

MISSION-CRITICAL  
INTERCONNECT  
SOLUTIONS

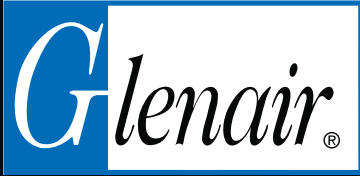


*Glennair*  
SIGNATURE SERIES

# Underwater Connectors

Topside and Subsea Connectors / PBOF Assemblies for  
High-Pressure Oil & Gas Industry Interconnect Applications

AUGUST 2020



# OIL & GAS INDUSTRY INTERCONNECT SOLUTIONS

- High-pressure, 10K psi open-face subsea
- Ruggedized serial and high-speed electrical connectors
- Power and fiber optic interconnects
- Hazardous zone ATEX explosion-proof
- Ultra high-density solutions for ROVs



TOP  
SIDE



SHALLOW  
WATER



DOWN  
HOLE



DEEP  
WATER

High-performance, high-pressure interconnect technologies with proven sealing performance in shipboard, downhole and underwater applications





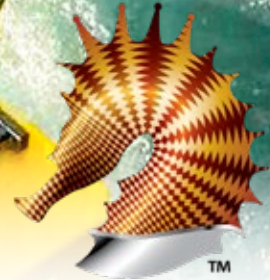
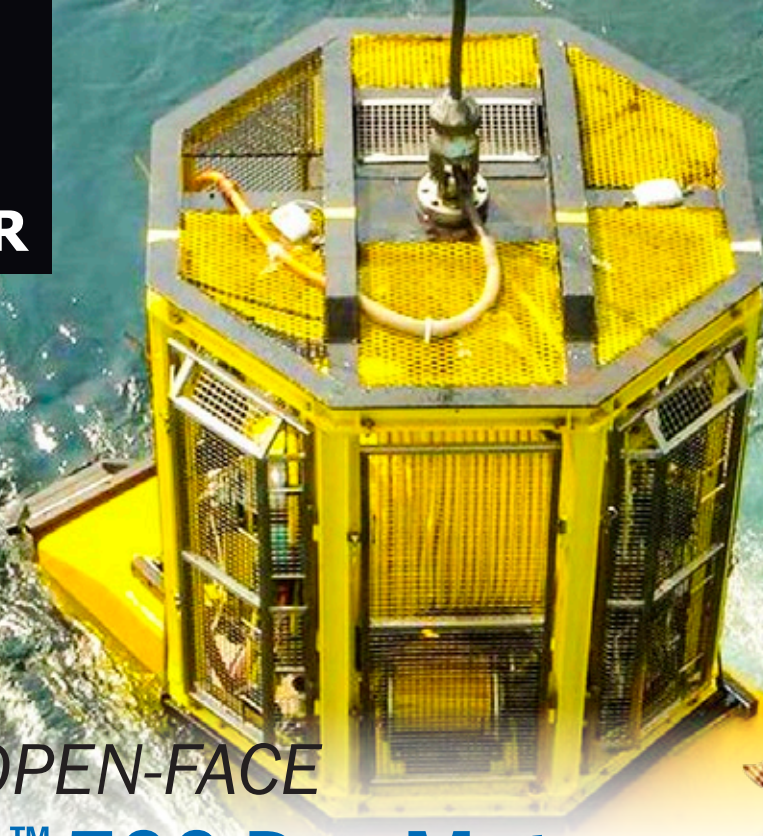
# Dry-mate Underwater/Subsea Connector Selection Guide

SIZE	CONNECTOR SERIES	RUGGEDNESS LEVEL	OPEN-FACE SEALING	DEPTH RATING
Large		3 Mission-Critical	Yes	10K PSI (700 Bar)
Standard		3 Mission-Critical	Yes	10K PSI (700 Bar)
		2 High-Reliability	Yes	10K PSI (700 Bar)
		2 High-Reliability	No	5K PSI (450 Bar)
Miniature		2 High-Reliability	No	10K PSI (700 Bar)
		1 General Duty Harsh-Environment	No	3.5KPSI (240 Bar)
Micro		3 Mission-Critical	Yes	10K PSI (700 Bar)





**DEEP  
WATER**



**SeaKing**  
SEVEN HUNDRED

# 10K PSI OPEN-FACE SeaKing™ 700 Dry-Mate Underwater Connectors

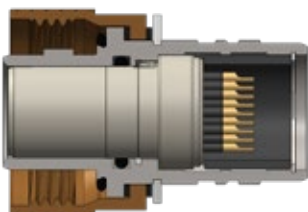
10K PSI / 700 Bar / 7000m open-face or mated, dual O-ring equipped, high-density, high-voltage, fiber optic and hybrid electrical/optical subsea connectors

SeaKing is an innovative underwater connector series that eliminates a broad range of mechanical design weaknesses found in many of today's high-pressure subsea connector families. From its double O-ring seals and retractable engaging nut, to its multi-keyed mating interface, the SeaKing underwater connector represents a far more reliable approach to subsea power and signal connectivity.

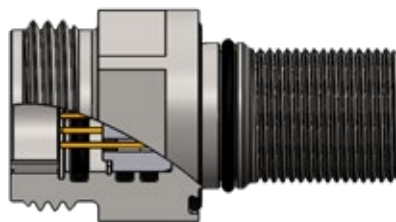
Ideally suited for deep water offshore oil & gas, military/defense, oceanographic research, and other harsh-environment subsea applications, the dry-mate connector series is built for optimal durability and reliability. Tested to 15,000 PSI (open face and mated), and equipped with integrated dual O-ring seals, marine bronze coupling nuts, corrosion-resistant stainless steel shells and high-pressure contact inserts with gold-plated signal contacts, special RF and fiber optic solutions, the Series 700 SeaKing is today's most advanced high-density signal and standard-density power underwater connector.

- High density, small form-factor connector
- Dual O-ring seals ensure high-pressure performance for every leak path
- Signal, power, RF and optical insert arrangements
- Stainless steel with anti-galling marine bronze engaging nut, or cathodic delamination-free PEEK
- Full-mate inspection ports
- Easy O-ring replacement
- Key and keyway polarization

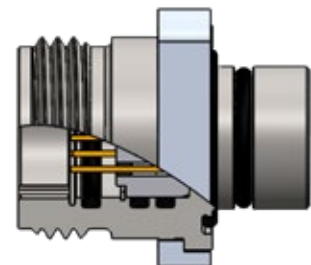
## STANDARD CONFIGURATIONS



Cable Connector Plug (CCP)



Bulkhead Connector Receptacle (BCR)



Flange Connector Receptacle (FCR)





# SERIES 700 10K PSI / 700 BAR / 7000 M SeaKing™ High-Pressure Underwater Connectors, Cables, and PBOF Assemblies



## 700 Series connectors CCP, FCR and BCR



**700-001 CABLE CONNECTOR  
PLUG (CCP) WITH SOLDER CUP  
TERMINATION**



**700-006 GLASS-TO-METAL SEAL  
OR 700-026 GLASS REINFORCED  
EPOXY, FLANGE CONNECTOR  
RECEPTACLE (FCR) WITH  
SOLDER CUP TERMINATION**

SeaKing - How To Order						
Sample Part Number	700	-001	-K19	-Z1	S	N
Product Series	700 = SeaKing™					
Shell Style	001 = cable connector plug (CCP)					
Shell Size-Insert Arrangement	(see sales drawing for details)					
Shell Material	Z1 = 316 stainless steel TC = titanium					
Contact Style	S = socket					
Polarization	A, B, C, N = normal (see sales drawing for details)					

SeaKing - How To Order						
Sample Part Number	700	-006	-O19	-Z1	P	N
Product Series	700 = SeaKing™					
Shell Style	006 = GTMS flange connector receptacle (FCR) 026 = GRE flange connector receptacle (FCR)					
Shell Size-Insert Arrangement	(see sales drawing for details)					
Shell Material	Z1 = 316 stainless steel TC = titanium					
Contact Style	P = Pin					
Polarization	A, B, C, N = normal (see sales drawing for details)					



**700-007 GLASS-TO-METAL  
SEAL OR 700-027 GLASS  
REINFORCED EPOXY,  
BULKHEAD CONNECTOR  
RECEPTACLE (BCR) WITH  
SOLDER CUP TERMINATION**

**700-010 BULKHEAD CONNECTOR FEED-THRU (BCF),  
INCONEL INSERT, 10K PSI OPEN FACE RATED**

SeaKing - How To Order						
Sample Part Number	700	-007	-K19	-Z1	P	N
Product Series	700 = SeaKing™					
Shell Style	007 = GTMS bulkhead connector receptacle (BCR) 027 = GRE bulkhead connector receptacle (BCR)					
Shell Size-Insert Arrangement	(see sales drawing for details)					
Shell Material	Z1 = 316 stainless steel TC = titanium					
Contact Style	P = pin					
Polarization	A, B, C, N = normal (see sales drawing for details)					

SeaKing - How To Order								
Sample Part Number	700-010	-M12	-Z1	P	N	P	N	-2
Product Series	700-010 = SeaKing™ bulkhead connector feed-thru (BCF)							
Shell Size-Insert Arrangement	(see sales drawing for details)							
Shell Material	Z1 = 316 stainless steel TC = titanium							
Side A, Contact Type	P = pin S = socket							
Side A, Polarization	A, B, C, N = normal (see polarization table, pgs. 6-7)							
Side B, Contact Type	P = pin S = socket							
Side B, Polarization	A, B, C, N = normal (see sales drawing for details)							
Bulkhead Thickness	1 = 1.00 - 1.50	2 = 1.50 - 2.00	3 = 2.00 - 2.500	4 = 2.50 - 3.00	5 = 3.00 - 3.50	6 = 3.50 - 4.00		



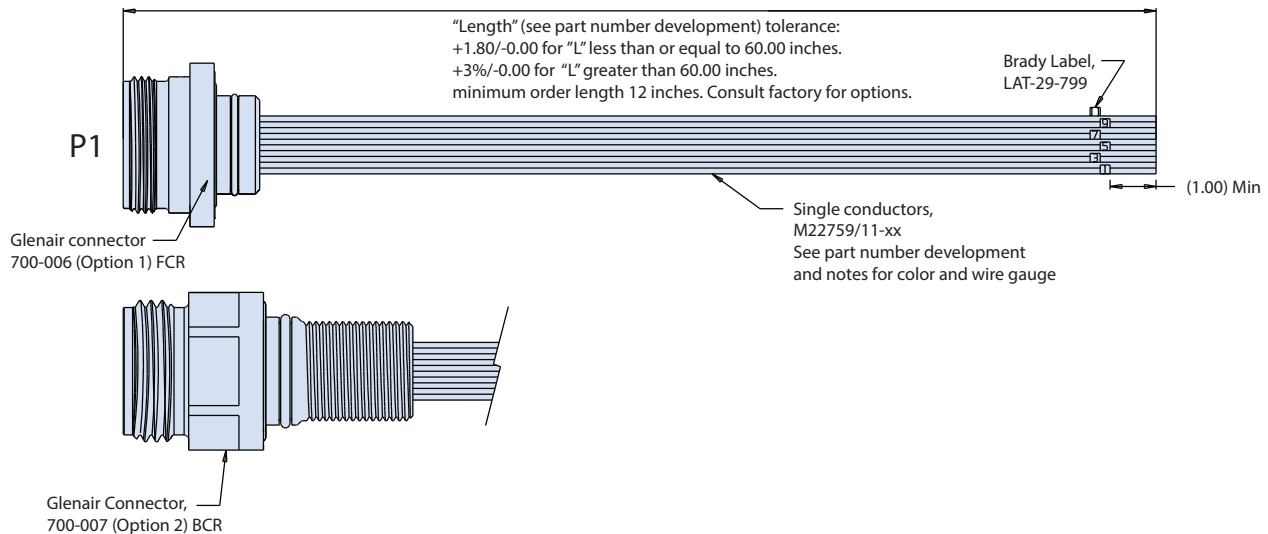
# SERIES 700 10K PSI / 700 BAR / 7000 M SeaKing™ High-Pressure Underwater Connectors, Cables, and PBOF Assemblies



## Single-ended connector receptacle pigtail assembly

### 7071-0012 FLANGE OR BULKHEAD CONNECTOR RECEPTACLE PIGTAIL ASSEMBLY

SeaKing - How To Order	
<b>Sample Part Number</b>	<b>7071-0012</b> <b>-1</b> <b>M12</b> <b>-Z1</b> <b>-12</b> <b>A</b> <b>N</b>
<b>Product Series</b>	<b>7071-0012 = SeaKing™</b>
<b>Receptacle Style</b>	<b>1 = 700-006 (GTMS FCR)</b> <b>2 = 700-007 (GTMS BCR)</b> <b>3 = 700-026 (GRE FCR)</b> <b>4 = 700-027 (GRE BCR)</b>
<b>Insert Arrangement</b>	(see sales drawing for details)
<b>Material/Finish</b>	<b>Z1 = 316 stainless steel</b> <b>TC = titanium</b>
<b>Cable Length</b>	In inches
<b>Wire Coloring</b>	<b>A = all white</b> <b>B = 10 color repeating; IAW MIL-STD-681</b>
<b>Polarization</b>	<b>A, B, C, N = normal (see sales drawing for details)</b>



Alternate Key Positions		
Key Position	Key Rotation	
	A°	B°
Normal (N)	150°	210°
A	75°	210°
B	95°	230°
C	140°	275°

#### NOTES

- 100% electrically tested for shorts, dielectric withstanding voltage (500Vac 5 seconds max) and insulation resistance (conductor to conductor and conductor to shell at 500Vdc/200 megohms min. (IAW-STD-202, Method 302)
- Quantity and gauge of conductors determined by insert arrangement. All cavities to be populated with largest gauge wire.
- All solder cup cavities are isolated with M23053/8 heat shrink tubing.





# SERIES 700 10K PSI / 700 BAR / 7000 M SeaKing™ High-Pressure Underwater Connectors, Cables, and PBOF Assemblies

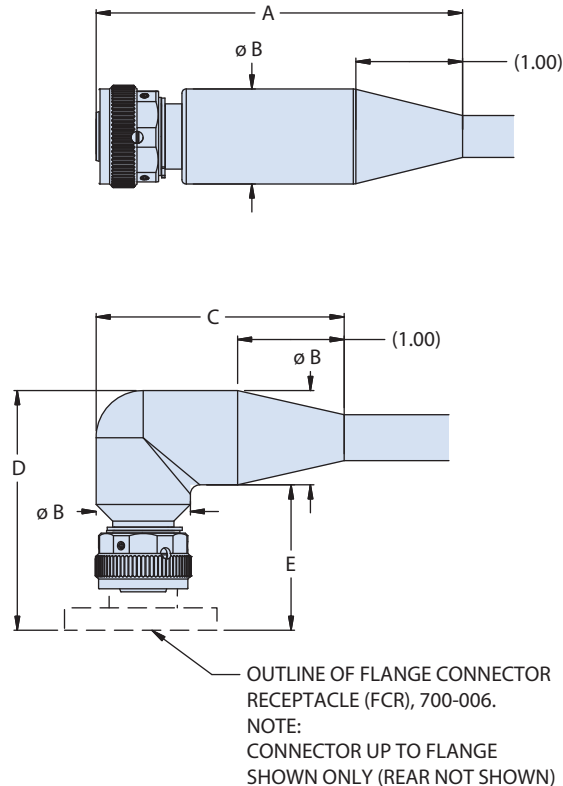


Single ended or back-to-back, overmolded cable

SIZE	A	B	C	D	E
E	4.55	0.765	2.88	2.93	2.165
G	4.55	0.875	2.94	3.11	2.235
K	4.55	1.00	3.00	3.16	2.105
L	4.55	1.125	3.00	3.29	2.165
M	5.05	1.250	3.38	3.43	2.18
O	5.05	1.500	3.5	3.55	2.05
P	5.05	1.625	3.68	3.75	2.125
Q	5.05	1.750	3.88	3.93	2.18
R	5.05	1.875	3.94	3.99	2.115

## NOTES

- 100% electrically tested for shorts, dielectric withstanding voltage (at 500Vac 5 seconds max) and insulation resistance (conductor to conductor and conductor to shell) at 500Vdc/200 megohms min. IAW MIL-STD-202, Method 302).
- Unit pack: 1 ea. In poly bag, heat-sealed. Include dust cap. Tag and bag per illustration.
- Max pressure rating 10000 psi.
- For connector dimensions, materials, finishes, refer to drawing 700-001.
- For insert arrangements refer to drawing 709-099 contact manufacturer for builds with combo insert arrangements.
- Double ended cordsets are wired one to one (ex. pin 1 to pin 1, 2 to 2 etc).
- Quantity and gauge of conductos determined by insert arrangement. All cavities to be populated with largest gauge wire.
- Marker label, M23053/5 or equivalent. Covered with clear tubing M@3053/18 or equivalent tubing shall be white with black text.
- Single conductors shall be identified with cavity identifier or "U" for unused marker label, M23053/ 5 or equivalent covered with clear tubing M23053/18 or equivalent tubing shall be white with text.
- Minimum order length is 24.00 inches. Consult factory for orders longer 1200 inches (100ft)
- All configurations are wired one to one.
- Pressure rated cable. Polyurethane jacket wire AWG shall be per contact size.





