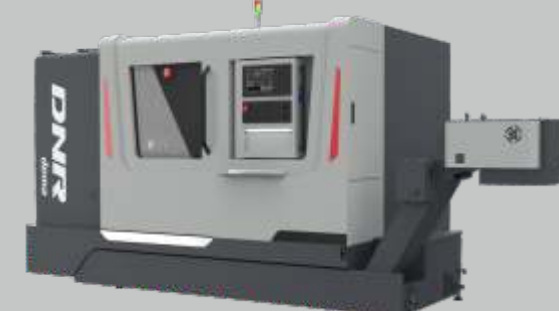


MACHINE TOOLS



■ CNC VERTICAL
MACHINING CENTER



■ CNC LATHE



■ NC HORIZONTAL SPINDLE
TYPE SURFACE GRINDING
MACHINE



R-2303-09-NR-06-EN

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Dener Makina Sanayi ve Ticaret A.Ş. Was established in 1974 in the city of Kayseri in Turkey. Since its creation, the company has been a market leader in the sheet metal machinery sector with a qualify and experienced team. Dener Makina Sanayi ve Ticaret A.Ş. had installed several machines all over the world and keep providing high quality and high technological cutting and bending solution.

Through DNRdema, Dener Makina Sanayi ve Ticaret A.Ş. Also manufacture high quality machining center with a special research and development department.

Above the years of experience, Dener Makina Sanayi ve Ticaret A.Ş. keep innovating and contribute to the global economy.



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Overview



CNC Vertical Machining Centers assure to achieve optimal performance for all kinds of workpiece. DNRdema is offering longtime industry experiences to meet a wide range of operational needs from high-precision milling under all conditions for drilling, pocketing, boring, screw-cutting to tapping. Furthermore, ergonomical LCD screen panel with CNC controlling simplifies manual programming and data entry for the machines.

- Custom made double nut screws with high precision and no backlash
- Fast and smooth automatic tool changer system
- Direct drive coupling spindles with high accuracy and rigidity
- High precision, economical and linear motion
- Effective and smooth motion on linear guide rails or box way rails
- Excellent accuracy of positioning and high-precision for repetitiveness
- Meehanite casting with annealed & stress relieved
- Ensuring quiet, stable and accurate cutting
- Free of charge for assembling machines and educational support domestically
- On-time service with spare parts and delivery



Standard Equipments

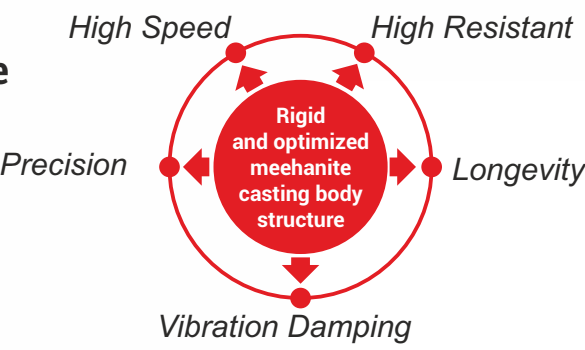
- ✓ Mitsubishi M80A-8A
- ✓ Simple programming function (Navi-Mill)
- ✓ BBT 40/10.000 rpm direct drive spindle
- ✓ BBT 40 arm type 24 tools ATC
- ✓ C3 class double nuts ball-screw
- ✓ Ball type or roller linear motion guide
- ✓ Fully enclosed splash guard
- ✓ Screw-Steelbelt type chip conveyor
- ✓ Automatic lubricating system
- ✓ Spindle air blowing coolant system
- ✓ Coolant nozzles around spindle
- ✓ Oil skimmer
- ✓ Rigid tapping
- ✓ Washing the chips system inside cabin
- ✓ Heat exchanger for the electrical cabinet
- ✓ Transformer 380/200v - 3 phase 50/60Hz
- ✓ Led work light / Program light
- ✓ Front door safety switch
- ✓ Air gun / Coolant gun
- ✓ Coolant equipment
- ✓ Remote handwheel
- ✓ 4th axis pre-wire (inner cable)
- ✓ Automatic power-off system
- ✓ Foundation bolt kit & Plates
- ✓ Toolbox & Tools
- ✓ CE

Optional Equipments

- ✓ FANUC 0i MF
- ✓ BBT 40/12.000 rpm BBT 40/15.000 rpm direct drive spindle
- ✓ Coolant through spindle center (30 bar)
- ✓ Air conditioner for electrical cabinet
- ✓ 4th axis with CNC rotary table
- ✓ Tool length measurement
- ✓ Workpiece measurement
- ✓ Automatic door
- ✓ Chip conveyor
- ✓ Oil mist collector unit
- ✓ Linear encoder



