



March 3, 2021



NL 3000(M, L, LM)

CNC Turning Center

Specifications

Machine Specifications

[] option

DESCRIPTION	UNIT	NL 3000B	NL 3000BM
CAPACITY			
Swing over bed	mm (inch)	700 (27.56)	
Swing over the cross slide	mm (inch)	510 (20.08)	
Max. machining dia.	mm (inch)	480 (18.9)	450 (17.72)
Max. machining length	mm (inch)	750 (29.53)	750 (29.53)
Chuck size	inch	12	
Bar capacity	mm(inch)	102 (4.02)	
SPINDLE			
Spindle speed	rpm	2,800	
Spindle motor	kW (Hp)	22/35 (29.5/47)	
Spindle nose	ASA	A2-11	
Spindle torque	N.m (ft.lbs)	1,630 (1,202.2)	
Spindle through hole dia.	mm (inch)	115 (4.53)	
Bearing dia. (front)	mm (inch)	160 (6.3)	
Spindle drive type	-	2 speed gearbox	
TRAVEL			
Axis travel (X / Z)	mm (inch)	270/830 (10.63/32.7)	270/770 (10.63/30.3)
Axis rapid traverse (X / Z)	m/min (ipm)	24/30 (945/1,181)	
Feed motor (X / Z)	kW (Hp)	4/4 (5.4/5.4)	
BED, SLIDE & CARRIAGE			
Guide ways (X / Z)	-	Box way	
Bed type	-	45° slant bed	
Ballscrew dia. (X / Z)	mm (inch)	32/40 (1.26/1.57)	
Axis feed thrust (X / Z)	N (lbs)	36,187/36,187 (8,135/8,135)	
Repeatability (X / Z)	mm (inch)	±0.002 / ±0.003 (±0.00008 / ±0.00012)	
TURRET			
Number of tool stations	st.	12	12 (24)
Curvic coupling	-	3 Piece hydraulic clamp / Servo index	
Coupling dia.	mm (inch)	180 (7.05)	
Clamping force	kN(lbs)	53.06 (11,929) at 40 bar	
OD tool size	mm (inch)	□25 (□1)	

Boring bar size	mm (inch)	50 (2)	
Indexing time	sec	0.2	
Indexing accuracy	mm (inch)	± 0.01 (± 0.0004)	
Index repeatability	mm (inch)	± 0.005 (± 0.0002)	
Milling tool holder type	-	-	BMT65
Tool spindle speed	rpm	-	5,000
Tool motor power	kW(hp)	-	3.7/5.5/7.5 (5/7.4/10)
TAILSTOCK			
Tailstock travel	mm(inch)	722 (28.43)	
Quill diameter	mm(inch)	110 (4.33)	
Quill travel	mm(inch)	100 (3.94)	
Quill taper	-	MT#4 (Built-in)	
Max. quill thrust force	kgf(lbs)	1,008 (2,222)	
COOLANT SYSTEM			
Coolant pump	bar(psi)	10 (140)	
Tank capacity	L(gal)	200 (52.8)	
System type	-	Removable / Independent	
HYDRAULIC, LUBRICATION			
Hydraulic tank capacity	L(gal)	20 (5.3)	
Hydraulic oil type	-	ISO VG32 or equivalent	
Lubrication tank capacity	L(gal)	3 (0.79)	
Lubrication oil type	-	ISO VG68 or equivalent	
MACHINE SIZE			
Max workpiece/part weight (in chuck only)	kgf(lbs)	67(147.7)	141(310.85)
Max workpiece/part weight (with tailstock)	kgf(lbs)	1,667(3,675.11)	2,039(4,495.23)
Required floor space	mm(inch)	3,708x1,778 (146x70)	
Weight	kg(lbs)	5,700 (12,566)	
Power consumption	kVA	40	
Voltage	-	220V \pm 10%, 60 Hz, 3 phase	
CONTROLLER			
Controller model	-	Fanuc 0i-TF	
Display unit	inch	10.4" TFT LCD Color Monitor	

Machine Specifications

[] option

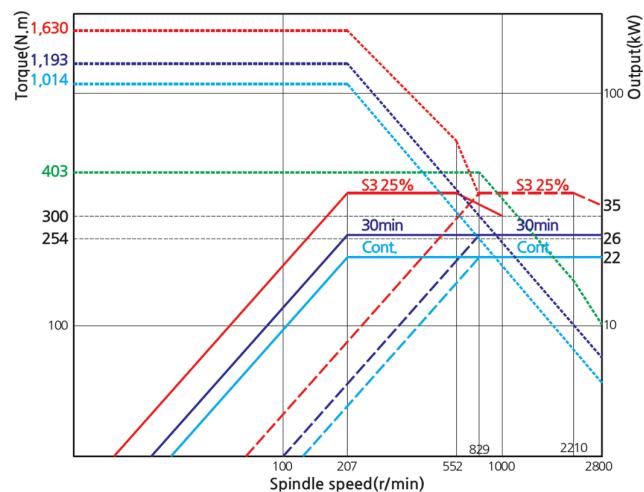
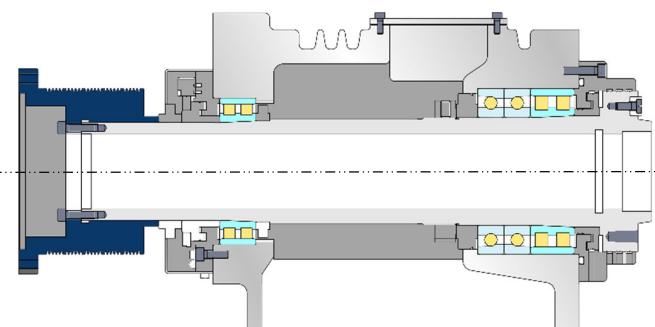
DESCRIPTION	UNIT	NL 3000BL	NL 3000BLM
CAPACITY			
Swing over bed	mm (inch)	700 (27.56)	
Swing over the cross slide	mm (inch)	510 (20.08)	
Max. machining dia.	mm (inch)	480 (18.9)	450 (17.72)
Max. machining length	mm (inch)	1,100 (43.31)	1,050 (41.34)
Chuck size	inch	12	
Bar capacity	mm(inch)	102 (4.02)	
SPINDLE			
Spindle speed	rpm	2,800	
Spindle motor	kW (Hp)	22/35 (29.5/47)	
Spindle nose	ASA	A2-11	
Spindle torque	N.m (ft.lbs)	1,630 (1,202.2)	
Spindle through hole dia.	mm (inch)	115 (4.53)	
Bearing dia. (front)	mm (inch)	160 (6.3)	
Spindle drive type	-	2 speed gearbox	
TRAVEL			
Axis travel (X / Z)	mm (inch)	270/1,180 (10.63/46.46)	270/1,120 (10.63/44.09)
Axis rapid traverse (X / Z)	m/min (ipm)	24/30 (945/1,181)	
Feed motor (X / Z)	kW (Hp)	4/4 (5.4/5.4)	
BED, SLIDE & CARRIAGE			
Guide ways (X / Z)	-	Box way	
Bed type	-	45° slant bed	
Ballscrew dia. (X / Z)	mm (inch)	32/40 (1.26/1.57)	
Axis feed thrust (X / Z)	N (lbs)	36,187/36,187 (8,135/8,135)	
Repeatability (X / Z)	mm (inch)	<u>±</u> 0.002 / <u>±</u> 0.003 (<u>±</u> 0.00008 / <u>±</u> 0.00012)	
TURRET			
Number of tool stations	st.	12	12 (24)
Curvic coupling	-	3 Piece hydraulic clamp / Servo index	
Coupling dia.	mm (inch)	180 (7.05)	
Clamping force	kN(lbs)	53.06 (11,929) at 40 bar	

