

**SMART**  
MACHINE TOOL

# NL 2000 / 2500 SY-Y

High performance Y-Axis CNC Turning Centers



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**NL Series**

NL 2000ASY, NL 2000BSY  
NL 2000AY, NL 2000BY  
NL 2500SY, NL 2500Y

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**Chuck Size**

6, 8, 10 Inch

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**INAXES**  
CNC MACHINERY

[WWW.CNC-INAXES.CZ](http://WWW.CNC-INAXES.CZ)

## 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
Max. Machining dia.	mm(inch)	406 (15.98)	406 (15.98)	376 (14.8)
Max. Machining Length	mm(inch)	750 (29.53)	740 (29.13)	700 (27.56)
Main Spindle Chuck	inch	6	8	10
Spindle Speed	rpm	6,000	4,500	4,000
Turret Type	-	BMT55	BMT55	BMT65
Sub Spindle Chuck	inch	6	6	6
Travel (X/Z/Y)	mm(inch)	256/830/110 (10.1/32.7/4.33)	256/830/110 (10.1/32.7/4.33)	256/830/105 (10.1/32.7/4.13)

## NL 2000 | 2500 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
Max. Machining dia.	mm(inch)	406 (15.98)	406 (15.98)	376 (14.8)
Max. Machining Length	mm(inch)	750 (29.53)	740 (29.13)	700 (27.56)
Main Spindle Chuck	inch	6	8	10
Spindle Speed	rpm	6,000	4,500	4,000
Turret Type	-	BMT55	BMT55	BMT65
Tailstock Taper	-	MT#5	MT#5	MT#5
Travel (X/Z/Y)	mm(inch)	260/830/110 (10.2/32.7/4.33)	260/830/110 (10.2/32.7/4.33)	260/830/105 (10.2/32.7/4.13)

## Machine Structure

High Rigidity Body Structure for Heavy-duty Machining



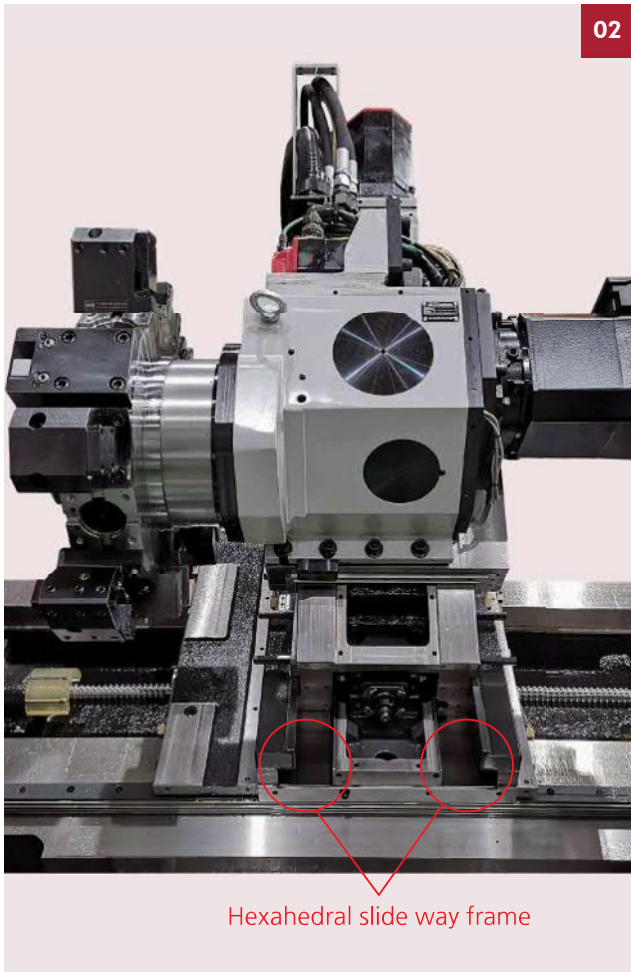
### One-Piece Casting Bed

One-piece 30-degree slant bed made out of Meehanite 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.



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## High Performance Feed Motor

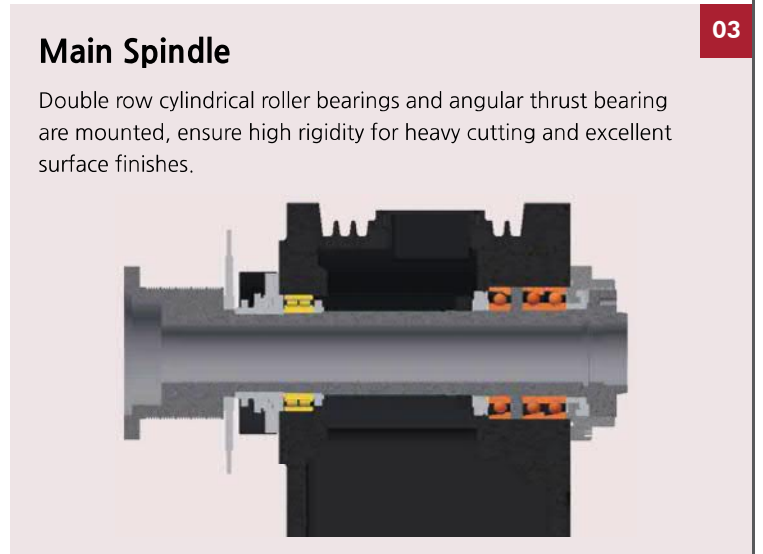
All axis are equipped with high performance feed motor for better travel ability and reducing cycle time.

## 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.



# Main Spindle

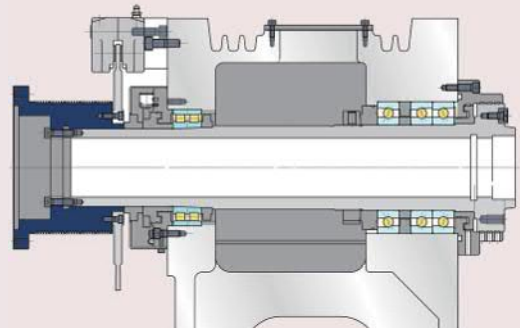
High Accuracy & Performance CNC Turning Center



## Main Spindle

Heavy-duty headstock machined from one-piece casting. Reinforced with radiator fan-like pin tube rip design dissipates heat generated by axis movements, maintaining minimal thermal expansion.

		NL 2000ASY / AY	NL 2000BSY / BY	NL 2500SY / Y
Chuck size	inch	6"	8"	10"
Spindle Nose	ASA	A2-5	A2-6	A2-8
Max Speed	rpm	6,000	4,500	4,000
Thru Hole Dia.	mm(inch)	Ø61(2.4)	Ø76(2.99)	Ø91(3.58)
Draw tube I.D.	mm(inch)	Ø52(2.05)	Ø68(2.68)	Ø82(3.23)



- Spindle pulley system is equipped with powerful and reliable Fanuc AC motor to ensure excellence heavy-duty cutting capability.
- PK type pulley belt is used to achieve low vibration, low noise and good surface roughness cutting result even at high speed.

Belt drive **Std.**



**NL 2000ASY / AY : 6,000 rpm**

Max. Output

**18.5 kW [25 HP]**

Max. Torque

**157 N.m [115.8 lbf.ft]**

**NL 2000BSY / BY : 4,500 rpm**

Max. Output

**18.5 kW [25 HP]**

Max. Torque

**376 N.m [277.3 lbf.ft]**

**NL 2500SY / Y : 4,000 rpm**

Max. Output

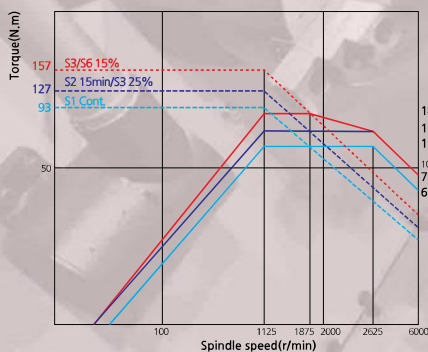
**26 kW [35 HP]**

Max. Torque

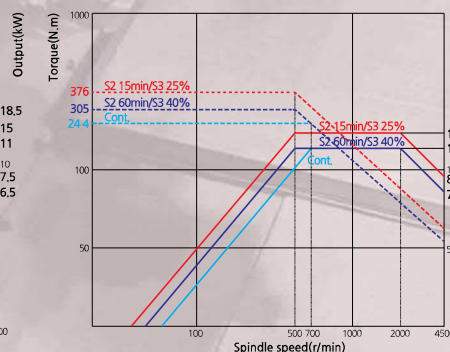
**647.4 N.m [477.5 lbf.ft]**

## Spindle Torque Diagram

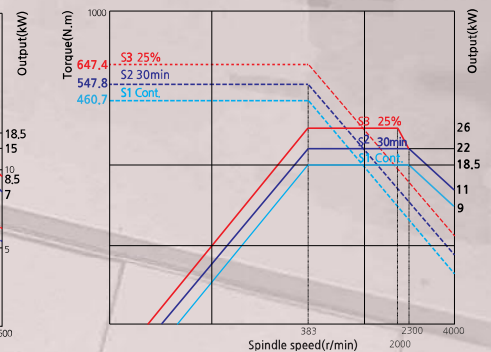
NL 2000ASY / AY



NL 2000BSY / BY



NL 2500SY / Y



# Sub Spindle (SY Models)

Fast acceleration with high torque

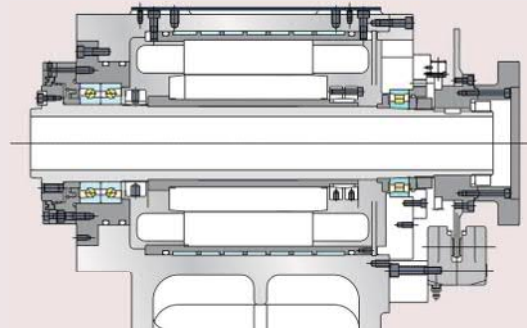


## Built-In Sub Spindle Motor

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.

