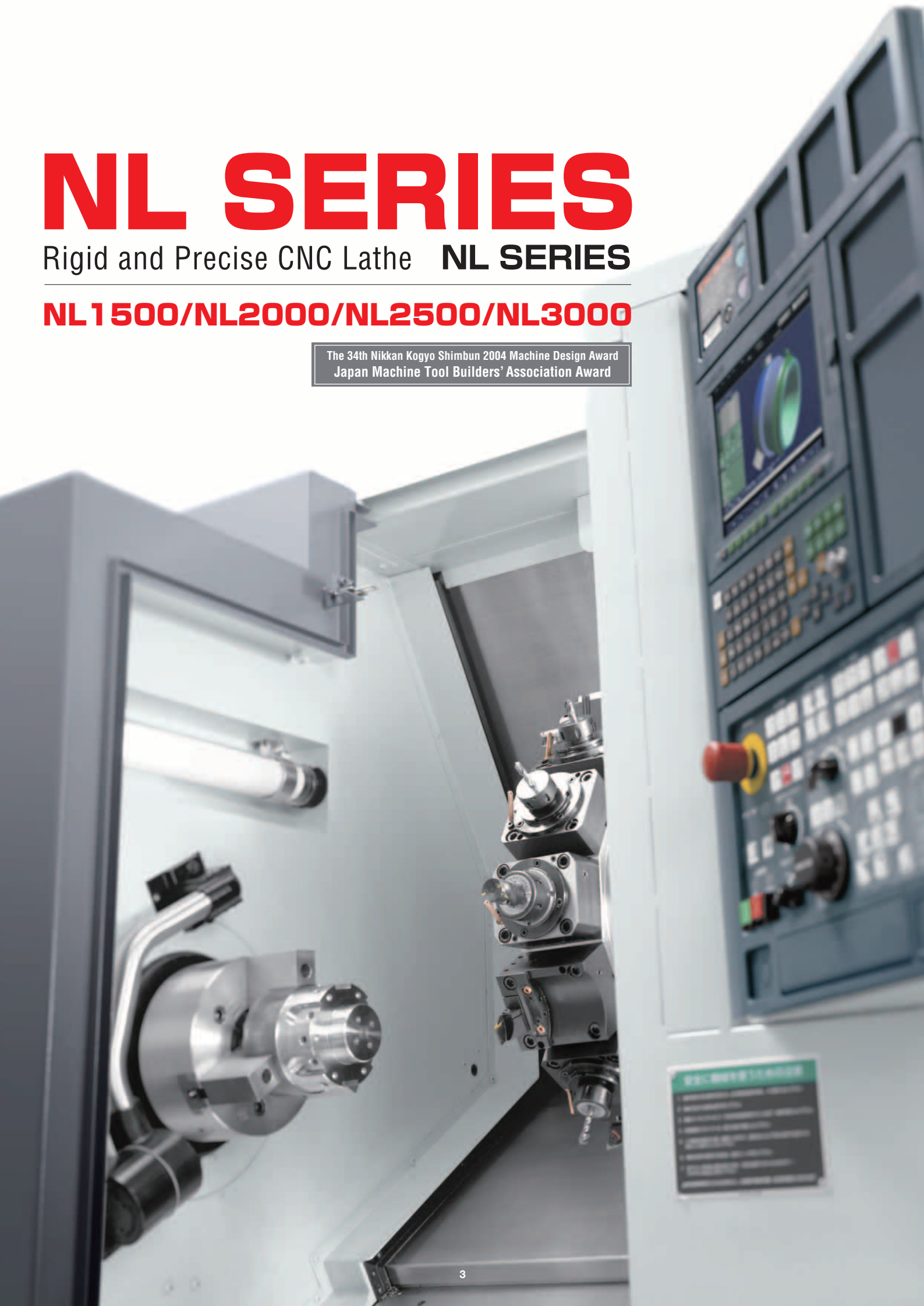
NL SERIES

Rigid and Precise CNC Lathe **NL SERIES**

NL1500/NL2000/NL2500/NL3000

The 34th Nikkan Kogyo Shimbun 2004 Machine Design Award
Japan Machine Tool Builders' Association Award



Rigid & Precise
NL SERIES

Variations

We want everyone to use the new standard in CNC lathes. Mori Seiki's NL Series has machines in four classes for different workpiece sizes and six types to best match the level of the customer's machining and process integration. With a total of 36 variations, you are bound to find one right for you.

NL1500

NL1500MC/500

2-axis turning	MC	Y	S	SMC	SY
Distance between centers	500				
Standard chuck size <headstock 1/headstock 2>	6 inches / 6 inches				
Bar work capacity	52 mm (2.0 in.) [34 mm (1.3 in.) <8,000 min^{-1}>]				
Number of tool stations	12 [16] [20] tools				
Travel <X-/Z-axis>	260/590 mm (10.2/23.2 in.)				
Travel <Y-axis>	100 <±50> mm (3.9 <±2.0> in.)				

[ ] Option

NL2000

NL2000SMC/500

2-axis turning	MC	Y	S	SMC	SY
Distance between centers	500				
Standard chuck size <headstock 1/headstock 2>	8 inches / 6 inches				
Bar work capacity	65 mm (2.5 in.)				
Number of tool stations	12 [10] [16] [20] tools				
Travel <X-/Z-axis>	260/590 mm (10.2/23.2 in.)				
Travel <Y-axis>	100 <±50> mm (3.9 <±2.0> in.)				

