

SPM/SPS-10

PRECISE GRINDING AND POLISHING SOLUTION
FOR MICRO OPTICS

SPM/SPS-10

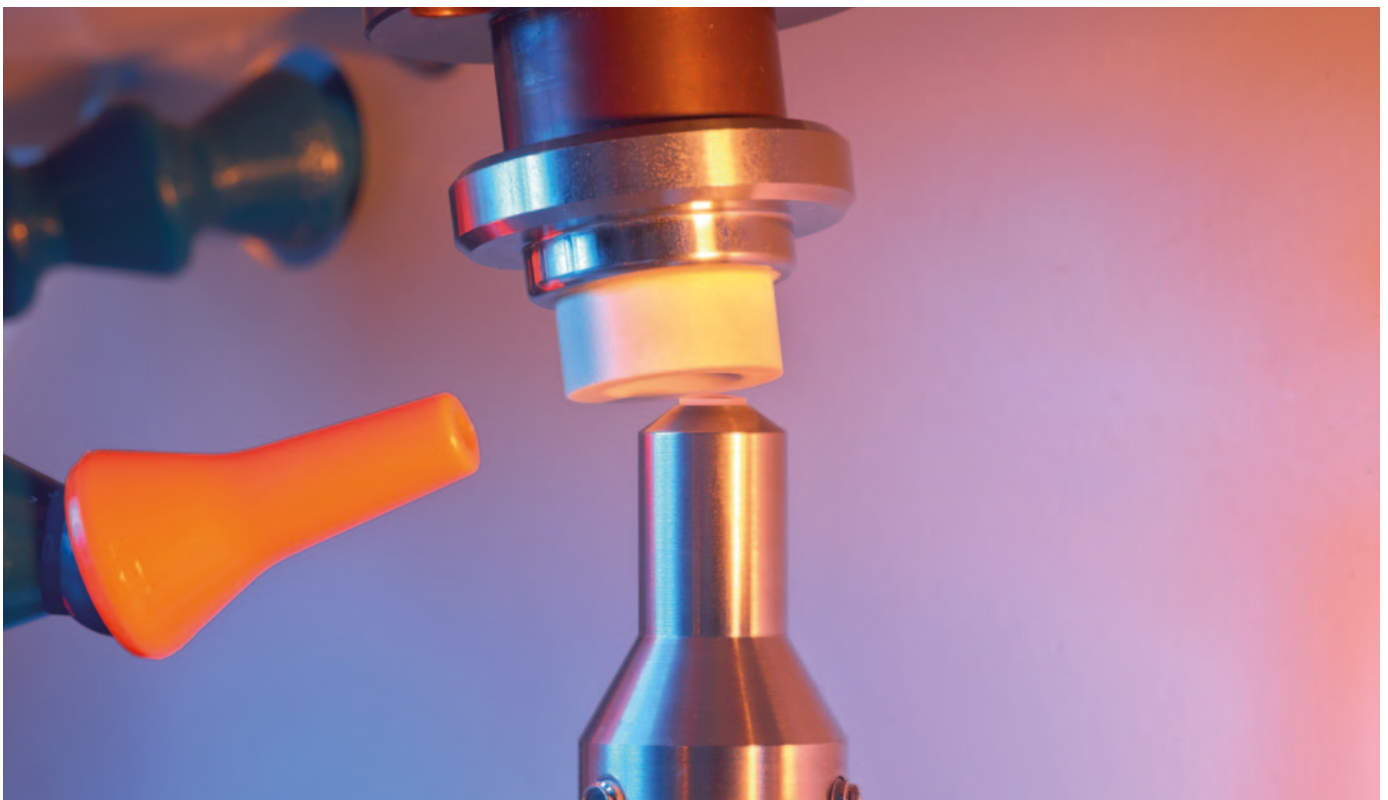
Satisloh's next generation of grinding and polishing CNC machines for the production of micro optics spheres and aspheres from the submillimeter range up to 10 mm.

