teltec systems ag

IM [OMEGA 4] IM [OMEGA 5]

The 4- and 5-axis CNC machines
with linear and torque motors

POWERED BY isel

IM [OMEGA 4] IM [OMEGA 5]

Create backlash-free linear and torque motors with highly accurate measuring systems with a resolution of up to 0.05 µm the basis for perfect results.

Vibration damping granite and grey cast iron components are good prerequisites for excellent surface results.

5-axis simultaneous milling with real HSC milling strategies are supported by the 2.5 kW milling spindle with 50,000 rpm.

A 2-second tool change with a new patented system increases the profitability enormously.

These machines are ideally suited for wet machining of hard precision parts and dry machining of graphite electrodes.

Features

- 3/4/5-axle operation expandable
- 20-fold tool changer
- Working area is not reduced during tool change
- Control panel with 21" touch screen for easy operation
- Handwheel for setup operation (option as freestanding manual operating unit)
- Integrated lighting in the working area LED
- Rotary-swivel axes with zero-point clamping system or quick-action chuck (pliers)
- Air-cooled milling spindle with SK25 tool holder
- High-precision recirculating ball bearing guides in all linear axes
- Solid granite machine bed

Options

- Multifunction hand wheel for 5 axes
- Laser processing (on request)
- 3D edge finder
- EROWA zero-point clamping system / System 3R / Hirschmann
- Extraction for graphite and zirconium machining
- Laser tool measurement
- Camera surveillance
- CAM software, open system
- Integration of loading and unloading robot
- Expandable to production lines with robot cells

Areas of application:

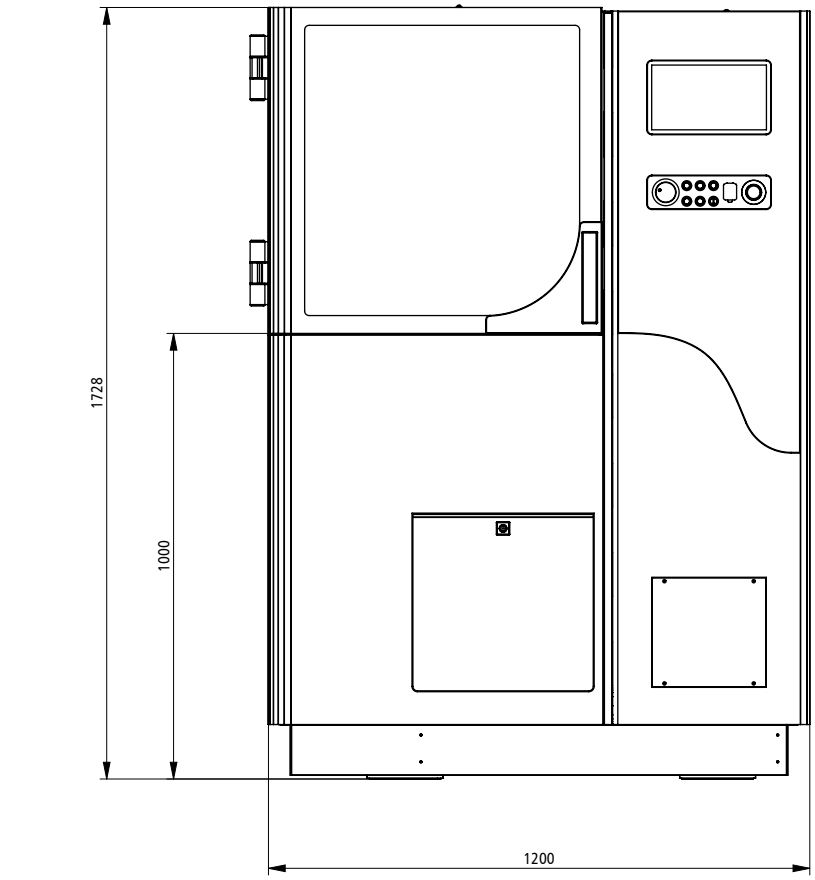
- Aerospace
- Tooling
- Automotive
- Watchindustrie
- Householder
- Mould's industries
- Electroindustrie
- Ceramic Industries
- Medical
- Jewellery
- Stamp's industries
- Prototyping
- R&D departsment
- Turn-Mill Machining
- Tool and mould making
- Electrode and graphite milling
- Micro-mould making (injection moulded parts)