		NL 2000ASY	NL 2000BSY / NL 2500SY
Chuck size	inch	6"	6" [8"]
Spindle Nose	ASA	A2-5	A2-5 [A2-6]
Max Speed	rpm	6,000	6,000 [5,000]
Thru Hole Dia.	mm(inch)	Ø62(2.44)	Ø62(2.44)
Draw tube I.D.	mm(inch)	Ø52(2.05)	Ø52(2.05)

[ ] : Option



## Max. Output and Torque

Max. Output

**15 kW [20 HP]**

Max. Torque

**135 N.m [99.6 lbf.ft]**

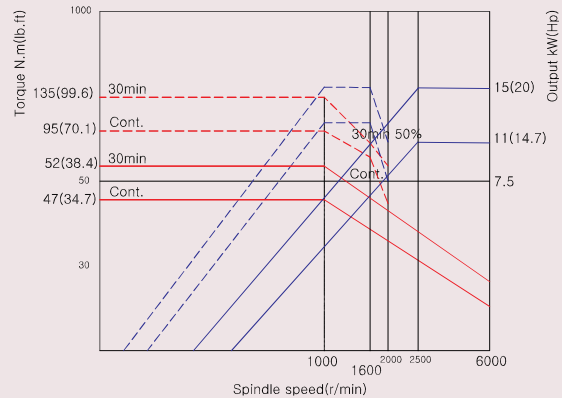
## Max. Spindle Speed

Chuck size 6"

**6,000 rpm**

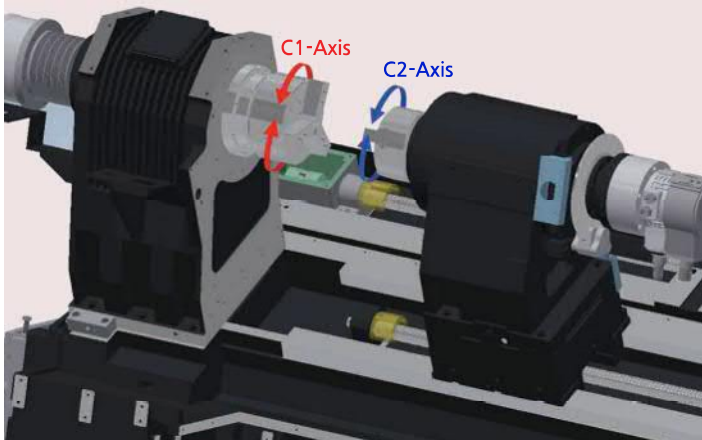
Chuck size 8" (Option)

**5,000 rpm**



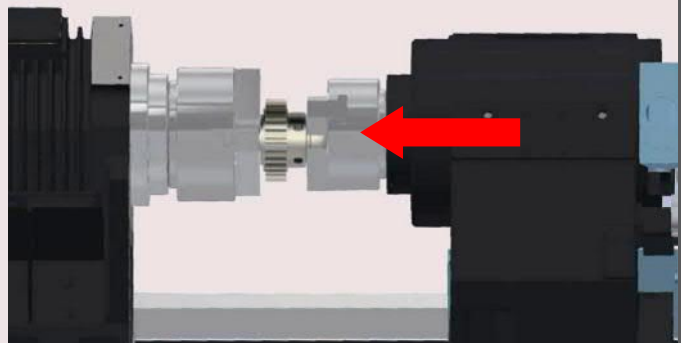
## Synchronized C1 and C2 Axis Indexing

Provides maximum machining flexibility for varieties of workpiece configuration. From simple machining to multi-axis simultaneous machining, all operations can be completed in one set-up.



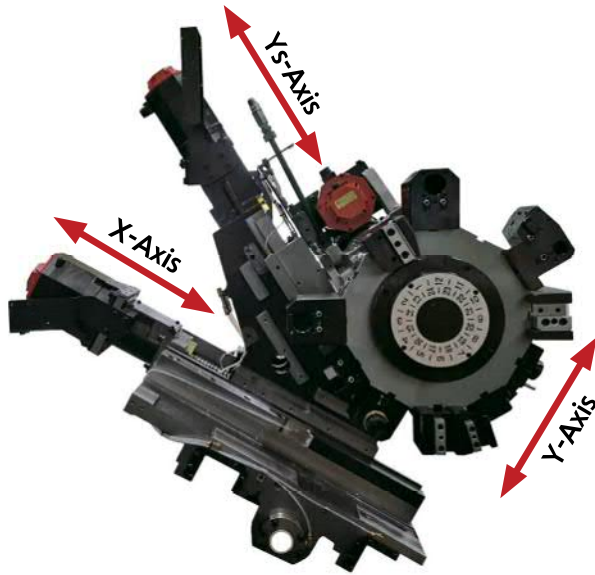
## Automatic Part Transfer

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

NL 2000 : 110 mm [4.33 inch]

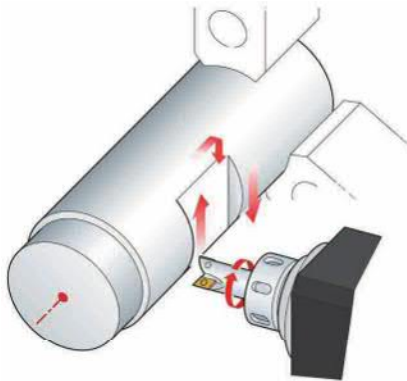
NL 2500 : 105 mm [4.13 inch]

## Y-Axis Rapid Traverse

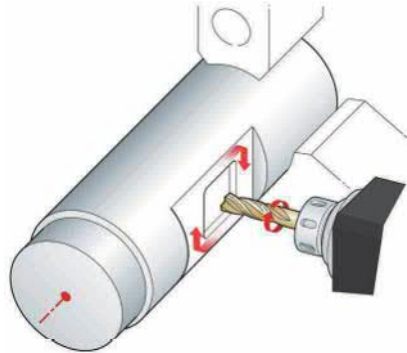
10 m/min [394 ipm]

## Y-Axis Machining Capability

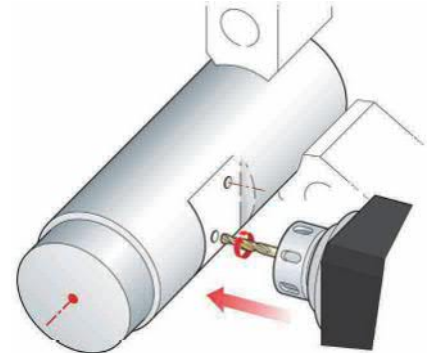
■ Side milling



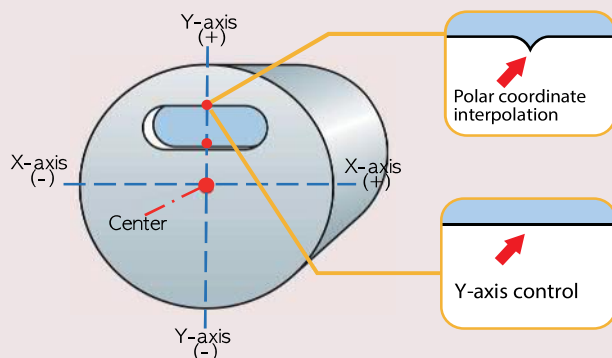
■ Off-center grooving



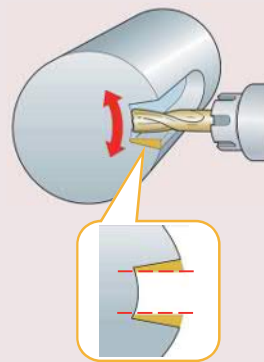
■ Off-center drilling



## Y-axis control compared to Polar coordinate interpolation

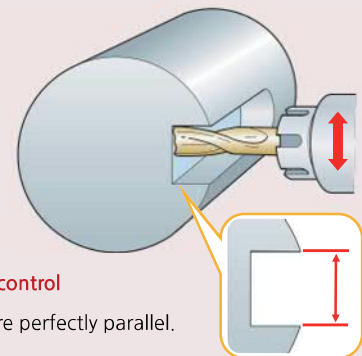


Polar coordinate interpolation control during grooving and contouring, the X-axis reverses at cross point between the center line and the profile to be machined which cause change in cutting condition and affect profile accuracy. Machining with Y-axis control can avoid such issue and also provide better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



## Milling without Y-axis control

Width of outer and inner grooves are not perfectly parallel.



