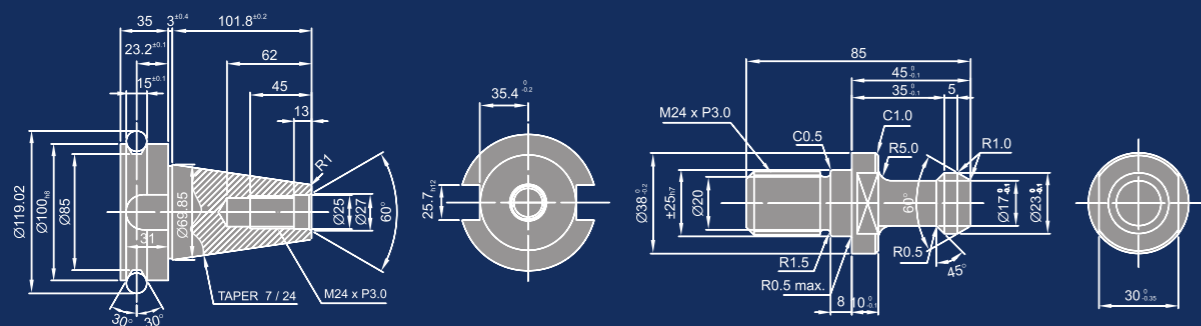


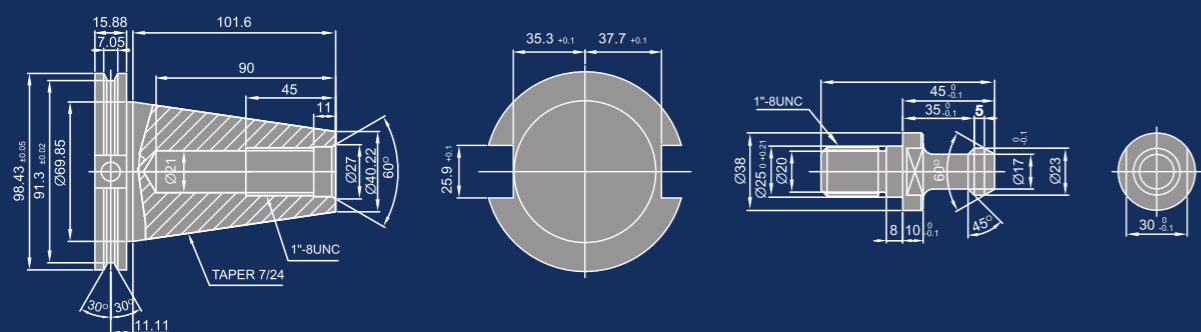
# Tooling System



## BT-50



## CAT-50



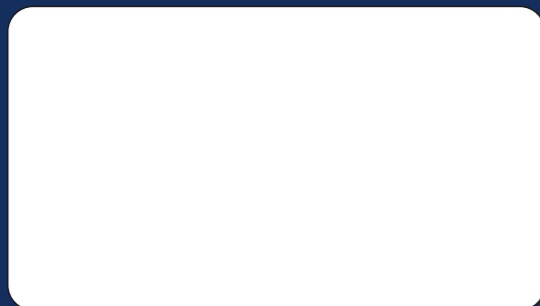
# CAMPRO 6



Campro Precision Machinery Co., Ltd.



NO. 12, JINGKE 1<sup>ST</sup> RD., NANTUN,  
TAICHUNG 408, TAIWAN  
TEL: +886-4-23500501  
FAX: +886-4-23500213  
E-mail:sales@campro.com.tw



