

Machining technology

Medical Technology



Schwanag

High efficient manufacturing of threads on implants: The perfect solution for every manufacturing strategy!

As the specialist for the whirling and milling of external and internal threads, Schwanog has attained an unmatched reputation as a result of many successful applications with vast cost reductions.

Surgical implants are typical products in the medical technology, such as bone screws or bone (cervical) plates, which are generally manufactured from titanium or stainless steel. In the manufacturing of implants, there are various manufacturing processes for producing external and internal threads in a highly efficient manner.

With its comprehensive product line, Schwanog provides excellent precision and highest productivity. All threads are guaranteed to be completely burr-free.

Regardless which manufacturing process you pursue, Schwanog is able to provide the matching solution for the manufacturing of threads on bone screws. Schwanog has the perfect solution for every application, whether it is a single machining process using thread whirling on swiss-type (automatic) lathes or a two operation machining process while rough turning the screws and finishing (threading) them on special post thread milling or thread whirling machines.

Schwanog will find the most cost-effective and best technical solution for you.



1. Single machining process on swiss-type (automatic) lathes/turning centre

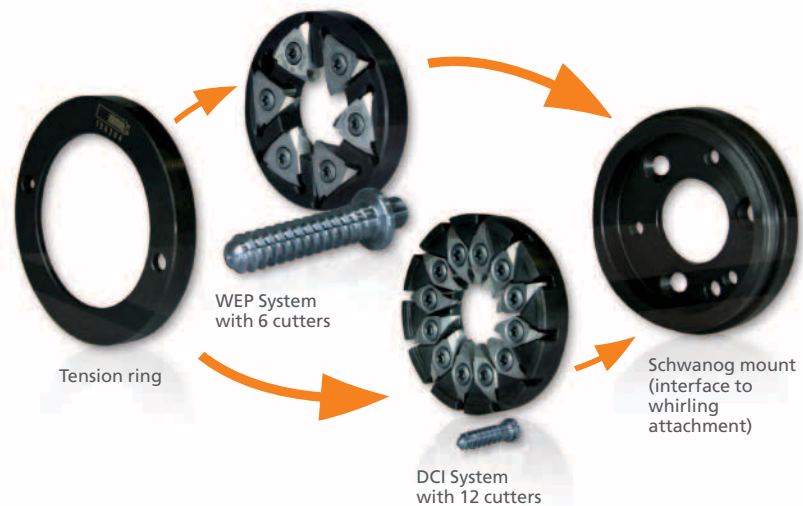
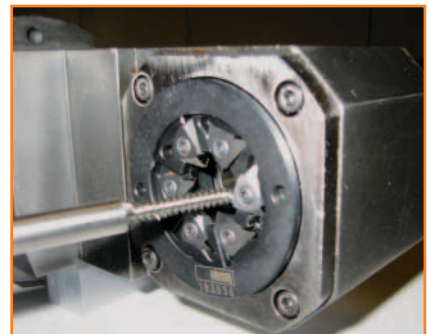
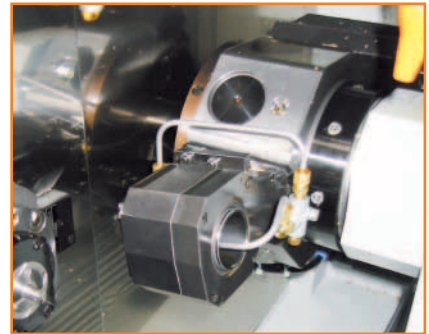
External threads: Thread whirling on swiss-type (automatic) lathes

The basic requirement for whirling a thread using a single machining process on swiss-type lathes is a whirling attachment. Whirling attachments are available for nearly all swiss-type automatic lathes from the OEM (original equipment manufacturer) and from manufacturers of driven tools.

Schwanog has developed special whirling systems consisting of cutter bodies and insertable inserts for these whirling attachments. Thread whirling with the Schwanog system has the advantage that it uses 6, 9 and 12 insertable inserts providing superior surface finishes, prolonged tool life and immense cost reduction due to quick tool changeovers.

Due to Schwanog's 6 insert (WEP System), 9 or 12 insert (DCI-System) that are available, machining times are drastically reduced due to increased feed rates when compared to the original 3 circular (button) style insert system.

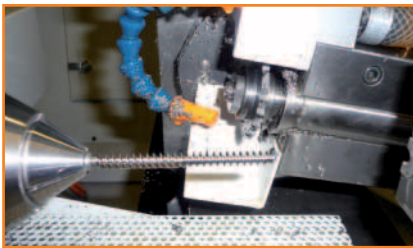
Most whirling attachments can be equipped with Schwanog's 3 piece whirling assembly. This modular configuration provides fastest tool changeovers between the DCI and the WEP whirling system.



2. Post manufacturing process on thread milling and/or thread whirling machines

Schwanog provides another perfect solution for manufacturers which are rough-turning their implants on swiss type lathes while finishing (milling or whirling) the threads on post-milling or whirling machines.

External threads:
Thread milling



Schwanog milling cutters are available in various diameters and with various numbers of teeth, depending on the application. Custom-made, individual solutions with quickest turnaround time are our specialty.

External threads:
Thread whirling



For thread whirling on thread whirling machines, Schwanog has developed matching whirling holders (cutter bodies) for various types of whirling machines.

Internal threads:
ID whirling

Orthopedic or dental high tech applications call often for a maximum in precision and longevity. Schwanog ID whirling tools (thread mills) precisely and efficiently produce internal threads on bone screws and bone (cervical) plates. The Schwanog whirling tools for internal machining are available in thread sizes from M1 to M5, and with 1 or 3 flutes, or can be customized to customer requirements.



ID whirling tools



Bone (cervical) plates



2-Flute milling cutter for bone (cervical) plates



Thread milling cutter



Schwanog whirling holder (cutter body) for Monnier & Zahner

Insertable tooling system.

Application overview – Whirling and Milling

Whirling using a single machining process on swiss-type lathes



Schwanog cutter bodies are available for the following machines:

- Tornos
- Citizen
- Tsugami
- Traub
- BAZ
- Hanwa
- Star
- Maier
- Gildemeister

Thread milling on thread milling machines



Schwanog milling cutters are available for the following machines:

- Monnier & Zahner
- Lambertz

Thread whirling on thread whirling machines



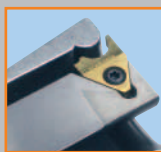
Schwanog cutter bodies are available for the following machines:

- Monnier & Zahner
- Leistritz

Visit our website at www.schwanog.com and watch our 3D animations on thread whirling with the WEP and DCI tooling system. There is a perfect solution for every manufacturing process. Take this opportunity to lower your production costs while increasing your tool life! **Give us a call today!**



OD grooving



grooving



OD Whirling



ID Whirling tools



Thread milling cutter



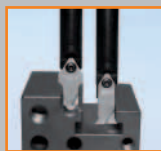
Polygon cutter



Serration



Form drilling



Form milling



Shave tool



Rotary transfer machines



Selector system

Thread Whirling and milling are two of twelve applications for which Schwanog offers top solutions in regard to quality and efficiency.