bar)
19 Pin - 400 PSIG (28 Bar)
32 Pin - 375 PSIG (26 Bar)
41 Pin - 350 PSIG (24 Bar)

Multipin Connector

Coaxial

Thermocouple

Vacuum Side Plug Specifications

Materials

Shell: 304 Stainless steel
Crimp Contacts: Copper alloy (Gold plated)
Insulation: PEEK (polyether ether ketone)
Magnetic Materials: No

Voltage Rating 1 kV DC

Current Rating 5 Amps per pin

Temperature Range -269°C to 200°C

Isolator

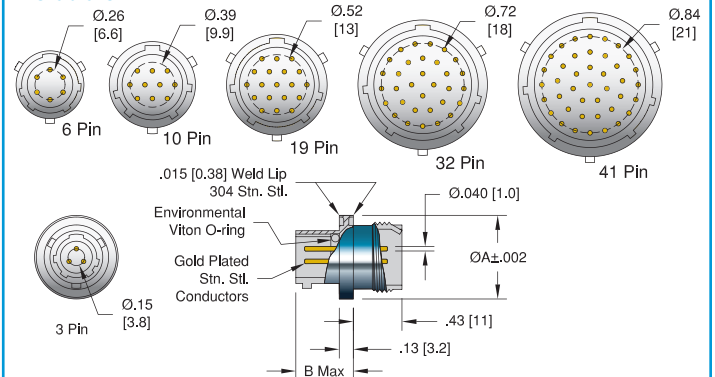
Viewport

Pressure

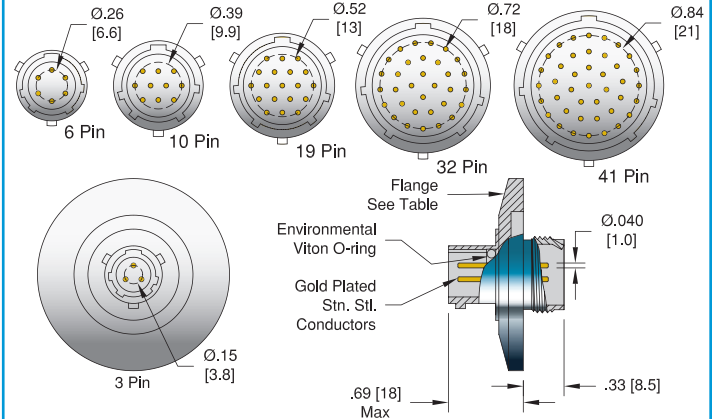
Accessories

Technical Reference

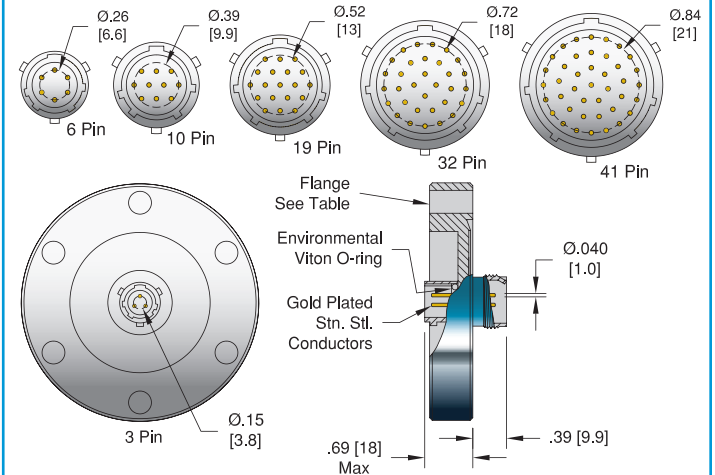
**Double Ended
Weldable**



ISO KF



ConFlat





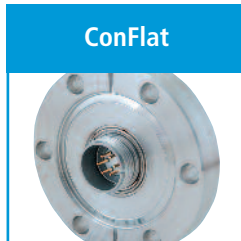
Weldable

NO. PINS	INSTALLATION	DIMENSIONS		PART NUMBER
		A	B	
3	Weld	0.745 [18.92]	0.51 [13.0]	16000-02-W
6	Weld	0.870 [22.10]	0.51 [13.0]	16001-02-W
10	Weld	0.995 [25.27]	0.51 [13.0]	16002-02-W
19	Weld	1.120 [28.45]	0.51 [13.0]	16003-02-W
32	Weld	1.370 [34.80]	0.51 [13.0]	16004-02-W
41	Weld	1.495 [37.97]	0.57 [14.5]	16005-02-W



ISO KF

ISO FLANGE				PART NUMBER
NO. PINS	INSTALLATION	A	B	
3	NW25KF	-	-	17180-01-KF
6	NW40KF	-	-	17181-01-KF
10	NW40KF	-	-	17182-01-KF
19	NW40KF	-	-	18900-01-KF
32	NW40KF	-	-	18901-01-KF
41	NW50KF	-	-	18902-01-KF



ConFlat

CONFLAT FLANGE				PART NUMBER
NO. PINS	INSTALLATION	A	B	
3	2 3/4" (NW35CF)	-	-	18903-01-CF
6	2 3/4" (NW35CF)	-	-	18904-01-CF
10	2 3/4" (NW35CF)	-	-	18905-01-CF
19	2 3/4" (NW35CF)	-	-	18906-01-CF
32	2 3/4" (NW35CF)	-	-	18907-01-CF
41	3 3/8" (NW50CF)	-	-	18908-01-CF