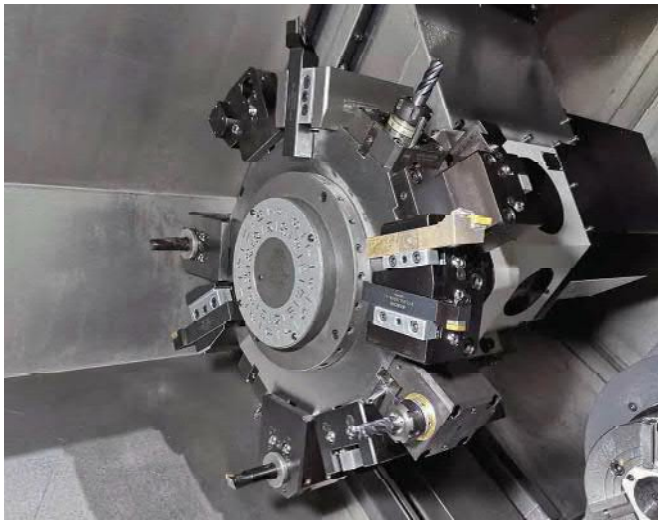
## Milling with Y-axis control

Width of grooves are perfectly parallel.



# Turret

Finest performance and high precision turret



## BMT Mill Turret

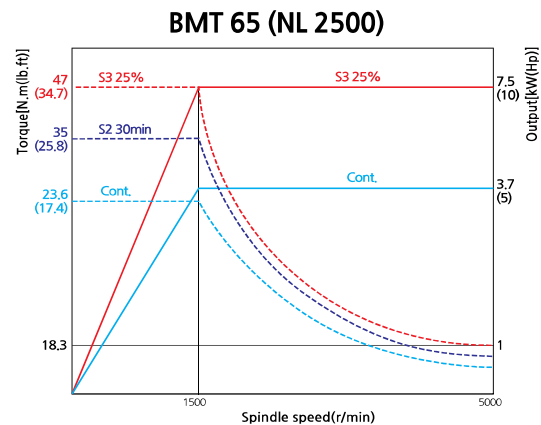
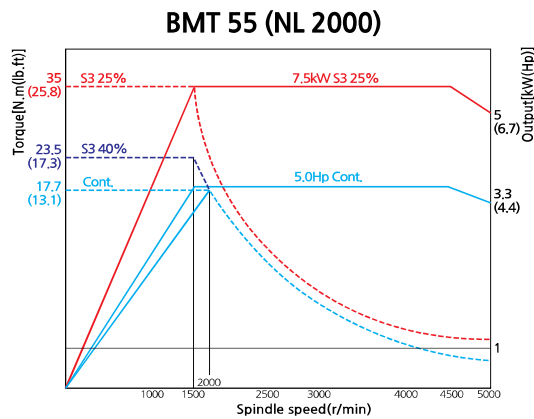
BMT turret is equipped with 2 separated motors for indexing and milling, ensuring high machining performance, reliability and reducing processing time of workpiece.

- **No. of tool stations:** 12 stations (24 positions)
- **Indexing time:** 0.15 sec
- **Max speed of rotary tool:** 5,000 rpm

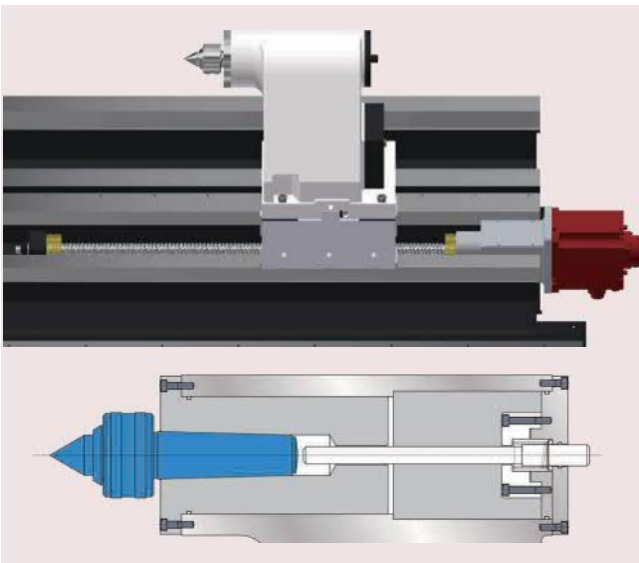
### Tool Holder Size

- **Turning holder**
  - Single: □25 (1")
  - Double front/sub: □20 (0.75")
- **Boring holder**
  - Single: NL 2000:  $\phi$ 40 (1.5"), NL 2500:  $\phi$ 50 (2")
  - Double:  $\phi$ 25 (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 setup 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.

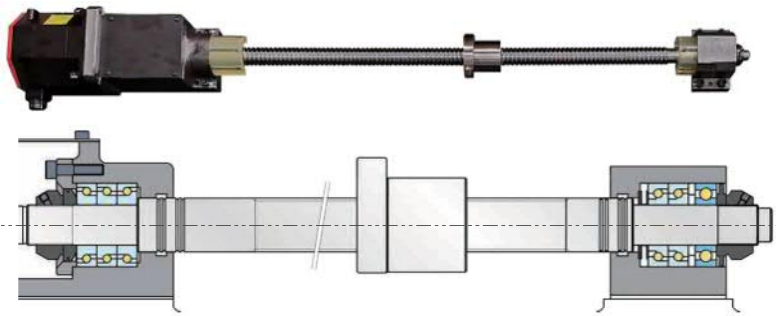
	NL 2000AY	NL 2000BY	NL 2500Y
<b>Tailstock travel</b> mm (inch)	830 (32.68)	830 (32.68)	800 (31.5)
<b>Taper</b>	MT#5	MT#5	MT#5

