

TN-101, 320 / TWA-130, 160, 200

POWERFUL, HIGH SPEED TILTING TABLES

The TWA-Series tables are top of the line, high speed, high power, high accuracy tilting rotary tables. The TN-101 and TWA-130 are ideal for use on drilling and tapping machines.



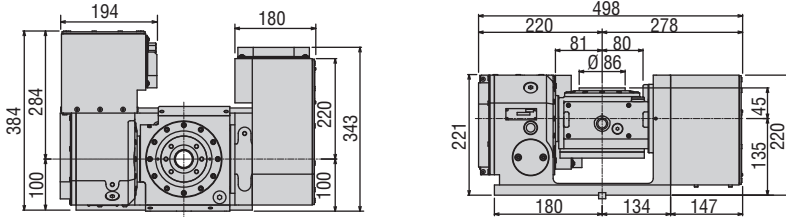
Model		TN-101		TWA-130		TWA-160		TWA-200		TN-320	
Tilt Range		-17° ~ +107°		-17° ~ +107°		-30° ~ +110°		-30° ~ +110°		-30° ~ +110°	
Spindle outer diameter		mm 86h7		mm 90h7		mm 100h7		mm 120h7		-	
Table diameter (optional)		mm (135)		mm (135)		mm (160 or 200)		mm (200 or 250)		mm 320	
Table height at 0° position		mm 180 (205 w/face plate)		mm 210 (235 w/face plate)		mm 235 (260 w/face plate)		mm 270 (300 w/face plate)		mm 355	
Center height at 90° position		mm 135		mm 150		mm 180		mm 210		mm 255	
Center bore	Nose Diameter (w/ face plate)	mm 55H7 (40H7)		mm 55H7 (40H7)		mm 55H7 (50H7)		mm 65H7 (60H7)		mm 105H7	
	Thru Diameter	mm 35		mm 35		mm 40		mm 45		mm 102	
Table T-slot width		12H8 (w/ face plate)		12H8 (w/ face plate)		12H8 (w/ face plate)		12H8 (w/ face plate)		14H7	
Guide block width		14h7		14h7		18h7		18h7		18h7	
Servo motor (Fanuc)*		Rotary	Tilt	Rotary	Tilt	Rotary	Tilt	Rotary	Tilt	Rotary	Tilt
		Alpha 2i	Alpha 2i	Alpha 2i	Alpha 2i	Alpha 2i	Alpha 2i	Alpha 4i	Alpha 4i	Alpha 8i	Alpha 8i
Maximum motor speed		rpm 5,000		rpm 5,000		rpm 5,000		rpm 5,000		rpm 4,000	
Speed reduction ratio		1/60 1/120		1/60 1/120		1/72 1/120		1/45 1/90		1/120 1/240	
Maximum table speed		rpm 83.3 41.7		rpm 83.3 41.7		rpm 69.4 41.7		rpm 111.1 55.5		rpm 33.3 16.7	
Inertia converted into motor shaft		x 10 ⁻³ kg·m ² .072 .078		x 10 ⁻³ kg·m ² .074 .072		x 10 ⁻³ kg·m ² .17 .18		x 10 ⁻³ kg·m ² .38 .45		x 10 ⁻³ kg·m ² .82 .45	
Clamp system		Pneumatic		Pneumatic		Pneumatic Dual Taper		Pneumatic Dual Taper		Hydraulic @500 psi**	
Clamp torque @72psi [500 psi]		Nm (ft. lbs.) 200 (147) 300 (221)		Nm (ft. lbs.) 500 (369) 500 (369)		Nm (ft. lbs.) 500 (369) 800 (590)		Nm (ft. lbs.) 800 (590) 1,000 (737)		Nm (ft. lbs.) [2,200] [(1,621)] [2,200] [(1,621)]	
Indexing accuracy		arc sec. ±20 -		arc sec. ±20 -		arc sec. ±15 -		arc sec. ±15 -		arc sec. ±10 -	
Tilting accuracy		arc sec. - ±22.5		arc sec. - ±22.5		arc sec. - ±22.5		arc sec. - ±22.5		arc sec. - ±22.5	
Net Weight		kg (lbs.) 65 (143)		kg (lbs.) 76 (167)		kg (lbs.) 127 (279)		kg (lbs.) 190 (418)		kg (lbs.) 440 (968)	
Allowable wheel torque - rotary		Nm (ft. lbs.) 152 (112)		Nm (ft. lbs.) 152 (112)		Nm (ft. lbs.) 200 (147)		Nm (ft. lbs.) 450 (332)		Nm (ft. lbs.) 931 (686)	
Allowable work inertia		kg·m ² .08		kg·m ² .08		kg·m ² .19		kg·m ² .59		kg·m ² 1.53	
Allowable work weight	0° tilt angle	kg (lbs) 35 (77)		kg (lbs) 35 (77)		kg (lbs) 60 (132)		kg (lbs) 120 (264)		kg (lbs) 150 (330)	
	0° ~ 90° tilt angle	kg (lbs) 20 (44)		kg (lbs) 20 (44)		kg (lbs) 40 (88)		kg (lbs) 70 (154)		kg (lbs) 100 (220)	
Allowable work moment		Nm (ft. lbs.) 24 (17.7)		Nm (ft. lbs.) 24 (17.7)		Nm (ft. lbs.) 39.2 (28.9)		Nm (ft. lbs.) 53.7 (39.6)		Nm (ft. lbs.) 163.3 (120.4)	
Allowable load when table clamped		N (lbf) 3,920 (878)		N (lbf) 3,920 (878)		N (lbf) 7,840 (1,756)		N (lbf) 13,720 (3,073)		N (lbf) 19,600 (4,390)	
		Nm (ft. lbs.) 200 (147)		Nm (ft. lbs.) 500 (369)		Nm (ft. lbs.) 500 (369)		Nm (ft. lbs.) 800 (590)		Nm (ft. lbs.) 2,200 (1,621)	
		Nm (ft. lbs.) 300 (221)		Nm (ft. lbs.) 500 (369)		Nm (ft. lbs.) 800 (590)		Nm (ft. lbs.) 1,000 (737)		Nm (ft. lbs.) 2,200 (1,621)	

