



### CNC Machine Tools

Vertical Milling

5-axes Machining Centers

Double Spindle CNC Lathes **RAIS** is a leading Bulgarian company for manufacturing and recycling of CNC machine tools. Created in 1994 in Pazardzhik, the company began its operations with recycling Bulgarian CNC machines. Gradually, its activities are directed towards the production of new machines, the company is the only local manufacturer of vertical machining centers.

The machines are designed and implemented in full production by the company experts.

The company carries also complete overhaul, repair and modernization of CNC machines, including horizontal and vertical centers.

Production list of RAIS includes:

- 10 models vertical machining centers with sizes from 300 to 800 mm (table sizes from 400 to 300 mm to 1600 by 800 mm, spindle speed from 8000 to 15000);
- 5 models CNC lathes with a maximum turning diameter from 200 to 700 mm;
- 2 models 5-axis VMC, 350 and 550 mm size;
- 4 models twin-spindle lathes;
- milling-turning VMC and double column milling machines;
- spare parts for forklifts.









The stability of machines manufactured by RAIS outperforms all others in this frame size. Precision linear guides and ball screws from "Bosch Rexroth" are built-in.

RAIS provides integrated solutions through the selection, procurement, production estimates for the time, tooling, commissioning, training and after-sales service of all types of CNC machine tools.

Precision in assembly, test and control means provides quality on each machine, meeting the requirements of EN ISO standards for machining centers.

The implemented Quality Management System creates all the prerequisites to meet customer requirements.

The company motto expresses our creed that the excellent quality of products and services is the best guarantee for the loyalty of our clients.

Buying from us, you do not receive just a machine, you receive our commitment and guarantee of quality - before and after the sale.

Nishan Bazdigyan - CEO of RAIS Ltd.







#### 24 MONTHS WARRANTY\*

Our machines speaks for themselves. We rely on the well-known quality of our machines.

You can always count on us. And benefit from our partnership!

(\*Based on one-shift operating schedule)

#### **SERVICE**

We are always there for you!



- LOCAL
- CENTRAL
- FACTORY SERVICE

#### **SPARE PARTS SUPPLY**



#### **YOUR BENEFITS:**

- Local sales and attendance in their respective countries and also access to other services;
- The same level of service and
- support in their respective countries;
- Service network of over 20
   service technicians;
- Central spare parts supply

   (95% of the parts in stock);
- Hotline avialable locally and
- centrally;
- Exellent for companies with
- multiple locations for easy handling of sales and services.







Manufacturers from 15 countries in Europe, Asia and Africa trusted RAIS. Among our major clients are:

- Hiunday Heavy Industries in the field of heavy engineering
- OMCO Group in the glass industry and space industry
- M+S Hydraulic in the field of hydraulics
- Liebherr in the field of construction machinery and the production of white goods
- Hertz in climatization, Lenze in drives technology
   and many other companies in the fields of mechanical engineering, chemical industry, production of medical
   equipment and heating technology, thanks to which we constantly develop and for the last 20 years affirm
   RAIS's name in the CNC machine tools production.

RAIS has offices in Germany, Austria, Switzerland, Russia, Serbia, Macedonia, Turkey, Greece and Romania.

#### **CNC MILLING MACHINES AND CENTERS**

#### **CONFIGURATION OPTIONS FOR MILLING CENTERS** (Page 6)



#### **CNC LATHES**

#### **CONFIGURATION OPTIONS FOR TURNING CENTERS (Page 20)**



## **SELECTABLE TOOL MAGAZINE**

Machine Magazine	M400/M450	M500/M550	M650/M700	M800/1000/2000	GM350	VMC35
24 Arm - BT40	Х	Х	Х	х		Х
24 Arm - BT50			Х	х		
32 Arm - BT40	Х	Х	Х	Х		Х
32 Arm - BT50			Х	Х		
40 Chain - BT40		Х	Х	х		Х
40 Chain - BT50			Х	X		
60 Chain - BT40		Х	Х	X		Х
60 Chain - BT50			Х	х		
30 Pick up - BT40					Х	

#### SPINDLE MOTORS





COOLANT THROUGH SPINDLE



#### **CNC ROTARY TABLES**

4-th axis



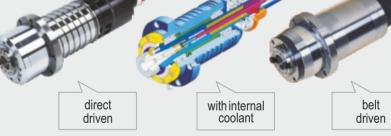
Table diameter: 125; 170; 200; 250; 320 mm

4-th & 5-th axes





SELECTABLE SPINDLE





#### **AUTOMATIC PALLETTE CHANGER**

# **SIEMENS**

SELECTABLE CNC CONTROL



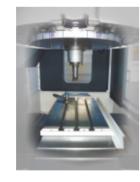


Optimum construction; minimum heat deformation; absence of vibrations in working process; high geometry accuracy.

Linear guideways along the three axes - size 25, zero clearance. Stable cutting under full load conditions. Minimum friction when in motion. High precision and high speed with no need for adjustment during operational life.

Directly driven spindle assembly and high precision bearings: minimum run out of the spindle taper; improved smoothness of operation under high-speed machining conditions; increased tool durability.

Telescopic guards along the three axes: long life of the ball screws and the linear guide ways.





All ball screws - high precision, class P3, Ø32 mm OD, with a double nut, pre-loaded to control backlash. High precision of positioning and

Automated air blow during tool change ensures cleaning of the spindle taper and holder.

Directly coupled to the ball screws AC servo motors along all axes: guaranteed excellent interpolation accuracy.

Fully enclosed splash guard. Swivel panel of the CNC control. Maximum convenience for adjusting and operation purposes.

High-quality housing castings of gray cast iron. Optimum ribbed base, column and spindle casing; guaranteed maximum rigidity and minimum bending under applied load conditions.



TECHNICAL PARAMETERS	UNIT	M400	M450
CAPACITY			
X axis travel	mm	500	600
Y axis travel	mm	400	450
Z axis travel	mm	460	500
Spindle nose to table	mm	150 - 650	150 - 650
Table size	mm	760 x 400	760 x 450
T - slots: number / size / pitch	mm	3 / 18 / 93	3 / 18 / 93
Max workpiece weight	kg	350	350
Guideways		Linear	Linear
Floor to table	mm	930	930
SPINDLE			
Spindle speed range	rpm	8000 / 12 000* / 15 000**	8000 / 12 000* / 15 000*
Main motor power (100% ED / 30 min.)	kW	7.5 / 11	7.5 / 11
Main motor torque (100% ED / 30 min.)	Nm	35.8 / 70	35.8 / 70
Spindle taper		SK40 / ISO40 / BT40	SK40 / ISO40 / BT40
ATC			
Tool capacity		24 / 32***	24 / 32***
Max tool diameter	mm	90	90
Max tool diameter (adjacent pockets empty)	mm	110	110
Max tool length	mm	250	250
Max tool weight	kg	6	6
FEED			
Rapid traverse X / Y / Z	m/min	30 / 30 / 30	30 / 30 / 30
Max cutting feedrate	m/min	10	10
Z axis motor power (100% ED)	kW	2.5	2.5
Z axis motor torque (100% ED)	Nm	20	20
X / Y axes motor power (100% ED)	kW	1.4	1.4
X / Y axes motor torque (100% ED)	Nm	11	11
SIZE			
Machine weight	kg	3100	3200
Machine dimensions (approx.): L x B x H	mm	2000 x 2000 x 2300	2000 x 2000 x 2300

	(Fanuc 32i / Siemens 828D / Siemens 840D / Heidenhain iTNC620)****
CNC CONTROL	Fanuc 0i

ACCURACY OF THE MACHINE DIN8605-8607 DIN8605-8607

(\*) with direct drive (\*\*) with motor spindl

with motor spindle

(\*\*\*) option

(\*\*\*\*) on customer request

- 4-th axis, table diameter 125 / 170 mm
- Tool magazine 32 tools with arm
- Chip conveyor
- Tool setter

- 4-th & 5-th axes, table diameter 125 mm
- Direct drive spindle 15 000 rpm
- Coolant trough spindle with pump 20 Bar
- Touch probe with infra-red connection



Cartridge type spindle, without need of maintenance. High precision bearings (P4 class). The increased axial tighting force eliminates vibrations at heavy cutting conditions.

Linear guide ways along the three axes - size 35, zero clearance. Stable cutting under full load conditions. Minimum friction when in motion. High precision and high speed with no need for adjustment during operational life.

