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NC Specifications

ITEM	SPECIFICATIONS	FANUC-0i Mate TD	FANUC-0i TD	FANUC-31i - A
CONTROL AXIS				
Control axis		X,Z	X,Z,C	X,Z,Y,B,C,A
FUNCTION				
Feedrate override	0-150%(10% unll)	○	○	○
Reference position return	G27,G28,G30	○	○	○
Rapid traverse override	-	F0/25/50/100%	F0,F5,F25/F50,F100%	
SPINDLE FUNCTION				
Cs control		-	○	○
AXIS CONTROL FUNCTION				
Simultaneously control axis expansion (Total)	Max,4axes	○		Max. 6 axis
Polar coordinate interpolation	G21.1,G31.1	○		○
TOOL FUNCTION				
Tool number command	T4-digit	○		○
Tool nose radius compensation	G40~G42	○		○
Tool offsets		○		○
Tool life management		○		○
Automatic tool offset		○		○
PROGRAM EDIT FUNCTION				
Multi repetitive canned cycle	G70~G76	○		○
Circular interpolation	G01,G03	○		○
Sub program call	10 folds nested	○		○
Work coordinate system selection	G52~G59	○		○
Maximum command dimension	+99999.999mm/(+9999.9999inch)	○		○
Continuous thread cutting		○		○
Programmable data input	G10	○		○
TAPE FUNCTION				
I/O interface	RS-232C	○		○
Part program storage length		512kB		512kB(1~8MB Option)
No. of Registered programs		400EA		500EA
MDI/DISPLAY unit		8.4" LCD		10.4" Color LCD
OTHER FUNCTION				
Running time / parts number display	Auto running time & Parts No. display	○		○
Optional block skip		○		○
Ethernet function	Embedded ethernet function	-	○	○

TURNING CENTER

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KDL B SERIES



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MACHINE TOOLS

※ Design and specifications are subject to change without prior notice.
※ We do not take responsibility for the difference between the information in catalogues and the actual machine.

KDL B SERIES

KDL 22 A / B / LA / LB / MA / MB / LMA / LMB

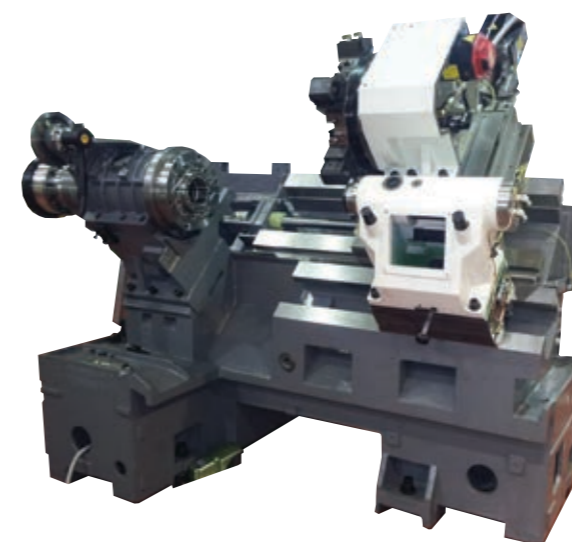
High speed, High precision, High productivity

High accuracy and powerful turning center equipped with box guideways.



High-speed, High-accuracy, High-productivity

High-rigidity structure



AC servo motors of each axis (X / Z) connect to ball screws to ensure zero backlash and vibration. In addition, the double-anchored, large-pretension ball screw minimizes heat distortion. Sturdy and solid slant bed design reduces vibration in heavy duty cutting. Easy chip clean-up and high-accuracy precision machining add up to greater productivity.

Stroke (X/Z axis)

Model	X	Z (inch)
KDL 22 A / B	8.27"	16.93"
KDL 22 LA / LB	8.27"	22.83"
KDL 22 MA / MB	7.87"	16.14"
KDL 22 LMA / LMB	7.87"	20.87"

Guideway & Operation panel

Guideway



Bed with 6-face arresting box-way sliding structure prevents distortion and ensures great performance.

Rapid traverse

X axis 945 ipm
Z axis 945 ipm

Maximum stroke

X axis 8.27 inch
Z-axis 22.83 inch (DL 22 LA)

Ergonomic design for control panel



The centralized swivel operation panel can turn up to 90 degrees, providing operators with easy access to the control panel while working on the machine.

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High-speed, High-accuracy, High-productivity

High-rigidity headstock

Special grease lubrication system and heat radiating ribs are integrated by meehanite casting, which minimizes thermal distortion of the spindle. The headstock is supported by 2 high-precision cylindrical roller bearings at both front/back sides, with an additional double angular thrust ball bearing inserted between for optional stability in machining. This meehanite cast comes with a custom grease lubrication system and heat-radiating fan, minimizing heat distortion.

