

NC Unit Specifications / FANUC Series

● : Standard ○ : Option			
	ITEM	Specification	Qi-TF Plus
Controlled axis	Controll axes	5 axes (X, Z, Y, B, C) / 6 axes (X, Z, Y, B, C, A)	●
	Max. simultaneously controlled axis		4
	Cs contouring control		●
	Least command increment	0.001mm (0.0001 inch), 0.001 deg (C-axis)	●
	Stored limit check before move		●
Operation functions	C-A axis synchronous control		○
	DNC operation	Included in RS-232C interface	●
	DNC operation with memory card	CF card and CF card adapter is required	●
	Wrong operation prevention		●
	Dry run		●
Interpolation functions	Single block		●
	Nano interpolation		●
	Linear interpolation	G01	●
	Circular interpolation	G02, G03	●
	Dwell	G04	●
	Polar coordinate interpolation	G12.1, G13.1	●
	Cylindrical interpolation	G07.1	●
	Helical interpolation		○
	Variable lead thread cutting	G34	●
	Multi / Continuous threading		●
	Reference position return	G28	●
	Reference position return check	G27	●
Feed function	Rapid traverse rate override	F0, 25%, 50%, 100%	●
	Feedrate override	0 ~ 200%	●
	Pulse handle feed	X1, X10, X100	●
	Override cancel		●
	AI contour control (AICC) I, II	40ea, 200ea (AICC II)	○
	Feedrate per minute / revolution	G98 / G99	●
	Rapid traverse block overlap		●
Auxiliary / Spindle function	Constant surface speed control	G96, G97	●
	Spindle override	0 ~ 150%	●
	Spindle orientation		●
	Spindle synchronous control		●
	Rigid tapping		●
Program input	Arbitrary speed threading		○
	Optional block skip	9EA	●
	Absolute/incremental programming		●
	Canned cycles	G90, G92, G94	●
	Multiple repetitive canned cycle	G70 ~ G76	●
	Program restart		●
	Retraction for rigid tapping		○
	Max. programmable dimension	±999,999.999mm (±99,999.9999 inch)	●
	Custom macro		●
	Canned cycle for drilling		●
	Direct drawing dimension programming		●
	Programmable data input	G10	●
	Workpiece coordinate system	G52 ~ G59	●
Tool function / Tool & Accuracy compensation	Workpiece coordinate system preset		●
	Tool offset pairs	128-pairs	●
	Tool radius/Tool nose radius compensation		●
	Tool geometry/wear compensation		●
	Automatic tool offset		●
	Tool life management		●
	Backlash compensation		●
Data input / output & Interface	Memory card and USB memory input/output		●
	Data server		○
	Embedded Ethernet		●
Others	Manual guide i		●
	iHMI		●
	Part program storage size / No. of registerable programs	2 Mbyte (5120m) / 1000ea	●
	Display unit	15" color LCD with Touch Panel	●



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※ Design and specifications subject to change without notice.

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Best technology and know-how



NL 2000 | 2500 | 3000 SY-Y

High performance Y-Axis CNC Turning Centers



NL Series NL 2000ASY, NL 2000BSY, NL 2000AY, NL 2000BY, NL 2500SY, NL2500Y, NL3000SY, NL3000Y
Chuck Size 6, 8, 10, 12 inch

www.smtkor.com

NL Series

Designed by Smart Machine Tool engineers with many years of experience, NL Series turning centers guarantee ultra-high precision, flexible, and reliable machining performance.



		NL 2000ASY	NL 2000BSY	NL 2500SY	NL 3000SY
Swing Over Bed	mm(inch)	810 (31.89")	810 (31.89")	810 (31.89")	810 (31.89")
Max. Machining Length	mm(inch)	750 (29.53")	735 (28.94")	713 (28.07")	720 (28.35")
Main Spindle Chuck	inch	6	8	10	12
Spindle Speed	rpm	6,000	4,500	4,000	2,800
Turret Type	-	BMT55	BMT55	BMT65	BMT65
Sub Spindle Chuck	inch	6	8	8	8
Travel (X/Z/Y)	mm(inch)	239/830/110 (9.41/32.7/4.33)	239/830/110 (9.41/32.7/4.33)	248.5/830/110 (9.78/32.7/4.33)	248.5/800/110 (9.78/31.5/4.33)

NL 2000 | 2500 | 3000 with Y-Axis

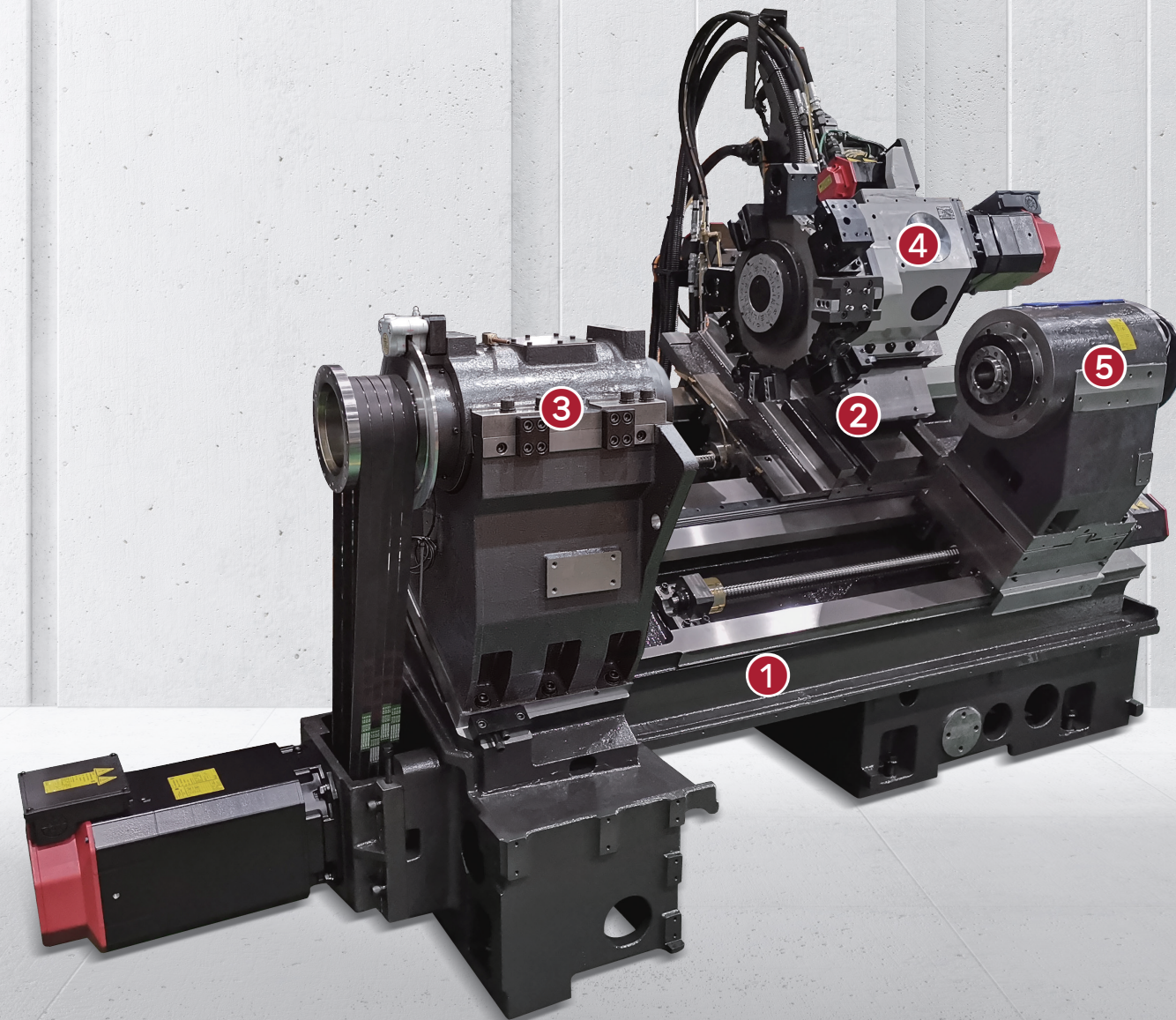
- ▶ Y-Axis enables complex shape machining capability
- ▶ Wide box guideways machined from one-piece casting promote heavy duty cutting
- ▶ High spindle power ensures powerful cutting capability
- ▶ Built-in sub spindle motor enables fast acceleration/deceleration
- ▶ Synchronized control of main and sub spindle for machining flexibility
- ▶ High torque servo motor driven tailstock reducing workpiece setup time
- ▶ User-friendly operation panel design for efficient machine operation
- ▶ Various peripheral equipment and options



		NL 2000AY	NL 2000BY	NL 2500Y	NL 3000Y
Swing Over Bed	mm(inch)	810 (31.89")	810 (31.89")	810 (31.89")	810 (31.89")
Max. Machining Length	mm(inch)	726.5 (28.6")	711.5 (28.01")	690 (27.17")	720 (28.35")
Main Spindle Chuck	inch	6	8	10	12
Spindle Speed	rpm	6,000	4,500	4,000	2,800
Turret Type	-	BMT55	BMT55	BMT65	BMT65
Tailstock Taper	-	MT#5	MT#5	MT#5	MT#5
Travel (X/Z/Y)	mm(inch)	239/830/110 (9.41/32.7/4.33)	239/830/110 (9.41/32.7/4.33)	248.5/830/110 (9.78/32.7/4.33)	248.5/830/110 (9.78/32.7/4.33)

Machine Structure

High Rigidity Body Structure for Heavy-duty Machining



① One-Piece Casting Bed

② Wide box guideways

③ Main Spindle

④ 12-Station Turret

⑤ Sub Spindle



① One-Piece Casting Bed

One-piece 30-degree slant bed made out of GC300 high tensile strength gray cast iron, which has superb vibration absorption characteristics, provides rigid foundation for all machine components. Such design endures long-term machining accuracy and consistency.

Precision hand scraping of contact surfaces of all slides, headstock and tailstock with the bed ensure long-lasting machining accuracy and minimal surface wears.



