Technical Data

	S1 Impression	S2 Impression
Fields of application	dry and wet machining	dry and wet machining
Machinable materials	plastics, wax, zirconium oxide, composites, CoCr, model plaster, glass ceramics, titanium	plastics, wax, zirconium oxide, composites, CoCr, model plaster, glass ceramics, titanium
Indications	crowns, bridges, fully anatomical crowns and bridges, inlays, onlays, abutments, telescope crowns, model plates, model casts bite splints, model plug-in teeth, implant bars, veneers, table-tops	crowns, bridges, fully anatomical crowns and bridges, inlays, onlays, abutments, telescope crowns, model plates, model casts bite splints, model plug-in teeth, implant bars, veneers, table-tops
Basic system		
Construction	machine bed of massive aluminium cast	machine bed of massive aluminium cast
No. of axes	5	5
x/y/z pos. range	140 x 98 x 76 mm	140 x 98 x 76 mm
Drives	• precise ball screw spindles for the 3 linear axes • motor resolution < 1 µm • ground steel precision guide rails • 4 mm lead	• precise ball screw spindles for the 3 linear axes • motor resolution < 1 µm • ground steel precision guide rails • 4 mm lead
Repetition accuracy linear axes	± 0,003 mm	± 0,003 mm
Axis measurement	• measurement of axes with calibration specimen • automatic axis compensation for exact results	• measurement of axes with calibration specimen • automatic axis compensation for exact results
Housing	• complete encapsulation of working chamber with closable front cover • automatic safety interlock at the front cover during the machining process	• complete encapsulation of working chamber with closable front cover • automatic safety interlock at the front cover during the machining process
Working chamber illumination	yes	yes, with additional illumination of the blank changer
Dimensions (W/D/H)	approx. 490 x 445 x 540 mm	approx. 692 x 445 x 540 mm
Weight	approx. 75 kg	approx. 95 kg
Rotary axes		
Features	**A axis:** highest true running accuracy for processing workpieces on their full circumference of 360° · Harmonic Drive® free from backlash **B axis:** highest true running accuracy · rotation range of ± 30° · Harmonic Drive® free from backlash	**A axis:** highest true running accuracy for processing workpieces on their full circumference of 360° · Harmonic Drive® free from backlash **B axis:** highest true running accuracy · rotation range of ± 30° · Harmonic Drive® free from backlash
Fixing device	round universal blanks with a thickness of 10 to 30 mm and a diameter of 98.5 mm with step; for wet grinding option: three-fold block holders	round universal blanks with a thickness of 10 to 30 mm and a diameter of 98.5 mm with step; for wet grinding option: three-fold block holders
Exchange of workpieces	manual exchange of blanks	automatic blank changer for eight blanks
Controller		
Features	**type CNC G1 2D** • synchronic interpolation of 5 axes • great smoothness of running, powerful and accurate due to microstep operation • high processing speed due to exponential acceleration ramps • look-ahead feature for continuous velocity along the path • 8 digital inputs, 8 digital outputs • 5 motor end phases • four quadrant controller • no fan necessary for cooling • optional Ethernet interface	**type CNC G1 2D** • synchronic interpolation of 5 axes • great smoothness of running, powerful and accurate due to microstep operation • high processing speed due to exponential acceleration ramps • look-ahead feature for continuous velocity along the path • 8 digital inputs, 8 digital outputs • 5 motor end phases • four quadrant controller • no fan necessary for cooling • optional Ethernet interface

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Technical Data

	S1 Impression	S2 Impression
Spindle		
Features	**synchronous spindle SFS 300P** • nominal power under constant load (S1): 300 Watt • maximum power output (Pmax): 600 W • rotational speed range up to 60,000 RPM • 4-fold hybrid ceramic ball bearings • radial deviation at internal cone of the precision shaft < 1 µm • sealing air prevents entering of foreign substances in the bearing area • cone cleaning	**synchronous spindle SFS 300P** • nominal power under constant load (S1): 300 Watt • maximum power output (Pmax): 600 W • rotational speed range up to 60,000 RPM • 4-fold hybrid ceramic ball bearings • radial deviation at internal cone of the precision shaft < 1 µm • sealing air prevents entering of foreign substances in the bearing area • cone cleaning
Collet chuck	pneumatic stainless steel collet chuck for tools with 3 mm shank diameter max. 40 mm total length	pneumatic stainless steel collet chuck for tools with 3 mm shank diameter max. 40 mm total length
Tool change		
Features	• automatic tool change station for 16 tools • haptic tool length detection and tool breakage monitoring • diamond-coated tools can be used • compressed air monitoring	• automatic tool change station for 16 tools • haptic tool length detection and tool breakage monitoring • diamond-coated tools can be used • compressed air monitoring
Wet grinding		
Features	• 3 liquid nozzles at the spindle for wet grinding • external wet grinding module (optional)	• 3 liquid nozzles at the spindle for wet grinding • external wet grinding module (optional)
Air extraction		
Features	• opening at the housing side for air extraction • underpressure sensor for monitoring the air extraction • 24 Volt output for connecting the switching unit	• opening at the housing side for air extraction • underpressure sensor for monitoring the air extraction • 24 Volt output for connecting the switching unit
Other		
Peripheral equipment	• switching unit PSW 01-RSV for automatically switching a vacuum cleaner • wet grinding option • administrated tool board • block holders for glass ceramics	• switching unit PSW 01-RSV for automatically switching a vacuum cleaner • wet grinding option • administrated tool board • block holders for glass ceramics • blank operation board • blank frame tower
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	6 bar · 80 l/min
Power supply	100 – 240 V · 50/60 Hz	100 – 240 V · 50/60 Hz

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