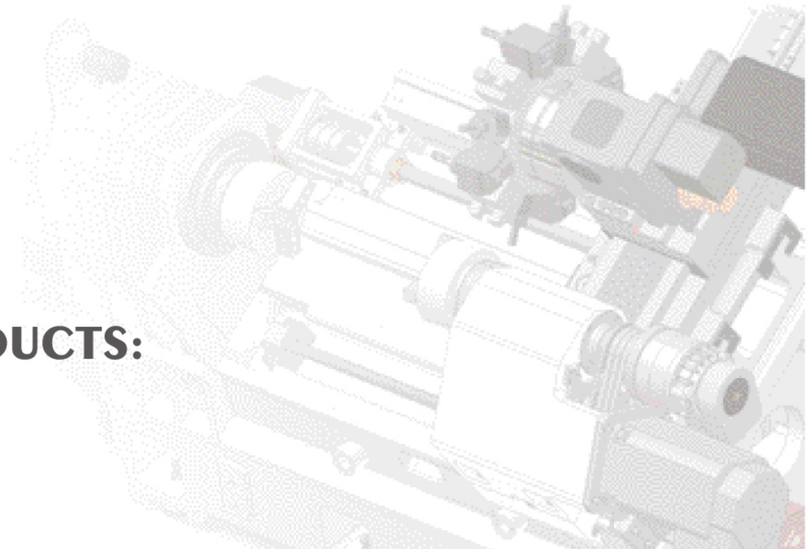


MAX DRILL PRODUCTS:

CNC LATHE SERIES

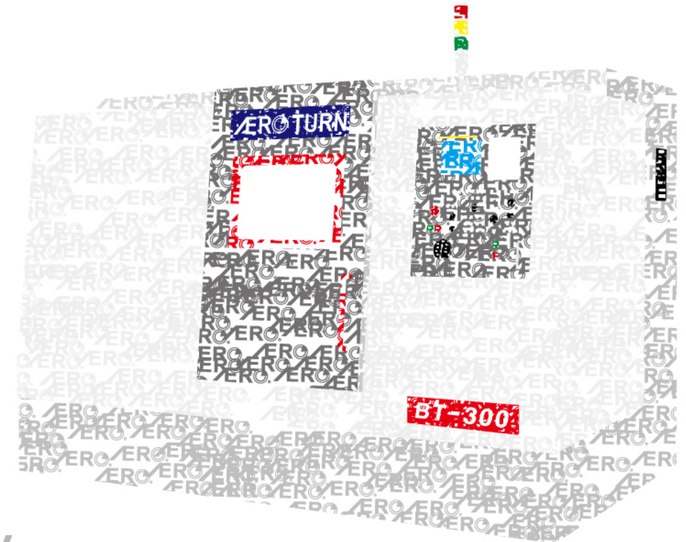
- VERTICAL MACHINING CENTER SERIES
- HORIZONTAL MACHINING CENTER SERIES

MAX DRILL MACHINERY CO., LTD

No. 111-7, Yung-ho Road, Heng-shan Village,
Ta-ya Hsiang, Taichung Hsien 428, Taiwan.
Tel: +886-4-2560-0617
Fax: +886-4-2560-1573
www.maxdrill.com.tw

AGENT

AERO TURN CNC LATHE | BT / MT / MTY / RT SERIES



AERO is Technology

BT / MT / MTY / RT SERIES

STANDARD AND OPTIONS	RT-280 SERIES	BT-300 SERIES	BT-380 SERIES	MT-300 MT-300Y SERIES	MT-380 MT-380Y SERIES
SPINDLE					
Rigid Tapping	O	O	O	O	O
Multiple Position Indexing	O	O	O	O	O
Enlarge Hole Chuck System	X	S	O	S	O
Spindle+C axis+Disk Braking	X	X	X	S	S
Sub-Spindle+6" Cylinder	X	X	X	O	O
Sub-Spindle+CS axis+Disk Braking	X	X	X	O	O
One Each Set Hard / Soft Jaw	S	S	S	S	S
Collect System	O	O	O	O	O
Special Chuck	O	O	O	O	O
TURRET					
10 Station Hydraulic Turret	X	S	S	X	X
10 Station Servo Turret	S	O	O	X	X
12 Station Hydraulic Turret	X	O	O	X	X
12 Station Servo Turret	O	O	O	X	X
12 Station VDI Turret	O	O	O	X	X
12 Station VDI Servo Turret	O	O	O	X	X
12 Sta. Power Turret (BARUFFALDI)	X	X	X	S	S
Tool Holder & Sleeve	S	S	S	O	O
Power Tool Holder	X	X	X	O	O
VDI Tool Holder & Sleeve	O	O	O	O	O
TAILSTOCK					
Hydraulic Tailstock (Saddle Type)	S	S	S	S	S
Programmable Live Center	O	O	O	O	O
Programmable Tailstock (Saddle Type)	X	O	O	O	O
Programmable Tailstock (Ball Screw Type)	X	O	O	O	O
Built-In Tailstock	O	O	O	O	O
COOLANT					
High Pressure Pump	S	S	S	S	S
Oil Mist	O	O	O	O	O
Coolant Gun	O	O	O	O	O
Coolant Flush System for Inside Cover	S	S	S	S	S
Coolant on Spindle Side	O	O	O	O	O

BT / MT / MTY / RT SERIES

STANDARD AND OPTIONS	RT-280 SERIES	BT-300 SERIES	BT-380 SERIES	MT-300 MT-300Y SERIES	MT-380 MT-380Y SERIES
Micro-Coolant System	O	O	O	O	O
AUTO ACCESSORIES					
Auto Tool Setter (Renishaw)	O	O	O	O	O
Manual Tool Setter	O	O	O	O	O
Part Catcher	O	O	O	O	O
Part Catcher (Conveyor Type)	O	O	O	O	O
Auto Barfeeder / Interface	O	O	O	O	O
Bridge Type Loading / Un-Loading System	O	O	O	O	O
Auto Door	O	O	O	O	O
Spindle Air Blow	O	O	O	O	O
SAFETY SYSTEM					
Door Interlock	O	O	O	O	O
Twin-Layer Safety Window	S	S	S	S	S
Hydraulic Detect Switch	S	S	S	S	S
CE System	O	O	O	O	O
PART CLAMPING SYSTEM					
Bar Stopper	O	O	O	O	O
Chuck Foot Pad	S	S	S	S	S
Tailstock Foot Pad	O	O	O	O	O
Hydraulic Steady Rest	O	O	O	O	O
Manual Steady Rest	O	O	O	O	O
Chuck High / Low Pressure	O	O	O	O	O
OTHERS					
Transformer	O	O	O	O	O
Oil Mist	O	O	O	O	O
Chip Conveyor	S	S	S	S	S
Tool Box	S	S	S	S	S
3-Color Light	S	S	S	S	S
Operation Manual	S	S	S	S	S
Auto Lubrication	S	S	S	S	S
Live Center	S	S	S	S	S
10.4" Screen	O	O	O	S	S