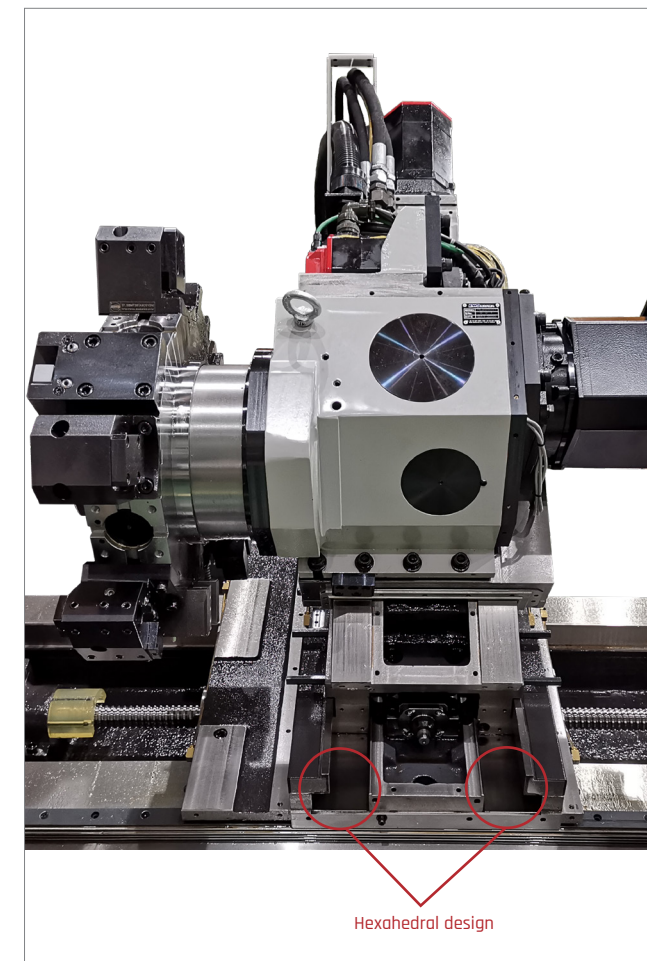
② Wide box guideways and Carriage

Hexahedral design and wide box guideways, machined from one piece casting, promote heavy duty machining. Induction hardened and precision ground ways ensure accurate machining for extended period of time.

Wide carriage promotes less vibration and allows high precision machining.

High Performance Motor

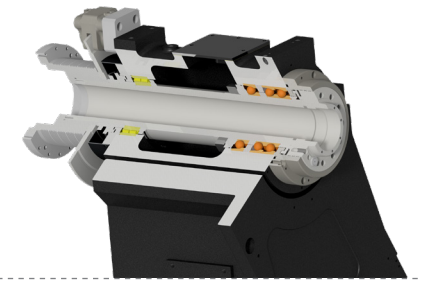
All axis are equipped with high performance feed motor for better travel ability and reducing cycle time.



Hexahedral design

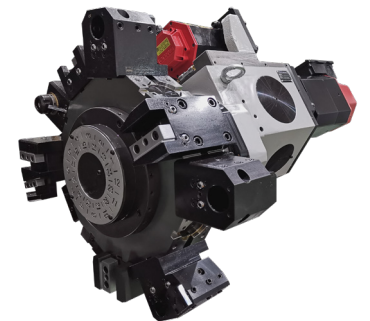
③ Main Spindle

Double row cylindrical roller bearings and angular thrust bearings, ensure high rigidity for heavy cutting and excellent surface finishes.



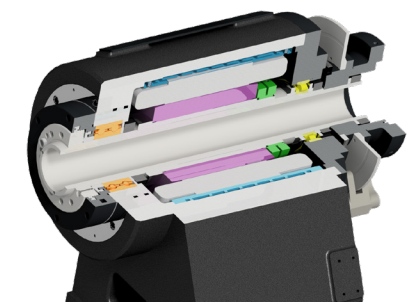
④ 12-Station Turret

Large diameter 3-piece Curvic coupling for excellence rigidity and extended tool life. High torque AC servo motor driven ensure fast indexing time, excellence position and repeatability.



⑤ Sub Spindle

Equipped with built-in motor and oil cooling unit as standard to minimize thermal displacement and to ensure maximum machining accuracy even during a long period of machining.



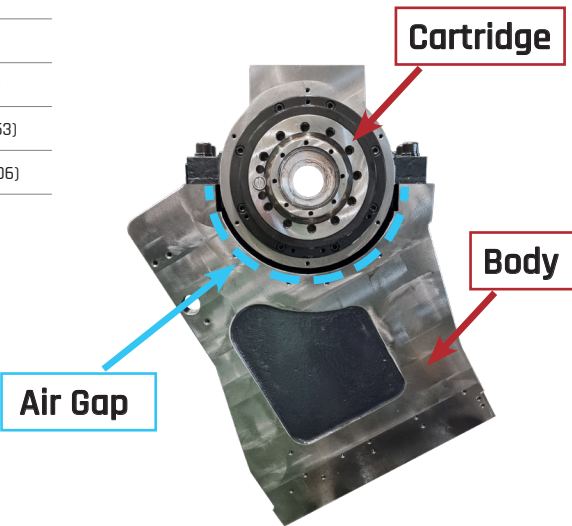
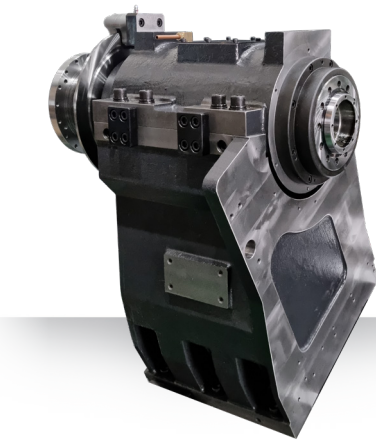
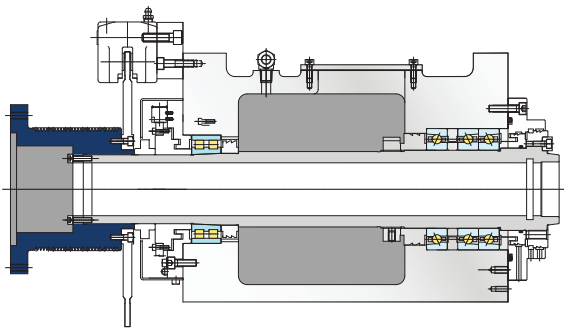
Main Spindle

High Accuracy & Performance CNC Turning Center

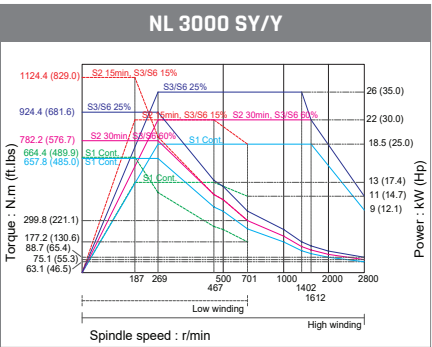
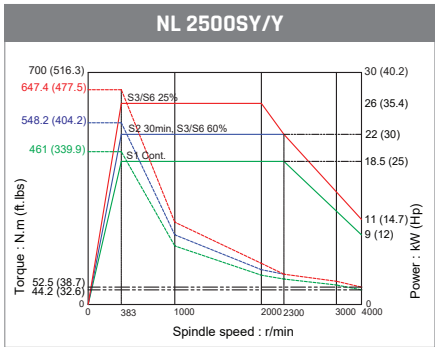
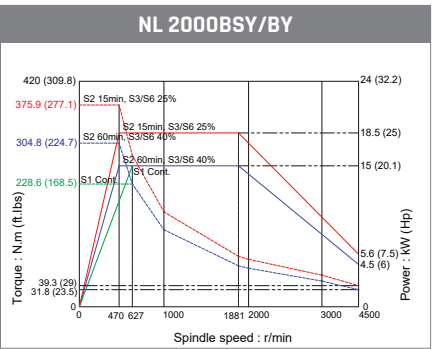
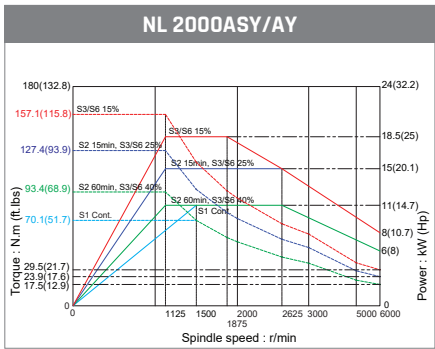
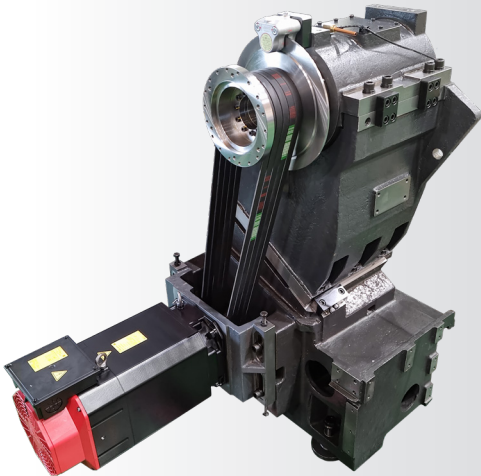
Main Spindle

Bilateral symmetry spindle design reduces cause of thermal deformation. The headstock structure is designed with an air gap separation between the spindle cartridge and the headstock body to prevent thermal conductivity from the heat generated by axis movements. This design minimizes thermal expansion and allows for long-term high-precision operation.

	NL 2000ASY/AY	NL 2000BSY/BY	NL 2500SY/Y	NL 3000SY/Y
Chuck size	inch 6"	8"	10"	12"
Spindle nose	ASA A2-5	A2-6	A2-8	A2-11
Max speed	rpm 6,000	4,500	4,000	2,800
Thru hole dia.	mm(inch) Ø61(2.4)	Ø76(2.99)	Ø91(3.58)	Ø115(4.53)
Draw tube I.D.	mm(inch) Ø52(2.05)	Ø68(2.68)	Ø82(3.23)	Ø103(4.06)



Belt drive Std.



Sub Spindle (SY Models)

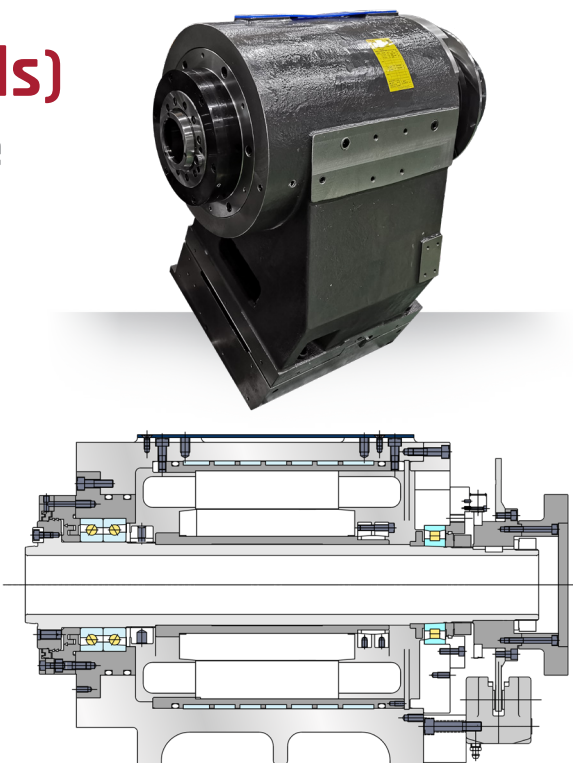
Fast acceleration with high torque

Built-In Sub Spindle Motor

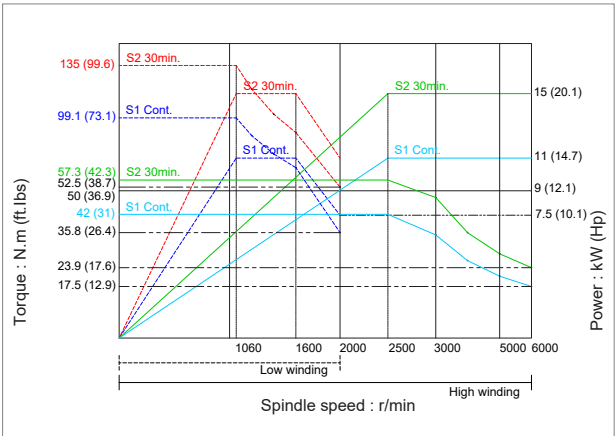
Sub spindle with full C-axis control allows machining on the rear side of workpiece, and a powerful Fanuc built-in motor, provides fast acceleration with high torque and high precision.

