

Mikron leader in
writing instruments machinery

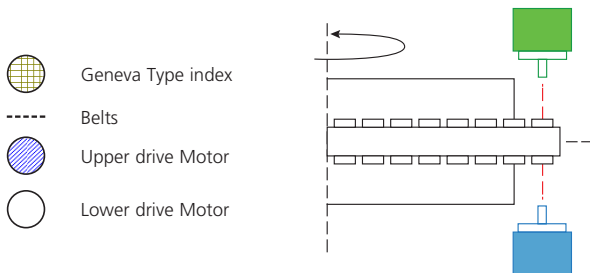
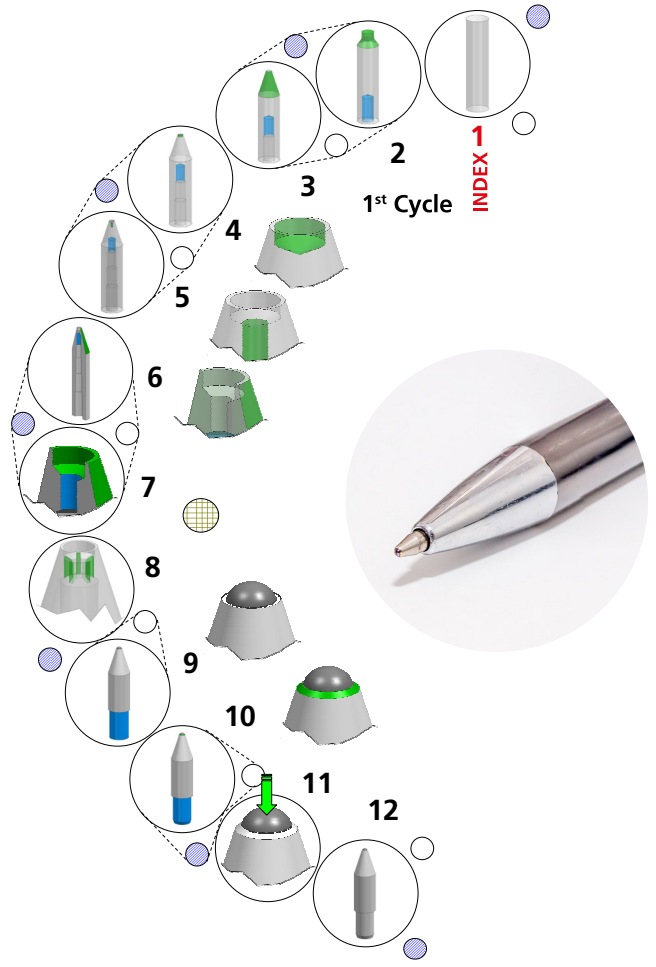
Cost efficient tip manufacturing equipment from Mikron

Tip manufacturing

Mikron Machining Technology's past is closely linked to the history of the ball point pen. Since the early stages of the ballpoint pen, Mikron has developed machinery to make writing tips and to assemble refills. As the cost of pens has been reduced over the years, Mikron has developed more and more productive machines.

Ballpen tips, whether made from brass, nickel-silver or stainless steel are efficiently produced on the Mikron Multistar LX-24 Writing machines. Tips can be made automatically from coldformed blanks or directly from wire stock. Production output ranges from 80 to 300 finished tips per minute.

Mikron Multistar machines work to the most demanding tolerances in the industry and are thus ideally suited to produce not only the ordinary ballpen tips but also close tolerance rollerball and jel ink tips. In fact, most of the leading ballpen brands use writing tips made on Mikron equipment.



