

Machine Tools

LINE-UP



SMART
MACHINE TOOL

SMART Machine Tool Korea / R&D center / Factory
115-28, Techno valley 1-ro, Jillye-myeon, Gimhae-si,
Gyeongsangnam-do, Republic of Korea
TEL : +82-55-342-7972 FAX : +82-55-342-7970
E-mail : smtk@smtkor.com
www.smtkor.com

SMART Machine Tool America
N25W23287 Paul Rd, Pewaukee, WI 53072, USA
TEL : 1-855-637-3320
FAX : 1-262-521-1244
www.smartmachinetool.com

➤ 6 to 15 inch Turning Center with 2-Axis and 3-Axis

1 Spindle

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

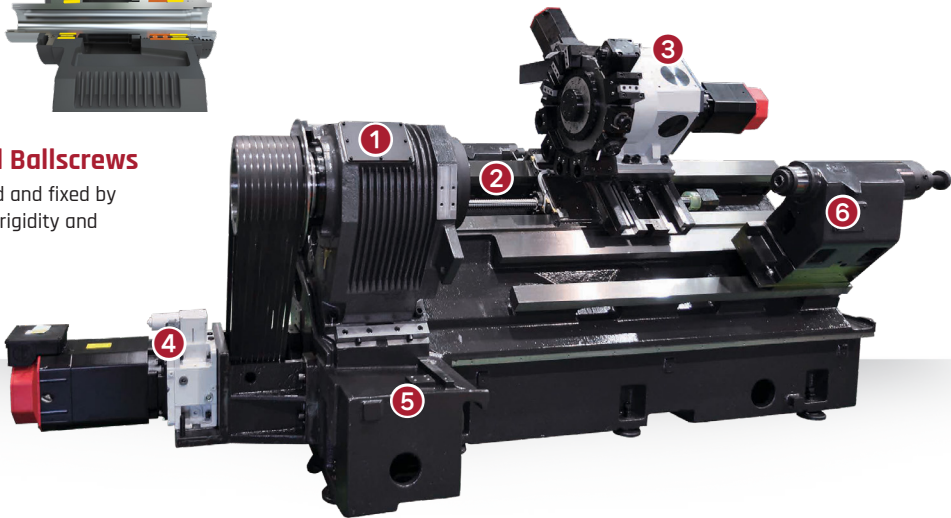


2 Pre-Tension and Double Anchored Ballscrews

All axes ballscrews are pre-tensioned, heat treated and fixed by doubled anchors on both ends, providing ultimate rigidity and minimal thermal growth.

3 12-Station Turret

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



4 Gearbox

Two-speed gearbox provide machining stability and increase torque at low speed (For NL2500 and NL3000).



5 Bed

The 45 degree slant torque tube design bed and wide Box guideways which has superb vibration absorption characteristics, provides rigid foundation for all machine components.

6 Programmable Tailstock Body & Quill

Wide-spaced guideways and heavy-duty tailstock body design ensure machining rigidity.

NL 1500 | NL 2000 Series

- ▶ 6" ~ 10" Box way type CNC Turning Center.
- ▶ Superb structural design. Simultaneous heavy duty and precision turning.



MODEL		NL1500	NL1500M	NL2000 NL2000B	NL2000M NL2000BM
Max. Turning Dia.	mm(inch)	391 (15.39)	381 (15.0)	391 (15.39)	381 (15.0)
Max. Turning Length	mm(inch)	560 (22.05)	540 (21.26)	560 (22.05) 550 (21.65)	540 (21.26)
Chuck Size	inch	6	6	8 10	8 10
Bar Capacity	mm(inch)	51 (2.01)	51 (2.01)	65 (2.56) 81 (3.19)	65 (2.56) 81 (3.19)
Spindle Speed	rpm	6,000	6,000	4,500 3,500	4,500 3,500
Spindle Motor (Cont./Max)	kW(HP)	11/18.5 (15/25)	11/18.5 (15/25)	15/18.5 (20/25)	15/18.5 (20/25)
Turret	-	12 St.	12 St. (24 pos) BMT55	12 St.	12 St. (24 pos) BMT55
Travel (X/Z)	mm(inch)	230/580 (9.06/22.83)	230/560 (9.06/22.05)	230/580 (9.06/22.83)	230/560 (9.06/22.05)

NL 2500 Series

- ▶ 10" Box way type CNC Turning Center.
- ▶ 45 degree slant, rigid single tube type bed design ensure minimum bending and torsion during heavy duty machining operation.
- ▶ Wide guide area sufficient to absorb working loads.