OD tool size	mm (inch)	ø25 (ø1)	
Boring bar size	mm (inch)	50 (2)	
Indexing time	sec	0.2	
Indexing accuracy	mm (inch)	±0.01 (±0.0004)	
Index repeatability	mm (inch)	±0.005 (±0.0002)	
Milling tool holder type	-	-	BMT65
Tool spindle speed	rpm	-	5,000
Tool motor power	kW(hp)	-	3.7/5.5/7.5 (5/7.4/10)
TAILSTOCK			
Tailstock travel	mm(inch)	1,072 (42.2)	
Quill diameter	mm(inch)	110 (4.33)	
Quill travel	mm(inch)	100 (3.94)	
Quill taper	-	MT#4 (Built-in)	
Max. quill thrust force	kgf(lbs)	1,008 (2,222)	
COOLANT SYSTEM			
Coolant pump	bar(psi)	10 (140)	
Tank capacity	L(gal)	240 (63.4)	
System type	-	Removable / Independent	
HYDRAULIC, LUBRICATION			
Hydraulic tank capacity	L(gal)	20 (5.3)	
Hydraulic oil type	-	ISO VG32 or equivalent	
Lubrication tank capacity	L(gal)	3 (0.79)	
Lubrication oil type	-	ISO VG68 or equivalent	
MACHINE SIZE			
Required floor space	mm(inch)	4,013x1,727 (158x68)	
Weight	kg(lbs)	6,900 (15,211)	
Power consumption	kVA	40	
Voltage	-	220V±10%, 60 Hz, 3 phase	
CONTROLLER			
Controller model	-	Fanuc 0i-TF	
Display unit	inch	10.4" TFT LCD Color Monitor	

Spindle

Ultra precision and high rigidity P4 class spindle bearings.

	UNIT	NL 3000
Chuck size	Inch	12"
Spindle nose	ASA	A2-11
Thru hole dia.	mm(inch)	$\varnothing 115(4.53)$
Draw tube I.D.	mm(inch)	$\varnothing 103(4.06)$
Max speed	rpm	2,800
Max output	kW(HP)	35(47)
Max torque	N.m(lbf.ft)	1,630(1,190)

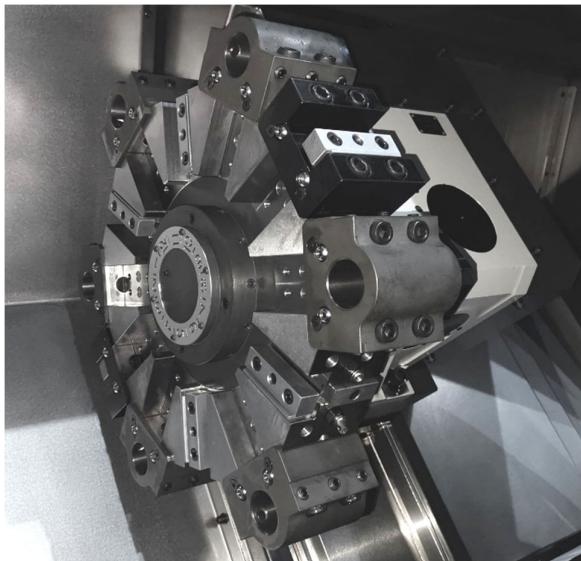


Standard Turret

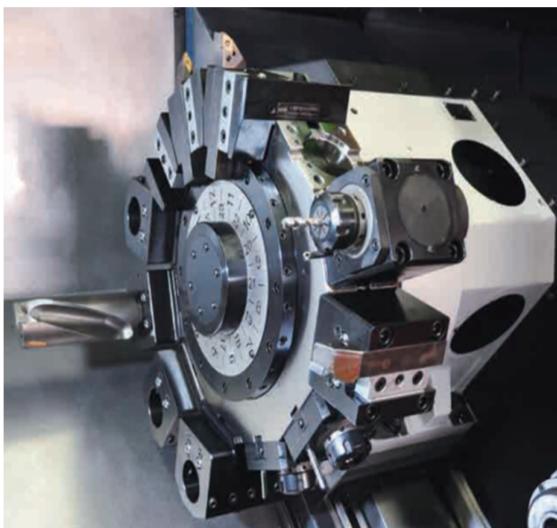
SMART NL3000BL

Prices and specifications are subject to change without notice.
Pictures and graphics are representative and may not be from the actual machine.