Air Side Plug

TYPE	VOLTAGE DC	CONDUCTOR AMPS	NO. CONTACTS	DIMENSIONS		PART NUMBER
				H	L	
Air Side	1 kV	1	3	0.8 [20]	1.9 [48]	16060-01-A
Air Side	1 kV	1	6	1.0 [25]	1.9 [48]	16060-02-A
Air Side	1 kV	1	10	1.0 [25]	1.9 [48]	16060-03-A
Air Side	1 kV	1	19	1.2 [31]	1.9 [48]	16060-04-A
Air Side	1 kV	1	32	1.4 [36]	2.1 [53]	16060-05-A
Air Side	1 kV	1	41	1.5 [38]	2.3 [58]	16060-06-A



Vacuum Side Plug

TYPE	VOLTAGE DC	CONDUCTOR AMPS	NO. CONTACTS	DIMENSIONS		PART NUMBER
				H	L	
Vacuum Side	1 kV	5	3	0.8 [19]	1.0 [25]	16026-02-A
Vacuum Side	1 kV	5	6	0.9 [22]	1.0 [25]	16027-02-A
Vacuum Side	1 kV	5	10	1.0 [25]	1.0 [25]	16028-02-A
Vacuum Side	1 kV	5	19	1.1 [28]	1.0 [25]	16029-02-A
Vacuum Side	1 kV	5	32	1.4 [34]	1.0 [25]	16030-02-A
Vacuum Side	1 kV	5	41	1.5 [37]	1.0 [25]	16031-02-A

Note that contacts are included with all plugs. See the Accessories section for more information on all accessories.

