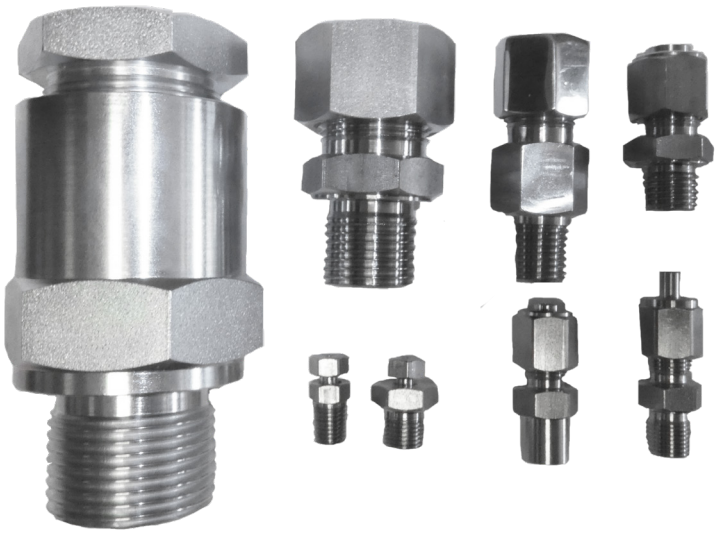
COMPRESSION FITTINGS – A NECESSARY COMPONENT

A compression fitting, also called a screw fitting, makes a temperature sensor complete. They are used in most industries, including food and packaging, pharmaceutical manufacturing, vehicles and engines, the process industry, as well as research and education.



Compression fittings are used to fix probe tips into position and to help prevent leakage. As a rule, the compression fitting is threaded and is screwed into position but when necessary it can be welded.

Common types of thread are conical and straight pipe threads plus metric fine threads.

The standard material is acid-resistant stainless steel. The probe tip is assumed to be round, i.e. made of a pipe or sheathed material, and is clamped fast by compressing a pierced cone around the probe tip.

The cone can be made of various materials but the most common are steel or PTFE (a fluoroplastic with properties that give it very low friction). The steel type is also available in a spring-action version equipped with a slot.

The PTFE cone can be used at temperatures under 200 °C, in cases with low pressure differences, and when it is necessary to be able to adjust the cone along the probe tip.

The steel cone is used at higher temperatures and in cases where the pressure difference is considerable. The compressing cone cannot be moved after it has been tightened.

A spring-action steel cone does not provide a seal against a pressure difference or liquids, but on the other hand, it can be moved along the temperature sensor's pipe.

Most compression fittings are designed for use with a probe tip but for customers who need to mount several sensors at the same connection point there is a multi-compression fitting, Model 9640000, for up to 24 probe tips.

For mounting larger thermocouples at high temperatures, there is a compression fitting with a graphite seal that can withstand up to 450 °C.

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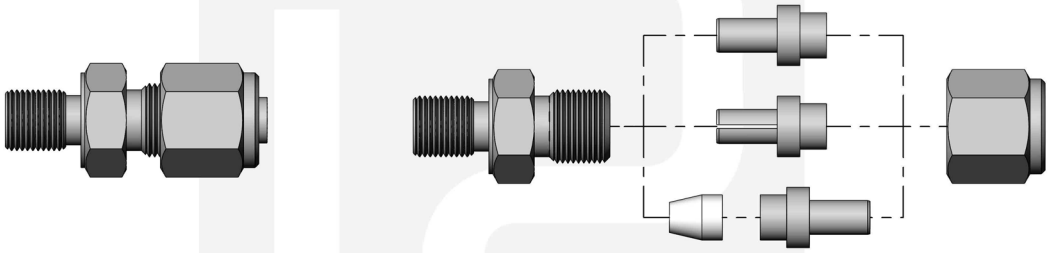

We are often asked what withstanding pressure the compression fitting has and what tightening torque should be used. It is difficult to generalise about this, because it depends on the sensor diameter, the wall thickness of the temperature sensor pipe etc. A good rule of thumb is to tighten it as hard as you can with your fingers and then make a mark at the 6 o'clock position and then tighten it one and a quarter turns until the 9 o'clock position.

Compression fittings should only be mounted and removed when the system is not under pressure.

Some combinations are pressure tested; the test results can be supplied on request.

The above-mentioned compression fittings are part of our standard product range. If you require specific solutions and customised models, or if you have other questions, you are welcome to contact us for assistance.