SERIES 701

# SeaKing™ Junior

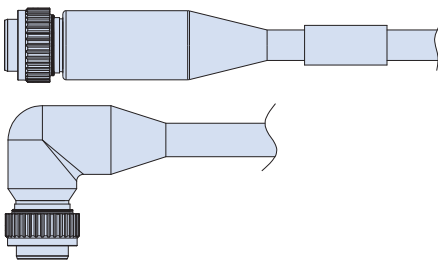
## High-reliability, dry-mate, harsh-environment connectors and cables for intelligent inline inspection PIG applications

High-density Series 701 SeaKing Junior connectors are the perfect choice for harsh-environment oil & gas industry equipment. All designs are equipped with piston seal nitrile O-rings to withstand exposure to corrosive chemicals and high-temperature environments. These 10,000 psi pressure rated (mated condition) connectors feature high-density crimp-contact or solder cup inserts, and are significantly smaller than our larger form-factor series 700 SeaKing interconnects. Gold-plated crimp contacts accept #12–30 gage wire. SeaKing Junior connectors are backfilled with epoxy potting compound, ready for easy incorporation into overmolded cables. Crimp-contact versions for field installation and repair are also available. SeaKing Junior is specifically designed for high-pressure, mated condition applications that do not require the extra fail-safe features and cost of an open-face rated solution.

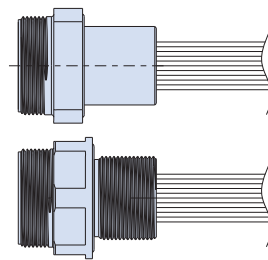


- 10,000 psi (mated condition) pressure rated connector for overmolded (non-PBOF) applications
- High density, small form-factor solution—up to 50% reduction in size and weight compared to industry standard solutions
- Ultraminiature high-density pin configurations: #22D, #20, #20HD, #16, #12, #8 signal, power, fiber optic and high-speed datalink shielded contacts

### SEAKING™ JUNIOR OVERMOLDED CABLES AND PIGTAIL ASSEMBLIES



Harsh-environment polyurethane overmolded point-to-point cables with straight or right-angle ends, one-to-one wiring



Pigtail receptacle assemblies, variable cable length, single-conductor M22759/11 wire, environmental back-end potting



All featured insert arrangements tooled and available now including high-density and combo layouts for Coax, Twinax, and El Ochito® octaxial contacts





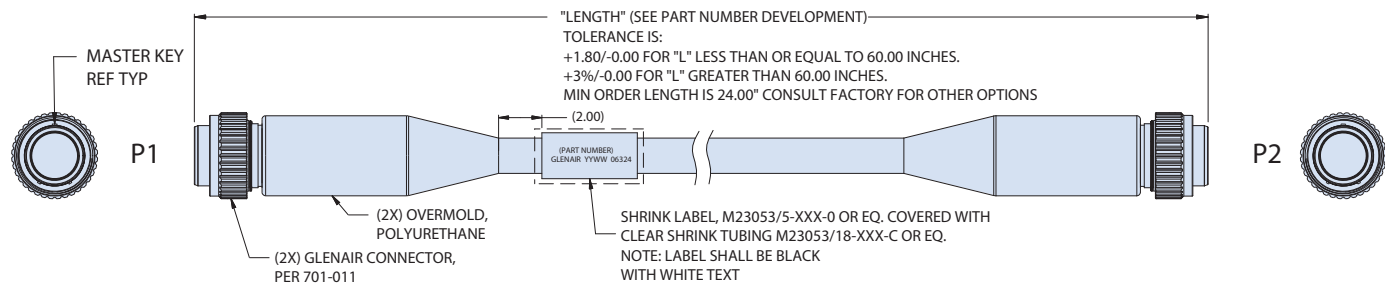
# SERIES 701 SeaKing™ Junior Harsh-Environment Dry-Mate Connectors



## Overmolded cables and pigtail assemblies

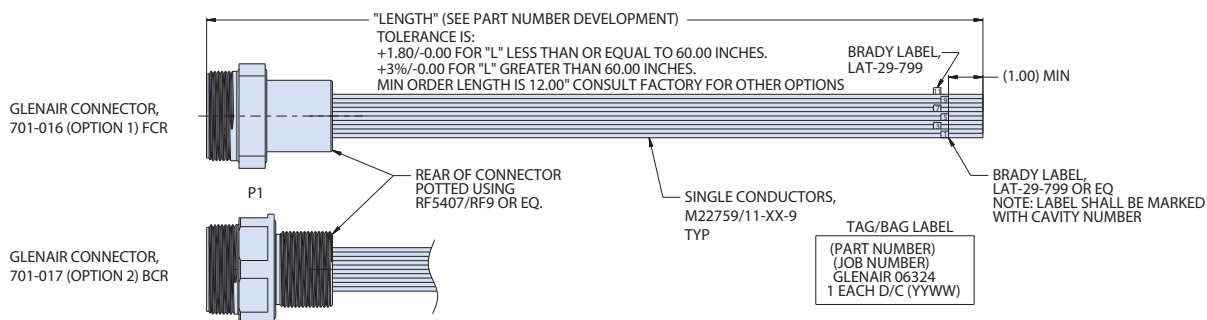
### SEAKING™ JUNIOR POINT-TO-POINT OVERMOLDED CABLE

SeaKing Junior - How To Order							
<b>Sample Part Number</b>	<b>7071-0067</b>	<b>9-35</b>	<b>Z1</b>	<b>S</b>	<b>N</b>	<b>36</b>	
<b>Series</b>	7071-0067 = SeaKing Junior Cable Assembly						
<b>Insert Arrangement</b>	See contact arrangement table pages 14-19						
<b>Material / Finish</b>	Z1 = Stainless Steel Body and Marine Bronze Coupling Nut TC = Titanium						
<b>Contact Style</b>	S = Socket						
<b>Polarization</b>	N = Normal, A, B, C (see Polarization Table, page 14)						
<b>Cable Length</b>	Length = in inches; ie 36 = 36 inches						



### SEAKING™ JUNIOR SINGLE-ENDED RECEPTACLE ASSEMBLY

SeaKing Junior - How To Order							
<b>Sample Part Number</b>	<b>7071-0068</b>	<b>1</b>	<b>9-35</b>	<b>Z1</b>	<b>P</b>	<b>N</b>	<b>36</b>
<b>Series</b>	7071-0068 = SeaKing Junior Cable Assembly						
<b>Receptacle Style</b>	1 = Flange Connector Receptacle (701-016) 2 = Bulkhead Connector Receptacle (701-017)						
<b>Insert Arrangement</b>	See contact arrangement table pages 14-19						
<b>Material / Finish</b>	Z1 = Stainless Steel Body and Marine Bronze Coupling Nut TC = Titanium						
<b>Contact Style</b>	P = Pin						
<b>Polarization</b>	N = Normal, A, B, C (see Polarization Table, page 14)						
<b>Cable Length</b>	Length = in inches; ie 36 = 36 inches						





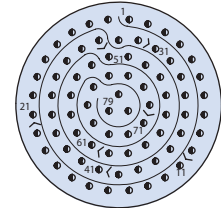
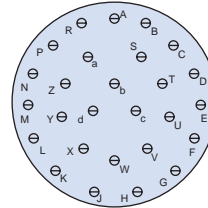
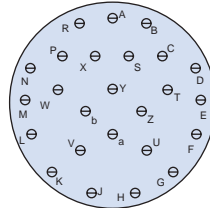
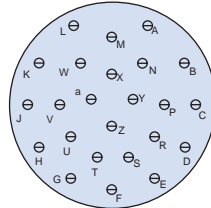
# SERIES 701 SeaKing™ Junior Harsh-Environment Dry-Mate Connectors Insert arrangements



## SEAKING™ JUNIOR TOOLED INSERT ARRANGEMENTS (STANDARD LAYOUTS)

Contact Legend

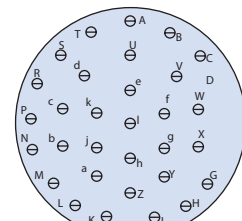
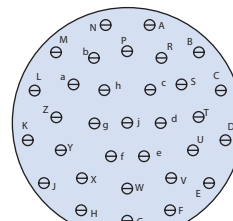
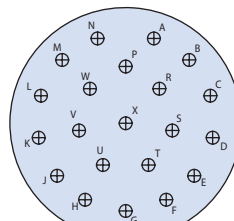
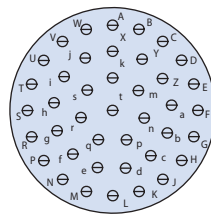
#22D • #16 ⊕  
#20 ⊖ #12 ●



Insert Arrangement	21-24	21-25	21-27	21-35
No. of Contacts	24	25	27	79
Contact Size	#20	#20	#20	#22D
Service Rating	I	I	I	M

Contact Legend

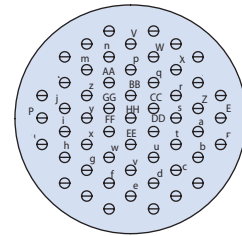
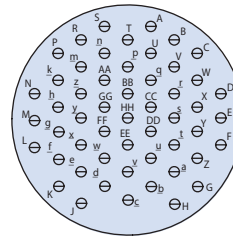
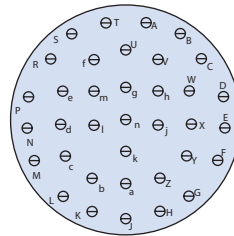
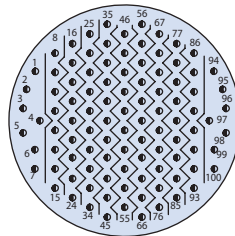
#22D • #16 ⊕  
#20 ⊖ #12 ●



Insert Arrangement	21-41	23-21	23-32	23-34
No. of Contacts	41	21	32	34
Contact Size	#20	#16	#20	#20
Service Rating	I	II	I	I

Contact Legend

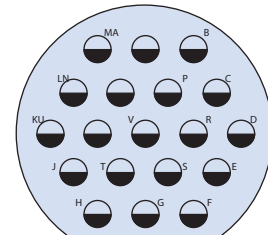
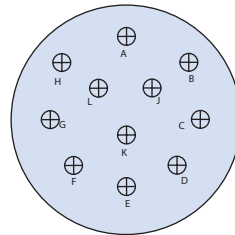
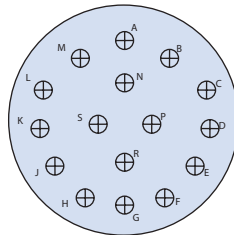
#22D • #16 ⊕  
#20 ⊖ #12 ●



Insert Arrangement	23-35	23-36	23-53	23-55
No. of Contacts	100	36	53	55
Contact Size	#22D	#20	#20	#20
Service Rating	M	I	I	I

Contact Legend

#22D • #16 ⊕  
#20 ⊖ #12 ●



Insert Arrangement	23-97	23-99	25-19
No. of Contacts	16	11	19
Contact Size	#16	#16	#12
Service Rating	I	II	I

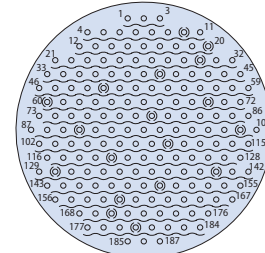
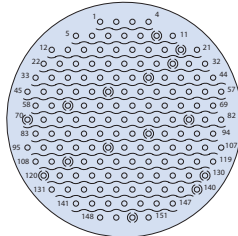




# SERIES 701 SeaKing™ Junior Harsh-Environment Dry-Mate Connectors Insert arrangements



## SEAKING™ JUNIOR TOOLED INSERT ARRANGEMENTS (HIGH-DENSITY LAYOUTS)



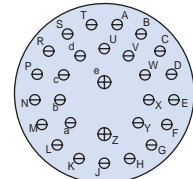
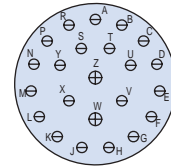
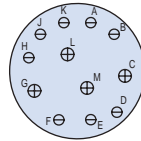
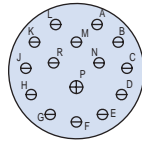
Insert Arrangement	23-23	25-23
No. of Contacts	151	187
Contact Size	#23	#23
Service Rating	N	N

## SEAKING™ JUNIOR TOOLED INSERT ARRANGEMENTS (COMBO LAYOUTS)

Contact Legend

#22D • #20 ⊖ #16 ⊕

#12 ◐ #10 ⊙

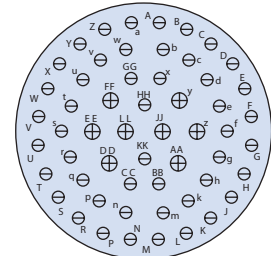
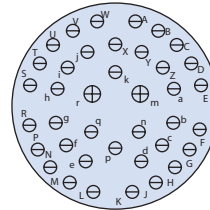
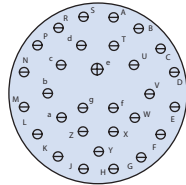


Insert Arrangement	15-15	15-97	17-99	19-28
No. of Contacts and Size	1X #16 14X #20	4X #16 8X #20	2X #16 21X #20	2X #16 26X #20
Service Rating				

Contact Legend

#22D • #20 ⊖ #16 ⊕

#12 ◐ #10 ⊙

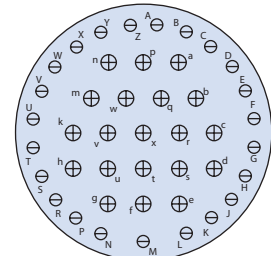
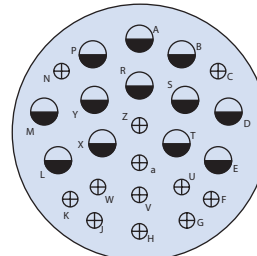
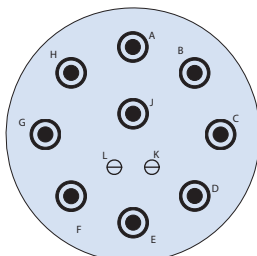


Insert Arrangement	19-30	21-39	25-48
No. of Contacts and Size	1X #16 29X #20	2X #16 37X #20	8X #16 48X #20
Service Rating			

Contact Legend

#22D • #20 ⊖ #16 ⊕

#12 ◐ #10 ⊙



Insert Arrangement	25-11	25-24	25-43
No. of Contacts and Size	9X #10 2X #20	12X #12 12X #16	20X #16 23X #20
Service Rating	N		



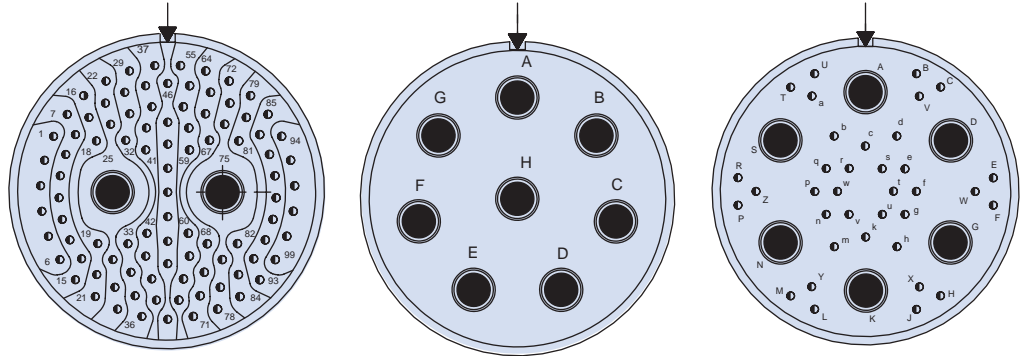
# SERIES 701 SeaKing™ Junior Harsh-Environment Dry-Mate Connectors Insert arrangements



