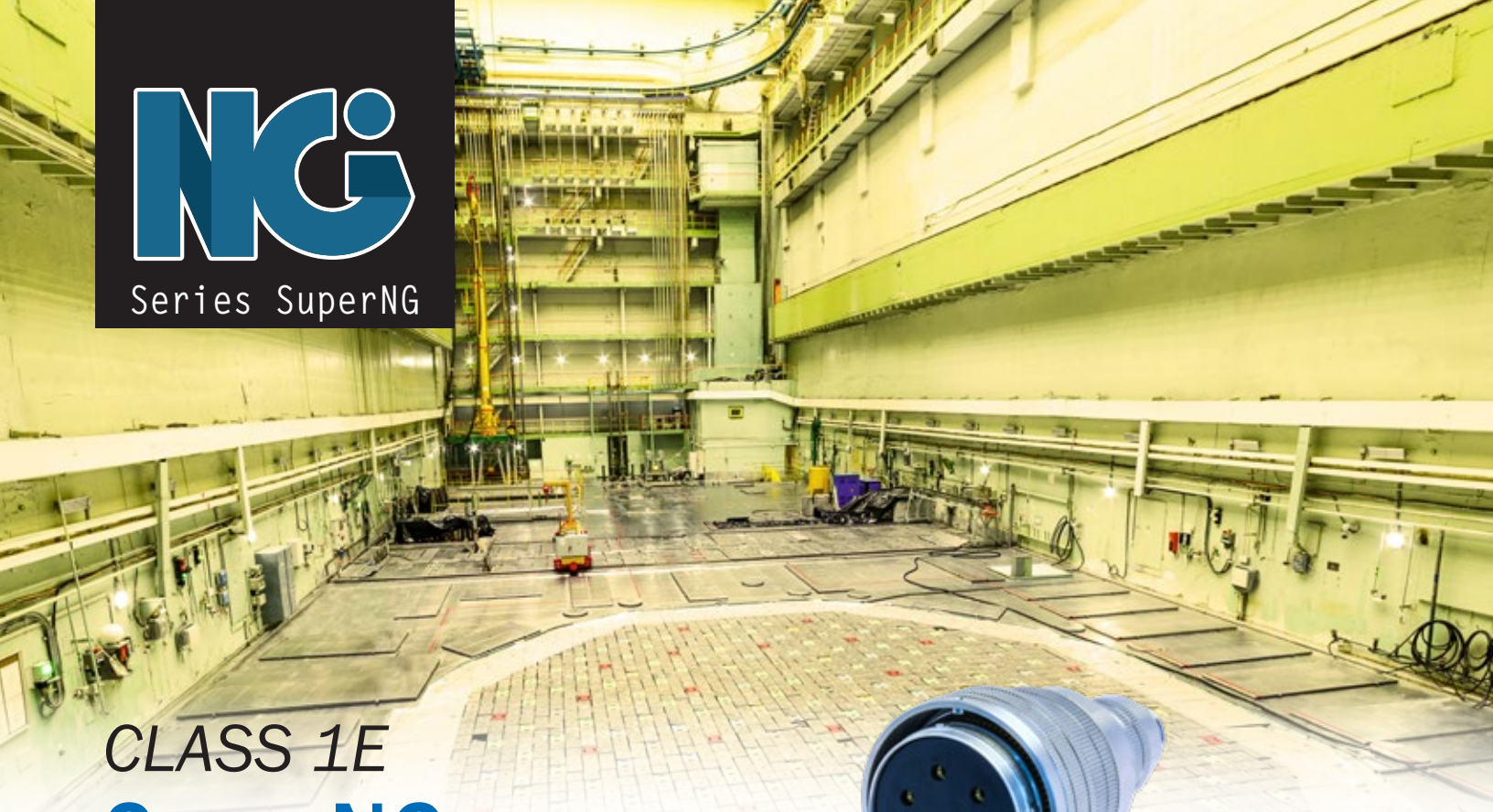




Series SuperNG



CLASS 1E

# SuperNG

Double peripheral seal reverse-bayonet connectors that meet the latest, most stringent global Zone 1E qualification standards including those requiring long-term submersion

