Standard type

TWA/TN

TWA-100•130•160•200
TN-320•450

Compact tables for speedy and powerful five-axis machining.
TWA-100 and TWA-130 are the most suitable models for drilling and tapping machines.

TWA-130

Specifications

Unit: mm

		TWA-100		TWA-130		TWA-160		TWA-200		TN-320		TN-450	
Tilt range		−17° to +107°		−17° to +107°		−30° to +110°		−30° to +110°		−30° to +110°		−10° to +95°	
Spindle diameter		φ86h7		φ90h7		φ100h7		φ120h7		—		—	
Table diameter		φ135 (Option)		φ135 (Option)		φ160 or 200 (Option)		φ200 or 250 (Option)		φ320		φ450	
Table height at 0° position		180 (205 w/face plate)		210 (235 w/face plate)		235 (260 w/face plate)		270 (300 w/face plate)		355		425	
Center height at 90° position		135		150		180		210		255		425	
Center bore	Nose diameter	φ55H7 (φ40H7 w/face plate)		φ55H7 (φ40H7 w/face plate)		φ55H7 (φ50H7 w/face plate)		φ65H7 (φ60H7 w/face plate)		φ105H7		φ170H7	
	Through-bore	φ35		φ37		φ40		φ45		φ102		φ136	
Table T-slot width		12H8 (w/face plate)		12H8 (w/face plate)		12H8 (w/face plate)		12H8 (w/face plate)		14H7		14H7	
Guide block width		14h7		14h7		18h7		18h7		18h7		18h7	
Servo motors (for FANUC)		Rotary axis	Tilt axis	Rotary axis	Tilt axis	Rotary axis	Tilt axis	Rotary axis	Tilt axis	Rotary axis	Tilt axis	Rotary axis	Tilt axis
		αiS2	αiS2	αiS2	αiS2	αiS2	αiS2	αiF4	αiF4	αiF8	αiF8	αiF22	αiF22
Inertia converted into motor shaft	$\times10^{-3}$kg·m²	0.072	0.078	0.074	0.072	0.17	0.18	0.38	0.45	0.82	0.45	5.34	3.00
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 (Motor rpm: 2,000min^{-1})	min^{-1}	41.6 (Motor rpm: 2,500min^{-1})	16.6	41.6 (Motor rpm: 2,500min^{-1})	16.6	27.7	16.6	44.4	22.2	16.6	8.3	22.2	11.1
Clamp system Supplied pressure		Pneumatic	Pneumatic	Pneumatic	Pneumatic	Pneumatic	Pneumatic	Pneumatic	Pneumatic	Hydraulic	Hydraulic	Hydraulic	Hydraulic
Clamp torque /pneumatic pressure 0.49MPa·hydraulic pressure 3.5MPa	N·m	200	300	500	500	500	800	800	1,000	2,200	2,200	3,700	7,400
Indexing accuracy (the sum)	arc sec	40	—	40	—	30	—	30	—	20	—	15	—
Tilting accuracy Tilt 0° to 90°	arc sec	—	45	—	45	—	45	—	45	—	45	—	90
Net weight	kg	75		85		135		195		440		1,200	
Strength of worm gears (Rotary axis)	N·m	152		152		200		450		931		1,940	
Allowable work weight	0° (Horizontal) kg	35		35		60		120		150		500	
	0° to 90° (Tilting) kg	20		20		40		70		100		300	
Allowable work moment	W×L N·m	24		24		39.2		53.7		163.3		288.2	
Allowable load (when table is clamped)	F N	3,920		3,920		7,840		13,720		19,600		39,200	
	F×L N·m	200		500		500		800		2,200		3,700	
	F×L N·m	300		500		800		1,000		2,200		7,400	
Allowable work inertia	$J=\frac{W\cdot D^2}{8}$ kg·m²	0.08		0.08		0.19		0.59		1.53		9.38	

CE correspondence model (excluding TN)

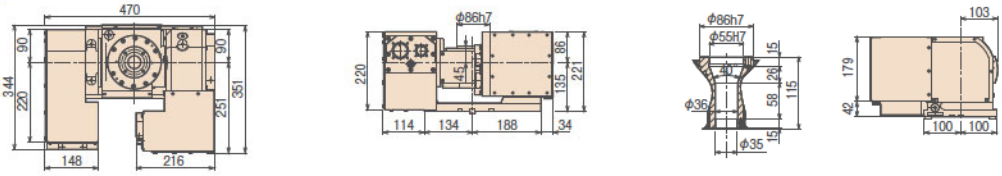
Tech.Info. Servo motors of other manufacturers P.68 When assembling a faceplate or a fixture with the main spindle P.79

