



Douglas Electrical Components

Ductorseal® Hermetic Feedthrus



HERMETICALLY SEAL VIRTUALLY ANY CONNECTOR

## PotCon™ Hermetic Connectors

- Mil-C series
- Circular Plastic
- Sub-D
- Coaxial
- Water Proof
- Thermocouple
- Power
- High Voltage, etc.

ISO Registered



Certificate No. 3415

**Douglas Electrical Components' (DEC) PotCon™** line of hermetic connectors provide turn-key custom solutions for lower cost and shorter lead times than our competitors' catalog parts.

**Pre-Tested, Vacuum Out-gassed and Ready to Install:**

DEC's PotCons can be vacuum outgassed and placed in purged, sealed bags for shipment. Testing, conducted on the PotCons and optional mating connector/cable sets, includes Helium Mass Spectrometry Leak Detection to an allowable leak rate of  $1.0 \times 10^{-8}$  sccm He/second, electrical hi-pot tests up to 15Kv and electrical continuity.

**Lead Time:**

Beyond the design and the operational flexibility provided by our technology, DEC's use of standard, off-the-shelf connectors allows us to provide pre-tested, vacuum outgassed connector solutions for most custom applications in 3 weeks or less. When required, lead times can be reduced to under 1 week in many circumstances.

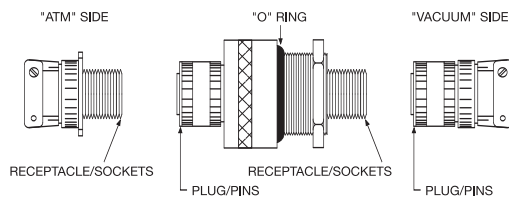
**Available Mates and Port Plates:**

DEC can provide fully assembled port plates and/or mating connectors or cable sets tested to the same specifications.

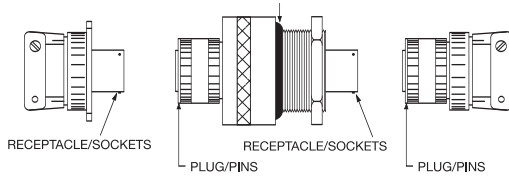
## Most Popular Designs

### PBTR PotCons™ Plug to Receptacle

5015 Series

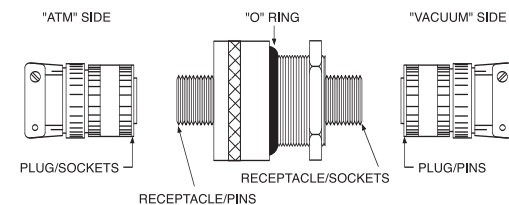


38999/26482 Series

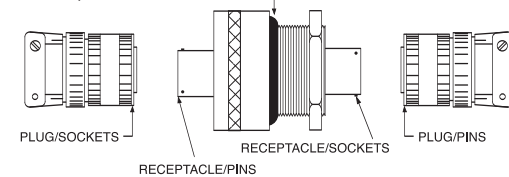


### RBTR PotCons™ Receptacle to Receptacle

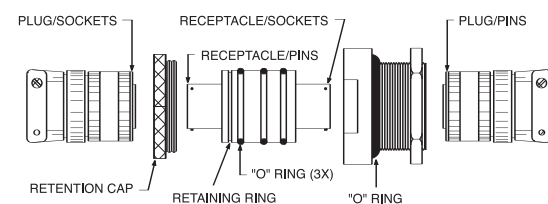
5015 Series



38999/26482 Series



### PotCon™ Pushthru Design



\*Consult catalog for connector/housing sizes.

### Standard Specifications

**Connector Body:**

Aluminum, Electroless Nickel Plated

**Cable Clamp:**

Aluminum, Electroless Nickel Plated

**Hardware:**

Stainless Steel

**Pins & Sockets:**

#8 AWG = Ag on Cu

#12 to #22 AWG = Au on Cu

**Housing:**

300 Series Stainless Steel

**"O" Ring:**

Nitrile Rubber

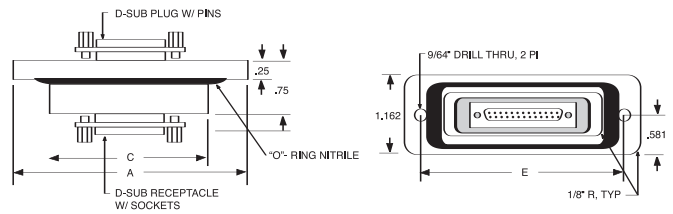
**Epoxy Sealant:**

Low Outgassing Material (see catalog)

**Temperature Range:**

-40°C to 200°C

### D-Sub Feedthru Connectors



PINS	A	C	E	F
9	2.78	1.75	2.337	1.76
15	2.78	1.75	2.337	1.76
25	3.28	2.25	2.837	2.26
37	3.83	2.80	3.387	2.81
15 (HD)	2.78	1.75	2.337	1.76
26 (HD)	2.78	1.75	2.337	1.76
44 (HD)	3.28	2.25	3.873	2.26
62 (HD)	3.83	2.80	3.387	2.81

### D-Sub Standard Specifications

**Connector Body:**

Aluminum or Stainless Steel Flange

**Cable Clamp:**

Mil Std Components, Mil-C-24308

**Density:**

Standard and High Density Available

**Conflat Designs:**

Available either in rectangular (shown) or in Varian® Conflat Flange configurations.\*

\*Contact Applications Engineer for details.

**Douglas Electrical Components** offers the broadest selection and greatest flexibility in the design and manufacture of hermetically sealed connectors in the industry.