[] : Option

	NL2000ASY	NL2000BSY	NL2500SY	NL3000SY
Chuck size	inch 6"		8" [6"]	
Spindle nose	ASA A2-5		A2-6 [A2-5]	
Max speed	rpm 6,000		5,000 [6,000]	
Thru hole dia.	mm(inch) Ø62(2.44)		Ø62(2.44)	
Draw tube I.D.	mm(inch) Ø52(2.05)		Ø52(2.05)	

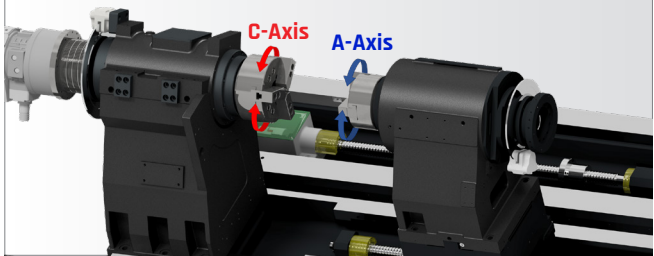


Max. Output and Torque	
Max. Output 15 kW [20 HP]	Max. Torque 135 N.m [99.6 ft.lbs]
Max. Spindle Speed	
Chuck size 6" 6,000 rpm	Chuck size 8" 5,000 rpm



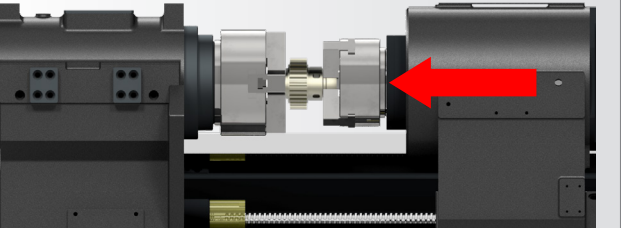
Synchronized C and A Axis Indexing (*Optional function)

C-axis (Main spindle) and A-axis (Sub spindle) synchronous command control, provides maximum machining flexibility for varieties of workpiece configuration.



Automatic Part Transfer

Workpiece can be transferred from main spindle to sub spindle without manually handling the part, saving manpower, reducing cycle time and achieving continuous machining with both high speed and high precision.



Y-Axis Machining

Y-Axis Control improves machining accuracy and capability

Y-axis allows side milling, off-center drilling and grooving. This result in better machining accuracy and also enable more complex shape machining capability compared to conventional 2 and 3 axis turning center.

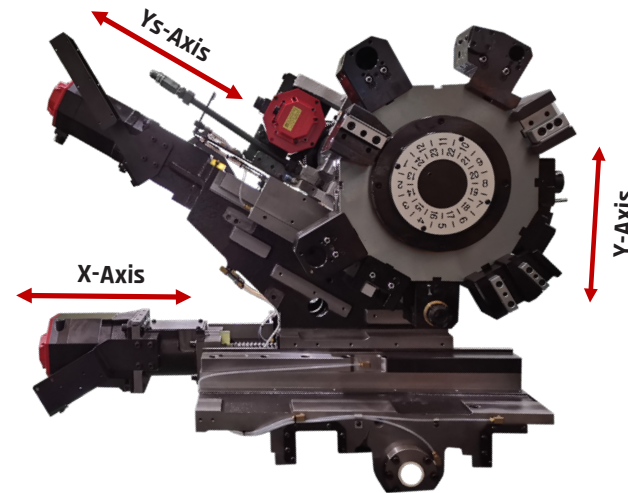
The simultaneous operation of the X-axis and the Ys-axis creates the Y-axis movement.

Y-Axis Travel

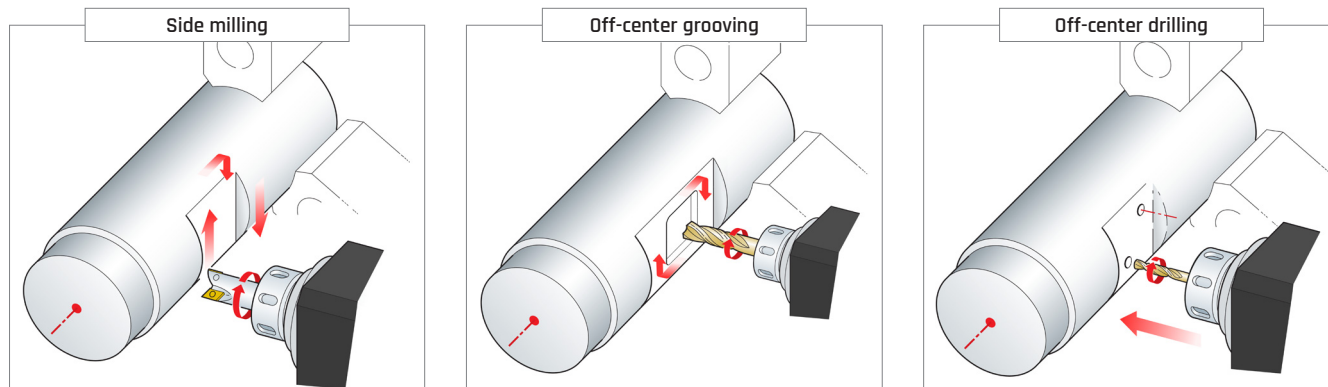
110 (±55) mm [4.33 (±2.17) inch]

Y-Axis Rapid Traverse

10 m/min [394 ipm]

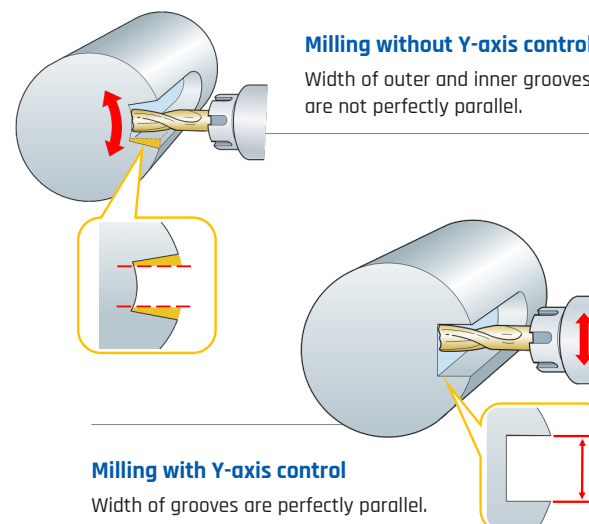
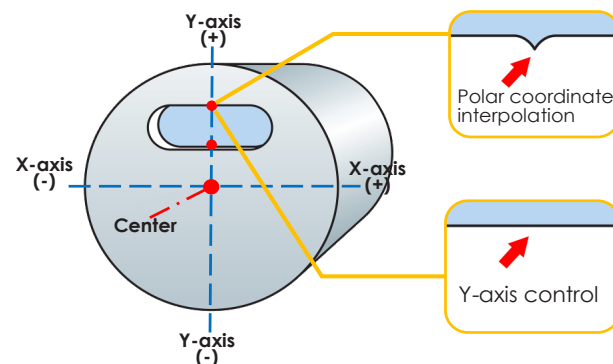


Y-Axis Machining Capability



Y-axis control compared to Polar coordinate interpolation

Polar coordinate interpolation control during grooving and contouring, the X-axis reverses at cross point between the center line and the profile to be machined which cause change in cutting condition and affect profile accuracy. Machining with Y-axis control can avoid such issue and also provide better profile accuracy.



Turret

Finest performance and high precision turret

BMT Mill Turret

BMT turret is equipped with 2 separated motors for indexing and milling, ensuring high machining performance, reliability and reducing processing time of workpiece.

• No. of tool stations : 12 stations (24 positions)

• Indexing time : 0.15sec

• Max speed of rotary tool : 5,000rpm

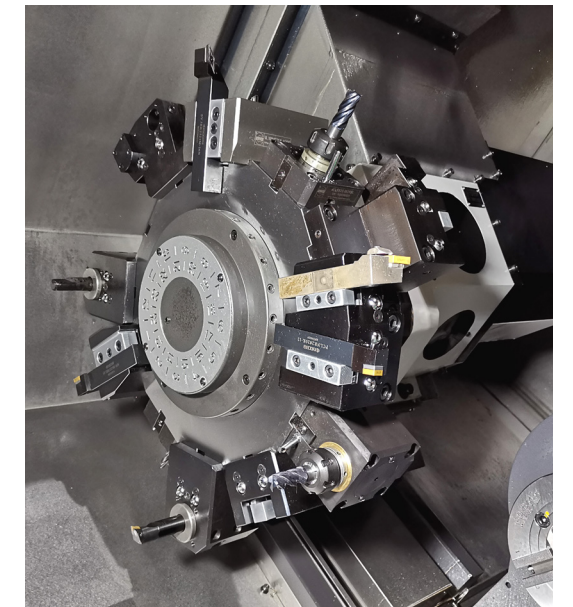
Tool Holder Size

• Turning holder : Single : □25(1")