VARIUS TIPS PRODUCED ON MIKRON MULTISTAR TRANSFER SYSTEMS



Ball pen tip
Stainless steel 160 pcs / min
on Mikron Multistar LX - 24



Ball pen tip
Stainless steel 160 pcs / min
on Mikron Multistar LX - 24



Ball pen tip
Brass Nickel plated 200 pcs / min
on Mikron Multistar LX - 24



Ball pen tip
Brass 240 pcs / min
on Mikron Multistar LX - 24



Ball pen tip
Brass 300 pcs / min
on Mikron Multistar LX - 24



Ball pen tip
Nickel silver 300 pcs / min
on Mikron Multistar LX - 24



Needle tube tip
stainless steel 150 pcs / min
on Mikron Multistar LX - 24

Pre-machining

Manufacturing of blanks on Mikron wire processing machines

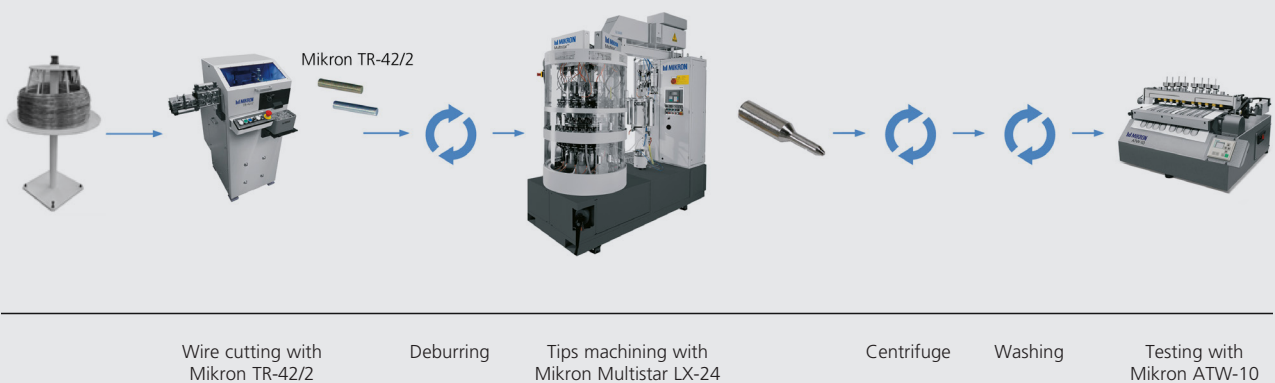
MIKRON TR-42



WIRE CUTTING MACHINE MIKRON TR-42

The Mikron TR-42 is a machine for the economical and straight shearing of wire metal. The machine for cost-effective straight shearing of wire with diameters up to 3 mm for steel, or 5 mm for aluminium and brass.

WORKING PROCESS



Tip manufacturing

Multistar LX-24 Writing

The Multistar LX-24 with 24 work stations and up to 44 working units is the guarantor for a smooth mass production. With the Multistar LX-24 machining is possible from below and above. Other additional features are the 24 intermediate stations, which allow measuring, controlling and cleaning procedures during the same run.

That way you can quadruplicate your productivity

It is unique! A run produces up to 600 simple workpieces per minute. Separating the fields of work doubles, triples or quadruplicates the amount of production at the same high processing speed.

Factors of success at one glance

- Fastest rotary transfer machine worldwide
- High precision and repeatability
- Simultaneous machining at two sides at each station
- Multiple cycles for extremely high amounts
- Parallel production of two parts
- Load / unload time parallel to the machining process
- Quick and simple tool changes



Quality Control and Support Equipment

Mikron supplies equipment which meets the specific requirements of the writing instrument manufacturer and is renowned for planning and implementing cost-efficient manufacturing facilities for tips.

The automatic production machines made by Mikron cover the complete range of tip manufacturing.

- Cutting TR-42
- Rotary transfer machine Multistar LX-24
- Write test machine ATW-10

To guarantee a continuous, premium quality and outstanding productivity, the very best quality control and support equipment is a must.

