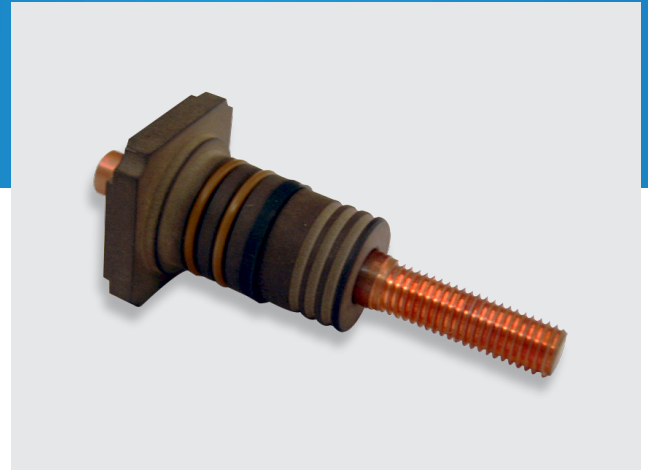
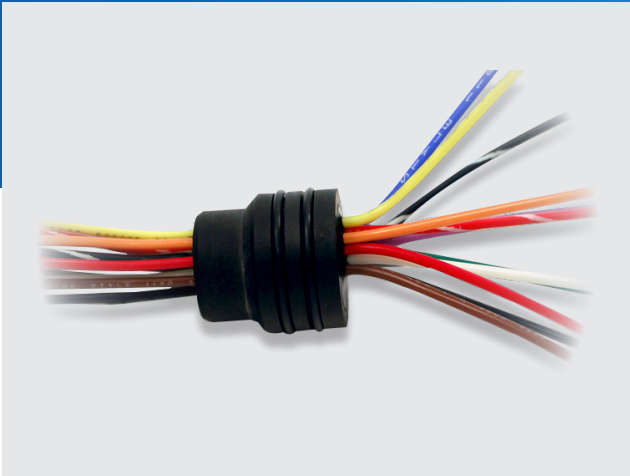
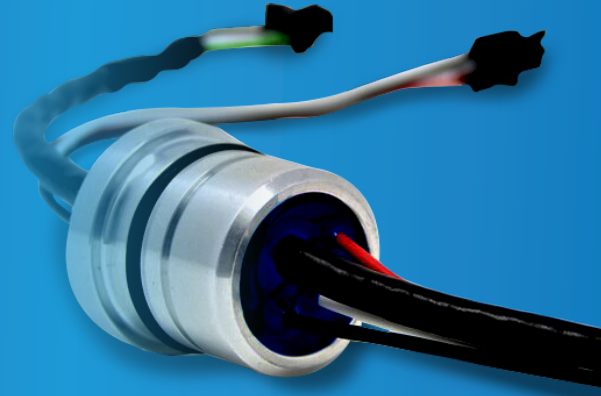


RADIAL O-RING SEAL HERMETIC ELECTRICAL FEEDTHROUGHS



FROM VACUUM TO HIGH PRESSURE

FEATURES

- Hermetically seal over a broad range of environmental conditions
- Save time and effort over threaded connections
- Use any of our interconnect types including wire, cable, connectors, fiber, and terminals

HERMETIC RADIAL O-RING FEEDTHROUGHS

Douglas Electrical Components manufactures a variety of hermetic high pressure electrical feedthroughs with varying mechanical interfaces. Hermetic feedthroughs can be installed using O-rings, washers, and retainer rings to maintain the hermetic seal while creating a simple interface for integration into a system or assembly exposed to a high-pressure environment.

Hermetically seal over a broad range of pressures, temperatures, and chemicals.

One specific option is the radial O-ring feedthrough design using an epoxy resin and stainless-steel, Ryton, or customer-specified material housing. The material variety provides greater options for design engineers to keep costs down, whether it is a simple machined part or custom plastic-molded assembly for OEM applications.

