

HERMETIC FEEDTHROUGH FOR SPACE OR INDUSTRIAL VACUUM APPLICATIONS

Positronic Industries
www.connectpositronic.com

HIVAC®



HIVAC® Series Connectors are feedthroughs equipped with D-Subminiature Adapter Connectors for SPACE or INDUSTRIAL vacuum applications.

The HIVAC® Connector configuration requires three separate units to function properly. The center unit is the feedthrough. This feedthrough requires two adapter units, one for the atmospheric side and one for the vacuum side.

Both sides of the feedthrough contain four threaded mounting holes and an o-ring groove. These redundant features allow either side of the connector to be mounted towards the vacuum, giving the customer the ultimate in flexibility.

The feedthrough has always Female/Female contacts.

The contact type of Adapter Connector is always as male next to the feedthrough and the other sides are according to the Customer request, Male/Male or Male/Female for the normal density, and for the high density it is systematically Male/Female.

A feedthrough has 5 types of insulators: 37 or 50 contacts for normal D and 44, 62 and 104 contacts for high D.

MATERIALS AND FINISHES

Insulator: Glass-filled DAP per ASTM-D-5948 or polyester glass-filled per MIL-M-24519, UL94V0, ASTM E-595, NASA-RP-1124.

Contacts: Precision machined high tensile copper alloy with brass shrouds.

Contact plating: 0,000050 inch (1,25 microns) gold over copper plate.

Shells: Brass with 0,000050 inch (1,25 microns) gold over copper plate or stainless steel.

Housing: Aluminium alloy, golden brown conversion coating.

O-ring: Viton (fluorocarbene). Other material per request.

ELECTRICAL CHARACTERISTICS AT SEA LEVEL

Contact current rating: 7,5 A nominal, size 20
5 A nominal, size 22

Initial Contact Resistance: 0.008 ohms maximum

Proof Voltage: 1000 V r.m.s.

Insulator Resistance : 5 G ohms

Clearance and Creepage

Distance: 0.039 inch (1,0 mm) minimum

Working Voltage: 300 V r.m.s.

Residual Magnetism for

Space Flight Versions: 20 Gamma maximum.

An Adapter Connector allows several combinations with a feedthrough.

The advantage of this system is that it allows the user the flexibility to purchase a single feedthrough and use it with a variety of adapters.

HIVAC® series connectors utilize precision machined contacts for strength and durability. The female contact features a rugged "Closed Entry" design having a brass shroud. The materials and finishes, as well as the technical characteristics of the HIVAC® series connectors, conform to MIL-DTL-24308, Goddard and SPACE-D32 specifications.

All HIVAC® Series connectors are 100 % leak tested after fabrication.

MECHANICAL CHARACTERISTICS :

Fixed Contacts: Size 20 Contact: 0,040 inch (1,02mm) diameter.
Female contact: Closed entry design with brass shroud.

Size 22 Contact: 0,030 inch (0,76mm) diameter.
Female Contact: Closed entry design with brass shroud.

Contact Adapter: Male to female

Contact Retention

in insert: 9 lbs. (40 N)

Shells: Male shells may be dimpled for EMI/ESD ground paths.

Polarization: Trapezoidally shaped shells

Mechanical Operations: 500 operations, minimum, per IEC 512-5

CLIMATIC CHARACTERISTICS

Temperature Range: -40 to +125°C. The temperature range can be expended under certain conditions. Consult the factory.