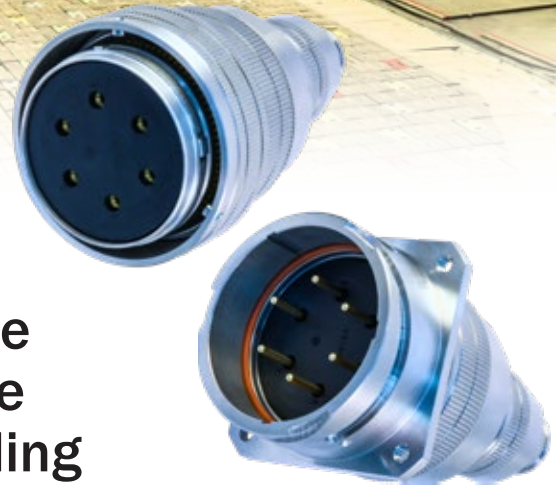
**G**lenair SuperNG connectors have been tested and qualified to withstand the most stringent LOCA qualification criteria, including those requiring long-term submersion, 60-year thermal cycling, and long-term radiation exposure. SuperNG utilizes machined stainless steel shells and polymeric insert materials for maximum resistance to cumulative radiation, thermal, seismic, and pressure for class 1E harsh nuclear environments. Double peripheral seals ensure life-of-system environmental performance.

Built with proven reverse-bayonet technology for rapid mating and demating during maintenance cycles, and support for the broad range of military 5015 insert arrangements, the connectors can be configured in small shell sizes with as few as two signal contacts, all the way up to large size shell sizes accommodating over sixty 20-amp power contacts. Need a single 500 amp power contact layout for a three-phase motor application? The Series SuperNG supports that too.

Wire-to-connector termination is facilitated with precision-machined crimp or solder-cup contacts with ample wiring space in the connector housing for back-potting or environmental shrink boot accommodation.



Signature double O-ring peripheral seal



- Machined / passivated stainless steel shells
- Available EMC grounding fingers for improved shell-to-shell resistance
- Stainless steel backshells suitable for band termination and backpotting
- NPT threaded plugs and receptacles
- Radiation-hardened inserts, gaskets, seals, O-rings
- Standard signal, power or thermocouple contacts
- Polarization keys and keyways

# Double Peripheral Seal Interconnect for Stringent Containment Area (Class 1E) Applications



## SuperNG performance and applications

### KEY PERFORMANCE ATTRIBUTES: GLENAIR SuperNG CONNECTORS

Glenair SuperNG connectors are optimized for containment area (Class 1E) applications in modern nuclear power plants with stringent LOCA test and performance requirements including radiation resistance, high-temperature tolerance, sealed, high-pressure tolerance, fluid/chemical resistance, and corrosion resistance. Radiation-hardened inserts, gaskets, seals, and O-rings ensure 60-year life-of-system performance and are manufactured in accordance with a 10CFR50 Appendix B quality system.

Test	Zone 1 Requirements
Vibration aging	90 minutes of vibration each orthogonal axis, no discontinuity of 1 ms or greater, sinusoidal motion 0.75 g from 5 Hz to 100 Hz to 5 Hz
Thermal cycling	13 cycles between 30°C [86°F] and 121°C [250°F]
Mechanical cycle aging	500 mating/un-mating cycles
Environmental Requirements (Temperature and Pressure)	Normal Operating Conditions: Normal Temperature: (10 - 48.9°C) [50 -120°F] Normal Pressure: -0.001 +0.007 Mpa [-0.2 +1.0 psig]
	Group 1 Abnormal Operating Conditions, 18 4-h events: Abnormal Temperature: (10 - 65.6°C) [50 -150°F] Abnormal Pressure: Atmospheric
	Group 2 Abnormal Events Operating Conditions, 1-5 30-day events: Abnormal Temperature : (10 - 121°C) [50 - 250°F] Abnormal Pressure: ≤ 0.124 Mpa [≤18 psig]
Normal Service Radiation	60-Year Equivalent Gamma Total Integrated Dose= 4,12 E+07 rads [412 kGy]
Seismic test	In accordance with IEEE 344 and IEEE 382, max peak value 6.5g
Thermal Aging	Qualified Life 60 years
Containment pressure test	4.7 bar [68 psig] for 24 hours
DBA (LOCA) Test	DBA Operating Conditions in 1-year-long event: Maximum Accident Temperature (for aprox. 3 s): 216.7°C [422°F] Maximum Accident Pressure (for aprox. 3 s): 406.8 kPa [59 psig] Post Accident Gamma Total Integrated Dose for 1 year = 3.7 E+07 rads [370 kGy] Post Accident Beta Total Integrated Dose for 1 year = 2.6 E+08 rads [2600 kGy] Chemical Spray 30 hours Post DBA 30 days in chemical spray fluid
Post DBA test	1-year long immersion as per IEEE 383:09-2015, water at 85.2°C [185.38°F] pressure 0.11 Mpa [16.62 psig]