QAC11-01

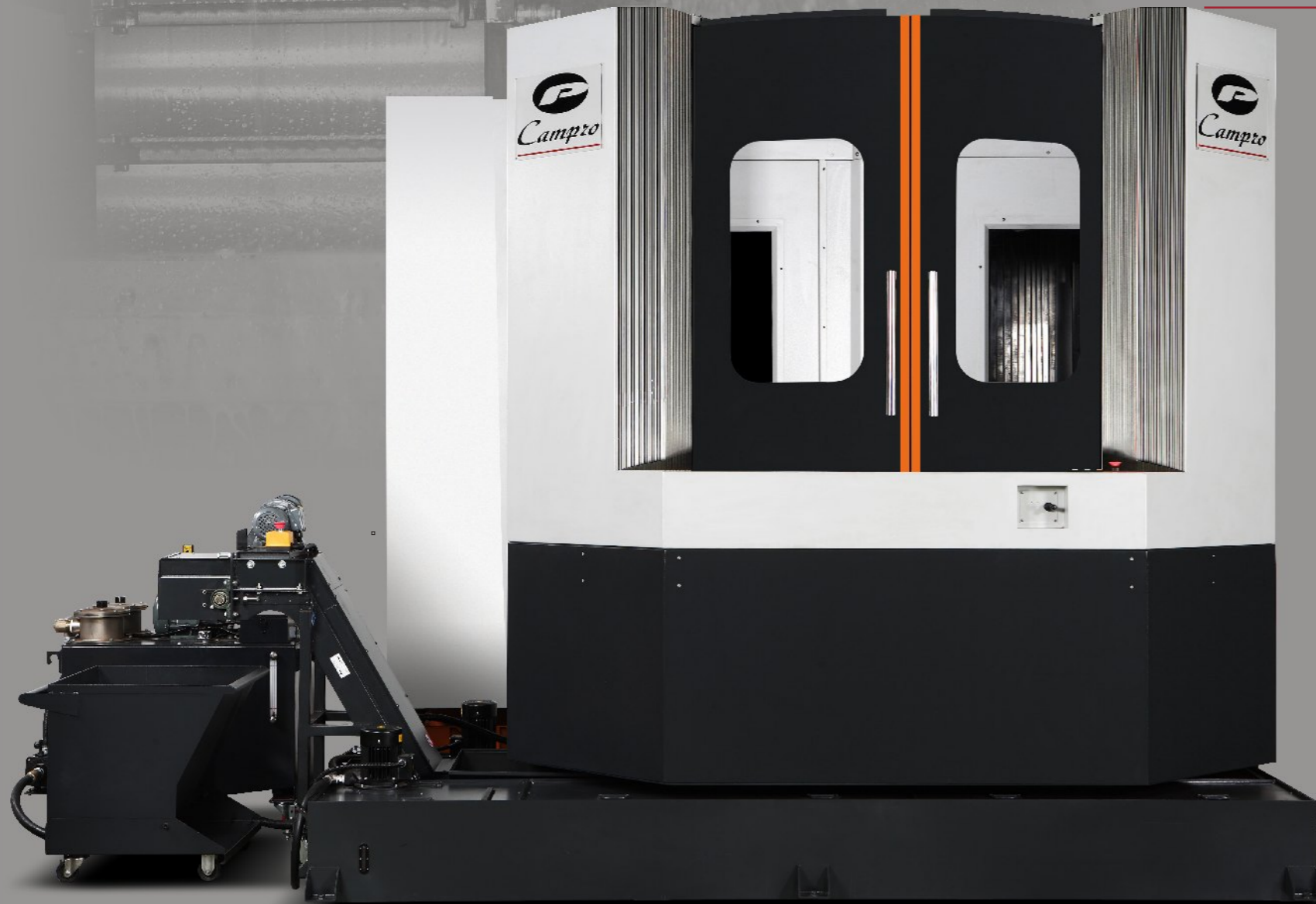
2000-2012-02



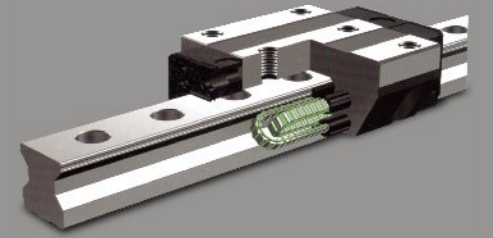
Campro Precision Machinery Co., Ltd.

www.campro.com.tw

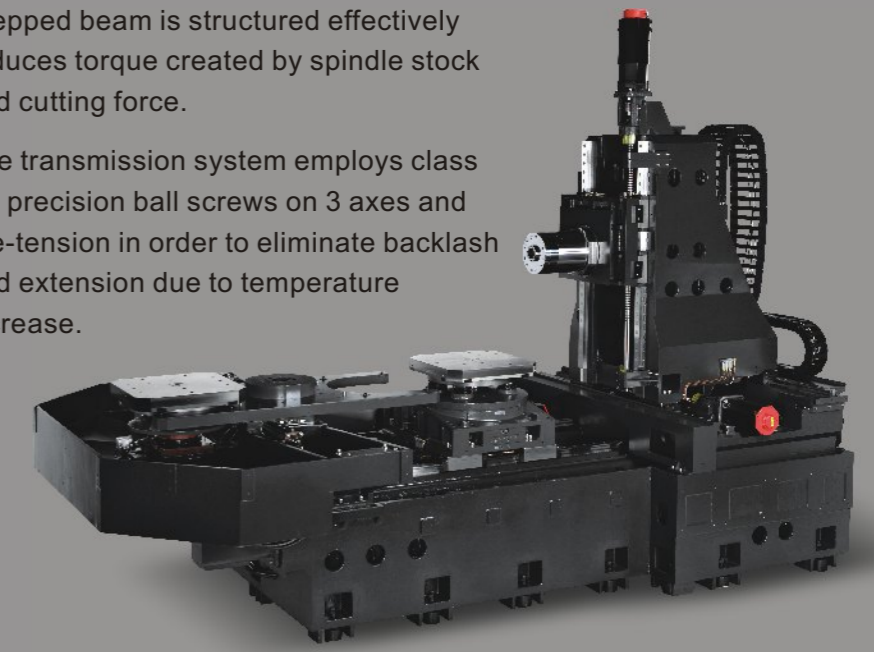
- X / Y / Z Travel : 1,000 x 850 x 950 mm
- Spindle : Built-In type 10,000 rpm  
Gearhead type 6,000 rpm (OPT.)
- ATC : 40 Tools  
60 / 90 Tools (OPT.)



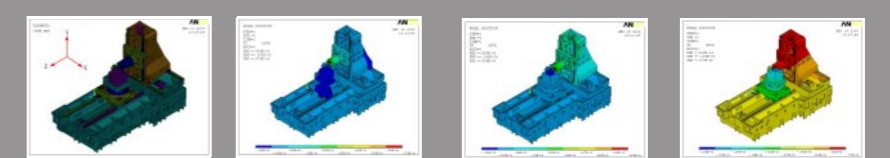
- The high rigid and heavy loading linear guideways with roller type precision bearing on 3 axes ensuring stability and accuracy in long time machining .