[] : Option

MODEL		NL2500S	NL2500SM	NL2500 NL2500L	NL2500M NL2500LM
Max. Turning Dia.	mm(inch)	480 (18.9)	450 (17.72)	480 (18.9)	450 (17.72)
Max. Turning Length	mm(inch)	530 (20.87)	480 (18.9)	750 (29.53) 1,100 (43.31)	700 (27.56) 1,050 (41.34)
Chuck Size	inch	10	10	10	10
Bar Capacity	mm(inch)	81 (3.19)	81 (3.19)	81 (3.19)	81 (3.19)
Spindle Speed	rpm	3,500	3,500	3,500 [4,000]	3,500 [4,000]
Spindle Motor (Cont./Max)	kW(HP)	15/18.5 (20/25)	15/18.5 (20/25)	15/18.5 (20/25) [22/35 (29.5/47)]	15/18.5 (20/25) [22/35 (29.5/47)]
Turret	-	12 St.	12 St. (24 pos) BMT65	12 St.	12 St. (24 pos) BMT65
Travel (X/Z)	mm(inch)	270/580 (10.63/22.83)	270/520 (10.63/20.47)	270/830 (10.63/32.68) 270/1,180 (10.63/46.46)	270/770 (10.63/30.31) 270/1,120 (10.63/44.09)

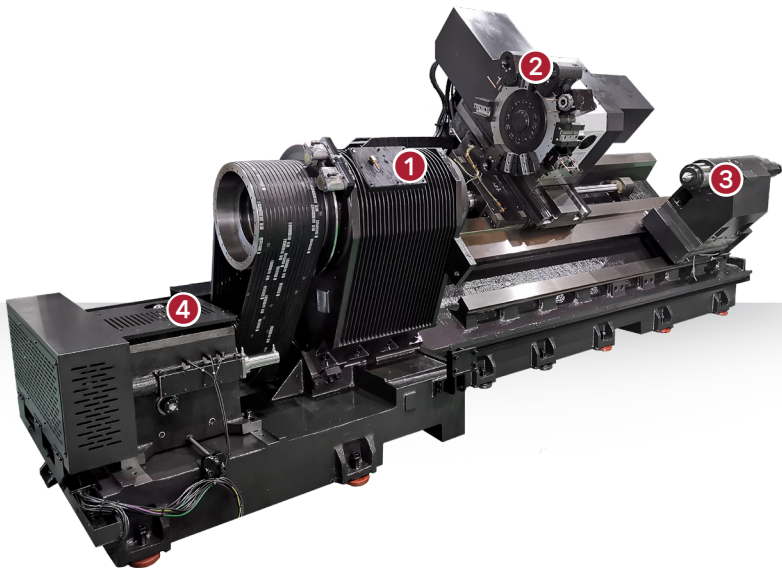
NL 3000 Series

- ▶ 12" ~ 15" Box way type CNC Turning Center.
- ▶ Most powerful in class: 35 kW motor and 2-step gearbox, achieve maximum torque of 1,613 N.m.



MODEL		NL3000B	NL3000BM	NL3000BL	NL3000BLM
Max. Turning Dia.	mm(inch)	480 (18.9)	450 (17.72)	480 (18.9)	450 (17.72)
Max. Turning Length	mm(inch)	750 (29.53)	700 (27.56)	1,100 (43.31)	1,050 (41.34)
Chuck Size	inch	12	12	12	12
Bar Capacity	mm(inch)	102 (4.02)	102 (4.02)	102 (4.02)	102 (4.02)
Spindle Speed	rpm	2,800	2,800	2,800	2,800
Spindle Motor (Cont./Max)	kW(HP)	22/35 (29.5/47)	22/35 (29.5/47)	22/35 (29.5/47)	22/35 (29.5/47)
Turret	-	12 St.	12 St. (24 pos) BMT65	12 St.	12 St. (24 pos) BMT65
Travel (X/Z)	mm(inch)	270/830 (10.63/32.68)	270/770 (10.63/30.31)	270/1,180 (10.63/46.46)	270/1,120 (10.63/44.09)

➤ Medium to Large Turning Center with 2-Axis and 3-Axis



① Headstock
Radiator fan-like pin tube rib design dissipates heat generated by axis movements, maintaining minimum thermal expansion.

