



YIDA PRECISION

Humanity. Innovation. Technology

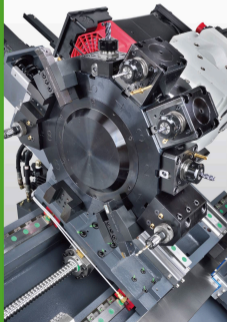


- Slant Bed Design
- Precision Turning Performance
- Extraordinary Efficiency Extensive Cutting Capacity

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



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ML 202401 / 0006

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 mm/min. feed rate, offers quick and high precision machining jobs
- Auxiliary tool plate available for quick tool-set change
- Load / Unload system (optional)

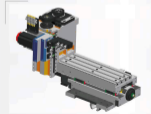
ML-430 + Hydraulic or Servo Turret + Gang-Tool

- 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 coolant pump (optional)



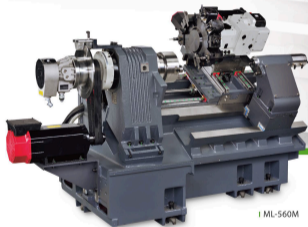
ML-430Y + Gang-Tool

- 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)

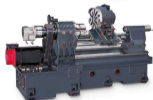
ROBUST STRUCTURE

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.



I ML-560M



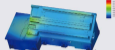
I ML-600M



I ML-360



I 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 stick-slip and low coefficient of friction.

High Precision, High Speed Ball screws

Ball screws on X & Z axes are pretensioned in combination with the use of double nuts to eliminate backlash. The pretensioned ball screws effectively suppress temperature bulking during high speed machining.

MACHINE SPECIFICATIONS - 430 SERIES

ITEM	UNIT	ML-430		ML-430Y	
		Standard	C axis		
CAPACITY	Swing over bed	mm	Ø430	Ø430	
	Swing over saddle	mm	Ø180	Ø180	
	Max. machining dia.	mm	Ø430	Ø430	
	Max. machining length	mm	240	Gang tool 240 Axial tooling: 110 Radial live tooling: 130	
TRAVEL RANGE	Start angle of bed	°	0°	0°	
	X-axis	mm	350	350	
	Z-axis	mm	-	165	
	Y-axis	mm	300	320	
SPINDLE	C-axis	mm	-	360° (0.001°)	
	Spindle speeds	r/min	8,000	6,000	
	Spindle nose	mm	A2-5	A2-5	
	Spindle bore dia.	mm	Ø58	Ø58	
CHUCK	Front bearing inner dia.	mm	Ø80	Ø80	
	Draw Bar Dia.	mm	Ø45	Ø45	
TURRET	Chuck diameter	mm	Ø"	Ø"	
	Type		Gang type	Live-tooling (VDI26)	
	Stations	pcs	STD: 6gang tool, OPT: 8	12	5 (Power tool)
	Tool specification for Y axis	Modal	OPT: LS-120, LS-120SV	LS-120SP	OPT: LS-120 (Ø1)
LIVE TOOL	Square tool shank	mm	20x20	16x16	
	Boring bar shank diameter	mm	Ø25	Ø25	
	Indexing time(0-180 °)	sec	LS-120: 1.6, LS-120SV: 0.9	0.83	LS-120: 1.6, LS-120SV: 0.9
	Spindle speeds	r/min	X30, Z30	90-5,000	50-5,000
FEED RATE	Feed traverse	m/min	-	90-5,000	
	Main-spindle	kw	STD: 96/12,000 (5.5/7.5), OPT: 96/10,000 (5.5/7.5)	STD: 86/12,000 (5.5/7.5)	
MOTORS	Live-tool	kw	-	Ø1 S/10,000 (2.2/3.7), Ø1 S/8,000 (1.5)	
	X/Y/Z-axis servo motor	kw	STD: X/Z: Ø8 (1.2); OPT: X/Z: ø8 (1.6)	X/Y/Z: Ø8 (1.2)	
	Hydraulic oil pump	l/min	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 19KVA	
	Height (mm)	cm	213	212	
Machine size	Floor space (W x D)	cm	210x203	210x203	
	Packing	cm	242x230x12	242x230x12	
	Net weight	kg	3,000	3,000	
	Gross weight	kg	3,150	3,150	

Note: Specifications are subject to change without further notice.