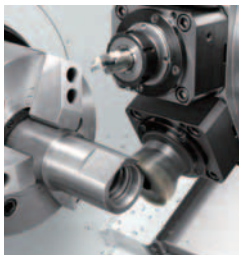
[ ] Option

● Bar work capacity: depending on the chuck/cylinder used and its restrictions, it may not be possible to reach full bar work capacity. ● The photo shows the machine equipped with options.

MC Turret with milling function

While milling with the spindle rotating, multi-axis turning is made possible by simultaneously controlling three axes, including the C-axis. This flexibly meets processing needs even when involving drilling processes or complex shapes.

Y Turret with Y-axis control



Controls tool center height in both the direction of the workpiece diameter (X-axis) and the direction of the axis (Z-axis). Achieves high-accuracy machining even with processes such as offset key grooving or drilling off-center holes, which are difficult for conventional turning centers.

S Headstock 2

A sub-spindle is mounted in the machine. When the first process completes, you can immediately transfer the workpiece to the sub-spindle, achieving continuous machining with both high speed and high precision.

NL2500MC/700

NL2500Y/1250

NL2500

2-axis turning	MC	Y	S	SMC	SY
Distance between centers	700 / 1250				
Standard chuck size <headstock 1/headstock 2>	(10) inches / (6) inches				
Bar work capacity	80 mm (3.1 in.)				
Number of tool stations	12 [10] tools				
Travel <X-/Z-axis>	260/795 mm (10.2/31.3 in.) <700 type> 260/1,345 mm (10.2/53.0 in.) <1250 type>				
Travel <Y-axis>	100 <±50> mm (3.9 <±2.0> in.)				

[ ] Option

NL3000Y/700

NL3000MC/1250

NL3000

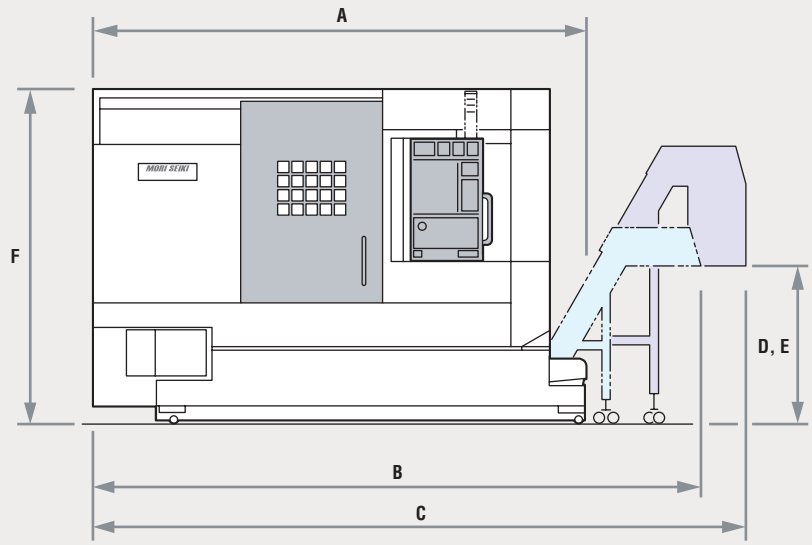
2-axis turning	MC	Y
Distance between centers	700 / 1250 / 2000 / 3000	
Standard chuck size	(12) inches	
Bar work capacity	90 mm (3.5 in.)	
Number of tool stations	10 [12] tools	
Travel <X-/Z-axis>	280/820 mm (11.0/32.3 in.) <700 type> 280/1,370 mm (11.0/53.9 in.) <1250 type> 280/2,170 mm (11.0/85.4 in.) <2000 type> 280/3,170 mm (11.0/124.8 in.) <3000 type>	
Travel <Y-axis>	120 <±60> mm (4.7 <±2.4> in.)	

[ ] Option

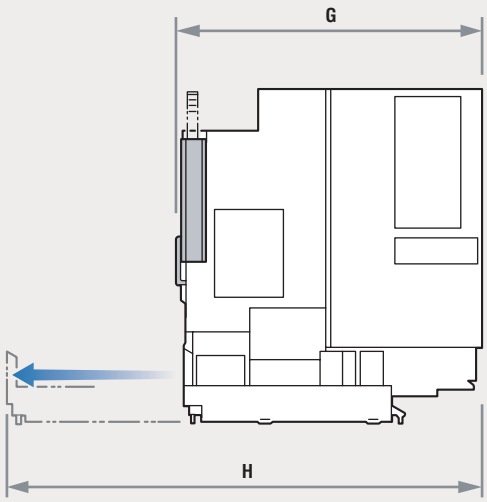
● Bar work capacity: depending on the chuck/cylinder used and its restrictions, it may not be possible to reach full bar work capacity. ● The photo shows the machine equipped with options.

Machine size

Front view



Side view



mm (in.)

Machine type		Width			Chip conveyor disposal height		Depth		Height
		Machine only	Including chip conveyor	Including chip conveyor <EN Standards>	Standard	EN Standards	Machine only	Including space to remove coolant tank	
		A	B	C	D	E	G	H	F
NL1500	Without sub-spindle	2,695 (106.1)	3,388 (133.4)	3,688 (145.2)	1,005 (39.6)		1,922 (75.7)	3,150 (124.0)	2,120 (83.5)
	With sub-spindle						2,000 (78.7)		
NL2000	Without sub-spindle						1,922 (75.7)		
	With sub-spindle						2,000 (78.7)		
NL2500/700	Without sub-spindle	3,100 (122.0)	3,805 (149.8)	4,105 (161.6)			1,922 (75.7)		
	With sub-spindle						2,000 (78.7)		
NL2500/1250		4,329 (170.4)	5,039 (198.4)	5,339 (210.2)	1,000 (39.4)		2,143 (84.4)	3,325 (130.9)	2,232 (87.9)
NL3000/700		3,410 (134.3)	4,092 (161.1)	4,392 (172.9)	1,055 (41.5)		2,089 (82.2)	3,432 (135.1)	2,270 (89.4)
NL3000/1250		4,522 (178.0)	5,184 (204.1)	5,484 (215.9)			2,291 (90.2)	3,464 (136.4)	2,390 (94.1)
NL3000/2000		—	7,080 (278.7) <chip conveyors are standard>	7,417 (292.0) <chip conveyors are standard>	1,020 (40.2)	1,042 (41.0)	2,587 (101.9)	4,494 (176.9)	
NL3000/3000		—	8,147 (320.7) <chip conveyors are standard>	8,484 (334.0) <chip conveyors are standard>					

