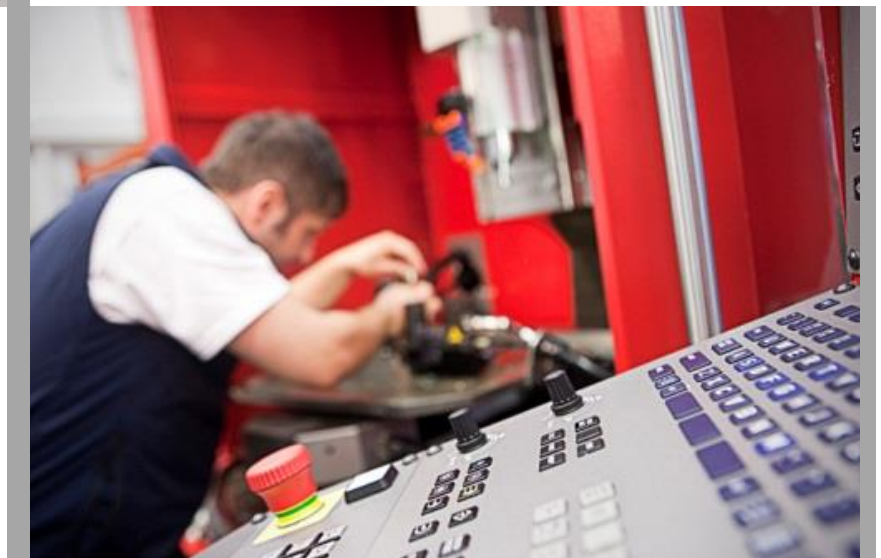


Precision is our life

Pushing the boundaries is our passion, highest precision is our standard. An expert in Fiber Optic connection technology, Amphenol Precision Optics GmbH is facing all challenges head-on. We are thrilled to offer solutions at the edge of what is mechanically possible and solutions for harshest environments alike. Be it medical or military technology, industrial engineering or space research – Amphenol's Fiber Optic component assembly always finds the right answer. And, of course, we also offer all standardized high-quality Fiber Optic connection systems.

Amphenol

PRECISION OPTICS



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Mechanical precision technology
in Single and Serial manufacturing

Turning



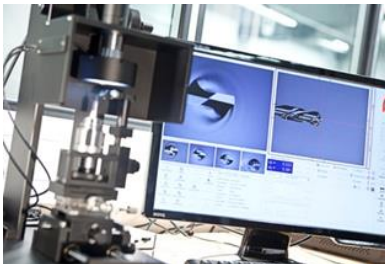
Turning:

- Raw materials: bars with (Ø 2 - 40 mm)
- Max. Component length: 320 mm
- Tolerances: 3 - 5 µm
- Deep hole drilling



Milling:

- Raw materials: cutted square bar steel
- Max. dimension of: 150 x 150 x 90 mm
- 3- or 5- axis machines
- Tolerances: 3 - 5 µm



Drilling:

- Upward 50 µm
- Tolerances: 3 - 5 µm

Machinery

| pcs. | Machine manufacturer | Type | Manufacturing processes | Notes | Reachable accuracies on the workpiece |
|------|----------------------|--------------------------------|-------------------------------|---|---------------------------------------|
| 1 | Carl Benzinger | TNI B6 HD100 bar | Turning till Ø 40 | Full air conditioned ±1°C | <5µm |
| 3 | Carl Benzinger | Dolittle B3 | Turning till Ø 15 | Full air conditioned ±1°C | <5µm |
| 1 | STAR Micronics | ECAS - 32 T | Turning till Ø 32 | Straight turning | <10µm |
| 1 | STAR Micronics | SR20-RII | Turning till Ø 20 | Straight turning | <10µm |
| 1 | STAR Micronics | Star SW20 | Turning till Ø 20 | Straight turning | <10µm |
| 1 | STAR Micronics | SB - 16/C | Turning till Ø 16 | Straight turning | <10µm |
| 1 | STAR Micronics | Star SV12 | Turning till Ø 12 | Straight turning | <10µm |
| 5 | STAR Micronics | SR10-J/C Ggsp. 15° Indexierung | Turning till Ø10 | Straight turning | <10µm |
| 1 | Schaublin | 125 CNC | Turning till Ø20 | Short part turning with manual insert | <5µm |
| 1 | Schaublin | 102 TMC | Turning till Ø20 | Short part turning with manual insert | <5µm |
| 1 | Fehlmann | Picomax 60-M | Milling X=150 Y=150 Z=90 | Full air conditioned ±1°C | <10µm |
| 1 | Fehlmann | Picomax 60-HSC with Roboter | Milling X=150 Y=150 Z=90 | Automated parts assembly; Full air conditioned ±1°C | <10µm |
| 1 | Kern | Kern EVO | Milling X=150 Y=150 Z=55 | Full air conditioned ±1°C | <3µm |
| 1 | Zeiss | O-Inspect | Measuring tactile and optical | Full air conditioned ±1°C | Measurement uncertainty 1,9µm |
| 1 | Keyence | IM-6140 | Measuring optical | Full air conditioned ±1°C | Measurement uncertainty 1,4µm |
| 2 | Ewag | WS11 | Grinding | | <5µm |
| 1 | REK | FC 1000/2-V | Parts cleaning | | |

Material

Experience in handling of following materials:

Aluminium, nickel silver, Arcap (i.E: AP 1D, AP 1C), ECOBRASS®, titanium, stainless steel (1.4305, 1.4301, 1.4112, 1.4108), brass (MS58), copper

Plastics such as POM, PTFE, PEEK or ABS are also possible.

More service:

- The processing of other materials is possible on request and after tests.
- Downstream areas: hardening, anodizing, annealing, wire eroding, coating, lapping, lasing, grinding
- Assembling of components
- Measuring and testing processes (i.e. 3D-Coordinate-Measuring machine of Carl Zeiss)
- Documentation: Measurement reports, test reports, factory and material certificates, special data sheets and much more

Our added value ...

- Effective, sustainable processes and state-of-the-art manufacturing and measuring techniques for the highest quality standards
- Certified QM system according to DIN EN ISO 9001:2015
- High quality: precise dimensions, smallest tolerances and very good surface quality Wide range of machinery - specialized machines
- High vertical range of manufacture - complex component geometry through manufacturing proprietary tools
- Wide range of production - production on customer request (various component designs in different materials possible)