Feedthrough

Multipin Connector

Coaxial

Thermocouple

Isolator

Viewport

Pressure

Accessories

Technical Reference

Feedthrough

Multipin Connector

Coaxial

Thermocouple

Isolator

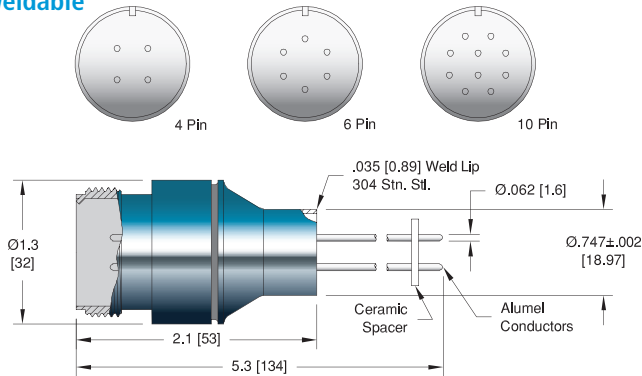
Viewport

Pressure

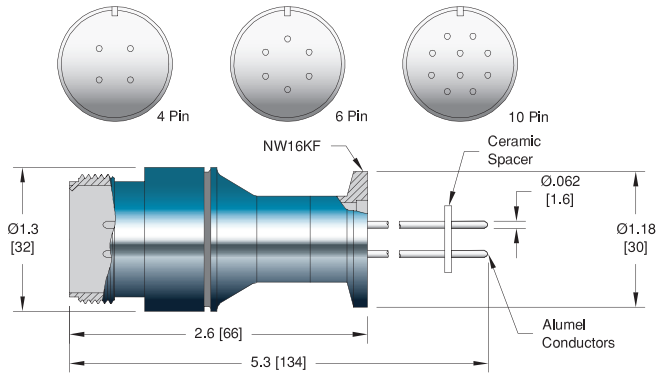
Accessories

Technical Reference

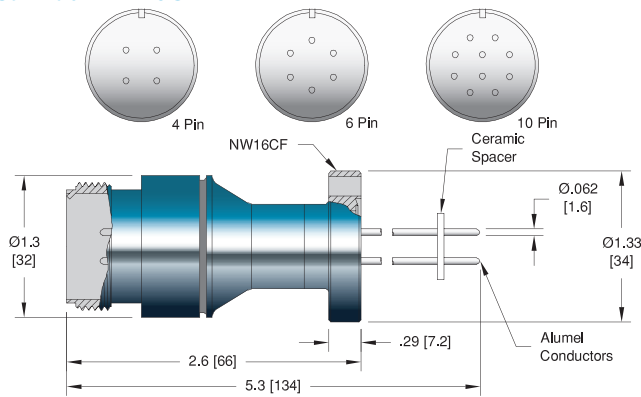
4, 6, & 10 Pin
Weldable



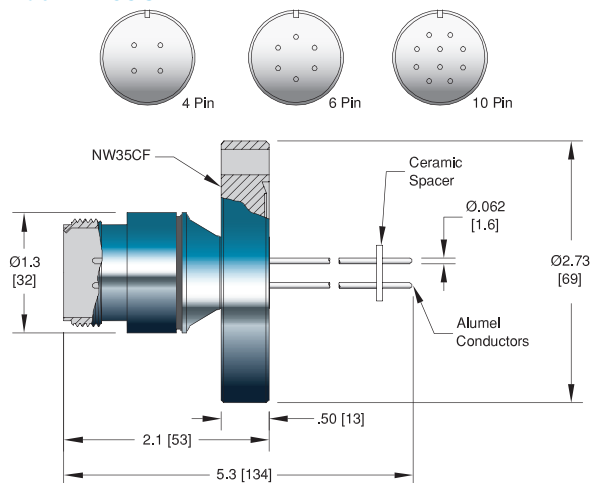
ISO KF - NW16KF



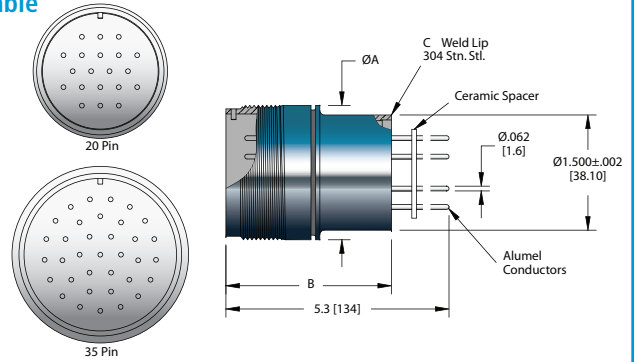
ConFlat - NW16CF



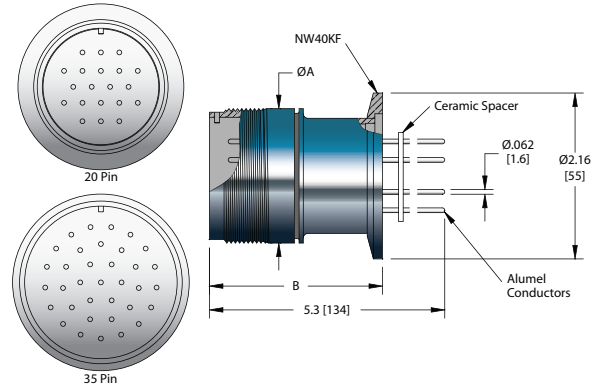
ConFlat - NW35CF



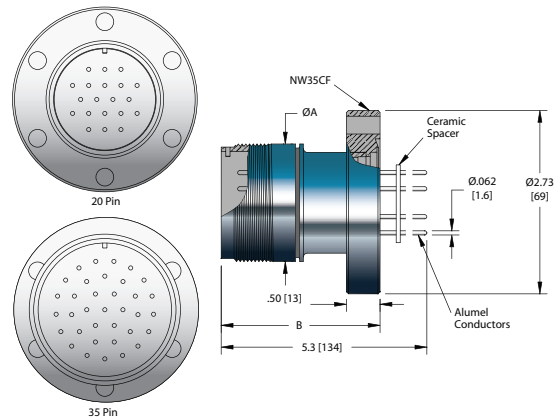
20 & 35 Pin
Weldable



ISO KF



ConFlat



Specifications

Materials

- Shell: 304 Stainless steel
- Pins: Alumel
- Insulation: Alumina ceramic
- Magnetic Materials: Yes

Voltage Rating 700 V DC

Current Rating 7 Amps per pin

Temperature Range -269°C to 450°C, ISO KF -25°C to 205°C

Pressure @ 20°C ISO KF 0 PSIG

- 4 Pin - 600 PSIG (41 Bar)
- 6 Pin - 550 PSIG (38 Bar)
- 10 Pin - 500 PSIG (34 Bar)
- 20 Pin - 125 PSIG (8.6 Bar)
- 35 Pin - 50 PSIG (3.4 Bar)



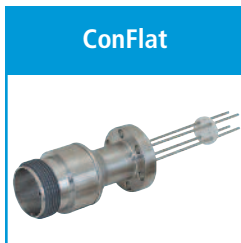
Weldable

NO. PINS	INSTALLATION	A	DIMENSIONS		PART NUMBER
			B	C	
4	Weld	-	-	-	10184-05-W
6	Weld	-	-	-	10185-05-W
10	Weld	-	-	-	10094-05-W
20	Weld	1.8 [44]	2.3 [57]	.065 [1.7]	10096-04-W
35	Weld	2.3 [57]	3.1 [79]	.060 [1.5]	10186-04-W



ISO KF

ISO FLANGE					
NO. PINS	INSTALLATION	A	B	C	PART NUMBER
4	NW16KF	-	-	-	17150-02-KF
6	NW16KF	-	-	-	17151-02-KF
10	NW16KF	-	-	-	17155-04-KF
20	NW40KF	1.8 [44]	2.3 [57]	-	13744-02-KF
35	NW40KF	2.3 [57]	3.2 [82]	-	15103-02-KF



ConFlat

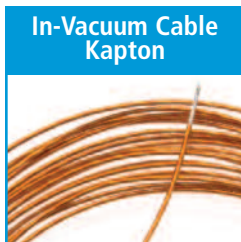
CONFLAT FLANGE					
NO. PINS	INSTALLATION	A	B	C	PART NUMBER
4	1 1/3" (NW16CF)	-	-	-	10184-06-CF
4	2 3/4" (NW35CF)	-	-	-	10184-07-CF
6	1 1/3" (NW16CF)	-	-	-	10185-06-CF
6	2 3/4" (NW35CF)	-	-	-	10185-07-CF
10	1 1/3" (NW16CF)	-	-	-	10094-06-CF
10	2 3/4" (NW35CF)	-	-	-	10094-09-CF
20	2 3/4" (NW35CF)	1.8 [44]	2.4 [60]	-	10096-03-CF
35	2 3/4" (NW35CF)	2.3 [57]	3.3 [84]	-	10186-03-CF