Standard : S Optional : O N /A : X

AERO TURN CNC LATHE / RT-280 SERIES / BT-300 SERIES / BT-380 SERIES

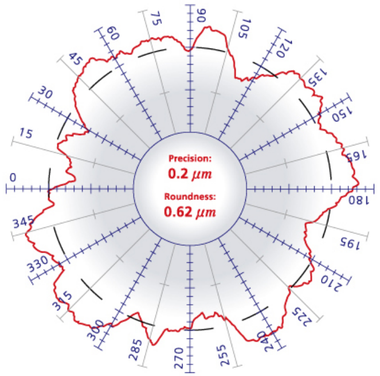
MACHINE SPECIFICATIONS			RT-280	BT-300	BT-300L	BT-300XL	BT-380	BT-380L	BT-380XL
Capacity	Max. Swing Over Bed	mm	470	600	600	600	600	600	600
	Max. Swing Over Cross Slide	mm	285	400	400	400	400	400	400
	Max. Turning Diameter	mm	260	410	410	410	410	410	410
	Max Turning Length	mm	500	500	750	1000	500	750	1000
Spindle	Spindle Nose	ASA	A2-6	A2-6	A2-6	A2-6	A2-8	A2-8	A2-8
	Chuck Size	mm	8"	8"/10"	8"/10"	8"/10"	12"	12"	12"
	Spindle Bore Hole	mm	65	76	76	76	92	92	92
	Spindle Speed	rpm	4500	8": 4200 10": 3500	8": 4200 10": 3500	8": 4200 10": 3500	3200	3200	3200
	Spindle Motor	HP	15	20	20	20	25	25	25
	Bar Material Thru Dia	mm	52	65	65	65	76	76	76
Travel	Z Axis Travel	mm	510	550	800	1050	550	800	1050
	X Axis Travel	mm	320	230 (25+205)	230 (25+205)	230 (25+205)	230 (25+205)	230 (25+205)	230 (25+205)
Rapid Feed Rate	Z Axis Rapid Traverse	M/min	30	24	24	24	24	24	24
	X Axis Rapid Traverse	M/min	30	20	20	20	20	20	20
Turret	Number of Tools	units	10	10 / 12 (Opt.)	10 / 12 (Opt.)	10 / 12 (Opt.)	10 / 12 (Opt.)	10 / 12 (Opt.)	10 / 12 (Opt.)
	Turning Tool Size	mm	□ 25	□ 25	□ 25	□ 25	□ 25	□ 25	□ 25
	Boring Tool Size	mm	Ø32	Ø 40	Ø 40	Ø 40	Ø 40 / Ø 50 (Opt.)	Ø 40 / Ø 50 (Opt.)	Ø 40 / Ø 50 (Opt.)
Tailstock	Tailstock Travel	mm	250	580	830	1080	580	830	1080
	Quill Travel	mm	80	100	100	100	100	100	100
	Quill Diameter	mm	70	85	85	85	85	85	85
	Taper Center	MT	4	5	5	5	5	5	5
Measurement	Floor Space	mm	2350 x 1500	2750 x 1800	3000 x 1800	3550 x 1800	2750 x 1800	3000 x 1800	3550 x 1800
	Machine Height	mm	1726	1860	1860	1950	1860	1860	1950
	Net Weight	kg	3500	4800	5300	5700	5000	5500	5900

NOTE : For improvement purpose, machine specifications and design characteristics are subject to change without prior notice.

AERO TURN CNC LATHE BT/MT SERIES

EXCELLENT TECHNOLOGY IS OUR BASIC REQUIREMENT

With surpass competitors design, this machine offers not only superior heavy cutting ability, but also better finishing surface and accuracy than linear way machine.



Surface roughness: Ra 0.27 μm

Roundness: 0.62 μm

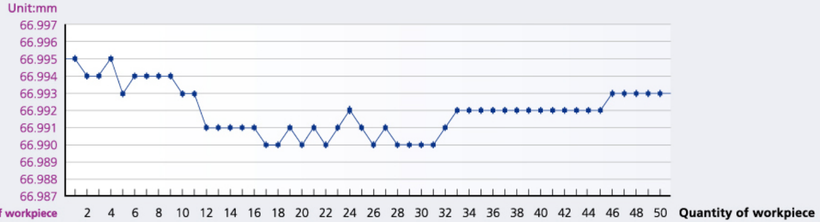
(Certificated by Metal Industries R&D Center)

Cutting Conditions	
Workpiece material: Brass	Feed rate: 0.02mm/rev
Insert material: KPD (Diamond)	Speed: 2500rpm
Toolnose: 0.4	Workpiece dia.: ϕ40mm
Cutting depth: 0.03mm(Each side)	

CUTTING CONTINUOUS TEST RESULT

Cutting Conditions	
Process	Single side rough turning: 2mm
	Finishing turning: 0.1mm
Workpiece material: S45C	
Workpiece quantity: 50pcs / continuous	