Writing test machine type ATW-10

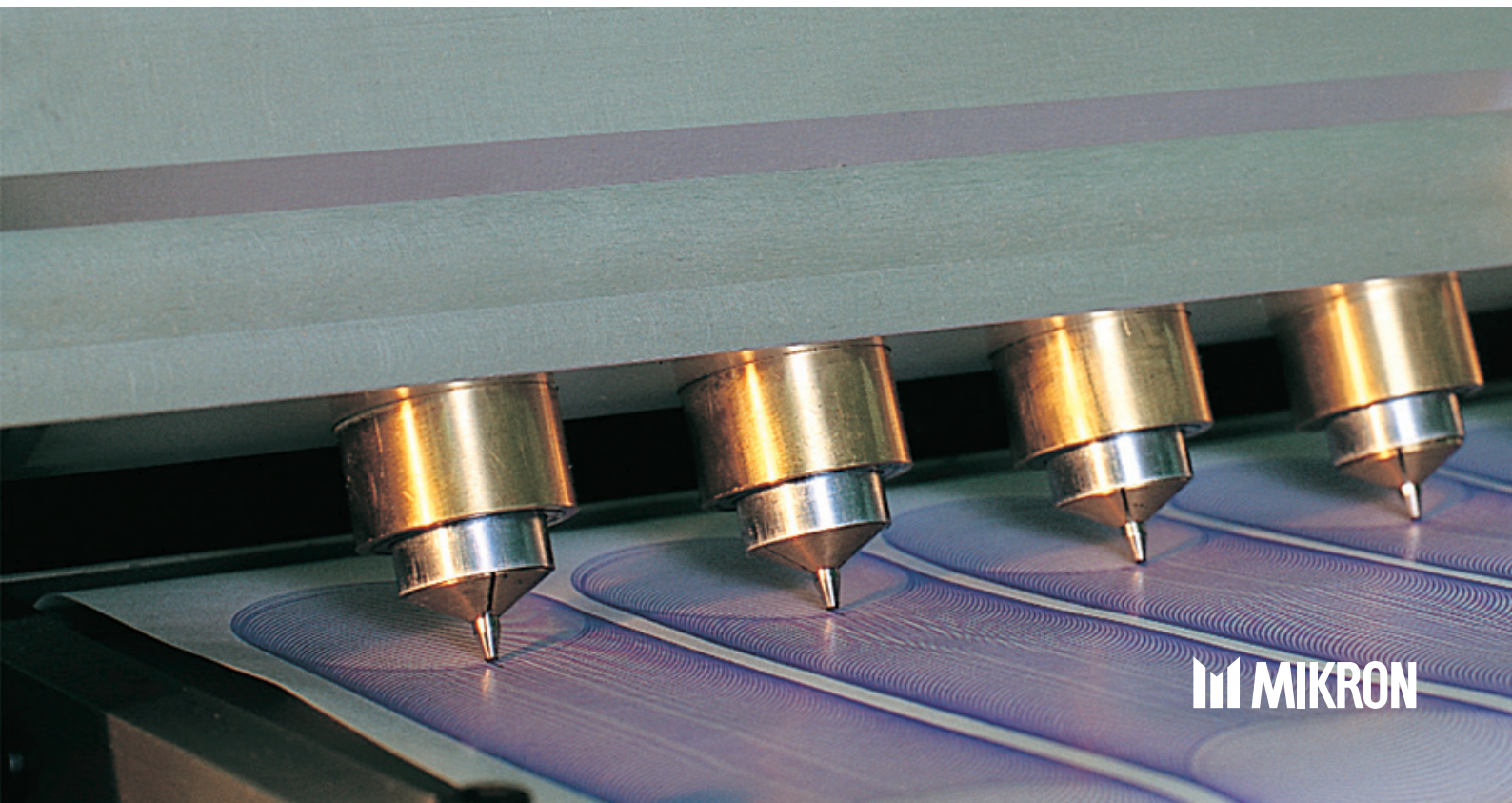
Machine for testing the writing quality of cartridges. This machine tests simultaneously ten refills in different writing angles between 60 degrees and 90 degrees. This registering mechanism allows the reading of the writing distance in "meters" by means of a device coupled directly with the paper feeding roll. The driving motor is not subject to current fluctuations so that an accurate speed is absolutely guaranteed.

Special features of ATW-10

- 10 rotating supports
- adjustable writing speed and paper feed
- writing angle variable from 60° to 90°
- automatic oscillation of $\pm 3,5^\circ$ to $\pm 7^\circ$
- total writing distance adjustable



Test of writing quality on a Mikron ATW-10





Mikron Service Solutions

flexible and modular

We ensure quick, competent and uncomplicated service and support for our customers. We work together with you to design a service solution profile tailored to your individual needs.



REACTIVE

Technical Support – repair your machine

- Helpdesk
- Remote Diagnostics
- Augmented Connection
- Service Assignment



PREVENTIVE

Service & Maintenance – prevent machine stops

- Technical Evaluation
- Preventive Maintenance
- Spindles & Groups Overhaul
- Extended Warranty
- Software Backups



PREDICTIVE

miS4.0 – predict your machine maintenance

- Production Monitoring
- Condition Monitoring
- Failure Analysis
- Mikron cloud and IoT platform (SAP Leonardo)



PROACTIVE

Business Support – keep & improve machine productivity

- Process Monitoring (OEE Improvement)
- Training
- Energy Consumption
- New Applications & Simulations
- Engineering
- Interactive Troubleshooting
- Startup & Production Support
- Service Level Agreements



SPARE PARTS

Spare Parts – reliable supply of original Mikron spare parts

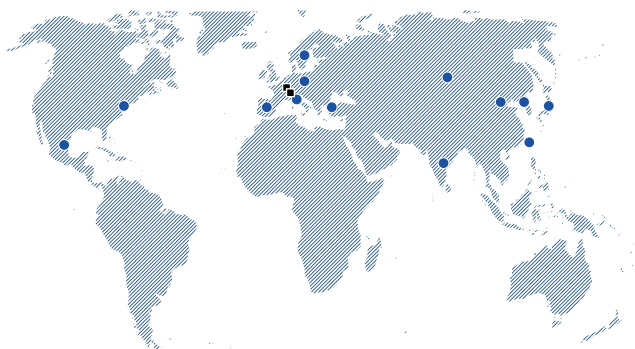
- Original Mikron spare parts
- Xchange Modules



SECOND LIFE

2nd life – guarantee continuous use of your investment

- Machine Overhaul
- Retooling
- Safety & Environments
- Updates & Upgrades
- Retrofitting



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- **Strategic partnership or presence**

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