Air Side Plug

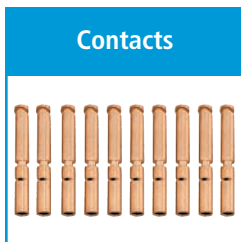
TYPE	VOLTAGE DC	CONDUCTOR AMPS	NO. CONTACTS	DIMENSIONS		TEMPERATURE °C		PART NUMBER
				H	L	MIN	MAX	
Air Side	700 V	13	4	1.4 [36]	4.4 [112]	-55	125	15910-01-A
Air Side	700 V	13	6	1.4 [36]	4.4 [112]	-55	125	15911-01-A
Air Side	700 V	13	10	1.4 [36]	4.4 [112]	-55	125	15912-01-A
Air Side	700 V	13	20	1.9 [49]	4.3 [109]	-55	125	15913-01-A
Air Side	700 V	13	35	2.5 [62]	4.2 [107]	-55	125	15914-01-A
Air Side: Hi-Temp PEEK	700 V	4.8	4	1.4 [36]	2.6 [65]	-55	260	15910-32-A
Air Side: Hi-Temp PEEK	700 V	4.8	6	1.4 [36]	2.6 [65]	-55	260	15911-32-A
Air Side: Hi-Temp PEEK	700 V	4.8	10	1.4 [36]	2.6 [65]	-55	260	15912-32-A

Note that contacts are included with all plugs.



In-Vacuum Cable Kapton

VOLTAGE DC	CONDUCTOR AMPS	TYPE	LENGTH	WIRE DIAMETER	INSULATION DIAMETER	PART NUMBER
850 V	2.5	28 AWG Stranded	30'	7 x 0.005	Ø .028	21621-01-A
850 V	5	22 AWG Stranded	30'	19 x 0.0063	Ø .035	21643-01-A



Contacts

TYPE	MATERIAL	DESCRIPTION	PART NUMBER
0.062 Crimp Contacts	Beryllium Copper	Accepts .062 [1.6] Pin	2044-02-A [†]
0.062 Crimp Contacts	Nickel Alloy	Accepts .062 [1.6] Pin	0821-01-A
0.062 Barrel Type Contacts	Beryllium Copper	Accepts .062 [1.6] Pin	7332-03-A
Crimp Tool		For 0.025" – 0.075" Crimp Diameters	2840-05

*Contacts priced and sold in packages of 10. [†]Shown in photo. See the Accessories section for more information on all accessories.

Feedthrough

Multipin Connector

Coaxial

Thermocouple

Isolator

Viewport

Pressure

Accessories

Technical Reference

Specifications

Materials

Shell: 304 Stainless steel
Pins: Nickel or Molybdenum
Insulation: Alumina ceramic
Magnetic Materials: See table

Voltage Rating 700 V DC

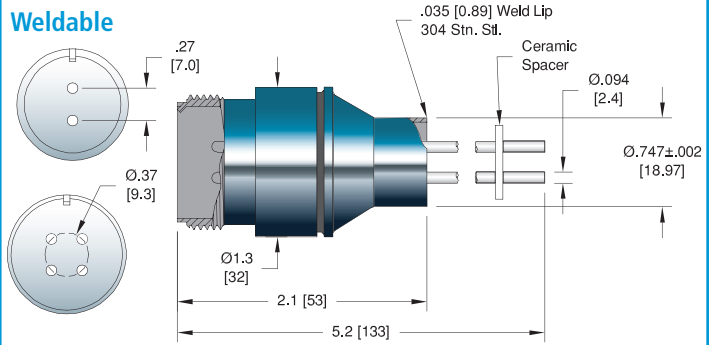
Current Rating See table

Temperature Range -269°C to 450°C, ISO KF -25°C to 205°C

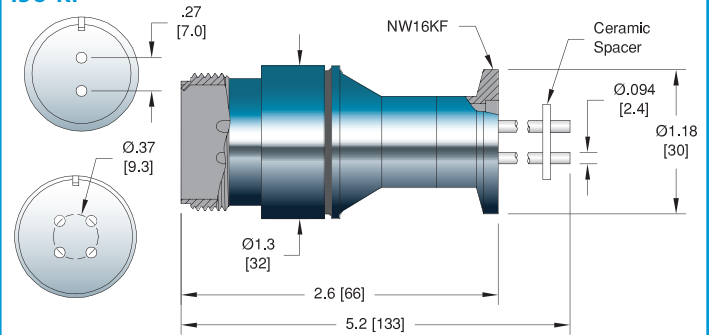
Pressure @ 20°C 475 PSIG (33 Bar), ISO KF 0 PSIG