# ⬡ Ballscrew

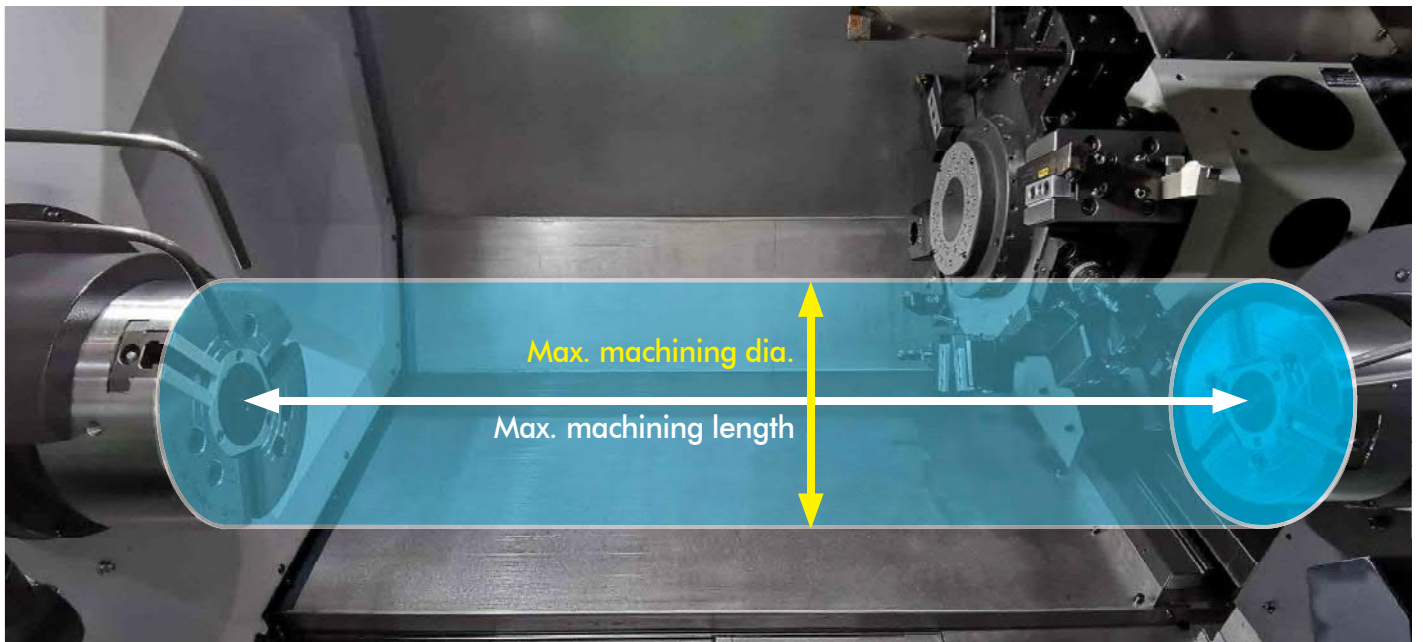
Ultimate rigidity ballscrew

## 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.

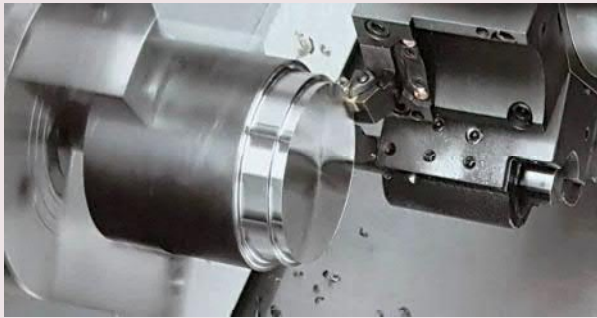


# ⬡ Machining Area



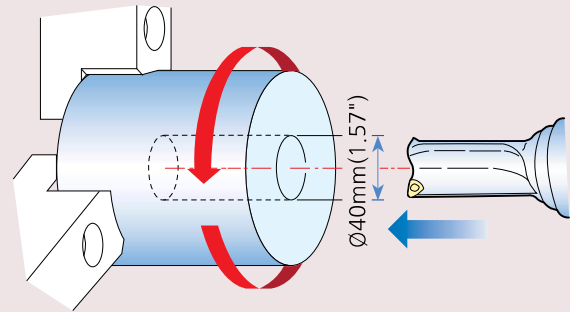
Model	Max. machining dia.	Max. machining length	Bar capacity
NL 2000ASY	Ø406 (15.98")	750 (29.53")	51 (2.01")
NL 2000BSY	Ø406 (15.98")	740 (29.13")	67 (2.64")
NL 2000AY	Ø406 (15.98")	750 (29.53")	51 (2.01")
NL 2000BY	Ø406 (15.98")	740 (29.13")	67 (2.64")
NL 2500SY	Ø376 (14.80")	700 (27.56")	81 (3.19")
NL 2500Y	Ø376 (14.80")	700 (27.56")	

# Cutting Performance



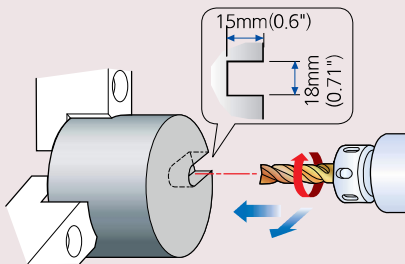
## Heavy-duty cutting <O.D.>

Machine type	<b>NL 2500SY</b>
Material <JIS>	S45C
Spindle speed	367 min <sup>-1</sup>
Depth of cut	4 mm (0.157 inch)
Cutting speed	152 m/min (500 fpm)
Feedrate	0.5 mm/rev (0.020 ipr)



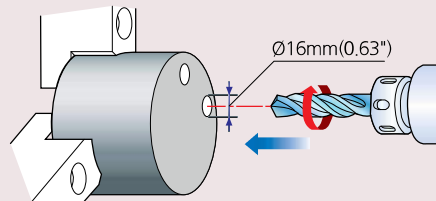
## Insert Drill

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



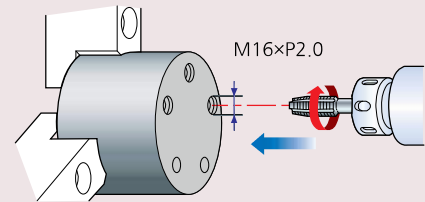
## End mill <Ø18mm(0.71") High-speed steel>

Machine type	<b>NL 2500SY</b>
Material <JIS>	S45C
Rotary tool spindle speed	320 min <sup>-1</sup>
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>

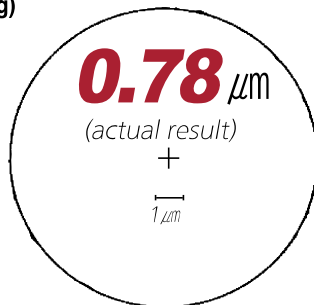
Machine type	<b>NL 2500SY</b>
Material <JIS>	S45C
Rotary tool spindle speed	391 min <sup>-1</sup>
Cutting speed	25 m/min (82.0 fpm)
Feedrate	105 mm/min (4.1 ipm)



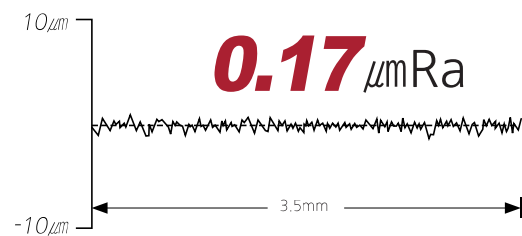
## Tap <M16xP2.0>

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

## Roundness (Turning)



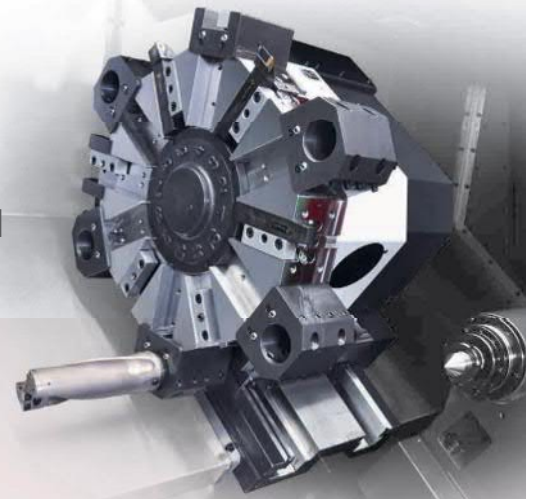
## Surface Roughness (Turning)



Machine type	Unit	<b>NL 2500SY</b>
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.

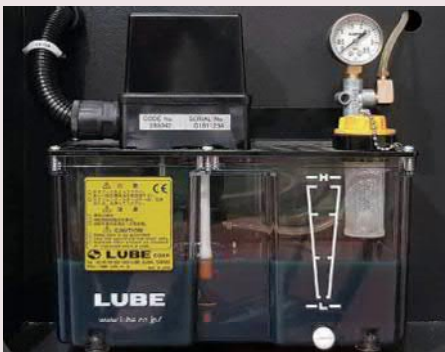
## Operator-Friendly Keyboard Layout Std.



- 10.4" color monitor
- Semi-permanent A/S LED lamping
- Waterproof button
- Big button size
- Replaceable button cap
- Light indicator at 100% driving status

Operator-friendly keyboard design for efficient machine operation, with 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.

## 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. / Oil Skimmer Opt.



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.



Belt type oil skimmer



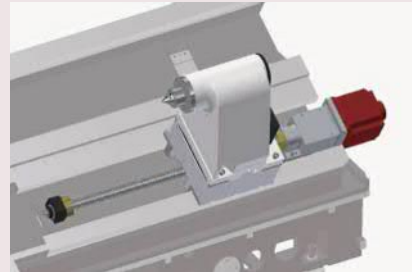
Easy plug-in / remove cable

## Manual Guide i Opt.



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 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.

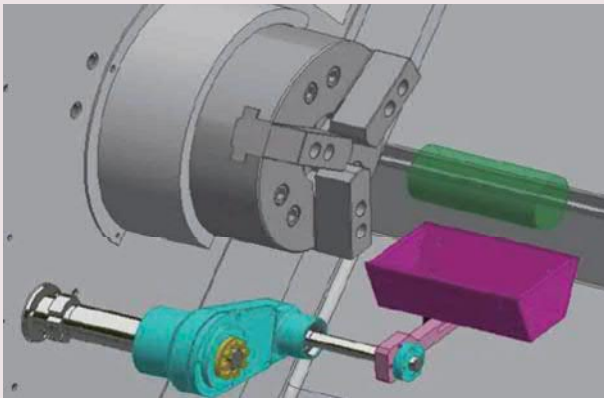
Sub spindle is covered by an oil jacket cooling system to reduce thermal expansion and ensure long term machining accuracy.



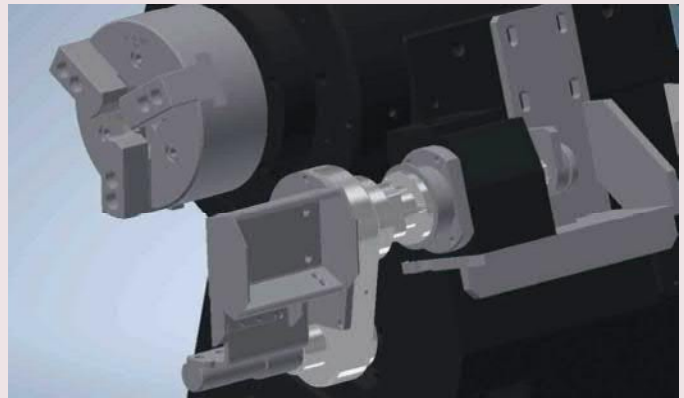
# Features

## Part Catcher **Opt.**

Automatically catches completed parts after cut-off.