Testing machine selected by random

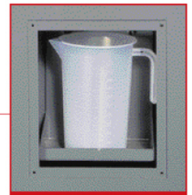


ERGONOMIC DESIGN

Closet for operation manual

Turning operation panel easy for operation

Working table with tool box



Drainage type Oil / Coolant separation system

Hydraulic valve at left side for easy service

Double layers window with safety glass inside to keep window clear

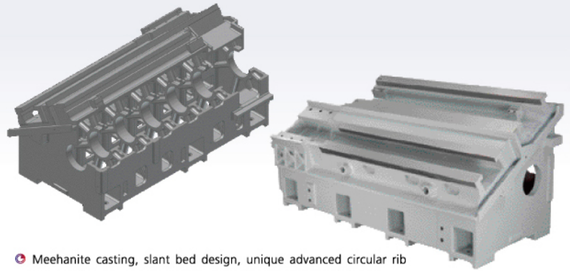
Coolant tank

AERO TURN CNC LATHE			MT-300 SERIES			MT-380 SERIES		
	MACHINE SPECIFICATIONS		MT-300	MT-300L	MT-300XL	MT-380	MT-380L	MT-380XL
Capacity	Max. Swing Over Bed	mm	600	600	600	600	600	600
	Max. Swing Over Cross Slide	mm	400	400	400	400	400	400
	Max. Turning Diameter	mm	310	310	310	310	310	310
	Max. Turning Length	mm	530	780	1030	525	775	1025
Spindle	Spindle Nose	ASA	A2-6	A2-6	A2-6	A2-8	A2-8	A2-8
	Chuck Size	inch	10"	10"	10"	12"	12"	12"
	Spindle Bore Hole	mm	76	76	76	92	92	92
	Spindle Speed	rpm	4200	4200	4200	3500	3500	3500
	Spindle Motor	HP	20	20	20	25	25	25
	Bar Material Thru Dia	mm	65	65	65	76	76	76
Travel	Z Axis Travel	mm	580	830	1080	580	830	1080
	X Axis Travel	mm	230 (10+220)	230 (10+220)	230 (10+220)	230 (10+220)	230 (10+220)	230 (10+220)
Rapid Feed Rate	Z Axis Rapid Traverse	M/min	24	24	24	24	24	24
	X Axis Rapid Traverse	M/min	20	20	20	20	20	20
Turret	Number of Tools	units	12	12	12	12	12	12
	Turning Tool Size	mm	□ 25	□ 25	□ 25	□ 25	□ 25	□ 25
	Boring Tool Size	mm	Ø 40	Ø 40	Ø 40	Ø 40	Ø 40	Ø 40
	Power Turret		TBMA-200	TBMA-200	TBMA-200	TBMA-200	TBMA-200	TBMA-200
	Indexing Type		Servo	Servo	Servo	Servo	Servo	Servo
	Tool Holder	mm	40 (DIN1809)	40 (DIN1809)	40 (DIN1809)	40 (DIN1809)	40 (DIN1809)	40 (DIN1809)
	Endmilling Capability	mm x mm x mm/min	Ø 25 x14 x 40	Ø 25 x14 x 40	Ø 25 x14 x 40	Ø 25 x14 x 40	Ø 25 x14 x 40	Ø 25 x14 x 40
	Tapping Capability	mm x p	M16 x 2	M16 x 2	M16 x 2	M16 x 2	M16 x 2	M16 x 2
	Drilling Capability	mm x mm/rev	Ø 20 x0.2	Ø 20 x0.2	Ø 20 x0.2	Ø 20 x0.2	Ø 20 x0.2	Ø 20 x0.2
	Tool to Tool Change Time (Neighboring Tools)	sec	0.3	0.3	0.3	0.3	0.3	0.3
	Tool to Tool Change Time (Furthest Tool)	sec	0.9	0.9	0.9	0.9	0.9	0.9
Tailstock	Tailstock Travel	mm	580	830	1080	580	830	1080
	Quill Travel	mm	100	100	100	100	100	100
	Quill Diameter	mm	85	85	85	85	85	85
	Taper Center	MT	5	5	5	5	5	5
Measurement	Floor Space	mm	2750 x 1800	3000 x 1800	3550 x 1800	2750 x 1800	3000 x 1800	3550 x 1800
	Machine Height	mm	1860	1860	1950	1860	1860	1950
	Net Weight	kg	4900	5400	5800	5100	5600	6000

AERO TURN CNC LATHE			MT-300Y SERIES		MT-380Y SERIES	
	MACHINE SPECIFICATIONS		MT-300LY	MT-300XLY	MT-380LY	MT-380XLY
Capacity	Max. Swing Over Bed	mm	600	600	600	600
	Max. Swing Over Cross Slide	mm	400	400	400	400
	Max. Turning Diameter	mm	310	310	310	310
	Max. Turning Length	mm	780	1030	775	1025
Spindle	Spindle Nose	ASA	A2-6	A2-6	A2-8	A2-8
	Chuck Size	inch	10"	10"	12"	12"
	Spindle Bore Hole	mm	76	76	92	92
	Spindle Speed	rpm	4200	4200	3500	3500
	Spindle Motor	HP	20	20	25	25
	Bar Material Thru Dia	mm	66	66	78	78
Travel	Z Axis Travel	mm	790	1040	790	1040
	X Axis Travel	mm	230 (10+220)	230 (10+220)	230 (10+220)	230 (10+220)
	Y Axis Travel	mm	±50	±50	±50	±50
Rapid Feed Rate	Z Axis Rapid Traverse	M/min	24	24	24	24
	X Axis Rapid Traverse	M/min	20	20	20	20
	Y Axis Rapid Traverse	M/min	10	10	10	10
Turret	Number of Tools	units	12	12	12	12
	Turning Tool Size	mm	□ 25	□ 25	□ 25	□ 25
	Boring Tool Size	mm	Ø 40	Ø 40	Ø 40	Ø 40
	Power Turret		TBMR 200	TBMR 200	TBMR 200	TBMR 200
	Indexing Type		Servo	Servo	Servo	Servo
	Tool Holder	mm	40 (DIN1809)	40 (DIN1809)	40 (DIN1809)	40 (DIN1809)
	Endmilling Capability	mm x mm x mm/min	Ø 25 x14 x 40	Ø 25 x14 x 40	Ø 25 x14 x 40	Ø 25 x14 x 40
	Tapping Capability	mm x p	M16 x 2	M16 x 2	M16 x 2	M16 x 2
	Drilling Capability	mm x mm/rev	Ø 20 x0.2	Ø 20 x0.2	Ø 20 x0.2	Ø 20 x0.2
	Tool to Tool Change Time (Neighboring Tools)	sec	0.3	0.3	0.3	0.3
	Tool to Tool Change Time (Furthest Tool)	sec	0.9	0.9	0.9	0.9
Tailstock	Tailstock Travel	mm	830	1080	830	1080
	Quill Travel	mm	100	100	100	100
	Quill Diameter	mm	85	85	85	85
	Taper Center	MT	5	5	5	5
Measurement	Floor Space	mm	3000 x 1800	3550 x 1800	3000 x 1800	3550 x 1800
	Machine Height	mm	1860	1950	1860	1950
	Net Weight	kg	4700	4900	4900	5100

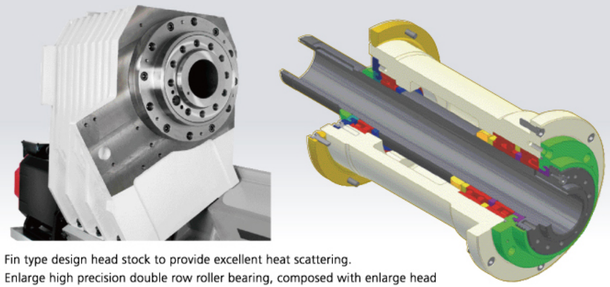
NOTE : For improvement purpose, machine specifications and design characteristics are subject to change without prior notice.