### GLENAIR SuperNG ZONE 1 INTERCONNECT APPLICATION SUPPORT

SuperNG is optimized for equipment applications in containment area Class 1E including:

- Valve controls/monitoring
- Control rod drive mechanisms
- Rod position indicators
- Pressure transmitters
- Solenoids
- Hydrogen detectors
- Fuel handing equipment
- Radiation tolerant cameras
- Limit switches
- Radiation detectors
- In-core detectors
- Data acquisition equipment
- Post accident monitoring systems
- Process control monitoring

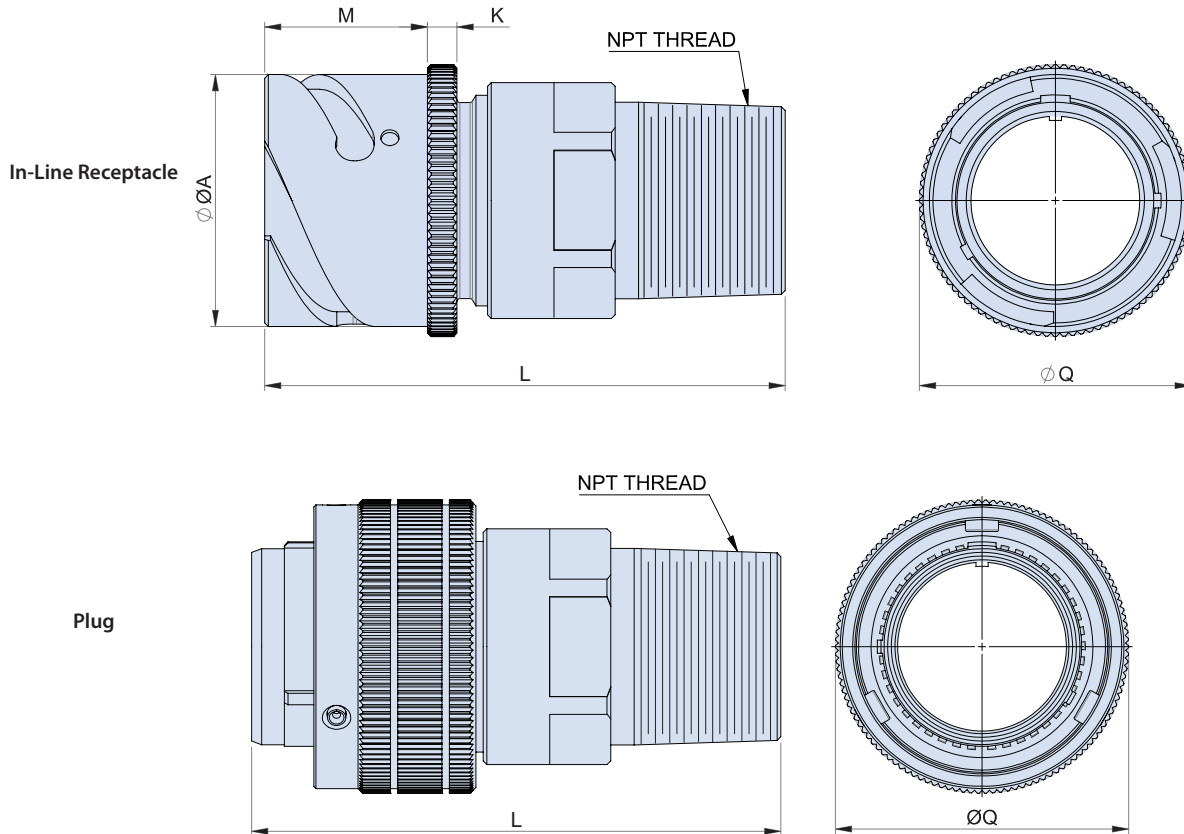


