

UNISIGN EXPERIENCE

@WORK



## Services - Tool taper cleaning



### Application

Cleaning the tool taper for precision machining

### Material

Aluminium

### Customer

Various Unisign customers worldwide

### Machine type

All Unisign CNC machine tool taper types

### Benefits

- Improved process reliability
- Maintaining accuracy
- Reduction of tool costs
- Reduction of machine downtime
- Extended tool life span

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## Tool taper cleaning: essential for accurate machining

Many of our clients are already convinced. Cleaning the tool taper regularly is essential for precision machining. It is crucial for machining materials accurately.

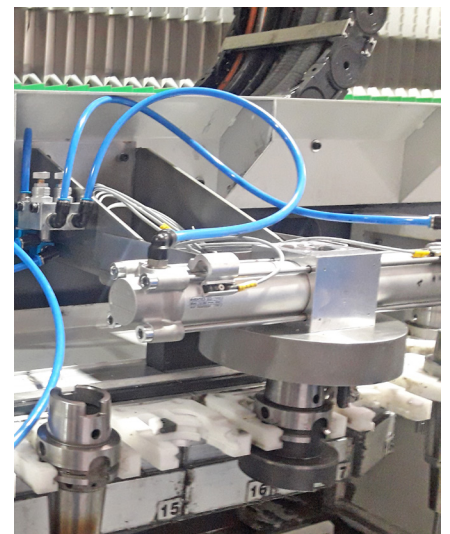
### Contamination has consequences

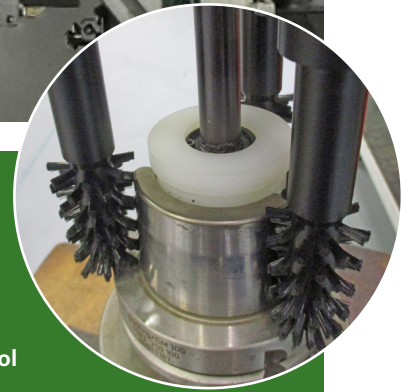
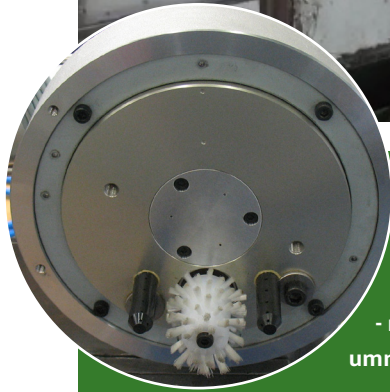
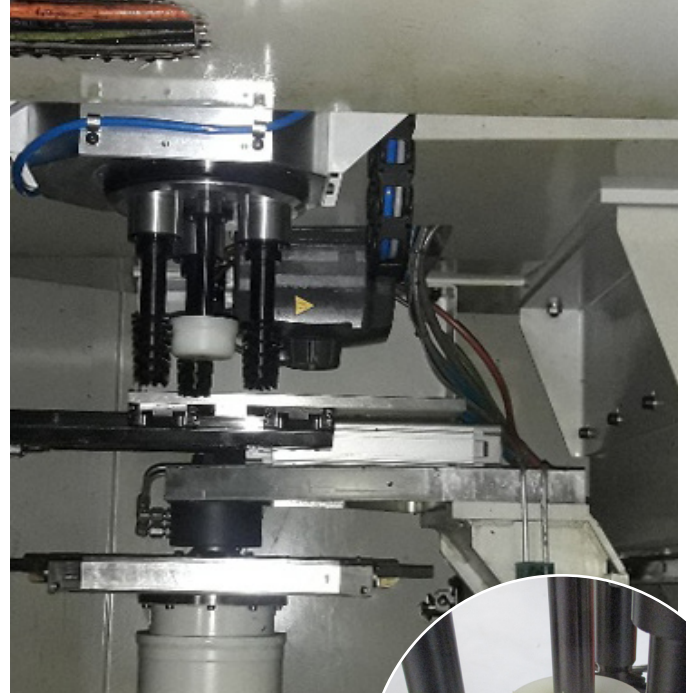
Waste, residues and small rust particles on the tool taper can have considerable consequences for machining, especially aluminium. The impact on high volumes and long machining runs can be considerable. Residual dirt on the tool taper can affect the accuracy by a few microns ( $\mu\text{m}$ ), something you certainly don't want for precision milling. What's more, residues reduce the life span of your tools. The internal taper in the machine spindle can also be damaged by contamination.

Sometimes, the damage caused can be so serious the entire machine spindle has to be replaced.

### Simple solution

The solution is simple: incorporate a cleaning system for the tool taper. This system consists of a drive unit with a brush unit and brush, as well as two compressed air





**Our standard tool taper cleaning system is available for:**

- the smaller gantry machines (e.g. UNIPORT4000);
- machines with a moveable column (e.g. UNIPRO 5L).

**For the larger gantry machines (e.g. UNIPORT7000-MTC) with a complex tool exchange system and loading robot, we will design a customised version of our tool taper cleaning system.**

nozzles. So each tool taper is cleaned twice. First, it's cleaned with a brush, then by a jet of compressed air – the process is fully automatic.

The cleaning procedure is an integral part of the operating system. Tools go through the cleaning system immediately before a tool change. Cleaning prevents damage, is done very rapidly and doesn't add any time to the processing.

**For all taper types**

Our customers use the cleaning system for various taper types, including HSK63, HSK100 and CAPTO. We supply a cleaning system for all tool taper types. The cleaning system is available as an option for all our new CNC machines. Many of our

customers are aware of the advantages and order their new machine with this option.

We can also install the cleaning system in existing machines if problems arise due to waste and residues. We will modify the software to minimise the impact on tool change times. Our experienced Unisign engineers ensure a problem-free installation.

**Cleaner tools, lower costs**

By ensuring clean tool tapers, our customers prevent imbalance in their CNC machine, which prevents any unnecessary load on the tools and machine spindle. Our tool taper cleaning system truly adds value to the entire process. Besides increased process reliability, it helps to:

- Maintain accuracy
- Reduce tool costs
- Reduce machine downtime
- Extend tool life span

**Do you have problems with machine contamination?**

If your machine is experiencing accuracy problems due to contamination, please contact us. Together we can see how our tool taper cleaning system can help solve your production problems.