Ø .094 Conductor

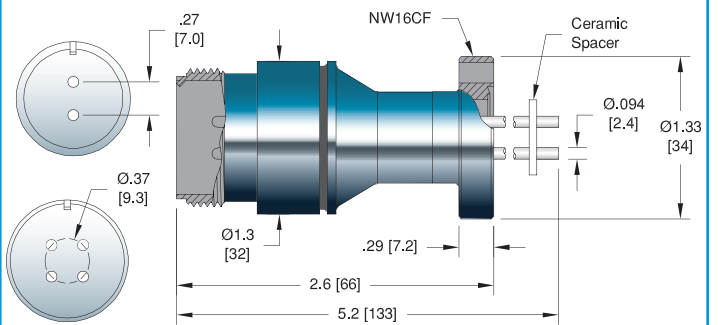
Weldable



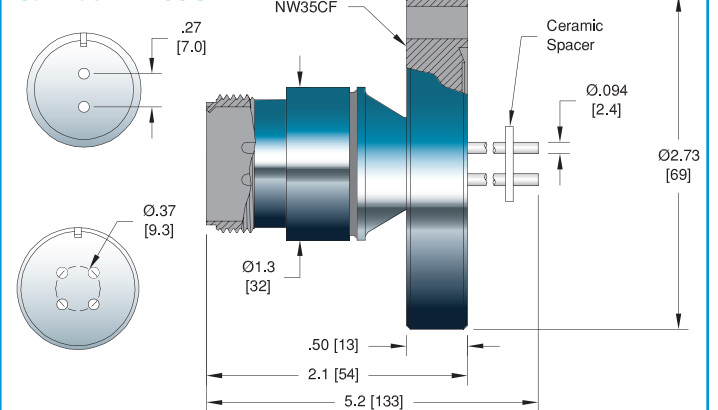
ISO KF



ConFlat - NW16CF



ConFlat - NW35CF





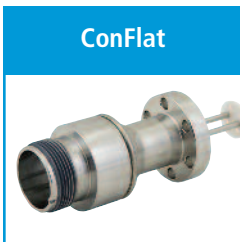
Weldable

NO. PINS	CONDUCTORS AMPS	MATERIAL	INSTALLATION	MAGNETIC MATERIALS	PART NUMBER
2	16	Nickel	Weld	Yes	18093-02-W
2	28	Molybdenum	Weld	No	18093-04-W
4	16	Nickel	Weld	Yes	18093-06-W
4	28	Molybdenum	Weld	No	18093-08-W



ISO KF

ISO FLANGE					
NO. PINS	CONDUCTORS AMPS	MATERIAL	INSTALLATION	MAGNETIC MATERIALS	PART NUMBER
2	16	Nickel	NW16KF	Yes	18094-02-KF
2	28	Molybdenum	NW16KF	No	18094-04-KF
4	16	Nickel	NW16KF	Yes	18094-06-KF
4	28	Molybdenum	NW16KF	No	18094-08-KF



ConFlat

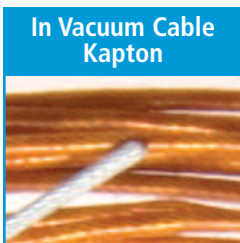
CONFLAT FLANGE					
NO. PINS	CONDUCTORS AMPS	MATERIAL	INSTALLATION	MAGNETIC MATERIALS	PART NUMBER
2	16	Nickel	1 1/3" (NW16CF)	Yes	18095-02-CF
2	28	Molybdenum	1 1/3" (NW16CF)	No	18095-04-CF
2	16	Nickel	2 3/4" (NW35CF)	Yes	18096-02-CF
2	28	Molybdenum	2 3/4" (NW35CF)	No	18096-04-CF
4	16	Nickel	1 1/3" (NW16CF)	Yes	18095-06-CF
4	28	Molybdenum	1 1/3" (NW16CF)	No	18095-08-CF
4	16	Nickel	2 3/4" (NW35CF)	Yes	18096-06-CF
4	28	Molybdenum	2 3/4" (NW35CF)	No	18096-08-CF



Air Side Plug

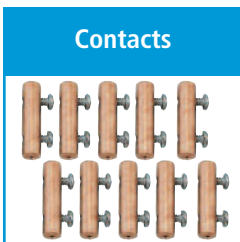
TYPE	VOLTAGE DC	CONDUCTOR AMPS	NO. CONTACTS	DIMENSIONS L H		PART NUMBER
Air Side	700 V	23	2	2.5 [63]	1.2 [32]	18600-01-A
Air Side	700 V	23	4	2.6 [65]	1.4 [36]	18600-02-A

Note that contacts are included with all plugs.



In Vacuum Cable Kapton

VOLTAGE DC	CONDUCTOR AMPS	TYPE	LENGTH	WIRE DIAMETER	INSULATION DIAMETER	PART NUMBER
850 V	20	12 AWG Stranded	15'	37 x 0.013	Ø .101	21702-02-A



Contacts

TYPE	MATERIAL	DESCRIPTION	PART NUMBER
0.094 Barrel Type	Beryllium Copper	Accepts .094 [2.4] Pin	7332-04-A†
0.094 Set Screw Type	Beryllium Copper	Accepts .094 [2.4] Pin	7429-01-A

*Contacts priced and sold in packages of 10. †Shown in photo. See the Accessories section for more information on all accessories.

Feedthrough

Multipin Connector

Coaxial

Thermocouple

Isolator

Viewport

Pressure

Accessories

Technical Reference

Feedthrough

Specifications

Materials

Shell: 304 Stainless steel
Pins: Nickel or molybdenum
Insulation: Alumina ceramic
Magnetic Materials: See table