**Ease of Use:**

The unique nature of using in-line plug to receptacle hermetically sealed connectors permits users to conduct critical tests using their actual connectorized cable sets without needing to install the hermetic connectors or to purchase costly adapters for bench top testing.

**Product Line Diversity:**

We currently manufacture over 1000 different varieties of PotCons for vacuum, pressure and environmental containment. The sealing technology we employ allows our customers to specify virtually any connector from any manufacturer and have it sealed in either a custom or standard fitting of their choosing. Connector types include everything from Mil-Series connectors to a variety of coaxial, plastic, and water-tight connectors. DEC can typically replace existing installations of Deutsch, ITT Cannon and other hard to get hermetic connectors.

**Commonly Substituted Alternatives**

**Housing/Fitting Design:**

NPT, Weld-In, Flange, Radial "O" Ring, Push Through

**Housing/Fitting Materials:**

300 Series Stainless Steel, 400 Series Stainless Steel, Aluminum, Brass, Plastic, Epoxy

**Connector Insert Positions:**

N, W, X, Y, Z, A, B, C, D

**Connector Materials:**

Stainless Steel, Plated Brass, Plated CRS, Plastic, Epoxy, Rubber

**"O" Ring Material:**

Nitrile, Neoprine, Viton, Buna-N

**Pressure/Vacuum/Voltage Ratings:**

To 1 x 10<sup>-10</sup> sccm He/sec, to 5,000 psi, to 30kV

**Commonly Used PotCon Coaxial Connectors**

Coaxial Connector Type	Nominal Cable Impedance	Withstand Voltage
BNC	50Ω	500 VAC
SMA	50Ω	500 VAC
N	50Ω	1500 VAC
Triaxial	50Ω	1500 VAC
UHF	Non-constant	500 VAC
SHV	N/A	3500 VAC
MHV	N/A	5000 VAC Non-constant

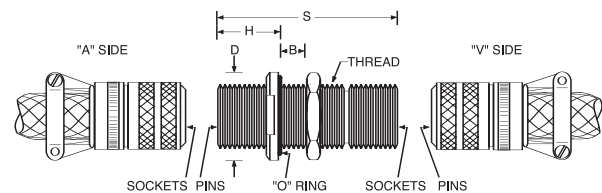
**PotCon Equivalents to Common ITT Cannon Hermetic Connectors**

**PotCon Equivalents to Common Deutsch Hermetic Connectors**

Deutsch P/N	Part No.	Pin Size	#of Pins
DM5623-37PP	12474	20	37
DM5623-37-40PP	12475	20	37
DM5623-37-39PP	12476	20	37
DM5623-37-38PP	12477	20	37
DM5623-37-37PP	12478	20	37
DM5623-37-2PP	12479	16	24
DM5623-37-23PP	12480	12	12

**Other designs are readily available.**

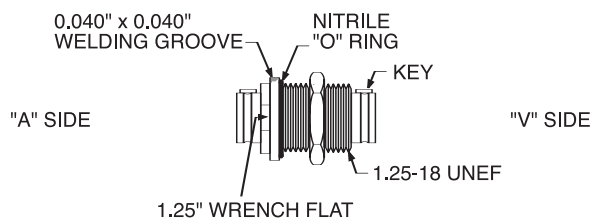
**TBFH Thru-Bulkhead Feedthru**



Shell Size	Inserts	Thread	B (Max)	D	H (Max)	S (Max)
14	-7	.878	0.375	1.447	.921	2.859
16	-1, -8, -10	1.000	0.375	1.572	1.135	2.859
18	-04, -10, -11	1.125	.750	1.697	1.135	2.859
20	-15, -27, -29	1.250	.750	1.822	1.135	2.859
22	-02, -14, -22	1.375	.750	1.947	1.135	2.859
24	-10	1.500	.750	2.072	1.135	2.859
28	-12, -21	1.750	.750	2.322	1.135	2.859
36	-10	2.250	.750	2.822	1.135	2.859

See catalog for details.

**"Deutsch Equivalent" Model**



## Vacuum or Pressure Feedthru Products



**Ductorseal Hermetic Feedthrus** offer standard or custom wires hermetically sealed to a wide variety of housing designs and sizes. They are easy to specify solutions to pressure or vacuum penetration problems and can include from 1 to 1,000's of individual conductors, from vacuum to 10,000+ PSI.



**PotCon™ Feedthrus** incorporate standard connectors and/or wire harnesses in a single fully sealed housing. Virtually any connector may be specified and sealed to the housing for reliable mounting for vacuum or pressure use.



**OptiSeal™ Feedthrus** now allow you to specify a hermetic seal on your fiber optic cable(s) or connectors for vacuum or pressure use in any of our standard housings or in special housings. Multiple channel feedthrus are available.



**StudSeal™ Hermetic Stud Feedthrus** seal large copper studs in three housing configurations and in a wide range of sizes. They are useful for vacuum or pressure applications where heavy current or high voltages penetrate a barrier.



**Vacuum Flange Hermetic Feedthrus** seal virtually any conductor (including fiber optics, thermocouples, shielded wires, etc.) in standard vacuum fittings. These units are suitable for use to  $10^{-7}$ mm Hg.

Custom Interconnect Cables or Assemblies are also available to provide a fully engineered solution for one-stop vacuum or pressure penetration requirements.

Additional Capabilities to our standard lines of hermetically sealed feedthrus, we also offer:

- Standoffs
- Splash proof feedthrus
- Strain reliefs
- Dust proof feedthrus
- Custom application specific designs with special housings, conductors or environments



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