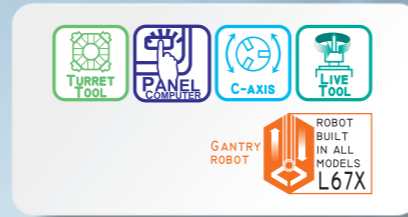


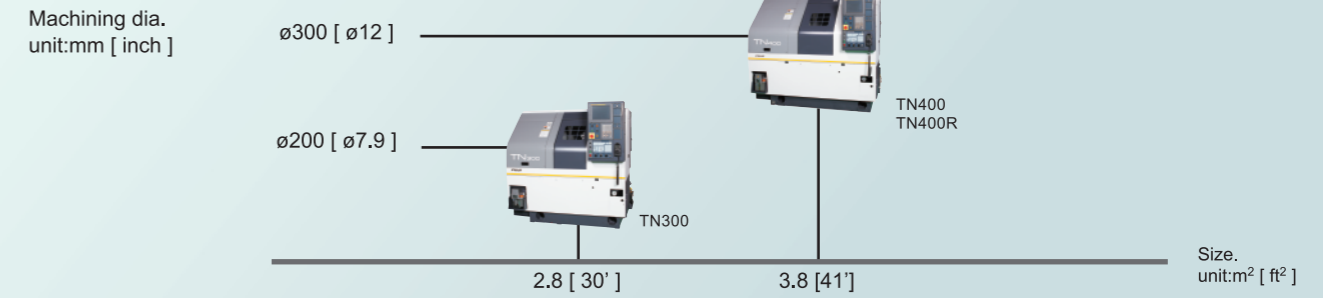
TN SERIES

Modular machine with 1 Spindle, 1 Turret and Gantry Robot

Built-in L67X gantry robot completely handles the raw part transfer, loading, unloading and finish part output. Live tools available.



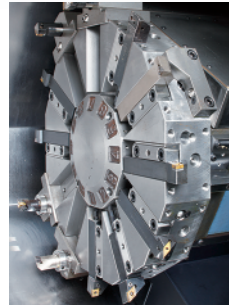
TN series line up



System Layout



High speed indexing turret



Cam type turret by servo motor for high speed indexing to reduce cycle time.

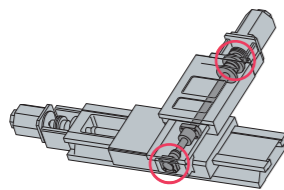
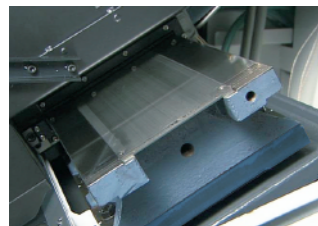
	Number of tool stations	Index time
TN300	10	0.25
TN400	12	0.20

The above-mentioned data is actual values but not a performance guarantee.

Rigid construction based on CAE analysis.

A highly rigid large diameter spindle and slide with box ways are mounted onto a very tough box-shaped cast bed with superior damping characteristics. This machine structure makes heavy cutting with high feeds possible.

High rigidity slide

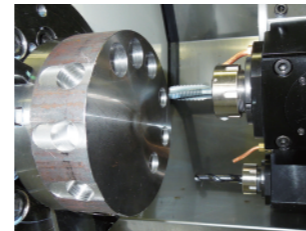


Box way slide with long term history and high reliability. Improved the bearing rigidity up to 140% as compared with old models by changing the constitution of support bearings for X-axis from 2 rows to 3 rows. More stable machining for a long term and heavy duty cutting is possible.

Turret

TN400R

The 12-position turret can accommodate live tool with C-axis control.



Spindle speed : Max.4000 min-1
 Spindle motor : 4.5 kw [6.0 hp]
 Collet size : AR32
 Max. clamping tool dia. : 20 mm [0.8 inch]

Tailstock

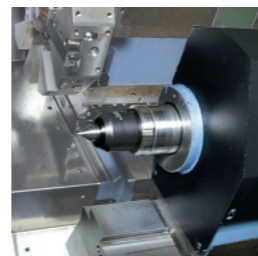
Shaft works are available with tailstock.

TN300

Body position	155mm
Quill stroke	180 or 230mm
Center type	Live Center MT.4

TN400/TN400R

Body position	290mm
Quill stroke	180 or 230mm
Center type	Live Center MT.5



Specifications for TN300/TN400/TN400R

Machine Specifications

		TN300	TN400 - TN400R
Recommended work size	mm [inch]	ø200 x 80 [ø7.9 x 3.1]	ø300 x 120 [ø11.8 x 4.7]
Spindle dia	mm [inch]	ø100 [ø3.9]	ø120 [ø4.7]
Spindle nose		A2-6	A2-8
Spindle bore	mm [inch]	ø56 [ø2.2]	ø67 [ø2.6]
Spindle speed	min-1	Max. 4000	Max. 2220
Spindle motor	kw [hp]	7.5 / 11 [10 / 15]	15 / 18.5 [20 / 25]
Number of tool stations		10	12
Turret index time	sec	0.25	0.2
Turret mechanism		Cam	Cam
Live tool rotary speed	min-1	-	4000 ※
Live tool output	kw [hp]	-	4.5 [6.0] ※
Live tool holder size	mm	-	Max.ø16 ※
Chuck size	inch	8~10	10~12
CNC control		FANUC 0i-TD	FANUC 0i-TD
Slide stroke	X-axis mm [inch]	205 [8.1]	265 [10.4]
	Z-axis mm [inch]	385 [15.2]	465 [18.3]
Feed motor	X-axis kw [hp]	1.2 [1.6]	1.8 [2.4]
	Z-axis kw [hp]	1.2 [1.6]	1.8 [2.4]

Robot Specification

	L672H	L673H	L672B
Robot	L672H	L673H	L672B
Carrying capacity	5 + 5 [11 + 11]	5 + 5 [11 + 11]	10 + 10 [22 + 22]
Robot controller	MAX SP1	MAX SP1	MAX SP1

Machine Size

		1600 x 1766 [5'3" x 5'10"]	1900 x 2001 [6'3" x 6'7"]
Footprint	mm x mm [feet, inch x feet, inch]	1600 x 1766 [5'3" x 5'10"]	1900 x 2001 [6'3" x 6'7"]
Machine height	mm [feet, inch]	1699 [5'7"]	1827 [6'0"]
Machine height [with Robot]	mm [feet, inch]	2578 [8'5.4"]	2673 [8'9"]
Machine weight	kg [lb.]	2500 [5500]	3500 [7700]
Machine weight [with Robot]	kg [lb.]	3000 [6600]	4000 [8800]

※ TN400R