BASEMENT CASTING



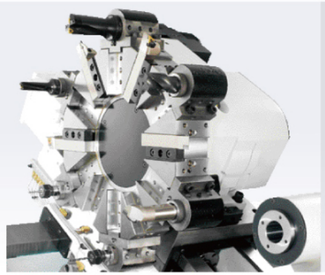
- Meehanite casting, slant bed design, unique advanced circular rib construction, to provide superior stability and shock resistance.
- 30° slant bed design to offer low gravity and big swing.
- Construction design and analysis by CAE, to reach best rigidity.

SPINDLE



- Fin type design head stock to provide excellent heat scattering.
- Enlarge high precision double row roller bearing, composed with enlarge head stock, to reach very rigid and stable performance.
- Enlarge bar capacity, 8"chuck with Ø65mm capacity, 10" with Ø76mm.

TURRET

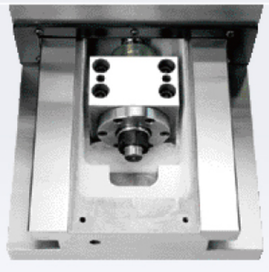


- Hydraulic turret with DANFOSS high quality hydraulic motor which has high torque, indexing for neighbor tool is 0.3 second, cross tool is 1.5 second.
- Geneva design composed with big diameter curve coupling, indexing accuracy is within 2 μ.
- 10-Station turret as standard, 12 station as option, servo turret is also available as an option.

POWER TURRET

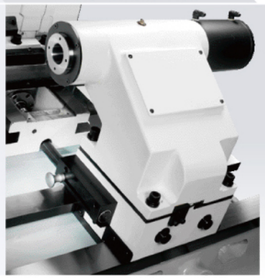
- To use advanced high speed servo system, 3 pcs. coupling for indexing, hydraulic system for clamp / unclamp neighbor tool indexing will be 0.2 second, cross tool only 0.9 second.
- Composed with high precision magnetic sensor CS system, milling, drilling, tapping can be finished on one operation.

TRANSMISSION SYSTEM



- Enlarge high precision ball screw, with P4 ball bearing, X / Z axes with pre-tension test, to reach best positioning accuracy.
- All axial slide way have auto lubrication, lubrication supply can be detected by pressure detect system.

TAILSTOCK SYSTEM

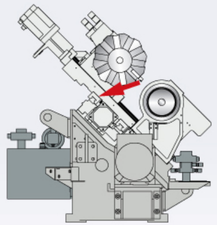


- High rigidity tailstock with enlarge MT-5 live center, to guarantee best accuracy.
- Tailstock is moving by saddle, to provide more efficient operation.
- Built-In type tailstock is available as an option.

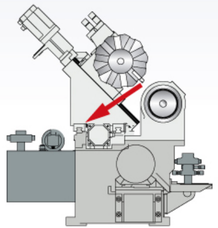
BT SERIES STRUCTURE

Our Design:

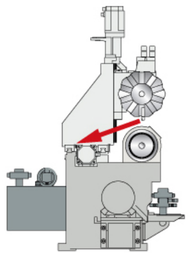
- Slant bed 30° design, high rigidity with good performance.
- Less torque with less vibration, that can save tooling cost.
- Good chip removal.

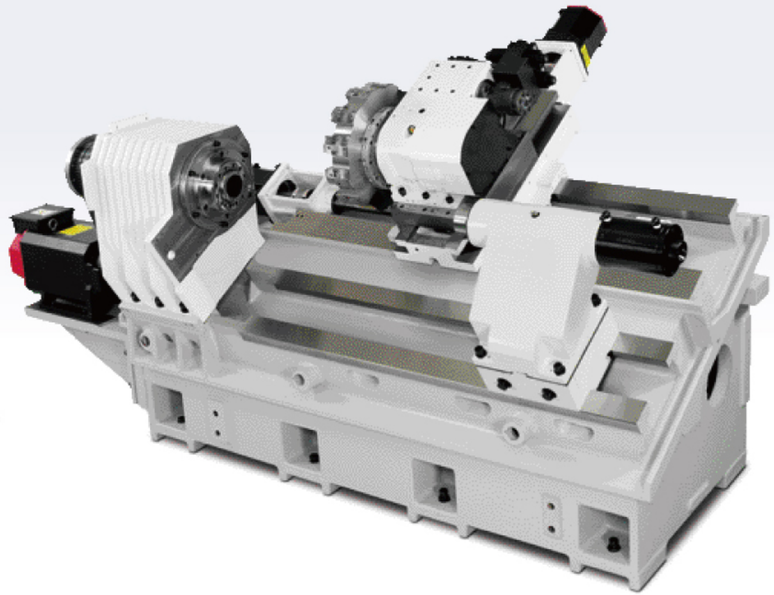


- High cutting torque to shorten your tooling life.
- Less rigidity.



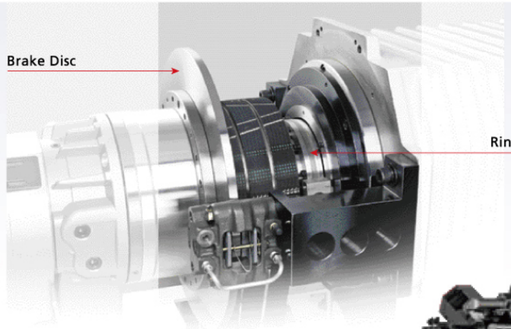
Heavy load for X axis ball screw to shorten the life of ball screw.

