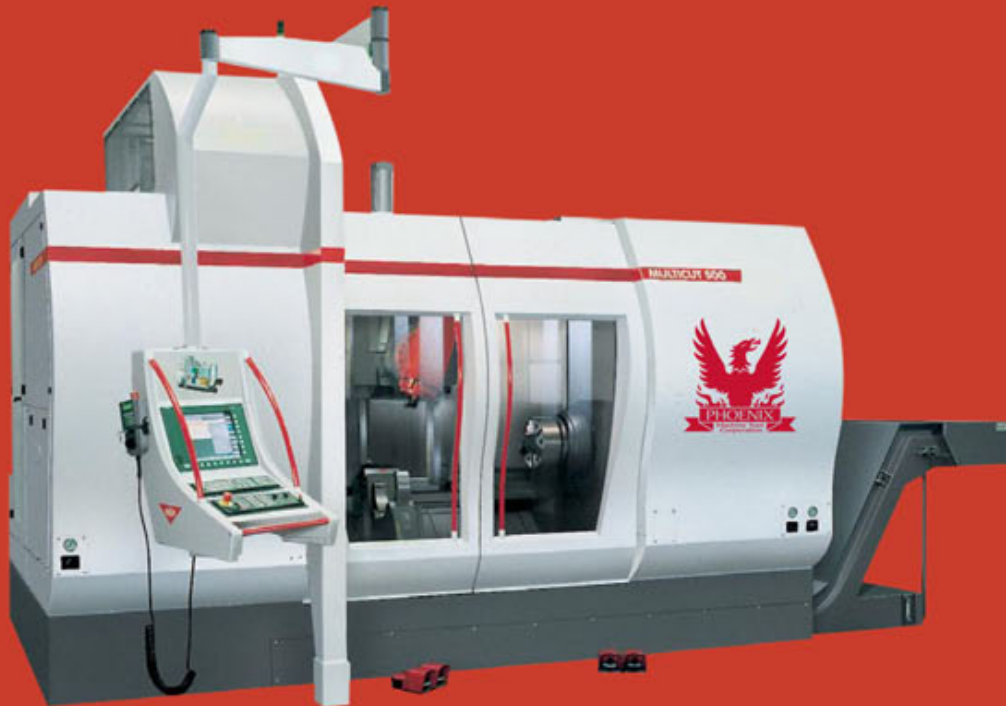




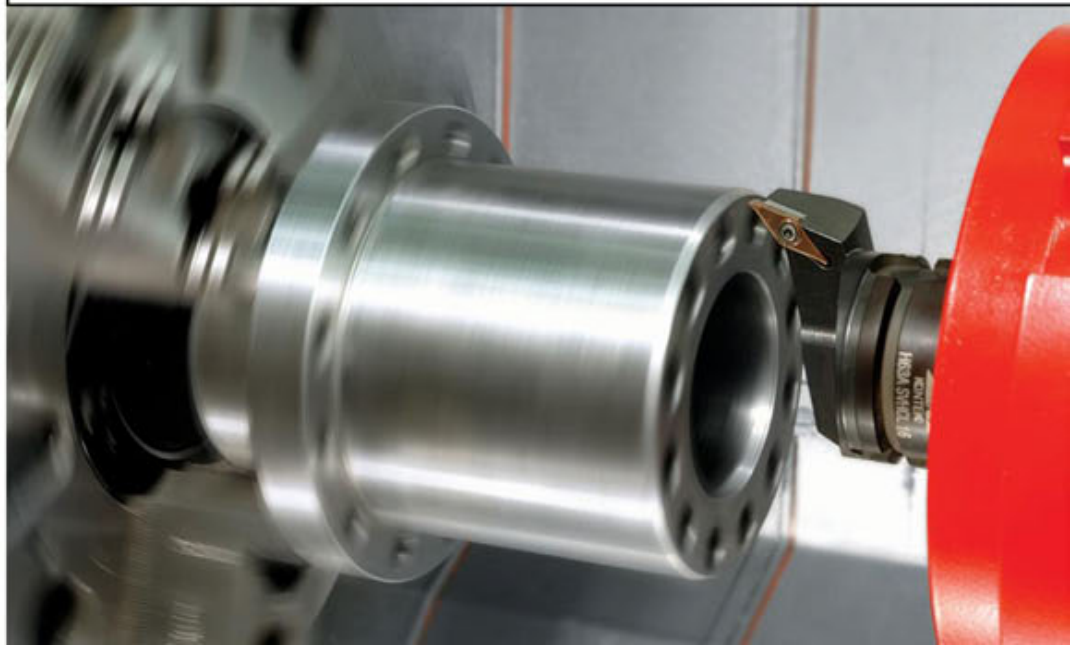
[www.phoenixmachinetool.com](http://www.phoenixmachinetool.com)

Phoenix Machine Tool Ltd.



