



90XD – stainless steel housing for prototyping with ceramic pressure sensors



Figure 1: Metal housing 90XD

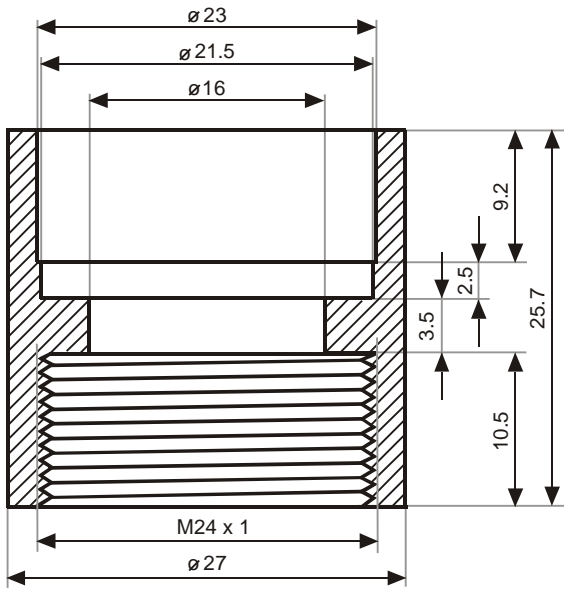
To guarantee offset values which can be reproduced when mounting ceramic sensing elements it is important that these be assembled in their packages with the minimum amount of stress. This calls for the fabrication of a package which satisfies the assembly recommendations issued by the manufacturer. A suitable sealing ring is also needed which first has to be ordered and delivered. In many cases this takes up too much time and effort when quick testing of a prototype is what is required.

For this reason AMSYS in Mainz, Germany, now stocks a stainless-steel package with a sealing ring which is tailored for use with all available ceramic sensing elements which have a diameter of 18mm. The package is also suitable for transducers with evaluation electronics in the ME705 and ME707 series.

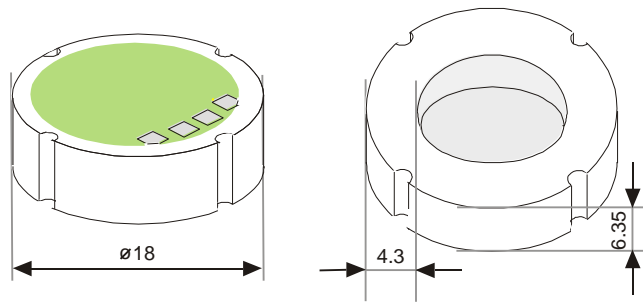
The two-part package is made of V2A steel. It consists of a mount for the sensing element which is sealed with an O-ring on the pressure side of the device and a sleeve which is screwed on. The exterior of the mount fits S24 spanner openings and has a G1/4" external thread for connecting up pressure (see diagrams on page 2). An additional thread on the other side of the pressure connector (M24) enables the sleeve to be screwed fast to the mount so that the sensing element is pressed hard against the sealing ring. When screwing on the sleeve direct contact between the ceramic sensing element and the mount should be avoided.