Helium Leak Rate < 5-10⁻⁹mbar.l/s under a vacuum of 1.5x10⁻² mbar

Outgassing : Total Mass Loss – TML < 1 %

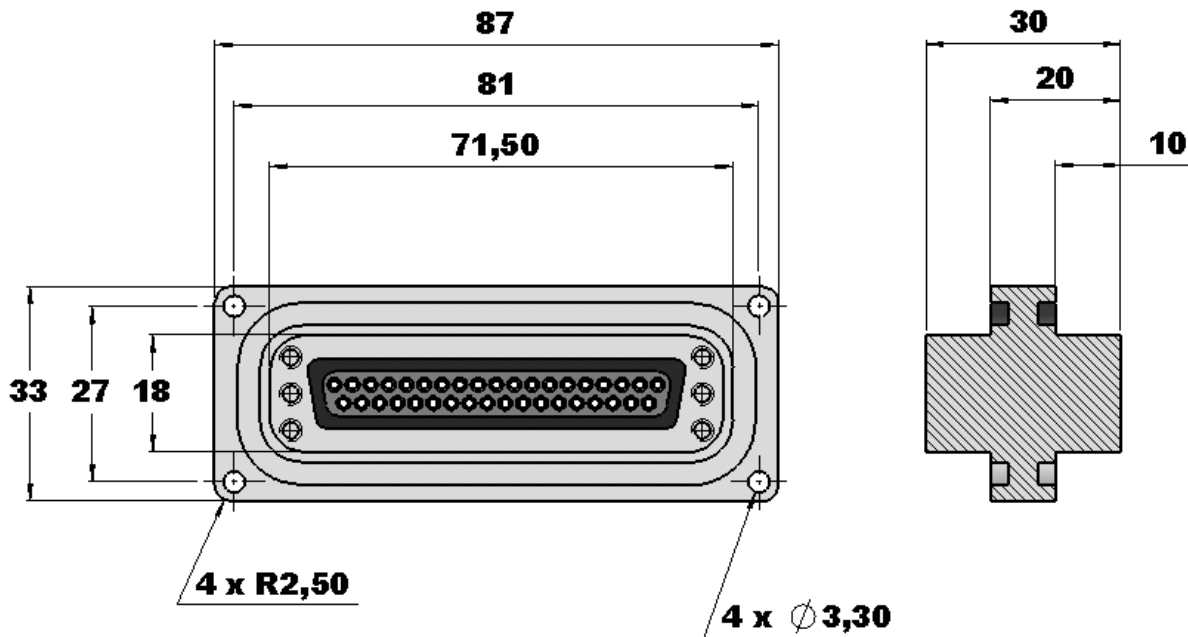
Collected Volatile Condensable Materials – CVCM < 0,1 %

HERMETIC FEEDTHROUGH FOR SPACE OR INDUSTRIAL VACUUM APPLICATIONS

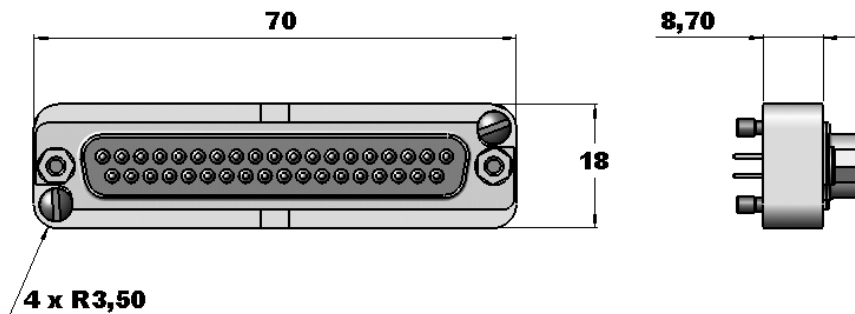


Positronic Industries
www.connectpositronic.com

HIVAC® FEEDTHROUGH DIMENSIONS



HIVAC® ADAPTER DIMENSIONS



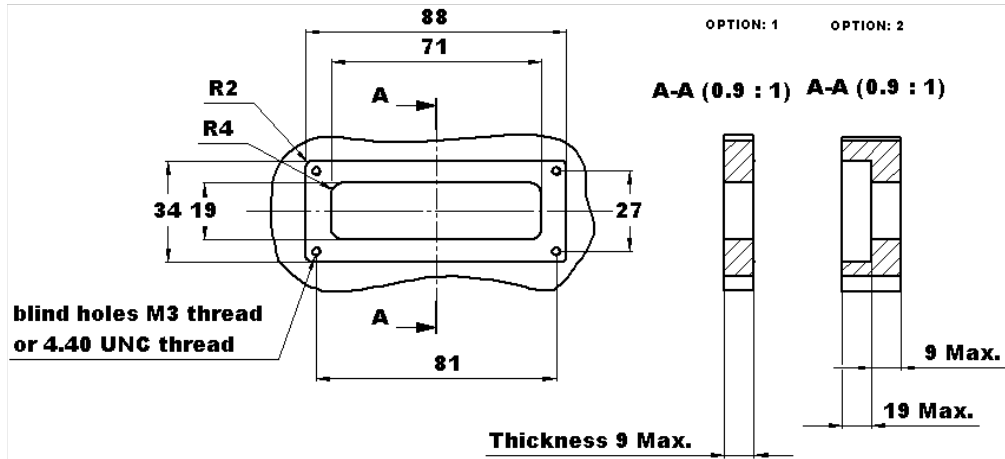
All dimensions are in mm.
All dimensions are subject to change.