12 Station rigid turret design with high accuracy indexing and rigid curvic coupling.

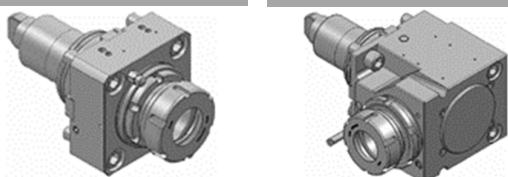


Mill Turret



Angular holder

Radial holder

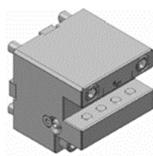


- No. of station: 12 EA
- Indexing Time: 0.2 sec



Boring holder

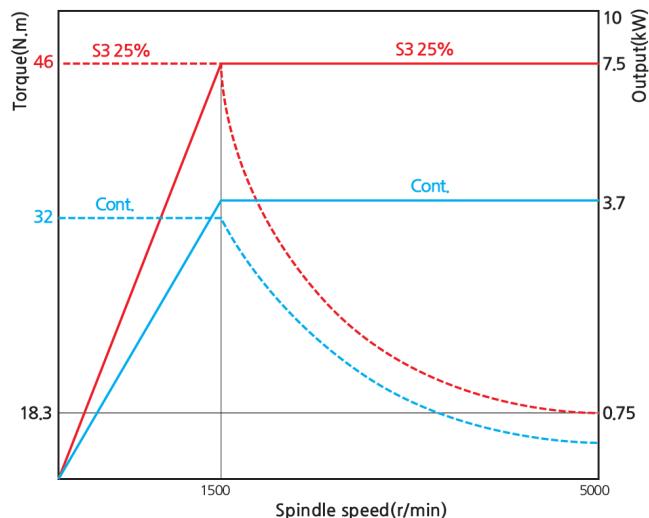
Ø50 (2")



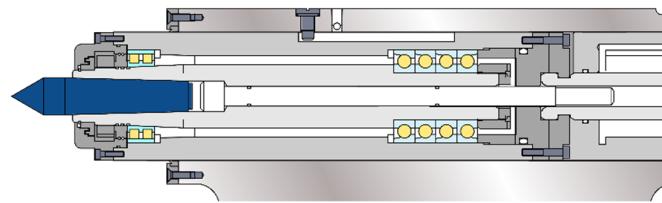
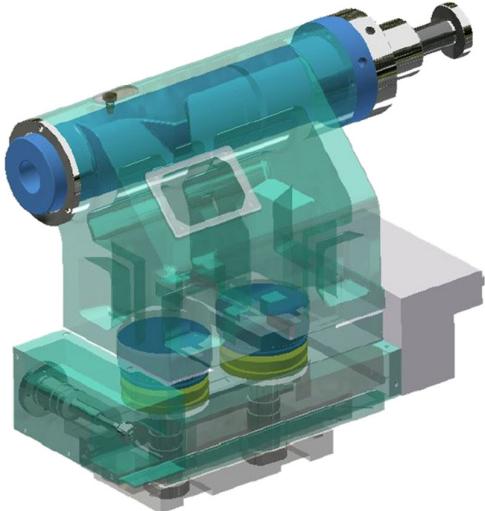
Bite holder

□25 (1")

- Mill tool holder type: BMT65
- No. of station: 12 EA (24 position)
- Indexing Time: 0.2 sec
- Max tool motor power: 7.5 kW



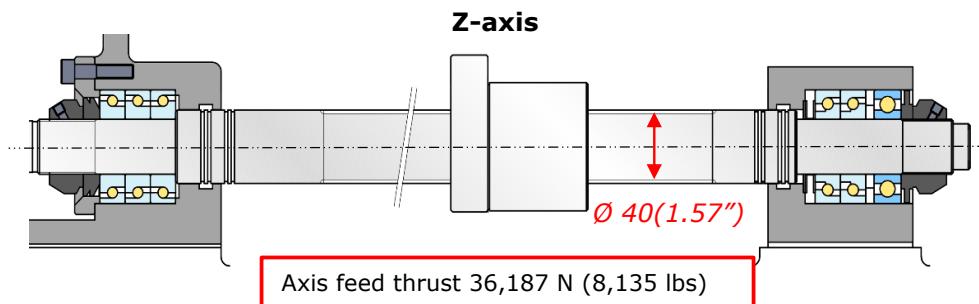
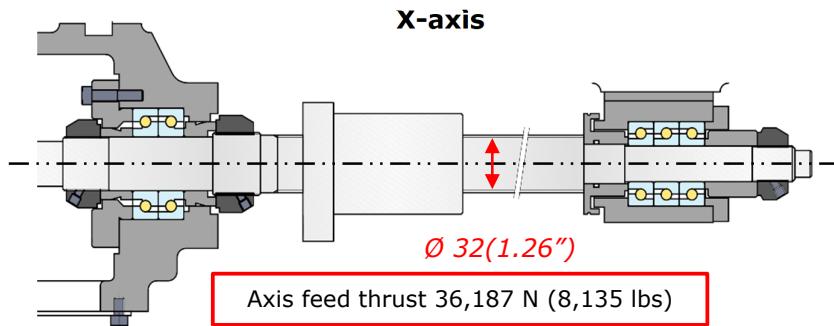
Programmable Tailstock and Quill



	Unit	NL 3000
Tailstock travel	mm(inch)	1,060(42)
Quill dia.	mm(inch)	$\varnothing 110$
Quill travel	mm(inch)	100(3.94)
Taper	-	MT4(built-in)
Hydraulic clamp	kgf(lbf)	11,000(24,251)
Hydraulic quill	kgf(lbf)	1,008(2,222)

Ballscrew

High precision pre-tensioned and double anchored ball screws - thrust bearings class of P4.