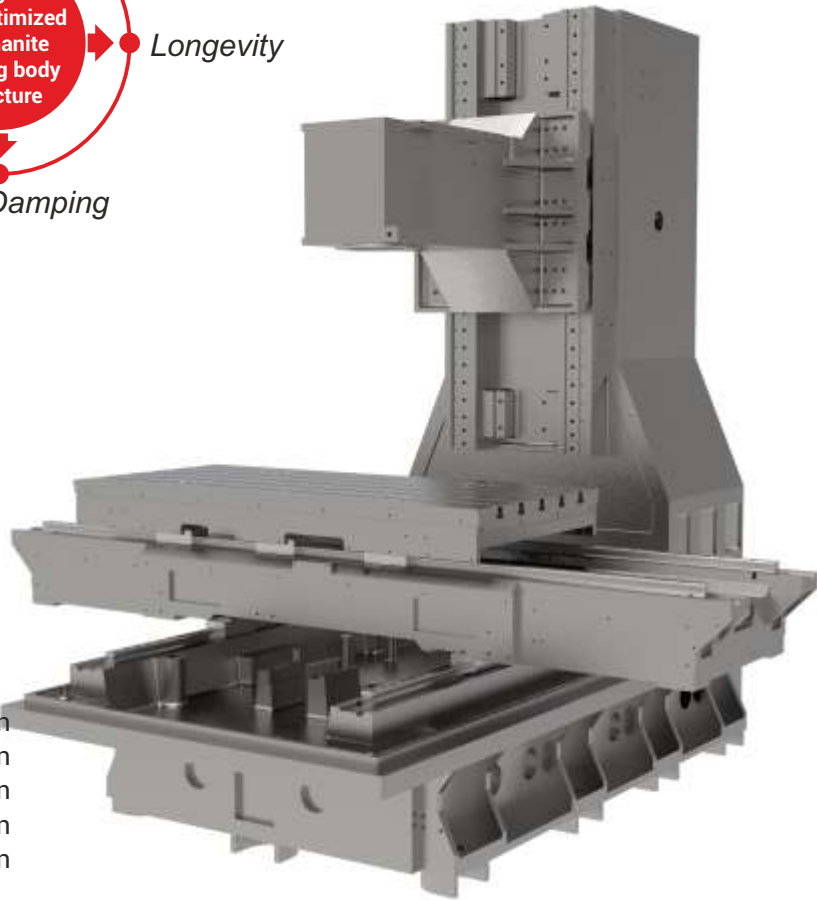
Body Structure



Working Field

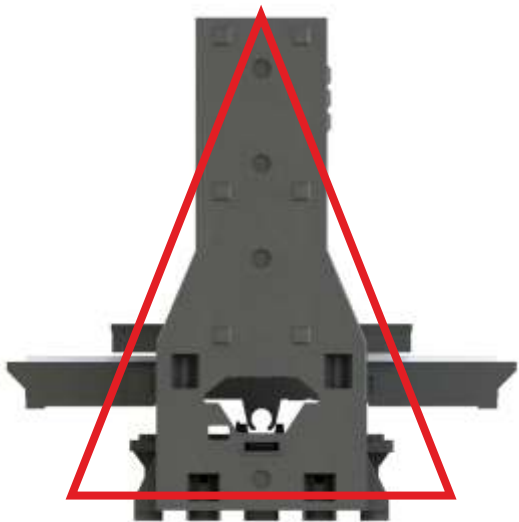
Stroke	X	Y	Z	
TMC 850	850	510	560	mm
TMC 1000	1020	510	560	mm
TMC 1200	1200	600	600	mm
TMC 1300	1300	700	700	mm
TMC 1600	1600	700	700	mm

Rapid Axis Speeds	X	Y	Z	
TMC 850	36	36	36	m/min
TMC 1000	36	36	36	m/min
TMC 1200	36	36	36	m/min
TMC 1300	36	36	36	m/min
TMC 1600	36	36	36	m/min



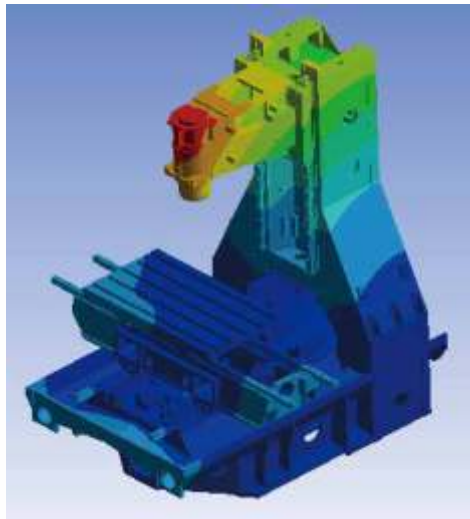
Rigid Structure

Based on the combination of deltoid column and main body provides excellent vibration damping and cutting pressure distribution.



Finite Element Method

By using the finite element method, optimum body structure is obtained.



Work Piece Loading Capacity

Loading Capacity	m	
TMC 850	500	kg
TMC 1000	500	kg
TMC 1200	1000	kg
TMC 1300	1200	kg
TMC 1600	1200	kg

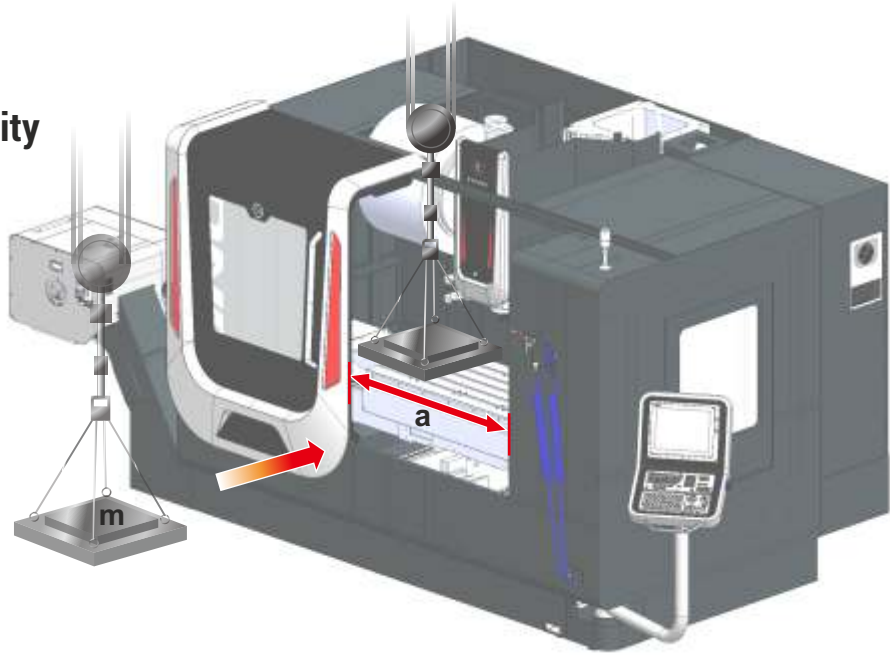
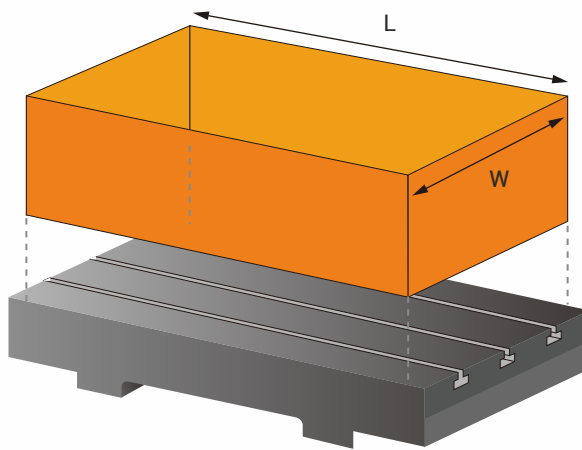


Table Measurement

Loading Capacity	L	W	
TMC 850	1000	500	mm
TMC 1000	1200	500	mm
TMC 1200	1300	600	mm
TMC 1300	1450	700	mm
TMC 1600	1750	700	mm



Extremely Precise Linear Equipment

Precise positioning, repeatability, minimum friction, rigid linear way and extremely precise, grinded, front loading and without back-lash ball-screw and linear way tools in order to operate with less noise.



Direct Drive Servo Motors

Direct drive connection between motor and ball-screw shaft without back-lash with precise motion performance.



Tool Changer System

Rigid Taping with 24 Tool storage capacity ATC (Automatic Tool Changer)



Direct-Drive Spindle

Powerful working ability with high heat distribution performance, low vibration, less noise and easy maintenance.

Speed	BT-40	BBT-40	CTS
10.000 rpm	○	●	○
12.000 rpm	○	○	○
15.000 rpm	○	○	○

std : ●

opt : ○



Spindle Cooling System

Automatic controlled cooling system to prevent thermal deformation and to increase longevity of the spindle.



Cooling through Spindle (Optional)

Excellent cutting ability and longevity of spindle with cooling through spindle.



