



Mekamat-5B/6B
Mekamat-5TB/6TB
Mekamat-5BC/6BC
Mekamat-5TC/6TC
Mekamat-5YC/6YC
Mekamat-5YTC/6YTC



www.mekaymakina.com

Mekamat Series
CNC Precision Lathes

Since 1965 we produce machine-tools...

Mekay was established in 1965 and focused on manufacturing small diameter lathe machines which is the only product that it's made since the beginning.

The production of manual turret lathes continued for 40 years and these machines were so popular in the market that were called "tayyare" (airplane) by the customers, emphasizing its speed and seriality.



1965 »»»»»»»»»»» 1995 »»»»»»»»»»» 2005 »»»»»»»»»»» 2020»»»»»»»»»»»

In 2005, our company started to produce CNC Precision Lathes.



Mekay, which specializes in manufacturing machines for small-diameter serial workpieces, produces the latest technology, the most accurate, fastest and most powerful CNC lathes in its segment and designs new models and options according to the needs of the industry, without compromising on quality. Mekay is now the local market leader in Turkey and exports to 7 countries in 3 continents in the world.

Machine types



Machines with 2 axes

Basic machines
mekamat-5B/6B

Machines with turret
mekamat-5TB/6TB

Machines with 3 axes

Basic machines with c axis
mekamat-5BC/6BC

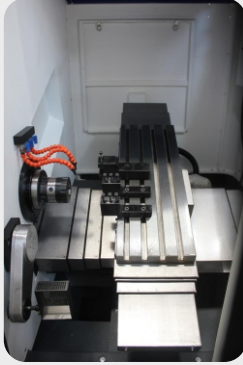
Machines with c axis and turret
mekamat-5TC/6TC

Machines with 4 axes

Machines with y and c axis
mekamat-5YC/6YC

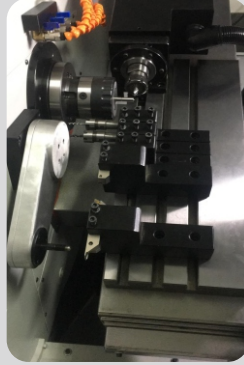
Machines with y and c axis and turret
mekamat-5YTC/6YTC

Mekamat-5B/6B



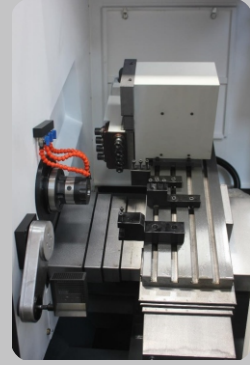
Mekamat-5B/6B is a basic gang type precision lathe. It is possible to mount cutting tools on the tool table side by side and extremely shortens tool to tool transition times.

Mekamat-5BC/6BC



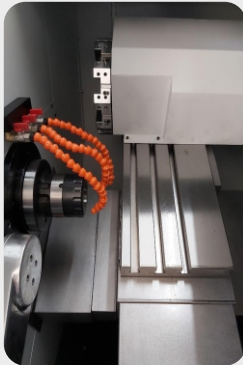
Mekamat-5BC/6BC is a basic gang type precision lathe (same machine with model B) equipped with a single live tooling block, rotatable axially or radially.

Mekamat-5YC/6YC



Mekamat-5YC/6YC is basically a gang type precision lathe machine equipped with a Y axis stock containing 4 radial and 4 axial driven tools which allows to perform milling operations on a turning machine by these driven tools and Y and C axis control.

Mekamat-5TB/6TB



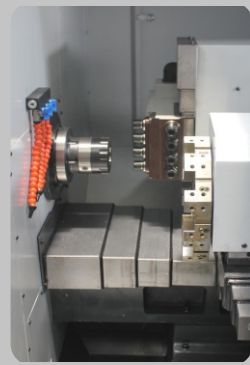
Mekamat-5TB/6TB has an additional turret and it is possible to use 10 more tools comparing Mekamat-5B/6B. It can be used as a lathe machine and also as a gang type precision lathe machine.