All ball screws - high precision, class P3, Ø40 mm OD, with a double nut, pre-loaded to control backlash. High precision of positioning and smooth

Directly coupled to the ball screws AC servo motors along all axes: guaranteed excellent interpolation

Telescopic guards along the three axes: long life of the ball screws and the linear guideways; fast and efficient flushing of chips by means of coolant liquid.

24 ATC fast tool change magazine - 2.8 sec. Automated air blow during tool change ensures cleaning of the spindle cone and holder..

High-quality housing castings of grey cast iron. Optimum ribbed base, column, spindle casing and table. Ensured for maximum rigidity and minimum bending under applied load conditions..

Fully enclosed electrical cabinet with heat exchanger, accordance to CE requirements.

Ability to implement with Automatic Pallette Changer.

Optimum construction: minimum heat deformation; absence of vibrations in working process; high geometry accuracy and smoothness; of finished surfaces.





TECHNICAL PARAMETERS	UNIT	M500	M550
CAPACITY			
X axis travel	mm	850	1200
Y axis travel	mm	500	600
Z axis travel	mm	510	610
Spindle nose to table	mm	125 - 635	150 - 760
Table size	mm	1000 x 500	1300 x 600
T - slots: number / size / pitch	mm	5 / 18 / 93	5 / 18 / 93
Max workpiece weight	kg	800	1000
Guideways		Linear	Linear
Floor to table	mm	870	870
SPINDLE			
Spindle speed range	rpm	8 000 / 12 000* / 15 000**	8000 / 10 000* / 15 000**
Main motor power (100% ED / 30 min.)	kW	11 / 15	11 / 15
Main motor torque (100% ED / 30 min.)	Nm	52.5 / 95.5	52.5 / 95.5
Spindle taper		SK40 / ISO40 / BT40	SK40 / ISO40 / BT40
ATC			
Tool capacity		24 (32 / 40 / 60 )***	24 (32 / 40 / 60 )***
Max tool diameter	mm	90	90
Max tool diameter (adjacent pockets empty)	mm	110	110
Max tool length	mm	300	300
Max tool weight	kg	6	6
FEED			
Rapid traverse X / Y / Z	m/min	30 / 30 / 30	30 / 30 / 30
Max cutting feedrate	m/min	10	10
Z axis motor power (100% ED)	kW	2.5	2.5
Z axis motor torque (100% ED)	Nm	20	20
X / Y axes motor power (100% ED)	kW	1.4	1.4
X / Y axes motor torque (100% ED)	Nm	11	11
SIZE			
Machine weight	kg	5000	6500
Machine dimensions (approx.): L x B x H	mm	2900 x 2420 x 2850	3450 x 2805 x 2950
CNC CONTROL		Fan (Fanuc 32i / Siemens 828D / Sieme	uc 0i ns 840D / Heidenhain iTNC62

CNC CONTROL	CNC CONTROL	Fanuc 0i
	CNC CONTROL	(Fanuc 32i / Siemens 828D / Siemens 840D / Heidenhain iTNC620)***

ACCURACY OF THE MACHINE DIN8605-8607 DIN8605-8607

- (\*) with direct drive (\*\*) with motor spindle
- (\*\*\*) option
- (\*\*\*\*) on customer request

#### **OPTIONAL ACCESSORIES**

- 4-th axis, table diameter 250 / 320 mm
- 4-th & 5-th axes, table diameter 200 / 250 / 320 mm
- Direct drive spindle 15 000 rpm
- Tool magazine 32, 40 or 60 tools with arm

- Tool setter
- Touch probe with infra-red connection
- Coolant trough spindle with pump 20 Bar
- Chip conveyor



Reinforced spindle assembly with precise grinded parts. Increased size of bearings. High processing speeds under heavy operating

Telescopic guards along the three axes: long life of the ball screws and the linear guide ways; fast and efficient flushing of chips by means of coolant liquid.

24 ATC fast tool change magazine - 2.8 sec. Automated air blow during tool change.

Fully enclosed machine guarding design provides a save, dry, clean working environment. Swivel panel of the CNC control. Highest convenience for easy setup and manipulating.

Wide and hardened precise grinded flat slide ways on all axes. Stable work by heavy cutting conditions. Super high grade "Turcite-B" fitted to X, Y, Z slide ways gives 40 % greater stability.

All ball screws - high precision, class P3, Ø40 mm OD, with a double nut, pre-loaded to control backlash. High precision of positioning and smooth operation.

Directly coupled to the ball screws AC servo motors along all axes. Excellent interpolation accuracy.

Guaranteed precision and stability in the long transverse stroke of the four flat guideways surfaces on Y-axis.



TECHNICAL PARAMETERS	UNIT	M650	M700
CAPACITY			
X axis travel	mm	1100	1300
Y axis travel	mm	700	700
Z axis travel	mm	610	710
Spindle nose to table	mm	130 - 740	130 - 840
Table size	mm	1300 x 650	1500 x 650
T - slots: number / size / pitch	mm	5 / 18 / 100	5 / 18 / 100
Max workpiece weight	kg	1000	1000
Guideways		Flat	Flat
Floor to table	mm	820	820
SPINDLE			
Spindle speed range	rpm	8000 / 6000*	8000 / 6000*
Main motor power (100% ED / 30 min.)	kW	11 / 15	11 / 15
Main motor torque (100% ED / 30 min.)	Nm	52.5 / 95.5	52.5 / 95.5
Spindle taper		SK40 / ISO40 / BT40 (50)*	SK40 / ISO40 / BT40 (50)
ATC			
Tool capacity		24 (32 / 40 / 60 )**	24 (32 / 40 / 60 )**
Max tool diameter	mm	100 / 125*	100 / 125*
Max tool diameter (adjacent pockets empty)	mm	150 / 200*	150 / 200*
Max tool length	mm	300	300
Max tool weight	kg	7 / 15*	7 / 15*
FEED			
Rapid traverse X / Y / Z	m/min	20 / 20 / 15	20 / 20 / 15
Max cutting feedrate	m/min	10	10
Z axis motor power (100% ED)	kW	2.5	2.5
Z axis motor torque (100% ED)	Nm	20	20
X / Y axes motor power (100% ED)	kW	2.5	2.5
X / Y axes motor torque (100% ED)	Nm	20	20
SIZE			
Machine weight	kg	9000	9000
Machine dimensions (approx.): L x B x H	mm	3200 x 2800 x 3080	3200 x 2800 x 3080

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DIN8605-8607

(\*) option with BT/ISO 50 (\*\*) option

ACCURACY OF THE MACHINE

(\*\*\*) on customer request

#### **OPTIONAL ACCESSORIES**

- 4-th & 5-th axes, table diameter 320 mm
- Tool setter
- Touch probe with infra-red connection
- ZF gear box

- Coolant trough spindle with pump 20 Bar
- Tool magazine 32, 40 or 60 tools with arm

DIN8605-8607

- Direct drive spindle 10 000 rpm
- Chip conveyor



Optimum machine design: minimum temperature deformation; absence of vibrations in working process; high and stabile geometry accuracy.

Directly coupled to the ball screws AC servo motors along all axes.

All ball screws - high precision, class P3, Ø50 mm OD, with a double nut, pre-loaded to control backlash. Screw pre-tensioned to compensate for temperature variations.





Two-step gear box. All gear wheels are hardened and precisely ground to size. Low noise and excellent smoothness during the process. High

Reinforced spindle assembly. 4 - 6 slide way configuration on Y axis.

Fully enclosed electrical cabinet with heat exchanger, accordance to CE requirements.



Wide and hardened precise grinded prismatic slide ways on the three axes. Guaranteed stable work by heavy cutting conditions. Super high grade "Turcite-B" fitted to X, Y, Z slide ways.