## SEAKING™ JUNIOR TOOLED INSERT ARRANGEMENTS (SPECIAL SHIELDED LAYOUTS)

Contact Legend

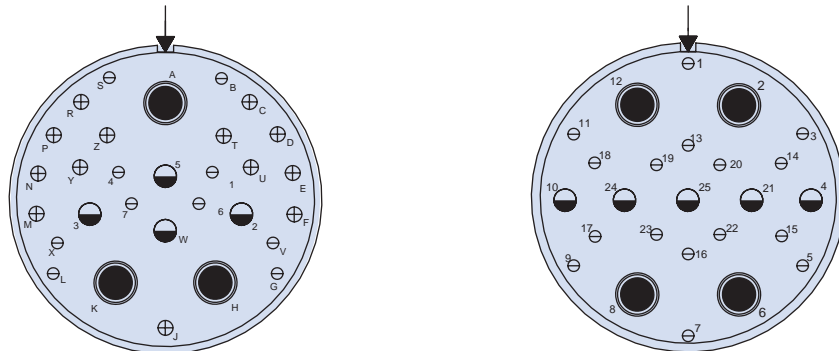
- #22D  $\odot$  #16  $\oplus$
- #20  $\ominus$  #12  $\ominus$
- #8  $\bullet$



Shell Size - Insert Arrangement	25-7		25-8		25-17	
No. of Contacts and Size	2x #8	97x #22	8x #8		6x #8	36x #22

Contact Legend

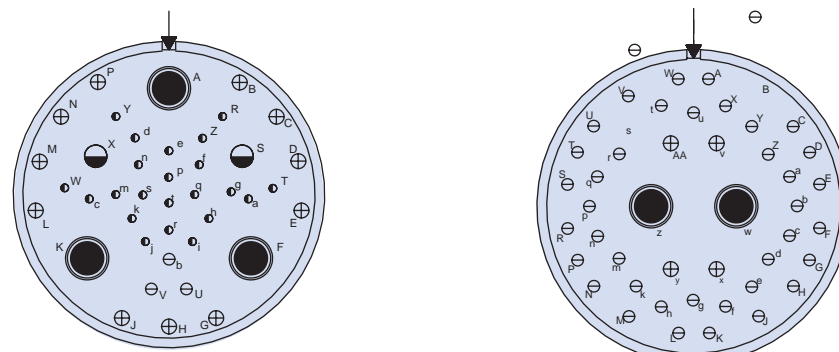
- #22D  $\odot$  #16  $\oplus$
- #20  $\ominus$  #12  $\ominus$
- #8  $\bullet$



Shell Size - Insert Arrangement	25-20				25-26		
No. of Contacts and Size	3x #8	4x #12	13x #16	10x #20	4x #8	5x #12	16x #20

Contact Legend

- #22D  $\odot$  #16  $\oplus$
- #20  $\ominus$  #12  $\ominus$
- #8  $\bullet$



Shell Size - Insert Arrangement	25-41					25-46		
No. of Contacts and Size	3x #8	2x #12	11x #16	3x #20	22x #22D	2x #8	4x #16	40x #20



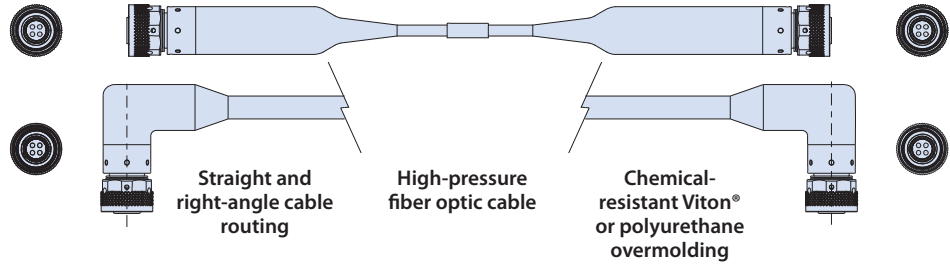


# DEEP WATER SeaKing™ Fiber Optic

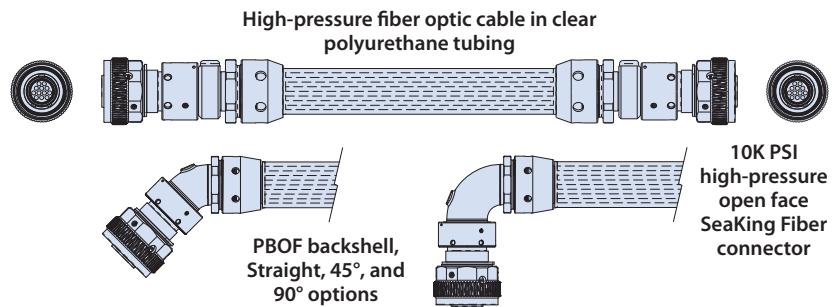


10K PSI open-face pressure-rated fiber optic connectors, cables, transceivers, and media converters

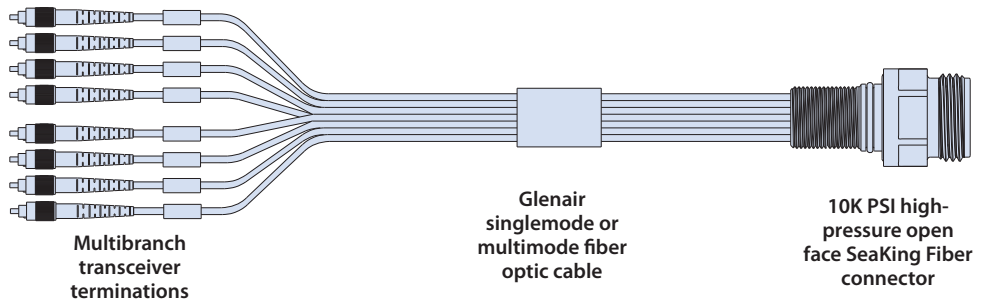
## ENVIRONMENTAL OVERMOLDED FIBER OPTIC JUMPERS



## PRESSURE-BALANCED OIL-FILLED (PBOF) HIGH-PRESSURE FIBER OPTIC ASSEMBLIES

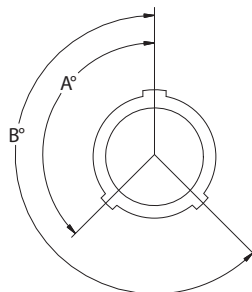


## SEAKING™ BCR OR FCR TO COMMERCIAL FIBER OPTIC PIGTAIL ASSEMBLY FOR I/O-TO-BOARD MODULE APPLICATIONS

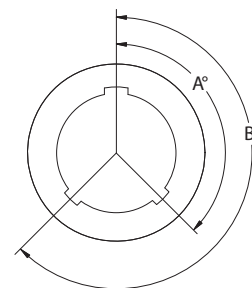


## KEY AND KEYWAY POSITIONS

Alternate Keyway Positions		
Key Position	Key Rotation	
	A°	B°
Normal (N)	150°	210°
A	75°	210°
B	95°	230°
C	140°	275°



Plug (Key)



Receptacle (Keyway)

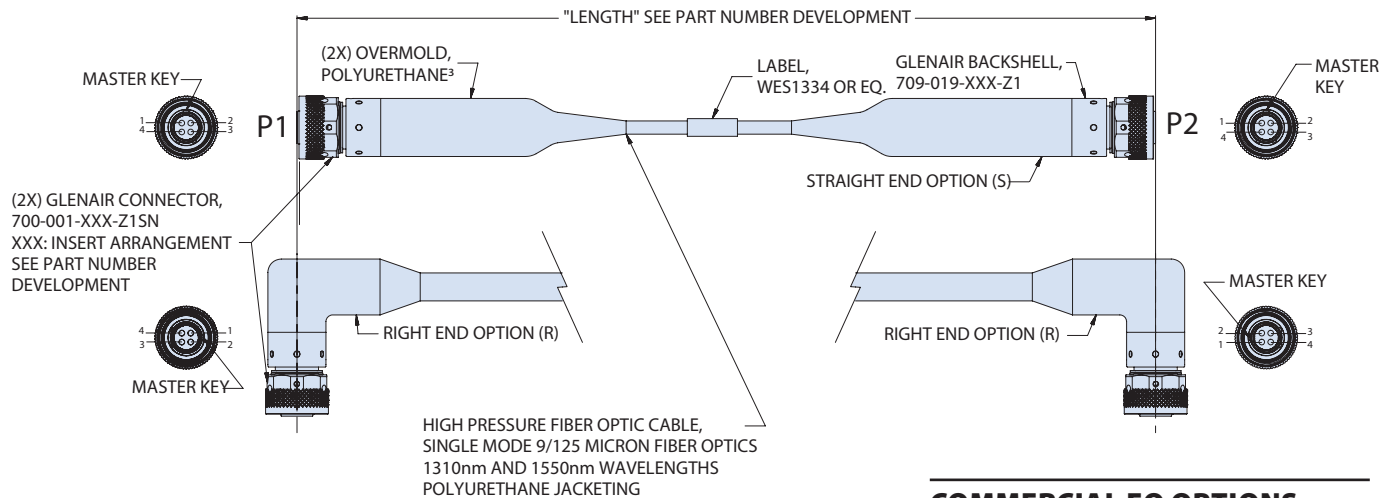


# DEEP WATER SeaKing™ Fiber Optic



Overmolded assemblies with SeaKing™ connectors or SeaKing™ to commercial fiber optic connectors

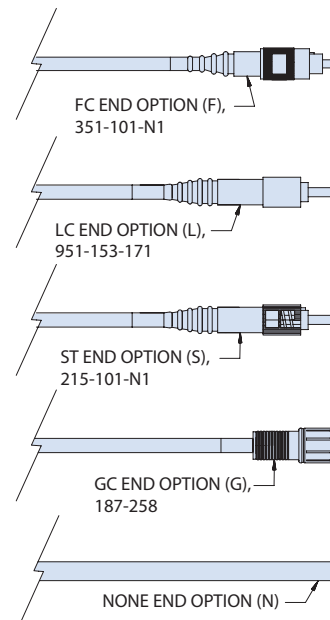
SeaKing Fiber - How To Order	
Sample Part Number	7071-0037 -C C Z1 -0F8 N -24 C
Basic Number	7071-0037
End 1 Option	C = CCP R = right angle CCP
End 2 Option	C = CCP R = right angle CCP N = none F = FC leads L = LC leads S = ST leads G = GC Leads
Shell Material	TC = titanium Z1 = 316 stainless steel
Insert Arrangement	See page 24; insert body material 316 SST
Polarization	N = normal, A, B, C; see page 23
Length	In inches
Pressure Cap Option	C = pressure cap, same size and material will be provided (709-001); omit for none



## NOTES

- Optical performance:  
Insertion loss shall be <1.0dB when measured @ 1310nm wavelength.
- Molding process for high pressure applications shall be used for polyurethane overmolds.
- Insert arrangement shown is for reference only. See page 24 for SeaKing fiber optic insert arrangements.
- See drawing 700-001 for connector dimensions, materials, and finishes. See PBOF assembly fittings, part number 709-003 for more information.
- Wiring for each arrangement is one to one. Fiber cavities can be populated with fiber termini and/or conductors. Electrical cavities shall be populated with largest gauge wire and contacts.
- Cables over 240" (20ft) shall be shipped on a reel.
- Kit GBS1000-00033 shall be used for inspection/cleaning.
- Recommended SeaKing terminus cleaning tool: GCLT-H160.
- Fiber optic terminus: 1.58 mm ferrule id, single O-ring.
- 10Kpsi open-face and mated

## COMMERCIAL FO OPTIONS



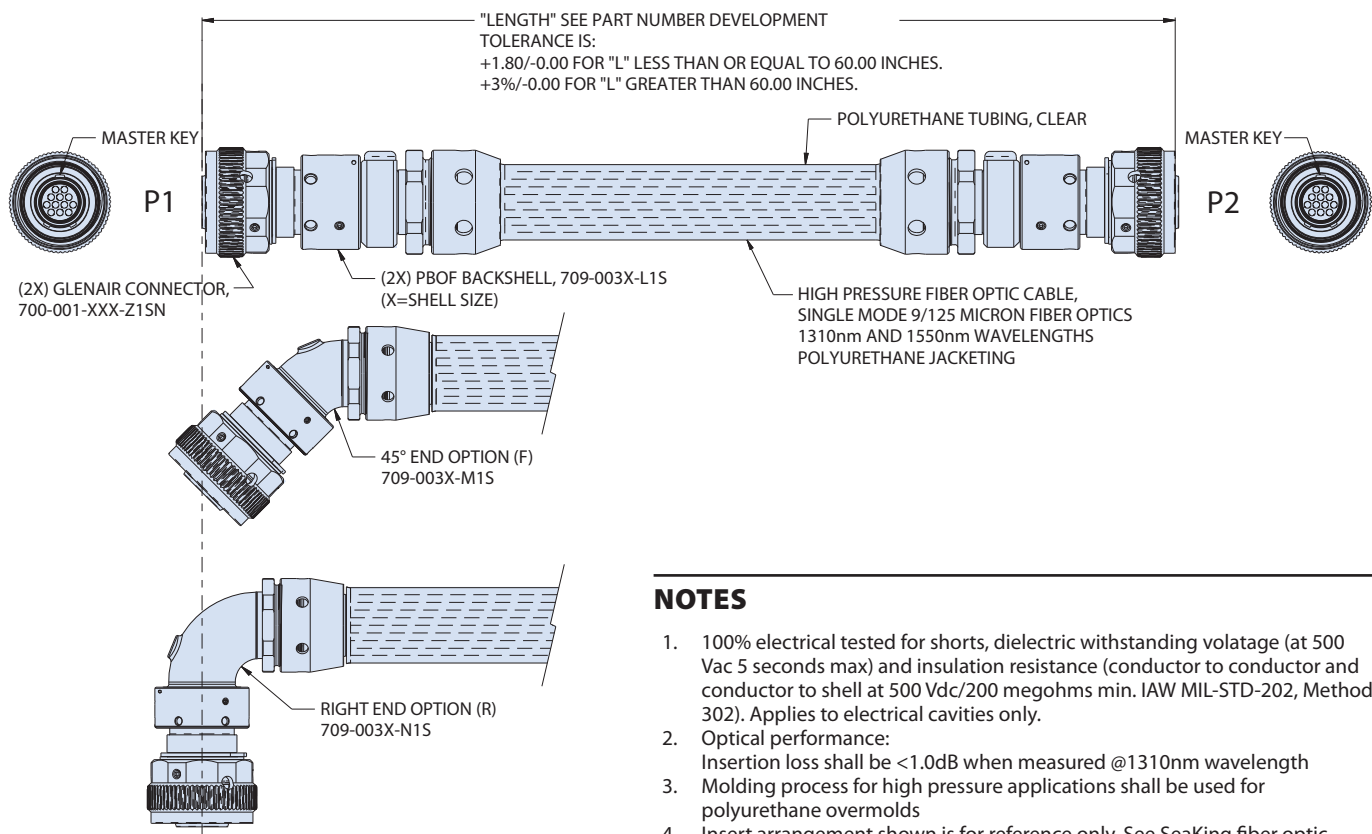


# DEEP WATER SeaKing™ Fiber Optic



## PBOF back-to-back SeaKing fiber optic assembly with straight, 45°, or 90° connectors

SeaKing Fiber - How To Order						
Sample Part Number	7071-0049	-S	S	MF4	-36	N
Basic Number	7071-0049					
Backshell End Option (P1)	S = straight	R = right	F = 45°			
Backshell End Option (P2)	S = straight	R = right	F = 45°			
Insert Arrangement	See page 24; Insert body material 316 SST					
Cable Length	In inches					
Polarization	N = normal; see page 23					



### NOTES

- 100% electrical tested for shorts, dielectric withstanding volatage (at 500 Vac 5 seconds max) and insulation resistance (conductor to conductor and conductor to shell at 500 Vdc/200 megohms min. IAW MIL-STD-202, Method 302). Applies to electrical cavities only.
- Optical performance:  
Insertion loss shall be <1.0dB when measured @1310nm wavelength
- Molding process for high pressure applications shall be used for polyurethane overmolds
- Insert arrangement shown is for reference only. See SeaKing fiber optic insert arrangements on page 24.
- Wiring shall be one-to-one for all insert arrangements
- Cables over 240" (20ft) shall be shipped on a reel.
- Kit GBS1000-00033 shall be used for inspection/cleaning.
- Recommended SeaKing cleaning tool: GCLT-H160.
- All solder cup cavities are isolated with M23053/8 heat shrink tubing.
- See drawing 700-001 for connector dimensions, materials, and finishes. See PBOF assembly fittings (709-003) for more information.
- Wiring for each arrangement is one to one. Fiber cavities can be populated with fiber termini and/or conductors. Electrical cavities shall be populated with largest gauge wire and contacts.
- Fiber optic terminus: 1.58 mm ferrule id, single o-ring.