Mekamat-5TC/6TC

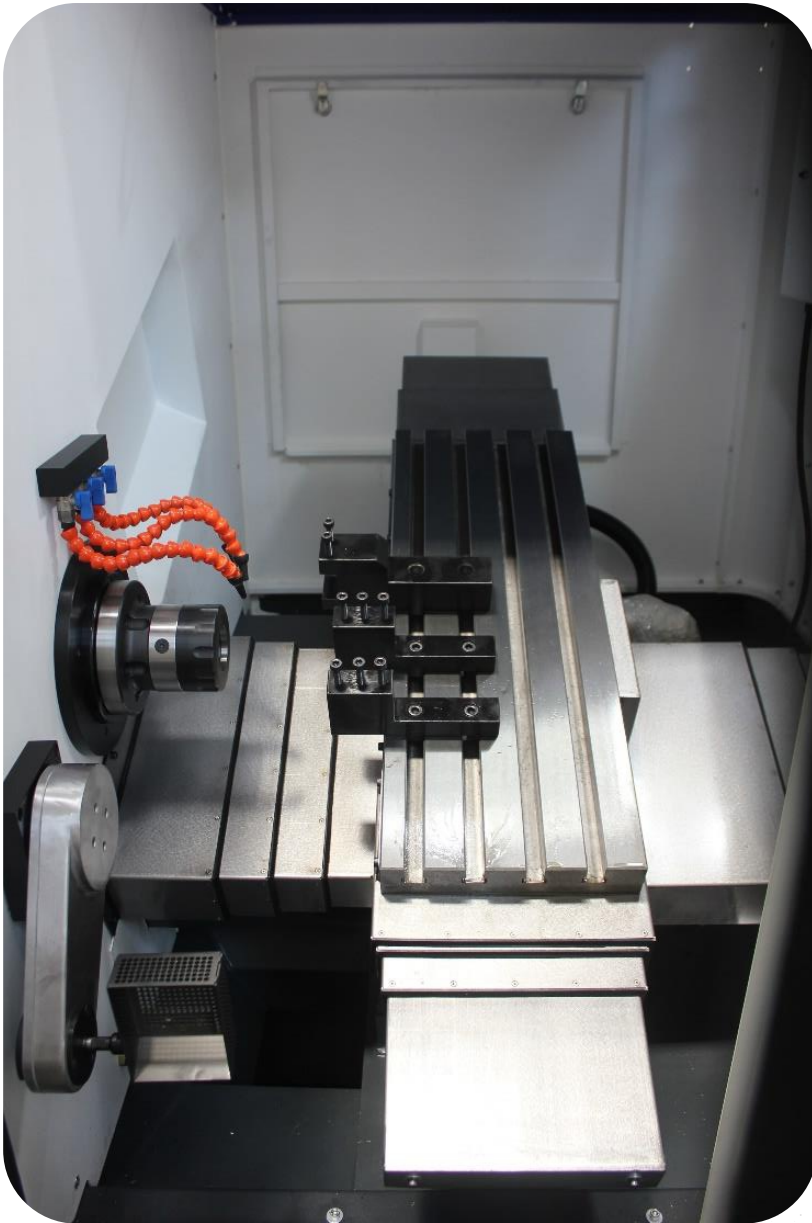


Mekamat-5TC/6TC is basically a gang type precision lathe machine equipped with a powered turret which allows to perform milling operations on a turning machine by its driven tools and C axis control. It is also can be used as a gang type precision lathe or as a lathe machine with C axis. With manual guide-i function, it is very easy to program and operate of complex workpieces, and with manual handle retrace function, it is very safe to operate the machine

Mekamat-5YTC/6YTC



Mekamat-5YTC/6YTC has additionally a turret comparing Mekamat-5YC/6YC which allows it to use 8 driven tools and 10 static tools together.



Standard equipments

- Inside illumination
- Coolant pump
- Warning lamp
- Balancing plate, screws, nuts and wedges
- Automatic central lubrication
- Collet chuck and key
- 3 pcs of OD tool holders
- 4 pcs of ID tool holders
- Electronic handwheel
- Part catcher
- Chip conveyor
- Voltage transformer
- Bar feeder interface
- Air and coolant gun
- 2 years full warranty
- Heat exchanger for electrical cabinet
- Phase protection relay
- Safety door switch
- Maintenance handbook
- Operating handbook

Standard functions

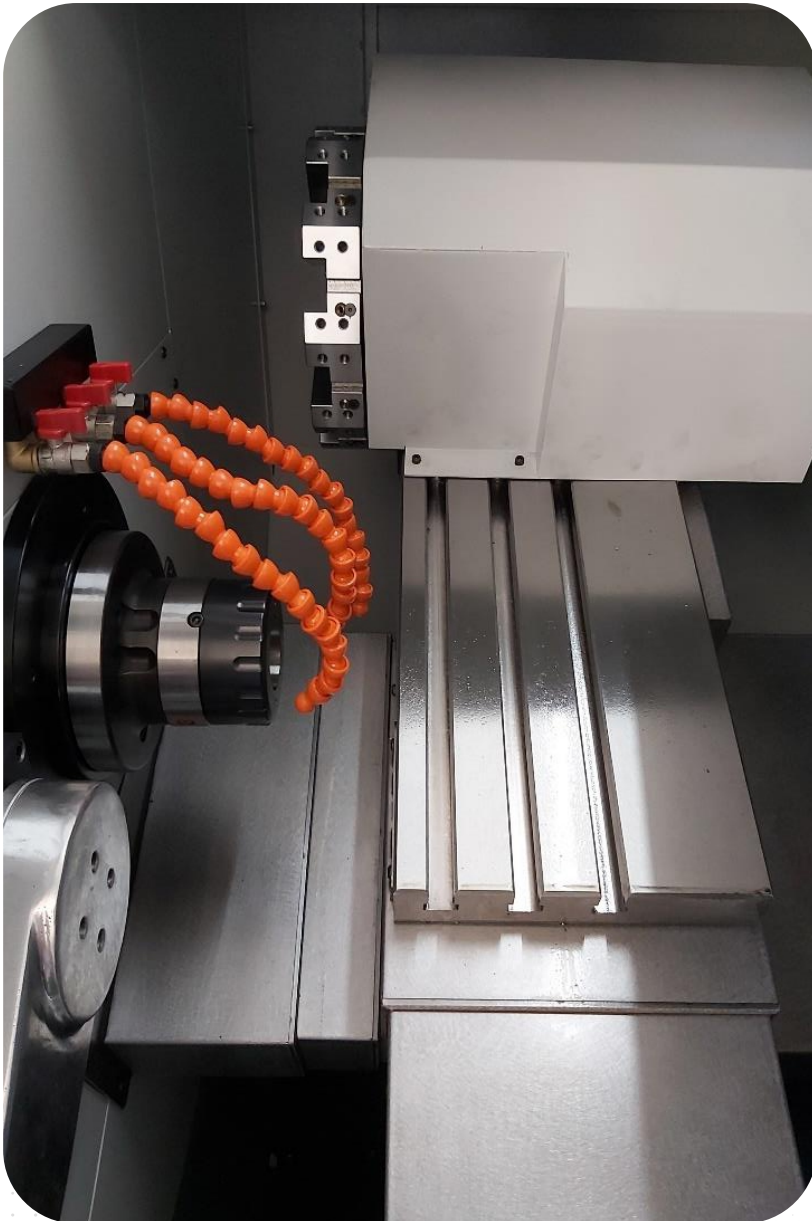
- inch/metric conversion
- mirror image
- DNC operation
- polar coordinate interpolation
- cylindrical interpolation
- polygon turning
- tool life management
- background editing
- extended program memory to 2GB

