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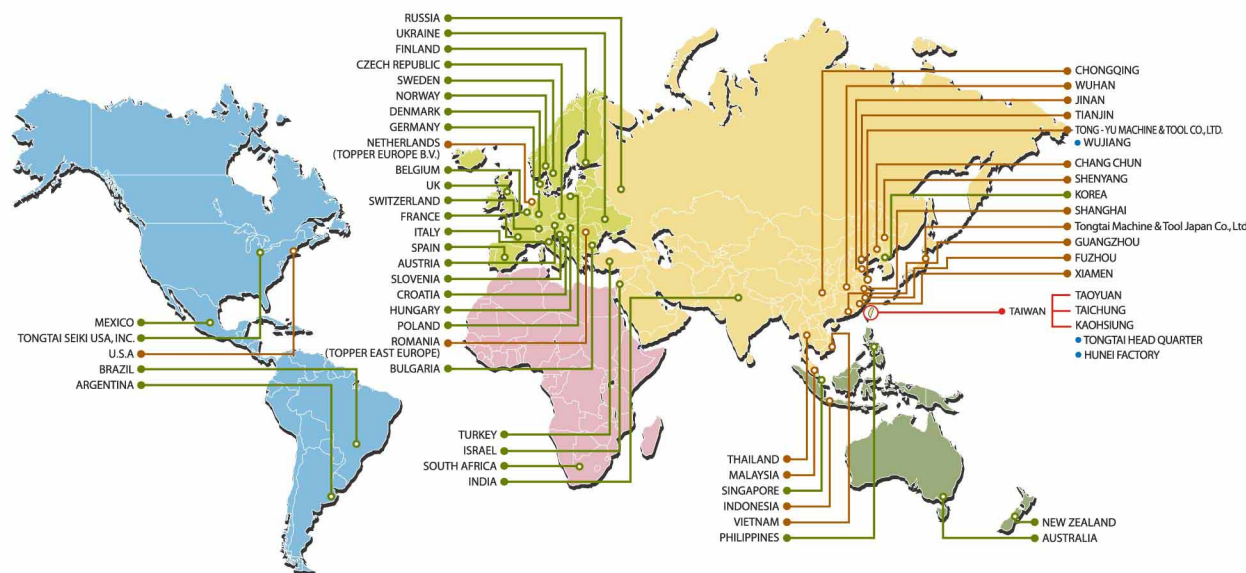
CNC Lathe TNL-100T/H Series

High ■Quality ■Precision ■Efficiency ■Economy



Global Sales & Service Network

★ Head Office ● Branch ● Foreign Agency ● Factory



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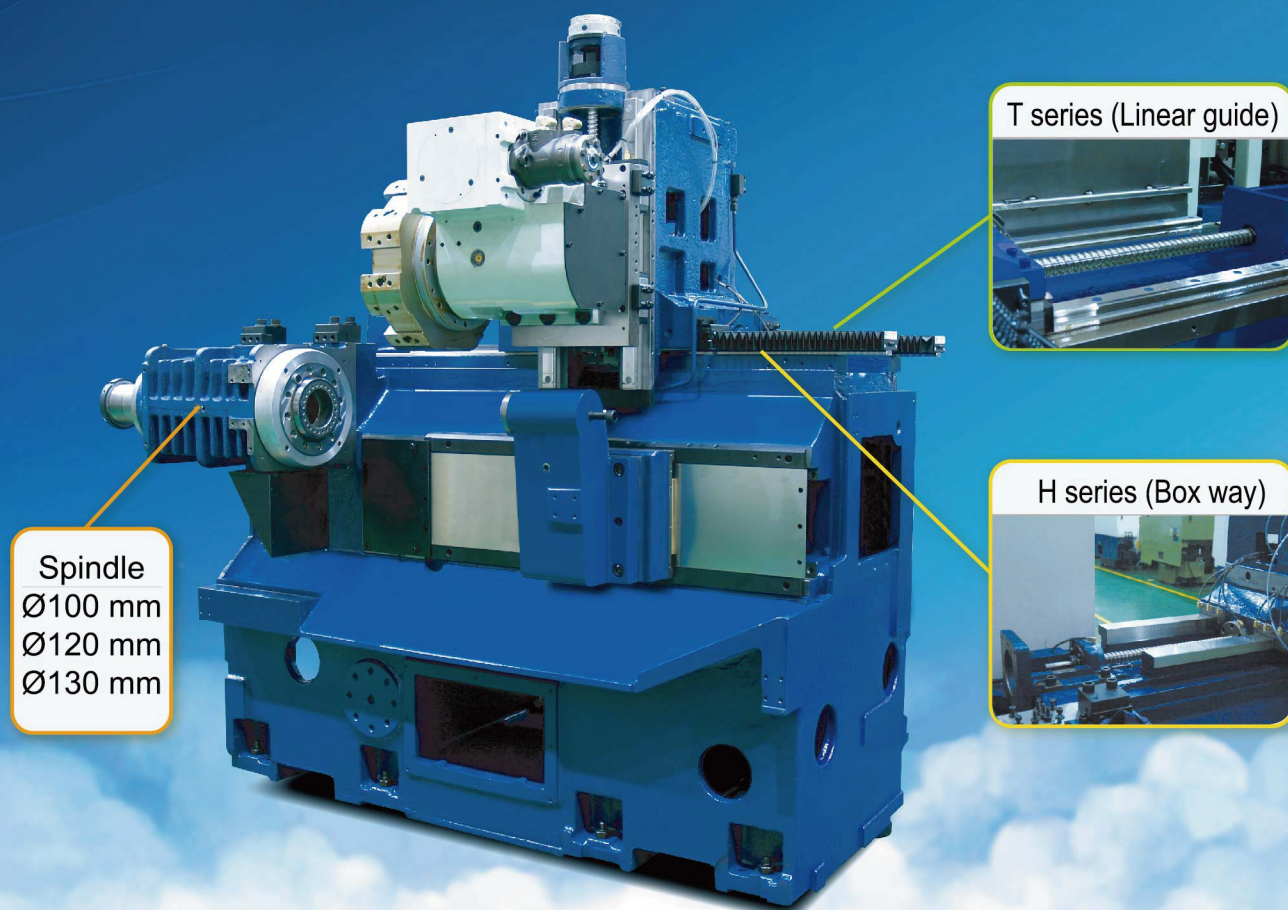
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High precision & multi-productivity CNC Lathe TNL-100T/H Series