Big Bore Spindle
Spindle bore of Ø181mm for NL5000 & NL6000 and Ø275mm for NL6000C capable of machining extra-length applications.

② 12-Station Turret
Large diameter 3-piece Curvic coupling for excellent rigidity and extended tool life.
High torque AC servo motor driven for fast indexing time and excellent positioning and repeatability.



④ Mission
Two-speed gearbox enhances machining stability and torque.
V-pulley belts attach to main spindle and gearbox ensure high power transmission capacity with minimum slip.

③ Programmable Tailstock Body & Quill
Wide-spaced guideways and heavy-duty tailstock body design with built-in live center ensure machining rigidity.



NL 4000 Series

- ▶ 15" ~ 18" Box way type CNC Turning Center.
- ▶ The separation of motor and gearbox from the spindle is designed to maintain low vibration during cutting operation, enable superior cutting roughness result.

MODEL		NL4000	NL4000M	NL4000L NL4000XL	NL4000LM NL4000XLM
Max. Turning Dia.	mm(inch)	648 (25.51)	638 (25.11)	648 (25.51)	638 (25.11)
Max. Turning Length	mm(inch)	1,213 (47.76)	1,145 (45.08)	2,213 (87.13) 3,213 (126.5)	2,145 (84.5) 3,144 (123.78)
Chuck Size	inch	18	18	18	18
Bar Capacity	mm(inch)	116.5 (4.59)	116.5 (4.59)	116.5 (4.59)	116.5 (4.59)
Spindle Speed	rpm	2,000	2,000	2,000	2,000
Spindle Motor (Cont./Max)	kW(HP)	30/45 (40/60)	30/45 (40/60)	30/45 (40/60)	30/45 (40/60)
Turret	-	12 St.	12 St. BMT75	12 St.	12 St. BMT75
Travel (X/Z)	mm(inch)	340/1,300 (13.39/51.18)	340/1,300 (13.39/51.18)	340/2,300 (13.39/90.55) 340/3,300 (13.39/129.92)	340/2,300 (13.39/90.55) 340/3,300 (13.39/129.92)

NL 5000 Series

- ▶ 21" Box way type CNC Turning Center.
- ▶ Spindle bore of Ø181mm allow superior ability of machining long pipe.
- ▶ Installation of dual chuck in the front and rear of spindle is possible.



MODEL		NL5000	NL5000M	NL5000L NL5000XL	NL5000LM NL5000XLM
Max. Turning Dia.	mm(inch)	670 (26.38)	650 (25.59)	670 (26.38)	650 (25.59)
Max. Turning Length	mm(inch)	1,155 (45.47)	1,119 (44.06)	2,155 (87.87) 3,155 (124.21)	2,119 (83.43) 3,119 (122.8)
Chuck Size	inch	21	21	21	21
Bar Capacity	mm(inch)	165.5 (6.52)	165.5 (6.52)	165.5 (6.52)	165.5 (6.52)
Spindle Speed	rpm	1,500	1,500	1,500	1,500
Spindle Motor (Cont./Max)	kW(HP)	30/45 (40/60)	30/45 (40/60)	30/45 (40/60)	30/45 (40/60)
Turret	-	12 St.	12 St. BMT75	12 St.	12 St. BMT75
Travel (X/Z)	mm(inch)	350/1,300 (13.78/51.18)	350/1,300 (13.78/51.18)	350/2,300 (13.78/90.55) 350/3,300 (13.78/129.92)	350/2,300 (13.78/90.55) 350/3,300 (13.78/129.92)

NL 6000 Series

- ▶ 24" ~ 32" Heavy Duty CNC Turning Center.
- ▶ Equipped with a powerful motor of 55kW with maximum torque of 5,143 N.m
- ▶ Maximum of Ø275mm spindle bore enabling ability of machining extra- length applications (for NL6000C).
- ▶ Installation of dual chuck in the front and rear of spindle is possible.
- ▶ Extra-wide turret disk option is available for better cutting performance in boring and drilling operations.