▲ Main spindle part catcher



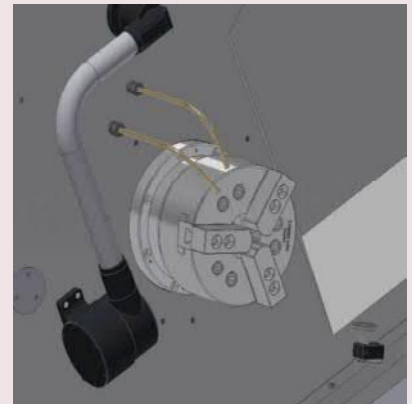
▲ Sub spindle part catcher

## Part Conveyor **Opt.**

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



## Air Blower **Opt.**



## CE Approved Foot Switch **Std.** / Air Gun&Coolant Gun **Opt.**

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



# Standard & Option Specifications

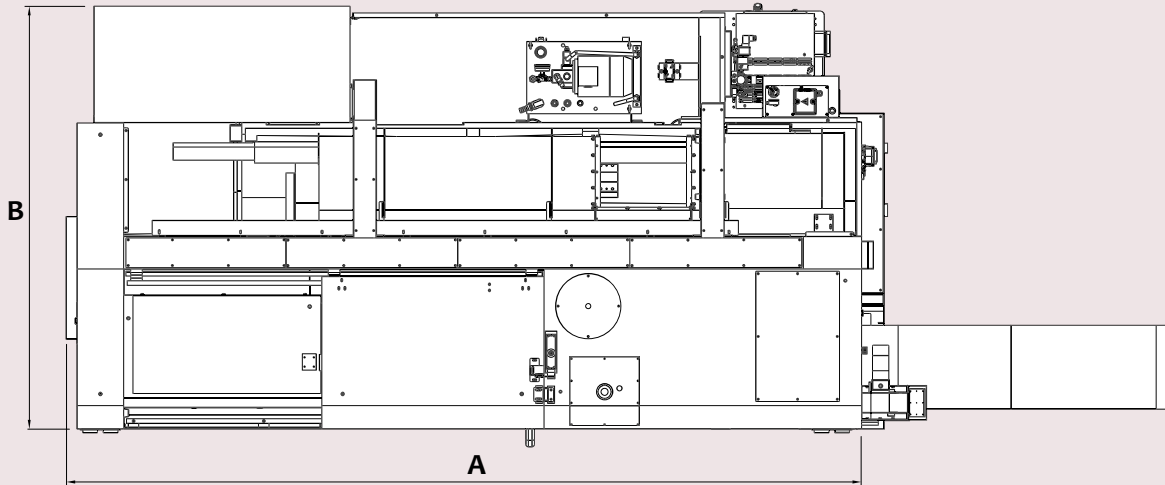
● : Standard features ○ : Option X : Not applicable

		NL 2000				NL 2500	
		ASY	BSY	AY	BY	SY	Y
<b>Spindle and Chucking</b>							
Chuck size	6 inch	●	X	●	X	X	X
	8 inch	X	●	X	●	X	X
	10 inch	X	X	X	X	●	●
Sub spindle chuck	6 inch	●	●	X	X	●	X
	8 inch	X	○	X	X	○	X
Dual pressure chucking		○	○	○	○	○	○
Chuck pressure switch		○	○	○	○	○	○
Chuck clamp foot switch		●	●	●	●	●	●
Chuck clamp confirmation		●	●	●	●	●	●
<b>Jaw</b>							
Hydraulic hollow chuck		●	●	●	●	●	●
Soft jaw	3 set	●	●	●	●	●	●
Hard jaw	1 set	●	●	●	●	●	●
Special chuck		○	○	○	○	○	○
<b>Tailstock</b>							
Servo motor tailstock		X	X	●	●	X	●
Tailstock taper	MT#5	X	X	●	●	X	●
<b>Coolant</b>							
High pressure coolant pump	4.5 bar (65 psi)	●	●	●	●	X	X
	10 bar (140 psi)	○	○	○	○	●	●
Oil skimmer		○	○	○	○	○	○
Coolant chiller		○	○	○	○	○	○
Chuck coolant		○	○	○	○	○	○
Shower coolant		○	○	○	○	○	○
Coolant gun		○	○	○	○	○	○
<b>Chip Disposal</b>							
Side chip conveyor		○	○	○	○	○	○
Chip bucket		○	○	○	○	○	○
Air gun		○	○	○	○	○	○
Air blower system		○	○	○	○	○	○
<b>Measurement &amp; Automatic Operation</b>							
Tool presetter		○	○	○	○	○	○
Auto door		○	○	○	○	○	○
Parts catcher	Main spindle	○	○	○	○	○	○
	Sub spindle	○	○	○	○	○	○
Part conveyor		○	○	○	○	○	○
Work ejector		○	○	○	○	○	○
<b>Others</b>							
Operation status light tower		●	●	●	●	●	●
Work light (LED lamp)		●	●	●	●	●	●
Manual and part list		●	●	●	●	●	●
Door interlock		●	●	●	●	●	●
Tool/work box		●	●	●	●	●	●
Leveling blocks		●	●	●	●	●	●
Manual guide i		○	○	○	○	○	○

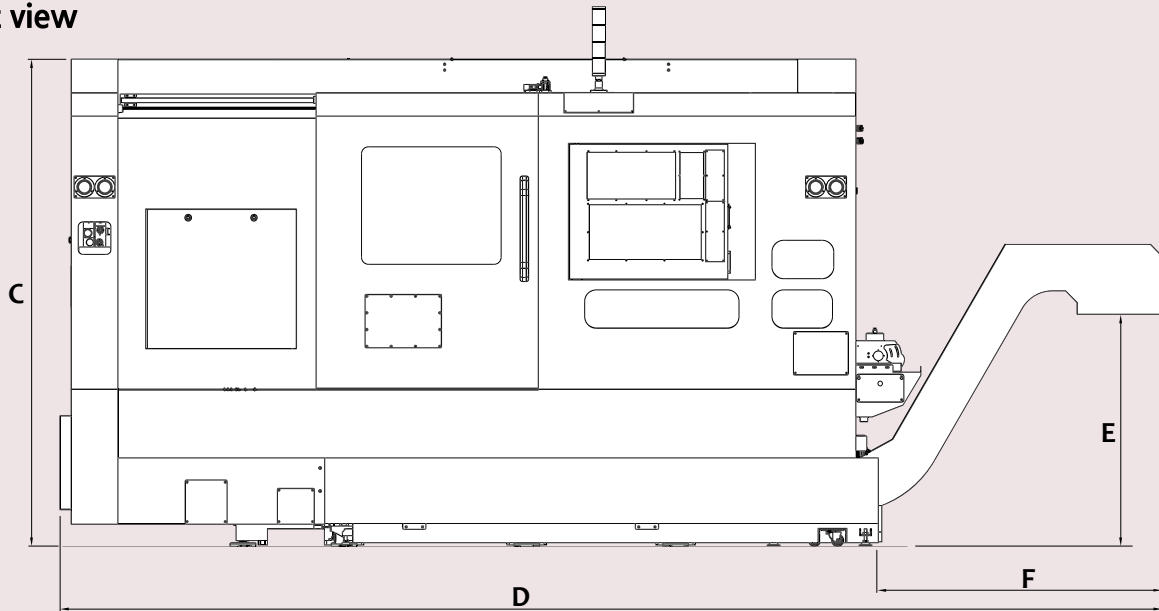
# Machine Dimensions

Unit : mm (inch)

Top view



Front view

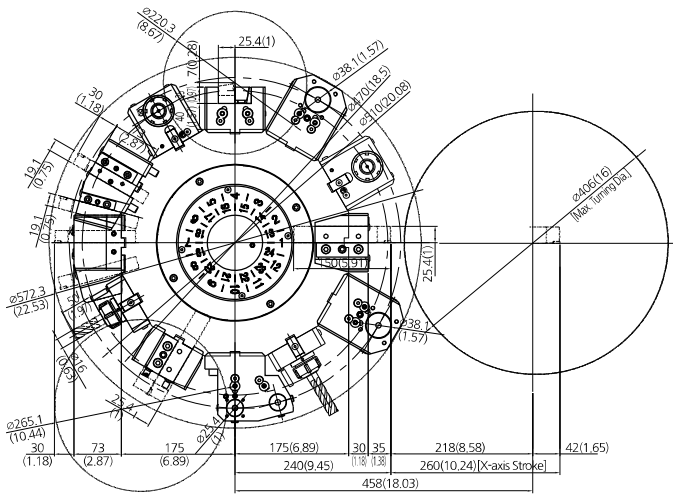


Model	A (Length)	B (Width)	C (Height)	D (Length with side chip conveyor)	E (Chip conveyor height)	F (Side chip conveyor)
NL 2000ASY/AY	3,373(132.8)	1,817.5(71.6)	2,095(82.5)	4,690(184.6)	1,002(39.4)	1,220(48)
NL 2000BSY/BY	3,421(134.7)			4,738(186.5)		
NL 2500SY/Y	3,503(137.9)			4,820(189.8)		