Optional equipments

- Hydraulic 3 jaw Chuck
- Hydraulic 4 jaw Chuck
- High pressure coolant pump for inner tool cooling
- Single bar feeder
- Automatic magazine bar feeder
- Removable static guide bush(sliding head for swiss turning)
- Automatic power off relay
- 1 year warranty extension
- Uninterruptible power supply
- Additional OD tool holder
- Additional ID tool holder
- Automatic opening door for robot applications

Optional functions

- manual handle retrace
- dynamic graphic display
- turn mate-i
- servo learning oscillation
- tool retract and recover
- circular thread cutting
- eccentric turning



Standard equipments

- Inside illumination
- Coolant pump
- Warning lamp
- Balancing plate, screws, nuts and wedges
- Automatic central lubrication
- Collet chuck and key
- 10 stations servo controlled turret
- 10 pcs of OD tool holders for turret
- 5 pcs of ID tool holders for turret
- Foot pedal for chuck control
- 2 pcs of OD tool holders
- 2 pcs of ID tool holders
- Electronic handwheel
- Part catcher
- Voltage transformer
- Chip conveyor
- Bar feeder interface
- Air and coolant gun
- 2 years full warranty
- Heat exchanger for electrical cabinet
- Phase protection relay
- Safety door switch
- Maintenance handbook
- Operating handbook

Standard functions

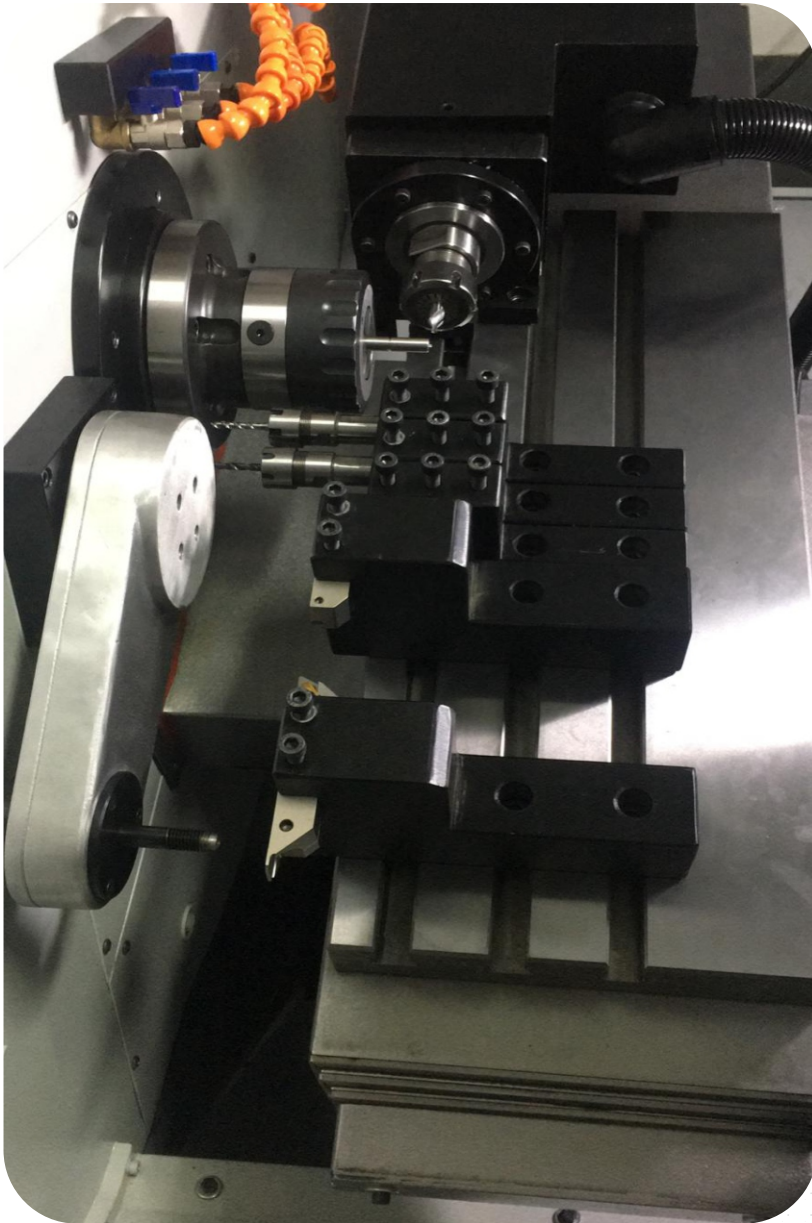
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Optional equipments

- Hydraulic 3 jaw Chuck
- Hydraulic 4 jaw Chuck
- High pressure coolant pump for inner tool cooling
- Single bar feeder
- Automatic magazine bar feeder
- Removable static guide bush(sliding head for swiss turning)
- Automatic power off relay
- 1 year warranty extension
- Uninterruptible power supply
- Additional ID tool holder
- Additional OD tool holder
- Additional ID tool holders for turret
- Additional OD tool holders for turret
- Automatic opening door for robot applications
- Removable pneumatic tailstock



Optional equipments

- Hydraulic 3 jaw Chuck
- Hydraulic 4 jaw Chuck
- High pressure coolant pump for inner tool cooling
- Single bar feeder
- Automatic magazine bar feeder
- Removable static guide bush(sliding head for swiss turning)
- Automatic power off relay
- 1 year warranty extension
- Uninterruptible power supply
- Additional OD tool holder
- Additional ID tool holder
- Automatic opening door for robot applications