24 ATC fast tool change magazine - 2.8 sec. Automated air blow during tool change.



TECHNICAL PARAMETERS	UNIT	M800	M1000	M2000
CAPACITY				
X axis travel	mm	1600	2000	2200
Y axis travel	mm	800	900	1000
Z axis travel	mm	800	800	800
Spindle nose to table	mm	200 - 1000	250 - 1050	250 - 1050
Table size	mm	1800 x 840	2200 x 850	2400 x 1000
T - slots: number / size / pitch	mm	5 / 22 / 100	5 / 22 / 100	5 / 22 / 100
Max workpiece weight	kg	2200	2500	3000
Guideways		Flat	Flat	Flat
Floor to table	mm	900	900	910
SPINDLE				
Spindle speed range	rpm	6000	6000	6000
Main motor power (100% ED / 30 min.)	kW	15 / 18.5	15 / 18.5	15 / 18.5
Main motor torque (100% ED / 30 min.)	Nm	71.6 / 117.8	71.6 / 117.8	71.6 / 117.8
Spindle taper		SK / ISO / BT50	SK / ISO / BT50	SK / ISO / BT50
ATC				
Tool capacity		24 (32 / 40 / 60 )*	24 (32 / 40 / 60 )*	24 (32 / 40 / 60 )*
Max tool diameter	mm	125	125	125
Max tool diameter (adjacent pockets empty)	mm	200	200	200
Max tool length	mm	300	300	300
Max tool weight	kg	15	15	15
FEED				
Rapid traverse X / Y / Z	m/min	20 / 20 / 15	20 / 20 / 15	20 / 20 / 15
Max cutting feedrate	m/min	10	10	10
Z axis motor power (100% ED)	kW	3	3	3
Z axis motor torque (100% ED)	Nm	27	27	27
X / Y axes motor power (100% ED)	kW	3	3	3
X / Y axes motor torque (100% ED)	Nm	27	27	27
SIZE				
Machine weight	kg	14 000	16 000	24 000
Machine dimensions (approx.): L x B x H	mm	4400 x 3300 x 3300	5500 x 3435 x 3310	6130 x 4200 x 3660
CNC CONTROL		(Fanuc 32i / Siemen	Fanuc 0i s 828D / Siemens 840D / Hei	denhain iTNC620)**
				,

(\*) option (\*\*) on customer request

ACCURACY OF THE MACHINE

#### **OPTIONAL ACCESSORIES**

DIN8605-8607

- 4-th & 5-th axes, table diameter 320, 350 mm
- Tool setter
- Touch probe with infra-red connection

■ Direct drive spindle 6000 rpm

DIN8605-8607

- Tool magazine 32, 40 or 60 tools with arm
- Coolant trough spindle with pump 20 or 70 Bar

DIN8605-8607

The 5-axes vertical machining center RAIS GM350 is designed to perform various machining operations with high cutting speed and feed conditions for:

- Aerospace industry
- Automotive industry
- Die & Mold
- Medical industry



Optimum machine design: minimum temperature deformation; absence of vibrations in working process; high and stabile geometry accuracy of finished surfaces.



The 5-axis machine can also deal with complex parts from aluminum to stainless steel.

32 ATC fast tool change magazine. Automated air blow during tool change.

Directly coupled to the ball screws AC servo motors along all axes.

All ball screws - high precision, class P3, Ø40 mm OD, with a double nut, pre-loaded to control backlash. Screw pre-tensioned to compensate for temperature variations.

All roller linear guides across all axes for rigidity structure.

Convenient workpiece loading and unloading thanks to large door opening.





TECHNICAL PARAMETERS	UNIT	GM350
CAPACITY		
X axis travel	mm	650
Y axis travel	mm	1020
Z axis travel	mm	550
Spindle nose to table	mm	100 - 650
Max tilting on A axis	deg	+/- 120
Max rotating on C axis	deg	+/- 360
Table size	mm	Ø350 / 800 x 480*
T - slots: number / size	mm	5 / 18H7
Max workpiece weight: horizontal / 90°	kg	300 / 200
Guideways		Linear
Floor to table	mm	840
SPINDLE		
Spindle speed range	rpm	15 000
Main motor power (100% ED / 30 min.)**	kW	15 / 18,5
Main motor torque (100% ED)	Nm	95
Spindle taper		SK40 / ISO40 / BT40
ATC		
Tool capacity		32
Max tool diameter	mm	70
Max tool diameter (adjacent pockets empty)	mm	100
Max tool length	mm	250
Max tool weight	kg	6
FEED		
Rapid traverse X / Y / Z	m/min	30 / 30 / 30
Max cutting feedrate	m/min	10
Z axis motor power (100% ED)	kW	1.4
Z axis motor torque (100% ED)	Nm	11
X / Y axes motor power (100% ED)	kW	1.8
X / Y axes motor torque (100% ED)	Nm	11
SIZE		
Machine weight	kg	12 000
Machine dimensions (approx.): L x B x H	mm	2900 x 3650 x 3300
	/5	Fanuc 0i nuc 32i / Siemens 828D / Siemens 840D / Heidenhain iTNC620
CNC CONTROL	(Far	ide del / Cierrens dedb / Cierrens dadb / Ficiaerinain Frivode

(\*\*) option with Fanuc equipment

(\*\*\*) on customer request

- 4-th & 5-th axes, table diameter 500 mm
- Tool setter
- Touch probe with infra-red connection

- Flat working table 800 x 480 mm
- Coolant trough spindle with pump 20 or 70 Bar



The machine design is distinguished by minimal temperature deformation; absence of vibrations in working process; high and stabile geometry accuracy of finished surfaces.



The 5-axes vertical machining centers RAIS VMC350 / VMC500 are designed to perform various machining operations with high cutting speed and feed conditions for Aerospace industry, Automotive industry, Die & Mold, Medical industry.

All VMC machines are designed to operate with direct drive spindle - to avoid noise and vibration.

24 ATC fast tool change magazine. Automated air blow during tool change.

Directly coupled to the ball screws AC servo motors along all

All ball screws - high precision, class P3, Ø40 mm OD, with a double nut, pre-loaded to control backlash. Screw pre-tensioned to compensate for temperature variations.

The 5-axes machine can also deal with complex parts from aluminum to stainless steel.



TECHNICAL PARAMETERS	UNIT	VMC350	VMC500
CAPACITY			
X axis travel	mm	600	600
Y axis travel	mm	560	560
Z axis travel	mm	510	510
Spindle nose to table	mm	150 - 510	150 - 510
Max tilting on A axis	deg	+ 125 / -10	+ 125 / -10
Max rotating on C axis	deg	+/- 360	+/- 360
Table size	mm	Ø350	580 x 520
T - slots: number / size	mm	8 / 14H7	8 / 14H7
Max workpiece weight: horizontal / 90°	kg	300 / 200	300 / 200
Guideways		Linear	Linear
Floor to table	mm	720	720
SPINDLE			
Spindle speed range	rpm	8000 / 12 000* / 15 000*	8000 / 12 000* / 15 000
Main motor power (100% ED / 30 min.)**	kW	9 / 25	9 / 25
Main motor torque (100% ED)	Nm	57 / 135	57 / 135
Spindle taper		SK40 / ISO40 / BT40	SK40 / ISO40 / BT40
ATC			
Tool capacity		24 (32 / 40 / 60)*	24 (32 / 40 / 60)*
Max tool diameter	mm	80	80
Max tool diameter (adjacent pockets empty)	mm	110	110
Max tool length	mm	350	350
Max tool weight	kg	6	6
FEED			
Rapid traverse X / Y / Z	m/min	30 / 30 / 30	30 / 30 / 30
Max cutting feedrate	m/min	20	20
Z axis motor power (100% ED)	kW	1.4	1.4
Z axis motor torque (100% ED)	Nm	11	11
X / Y axes motor power (100% ED)	kW	1.8	1.8
X / Y axes motor torque (100% ED)	Nm	11	11
SIZE			
Machine weight	kg	7500	7500
Machine dimensions (approx.): L x B x H	mm	3800 x 3050 x 3100	3800 x 3050 x 3100
CNC CONTROL		Fanuc 0i (Fanuc 32i / Siemens 828D / Siemens 8	i 840D / Heidenhain iTNC620)

