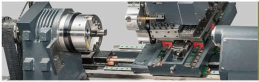
YIDA PRECISION

Humanity. Innovation. Technology



- Slant Bed Design
- Precision Turning Performance
- Extraordinary Efficiency Extensive Cutting Capacity

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Safenet Certified

ML 2024.01.1000E

Linear Guide Way

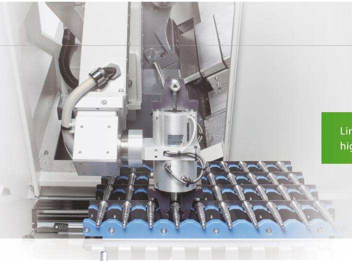
CNC LATHES

ML Series

- High Speed Cutting with Fine Finish Effect
- Linear Ways on X, Y, Z axes
- Various Tool Turrets to Select From
- Fully Automated Production System Available

SLANT BED CNC LATHE

Processing precision parts with top performance and high efficiency cutting



Linear guide ways lathe with high cost-performance index

Users across various industries desire a CNC lathe that offers high precision turning performance and technical reliability at a competitive price. YIDA's ML Series CNC Lathes can fully meet these requirements. With the ML series, you can reduce machining time due to high feed rates. The massive slant bed structure provides maximum stability during cutting. With the use of C-axis function in combination with the live-tooling turret, the machine can perform milling, drilling, and tapping operations with a single setup of the workpiece.

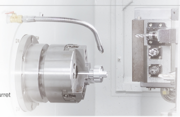
If your machining operation requires a CNC lathe that offers high speed, and high precision machining performance, the YIDA ML Series has the right machine for you. This series of lathes integrates many quality features to meet your most demanding requirements, such as linear ways on X, Y & Z axes with high feed rates, highly rigid slant bed, and a selection of various turret types.

Advantages of a Slant Bed Lathe

Easy chip evacuation, small footprint and ergonomic operation.

GANG TYPE / TURRET TYPE TURNING CENTER

- Flat bed design, compact floor space, and multi-tasking production
- X / Y / Z axis linear guide way with high feed rate and low abrasion
- Varied turret and gang tooling selection - gang tooling system and turret
- Enhancement of varied parts with Y-axis tooling system design



Focus on reliability and precision machining for automation, high speed and complex development workflows

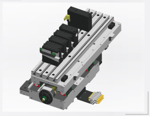
Compact Floor Space

Flexible Tooling Choice

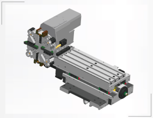
High Accuracy High Efficiency

Modern Outlook with Sleek Design

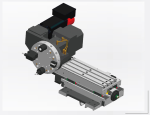
Production Cell for High Volume Application



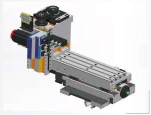
ML-430 + Gang-Tool
- Low cost and compact configuration
- Long X-axis traverse, 5~6 tools, and 30 m/min. feed rate, offers quick and high precision machining jobs
- Auxiliary tool plate available for quick tool-set change
- Load / Unload system (optional)



ML-430 + Hydraulic or Servo Turret + Gang-Tool
- Gang-tool slide can be mounted for a total of 12~13 tools available when alongside an 8T turret
- Auxiliary tool plate available for quick tool-set change
- Load / Unload system (optional)
- High pressure coolant pump (optional)



ML-430 + Power Turret + Gang-Tool
- Auxiliary tool plate for gang-tool can also mount 12T power turret at 5000 rpm, totally 15~16 tools
- Offer CS-axis for turn-mill machining job
- Load / Unload system (optional)
- High pressure ccolant pump (optional)

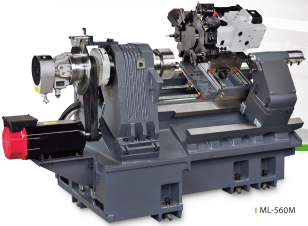


ML-430Y + Gang-Tool
- Auxiliary tool plate for gang-tool turret mount 5-tools for Y-axis power tool.
- Offer CS-axis for turn-mill machining job
- Load / Unload system (optional)
- High pressure coolant pump (optional)

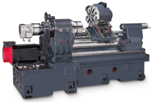
ROBUST STRUCTURE

Get exceptional rigidity with YIDA's optional bed design

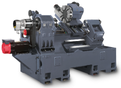
The YIDA ML Series CNC lathes feature a compact machine structure. All structural parts are manufactured from high quality cast iron, stress relieved to eliminate deformation problems. The structural parts are scientifically rib reinforced to damp vibration and reduce structural deflection to a minimum. During the machine design stage, Finite Element Analysis (FEA) is applied to simulate various stress/strain conditions. This allows the ML series to achieve outstanding vibration resistant performance.



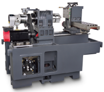
ML-560M



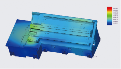
ML-600M



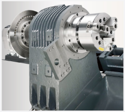
ML-360



ML-430

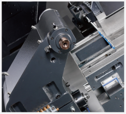


Finite Element Analysis (FEA)



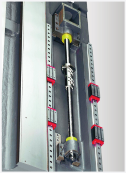
Highly Rigid Headstock

The headstock with wide base design contributes to lower center of gravity, thus increasing rigidity and stability during cutting.



Automatic Tailstock

The saddle drives the tailstock via a lock pin on the tailstock.



Linear Guideways

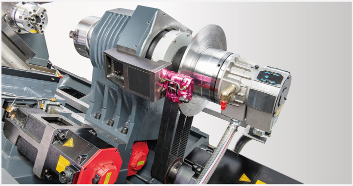
High precision heavy duty roller type linear guideways are mounted on X, Y & Z axes, allowing the axes to move at high rapid traverse rates with high positioning accuracy due to low stickslip and low coefficient of friction.

High Precision, High Speed Ballscrews

Ballscrews on X & Z axes are pretensioned in combination with the use of double nuts to eliminate backlash. The pretensioned ballscrews effectively suppress temperature buildup during high speed machining.

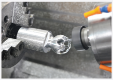
QUALITY FEATURES FOR BETTER PERFORMANCE

CS-AXIS / Y-AXIS / CF-AXIS

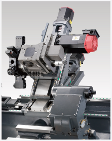


CS-Axis Function

- The CS-axis function in combination with the live tooling turret enable the machine to perform milling, drilling and tapping operations with only a single setup.
- CS-axis is equipped with a rotary encoder for high orientating accuracy.

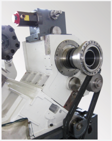


Turn-milling center MT-540 obtained the Award of Eminence at TIMTOS 2011, with its orthogonal structure and rotating mill head, offering C, Y and B axes turn-mill capability.



Y-Axis Function

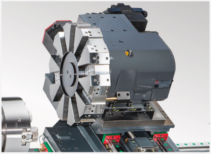
- The Y-axis features a lightweight structure and is directly driven by a servo for high positioning accuracy.
- The excellent use of a Y axis saves money, time, floor space, manpower and fixture cost. Full cycle machining reduces loss of accuracy.

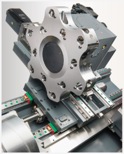


CF-Axis Function (for ML-850)

- The CF-axis features higher rigidity and is ideal for heavy cutting application.
- The CF-axis function in combination with the live tooling turret enable the machine to perform milling, drilling and tapping operations with a single setup.

TURRET





Hydraulic Turret (Standard)

Live Tooling Turret (Optional)

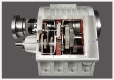
Servo Turret (Optional)

VDI or BMT Turret Disc (Optional)

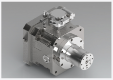
GEARBOX

Headstock with 4-Step Gear Transmission

- The spindle rotation is transmitted through a 4-step gearbox, providing spindle speed range from 40 to 2,000 RPM. This provides high torque output, making the machine suitable for heavy cutting.
- An oil cooling system is contained inside the box in combination with a heat exchanger mounted outside the box.



Gearbox on ML-850



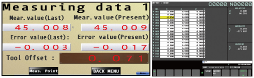
GTP or ZF gear box (Optional)

Heidenhain ERM Magnetic Encoder

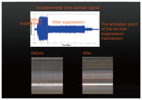
C axis for lathe application is usually for machining bar material. The precision and repeatability of the ERM magnetic encoder can improve milling performance on C axis application.

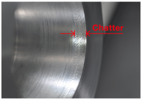
AUTOMATIC MACHINING COMPENSATION

Comparing the error value between the measured point data and the measured workpiece data, then outputting the error value to the NC for executing tool wear compensation.



DESCRIPTION OF VIBRATION SUPPRESSION

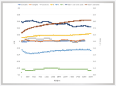


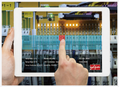


Our system provides instant adjustment of cutting parameters for suppressing vibration on a smart production line. This function is designed to meet the requirements of smart production lines. It helps to upgrade machining surface quality, reduce tool wear, reduce vibration, and reduce energy consumption of a cutting motor, thus resulting in an overall energy saving effect.

YIDA collaborates with universities, industrial research centers and institutes in many areas, with many efforts leading to awards and prizes. The anti-vibration features of the BML-500 earned it the Award of Eminence at TIMTOS 2015.

CONTROL: AI, IOT, ITRI CONTROL SYSTEM



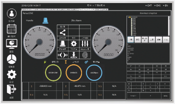


Since maintenance has a direct influence on performance, productivity and product quality, we're improving the process through recent developments in Augmented Reality technologies.

The FANUC AI Thermal Displacement Compensation module was implemented on EV-860. The thermal displacement after applying AI adjustment is within 0.002 mm, compared to 0.08 mm without AI.

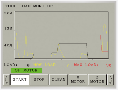
Current efforts are focused on developing AR applications for maintenance.

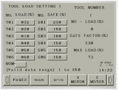
SMART MACHINE ENGINE



PRODUCTION MANUFACTURER / PROCESS RECORDS

SPINDLE OR SERVO LOAD INSPECTION



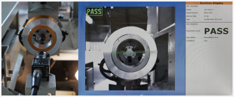


Spindle or Servo-axis Load Inspection

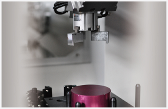
This function is used to inspect the spindle load or servo axis load through the controller. If the spindle load or servo axis load exceeds a set value, the machine will stop and an alarm will occur.