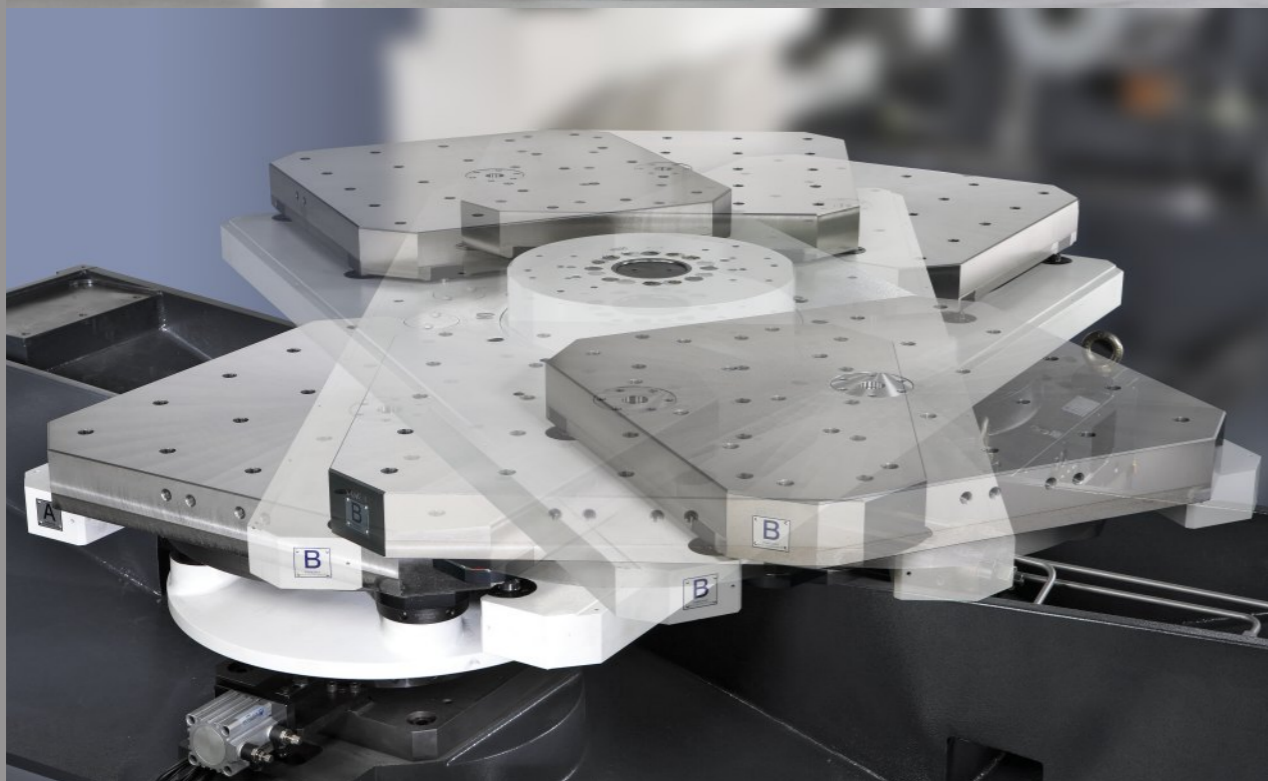
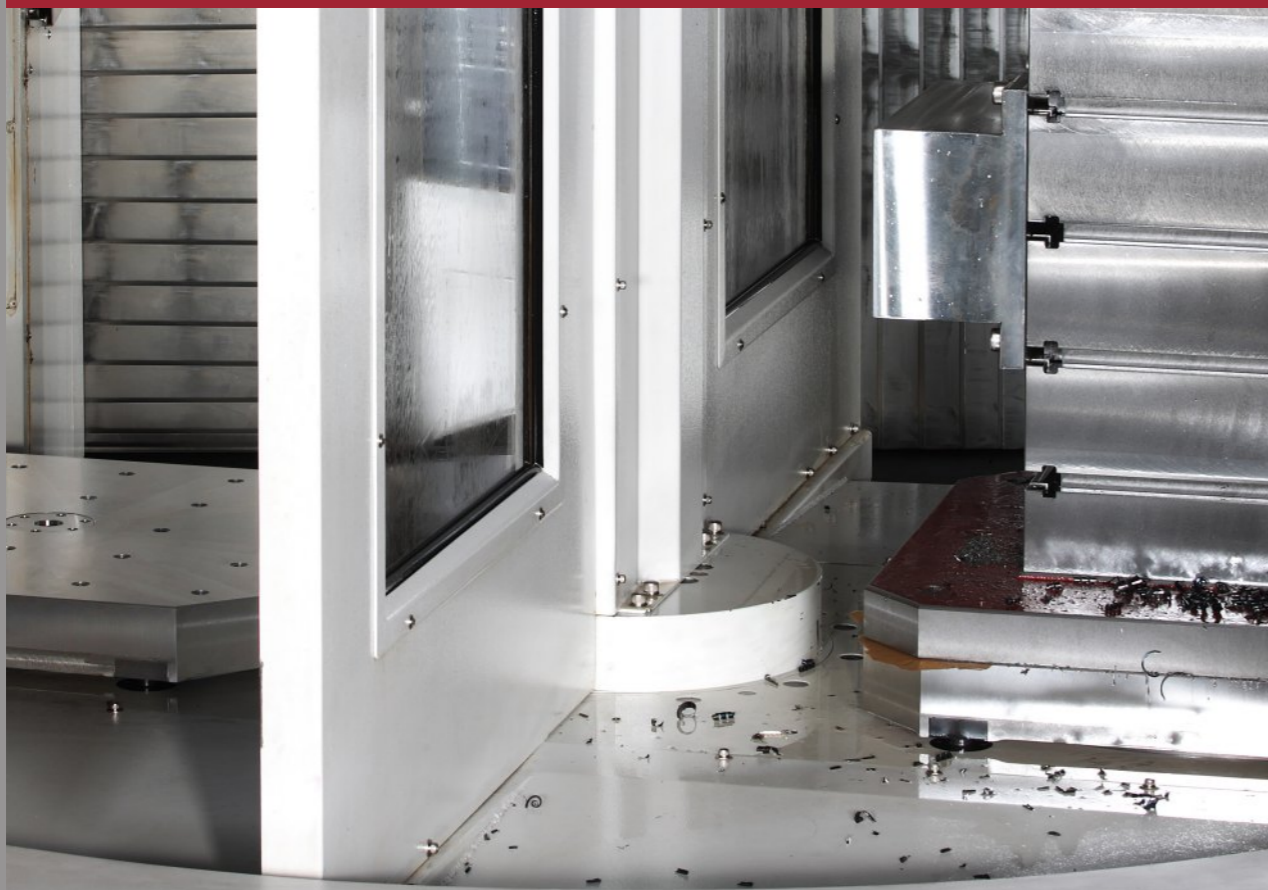
- Constructed with FC300 cast iron. T-shape one piece base and dual wall column are designed with rigid construction.
- Stepped beam is structured effectively reduces torque created by spindle stock and cutting force.
- The transmission system employs class C3 precision ball screws on 3 axes and pre-tension in order to eliminate backlash and extension due to temperature increase.