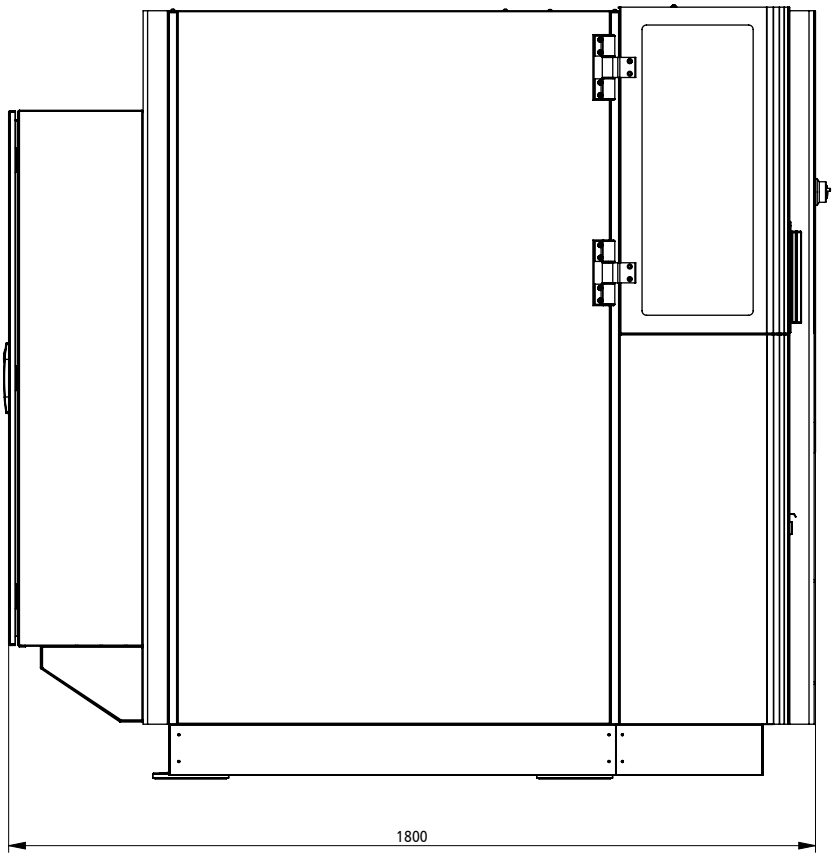
IM-Omega 4 & 5

processing areas X/Y/Z [mm]*	300 / 180 / 350
Dimensions WxDxH [mm]	1200 x 1800 x 1728
Travel speed X/Y/Z	20 m/min.
Repeatability	± 0,5 µm
Drive motors	EC-Servomotoren
Drive elements X/Y/Z/A/B	Linear- und Torquemotoren mit RG25-Präzisionsrollenführung, spielfrei eingestellt
Tool holder	HSK-E 25
Number of tools	20 Plätze
max. Tool length	100 mm
Milling spindle speed / power	50.000 U/min. / 2,5 kW
Milling spindle rotation	1 µm
Measuring system resolution	0,05 µm
Cooling and heating system	Peltier-Element mit max. 0,2° Temperaturabweichung
Control	CAN-Controller iMD mit 4 Antriebsreglern, erweiterbar auf 12 Achsen (max. 6 interpolierte und 6 Handlingachsen), PC, I/O-Modul, Sicherheitskreis mit Stillstandsüberwachung, Netzteil 48 V / 1000 W
Operation	Windows-basierte CNC-Steuerung mit EtherCat-Feldbus 12"-Touch Panel, Industriestandard GU
Weight [kg]	ca. 1000
Connected loads	3 x 400 V / 16 A

*without mounted components on the axles.