MODEL		NL6000S NL6000SM	NL6000 NL6000C	NL6000M NL6000CM	NL6000L NL6000CL
Max. Turning Dia.	mm(inch)	960 (37.8) 900 (35.43)	960 (37.8)	900 (35.43)	960 (37.8)
Max. Turning Length	mm(inch)	750 (29.53) 700 (27.56)	1,550 (61.02)	1,500 (59.06)	2,250 (88.58)
Chuck Size	inch	24	24 user specific	24 user specific	24 user specific
Bar Capacity	mm(inch)	165.5 (6.52)	165.5 (6.52) Chuck dependent	165.5 (6.52) Chuck dependent	165.5 (6.52) chuck dependent
Spindle Speed	rpm	1,200	1,200 1,000	1,200 1,000	1,200 1,000
Spindle Motor (Cont./Max)	kW(HP)	37/55 (50/73)	37/55 (50/73)	37/55 (50/73)	37/55 (50/73)
Turret	mm(inch)	12 St. 12 St. BMT85	12 St. BMT85	12 St. BMT85	12 St.
Travel (X/Z)	mm(inch)	475/800 (18.7/31.5)	475/1,600 (18.7/63)	475/1,600 (18.7/63)	475/2,300 (18.7/90.55)

MODEL		NL6000LM NL6000CLM	NL6000XL NL6000CXL	NL6000XLM NL6000CXLM	NL6000XXLM NL6000CXXLM
Max. Turning Dia.	mm(inch)	900 (35.43)	960 (37.8)	900 (35.43)	900 (35.43)
Max. Turning Length	mm(inch)	2,200 (86.61)	3,250 (127.95)	3,200 (125.98)	5,000 (196.85)
Chuck Size	inch	24 user specific	24 user specific	24 user specific	24 user specific
Bar Capacity	mm(inch)	165.5 (6.52) chuck dependent	165.5 (6.52) chuck dependent	165.5 (6.52) chuck dependent	165.5 (6.52) chuck dependent
Spindle Speed	rpm	1,200 1,000	1,200 1,000	1,200 1,000	1,200 1,000
Spindle Motor (Cont./Max)	kW(HP)	37/55 (50/73)	37/55 (50/73)	37/55 (50/73)	37/55 (50/73)
Turret	mm(inch)	12 St. BMT85	12 St.	12 St. BMT85	12 St. BMT85
Travel (X/Z)	mm(inch)	475/2,300 (18.7/90.55)	475/3,300 (18.7/129.92)	475/3,300 (18.7/129.92)	475/5,050 (18.7/198.82)

➤ 6, 8, 10, 12 inch Turning Center with Y-Axis

① BMT Turret

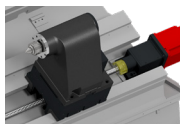
12 station (24 position index) BMT turret is equipped with 2 separate motors for indexing and milling, ensuring high machining performance, reliability and flexibility.

② Main Spindle

Spindle cartridge is designed to exposed to air in all directions dissipating heat generated by axis movements, maintaining minimal thermal expansion.

③ Sub Spindle (SY Models)

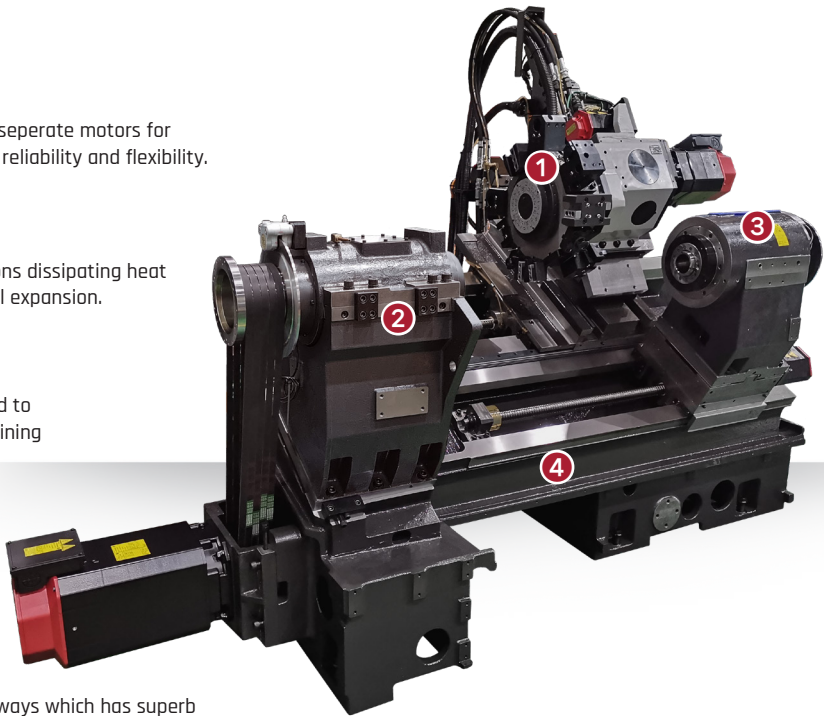
Equipped with built-in motor and oil cooling unit as standard to minimize thermal displacement and ensure maximum machining accuracy even during a long period of machining.