Spindle
Ø100 mm
Ø120 mm
Ø130 mm

One-piece bed

Lathe bed is cast as one piece for high rigidity.

High precision spindle

High precision bearing with lowest vibration and noise.

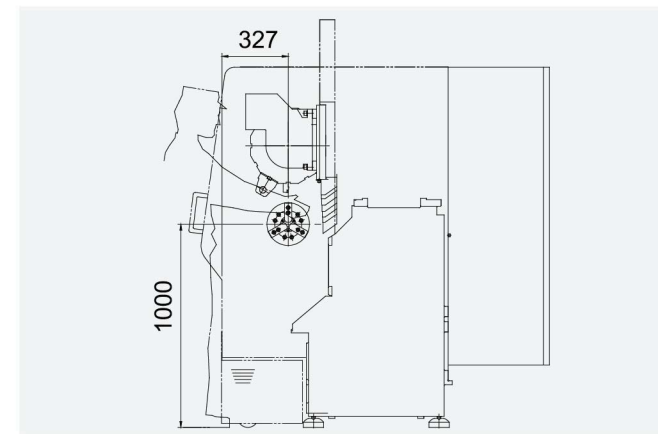
High speed turret

High precision hyd. Indexing turret, adjacent tool change time 0.35 seconds.

Fast rapid

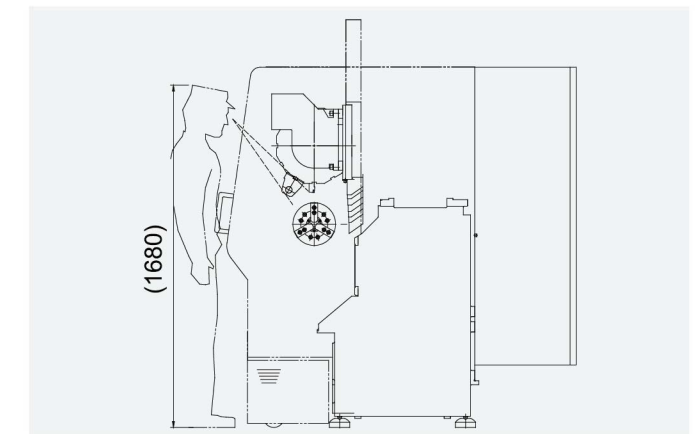
Linear guide X/Z Axis 24/30 m/min(945×1181 ipm).
Box way X/Z Axis 20/24 m/min(787×945 ipm).

