



Bushings and cable entries, pressure and vacuum sealed

Features

- Economical, due to high packing density
- Space-saving, due to internal thread
- Fast installation with the small flange versions
- Corrosion-resistant due to high-quality sleeve material
- Bushing stems with suitable thermomaterial to ensure unimpaired signals from thermal sensors

Description

Cable entries

Electrical cable entries are components which facilitate the insertion of electric leads into enclosures while providing a secure seal at the point of entry.

Line bushings

The line bushings allow an electrical connection of apparatus in enclosures or the connection of two enclosures.

The standard versions are suitable for the application range of 10^{-6} mbar to 63 bar positive pressure depending on the ambient temperature. Depending on the pressure and the medium to be sealed, the bushing / cable entry can be designed for a temperature range of -70 °C to $+150$ °C.

Versions up to 1000 bar are available to suit the temperature at the point of cable entry or bushing and the type of the medium to be sealed.

BARTEC cable entries and line bushings in the IP 68 type of protection not only seal the cable sheath, they also protect the inside strands.

BARTEC cable entries and line bushings consist in principle of a sleeve into which electric leads and single conductors are embedded in casting resin. Even the standard version of this component series satisfies most of the sealing requirements of modern process technologies.

When it is necessary to satisfy higher requirements, versions are available that are better than 10^{-6} mbar absolute and higher than 63 bar, sealed by the cast-in stranded conductors. BARTEC line bushings were tested at up to 2000 bar for resistance to oil.

Single-core non-sheathed cable

➤ Technical data

Temperature range
-70 °C to +150 °C

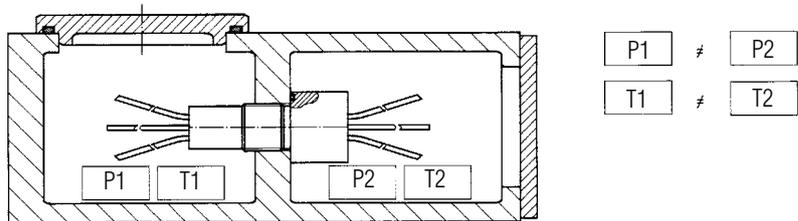
Pressure
up to 200 bar

Vacuum
10⁻⁶ mbar

Protection class
IP 65 to IP 68

Materials
nickel-plated brass
stainless steel 1.4305 or 1.4571
Steel nickel-plated

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Cable entries

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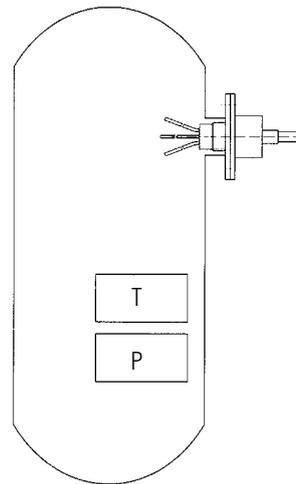
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Cable entries



Applications

Sealed electric distribution boxes; hydraulic plants; nuclear power plants; climatic chambers; nuclear engineering; pneumatic plants; split cage motors; submersible pumps; drying kilns; impregnation plants; vacuum presses; vacuum furnaces.

■ Electrical versions

The standard versions have cables with flexible cores of a 0.5 mm² to 35 mm² cross section. Larger and smaller cross sections are available on request.

Depending on version, fittings, temperature range and core insulation, a voltage range of up to 6 000 V is possible.

IP 68 versions used in temperature measurement circuits, the bushing stems are made of material with appropriate thermal characteristics.

■ Versions and dimensions

The standard threaded sleeve can be screwed into thread sizes from M24 x 1.5 to M50 x 1.5. Other dimensions and special threads such as NPT and Witworth pipe threads can be supplied on request. Versions with a plug-in flange can also be supplied.

The accommodation of several cables, which may have different core cross sections, in a common sleeve allows compact, dimensioning and economic constructions. Cables with up to 45 cores with cross sections of 0.5 mm² can be put in an M50 x 1.5 sleeve.

For versions with long cables, the screw-in solution is not the most advantageous. Here the plug-in versions with mounting flange considerably facilitate installation. The flange may be made to customer specifications.

■ Insulation materials

BARTEC insulates with highly filled epoxy resins. Different formulations are used for the various pressure and temperature ranges.

The BARTEC epoxy casting material is characterized by its low outgassing. These material have been used most successfully for many years in industrial vacuum engineering. Their maximum baking temperature of +150 °C - depending on the material used - make them an ideal solution for almost all industrial applications.

The standard sealing washer is made of VITON. For special application, VITON-FEP-sheathed O-rings can be used. Also available are silicone sealing washers.

The versions for higher sealing requirements provide factory-made grooves in the sleeves for the sealing washers.