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

④ Bed

One-piece casting 30-degree slant bed and wide Box guide ways which has superb vibration absorption characteristics, provides rigid foundation for all machine components.



NL 2000SY | NL 2500SY | NL 3000SY NL 2000Y | NL 2500Y | NL 3000Y

- ▶ 6" ~ 12" Y-axis CNC Turning Center.
- ▶ Y-axis enables complex shape machining capability.
- ▶ One-piece 30-degree slant bed ensures high rigidity and excellence chip discharge ability.



MODEL		NL2000ASY NL2000BSY	NL2000AY NL2000BY	NL2500SY NL3000SY	NL2500Y NL3000Y
Max. Turning Dia.	mm(inch)	411 (16.18)	411 (16.18)	394 (15.51)	394 (15.51)
Max. Turning Length	mm(inch)	750 (29.53) 735 (28.94)	726.5 (28.6) 711.5 (28.01)	713 (28.07) 700 (27.56)	690 (27.17) 730 (28.74)
Chuck Size (Main/Sub)	inch	6/6 8/8	6 8	10/8 12/8	10 12
Bar Capacity (Main/Sub)	mm(inch)	51/51 (2/2) 65/51 (2.56/2)	51 (2) 65 (2.56)	81/51 (3.19/2) 102/51 (4.02/2)	81 (3.19) 102 (4.02)
Spindle Speed (Main/Sub)	rpm	6,000/6,000 4,500/5,000	6,000 4,500	4,000/5,000 2,800/5,000	4,000 2,800
Main Motor (Cont./Max)	kW(HP)	11/18.5 (15/25) 15/18.5 (20/25)	11/18.5 (15/25) 15/18.5 (20/25)	18.5/26 (25/35)	18.5/26 (25/35)
Tailstock	-	-	Servo drive (B-Axis)	-	Servo drive (B-Axis)
Turret	-	12 St. (24 pos) BMT55	12 St. (24 pos) BMT55	12 St. (24 pos) BMT65	12 St. (24 pos) BMT65
Travel (X/Z/Y/B)	mm(inch)	239/830/110/790 (9.4/32.7/4.3/31.1) 239/830/110/760 (9.4/32.7/4.3/29.9)	239/830/110/830 (9.4/32.7/4.3/32.7)	248.5/830/110/760 (9.8/32.7/4.3/29.9)	248.5/830/110/830 (9.8/32.7/4.3/32.7)

➤ 18, 21 inch Heavy Duty Turning Center with Y-Axis

① Y-Axis

Wedge type Y-axis structure allow superior rigidity and accuracy of machining.

