

# Technical Data

	K3 Impression	K4 Impression
Fields of application	dry machining	dry machining
Machinable materials	plastics, wax, zirconium oxide, composites, CoCr	plastics, wax, zirconium oxide, composites, CoCr
Indications	crowns, bridges, fully anatomical crowns and bridges, inlays, onlays, abutments	crowns, bridges, fully anatomical crowns and bridges, inlays, onlays, abutments
<b>Basic system</b>		
Construction	basic structure of aluminium precision plate	basic structure of aluminium precision plate
No. of axes	4	4
x/y/z pos. range	100 x 98 x 40 mm	100 x 98 x 40 mm
Drives	<ul style="list-style-type: none"> <li>• precise ball screw spindles for the 3 linear axes</li> <li>• motor resolution &lt; 1 µm</li> <li>• ground steel precision guide rails</li> <li>• 4 mm lead</li> </ul>	<ul style="list-style-type: none"> <li>• precise ball screw spindles for the 3 linear axes</li> <li>• motor resolution &lt; 1 µm</li> <li>• ground steel precision guide rails</li> <li>• 4 mm lead</li> </ul>
Repetition accuracy linear axes	± 0,005 mm	± 0,005 mm
Axis measurement	automatic axis measurement and compensation for exact results	automatic axis measurement and compensation for exact results
Housing	<ul style="list-style-type: none"> <li>• complete encapsulation of working chamber with closable front cover</li> <li>• automatic safety interlock at the front cover during the machining process</li> </ul>	<ul style="list-style-type: none"> <li>• complete encapsulation of working chamber with closable front cover</li> <li>• automatic safety interlock at the front cover during the machining process</li> </ul>
Working chamber illumination	yes	yes
Dimensions (W/D/H)	approx. 400 x 385 x 410 mm	approx. 400 x 385 x 410 mm
Weight	approx. 45 kg	approx. 45 kg
<b>Rotary axes</b>		
Features	<b>A axis:</b> highest true running accuracy for processing workpieces on their full circumference of 360°, Harmonic Drive® free from backlash	<b>A axis:</b> highest true running accuracy for processing workpieces on their full circumference of 360°, Harmonic Drive® free from backlash
Fixing device	round universal blanks with a thickness of 10 to 25 mm and a diameter of 98.5 mm with step	round universal blanks with a thickness of 10 to 25 mm and a diameter of 98.5 mm with step
Exchange of workpieces	manual exchange of blanks	manual exchange of blanks
<b>Controller</b>		
Features	<b>type CNC 300</b> <ul style="list-style-type: none"> <li>• synchronic interpolation of 4 axes</li> <li>• great smoothness of running, powerful and accurate due to microstep operation</li> <li>• high processing speed due to exponential acceleration ramps</li> <li>• look-ahead feature for continuous velocity along the path</li> <li>• 6 digital inputs, 2 digital outputs</li> <li>• 4 motor end phases</li> <li>• Chopper controller</li> <li>• cooling via 3 fans</li> </ul>	<b>type CNC 300</b> <ul style="list-style-type: none"> <li>• synchronic interpolation of 4 axes</li> <li>• great smoothness of running, powerful and accurate due to microstep operation</li> <li>• high processing speed due to exponential acceleration ramps</li> <li>• look-ahead feature for continuous velocity along the path</li> <li>• 6 digital inputs, 2 digital outputs</li> <li>• 4 motor end phases</li> <li>• chopper controller</li> <li>• cooling via 3 fans</li> </ul>
<b>Spindle</b>		
Features	<b>asynchronous high frequency spindle SF 170</b> <ul style="list-style-type: none"> <li>• nominal power under constant load (S1): 170 W</li> <li>• maximum power output (Pmax): 240 W</li> <li>• rotational speed range up to 60,000 RPM</li> <li>• double steel ball bearings</li> <li>• radial deviation at internal cone of the precision shaft &lt; 1 µm</li> </ul>	<b>asynchronous high frequency spindle SF 170P</b> <ul style="list-style-type: none"> <li>• sealing air against entering of foreign substances</li> <li>• nominal power under constant load (S1): 170 W</li> <li>• maximum power output (Pmax): 240 W</li> <li>• rotational speed range up to 60,000 RPM</li> <li>• double steel ball bearings</li> <li>• radial deviation at internal cone of the precision shaft &lt; 1 µm</li> </ul>
Collet chuck	for tools with 3 mm shank diameter and max. 35 mm total length, quick chucking device	for tools with 3 mm shank diameter and max. 35 mm total length, pneumatic collet chuck

## K3 Impression

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### Tool change

Features	<ul style="list-style-type: none"> <li>• manual with quick chucking device</li> <li>• tool length detection and tool breakage monitoring via electric contact</li> </ul>	<ul style="list-style-type: none"> <li>• automatic tool change station for 6 tools with length detection and breakage monitoring via electrical contact</li> <li>• compressed air monitoring</li> </ul>
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### Wet grinding

Features	–	–
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### Air extraction

Features	<ul style="list-style-type: none"> <li>• openings in the rear panel of the working chamber for air extraction</li> <li>• connector for hose at the side of the housing</li> <li>• underpressure sensor for monitoring the air extraction</li> <li>• 24 Volt output for connecting the switching unit</li> </ul>	<ul style="list-style-type: none"> <li>• openings in the rear panel of the working chamber for air extraction</li> <li>• connector for hose at the side of the housing</li> <li>• underpressure sensor for monitoring the air extraction</li> <li>• 24 Volt output for connecting the switching unit</li> </ul>
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### Other

Peripheral equipment	<ul style="list-style-type: none"> <li>• switching unit PSW 01-RSV for automatically switching a vacuum cleaner</li> <li>• administrated tool board</li> </ul>	<ul style="list-style-type: none"> <li>• switching unit PSW 01-RSV for automatically switching a vacuum cleaner</li> <li>• administrated tool board</li> </ul>
Special feature	certification according to ANSI/UL 61010-1 for exports to the USA and Canada	certification according to ANSI/UL 61010-1 for exports to the USA and Canada

### Connection requirements

Compressed air supply	–	6 bar · 80 l/min
Power supply	100 – 240 V · 50/60 Hz	100 – 240 V · 50/60 Hz