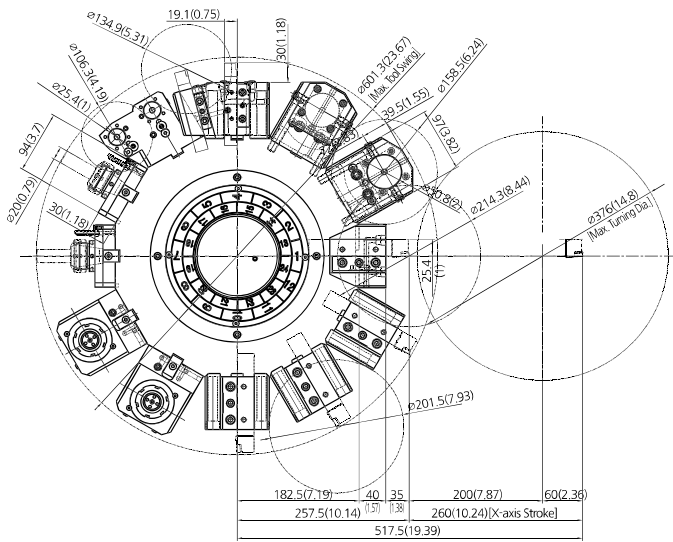
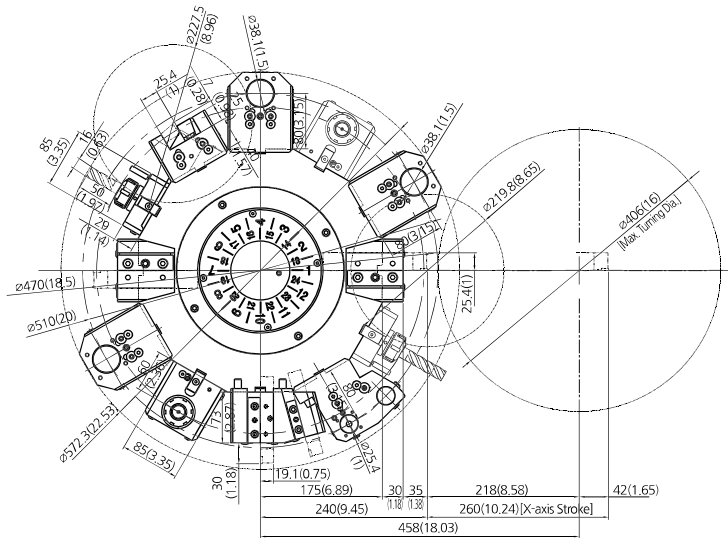
# Interference

Unit : mm (inch)



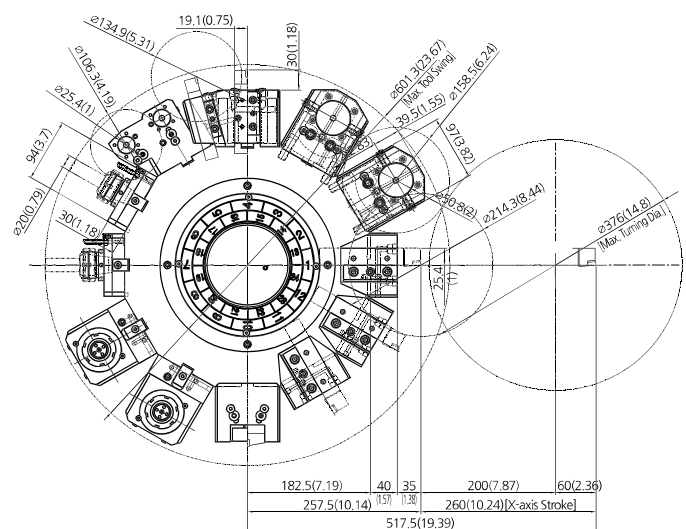
**NL 2000AS/BSY**  
**(BMT55 12 Station [24 position])**

**NL 2000AY/BY**  
**(BMT55 12 Station [24 Position])**



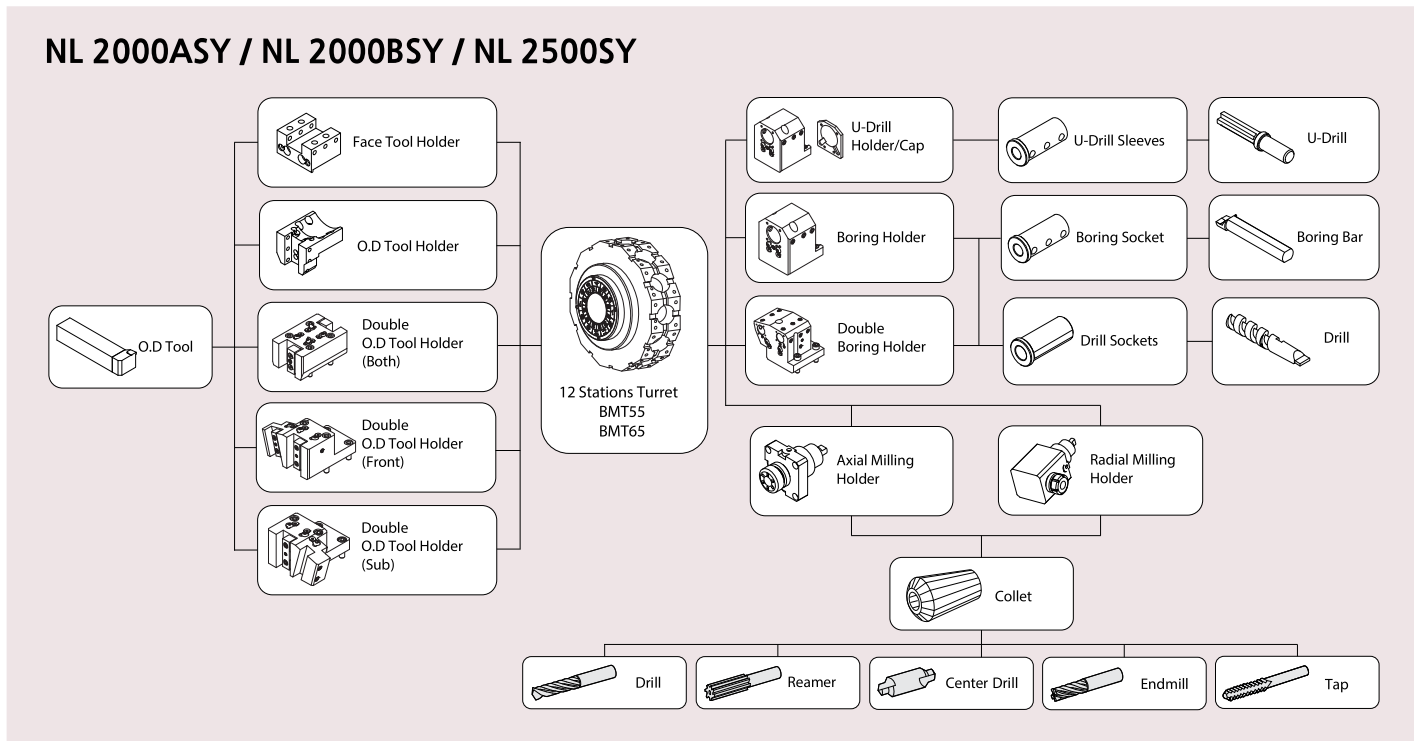
**NL 2500Y**  
**(BMT65 12 Station [24 Position])**

**NL 2500SY**  
**(BMT65 12 Station [24 Position])**



# Tooling System

## NL 2000ASY / NL 2000BSY / NL 2500SY

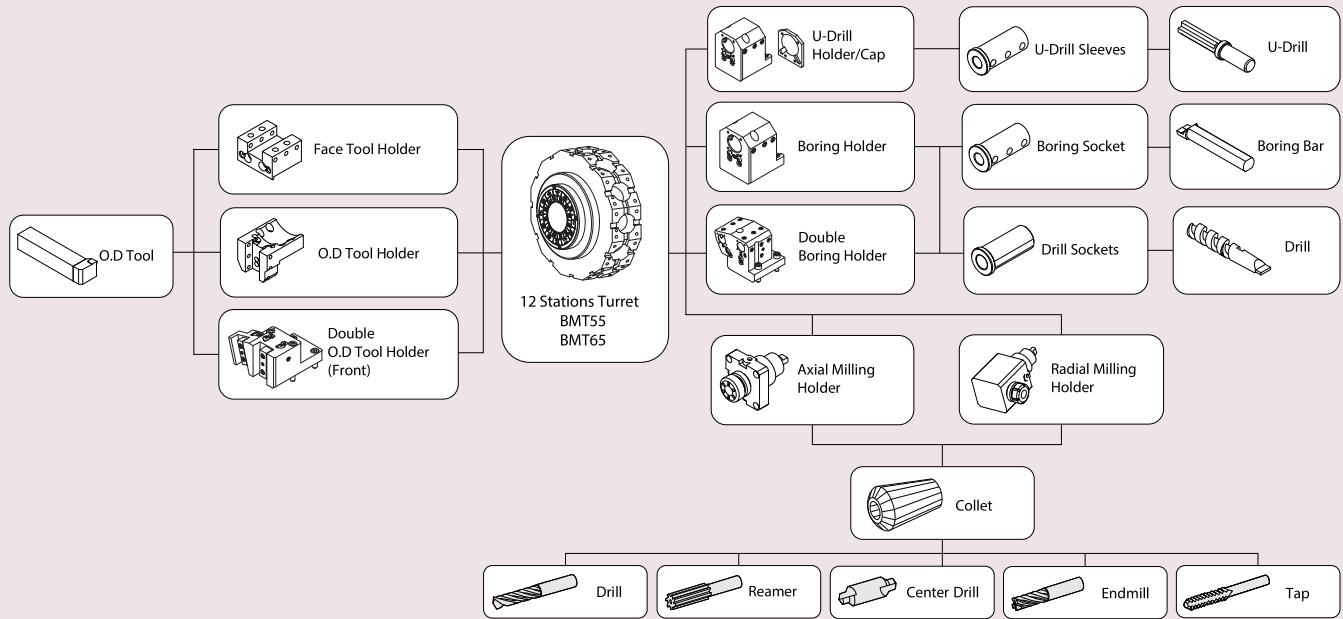


### Standard Tooling Parts

Unit : mm(inch)