② Headstock

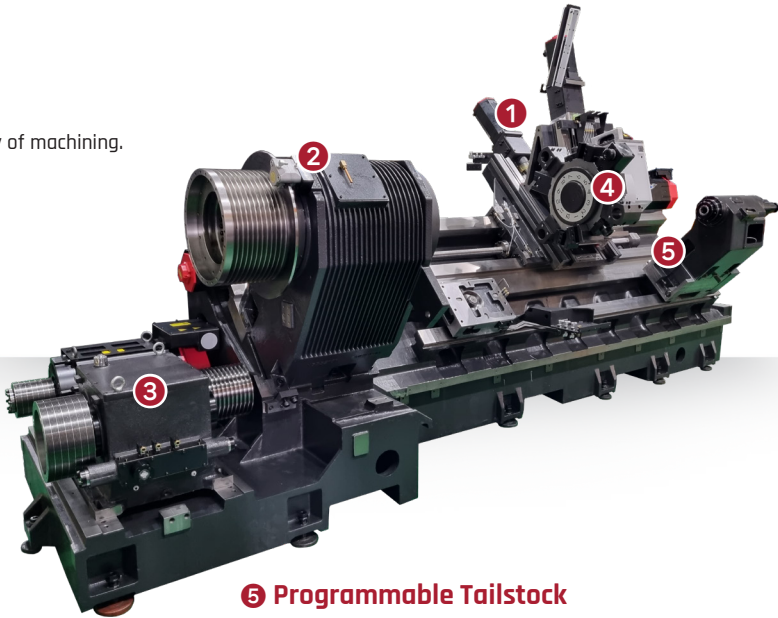
Radiator fan-like pin tube rib design prevents accuracy change caused by temperature rise.

③ Mission

Two-speed gearbox guarantees powerful torque and stable machining capability.

④ BMT Turret

12 station large BMT turret is equipped with 2 separate motors for indexing and milling, ensure high rigidity and high accuracy milling operation.



⑤ Programmable Tailstock

MT#5 built-in live center heavy-duty tailstock ensure stable machining of large or long workpiece.

NL 4000Y | NL 5000Y Series

- ▶ 18" ~ 21" Y-Axis Turning Center.
- ▶ Y-axis enables complex shape machining capability.
- ▶ One-piece casting slant bed (30-degree for NL3500Y, 45-degree for NL4000Y/NL5000Y) ensures high rigidity and excellence chip discharge ability.



MODEL		NL 4000LY NL4000XLY	NL 5000LY NL5000XLY
Max. Turning Dia.	mm(inch)	558 (21.97)	558 (21.97)
Max. Turning Length	mm(inch)	2,017 (79.41) 3,017 (118.78)	1,992 (78.43) 2,992 (117.8)
Chuck Size	inch	18	21
Bar Capacity	mm(inch)	116.5 (4.59)	165.5 (6.52)
Spindle Speed	rpm	2,000	1,500
Spindle Motor (Cont./Max)	kW(HP)	30/45 (40/60)	30/45 (40/60)
Tailstock	-	Programmable (MT#5 [Built-in])	Programmable (MT#5 [Built-in])
Turret	-	12 St. BMT 75	12 St. BMT 75
Travel(X/Z/Y)	mm(inch)	300/2,155/150 (11.81/84.84/5.91) 300/3,155/150 (11.81/124.21/5.91)	300/2,155/150 (11.81/84.84/5.91) 300/3,155/150 (11.81/124.21/5.91)

➤ NL3500 Series Turning Center

➊ 12-Station Turret

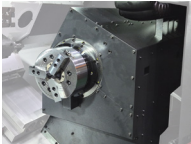
Large diameter 3-piece Curvic coupling for excellent rigidity and extended tool life.
High torque AC servo motor driven for fast indexing time and excellent positioning and repeatability.

➋ Headstock

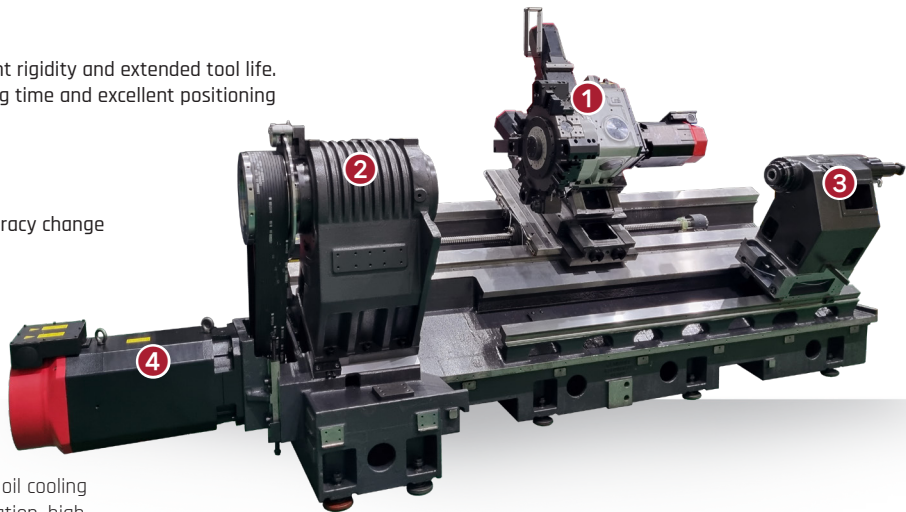
Radiator fan-like pin tube rib design prevents accuracy change caused by temperature rise.