● Standard ○ Option

MACHINE ACCESSORIES

ITEM	ML-430	ML-430Y	ITEM	ML-430	ML-430Y
Manual positioning	●	●	LED work lamp	●	●
Spindle Hydraulic braking	○	—	Coolant system	●	●
Positioning CS-axis-2-step	○	●	Tools box	●	●
hydraulic braking	●	●	Oil mist collector	○	○
Tooling system	●	●	Bar feeder	○	○
High pressure coolant pump	○	○	Transformer	○	○
Chuck	●	●	Chip conveyor	○	○
Spindle device	●	●	Parts conveyor	○	○
Hydraulic rotary cylinder	●	●	Collet chuck	○	○
Lubrication system	●	●	Gantry robot and loading / unloading device	○	○
Safety door	○	○	Variable frequency hydraulic system	○	○
Parts catcher	○	○	Customized loading / unloading automatic design	○	○
Bar feeder interface	○	○	Various chucks option and fixture design	○	○
Air blow for chuck	●	●			
End of program light	●	●			

MACHINE SPECIFICATIONS - 360 SERIES

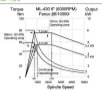
ITEM	UNIT	360 series		
		Standard	ML-360 C axis	ML-360Y
CAPACITY	Swing over bed	mm	Ø360	Ø360
	Swing over saddle	mm	Ø400	Ø400
	Distance between center	mm	STD: 788 (8"); OPT: 743 (10")	STD: 778 (8"); OPT: 734 (10")
	Max. machining dia.	mm	Ø360	Ø350
Max. machining length	mm	STD: 470 (8"); OPT: 460 (10")	STD: 460 (8"); OPT: 450 (10")	STD: 470 (8"); OPT: 460 (10")
	Start angle of bed	°	30	60° (30°+30°)
TRAVELS	X-axis	mm	215 (180+35)	215 (175+40)
	Y-axis	mm	-	440
	Z-axis	mm	8" 500 / 10" 500	8" 500 / 10" 490
	C-axis	mm	-	360° (0.001°)
SPINDLE	Spindle speeds	r/min	STD: 50-4,500 (8"); OPT: 50-5,500 (10")	STD: 50-4,500 (8"); OPT: 50-3,500 (10")
	Spindle nose	mm	STD: A2-6; OPT: A2-8	STD: A2-6; OPT: A2-8
	Spindle bore dia.	mm	STD: Ø62 (A2-6); OPT: Ø66 (A2-8)	STD: Ø62 (A2-6); OPT: Ø66 (A2-8)
	Front bearing inner dia.	mm	STD: Ø100 (A2-6); OPT: Ø120 (A2-8)	STD: Ø100 (A2-6); OPT: Ø120 (A2-8)
CHUCK	Draw bar dia.	mm	STD: Ø62; OPT: Ø75	STD: Ø62; OPT: Ø75
	Chuck diameter	inch	STD: 8"; OPT: 10"	STD: 8"; OPT: 10"
TURRET	Type		STD: servo OPT: hydraulic	Live-tooling (VDI40)
	Station	pcs	STD: 12; OPT: 10	STD: 12
	Model		LS-200SV	TBMA200
LIVE TOOL	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
	Spindle speeds	r/min	-	50-4,000
FEED RATE	Feed traverse	M/min	X: 36, Z: 36	X: 36, Z: 36, Y: 36, C: 200 rpm
	Type		Automatic	
TAILSTOCK	Quill diameter	mm	Ø65	Ø65
	Quill bore taper	mm	M74	M74
	Quill travel	mm	80	80
	Tailstock travel	mm	490	490
MOTORS	Main-spindle	kw	STD: ø12 (11/15); OPT: ø15 (15/18.5)	STD: ø12 (11/15); OPT: ø15 (15/18.5)
	Live-tool	kw	-	ø3 (3.7/5.5)
	X/Z-axis servo motor	kw	X: ø12 3.0, Z: ø12 3.0	X: ø12 3.0, Y: ø12 3.0, Z: ø12 3.0
	Hydraulic oil pump	kw	1.5	1.5
ACCURACY	Chip conveyor	kw	0.2	0.2
	Coolant pump	kw	0.8	0.8
	Positioning	mm	±0.004	±0.004
	Repeatability	mm	±0.003	±0.003
POWER	Requirements	KVA	380-415 / 220V 26KVA	380-415 / 220V 30KVA
	Height	mm	195	225
	Floor space (W x D)	cm	389 x 224	402 x 228
MACHINE SIZE	Packing (w/conveyor)	cm	370 x 227 x 214	367 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.