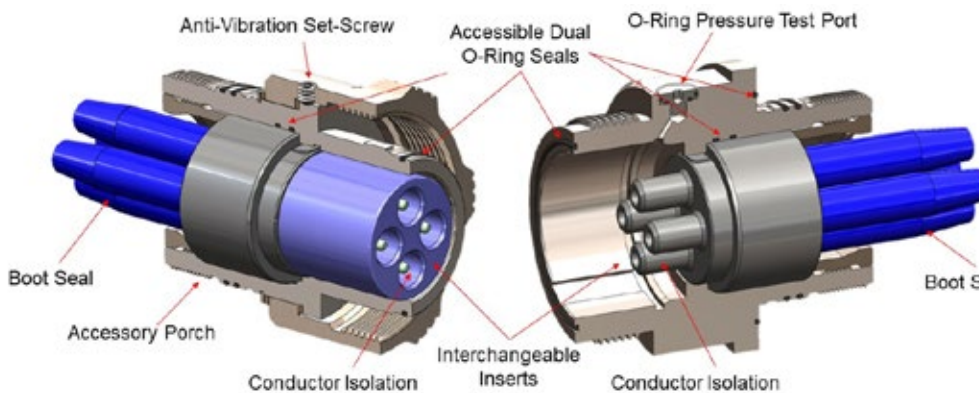


# SeaKing™ Power

## 1–3kV connectors for deep sea oil & gas primary power junctions

Glenair's SeaKing Power connector family is rated to 10K PSI in open-face or mated condition. These high-voltage (1–3kV) and high-amperage (up to 350 Amps) solder cup contact connectors are ready for immediate deployment in overmolded or PBOF configurations for primary power junction applications. Test ports available upon request. A range of shell sizes and contact inserts are available.

- API 16D and 17E-compliant test ports
- Fully redundant dual O-ring sealing
- Indexable flange or threaded bulkhead designs
- O-ring pressure inspection ports available on all BCR and FCR designs
- Factory acceptance testing in both mated and open-face conditions
- Keyed mating interface for mismatch prevention





# HIGH VOLTAGE SUBSEA SeaKing™ Power connectors for underwater primary power junctions



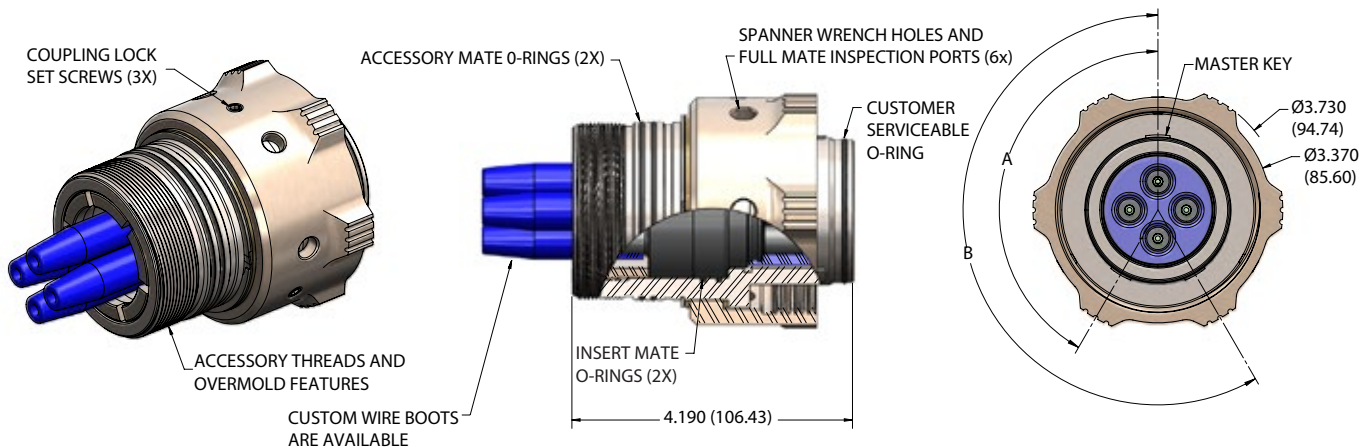
Size 48, 4-way #8 HV contacts, 3kV, 50 amps/contact

## 700-101-48 SEAKING POWER, CABLE CONNECTOR PLUG (CCP), SIZE 48, 4-WAY #8 HV CONTACTS\*

How to Order	
Sample Part Number	700-101 -48HV4 Z1 S N
Series	700-101 = cable connector plug
Shell Size / Insert Arrangement	-48HV4 = shell size 48 / layout HV4
Shell Material	Z1 = SS super duplex TC = titanium
Contact Style	P = pins S = sockets
Polarization	N = normal, A, B, C; see key positions table at right

Key Positions		
Position	A	B
N	150°	210°
A	75°	210°
B	95°	230°
C	140°	275°

\*Mates only with 700-106 BCR or FCR





# HIGH VOLTAGE SUBSEA SeaKing™ Power connectors for underwater primary power junctions



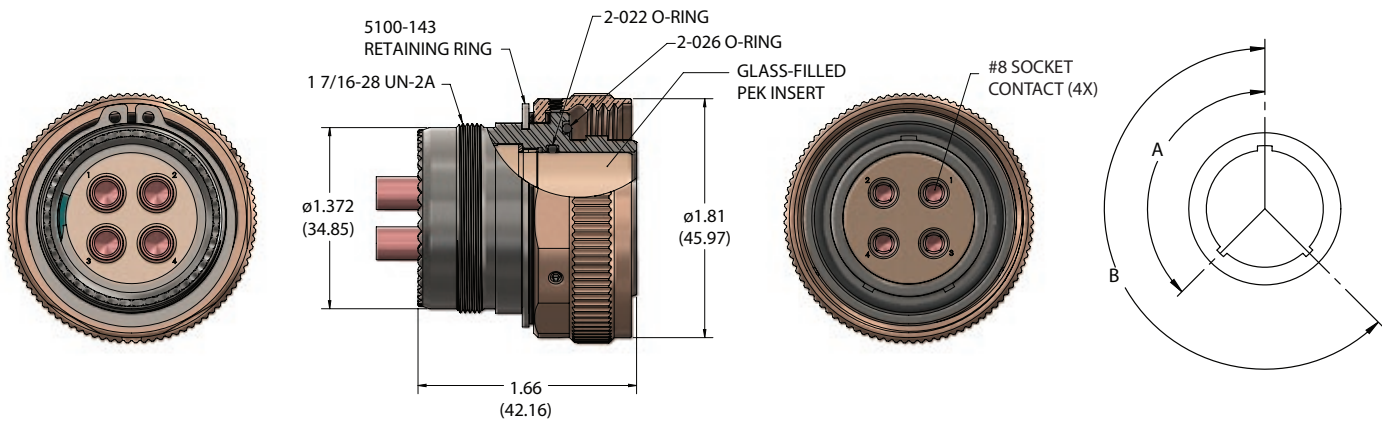
Size P, 4-way #8 HV contacts, 1kV, 50 amps/contact

## 707-0065-P4 SEAKING POWER, CABLE CONNECTOR PLUG (CCP)\*

How to Order					
Sample Part Number	707-0065	-P4	-Z1	S	N
Series	707-0065 = cable connector plug (CCP)				
Shell Size / Insert Arrangement	P4				
Shell Material	Z1 = stainless steel TC = titanium				
Contact Style	P = pin (707-0066 only) S = socket (707-0065 only)				
Polarization	N = Normal, A, B, C; see key positions table at right				

Key Positions		
Position	A	B
N	150°	210°
A	75°	210°
B	95°	230°
C	140°	275°

\*Mates only with 707-0066 BCR

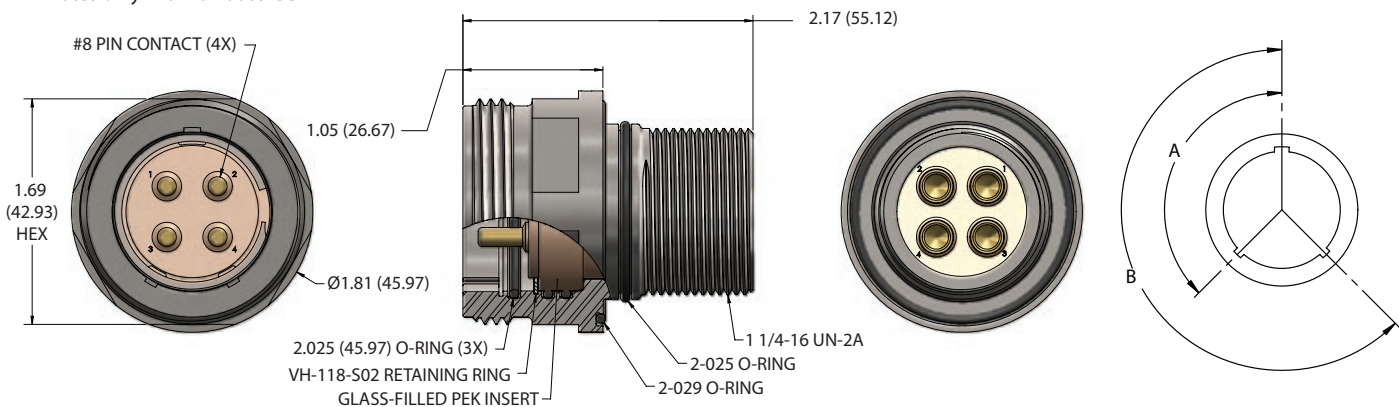


## 707-0066-P4 SEAKING POWER, BULKHEAD CONNECTOR RECEPTACLE (BCR)\*

How to Order					
Sample Part Number	707-0066	-P4	-Z1	S	N
Series	707-0066 = bulk head receptacle (BCR)				
Shell Size / Insert Arrangement	P4				
Shell Material	Z1 = stainless steel TC = titanium				
Contact Style	P = pin (707-0066 only) S = socket (707-0065 only)				
Polarization	N = Normal, A, B, C; see key positions table				

Key Positions		
Position	A	B
N	150°	210°
A	75°	210°
B	95°	230°
C	140°	275°

\*Mates only with 707-0065 CCP







# HIGH VOLTAGE SUBSEA SeaKing™ Power connectors for underwater primary power junctions



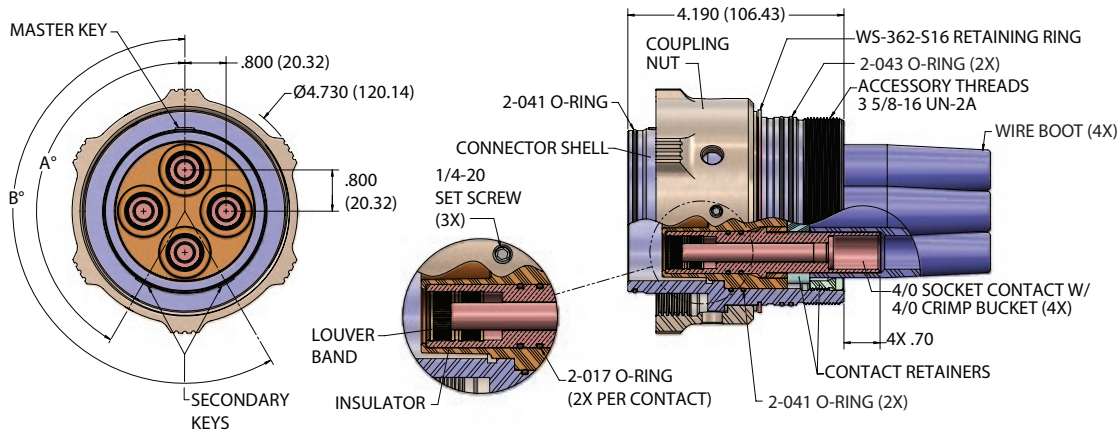
Size 64, 4-way #4/0 HV contact, 1kV, 350 amps/contact

How to Order			
Sample Part Number	707-0142	1	N
Series	707-0142 = SeaKing Power		
Connector Style	-1 = cable connector plug (CCP) -6 = flange connector receptacle (FCR) -7 = bulkhead connector receptacle (BCR)		
Key Position	N = normal, A, B, C; see key positions table		

Key Positions		
Position	A	B
N	150°	210°
A	75°	210°
B	95°	230°
C	140°	275°

## 707-0142-1 SEAKING POWER, CABLE CONNECTOR PLUG (CCP), SIZE 64, 4-WAY #4/0 HV CONTACTS\*

\*Mates only with 707-0142-6 FCR or 707-0142-7 BCR



## 707-0142-7 SEAKING POWER, BULKHEAD CONNECTOR RECEPTACLE (BCR), SIZE 64, 4-WAY #4/0 HV CONTACTS\*

\*Mates only with 707-0142-1 CCP

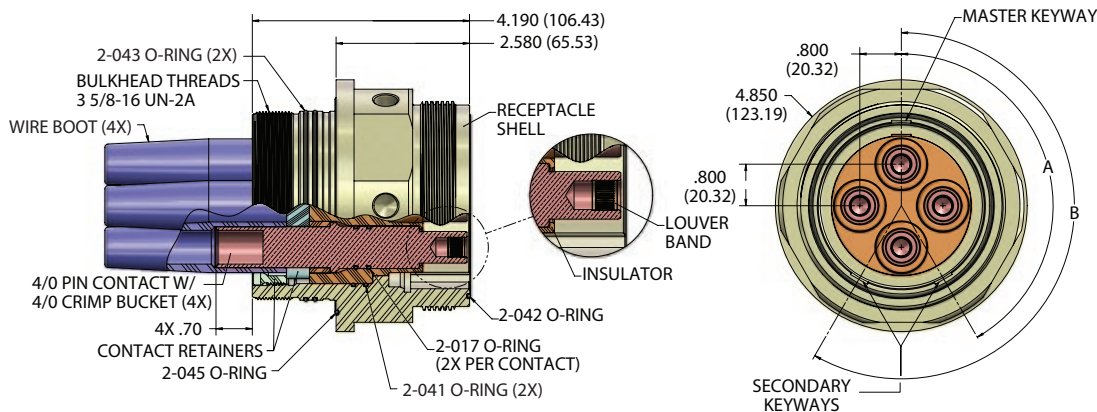




Photo: NOAA

# UNDERWATER 10K PSI DRY MATE ELECTRICAL SuperG55™

The SuperG55™ family of dry-mate underwater deep-sea-high pressure connectors are a revolutionary new design of the popular industry-standard used in countless ROV, underwater camera, diver communications, lights, pan and tilts, and other deep subsea applications.

Available in multiple shell sizes, the SuperG55™ is manufactured from 316L Stainless Steel with insert molded contact assemblies designed for pressure-sealed applications up to 10K psi mated and unmated. Intermateable and intermountable with other "55" series connectors, the Glenair solution introduces a long list of product innovations designed to improve performance and durability. Our PBOF versions, for example, utilize

easy-to-assemble threaded fittings which deliver both superior sealing performance while reducing installation time. Other innovations include full-mate inspection ports, improved solder cup contact design and more. Cable plugs and receptacles available in attachable (user-terminatable) versions as well as factory overmolded single-ended whips.