NUCLEAR-GRADE CONNECTORS

# Double Peripheral Seal Interconnect for Stringent Containment Area (Class 1E) Applications

## SuperNG connectors with NPT adapter

### SuperNG RECEPTACLE AND PLUG WITH NPT ADAPTER



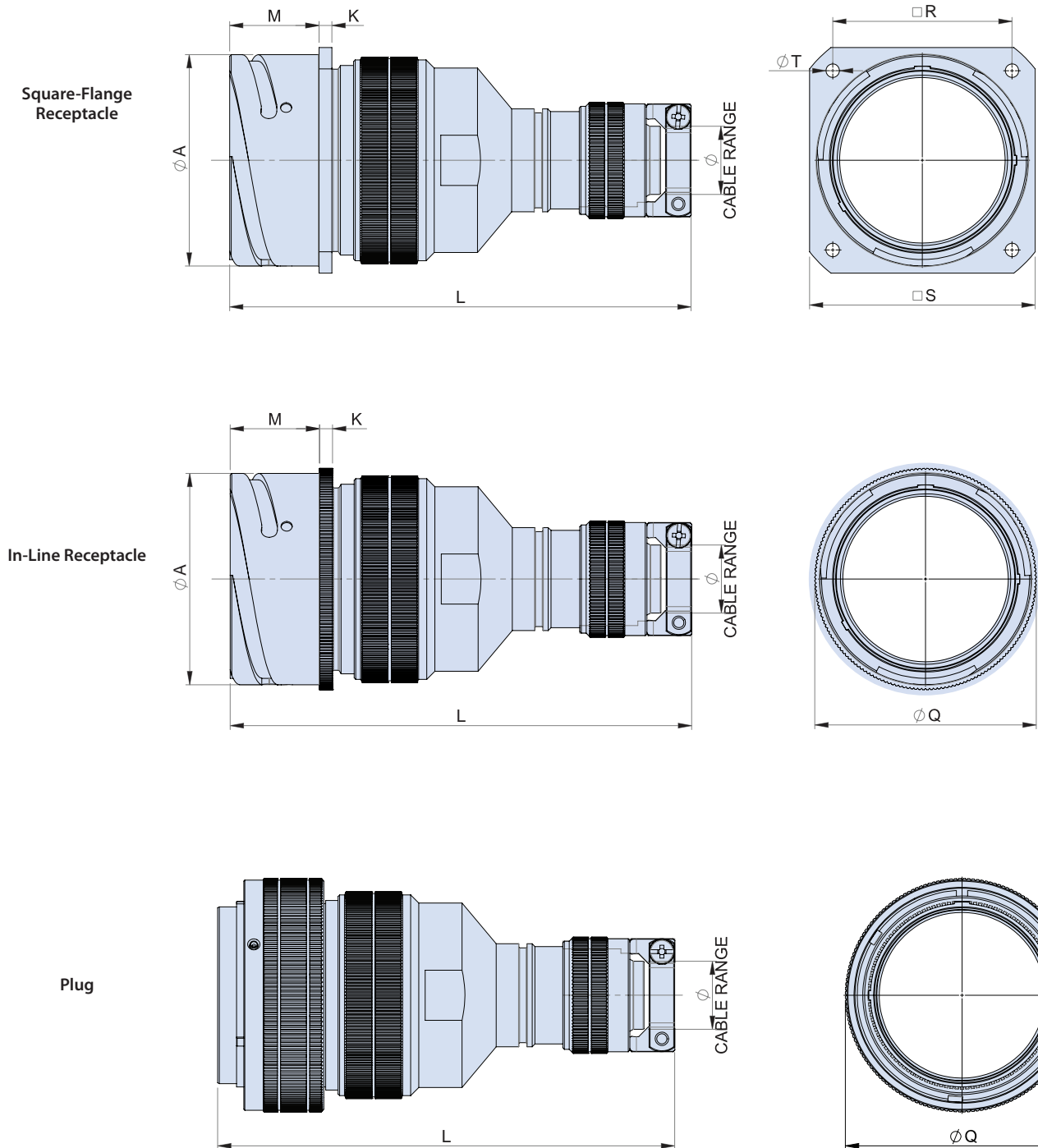


# Double Peripheral Seal Interconnect for Stringent Containment Area (Class 1E) Applications



## SuperNG connectors with environmental cable clamp

### SuperNG RECEPTACLES AND PLUG WITH ENVIRONMENTAL CABLE CLAMP



Complete dimensions and specifications provided in Glenair Nuclear-Grade Connectors catalog