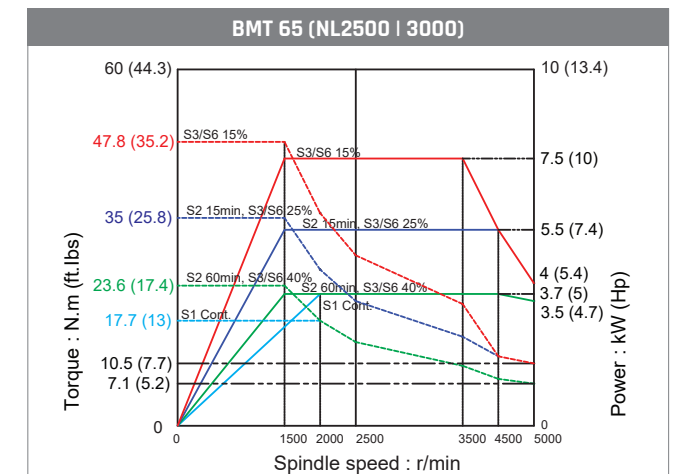
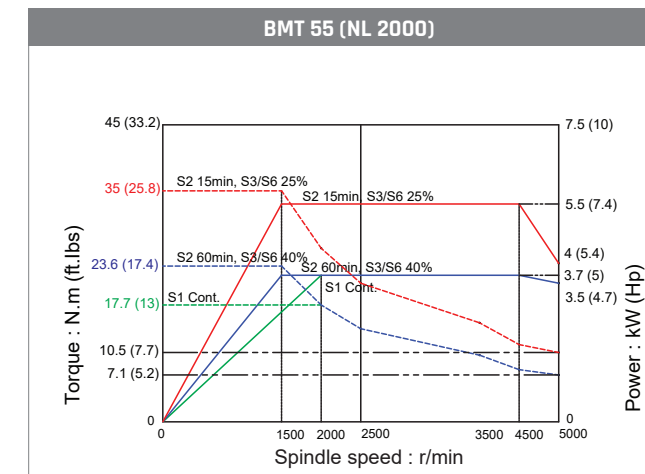
Double front/sub : □20(0.75")

• Boring holder : Single : NL 2000: Ø40(1.5"), NL 2500 | 3000: Ø50(2")

Double : Ø25(1")



• Mill Tool Torque Diagram



Tailstock (Y Models)

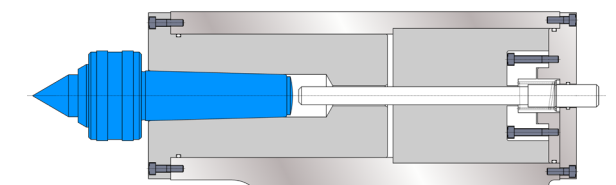
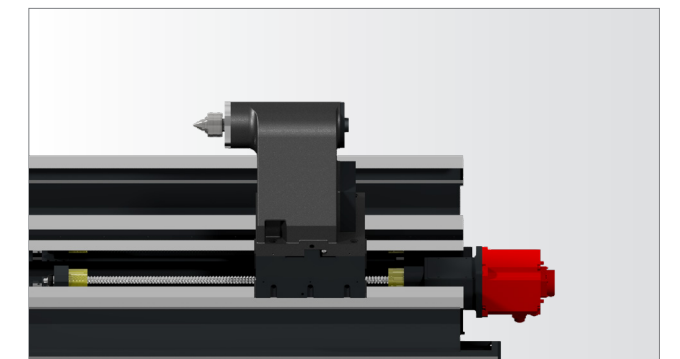
Servo Tailstock

Servo tailstock is available as standard feature for Y models, offers better machining efficiency and reduce set-up time.

The tailstock base positioning is driven by B-axis ballscrew and high performance servo motor ensure high speed and high precision positioning.

Thrust force setting can be digitally controlled according to part length and diameter for optimal machining accuracy.

		NL2000AY	NL2000BY	NL2500Y	NL3000Y
Tailstock travel	mm(inch)	830 (32.68)	830 (32.68)	830 (32.68)	830 (32.68)
Taper	-	MT#5	MT#5	MT#5	MT#5

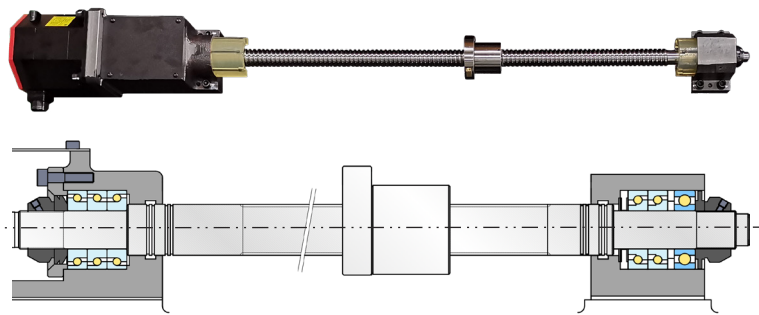


Ballscrew

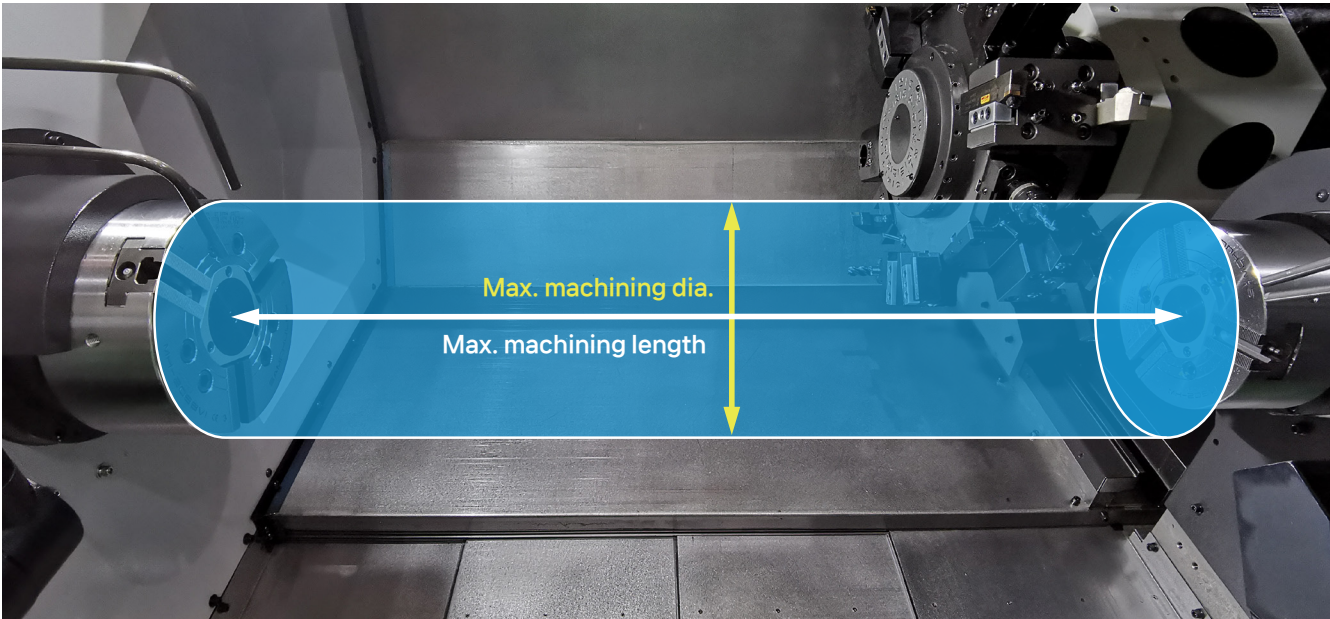
Ultimate rigidity ballscrew

Pre-Tensioned and Double Anchored Ballscrews

All axes ballscrews are pre-tensioned, heat treated and fixed by double anchors on both ends, providing ultimate rigidity and minimal thermal growth. Moreover, both ends of all axes are preloaded with P4 high precision Angular contact ball bearing ensure precise and smooth rotation.

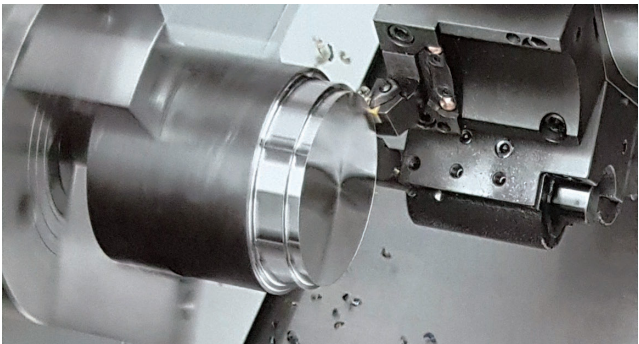


Machining Area



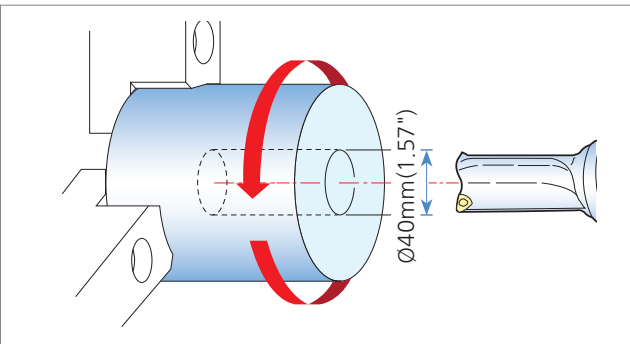
Model	Max. machining dia.	Max. machining length	Bar capacity
NL 2000ASY	Ø411 (16.18")	750 (29.53")	51 (2.01")
NL 2000AY	Ø411 (16.18")	726.5 (28.6")	
NL 2000BSY	Ø411 (16.18")	735 (28.94")	65 (2.56")
NL 2000BY	Ø411 (16.18")	711.5 (28.01")	
NL 2500SY	Ø394 (15.51")	713 (28.07")	81 (3.19")
NL 2500Y	Ø394 (15.51")	690 (27.17")	
NL 3000SY	Ø394 (15.51")	700 (27.56")	102 (4.02")
NL 3000Y	Ø394 (15.51")	730 (28.74")	

Cutting Performance



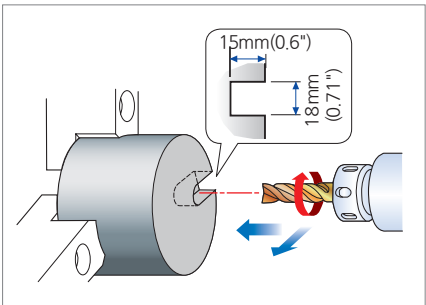
Heavy-duty cutting <0.0>

Machine type	NL 2500SY
Material <JIS>	S45C
Spindle speed	367 min ⁻¹
Depth of cut	4 mm (0.157 inch)
Cutting speed	152 m/min (500 fpm)
Feedrate	0.5 mm/rev (0.02 ipr)



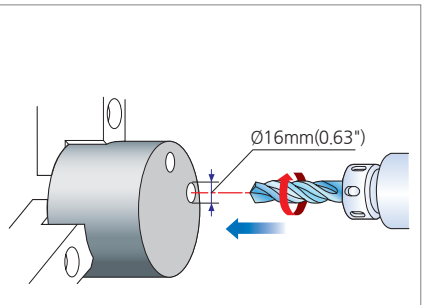
Insert Drill

Machine type	NL 2500
Material <JIS>	S45C
Spindle speed	417 min ⁻¹
Drill diameter	40 mm (1.57 inch)
Feedrate	0.15 mm/rev (0.006 ipr)