Machine features



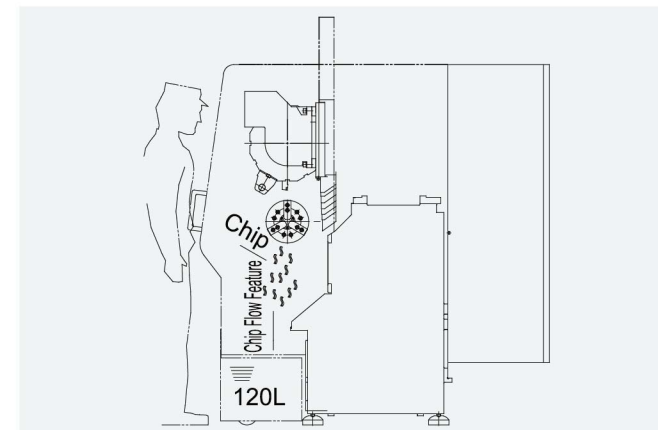
User friendly

- Perfect height - 1000 mm for part loading, Spindle center only 327 mm from operator.



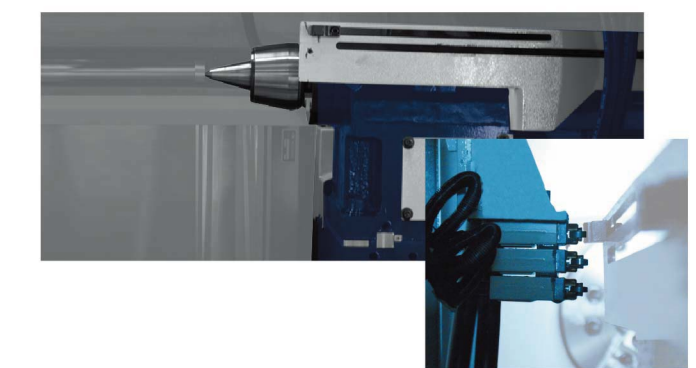
Operational advantage

- Vertical turret structure for easy tool adjustment.
- Easy monitoring the cutting condition.



Vertical design for saddle

- Vertical design saddle for X Axis, high rigidity and perfect for heavy turning
- Excellent design for chip flow.
- Rectangle design for best precision control.



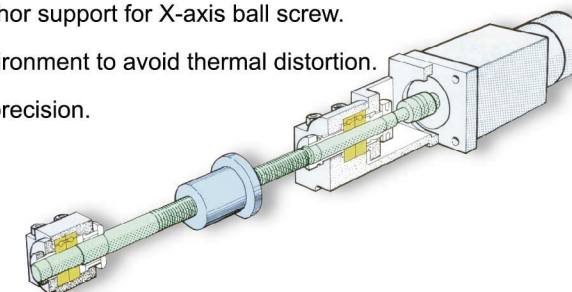
Programmable tail stock

- Using high rigidity linear guide and HYD. Operation (OPT. Servo) gives excellent positioning.
- Three limit switches control forward and backward speed to engage and disengage.

Driven mechanism for X/Z Axis

Pre-loaded big dia. Precision ball screw to prevent heat distortion.

- Direct coupling driven to avoid tolerance accumulation.
- Double anchor support for X-axis ball screw.
- Perfect environment to avoid thermal distortion.
- Repetitive precision.



● Thermal distortion diagram of ball screw

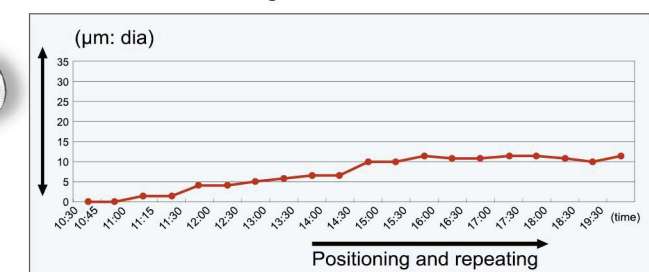


Diagram of spindle output(100T/100TL/100H/100HL)

