

Glowplug Adapter

Type 6531Q.../6535Q...

Description

The glowplug adapter enables measurements of in-cylinder pressures to be taken without having an expensive separate measurement drilled hole.

The adapter will simply be screwed into the drilling already existing for installing the OE-glowplug. The installed cylinder-pressure sensor is in contact with the combustion gases via three short star-shaped drillings in the glowplug adapter tip.

There is no heating element in the glowplug

Application

In diesel engines Glow plugs are used primarily to optimise the starting of the engine. As long as there are no extremely low ambient temperatures, starting the engine without the help of a glowplug should present no real problems. Fitting an adapter equipped with a pressure sensor in place of the OE-glowplug can, therefore, be safely undertaken.

The advantages of the glowplug adapter are:

- The most simple assembly without the need for additional drilling for the pressure sensor
- Designed to suit existing drilling for the glowplug
- High signal quality thanks to measuring close to the combustion zone in the diesel engine

Customer-specific Design of the Glowplug Adapter

The glowplug adapter will be produced to suit the geometry of the OE-glowplug, where and how this is installed in the cylinder head, as well as the purpose of the measurement, as expressed by the customer.

There are two basic types:

Type 6535Q...

Type 6535Q optimised with regard to gas-dynamically excited organ-pipe vibrations, (fig.1) **with the pressure sensor mounted low down in the adapter**, to be selected when the primary objective is carrying out thermodynamic investigations. The short distance between the sensor membrane and the combustion space minimises organ-pipe vibration effects.



Type 6531Q...

Type 6531Q ..., (fig. 2) for longer sensor exposure periods, is temperature-optimised by the pressure sensor being moved back some distance in the adapter. It is particularly suitable for carrying out long-term pressure measurements, i.e. where thermodynamic analyses are of secondary importance (e.g. monitoring p_{max} in endurance runs). Organ-pipe type vibrations manifest themselves more than in type 6535Q...

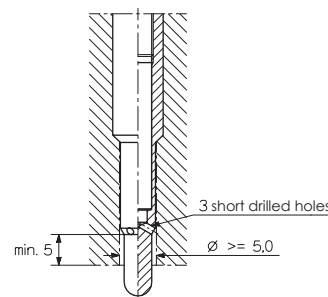


Fig. 1: Type 6535Q...

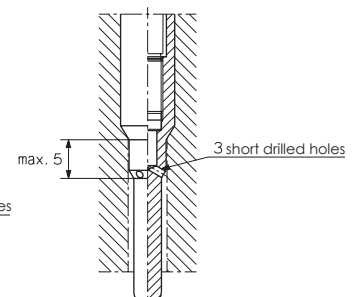


Fig. 2: Type 6531Q...

Since the gap between the adapter tip and the drilled hole it is fitted into, significantly influences the performance, it is necessary, when ordering, to give the dimensions of the glow plug as well as those of the installation hole.

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Sensor Applicability

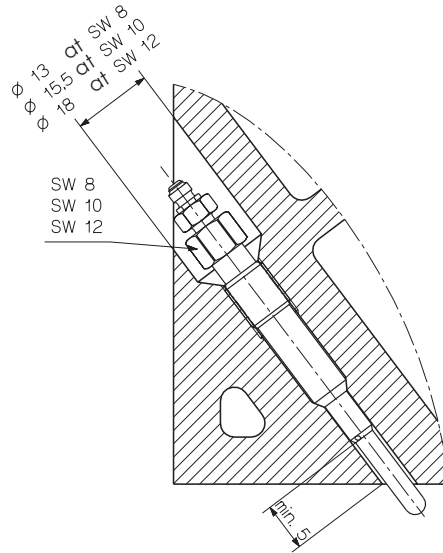
Depending on the contour of the OE-glowplug, the following sensors can be inserted:

601, 6052, 6053, 6055, 6057 or 6125.

Where the customer does not request a specific sensor, Kistler will select the type which is best suited, bearing in mind both adapter contour and purpose of fitting the sensor.

Technical Data

Tightening Torque: (Adapter)	10 to 15 Nm
Pressure Range	up to 250 bar
Temperature Range	50 to 350 °C
Installation Dimensions	M10 x 1/M8 x 1



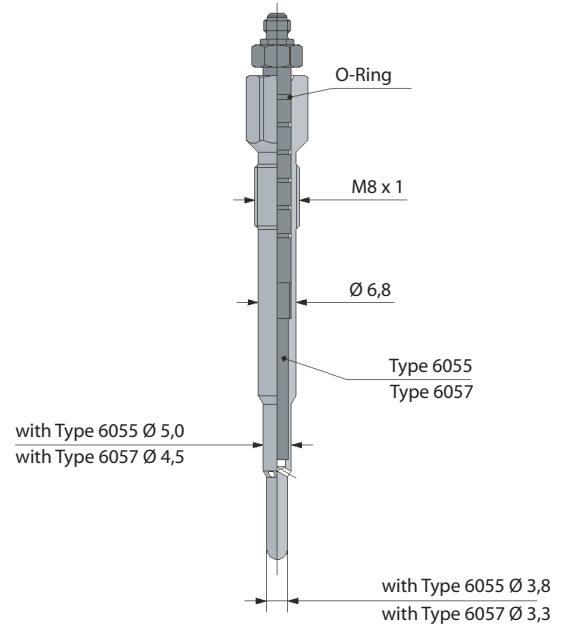
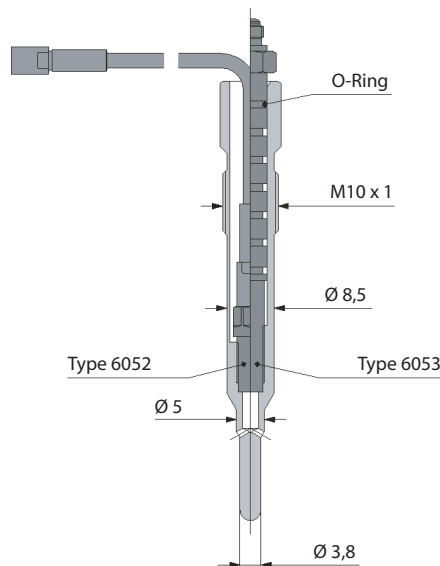
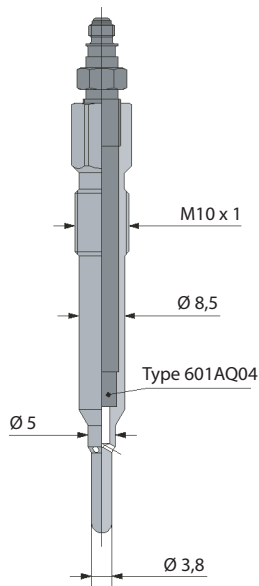
Example of an adapter (Type 6535Q...)