Spindle motor

15 / 20 HP

Servo motor

X axis 4 HP

Z axis 4 HP

Spindle speed

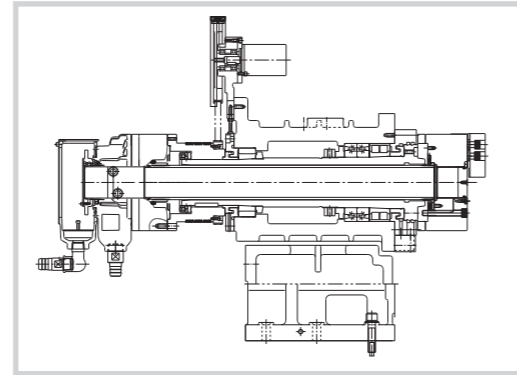
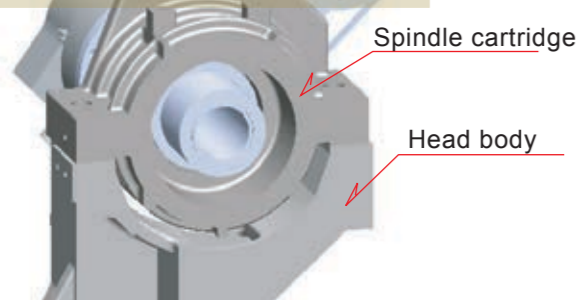
4,000 rpm (22 A)

3,500 rpm (22 B)

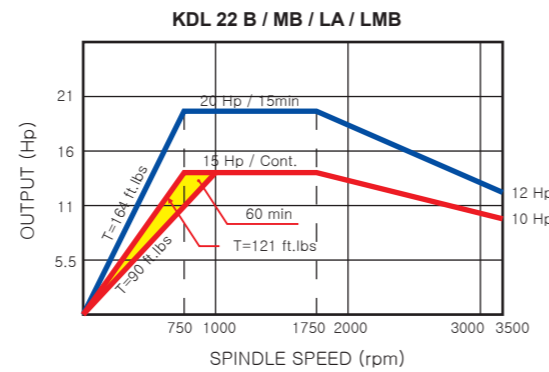
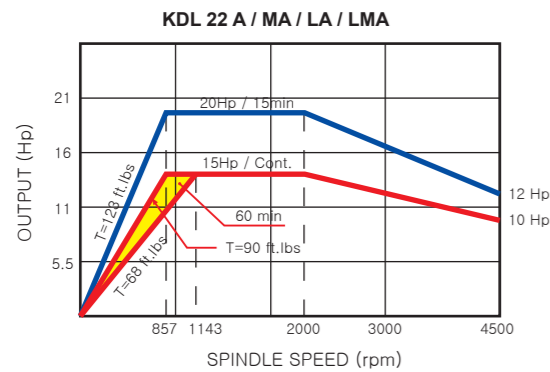


Main spindle view

Spindle cartridge fixed at the center
Heat distortion minimized



Main spindle power & Torque diagram



Turret

Tool quantity

12EA

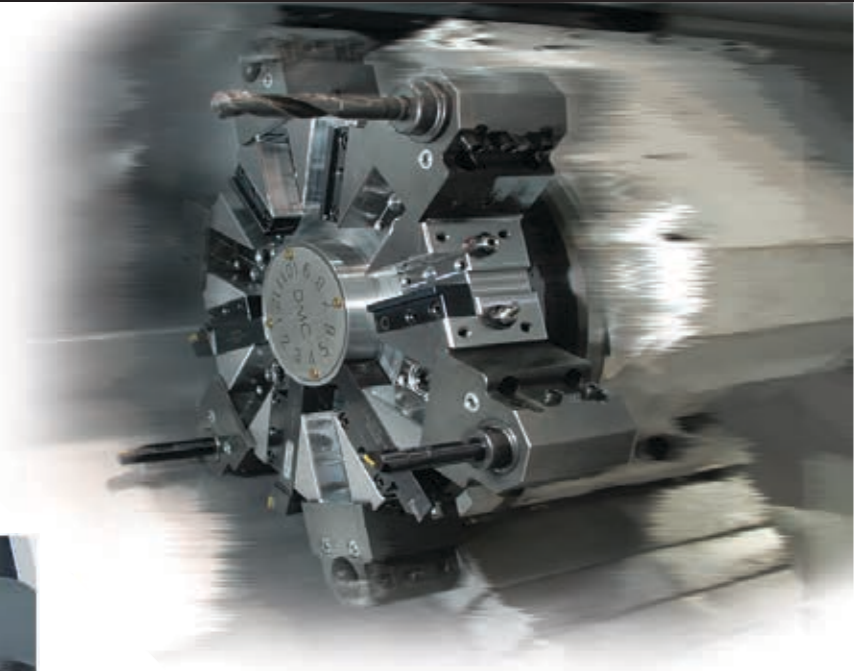
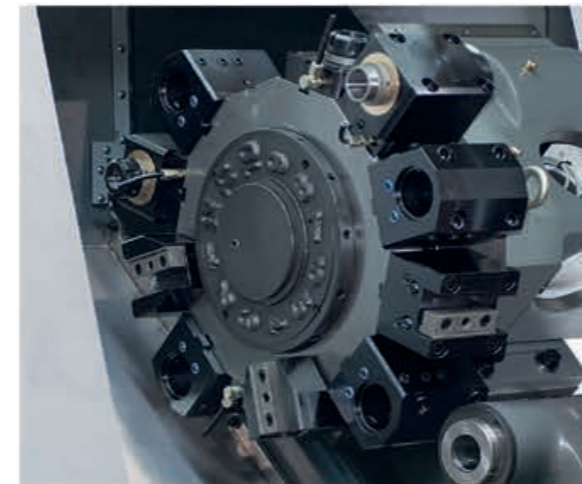
Turret index