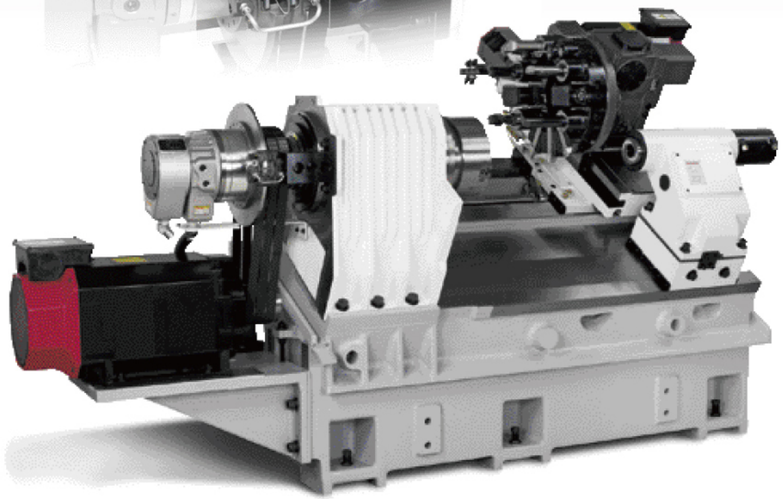




- 30° slant bed design to offer high rigidity.
- Advanced circular rib design, can absorb impact and have minimum cutting vibration, to reach very fine cutting surface and extend tooling's life.
- Unique slide way feeding system.
- To adapt FEM analyze design to improve 40% rigidity.