Features

- Can be equipped with a built-in gantry type automation device with automatic detection function.
- Outstanding features of parts supply equipment are low investment cost, fast parts change, small space occupation, and excellent scalability. Applicable for parts loading and unloading for metalworking on a CNC lathe, which can reduce parts changing time and achieve high automation efficiency.
- Help customers to save investment capital and working costs, which in turn creates automation efficiency and competitiveness.
- Available to select various types of modular parts supply equipment for increased efficiency and time sharing.

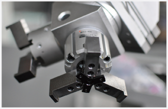


Designed to meet the requirements in an automated production line, the device provides positioning and quality inspection, size measurement, identification and confirmation. Using the controller's image treatment to conduct visual inspection functionality can eliminate human error in judgment and inspection. As a result, product quality and machining yield rate can be upgraded.



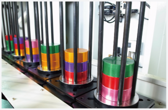
Smart Machine Industrialization

To meet specific machining requirements, various automation devices and automatic detection functions can be selected (such as vibration suppression, collision compensation, measurement and image).



Rotating Change Type Twin Jaw

The pneumatic twin jaws design upgrades part clamping stability. Fast clamping / unclamping without damage to the workpiece.



Rotating Elevating Type Part Supply Device

Suitable for circular discs, stackable parts with specific angle. Transmitted by conveyor chain. Standard design is 16 pallets. Custom designs to meet customer's workpiece requirements are available.

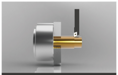
Specifications

Automatic Gantry Loader System	
Clamping range	Ø30 mm (Ø1.18")
Max. machining diameter	Ø160 mm (Ø6.3")
Max. weight of workpiece	3 (x2) kg
X axis travel	550 mm
Z axis travel	1,770 mm
X axis feed rate	90 m/min
Z axis feed rate	120 m/min
Clamping type	3-jaw (pneumatic)
Travel of clamping jaws	8 mm

* X axis - up / down; Z axis - right / left

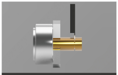
Feeding System	
Pallet no.	16 pcs
Max. loading	40 kg
Max. height	410 mm

ACTUAL MACHINING DATA



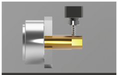
O.D. Heavy Cutting

- Material: S45C
- Cutting tool: Ø25 mm
- Feed rate: 0.4 mm/rev
- Cutting depth: 4 mm
- Chip removal: 215 c.c/min



Slot Cutting

- Material: S45C
- Cutting tool: Ø25 mm
- Feed rate: 0.2 mm/rev
- Cutting width: 4 mm
- Cutting position length: 120 mm



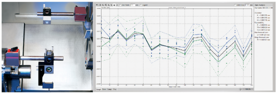
End Mill

- Material: S45C
- Cutting tool: Ø20 mm
- Cutting width: 16 mm
- Cutting depth: 7 mm
- Feed rate: 500 mm/min

ML-560MY

QUALITY ASSURANCE

Each machine has been inspected before shipping to ensure optimal operation performance.

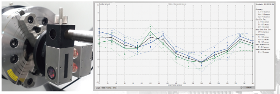


Laser Calibration

Calibration of the positioning and repeatability for axial.

Ball Bar Circularity Inspection

Calibration of roundness deviation for CW / CCW.



C-axis positioning and repeatability accuracy inspection.

ML-800M

MACHINE SPECIFICATIONS - 430 SERIES

ITEM		UNIT	ML-430		ML-430Y
			Standard	C axis	
CAPACITY	Swing over bed	mm	Ø430		Ø430
	Swing over saddle	mm	Ø160		Ø160
	Max. machining dia.	mm	Ø430		Ø430
	Max. machining length	mm	240		Gang tool: 240 Axial live tooling: 110 Radial live tooling: 130
	Slant angle of bed		0°		0°
TRAVEL RANGE	X-axis	mm	350		350
	Z-axis	mm	-		165
	Y-axis	mm	320		320
	C-axis	mm	-	360° (0.001°)	360° (0.001°)
SPINDLE	Spindle speeds	rpm	6,000		6,000
	Spindle nose		A2-5		A2-5
	Spindle bore dia.	mm	Ø56		Ø56
	Front bearing inner dia.	mm	Ø80		Ø80
	Draw Bar Dia.	mm	Ø45		Ø45
CHUCK	Chuck diameter	mm	6"		6"
TURRET	Type		Gang type	Live-tooling (VDI20)	STD: Power tool; OPT: Hydraulic/Servo turret
	Stations	pcs	STD: 6(gang tool);OPT: 8	12	5 (Power tool)
	Model		OPT: LS-120,LS-120SV	LS-120SP	OPT: LS-120 (8T),
	Tool specification for Y axis		-	-	ER16M
	Square tool shank	mm	20x20	16x16	20x20
	Boring bar shank diameter	mm	Ø25	Ø25	OPT: Ø25
	Indexing time(0~180 °)	sec	LS-120: 1.8; LS-120SV: 0.9	0.83	LS-120: 1.8; LS-120SV: 0.9
LIVE-TOOL	Spindle speeds	rpm	-	50~5,000	50~5,000
FEED RATE	Rapid traverse	m/min	X:30, Z:30		X:30, Y:18, Z:30
MOTORS	Main-spindle	kw	STD: β6/12,000 (5.5/7.5) ;OPT: α6/10000 (5.5/7.5)		STD: β6/12,000 (5.5/7.5)
	Live-tool	kw	-	α1.5/10000 (2.2/3.7)	β4 (0.75) (for Y axis power tool)
	X/Y/Z-axis servo motor	kw	STD: X/Z: β8 (1.2); OPT:X/Z:α8 (1.6)		X/Y/Z: β8 (1.2)
	Hydraulic oil pump	kw	0.75		0.75
	Coolant pump	kw	0.8		0.8
Accuracy	Positioning	mm	±0.003		±0.003
	Repeatability	mm	±0.003		±0.003
Power	Requirements	KVA	380-415/220V 12KVA		380-415/220V 15KVA
Machine size	Height (mm)	cm	212		212
	Floor space (W x D)	cm	210x203		210x203
	Packing	cm	242x230x212		242x230x212
	Net weight	kg	3,000		3,000
	Gross weight	kg	3,150		3,150

Note:Specifications are subject to change without further notice.

MACHINE ACCESSORIES

● Standard ○ Option

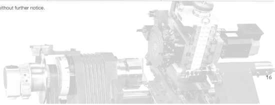
ITEM		ML-430	ML-430Y
Spindle positioning	Manual positioning	●	--
	Hydraulic braking	○	--
	CS-axis+2-step hydraulic braking	○	●
Tooling system		●	●
High pressure coollant pump		○	○
Spindle device	Chuck	●	●
	Hydraulic rotary cylinder	●	●
Lubrication system		●	●
Safety door		●	●
Parts catcher		○	○
Bar feeder interface		○	○
Air blow for chuck		●	●
End of program light		●	●

ITEM	ML-430	ML-430Y
LED work lamp	●	●
Coolant system	●	●
Tools box	●	●
Oil-mist collector	○	○
Bar feeder	○	○
Transformer	○	○
Chip conveyor	○	○
Parts conveyor	○	○
Collet chuck	○	○
Gantry robot and loading / unloading deivce	○	○
Variable frequency hydraulic system	○	○
Customized loading / unloading automatic design	○	○
Various chucks option and fixture design	○	○

MACHINE SPECIFICATIONS - 360 SERIES

			360 series		
ITEM		UNIT	ML-360		ML-360Y
			Standard	C axis	
CAPACITY	Swing over bed	mm	Ø600		Ø600
	Swing over saddle	mm	Ø400		Ø420
	Distance between center	mm	STD: 788 (8"); OPT: 743 (10")		STD: 779 (8"); OPT: 734 (10")
	Max. machining dia.	mm	Ø360	Ø350	Ø130
	Max. machining length	mm	STD: 470 (8"); OPT: 460 (10")	STD: 460 (8"); OPT: 450 (10")	STD: 470 (8"); OPT: 460 (10")
	Slant angle of bed		30°		60° (30°+ 30°)
TRAVELS	X-axis	mm	215 (180+35)	215 (175+40)	125 (65+60)
	Y-axis	mm	-		±40
	Z-axis	mm	8": 500 / 10": 500		8": 500 / 10": 490
	C-axis	mm	-	360° (0.001°)	360° (0.001°)
SPINDLE	Spindle speeds	rpm	STD: 50~4,500 (8"); OPT: 50~3,500 (10")		STD: 50~4,500 (8"); OPT: 50~3,500 (10")
	Spindle nose		STD: A2-6; OPT: A2-8		STD: A2-6; OPT: A2-8
	Spindle bore dia.	mm	STD: Ø62 (A2-6); OPT: Ø86 (A2-8)		STD: Ø62 A2-6); OPT: Ø86 (A2-8)
	Front bearing inner dia.	mm	STD: Ø100 (A2-6); OPT: Ø120 (A2-8)		STD: Ø100 (A2-6); OPT: Ø120 (A2-8)
	Draw bar dia.	mm	STD: Ø52; OPT: Ø75		STD: Ø52; OPT: Ø75
CHUCK	Chuck diameter	inch	STD: 8"; OPT: 10"		STD: 8"; OPT: 10"
TURRET	Type		STD: servo OPT: hydraulic	Live-tooling (VDI40)	Live-tooling (VDI40)
	Station	pcs	STD: 12; OPT: 10	STD: 12	STD: 12
	Model		LS-200SV	TBMA200	TBMR200 / 12DX (short)
	Square tool shank	mm	25 x 25		25 x 25
	Boring bar shank diameter	mm	Ø40		Ø40
	Indexing time(0~180 °)	sec	0.97	0.73	0.73
LIVE TOOL	Spindle speeds	rpm	-	50~4,000	50~4,000
FEED RATE	Rapid traverse	M/min	X: 36, Z: 36		X: 36, Z: 36, Y: 36; C: 200 rpm
TAILSTOCK	Type		Automatic		Automatic
	Quill diameter	mm	Ø65		Ø65
	Quill bore taper		MT4		MT4
	Quill travel	mm	80		80
	Tailstock travel	mm	490		490
MOTORS	Main-spindle	kw	STD: α12 (11/15); OPT: α15 (15/18.5)		STD: α12 (11/15); OPT: α15 (15/18.5)
	Live-tool	kw	-	α3 (3.7/5.5)	α3 (3.7/5.5)
	X/Z-axis servo motor	kw	X: α12 3.0; Z: α12 3.0		X: α12 3.0; Y: α12 3.0; Z:α12 3.0
	Hydraulic oil pump	kw	1.5		1.5
	Chip conveyor	kw	0.2		0.2
	Coolant pump	kw	0.8		0.8
ACCURACY	Positioning	mm	±0.004		±0.004
	Repeatability	mm	±0.003		±0.003
POWER	Requirements	KVA	380-415 / 220V 26KVA		380-415 / 220V 30KVA
MACHINE SIZE	Height	cm	186		226
	Floor space (W x D)	cm	369 x 224		402 x228
	Packing (w/conveyor)	cm	370 x 227 x 214		387 x 228 x 255
	Net weight (w/conveyor)	kg	4,870		5,790
	Gross weight (w/conveyor)	kg	5,120		6,060

Note:Specifications are subject to change without further notice.