Standard equipments

- Inside illumination
- Coolant pump
- Warning lamp
- Balancing plate, screws, nuts and wedges
- Automatic central lubrication
- Collet chuck and key
- Single driven tool block
- C axis control
- Spindle brake
- Foot pedal for chuck contro
- 3 pcs of OD tool holders
- 4 pcs of ID tool holders
- Electronic handwheel
- Part catcher
- Chip conveyor
- Voltage transformator
- Bar feeder interface
- Air and coolant gun
- 2 years full warranty
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Optional functions

- manual handle retrace
- dynamic graphic display
- turn mate-i
- servo learning oscillation
- tool retract and recover
- circular thread cutting
- eccentric turning



Standard equipments

- Inside illumination
- Coolant pump
- Warning lamp
- Balancing plate, screws, nuts and wedges
- Automatic central lubrication
- Collet chuck and key
- 12 stations servo controlled powered turret (VDI20)
- 1 pc of axial driven tool
- 1 pc of radial driven tool
- Foot pedal for chuck control
- 2 pcs of OD tool holders
- 2 pcs of ID tool holders
- Electronic handwheel
- Part catcher
- Voltage transformer
- Chip conveyor
- Bar feeder interface
- C axis control
- Spindle brake
- Air and coolant gun
- 2 years full warranty
- Heat exchanger for electrical cabinet
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Standard functions

- inch/metric conversion
- mirror image
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- polar coordinate interpolation
- cylindrical interpolation
- polygon turning
- tool life management
- background editing
- extended program memory to 2GB
- manual handle retrace
- manual guide-i

Optional functions

- servo learning oscillation
- tool retract and recover
- circular thread cutting
- eccentric turning
- helical interpolation
- Tool break detection

Optional equipments

- Hydraulic 3 jaw Chuck
- Hydraulic 4 jaw Chuck
- High pressure coolant pump for inner tool cooling
- Single bar feeder
- Automatic magazine bar feeder
- Removable static guide bush(sliding head for swiss turning)
- Automatic power off relay
- 1 year warranty extension
- Uninterruptible power supply
- Additional ID tool holder
- Additional OD tool holder
- Additional axial driven tool
- Additional radial driven tool
- Automatic opening door for robot applications
- Removable pneumatic tailstock



Optional equipments

- Hydraulic 3 jaw Chuck
- Hydraulic 4 jaw Chuck
- High pressure coolant pump for inner tool cooling
- Single bar feeder
- Automatic magazine bar feeder
- Removable static guide bush(sliding head for swiss turning)
- Automatic power off relay
- 1 year warranty extension
- Uninterruptible power supply
- Additional ID tool holder
- Additional OD tool holder
- Automatic opening door for robot applications

Standard equipments

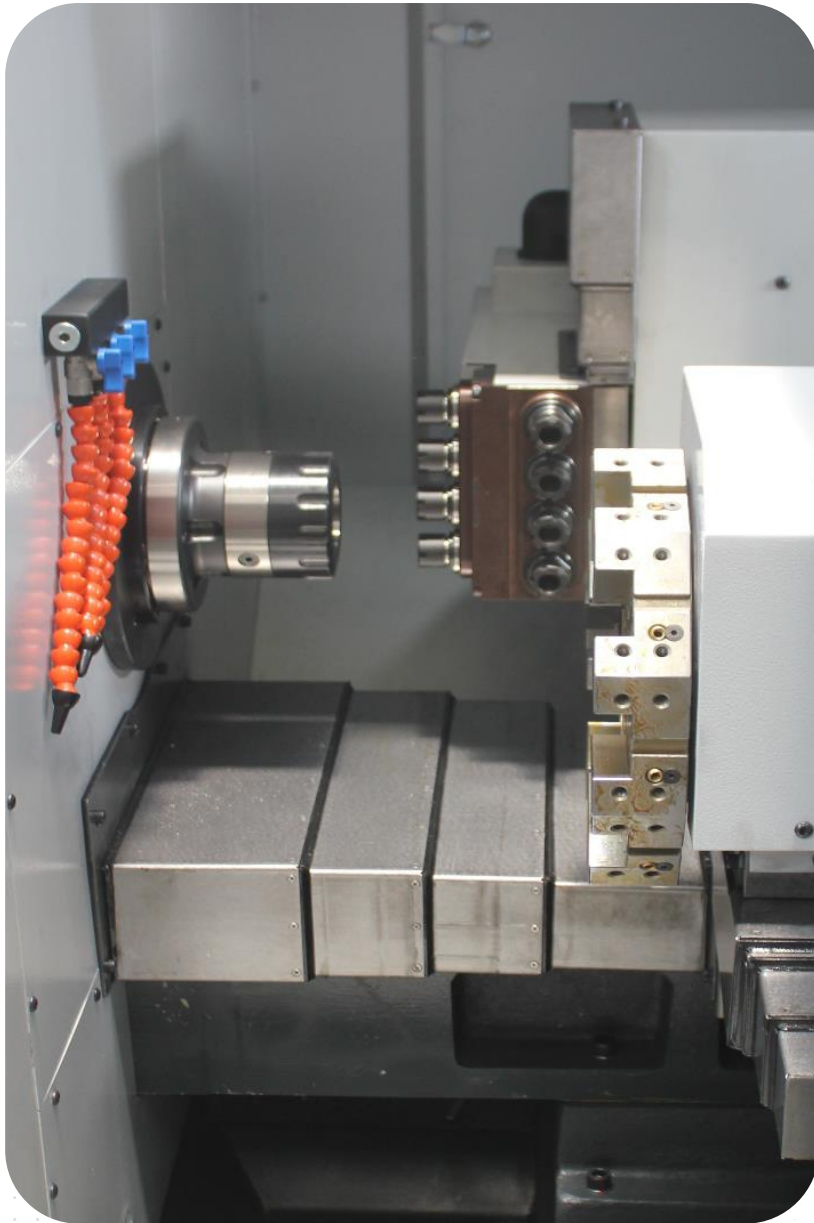
- Inside illumination
- Coolant pump
- Warning lamp
- Balancing plate, screws, nuts and wedges
- Automatic central lubrication
- Collet chuck and key
- 4 axial and 4 radial driven tools on Y axis
- Keys for tightening driven tools
- Foot pedal for chuck control
- 3 pcs of OD tool holders
- 4 pcs of ID tool holders
- Electronic handwheel
- Part catcher
- Voltage transformer
- Chip conveyor
- Bar feeder interface
- C axis control
- Spindle brake
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Optional functions