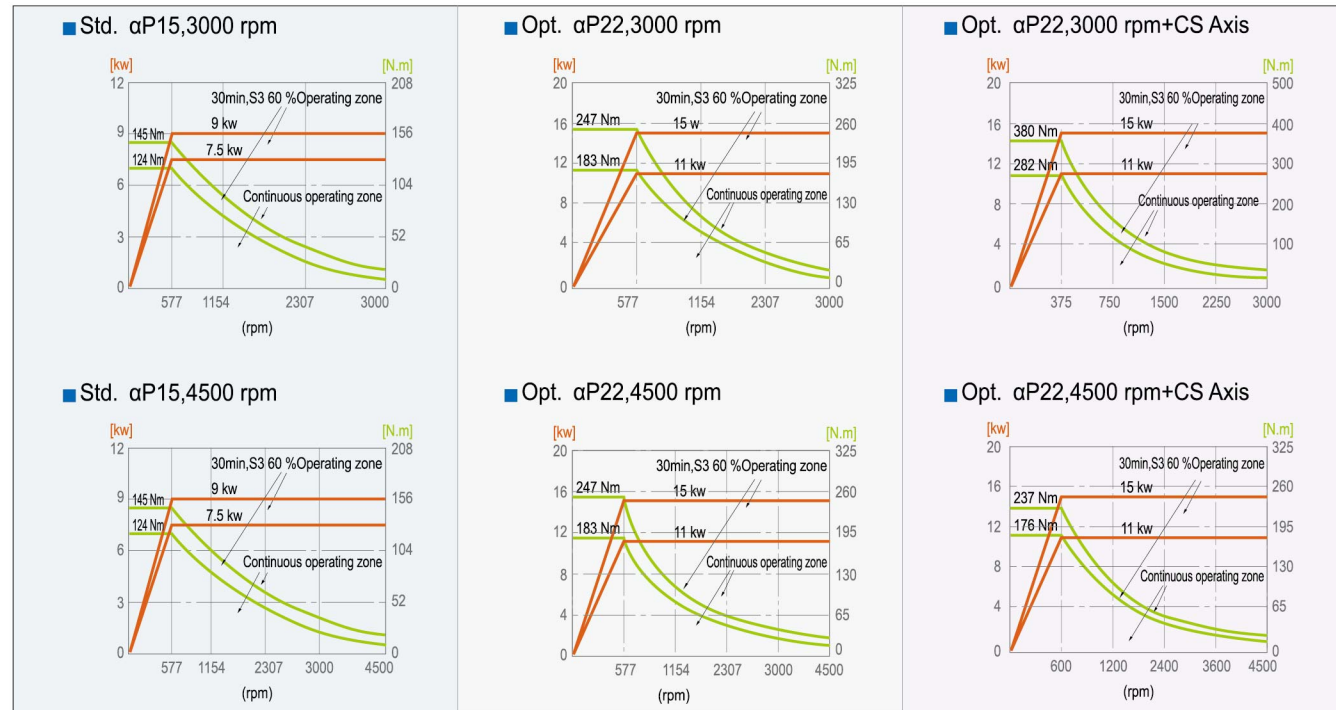


Diagram of spindle output(120T/120TL/120H/120HL/130T/130TL/130H/130HL)

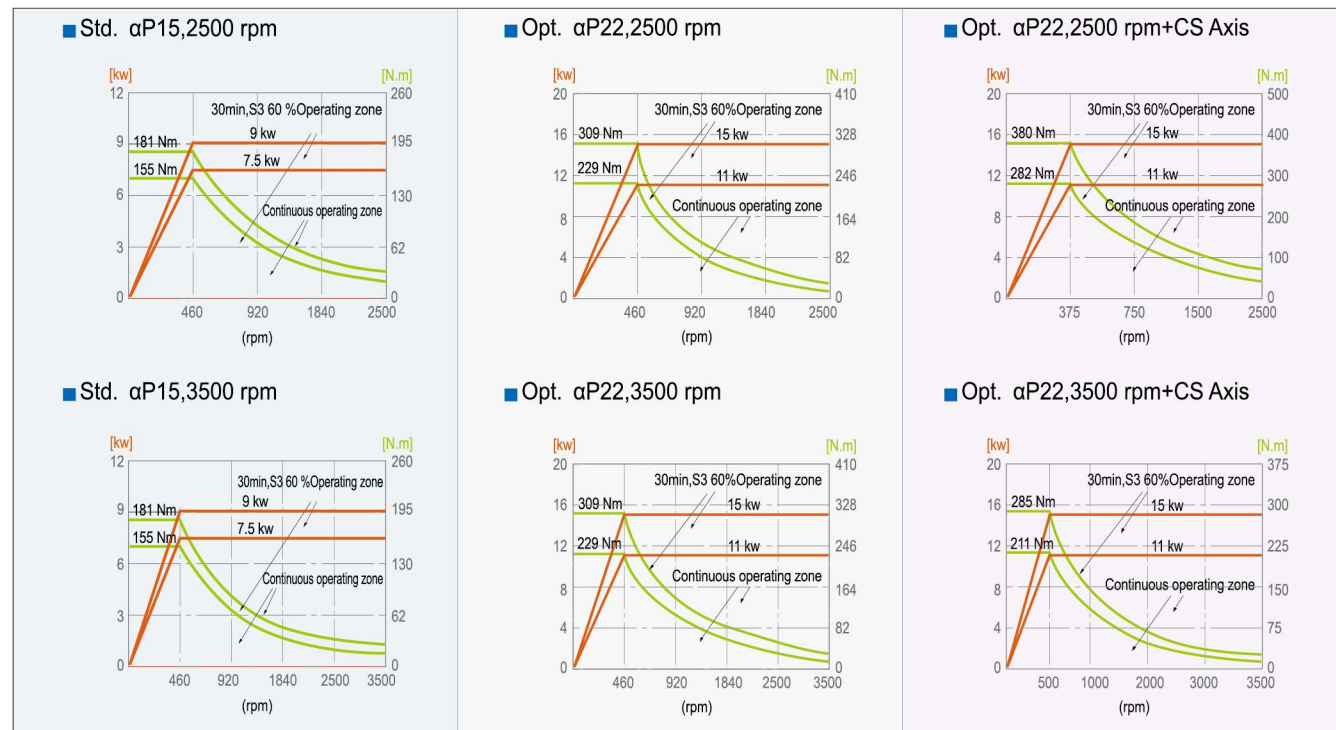
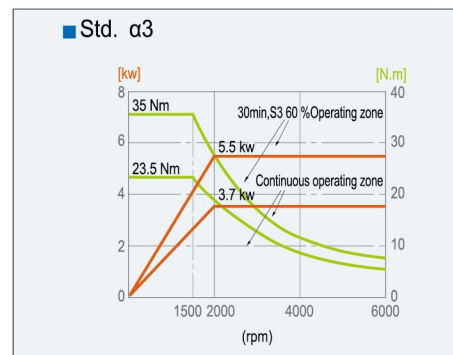


