

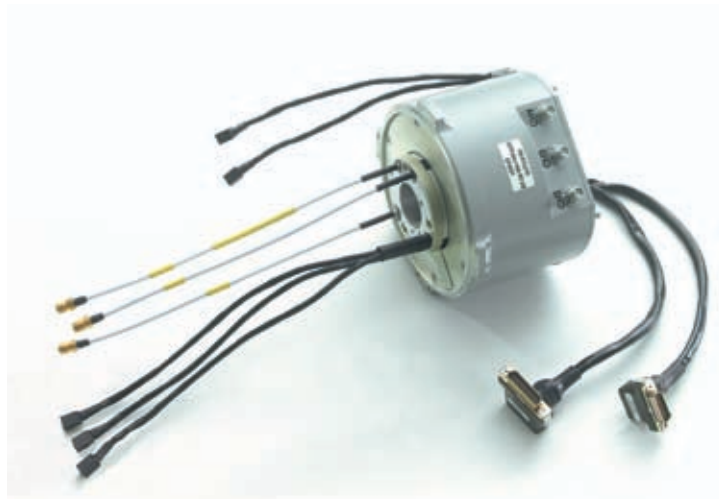
CUSTOM MICRO-D SOLUTIONS

CUSTOM DESIGN CONNECTORS

- Custom design connectors 206
- Materials & finishes 207
- 69 and 74 way Micro-D connectors 208
- Surface mount connectors 210
- Custom designed shells and hardware 211
- EMI & panel mount connectors 212
- Filtered Micro-D connectors 214
- Termination with flex circuits 226
- Waterproof & hermetic connectors 227
- High-density connectors 230
- Non magnetic Micro-D interconnect solutions 240

FROM CUSTOM DESIGN ASSEMBLIES TO MINI-SYSTEMS

- From assemblies to mini systems 242
- Our harnessing capabilities 243
- Technical solutions for assemblies 244
- Overmoulding expertise 245
- SILFORM® cables & assemblies 247
- Mini-systems : complete solutions 248



CUSTOM DESIGN CONNECTORS

In addition to the standard range of Micro-D connectors and assemblies, AXON' can develop custom designed solutions, all based on Micro-D twist-pin contact technology. AXON' is the sole manufacturer in Europe to have fully integrated in-house the design and the manufacture of the Micro-D system, including :

- Twist pins, shells, inserts and interfacial seals.
- Custom designed conductors, wires and cables.
- Complex assembly processes including optimised EMC shielding, branch braiding and overmoulding.

This high level of vertical integration enables AXON' to offer complete solutions which meet the demanding requirements of the aeronautics, space, military, industrial and off-shore markets.

► Common applications

► MIL-AERO

- Missiles and counter measures.
- Electro-optics.
- Navigation systems.
- Avionics equipment.
- Radar systems.
- Twist capsules.
- Shoulder launched weapon systems.
- Advanced soldier technology systems.
- Military GPS systems.

► NON MILITARY

- Down-hole drilling tools.
- Automotive test equipment.
- Medical devices.
- Ruggedised computers.
- Research centres.

► SPACE

- Satellite electronics.
- Space station and planetary explorer applications.

