

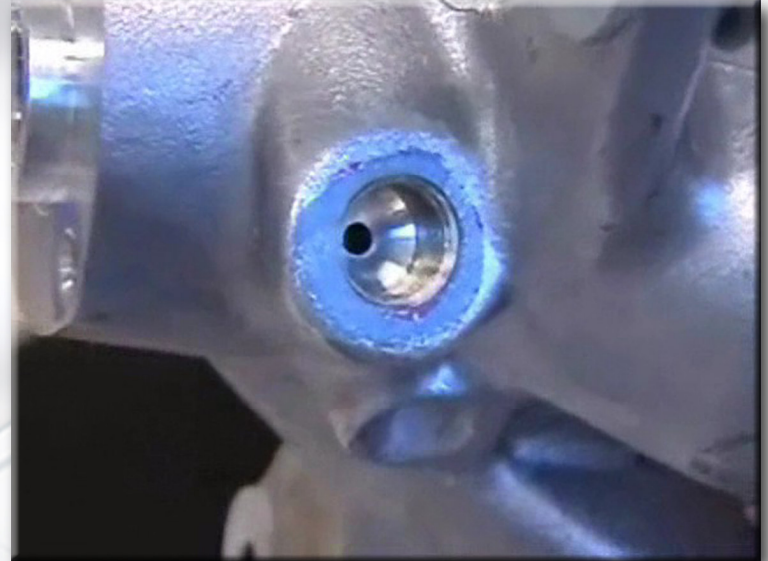
# Non-contact detection of thread and fine chips residual in bolt holes



It is always a fascinating question in metalworking industries, whether or not the thread was cut in each product? Is there any fine chips residual remained in the bolt hole?

Do not incur the customers' objection. Be sure about that all the threads were cut and there was no chance for fine chips residuals to remain hidden in any hole!

Our **DIGITARGOS THREAD CHECKER** helps you to counteract that any faulty piece leaves the gate of your factory for the customer.



Thread to be checked in bolt hole



The uncovered sensor with the planar coil



Sensor in the object

The simple, easy-to-use technology allows you to shorten the cycle time of the inspection as low as it can be inserted directly into the production line. Thus you can turn the inspection into the organic part of the production. The fault is detected exactly where it arises.

Using our revolutionary new technology for checking the existence of threads and fine chips residuals you will gain reliable information about the quality yield. The **EDDY CURRENT** sensors provide very stable and consequent sign that is not influenced by any disturbing factors such as oil, moisture, and dust.

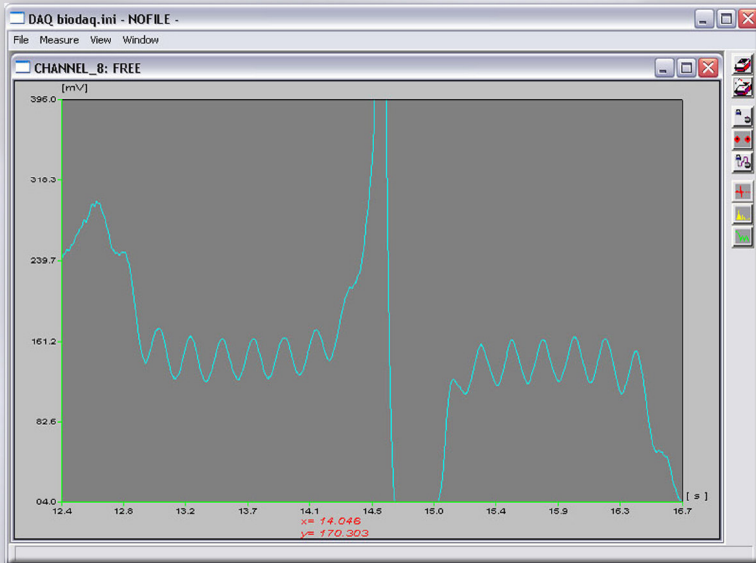
We deployed so-called "planar" (pancake) sensor that contains a single coil or at most two coils in a single plane. The sensor generates a so-called thoroid forcefield that interacts with the wall of the hole. Thus the gained sign stands for the **AVERAGE** of a level where the sensor actually stays.

Usual sensors and solutions inspect only a narrow track on the wall of the bolt hole. In order to have a clear picture about the whole surface the sensor has to be rotated, while our sensor and technology generate a comprehensive picture about the complete wall.

Reference video clip:

<http://www.digitargos.eu/magyar/threadchckmovie.html>

# Non-contact detection of thread and fine chips residual in bolt holes



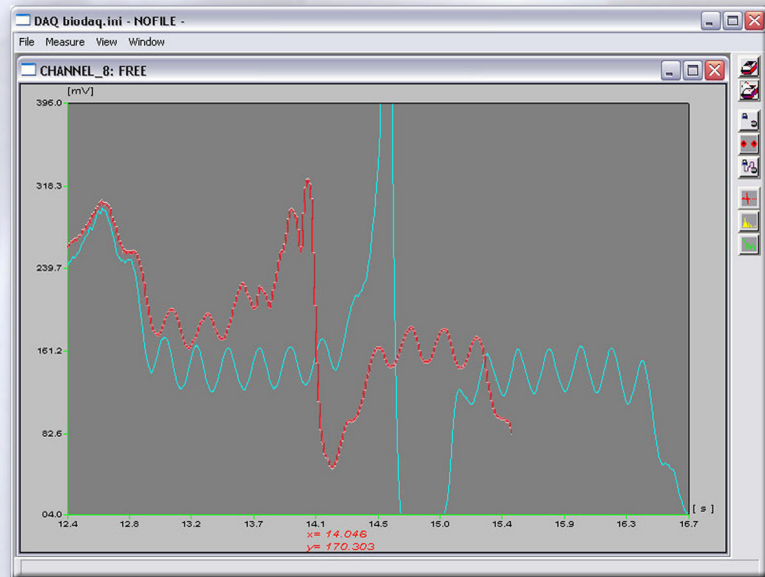
After filtering the software evaluates the sampled curve and passes the decision, whether or not the thread exists.

The coil pitch can also be measured such as the number of threads counted. The electronics detect not only the bottom of the hole, but also any obstruction (e.g. broken tool) that may ruin the sensor: in this case the direction of the movement turns back and the whole detecting cycle is repeated backwards.

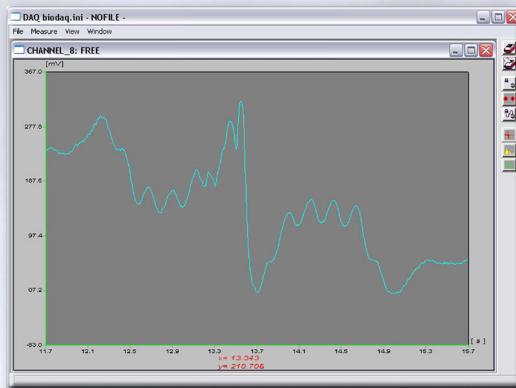
The shape of the thread can also be evaluated, whether or not the tool has cut the thread in the desired direction.



Fine chips residual in the bolt hole and...



its detected curve



The detected curve of the fine chips differs significantly from that of the correct thread.

## Technical features:

- Type of eddy current sensor:..... planar (pancake), single coil
- Frequency:..... < 9 MHz
- Minimal diameter:..... 4 mm
- Maximal diameter:..... not defined