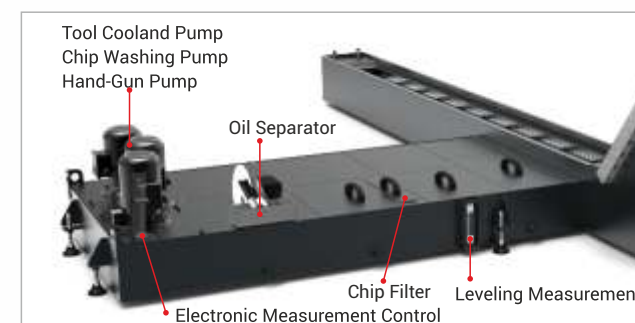
Chip Conveyor

Very flexible, it allows easy transportation of (metal, fiber, teflon, delrin (POM) etc.) chips.



Coolant Tank

500 lt. capacity, self-filtered and functional tank design provides optimum cooling and easy maintenance.



Chip Bucket (Opt.)

Convertible and braking features provides easy storage and discharge of any kinds of chips.



Control Unit

User Friendly interface with latest technology and ergonomic design.



				TMC 850	TMC 1000	TMC 1200	TMC 1300	TMC 1600
Travel	X-Axis Travel	mm		850	1.020	1.200	1.300	1.600
	Y-Axis Travel	mm		510	510	600	700	700
	Z-Axis Travel	mm		560	560	600	700	700
	Ball-screw Type			C3	C3	C3	C3	C3
	Distance from spindle nose to table top	mm		150~710	150~710	150~750	130~830	130~830
	Guideway Type			Roller Type	Roller Type	Roller Type	Roller Type	Roller Type
Working Table	Guideways X/Y/Z	mm		30/35/35	30/35/35	35/45/45	35/45/45	35/45/45
	Table Size (X Direction)	mm		1.000	1.200	1.300	1.450	1.750
	Table Size (Y Direction)	mm		500	500	600	700	700
	T-Slot Size	mm		18	18	18	18	18
	T-Slot Quantity	piece		5	5	5	5	5
	T-Slot Distance	mm		100	100	100	125	125
Spindle	Table Load Capacity	kg		500	500	1.000	1.200	1.200
	Spindle Taper ([X], 7/24 Taper)			ISO#40	ISO#40	ISO#40	ISO#40	ISO#40
	Spindle Speed	rpm		10.000	10.000	10.000	10.000	10.000
Feed Rate	Spindle Driven System			Direct	Direct	Direct	Direct	Direct
	X/Y Axis Rapid Feedrate	m/min		36	36	36	36	36
	Z Axis Rapid Feedrate	m/min		36	36	36	36	36
Tool Magazine	Cutting Feedrate	m/min		1~15	1~15	1~15	1~15	1~15
	Tool Magazine Capacity	piece		24	24	24	24	24
	Method of Tool Exchange			Arm Type	Arm Type	Arm Type	Arm Type	Arm Type
	Type of Tool Shank			BBT	BBT	BBT	BBT	BBT
	Tool Change Time (Tool to tool)	s		1,3	1,3	1,3	1,3	1,3
	Tool Change Time (Chip-to-Chip)	s		3,1	3,1	3,7	3,7	3,7
	Pull Stud Angle			45	45	45	45	45
	Max. Tool Diameter	mm		Ø100/Ø150	Ø100/Ø150	Ø100/Ø150	Ø100/Ø150	Ø100/Ø150
	Max Tool Length	mm		300	300	300	300	300
	Max Tool Weight	kg		6	6	8	8	8
	Tool Selection Method			Shortest Path	Shortest Path	Shortest Path	Shortest Path	Shortest Path
	Positioning Accuracy	mm		±0,004/300	±0,004/300	±0,004/300	±0,004/300	±0,005/300
Coolant Capacity Motor & Pressure & Volume	Repeatability	mm		±0,002/300	±0,002/300	±0,002/300	±0,002/300	±0,002/300
	Coolant Pump	kW-(bar)		0,55 - (3)	0,55 - (3)	0,55 - (3)	0,55 - (3)	0,55 - (3)
	Coolant Pump for Coolant Gun	kW-(bar)		0,37-(2)	0,37-(2)	0,37-(2)	0,37-(2)	0,37-(2)
	Coolant Pump for Chip Clean	kW-(bar)		1,10-(2,5)	1,10-(2,5)	1,10-(2,5)	1,10-(2,5)	1,10-(2,5)
	Coolant Tank Capacity	liter		350	350	400	400	400
Machine Size	Length	mm		2.900	2.900	4.700	5.000	6.200
	Width	mm		2.420	2.420	3.400	3.500	3.800
	Height	mm		2.850	2.850	2.600	2.800	3.050
	Weight	~kg		5.000	5.200	6.800	8.500	10.000

MITSUBISHI CONTROL UNIT (Std.)				TMC 850 (M)	TMC 1000 (M)	TMC 1200 (M)	TMC 1300 (M)	TMC 1600 (M)
CNC Control & Motors	Control System - M80 (FCA80H-[X])			4A	4A	8A	8A	8A
	Screen			10,4"	10,4"	15"	15"	15"
	Spindle Motor (con/30 min.)	kW		7,5/11	7,5/11	11/15	11/15	11/15
	Spindle Motor Type	[SJ-]		DG11/120-03T	DG11/120-03T	V15-092T	V15-092T	V15-092T
	Spindle Motor Torque (con/30 min.)	N-m		47,7/70	47,7/70	70/95,5	70/95,5	70/95,5
	Spindle Torque (con/30 min.)	N-m		47,7/70	47,7/70	70/95,5	70/95,5	70/95,5
	Axis Motors X/Y	kW		2,2	3,5	3,5	4,5	4,5
	Axis Motor Types X/Y			HG224S-D48	HG354S-D48	HG354S-D48	HG453S-D48	HG453S-D48
	Axis Motor Torques X/Y (rated/stall/max)	N-m		7/12/46,5	11,1/22,5/75	11,1/22,5/75	14,3/37,2/122	14,3/37,2/122
	Axis Motor Z	[With Brake]		3,5	3,5	4,5	7	7
	Axis Motor Type Z			HG354BS-D48	HG354BS-D48	HG453BS-D48	HG703BS-D48	HG703BS-D48
	Axis Motor Torque Z (rated/stall/max)	N-m		11,1/22,5/75	11,1/22,5/75	14,3/37,2/122	22,3/49/152	22,3/49/152
	Air Pressure (min./max.)	bar		5,0/6,0	5,0/6,0	5,0/6,0	5,0/6,0	5,0/6,0
Air & Power Supply	Power Requirement	kVA		32	32	32	43	43