MACHINE SPECIFICATIONS - 560 SERIES

ITEM		UNIT	560 series					
			ML-560S		ML-560SY	ML-560M		ML-560MY
			Standard	C axis		Standard	C axis	
CAPACITY	Swing over bed	mm	Ø560		Ø700	Ø560		Ø700
	Swing over saddle	mm	Ø420		Ø560	Ø420		Ø560
	Distance between center	mm	652		500	902		750
	Max. machining dia.	mm	Ø320	Ø300	Ø320	Ø320	Ø300	Ø320
	Max. machining length	mm	320		280	570		530
	Slant angle of bed		30°		30°	30°		30°
TRAVELS	X-axis	mm	190 (160+30)	190 (150+40)	190 (160+30)	190 (160+30)	190 (150+40)	190 (160+30)
	Y-axis	mm	-		±50	-		±50
	Z-axis	mm	360		350	610		600
	C-axis	mm	-	360˚ (0.001˚)	360 ° (0.001 °)	-	360˚ (0.001˚)	360 ° (0.001 °)
SPINDLE	Spindle speeds	rpm	STD: 50~4,500 (8"); OPT: 6,000 (10")		50~4,500	STD: 50~4,500 (8"); OPT: 6,000 (10")		50~4,500
	Spindle nose		STD: A2-6; OPT: A2-5		A2-6	STD: A2-6; OPT: A2-5		A2-6
	Spindle bore dia.	mm	STD: Ø62; OPT: Ø79 (A2-6), Ø56 (A2-5)		Ø62	STD: Ø62; OPT: Ø79 (A2-6), Ø56 (A2-5)		Ø62
	Front bearing inner dia.	mm	Ø100 (A2-6);Ø80 (A2-5)		Ø100	Ø100 (A2-6);Ø80 (A2-5)		Ø100
	Draw bar dia.	mm	STD: Ø52; OPT: Ø66, Ø45		Ø52	STD: Ø52; OPT: Ø66, Ø45		Ø52
CHUCK	Chuck diameter	inch	STD: 8"; OPT: 6"		8"	STD: 8"; OPT: 6"		8"
TURRET	Type		STD: Hydraulic OPT: Servo	Live-tooling (VDI30)	Live-tooling (BMT45)	STD: Hydraulic OPT: Servo	Live-tooling (VDI30)	Live-tooling (BMT45)
	Station	pcs	STD: 10; OPT: 8, 12	12	12	STD: 10; OPT: 8, 12	12	12
	Model		STD: LS-160A OPT: LS-160SV	LS-160SP	434.016	STD: LS-160A OPT: LS-160SV	LS-160SP	434.016
	Square tool shank	mm	STD: 25 x 25 OPT: 20 x 20 (12T)	20 x 20	20x20	STD: 25 x 25; OPT: 20 x 20 (12T)	20 x 20	20x20
	Boring bar shank diameter	mm	Ø40, OPT: Ø32 (12T)		Ø32	Ø40, OPT: Ø32 (12T)		Ø32
	Indexing time (0~180 °)	sec	LS-160A:1.6 (8T), 2.0 (10T), LS-160SV:2.3 (12T)	0.85	0.5	LS-160A:1.6 (8T), 2.0 (10T), LS-160SV:2.3 (12T)	0.85	0.5
LIVE TOOL	Spindle speeds	rpm	-	4,000	6,000	-	4,000	6,000
FEED RATE	Rapid traverse	M/min	X: 30, Z: 30		X:30 ; Z:30	X: 30, Z: 30		X:30 ; Z:30
TAILSTOCK	Type		Automatic		Automatic	Automatic		Automatic
	Quill diameter	mm	Ø65		Ø65	Ø65		Ø65
	Quill bore taper		MT4		MT4	MT4		MT4
	Quill travel	mm	100		100	100		100
	Tailstock travel	mm	360		350	610		600
MOTORS	Main-spindle	kw	STD: β12 (11/15); OPT: α8 (7.5/11)		β12 (11/15)	STD: β12 (11/15); OPT: α8 (7.5/11)		β12 (11/15)
	Live-tool	kw	-	α2 (2.2/3.7)	β3/12,000(3.7/5.5)	-	α2 (2.2/3.7)	β3/12,000 (3.7/5.5)
	X/Z-axis servo motor	kw	X/Z: β12 (1.8); OPT: X/Z: α8 (1.6)		X/Y/Z: β12 (1.8) /β12 (1.8) /β22 (3.0)	X/Z: β12 (1.8); OPT: X/Z: α8 (1.6)		X/Y/Z: β12 (1.8) /β12 (1.8) /β22 (3.0)
	Hydraulic oil pump	kw	0.75		0.75	0.75		0.75
	Chip conveyor	kw	0.2		0.2	0.2		0.2
	Coolant pump	kw	0.8		0.8	0.8		0.8
ACCURACY	Positioning	mm	±0.003		±0.003	±0.004		±0.004
	Repeatability	mm	±0.002		±0.002	±0.003		±0.003
POWER	Requirements	KVA	380-415 / 220V 15KVA		380-415/220V 26KVA	380-415 / 220V 15KVA		380-415/220V 26KVA
MACHINE SIZE	Height	cm	181		199	181		199
	Floor space (W x D)	cm	354 x 191		338x191	385 x 191		369x191
	Packing (w/conveyor)	cm	387 x 228 x 218		387x228x218	404 x 228 x 218		404x228x218
	Net weight (w/conveyor)	kg	3,380		3,860	3,720		4,200
	Gross weight (w/conveyor)	kg	3,670		4,150	4,070		4,550

Note:Specifications are subject to change without further notice.

MACHINE SPECIFICATIONS - 600 SERIES

ITEM		UNIT	600 series					
			ML-600S		ML-600Y	ML-600T		ML-600TY
			Standard	C axis		Standard	C axis	
CAPACITY	Swing over bed	mm	Ø600		Ø600	Ø600		Ø600
	Swing over saddle	mm	Ø450		Ø450	Ø450		Ø450
	Distance between center	mm	STD: 769 (8"); OPT: 759 (10")		STD:753 (8") ; OPT:743 (10")	STD:744 (8") ; OPT:734 (10")		STD:744 (8") ; OPT:734 (10")
	Max. machining dia.	mm	Ø420	Ø340	BMT65:380;VDI40:285	Ø420	Ø340	BMT65:380;VDI40:285
	Max. machining length	mm	STD: 560 (8"); OPT: 540 (10")		BMT65: STD:480 (8"); OPT:470 (10") VDI40: STD:520 (8"); OPT:510 (10")	STD:475 (8"); OPT:465 (10")	BMT65:STD:450 (8"); OPT:440 (10") VDI40:STD:475 (8"); OPT:465 (10")	BMT65:STD:450 (8"); OPT:440 (10") VDI40:STD:475 (8"); OPT:465 (10")
	Slant angle of bed		30˚		60˚	30˚		60˚
TRAVELS	X-axis	mm	230 (210+20)	225 (170+55)	BMT65:206 (190+16);VDI40:206 (142.5+63.5)	230 (210+20)	218 (170+48)	BMT65:206 (190+16);VDI40:206 (142.5+63.5)
	Y-axis	mm	-		±50	-		±50
	Z-axis	mm	600 (8"); 590 (10")		BMT65:525; VDI40:565	600		BMT65:450;VDI40:495
	C-axis	mm	-	360˚ (0.001˚)	360˚ (0.001˚)	-	360˚ (0.001˚)	360˚ (0.001˚)
	W-axis	mm	-		-	450		450
SPINDLE	Spindle speeds	rpm	STD: 50~4,500 (8"); OPT: 50~3,500 (10")		STD:50~4,500 (8") ; OPT:50~3,500 (10")	Main-spindle STD:50~4,500 (8"); OPT:50~3,500 (10")		Sub-spindle 50~6,000 (6")
	Spindle nose		STD: A2-6; OPT: A2-8		STD:A2-6; OPT:A2-8 , Built-in Spindle A2-6	STD:A2-6; OPT:A2-8 , Built-in Spindle A2-6		STD:A2-5
	Spindle bore dia.	mm	STD: Ø62 (A2-6); OPT: Ø86 (A2-8)		STD: Ø62 (A2-6);OPT: Ø86 (A2-8)	STD: Ø62 (A2-6); OPT: Ø86 (A2-8)		Ø56
	Front bearing inner dia.	mm	STD: Ø100 (A2-6);OPT: Ø120 (A2-8)		OPT: Ø100 (A2-6); STD: Ø120 (A2-8)	STD: Ø100 (A2-6); OPT: Ø120 (A2-8)		Ø80
	Draw bar dia.	mm	STD: Ø52; OPT: Ø75		STD: Ø 52; OPT: Ø 75	STD: Ø 52; OPT: Ø 75		Ø45
CHUCK	Chuck diameter	mm	STD: 8"; OPT: 10"		STD 8"; OPT: 10"	STD: 8"+6" (W); OPT: 10"+6" (W)		STD: 8"+6" (W); OPT: 10"+6" (W)
TURRET	Type		STD: hydraulic OPT: servo	Live-tooling (VDI40)	Live-tooling	STD: hydraulic OPT: servo	Live-tooling	Live-tooling
	Stations	pcs	STD: 10; OPT: 12	STD: 12	12	STD: 10; OPT: 12	STD: 12	STD:12
	Model		STD: LS-240 OPT: LS-240SV	TBMA200	TBMR200(short)	STD: LS-240 OPT: LS-240SV	TBMR200 (long)	TBMR200 (long)
	Square tool shank	mm	25x25		25x25	25x25		25x25
	Boring bar shank diameter	mm	Ø40		Ø40	Ø40		Ø40
	Indexing time (0~180°)	sec	LS-240: 1.6 (10T) /1.7 (12T), LS-240SV:0.8	0.73	0.73	LS-240: 1.6 (10T) /1.7 (12T), LS-240SV:0.8	0.73	0.73
LIVE TOOL	Spindle speeds	rpm	-	50~4,000	50~4,000	-	50~4,000	50~4,000
FEED RATE	Rapid traverse	M/min	X:30, Z:30		X:30, Z:30, Y:24; C:200rpm	X:30, Z:30, W:24, C:200rpm		X:30, Z:30, Y:24, W:24, C:200rpm
TAILSTOCK	Type		Automatic		Automatic	-		-
	Quill diameter	mm	Ø85		Ø85	-		-
	Quill bore taper		MT5		MT5	-		-
	Quill travel	mm	120		120	-		-
	Tailstock travel	mm	500		450	-		-
MOTORS	Main-spindle	kw	STD:α30ip/6,000 (15/18.5)		STD:α30ip/6,000 (15/18.5); OPT: α22ip/ (11/15)	STD:α30ip/6,000 (15/18.5); OPT: α22ip/ (11/15)		STD:α30ip/6,000 (15/18.5);OPT: α22ip/ (11/15)
	Sub-spindle	kw	-		-	α6 (5.5/7.5)		α6 (5.5/7.5)
	Live-tool	kw	-	α3/10,000 (3.7/5.5)	α3/10,000 (3.7/5.5)	-	α3/10,000 (3.7/5.5)	α3/10,000 (3.7/5.5)
	X/Z-axis servo motor	kw	X: α12 (3.0); Z: α12 (3.0)		X:α12 (3.0), Z:α12 (3.0), Y:α12 (3.0)	X:α12 (3.0), Z:α12 (3.0), W:α12 (3.0)		X:α12 (3.0), Z:α12 (3.0), Y:α12 (3.0),W:α12 (3.0)
	Hydraulic oil pump	kw	1.5		1.5	1.5		1.5
	Chip conveyor	kw	0.2		0.2	0.2		0.2
	Coolant pump	kw	0.8		0.8	0.8		0.8
ACCURACY	Positioning	mm	±0.004		±0.004	±0.005		X/Z:±0.005; Y:± 0.003
	Repeatability	mm	±0.003		±0.003	±0.004		X/Z:±0.004; Y:± 0.003
POWER	Requirements	KVA	380-415/220V 26 KVA		380-415/220V 30KVA	380-415/220V 30KVA		380-415/220V 30KVA
MACHINE SIZE	Height	cm	185		228	186		228
	Floor space (W x D)	cm	401 x 214		441x233	441x214		441x233
	Packing (w/conveyor)	cm	383 x 212 x 212		402x229x255	402x229x212		402x229x253
	Net weight (w/conveyor)	kg	5,430		6,100	5,990		6,200
	Gross weight (w/conveyor)	kg	5,730		6,370	6,328		6,700