Voltage Rating 700 V DC

Current Rating See table

Temperature Range -269°C to 450°C, ISO KF -25°C to 205°C

Pressure @ 20°C ISO KF 0 PSIG

2 Pin - 600 PSIG (41 Bar)

4 Pin - 500 PSIG (34 Bar)

Multipin Connector

Coaxial

Thermocouple

Isolator

Viewport

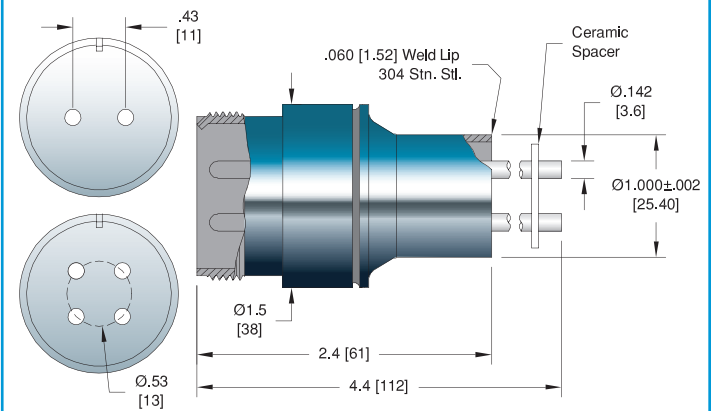
Pressure

Accessories

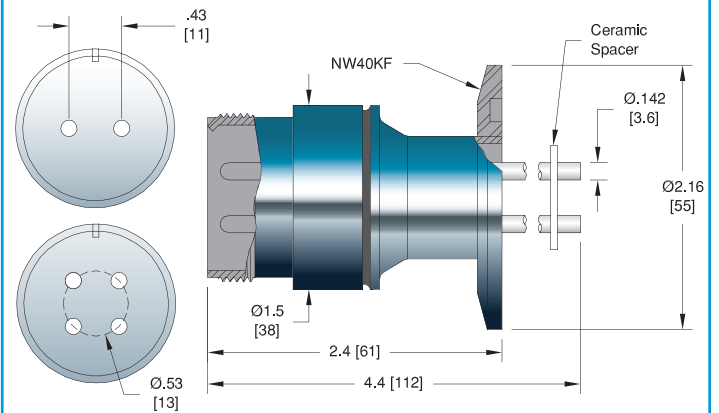
Technical Reference

Ø .142 Conductor

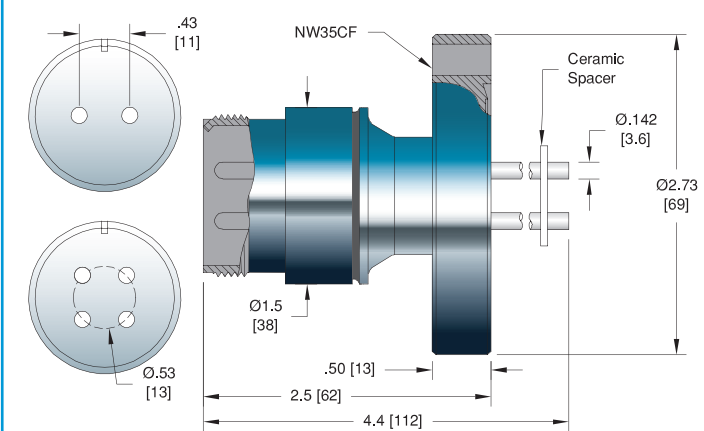
Weldable

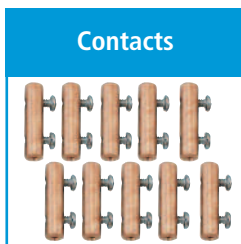
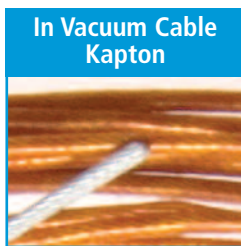
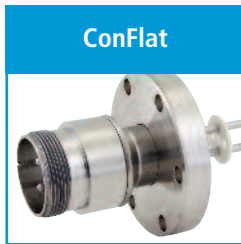


ISO KF



ConFlat





NO. PINS	CONDUCTORS AMPS	MATERIAL	INSTALLATION	MAGNETIC MATERIALS	PART NUMBER
2	25	Nickel	Weld	Yes	18097-02-W
2	46	Molybdenum	Weld	No	18097-04-W
4	25	Nickel	Weld	Yes	18097-06-W
4	46	Molybdenum	Weld	No	18097-08-W

ISO FLANGE

2	25	Nickel	NW40KF	Yes	18098-02-KF
2	46	Molybdenum	NW40KF	No	18098-04-KF
4	25	Nickel	NW40KF	Yes	18098-06-KF
4	46	Molybdenum	NW40KF	No	18098-08-KF

CONFLAT FLANGE

2	25	Nickel	2 3/4" (NW35CF)	Yes	18099-02-CF
2	46	Molybdenum	2 3/4" (NW35CF)	No	18099-04-CF
4	25	Nickel	2 3/4" (NW35CF)	Yes	18099-06-CF
4	46	Molybdenum	2 3/4" (NW35CF)	No	18099-08-CF

TYPE	VOLTAGE DC	CONDUCTOR AMPS	NO. CONTACTS	DIMENSIONS L H		PART NUMBER
Air Side	700 V	46	2	2.5 [63]	1.2 [32]	18601-01-A
Air Side	700 V	46	4	2.6 [65]	1.4 [36]	18601-02-A

Note that contacts are included with all plugs.

VOLTAGE DC	CONDUCTOR AMPS	TYPE	LENGTH	WIRE DIAMETER	INSULATION DIAMETER	PART NUMBER
850 V	20	12 AWG Stranded	15'	37 x 0.013	Ø .101	21702-02-A

TYPE	MATERIAL	DESCRIPTION	PART NUMBER
0.154 Barrel Type	Beryllium Copper	Accepts 0.154 [3.9] Pin	7332-07-A

*Contacts priced and sold in packages of 10. See the Accessories section for more information on all accessories.