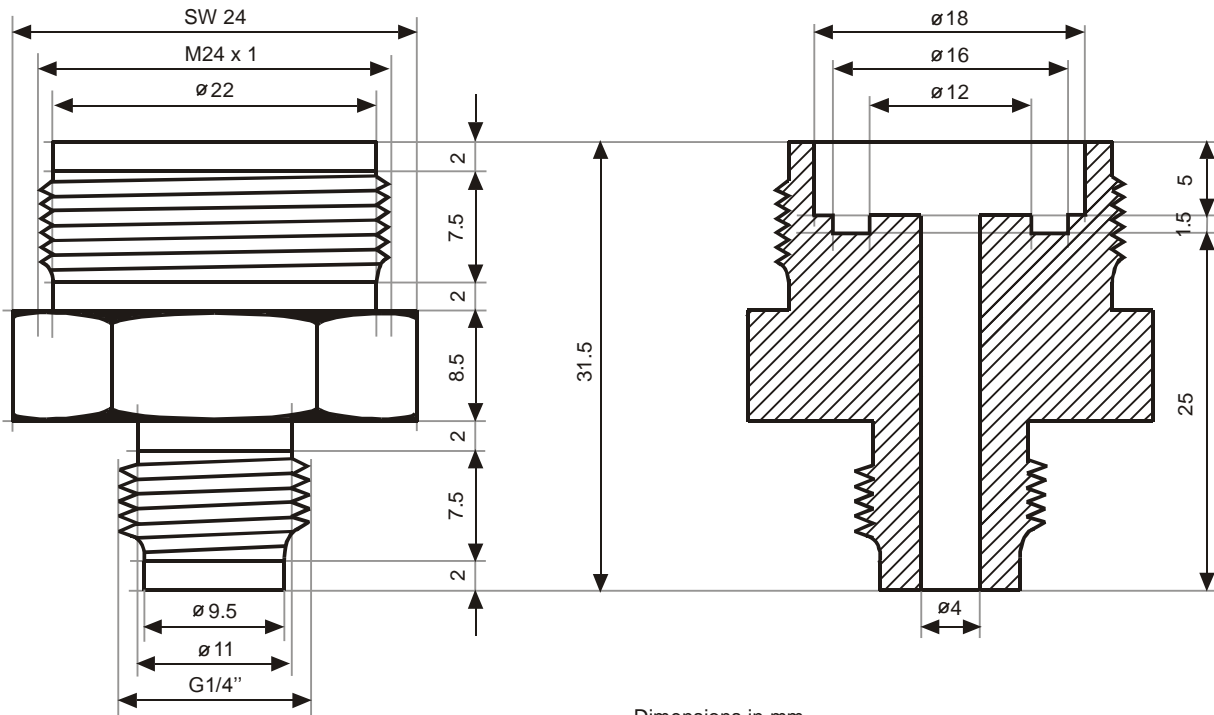
AMS 3011 - Differential pressure transmitters for high system pressures



Dimensions in mm



Dimensions in mm



Dimensions in mm

Figure 2: Dimensions of 90XD housing

Prototype package 90XD suits all ceramic sensing elements in the ME501/505, ME651 and ME705 series.



AMS 3011 - Differential pressure transmitters for high system pressures

Important notes for assembly

According to the manufacturer's recommendations for assembly there should be a gap of 0.05mm to 1.0mm maximum between the ceramic element and the metal mount. This means that the sensing element then floats on the seal.

To adjust the package to this distance the sleeve should be screwed tight to the thread stop and then loosened according to the pitch of the thread. The rotation which loosens the screw should correspond to the required distance. For the M24x1 screw thread this amounts to a counterclockwise rotation of 18° to 36° for a distance of between 0.05mm and 0.1mm. Once the sensing element has been mounted the sleeve can be fixed in position with a little adhesive.

The prototype package is suitable for all types of ceramic sensing elements marked ME501/505, ME651 and ME705/707.

For unproblematic assembly we suggest that a Quick Star coupling made by Festo Pneumatik is used as counterpart to the G1/4" thread. This is in fact a Schott push-in fitting of the type QSSF.

Part number: 153 164 - QSSF-1/4-6-B

This fitting is in turn suitable for use with PAN plastic tubing manufactured by Festo Pneumatik for the industrial temperature range.

Part number: 152 699 - PAN-6x1

With all recommended products the maximum pressure must be selected with due consideration to the applied temperature range. This information can be determined from the data sheets provided by the manufacturer.

These recommendations do not in any way claim to be exclusive. Those products recommended may be subject to change.

AMSYS would be happy to supply construction details for duplication to those ordering samples.



Figure 3: Complete prototype assembly with a pressure connection

Contact

AMSYS GmbH & Co. KG
An der Fahrt 4
55124 Mainz
GERMANY

phone: +49 (0) 6131/469 875 0
fax: +49 (0) 6131/469 875 66
email: info@amsys-sensor.com
internet: www.amsys-sensor.com