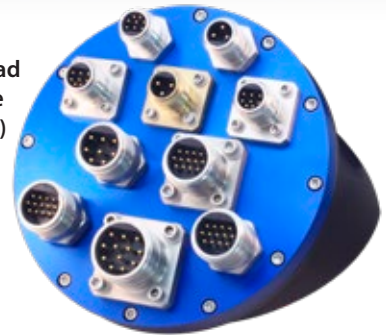
Factory-terminated overmolded Cable Connector Plug (CCP)

Bulkhead Connector Receptacle (BCR)



Flange Connector Receptacle (FCR)

High-pressure open face bulkhead (BCR) and flange receptacles (FCR)



- 10,000 psi mated/unmated (approx. 22,500ft/7,000m)
- Recessed socket contacts in plugs for electrical safety
- Intermateable and intermountable with other "55" series connectors
- 4 shell sizes — 15, 20, 24 and 32 with 3 to 39 contacts
- PBOF versions available
- 600 VDC, 5 to 18 Amps (dependent on conductor and cable size and make-up)



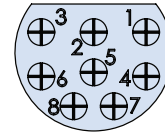
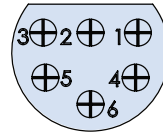
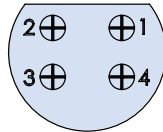
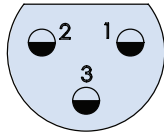


# 10K PSI / 700 BAR / 7000M SuperG55™ High-Pressure, Dry-Mate Subsea Connectors

## Insert arrangements



### SUPERG55™ INSERT ARRANGEMENTS Mating face view of pin insert (socket insert IDs are reversed)



#### Shell Size 15

**1503**

3 Size #12 AWG  
Contacts

**1504**

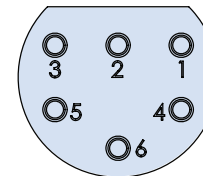
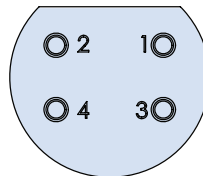
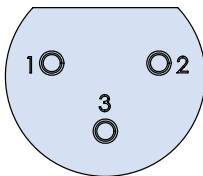
4 Size #16 AWG  
Contacts

**1506**

6 size #16 AWG  
Contacts

**1508\***

8 size #16 AWG  
Contacts



#### Shell Size 20

**2003**

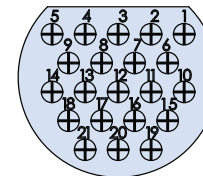
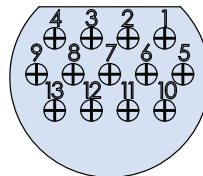
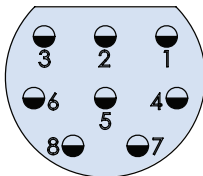
3 Size #10 AWG  
Contacts

**2004**

4 Size #10 AWG  
Contacts

**2006**

6 Size #10 AWG  
Contacts



#### Shell Size 20

**2008\***

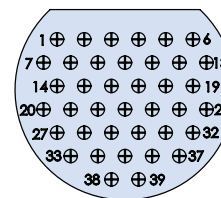
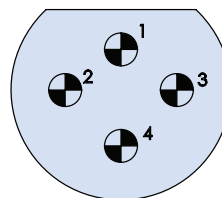
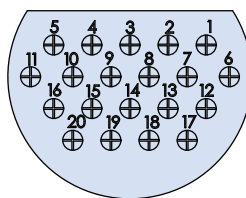
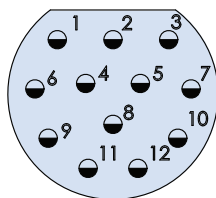
8 Size #12 AWG  
Contacts

**2013\***

13 Size #16 AWG  
Contacts

**2021\***

21 Size #16 AWG  
Contacts



#### Shell Size 24

**2412**

12 Size #12 AWG  
Contacts

**2420**

20 Size #16 AWG  
Contacts

#### Shell Size 32

**3204\*\*\***

4 Size #6 AWG  
Contacts

**3239\*\***

39 Size #16 AWG  
Contacts

Bulkhead Mounting Torque (Values are for dry non-lubricated threads)	Size 15 - 14.12NM (125LB. INS.)
	Size 20 - 18.64NM (165LB.INS.)
	Size 24 - 25.42NM (225LB.INS.)
	Size 32 - TBD

\*Compatible with high-speed Ethernet  
 \*\*3239 is not intermateable with any other brand of  
 connector. Contact factory for details  
 \*\*\* Contact factory for availability  
 Custom insert arrangements available, contact factory.





10K PSI / 700 BAR / 7000M  
**SuperG55™ High-Pressure,  
 Dry-Mate Subsea Connectors**  
 Super G55 Series connectors



**G55 OF1 STRAIGHT OIL-FILLED CABLE CONNECTOR PLUG (CCP)**



SuperG55™ - How To Order				
Sample Part Number	<b>G55OF1</b>	<b>-1508</b>	<b>-0010</b>	
Series	SuperG55™ = Underwater dry-mate, straight oil-filled CCP			
Shell Size/Insert Arrangement	See shell size / insert arrangements (page 40)			
Overall Length	In feet ( <b>0000</b> = no cable, no hose <b>0001</b> = one foot, etc.)			
Back-to-Back*	<b>B2B</b> = back-to-back (min. 7ft hose length); omit if not required			

\*Consult factory for additional back-to-back options

**G55 OFR1 RIGHT ANGLE OIL-FILLED CABLE CONNECTOR PLUG (CCP)**



SuperG55™ - How To Order				
Sample Part Number	<b>G55OFR1</b>	<b>-1508</b>	<b>-0010</b>	
Series	SuperG55™ = Underwater dry-mate, right angle oil-filled CCP			
Shell Size/Insert Arrangement	See shell size / insert arrangements (page 40)			
Overall Length	In feet ( <b>0000</b> = no cable, no hose <b>0001</b> = one foot, etc.)			
Back-to-Back*	<b>B2B</b> = back-to-back (min. 7ft hose length); omit if not required			

\*Consult factory for additional back-to-back options

**G55 06 FLANGE CONNECTOR RECEPTACLE (FCR)**



SuperG55™ - How To Order				
Sample Part Number	<b>G5506</b>	<b>-2013</b>	<b>-0004</b>	
Series	SuperG55™ = underwater dry-mate, flange connector receptacle (FCR)			
Shell Size/Insert Arrangement	See shell size / insert arrangements (page 40)			
Cable Length	In feet ( <b>0001</b> = 1 foot, <b>0004</b> = 4 feet, standard length)			
Material Option	Omit for stainless steel <b>B</b> = brass coupling nut and barrel	<b>PK</b> = peek coupling nut and barrel See material options on page 37		



10K PSI / 700 BAR / 7000M  
**SuperG55™ High-Pressure,  
 Dry-Mate Subsea Connectors**  
 Super G55 Series connectors



**G55 R2 RIGHT ANGLE OVERMOLDED CABLE CONNECTOR RECEPTACLE (CCR)**



SuperG55™ - How To Order				
Sample Part Number	<b>G55R2</b>	<b>-1508</b>	<b>-0004</b>	
Series	SuperG55™ = underwater dry-mate, right angle overmolded CCR			
Shell Size/Insert Arrangement	See shell size / insert arrangements (page 40)			
Cable Length	In feet ( <b>0001</b> = one foot, <b>0002</b> = two feet etc.)			
Inch Increments	<b>3, 6 or 9</b> inches; omit for whole feet lengths			
Material Option	Omit for stainless steel <b>B</b> = brass coupling nut and barrel		<b>PK</b> = peek coupling nut and barrel See material options on page 37	
Back-to-Back	<b>B2B</b> = back-to-back; omit if not required			

**G55 OF2 STRAIGHT OIL-FILLED CABLE CONNECTOR RECEPTACLE (CCR)**



SuperG55™ - How To Order				
Sample Part Number	<b>G55OF2</b>	<b>-1508</b>	<b>-0010</b>	
Series	SuperG55™ = Underwater dry-mate, straight oil-filled CCR			
Shell Size/Insert Arrangement*	See shell size / insert arrangements (page 40)			
Overall Length	In feet ( <b>0000</b> = no cable, no hose, <b>0001</b> = one foot, etc.)			
Back-to-Back**	<b>B2B</b> = back-to-back (min. 7ft hose length); omit if not required			

\*Currently only 1504, 1506, 1508, 2013, 2021, and 2420 insert arrangements are available  
 \*\*Consult factory for additional back-to-back options

**G55 OFR2 RIGHT ANGLE OIL-FILLED CABLE CONNECTOR RECEPTACLE (CCR)**



SuperG55™ - How To Order				
Sample Part Number	<b>G55OFR2</b>	<b>-1508</b>	<b>-0010</b>	
Series	SuperG55™ = Underwater dry-mate, right angle oil-filled CCR			
Shell Size/Insert Arrangement*	See shell size / insert arrangements (page 40)			
Overall Length	In feet ( <b>0000</b> = no cable, no hose, <b>0001</b> = one foot, etc.)			
Back-to-Back*	<b>B2B</b> = back-to-back (min. 7ft hose length); omit if not required			

\*Currently only 1504, 1506, 1508, 2013, 2021, and 2420 insert arrangements are available  
 \*\*Consult factory for additional back-to-back options



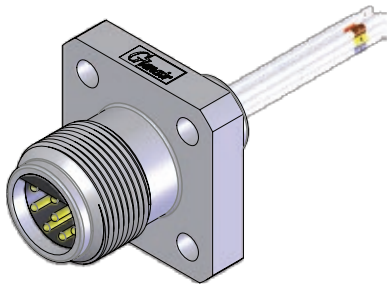
10K PSI / 700 BAR / 7000M

# SuperG55™ High-Pressure, Dry-Mate Subsea Connectors



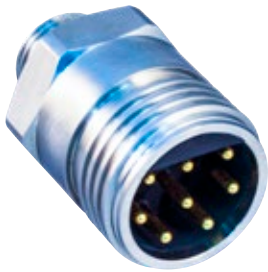
Super G55 Series custom connectors

## G55 06 FLANGE CONNECTOR RECEPTACLE (FCR) WITH EARTH LEAD



SuperG55™ - How To Order					
Sample Part Number	G5506	-1508	-0004	-EL	
Series	SuperG55™ = underwater dry-mate, FCR with earth lead				
Shell Size/Insert Arrangement	See shell size / insert arrangements (page 40)				
Cable Length	In feet (0001 = 1 foot, 0004 = 4 feet, standard length)				
Earth Lead	EL = earth lead (ground)				
Material Option	T = titanium; omit for stainless steel				

## G55 07 BULKHEAD CONNECTOR RECEPTACLE (BCR) WITH EARTH LEAD



SuperG55™ - How To Order					
Sample Part Number	G5507	-1508	-0004	-EL	
Series	SuperG55™ = underwater dry-mate, BCR with earth lead				
Shell Size/Insert Arrangement	See shell size / insert arrangements (page 40)				
Cable Length	In feet (0001 = 1 foot, 0004 = 4 feet, standard length)				
Earthing Lead	EL = earth lead (ground)				
Material Option	T = titanium; omit for stainless steel				

## G55 061F FLANGE CONNECTOR RECEPTACLE (FCR) WITH INDEXABLE FLANGE



SuperG55™ - How To Order					
Sample Part Number	G55061F	-1508	-0004		
Series	SuperG55™ = underwater dry-mate, flange connector receptacle (FCR) with indexable flange				
Shell Size/Insert Arrangement	See shell size / insert arrangements (page 40)				
Cable Length	In feet (0001 = 1 foot, 0004 = 4 feet, standard length)				
Material Option	Omit for stainless steel B = brass coupling nut and barrel		PK = peek coupling nut and barrel See material options on page 37		





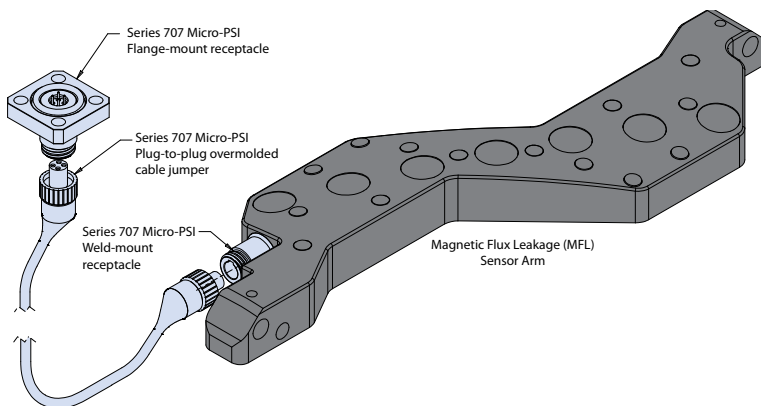
Series 707 Micro-PSI affords PIG designers the opportunity to design out legacy large form-factor connectors (such as shown in this picture) with a dramatically smaller interconnect solution.

## 10K PSI SOLUTION

# Micro-PSI

## Microminiature high-pressure connectors and cables

The Series 707 Micro-PSI is an ultraminiaturized 10K PSI high-pressure, high-temperature interconnect designed specifically for pipeline inspection applications in Magnetic Flux Leakage and ultrasonic pipeline inspection PIGs. The Micro-PSI insert arrangements feature two high-density micro TwistPin layouts for sensor applications and high-speed Gigabit Ethernet, and a Coax contact layout for 5 GHz performance. Micro-PSI connectors are supplied as discrete plugs, or overmolded plug cordsets with rugged Viton or Polyurethane jacketing. Bulkhead and flange mount receptacles are 10K psi open-face pressure sealed, and incorporate fused vitreous glass inserts for  $<1 \times 10^{-7}$  scc He/sec hermetic performance. Serviceable O-rings on plugs and dual piston and face O-rings on receptacles provide high-reliability sealing.



Application example shows the 707 Micro-PSI used to interconnect an MFL sensor to on-board PIG data storage.



- 10,000 PSI pressure rated
- 5 GHz Coax
- Less than  $1 \times 10^{-7}$  scc He/sec @ 1 ATM pressure differential
- Special-purpose high density (.050" contact spacing) intelligent inspection (PIG) connector series
- 3 Amp high-speed Gigabit Ethernet-ready
- -20° to +150°C temperature range
- High-density, small form-factor



10K PSI SOLUTION

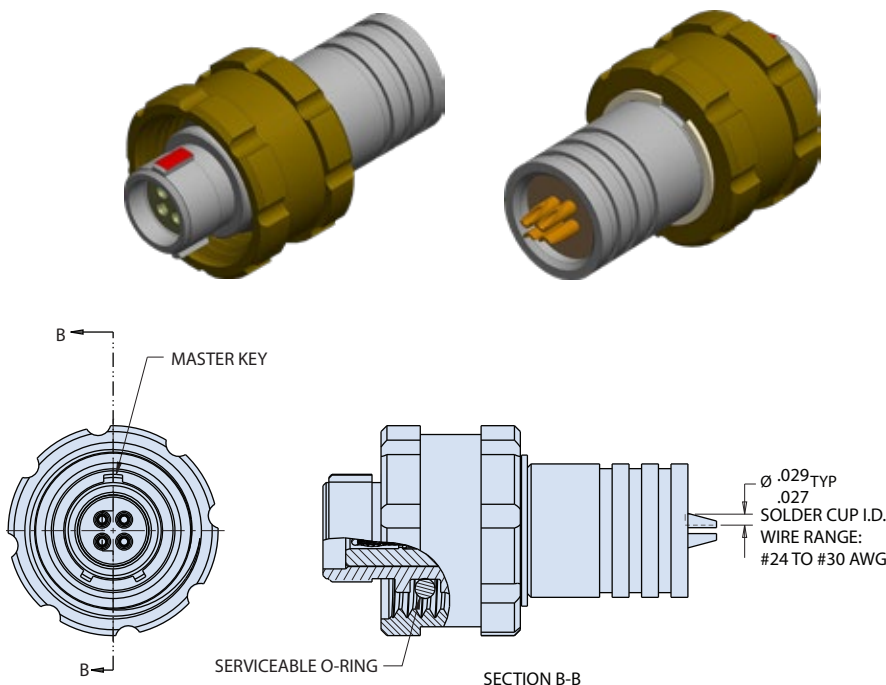
# Micro-PSI



Microminiature, high-pressure connectors and cables

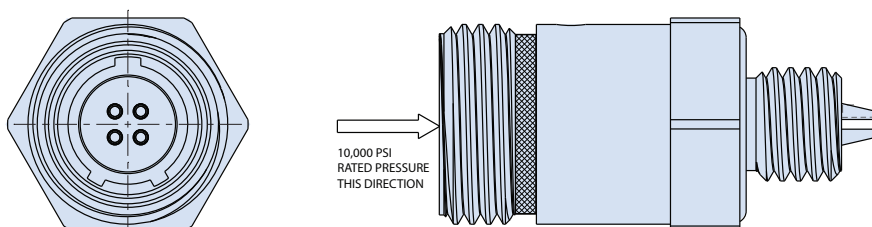
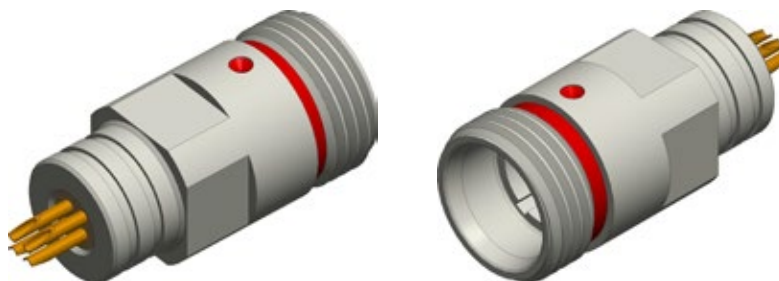
## 707-0264-1 MICRO-PSI CABLE CONNECTOR PLUG