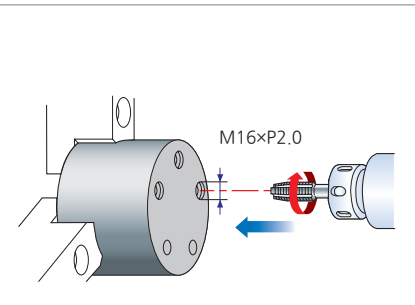
End mill <Ø18mm(0.71") High-speed steel>

Machine type	NL 2500SY
Material <JIS>	S45C
Rotary tool spindle speed	320 min ⁻¹
Depth of cut	15 mm (0.6 inch)
Cutting speed	20 m/min (65.6 fpm)
Feedrate	65 mm/min (2.5 ipm)



Drill <Ø16mm(0.63") High-speed steel>

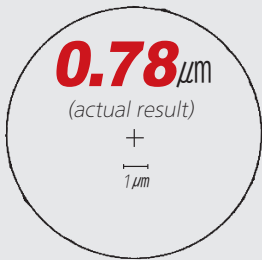
Machine type	NL 2500SY
Material <JIS>	S45C
Rotary tool spindle speed	391 min ⁻¹
Cutting speed	25 m/min (82.0 fpm)
Feedrate	105 mm/min (4.1 ipm)



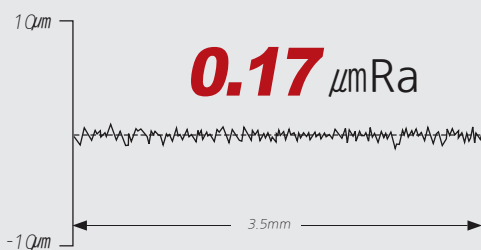
Tap <M16xP2.0>

Machine type	NL 2500SY
Material <JIS>	S45C
Rotary tool spindle speed	160 min ⁻¹
Cutting speed	10 m/min (32.8 fpm)
Feedrate	400 mm/min (15.7 ipm)

Roundness (Turning)



Surface Roughness (Turning)



Machine type	Unit	NL 2500SY
Material	-	Brass (Ø80mm x L60mm)
Tool	-	Diamond tool
Cutting depth	mm(inch)	0.1(0.004)
Feedrate	mm/rev(ipr)	0.05(0.002)
Nose radius	mm(inch)	0.5(0.02)

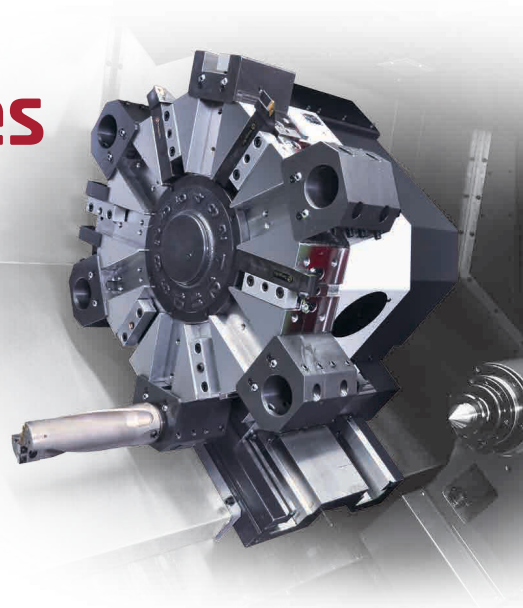
SMART Operation Features

Smart NL Series Turning Centers take operator convenience to the next level, offering key optional accessories as standard features of the machines.



BZi Sensor **Std.**

SMART provides BZi sensor as standard equipment, instead of position coder, for all models of NL series. Use of BZi sensor helps reduce after sale service cost as BZi sensor does not require maintenance, unlike position coder which need regular service maintenance.



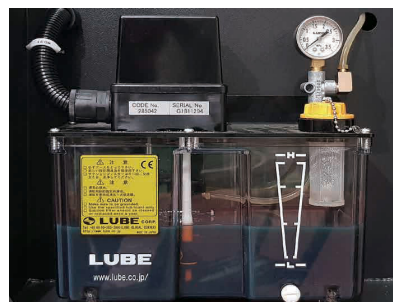
15 Inch Touchscreen Operation Panel **Std.**

15 inch touch type monitor with Fanuc iHMI as standard features, increase ease-of-use and improve operational efficiency. Operator-friendly design and QWERTY keyboard layout for efficient machine operation. Protected sealed buttons to prevent letters and signs from wearing off. Operator panel swivels up to 90 degrees, providing operators with easy access to the panel while working on the machine.

- ▶ 15 inch touchscreen
- ▶ QWERTY keyboard
- ▶ Fanuc iHMI
- ▶ Semi-permanent A/S LED lamping
- ▶ Waterproof button
- ▶ Big button size
- ▶ Replaceable button cap
- ▶ Light indicator at 100% driving status

Metered Lubrication System **Std.**

Automatic lubrication dispenser reliably dispenses exact amount of lubrication, only when axes is in operation. In the event of lubrication line failure, the system generates a warning message on CRT and stops the machine for operation safety.



High Pressure Coolant Pump **Std.**

Standard high pressure coolant pump sufficiently cools off the heat generated while cutting, ensuring precision machining and extended tool life, while Oil Skimmer effectively removes oil from coolant.



Oil Skimmer **Std.**



Belt type oil skimmer



Easy plug-in / remove cable

Features

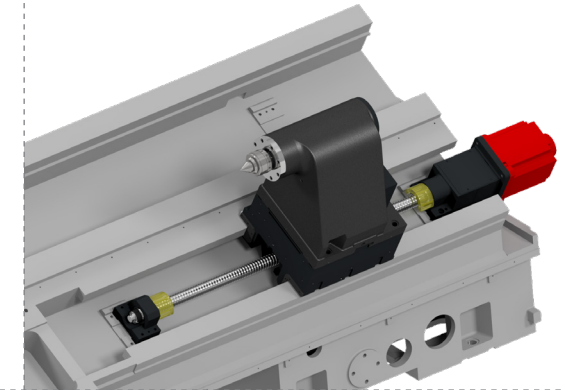
Manual Guide **i Std.**

MGI enables operators to program and simulate part programs using a conversational programming without actually running the machine.



Servo Motor Driven Tailstock **Std.**

Servo motor driven tailstock (B-axis) make part set-up faster and easier.



Tool Presetter **Opt.**

Tool presetter reduces set-up time by minimizing the need for manual skin cuts, measurement, and entering of tool offsets.



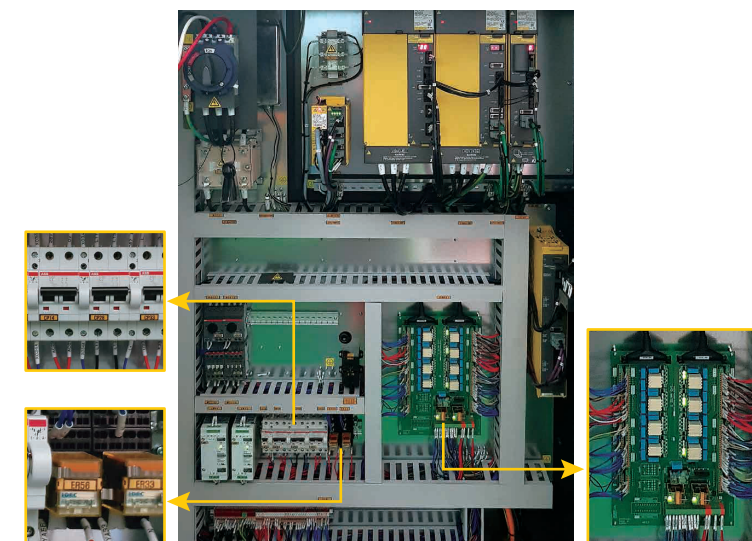
Chip Conveyor **Opt.**

Equipped with wide hinged belt, worm gear reducer and torque limiter ensure stable movement and efficiently disposes of chips.



Highly Reliable Electrical Components **Std.**

Brake, power and relay circuits are integrated into one board system to minimize electrical system failure and easily to maintenance and service.



Sub Spindle Oil Cooling Unit **Std.**

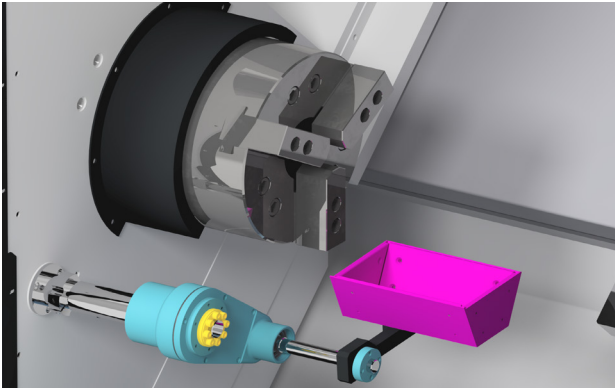
Sub spindle is covered by an oil jacket cooling system to reduce thermal expansion and ensure long term machining accuracy.



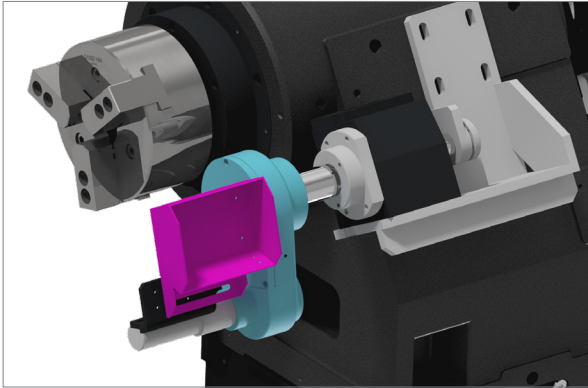
Features

Part Catcher **Opt.**

Automatically catches completed parts after cut-off.



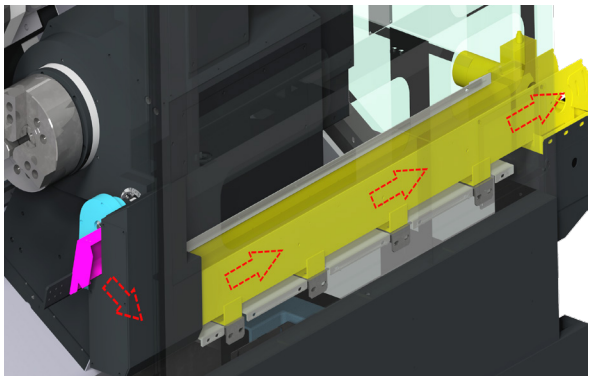
▲ Main spindle part catcher



▲ Sub spindle part catcher

Part Catcher **Opt.**

Internal part feed conveyor automatic transfers completed parts unloaded by sub part catcher to a receiving container for user convenience.



