











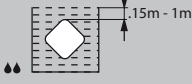
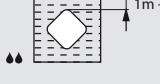
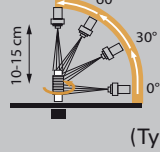


Sealing Standards

The IP classification system (IP rating) provides a reliable method of comparing relative levels of sealing between various connector products. The protection level offered by a typical envelope is described in IEC 60529. While the first number describes the level of protection from solid objects, the second one relates to protection from moisture.

Example :

IP68 = IP Letter Code _____ IP
1st Digit _____ 6
2nd digit _____ 8

1st Digit	Protection from Solid Objects	2nd Digit	Protection from Moisture
0	Non Protected	0	Non Protected
1	 Protected against solid objects greater than 50 mm	1	 Protected against dripping water
2	 Protected against solid objects greater than 12 mm	2	 Protected against dripping water when tilted up to 15°
3	 Protected against solid objects greater than \varnothing 2.5 mm	3	 Protected against spraying water
4	 Protected against solid objects greater than \varnothing 1.0 mm	4	 Protected against splashing water
5	 Dust protected	5	 Protected against water jets
6	 Dust tight	6	 Protected against heavy seas
Note: EN 60529 does not specify sealing effectiveness against the following: - Mechanical damage of the equipment - Risk of explosions - Certain types of moisture conditions, e.g. those that are produced by condensation - Corrosive vapours - Fungus - Vermin		7	 Protected against immersion effects
		8	 Protected against submersion (See note)
		9	 IP69 is an additional sealing level define to protect an envelope from intense water jets for short duration (Typically for high pressure cleaning).

Environmental tests performed during design and qualification of Fischer Connectors environmentally sealed products are standardized to IP68 at a depth of 2 m and duration of 24 hours. Fischer Connectors hermetically sealed products achieve IP69.

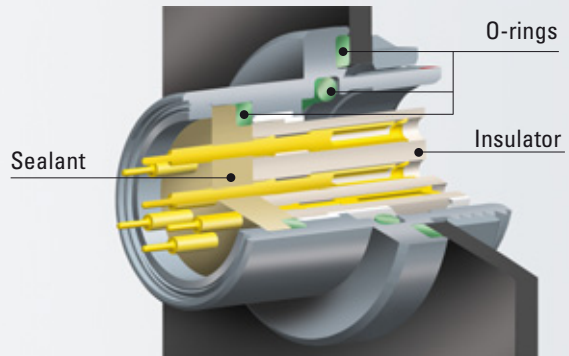
Selecting the right connector for an application is an important and challenging process, even more so when the application involves sealing the connector against various environmental conditions.

Sealing Categories

Fischer Connectors provides solutions for:

- Environmental sealing
- Hermetic sealing
- High pressure

Each requires different sealing levels and therefore, different connector solutions.



Environmental Sealing

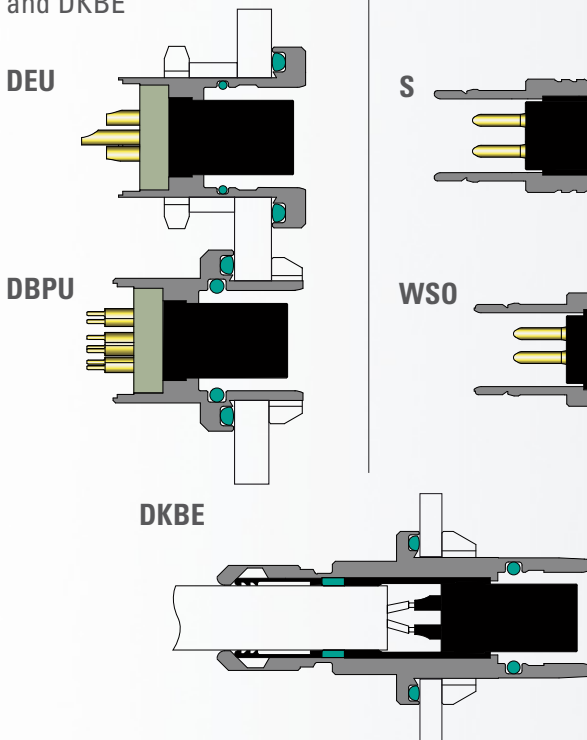
Typically for outdoor applications, exposed to rain, dust and other aggressive environments. Exposure is generally limited in time and pressure.

Recommended Fischer Connectors Solutions

Fischer Connectors offers a complete range of environmentally sealed connectors. These products are designed to offer sealing up to IP68.