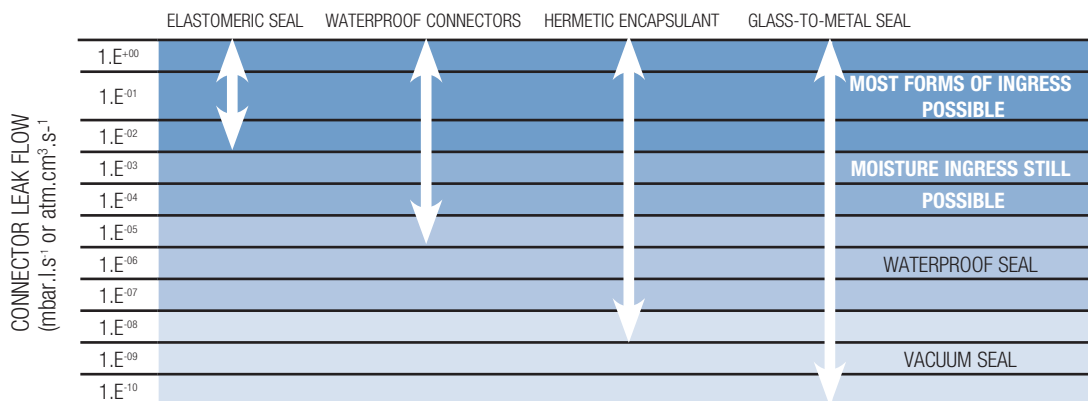
WATERPROOF & HERMETIC CONNECTORS

Waterproof and hermetic connectors are used in applications where an enclosure needs to be isolated from the outside world, generally to avoid moisture permeation. Different sealing technologies are available to achieve this and AXON' proposes the most effective solutions for each customer's specific needs. Helium leak rate is the most common method to quantify an exchange occurring between two environments. As helium is one of the smallest atoms available in the universe, helium leak testing is more rigorous than other leak tests.

AXON' offers four ranges of male and female products for these applications, achieving varying degrees of hermeticity (see graph below):

- Elastomeric seal with over-sized flange for basic protection;
- Waterproof seal to avoid fluid exchange into the system;
- Hermetic seal to protect the system against any infiltration under normal conditions of use, the best solution for most military applications;
- Glass-to-metal seal to overcome the harshest hermetic environments.

In the vast majority of applications, the use of a hermetic encapsulant offers sufficient levels of hermeticity at a reasonable price. Only extreme environments require glass-to-metal sealing. Based on its expertise AXON' can also design tailor-made connectors to fit your application needs. Furthermore, AXON' fully tests its hermetic Micro-D solutions to provide reliability and satisfaction to its customers.



Each solution presents specific characteristics when compared with non-hermetic standard Micro-D connectors:

- Connectors with an elastomeric seal have a larger flange than standard Micro-D connectors to accommodate the seal groove.
- In addition, waterproof and hermetic Micro-D connectors present a larger backpotting to ensure a high quality sealing.
- Glass-to-metal-sealed Micro-D connectors are made of specific materials such as Kovar® and/or titanium. The different alloys used in these connectors alter contact resistance and corrosion characteristics. Aluminium based glass-to-metal sealed connectors are also available for better corrosion characteristics or reduced weight.



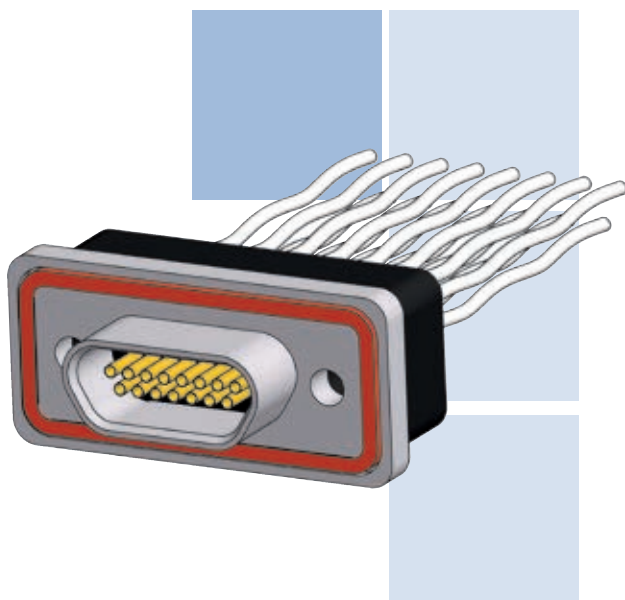
All AXON' hermetic Micro-D connectors can be used to maintain low or high pressure vacuum seals by the method of mounting the flange to the panel. Laser welding, soldering or o-rings are all possible solutions depending on the environment. They are fully interchangeable with standard Micro-D connectors. A wide range of products is already available but custom interconnect solutions can be designed for specific panel cut-outs and thicknesses. Please contact us for any specific applications.