SERVO

Tool size

O.D : 1 inch

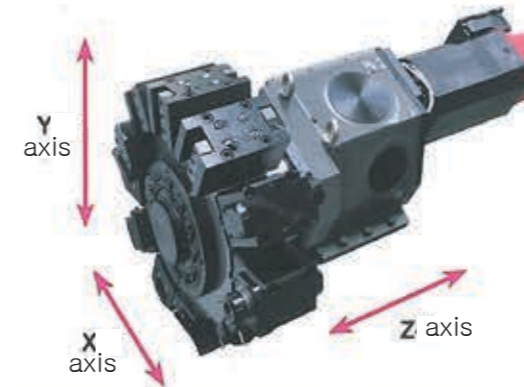
I.D : 1 1/2 inch



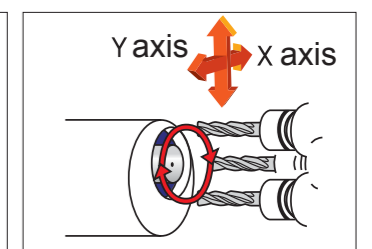
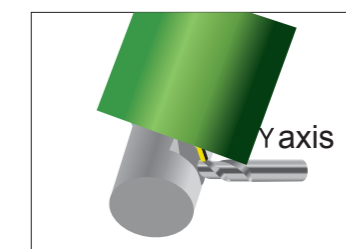
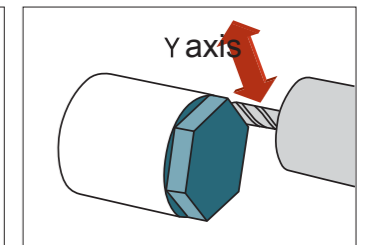
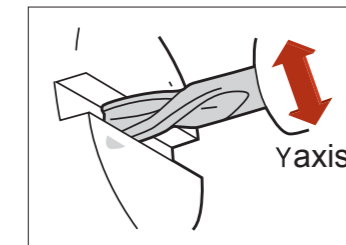
The 12-position turret enables various combinations of O.D./I.D. tool holders in all positions. FANUC servo motor index and 3-piece curvic coupling provide rapid and reliable tool change.

Integrated BMT55 (Mill Turret)

High performance Y-axis



Simultaneous X, Y, Z axis feed control, C axis function, and X/Y axis circular interpolation function are available, making complex-shaped workpiece machining easy at high accuracy.



With live tools C-axis, Y-axis capability, and subspindle, complex machining operations can be done in just one set-up, reducing set-up time and significantly improving machining accuracy and productivity.