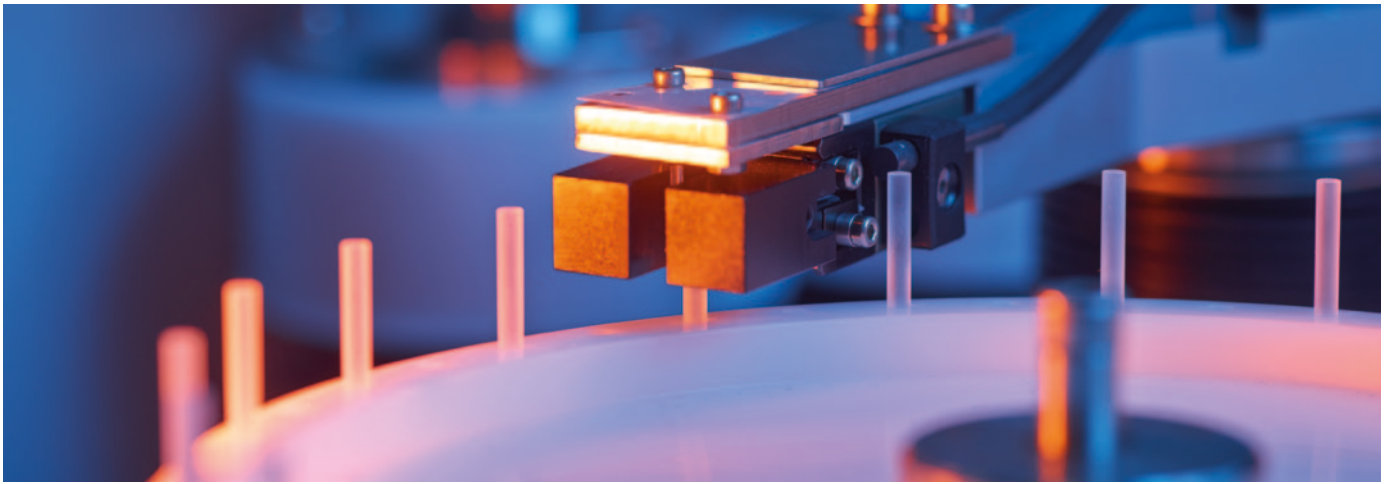
The SPM-10/SPS-10 extends grinding and polishing production capabilities to include complex, small lenses, non-linear shapes, and micro optics aspheres with maximum precision and perfect surface finishing.

Depending on your needs and application, the SPM-10/SPS-10 are equipped with your choice of either air bearing or ceramic hybrid spindle technology both enabling up to 100,000 rpm.

A compact body and space-saving footprint shortens work lines and contributes to a higher work efficiency.

Adding the optional HS-30 loading system automates the production process, further improving efficiency and reliability.





FEATURES + BENEFITS

Flexibility

- Processes spheres and aspheres
- Grinding tool spindle with up to 100,000 rpm for production of smaller workpieces than ever before
- 3 reception systems available for different workpieces: Rotor chuck; vacuum chuck or collet chuck
- Air bearing or ball bearing spindle depending on application

Efficiency

- Ready for automated production
- Integrated HS-30 handling system for cemented or rod lenses optimizes micro lens handling (option)
- Tool wear compensation with IQS-system



