

# CRYOGENIC ThermaRex Cryo SuperNine® Connectors



## Bulkhead Feedthrough Hermetic Receptacle 806-089

THERMAREX™ CRYO



Series 806 cryogenic capable hermetic receptacles feature stainless steel shells and glass-to-metal seals. Rated for -195°C to +200°C temperature range. Micro miniature Series 806 connectors save size and weight compared to legacy aerospace-grade hermetic connectors. These high performance connectors are suitable for pressurized bulkhead applications subject to vibration, moisture, and temperature extremes. 806-089 receptacles are equipped with either solder cup or PC tails.

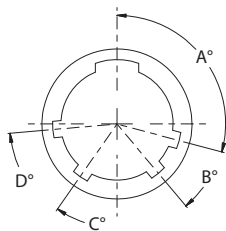
### MATERIALS/FINISH

- Shell & jam-nut: 304L CRES/per p/n dev
- Contacts, hermetic: Nickel-iron alloy/gold plate
- Contacts, sockets: Copper alloy/gold plate
- Hoods, sockets: 305 CRES/passivate
- Insulator, hermetic: Vitreous glass
- Insulator, socket: High grade dielectric
- Seals & O-Rings: Duraelectric™ K

### TEST CRITERIA

- Leak rate:  $<1 \times 10^{-7}$  ccHe/sec @ 1 ATM. delta pressure
- DWV: 1300 VAC (#22 Contacts)  
1800 VAC (#20, #16, #12 contacts)  
1000 VAC (#8 contacts)
- I.R.: 5000 MEGOHMS MIN @ 500 VDC

### Polarization Key Code



POS	A°	B°	C°	D°
A	105°	140°	215°	265°
B	102°	170°	248°	305°
C	80°	150°	230°	295°
D	68°	140°	205°	275°
E	64°	155°	234°	304°
F	72°	120°	200°	298°

### Panel Thickness

"T" Max	"U" Max
1.275 (32.39)	.750 (19.05)
1.400 (35.56)	.875 (22.23)
1.650 (41.91)	1.125 (28.58)

### How To Order ThermaRex Series 806 Mil-Aero Jam-nut Receptacle

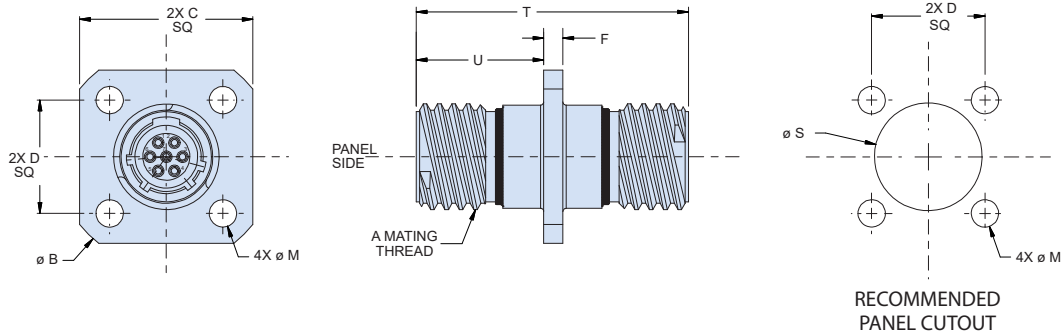
Sample Part Number	806-089	-07	Z1	8-7	P	A	-01
Series / Basic Part No.	806-089 Bulkhead Feedthrough Hermetic Receptacle						
Mounting Type	02 = Box Mount    07 = Jam-Nut Mount 13 = Weld Mount						
Finish	Z1 = Passivated    ZL = Nickel Plated						
Shell Size - Insert Arr.	See Table I						
Contact Style	P = Pin On Panel Side, Socket Opposite S = Socket On Panel Side, Pin Opposite PP = Pin-Pin Feedthrough SS = Socket-Socket Feedthrough						
Polarization	A, B, C, D						
Panel Thickness	-01 = .125    -02 = .250 -03 = .500						