(\*\*) option with Fanuc equipment

(\*\*\*) on customer request

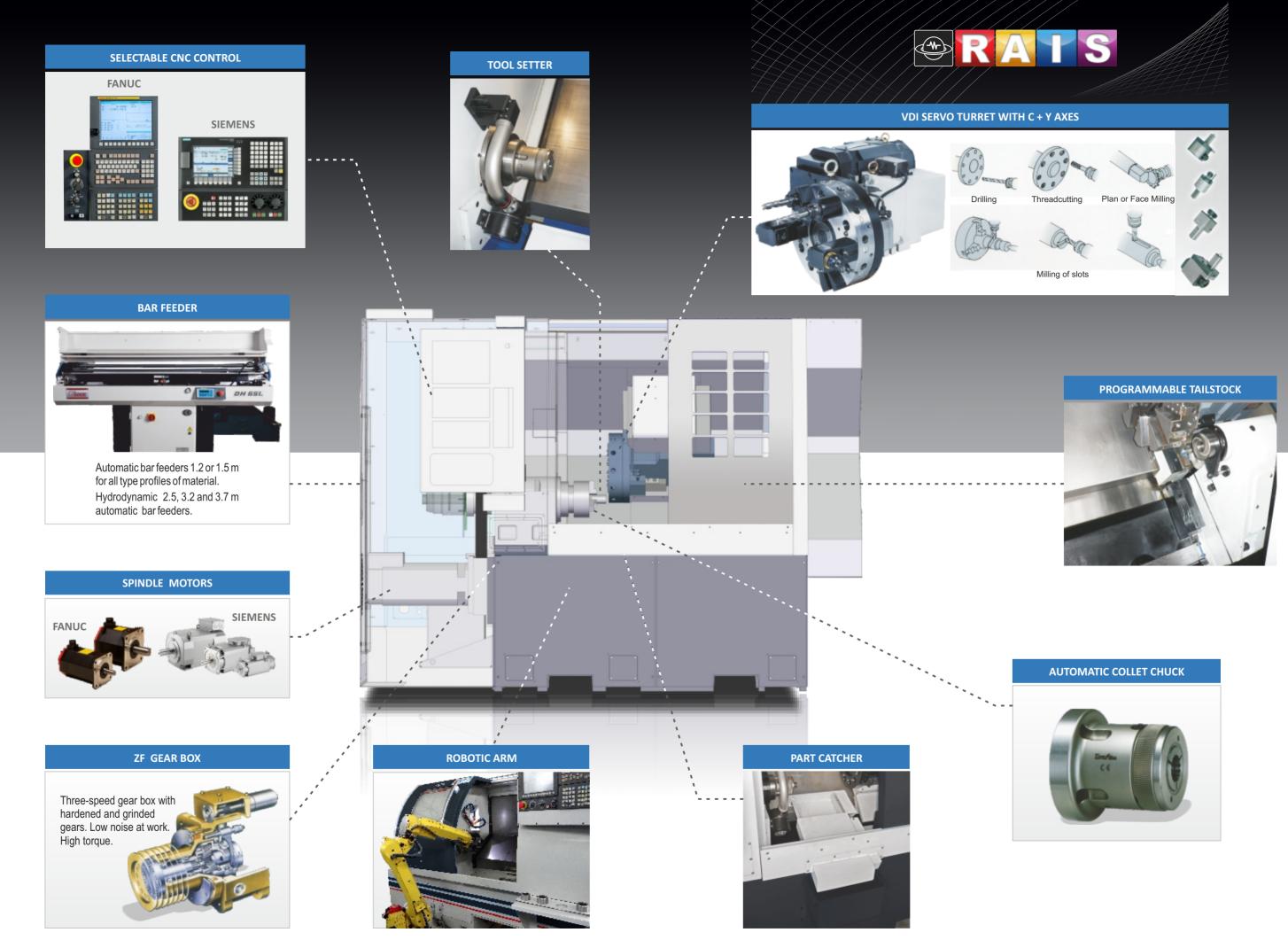
#### **OPTIONAL ACCESSORIES**

- Direct drive spindle 12 000 rpm and 15 000 rpm

■ Touch probe with infra-red connection

Tool setter

■ Coolant trough spindle with pump 20 or 70 Bar



**RAIS SYSTEM** 

The precise T200 RAIS CNC lathe is designed to perform a wide range of turning operations on medium-sized parts and components on a serial production basis.



#### STANDARD ACCESSORIES

- 3-jaw through-hole power chuck
- Tailstock
- 8 station turret VDI 30
- Chip conveyor and cart
- Coolant system
- Working lamp
- Automatic lubrication system for axis ways and ball screws
- Foot switch for chuck operation



High production capacity, stability and speed of all turning operations on various types of material.

Precise spindle assembly mounted in a temperature-stabilized and ribbed casing by means of class P4 spindle bearings featuring minimum radial runout and minimum axial clearance. Guaranteed high cutting speed with no vibration.

Linear (integrated) guideways: precise SP/P-class along X and Z axes. Precise ball screws (class P3) with a pre-loaded double nut and minimum backlash.

High precision of part positioning and long life. Minimized temperature and vibration deviations.

#### **OPTIONAL ACCESSORIES**

- 12 tools turret (VDI 30) and C-axis of the spindle
- Part catcher
- Bar feeder 1.2 m
- Bar feeder interface
- Non through-hole power chuck
- Auto tools presetter
- Collet chuck
- Heat exchanger for electrical cabinet



TECHNICAL PARAMETERS	UNIT	T200
CAPACITY		
Max swing over bed	mm	420
Swing over carriage cover	mm	330
Max turning diameter	mm	200 / 250***
X axis travel	mm	165 + 10
Z axis travel	mm	460 / 370*
X / Z axis rapid traverse	m/mm	12 / 20
Ball screw (X / Z): diameter x pitch	mm	32x5/40x10
Guideways		Integrated, size 30(X); 35(Z)
Carriage inclination	deg	45
Spindle center height (from floor)	mm	1020
SPINDLE		
Spindle nose		A2-5 / A2-6*
Spindle bore	mm	52 / 62*
Power chuck diameter	mm	170 / 205*
Spindle motor 100% ED / 30 min.**	kW	11 / 15
Main motor torque 100% ED / 30 min.**	Nm	52.5 / 95
Max spindle speed	rpm	6000 / 4200*
Bar capacity	mm	41 / 51*
Power chucking system		Hydraulic
TURRET		
Number of tool posts		8 / 12*
Number of rotating tools		12*
Tool holder		VDI 30 / BMT*
Torque of rotating tools 100% / 40% / max.**	Nm	12*
Y axis on turret 1		Option
TAILSTOCK		
Tailstock quill taper		MK4
Quill travel	mm	90
Quill diameter	mm	50
SIZE		
Machine weight	kg	3750
Machine dimensions (approx.): L x B x H	mm	3316 x 1622 x 1911
CNC CONTROL		Fanuc 0i (Fanuc 32i / Siemens 828D / Siemens 840D)****
ACCURACY OF THE MACHINE		DIN8605-8607

#### ACCURACY OF THE MACHINE

DIN8605-8607

(\*) option

(\*\*) technical data for Fanuc equipment

(\*\*\*) whith 12 station turret (\*\*\*\*) on customer request

The super precision T250 RAIS CNC lathe is designed to perform a wide range of turning operations on mediumsized parts and components on a serial production basis.



#### STANDARD ACCESSORIES

- 3-jaw through-hole power chuck
- Tailstock
- 10 station turret VDI 30
- Chip conveyor and cart
- Coolant system
- Working lamp
- Automatic lubrication system for axis ways and ball screws
- Foot switch for chuck operation



All structural parts are manufactured from high quality Meehanite cast iron and stress relieved for deformation.

The 45° slant bed construction assures high accuracy and high rigidity for heavy duty cutting.

High strength hardness guide and low resistance design provide prefer cutting surface.

The spindle is mounted with high precision class P4 NN type roller bearings and trust bearings, providing outstanding radial and trust loads.

Transmission with low thermal, preload ball screws, provided higher rigidity control.

Hydraulic tailstock. Programmable positioning is available.