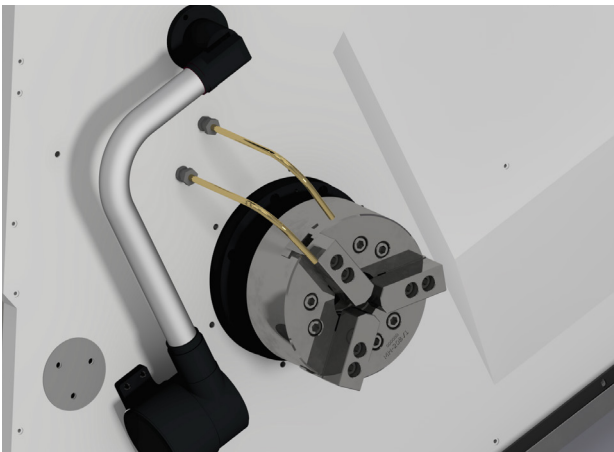
CE Approved Foot Switch **Std.** /

Air Gun&Coolant Gun **Opt.**

Connection-ready module design to easily add or remove accessories.



Air Blower **Opt.**



Mist Collector **Opt.**

Trap harmful oil vapor, coolant mist and fine dusts that formed during machining processes to improve working environment.



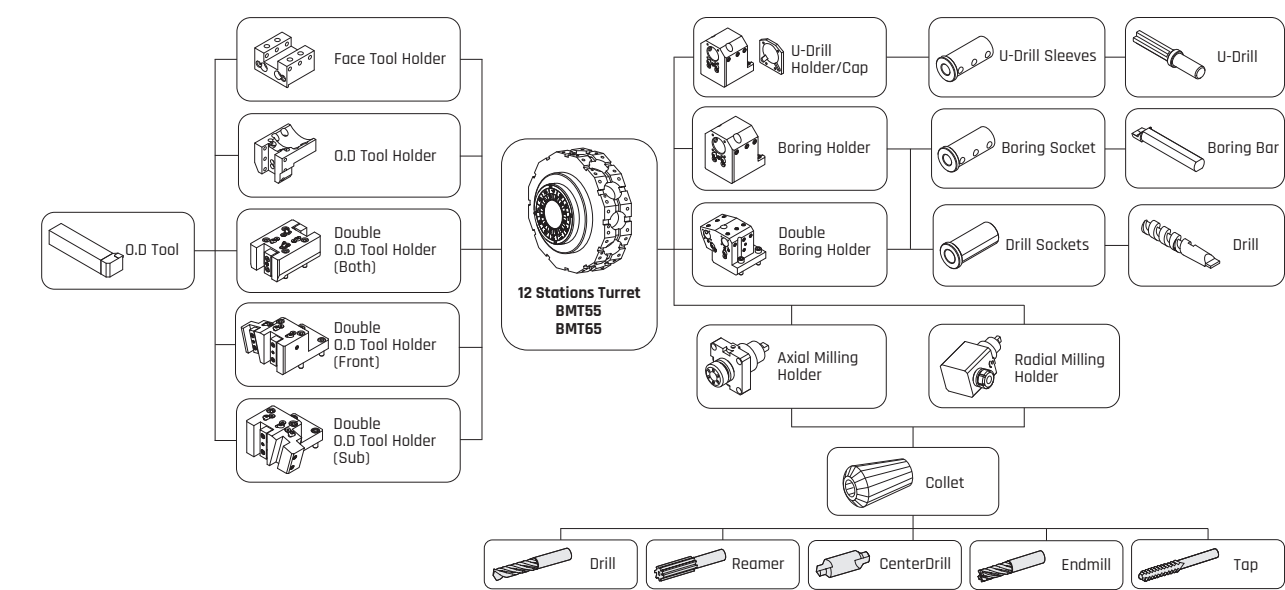
| Standard & Option Specifications

● : Standard ○ : Option X : Not applicable

		NL 2000				NL 2500		NL 3000	
		ASY	BSY	AY	BY	SY	Y	SY	Y
Spindle and Chucking									
Main spindle chuck (Hydraulic 3 jaw)	6 inch	●	X	●	X	X	X	X	X
	8 inch	X	●	X	●	X	X	X	X
	10 inch	X	X	X	X	●	●	X	X
	12 inch	X	X	X	X	X	X	●	●
Sub spindle chuck (Hydraulic 3 jaw)	6 inch	●	○	X	X	○	X	○	X
	8 inch	X	●	X	X	●	X	●	X
Soft jaw	6 sets (SY), 3 sets (Y)	●	●	●	●	●	●	●	●
Hard jaw	2 sets (SY), 1 set (Y)	●	●	●	●	●	●	●	●
Special chuck		○	○	○	○	○	○	○	○
Dual pressure chucking		○	○	○	○	○	○	○	○
Chuck pressure switch		○	○	○	○	○	○	○	○
Chuck clamp foot switch		●	●	●	●	●	●	●	●
Chuck clamp confirmation		●	●	●	●	●	●	●	●
Tailstock									
Servo motor tailstock		X	X	●	●	X	●	X	●
Tailstock taper	MT#5 (Live)	X	X	●	●	X	●	X	●
Built-in live center	MT#4 (dead center)	X	X	○	○	X	○	X	○
Coolant									
High pressure coolant pump	Trachoid Max. 20 bar	●	●	●	●	●	●	●	●
Oil skimmer		●	●	●	●	●	●	●	●
Coolant chiller		○	○	○	○	○	○	○	○
Coolant filtration system		○	○	○	○	○	○	○	○
Chuck coolant		○	○	○	○	○	○	○	○
Shower coolant		○	○	○	○	○	○	○	○
Coolant gun		○	○	○	○	○	○	○	○
Chip Disposal									
Side chip conveyor		○	○	○	○	○	○	○	○
Chip bucket		○	○	○	○	○	○	○	○
Air gun		○	○	○	○	○	○	○	○
Air blower		○	○	○	○	○	○	○	○
Mist collector		○	○	○	○	○	○	○	○
Measurement & Automatic Operation									
Tool presetter	Manual	○	○	○	○	○	○	○	○
	Automatic	○	○	○	○	○	○	○	○
Workpiece measurement		○	○	○	○	○	○	○	○
Linear scale	X/Y/Z axis	○	○	○	○	○	○	○	○
Bar feeder interface		●	●	●	●	●	●	●	●
Auto door		○	○	○	○	○	○	○	○
Parts catcher	Main spindle	○	○	○	○	○	○	○	○
	Sub spindle	○	○	X	X	○	X	○	X
Part conveyor		○	○	○	○	○	○	○	○
Work ejector		○	○	X	X	○	X	○	X
Others									
Operation status light tower		●	●	●	●	●	●	●	●
Work light (LED lamp)		●	●	●	●	●	●	●	●
Manual and part list		●	●	●	●	●	●	●	●
Door interlock		●	●	●	●	●	●	●	●
Leveling blocks		●	●	●	●	●	●	●	●
Air conditioner		○	○	○	○	○	○	○	○

I Tooling System

NL 2000ASY/NL 2000BSY/NL 2500SY/NL 3000SY

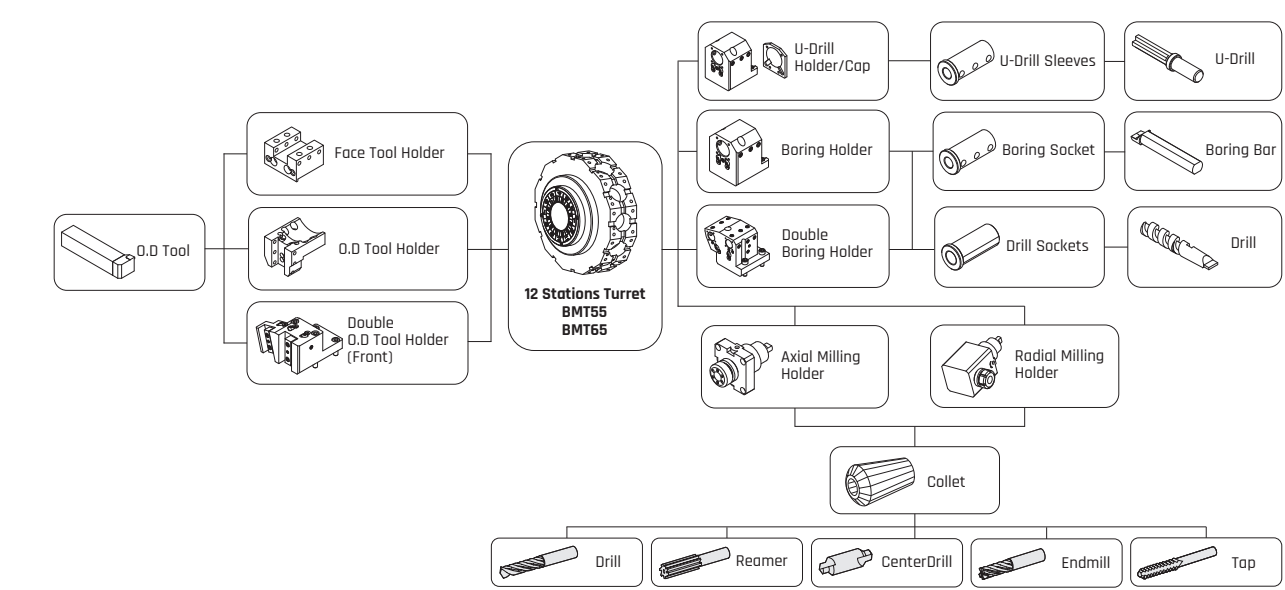


Standard Tooling Parts

Unit : mm (inch)

ITEM			NL 2000ASY	NL 2000BSY	NL 2500SY	NL 3000SY
Turning Holder	O.D Holder	Single	1	1	1	1
		Double (Both)	1	1	3	3
		Double (Front)	1	1	1	1
		Double (Sub)	1	1	-	-
	Facing Holder	-	1	1	-	-
Boring Holder	I.D Holder	Single	2	2	2	2
		Double	1	1	1	1
	U-Drill Cap	-	2	2	2	2
Driven Holder	Axial Milling Holder	Standard	1	1	1	1
	Radial Milling Holder	Standard	1	1	1	1
Socket	Boring	Ø10(3/8")	1	1	1	1
		Ø12(1/2")	1	1	1	1
		Ø16(5/8")	1	1	1	1
		Ø20(3/4")	1	1	1	1
		Ø25(1")	1	1	1	1
		Ø32(1 1/4")	1	1	1	1
		Ø40(1 1/2")	-	-	1	1
	Sub Boring	Ø10(3/8")	1	1	1	1
		Ø12(1/2")	1	1	1	1
		Ø16(5/8")	1	1	1	1
		Ø20(3/4")	1	1	1	1
	Drill	MT2	1	1	-	-
		MT3	1	1	1	1
		MT4	-	-	1	1