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

# NL 2000AY / NL 2000BY / NL 2500Y



## Standard Tooling Parts

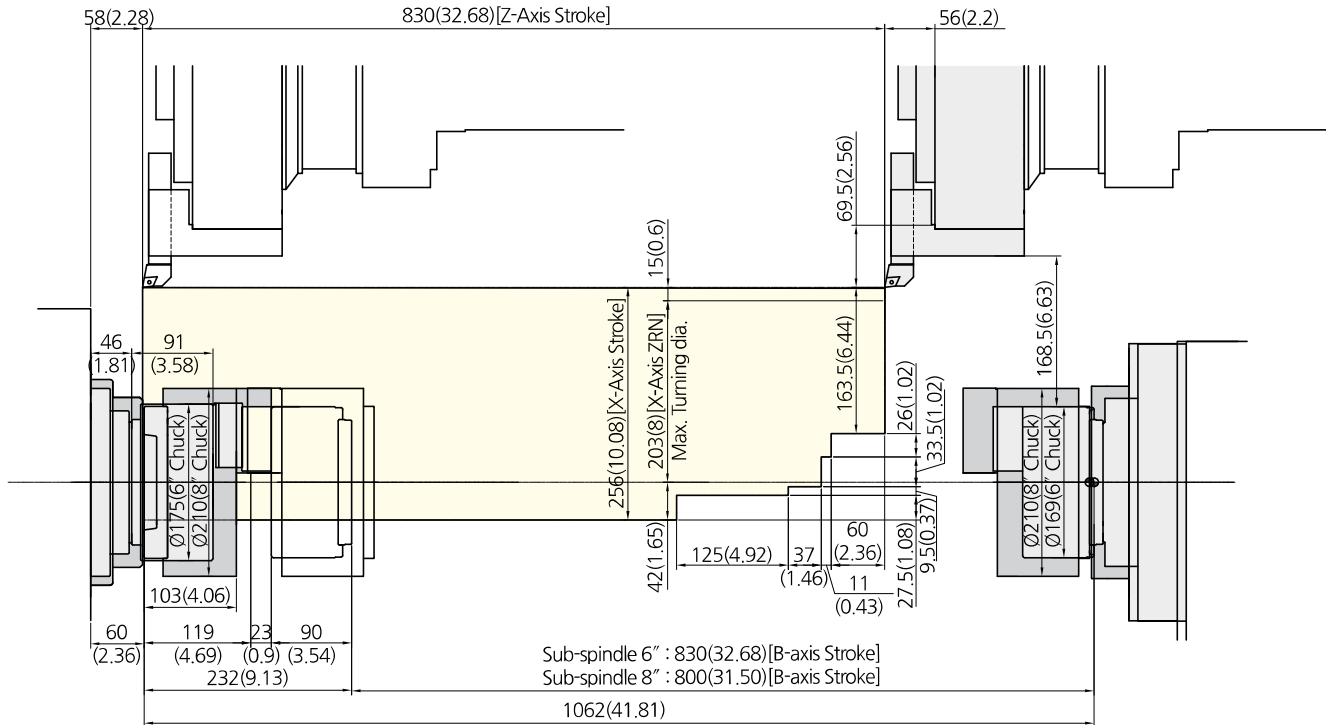
Unit : mm(inch)

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

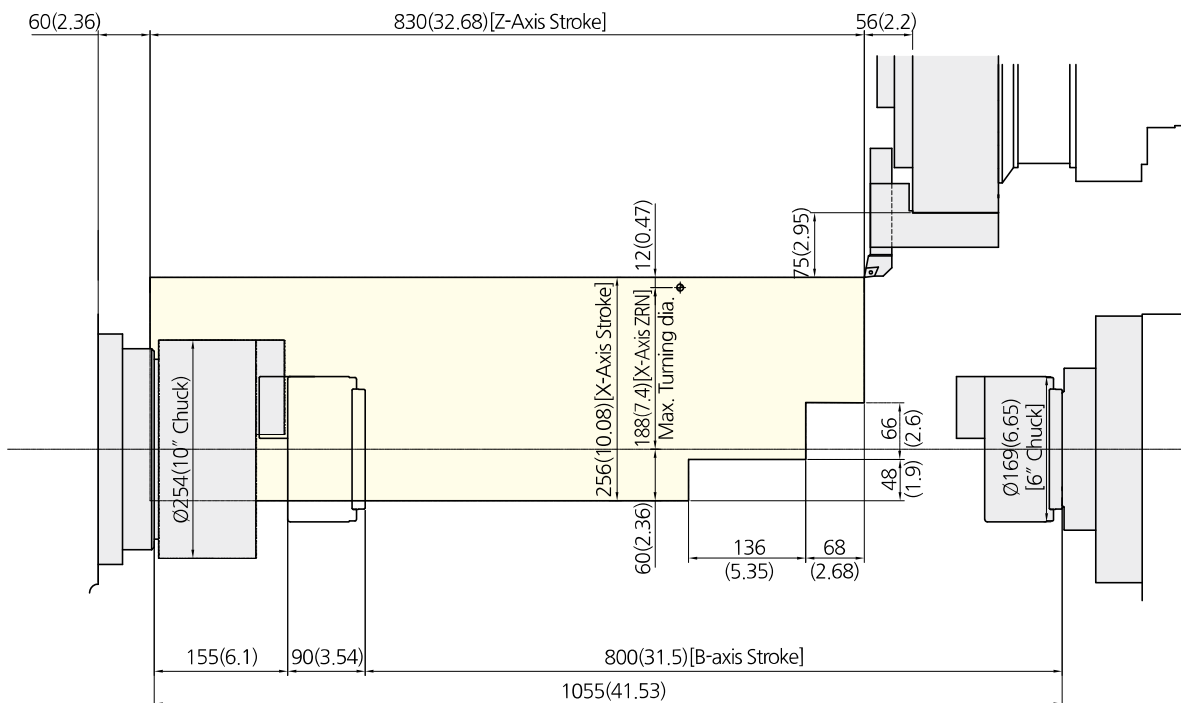
# Work Range

Unit : mm(inch)