FANUC CONTROL UNIT (Opt.)				TMC 850 (F)	TMC 1000 (F)	TMC 1200 (F)	TMC 1300 (F)	TMC 1600 (F)
CNC Control & Motors	Control System - FANUC [X]			0i-MFP	0i-MFP	0i-MFP	0i-MFP	0i-MFP
	Screen			10,4"	10,4"	15"	15"	15"
	Spindle Motor (con/30 min.)	kW		7,5/11	7,5/11	11/15	11/15	11/15
	Spindle Motor Type			aiI 8/12000-B	aiI 8/12000-B	aiI 12/12000-B	aiI 12/12000-B	aiI 12/12000-B
	Spindle Motor Torque (con/30 min.)	N-m		47,8/70	47,8/70	70/95,5	70/95,5	70/95,5
	Spindle Torque (con/30 min.)	N-m		47,8/70	47,8/70	70/95,5	70/95,5	70/95,5
	Axis Motors X/Y	kW		2,7	4	4,5	4,5	5,5
	Axis Motor Types X/Y			aiS 12/4000-B	aiS 22/3000-B	aiS 22/4000-B	aiS 22/4000-B	aiS 30/4000-B
	Axis Motor Torques X/Y (rated/stall/max)	N-m		8,5/12/46	12,7/22/64	14,3/22/76	14,3/22/76	17,5/30/100
	Axis Motor Z	[With Brake]		4	4	5,5	5,5	5,5
	Axis Motor Type Z			aiF 22/3000-B	aiF 22/3000-B	aiS 40/4000-B	aiS 40/4000-B	aiS 40/4000-B
	Axis Motor Torque Z (rated/stall/max)	N-m		12,7/22/64	12,7/22/64	17,5/40/115	17,5/40/115	17,5/40/115
	Air Pressure (min./max.)	bar		5,0/6,0	5,0/6,0	5,0/6,0	5,0/6,0	5,0/6,0
Air & Power Supply	Power Requirement	kVA		32	32	39	39	39

* The values in the table may change in case of a machine update.

Overview



DNR dema's horizontal CNC Lathe offers high precision inner and outer diameter workpiece operation such as chamfering, forming, inner and outer screw-cuttings and grooving based on desired shapes and size. Moreover, the C axis feature provides the finest facing operation.

- C1-C3 class custom made screws with no backlash
- Powerful, faster and smooth automatic turret
- High rigidity shafts established on the extraordinary precise ball bearings
- Linear guideway with multi-point roller type bed provides steady cross travelling
- Excellent accuracy of positioning and high precision for repetitiveness
- 45° Slant-bed, solid cast iron for the monoblock body
- Free of charge in installation and training in domestic market
- On-time service with spare parts and delivery



Standard Equipments

- ✓ Fanuc 0i TFP
- ✓ Roller linear motion guide
- ✓ C1-C3 high precision ball-screws
- ✓ BMT / slot type powerful turret
- ✓ Full guarding
- ✓ Steel-belt type chip conveyor
- ✓ Automatic volumetric oil distributor system
- ✓ Coolant supply equipment
- ✓ Oil skimmer
- ✓ Transformer 380/200v 3 phase 50/60Hz
- ✓ Foot pedal
- ✓ Front door safety switch
- ✓ Hydraulic power unit
- ✓ 6"-12" powerful hydraulic chuck and the soft-hard jaws
- ✓ Tool holders
- ✓ Led worklight and program lights
- ✓ Heat exchanger for electrical cabinet
- ✓ Remote handwheel
- ✓ Levelling bolts screw and plates
- ✓ Tailstock
- ✓ Air and coolant gun
- ✓ Toolbox & Tools
- ✓ CE

Optional Equipments

- ✓ Mitsubishi M80A-8A
- ✓ C Axis
- ✓ Tool measurement
- ✓ Workpiece measurement
- ✓ Automatic bar feeder
- ✓ Air conditioner for electrical cabinet
- ✓ Automatic door
- ✓ Chip bucket
- ✓ Oil mist collector unit
- ✓ Linear encoder
- ✓ Programmable tailstock
- ✓ Parts catcher



Body Structure

- ▶ High Speed
- ▶ Precision
- ▶ Longevity
- ▶ High Resistance
- ▶ Vibration Damping



Working Field

Stroke	X	Z	
TTC-6	190	450	mm
TTC-8	190	450	mm
TTH-8	300	760	mm
TTH-10	300	760	mm
TTH-12	300	760	mm

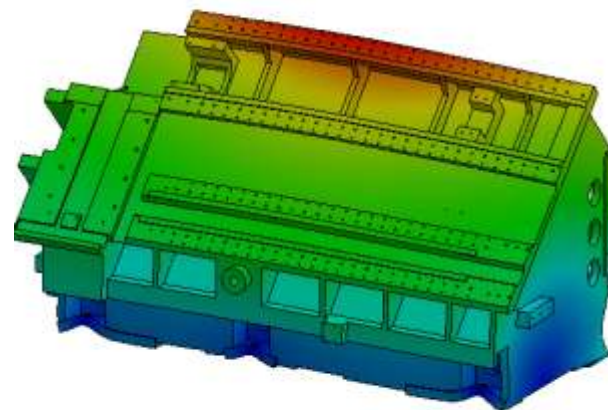
Rigid Structure

Effective damping of cutting force while working with 45° angle due to massive main body structure.



Finite Element Method

By using the finite element method, optimum body structure is obtained.



Work Piece Loading Capacity

Swing Over Saddle

TTC-6	690	mm
TTC-8	690	mm
TTH-8	740	mm
TTH-10	740	mm
TTH-12	745	mm



Operating Capacity

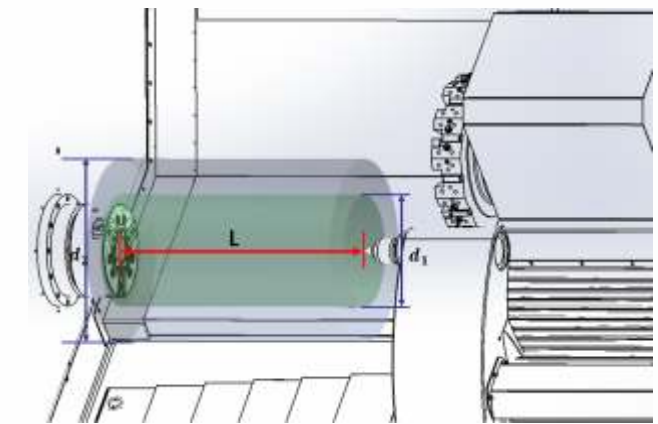
Capacity	Ø d	Ø d ₁	Ø d ₂	L	
TTC-6	170	305	560	433	mm
TTC-8	210	305	560	406	mm
TTH-8	210	528	650	680	mm
TTH-10	254	528	650	660	mm
TTH-12	304	488	650	614	mm

Ø d Recommended turning diameter

Ø d₁ Max turning diameter

Ø d₂ Swing over bed

L Max turning length



Extremely Precise Linear Equipment

Precise positioning, repeatability, minimum friction, rigid linear way and extremely precise, grinded, front loading and without back-lash ball-screw and linear way tools in order to operate with less noise.