NL 2000AY/NL 2000BY/NL 2500Y/NL 3000Y



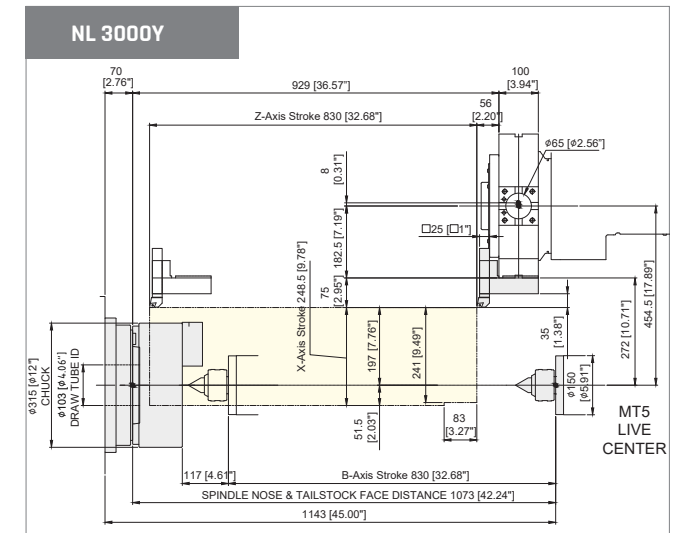
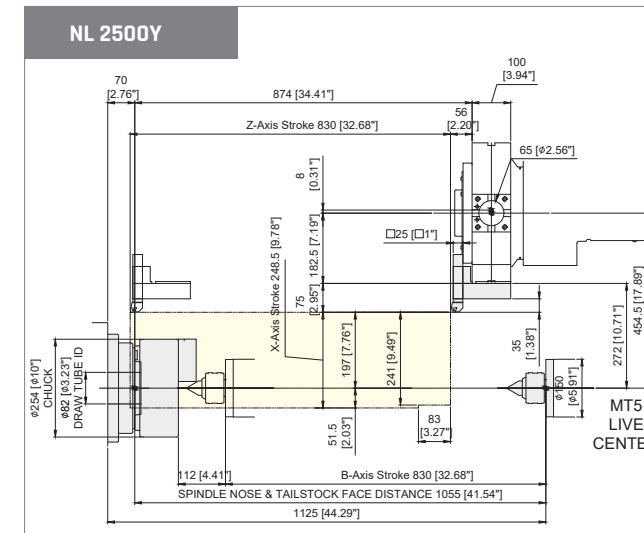
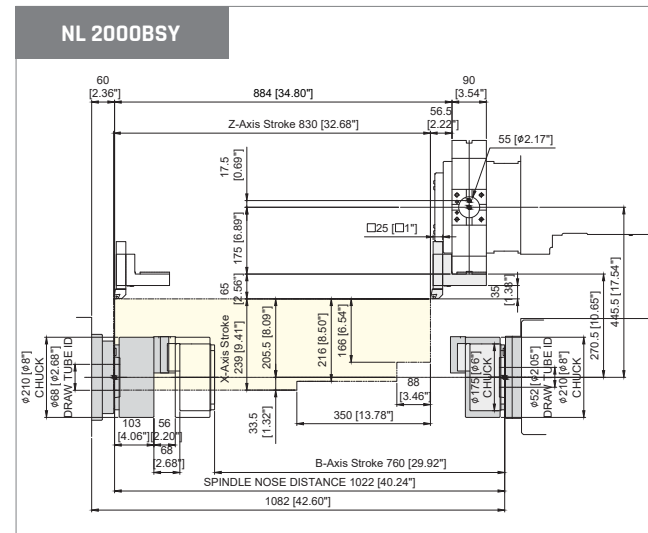
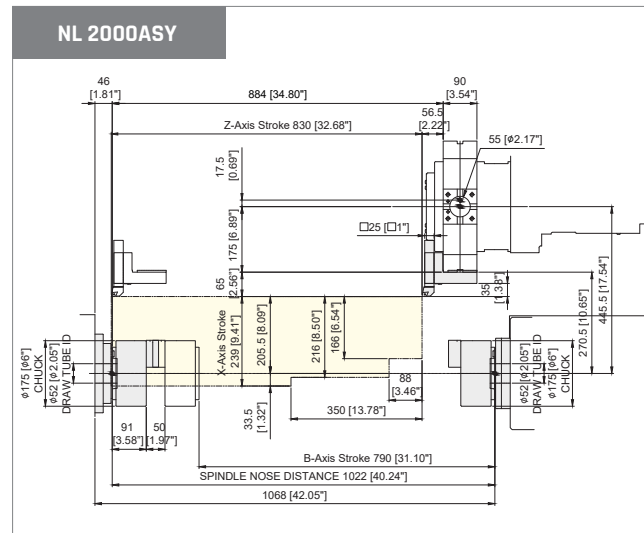
Standard Tooling Parts

Unit : mm (inch)

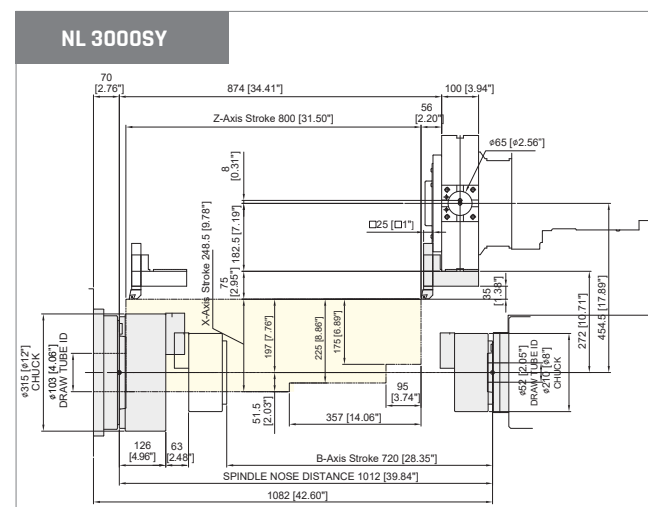
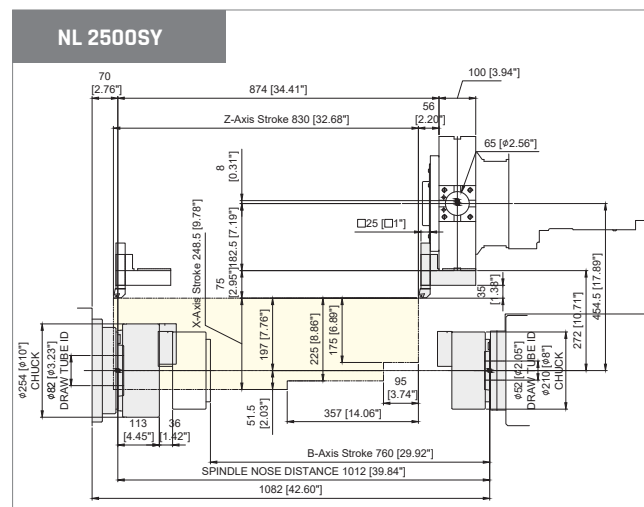
ITEM			NL 2000AY	NL 2000BY	NL 2500Y	NL 3000Y
Turning Holder	O.D Holder	Single	2	2	3	3
		Double (Both)	-	-	-	-
		Double (Front)	1	1	1	1
		Double (Sub)	-	-	-	-
	Facing Holder	-	1	1	1	1
Boring Holder	I.D Holder	Single	3	3	2	2
		Double	1	1	1	1
	U-Drill Cap	-	3	3	2	2
Driven Holder	Axial Milling Holder	Standard	1	1	1	1
	Radial Milling Holder	Standard	1	1	1	1
Socket	Boring	Ø10(3/8")	1	1	1	1
		Ø12(1/2")	1	1	1	1
		Ø16(5/8")	1	1	1	1
		Ø20(3/4")	1	1	1	1
		Ø25(1")	1	1	1	1
		Ø32(1 1/4")	1	1	1	1
		Ø40(1 1/2")	-	-	1	1
	Sub Boring	Ø10(3/8")	1	1	1	1
		Ø12(1/2")	1	1	1	1
		Ø16(5/8")	1	1	1	1
		Ø20(3/4")	1	1	1	1
	Drill	MT2	1	1	-	-
		MT3	1	1	1	1
		MT4	-	-	1	1

I Work Range

Unit : mm (inch)