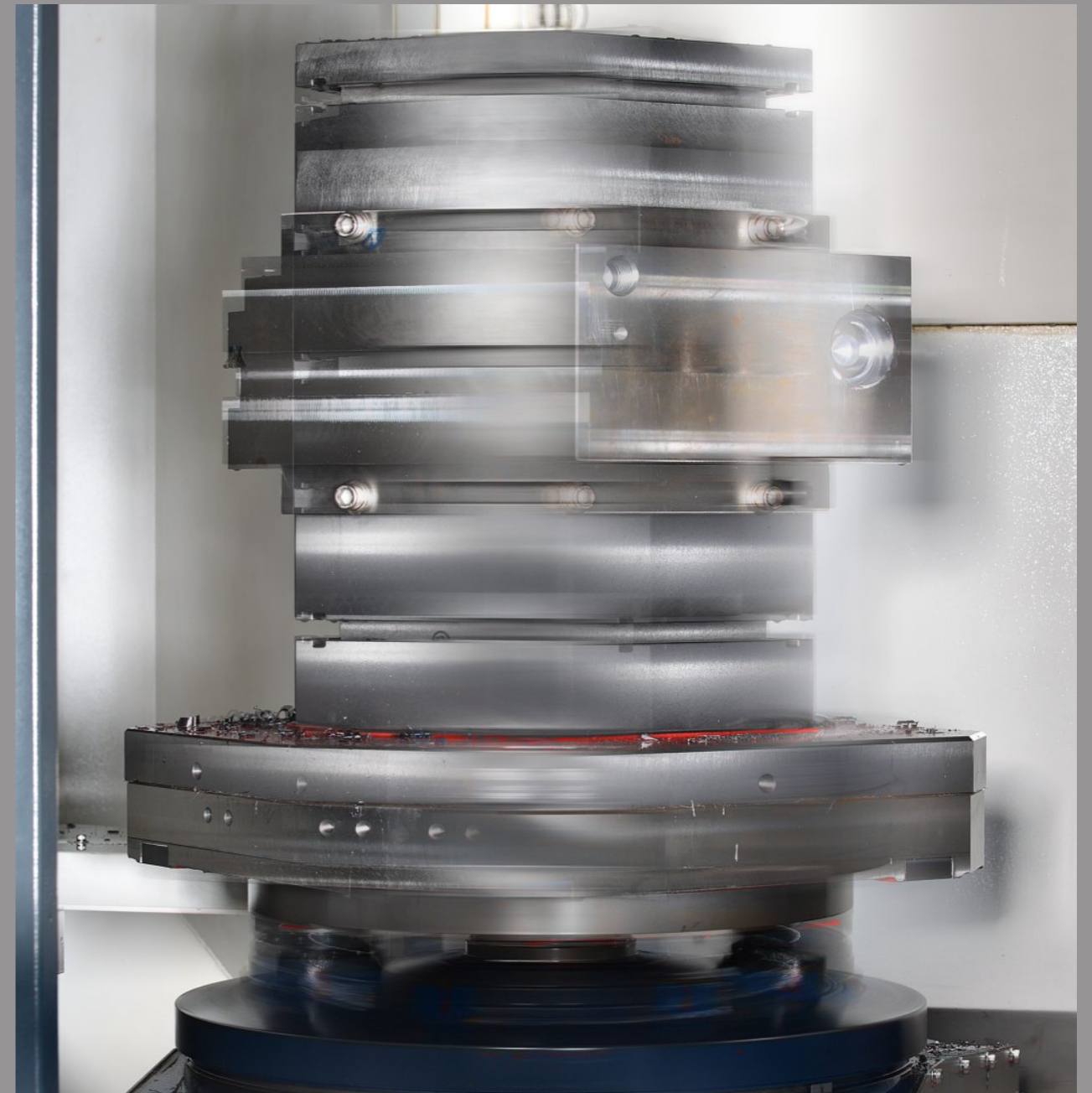
**FEA analysis**



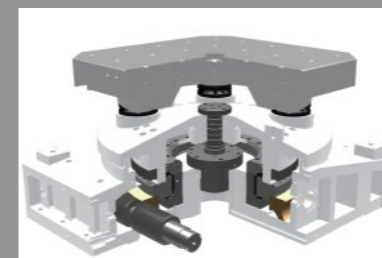
# APC SYSTEM



- The pallet diameter : 630 x 630 mm
- The table change time : 14~16 sec.



## B-axis rotary table



4 high precision cone are designed and equipped the chip blasting system to ensure the pallet clamping position and long using life.