Direct Drive Servo Motors

Direct drive connection between motor and ball-screw shaft without back-lash and precise motion performance.



Turret

Fast tool changer, high working performance, precise positioning and powerful hydraulic locking with 12 tool storage electro-mechanic servo controlled slot type turret.



Turret with C Axis (Optional)

C axis working capability, fast tool changer, high working performance, precise positioning and powerful hydraulic locking with new generation BMT type 12 tool storage (12 of them lively) electro-mechanic servo turret.



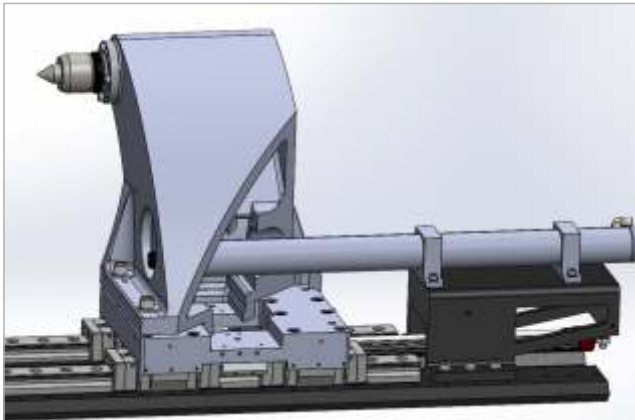
Spindle

Enhanced with roller linear, with high heat distribution performance, low vibration and less noise with high resistance.



Mobile Tail-Stock

Easy positioning and powerful braking with independent turret from hydraulic controlled axis movement.



Chip Conveyor

Very flexible, it allows easy transportation of (metal, fiber, teflon, delrin (POM) etc.) chips.



Coolant Tank

140-200 lt. capacity, self-filtered and functional tank design provides optimum cooling and easy maintenance.



Chip Bucket (Opt.)

Convertible and braking features provides easy storage and discharge of any kinds of chips.



Control Unit

User Friendly interface with latest technology and ergonomic design.



				FANUC			CONTROL UNIT (Std.)			MITSUBISHI CONTROL UNIT (Opt.)				
				TTC-6	TTC-8		TTH-8	TTH-10	TTH-12	TTC-6	TTC-8	TTH-8	TTH-10	TTH-12
Axis Travels	Travel Distance	X Axis	mm	190	190		300	300	300	190	190	300	300	300
		Z Axis	mm	450	450		760	760	760	450	450	760	760	760
Axis Motors	Feed Motor Power	X Axis	kW	1,8	1,8		3	3	3	2,2	2,2	3	3	3
		Z Axis	kW	1,8	1,8		1,8	1,8	1,8	2,2	2,2	2,2	2,2	2,2
	Feed Motor Torque (Rated/Stall/Max.)	X Axis	N-m	11/27	11/27		20/45	20/45	20/45	12/32	12/32	22,5/64	22,5/64	22,5/64
		Z Axis	N-m	11/27	11/27		11/27	11/27	11/27	12/32	12/32	12/32	12/32	12/32
Main Spindle	Max. Spindle Speed		rpm	6000	4500		4500	3500	2450	6000	4500	4500	3500	2450
	Main Spindle Motor Power (Continually/Max.)		kW	11/20,4	11/20,4		15/24,2	11/16,5	15/20,4	11/18	11/18	11/22,2	11/18	15/22,2
	Max. Spindle Torque		N-m	171,6	195		231	315	815,9	151,3	171,9	212	343,8	890,5
	Spindle Motor Torque (Continually/Max.)		N-m	52,5/130	52,5/130		71,6/154	105/210	143/259	52,5/114,6	52,5/114,6	70/141,3	116,7/229,2	143,2/282,7
	Spindle Nose		ASA	A2-5	A2-6		A2-6	A2-8	A2-11	A2-5	A2-6	A2-6	A2-8	A2-11
	Spindle Bearing Diameter (front) in/out		mm	80/125	100/150		100/150	130/200	160/240	80/125	100/150	100/150	130/200	160/240
	Spindle Through Hole		mm	56	66		66	92	118	56	66	66	92	118
Turret	No of Tool Stations		ea	12	12		12	12	12	12	12	12	12	12
	OD Tool Size		mm	25x25	25x25		25x25	25x25	25x25	25x25	25x25	25x25	25x25	25x25
	Max. Boring Bar Size		mm	40	40		40	40	40	40	40	40	40	40
	Type			Slot Tip	Slot Tip		Slot Tip	Slot Tip	Slot Tip	Slot Tip	Slot Tip	Slot Tip	Slot Tip	Slot Tip
	Turret Indexing Time (30°)		s	0,20~0,34	0,20~0,34		0,20~0,34	0,20~0,34	0,20~0,34	0,20~0,34	0,20~0,34	0,20~0,34	0,20~0,34	0,20~0,34
	Turret Driven Type			Servo Mech.	Servo Mech.		Servo Mech.	Servo Mech.	Servo Mech.	Servo Mech.	Servo Mech.	Servo Mech.	Servo Mech.	Servo Mech.
Control System	CNC Control System			FANUC Oi-TFP	FANUC Oi-TFP		FANUC Oi-TFP	FANUC Oi-TFP	FANUC Oi-TFP	M80(FCA80H-8A)	M80(FCA80H-8A)	M80(FCA80H-8A)	M80(FCA80H-8A)	M80(FCA80H-8A)
	Screen	Colour LCD		10,4"	10,4"		10,4"	10,4"	10,4"	10,4"	10,4"	10,4"	10,4"	10,4"
Capacity	Swing Over Bed		mm	560	560		650	650	650	560	560	650	650	650
	Recommanded Turning Diameter		mm	170	210		210	254	304	170	210	210	254	304
	Max. Turning Diameter		mm	305	305		528	528	488	305	305	528	528	488
	Max. Turning Length		mm	433	406		680	660	614	433	406	680	660	614
	Chuck Size		inch	6	8		8	10	12	6	8	8	10	12
	Bar Working Diameter		mm	45	52		52	75	95	45	52	52	75	95
	Bed Slant Angle		degree	45	45		45	45	45	45	45	45	45	45
	Ball-Screw Class	X Axis	mm	C1	C1		C1	C1	C1	C1	C1	C1	C1	C1
		Z Axis	mm	C3	C3		C3	C3	C3	C3	C3	C3	C3	C3
	Guideway Size	X Axis	mm	30	30		45	45	45	30	30	45	45	45
		Z Axis	mm	35	35		45	45	45	35	35	45	45	45
Axis Feedrates	Rapid Traverse Rate	X Axis	m/min	30	30		30	30	30	30	30	30	30	30
		Z Axis	m/min	30	30		30	30	30	30	30	30	30	30
	Cutting Feedrate	X Axis	m/min	1~5	1~5		1~10	1~10	1~10	1~5	1~5	1~10	1~10	1~10
		Z Axis	m/min	1~5	1~5		1~10	1~10	1~10	1~5	1~5	1~10	1~10	1~10
	Positioning Accuracy (Std./With encoder)		mm	0,008/0,004	0,008/0,004		0,008/0,004	0,008/0,004	0,008/0,004	0,008/0,004	0,008/0,004	0,008/0,004	0,008/0,004	0,008/0,004
	Repeatability (Std./With encoder)		mm	0,004/0,002	0,004/0,002		0,004/0,002	0,004/0,002	0,004/0,002	0,004/0,002	0,004/0,002	0,004/0,002	0,004/0,002	0,004/0,002
Tailstock	Tailstock Travel		mm	450	450		650	650	650	450	450	650	650	650
	Quill Diameter		mm	Ø68	Ø68		Ø68	Ø68	Ø68	Ø68	Ø68	Ø68	Ø68	Ø68
	Quill Bore Taper		MK	4	4		4	4	5	4	4	4	4	5
Power Source	Electric Power Supply (Rated Capacity)		kVA	25	25		32	25	32	32	32	32	32	32
Coolant Capacity	Coolant Pump		kW-(bar)	0,75 (4)	0,75 (4)		0,75 (4)	0,75 (4)	0,75 (4)	0,75 (4)	0,75 (4)	0,75 (4)	0,75 (4)	0,75 (4)
Motor - Pressure - Volume	Coolant Tank Capacity		liter	140	140		160	160	160	140	140	160	160	160
Machine Dimensions	Length		mm	4118	4124		4346	4346	4545	4118	4124	4346	4346	4545
	Width		mm	1709	1868		2073	2073	2073	1709	1868	2073	2073	2073
	Height		mm	1778	1778		2008	2008	2008	1778	1778	2008	2008	2008
	Weight		~kg	3260	3306		5389	5439	5886	3260	3306	5389	5439	5886
	Max.Rotary Tool Speed		rpm	6000	6000		6000	6000	6000	6000	6000	6000	6000	6000
C-Axis (Opt.)	Rotary Tool Motor Power (Continually/Max.)		kW	3,7/8,3	3,7/8,3		3,7/8,3	3,7/8,3	3,7/8,3	3,7/6,6	3,7/6,6	3,7/6,6	3,7/6,6	3,7/6,6
	Rotary Tool Motor Torque (Continually/Max.)		N-m	17,7/52,5	17,7/52,5		17,7/52,5	17,7/52,5	17,7/52,5	23,6/42	23,6/42	23,6/42	23,6/42	23,6/42
	Turret Type			BMT55	BMT55		BMT55	BMT55	BMT65	BMT55	BMT55	BMT55	BMT55	BMT65
	Max. Turning Diameter		mm	275	275		438	438	373	275	275	438	438	373
	Max. Turning Length		mm	362	335		627	607	537	362	335	627	607	537