➌ Programmable Tailstock

MT#5 built-in live center heavy-duty tailstock ensure stable machining of large or long workpiece.



Sub-Spindle (SY Models)
22kW Built-in motor with an oil cooling system delivers fast acceleration, high torque and exceptional precision.



➍ Spindle Drive

For NL3500SY-Y, direct belt drive with hi-low winding motor is used to offer powerful torque with minimal spindle backlash.
For NL3500/M, the main spindle is equipped with two-speed gearbox to enhance machining stability and torque.

NL 3500 Series

- ▶ 12" ~ 15" Box way type CNC Turning Center.
- ▶ Y-axis enables complex shape machining capability.
- ▶ Sub-spindle enables precise machining on the rear side.
- ▶ One-piece 30-degree slant bed ensures high rigidity and excellence chip discharge ability.



MODEL		NL3500B	NL3500BM	NL3500SY NL3500BSY	NL3500Y NL3500BY
Max. Turning Dia.	mm(inch)	590 (23.23)	510 (20.08)	430 (16.93)	430 (16.93)
Max. Turning Length	mm(inch)	1,568 (61.73)	1,522 (59.92)	1,500 (59.06) 1,470 (57.87)	1,500 (59.06) 1,470 (57.87)
Chuck Size (Main/Sub)	inch	15	15	12/10 15/10	12 15
Bar Capacity (Main/Sub)	mm(inch)	116.5 (4.59)	116.5 (4.59)	102/81 (4.02/3.19) 116.5/81 (4.59/3.19)	102 (4.02) 116.5 (4.59)
Spindle Speed (Main/Sub)	rpm	2,000	2,000	2,800/4,000 2,000/4,000	2,800 2,000
Main Motor (Cont./Max)	kW(HP)	22/35 (30/47)	22/35 (30/47)	18.5/26 (25/35) 22/30 (30/40)	18.5/26 (25/35) 22/30 (30/40)
Tailstock	-	Programmable (MT#5 [Built-in])	Programmable (MT#5 [Built-in])	-	Programmable (MT#5 [Built-in])
Turret	-	12 St.	12 St. (24 pos) BMT65	12 St. (24 pos) BMT65	12 St. (24 pos) BMT65
Travel (X/Z/Y/B)	mm(inch)	305/1,570 (12.01/61.81)	305/1,570 (12.01/61.81)	295/1,570/130/1,570 (11.61/61.81/5.12/61.81)	295/1,570/130 (11.61/61.81/5.12)

➤ NV Series Vertical Machining Center

➊ Direct Drive Spindle

High-performance, directly coupled spindle, allows high-speed processing with low vibration and noise,increase machining accuracy and quality.

➋ ATC Magazine

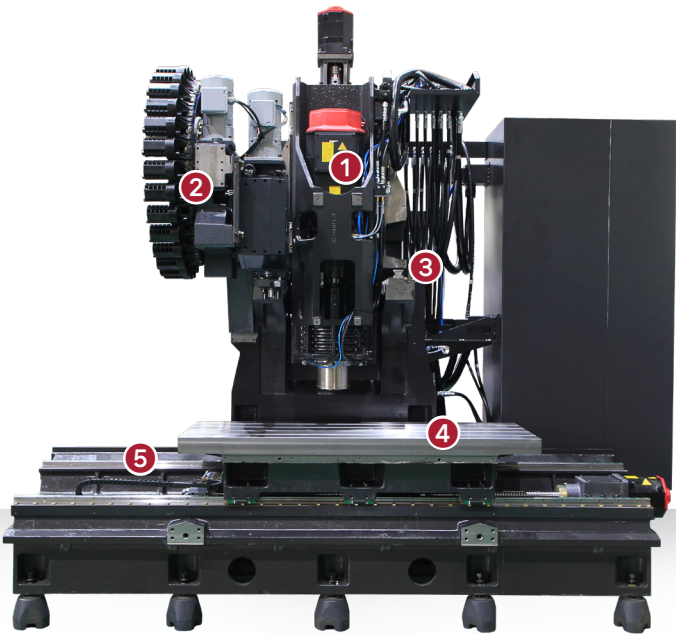
Holds up to 30 tools as standard to cover a wide range of tools selection ensure flexible machining conditions.