Feedthrough

Multipin Connector

Coaxial

Thermocouple

Isolator

Viewport

Pressure

Accessories

Technical Reference

Feedthrough

Multipin Connector

Coaxial

Thermocouple

Isolator

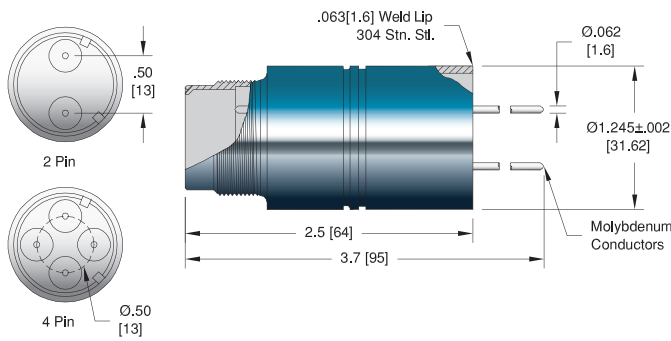
Viewport

Pressure

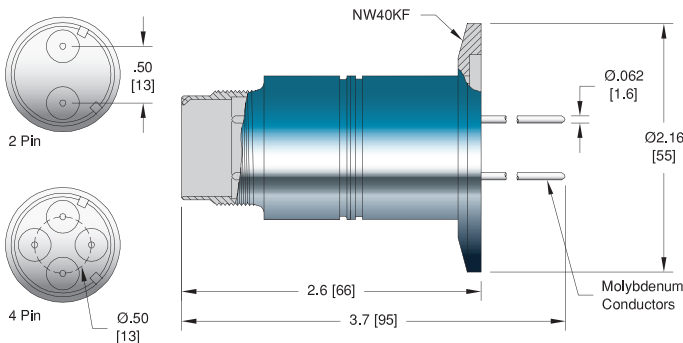
Accessories

Technical Reference

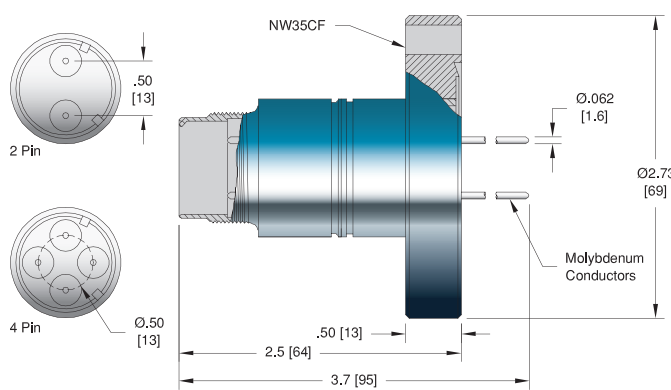
2 and 4 Pin Weldable



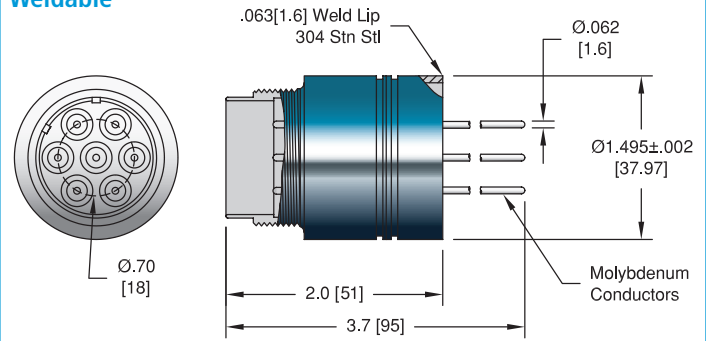
ISO KF



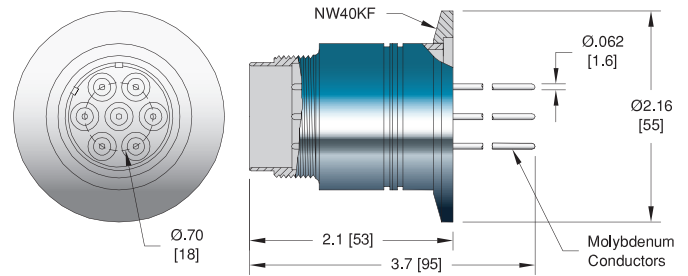
ConFlat



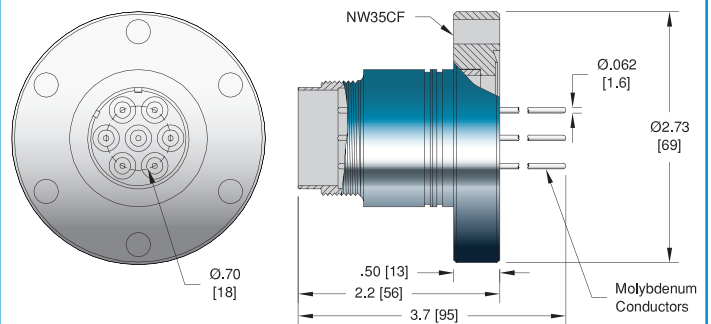
7 Pin Weldable



ISO KF



ConFlat



Specifications

Materials

- Shell: 304 Stainless steel
- Pins: Molybdenum (Nickel plated)
- Insulation: Alumina ceramic
- Magnetic Materials: Yes

Voltage Rating 12 kV DC (pin/pin and pin/shell)*

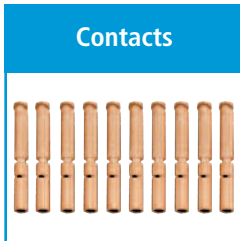
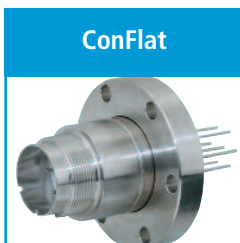
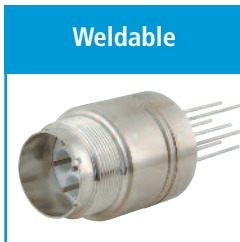
Current Rating 13 Amps per pin

Temperature Range -269°C to 450°C, ISO KF -25°C to 205°C

Pressure @ 20°C ISO KF 0 PSIG

- 2 Pin - 400 PSIG (28 Bar)
- 4 Pin - 300 PSIG (20 Bar)
- 7 Pin - 200 PSIG (14 Bar)