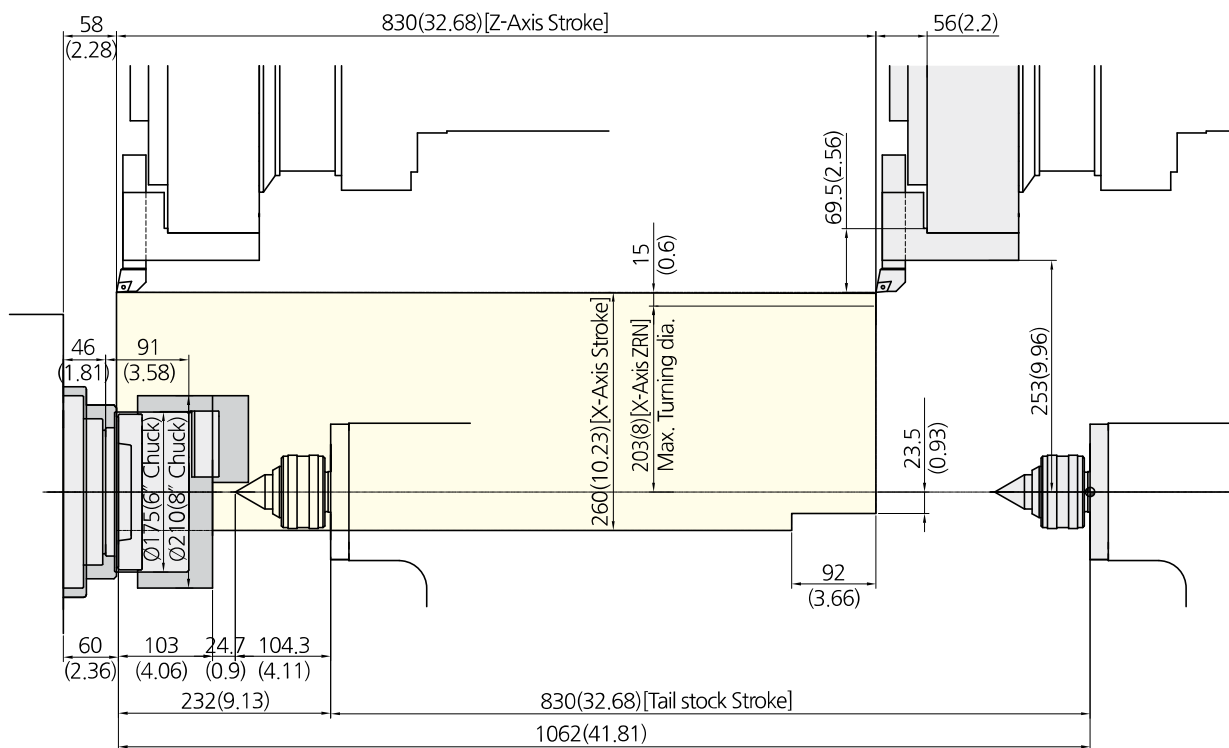
## NL 2000ASY/NL 2000BSY



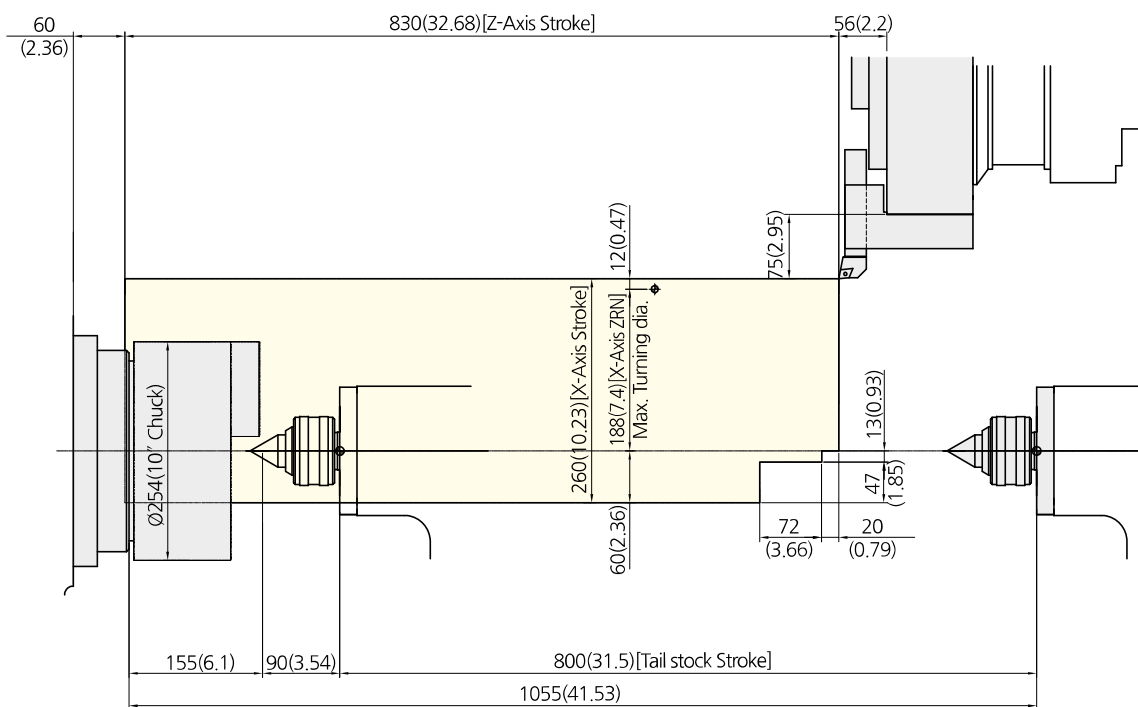
## NL 2500SY



### NL 2000AY/NL 2000BY



### NL 2500Y



# Machine Specifications

[ ] : Option

DESCRIPTION			NL 2000ASY	NL 2000BSY	NL 2500SY	
CAPACITY	Swing over the bed	mm(inch)	685 (26.97)			
	Swing over the cross slide	mm(inch)	575 (22.63)			
	Max. machining diameter	mm(inch)	406 (15.98)		376 (14.8)	
	Max. machining length	mm(inch)	750 (29.53)	740 (29.13)	700 (27.56)	
SPINDLE	Chuck size	Inch	6	8	10	
	Bar working dia.	mm(inch)	51 (2)	67 (2.64)	81 (3.19)	
	Spindle speed	rpm	6,000	4,500	4,000	
	Spindle motor	kW(Hp)	11/18.5 (15/25)	15/18.5 (20/25)	18.5/26 (25/35)	
	Spindle torque	N.m(ft.lbs)	157 (115.8)	376 (277.3)	647.4 (477.5)	
	Spindle nose	ASA	A2-5	A2-6	A2-8	
	Spindle through hole dia.	mm(inch)	61 (2.4)	76 (2.99)	91 (3.58)	
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)	256/830 (10.08/32.68)		
		Y/B	mm(inch)	110/830 (4.33/32.68)	110/830 (4.33/32.68) [110/800 (4.33/31.5)]	105/800(4.13/31.5)
	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	6 [8]		
	Bar working dia.	mm(inch)	51 (2)	51 (2)		
	Spindle speed	rpm	6,000	6,000 [5,000]		
	Spindle motor	kW(Hp)	15 (20)			
	Spindle torque	N.m(ft.lbs)	135 (99.6)			
	Spindle nose	ASA	A2-5	A2-5 [A2-6]		
	Spindle through hole dia.	mm(inch)	62 (2.44)			
BED TYPE	-	30° Slant				
ELECTRIC POWER SUPPLY	kVA	40	45	57		
REQUIRED FLOOR SPACE	mm(inch)	3,570 x 1,818 (140.55 x 71.57)			3,700 x 1,818 (145.67 x 71.57)	
MACHINE WEIGHT	kg(lbs)	5,700 (12,566)	5,800 (12,787)	6,100 (13,448)		
CONTROLLER	-	Fanuc 0i-TF Plus				

DESCRIPTION			NL 2000AY	NL 2000BY	NL 2500Y	
CAPACITY	Swing over the bed	mm(inch)	685 (26.97)			
	Swing over the cross slide	mm(inch)	575 (22.63)			
	Max. machining diameter	mm(inch)	406 (15.98)		376 (14.8)	
	Max. machining length	mm(inch)	750 (29.53)	740 (29.13)	700 (27.56)	
SPINDLE	Chuck size	Inch	6	8	10	
	Bar working dia.	mm(inch)	51 (2)	67 (2.64)	81 (3.19)	
	Spindle speed	rpm	6,000	4,500	4,000	
	Spindle motor	kW(Hp)	11/18.5 (15/25)	15/18.5 (20/25)	18.5/26 (25/35)	
	Spindle torque	N.m(ft.lbs)	157 (115.8)	376 (277.3)	647.4 (477.5)	
	Spindle nose	ASA	A2-5	A2-6	A2-8	
	Spindle through hole dia.	mm(inch)	61 (2.4)	76 (2.99)	91 (3.58)	
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)	260/830 (10.24/32.68)		
		Y/B	mm(inch)	110/830 (4.33/32.68)		105/800(4.13/31.5)
	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)		800 (31.5)	
	Taper of tailstock Quill	-	MT#5			
BED TYPE	-	30° Slant				
ELECTRIC POWER SUPPLY	kVA	40	45	50		
REQUIRED FLOOR SPACE	mm(inch)	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				

# NC Unit Specifications / FANUC Series

● : Standard features ○ : Option

Item		Specification	Qi-TF Plus
Controlled axis	Max. feed axes		4(6) AXIS
	Feed axes		X/Z/Y/B (C, A)
	Max. simultaneously controlled axis		4
	Least command increment	0.001mm / 0.0001"	●
Operation functions	Pulse handle feed	X1, X10, X100	●
	Feedrate per minute	G98	●
	Feedrate per revolution	G99	●
Interpolation functions	Linear interpolation	G01	●
	Circular interpolation	G02, G03	●
	Dwell	G04	●
	Polar coordinate interpolation	G12.1, G13.1	●
	Cylindrical interpolation	G07.1	●
	Variable lead thread cutting	G34	●
	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%	●
Spindle function	Spindle orientation		●
	Rigid tapping		●
	Arbitrary speed threading		○
Program input	Absolute/incremental programming		●
	Multiple repetitive canned cycle	G70 ~ G76	●
	Canned cycles	G90, G92, G94	●
	Inch/metric conversion	G20 / G21	●
	Program restart		●
	Retraction for rigid tapping		○
	Max. programmable dimension	±999999.999mm/±99999.9999	●
	M function	M3 digit	●
	Custom macro		●
	Canned cycle for drilling		●
	Direct drawing dimension programming		●
	Programmable data input	G10	●
	Optional block skip		●
	Workpiece coordinate system	G52 ~ G59	●
Number of registerable programs		1000EA	
Setting and display	Alarm & Operator history display		●
	Run hour and parts count display		●
	Display spindle & servo overload		●
	Self-diagnosis function		●
	Extended part program editing		●
	Display screen		10.4" color
Data input/output	Memory card input/output		●
	USB memory input/output		●
Editing operation	Part program storage size	2 Mbyte(5120m)	●
Manual guide i	Manual Guide <i>i</i>		○



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