Machine specifications (NL1500)

Item			NL1500/500	NL1500MC/500	NL1500Y/500	NL1500S/500	NL1500SMC/500	NL1500SY/500
Capacity	Swing over bed	mm (in.)	923.8 (36.4) <interference with front cover 579.8 (22.8)>					
	Swing over cross slide	mm (in.)	755 (29.7)					
	Max. turning diameter	mm (in.)	356 (14.0) [278 (10.9) <20-station turret head>]					
	Standard turning diameter	mm (in.)	260 (10.2) [192.6 (7.5) <20-station turret head>]					
	Max. turning length	mm (in.)	515 (20.2)					
	Bar work capacity	mm (in.)	52 (2.0) [34 (1.3) <8,000 min^{-1}>]					
Travel	X-axis travel	mm (in.)	260 (10.2)					
	Z-axis travel	mm (in.)	590 (23.2) [580 (22.8) <20-station turret head>]					
	Y-axis travel	mm (in.)	—		100 <±50> (3.9 <±2.0>)	—		100 <±50> (3.9 <±2.0>)
	Headstock 2 travel <B-axis>	mm (in.)	—			624 (24.6)		
Spindle	Max. spindle speed	min^{-1}	6,000 [8,000]			Headstock 1, 2: 6,000 [8,000]		
	Type of spindle nose		JIS A_2-5			Headstock 1, 2: JIS A_2-5		
	Through-spindle hole diameter	mm (in.)	61 (2.4) [43 (1.7) <8,000 min^{-1}>]			Headstock 1: 61 (2.4) [43 (1.7) <8,000 min^{-1}>] Headstock 2: 43 (1.7)		
	Min. spindle indexing angle		—	0.001°		—	0.001°	
	Spindle bearing inner diameter	mm (in.)	100 (3.9) [85 (3.3) <8,000 min^{-1}>]			Headstock 1: 100 (3.9) [85 (3.3) <8,000 min^{-1}>] Headstock 2: 85 (3.3)		
Turret	Number of tool stations		12 [16] [20]					
	Shank height for square tool	mm (in.)	20 ($^3/_4$)					
	Shank diameter for boring bar	mm (in.)	Max. 40 ($1^1/_2$) [32 ($1^1/_4$) <double boring holder>]			Headstock 1: Max. 40 ($1^1/_2$) [32 ($1^1/_4$) <double boring holder>] Headstock 2: Max. 32 ($1^1/_4$)		
	Tool shank diameter for rotary tool	mm (in.)	—	26 (1.0)		—	26 (1.0)	
	Turret indexing time	s	0.2 [0.25 <20-station turret head>]	0.25		0.2 [0.25 <20-station turret head>]	0.25	
	Max. rotary tool spindle speed	min^{-1}	—	6,000		—	6,000	
Feedrate	Rapid traverse rate	mm/min (ipm)	X, Z: 30,000 (1,181.1) Tailstock: 7,000 (275.6)	X, Z: 30,000 (1,181.1) Tailstock: 7,000 (275.6) C: 400 min^{-1}	X, Z: 30,000 (1,181.1) Y: 10,000 (393.7) Tailstock: 7,000 (275.6) C: 400 min^{-1}	X, Z, B: 30,000 (1,181.1)	X, Z, B: 30,000 (1,181.1) C: 400 min^{-1}	X, Z, B: 30,000 (1,181.1) Y: 10,000 (393.7) C: 400 min^{-1}
Tailstock	Tailstock travel	mm (in.)	564 (22.2)			—		
	Tailstock spindle diameter	mm (in.)	80 (3.1)			—		
	Taper hole of tailstock spindle		Live center <MT4> [Built-in center <MT3>]			—		
Motor	Spindle drive motor <50%ED/30min/cont> 6,000 min^{-1}	kW (HP)	11/11/7.5 (15/15/10) [15/15/11 (20/20/15)]			Headstock 1: 11/11/7.5 (15/15/10) [15/15/11 (20/20/15)] Headstock 2: 11/7.5 (15/10) <25%ED/cont>		
	Spindle drive motor <50%ED/30min/cont> 8,000 min^{-1}	kW (HP)	[11/7.5 (15/10) <25%ED/cont>]			Headstock 1, 2: [11/7.5 (15/10) <25%ED/cont>]		
	Rotary tool spindle drive motor <3 min/5 min/cont>	kW (HP)	—	5.5/5.5/3.7 (7.5/7.5/5)		—	5.5/5.5/3.7 (7.5/7.5/5)	
	Feed motor	kW (HP)	X: 2.0 (2.7) Z: 3.5 (4.7)		X, Y: 2.0 (2.7) Z: 3.5 (4.7)	X, B: 2.0 (2.7) Z: 3.5 (4.7)		X, Y, B: 2.0 (2.7) Z: 3.5 (4.7)
Power sources	Electrical power supply <for the standard specifications>	kVA	18.8	23.3	27.2	27.3	27.2	31.6
	Compressed air supply	MPa (psi), L/min (gpm)	— (a compressed air supply may be needed, depending on options and peripheral equipment)			0.5 (72.5), 100 (26.4) <ANR>		
Tank capacity	Coolant tank capacity	L (gal.)	235 (62.0)					
Machine size	Machine height <from floor>	mm (in.)	2,120 (83.5)					
	Floor space <width×depth>	mm (in.)	2,695×1,922 (106.1×75.7)			2,695×2,000 (106.1×78.7)		
	Mass of machine	kg (lb.)	5,300 (11,660)	5,400 (11,880)	5,600 (12,320)	5,400 (11,880)	5,500 (12,100)	5,700 (12,540)