Control Specifications: Fanuc Oi-TF

CONTROLLED AXIS	Max. feed axes: 2(3) axis Feed axes: X/Z (Cs) 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
PROGRAM INPUT	Absolute/incremental programming Multiple repetitive canned cycle: G70 ~ G76 Canned cycles: G90, G92, G94 Inch/metric conversion: G20 / G21 Program restart
PROGRAM INPUT	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: 400EA
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: 512 Kbyte (1280m)

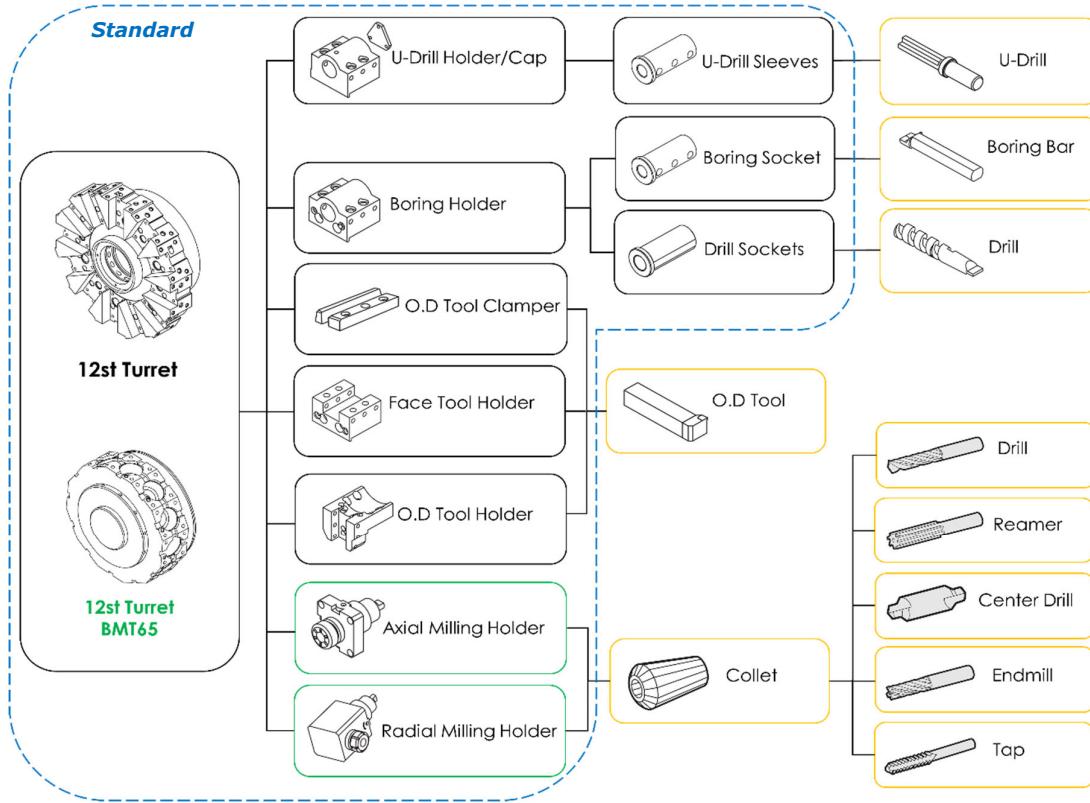
Option Control Function

- Arbitrary speed threading
- Retraction for rigid tapping
- Manual guide i



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

Standard Tooling Package



NL 3000B/BL

Turning holder (1")

Facing holder: 2 pc.

Boring holder (2")

I.D holder(single): 5 pc.

U-drill holder(cap): 1 pc.

Boring Socket

$\varnothing 10(3/8")$: 1 pc.

$\varnothing 12(1/2")$: 1 pc.

$\varnothing 16(5/8")$: 1 pc.

$\varnothing 20(3/4")$: 2 pc.

$\varnothing 25(1")$: 2 pc.

$\varnothing 32(1 1/4")$: 2 pc.

$\varnothing 40 (1 1/2")$: 2 pc.

Drill socket

MT3: 1 pc.

MT4: 1 pc.

NL 3000BM/BLM

Turning holder (1")

O.D holder: 3 pc.

Facing holder: 1 pc.

Boring holder (2")

I.D holder(single): 3 pc.

U-drill holder(cap): 1 pc.

Driven holder

Axial milling holder: 1 pc.

Radial milling holder: 1 pc.

Boring Socket

$\varnothing 10(3/8")$: 1 pc.

$\varnothing 12(1/2")$: 1 pc.

$\varnothing 16(5/8")$: 1 pc.

$\varnothing 20(3/4")$: 2 pc.

$\varnothing 25(1")$: 2 pc.

$\varnothing 32(1 1/4")$: 2 pc.

$\varnothing 40 (1 1/2")$: 2 pc.

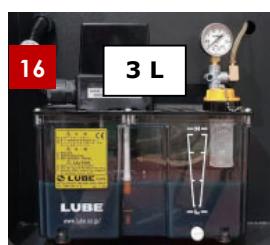
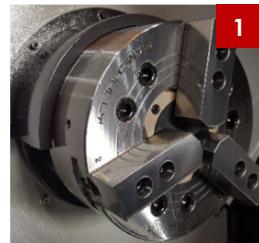
Drill socket

MT3: 1 pc.

MT4: 1 pc.