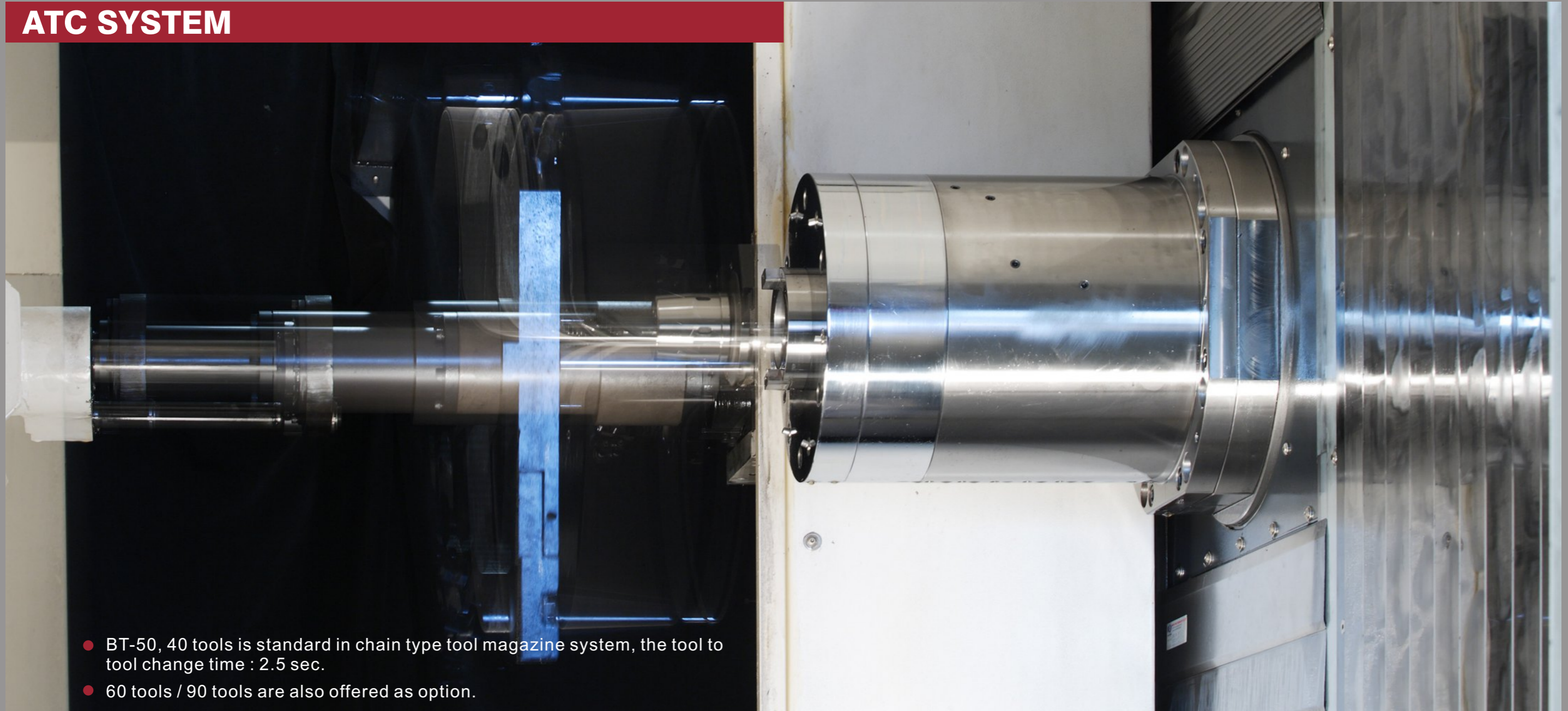
ITEM	MODEL	Unit	CAMPRO 6
Table dimension		mm	630 x 630
Basic hole diameter		mm	Ø30H7
Height		mm	480
Speed reduction ration			1 : 180
Min. indexing		degree	1°(0.001)
Max. B-axis speed		rpm	16.7
Indexing accuracy		arc-sec	±5
Repeatability accuracy		arc-sec	±3
Clamping force		kg.m	600
Permissible cutting force		kg.m	650
Max. table load		kg	1,000
Approx. net weight w/o motor		kg	1,380

## Two section worm / worm gear transmission



The curved surface contact between the worm and worm gear provides 5 times greater contact surface area than the conventional "compound double leads", thus superior accuracy and durability are assured.

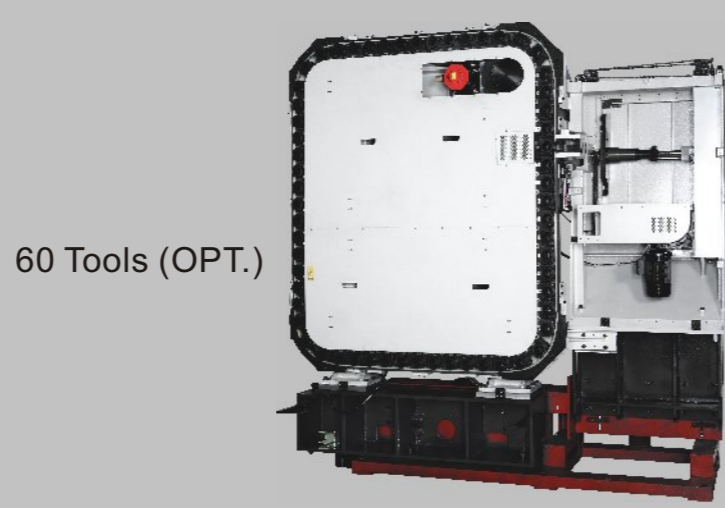
# ATC SYSTEM



- BT-50, 40 tools is standard in chain type tool magazine system, the tool to tool change time : 2.5 sec.
- 60 tools / 90 tools are also offered as option.



