

1. Introduction of the latest X-ray CT Unit

How we assure the quality of small precise objects

We have replaced to the latest X-ray CT unit recently. It has a higher resolution than the previous unit, and even higher accuracy measurement of inner structure became possible.

The X-ray CT unit exposes X-ray to the object and obtains the measurement data from the strength of transmitted X-ray via the image sensor. So, it enables to observe and measure the internal structure of metal or plastic parts which cannot be observed with the visible light. This unit can measure up to 15mm depth in case of steel or stainless steel, therefore, the parts processed with our μ-MIM®, the internal shape tolerance and other all defects will be detected. .

Furthermore, the new X-ray CT inspection system also gives us 3D CT scan data from rotating measurement mode. From this data, we can obtain cross-section at any point, the comparative analysis with design or CAD data and also the internal dimensions non-destructively.

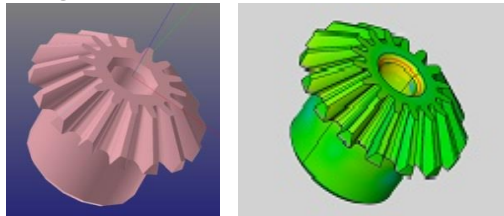


▲ Appearance of new X-ray CT scan system

■ Application to μ-MIM® —Non-destructive inspection of micro-gear—

Our quality assurance capability has improved by this new X-ray CT unit.

As an example, micro-gear products processed by μ-MIM® are impossible to inspect using conventional probe contact measurement. Especially, complicated shape gear, such as spur gear, helical gear and bevel gear are difficult to evaluate even using the image measurement.



However, if this X-ray CT unit is applied, higher level of quality assurance is realised. For example pitch error, gear thickness, gear profile, alignment error, engagement error, class evaluation (applicable to DIN, AGMA, JIS) can be highly assured. Also, using the 3D measurement data, not only comparative verification with CAD data, but also simulation of interlocking with gears of other companies products can be practiced. This simulation will support your development. Please contact us for the inquiries of micro-gears.

Can obtain complete 3D data which was previously impossible

What can be realised

Improve quality inspection
→ improve MIM parts quality

Feedback to the previous process → further minituarisation of MIM

Sophistication of CAE → proposal of optimized design

2. Development of one of the smallest check valve in the world

Nowadays in all industries, miniaturisation, high precision and microfabrication are pursued. We have realised the mass production of the smallest class check valves in the world by MIM.

In the production of check valve structure, we have succeeded mass production of 2.25mm outer diameter check valves of which the minimum size was 2.5mm before. It is a product integrating various technologies, which only Taisei Kogyo can realise. It has such a complicated internal structure which is difficult to process by CNC machining. Thin structure of less than 0.2mm cannot be formed by conventional MIM. We are going to continue our technical development for future.



<Exhibition>

21-23 June 2017 MEDIX (Tokyo, Japan), part of M-Tech exhibition. Hall East 4, Stand 77-2

太盛工業社員が語る今月のコラム



Quality Management Dept. Ms.Sadai

Hi. My name is Yukari Sadai. I am in quality management dept., taking charge of quality concerned affairs such as in process inspection, measurement after sintering, final appearance check and packing. Taisei Kogyo's HQ is located in north of Osaka, and I often visit Kyoto on my days off. Although Arashimaya in Kyoto is famous in autumn, fresh green in May is also beautiful. I recommend you to visit there any time since each of 4 seasons are attractive not only in autumn.