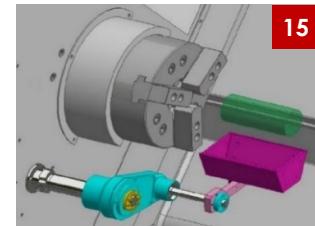
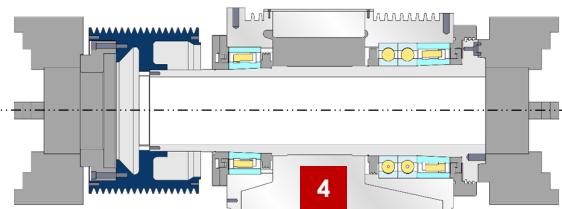
Standard Equipment & Accessories

1. 12" hydraulic hollow chuck
2. Chuck clamp foot switch
3. Chuck clamp confirmation
4. Soft jaw 3 set
5. Hard jaw 1 set
6. Programmable tailstock and quill
7. Tailstock taper MT#4
8. Tailstock in-out foot switch
9. Bar feeder interface preparation
10. Tri-color operation status light tower
11. LED work light
12. Manual and part list
13. Door interlock
14. Tool/work box
15. Leveling blocks
16. Metered lubrication system 3 L (0.79 gal)
17. Coolant tank 240 L (63.4 gal)
18. Coolant pump 10 bar (140 psi)
19. Hydraulic power unit 20 L (5.3 gal)
20. 2 speed gearbox
21. Tool presetter
22. Oil skimmer
23. Manual guide i



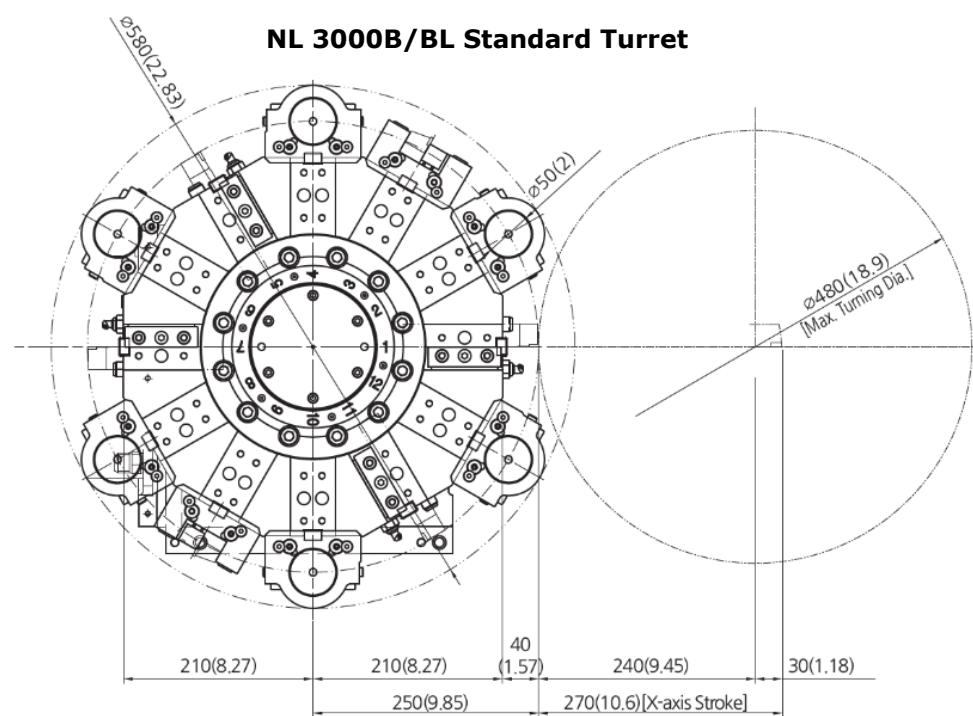
Option Equipment & Accessories

1. Dual pressure chucking
2. Chuck pressure switch
3. Special chuck
4. Dual chuck
5. Steady rest
6. Coolant chiller
7. Chuck coolant
8. Shower coolant
9. Coolant gun
10. Side chip conveyor
11. Chip bucket
12. Air gun
13. Air blower system
14. Auto door with edge sensor
15. Part catcher