40 Tools



60 Tools (OPT.)



90 Tools (OPT.)



Manual tool change

## CEILING FLUSHING



### Coolant Through Spindle

Coolant tank capacity : 600 liter  
Sub-coolant tank of CTS capacity : 260 liter  
Coolant through Spindle : 18~20 bar



### Dual chip screw conveyor system

Built-in dual chip screw conveyor is high efficient chip disposal system that completely prevent the coolant sink out due to assembling defect.



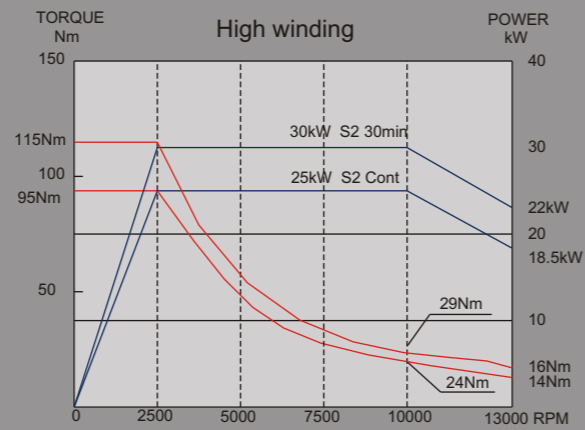
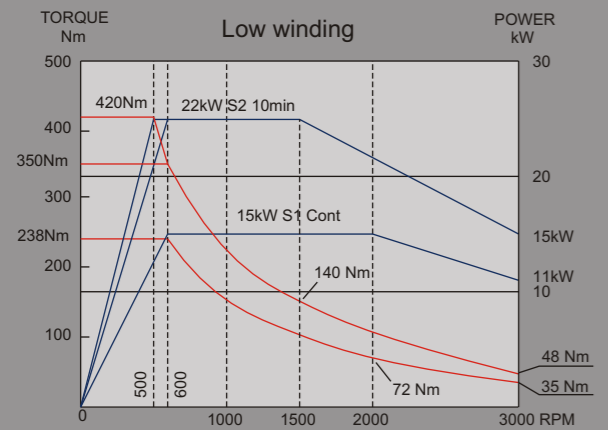
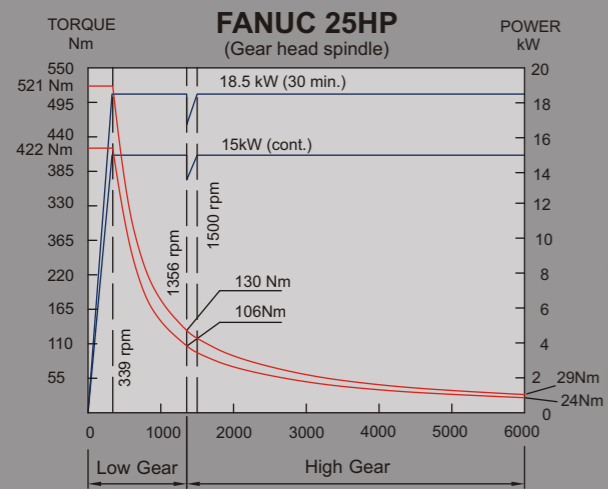
### Oil skimmer (Disk type)

Equipped the synchronous motor which will automatically slip when there are overload in order to protect motor of oil skimmer. Not only the hydrophilic disk is used to bring up oil, but the scraping is used to scrape the oil on the disk to ensure the coolant is used in a long time.

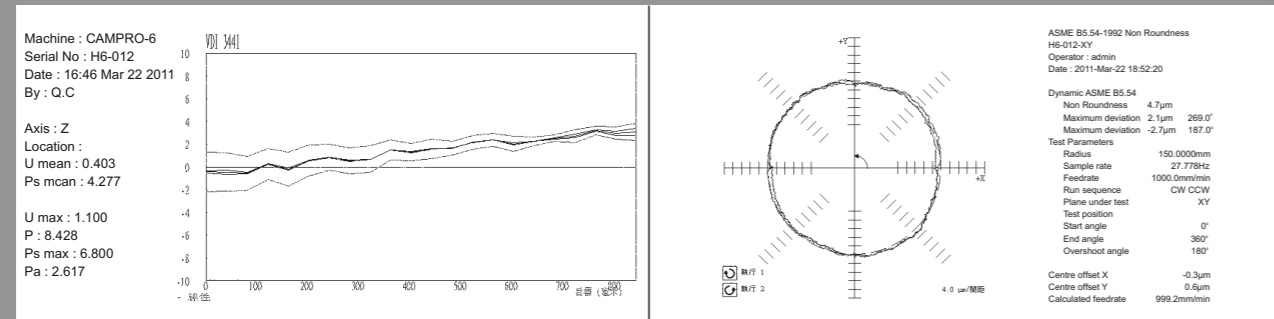
### Chain type chip conveyor + Bucket + Sub-coolant tank of CTS