Diagram of sub-spindle output(Opt.)

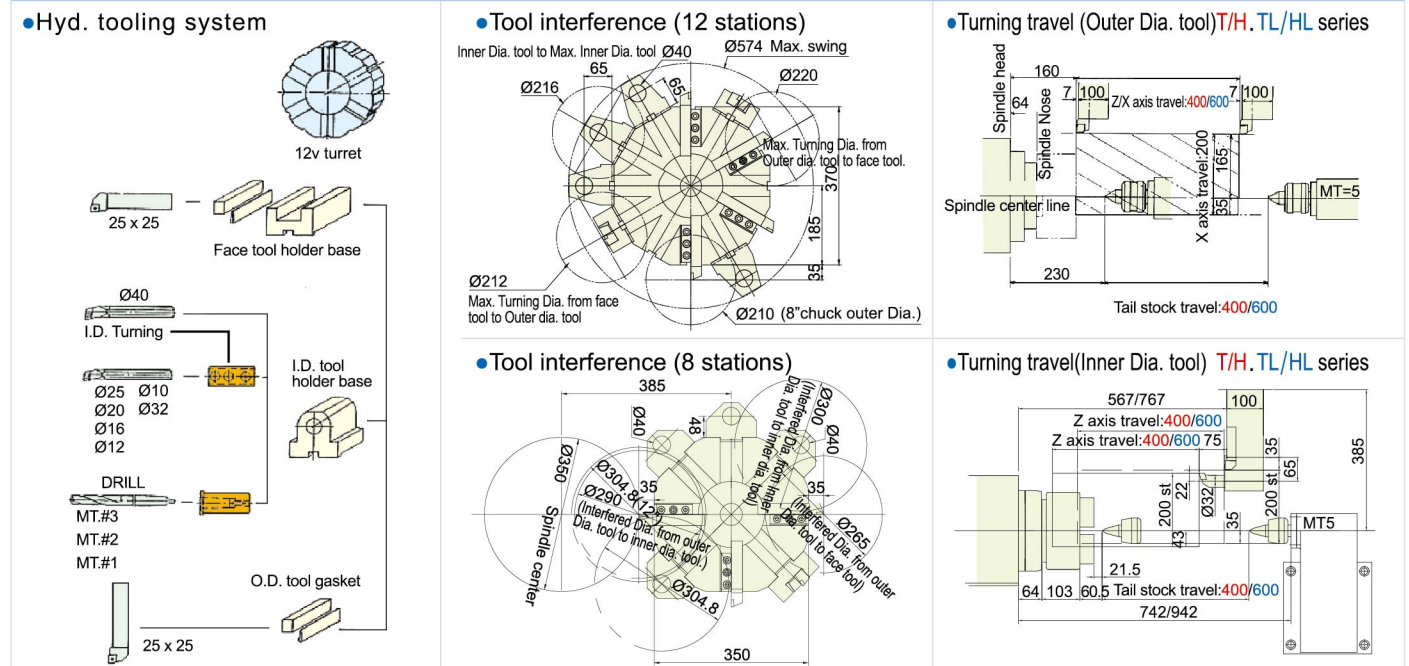


TNL-100T Cutting ability (S45C)