Note:Specifications are subject to change without further notice.

MACHINE SPECIFICATIONS - 600 SERIES

ITEM		UNIT	600 series					
			ML-600M		ML-600MY	ML-600MT		ML-600MTY
			Standard	C axis		Standard	C axis	
CAPACITY	Swing over bed	mm	Ø600		Ø600	Ø600		Ø600
	Swing over saddle	mm	Ø450		Ø450	Ø450		Ø450
	Distance between center	mm	STD:999 (10"); OPT:989 (12")		STD:1,003 (10") ; OPT:993 (12")	STD:994 (10") ; OPT:974 (12")		STD:994 (10") ; OPT:974 (12")
	Max. machining dia.	mm	Ø420	Ø340	BMT65:380;VDI40:285	Ø420	Ø340	BMT65:380;VDI40:285
	Max. machining length	mm	STD:780 (10");OPT:760 (12")		BMT65: STD:720 (10"); OPT:700 (12") VDI40: STD:760 (10"); OPT:740 (12")	STD:710 (10"); OPT:690 (12")	BMT65:STD:690 (10"); OPT:670 (12") VDI40:STD:710 (10"); OPT:690 (12")	BMT65:STD:690 (10"); OPT:670 (12") VDI40:STD:710 (10"); OPT:690 (12")
	Slant angle of bed		30˚		60˚	30˚		60˚
TRAVELS	X-axis	mm	230 (210+20)	225 (170+55)	BMT65:206 (190+16);VDI40:206 (142.5+63.5)	230 (210+20)	218(170+48)	BMT65:206 (190+16);VDI40:206 (142.5+63.5)
	Y-axis	mm	-		±50	-		±50
	Z-axis	mm	830 (10") / 820 (12")		BMT65:765;VDI40:805	830		BMT65:690;VDI40:735
	C-axis	mm	-	360˚ (0.001˚)	360˚ (0.001˚)	-	360˚ (0.001˚)	360˚ (0.001˚)
	W-axis	mm	-		-	686		686
SPINDLE	Spindle speeds	rpm	STD:50~3,500 (A2-8, 75mm, 10"); OPT:50~3,000 (A2-8, 78mm, 10"); 50~2,500 (A2-8, 91mm, 12")		STD:50~3,500 (A2-8, 75mm 10"); OPT:50-3,000 (A2-8, 78mm 10"); OPT:50-2,500 (A2-8, 91mm 12")	Main-spindle STD:50~3,500 (A2-8, 75mm 10"); OPT:50-3,000 (A2-8, 78mm 10"); OPT:50-2,500 (A2-8, 91mm 12")		Sub-spindle 50~6,000 (6")
	Spindle nose		STD:A2-8		STD:A2-8	STD:A2-8		STD:A2-5
	Spindle bore dia.	mm	STD: Ø86 (10"); OPT: Ø91 (10"), Ø105 (12")		STD: Ø86 (10"); OPT:Ø91 (10"); Ø105 (12")	STD: Ø86 (10"); OPT:Ø91 (10"); Ø105 (12")		Ø56
	Front bearing inner dia.	mm	STD: Ø120 (10");OPT: Ø130 (10",12")		STD: Ø120 (10"); OPT: Ø130 (10",12")	STD: Ø120 (10"); OPT: Ø130 (10",12")		Ø80
	Draw bar dia.	mm	STD: Ø 75; OPT: Ø78 (10"), Ø91 (12")		STD: Ø75 (10"); OPT: Ø 78 (10");Ø91 (12")	STD: Ø75 (10"); OPT: Ø 78 (10");Ø91 (12")		Ø45
CHUCK	Chuck diameter	mm	STD: 10"; OPT: 12"		STD 10"; OPT: 12"	STD: 10"+6" (W); OPT: 12"+6" (W)		STD: 10"+6" (W); OPT: 12"+6" (W)
TURRET	Type		STD: hydraulic OPT: servo	Live-tooling (VDI40)	Live-tooling	STD: hydraulic OPT: servo	Live-tooling	Live-tooling
	Stations	pcs	STD: 10; OPT: 12	STD: 12	STD:12	STD: 10; OPT: 12	STD: 12	STD:12
	Model		STD: LS-240 OPT: LS-240SV	TBMA200	TBMR200 (short)	STD: LS-240 OPT: LS-240SV	TBMR200 (long)	TBMR200 (long)
	Square tool shank	mm	25x25		25x25	25x25		25x25
	Boring bar shank diameter	mm	Ø40		Ø40	Ø40		Ø40
	Indexing time (0~180°)	sec	LS-240: 1.6 (10T) /1.7 (12T), LS-240SV:0.8	0.73	0.73	LS-240: 1.6 (10T) /1.7 (12T), LS-240SV:0.8	0.73	0.73
LIVE TOOL	Spindle speeds	rpm	-	50~4,000	50~4,000	-	50~4,000	50~4,000
FEED RATE	Rapid traverse	M/min	X:30, Z:30		X:30, Z:30, Y:24; C:200rpm	X:30, Z:30, W:24, C:200rpm		X:30, Z:30, Y:24, W:24, C:200rpm
TAILSTOCK	Type		Automatic		Automatic	-		-
	Quill diameter	mm	Ø85		Ø85	-		-
	Quill bore taper		MT5		MT5	-		-
	Quill travel	mm	120		120	-		-
	Tailstock travel	mm	600		600	-		-
MOTORS	Main-spindle	kw	STD:α30ip/6,000 (15/18.5)		STD:α30ip/6,000 (15/18.5); OPT: α22ip/ (11/15)	STD:α30ip/6,000 (15/18.5);OPT: α22ip/ (11/15)		STD:α30ip/6,000 (15/18.5); OPT: α22ip/ (11/15)
	Sub-spindle	kw	-		-	α6 (5.5/7.5)		α6 (5.5/7.5)
	Live-tool	kw	-	α3/10,000 (3.7/5.5)	α3/10,000 (3.7/5.5)	-	α3/10,000 (3.7/5.5)	α3/10,000 (3.7/5.5)
	X/Z-axis servo motor	kw	X/Z: α12 (3.0)		X:α12 (3.0), Z:α12 (3.0), Y:α12 (3.0)	X:α12 (3.0), Z:α12 (3.0), W:α12 (3.0)		X:α12 (3.0), Z:α12 (3.0), Y:α12 (3.0),W:α12 (3.0)
	Hydraulic oil pump	kw	1.5		1.5	1.5		1.5
	Chip conveyor	kw	0.2		0.2	0.2		0.2
	Coolant pump	kw	0.8		0.8	0.8		0.8
ACCURACY	Positioning	mm	±0.004		±0.004	±0.005		X/Z:±0.005; Y:± 0.003
	Repeatability	mm	±0.003		±0.003	±0.004		X/Z:±0.004; Y:± 0.003
POWER	Requirements	KVA	380-415/220V 26 KVA		380-415/220V 30KVA	380-415/220V 30KVA		380-415/220V 30KVA
MACHINE SIZE	Height	cm	185		228	186		228
	Floor space (W x D)	cm	422x214		462x233	462x214		462x233
	Packing (w/conveyor)	cm	432x229x221		451x230x253	451x230x221		451x230x253
	Net weight (w/conveyor)	kg	6,050		6,720	6,610		6,820
	Gross weight (w/conveyor)	kg	6,470		7,110	7,040		7,440

Note:Specifications are subject to change without further notice.