- servo learning oscillation
- tool retract and recover
- circular thread cutting
- eccentric turning
- helical interpolation
- manual guide-i
- turn mate-i
- Tool break detection



Optional equipments

- Hydraulic 3 jaw Chuck
- Hydraulic 4 jaw Chuck
- Single bar feeder
- Automatic magazine bar feeder
- Automatic power off relay
- 1 year warranty extension
- Uninterruptible power supply
- Additional ID tool holders for turret
- Additional OD tool holders for turret
- Automatic opening door for robot applications

Standard equipments

- Inside illumination
- Coolant pump
- Warning lamp
- Balancing plate, screws, nuts and wedges
- Automatic central lubrication
- 10 stations servo controlled turret
- 10 pcs of OD tool holders for turret
- 5 pcs of ID tool holders for turret
- Collet chuck and key
- 4 axial and 4 radial driven tools on Y axis
- Keys for tightening driven tools
- Foot pedal for chuck control
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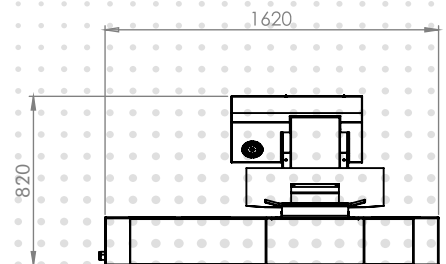
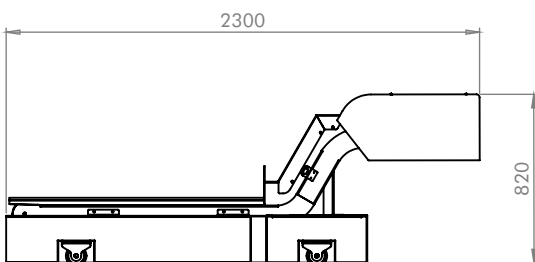
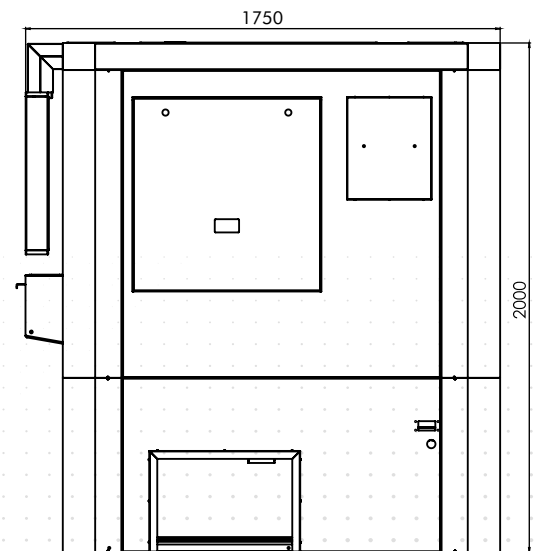
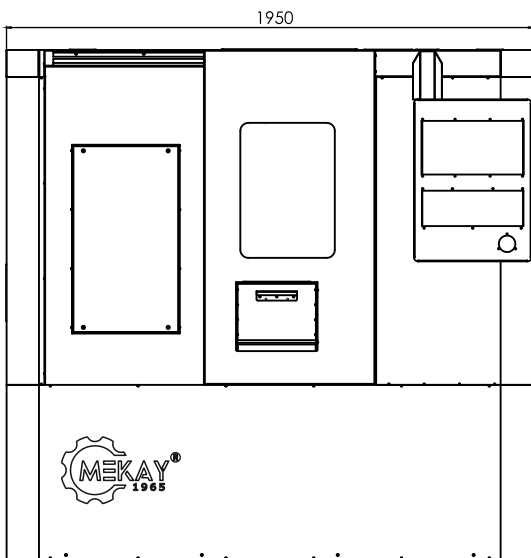
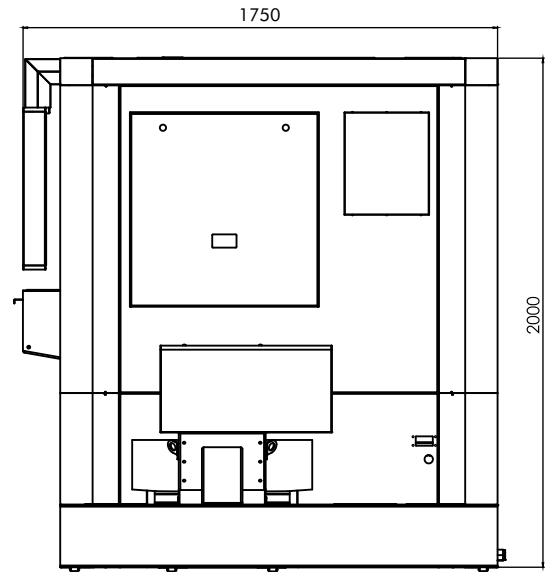
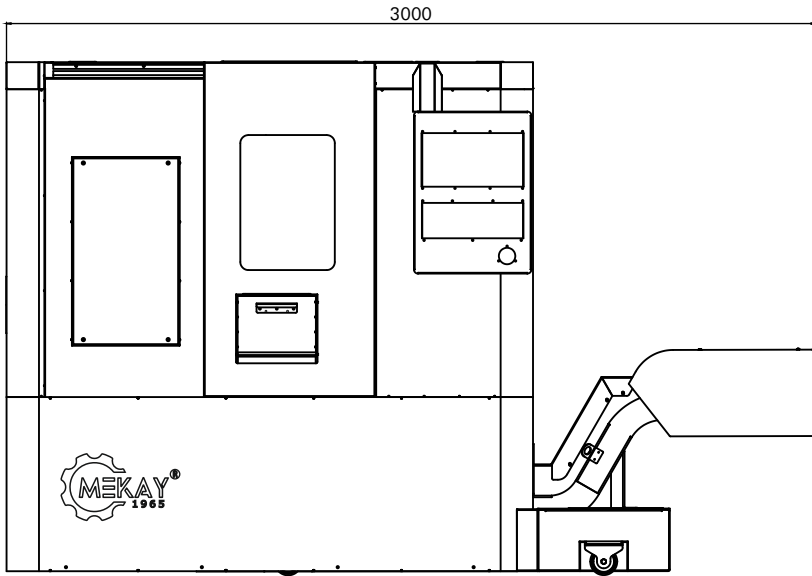
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- eccentric turning
- helical interpolation
- manual guide-i
- turn mate-i
- Tool break detection