Y-axis stroke

3.15 inch

Y-rapid traverse

394 ipm

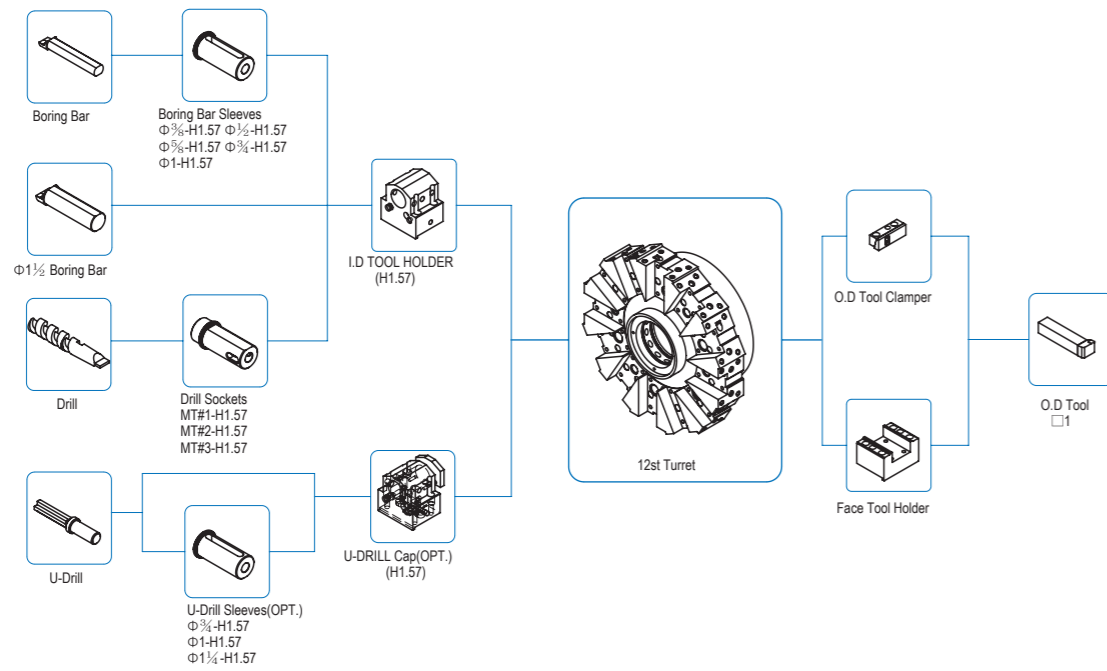
KDL B series

CNC Turning Center

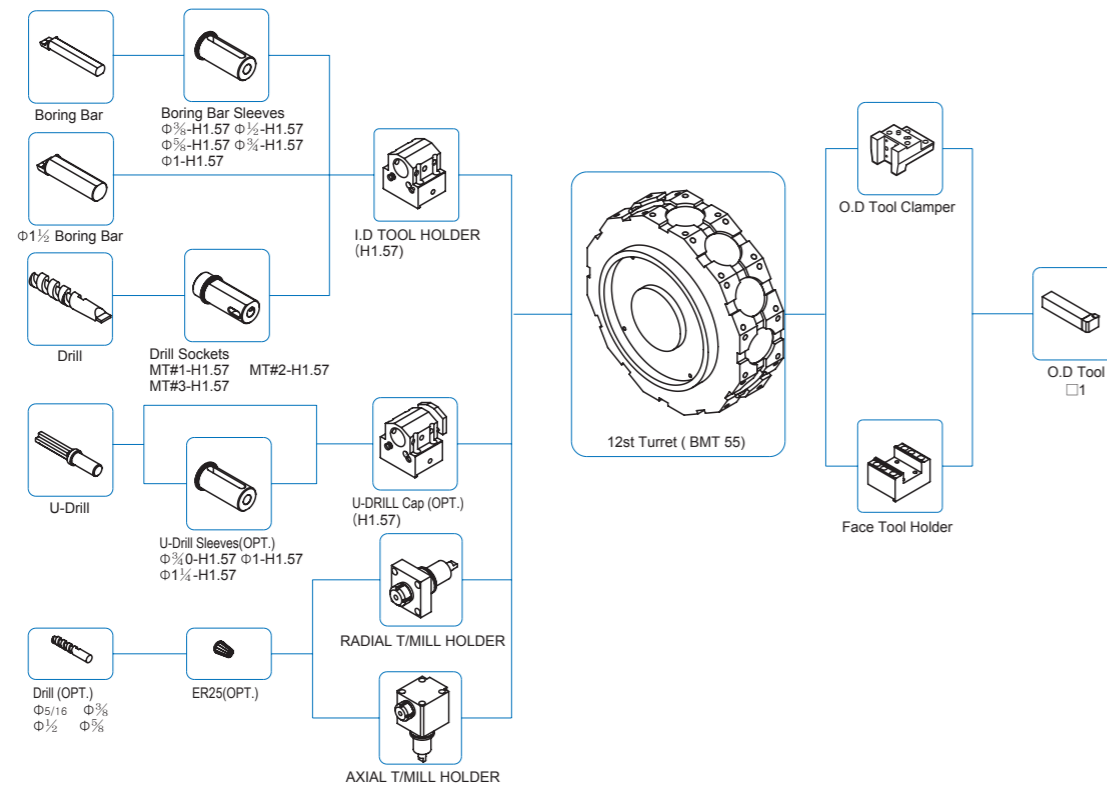
High-speed, High-accuracy, High-productivity