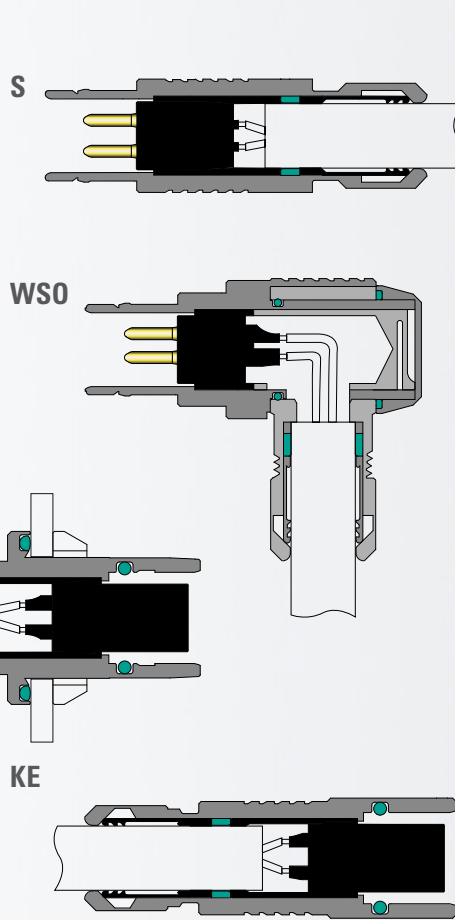
Panel mounted connectors, sealed mated and unmated:

DEU, DBEU, DBPU, DBPLU, WDE, SFU, SFPU, DKE and DKBE



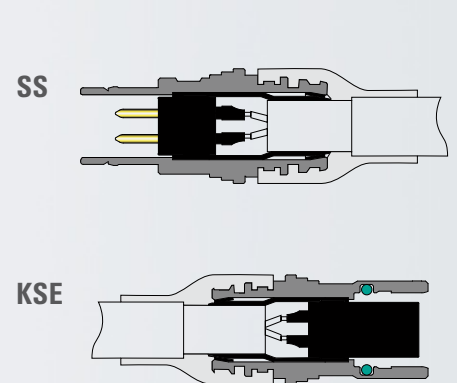
Cable mounted connectors with appropriate sealed clamp sets:

S, SC, SOV, SA, SV, WSO, KE, DKE and DKBE



Cable mounted connectors with appropriate cable assembly solution:

SS, SSC and KSE



Hermetic Sealing

Typically for applications requiring gas tightness like vacuum applications and pressurized vessels, immersed for long period of time or exposed to strong jets.

100% of the hermetic pieces are tested with a leak testing instrument to ensure a leak smaller than 10^{-8} mbar l/s.

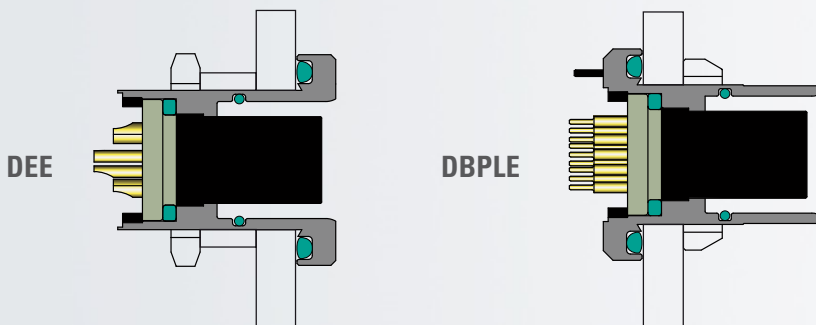
Recommended Fischer Connectors Solutions

Fischer Connectors offers a complete range of hermetically sealed connectors.

These products undergo a 100% leak test and are designed to offer sealing up to IP69K.

Panel mounted connectors, sealed mated and unmated:

DEE, DBEE, DBPE, DBPLE, WDE, SFE, SFPE.



High Pressure Sealing

Typically for applications exposed to liquids under high pressure, like deep submarine applications.

Level of sealing required is extreme in order to withstand exposure to high pressure during an extended period of time.

Recommended Fischer Connectors Solutions

Fischer Connectors design centre can assist customers for such special requests.

Customized product developments can be proposed, combining hermeticity with high strength mechanical design.

Limitations

The recommendations provided in this catalogue are given only with the intention of assisting with the choice of a connector with respect to its particular application.

It remains always the responsibility of the equipment manufacturer, and not the connector supplier, to determine the appropriate technical standards, as well as the necessary safety factors for a given application.