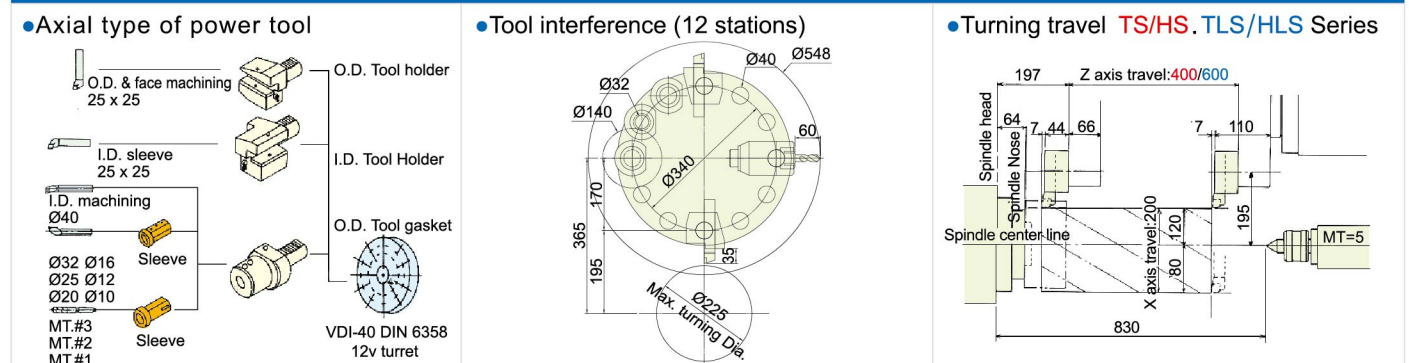
● Outer Dia. turning	(mm x mm / rev)	3 x 0.45
● Inner Dia. turning	(mm x mm / rev)	2 x 0.6
● Face turning	(mm x mm / rev)	3 x 0.45
● Outer Dia. Grooving	(mm x mm / rev)	8 x 0.1
● Inner Dia. Grooving	(mm x mm / rev)	6 x 0.1
● Center drilling	(mm x mm / rev)	Ø 32 x 0.2
● Spindle output	kw	9 / 7.5
● Highest rpm	rpm	4500

© Outer dia. turning spindle load 95%, Inner dia. turning spindle load 109%, Face turning spindle load 92%

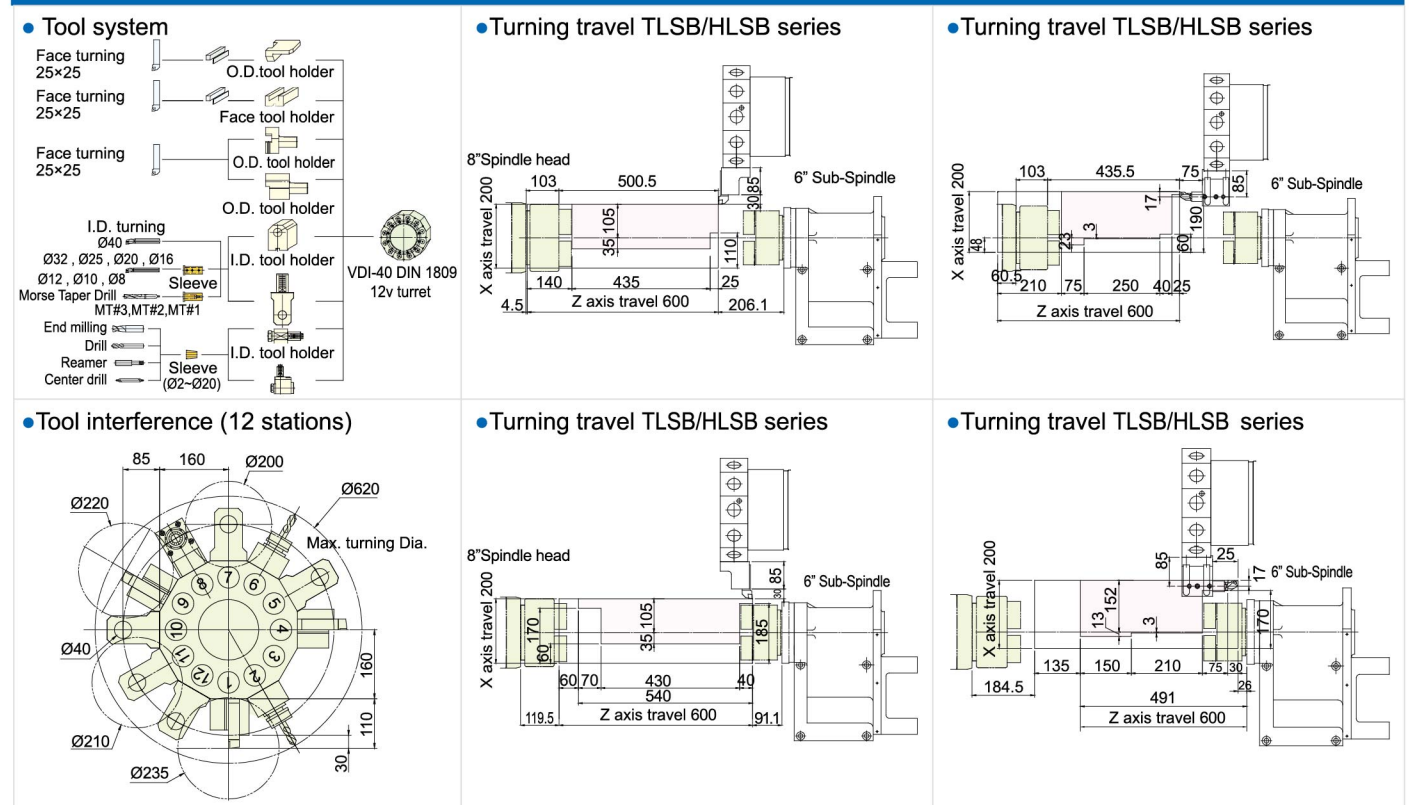
Tooling system/Tool interference/Working area