Machine layout



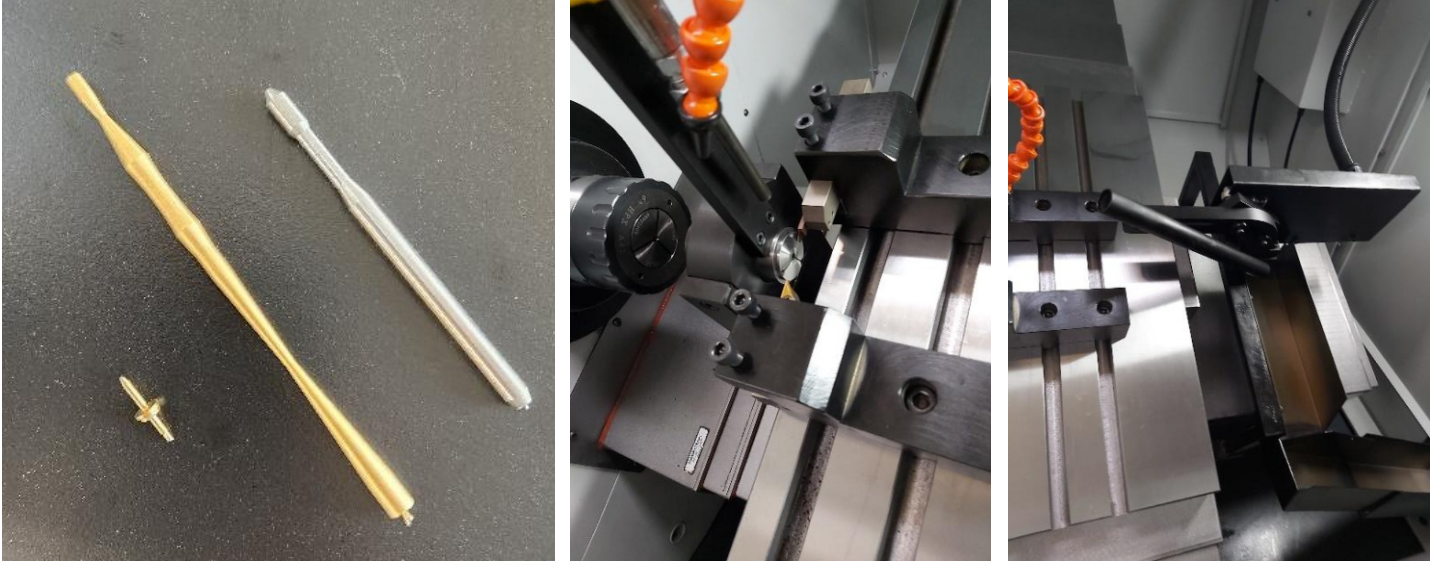
Technical Data



	Unit	5B	6B	5TB	6TB	5BC	6BC	5TC	6TC	5YC	6YC	5YTC	6YTC			
Work area	Max. Turning length	mm	150													
	Max. Turning Diameter	mm	360													
	X Axis Movement	mm	450													
	Z Axis Movement	mm	200													
	Y Axis Movement	mm	-									135				
	Slant bed	degree	22,5													
Max. Payload	kg	40	50	40	50	40	50	40	50	40	50	40	50			
Spindle	Max. Chuck holding diameter	mm	110	140	110	140	110	140	110	140	110	140	110	140		
	Chuck size	inches	5	6	5	6	5	6	5	6	5	6	5	6		
	Spindle nose	mm	Flat 110	Flat 140	Flat 110	Flat 140	Flat 110	Flat 140	Flat 110	Flat 140	Flat 110	Flat 140	Flat 110	Flat 140		
	Collet type	DIN	163E	173E	163E	173E	163E	173E	163E	173E	163E	173E	163E	173E		
	Spindle inner diameter	mm	33	43	33	43	33	43	33	43	33	43	33	43		
	Bearing diameter	mm	60	70	60	70	60	70	60	70	60	70	60	70		
	Max. Bar diameter	mm	32	42	32	42	32	42	32	42	32	42	32	42		
	Motor power (continuous/30 min.)	kW	3,7/5,5	5,5/7,5	3,7/5,5	5,5/7,5	3,7/5,5	5,5/7,5	3,7/5,5	5,5/7,5	3,7/5,5	5,5/7,5	3,7/5,5	5,5/7,5		
	Max. RPM	rpm	6000	5000	6000	5000	6000	5000	6000	5000	6000	5000	6000	5000		
	Rated Torque	Nm	35	48	35	48	35	48	35	48	35	48	35	48		
	Motor coupling		Timing belt													
	C axis positioning	degree	-						0,001							
	Brake torque	Nm	-						23							
	Machine Axes	X/Z Axis Motor Power	kW	0,75												
Y Axis Motor Power		kW	-									0,5				
X/Z Axis ball screw (dia./pitch)		mm	25/10													
Y Axis ball screw (dia./pitch)		mm	-									16/5				
X/Z Axis rapid travel speed		m/min	36													
Y Axis rapid travel speed		m/min	-									18				
Guide system			Linear													
Live Tools	Axial live tool number	n	0			0-1			0-12			4				
	Radial live tool number	n	0			0-1			0-12			4				
	Motor power (continuous/30 min.)	kW	-			1,2			1,5/2,2			1,2				
	Tool size		-			ER25			DIN5480/ER16-20			ER20				
	Max. RPM	rpm	-			3000			4000			3000				
Turret	Station number	Nm	-		10		-		12		-		10			
	Positioning system		-		servo		-		servo		-		servo			
	Tool to tool rotation time (including locking)	sec	-		0,53		-		0,53		-		0,53			
	Total rotation time (180°)	sec	-		0,93		-		0,93		-		0,93			
	Clamping force	kg	-		500		-		500		-		500			
	Repetition accuracy	degree	-		±1°		-		±1°		-		±1°			
	Positioning accuracy	degree	-		±1°		-		±1°		-		±1°			
	Tool size	mm	-		□20/ø20		-		□16/ø20		-		□20/ø20			