[ ] Option JIS: Japanese Industrial Standard

I94028A04

- Bar work capacity: depending on the chuck/cylinder used and its restrictions, it may not be possible to reach full bar work capacity.
- Max. spindle speed: depending on restrictions imposed by the workpiece clamping device, fixture and tool used, it may not be possible to rotate at the maximum spindle speed.
- ANR: ANR refers to a standard atmospheric state; i. e., temperature at 20 ℃ (68 ˚F), absolute pressure at 101.3 kPa (14.7 psi) and relative humidity at 65%.
- Power sources, machine size: the actual values may differ from those specified in the catalogue, depending on the optional features and peripheral equipment.

Machine specifications (NL2000)

Item			NL2000/500	NL2000MC/500	NL2000Y/500	NL2000S/500	NL2000SMC/500	NL2000SY/500
Capacity	Swing over bed	mm (in.)	923.8 (36.4) <interference with front cover 579.8 (22.8)>					
	Swing over cross slide	mm (in.)	755 (29.7)					
	Max. turning diameter	mm (in.)	356 (14.0) [278 (10.9) <20-station turret head>]					
	Standard turning diameter	mm (in.)	275 (10.8) [192.6 (7.5) <20-station turret head>]					
	Max. turning length	mm (in.)	510 (20.0)					
	Bar work capacity	mm (in.)	65 (2.5)					
Travel	X-axis travel	mm (in.)	260 (10.2)					
	Z-axis travel	mm (in.)	590 (23.2) [580 (22.8) <20-station turret head>]					
	Y-axis travel	mm (in.)	—		100 <±50> (3.9 <±2.0>)	—		100 <±50> (3.9 <±2.0>)
	Headstock 2 travel <B-axis>	mm (in.)	—			624 (24.6)		
Spindle	Max. spindle speed	min^{-1}	5,000			Headstock 1: 5,000 Headstock 2: 6,000 [5,000]		
	Type of spindle nose		JIS A_2-6			Headstock 1: JIS A_2-6 Headstock 2: JIS A_2-5 [JIS A_2-6 <5,000 min^{-1}>]		
	Through-spindle hole diameter	mm (in.)	73 (2.9)			Headstock 1: 73 (2.9) Headstock 2: 43 (1.7) [73 (2.9) <5,000 min^{-1}>]		
	Min. spindle indexing angle		—	0.001°		—	0.001°	
	Spindle bearing inner diameter	mm (in.)	120 (4.7)			Headstock 1: 120 (4.7) Headstock 2: 85 (3.3) [120 (4.7) <5,000 min^{-1}>]		
Turret	Number of tool stations		12 [10] [16] [20]					
	Shank height for square tool	mm (in.)	25 (1)					
	Shank diameter for boring bar	mm (in.)	Max. 50 (2) [32 ($1^1/_4$) <double boring holder>]			Headstock 1: Max. 50 (2) [32 ($1^1/_4$) <double boring holder>] Headstock 2: Max. 32 ($1^1/_4$)		
	Tool shank diameter for rotary tool	mm (in.)	—	26 (1.0)		—	26 (1.0)	
	Turret indexing time	s	0.2 [0.25 <20-station turret head>]	0.25		0.2 [0.25 <20-station turret head>]	0.25	
	Max. rotary tool spindle speed	min^{-1}	—	6,000		—	6,000	
Feedrate	Rapid traverse rate	mm/min (ipm)	X, Z: 30,000 (1,181.1) Tailstock: 7,000 (275.6)	X, Z: 30,000 (1,181.1) Tailstock: 7,000 (275.6) C: 400 min^{-1}	X, Z: 30,000 (1,181.1) Y: 10,000 (393.7) Tailstock: 7,000 (275.6) C: 400 min^{-1}	X, Z, B: 30,000 (1,181.1)	X, Z, B: 30,000 (1,181.1) C: 400 min^{-1}	X, Z, B: 30,000 (1,181.1) Y: 10,000 (393.7) C: 400 min^{-1}
Tailstock	Tailstock travel	mm (in.)	564 (22.2)			—		
	Tailstock spindle diameter	mm (in.)	80 (3.1)			—		
	Taper hole of tailstock spindle		Live center <MT4> [Built-in center <MT3>]			—		
Motor	Spindle drive motor <50%ED/30 min/cont>	kW (HP)	15/15/11 (20/20/15) [18.5/18.5/18.5/15 (24.7/24.7/24.7/20) <25%ED/50%ED/30 min/cont>]			Headstock 1: 15/15/11 (20/20/15) [18.5/18.5/18.5/15 (24.7/24.7/24.7/20) <25%ED/50%ED/30 min/cont>] Headstock 2: 11/7.5 (15/10) <25%ED/cont>		
	Rotary tool spindle drive motor <3 min/5 min/cont>	kW (HP)	—	5.5/5.5/3.7 (7.5/7.5/5)		—	5.5/5.5/3.7 (7.5/7.5/5)	
	Feed motor	kW (HP)	X: 2.0 (2.7) Z: 3.5 (4.7)		X, Y: 2.0 (2.7) Z: 3.5 (4.7)	X, B: 2.0 (2.7) Z: 3.5 (4.7)		X, Y, B: 2.0 (2.7) Z: 3.5 (4.7)
Power sources	Electrical power supply <for the standard specifications>	kVA	20.3	24.0	31.3	31.3		35.7
	Compressed air supply	MPa (psi), L/min (gpm)	— (a compressed air supply may be needed, depending on options and peripheral equipment)			0.5 (72.5), 100 (26.4) <ANR>		
Tank capacity	Coolant tank capacity	L (gal.)	235 (62.0)					
Machine size	Machine height <from floor>	mm (in.)	2,120 (83.5)					
	Floor space <width×depth>	mm (in.)	2,695×1,922 (106.1×75.7)			2,695×2,000 (106.1×78.7)		
	Mass of machine	kg (lb.)	5,400 (11,880)	5,500 (12,100)	5,700 (12,540)	5,500 (12,100)	5,600 (12,320)	5,800 (12,760)