## MULTICUT 500 S | T |

Multi-operational turning -milling centers





MULTICUT 500

1|2

## MACHINE VARIANTS

The MULTICUT 500 is available in the following two versions:

**MULTICUT 500 S** ➤ version with the right spindle

**MULTICUT 500 T** ➤ version with the tailstock

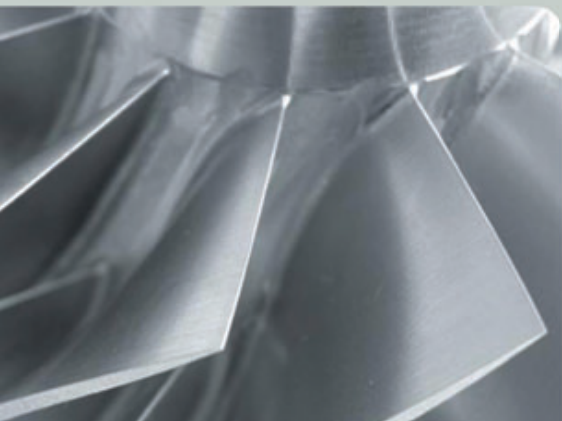
## MACHINE FEATURES

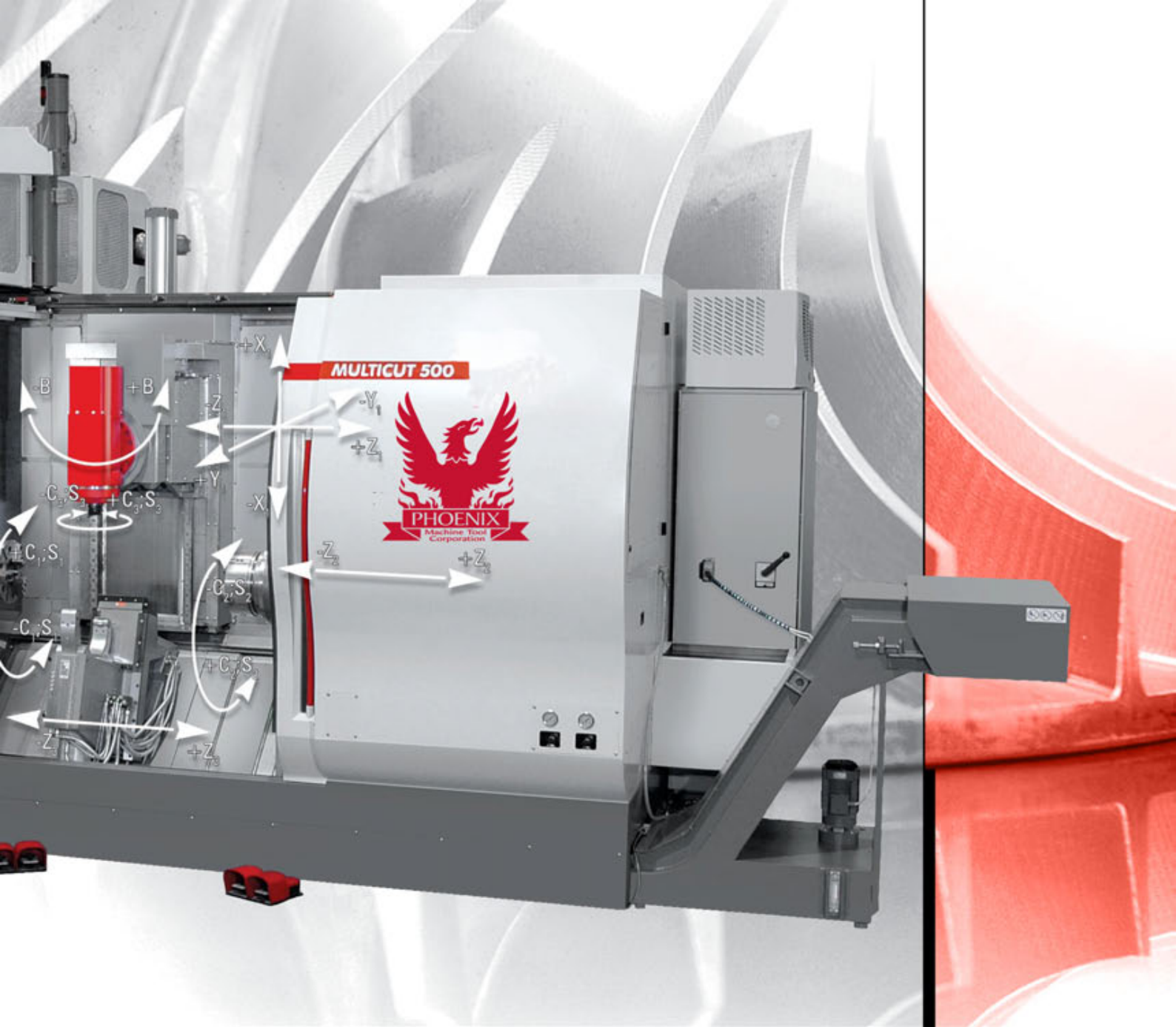
The multioperational turning-milling centers combine the features of turning and milling machines in a single universal machine which has capability to machine complex parts using more technologies (turning, threading, recessing, drilling, boring, milling, cam milling, gear hobbing, grinding and measuring). The machines are equipped with a B-axis as standard which allows an extra-axial drilling and 5-axis milling. The MULTICUT 500 S (with the right spindle) can do a full part machining on both sides.