*When used with air side assembly



NO. PINS	INSTALLATION	PART NUMBER
2	Weld	12475-03-W
4	Weld	12475-04-W
7	Weld	12867-06-W

ISO FLANGE

2	NW40KF	17157-02-KF
4	NW40KF	17158-02-KF
7	NW40KF	17159-02-KF

CONFLAT FLANGE

2	2 3/4" (NW35CF)	12476-03-CF
4	2 3/4" (NW35CF)	12476-04-CF
7	2 3/4" (NW35CF)	12867-07-CF

TYPE	VOLTAGE DC	CONDUCTOR AMPS	NO. CONTACTS	DIMENSIONS		PART NUMBER
				H	L	
Air Side	12 kV	13	2	1.3 [33]	1.6 [41]	2871-02-A
Air Side	12 kV	13	4	1.3 [33]	1.6 [41]	2871-03-A
Air Side	12 kV	13	7	1.4 [37]	3.3 [84]	2871-01-A

Note that contacts are included with all plugs.

TYPE	MATERIAL	DESCRIPTION	PART NUMBER
0.062 Crimp Type Contacts	Beryllium Copper	Accepts .050 [1.3] Pin	11911-02-X†
0.062 Set Screw Type Contacts	Beryllium Copper	Accepts .062 [1.6] Pin	7429-02-A
0.062 Barrel Type Contacts	Beryllium Copper	Accepts .062 [1.6] Pin	7332-02-A
Crimp Tool		For 0.025" – 0.075" Crimp Diameters	2840-05

*Contacts priced and sold in packages of 10. †Shown in photo. See the Accessories section for more information on all accessories.

Feedthrough

Multipin Connector

Coaxial

Thermocouple

Isolator

Viewport

Pressure

Accessories

Technical Reference

Feedthrough

Multipin Connector

Coaxial

Thermocouple

Isolator

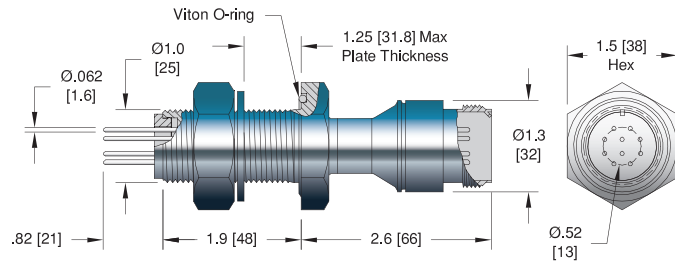
Viewport

Pressure

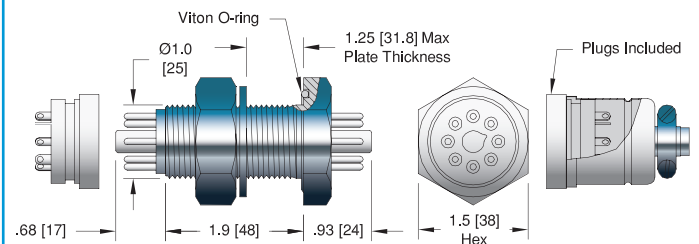
Accessories

Technical Reference

MIL-C-5015 Type
Installation: 1" Bolt



Octal Connector
Installation: 1" Bolt



MIL-C-5015 Type Specifications

Materials

- Bolt: 304 Stainless steel
- Pins: Alumel
- Insulation: Alumina ceramic
- Magnetic Materials: Yes

Voltage Rating 700 V DC

Current Rating 7 Amps per pin

Temperature Range -25°C to 205°C

Pressure @ 20°C 200 PSIG (14 Bar)

Octal Connector Specifications

Materials

- Bolt: 304 Stainless steel
- Pins: Alumel
- Insulation: Glass-ceramic
- Magnetic Materials: Yes

Voltage Rating 350 V DC

Current Rating 7 Amps per pin

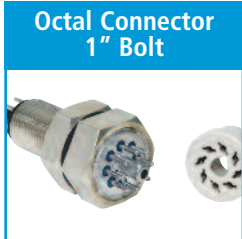
Temperature Range -25°C to 205°C

Pressure @ 20°C 200 PSIG (14 Bar)



**MIL-C-5015 Type
1" Bolt**

NO. PINS	INSTALLATION	PART NUMBER
10	1" Bolt	15717-01-A



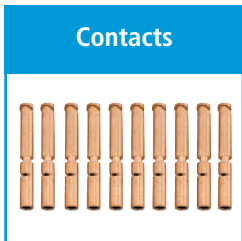
**Octal Connector
1" Bolt**

8	1" Bolt	15730-01-A
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Air Side Plug

TYPE	VOLTAGE DC	CONDUCTOR AMPS	NO. CONTACTS	DIMENSIONS		PART NUMBER
				H	L	
Air Side	700 V	13	10	1.4 [36]	4.4 [112]	15912-01-A



Contacts

TYPE	MATERIAL	DESCRIPTION	PART NUMBER
0.062 Crimp Contacts	Beryllium Copper	Accepts wire up to 0.050 [1.3]	2044-02-A†
0.062 Crimp Contacts	Nickel Alloy	Accepts wire up to 0.062 [1.6]	0821-01-A
Crimp Tool		For 0.025" – 0.075" Crimp Diameters	2840-05

*Contacts priced and sold in packages of 10. †Shown in photo. See the Accessories section for more information on all accessories.

Feedthrough

Multipin Connector

Coaxial

Thermocouple

Isolator

Viewport

Pressure

Accessories

Technical Reference