[ ] Option JIS: Japanese Industrial Standard

I94029A04

- Bar work capacity: depending on the chuck/cylinder used and its restrictions, it may not be possible to reach full bar work capacity.
- Max. spindle speed: depending on restrictions imposed by the workpiece clamping device, fixture and tool used, it may not be possible to rotate at the maximum spindle speed.
- ANR: ANR refers to a standard atmospheric state; i. e., temperature at 20 ℃ (68 ˚F), absolute pressure at 101.3 kPa (14.7 psi) and relative humidity at 65%.
- Power sources, machine size: the actual values may differ from those specified in the catalogue, depending on the optional features and peripheral equipment.

Machine specifications (NL2500/700)

Item			NL2500/700	NL2500MC/700	NL2500Y/700	NL2500S/700	NL2500SMC/700	NL2500SY/700
Capacity	Swing over bed	mm (in.)	923.8 (36.4) <interference with front cover 579.8 (22.8)>					
	Swing over cross slide	mm (in.)	755 (29.7)					
	Max. turning diameter	mm (in.)	356 (14.0)					
	Standard turning diameter	mm (in.)	275 (10.8)					
	Max. turning length	mm (in.)	705 (27.7)					
	Bar work capacity	mm (in.)	80 (3.1)					
Travel	X-axis travel	mm (in.)	260 (10.2)					
	Z-axis travel	mm (in.)	795 (31.3)					
	Y-axis travel	mm (in.)	—		100 <±50> (3.9 <±2.0>)	—		100 <±50> (3.9 <±2.0>)
	Headstock 2 travel <B-axis>	mm (in.)	—			734 (28.9)		
Spindle	Max. spindle speed	min^{-1}	4,000			Headstock 1: 4,000 Headstock 2: 6,000 [5,000]		
	Type of spindle nose		JIS A_2-8			Headstock 1: JIS A_2-8 Headstock 2: JIS A_2-5 [JIS A_2-6 <5,000 min^{-1}>]		
	Through-spindle hole diameter	mm (in.)	91 (3.6)			Headstock 1: 91 (3.6) Headstock 2: 43 (1.7) [73 (2.9) <5,000 min^{-1}>]		
	Min. spindle indexing angle		—	0.001°		—	0.001°	
	Spindle bearing inner diameter	mm (in.)	140 (5.5)			Headstock 1: 140 (5.5) Headstock 2: 85 (3.3) [120 (4.7) <5,000 min^{-1}>]		
Turret	Number of tool stations		12 [10]					
	Shank height for square tool	mm (in.)	25 (1)					
	Shank diameter for boring bar	mm (in.)	Max. 50 (2) [32 ($1^1/_4$) <double boring holder>]			Headstock 1: Max. 50 (2) [32 ($1^1/_4$) <double boring holder>] Headstock 2: Max. 32 ($1^1/_4$)		
	Tool shank diameter for rotary tool	mm (in.)	—	26 (1.0)		—	26 (1.0)	
	Turret indexing time	s	0.2	0.25		0.2	0.25	
	Max. rotary tool spindle speed	min^{-1}	—	6,000		—	6,000	
Feedrate	Rapid traverse rate	mm/min (ipm)	X, Z: 30,000 (1,181.1) Tailstock: 7,000 (275.6)	X, Z: 30,000 (1,181.1) Tailstock: 7,000 (275.6) C: 400 min^{-1}	X, Z: 30,000 (1,181.1) Y: 10,000 (393.7) Tailstock: 7,000 (275.6) C: 400 min^{-1}	X, Z, B: 30,000 (1,181.1)	X, Z, B: 30,000 (1,181.1) C: 400 min^{-1}	X, Z, B: 30,000 (1,181.1) Y: 10,000 (393.7) C: 400 min^{-1}
Tailstock	Tailstock travel	mm (in.)	734 (28.9)			—		
	Tailstock spindle diameter	mm (in.)	80 (3.1)			—		
	Taper hole of tailstock spindle		Live center <MT5> [Built-in center <MT3>] [Built-in center <MT4>]			—		
Motor	Spindle drive motor <25%ED/50%ED/cont>	kW (HP)	18.5/18.5/15 (24.7/24.7/20) [26/26/22 (34.7/34.7/30) <10 min/30 min/cont>]			Headstock 1: 18.5/18.5/15 (24.7/24.7/20) [26/26/22 (34.7/34.7/30) <10 min/30 min/cont>] Headstock 2: 11/7.5 (15/10) <25%ED/cont>		
	Rotary tool spindle drive motor <3 min/5 min/cont>	kW (HP)	—	5.5/5.5/3.7 (7.5/7.5/5)		—	5.5/5.5/3.7 (7.5/7.5/5)	
	Feed motor	kW (HP)	X, Z: 3.5 (4.7)		X, Z, Y: 3.5 (4.7)	X, Z: 3.5 (4.7) B: 2.0 (2.7)		X, Z, Y: 3.5 (4.7) B: 2.0 (2.7)
Power sources	Electrical power supply <for the standard specifications>	kVA	27.8	32.0	36.4	36.4		39.4
	Compressed air supply	MPa (psi), L/min (gpm)	— (a compressed air supply may be needed, depending on options and peripheral equipment)			0.5 (72.5), 100 (26.4) <ANR>		
Tank capacity	Coolant tank capacity	L (gal.)	246 (64.9)					
Machine size	Machine height <from floor>	mm (in.)	2,120 (83.5)					
	Floor space <width×depth>	mm (in.)	3,100×1,922 (122.0×75.7)			3,100×2,000 (122.0×78.7)		
	Mass of machine	kg (lb.)	5,800 (12,760)	5,900 (12,980)	6,100 (13,420)	5,900 (12,980)	6,000 (13,200)	6,200 (13,640)