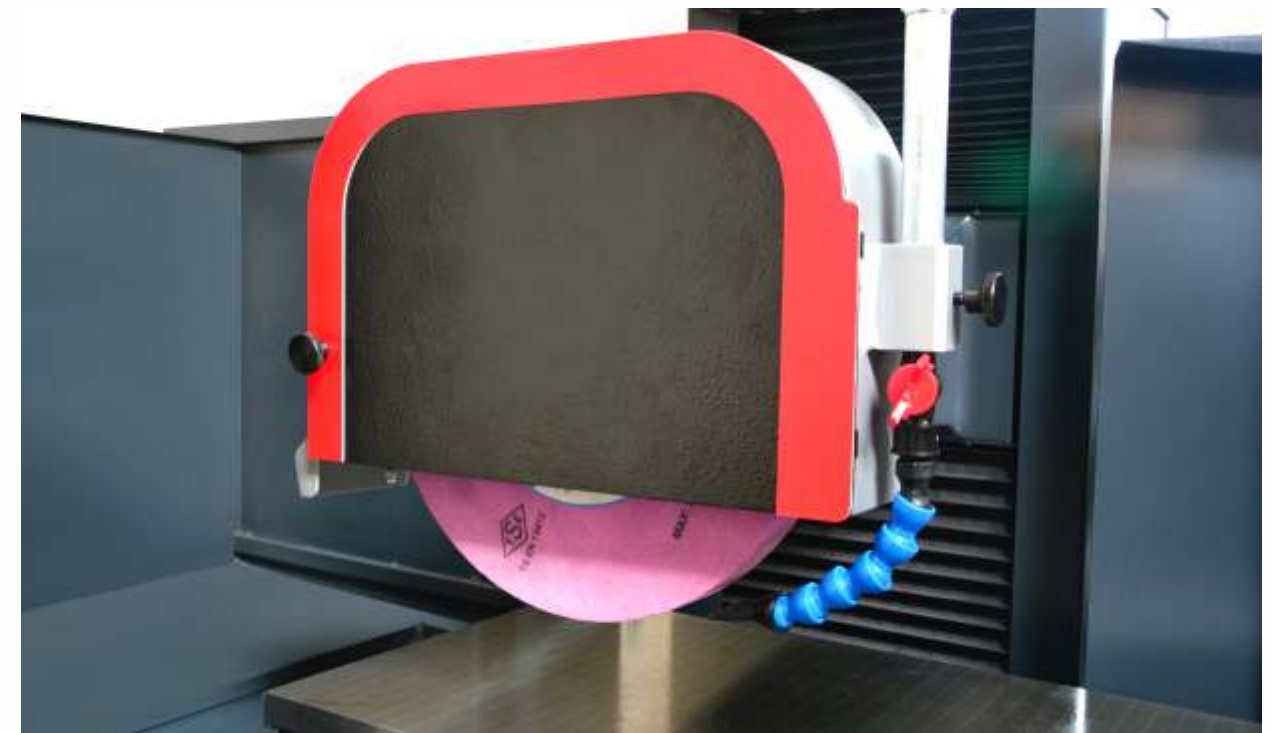
*Capacity information is according to outer diameter tool. Request working lengths.
* The values in the table may change in case of a machine update.

Overview



Our high precision surface grinder machine's capability to operate with any kinds of materials for longitudinal and cross directions grinding ensures maximum accuracy.