#### **OPTIONAL ACCESSORIES**

- 12 tools turret (VDI 30) and C-axis of the spindle
- Part catcher
- Bar feeder 1.5 m
- Bar feeder interface
- Non through-hole power chuck
- Auto tools presetter
- Coolant system (high pressure: 20 Bar)
- Heat exchanger for electrical cabinet



Max swing over bed mm  Swing over carriage cover mm  Max turning diameter mm  X axis travel mm  Z axis travel mm  X / Z axis rapid traverse m/mm  Ball screw (X / Z): diameter x pitch mm  Guideways  Carriage inclination deg  Spindle center height (from floor) mm	510 310 310/250*** 155 + 30 600 12/20 32x10/40x10 Prismatic 45 1120
Swing over carriage cover mm  Max turning diameter mm  X axis travel mm  Z axis travel mm  X / Z axis rapid traverse m/mm  Ball screw (X / Z): diameter x pitch mm  Guideways  Carriage inclination deg	310 310 / 250*** 155 + 30 600 12 / 20 32x10 / 40x10 Prismatic 45
Swing over carriage cover mm  Max turning diameter mm  X axis travel mm  Z axis travel mm  X / Z axis rapid traverse m/mm  Ball screw (X / Z): diameter x pitch mm  Guideways  Carriage inclination deg  Spindle center height (from floor) mm	310 310 / 250*** 155 + 30 600 12 / 20 32x10 / 40x10 Prismatic 45
Max turning diameter mm  X axis travel mm  Z axis travel mm  X / Z axis rapid traverse m/mm  Ball screw (X / Z): diameter x pitch mm  Guideways  Carriage inclination deg  Spindle center height (from floor) mm	310 / 250***  155 + 30  600  12 / 20  32x10 / 40x10  Prismatic  45
X axis travel mm  Z axis travel mm  X / Z axis rapid traverse m/mm  Ball screw (X / Z): diameter x pitch mm  Guideways  Carriage inclination deg  Spindle center height (from floor) mm	155 + 30 600 12 / 20 32x10 / 40x10 Prismatic 45
Z axis travel mm  X / Z axis rapid traverse m/mm  Ball screw (X / Z): diameter x pitch mm  Guideways  Carriage inclination deg  Spindle center height (from floor) mm	600 12 / 20 32x10 / 40x10 Prismatic 45
X / Z axis rapid traverse m/mm  Ball screw (X / Z): diameter x pitch mm  Guideways  Carriage inclination deg  Spindle center height (from floor) mm	12 / 20 32x10 / 40x10 Prismatic 45
Ball screw (X / Z): diameter x pitch mm  Guideways  Carriage inclination deg  Spindle center height (from floor) mm  SPINDLE	32x10 / 40x10  Prismatic  45
Guideways Carriage inclination deg Spindle center height (from floor) mm  SPINDLE	Prismatic 45
Carriage inclination deg Spindle center height (from floor) mm  SPINDLE	45
Spindle center height (from floor) mm  SPINDLE	
SPINDLE	1120
Spindle nose	
•	A2-6 / A2-8*
Spindle bore mm	61 / 87*
Power chuck diameter mm	205 / 250*
Spindle motor 100% ED / 30 min.** kW	9 / 11
Main motor torque 100% ED / 30 min.** Nm	85.9 / 140
Max spindle speed rpm	4200 / 3500*
Bar capacity mm	51 / 74*
Power chucking system	Hydraulic
TURRET	
Number of tool posts	10 / 12*
Number of rotating tools	12*
Tool holder	VDI 30 / VDI 40* / BMT*
Torque of rotating tools 100% / 40% / max.** Nm	12
Y axis on turret 1	Option
TAILSTOCK	
Tailstock quill taper	MK4
Quill travel mm	120
Quill diameter mm	80
SIZE	
Machine weight kg	5200 / 5350*
Machine dimensions (approx.): L x B x H mm	3910 x 1700 x 1950
CNC CONTROL	Fanuc 0i (Fanuc 32i / Siemens 828D / Siemens 840D)****
ACCURACY OF THE MACHINE	DIN8605-8607

#### ACCURACY OF THE MACHINE

(\*) option

(\*\*) technical data for Fanuc equipment

(\*\*\*) whith 12 station turret (\*\*\*\*) on customer request

## T400

The super precision T350 and T400 RAIS CNC lathes are designed to perform a wide range of turning operations on medium-sized parts and components on a serial production basis



#### STANDARD ACCESSORIES

- 3-jaw through-hole power chuck
- Tailstock
- 12 station turret
- Chip conveyor and cart
- Coolant system
- Working lamp
- Automatic lubrication system for axis ways and ball screws
- Foot switch for chuck operation



Fully enclosed protection of the operational area.

All structural parts are manufactured from high quality Meehanite cast iron and stress relieved for deformation.

The 45° slant bed construction assures high accuracy and high rigidity for heavy duty cutting.

High strength hardness guide and low resistance design provide prefer cutting surface.

The spindle is mounted with high precision class P4 NN type roller bearings and trust bearings, providing outstanding radial and trust loads.

Transmission with low thermal, preload ball screws, provided higher rigidity control.

Hydraulic tailstock. Programmable positioning is available.

#### **OPTIONAL ACCESSORIES**

- 12 station tools turret (VDI 40) with 12 rotating tools
- C-axis of the spindle
- Non through-hole power chuck
- Part catcher
- Bar feeder 1.5 m
- Bar feeder interface
- Auto tools presetter
- Coolant system (high pressure: 20 Bar)
- Heat exchanger for electrical cabinet



