Single setup grinding of micro taps

TapXmicro is the one stop solution for micro tap production, delivering high quality, precision taps used in the manufacture of watches, glasses, electronics and more.
The ANCA TapXmicro has been designed as a specialised solution for grinding micro taps.

Key Benefits

- Produce a complete micro tap in one cycle and single setup
- Single setup grinding reduces capital investment and improves production flexibility
- Work-holding options for holding taps on the square tang or cylindrical shank
- Grinding between centres ensures low run out and repeatable grinding results
- In process dressing for all wheels ensures production consistency in unmanned grinding
- Proven iTap software for quick and flexible programming of all tap types
- Tool loading solutions for high volume, unmanned production reduces running costs
- Short cycle times and high productivity

Grinding taps M3 and under poses unique challenges. Unmanned mass production of complex tools maintained to micron tolerances requires a unique solution to ensure the return on your investment is realised.

The 5-axis TapXmicro includes all the necessary features to support unmanned micro tap production. Additionally, ANCA’s iTap software allows virtually any tap geometry to be programmed. This is complemented by CIMulator3D, that validates tool geometry and machine moves before grinding. The result is a versatile solution that gives total confidence in producing micro taps for your most demanding customer.

TapXmicro Overview

- Tap size range: M3 – M0.8
- Forming or helical cutting taps
- HSS or carbide tap material
- 2 wheel pack changer with option for 6
- Dedicated work-holding with compensating chuck or collet
- CNC controlled tailstock
- Two integrated wheel dressing options
- iTap software’s dedicated tap grinding programs

LinX linear motors
LinX linear motors and linear scales on X and Y axis for proven and unsurpassed long term reliability and accuracy.

Dedicated tap work holding
CNC tailstock with dedicated micro tap centres, plus compensating chuck or collet system to drive the tap in the centre.

Wheel pack changer options
Standard 2 wheel pack changer with option for up to 6, provides machine flexibility to quickly change from one tool setup to another.

Automatic tool loading
RoboMate loader with Fanuc robot delivers hours of reliable unmanned production. Standard with 2 pallets, and option for up to 4.

Wheel dressing options
Two integrated rotary dressers allow dressing of all grinding wheels. Primary dresser is for flute and chamfer wheels. Secondary dresser with its quick change HSK arbor is for threading wheels.

Dedicated software
Using parametric input of tap geometry, ANCA’s iTap software includes cycles for complete grinding of all types of taps. CIMulator3D works with iTap, giving perfect visualisation of the machine moves and completed tool.
# Technical Specifications

| Standard inclusions on TapXmicro | iTap software  
iBalance software  
Wheel dresser software  
CNC Tailstock  
Headstock and secondary dresser  
Compensating chuck |
|---------------------------------|--------------------------------------------------|
| **Axis Configuration**          | X-axis: 540mm / 21.2” [LinX linear motor]  
Y-axis: 510mm / 20.1” [LinX linear motor]  
Z axis: 215mm / 8.4” [direct drive ballscrew]  
C-axis: 264 degrees [direct drive rotary axis]  
A-axis: 360 degrees [direct drive rotary axis]  
Q-axis: 360 degrees [direct drive rotary axis] |
| **Spindle Type**                | Single ended permanent magnet with HSK50F  
4.2kW S1  
9.5kW peak |
| **Wheel pack change**           | Standard: 2 (max. wheel diameter 203mm/8”)  
Option: 6 (max. wheel diameter 152mm/6”) |
| **Loader**                      | RoboMate with Fanuc 200iD robot |
| **CNC data**                    | ANCA AMC5, EtherCAT, high performance CNC, 8GB RAM, H/D  
64GB SSD, Processor i7, Windows 8 and touch screen HMI |
| **Other Data**                  | Bi-symmetrical gantry  
ANCAcrete [polymer concrete]  
RAL 7035 / RAL 5008  
5500kg (12,125lbs)  
25 kVA  
Renishaw |

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**Machine structure**  
ANCAcretes [polymer concrete]  
RAL 7035 / RAL 5008  
5500kg (12,125lbs)  
25 kVA  
Renishaw

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**Other Data**  
Bi-symmetrical gantry  
ANCAcrete [polymer concrete]  
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**Head office: Australia**  
ANCA offices in the UK, Germany, Japan, China,  
Thailand, Brazil, Mexico, India and the USA.  
Supported by a global network of agencies

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