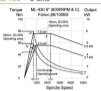


SPINDLE POWER & TORQUE DIAGRAM

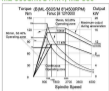
ML-430



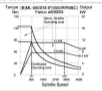
ML-430 + C axis



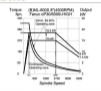
ML-560S/M/SY/MY, ML-360



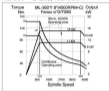
ML-560S/M + C axis



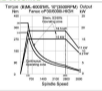
ML-800S



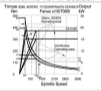
ML-360 + C axis, ML-360Y



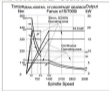
ML-600S/ML



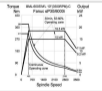
ML-600S/ML YDPM Gearbox



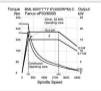
ML-600S/ML ZF Gearbox



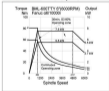
ML-600S/ML + C axis



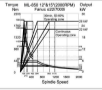
ML-800Y/T/TY



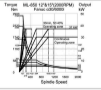
ML-800/TY Sub-Spindle



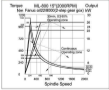
ML-850



ML-850

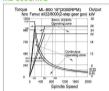


ML-800S/ML

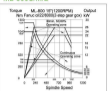


SPINDLE POWER & TORQUE DIAGRAM

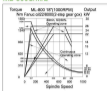
ML-800S/ML



ML-800S/ML



ML-800S/ML

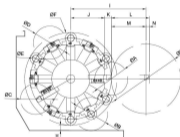


TOOL INTERFERENCE DIAGRAM

Hydraulic & Servo Turret

unit: mm

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



MODEL	CAPACITY	DIMENSION						
		A	B	C	D	E	F	G
ML-900S/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	197	250	40	548	360
	12-TOOL	200	200	185	200	40	548	360
ML-600S/ML	10-TOOL	255	255	230	255	40	658	420
	12-TOOL	205	205	185	210	40	658	420
ML-850	12-TOOL	230	235	200	225	50	650	720

MODEL	CAPACITY	DIMENSION						
		H	I	J	K	L	M	N
ML-900S/M	10-TOOL	46	360	165	35	190	160	30
	12-TOOL	67.5	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/ML	10-TOOL	32	455	205	40	230	210	20
	12-TOOL	32	455	205	40	230	210	20
ML-850	12-TOOL	100	625	420	60	380	260	20

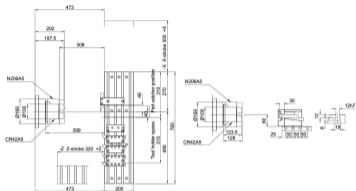
ML-800S/ML



TOOL INTERFERENCE DIAGRAM - 430 SERIES

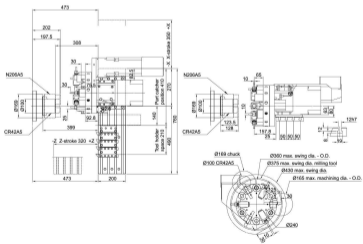
ML-430 + Gang Tool

unit: mm



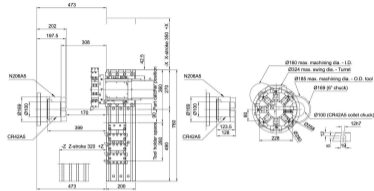
ML-430 + Power Turret + Gang Tool

unit: mm



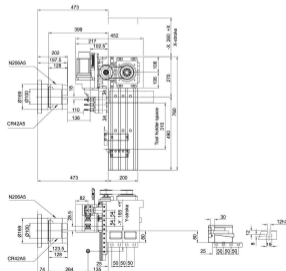
ML-430 + Hydraulic or Servo Turret + Gang Tool

unit: mm



ML-430Y + Gang Tool

unit: mm



MACHINE ACCESSORIES

Standard Accessories

- FANUC 0-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-800S/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
- YDFM 4-step gearbox (ML-850); 2-step gear 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-860S/M, ML-600S/M/L, ML-360, ML-450, ML-800S/M/L)
- Automatic door
- Manual tool setter
- Automatic tool setter
- Transformer
- CE
- GTP, ZF or YDFM 2-step gearbox
- Sting 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, Yaskawa, Mitsubishi robots and more.



Oil Mist Collector



Fan Cooler



Bar Feeder