- 10" User-friendly touchscreen panel
- Vertical and cross travel driven by AC servo motor with ball-screw + MPG
- Precise chips removal for cross travelling and vertical axis with NC controlling system
- Hydraulic system controls for the longitudinal travelling
- Ultra precise, strong, direct-drive without backlash rigid shafts are positioned in multiple locations
- V guide-rails, covered with protective casing, provides finer grinding surface finish
- Hand-scraped prism box guide-rails provides the finest grinding surface finish
- On-time service with spare parts and delivery



Standard Equipments

- ✓ Vertical and Cross Feed Travel Driven by AC Servo Motor + MPG
- ✓ 10" Colour LCD Touch Screen Panel
- ✓ Remote Hand-wheel
- ✓ Semi Guarding for Table
- ✓ Grinding Wheel Flange
- ✓ Elektromagnetic Table (400×800)
- ✓ Wheel Balancing Stand
- ✓ Balancing Arbor
- ✓ Grinding Wheel (Ø350 x Ø127 x 40)
- ✓ Puller for Wheel Flange
- ✓ Table Type Wheel Dresser (With the diamond)
- ✓ Coolant Equipment
- ✓ Paper filter cooling equipment (Manual)
- ✓ Work Light & Program Light
- ✓ Front door safety switch
- ✓ Tools & Box
- ✓ Hydraulic Unit With the Oil (100 Lt)
- ✓ Chuck Controller for Elektromagnetic Table
- ✓ Lifting Screws
- ✓ Leveling Bolts & Plates
- ✓ Operator's Manual

Optional Equipments

- ✓ NC controls for vertical and cross axes
- ✓ Additional wheel flange
- ✓ Parallel wheel dresser on wheel head (with the diamond)
- ✓ Sin bar with magnetic (V-S 100M)
- ✓ Auto paper strip filter with magnetic separator coolant system
- ✓ Tool maker vice (VMV-40)
- ✓ Demagnetizer (for workpiece) (VDM-68)
- ✓ Sine bar (VS-100)
- ✓ Punch former with the sine plate (V-PB-BS)

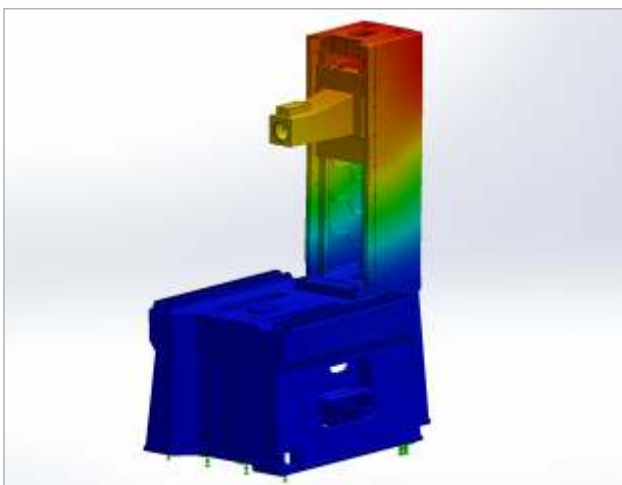
Body Structure

Stress relieved meehanite casting with annealed body structure provides working under heavy conditions, vibration damping, high precision and high resistance.



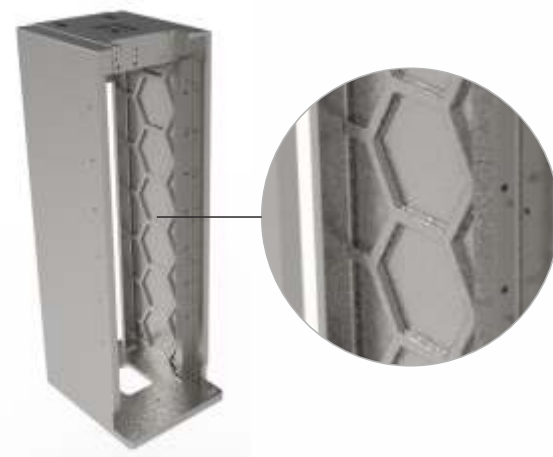
Finite Element Method

By using the finite element method, optimum body structure is obtained.



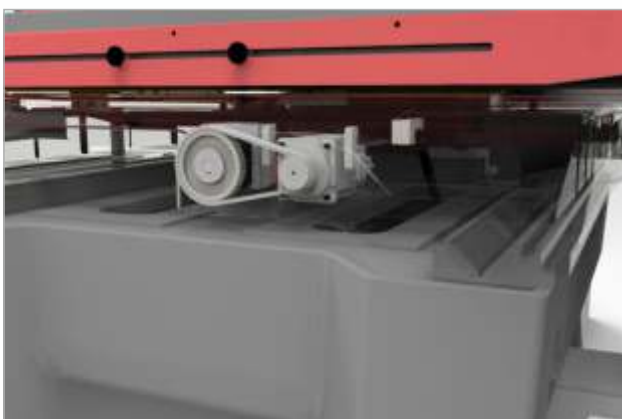
Column structure

Due to comb support at column, high resistance and vibration damping performance.