- 10K psi rated, mated condition
- Red alignment indicator for accurate mating
- Serviceable O-ring for reliable sealing and easy maintenance
- Ultra small form-factor
- Mates with 707-0264-5 CCR, 707-0264-6 FCR and 707-0264-7 BCR



## 707-0264-5 MICRO-PSI CABLE CONNECTOR RECEPTACLE

- 10K psi open-face rated
- Vitreous glass sealed,  $<1 \times 10^{-7}$  scc He/sec hermeticity
- Operating temperature  $-20^{\circ}$  to  $+150^{\circ}$  C
- Alignment and full-mate indicators
- Ultra small form-factor
- Flying lead option available
- Mates with 707-0264-1 CCP Plugs





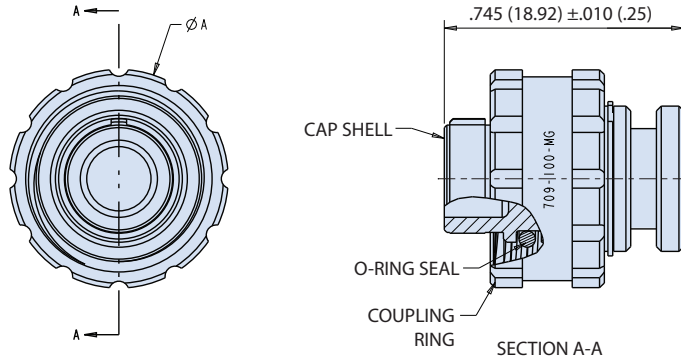
# 10K PSI SOLUTION Micro-PSI



Microminiature, high-pressure connectors and cables

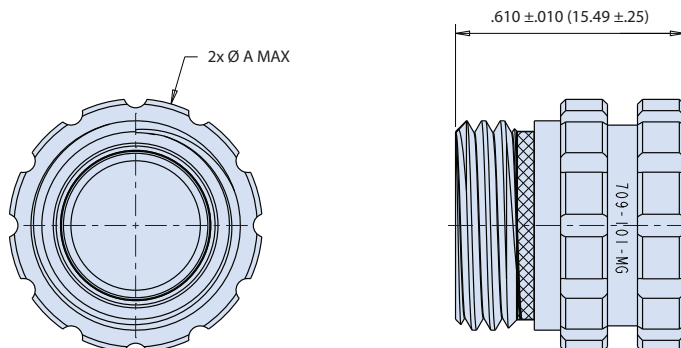
## 709-100 MICRO-PSI PLUG PRESSURE

- 10K psi rated, mated condition
- Red alignment indicator for accurate mating
- Serviceable O-ring for reliable sealing and easy maintenance



## 709-101 MICRO-PSI RECEPTACLE PRESSURE

- 10K psi rated, mated condition
- Red alignment indicator for accurate mating
- Serviceable O-ring for reliable sealing and easy maintenance







**SHALLOW  
WATER**



Photo: SASOL

# HIGH-DENSITY AquaMouse

## Ultraminiature 3500 PSI

Originally developed for petroleum pipeline inspection equipment, Series 802 connectors are available in ten sizes from 1 to 130 contacts and equipped with Viton® O-rings to withstand exposure to corrosive chemicals and high temperature environments. These connectors feature high density crimp Mighty Mouse inserts, 316 stainless steel or marine bronze shells and a piston O-ring for hydrostatic sealing. Series 802 insulated wire, panel mount receptacles can be ordered as square flange, in-line or jam-nut versions. Choose integral shield termination platform or accessory thread for use with a variety of strain relief options. Crimp style gold-plated crimp contacts accept #12–30 wire. Connectors are backfilled with epoxy potting compound. Hermetic glass-sealed connectors come with solder cup contacts (non-removable) or PC tails. 100% tested to meet  $1 \times 10^{-7}$  cc/sec helium leakage. Open face pressure rating 3500 PSI.

- 3500 psi pressure rated
- High-temperature and corrosive chemical-resistant Viton® or Nitrile O-rings
- Ultraminiature #23 contacts
- Size #20, #20HD, #16, #12, #8 signal, power, fiber optic and shielded contacts
- Discrete connectors and turnkey cable assemblies

### AQUAMOUSE CONNECTOR CONFIGURATIONS AND CLASSES



Series 802 Plugs



Series 802  
Jam Nut Mount



Series 802  
Square Flange Receptacle



Series 802  
Hermetic



Series 802 Hermetic  
Bulkhead Feed-Thru





PROVEN-PERFORMANCE

# Geo-Marine®

High-pressure harsh-environment connectors and overmolded cables for inline inspection pigs and shallow subsea applications

**D**esigned for use in oceanographic, geophysical and other severe industrial environments, Glenair Series 22 Geo-Marine® Connectors and Cables are the ultimate harsh-environment power and signal connector solution. Built to withstand hydrostatic pressures up to 5,000 PSI and exposure to extreme temperatures and corrosives, the Series 22 Geo-Marine® is ideally suited for applications such as intelligent pipeline inspection, towed array sonar systems, submersibles and ROVs, offshore oil drilling equipment, seabed exploration, well monitoring equipment, and digital seismic streamers.



Geo-Marine® plugs are equipped with arctic coupling nuts—made from marine-grade naval bronze—with easy-to-grip castellated knurling and a powerful ratcheted anti-decoupling mechanism which guarantees reliable mating and demating performance in even the harshest environments. Supplied as discrete connectors—or more typically in build-to-print overmolded cable assemblies.



Geo-Marine®

- 5000 psi pressure rated
- Marine Grade 316 stainless steel machined shells and Naval Bronze coupling rings
- High-pressure environmental and hermetically sealed receptacles for field applications
- Power and signal insert arrangements from 2 to 128 contacts
- Anti-vibration ratcheted coupling nuts with castellated knurling
- Available Viton® overmolded cable assemblies



# PROVEN-PERFORMANCE Geo-Marine® Connectors

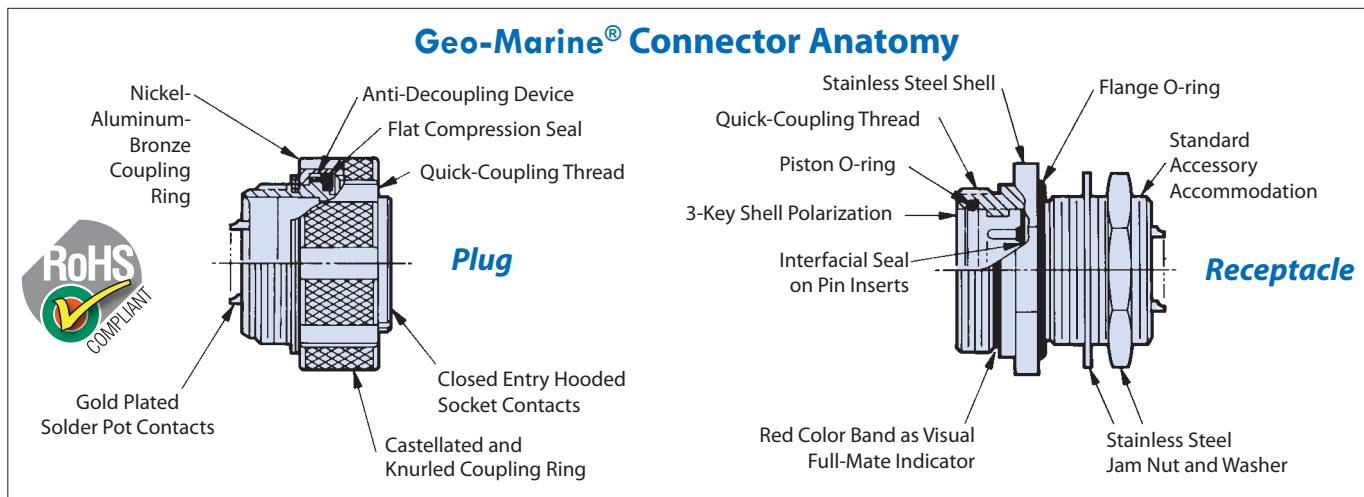


## High-pressure fused-glass underwater / harsh-environmental connectors

Performance Specifications			
Hydrostatic Pressure Rating:	5,000 PSI (fully mated)		
Operating Temperature:	-65°C to +125°C		
Durability:	500 Cycles of mate/demate		
Insulation Resistance:	1000 Megohms minimum at 500 VDC		
Class H Hermetic Receptacles			
Open-Face Pressure Rating	1,000 to 5,000 PSI		
Hermeticity	Less than $1 \times 10^{-6}$ sccHe/second @ 1 atmosphere		
Current Rating			
Current Rating	Environmental	Hermetic	
Size 22 Contact	500 VDC, 5 amps	500 VDC, 3 amps	
Size 20 Contact	500 VDC, 7.5 amps	500 VDC, 5 amps	
Size 16 Contact	750 VDC, 13 amps	750 VDC, 10 amps	
Size 12 Contact	750 VDC, 23 amps	750 VDC, 17 amps	
Service Rating			
Contact Size	Suggested Operational Voltage (Sea Level)		Test Voltage (Sea Level)
	AC(RMS)	DC	
22 GA	400	550	1300 VDC
20 GA	600	850	1800 VDC
16 GA	900	1250	2300 VDC
12 GA	300	450	2300 VDC

Depth/Pressure Conversion							
Feet	Meters	P.S.I.	Bar	Feet	Meters	P.S.I.	Bar
1	.3	.4	.0296	1,000	304.8	433.0	29.8543
10	3.1	4.3	.2965	1,500	457.2	649.5	44.7814
50	15.2	21.7	1.4962	2,500	762.0	1082.5	74.6357
100	30.5	43.3	2.9854	5,000	1524.0	2165.0	149.2715
250	76.2	108.3	7.4670	10,000	3048.0	4330.0	298.5430
500	152.4	216.5	14.9271	11,547	3519.35	5000.0	344.7379

Cable/Wire D.C. Resistance			
Copper Conductors at Room Temperature			
AWG	Ohms per 1000 feet	AWG	Ohms per 1000 feet
28	66.2 Max	20	10.4 Max
26	41.6 Max	18	6.5 Max
24	26.2 Max	16	4.1 Max
22	16.5 Max	14	2.6 Max
		12	1.6 Max





# EXTREME TEMPERATURE ThermaRex™ Interconnect Solutions

## Cryogenic and high-temperature tolerant connectors, cables, and conduit systems



Standard circular and rectangular connectors are rated for +125°C due to elastomeric materials that cannot withstand higher temperatures and pressures. Glenair's high-temperature ThermaRex series is built to withstand temperatures as high as +300°C and the extreme pressures of bottom-hole applications such as logging while drilling (LWD) and measurement while drilling (MWD). Designed for use in electronic modules and tools, these high-density, precision-machined rectangular and circular connectors are ideally suited for reliability and performance in the HTHP domain.

### 300°C THERMAREX HT CONNECTORS: SERIES 806, SUPERNINE, SERIES 79

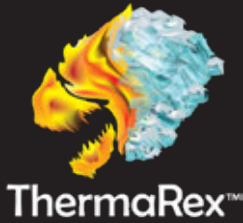


- Service rating up to 300°C
- Vibration-resistant threaded coupling
- High-temperature ceramic insulators and silicone seals
- Durable stainless steel construction
- Available in Series 806 Mil-Aero, SuperNine® D38999 type, EN2997, or Series 79 Micro-Crimp rectangular connector styles
- Utilizes Glenair Crown Ring contacts

### 600°C THERMAREX UHT CONNECTOR



- 300°C to 600°C service range
- Vibration-resistant threaded coupling
- Specialized contacts, laser welds, and metal seals
- Utilizes ultra-high temperature-tolerant Mineral Insulated cable
- Ideal for nuclear and other extreme temperature applications



# HIGH-TEMPERATURE TOLERANT ThermaRex HT SuperNine® Connectors



## High-performance fast mate/demate solution



- Service rating up to 300°C
- Vibration-resistant threaded coupling
- High-temperature ceramic insulators and silicone seals
- Durable stainless steel construction

How To Order ThermaRex SuperNine connectors							
Sample Part Number	233-273	-20	Z1	17	-26	P	N
Series / Basic Part No.	233-273 High-temperature ThermaRex SuperNine connector						
Connector Style	-20 = Receptacle, square flange-mount -24 = Receptacle, jam nut -26 = Plug						
Material/Finish	Z1 = Passivated CRES						
Shell Size	9, 11, 13, 17, 19, 21, 23, 25						
Insert Arrangement	Per M1560. See insert arrangement tables below						
Contact Style	P = Pin contacts S = Socket contacts A = Pin insert, less contacts B = Socket insert, less contacts						
Alternate Polarization*	A, B, C, D, E, N = Normal (IAW MIL-DTL-38999 Series III)						

### MATERIAL / FINISH NOTES

Plug and receptacle shells, coupling nut - Passivated CRES

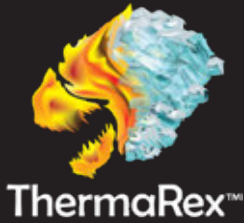
Insulator - high-grade ceramic dielectric

Grommet, interfacial, and peripheral seals - high-temp silicone

Contacts - copper alloy, gold plated, CRES hood and crown ring on socket contacts

ThermaRex High-Temperature Crown Ring Contact Arrangements (pin mating face shown)				
Suggested high-availability contact arrangements show. Most MIL-STD-1560 arrangements are available, consult factory.				
<b>9-35</b> Contact Size : 22D Qty.: 6 Service Rating: M	<b>11-99</b> Contact Size : 20 Qty.: 7 Service Rating: I	<b>11-35</b> Contact Size : 22D Qty.: 13 Service Rating: M	<b>13-8</b> Contact Size : 20 Qty.: 8 Service Rating: I	<b>13-35</b> Contact Size : 22D Qty.: 22 Service Rating: M
<b>15-97</b> Contact Size : 20 / Quantity: 8 Contact Size : 16 / Quantity: 4 Service Rating: I		<b>17-6</b> Contact Size : 12 Qty.: 6 Service Rating: I		<b>21-24</b> Contact Size : 20 Qty.: 24 Service Rating: I





# HIGH-TEMPERATURE TOLERANT ThermaRex HT Series 806 Mil-Aero Connectors



## Micro-miniature triple-start stub ACME solution



- Operating temperature -65°to +300°C
- Vibration-resistant threaded coupling
- High-temperature ceramic insulators and silicone seals
- Durable stainless steel construction

### MATERIAL / FINISH NOTES

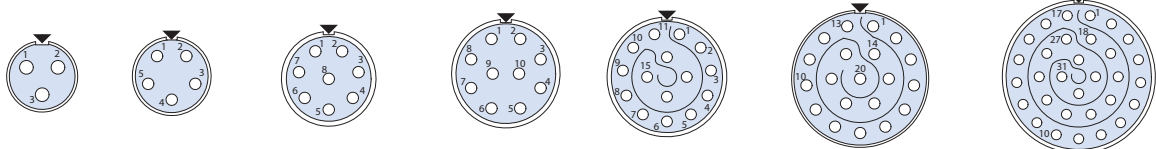
Plug and receptacle shells, barrel, coupling nut, jam nut, hex nut - Passivated CRES

Insulator - high-grade ceramic dielectric

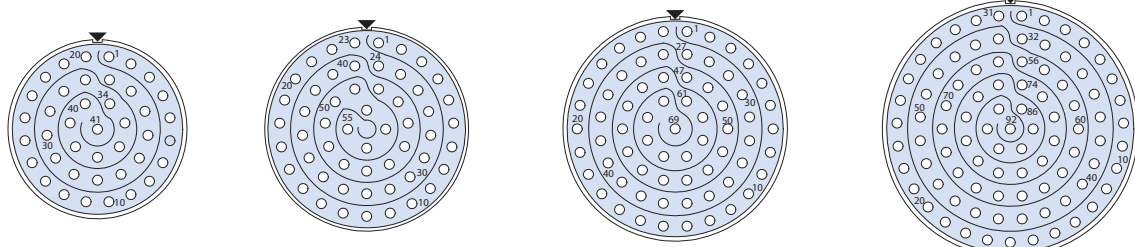
Grommet, interfacial seals - high-temp silicone