Max swing over bed mm 600 700 Swing over carriage cover mm 400 450 Max turning diameter mm 400 450 X axis travel mm 210 + 40 235 + 30 Z axis travel mm 600 600 / 1200° X / Z axis travel mm 600 600 / 1200° X / Z axis travel mm 600 600 / 1200° X / Z axis travel mm 600 600 / 1200° X / Z axis travel mm 32x 10 / 40x 10 40x 10 / 50x 10 32x 10 / 40x 10 40x 10 / 50x 10 32x 10 / 40x 10 40x 10 / 50x 10 32x 10 / 40x 10 40x 10 / 50x 10 32x 10 / 40x 10 40x 10 / 50x 10 32x 10 / 40x 10 40x 10 / 50x 10 32x 10 / 40x 10 40x 10 / 50x 10 32x 10 / 40x 10 40x 10 / 50x 10 32x 10 / 40x 10 40x 10 / 50x 10 32x 10 / 40x 10 40x 10 / 50x 10 32x 10 / 40x 10 40x 10 / 50x 10 32x 10 / 40x 10 40x 10 / 50x 10 32x 10 / 40x 10 40x 10 / 50x 10 32x 10 / 40x 10 40x 10 / 50x 10 40x 10 40x 10 / 50x 10 40x 10 / 50x 10 40x 10 40x 10 / 50x 10 40x 10 40x 10 40x 10 / 50x 10 40x 10 40	TECHNICAL PARAMETERS	UNIT	T350	T400
Swing over carriage cover         mm         400         450           Max turning diameter         mm         400         450           X axis travel         mm         210 + 40         235 + 30           Z axis travel         mm         600         600 / 1200° X           X Z axis travel         mm         600         600 / 1200° X           Zali screw (X / Z): diameter x pitch         mm         32x10 / 40x10         40x10 / 50x10           Guideways         Prismatic         Prismatic         Prismatic           Carriage inclination         deg         45         45           SPINDLE           Spindle nose         A2-8         A2-11 / A2-8°         5pindle nose           Spindle bore         mm         92         95           Power chuck diameter         mm         250 / 315°         380 / 315°           Spindle motor 100% ED / 30 min.**         kW         18.5 / 22         18.5 / 22         18.5 / 22           Max spindle speed         rpm         3000         2500 / 3000°         2500 / 3000°           Bar capacity         mm         76         76         76           Power chucking system         12         12         12         12	CAPACITY			
Max turning diameter mm 400 450  K axis travel mm 210 + 40 235 + 30  Z axis travel mm 600 600 / 1200*  K / Z axis rapid traverse mm 600 600 / 1200*  K / Z axis rapid traverse m/mm 20 20  Ball screw (X / Z): diameter x pitch mm 32x10 / 40x10 40x10 / 50x10  Guideways Prismatic Prismatic  Carriage inclination deg 45 45 45  SPINDLE  Spindle nose A2-8 A2-11 / A2-8*  Spindle bore mm 92 95  Power chuck diameter mm 250 / 315* 380 / 315*  Spindle motor 100% ED / 30 min.** kW 18.5 / 22 18.5 / 22  Main motor torque 100% ED / 30 min.** kW 18.5 / 22 18.5 / 22  Main motor torque 100% ED / 30 min.** Nm 52.5 / 95.5 525.7 95.5  Max spindle speed rpm 30000 2500 / 3000*  Bar capacity mm 76 76  Power chucking system Hydraulic Hydraulic  TURRET  Number of tool poets 12 12 12  Number of rotating tools 100% / 40% / max.** Nm 12* 12*  TAILSTOCK  Tailstock quill taper MK5 MK5  Quill diameter mm 80 80  SIZE  Machine weight kg 5600 6200 / 5800*  Machine weight kg 5600 6200 / 5800*  Machine weight kg 5600 6200 / 5800*  Machine weight mm 3200 x 2200 x 2000  CNC CONTROL	Max swing over bed	mm 600 700		700
X axis travel	Swing over carriage cover	mm	400	450
Zaxis travel   mm   600   600 / 1200*	Max turning diameter	mm	400	450
X / Z axis rapid traverse	X axis travel	mm	210 + 40	235 + 30
Sall screw (X / Z): diameter x pitch   mm   32x10 / 40x10   40x10 / 50x10	Z axis travel	mm	600	600 / 1200*
Prismatic   Prismatic   Prismatic   Prismatic   Carriage inclination   deg   45   45   45	X / Z axis rapid traverse	m/mm	20	20
SPINDLE	Ball screw (X / Z): diameter x pitch	mm	32x10 / 40x10	40x10 / 50x10
SPINDLE   Spindle nose   A2-8   A2-11 / A2-8*   Spindle nose   A2-8   A2-11 / A2-8*   Spindle bore   mm   92   95   95   96   96   96   96   97   97   98   98   98   98   98   98	Guideways		Prismatic	Prismatic
A2-8   A2-11 / A2-8*	Carriage inclination	deg	45	45
Spindle bore	SPINDLE			
Power chuck diameter mm 250 / 315* 380 / 315* Spindle motor 100% ED / 30 min.** kW 18.5 / 22 18.5 / 25 / 25 / 25 / 25 / 25 / 25 / 25 /	Spindle nose		A2-8	A2-11 / A2-8*
Spindle motor 100% ED / 30 min.**   kW   18.5 / 22   18.5 / 22     Main motor torque 100% ED / 30 min.**   Nm   52.5 / 95.5     Max spindle speed   rpm   3000   2500 / 3000*     Bar capacity   mm   76   76     Power chucking system   Hydraulic   Hydraulic     TURRET     Number of tool posts   12   12     Number of rotating tools   12*   12*     Tool holder   VDI 40 / BMT*   VDI 40 / BMT*     Torque of rotating tools 100% / 40% / max.**   Nm   12*   12*     TAILSTOCK     Tailstock quill taper   MK5   MK5     Quill travel   mm   100   100     Quill diameter   mm   80   80     SIZE     Machine weight   kg   5600   6200 / 5800*     Machine dimensions (approx.): L x B x H   mm   3200 x 2200 x 2000   4400 / 3200* x 2200 x 2000     CNC CONTROL   Fanuc 0 i (Fanuc 32i / Siemens 840D)****	Spindle bore	mm	92	95
Main motor torque 100% ED / 30 min.***  Max spindle speed rpm 3000 2500 / 3000*  Bar capacity mm 76 76  Power chucking system Hydraulic Hydraulic  TURRET  Number of tool posts 12 12 12  Number of rotating tools 12* 12*  Tool holder VDI 40 / BMT* VDI 40 / BMT*  Torque of rotating tools 100% / 40% / max.** Nm 12* 12*  TAILSTOCK  Tailstock quill taper MK5 MK5  Quill travel mm 80 80  SIZE  Machine weight kg 5600 6200 / 5800*  Machine dimensions (approx.): L x B x H mm 3200 x 2200 x 2000 4400 / 3200* x 2200 x 2000  CNC CONTROL  CNC CONTROL  Temporation 100 100 100 100 100 100 100 100 100 10	Power chuck diameter	mm	250 / 315*	380 / 315*
Max spindle speed rpm 3000 2500 / 3000* Bar capacity mm 76 76 Power chucking system Hydraulic Hydraulic  TURRET  Number of tool posts 12 12 12 Number of rotating tools 12* 12* Torque of rotating tools 100% / 40% / max.** Nm 12* 12*  TAILSTOCK  Tailstock quill taper MK5 MK5 Quill travel mm 100 100 Quill diameter mm 80 80  SIZE  Machine weight kg 5600 6200 / 5800* Machine dimensions (approx.): L x B x H mm 3200 x 2200 x 2000 4400 / 3200*x 2200 x 2000  CNC CONTROL  Tight and the properties of the	Spindle motor 100% ED / 30 min.**	kW	18.5 / 22	18.5 / 22
Bar capacity mm 76 76 Power chucking system Hydraulic Hydraulic  TURRET Number of tool posts 12 12 Number of rotating tools 12* 12* Tool holder VDI 40 / BMT* VDI 40 / BMT* Torque of rotating tools 100% / 40% / max.** Nm 12* 12*  TAILSTOCK Tailstock quill taper MK5 MK5 Quill travel mm 100 100 Quill diameter mm 80 80  SIZE Machine weight kg 5600 6200 / 5800* Machine dimensions (approx.): L x B x H mm 3200 x 2200 x 2000 4400 / 3200* x 2200 x 2000  CNC CONTROL  Fanuc 0i (Fanuc 32i / Siemens 828D / Siemens 840D)***	Main motor torque 100% ED / 30 min.**	Nm	52.5 / 95.5	52.5 / 95.5
Power chucking system	Max spindle speed	rpm	3000	2500 / 3000*
TURRET  Number of tool posts  12  12*  12*  12*  Tool holder  VDI 40 / BMT*  VDI 40 / BMT*  Torque of rotating tools 100% / 40% / max.**  Nm  12*  12*  TAILSTOCK  Tailstock quill taper  MK5  MK5  Quill travel  mm  100  100  Quill diameter  mm  80  80  SIZE  Machine weight  kg  5600  6200 / 5800*  Machine dimensions (approx.): L x B x H  mm  3200 x 2200 x 2000  4400 / 3200* x 2200 x 2000  Fanuc 32i / Siemens 828D / Siemens 840D)***	Bar capacity	mm	76	76
Number of tool posts 12 Number of rotating tools 12* 12* 12* 12* 10ol holder VDI 40 / BMT* VDI 40 / BMT* Torque of rotating tools 100% / 40% / max.** Nm 12* 12* 12* 12* 12* 12* 12* 12* 12* 12*	Power chucking system		Hydraulic	Hydraulic
Number of rotating tools 12* 12*  Tool holder	TURRET			
Tool holder	Number of tool posts		12	12
Torque of rotating tools 100% / 40% / max.***  Nm 12* 12*  TAILSTOCK  Tailstock quill taper  MK5 MK5  Quill travel mm 100 100  Quill diameter mm 80 80  SIZE  Machine weight kg 5600 6200 / 5800*  Machine dimensions (approx.): L x B x H mm 3200 x 2200 x 2000 4400 / 3200* x 2200 x 2000  CNC CONTROL  Fanuc 0i  (Fanuc 32i / Siemens 828D / Siemens 840D)***	Number of rotating tools		12*	12*
TAILSTOCK           Tailstock quill taper         MK5         MK5           Quill travel         mm         100         100           Quill diameter         mm         80         80           SIZE           Machine weight         kg         5600         6200 / 5800*           Machine dimensions (approx.): L x B x H         mm         3200 x 2200 x 2000         4400 / 3200*x 2200 x 2000           CNC CONTROL   Fanuc 0i (Fanuc 32i / Siemens 828D / Siemens 840D)***	Tool holder		VDI 40 / BMT*	VDI 40 / BMT*
Tailstock quill taper         MK5         MK5           Quill travel         mm         100         100           Quill diameter         mm         80         80           SIZE           Machine weight         kg         5600         6200 / 5800*           Machine dimensions (approx.): L x B x H         mm         3200 x 2200 x 2000         4400 / 3200*x 2200 x 2000           CNC CONTROL         Fanuc 0i (Fanuc 32i / Siemens 828D / Siemens 840D)****	Torque of rotating tools 100% / 40% / max.**	Nm	12*	12*
Quill travel         mm         100         100           Quill diameter         mm         80         80           SIZE           Machine weight         kg         5600         6200 / 5800*           Machine dimensions (approx.): L x B x H         mm         3200 x 2200 x 2000         4400 / 3200*x 2200 x 2000           CNC CONTROL         Fanuc 0i (Fanuc 32i / Siemens 828D / Siemens 840D)****	TAILSTOCK			
Quill diameter         mm         80         80           SIZE         Machine weight         kg         5600         6200 / 5800*           Machine dimensions (approx.): L x B x H         mm         3200 x 2200 x 2000         4400 / 3200*x 2200 x 2000           CNC CONTROL         Fanuc 0i (Fanuc 32i / Siemens 828D / Siemens 840D)****	Tailstock quill taper		MK5	MK5
SIZE         Machine weight         kg         5600         6200 / 5800*           Machine dimensions (approx.): L x B x H         mm         3200 x 2200 x 2000         4400 / 3200*x 2200 x 2000           CNC CONTROL         Fanuc 0i (Fanuc 32i / Siemens 828D / Siemens 840D)***	Quill travel	mm	100	100
Machine weight kg 5600 6200 / 5800*  Machine dimensions (approx.): L x B x H mm 3200 x 2200 x 2000 4400 / 3200*x 2200 x 2000  CNC CONTROL  Fanuc 0i (Fanuc 32i / Siemens 828D / Siemens 840D)***	Quill diameter	mm	80	80
Machine dimensions (approx.): L x B x H mm 3200 x 2200 x 2000 4400 / 3200*x 2200 x 2000  Fanuc 0i (Fanuc 32i / Siemens 828D / Siemens 840D)***	SIZE			
CNC CONTROL Fanuc 0i (Fanuc 32i / Siemens 828D / Siemens 840D)***	Machine weight	kg	5600	6200 / 5800*
CNC CONTROL (Fanuc 32i / Siemens 828D / Siemens 840D)***	Machine dimensions (approx.): L x B x H	mm	3200 x 2200 x 2000	4400 / 3200* x 2200 x 2000
ACCURACY OF THE MACHINE DIN8605-8607 DIN8605-8607	CNC CONTROL			
	ACCURACY OF THE MACHINE		DIN8605-8607	DIN8605-8607