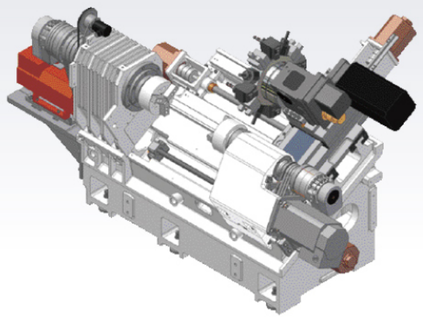
MT SERIES STRUCTURE



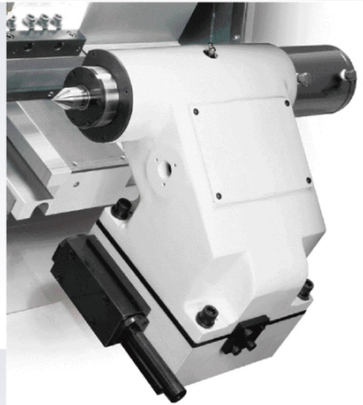


10.4" SCREEN+MANUAL GUIDE i

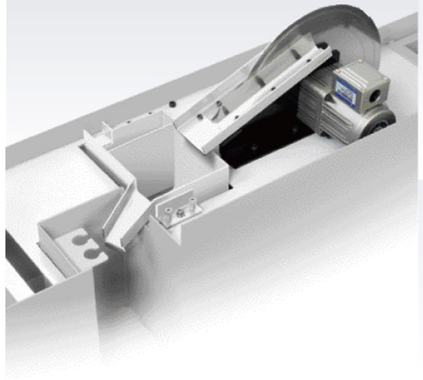
SUB-SPINDLE SYSTEM



BUILT-IN TAILSTOCK



OIL / COOLANT SEPARATION SYSTEM

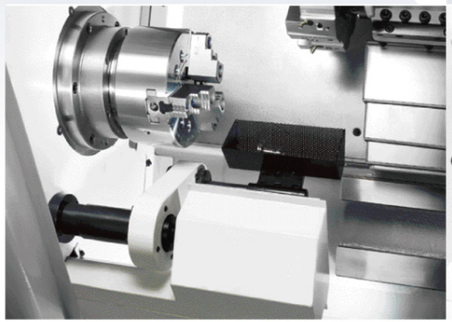


Collect Chuck

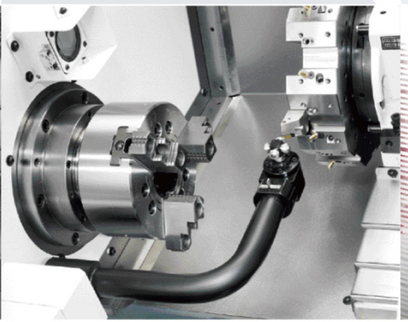
Oil Mist Collector

Bar Feeder System

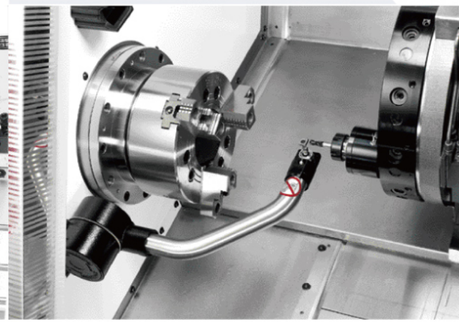
PART CATCHER



MANUAL TYPE TOOL SETTER

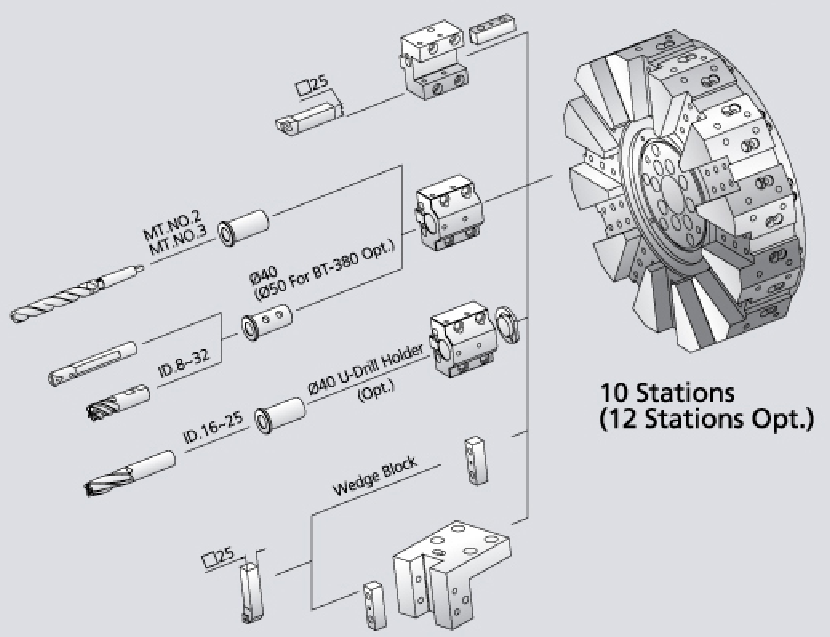


AUTO TYPE TOOL SETTER

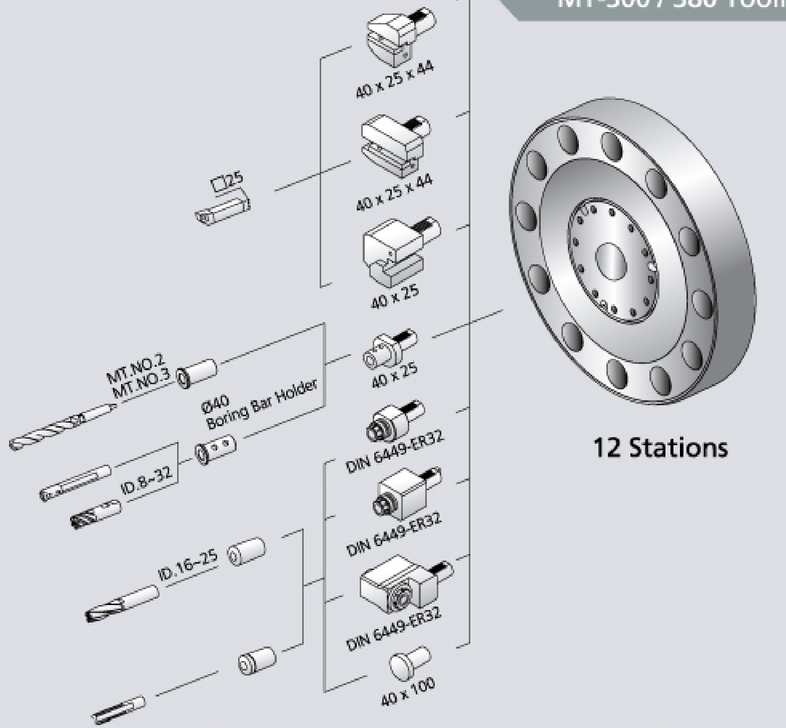


TOOLING SYSTEM

BT-300 / 380 Tooling System



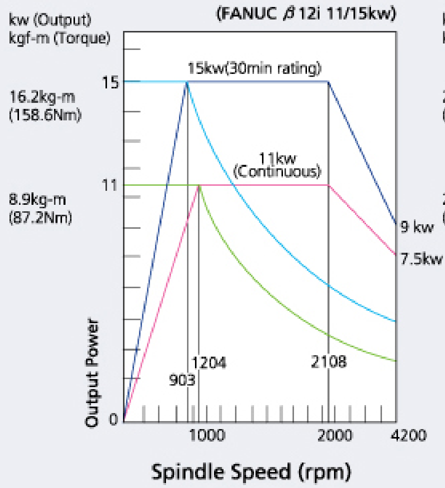
MT-300 / 380 Tooling System (Power Turret)