➌ Y-Axis Structure

By mounting a saddle on the top of the column, the over-hang issue is eliminated, positioning accuracy and machining quality are improved.

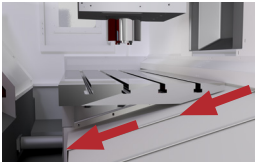
➍ Table

No stacking axis for table, the table only travels as X-axis, allowing better machining stability.
Wider workpiece mounting area compared to competitive machines within the same floor space.
6 LM blocks is installed to ensure good load distribution.



➎ Bed

Slant bed design allowing chips generated during machining to fall directly to chip conveyor without the need for installing internal screw conveyor.



NV 5500 II Series

- ▶ Applied slant bed design for superior chip discharge ability without the need of internal screw conveyor.
- ▶ Single-column bridge type structure provides exceptional thermal stability and accuracy during extended operation.
- ▶ Table only move in X-axis direction which eliminate table over-hang issue and also improve machining stability.



[] : Option

MODEL		NV5500L II	NV5500XL II
Table Size	mm(inch)	1,600x590 (62.99x23.23)	1,800x590 (70.87x23.23)
Max. Load Capacity	kg(lb)	1,000 (2,204.6)	1,200 (2,645.5)
Spindle Taper	-	BBT40 [CAT40]	BBT40 [CAT40]
Spindle Speed	rpm	12,000 [15,000]	12,000 [15,000]
Spindle Motor (Max)	kW(HP)	18.5 (24.8)	18.5 (24.8)
No. of Tool Magazine	ea	30 [50]	30 [50]
Travel (X/Y/Z)	mm(inch)	1,400/570/510 (55.12/22.4/20.1)	1,800/570/510 (70.87/22.4/20.1)
Rapid Traverse (X/Y/Z)	m/min(ipm)	36/36/30 (1,417/1,417/1,181)	36/36/30 (1,417/1,417/1,181)

➤ SVM Series Vertical Machining Center



1 Direct Drive Spindle

High-performance, directly coupled spindle, allows high-speed processing with low vibration and noise, increase machining accuracy and quality.

② ATC Magazine

Holds up to 30 tools as standard to cover a wide range of tools selection ensure flexible machining conditions.

3 Table

Wider workpiece mounting area compared to competitive machines within the same floor space.

④ Wide Column

The extra-wide base of the column enhances vibration absorption and improves machining stability.

5 Bed

Low centered one-piece casting bed offers high tensile strength, excellent vibration damping, and low thermal expansion.



[]: Option

SVM 550 | SVM 650 | SVM 650L

- ▶ High-rigidity roller-type LM guideways for all axis feeds.
- ▶ Compact size structure with excellent work accessibility.
- ▶ Automatic grease lubrication system reduces maintenance cost and time compared to oil lubrication.

Model		SVM 550	SVM 650	SVM 650L
Table Size	mm(inch)	1,000x550 (39.37x21.65)	1,200x650 (47.24x25.59)	1,600x650 (62.99x25.59)
Max. Load Capacity	kg(lb)	600 (1,323)	900 (1,984)	1,200 (2,646)
Spindle Taper	-	BBT40 [CAT40]	BBT40 [CAT40]	BBT40 [CAT40]
Spindle Speed	rpm	12,000	12,000	12,000
Spindle Motor (Max)	kW(HP)	18.5 (24.8)	18.5 (24.8)	18.5 (24.8)
No. of Tool Magazine	ea	30	30	30
Travel (X/Y/Z)	mm(inch)	850/550/550 (33.46/21.65/21.65)	1,200/670/600 (47.24/26.38/23.62)	1,500/670/600 (49.06/26.38/23.62)
Rapid Traverse (X/Y/Z)	m/min(ipm)	36/36/36 (1,417/1,417/1,417)	36/36/36 (1,417/1,417/1,417)	36/36/36 (1,417/1,417/1,417)

Notes