

Standard type

# TN

## TN-101·131·161·201·320·450



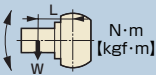

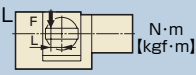
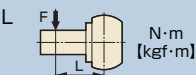

Compact tables for speedy and powerful five-axis machining. TN-101 and TN-131 are the most suitable models for drilling and tapping machines.



TN-101

### Specifications

Unit : mm

		TN-101		TN-131		TN-161		TN-201		TN-320		TN-450	
Tilt range		-17°~+107°		-17°~+107°		-30°~+110°		-30°~+110°		-30°~+110°		-10°~+95°	
Spindle diameter		φ86h7		φ90h7		φ100h7		φ120h7		—		—	
Table diameter *1		φ135 (Option)		φ135 (Option)		φ160 or 200 (Option)		φ200 or 250 (Option)		φ320		φ450	
Table height at 0° position		180 (205 With face plate)		210 (235 With face plate)		235 (260 With face plate)		270 (300 With face plate)		355		425	
Center height at 90° position		135		150		180		210		255		425	
Center bore	Nose diameter	φ55H7 (φ40H7 With face plate)		φ55H7 (φ40H7 With face plate)		φ55H7 (φ50H7 With face plate)		φ65H7 (φ60H7 With face plate)		φ105H7		φ170H7	
	Through-bore	φ35		φ35		φ40		φ45		φ102		φ136	
Table T-slot width *1		12H8 (With face plate)		12H8 (With face plate)		12H8 (With face plate)		12H8 (With face plate)		14H7		14H7	
Guide block width		14h7		14h7		18h7		18h7		18h7		18h7	
Servo motors (for FUNAC)	Rotary axis												
	Tilt axis												
		αIF2	αIF2	αIF2	αIF2	αIF2	αIF2	αIF4	αIF4	αIF8	αIF8	αIF22	αIF22
Inertia converted into motor shaft	$\times 10^{-3} \text{kg} \cdot \text{m}^2$ $[\times 10^{-3} \text{kgf} \cdot \text{cm} \cdot \text{sec}^2]$	0.072 [0.73]	0.078 [0.79]	0.074 [0.75]	0.072 [0.73]	0.17 [1.68]	0.18 [1.81]	0.38 [3.96]	0.45 [4.61]	0.82 [8.34]	0.45 [4.61]	5.34 [54.5]	3.00 [30.6]
Speed reduction ratio		1/60	1/120	1/60	1/120	1/72	1/120	1/45	1/90	1/120	1/240	1/90	1/180
Table max. rpm	$\text{min}^{-1}$ (Motor rpm: 2,000 $\text{min}^{-1}$ )	41.6 (Motor rpm: 2,500 $\text{min}^{-1}$ )	16.6	41.6 (Motor rpm: 2,500 $\text{min}^{-1}$ )	16.6	27.7	16.6	44.4	22.2	16.6	8.3	22.2	11.1
Clamp system													
	Supplied pressure	Pneumatic 0.49MPa [5kgf/cm <sup>2</sup> ]	Pneumatic 0.49MPa [5kgf/cm <sup>2</sup> ]	Pneumatic 0.49MPa [5kgf/cm <sup>2</sup> ]	Pneumatic 0.49MPa [5kgf/cm <sup>2</sup> ]	Pneumatic 0.49MPa [5kgf/cm <sup>2</sup> ]	Pneumatic 0.49MPa [5kgf/cm <sup>2</sup> ]	Pneumatic 0.49MPa [5kgf/cm <sup>2</sup> ]	Pneumatic 0.49MPa [5kgf/cm <sup>2</sup> ]	Hydraulic 3.5MPa [35kgf/cm <sup>2</sup> ]	Hydraulic 3.5MPa [35kgf/cm <sup>2</sup> ]	Hydraulic 3.5MPa [35kgf/cm <sup>2</sup> ]	Hydraulic 3.5MPa [35kgf/cm <sup>2</sup> ]
Clamp torque	N·m [kgf·m]	200 [20]	300 [30]	500 [51]	500 [51]	500 [51]	800 [82]	800 [82]	1,000 [102]	2,200 [224]	2,200 [224]	3,700	7,400
Indexing accuracy (the sum)	arc sec	40	—	40	—	30	—	30	—	20	—	15	—
Repeatability	arc sec	4	—	4	—	4	—	4	—	4	—	4	—
Tilting accuracy	Tilt 0°~90° arc sec	—	45	—	45	—	45	—	45	—	45	—	90
Tilting repeatability	arc sec	—	8	—	8	—	8	—	8	—	8	—	8
Net weight	kg	69		80		127		191		440		1,200	
Strength of worm gears (Rotary axis)	N·m [kgf·m]	152 [15.5]		152 [15.5]		200 [20]		450 [46]		931 [95]		1,940 [198]	
Allowable work weight													
	0° (Horizontal)	 kg	35	35	60	120	150	500					
0°~90° (Tilting)	 kg	20	20	40	70	100	300						
Allowable work moment	W×L  N·m [kgf·m]	24 [2.4]	24 [2.4]	39.2 [4.0]	53.7 [5.5]	163.3 [16.6]	288.2 [29.4]						
Allowable load (when table is clamped)													
	F  N [kgf]	3,920 [400]	3,920 [400]	7,840 [800]	13,720 [1,400]	19,600 [2,000]	39,200 [4,000]						
	F×L  N·m [kgf·m]	200 [20]	500 [51]	500 [51]	800 [82]	2,200 [224]	3,700 [377.6]						
	F×L  N·m [kgf·m]	300 [30]	500 [51]	800 [82]	1,000 [102]	2,200 [224]	7,400 [755.1]						
Allowable work inertia	$J = \frac{W \cdot D^2}{8}$  $\text{kg} \cdot \text{m}^2$ [kgf·cm·sec <sup>2</sup> ]	0.08 [0.87]	0.08 [0.87]	0.19 [1.94]	0.59 [6.02]	1.53 [15.6]	9.38 [95.68]						