MACHINE SPECIFICATIONS - 600 SERIES

ITEM		UNIT	600 series					
			ML-600L		ML-600LY	ML-600LT		ML-600LTY
			Standard	C axis		Standard	C axis	
CAPACITY	Swing over bed	mm	Ø600		Ø600	Ø600		Ø600
	Swing over saddle	mm	Ø450		Ø450	Ø450		Ø450
	Distance between center	mm	STD:1,499 (10"); OPT:1,489 (12")		STD:1,503 (10") ; OPT:1,493 (12")	STD:1,494 (10") ; OPT:1,474 (12")		STD:1,494 (10") ; OPT:1,474 (12")
	Max. machining dia.	mm	Ø420	Ø340	BMT65:380;VDI40:285	Ø420	Ø340	BMT65:380;VDI40:285
	Max. machining length	mm	STD:1,280 (10"); OPT:1,260 (12")		BMT65: STD:1,220 (10"); OPT:1,200 (12") VDI40:STD:1,260 (10"); OPT:1,240 (12")	STD:1,210 (10"); OPT:1,190 (12")	BMT65: STD:1,190 (10");OPT:1,170 (12") VDI40: STD:1,210 (10"); OPT:1,190 (12")	BMT65:STD:1,190 (10"); OPT:1,170 (12") VDI40:STD:1,210 (10"); OPT:1,190 (12")
	Slant angle of bed		30˚		60˚	30˚		60˚
TRAVELS	X-axis	mm	230 (210+20)	225 (170+55)	BMT65:206 (190+16);VDI40:206 (142.5+63.5)	230 (210+20)	218 (170+48)	BMT65:206 (190+16);VDI40:206 (142.5+63.5)
	Y-axis	mm	-		±50	-		±50
	Z-axis	mm	1,330 (10") / 1,320 (12")		BMT65:1,265;VDI40:1,305	1,330		BMT65:1,190;VDI40:1,235
	C-axis	mm	-	360˚ (0.001˚)	360˚ (0.001˚)	-	360˚ (0.001˚)	360˚ (0.001˚)
	W-axis	mm	-		-	1,186		1,186
SPINDLE	Spindle speeds	rpm	STD:50~3,500 (A2-8, 75mm, 10"); OPT:50~3,000 (A2-8, 78mm, 10"); 50~2,500 (A2-8, 91mm, 12")		STD:50~3,500 (A2-8, 75mm 10"); OPT:50-3,000 (A2-8, 78mm 10"), 50-2,500 (A2-8, 91mm 12")	Main-spindle STD:50~3,500 (A2-8, 75mm 10"); OPT:50-3,000 (A2-8, 78mm 10"); OPT:50-2,500 (A2-8, 91mm 12")		Sub-spindle 50~6,000 (6")
	Spindle nose		STD:A2-8		STD:A2-8	STD:A2-8		STD:A2-5
	Spindle bore dia.	mm	STD: Ø86 (10"); OPT: Ø91 (10"), Ø105 (12")		STD: Ø86 (10"); OPT:Ø91 (10"); Ø105 (12")	STD: Ø86 (10"); OPT:Ø91 (10"); Ø105 (12")		Ø56
	Front bearing inner dia.	mm	STD: Ø120 (10");OPT: Ø130 (10",12")		STD: Ø120 (10"); OPT: Ø130 (10",12")	STD: Ø120 (10"); OPT: Ø130 (10",12")		Ø80
	Draw bar dia.	mm	STD: Ø 75; OPT: Ø78 (10"), Ø91 (12")		STD: Ø75 (10"); OPT: Ø 78 (10");Ø91 (12")	STD: Ø75 (10"); OPT: Ø 78 (10");Ø91 (12")		Ø45
CHUCK	Chuck diameter	mm	STD: 10"; OPT: 12"		STD 10"; OPT: 12"	STD: 10"+6" (W); OPT: 12"+6" (W)		STD: 10"+6" (W); OPT: 12"+6" (W)
TURRET	Type		STD: hydraulic OPT: servo	Live-tooling (VDI40)	Live-tooling	STD: hydraulic OPT: servo	Live-tooling	Live-tooling
	Stations	pcs	STD: 10; OPT: 12	STD: 12	STD:12	STD: 10; OPT: 12	STD: 12	STD:12
	Model		STD: LS-240 OPT: LS-240SV	TBMA200	TBMR200(short)	STD: LS-240 OPT: LS-240SV	TBMR200 (long)	TBMR200 (long)
	Square tool shank	mm	25x25		25x25	25x25		25x25
	Boring bar shank diameter	mm	Ø40		Ø40	Ø40		Ø40
	Indexing time (0~180°)	sec	LS-240: 1.6 (10T) /1.7 (12T), LS-240SV:0.8	0.73	0.73	LS-240: 1.6 (10T) /1.7 (12T), LS-240SV:0.8	0.73	0.73
LIVE TOOL	Spindle speeds	rpm	-	50~4,000	50~4,000	-	50~4,000	50~4,000
FEED RATE	Rapid traverse	M/min	X:30, Z:30		X:30, Z:30, Y:24; C:200rpm	X:30, Z:30, W:24, C:200rpm		X:30, Z:30, Y:24, W:24, C:200rpm
TAILSTOCK	Type		Automatic		Automatic	-		-
	Quill diameter	mm	Ø85		Ø85	-		-
	Quill bore taper		MT5		MT5	-		-
	Quill travel	mm	120		120	-		-
	Tailstock travel	mm	1,000		1,000	-		-
MOTORS	Main-spindle	kw	STD:α30ip/6,000 (15/18.5)		STD:α30ip/6,000 (15/18.5); OPT: α22ip/ (11/15)	STD:α30ip/6,000 (15/18.5); OPT: α22ip/ (11/15)		STD:α30ip/6,000 (15/18.5);OPT: α22ip/ (11/15)
	Sub-spindle	kw	-		-	α6 (5.5/7.5)		α6 (5.5/7.5)
	Live-tool	kw	-	α3/10,000 (3.7/5.5)	α3/10,000 (3.7/5.5)	-	α3/10,000 (3.7/5.5)	α3/10,000 (3.7/5.5)
	X/Z-axis servo motor	kw	X/Z: α12 (3.0)		X:α12 (3.0), Z:α12 (3.0), Y:α12 (3.0)	X:α12 (3.0), Z:α12 (3.0), W:α12 (3.0)		X:α12 (3.0), Z:α12 (3.0), Y:α12 (3.0),W:α12 (3.0)
	Hydraulic oil pump	kw	1.5		1.5	1.5		1.5
	Chip conveyor	kw	0.2		0.2	0.2		0.2
	Coolant pump	kw	0.8		0.8	0.8		0.8
ACCURACY	Positioning	mm	±0.005		±0.005	±0.005		X/Z:±0.005; Y:± 0.003
	Repeatability	mm	±0.004		±0.004	±0.004		X/Z:±0.004; Y:± 0.003
POWER	Requirements	KVA	380-415/220V 26 KVA		380-415/220V 30KVA	380-415/220V 30KVA		380-415/220V 30KVA
MACHINE SIZE	Height	cm	190		228	186		228
	Floor space (W x D)	cm	484x214		524x233	524x214		524x233
	Packing (w/conveyor)	cm	472x229x221		521x229x255	521x229x221		521x229x253
	Net weight (w/conveyor)	kg	7,000		7,670	7,560		7,770
	Gross weight (w/conveyor)	kg	7,450		8,090	8,020		8,420

Note:Specifications are subject to change without further notice.

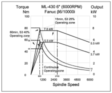
MACHINE SPECIFICATIONS - 800 / 850 SERIES