Option High-precision Spec. P.64 Pull Stud P.66 Rotary Joint P.66

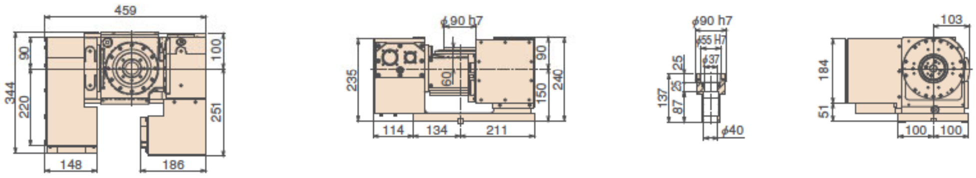
Dimensions

Unit: mm

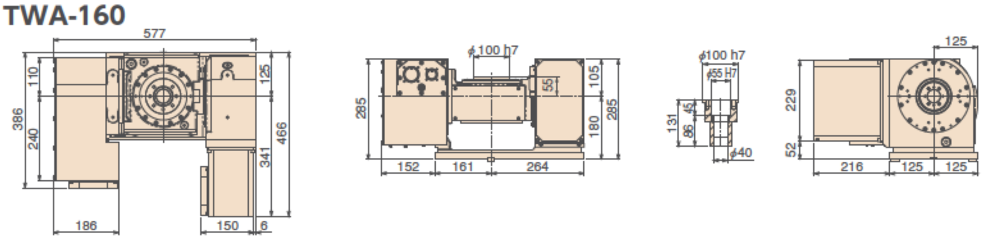
TWA-100



TWA-130



TWA-160



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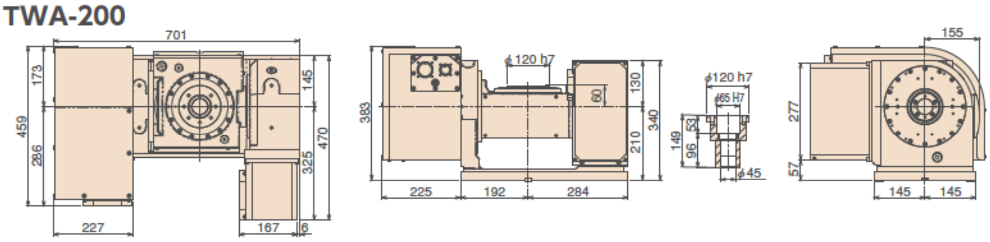
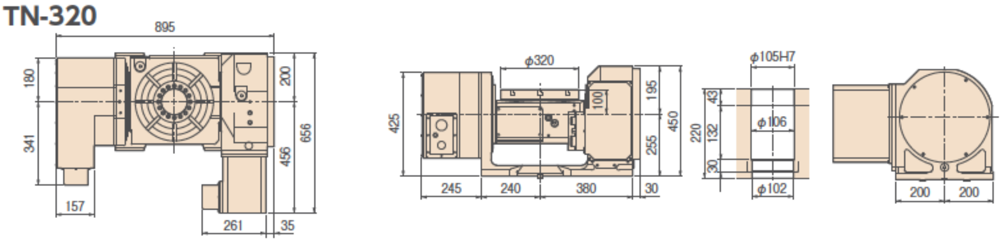
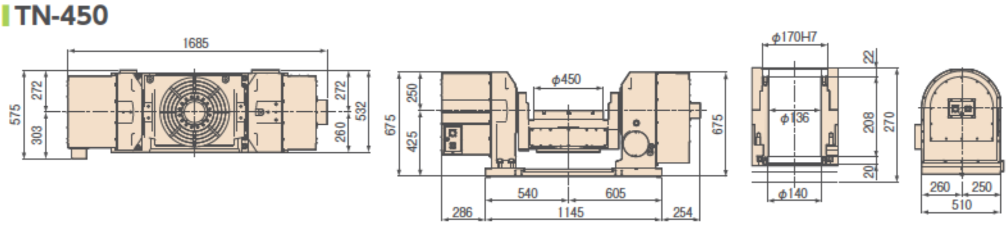


TN-320



TN-450



Note: The above dimensions are for FANUC servo motors. The dimensions of servo motors of other manufacturers may be larger.

TN-450

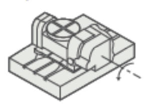
Clamping block and bolt

Unit: mm

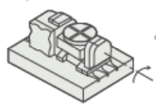
	Type	Q'ty	Layout	T-slot pitch	T-slot width	A	B	C	D	E	F	G	H	I	J	K	L	M
TWA-100	Ⅰ	4	a b	40 to 160 *	14	20	12	70	10	35	25	20	12	8	50	35	23	12
TWA-130	Ⅰ	4	a b	40 to 190 *	14	20	12	70	10	35	25	20	17	8	55	35	23	12
TWA-160	Ⅰ	4	a b	78 to 150 63 to 117	18	20	12	70	10	35	25	17	15	11	55	35	28	16
TWA-200	Ⅰ	4	a b	80 to 180 78 to 125	18	25	12	80	12	33	35	22	21	11	65	40	28	16
TN-320	Ⅰ	4	a b	140 to 190 95 to 180	18	25	12	80	12	33	35	22	21	11	65	40	28	16
TN-450	Ⅳ	4	a b	80 to 250 *	18	50	20	74	20	18	36	75	10	11	105	70	28	16

Note 1: * In the case of layout b, contact us for the 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 from TSUDAKOMA. (Option)

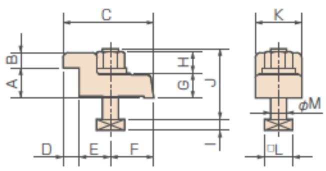
Layout a



Layout b



Type Ⅰ



TypeⅣ