(\*) option

(\*\*) technical data for Fanuc equipment

(\*\*\*) on customer request



A spindle seated in precise double-row roller bearings. Stable cutting operation even by large chip thicknesses.

Three-step spindle gear box. Smooth switching between gears with high torque. All gear wheels are made of alloy steel, hardened and precisely ground to size. Low noise and excellent smoothness of cut.

Precise ball-screws (class P5) with a double-tightened nut and minimum backlash. Impressive precision of part positioning.

Hardened and fine-ground longitudinal and transverse guides. Guaranteed stable cut under heavy-duty conditions.

Super high grade fitted slides with "Turcite-B". Minimum friction when moving. High precision and smoothness of operation.



These outstanding features enable stable heavy duty in continuous operation for a highly productive serial details.





#### **OPTIONAL ACCESSORIES**

- 3-jaw through-hole power chuck Ø315 mm
- Follow and steady rest
- 12 station VDI turret with C-axes for rotating tools
- Hydraulic clamped tail stock
- Milling tool holder



UNIT	T500	T600	T700
mm	610 710		760
mm	390	490	540
mm	790	890	940
mm	405	405	405
mm	930 / 1430 / 1930 / 2930	930 / 1430 / 1930 / 2930	930 / 1430 / 1930 / 2930 / 393
mm	970 / 1430 / 1970 / 2970	970 / 1470 / 1970 / 2970	970 / 1470 / 1970 / 2970 / 3970
mm	450	450	450
mm	305	355	380
m/mm	6 / 10	6 / 10	6 / 10
mm	32x5 / 50x10	32x5 / 50x10	32x5 / 50x10
	Prismatic, HB>450	Prismatic, HB>450	Prismatic, HB>450
	D1-11 / A2-11 (D1-15 / A2-15)*	D1-11/A2-11 (D1-15/A2-15)*	D1-11 / A2-11 (D1-15 / A2-15)*
mm	105 / 155*	105 / 155*	105 / 155*
mm	315 / 400*	315 / 400*	315 / 400*
rpm	2200	1500	1500
kW	7.5 / 15*	7.5 / 15	7.5 / 15*
	Vertical, 4 station (8 / 12 VDI 40)*	Vertical, 4 station (8 / 12 VDI 40)*	Vertical, 4 station (8 / 12 VDI 40
	4 (8 / 10 / 12)*	4 (8 / 12)*	4 (8 / 12)*
mm	25 x 25	25 x 25	25 x 25
mm	40	40	40
mm	20	20	30
	MK5	MK5	MK5 / MK6*
mm	225	225	225
mm	105	105	105
kg	4100 / 4300 / 4900 / 5700	4000 / 4400 / 5000 / 5800	4200 / 4400 / 5000 / 5800 / 660
	mm	mm	mm 610 710 mm 390 490 mm 790 890 mm 405 405 mm 930 / 1430 / 1930 / 2930 930 / 1430 / 1930 / 2930 mm 970 / 1430 / 1970 / 2970 970 / 1470 / 1970 / 2970 mm 450 450 mm 305 355 m/mm 6 / 10 6 / 10 mm 32x5 / 50x10 32x5 / 50x10  Prismatic, HB>450 Prismatic, HB>450  D1-11 / A2-11 (D1-15 / A2-15)* D1-11 / A2-11 (D1-15 / A2-15)* mm 105 / 155* 105 / 155* mm 315 / 400* rpm 2200 1500 kW 7.5 / 15* 7.5 / 15  Vertical, 4 station (8 / 12 VDI 40)* Vertical, 4 station (8 / 12 VDI 40)* 4 (8 / 10 / 12)* 4 (8 / 12)* mm 25 x 25 25 x 25 mm 40 40 mm 20 20  MK5 MK5 mm 225 225

CNC CONTROL	Fanuc 0i (Fanuc 32i / Siemens 828D / Siemens 840D)***		
ACCURACY OF THE MACHINE	DIN8605-8607	DIN8605-8607	DIN8605-8607

<sup>\*)</sup> optior

<sup>(\*\*)</sup> technical data for Fanuc equipment

<sup>(\*\*\*)</sup> on customer request

The double spindle T202-2S RAIS CNC lathe is designed to perform a wide range of complex turning operations on medium-sized parts and components on a serial production basis.



High production capacity, stability and speed of all turning operations on various types of material.

#### **STANDARD ACCESSORIES**

- 3-jaw through-hole power chucks
- 12 tools turret VDI 30
- Chip conveyor and cart
- Coolant system
- Working lamp
- Automatic lubrication system for axis ways and ball screws
- Foot switches for chuck operation



Precise spindle assembly mounted in a temperaturestabilized and ribbed casing by means of class P4 spindle bearings featuring minimum radial runout and minimum axial clearance. Guaranteed high cutting speed with no vibration.

Precise ballscrews (class P3) with a pre-loaded double nut and minimum backlash. High precision of part positioning and long life.

Linear guideways along the two axes - zero clearance. Minimum friction when in motion. High precision and high speed with no need for adjustment during operational life. Minimized temperature and vibration deviations.

Fully enclosed protection of the operational area. Telescopic guards for the guides.



	× /			
TECHNICAL PARAMETERS	UNIT	T202-2S		
CAPACITY				
Max swing over bed	mm	550		
Swing over carriage cover	mm	3	30	
Max turning diameter	mm	2	00	
X axis travel	mm	165	+ 10	
Z axis travel (Z1 / Z2)	mm	380	/ 370	
X / Z axis rapid traverse	m/mm	12	/ 20	
Ball screw (X / Z): diameter x pitch	mm	32x5 /	40x10	
Guideways		Integrated, siz	ze 30(X); 35(Z)	
Carriage inclination	deg	4	15	
Spindle center height (from floor)	mm	10	020	
SPINDLE		MAIN SPINDLE	SUB SPINDLE	
Spindle nose		A2-6 / A2-5*	A2-4	
Spindle bore	mm	62 / 52*	36	
Power chuck diameter	mm	205 / 170*	135	
Spindle motor 100% ED / 30 min.**	kW	11 / 15	3.7 / 5.5	
Main motor torque	Nm	52.5 / 95	35.3 / 70	
Max spindle speed	rpm	4200 / 6000*	4500	
Bar capacity	mm	51 / 41*	26	
Power chucking system		Hydraulic	Hydraulic	
TURRET				
Number of tool posts		1	2	
Number of rotating tools		12*		
Tool holder		VDI 30 / BMT*		
Torque tools	Nm	1	2*	
Y axis on turret 1		Option		
SIZE				
Machine weight	kg	3750		
Machine dimensions (approx.): L x B x H	mm	3316 x 1622 x 1911		
CNC CONTROL		Fanuc 0i (Fanuc 32i / Siemens 828D / Siemens 840D)***		
ACCURACY OF THE MACHINE		DIN860	05-8607	
(*) ontion				

(\*) option (\*\*) technical data for Fanuc equipment

(\*\*\*) on customer request

- 12 station BMT turret and C-axes of the spindles
- Auto tools presetter
- Bar feeder 1.2 / 3.2 m
- Bar feeder interface

- Y axis
- Part catcher
- Collet chuck
- Heat exchanger for electrical cabinet

## rais system T252-2S

The double spindle T252-2S RAIS CNC lathe is designed to perform a wide range of complex turning operations with simultaneous operation of both spindles and two turrets into series production.