ITEM		UNIT	800 series									850 series	
			ML-800S			ML-800M			ML-800L			ML-850	
			Standard	C axis	Y axis	Standard	C axis	Y axis	Standard	C axis	Y axis	Standard	C axis
CAPACITY	Swing over bed	mm	Ø 800			Ø 800			Ø 800			Ø850	
	Swing over saddle	mm	Ø 600			Ø 600			Ø 600			Ø600	
	Distance between center	mm	1,342			2,342			3,342			STD: 1,743 (15")	
	Max. machining dia.	mm	Ø620		Ø600	Ø620		Ø600	Ø620		Ø600	Ø720 / Ø600	Ø620 / Ø600
	Max. machining length	mm	1,000		925	2,000		1,925	3,000		2,925	STD: Ø720 x 150 + Ø600 x 1,110	Ø620 x 190 + Ø600 x 1,030
	Slant angle of bed		30°		60°	30°		60°	30°		60°	45°	
TRAVELS	X-axis	mm	340 (310+30)			340 (310+30)			340 (310+30)			380 (360+20)	380 (310+70)
	Y-axis	mm	-		±80	-		±80	-		±80	-	-
	Z-axis	mm	1,150			2,150			3,150			1,330	1,290
	C-axis	mm	-	360° (0.001°)		-	360° (0.001°)		-	360° (0.001°)		-	360° (0.001°)
	W-axis	mm	-			-			-			-	
SPINDLE	Spindle speeds	rpm	STD: 50~2,000 (15") 2-step gear box; OPT: 2,500 (12") / 1,200 (15") / 1,000 (18")			STD: 50~2,000 (15") 2-step gear box; OPT: 2,500 (12") / 1,200 (15") / 1,000 (18")			STD: 50~2,000 (15") 2-step gear box; OPT: 2,500 (12") / 1,200 (15") / 1,000 (18")			50~2,000 (4-step gearbox)	
	Spindle nose		STD:A2-11; OPT: A2 -8 / A2-15 / A2-15			STD:A2-11; OPT: A2 -8 / A2-15 / A2-15			STD:A2-11; OPT: A2 -8 / A2-15 / A2-15			STD: A2-11	
	Spindle bore dia.	mm	STD: Ø134 ; OPT: Ø105 / Ø160 / Ø182			STD: Ø134 ; OPT: Ø105 / Ø160 / Ø182			STD: Ø134 ; OPT: Ø105 / Ø160 / Ø182			STD: Ø134 (A2-11)	
	Front bearing inner dia.	mm	STD: Ø180 ; OPT: Ø140 / Ø220 / Ø240			STD: Ø180 ; OPT: Ø140 / Ø220 / Ø240			STD: Ø180 ; OPT: Ø140 / Ø220 / Ø240			STD: Ø180 (A2-11)	
	Draw bar dia.	mm	STD: Ø120; OPT: Ø91 / Ø142 / Ø166.5			STD: Ø120; OPT: Ø91 / Ø142 / Ø166.5			STD: Ø120; OPT: Ø91 / Ø142 / Ø166.5			STD: Ø116; OPT: Ø120	
CHUCK	Chuck diameter	mm	STD: 15"; OPT: 12" 15" Oversize / 18"			STD: 15"; OPT: 12" 15" Oversize / 18"			STD: 15"; OPT: 12" 15" Oversize / 18"			STD: 15"; OPT: 18"	
TURRET	Type		STD:Hydraulic ; OPT: Servo	Live-tooling (BMT75)		STD:Hydraulic ; OPT: Servo	Live-tooling (BMT75)		STD:Hydraulic ; OPT: Servo	Live-tooling (BMT75)		Hydraulic	Live-tooling (VDI60)
	Stations	pcs	STD:12;OPT:10	12		STD:12;OPT:10	12		STD:12;OPT:10	12		STD:12	
	Model		STD: LS-320; OPT: LS-320SV	434.025		STD: LS-320; OPT: LS-320SV	434.025		STD: LS-320; OPT: LS-320SV	434.025		YDPM hydraulic turret	STCI4032-W2-SMHDT32-460-530
	Square tool shank	mm	32x32			32x32			32x32			32 x 32	
	Boring bar shank diameter	mm	Ø50			Ø50			Ø50			Ø50	
	Indexing time (0~180°)	sec	STD: 2.2 ; OPT: 1.6	1.26		STD: 2.2 ; OPT: 1.6	1.26		STD: 2.2 ; OPT: 1.6	1.26		3.2	2.71
LIVE TOOL	Spindle speeds	rpm	-	4,000		-	4,000		-	4,000		-	50~3,500
FEED RATE	Rapid traverse	M/min	X:30; Z:30; Y: 8			X:24; Z:24; Y: 8			X:20; Z:20; Y: 8			X: 12, Z: 20	
TAILSTOCK	Type		Automatic			Automatic			Automatic			Automatic	
	Quill diameter	mm	Ø125; OPT:Ø150			Ø125; OPT:Ø150			Ø125; OPT:Ø150			Ø125	
	Quill bore taper		STD:MT5 fixing type; OPT: MT5 rotation type			STD:MT5 fixing type; OPT: MT5 rotation type			STD:MT5 fixing type; OPT: MT5 rotation type			MT5	
	Quill travel	mm	160			160			160			160	
	Tailstock travel	mm	1,100			2,100			3,100			1,320	
MOTORS	Main-spindle	kw	STD:α22/7,000 (22/26); OPT: α30/6,000 (30/37)			STD:α22/7,000 (22/26);OPT: α30/6,000 (30/37)			STD:α22/7,000 (22/26);OPT: α30/6,000 (30/37)			STD: α22 (22/26); OPT: α30 (30/37)	
	Sub-spindle	kw	-			-			-			-	α12 (11/15)
	Live-tool	kw	-	α6/10000i (5.5/7.5)		-	α6/10000i (5.5/7.5)		-	α6/10000i (5.5/7.5)			
	X/Z-axis servo motor	kw	X/Y/Z: α22 (4.0)			X/Y/Z: α22 (4.0)			X/Y/Z: α22 (4.0)			X: α22 (4.0) ; Z: α22 (4.0)	
	Hydraulic oil pump	kw	2.24			2.24			2.24			2.25	
	Chip conveyor	kw	0.2			0.2			0.2			0.2	
	Coolant pump	kw	1.3			1.3			1.3			0.8	
ACCURACY	Positioning	mm	X/Z: ±0.005; Y: ±0.003			X/Z: ±0.006; Y: ±0.003			X/Z: ±0.006; Y: ±0.003			±0.005	
	Repeatability	mm	X/Z: ±0.004; Y: ±0.003			X/Z: ±0.005; Y: ±0.003			X/Z: ±0.005; Y: ±0.003			±0.004	
POWER	Requirements	KVA	380-415/220V 30KVA		380-415/220V 40KVA	380-415/220V 30KVA		380-415/220V 40KVA	380-415/220V 30KVA		380-415/220V 40KVA	380-415/220V; STD: 30 KVA; OPT: 40 KVA	
MACHINE SIZE	Height	cm	214		256	214		256	214		256	250	
	Floor space (W x D)	cm	505x229		505x229	605x229		605x229	705x229		705x229	529 x 218	
	Packing (w/conveyor)	cm	506x231x233		506x231x252	606x231x233		606x231x252	706x231x233		706x231x252	607 x 229 x 256	
	Net weight (w/conveyor)	kg	12,500		12,710	15,000		15,210	17,500		17,710	11,820	
	Gross weight (w/conveyor)	kg	13,280		13,550	15,940		16,220	18,600		18,880	12,600	

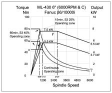
Note:Specifications are subject to change without further notice.

SPINDLE POWER & TORQUE DIAGRAM

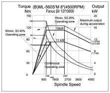
ML-430



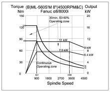
ML-430 + C axis



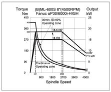
ML-560S/M/SY/MY, ML-360



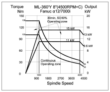
ML-560S/M + C axis



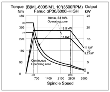
ML-600S



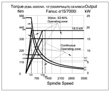
ML-360 + C axis, ML-360Y



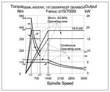
ML-600S/M/L



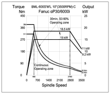
ML-600S/M/L YDPM Gearbox



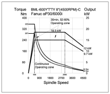
ML-600S/M/L ZF Gearbox



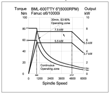
ML-600S/M/L + C axis



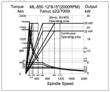
ML-600Y/T/TY



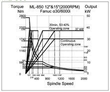
ML-600T/TY Sub-Spindle



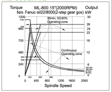
ML-850



ML-850

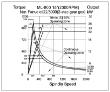


ML-800S/M/L

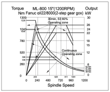


SPINDLE POWER & TORQUE DIAGRAM

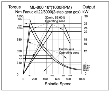
ML-800S/M/L



ML-800S/M/L



ML-800S/M/L

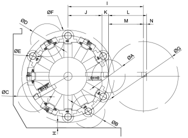


TOOL INTERFERENCE DIAGRAM

Hydraulic & Servo Turret

unit: mm

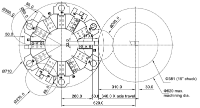
ML-560S/M ML-360 ML-600S/M/L ML-850



MODEL	CAPACITY	DIMENSION						
		A	B	C	D	E	F	G
ML-560S/M	10-TOOL	205	205	185	210	40	478	320
	12-TOOL	170	170	155	175	32	455	320
ML-360	10-TOOL	250	250	187	250	40	548	360
	12-TOOL	200	200	185	200	40	548	360
ML-600S/M/L	10-TOOL	255	255	230	255	40	558	420
	12-TOOL	205	205	185	210	40	558	420
ML-850	12-TOOL	230	235	200	225	50	650	720

MODEL	CAPACITY	DIMENSION						
		H	I	J	K	L	M	N
ML-560S/M	10-TOOL	46	360	165	35	190	160	30
	12-TOOL	57.5	360	165	35	190	160	30
ML-360	10-TOOL	37	420	200	40	215	180	35
	12-TOOL	37	420	200	40	215	180	35
ML-600S/M/L	10-TOOL	32	455	205	40	230	210	20
	12-TOOL	32	455	205	40	230	210	20
ML-850	12-TOOL	100	625	225	40	380	360	20

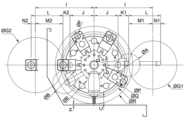
ML-800S/M/L



Live Tooling Turret

unit: mm

ML-560S/M ML-360 ML-600S/M/L (VDI40)

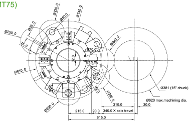


MODEL	CAPACITY	DIMENSION						
		A	B	C	D	E	F	G1
ML-560S/M	12-TOOL	140	140	50	20	30	25	300
ML-360	12-TOOL	160	160	50	25	40	40	350
ML-600S/M/L	12-TOOL	160	160	50	25	40	40	340

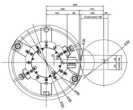
MODEL	CAPACITY	DIMENSION						
		G2	H	I	J	K1	K2	L
ML-560S/M	12-TOOL	380	67.5	360	135	75	35	190
ML-360	12-TOOL	400	46	420	170	75	50	215
ML-600S/M/L	12-TOOL	390	7.9	415	170	75	50	225

MODEL	CAPACITY	DIMENSION						
		M1	M2	N1	N2	P	Q	R
ML-560S/M	12-TOOL	150	190	40	0	340	340	435
ML-360	12-TOOL	175	200	40	15	440	470	548
ML-600S/M/L	12-TOOL	170	195	55	30	440	470	548

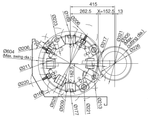
ML-800S/M/L (BMT75)

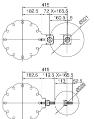


ML-560SY/MY (BMT45)



ML-600T/MT/LY (BMT65)

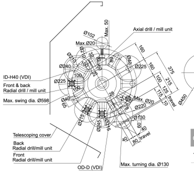




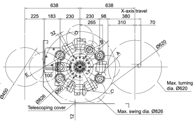
Live Tooling Turret

unit: mm

ML-360Y (VDI40)

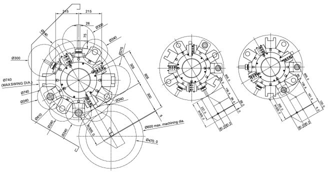


ML-850 (VDI60)



CAPACITY	DIMENSION				
	A	B	C	D	E
12-TOOL	270	210	258	310	345
	10.6"	8.3"	10.2"	12.2"	13.6"

ML-800SY/MY/LY (BMT75)

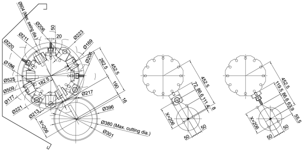


TOOL INTERFERENCE DIAGRAM

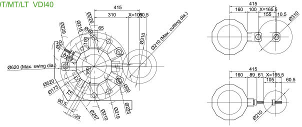
Live Tooling Turret

unit: mm

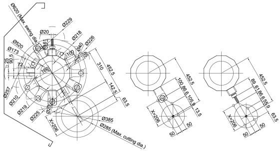
ML-600Y/MY/LY/TY/MTY/LTY BMT65 Y-axis ±50 mm



