Subcontracting

From stamping dies of a printing press through fibre-optical connections to turbine wheels with a diameter of 0.7 mm: KERN is the precision specialist!

With the modern KERN machine shop, difficult materials such as tungsten-copper, titanium, beryllium and ceramics can be machined to a precision of up to ±0.001 mm.

- EDM die sinking
- Wire-EDM
- Milling
- Micro-milling
- Drilling
- Micro-drilling
- Surface grinding
- Jig grinding
- Laser fine cutting
- Measuring
- Manufacture of sub-assemblies

spindle bed, material Inconel

precision on the workpiece: 5 µm, unmanned production

Areas of application:

Aeronautics and aerospace
Electronics
Chemical fibre technology
Printing industry
Film processing industry
Medical equipment
Dental equipment
Fine mechanics / Optics
Watchmaking
Turbine technology
Analytics
Racing (Formula 1)

Certified:

Aeronautics and aerospace
QSF-A / QSF-B

EN ISO 9001 and
EN ISO 14001 (Environment)

KERN

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KERN

Micro- und Feinwerktechnik

Specialists in High Precision

Machine Tools Division

Subcontract Machining Division

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- Wire-EDM
- Milling
- Micro-milling
- Drilling
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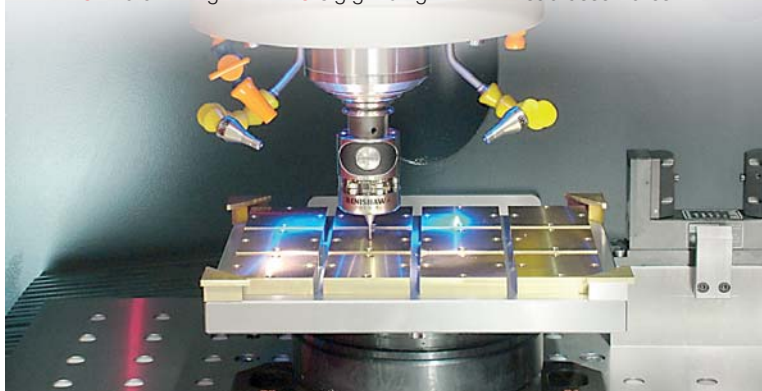

new

KERN Pyramid Nano

Nano Precision CNC Machining Centre for medium and high production

hydrostatic drives and guideways

accuracies according to VDI/DGQ 3441
positioning P_S ± 0.3 µm
surface finish Ra ≤ 0.05 µm

- machine frame of ARMORITH®
- superb vibration dampening
- excellent ergonomics
- integrated ATC:
  - HSK 40 up to 75 positions
  - HSK 25 up to 96 positions
- integrated automatic workpiece changer 20 positions
- integrated central temperature management (axes, drives, motors, frame, spindle, electrical cabinet)
- weight 7 tons
- to be used for:
  - roughing and finishing
  - large cutting volumes also of critical materials such as hardened steel/graphite/ceramics
  - tool and die
  - nano precision parts
  - air craft industry
  - military engineering
  - automotive
  - medical
  - optics

- X = 500 mm
- Y = 500 mm
- Z = 400 mm
- 3-5 axes operation
- feed rate 0.01 – 30,000 mm/min
- acceleration 10 m/s²
- vector spindles:
  - 200 – 36,000 rpm, HSK 40, 11 kW
  - 500 – 50,000 rpm, HSK 25, 6.4 kW
- automatic laser tool measuring ± 1 µm
- automatic workpiece measuring ± 1 µm
- jig grinding capability

new

KERN Evo

Ultra Precision CNC Machining Centre for medium and high production

accuracies according to VDI/DGQ 3441
positioning P_S ± 0.5 µm
surface finish Ra ≤ 0.1 µm

- polymer concrete machine frame 3 tons
- superb vibration dampening
- excellent ergonomics
- ATC 32, 63, 95-fold
- digital direct drives
- integrated automatic workpiece changer 24/36 positions
- to be used for:
  - electrodes copper/graphite
  - non ferrous metals
  - ferrous metals
  - steel
  - hardened steel
  - titanium
  - beryllium
  - ceramics
  - etc.

- X = 300 mm
- Y = 280 mm
- Z = 250 mm
- 3-5 axes operation
- feed rate 0.01–16,000 mm/min
- acceleration 8 m/s²
- vector spindle: 500-50,000 rpm, 6.4 kW
- spindle alternatives: 20,000 – 80,000 rpm 30,000 – 90,000 rpm 60,000 – 160,000 rpm
- automatic laser tool measuring ± 1µm
- automatic workpiece measuring ± 1µm

KERN Micro

High Precision CNC Machining Centre for prototyping and small series

accuracies according to VDI/DGQ 3441
positioning P_S ± 1.0 µm
surface finish: Ra ≤ 0.2 µm

- polymer concrete machine base 1.7 tons
- patented machine frame
- excellent ergonomics
- 20-fold ATC
- digital drives
- to be used for:
  - electrodes copper
  - plastics
  - non ferrous metals
  - ferrous metals
  - steel
  - hardened steel
  - titanium
  - etc.

- X = 250 mm
- Y = 220 mm
- Z = 200 mm
- 3-5 axes operation
- feed rate 0.01 – 6,000 mm/min
- acceleration 2 m/s²
- vector spindle: 500-50,000 rpm, 3.4 kW
- spindle alternatives: 20,000 – 80,000 rpm 30,000 – 90,000 rpm 60,000 – 160,000 rpm
- automatic laser tool measuring ± 1 µm
- automatic workpiece measuring ± 1 µm