* Other motors & RPM available • ** Booster optional • Specifications subject to change without notice

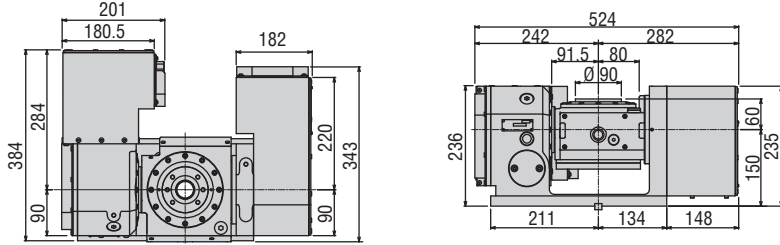
Dimensions

Drawings not to scale • Dimensions = mm

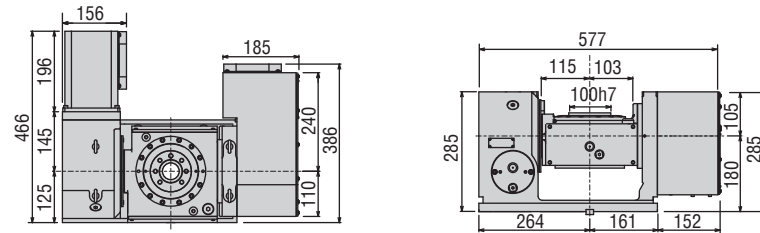
TN-101



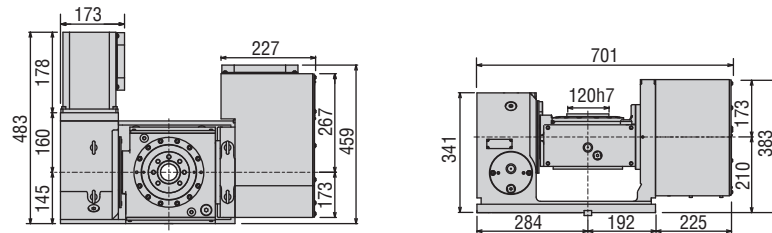
TWA-130



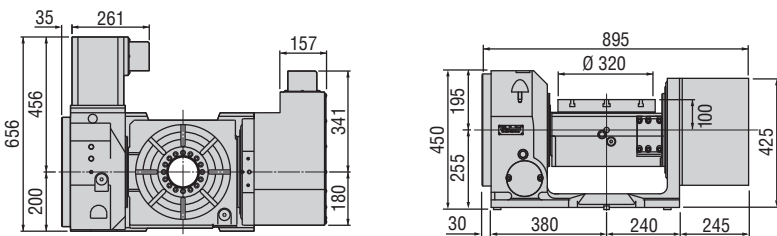
TWA-160



TWA-200



TN-320



The dimensions above are for tables with a FANUC servo motor. Other motors available (dimensions may increase).

TWA-Series
Monoblock Construction
TWA-Series tilting rotary tables feature Tsudakoma's Monoblock one piece casting construction. Monoblock construction results in tilting tables with superior rigidity and clamping characteristics, which translates into parts with smoother surface finishes. Tsudakoma is the only rotary table manufacturer with its own casting foundry.



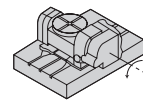
TWA-130
Pull Stud Option



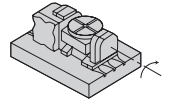
Options & Accessories

TPC NC Controller	
Chucks	
Tailstock	
Support Spindle	
Face Plate	
Encoder / Scale	
Pull Stud Device	
Rotary Joint	
PVC Cables	

Layout a



Layout b

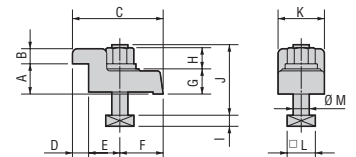


Clamping Block and Bolt

Dimensions = mm

	Type	Q'ty	Layout	T-Slot Width	A	B	C	D	E	F	G	H	I	J	K	L	M
TN-101	I	4	a b	14	20	12	70	10	35	25	20	12	8	50	35	23	12
TWA-130	I	4	a b	14	20	12	70	10	35	25	20	17	8	55	35	23	12
TWA-160	I	4	a b	18	20	12	70	10	35	25	17	15	11	55	35	28	16
TWA-200	I	4	a b	18	25	12	80	12	33	35	22	21	11	65	40	28	16
TN-320	I	4	a b	18	25	12	80	12	33	35	22	21	11	65	40	28	16

Type I



Note 1: In the case of layout B, contact us for details about mounting.

Note 2: When using a machine with a T-slot pitch other than the above, use suitable clamping blocks and bolts that are available on the market, or order custom-made ones (opt.)