ML-600T/MT/LT VDI40



ML-600Y/MY/LY/TY/MTY/LTY VDI40 Y-axis ±50 mm

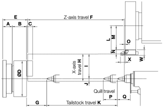


WORK ENVELOPE

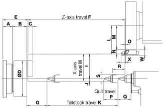
Hydraulic / Servo Turret - O.D. Tool Holder

unit: mm

ML-560S/M ML-360 ML-850



ML-600S/M/L

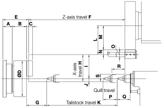


MODEL	SPINDLE	DIMENSION																				
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	W	X
ML-560S	8"	80	103	39	210	189.3	360	104.6	190	160	30	360	200	165	35	7	100	84.7	X	X	47	40
ML-560M	8"	80	103	39	210	189.3	610	104.6	190	160	30	610	200	165	35	7	100	84.7	X	X	47	40
ML-360	8"	79.5	103	38	210	193.6	500	110.9	215	180	35	490	240	200	40	7	80	84.7	X	X	47	40
ML-600S	8"	80	103	38	210	183	600	46	230	180	20	500	245	205	40	7	120	110	98	58	47	40
ML-600M	10"	80	113	43	254	193	830	176	230	210	20	600	245	205	40	7	120	110	98	58	47	40
ML-600L	10"	80	113	43	254	193	1330	276	230	210	20	1000	245	205	40	7	120	110	98	58	47	40
ML-850	15"	100	149	70	381	249	1330	159	380	360	20	1320	265	225	40	8	160	115	X	X	68	40

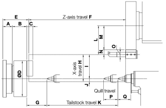
Hydraulic / Servo Turret - I.D. Tool Holder

unit: mm

ML-560S/M ML-360 ML-600S/M/L



ML-850



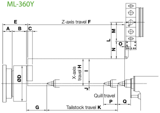
MODEL	SPINDLE	DIMENSION																	
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
ML-560S	8"	80	103	39	210	196.3	360	104.6	190	155	35	360	205	165	40	40	100	84.7	13	80
ML-560M	8"	80	103	39	210	196.3	610	104.6	190	155	35	610	205	165	40	40	100	84.7	13	80
ML-360	8"	79.5	103	38	210	200.6	500	110.9	215	180	35	490	240	200	40	40	80	84.7	22	85
ML-600S	8"	80	103	38	210	183	600	50	230	210	20	500	245	205	40	40	120	110	155	111
ML-600M	10"	80	113	43	254	200	830	176	230	210	20	600	245	205	40	40	120	110	155	111
ML-600L	10"	80	113	43	254	200	1330	276	230	210	20	1000	245	205	40	40	120	110	155	111
ML-850	15"	100	149	70	381	257	1330	159	380	340	40	1320	285	226	60	50	160	115	X	X

WORK ENVELOPE

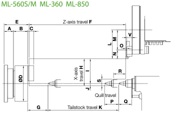
Live Tooling Turret - O.D. Tool Holder

unit: mm

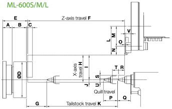
ML-360Y



ML-560S/M ML-360 ML-850



ML-600S/M/L

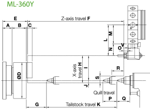


MODEL	SPINDLE	DIMENSION																					
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
ML-560S	8"	80	103	39	210	196.7	360	104.6	190	150	40	360	210	135	75	5	100	84.7	190	54	X	X	40
ML-560M	8"	80	103	39	210	196.7	610	104.6	190	150	40	610	210	135	75	5	100	84.7	190	54	X	X	40
ML-360	8"	80	103	38	210	182.6	500	110.4	215	175	40	490	245	170	75	10	80	84.7	100	44	X	X	44
ML-360Y	8"	80	103	38	210	192	500	101.3	125	65	60	490	310	160	150	10	80	84.7	X	X	X	X	X
ML-600S	8"	78	103	38	210	181	600	67	225	170	55	500	245	170	75	10	120	110	105	24	129	64	44
ML-600M	10"	79	113	43	254	192	830	197	225	170	55	600	245	170	75	10	120	110	105	24	129	64	44
ML-600L	10"	79	113	43	254	192	1330	297	225	170	55	1000	245	170	75	10	120	110	105	24	129	64	44
ML-850	15"	100	149	70	381	249	1289.5	199.5	380	310	70	1280	327.5	230	97.5	10	160	115	80	47	X	X	60

Live Tooling Turret - Raidal Drilling and Milling Head

unit: mm

ML-360Y



MODEL	SPINDLE	DIMENSION										
		A	B	C	D	E	F	G	H	I	J	K
ML-360Y	8"	80	103	38	210	169	500	101.3	125	115	10	490

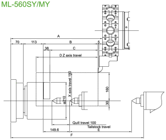
MODEL	SPINDLE	DIMENSION										
		L	M	N	O	P	Q	R	S	T	U	V
ML-360Y	8"	260	160	100	34.5	80	84.7	46	66	X	X	42.5

WORK ENVELOPE

Live Tooling Turret O.D. Tool Holder

unit: mm

ML-560SY/MY

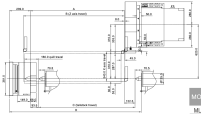


MODEL	CAPACITY	DIMENSION					
		A	B	C	D	E	F
ML-560SY	8"	518	310	272	350	350	751.1
ML-560MY	8"	768.2	560	522	600	600	1001.1

Hydraulic / Servo Turret – O.D. Tool Holder

unit: mm

ML-800S/M/L

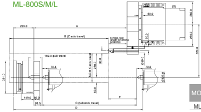


MODEL	SPINDLE	DIMENSION			
		A	B	C	D
ML-800S	15"	1071	1150	1100	1503
ML-800M	15"	2071	2150	2100	2503
ML-800L	15"	3071	3150	3100	3503

Hydraulic / Servo Turret – I.D. Tool Holder

unit: mm

ML-800S/M/L

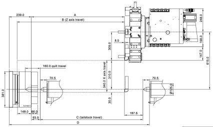


MODEL	SPINDLE	DIMENSION					
		A	B	C	D	E	F
ML-800S	15"	1070	1150	1100	1503	215	329.5
ML-800M	15"	2070	2150	2100	2503	160	274.5
ML-800L	15"	3070	3150	3100	3503	160	274.5

Live Tooling Turret O.D. Tool Holder

unit: mm

ML-800S/M/L/SY/MY/LY (BMT75)

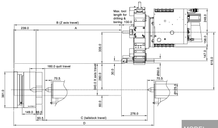


MODEL	SPINDLE	DIMENSION			
		A	B	C	D
ML-800S	15"	995.9	1150	1100	1503
ML-800M	15"	1995.9	2150	2100	2503
ML-800L	15"	2995.9	3150	3100	3503
ML-800SY	15"	995.9	1150	1100	1503
ML-800MY	15"	1995.9	2150	2100	2503
ML-800LY	15"	2995.9	3150	3100	3503

Live Tooling Turret I.D. Tool Holder

unit: mm

ML-800S/M/L/SY/MY/LY (BMT75)



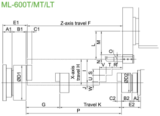
MODEL	SPINDLE	DIMENSION			
		A	B	C	D
ML-800S	15"	917.5	1150	1100	1503
ML-800M	15"	1917.5	2150	2100	2503
ML-800L	15"	2917.5	3150	3100	3503
ML-800SY	15"	917.5	1150	1100	1503
ML-800MY	15"	1917.5	2150	2100	2503
ML-800LY	15"	2917.5	3150	3100	3503

WORK ENVELOPE

Hydraulic / Servo Turret – I.D. Tool Holder

unit: mm

ML-600T/MT/LT



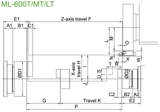
MODEL	TWIN SPINDLE	DIMENSION													
		A1	A2	B1	B2	C1	C2	D1	D2	E1	E2	F	G	H	I
ML-600T	8" + 6"	80	74	103	91	38	37	210	169	183	165	600	100	230	210
ML-600MT	10" + 6"	80	74	113	91	43	37	254	169	192	165	830	104	230	210
ML-600LT	10" + 6"	80	74	113	91	43	37	254	169	192	165	1330	104	230	210

MODEL	TWIN SPINDLE	DIMENSION												
		J	K	L	M	N	O	P	R	S	T	U	V	W
ML-600T	8" + 6"	20	450	245	205	40	40	500	23	26	176	114	256	30
ML-600MT	10" + 6"	20	686	245	205	40	40	790	12	26	176	114	256	30
ML-600LT	10" + 6"	20	1186	245	205	40	40	1290	12	26	176	114	256	30

Hydraulic / Servo Turret – O.D. Tool Holder

unit: mm

ML-600T/MT/LT



MODEL	TWIN SPINDLE	DIMENSION													
		A1	A2	B1	B2	C1	C2	D1	D2	E1	E2	F	G	H	I
ML-600T	8" + 6"	80	74	103	91	38	37	210	169	183	165	600	100	230	210
ML-600MT	10" + 6"	80	74	113	91	43	37	254	169	192	165	830	104	230	210
ML-600LT	10" + 6"	80	74	113	91	43	37	254	169	192	165	1330	104	230	210

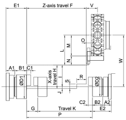
MODEL	TWIN SPINDLE	DIMENSION												
		J	K	L	M	N	O	P	R	S	T	U	W	X
ML-600T	8" + 6"	20	450	245	205	40	7	500	200	80	255	30	47	40
ML-600MT	10" + 6"	20	686	245	205	40	7	790	190	80	260	30	47	40
ML-600LT	10" + 6"	20	1186	245	205	40	7	1290	190	80	260	30	47	40