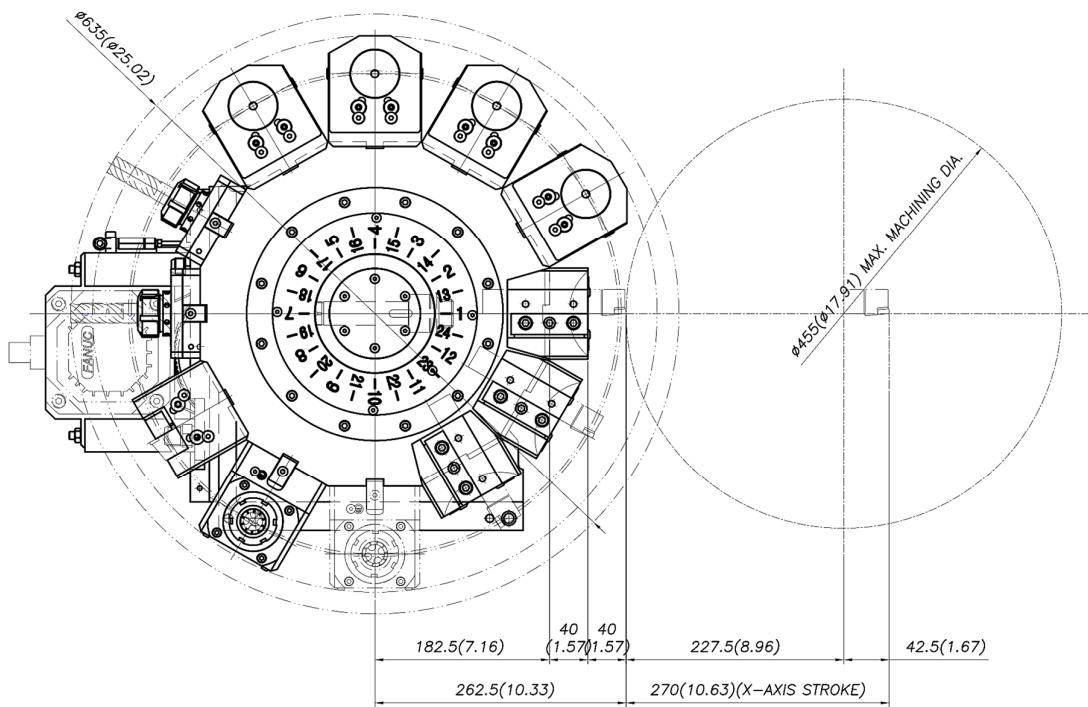


Interference

NL 3000B/BL Standard Turret

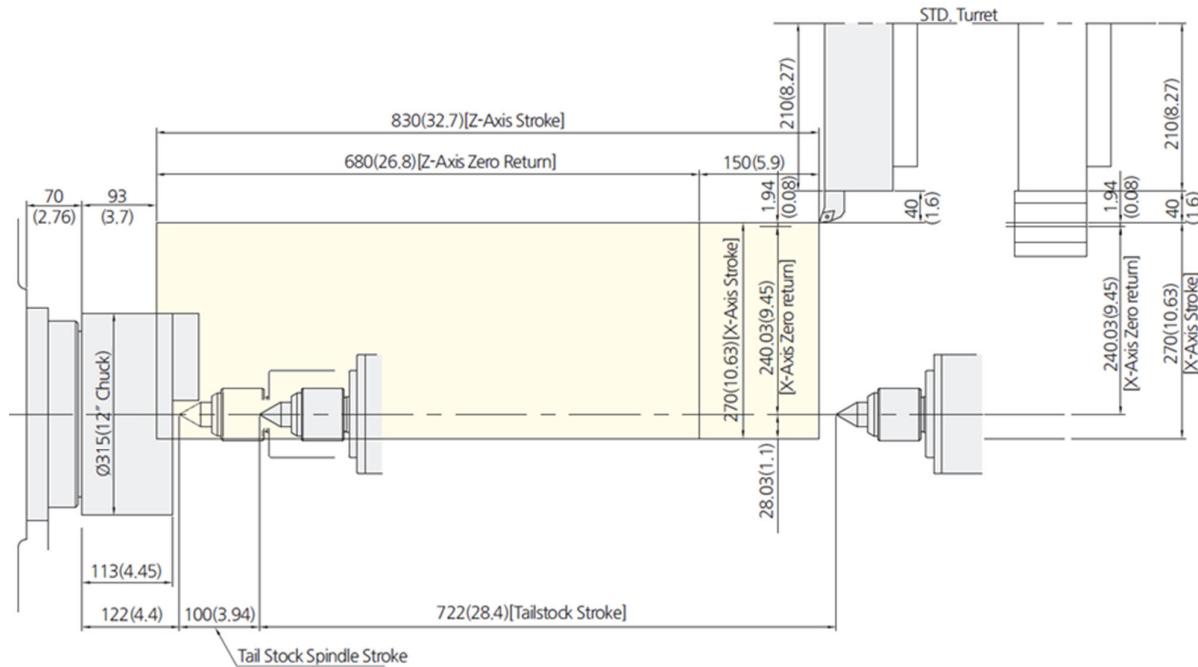


NL 3000BL/BLM Mill Turret

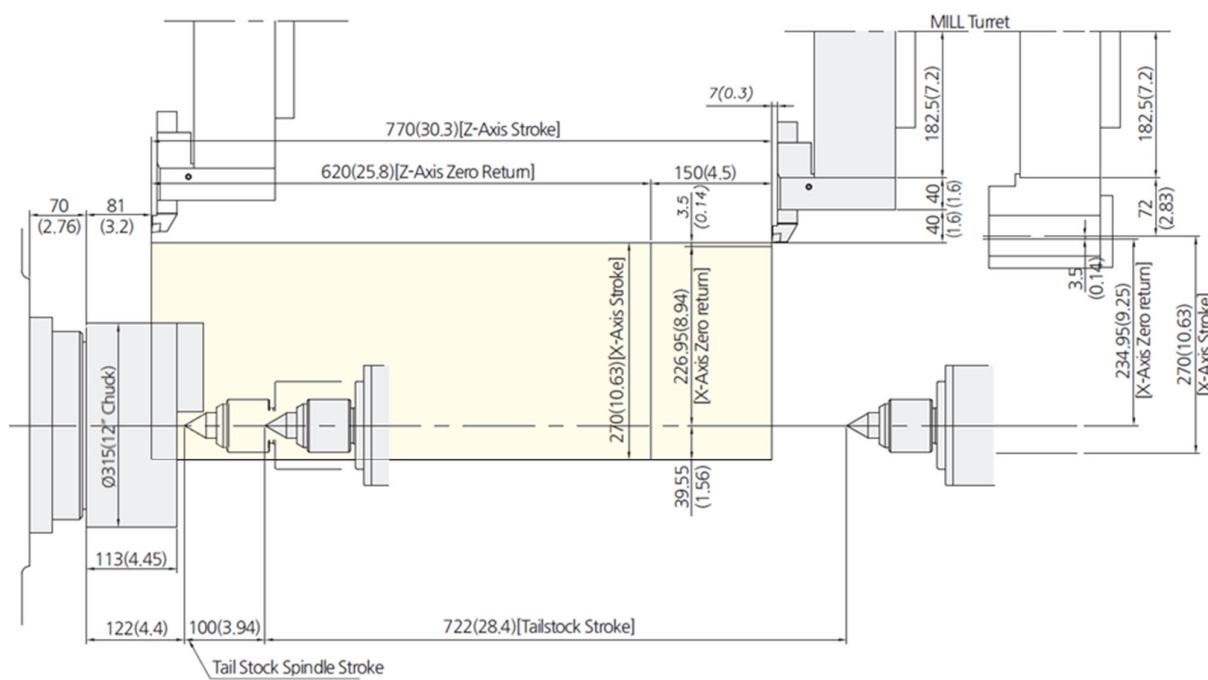


Work Range