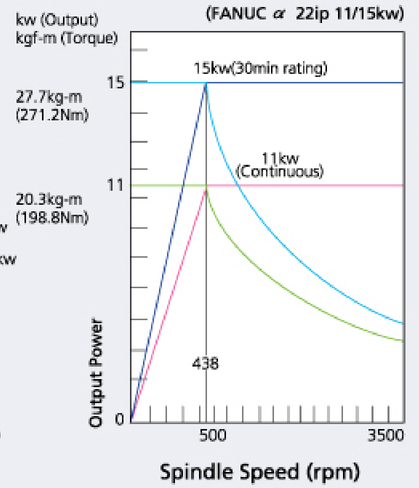
SPINDLE POWER DIAGRAM

Spindle Power

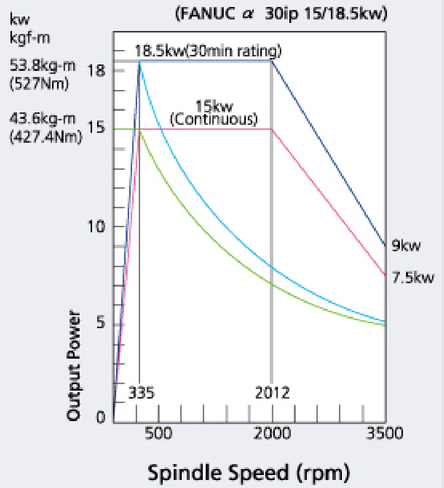
BT-300 Series



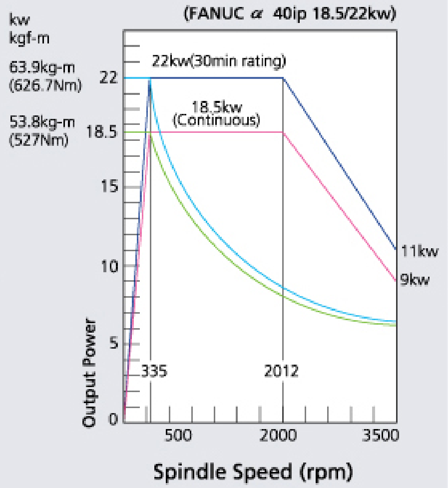
BT / MT-300 Series



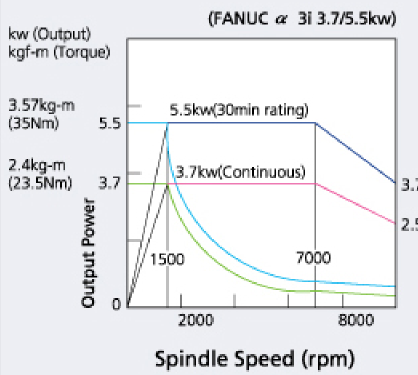
BT / MT-380 Series



Optional Spindle

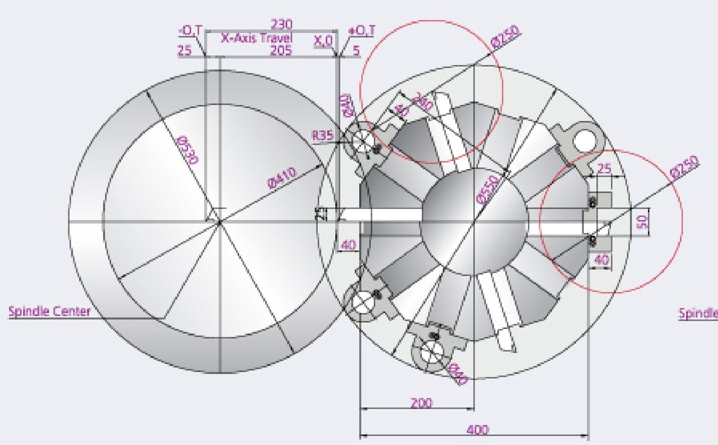


Power Turret Spindle

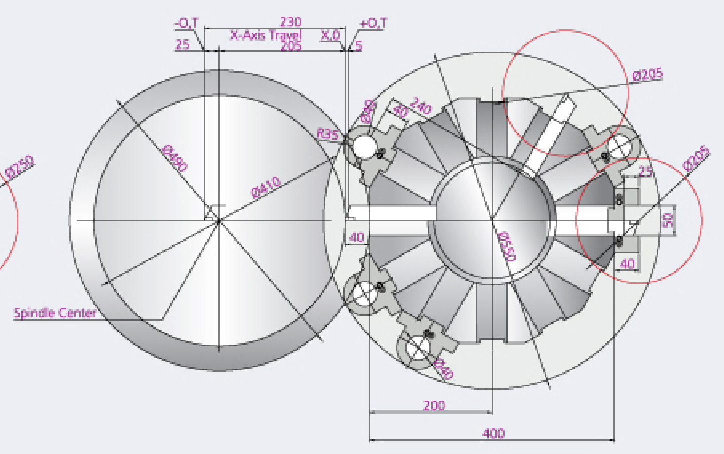


TOOL INTERFERENCE DIAGRAM

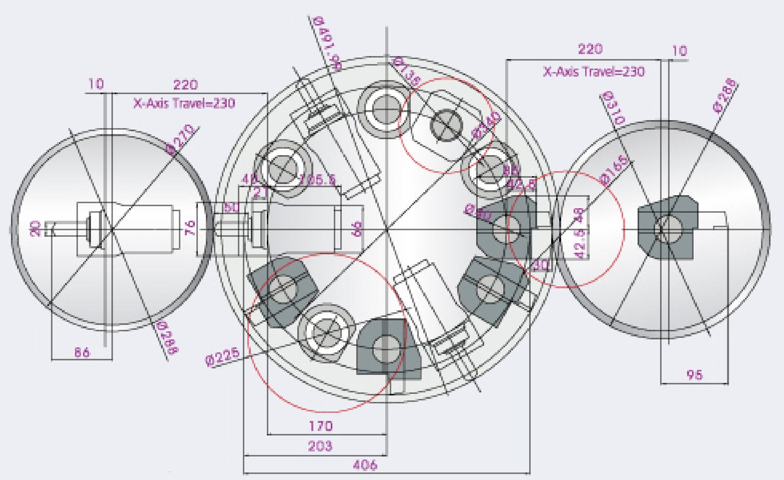
Tool Interference Diagram BT-300 / 380 (10 Tools)



Tool Interference Diagram BT-300 / 380 (12 Tools)

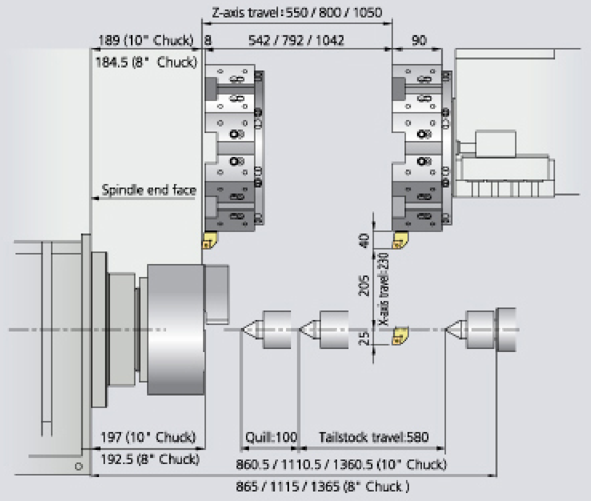


Tool Interference Diagram MT-300 / 380 (12 Tools)

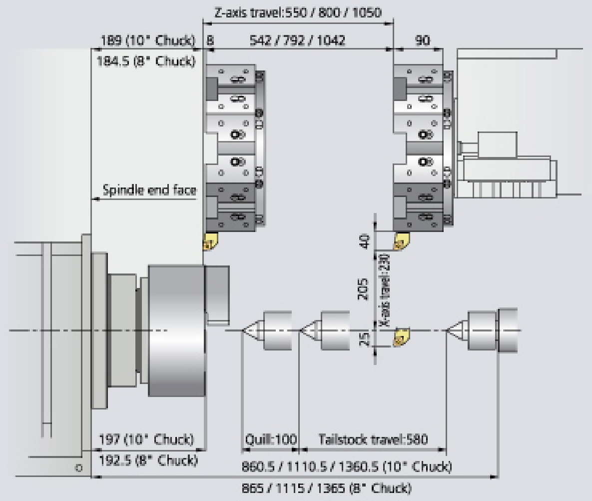


TOOL TRAVEL

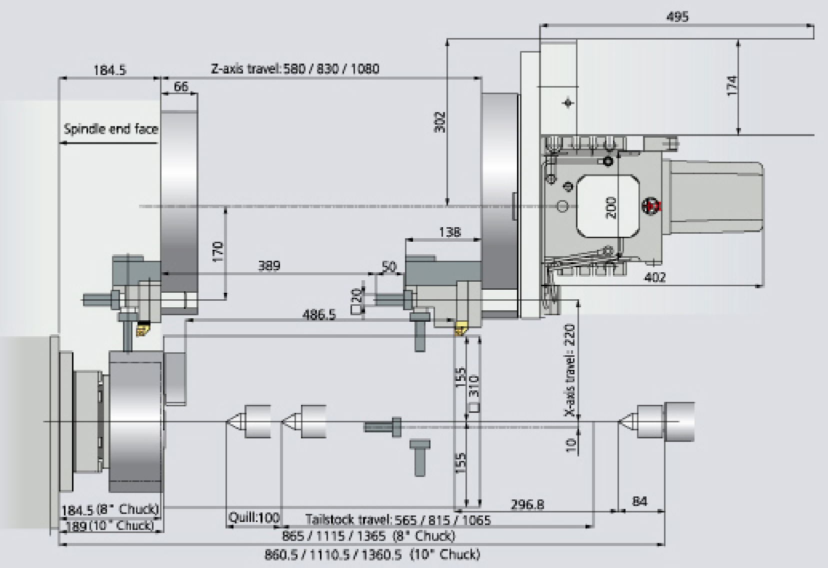
BT-300 / 380 Tool Travel (10 Tools)