An exclusively stable and rigid construction for maximum lathe productivity.

#### **STANDARD ACCESSORIES**

- 3-jaw through-hole power chuck
- 12 station turrets
- Chip conveyor and cart
- Coolant system
- Working lamp
- Automatic lubrication system for axis ways and ball screws
- Foot switches for chuck operation



All structural parts are manufactured from high quality Meehanite cast iron and stress relieved for deformation.

The 45° slant bed construction assures high accuracy and high rigidity for heavy duty cutting.

Linear guideways: precise SP / P-class along X / Z1, Z2 axes -

Dynamically balanced spindles - cassette type. An exclusive resistance in radial and axial loads.

#### **OPTIONAL ACCESSORIES**

- 12 tools turret head (VDI 40)
- C-axis of the spindle
- Part catcher
- Bar feeder 1.5 m / 3.2 m
- Bar feeder interface
- Non through-hole power chuck
- Auto tools presetter
- Coolant system (high pressure: 20 Bar)
- Heat exchanger for electrical cabinet



TECHNICAL PARAMETERS	UNIT	T252-2S		
CAPACITY				
Max swing over bed	mm	210		
Swing over carriage cover	mm	21	10	
Max turning diameter	mm	20	00	
X axis travel	mm	170	+ 15	
Z axis travel (Z1 / Z2)	mm	270 /	700	
Y axis travel	mm	±	30	
X / Y / Z axis rapid traverse	m/mm	12 / 2	0 / 10	
Ball screw (X / Z): diameter x pitch	mm	32x5 /	40x10	
Guideways		Integrated, size 30 (X1); 30 (X2	?); 32 (Z1); 40 (Z2); box way (Y)	
Carriage inclination	deg	45		
Spindle center height (from floor)	mm	965		
SPINDLE		MAIN SPINDLE	SUB SPINDLE	
Spindle nose		A2-5 / A2-6*	A2-5 / A2-6*	
Spindle bore	mm	51 / 65*	51 / 65*	
Power chuck diameter	mm	170 / 210*	170 / 210*	
Spindle motor 100% ED / 30 min.**	kW	11 / 15	11 / 15	
Main motor torque	Nm	85.9 / 140	85.9 / 140	
Max spindle speed	rpm	6000 / 4500*	6000 / 4500*	
Bar capacity	mm	42 / 51*	42 / 51*	
Power chucking system		Hydraulic	Hydraulic	
TURRET		TURRET 1	TURRET 2	
Number of tool posts		12	12	
Number of rotating tools		12*	12*	
Tool holder		VDI 30 / BMT*	VDI 30 / BMT*	
Torque tools	Nm	11	11	
Y axis on turret 1		Option		
SIZE				
Machine weight	kg	57	00	
Machine dimensions (approx.): L x B x H	mm	4230 x 1750 x 2050		
CNC CONTROL		Fanuc 0i (Fanuc 32i / Siemens 828D / Siemens 840D)***		
ACCURACY OF THE MACHINE		DIN8605-8607		

DIN8605-8607

(\*) option (\*\*) technical data for Fanuc equipment (\*\*\*) on customer request

TECHNICAL PARAMETERS	UNIT	T250-2S		
CAPACITY				
Max swing over bed	mm	5	10	
Swing over carriage cover	mm	3	10	
Max turning diameter	mm	310 /	250***	
X axis travel	mm	155	+ 30	
Z axis travel	mm	60	00	
X / Z axis rapid traverse	m/mm	12	/ 20	
Ball screw (X / Z): diameter x pitch	mm	32x10	/ 40x10	
Guideways		Prisr	matic	
Carriage inclination	deg	4	5	
Spindle center height (from floor)	mm	11	20	
SPINDLE		MAIN SPINDLE	SUB SPINDLE	
Spindle nose		A2-6 / A2-8*	A2-5	
Spindle bore	mm	61 / 87*	52	
Power chuck diameter	mm	205 / 250*	169	
Spindle motor 100% ED / 30 min.**	kW	9 / 11	11 / 15	
Main motor torque 100% ED / 30 min.**	Nm	85.9 / 140	52.5 / 95	
Max spindle speed	rpm	4200 / 3500*	6000	
Bar capacity	mm	51 / 74*	41	
Power chucking system		Hydraulic	Hydraulic	
TURRET				
Number of tool posts		10 /	12*	
Number of rotating tools		1:	2*	
Tool holder		VDI 30 / VD	I 40* / BMT*	
Torque of rotating tools 100% / 40% / max.**	Nm	1	2	
Y axis on turret 1		Ор	tion	
TAILSTOCK				
Tailstock quill taper		MK4		
Quill travel	mm	120		
Quill diameter	mm	80		
SIZE				
Machine weight	kg	5200 / 5350*		
Machine dimensions (approx.): L x B x H	mm	3910 x 17	00 x 1950	
CNC CONTROL		Fan	uc 0i	

CNC CONTROL (Fanuc 32i / Siemens 828D / Siemens 840D)\*\*\*\*

ACCURACY OF THE MACHINE DIN8605-8607

- (\*\*) technical data for Fanuc equipment
- (\*\*\*) whith 12 station turret (\*\*\*\*) on customer request

#### **OPTIONAL ACCESSORIES**

- 12 tools turret head (VDI 40)
- C-axis of the spindle

Part catcher

- Bar feeder 1.5 / 3.2 m
- Bar feeder interface
- Heat exchanger for electrical cabinet
- Non through-hole power chuck
- Auto tools presetter
- Coolant system (high pressure: 20 Bar)

### rais system T350-2S/T400-2S

TECHNICAL PARAMETERS	UNIT	T35	0- <b>2</b> S	T400-2S		
CAPACITY						
Max swing over bed	mm	60	00	700		
Swing over carriage cover	mm	400		450		
Max turning diameter	mm	40	00	450		
X axis travel	mm	210	+ 40	235 + 30		
Z axis travel	mm	600		600 / 1200*		
X / Z axis rapid traverse	m/mm	2	0	20		
Ball screw (X / Z): diameter x pitch	mm	32x10	/ 40x10	40x10	/ 50x10	
Guideways		Prisr	natic	Prisi	matic	
Carriage inclination	deg	4	5	4	15	
SPINDLE		MAIN SPINDLE	SUB SPINDLE	MAIN SPINDLE	SUB SPINDL	
Spindle nose		A2-8	A2-5	A2-6 / A2-8*	A2-5	
Spindle bore	mm	92	52	61 / 87*	52	
Power chuck diameter	mm	250 / 315*	169	205 / 250*	169	
Spindle motor 100% ED / 30 min.**	kW	18.5 / 22	11 / 15	18.5 / 22	11 / 15	
Main motor torque 100% ED / 30 min.**	Nm	52.5 / 95.5	52.5 / 95.5	85.9 / 140	52.5 / 95.5	
Max spindle speed	rpm	3000	6000	4200 / 3500*	6000	
Bar capacity	mm	76	41	51 / 74*	41	
Power chucking system		Hydraulic	Hydraulic	Hydraulic	Hydraulic	
TURRET						
Number of tool posts		1	2	1	2	
Number of rotating tools		12*		1	2*	
Tool holder		VDI 40	VDI 40 / BMT*		/ BMT*	
Torque of rotating tools 100% / 40% / max.**	Nm	12	12*		12*	
TAILSTOCK						
Tailstock quill taper		М	K5	M	K5	
Quill travel	mm	10	00	1	00	
Quill diameter	mm	80		80		
SIZE						
Machine weight	kg	5600		5800 /	6200*	
Machine dimensions (approx.): L x B x H	mm	4100 x 22	00 x 2000	4400 x 22	00 x 2000	
CNC CONTROL				nuc 0i 328D / Siemens 840D)***		
		DIN8605-8607 DIN8605-8607				

- 12 station tools turret (VDI 40) with 12 rotating tools
- C-axis of the spindle
- Non through-hole power chuck

- Part catcher
- Bar feeder 1.5 m
- Bar feeder interface
- Auto tools presetter
- Coolant system (high pressure: 20 Bar)
- Heat exchanger for electrical cabinet

<sup>(\*\*)</sup> technical data for Fanuc equipment

<sup>(\*\*\*)</sup> on customer request

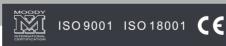




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