NL 3000B

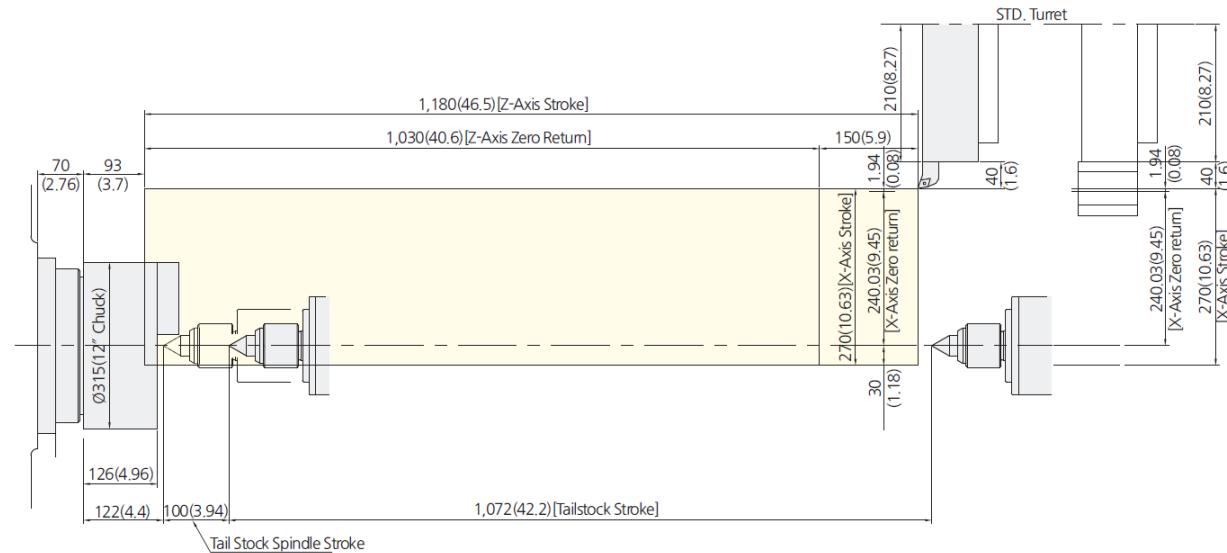


NL 3000BM

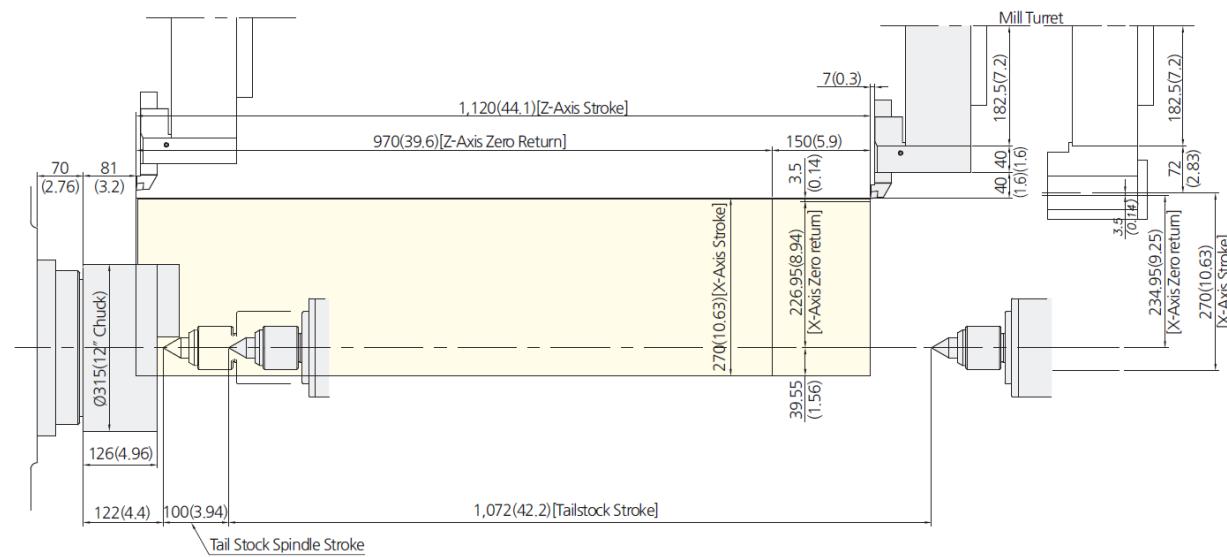


Work Range

NL 3000BL



NL 3000BLM

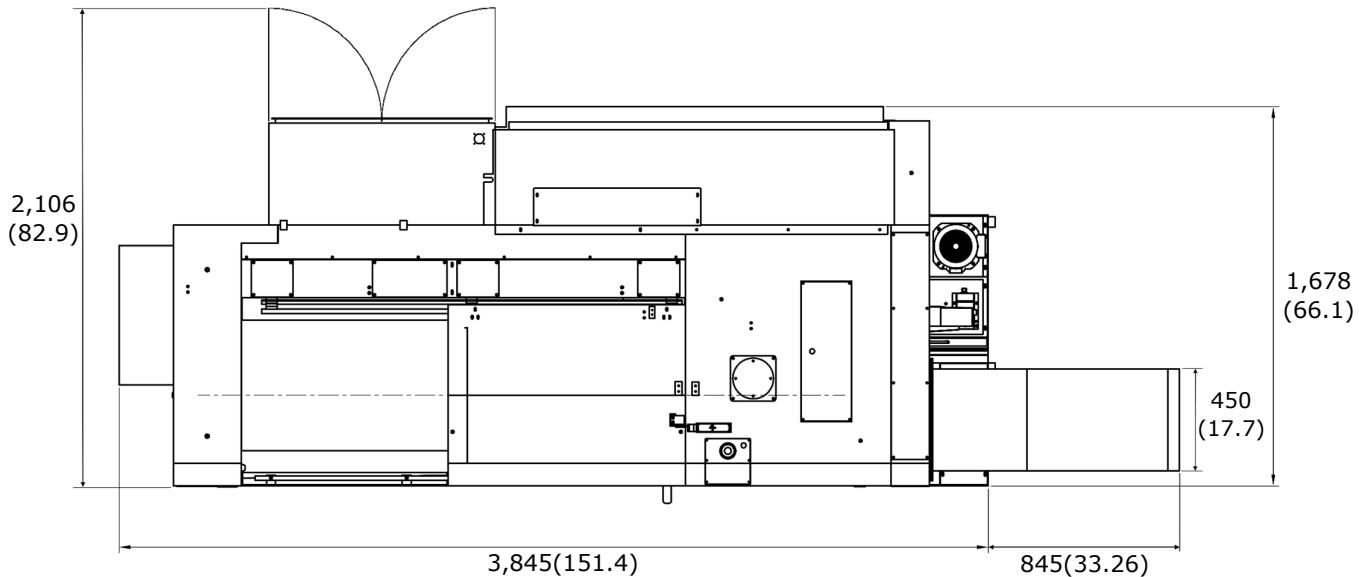


Machine Dimentions