[ ] Option JIS: Japanese Industrial Standard

I94030A04

- Bar work capacity: depending on the chuck/cylinder used and its restrictions, it may not be possible to reach full bar work capacity.
- Max. spindle speed: depending on restrictions imposed by the workpiece clamping device, fixture and tool used, it may not be possible to rotate at the maximum spindle speed.
- ANR: ANR refers to a standard atmospheric state; i. e., temperature at 20 ℃ (68 ˚F), absolute pressure at 101.3 kPa (14.7 psi) and relative humidity at 65%.
- Power sources, machine size: the actual values may differ from those specified in the catalogue, depending on the optional features and peripheral equipment.

Machine specifications (NL2500/1250)

Item			NL2500/1250	NL2500MC/1250	NL2500Y/1250	NL2500S/1250	NL2500SMC/1250	NL2500SY/1250
Capacity	Swing over bed	mm (in.)	923.8 (36.4) <interference with front cover 679.8 (26.8)>					
	Swing over cross slide	mm (in.)	755 (29.7)					
	Max. turning diameter	mm (in.)	356 (14.0)					
	Standard turning diameter	mm (in.)	275 (10.8)					
	Max. turning length	mm (in.)	1,298 (51.1)					
	Bar work capacity	mm (in.)	80 (3.1)					
Travel	X-axis travel	mm (in.)	260 (10.2)					
	Z-axis travel	mm (in.)	1,345 (53.0)					
	Y-axis travel	mm (in.)	—		100 <±50> (3.9 <±2.0>)	—		100 <±50> (3.9 <±2.0>)
	Headstock 2 travel <B-axis>	mm (in.)	—			1,284 (50.6)		
Spindle	Max. spindle speed	min^{-1}	4,000			Headstock 1: 4,000 Headstock 2: 6,000 [5,000]		
	Type of spindle nose		JIS A_2-8			Headstock 1: JIS A_2-8 Headstock 2: JIS A_2-5 [JIS A_2-6 <5,000 min^{-1}>]		
	Through-spindle hole diameter	mm (in.)	91 (3.6)			Headstock 1: 91 (3.6) Headstock 2: 43 (1.7) [73 (2.9) <5,000 min^{-1}>]		
	Min. spindle indexing angle		—	0.001°		—	0.001°	
	Spindle bearing inner diameter	mm (in.)	140 (5.5)			Headstock 1: 140 (5.5) Headstock 2: 85 (3.3) [120 (4.7) <5,000 min^{-1}>]		
Turret	Number of tool stations		12 [10]					
	Shank height for square tool	mm (in.)	25 (1)					
	Shank diameter for boring bar	mm (in.)	Max. 50 (2) [32 ($1^1/_4$) <double boring holder>]			Headstock 1: Max. 50 (2) [32 ($1^1/_4$) <double boring holder>] Headstock 2: Max. 32 ($1^1/_4$)		
	Tool shank diameter for rotary tool	mm (in.)	—	26 (1.0)		—	26 (1.0)	
	Turret indexing time	s	0.2	0.25		0.2	0.25	
	Max. rotary tool spindle speed	min^{-1}	—	6,000		—	6,000	
Feedrate	Rapid traverse rate	mm/min (ipm)	X, Z: 30,000 (1,181.1) Tailstock: 7,000 (275.6)	X, Z: 30,000 (1,181.1) Tailstock: 7,000 (275.6) C: 400 min^{-1}	X, Z: 30,000 (1,181.1) Y: 10,000 (393.7) Tailstock: 7,000 (275.6) C: 400 min^{-1}	X, Z: 30,000 (1,181.1) B: 20,000 (787.4)	X, Z: 30,000 (1,181.1) B: 20,000 (787.4) C: 400 min^{-1}	X, Z: 30,000 (1,181.1) B: 20,000 (787.4) Y: 10,000 (393.7) C: 400 min^{-1}
Tailstock	Tailstock travel	mm (in.)	1,284 (50.6)			—		
	Tailstock spindle diameter	mm (in.)	110 (4.3)			—		
	Taper hole of tailstock spindle		Live center <MT5> [Built-in center <MT4>]			—		
Motor	Spindle drive motor <25%ED/50%ED/cont>	kW (HP)	18.5/18.5/15 (24.7/24.7/20) [26/26/22 (34.7/34.7/30) <10 min/30 min/cont>]			Headstock 1: 18.5/18.5/15 (24.7/24.7/20) [26/26/22 (34.7/34.7/30) <10 min/30 min/cont>] Headstock 2: 11/7.5 (15/10) <25%ED/cont>		
	Rotary tool spindle drive motor <3 min/5 min/cont>	kW (HP)	—	5.5/5.5/3.7 (7.5/7.5/5)		—	5.5/5.5/3.7 (7.5/7.5/5)	
	Feed motor	kW (HP)	X, Z: 3.5 (4.7)		X, Z, Y: 3.5 (4.7)	X, Z: 3.5 (4.7) B: 2.0 (2.7)		X, Z: 3.5 (4.7) Y, B: 2.0 (2.7)
Power sources	Electrical power supply <for the standard specifications>	kVA	28.6	32.9	37.3	37.3		40.2
	Compressed air supply	MPa (psi), L/min (gpm)	— (a compressed air supply may be needed, depending on options and peripheral equipment)			0.5 (72.5), 100 (26.4) <ANR>		
Tank capacity	Coolant tank capacity	L (gal.)	345 (91.1)					
Machine size	Machine height <from floor>	mm (in.)	2,232 (87.9)					
	Floor space <width×depth>	mm (in.)	4,329×2,143 (170.4×84.4)					
	Mass of machine	kg (lb.)	7,200 (15,840)	7,300 (16,060)	7,500 (16,500)	7,300 (16,060)	7,400 (16,280)	7,600 (16,720)