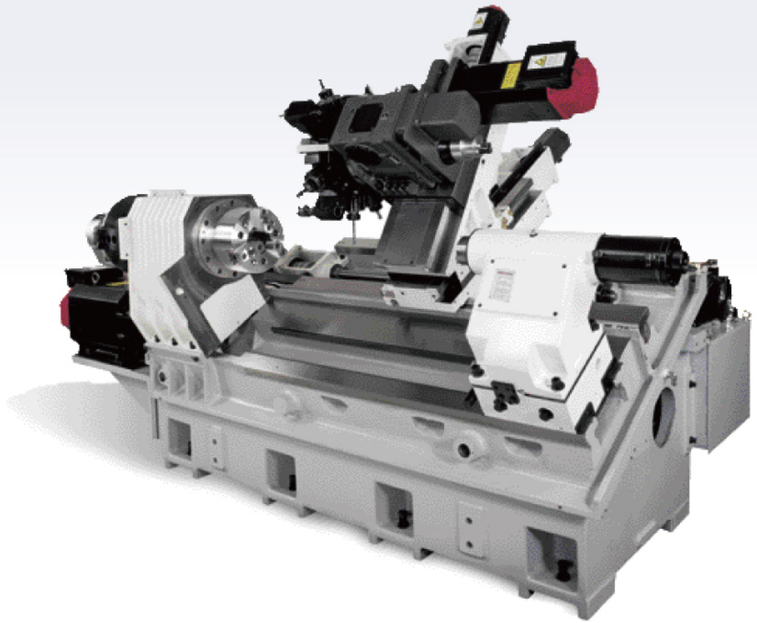
BT-300 / 380 Tool Travel (12 Tools)



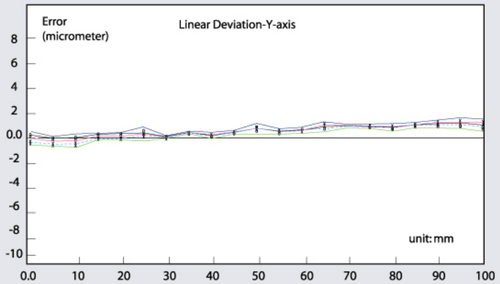
MT-300 / 380 Travel (12 Tools) (Power Turret)



MTY SERIES STRUCTURE



LASER LINEAR MEASUREMENT



Value analysis:VDI 3441 / 2617 3.0σ
Geometric symbol code

P: P variation:	2.256μm
Accuracy F: ↑	1.462μm
Accuracy R: ↓	2.334μm
Ps: P scattering:	.93256μm
Ps: Average:	.44744μm
Pa: P Dev:	1.310μm
Ps+U: Repeatability:	1.150μm
U: Mean Rv E:	.19846μm
Umax: Rv E:	.54966μm
Ave. dual-way locaion / deviation (M):	1.310μm

Machine: MT-380LY
File date & time: 2007/7/17 05:50:55
Current date & time: 2007/7/17 06:38:01
File name: 70717y2.1in
User: PMC-T1
Location: AERO
No.: 700315
Note:
Y-AXIS

Measurement: Metric

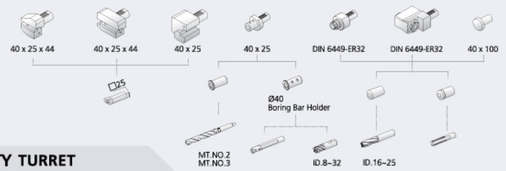
	Min.	Max.	Ave.
Temperature	31.88	31.91	31.89
Air pressure	744.31	744.52	744.43
Moisture	75.0	75.0	75.0
MT1 Temp			
MT2 Temp			
MT3 Temp	32.49	32.52	32.5

Deformation coefficient: 117 PPM/ ℃

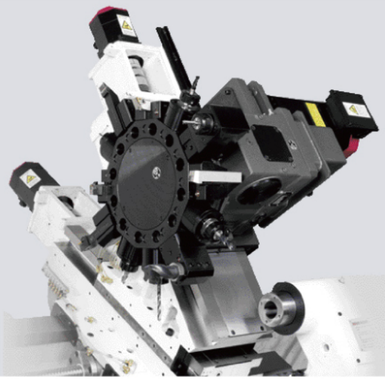
TOOLING SYSTEM

MT-300Y / 380Y Tooling System (Power Turret)

12 Stations

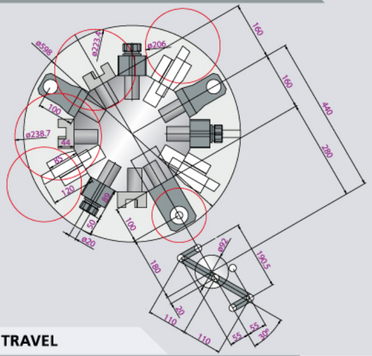


MTY TURRET



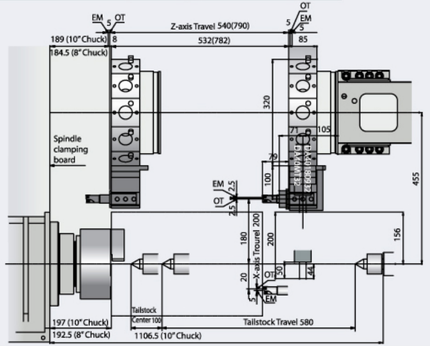
TOOL INTERFERENCE DIAGRAM

Tool Interference Diagram MT-300Y / 380Y (12 Tools)



TOOL TRAVEL

MT-300Y / 380Y Travel (12 Tools) (Power Turret)



Unit : mm