### Machine highlights:

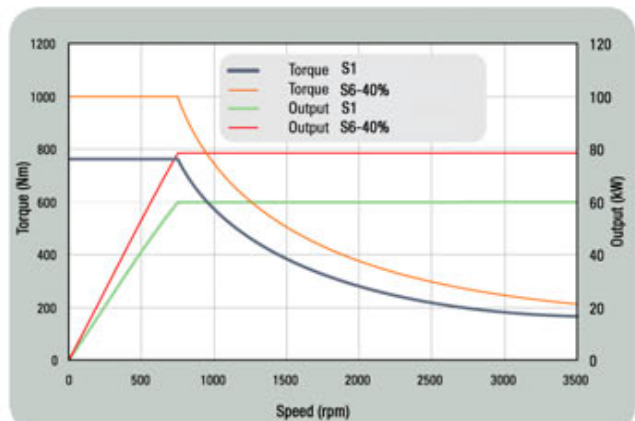
- Y-axis = 370 mm
- tool magazine capacity - 79 stations
- tool spindle 16,8 kW (water cooled integrated spindle motor)
- working spindles 59 kW (water cooled integrated spindle motor)
- up to four turning tools in one holder (a fast change cut - cut)
- B-axis continuous movement is standard equipment



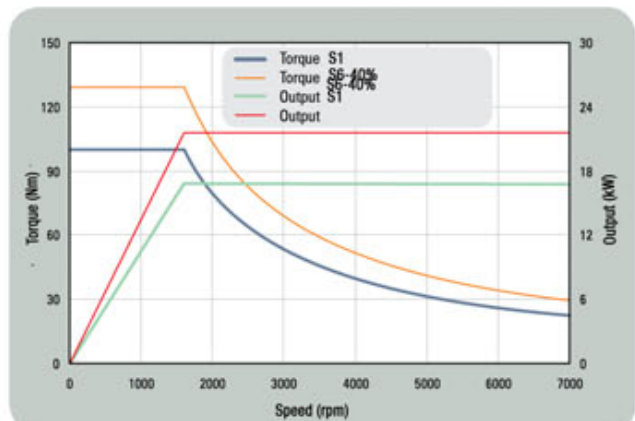


↑ Kinematics of the MULTICUT 500 S machine – controlled axes