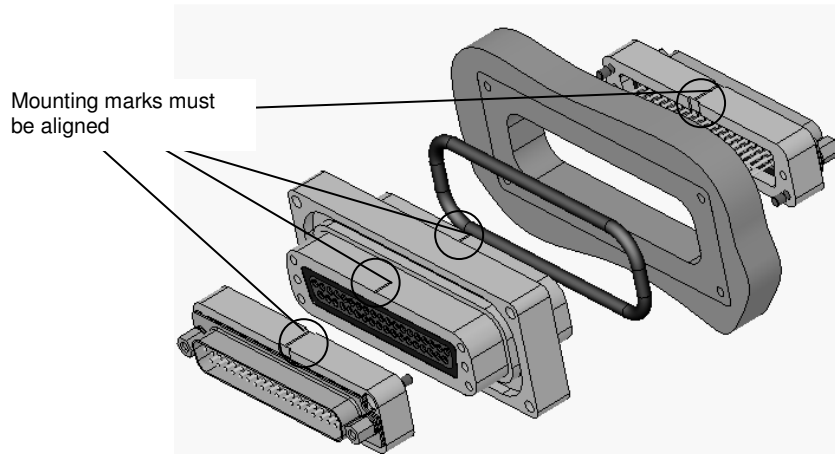
HERMETIC FEEDTHROUGH FOR SPACE OR INDUSTRIAL VACUUM APPLICATIONS

Positronic Industries
www.connectpositronic.com

HIVAC® FEEDTHROUGH PANEL CUTOUT INFORMATION



HIVAC® FEEDTHROUGH AND HIVAC ADAPTER MOUNTING



HERMETIC FEEDTHROUGH FOR SPACE OR INDUSTRIAL VACUUM APPLICATIONS



Positronic Industries
www.connectpositronic.com

ORDERING INFORMATION – CODE NUMBERING SYSTEMS

FEEDTHROUGH PART-NUMBERS

STEP	1	2	3	-	4
	HIVAC	37	.0		
STEP 1 – BASIC SERIES HIVAC FEEDTHROUGH STEP 2 – CONNECTOR VARIANTS Normal density 37-50 High density 44-62-104			STEP 4 – SPECIAL OPTIONS Consult Sales Department STEP 3 – TYPE OF CONTACTS LAYOUTS 0 : Normal density 1 : High density		

ADAPTER PART-NUMBERS

STEP	1	2	3	4	5	-	6	
	HIVAC	37	25	M	G			
STEP 1 – BASIC SERIES HIVAC ADAPTER STEP 2 – HIVAC FEED-THROUGH Normal density 37-50 High density 44-62-104			STEP 3 – HIVAC ADAPTER CONTACT VARIANTS Normal density with 37 variant 9-2X9-15-25-37 Normal density with 50 variant 9-2X9-15-25-50 High density with 44 variant 15-26-44 High density with 62 variant 62 High density with 104 variant 78-104			STEP 6 – SPECIAL OPTIONS Consult Sales Department STEP 5 – TYPE OF APPLICATIONS G : Gold for Space version D : Gold and Dimpled for Space Version S : Stainless-steel for Space version Residual magnetism from 20 to 2000 Gamma		
STEP 4 – ADAPTER GENDER M : Male contact F : Female contact MM-FF : Use only with 37.2X9 and 50.2X9 Hivac Adapter MF : Use only with 37.2X9 Hivac Adapter For normal density : 2 Male Hivac Adapters or 1 Male Hivac Adapter with 1 Female Hivac Adapter For high density : 1 Male Hivac Adapter with 1 Female Hivac Adapter								