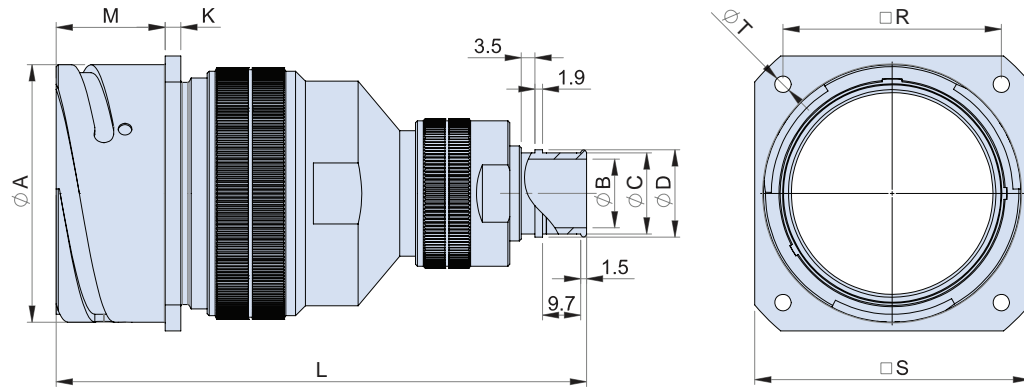
NUCLEAR-GRADE CONNECTORS

# Double Peripheral Seal Interconnect for Stringent Containment Area (Class 1E) Applications

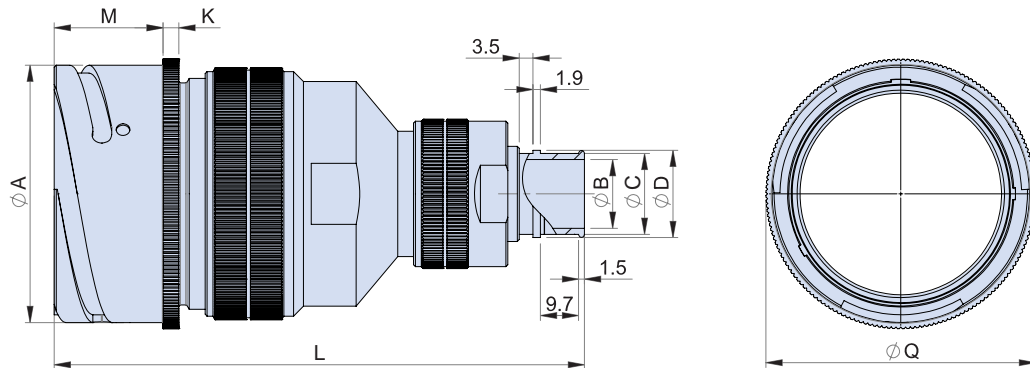
## SuperNG connectors with shield termination backshells