Tooling diagram

KDL 21 A / B / LA / LB

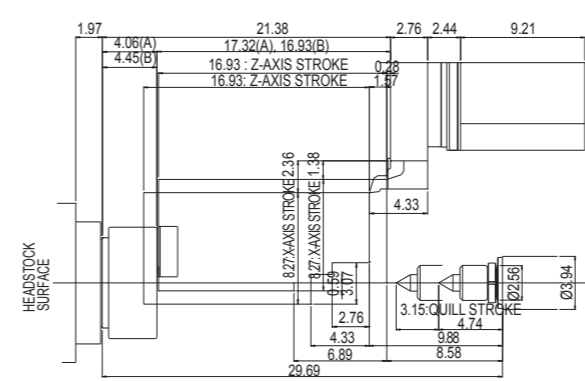


KDL 21 MA / MB / LMA / LMB

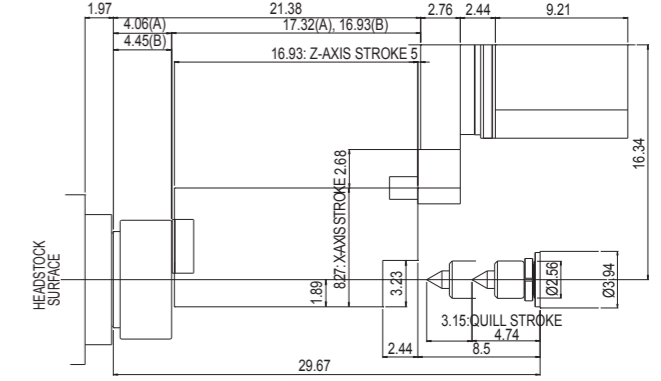


Working range

KDL 22 A / B

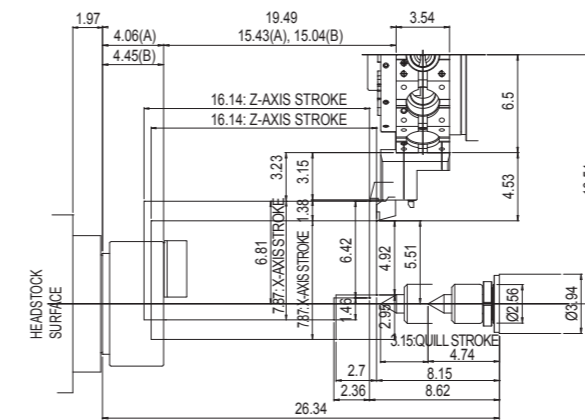


► O.D tool

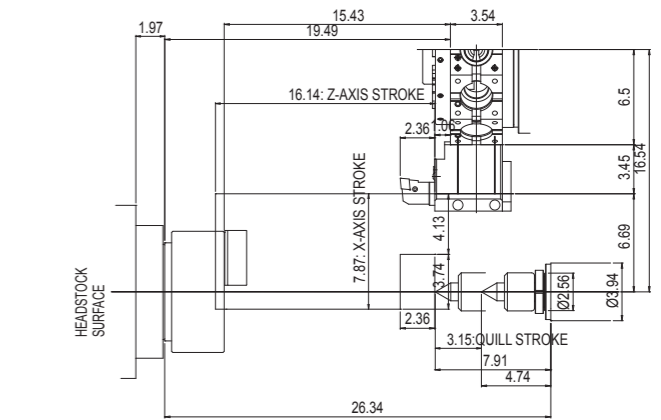


► I.D tool

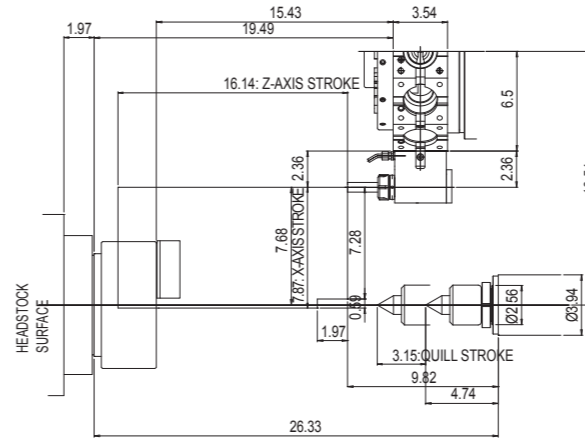
KDL 22 MA / MB



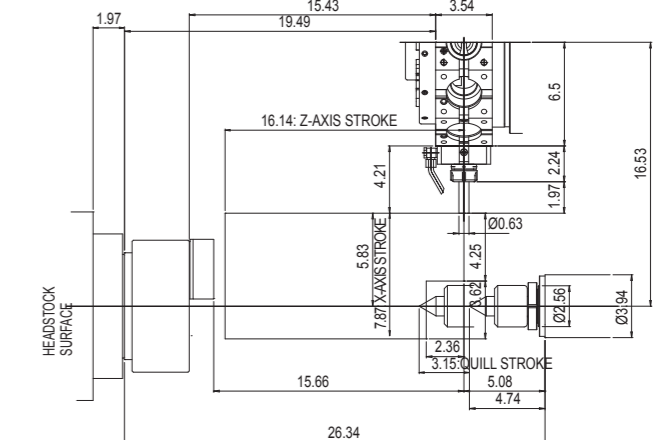
► O.D tool



► I.D tool



► Axial(z axis) driven tool



► Radial(x axis) driven tool

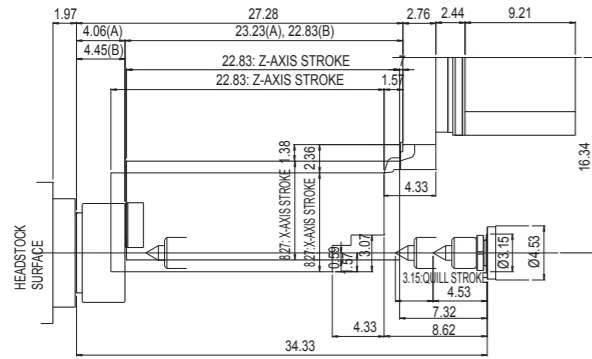
KDL B series

CNC Turning Center

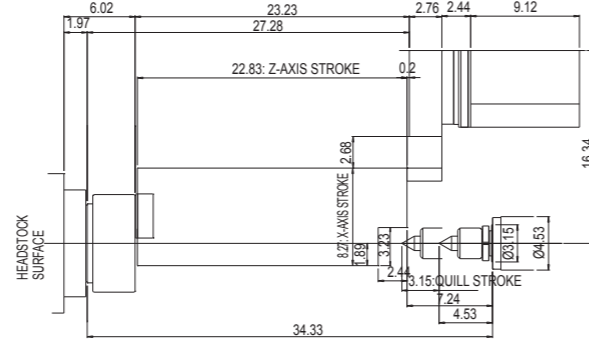
High-speed, High-accuracy, High-productivity