Simple Installation from inside or outside

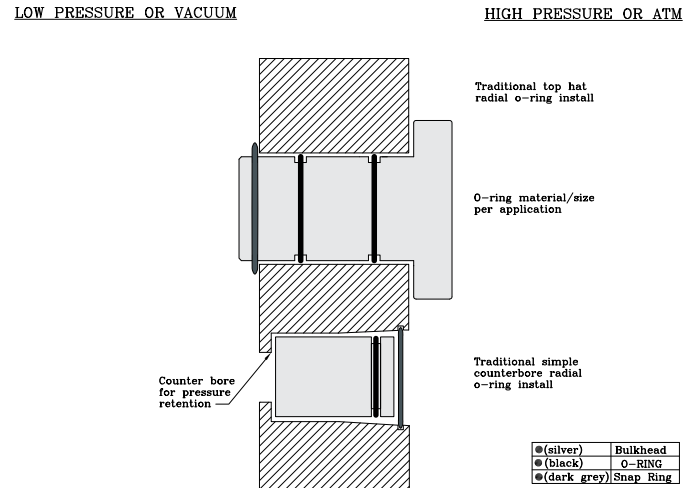
Radial O-ring feedthroughs can employ a single or multiple O-rings within the design. The O-ring durometer, diameter, and material will be determined based upon pressure, temperature, and liquid/gas compatibility. Multiple O-rings can create redundancy in the hermetic sealing of the feedthrough in the radial O-ring design; facesal feedthrough mounting is traditionally limited to a single O-ring.

The housing and bulkhead size, length, and material will dictate the maximum pressure performance. Douglas Electrical Components manufactures radial O-ring feedthroughs with a minimum length of 3/8" (0.375"). Common diameters range from 0.25" to 2.50" sizes with custom configurations available upon request.

RADIAL O-RING SEALS SAVE TIME AND EFFORT OVER THREADED CONNECTIONS TO SEAL YOUR OEM APPLICATIONS.

Radial O-rings can save installation time over threaded connections by simply being pressed into place and retained/secured with a snap ring or retention nut. Additionally, servicing a press-fit radial seal is simpler than traditional threaded connections when maintenance is required. While welded connections can eliminate the O-ring seal, the time associated with welding, cost of welding equipment and set ups, and potential impact of welding temperatures on electronics can limit its usability.

The mechanical interface to the bulkhead has two traditional approaches. A top hat radial O-ring installation has three main elements: machined bulkhead top hat that rests against the bulkhead wall on the high pressure or atmospheric pressure side, the O-ring(s) sealing within the bulkhead, and the feedthrough extended beyond the bulkhead into the low pressure or vacuum side; this is then mechanically retained with the addition of a snap ring.



The second method uses a simple counterbore. The feedthrough is installed from within the bulkhead with the counterbore on the higher-pressure side. The counterbore creates pressure retention as pressure is exerted from the high-pressure end. The snap ring is installed within the bulkhead to retain the feedthrough on the higher-pressure side of the bulkhead.

Use any of our connection types.

Virtually any metallic conductor material is possible including stranded and shielded cables, ribbon cables, thermocouple alloys, fiber optic harnesses, and even PCB's. Using an epoxy design also allows for a high-density interface into the electronics. Radial O-ring feedthroughs can be designed for power applications as well. Douglas' StudSeal hermetic power feedthroughs offer custom designs with a radial O-ring.

INDUSTRIES

- Vacuum systems
- Mil/Aero
- HVAC/R
- Hazardous Locations
- Oil & Gas
- Semiconductor
- Military
- Aerospace

PERFORMANCE CAPABILITIES

Pressure	15,000 PSI. Certification to your specifications available.
High Pot Test	>30kV DC or >15kVAC
Materials	Aluminum, Brass, Stainless Steel standard with other metals, specialty alloys, and plastics possible. Contact factory.
Standard Operating Temperature	-40°F to 300°F (-40°C to 149°C) with ability to go lower/higher. Contact factory.
Conductor Lengths	Unlimited lengths for low and high pressure
Leak testing	< 1x10 ⁻⁹ cc He/sec. Contact factory for more options.
Typical Outside Diameters	0.25" to 2.50"; custom diameters available upon request.
Minimum Feedthrough Length	3/8" (0.375")

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ADVANTAGES

- Suitable for vacuum and high pressure
- Simple installation
- Install from inside or outside the bulkhead
- Built-in redundancy when multiple O-rings utilized
- Allows for small profile housing with less cross-sectional wall thickness
- Lower cost package than traditional threaded feedthroughs.
- Suitable for OEM applications
- Lightweight



**HERMETICALLY SEAL
VIRTUALLY ANY CONDUCTOR
OR OPTICAL FIBER**



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