### SuperNG RECEPTACLES AND PLUG WITH SHIELD TERMINATION BACKSHELL

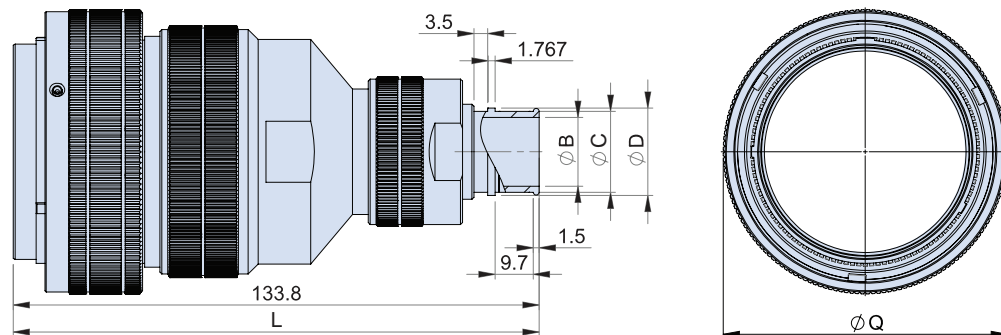
Square-Flange Receptacle



In-Line Receptacle



Plug



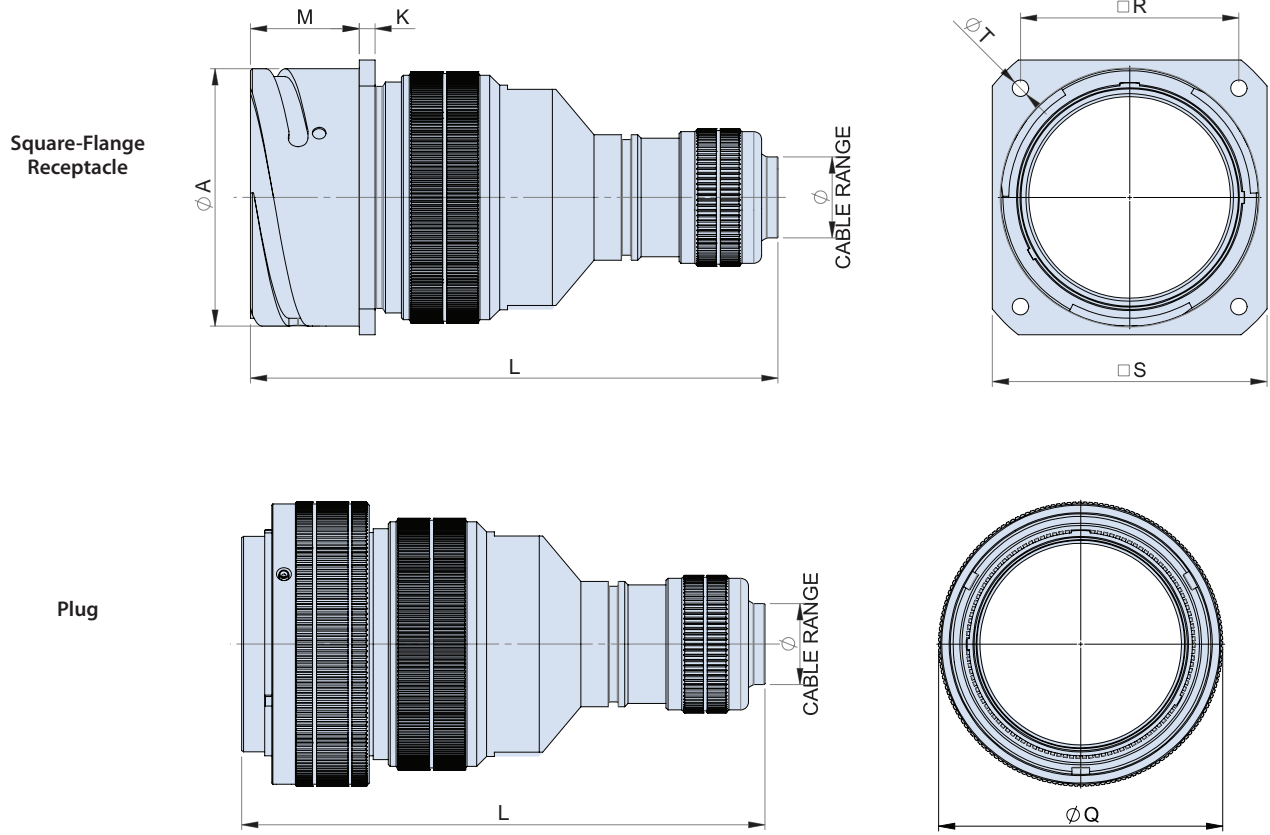
Complete dimensions and specifications provided in Glenair Nuclear-Grade Connectors catalog

# Double Peripheral Seal Interconnect for Stringent Containment Area (Class 1E) Applications

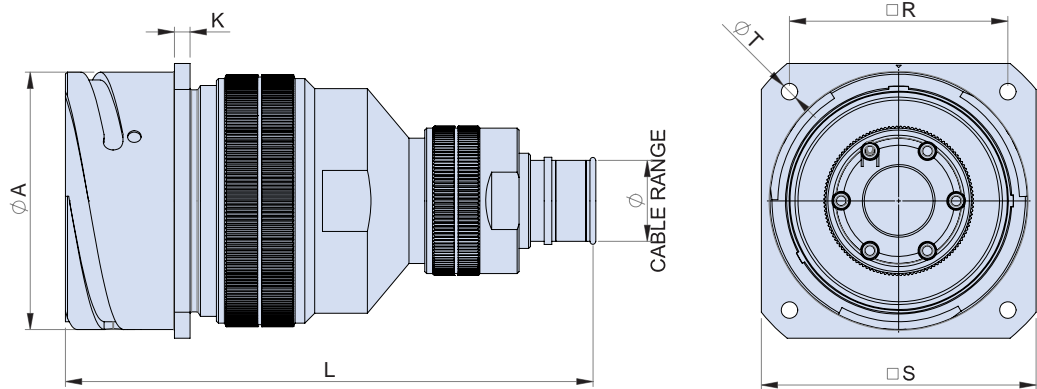


SuperNG connectors with environmental backshell or cable gland

## SuperNG SQUARE-FLANGE RECEPTACLE AND PLUG WITH ENVIRONMENTAL BACKSHELL



## RECEPTACLE WITH ENVIRONMENTAL CABLE GLAND



Complete dimensions and specifications provided in Glenair Nuclear-Grade Connectors catalog