Tool mounting standard		VDI20														
Tool Holders	OD tool holders	mm	□16	□20	□16	□20	□16	□20	□16	□20	□16	□20	□16	□20		
	ID tool holders	mm	ø20													
Coolant System	Cooling tank capacity	L	135													
	Flow rate	L/min	85													
	Pressure	bar	5													
	Motor power	kW	0,75													
Hydraulic System	Tank capacity	L	30													
	Pressure	bar	1-35													
General Data	Motor power	kW	1,1													
	Width	mm	1750													
	Length	mm	1950													
	Height	mm	2000													
	Spindle center height from floor	mm	1100													
	Weight	kg	2450	2500	2750	2800	2500	2550	2800	2850	2700	2750	2950	3000		
	Total Power	kW	6,5	8,5	6,9	8,9	7,7	9,7	10,3	12,3	10	12	10,4	12,4		
	Voltage	V	380													
	Frequency	Hz	50													
	Controller	Model name		Fanuc Oi-TF Plus												
Screen size		inches	10,4													
Interpolated axes		n	2					3					4			
Tool number		n	128													
Program memory		mb	2													
Communication system		F/O														

Removable static guide bush

It is an optional equipment available on all models except YTC. It is very easy to mount and take off. This equipment convert the gang type lathe to a swiss type lathe for a very small cost, it is possible to turn a small diameter workpiece in long lenght without any vibration. Max. turning diameter is 20 mm, max. turning lenght is 150 mm



Removable pneumatic tailstock

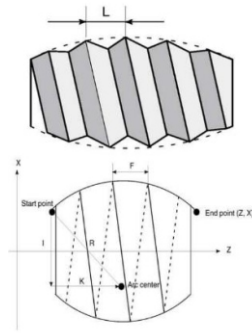
It is used to eliminate vibrations on small diameter long lenght workpieces during cutting and provides smooth surface and precision. It can be mounted and taken off very easily. It is an optional equipment available only in TB and TC models. Tailstock stroke 50-120 mm



Descriptions about optional functions

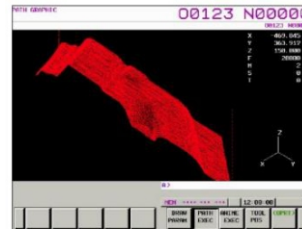
Circular thread cutting

This function allows threading of circular surfaces such as cylinder. Easy to program with simple G code (G35 and G36)



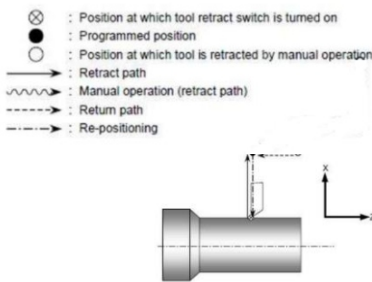
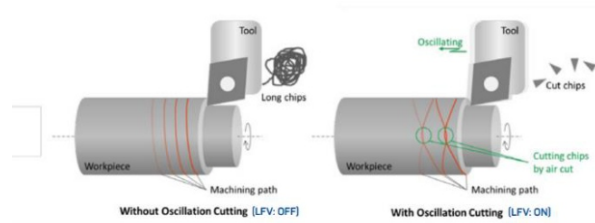
Dynamic graphic display

Created programs can be checked visually by displaying them using graphic data in tool path mode or 3D simulation mode.



Servo learning oscillation

When machining some materials, the chips can be long and entangled. When using this function, the chips are small due to sinusoidal oscillating movement of the machine axis.