Table I: Shell Size - Insert Arrangement

Contact Layout	Number of Contacts					Contact Layout	Number of Contacts					Contact Layout	Number of Contacts				
	22HD	20HD	16	12	8		22HD	20HD	16	12	8		22HD	20HD	16	12	8
7-3	3					22-69		69			18-3				3		
8-4	4					24-92		92			20-4				4		
8-7	7					8-1			1		22-5				5		
9-11	11					10-2			2		24-8				8		
10-15	15					11-4			4		10-8A	6		2			
11-19	19					12-5			5		11-13	11		2			
12-26	26					14-7			7		12-27	26		1			
14-39	39					16-12			12		14-21	17		4			
16-60	60					18-15			15		16-41	37		4			
18-85	85					20-22			22		18-59	55		4			
20-110	110					22-24			24		11-14	13			1		
22-140	140					24-35			35		12-14	12			2		
24-186	186					9-1				1	14-22	20			2		
8-3		3				8-3					16-32	28			4		
9-5		5				9-5					16-42	40			2		
10-8		8				10-8					18-62	60			2		
11-10		10				11-10					14-20A	19			1		
12-15		15				12-15					16-22	20			2		
14-20		20				14-20					18-21	18			3		
16-31		31				16-31					20-28	24			4		
18-41		41				18-41					22-44	40			4		
20-55		55				20-55					24-97	93			4		
						10-1											
						16-2											

**Bulkhead Feedthrough Hermetic Receptacle  
 806-089**

**806-089-02 Box Mount Receptacle Dimensions**



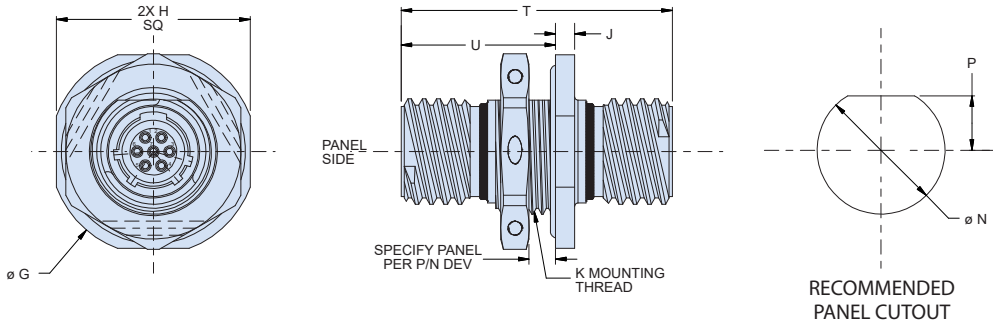
Shell Size	"A" Thread Mating	"Ø B" Max Flange	"C" Square Max Flange Flats	"D" Square BSC Mounting Holes	"F" Max Flange	"Ø M" Thru MTG Holes
7	.4375-.067P-.2L-TS-2A	0.968 (24.59)	0.750 (19.05)	0.469 (11.91)	0.100 (2.54)	0.128 (3.25)
8	.5000-.067P-.2L-TS-2A	1.040 (26.42)	0.822 (20.88)	0.531 (13.49)		
9	.5625-.067P-.2L-TS-2A	1.130 (28.70)	0.885 (22.48)	0.594 (15.09)		
10	.6250-.067P-.2L-TS-2A	1.174 (29.82)	0.913 (23.19)	0.625 (15.88)		
11	.6875-.067P-.2L-TS-2A	1.240 (31.50)	0.960 (24.38)	0.670 (17.02)		
12	.7500-.067P-.2L-TS-2A	1.354 (34.39)	1.040 (26.42)	0.765 (19.43)		
14	.8750-.067P-.2L-TS-2A	1.510 (38.35)	1.133 (28.78)	0.859 (21.82)		
16	1.0000-.067P-.2L-TS-2A	1.620 (41.15)	1.227 (31.17)	0.938 (23.83)		
18	1.1250-.067P-.2L-TS-2A	1.784 (45.31)	1.320 (33.53)	1.016 (25.81)		
20	1.2500-.067P-.2L-TS-2A	1.910 (48.51)	1.444 (36.68)	1.109 (28.17)	0.125 (3.18)	0.154 (3.91)
22	1.3750-.067P-.2L-TS-2A	2.083 (52.91)	1.570 (39.88)	1.203 (30.56)		
24	1.5000-.067P-.2L-TS-2A	2.200 (55.88)	1.696 (43.08)	1.312 (33.32)		