Contacts - copper alloy, gold plated, CRES hood and crown ring on socket contacts

### Series 806 Arrangements with #20 Contacts (1800 Vac, 7.5 A, pin mating face shown)

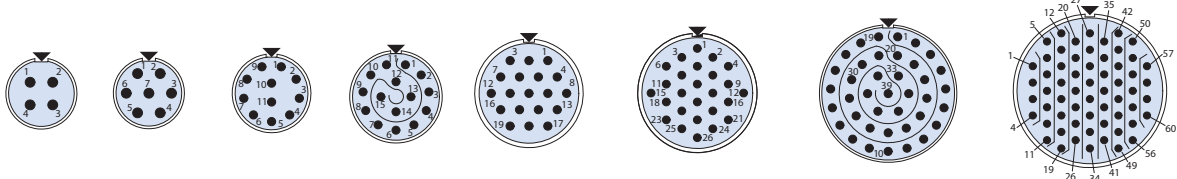


Arrangement No.    **8-3**        **9-5**        **10-8**        **11-10**        **12-15**        **14-20**        **16-31**

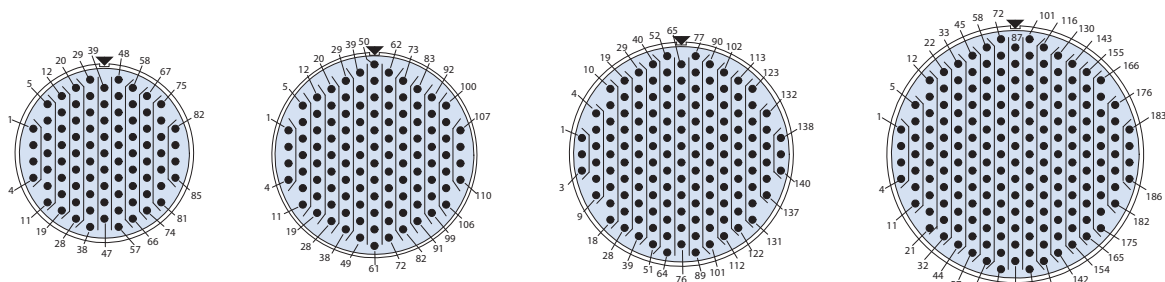


Arrangement No.    **18-41**        **20-55**        **22-69**        **24-92**

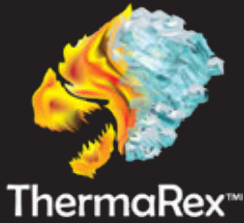
### Series 806 Arrangements with #22HD Contacts (1300 Vac, 5 A, pin mating face shown)



Arrangement No.    **8-4**        **8-7**        **9-11**        **10-15**        **11-19**        **12-26**        **14-39**        **16-60**



Arrangement No.    **18-85**        **20-110**        **22-140**        **24-186**

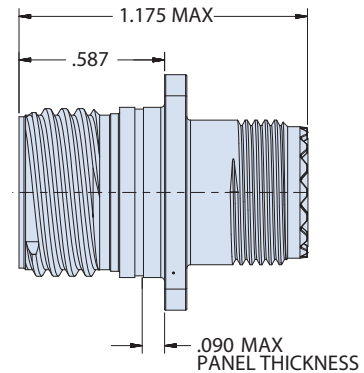
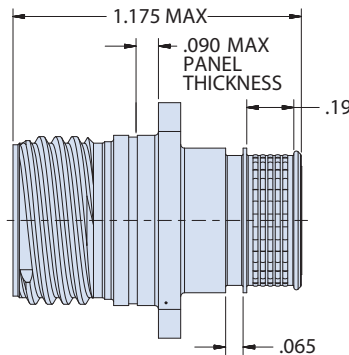
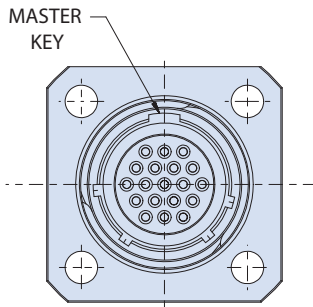


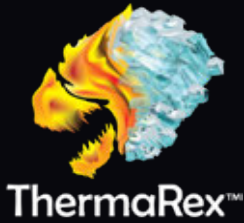
# HIGH-TEMPERATURE TOLERANT ThermaRex HT Series 806 Mil-Aero Connectors Micro-miniature triple-start stub ACME solution



## SERIES 806 MIL-AERO SQUARE FLANGE RECEPTACLE

How To Order ThermaRex Series 806 Mil-Aero Jam Nut Receptacle							
Sample Part Number	806-052	Z1	11-19	S	M	T	A
Series / Basic Part No.	806-052 High-temperature ThermaRex Series 806 square-flange receptacle						
Material/Finish	Z1 = Passivated CRES						
Shell Size/Insert Arr.	Per 806-015, See tables						
Contact Style	P = Pin A = Pin connector, less contacts S = Socket B = Socket connector, less contacts						
Shell Style	M = Metric accessory thread B = Banding platform						
Panel Mounting	T = Thru-hole						
Polarization Keyway Code	A, B, C, D, E, F						





# HIGH-TEMPERATURE TOLERANT ThermaRex HT Series 79 Micro-D Connectors with Micro-Crimp Contacts

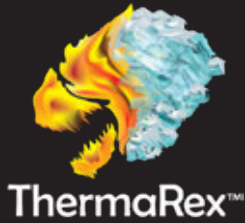
## How To Order / Contact Arrangements



How To Order ThermaRex Series 79 connectors				
Sample Part Number	797	-756	S	H-29P7
Series / Basic Part No.	797 High-temperature ThermaRex Series 79 crimp-contact rectangular			
Connector Type	-756 = Plug -757 = Receptacle			
Contact Type	S = Socket (for -756 Plug connectors) P = Pin (for -757 Receptacle connectors)			
Insert Arrangement	Per 799-009. See insert arrangement tables below			

- Service rating up to 300°C
- Vibration-resistant jackpost coupling
- High-temperature ceramic insulators and silicone seals
- Durable stainless steel construction

ThermaRex High-Temperature Crown Ring Contact Arrangements (pin mating face shown)				
<b>A-5</b> 5 #23	<b>B-2P2 / B-2W2</b> 2 #16	<b>B-9</b> 9 #23	<b>C-13</b> 13 #23	<b>D-15</b> 15 #23
<b>D-3P3 / D-3W3</b> 3 #16	<b>D-7P2 / D-7W2</b> 5 #23 / 2 #16	<b>E-11P2 / E-11W2</b> 9 #23 / 2 #16	<b>E-19</b> 19 #23	
<b>E-7P3 / 4 #23</b> 3 #16	<b>F-15P2 / F-15W2</b> 13 #23 / 2 #16	<b>F-23</b> 23 #23		
<b>F-5P5 / F-5W5</b> 5 #16		<b>G-33</b> 33 #23		
<b>H-10P4 / H-10W4</b> 6 #23 / 4 #12		<b>H-29P7</b> 22 #23 / 7 #16		
<b>H-36P2 / H-36W2</b> 34 #23 / 2 #12		<b>H-54P2 / H-54W2</b> 52 #23 / 2 #16		

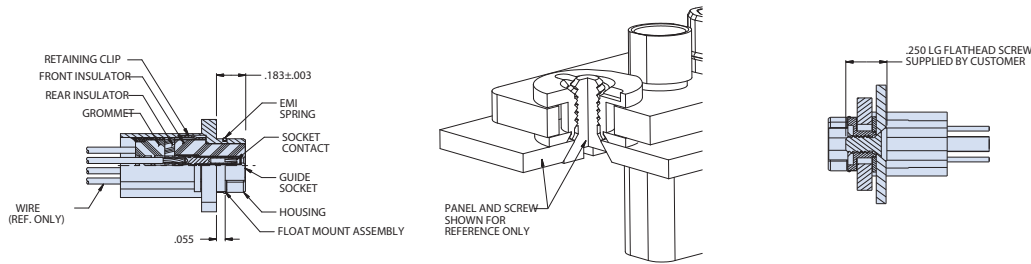


# HIGH-TEMPERATURE TOLERANT ThermaRex HT Series 79



## High-Performance Crimp-Contact Micro-D 797-756 Plug Details

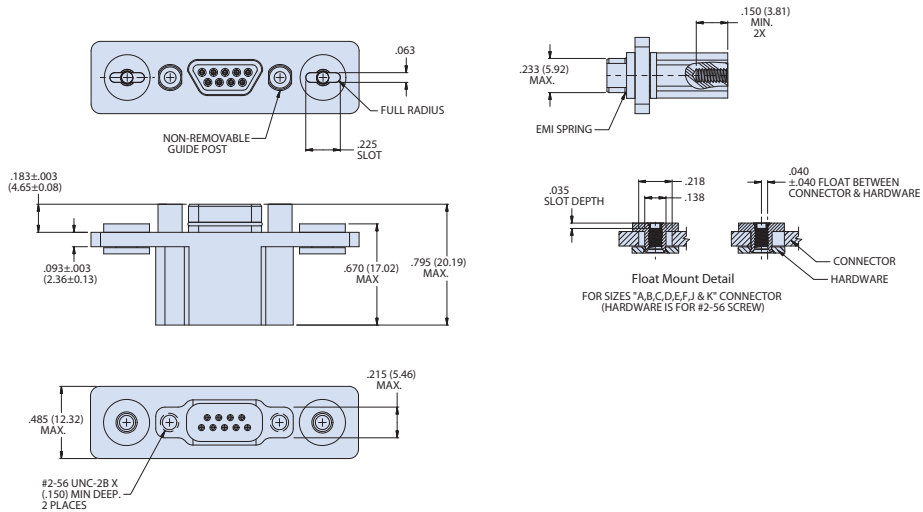
### CROSS-SECTIONAL VIEW AND HARDWARE



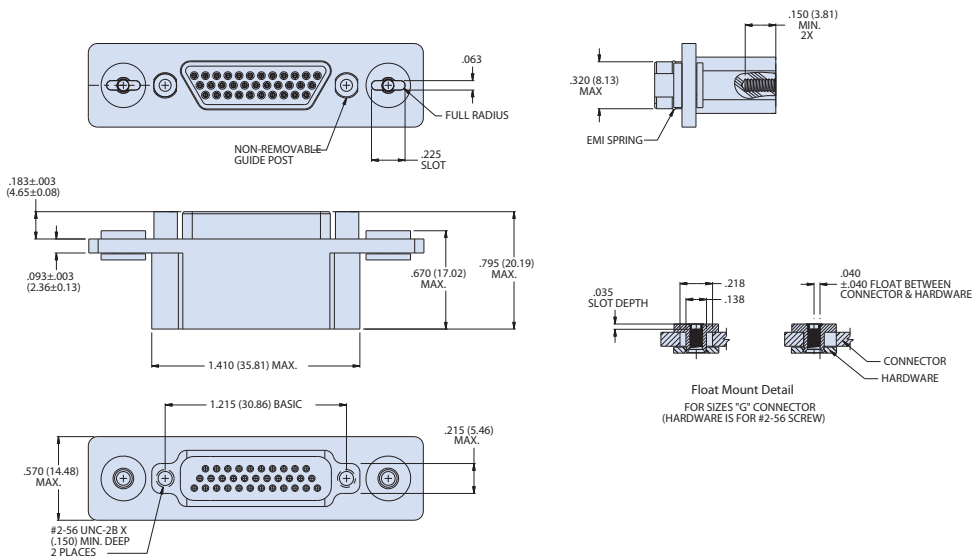
CONNECTOR SUPPLIED WITH NON-REMOVABLE GUIDE POST FOR BLIND MATE APPLICATION.

FLOAT MOUNT BUSHING HAS SHELL SIZES "M", "L" & "H" WITH #4-40 UNC-2B THREAD. ALL OTHER SIZES HAVE #2-56 UNC-2B THREAD.

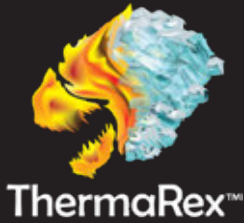
### SHELL SIZES A, B, C, D, E, F, J, K



### SHELL SIZE G





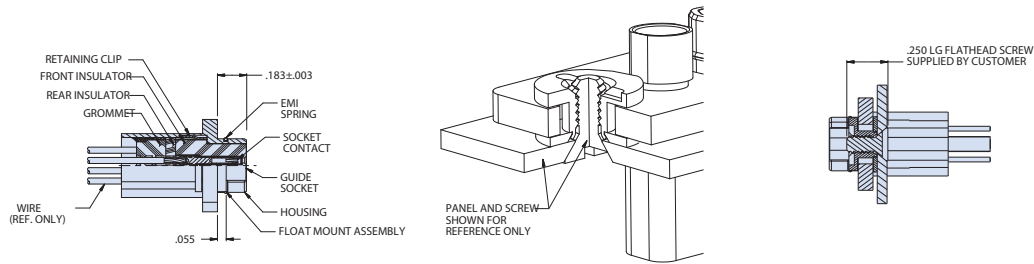


# HIGH-TEMPERATURE TOLERANT ThermaRex HT Series 79



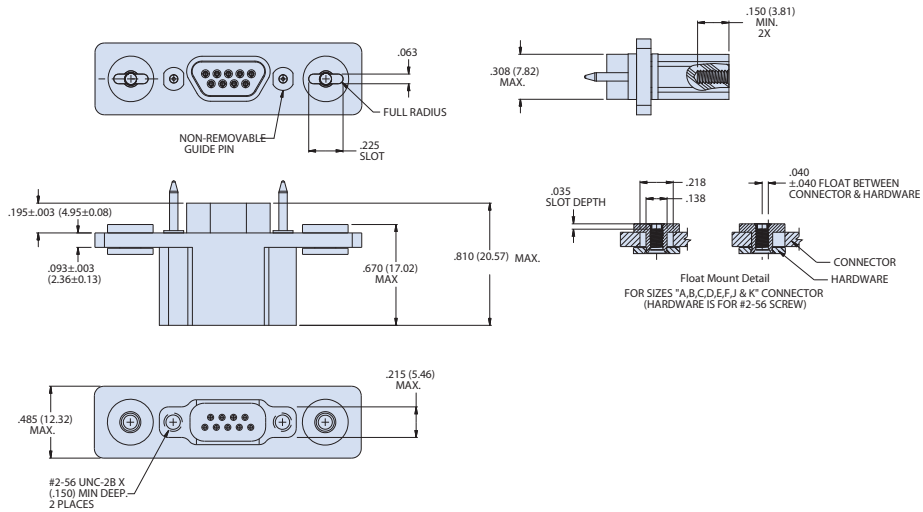
## High-Performance Crimp-Contact Micro-D 797-757 Receptacle Details

### CROSS-SECTIONAL VIEW AND HARDWARE

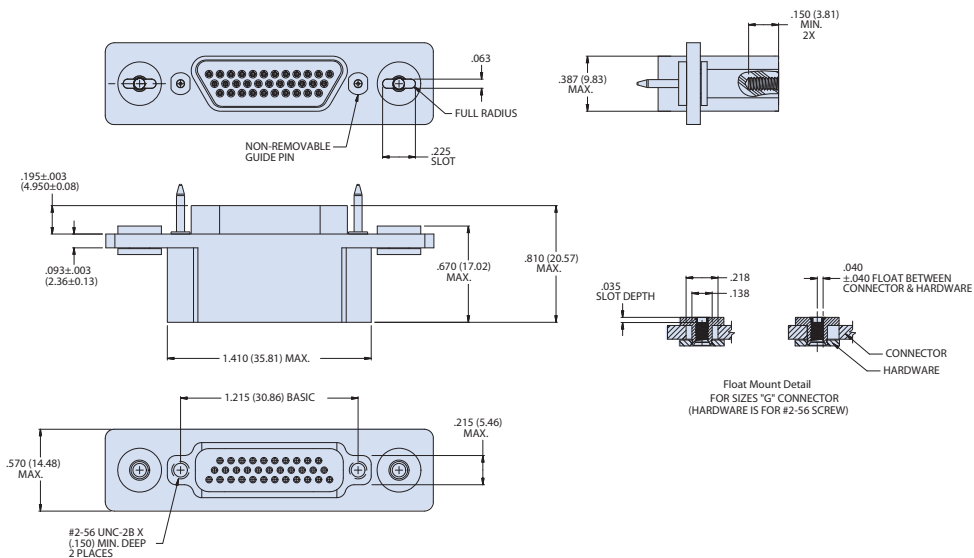


CONNECTOR SUPPLIED WITH NON-REMOVABLE GUIDE POST FOR BLIND MATE APPLICATION.  
FLOAT MOUNT BUSHING HAS SHELL SIZES "M", "L" & "H" WITH #4-40 UNC-2B THREAD. ALL OTHER SIZES HAVE #2-56 UNC-2B THREAD.