Examples

Type 601 inside Type 6531
with nipple connector

Type 6052 inside Type 6531
Type 6053 inside Type 6531

Type 6055 inside Type 6535
Type 6057 inside Type 6535



Type 6531 size M10

The sensor is mounted temperature-optimised and is particularly suitable for carrying out long-term pressure measurements such as monitoring p_{max} in endurance runs. Organ-pipe type vibrations manifest themselves more than in Type 6535Q...

Type 6535 sizes M8 and M10

Gasdynamically optimised for minimal organ-pipe vibration effects. To be used in thermodynamic investigations.

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Order Form for Glowplug Adapter

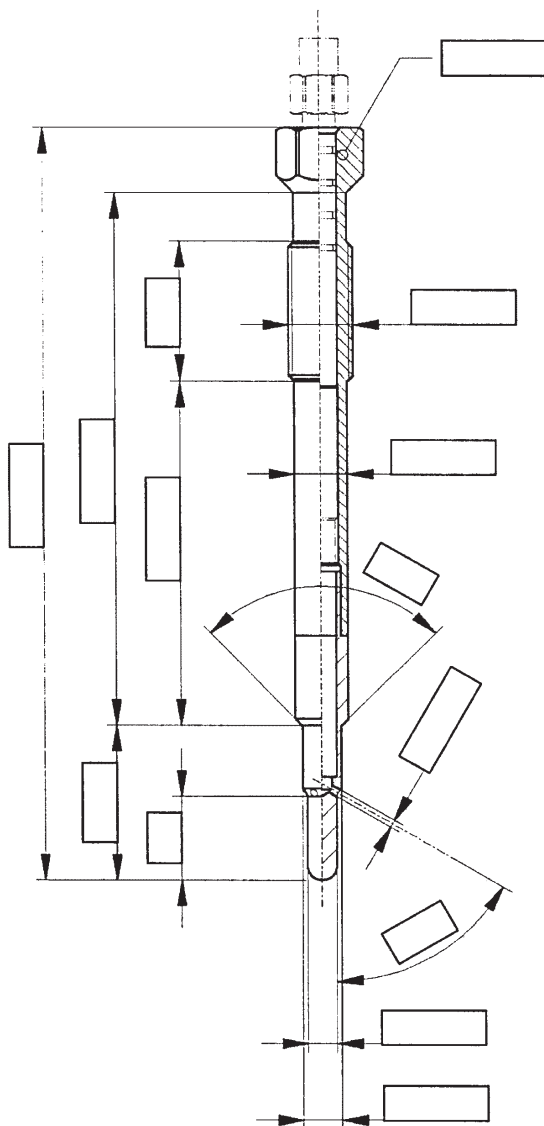
Customer: _____ Ordered by: _____

Engine Type: _____ Glowplug Type: _____

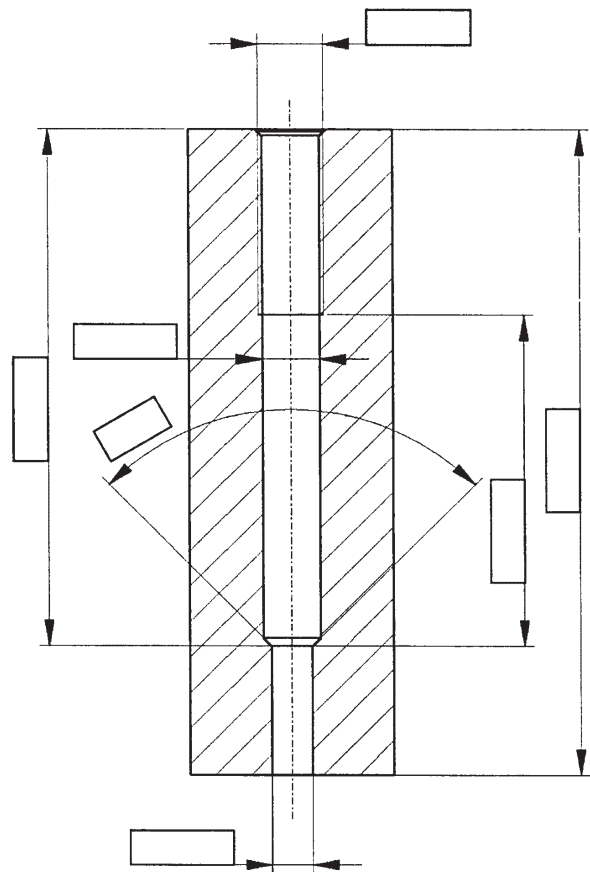
Endurance Tests: Yes () No ()

Remarks: _____

Glowplug Adapter



Installation Hole



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