Axial power tooling (disc type)



Radial long neck power tooling with sub-spindle

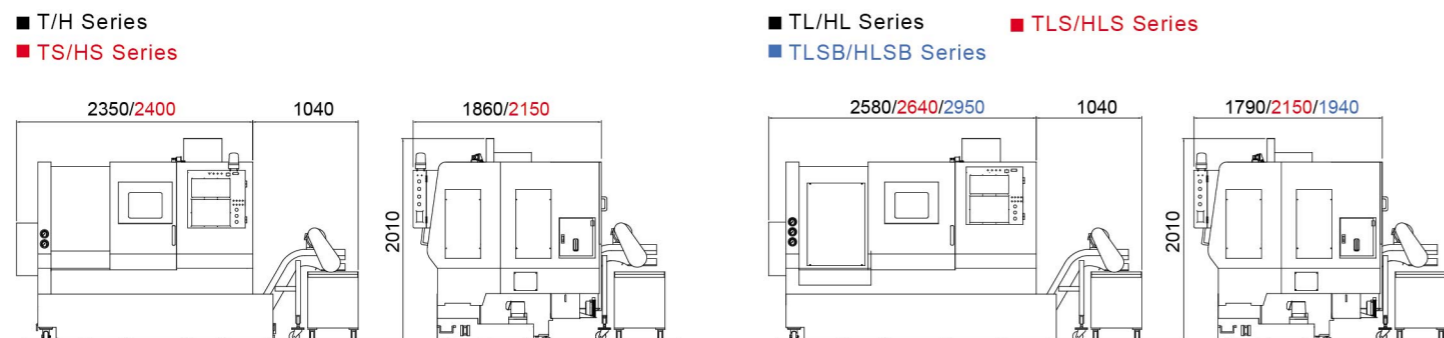


Standard Specifications

Item	Specification	Unit	TNL-100T	TNL-100TS	TNL-100TL	TNL-100TLS	TNL-100TLSB	TNL-120T	TNL-120TS	TNL-120TL	TNL-120TLS	TNL-120TLSB	TNL-130T	TNL-130TS	TNL-130TL	TNL-130TLS	TNL-130TLSB						
			TNL-100H	TNL-100HS	TNL-100HL	TNL-100HLS	TNL-100HLSB	TNL-120H	TNL-120HS	TNL-120HL	TNL-120HLS	TNL-120HLSB	TNL-130H	TNL-130HS	TNL-130HL	TNL-130HLS	TNL-130HLSB						
Turning capacity	Max. swing diameter	mm	Ø 400						Ø 400						Ø 400								
	Max. swing over saddle	mm	Ø 310						Ø 310						Ø 310								
	Max. turning diameter	mm	Ø 320	Ø 220	Ø 320	Ø 220	Ø 210	Ø 320	Ø 220	Ø 320	Ø 220	Ø 210	Ø 320	Ø 220	Ø 320	Ø 220	Ø 210						
	Max. turning length	mm	400			600			400			600			400			600					
	Bar capacity	mm	Ø 51						Ø 63						Ø 75								
Spindle	Spindle speed	rpm	3000(Opt. 4500)						2500(Opt. 3500)						2500(Opt. 3500)								
	Spindle nose		A2-6						A2-8						A2-8								
	Chuck size	inch	8"(Opt. 10")						10"(Opt. 12")						10"(Opt. 12")								
	Through-spindle hole diameter	mm	Ø 62						Ø 76						Ø 86								
	Spindle bearing diameter	mm	Ø 100						Ø 120						Ø 130								
	High from floor to spindle center	mm	1000						1000						1000								
	Cs-axis positioning (Opt.)	deg	-	0.001°	-	0.001°			-	0.001°	-	0.001°			-	0.001°	-	0.001°					
Sub-spindle	Spindle speed	rpm	-						6000						-								
	Spindle nose		-						Ø 65						-								
	Through-spindle hole diameter	mm	-						Ø 35						-								
	Chuck size	inch	-						6"						-								
	Cs-axis positioning (Opt.)	deg	-						5°(0.001°)						-								
Turret	No. of tool stations		12(Opt.8)	-	12(Opt. 8)	-			12(Opt. 8)	-	12(Opt. 8)	-			12(Opt. 8)	-	12(Opt. 8)	-					
	O.D. tool holder	mm	25×25	-	25×25	-			25×25	-	25×25	-			25×25	-	25×25	-					
	I.D. tool holder	mm	Ø 40	-	Ø 40	-			Ø 40	-	Ø 40	-			Ø 40	-	Ø 40	-					
	Drive system		Hydraulic	-	Hydraulic	-			Hydraulic	-	Hydraulic	-			Hydraulic	-	Hydraulic	-					
Power turret	Tool type		-	VDI 40(BMT)	-	VDI 40(BMT)			-	VDI 40(BMT)	-	VDI 40(BMT)			-	VDI 40(BMT)	-	VDI 40(BMT)					
	No. of tool stations	pc	-	12	-	12			-	12	-	12			-	12	-	12					
	O.D. tool holder	mm	-	25×25	-	25×25			-	25×25	-	25×25			-	25×25	-	25×25					
	I.D. tool holder	mm	-	Ø 40	-	Ø 40			-	Ø 40	-	Ø 40			-	Ø 40	-	Ø 40					