[ ] Option JIS: Japanese Industrial Standard

I94030A04

- Bar work capacity: depending on the chuck/cylinder used and its restrictions, it may not be possible to reach full bar work capacity.
- Max. spindle speed: depending on restrictions imposed by the workpiece clamping device, fixture and tool used, it may not be possible to rotate at the maximum spindle speed.
- ANR: ANR refers to a standard atmospheric state; i. e., temperature at 20 ℃ (68 ˚F), absolute pressure at 101.3 kPa (14.7 psi) and relative humidity at 65%.
- Power sources, machine size: the actual values may differ from those specified in the catalogue, depending on the optional features and peripheral equipment.

Machine specifications (NL3000/700, NL3000/1250)

Item			NL3000/700	NL3000MC/700	NL3000Y/700	NL3000/1250	NL3000MC/1250	NL3000Y/1250
Capacity	Swing over bed	mm (in.)	995 (39.2) <interference with front cover 670 (26.4)>			995 (39.2) <interference with front cover 700 (27.6)>		
	Swing over cross slide	mm (in.)	825 (32.5)					
	Max. turning diameter	mm (in.)	420 (16.5)					
	Standard turning diameter	mm (in.)	310 (12.2)					
	Max. turning length	mm (in.)	713 (28.0)			1,260 (49.6)		
	Bar work capacity	mm (in.)	90 (3.5)					
Travel	X-axis travel	mm (in.)	280 (11.0) <210+70 (8.3+2.8)>					
	Z-axis travel	mm (in.)	820 (32.3)			1,370 (53.9)		
	Y-axis travel	mm (in.)	—		120 <±60> (4.7 <±2.4>)	—		120 <±60> (4.7 <±2.4>)
Spindle	Max. spindle speed	min^{-1}	3,000					
	Type of spindle nose		JIS A_2-8					
	Through-spindle hole diameter	mm (in.)	105 (4.1)					
	Min. spindle indexing angle		—	0.001°		—	0.001°	
	Spindle bearing inner diameter	mm (in.)	160 (6.3)					
Turret	Number of tool stations		10 [12]					
	Shank height for square tool	mm (in.)	25 (1)					
	Shank diameter for boring bar	mm (in.)	Max. 50 (2)					
	Tool shank diameter for rotary tool	mm (in.)	—	26 (1.0)		—	26 (1.0)	
	Turret indexing time	s	0.3					
	Max. rotary tool spindle speed	min^{-1}	—	6,000		—	6,000	
Feedrate	Rapid traverse rate	mm/min (ipm)	X, Z: 30,000 (1,181.1) Tailstock: 7,000 (275.6)	X, Z: 30,000 (1,181.1) Tailstock: 7,000 (275.6) C: 300 min^{-1}	X, Z: 30,000 (1,181.1) Y: 10,000 (393.7) Tailstock: 7,000 (275.6) C: 300 min^{-1}	X, Z: 30,000 (1,181.1) Tailstock: 7,000 (275.6)	X, Z: 30,000 (1,181.1) Tailstock: 7,000 (275.6) C: 300 min^{-1}	X, Z: 30,000 (1,181.1) Y: 10,000 (393.7) Tailstock: 7,000 (275.6) C: 300 min^{-1}
Tailstock	Tailstock travel	mm (in.)	734 (28.9)			1,284 (50.6)		
	Tailstock spindle diameter	mm (in.)	110 (4.3)					
	Taper hole of tailstock spindle		Live center <MT5> [Built-in center <MT4>]					
Motor	Spindle drive motor <30 min/cont>	kW (HP)	22/18.5 (30/24.7) [30/25 (40/33.3)]					
	Rotary tool spindle drive motor <3 min/5 min/cont>	kW (HP)	—	5.5/5.5/3.7 (7.5/7.5/5)		—	5.5/5.5/3.7 (7.5/7.5/5)	
	Feed motor	kW (HP)	X, Z: 3.5 (4.7)		X, Z, Y: 3.5 (4.7)	X, Z: 3.5 (4.7)		X, Z, Y: 3.5 (4.7)
Power sources	Electrical power supply <for the standard specifications>	kVA	33.1	38.7	40.3	33.1	38.7	40.3
	Compressed air supply	MPa (psi), L/min (gpm)	— (a compressed air supply may be needed, depending on options and peripheral equipment)					
Tank capacity	Coolant tank capacity	L (gal.)	300 (79.2)			370 (97.7)		
Machine size	Machine height <from floor>	mm (in.)	2,270 (89.4)			2,390 (94.1)		
	Floor space <width×depth>	mm (in.)	3,410×2,089 (134.3×82.2)			4,522×2,291 (178.0×90.2)		
	Mass of machine	kg (lb.)	6,000 (13,200)		6,500 (14,300)	7,600 (16,720)		8,100 (17,820)