Reliability

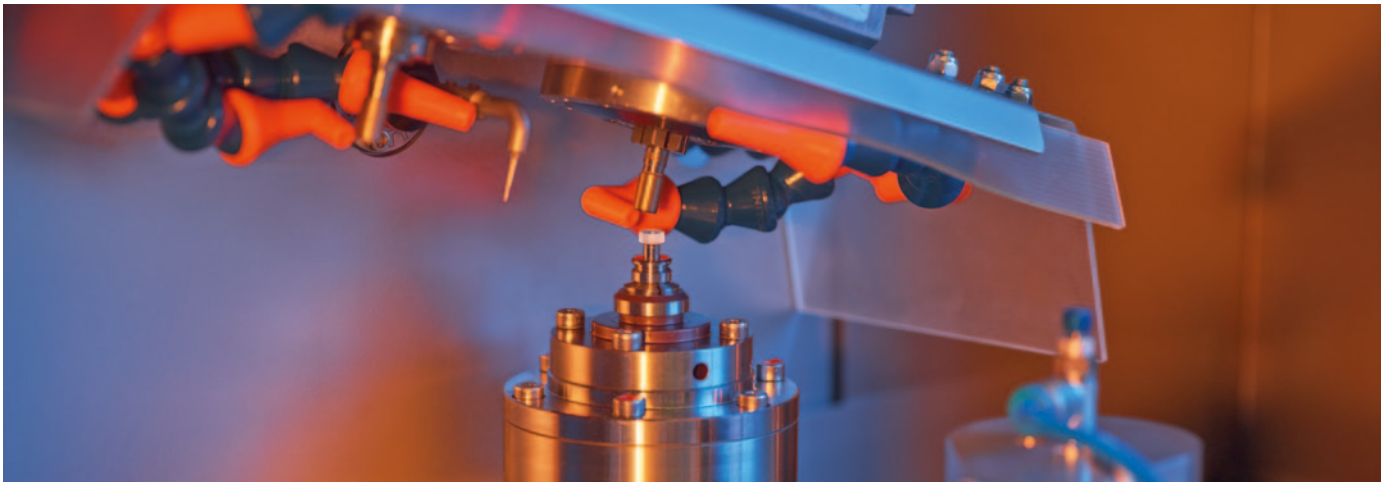
- Highest micro optics precision through water-cooled linear drive
- Direct driven and water-cooled B-axis guarantees better repeatability and higher precision
- Higher position accuracy through C-axis mode of work piece spindle
- HS-30 automation system with force driven linear Z-axis for highly sensitive lens handling

Ease of use

- low power consumption and flexible machine location independent from power source
- Dressing spindle allows quick and easy dressing of tools
- Easy operation with optimized HMI (Human Machine Interface)
- ReST-interface allows smooth integration into your MES system
- Full connectivity to ADAPT software for pre- and corrective polishing of aspheres

OPTIONS + ACCESSORIES

- Automatic integrated loading system HS-30
- Coolant systems
- Chiller systems
- Polishing slurry tank
- Suction device
- Axis adjustment tool
- Receptions for grinding and polishing
- ReST-interface
- Measuring equipment
- Tools & consumables
- SYNLINe tool design software
- ADAPT software for polishing of aspheres



TECHNICAL INFORMATION

| | SPM-10 | SPS-10 |
|---------------------------------|---|--|
| Working Ranges | | |
| Working diameter | ≤ 1 to 10 mm | ≤ 1 to 10 mm |
| Tool diameter | up to 30 mm | up to 25 mm (up to 20 mm for dressing tool) |
| Work piece reception | collet or vacuum chuck, cemented block | membrane chuck or seal-lip chuck |
| Tool connection | ∅3 ± 0,01 mm | ∅6h6 x 20, DIN 58676- 6x20 |
| Tool clamping | automatic, half automatic | manual |
| Spindle type | | |
| Work piece C-axis | 1x direct driven, ball bearing water cooled | 1x direct driven, ball bearing water cooled |
| Tool spindle | 2x water cooled direct driven, air or ball bearing | 1x direct driven, ball bearing |
| Dressing spindle | - | 1x direct driven, ball bearing |
| Speed | | |
| Work piece C-axes | up to 2,700 rpm | up to 2,700 rpm |
| Tool spindle | up to 100,000 rpm | up to 2,700 rpm |
| Dressing spindle | - | up to 10,000 rpm |
| Axes | X, Z, B, Y, C | X, Z, B, Y, C |
| Processing possibilities | radius generating edging multi functional chamfering tool dressing aspherical processing (optional) | radius polishing tool dressing aspherical polishing (optional) stemp polishing (optional) |
| Energy requirements | | |
| Electric current | 3 kVA | 3 kVA |
| Compressed air | 90 PSI / 6 bar | 90 PSI / 6 bar |
| Dimensions (wxdxh) | 700 x 1350 x 1950 mm / 28 x 53 x 77 in | 700 x 1350 x 1950 mm / 28 x 53 x 77 in |
| Net weight | 795 kg / 1752.67 lb (without HS-30) with HS-30 895 kg/ 1973.14 lb | 795 kg / 1752.67 lb (without HS-30) 895 kg/ 1973.14 lb |

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