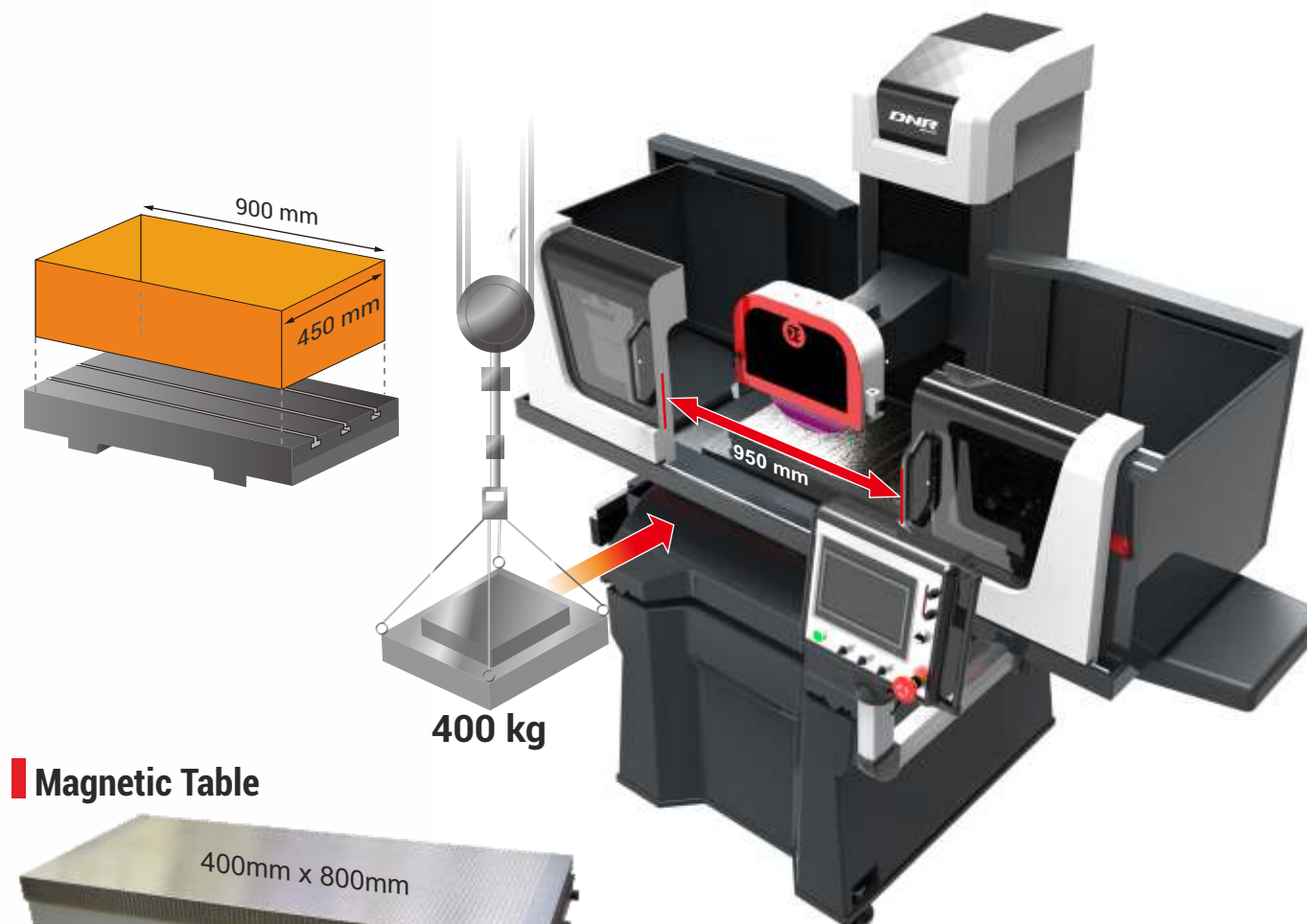


Linear Guide Way System

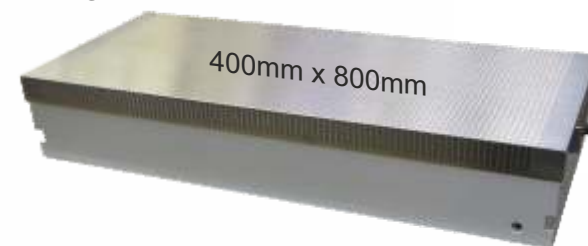
Meehanite casting and hand scrapped due to Turcide-B protective casing box-prism rail system precise linear way, positioning and without vibration running.



Operating Field and Table Measurement



Magnetic Table



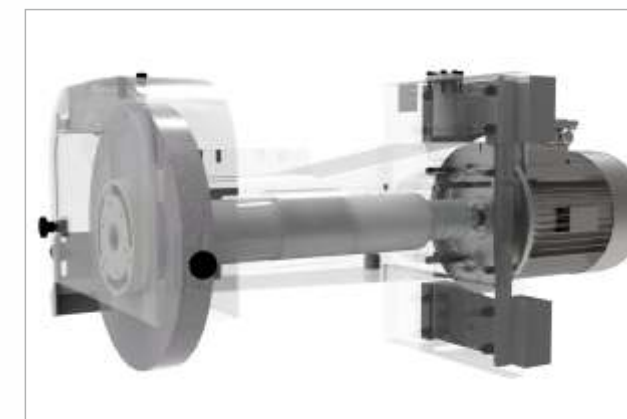
Column Axis

Hardned and protected casing rails with Turcid-B rigid linear way due to high precision, front loading, grinded ball-screw precise positioning and repeatability.



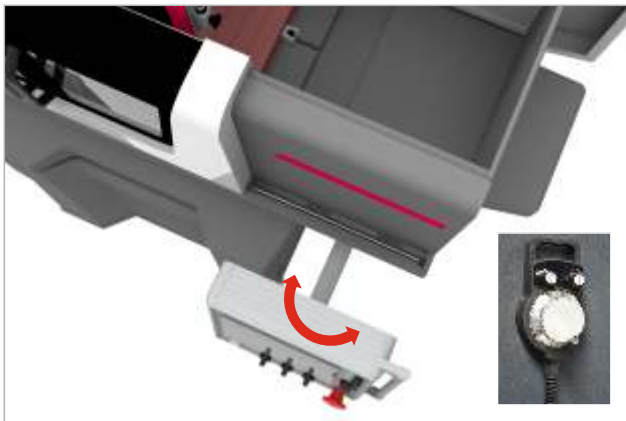
Direct-Drive Spindle

Due to direct drive motor connection, pre-loaded and precise roller type bearing supported with spindle provides excellent surface and precise grinding.



Control Unit

User Friendly interface with latest technology and ergonomic design.



Coolant Tank (Optional)

100 lt. capacity, self-filtered and functional tank design provides optimum cooling and easy maintenance.



Hydraulic Unit

Due to controlled with hydraulic unit of table axis movement, even if hard conditions, fast and stable working capability.



Automatic Lubrication System

By using two different pumps to table axis and all other axes, effective lubrication provides longevity of the equipment.



			TGH-B 450 (M)
Work Table	Table Size	mm	450x900
	Max. Grinding Length (Longitudinal)	mm	900
	Max. Grinding Width (Crosswise)	mm	450
	Max. Distance From Center of Spindle to Table	mm	550
	Min. Distance From Center of Spindle to Table	mm	75
	Table Guideway		V&Flat Way
	T-Slot Number/Size		1/14H7
Ball Screws	Max. Safety Table Load	kg	400
	Ball Screw for Vertical Feed	mm	C3 25
Traverses Axis	Ball Screw for Cross Feed	mm	C6 25
	Rapid Power (up/down)	mm/min	6000
	Rapid Power Cross Feed	mm/min	6000
	Min. Feeding Setting	mm	0,001
	Table speed Approx	Longitudinal	m/min 5~25
	Otomatik İlerleme	Cross	mm 0,05~20
		Vertical	mm 0,001
Motors	AC-Spindle Motor Power	kW	4
	AC-Spindle Motor Speed	rpm	1440
	Servo-Motor Power for Vertical Feed	kW	0,7
	Servo-Motor Speed for Vertical Feed	rpm	3000
	Servo-Motor Torque for Vertical Feed	N-m	2,4
	Servo-Motor Power for Cross Feed	kW	0,7
	Servo-Motor Speed for Cross Feed	rpm	3000
	Servo-Motor Torque for Cross Feed	N-m	2,4
	AC-Motor for Longitudinal Axis	kW	4
	AC-Motor Speed for Longitudinal Axis	rpm	1440
	AC-Lubrication Pump Motor Power	kW	0,048
Grinding Wheel	Frequency Inverter Type		FR-F840
	Speed	rpm	100-1500
	Max. Speed	rpm	2200
	Dimensions (OD/ID/W)	mm	Ø350xØ127x40
Power Source	Electric Power Supply (rated capacity)	kVA	22,3
Machine Dimensions	Length	mm	3280
	Width	mm	2750
	Height	mm	2151
	Weight	kg	3700
Coolant Capacity Motor&Pressure&Volume	Coolant Pump	kW-(bar)	0,2-(0,4)
	Coolant Tank Capacity	liter	100
Hydraulic Capacity Motor&Pressure&Volume	Hydraulic Pump	kW-(bar)	4-(40)
	Hydraulic Tank Capacity	liter	100
Control	NC System		Mitsubishi-FX5U
	Screen		10" Colour LCD Touch Screen

* The values in the table may change in case of a machine update.

NOTES