[ ] Option JIS: Japanese Industrial Standard

I94031A04

- Bar work capacity: depending on the chuck/cylinder used and its restrictions, it may not be possible to reach full bar work capacity.
- Max. spindle speed: depending on restrictions imposed by the workpiece clamping device, fixture and tool used, it may not be possible to rotate at the maximum spindle speed.
- Power sources, machine size: the actual values may differ from those specified in the catalogue, depending on the optional features and peripheral equipment.

Machine specifications (NL3000/2000, NL3000/3000)

Item			NL3000/2000	NL3000MC/2000	NL3000Y/2000	NL3000/3000	NL3000MC/3000	NL3000Y/3000
Capacity	Swing over bed	mm (in.)	995 (39.2) <interference with front cover 963 (37.9)>					
	Swing over cross slide	mm (in.)	825 (32.5)					
	Max. turning diameter	mm (in.)	420 (16.5)					
	Standard turning diameter	mm (in.)	310 (12.2)					
	Max. turning length	mm (in.)	2,123 (83.5)			3,123 (122.9)		
	Bar work capacity	mm (in.)	90 (3.5)					
Travel	X-axis travel	mm (in.)	280 (11.0) <210+70 (8.3+2.8)>					
	Z-axis travel	mm (in.)	2,170 (85.4)			3,170 (124.8)		
	Y-axis travel	mm (in.)	—		120 <±60> (4.7 <±2.4>)	—		120 <±60> (4.7 <±2.4>)
Spindle	Max. spindle speed	min^{-1}	3,000					
	Type of spindle nose		JIS A_2-8					
	Through-spindle hole diameter	mm (in.)	105 (4.1)					
	Min. spindle indexing angle		—	0.001°		—	0.001°	
	Spindle bearing inner diameter	mm (in.)	160 (6.3)					
Turret	Number of tool stations		10 [12]					
	Shank height for square tool	mm (in.)	25 (1)					
	Shank diameter for boring bar	mm (in.)	50 (2)					
	Turret indexing time	s	0.3					
	Max. rotary tool spindle speed	min^{-1}	—	6,000		—	6,000	
Feedrate	Rapid traverse rate	mm/min (ipm)	X, Z: 30,000 (1,181.1)	X, Z: 30,000 (1,181.1) C: 300 min^{-1}	X, Z: 30,000 (1,181.1) Y: 10,000 (393.7) C: 300 min^{-1}	X, Z: 30,000 (1,181.1)	X, Z: 30,000 (1,181.1) C: 300 min^{-1}	X, Z: 30,000 (1,181.1) Y: 10,000 (393.7) C: 300 min^{-1}
Tailstock	Tailstock travel	mm (in.)	2,164 (85.2)			3,164 (124.6)		
	Tailstock spindle diameter	mm (in.)	150 (5.9)					
	Tailstock spindle travel	mm (in.)	150 (5.9)					
	Taper hole of tailstock spindle		Built-in center <MT5>					
Motor	Spindle drive motor <30 min/cont>	kW (HP)	22/18.5 (30/24.7) [30/25 (40/33.3)]					
	Rotary tool spindle drive motor <5 min/cont>	kW (HP)	—	5.5/3.7 (7.5/5)		—	5.5/3.7 (7.5/5)	
	Feed motor	kW (HP)	X: 3.5 (4.7) Z: 7.0 (9.3)		X, Y: 3.5 (4.7) Z: 7.0 (9.3)	X: 3.5 (4.7) Z: 7.0 (9.3)		X, Y: 3.5 (4.7) Z: 7.0 (9.3)
Power sources	Electrical power supply <for the standard specifications>	kVA	35.3	40.9	42.4	35.3	40.9	42.4
	Compressed air supply	MPa (psi), L/min (gpm)	— (a compressed air supply may be needed, depending on options and peripheral equipment)					
Tank capacity	Coolant tank capacity	L (gal.)	470 (124.1)			540 (142.6)		
Machine size	Machine height <from floor>	mm (in.)	2,390 (94.1)					
	Floor space <width×depth> (including chip conveyor)	mm (in.)	7,080×2,587 (278.7×101.9) <depth includes operation panel>			8,147×2,587 (320.7×101.9) <depth includes operation panel>		
	Mass of machine	kg (lb.)	11,500 (25,300)		12,000 (26,400)	13,500 (29,700)		14,000 (30,800)

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I94031A04

- Bar work capacity: depending on the chuck/cylinder used and its restrictions, it may not be possible to reach full bar work capacity.
- Max. spindle speed: depending on restrictions imposed by the workpiece clamping device, fixture and tool used, it may not be possible to rotate at the maximum spindle speed.
- Power sources, machine size: the actual values may differ from those specified in the catalogue, depending on the optional features and peripheral equipment.