# SPINDLE DIAGRAM

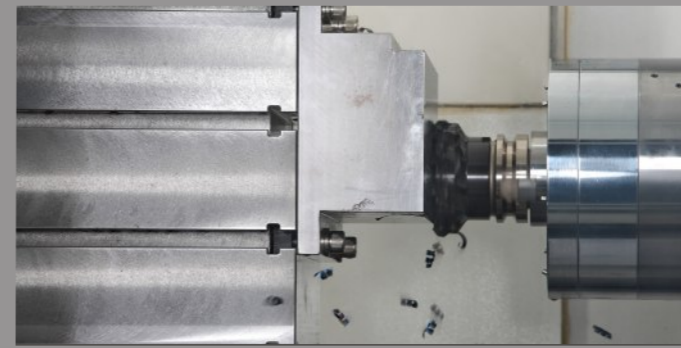


## Quality Inspection



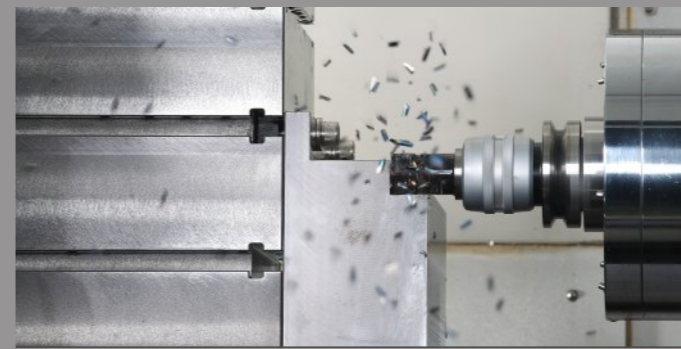
# CUTTING PERFORMANCE

Material : S45C



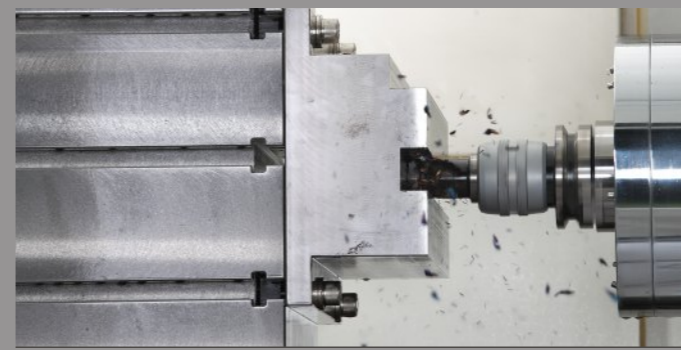
## Face milling

Tool : Ø125MM  
Spindle speed : 560MIN-1  
Feedrate : 1100MM/MIN  
Cutting depth / width : 6/100MM  
Material removal rate : 660CM<sup>3</sup>/MIN



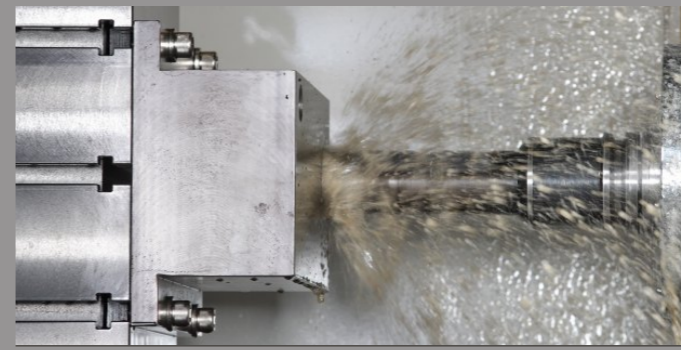
## Side milling

Tool : Ø40MM  
Spindle speed : 1850MIN-1  
Feedrate : 1200MM/MIN  
Cutting depth : 7MM



## End milling

Tool : Ø40MM  
Spindle speed : 1600MIN-1  
Feedrate : 1050MM/MIN  
Material removal rate : 294CM<sup>3</sup>/MIN



## Drilling

Tool : Ø65MM  
Spindle speed : 880MIN-1  
Feedrate : 120MM/MIN  
Cutting depth : 65MM



## Tapping

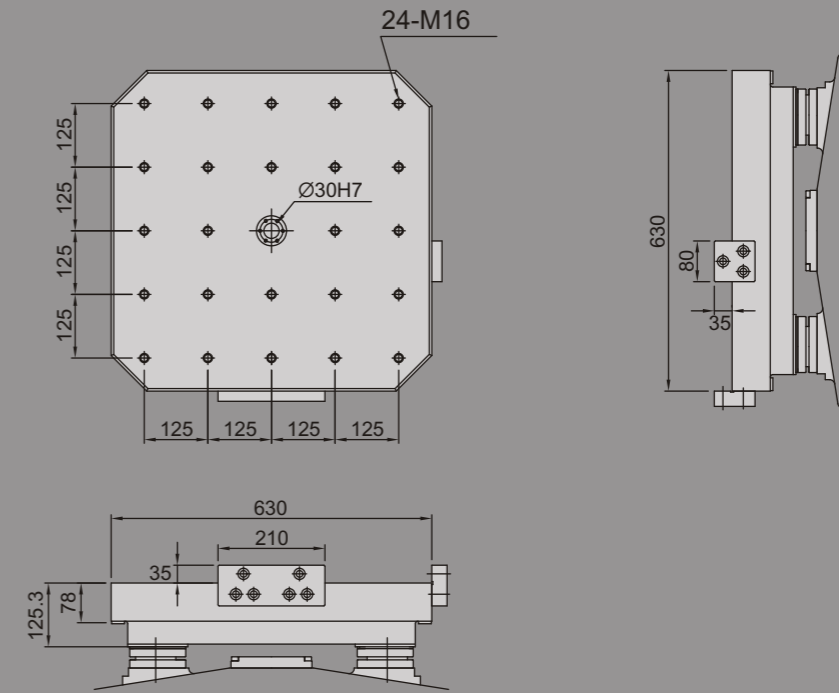
Tool : M34x2.5P  
Spindle speed : 230MIN-1  
Feedrate : 805MM/MIN