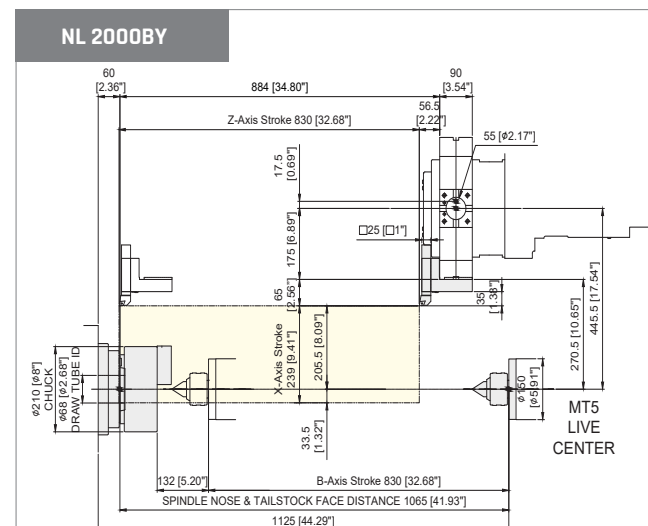
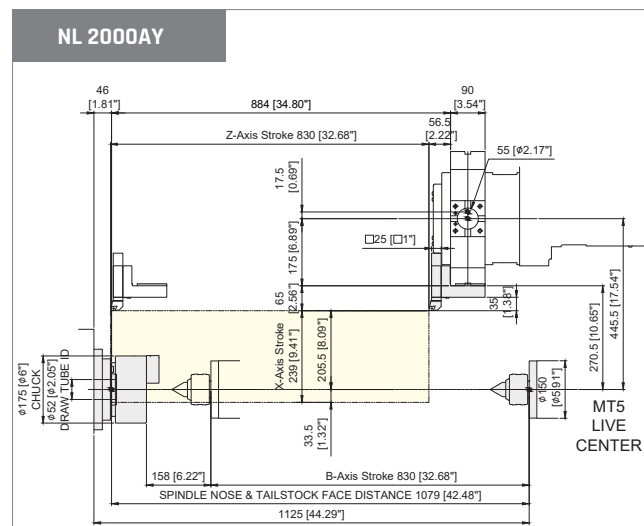
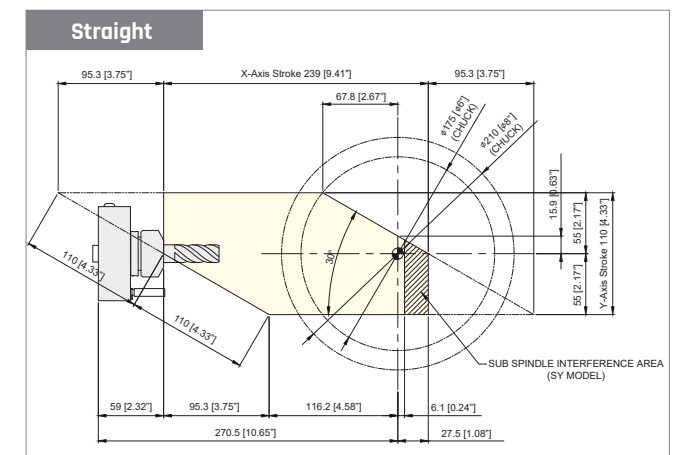
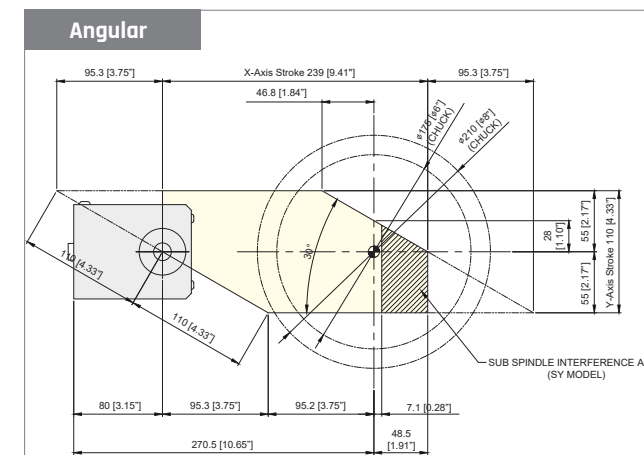


Unit : mm (inch)

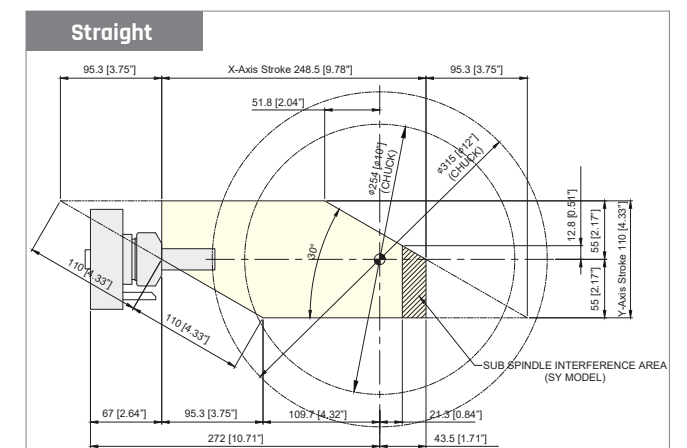
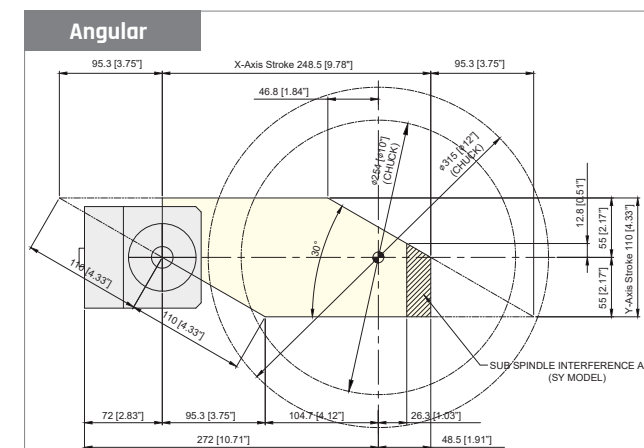


I Y-Axis Travel Range

NL 2000ASY/NL 2000AY/NL 2000BSY/NL 2000BY



NL 2500SY/NL 2500Y/NL 3000SY/NL 3000Y



I Machine Specifications

[] : Option

DESCRIPTION				NL 2000ASY	NL 2000BSY	NL 2500SY	NL 3000SY
CAPACITY	Swing over the bed		mm(inch)	810 (31.89)			
	Swing over the cross slide		mm(inch)	720 (28.35)			
	Max. machining diameter		mm(inch)	411 (16.18)		394 (15.51)	
	Max. machining length		mm(inch)	750 (29.53)	735 (28.94)	713 (28.07)	700 (27.56)
SPINDLE	Chuck size		Inch	6	8	10	12
	Bar working dia.		mm(inch)	51 (2)	65 (2.56)	81 (3.19)	102 (4.02)
	Spindle speed		rpm	6,000	4,500	4,000	2,800
	Spindle motor [Cont./Max.]		kW(Hp)	11/18.5 (15/25)	15/18.5 (20/25)	18.5/26 (25/35)	18.5/26 (25/35)
	Spindle torque		N.m(ft.lbs)	157 (115.8)	376 (277.3)	647.4 (477.5)	1,124 (830)
	Spindle nose		ASA	A2-5	A2-6	A2-8	A2-11
	Spindle through hole dia.		mm(inch)	61 (2.4)	76 (2.99)	91 (3.58)	115 (4.53)
	Min. C-axis indexing		deg	0.001			
TRAVEL	Rapid traverse	X/Z	m/min(ipm)	30/30 (1,181/1,181)			
		Y/B	m/min(ipm)	10/30 (394/1,181)			
	Travel	X/Z	mm(inch)	239/830 (9.41/32.68)		248.5/830 (9.78/32.68)	248.5/800 (9.78/31.5)
		Y/B	mm(inch)	110/790 (4.33/31.1)	110/760(4.33/29.92)	110/760(4.33/29.92)	110/720(4.33/28.35)
	Feed motor	X/Z	kW(hp)	3/3 (4/4)			
		Y/B	kW(hp)	1.8/3 (2.4/4)			
TURRET	Number of tool stations		st.	12 (24 positions)			
	OD tool size		mm(inch)	□25(1)			
	Max. boring bar size		mm(inch)	ø40(1.5)		ø50(2.0)	
	Indexing time		sec	0.15			
	Milling tool holder type		-	BMT55		BMT65	
	Max. rotary tool spindle speed		rpm	5,000			
	Rotary tool motor power		kW(hp)	5.5 (7.5)		7.5 (10)	
SUB SPINDLE	Chuck size		Inch	6	8 [6]	8 [6]	8 [6]
	Bar working dia.		mm(inch)	51 (2)			
	Spindle speed		rpm	6,000	5,000 [6,000]	5,000 [6,000]	5,000 [6,000]
	Spindle motor		kW(Hp)	15 (20)			
	Spindle torque		N.m(ft.lbs)	135 (99.6)			
	Spindle nose		ASA	A2-5	A2-6 [A2-5]	A2-6 [A2-5]	A2-6 [A2-5]
	Spindle through hole dia.		mm(inch)	62 (2.44)			
	Min. A-axis indexing		deg	0.001			
BED TYPE			-	30° Slant			
ELECTRIC POWER SUPPLY			kVA	40		45	
REQUIRED FLOOR SPACE			mm(inch)	3,570 x 1,818 (140.55 x 71.57)	3,570 x 1,818 (140.55 x 71.57)	3,700 x 1,818 (145.67 x 71.57)	3,790 x 1,818 (149.21 x 71.57)
MACHINE WEIGHT			kg(lbs)	5,700 (12,566)	5,800 (12,787)	6,100 (13,448)	6,200 (13,669)
CONTROLLER			-	Fanuc Oi-TF Plus			

DESCRIPTION			NL 2000AY	NL 2000BY	NL 2500Y	NL 3000Y
CAPACITY	Swing over the bed	mm(inch)	810 (31.89)			
	Swing over the cross slide	mm(inch)	720 (28.35)			
	Max. machining diameter	mm(inch)	411 (16.18)		394 (15.51)	
	Max. machining length	mm(inch)	726.5 (28.6)	711.5 (28.01)	690 (27.17)	730 (28.74)
SPINDLE	Chuck size	Inch	6	8	10	12
	Bar working dia.	mm(inch)	51 (2)	65 (2.56)	81 (3.19)	102 (4.02)
	Spindle speed	rpm	6,000	4,500	4,000	2,800
	Spindle motor [Cont./Max.]	kW(Hp)	11/18.5 (15/25)	15/18.5 (20/25)	18.5/26 (25/35)	18.5/26 (25/35)
	Spindle torque	N.m(ft.lbs)	157 (115.8)	376 (277.3)	647.4 (477.5)	1,124 (830)
	Spindle nose	ASA	A2-5	A2-6	A2-8	A2-11
	Spindle through hole dia.	mm(inch)	61 (2.4)	76 (2.99)	91 (3.58)	115 (4.53)
	Min. C-axis indexing	deg	0.001			
TRAVEL	Rapid traverse	X/Z	m/min(ipm)	30/30 (1,181/1,181)		
		Y/B	m/min(ipm)	10/30 (394/1,181)		
	Travel	X/Z	mm(inch)	239/830 (9.41/32.68)		248.5/830 (9.78/32.68)
		Y/B	mm(inch)	110/830 (4.33/32.68)		
	Feed motor	X/Z	kW(hp)	3/3 (4/4)		
		Y/B	kW(hp)	1.8/3 (2.4/4)		
TURRET	Number of tool stations		st.	12 (24 positions)		
	OD tool size		mm(inch)	□25(1)		
	Max. boring bar size		mm(inch)	ø40(1.5)		ø50(2.0)
	Indexing time		sec	0.15		
	Milling tool holder type		-	BMT55		BMT65
	Max. rotary tool spindle speed		rpm	5,000		
	Rotary tool motor power		kW(hp)	5.5 (7.5)		7.5 (10)
TAILSTOCK	Tailstock travel	mm(inch)	830 (32.68)			
	Taper of tailstock Quill	-	MT#5 (Live center)			
BED TYPE			-	30° Slant		
ELECTRIC POWER SUPPLY			kVA	40		45
REQUIRED FLOOR SPACE			mm(inch)	3,570 x 1,818 (140.55 x 71.57)	3,570 x 1,818 (140.55 x 71.57)	3,700 x 1,818 (145.67 x 71.57)
MACHINE WEIGHT			kg(lbs)	5,600 (12,345)	5,700 (12,566)	6,000 (13,228)
CONTROLLER			-	Fanuc Oi-TF Plus		