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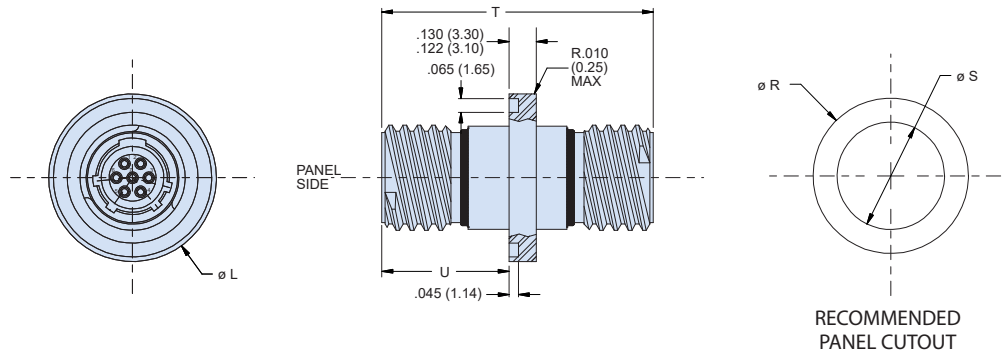
**806-089-07 Jam-Nut Mount Receptacle Dimensions**



Shell Size	"A" Thread Mating	" $\phi G$ " MAX Flange	"H" Square Max Flange Flats	"J" Max Flange	"K" Thread Mounting
7	.4375-.067P-.2L-TS-2A	0.848 (21.54)	0.908 (23.06)	0.100 (2.54)	M13 X 1-6g-.100R
8	.5000-.067P-.2L-TS-2A	0.980 (24.89)	0.920 (23.37)		M15 X 1-6g .100R
9	.5625-.067P-.2L-TS-2A	1.040 (26.42)	0.980 (24.89)		M16 X 1-6g .100R
10	.6250-.067P-.2L-TS-2A	1.110 (28.19)	1.050 (26.67)		M18 X 1-6g .100R
11	.6875-.067P-.2L-TS-2A	1.160 (29.46)	1.110 (28.19)		M19 X 1-6g .100R
12	.7500-.067P-.2L-TS-2A	1.230 (31.24)	1.170 (29.72)		M21 X 1-6g .100R
14	.8750-.067P-.2L-TS-2A	1.360 (34.54)	1.320 (33.53)		M24 X 1-6g .100R
16	1.0000-.067P-.2L-TS-2A	1.515 (38.48)	1.444 (36.68)		M27 X 1-6g .100R
18	1.1250-.067P-.2L-TS-2A	1.610 (40.89)	1.570 (39.88)		M30 X 1-6g .100R
20	1.2500-.067P-.2L-TS-2A	1.850 (46.99)	1.760 (44.70)		0.128 (3.25)
22	1.3750-.067P-.2L-TS-2A	2.010 (51.05)	1.913 (48.59)	M37 X 1-6g .100R	
24	1.5000-.067P-.2L-TS-2A	2.195 (55.75)	2.070 (52.58)	M41 X 1-6g .100R	

**Bulkhead Feedthrough Hermetic Receptacle  
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**806-089-13 Weld Mount Receptacle Dimensions**



Shell Size	"A" Thread Mating	" $\phi L$ " $\pm.002$ Flange	" $\phi R$ " $\pm.002$ MTG Hole	" $\phi S$ " Thru
7	.4375-.067P-.2L-TS-2A	0.725 (18.42)	0.730 (18.54)	0.445 (11.30)
8	.5000-.067P-.2L-TS-2A	0.788 (20.02)	0.793 (20.14)	0.509 (12.93)
9	.5625-.067P-.2L-TS-2A	0.912 (23.16)	0.917 (23.29)	0.577 (14.66)
10	.6250-.067P-.2L-TS-2A	0.975 (24.76)	0.980 (24.89)	0.645 (16.38)
11	.6875-.067P-.2L-TS-2A	1.038 (26.37)	1.043 (26.49)	0.712 (18.08)
12	.7500-.067P-.2L-TS-2A	1.100 (27.94)	1.105 (28.07)	0.768 (19.51)
14	.8750-.067P-.2L-TS-2A	1.225 (31.12)	1.230 (31.24)	0.890 (22.61)
16	1.0000-.067P-.2L-TS-2A	1.350 (34.29)	1.355 (34.42)	1.015 (25.78)
18	1.1250-.067P-.2L-TS-2A	1.475 (37.47)	1.480 (37.59)	1.125 (28.58)
20	1.2500-.067P-.2L-TS-2A	1.600 (40.64)	1.605 (40.77)	1.275 (32.39)
22	1.3750-.067P-.2L-TS-2A	1.725 (43.82)	1.730 (43.94)	1.400 (35.56)
24	1.5000-.067P-.2L-TS-2A	1.850 (46.99)	1.855 (47.12)	1.525 (38.73)

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