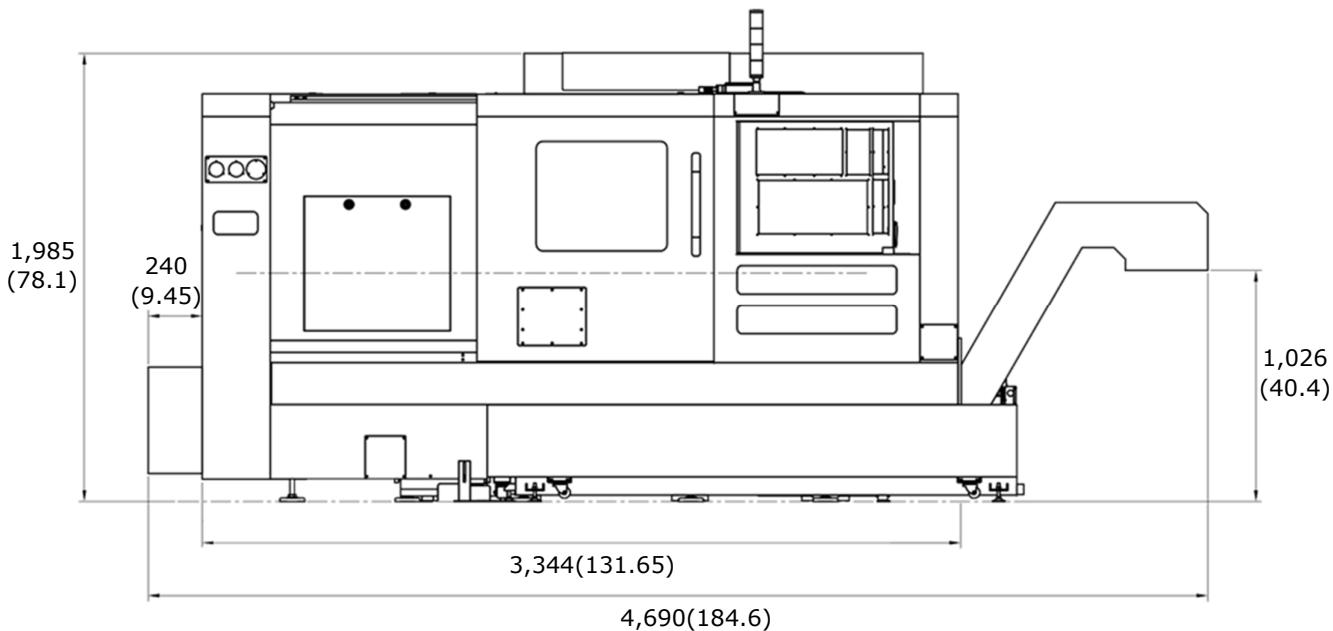
NL 3000B/BM

Unit : mm (inch)

Top view



Front view

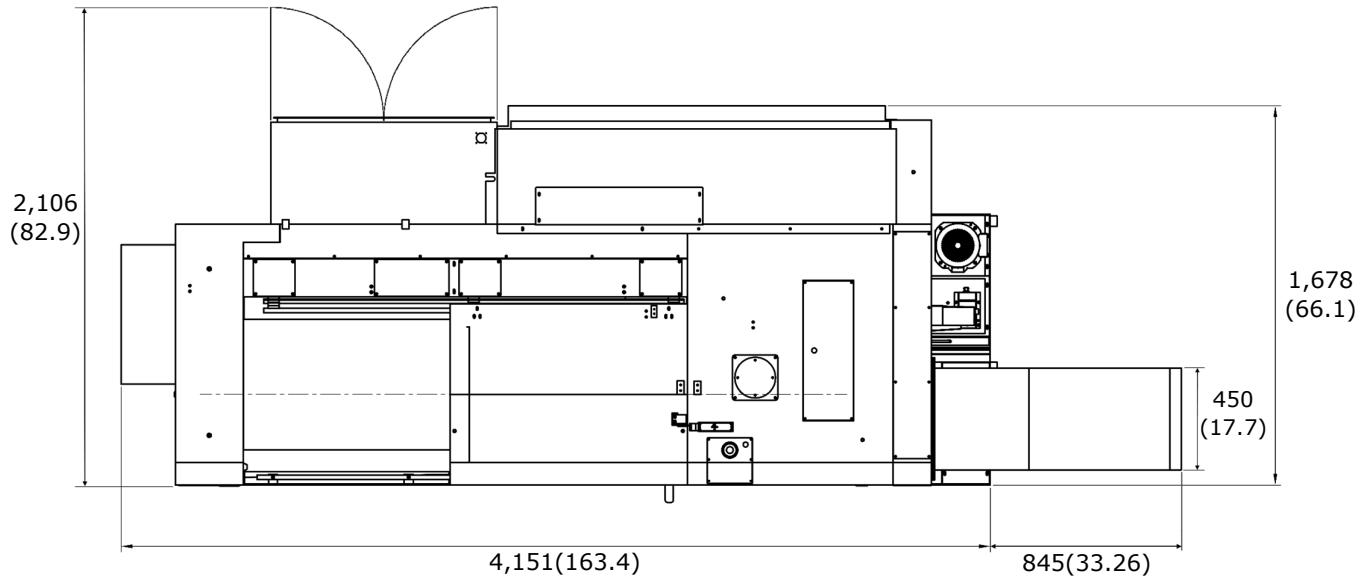


Machine Dimentions

NL 3000BL/BLM

Unit : mm (inch)

Top view



Front view