### SHELL SIZES A, B, C, D, E, F, J, K



### SHELL SIZE G



# HIGH TEMPERATURE HIGH PRESSURE (HTHP) Glass Sealed Penetrators and Feedthroughs

**G**lass sealed penetrators and feedthroughs provide sealed interconnect solutions for downhole applications such as logging while drilling (LWD) and measurement while drilling (MWD) applying methods such as near-balanced, underbalanced and overbalanced drilling. In these environments, conditions can reach temperatures approaching 300°C while experiencing elevated shock and vibration, downhole fluids / pressures, and limited working room. Glenair HTHP penetrators are typically used where a waterproof seal is needed but connectorized separation from equipment is not. Standard plugs are rated to 10K PSI, mated condition. Standard receptacles are rated to 10K PSI both mated and open-face.

- Available in 7 shell sizes and 17 insert arrangements
- Standard penetrators with hermeticity of  $<1 \times 10^{-7}$  sccHe/sec @ 1 atmosphere differential and rated to 10,000 PSI
- High-pressure / high-temperature penetrators rated to 25,000 PSI and hermeticity of  $<1 \times 10^{-8}$  sccHe/sec @ 1 atmosphere differential

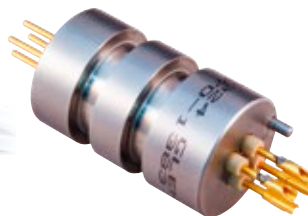
## MULTI-PIN AND SINGLE-PIN PENETRATORS, RECEPTACLES, AND FEED-THRU



707-0015



707-0030



2570-1383



2570-1364



*HIGH-TEMPERATURE*

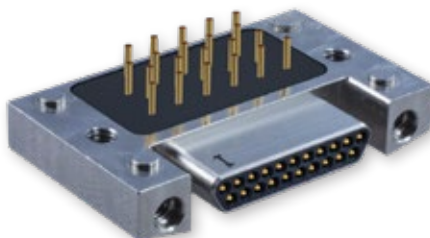
# Well-Master<sup>®</sup> 260<sup>°</sup>

The Micro-D connector for serious, high-temperature applications

Standard Micro-D connectors are rated for +125°C. Glenair's MWDM Micro-D can withstand +150°C continuous operating temperature and can be upgraded to +200°C if assembled with special high temperature epoxies. But oil, gas and geothermal wells can subject electronic instruments to temperatures as high as +260°C. The GHTM Series Micro-D meets the need for a high density, high performance connector capable of handling this temperature. The GHTM features contacts made from a special alloy that resists softening when exposed to temperatures up to +260°C (500° F). Rugged passivated stainless steel shells and hardware, high temperature liquid crystal polymer (LCP) insulators allow these connectors to survive the most demanding environments. Unique angled mounting ears allow the Well-Master<sup>™</sup> 260<sup>°</sup> to fit in confined spaces.

- +260°C operating temperature
- Angled mounting ears to fit in small diameter instruments
- High reliability twistpin contact system with special high temperature alloy
- .050" Pitch contact spacing for reduced size
- Solder cup, pre-wired or PCB

Well-Master<sup>260°</sup><sup>®</sup>



+260°C PCB Header



+260°C Cable Connector





# SERIES GHTM WELL-MASTER 260° Downhole Micro-D Connector



Insulated wire connector  
with pin or socket contacts

## GHTM PRE-WIRED CONNECTORS WITH +260°C MIL SPEC PTFE/POLYIMIDE WIRE



GHTM Well-Master™ 260° pre-wired Micro-D connectors withstand +260°C continuous operating temperature. These .050" pitch Micro-D connectors are terminated to #24 AWG insulated wire. Nickel-coated copper wire conforms to M22759/87, PTFE/polyimide insulation. Pin contacts are gold-plated high performance twistpin type and are recessed into insulator to prevent damage. Special nickel alloy contact material resists softening in high heat. Machined passivated stainless steel shell. Glass-filled high temperature LCP thermoplastic insulators. 100% hi-pot tested. Meets performance requirements of MIL-DTL-83513. Available with 9 to 51 contacts. 3 A., 600 Vac, -55°C to +260°C.

How To Order		GHTM	-31	S	-4	T	1	-18	B
<b>Sample Part Number</b>									
<b>Series</b>	GHTM Glenair High Temperature Micro								
<b>Shell Size</b>	9, 15, 21, 25, 31, 37, 51								
<b>Contact Type</b>	P - Pin/Plug      S - Socket/Receptacle								
<b>Wire Gage (AWG)</b>	4 - #24								
<b>Wire Type</b>	T - PTFE/Polyimide Insulated Nickel Coated Copper								
<b>Wire Color</b>	1 - White								
<b>Wire Length (Inches)</b>	18 - Wire Length In Inches. "18" Specifies 18 Inches.								
<b>Mounting Hardware</b>	B - Std. Thru-Hole (Ø.089/.095)    M - Hex Head Jackscrew    S - Slot Head Jackscrew    P - Integral Jackpost See Mounting Hardware Table								

GHTM Mounting Hardware		
B Std. Thru-Hole Mounting .096/.088 (2.43/2.23) Dia.	M and S #2-56 Jackscrews Slot head (S), Hex Head (M)	P Integral Jackpost #2-56
Pin	Pin	Pin
Socket	Socket	Socket



## SERIES ITS-Ex

# Industrial-strength power and signal connector series qualified for use in hazardous zone interconnect applications

Designed for safe operation in petrochemical refineries, oil & gas drilling platforms, and other explosion zone applications, the Glenair ITS-Ex series connector is optimized for life-of-system durability and reliability. Qualified by the globally-recognized IEC and IECEx standards bodies, the connector series is suitable for use in application areas where flammable gases and vapors are present as a normal condition of operation (group IIC) and with temperature classes T6 and T5, zones 1 and 2; and for applications where potentially flammable dust is present as a normal condition of operation (group IIIC) and with temperature classes T80°C and T95°C in zone 21 and 22.

Series ITS-Ex is designed for easy and repeatable termination of armored and unarmored cables built to IEEE 45, IEC, BS, DIN, and JIC standards. A full range of power and signal contacts, from size #16 to size #0 in over 40 insert arrangements are available to address all common voltage, wire size and connector service class ratings.

Special Ex design attributes of the series include an integral labyrinth flame path cooling zone, 2-part epoxy potting well, fixed in-line receptacles for attachment of cables to cable management brackets and trays, set screw (grub screw) secured protective safety covers, and durable life-of-system Ex marking labels.



- Utilizes all standard features of 5015 inserts, contacts, tools, etc.
- Grub nuts (set screw) to lock coupling nut
- Long plug barrels provide cooling zone
- Labyrinth gas exit port/pathway augments cooling
- Accessory accommodation for potted glands
- Increased wall thickness
- Stainless steel and Marine Bronze available





# MARINE BRONZE Seacrow Connectors

For geophysical/offshore and other harsh-environment applications

**G**lenair manufactures connectors qualified to VG96929, VG95234 and VG95328 standards. These connectors are mostly used in harsh-environment military applications for ground vehicles and ground systems. Our new Marine Bronze version increases the level of robustness of these connectors to be successfully used in all severe environment navy installations, as well as off-shore platforms, sea ports, geological and oceanographic applications.



- Marine bronze alloy for superior corrosion resistance in seawater and other harsh environments
- Ideal for shipboard and offshore drilling applications
- Available in Series ITS (5015 reverse-bayonet), Series IPT (26482), Series IGE (Single-pole high-power VG96929) and Series IT (5015 threaded)
- IP67 environmental sealing in mated condition; IP68 available
- Hundreds of available contact arrangements for both power and signal as well as hybrid applications



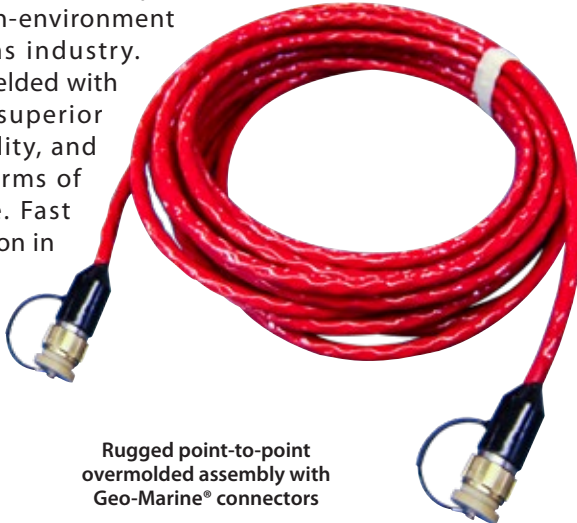


TURNKEY

# Overmolded and PBOF Assemblies

Terminated, tested, and ready for use

**G**lenair overmolded cable assemblies may be supplied with materials such as Viton®, Duralectric™, polyurethane, EPDM, Santoprene™, or polyamide to optimize harsh-environment performance for the Oil & Gas industry. Assemblies may be specially shielded with conductive overbraiding for superior mechanical protection, flexibility, and resistance to RFI and other forms of electromagnetic interference. Fast turnaround and quality fabrication in overmolded cable assemblies depends on capital investment in tooling, injection molding equipment, planetary wire stranders, and braiding machines.



Rugged point-to-point overmolded assembly with Geo-Marine® connectors



SeaKing PBOF assembly

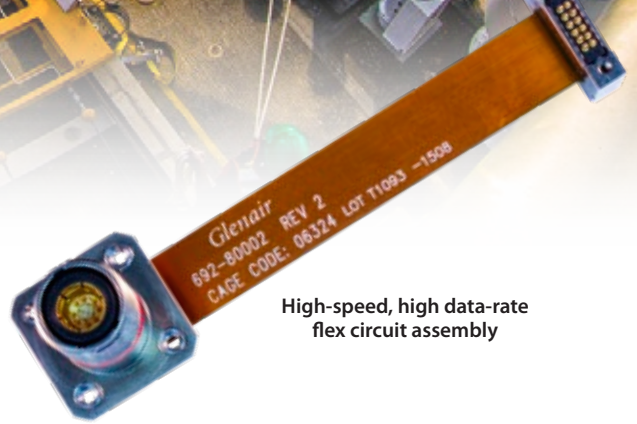
## ADVANTAGES OF OVERMOLDING

- Waterproof sealing
- Robust mechanical protection
- Permanent protection of terminations
- Resistance to chemicals and fuels
- No induced cold flow stress
- Electrical isolation and insulation
- Reduced wear damage
- Flexible routing and cable entry
- Repeatable assembly performance





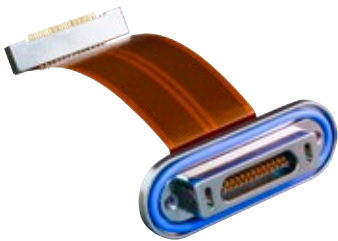
# Connectorized Flex/PCB Circuit Assemblies



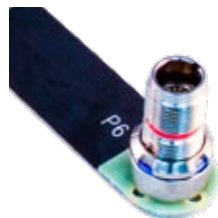
High-speed, high data-rate flex circuit assembly

Turnkey connectorized flex/PCB circuit assemblies incorporating Glenair's broad range of innovative small form-factor circular and rectangular PCB connector solutions. All terminations backpotted for compliance with conformal coating processes.

## GLENAIR SIGNATURE PCB CONNECTOR TYPES AVAILABLE IN TURNKEY FLEX ASSEMBLIES



Series MWD Micro-D and innovative pogo-pin AlphaLink



Series 88 SuperFly



Series 79 Micro-Crimp



SuperSeal RJ45 and USB





**CONDUIT  
SYSTEMS**



## *POLYMER AND METAL-CORE* **Conduit Systems**

**The flexible wire protection and cable routing alternative to standard jacketed cables**

**C**onduit wire protection systems for high-reliability applications must be able to withstand extreme environments—from immersion in harsh chemicals, to temperature extremes and numerous flex cycles—without breakdown or failure. Glenair conduit systems are rigorously engineered to meet the exacting specifications of both commercial and military—geophysical and oceanographic environments.

Corrosion resistant, flexible polymer-core materials are available in a wide variety of materials to suit any application: Annular material choices include: Kynar, PVDF and G-FLEX Siltem, helical choices include ETFE, FEP, PFA, PTFE, and PEEK plus AS81914 /1 – 11 qualified materials and configurations.

Metal-core versions are specified for extreme crush resistance and optimal EMI shielding. The helically-wound metal conduit provides extremely high levels of EMI protection across all radiation fields and frequencies. Stainless steel versions are often specified for environments subject to temperature extremes such as geophysical applications.

- **Hermetically sealed, flexible metal-core conduit for interconnect applications**
- **Lightweight, flexible helical and annular polymer-core materials and easy to install fittings, transitions and adapters**
- **Turnkey, factory-terminated assemblies for industrial applications**

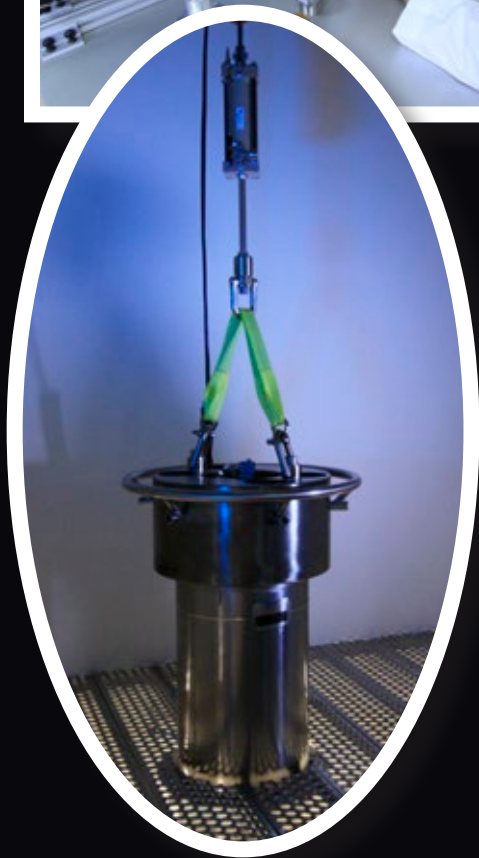
# Hydrostatic Test Lab

**GLENDALE, CALIFORNIA**

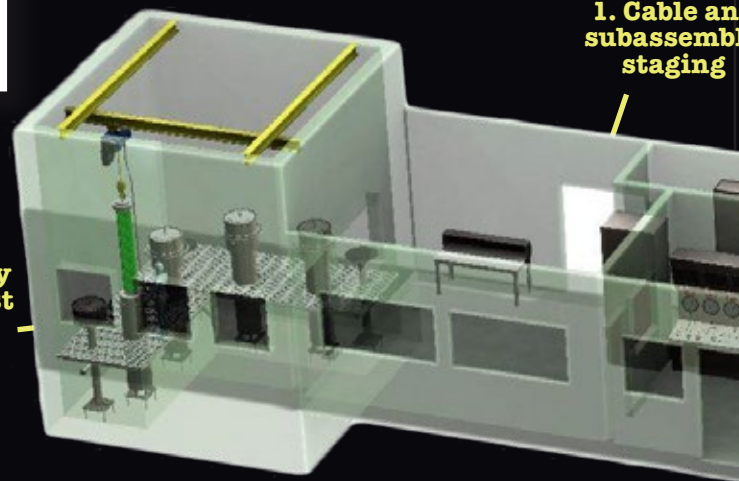
Special behind-the-scenes tour of Glenair's hydrostatic test lab for high-pressure electrical and fiber optic interconnects



**DISCRETE CONNECTOR TESTING:**  
All Glenair high-pressure interconnects are subjected to 100% inspection and test



**LARGE PRESSURE VESSELS:** Built to accommodate complete cable assemblies, mated connectors, and customer-supplied subassemblies



**2. Large cable and subassembly pressure test bunker**

**1. Cable and subassembly staging**



**TECHNICAL STAFF:** Knowledgeable and trained subsea specialists perform both in-house product qualification testing, as well as customer subassemblies





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Largest Supplier of Electrical and Electronic Components

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