Working range

KDL 22 LA / LB

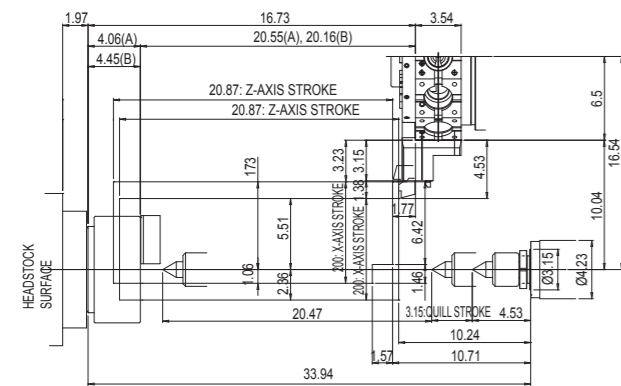


► O.D tool

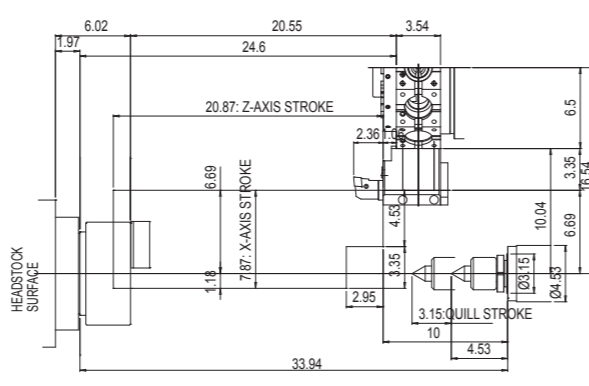


► I.D tool

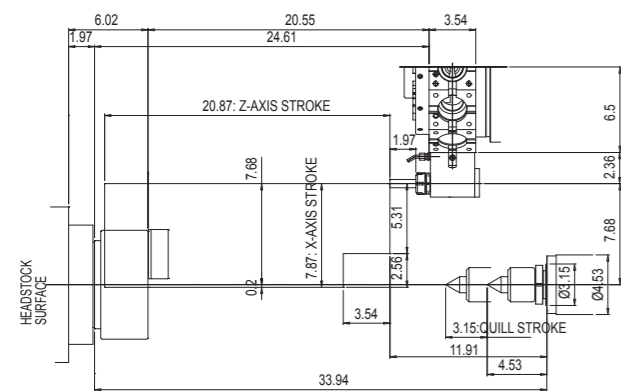
KDL 22 LMA / LMB



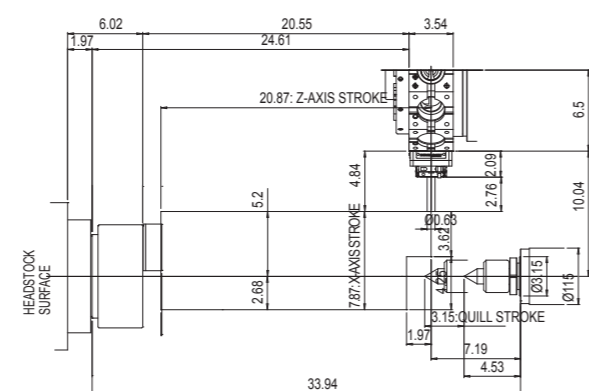
► O.D tool



► I.D tool



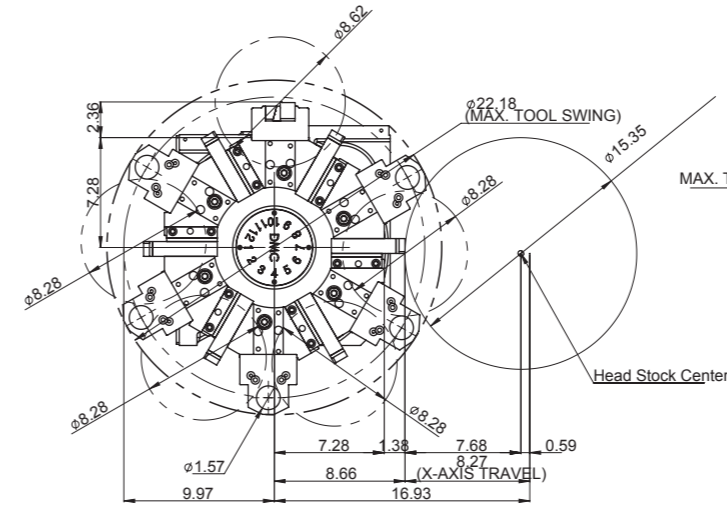
► Axial(z axis) driven tool



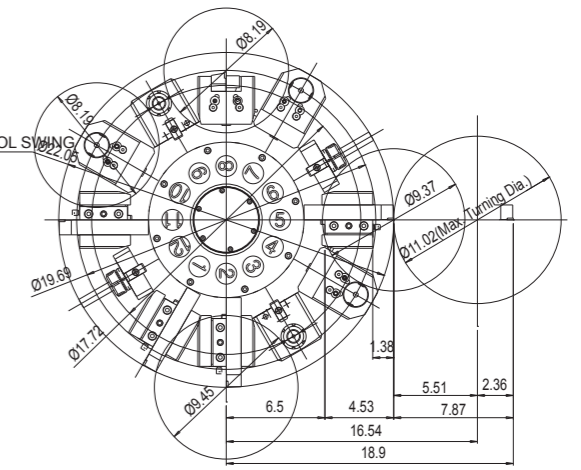
► Radial(x axis) driven tool

Tool interference diagram

KDL 22 A / B / LA / LB

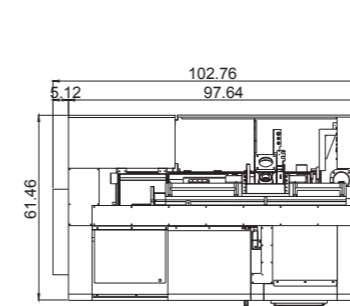


