

# K5 Impression

## ✓ 5 simultaneously working axes

In addition to the three linear axes in x, y and z, two rotary axes ensure many and varied machining options.

## ✓ rotation range up to $\pm 35$ degrees

The B axis with its exceptional great rotation range makes the K5 ideal for model casts and surgical guides as well as prosthodontics and implantology.

## ✓ blanks of up to 40 mm thickness

K5 lets you machine a **wide range of materials and indications**: blanks and blocks of wax, plastics, model plaster, zirconium oxide and composites up to non-precious alloys on cobalt-chrome basis.

## ✓ machine bed of massive aluminium cast

A cast body which is closed at five sides absorbs vibrations and ensures a **high stability of the whole machine**.

Additionally reinforced linear guides in x, y and z as well as a double mounted B axis further increase the rigidity of the whole axis system – so that you'll always get **first-class milling results**.

## ✓ automatic changer for 16 tools

In addition to the currently required tools, you can equip the tool changer with replacement tools right away. Thus you can continue working without interruption if a tool is worn out.

Haptic tool measurement for usage of diamond-coated tools.



## ✓ powerful and highly precise synchronous spindle

With 4-fold hybrid ceramic ball bearings and a nominal power of 300 W under continuous load – well-balanced torque band.

## ✓ sophisticated protective mechanisms

Automatic safety interlock at the front cover while machining.

The established **working chamber sealing air concept** in combination with a **rubber gaiter** effectively protects the mechanics, electronic and spindle against dust and chippings.

## ✓ practical drawer for accessories

Your tools and blanks are well stored and immediately at hand. The drawer also holds an integrated **administrated tool board (ATB)** for your milling tools. Its 30 numbered slots will be administrated by the DentalCAM software.

5  
Axes

1  
Blank

16  
Tools

Dry

Mill

PMMA

ZrO<sub>2</sub>

Composites

CoCr

# Technical Data

## 5 Axis Milling Machine

### K5 Impression

Fields of application	dry machining
Machinable materials	plastics, wax, zirconium oxide, composites, CoCr, model plaster
Indications	crowns, bridges, fully anatomical crowns and bridges, inlays, onlays, abutments, telescope crowns, models, model casts, bite splints, implant bars, veneers, surgical guides, dentures, etc.
<b>Basic system</b>	
Construction	machine bed of massive aluminium cast
No. of axes	5
x/y/z pos. range	165.5 x 108 x 93 mm
Drives	precise ball screw spindles for the 3 linear axes · motor resolution < 1 µm · ground steel precision guide rails · 4 mm lead
Repetition accuracy	± 0.003 mm
Axis measurement	measurement of axes with calibration specimen · automatic axis compensation for exact results
Housing	complete encapsulation of working chamber · automatic safety interlock at the front cover during the machining process
Working chamber illumination	yes, with status indication
Dimensions (W/D/H)	approx. 450 x 530 x 630 mm
Weight	88 kg
<b>Rotary axes</b>	
Features	<b>A axis:</b> Harmonic Drive® free from backlash for highest true running accuracy · rotation range of 360° <b>B axis:</b> pivoting via ball screw spindle · rotation range of up to ± 35°
Fixing device	round universal blanks with a thickness of 10 to 40 mm and a diameter of 98.5 mm with step; optionally: three-fold block holder
Exchange of workpieces	manual exchange
<b>Controller</b>	
Features	type CNC G12T · synchronic interpolation of 5 axes · great smoothness of running and highly accurate · high processing speed due to exponential acceleration ramps · look-ahead feature for continuous velocity along the path · 4 digital inputs, 4 digital outputs · 5 motor end phases · four quadrant controller · no fan necessary for cooling
<b>Spindle</b>	
Features	synchronous spindle SFK 300P · nominal power under constant load (S1): 300 Watt · maximum power output (P <sub>max</sub> ): 500 W · rotational speed range up to 60,000 RPM · 4-fold hybrid ceramic ball bearings · radial deviation at internal cone of the precision shaft < 3 µm · sealing air prevents entering of foreign substances in the bearing area · cone cleaning
Collet chuck	pneumatically for tools with 3 mm shank diameter and max. 40 mm total length
<b>Tool change</b>	
Features	automatic tool change station for 16 tools · haptic tool length detection and tool breakage monitoring · diamond-coated tools can be used · monitoring of compressed air supply
<b>Air extraction</b>	
Features	opening at the housing side for air extraction · underpressure sensor for monitoring the air extraction · 24 Volt switching output
<b>Other</b>	
Peripheral equipment	dental suction unit with fine filter · switching unit PSW 01-T · tool set starter edition · three-fold block holder
Special feature	drawer for workpieces and milling tools with integrated administrated tool board as well as for operating and maintenance tools certification according to ANSI/UL 61010-1 for exports to the USA and Canada (in preparation)
<b>Connection requirements</b>	
Compressed air supply	6 bar · 40 l/min – 8 bar · 50 l/min
Power supply	far range switching mode power supply for 100–240 V · 50/60 Hz

As of: 11/2015 • Technical modifications and errors excepted.