## WORKING AREA

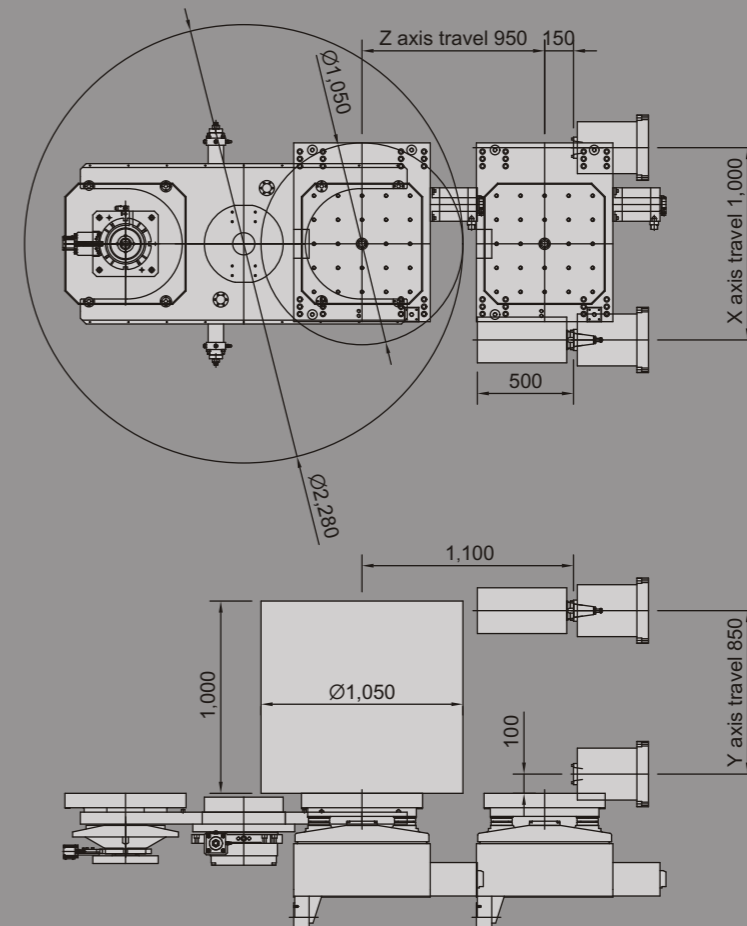


Max. Pallet Load : **1,000 kg**

## PALLET DIMENSION



## WORKING AREA



## SPECIFICATION

Model	Unit	CAMPRO 6	Standard Accessories	
<b>TRAVEL</b>				
X-axis travel	mm	1,000	<ul style="list-style-type: none"> <li>● 10,000rpm Built-in motor spindle</li> <li>● Spindle oil cooler</li> <li>● Coolant through spindle with filter</li> <li>● Rigid tapping</li> <li>● Full-enclosed splash guard</li> <li>● Spindle air blast system</li> <li>● Pre-tensioned ball screws on 3 axes</li> <li>● Telescope cover on 3 axes</li> <li>● Air conditioner</li> <li>● Chip conveyor</li> <li>● Auto pallet changer</li> <li>● B-axis rotary table-(1° index)</li> <li>● Oil skimmer</li> <li>● Coolant gun</li> <li>● Chip flushing device (incl. top roof)</li> <li>● Built-in dual chip screw</li> <li>● 40T chain type tooling system</li> <li>● Hydraulic system</li> <li>● Pneumatic system</li> <li>● Automatic lubrication system</li> </ul>	
Y-axis travel	mm	850		
Z-axis travel	mm	950		
Distance from spindle center to table surface	mm	100~950		
Distance from spindle nose to table center	mm	150~1,100		
<b>SPINDLE</b>				
Spindle speed	rpm	10,000		
Spindle taper		7/24 taper no. 50		
Spindle transmission		Built-in		
Spindle motor	kW	L:15/22 H:25/30		
<b>B-AXIS PALLET</b>				
Pallet dimension	mm	630 x 630		
Max. Pallet overload	kg	1,000		
Max. Working range	mm	∅1,050 x H 1,000		
Distance from pallet to floor	mm	1,330		
Screw specification		M16 x 2P		
Index of pallet		1°		
<b>FEEDRATE</b>				
Rapid feedrate	M/min.	36		
Cutting feedrate	M/min.	1~10		
<b>ATC</b>				
Tool shank		BT-50	<b>Option Accessories</b> <ul style="list-style-type: none"> <li>● 6,000 rpm gear head spindle</li> <li>● 10,000 rpm I.D.D. spindle</li> <li>● Linear and rotary scales</li> <li>● B-axis rotary table - 0.001° rotary</li> <li>● 60T / 90T chain type tooling system</li> <li>● Oil-mist collector</li> <li>● Coolant through ballscrew center</li> <li>● Oil-mist coolant system</li> <li>● Automatic tool length measurement</li> <li>● Workpiece measurement</li> <li>● Transformer</li> <li>● CE modification</li> </ul>	
No. of Tools		40		
Max. tool diameter	mm	∅120		
Max. tool diameter (no adjacent tool)	mm	∅240		
Max. tool length	mm	500		
Max. tool weight	kg	20		
Tool changing time	sec.	2.5 / 7		
<b>APC</b>				
No. of pallet		2 Pallets		
Pallet changing time	sec.	14~16		
Type of APC		Hydraulic / Rotary		
<b>Machine dimension</b>				
Power capacity	KVA	60		
Floor dimension	mm	5,068 x 7,135		
Machine highest	mm	3,550		
Machine weight	kg	24,000		

● Specification upgrading will not notify according to our ongoing innovation

## FLOOR PLAN