KDL 22 MA / MB / LMA / LMB

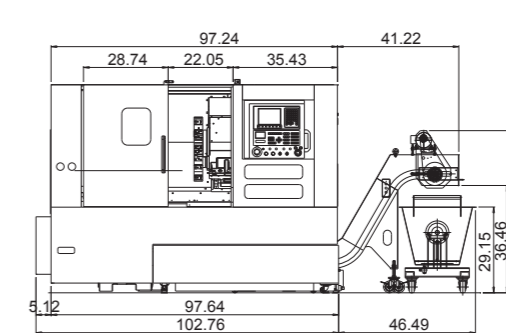


Machine lay-out

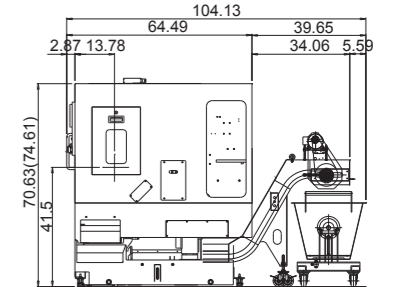
KDL 22 A / B / MA / MB



► Top view

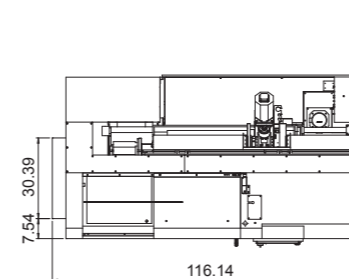


► Front view

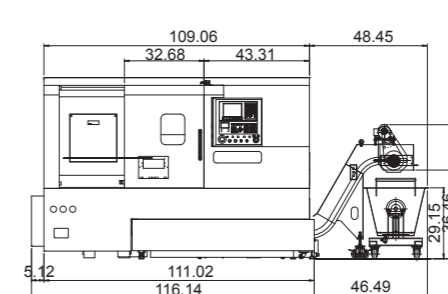


► Side view

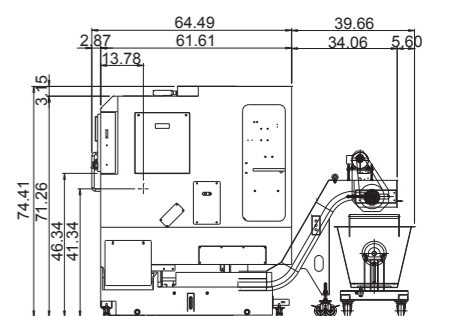
KDL 22 LA / LB / LMA / LMB



► Top view



► Front view



► Side view

KDL B series

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High-speed, High-accuracy, High-productivity