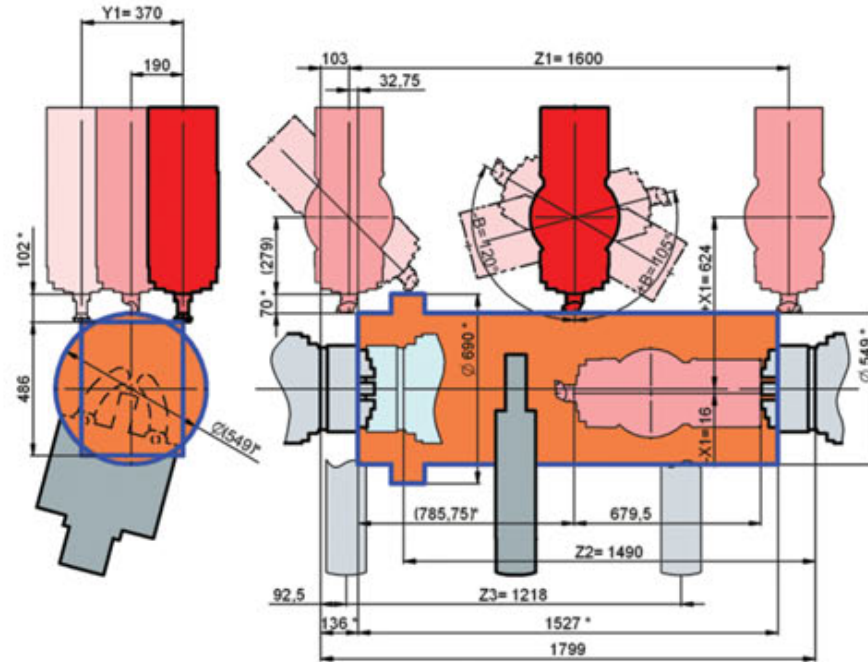
Output and torque of the work spindles S1 and S2



Output and torque of the tool spindle S3

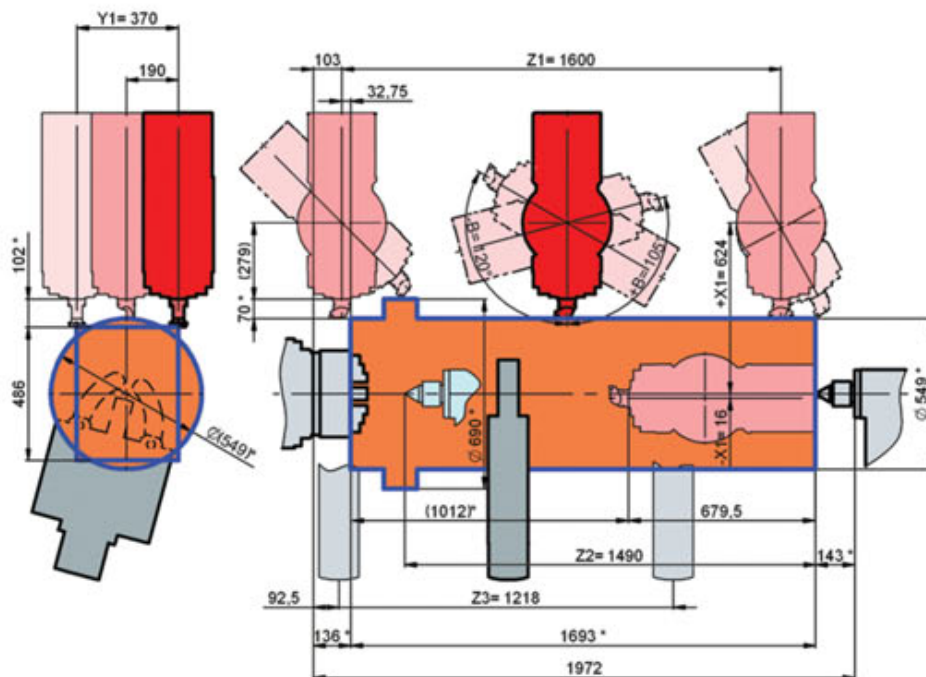


### Working space arrangement of the MULTICUT 500 S machine

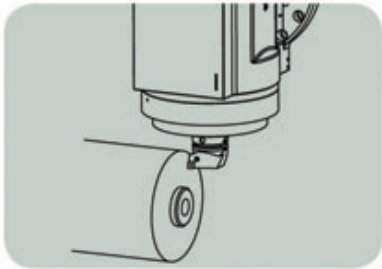


\* The data depend on used tool or clamping device

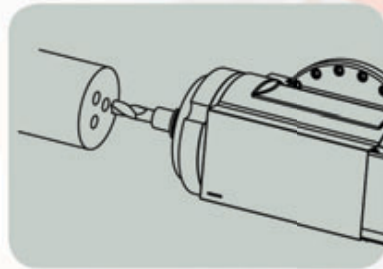
### Working space arrangement of the MULTICUT 500 T machine