WORK ENVELOPE

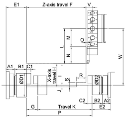
Live Tooling Turret - O.D. Tool Holder

unit: mm

ML-600T/MT/LT BMT65



ML-600T/MT/LT VDI40

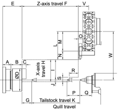


MODEL	TWIN SPINDLE	TURRET	DIMENSION												
			A1	A2	B1	B2	C1	C2	D1	D2	E1	E2	F	G	H
ML-600T	8" + 6"	BMT65	78	74	103	91	38	37	210	169	181	165	450	100	165.5
ML-600MT	10" + 6"	BMT65	79	74	113	91	42	37	254	169	192	165	690	104	165.5
ML-600LT	10" + 6"	BMT65	79	74	113	91	42	37	254	169	192	165	1190	104	165.5
ML-600T	8" + 6"	VDI40	78	74	103	91	38	37	210	169	181	165	495	100	165.5
ML-600MT	10" + 6"	VDI40	79	74	113	91	42	37	254	169	192	165	735	104	165.5
ML-600LT	10" + 6"	VDI40	79	74	113	91	42	37	254	169	192	165	1235	104	165.5

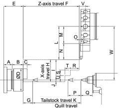
MODEL	TWIN SPINDLE	TURRET	DIMENSION											
			I	J	K	L	M	N	O	P	R	S	V	W
ML-600T	8" + 6"	BMT65	152.5	13	450	262.5	182.5	80	48	550	120	75.5	103	415
ML-600MT	10" + 6"	BMT65	152.5	13	686	262.5	182.5	80	48	790	120	75.5	103	415
ML-600LT	10" + 6"	BMT65	152.5	13	1186	262.5	182.5	80	48	1290	120	75.5	103	415
ML-600T	8" + 6"	VDI40	105	60.5	450	310	160	150	15	550	106	157.5	57.5	415
ML-600MT	10" + 6"	VDI40	105	60.5	686	310	160	150	15	790	106	157.5	57.5	415
ML-600LT	10" + 6"	VDI40	105	60.5	1186	310	160	150	15	1290	106	157.5	57.5	415

Live Tooling Turret - O.D. Tool Holder

ML-600Y/MY/LY BMT65 Y-axis ±50 mm



ML-600Y/MY/LY VDI40 Y-axis ±50 mm

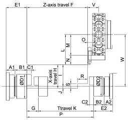


WORK ENVELOPE

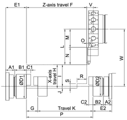
Live Tooling Turret - O.D. Tool Holder

unit: mm

ML-600TY/MTY/LTY BMT65 Y-axis ±50mm



ML-600TY/MTY/LTY VDI40 Y-axis ±50mm



MODEL	TWIN SPINDLE	TURRET	DIMENSION													
			A1	A2	B1	B2	C1	C2	D1	D2	E1	E2	F	G	H	I
ML-600TY	8" + 6"	BMT65	78	74	103	91	38	37	210	169	181	165	450	100	206	190
ML-600MTY	10" + 6"	BMT65	79	74	113	91	42	37	254	169	192	165	690	104	206	190
ML-600LTY	10" + 6"	BMT65	79	74	113	91	42	37	254	169	192	165	1190	104	206	190
ML-600TY	8" + 6"	VDI40	78	74	103	91	38	37	210	169	181	165	495	100	206	142.5
ML-600MTY	10" + 6"	VDI40	79	74	113	91	42	37	254	169	192	165	735	104	206	142.5
ML-600LTY	10" + 6"	VDI40	79	74	113	91	42	37	254	169	192	165	1235	104	206	142.5

MODEL	TWIN SPINDLE	TURRET	DIMENSION										
			J	K	L	M	N	O	P	R	S	V	W
ML-600TY	8" + 6"	BMT65	16	450	262.5	182.5	80	48	500	145	106	103	452.5
ML-600MTY	10" + 6"	BMT65	16	686	262.5	182.5	80	48	790	145	106	103	452.5
ML-600LTY	10" + 6"	BMT65	16	1186	262.5	182.5	80	48	1290	145	106	103	452.5
ML-600TY	8" + 6"	VDI40	63.5	450	310	160	150	15	500	95	151	57.5	452.5
ML-600MTY	10" + 6"	VDI40	63.5	686	310	160	150	15	790	95	151	57.5	452.5
ML-600LTY	10" + 6"	VDI40	63.5	1186	310	160	150	15	1290	95	151	57.5	452.5

unit: mm

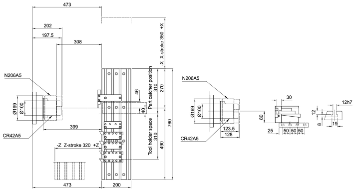
MODEL	SPINDLE	TURRET	DIMENSION											
			A	B	C	D	E	F	G	H	I	J	K	L
ML-600TY	8"	BMT65	78	103	38	210	181	525	90	206	190	16	450	262.5
ML-600MTY	10"	BMT65	79	113	42	254	192	765	180	206	190	16	600	262.5
ML-600LTY	10"	BMT65	79	113	42	254	192	1265	280	206	190	16	1000	262.5
ML-600TY	8"	VDI40	78	103	38	210	181	565	90	206	142.5	63.5	450	310
ML-600MTY	10"	VDI40	79	113	42	254	192	805	180	206	142.5	63.5	600	310
ML-600LTY	10"	VDI40	79	113	42	254	192	1305	280	206	142.5	63.5	1000	310

MODEL	SPINDLE	TURRET	DIMENSION										
			M	N	O	P	Q	R	S	T	U	V	W
ML-600TY	8"	BMT65	182.5	80	43	120	110	85	41	X	X	98	452.5
ML-600MTY	10"	BMT65	182.5	80	43	120	110	85	41	X	X	98	452.5
ML-600LTY	10"	BMT65	182.5	80	43	120	110	85	41	X	X	98	452.5
ML-600TY	8"	VDI40	160	150	15	120	110	60	60	65	21	57.5	452.5
ML-600MTY	10"	VDI40	160	150	15	120	110	60	60	65	21	57.5	452.5
ML-600LTY	10"	VDI40	160	150	15	120	110	60	60	65	21	57.5	452.5

TOOL INTERFERENCE DIAGRAM - 430 SERIES

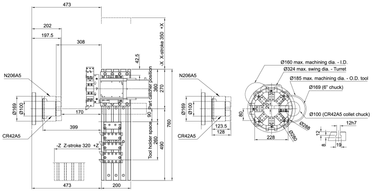
ML-430 + Gang Tool

unit: mm



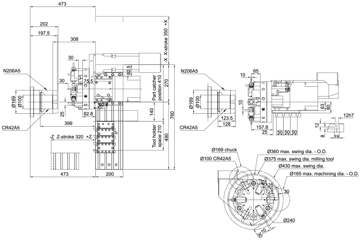
ML-430 + Hydraulic or Servo Turret + Gang Tool

unit: mm



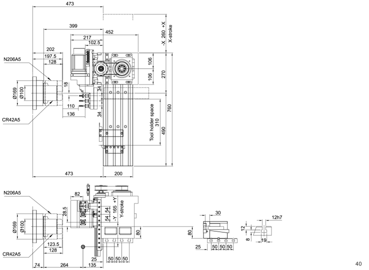
ML-430 + Power Turret + Gang Tool

unit: mm



ML-430Y + Gang Tool

unit: mm



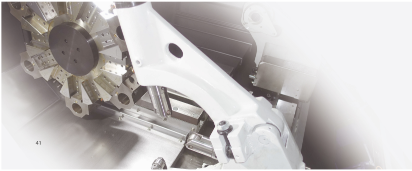
MACHINE ACCESSORIES

Standard Accessories

- FANUC 0i-TF PLUS controller
- Spindle motor
- Hydraulic chuck
- Hydraulic turret
- O.D. turning tools
- I.D. boring bar holders
- Boring bar bushings
  Ø8, Ø10, Ø12, Ø20, Ø25, Ø32 x O.D. 40
  (ML-560S/M, ML-600S/M/L, ML-360, ML-360Y)
  Ø12, Ø16, Ø20, Ø25, Ø32, Ø40 x O.D. 50 (ML-850,ML-800S/M/L)
- Taper sleeves
  MT No. 2, 3, 4 x O.D. 40 (ML-560S/M,
  ML-600S/M/L, ML-360, ML-360Y)
  MT No. 3, 4 x O.D. 50 (ML-850,ML-800S/M/L)
- Tailstock quill
  MT 4 (ML-560S/M, ML-360, ML-360Y)
  MT 5 (ML-600S/M/L, ML-850,ML-800S/M/L)
- Coolant system
- Automatic tailstock (exclude ML-430)
- Coolant tank
- Chain type chip conveyor + chip bucket (exclude ML-430)
- Leveling bolts and pads
- Auto. lubrication system
- Work lamp
- Foot pedal for chuck
- Tool kit
- End of program light
- YDPM 4-step gearbox (ML-850);2-step geat box (ML-800S/M/L)
- Chip flush from upper
- Air blow for chuck

Optional Accessories

- Mitsubishi controller
- Siemens controller
- Collet chuck (Excl: ML-850,ML-800S/M/L)
- Bar feeder
- Bar feeder interface
- VDI / BMT turret (10 or 12 Tool)
- Oil mist collector
- Live tooling (C-axis)
  (ML-560S/M, ML-600S/M/L, ML-360, ML-850,
  ML-800S/M/L)
- Automatic door
- Manual tool setter
- Automatic tool setter
- Transformer
- CE
- GTP, ZF or YDPM 2-step gearbox
- Sling frame
- Stabilizer
- Cooler for coolant tank
- Air conditioner for electrical cabinet
- Hydraulic steady rest
- Parts catcher
- Oil skimmer
- Coolant gun
- Scraper type chip conveyor
- 10 or 20 bar high pressure coolant through tool
- Tool load monitoring
- Linear scale



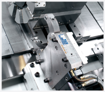
OPTIONAL ACCESSORIES

Built-in Type Spindle

The built-in type spindle provides full power output and low speeds, leading to superior conditions.

Parts Catcher

Once part machining is completed, the parts catcher will move to collect the finished parts, providing convenience for parts collection.



Hydraulic Steady Rest

The hydraulic steady rest provides a stable support for long workpieces, and prevents workpiece springing and bending.

Tool Measuring Device

The tool is program-controlled automatically (or manually) touches the measuring probe to accomplish the setup process. It effectively reduces the setup time and automatically compensates for the wear on tools.

Expansion Tank for High Pressure Coolant Through Tool

10 bar or 20 bar for option.

Automation and TURN KEY Solutions

Robot

*Fanuc, Yazkawa, Mitsubishi robots and more.

Oil Mist Collector

Fan Cooler

Bar Feeder