	Spindle speed	rpm	-	5000	-	5000			-	5000	-	5000			-	5000	-	5000					
	Motor	kw	-	3.7	-	3.7			-	3.7	-	3.7			-	3.7	-	3.7					
	Drive system		-	Servo	-	Servo			-	Servo	-	Servo			-	Servo	-	Servo					
Travel	X/Z/B axis stroke	mm	200/400/-			200/600/-			200/600/600			200/400/-			200/600/-			200/600/600					
	X/Z/B axis rapid traverse	m/min	20/30/-			24/30/15			20/30/-			24/30/15			20/30/-			24/30/15					
	X/Z/B cutting feedrate	mm/rev	20/24/-(H)			20/24/15(H)			20/24/-(H)			20/24/15(H)			20/24/-(H)			20/24/15(H)					
Tailstock	Tailstock travel	mm	400			600			400			0.001-500			400			600					
	Tailstock taper		MT5						-						MT5								
	Driving method		Hydraulic						Hydraulic						Hydraulic								
Motor	Spindle motor	kw	9/7.5 Opt. (15/11)																				
	Sub-spindle motor	kw	-						5.5/3.7			-			5.5/3.7			-			5.5/3.7		
	X/Z axis servo motor	kw	3.0/3.0						-						3.0/3.0			-					
	B axis servo motor	kw	-						1.6			-						1.6			-		
	Hydraulic motor	kw	1.5						-						1.5			-					
	Coolant motor	kw	0.37						-						0.37			-					
Machine size	L x W x H	mm	2350×1860×2010	2400×2150×2010	2580×1790×2010	2640×2150×2010	2950×1940×2010	2350×1860×2010	2400×2150×2010	2580×1790×2010	2640×2150×2010	2950×1940×2010	2350×1860×2010	2400×2150×2010	2580×1790×2010	2640×2150×2010	2950×1940×2010						
	Weight	kg	4300	4500	4700	4900	5100	4300	4500	4700	4900	5100	4300	4500	4700	4900	5100						

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Machine Dimensions



Std. equipment

- Coolant unit
- Hyd. unit
- Hyd. turret 8/12
- Hyd. chuck
- Hyd. cylinder
- Tailstock & center
- Chip conveyor & trolley(front)
- Door interlock
- Spindle load meter
- Single color lamp
- Spindle single point orientation
- Spindle inching
- Work piece counter
- Work light

Opt. equipment

- Power turret
- Spindle multi-point orientation.
- Rigid tapping
- Transformer
- Stabilizer
- Position device inside of spindle
- Tool pre-setter
- Bar feeder interface
- Customer self-programming
- Tri-color lamp
- Tool-life management
- Sub operation box
- Part catcher
- Z axis torque clutch
- Oil mist collector
- Working lamp
- Spindle system: 5° positioning/ Cs axis/Rigid tapping/ Multi-angular turning
- Conversation/diagram display function(10.4 LCD)
- Bar feeder
- Electric cabinet with A/C
- M code(8 sets)
- Auto power off
- High/low pressure for chuck
- Chip conveyor & trolley(rear)
- Air blow