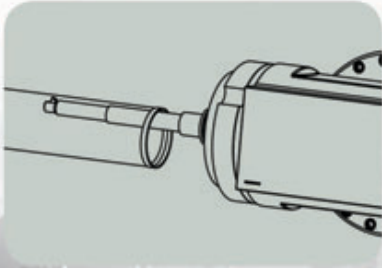
\* The data depend on used tool or clamping device



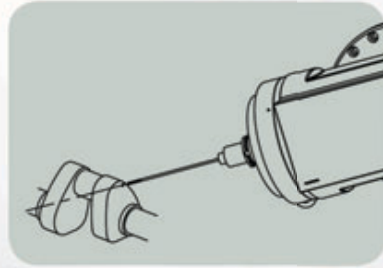
External turning, threading, recessing



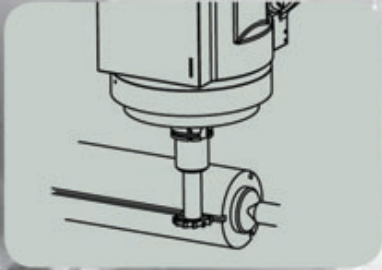
Drilling



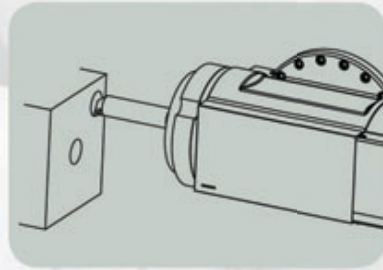
Internal turning, threading, recessing



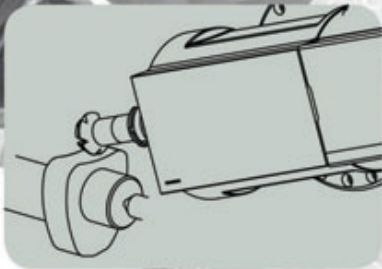
Extra-axial drilling



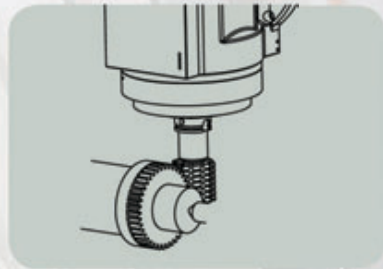
Milling



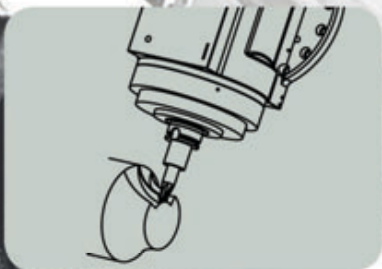
Boring



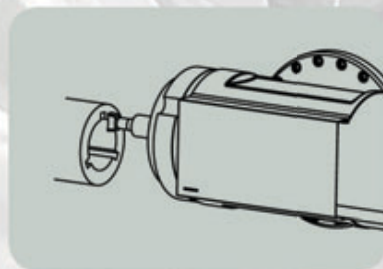
Cam milling



Gear hobbing



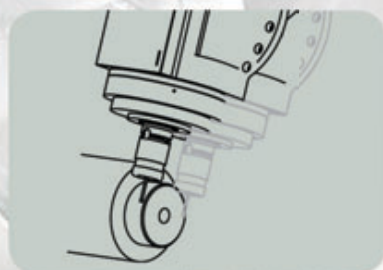
Five-axis milling



Shaping







Angular milling



Workpiece measuring

## Applications of the MULTICUT 500 S (T) machines

 <p><b>Technological possibilities</b></p>	<ul style="list-style-type: none"> <li>• Turning</li> <li>• Threading</li> <li>• Recessing</li> <li>• Drilling</li> <li>• Boring</li> <li>• Milling</li> <li>• Cam milling</li> <li>• Gear hobbing</li> <li>• Slot and gear shaping</li> <li>• Grinding</li> <li>• Measuring</li> </ul>	<ul style="list-style-type: none"> <li>• Extra-axial drilling</li> <li>• Five-axis milling</li> <li>• Complex machining on both sides</li> </ul>	<ul style="list-style-type: none"> <li>• 79 - tools in magazine</li> </ul>
 <p><b>Question to be considered</b></p>	<p>Why more diverse machines if one will be up to a job?</p>	<p>Why complicated and expensive jigs and fixtures or even special machines?</p>	<p>Why a well-paid operator shall setup tools at each part change?</p>
 <p><b>Suitable utilization</b></p>	<p>Diverse production</p>	<p>Complex form parts</p>	<p>Repetitive production - a single-part production</p>
 <p><b>Field of application</b></p>	<p>Tool rooms, single-part production, etc.</p>	<p>The aircraft, molders and automotive industry, etc.</p>	<p>Makers of forming machining, machine tools, agricultural and tool makers</p>