► ELECTRICAL & MECHANICAL PERFORMANCES

	ELASTOMERIC SEAL	WATERPROOF ENCAPSULANT	HERMETIC ENCAPSULANT	GLASS-TO-METAL SEAL
MAXIMUM LEAK RATE	1.10 ⁻² mbar.l.s ⁻¹	1.10 ⁻⁵ mbar.l.s ⁻¹	1.10 ⁻⁸ mbar.l.s ⁻¹	< 1.10 ⁻⁹ mbar.l.s ⁻¹
SERVICE TEMPERATURE RANGE	-25 °C / +175 °C	-40 °C / +125 °C	-40 °C / +125 °C	-55 °C / +200 °C
CURRENT RATING	3 A MAX	3 A MAX	3 A MAX	1 A MAX

For other operating performances please refer to MIL-DTL-83513

HERMETIC CONNECTOR



METAL SHELL

- High performance hermetic metal connector and PTFE wire.
- Male Twist Pin or female connector.
- 9 to 100 contacts.
- According to MIL-DTL-83513.

IDENTIFICATION CODE



SERIES

MDH : Micro-D Hermetic series.

HERMETIC TECHNOLOGY

- 1A** : Hermetic potting.
- 2A** : Glass-to-metal seal.

NUMBER OF CONTACTS 09,15,21,25,31,37,51, 51DR, 100.
See pages 16&17 for contact arrangements.

CONNECTOR GENDER

- P** : Male (pin contacts).
- S** : Female (socket contacts).

TERMINATION TYPE

- Solid uninsulated wires
- G** : AWG 25 gold plated.
- FS** : Solder cup.

See page 19 for wire types.

COLOUR CODE

- BLANK** : If wire type is G or FS.
 - W** : 10 colour repeat.
- See page 20 for colour code.*

WIRE LENGTH (cm)

Attention ! Wire length in centimetres - (1cm = 10mm = 0.394").
BLANK : If wire type is G or FS.

HARDWARE

- B** : No hardware.
- XB** : Laser welding design.
- XP** : Jackposts (custom design)*.
- XX** : Custom male hardware.

*Please consult us

For colour codes F, L, W

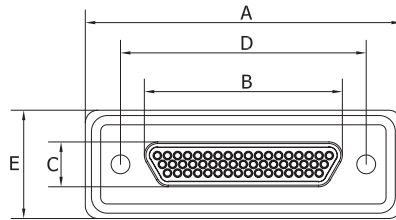
- 1** : E 2607 , AWG 26, 7 strands, 600V.
- 4** : E 2619 , AWG 26, 19 strands, 600V
- 6** : E 2807 , AWG 28, 7 strands, 600V.
- 8** : E 3007 , AWG 30, 7 strands, 600V.
- A** : E 2407 , AWG 24, 7 strands, 600V.
- C** : E 2419 , AWG 24, 19 strands, 600V.
- E** : M22759/33, AWG 26,19 strands, 600V.

- F** : All yellow.
- L** : All white.

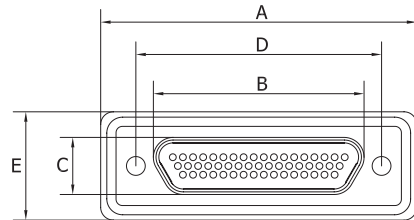
DIMENSIONS

Dimensions are in millimetres (inches).

MALE connector



FEMALE connector



	A ± 0.25 (±.010)	B max.		C max.		D ± 0.13 (±.005)	E ± 0.25 (±.010)
		Male	Female	Male	Female		
9 P / 9 S	23.20 .913	8.48 .334	10.16 .400	4.69 .185	6.35 .250	14.35 .565	12.50 .492
15 P / 15 S	27.00 1.063	12.29 .484	14.00 .551	4.69 .185	6.35 .250	18.16 .715	12.50 .492
21 P / 21 S	30.81 1.213	16.10 .634	17.81 .701	4.69 .185	6.35 .250	21.97 .865	12.50 .492
25 P / 25 S	33.40 1.315	18.64 .734	20.35 .801	4.69 .185	6.35 .250	24.51 .965	12.50 .492
31 P / 31 S	37.16 1.463	22.45 .884	24.16 .951	4.69 .185	6.35 .250	28.32 1.115	12.50 .492
37 P / 37 S	41.00 1.614	26.26 1.034	27.96 1.101	4.69 .185	6.35 .250	32.13 1.265	12.50 .492
51 P / 51 S	39.70 1.563	24.99 .984	26.70 1.051	5.79 .228	7.44 .293	30.86 1.215	13.60 .535