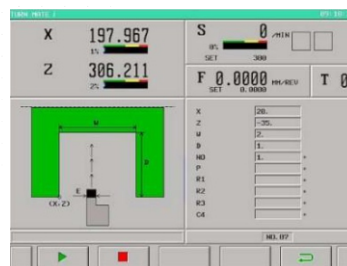


Tool retract and recover

With this function, the tool can be retracted from the workpiece when it is damaged, when it has to be replaced or when status of the machining has to be checked. The retraction position has to be specified with a program in advance. Afterwards the tool is returned to the workpiece and machining is restarted.

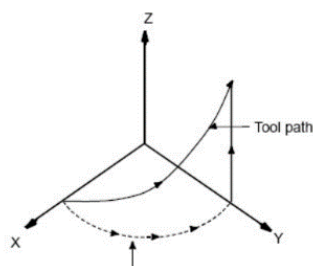
Turn mate-i

It is a conversational software function which can assist the operation of entry-level turning machines. The productivity and flexibility of turning machines can be greatly increased through the operator assistance functions provided by Turn Mate-i, which can substitute the know-how in CNC machining.



Helical interpolation

It permits the programmer to command a move in which up to two axes are moved in a linear fashion at the same time as the basic two axes that are performing circular interpolation. This results in a helical cut.



Descriptions about control system



FANUC

No. 1 in the world

FANUC is the leading global manufacturer of factory automation, with more than 60 years experience in the development of computer numerical control equipment.

1

Highest quality – shortest processing time

With more than 60 years' experience FANUC offers the widest range of CNC systems in the industry from best value controls with powerful functionality, to high-performance control systems for complex machines – all with fast programming and ease of use, guaranteeing the highest quality and short processing times.

That's how we increase your productivity.

Your advantages:

- 100% FANUC quality
- more than 60 years of experience
- wide range of displays and panels
- stand-alone CNCs
- LCD mounted CNCs
- highest flexibility for your solutions

**100%
FANUC**



Thanks to this partnership, Mekay customers across Europe, can get instant access to service and spare parts of control systems of all Mekay machines.

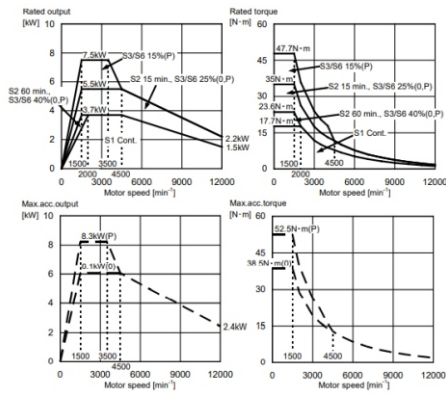
Motor Power -Speed-Torque diagrams



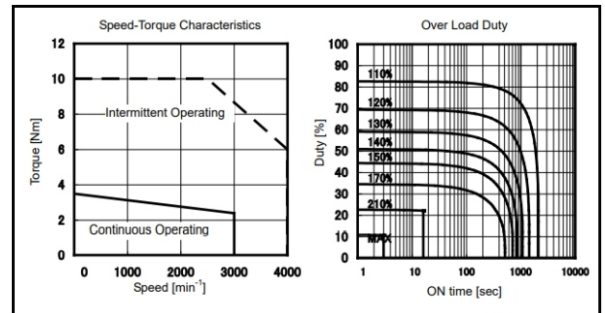
Power-Speed-Torque diagrams of spindle motors used in Mekamat series machines



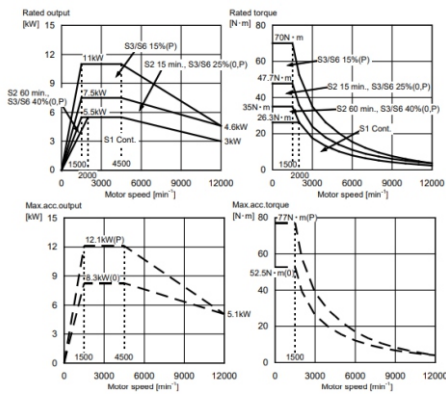
Power-Speed-Torque diagrams of servo motors used in Mekamat series machines



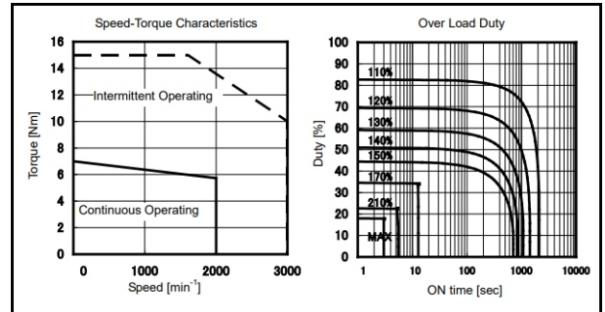
Spindle motor of 5" machines



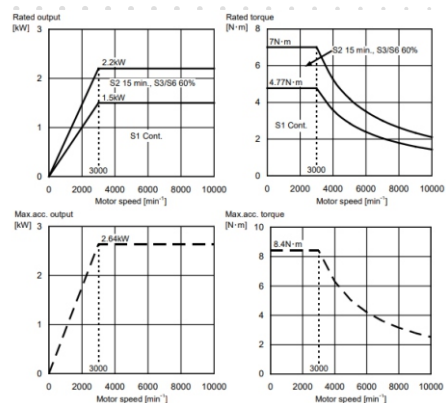
X and Z axis motor of all machines



Spindle motor of 6" machines



Live tooling motor of BC, YC and YTC model machines



Live tooling motor of TC model machines



Production facility;

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