Machine major specifications

ITEM	UNIT	KDL 22A	KDL 22B	KDL 22LA	KDL 22LB	KDL 22MA	KDL 22MB	KDL 22LMA	KDL 22LMB	KDL 22MSY		
CAPACITY	Swing over bed	inch		Φ21.65		Φ21.65		Φ21.65		Φ21.65		
	Swing over carriage	inch		Φ14.17		Φ14.17		Φ14.17		Φ14.17		
	Max. cutting diameter	inch		Φ13.78		Φ11.02		Φ11.02		Φ11.02		
	Max. cutting length	inch	16.14	15.35	21.65	20.87	13.39	13.39	20.08	19.29	19.69	18.90
	Bar capacity	inch	2.56	2.95	2.56	2.95	2.56	2.91	2.56	2.91	2.56	2.91
SPINDLE	Chuck size	inch	8"(BIG)	10"	8"(BIG)	10"	8"(BIG)	10"	8"(BIG)	10"	8"	10"
	Max. spindle speed	rpm	4,000	3,500	4,000	3,500	4,000	3,500	4,000	3,500	4,000	3,500
	Spindle nose	-	A2-6	A2-8	A2-6	A2-8	A2-6	A2-8	A2-6	A2-8	A2-6	A2-8
	Bearing diameter(Front)	inch	Φ4.33	Φ5.12	Φ4.33	Φ5.12	Φ4.33	Φ5.12	Φ4.33	Φ5.12	Φ4.33	Φ5.12
	Spindle bore diameter	inch	Φ2.99	Φ3.39	Φ2.99	Φ3.39	Φ2.99	Φ3.39	Φ2.99	Φ3.39	Φ2.99	Φ3.39
C-Axis spindle index angle	deg							0.001		0.001		
Driving way	-	BELT						BELT		BELT		
Sub SPINDLE	Chuck size							-		6"		
	Spindle speed	rpm							-		6,000	
TRAVEL	Axis stroke	X-axis	inch		8.27		7.87		7.87			
		Z-axis	inch	16.93	22.83	16.14	20.87	21.65				
	Y/B-axis	inch							-		3.15(±1.57) / 21.65	
	Rapid traverse rate	X-axis	ipm							945		945
Z-axis	ipm							945		945		
Y/B-axis	ipm							-		394 / 945		
Slide way(X/Z/Y/B)	-	Box guide						Box guide		Box guide		
Turret index	-	SERVO						Servo		Servo		
No. of tools	ea	12		12 / BMT55		12 / BMT55		12 / BMT55				
TURRET	Tool size	O.D	inch		□1		□1		□1			
		I.D	inch							Φ1½		
Turret clamp	lbs	10,831		9,817		9,817						
Turret indexing time(1st swivel)	sec	0.2						0.2				
Rotating tool speed		-						5,000		5,000		
TAIL STOCK	Tail stock quill dia. X traverse	inch	Φ3.15x3.15						-			
	Tail stock quill taper	MT	MT#4						-			
	Tail stock body traverseCont/30min	inch	15.75	20.47	15.75	20.47	-					
Main spindle	HP	15/20 [20 / 25]						15/20 [20 / 25]				
Sub spindle	HP	-						7 / 10				
MOTOR	Servo	X-axis	HP		4		4					
		Z-axis	HP	4						4		
		Y/B axis	HP	-						4		
	Rotating tool motor	kVA	-						3 / 5		3 / 5	
Power capacity	inch	27		30		40						
Machine height	inch	70.08		74.02		74.02						
MACHINE	Floor space	Length	inch	104.33	116.14	104.33	116.14	124.02				
		Width	inch	64.96						64.96		
Machine weight	lbf	8,818	8,929	9,700	8,818	8,929	9,149	9,921	10,031	10,141	10,251	
CNC Controller		F 0i - mate TD						F 0i - TD		F 31i - A		

[]Option

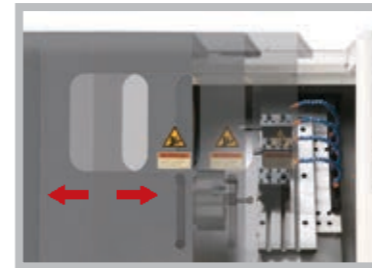
Standard / optional accessories

Standard accessories

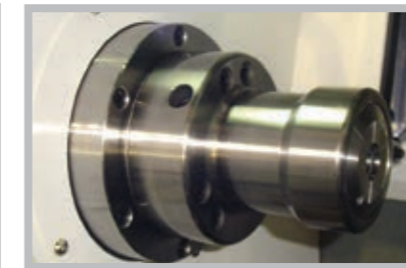
Hydraulic chuck	Soft jaw	Tool & tool box	Hydraulic unit
Door interlock	Coolant supply equipment	Worklight	Levelling bolt & plate
Foot switch			

Optional accessories

Auto door	Collet chuck	Parts catcher
Tool presetter	Chip air blow	C-axis
Chip conveyor (side)	Chip bucket	Barfeeder interface
Transformer	Oil Skimmer	Automatic power turn-off function
Special chuck	Tool counter	Additional tool holder & sleeve
Air gun	Oil mist collector	Coolant gun



Auto Door



Collet Chuck



Parts Catcher



Tool Pre-setter



Chip Air Blow



C-Axis



Chip conveyor (side)



Coolant gun



Oil cooler