Dimensions





Applications

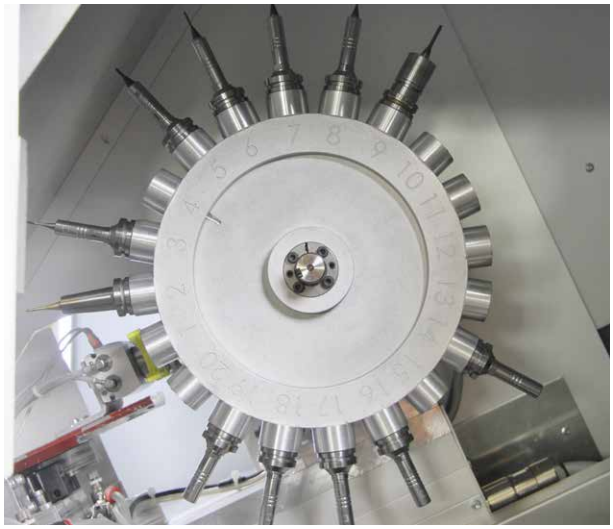
- The system is very well suited for single parts as well as for series production.
- With the upgrade of an automatic loading and unloading station, the system can also be used optimally in shift operation for different production parts.
- By means of the wobbling function more complex shapes can be realized.

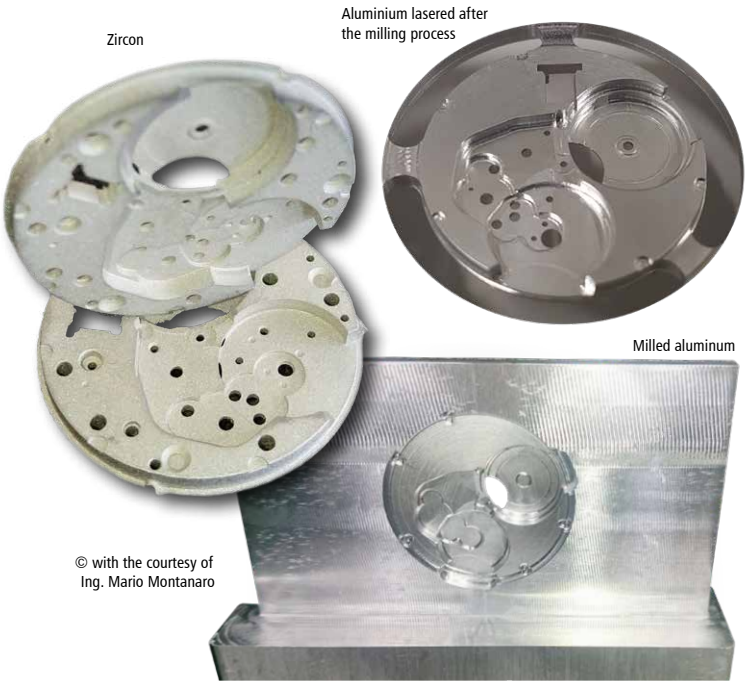
The low-noise system can be installed in any workshop or studio. Thanks to the minimal space requirement, the plant is very compact.

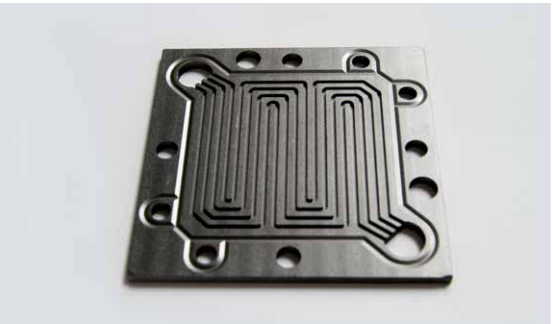
An innovative milling solution with a tool change within only 2 seconds can increase productivity enormously.

The high-precision concentricity of the milling spindle enables the unique production method of dry grinding for special applications. This manufacturing process is very popular and must be checked for feasibility in the Application Center in advance.

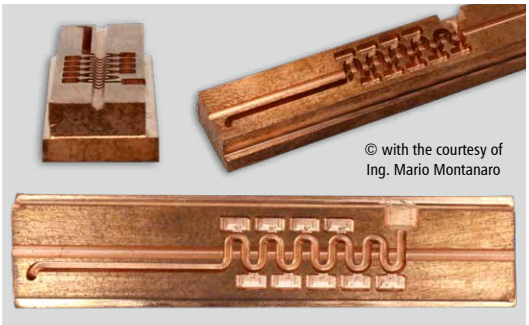
The milling spindle is suitable for internal bores (blind and through holes) and for calibrating stepped holes.







Fuel cell (graphite)



Precision parts (copper 44 x 10 x 5 mm)

Electrode (graphite)