TECHNICAL DATA		MULTICUT 500 S	MULTICUT 500 T
<b>WORKING RANGE</b>			
Geometric and working accuracy	-	ISO 13041	
Max. turning dia. (B=45°)	mm	690	
Max. turning dia. (B=0°)	mm	549	
Max. milled profile	mm	486 × 486	
Max. machining length	mm	1527	1693
<b>WORKING SPINDLES (S1,S2)</b>		S1 and S2	S1
Spindle nose S1 and S2 (DIN 55026)	-	A8	
Spindle bore S1 and S2	mm	106	
Chuck dia.	mm	315 (250)	
Max. bar stock dia.	mm	94	
Spindle output S1 and S2 (S1/S6 40%)	kW	59 / 74	
Spindle torque S1 and S2 (S1/S6 40%)	Nm	760/1000	
Max. spindle speed S1 and S2	rpm	3500	
Travel in axis Z2 of spindle S2	mm	1490	-
Rapid traverse in axis Z2 of spindle S2	m	30	-
Max. feed force in axis Z2 of spindle S2	kN	10	-
<b>C-AXIS (C1, C2) - WORKING SPINDLES (S1, S2)</b>		C1 and C2	C1
Max. torque	Nm	700	
Max. speed	rpm	350	
Programmable increment	°	0,001°	
<b>TOOL SPINDLE (S3)</b>		S3	
Tool clamping taper	-	HSK - A 63	
Spindle output (S1/S6 40%)	kW	16,8 / 21,5	
Spindle torque (S1/S6 40%)	Nm	100 / 126	
Max. spindle speed	rpm	7000	
Working travel in axis X1 / Y1 / Z1	mm	640 / 370 / 1600	
Rapid traverse in axis X1 / Y1 / Z1	m	50 / 40 / 50	
Max. feed force in axis X1 / Y1 / Z1	kN	12,5 / 11 / 18	
<b>B-AXIS - TOOL SPINDLE</b>		B	
Max. swivelling angle	°	-120° / +105°	
Torque (S1/S6 40%)	Nm	500 / 800	
Torque brake moment	Nm	2500	
Max. speed	rpm	17	
Programmable increment	°	0,001°	

TOOL MAGAZINE		
Magazine capacity	-	79
Max. tool dia. – adjacent station occupied / empty	mm	90 / 130
Max. tool length	mm	350
Max. tool weight	kg	8
Automatic tool change time	s	3
REST		
Rest travel in axis Z3	mm	1218
TAILSTOCK		
Sleeve taper	-	- Mo6
Sleeve travel	mm	- 170
Thrust range	kN	- 3,2 – 28,6
CONTROL SYSTEM		ACCUPATH IV
MACHINE DIMENSIONS AND WEIGHT		
Length × width × height	mm	5354 × 3860 × 3986
Machine weight	kg	22800

#### STANDARD MACHINE VERSION AND ACCESSORIES

- Through clamping cylinder (the left spindle)
- Solid clamping cylinder (the right spindle - MULTICUT 500 S)
- Outer tool cooling 150 PSI
- Working space rinsing - mechanical
- Automatic central lubrication
- Chip conveyor
- Set-out for connection of bar feeder
- Working space lighting
- Machine state signalling (beacon)
- Electrical cabinet air conditioning
- Indication of regular maintenance work
- Anchoring material
- Operating manual

The machine conforms to CE

On customer's demand the machine is available with other connecting main voltage and frequency.

Design and specifications are subject to change without notice.

#### SPECIAL ACCESSORIES

- Follow rest
- Jaw chucks
- Collet clamping
- Tool drivers
- Special fixtures
- Running centres for tailstock
- Running centres for the right spindle
- Tool holders
- Centric tool cooling 23 bar
- Adapter HSK - A63 / CAPTO C6
- Workpiece fixture blowing
- Automatic tool check
- Working space rinsing - manual
- Automatic workpiece check
- Automatic working space guard shifting
- Automatic machine turning off
- Bar feeder
- Bar guide
- Parts catcher
- Vapour exhaustion from working space
- Remote diagnostics
- Container under the chip conveyor
- Lifting device

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