

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° ~ +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 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 *1	12H8 (W/face plate)	12H8 (W/face plate)	12H8 (W/face plate)	12H8 (W/face plate)	14H7	14H7								
Guide block width	14 h 7	14 h 7	18 h 7	18 h 7	18 h 7	18 h 7								
Servo motors (for FANUC)	Rotary axis	αiS2	αiS2	αiS2	αiS2	αiF4	αiF4	αiF8	αiF8	αiF22	αiF22			
	Tilt axis	αiS2	αiS2	αiS2	αiS2	αiF4	αiF4	αiF8	αiF8	αiF22	αiF22			
Inertia converted into motor shaft	× 10 ⁻³ kg·m ²		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	1/180	
Table max. rpm	min ⁻¹ (Motor rpm: 2,000min ⁻¹)		41.6 (2,500min ⁻¹)	16.6	41.6 (2,500min ⁻¹)	16.6	27.7	16.6	44.4	22.2	16.6	8.3	22.2	11.1
Clamp system	Pneumatic	Pneumatic	Pneumatic	Pneumatic	Pneumatic	Pneumatic	Pneumatic	Pneumatic	Hydraulic	Hydraulic	Hydraulic	Hydraulic	Hydraulic	Hydraulic
	Supplied pressure	0.49MPa [5kgf/cm ²]	0.49MPa [5kgf/cm ²]	0.49MPa [5kgf/cm ²]	0.49MPa [5kgf/cm ²]	0.49MPa [5kgf/cm ²]	0.49MPa [5kgf/cm ²]	0.49MPa [5kgf/cm ²]	0.49MPa [5kgf/cm ²]	3.5MPa [35kgf/cm ²]	3.5MPa [35kgf/cm ²]	3.5MPa [35kgf/cm ²]	3.5MPa [35kgf/cm ²]	3.5MPa [35kgf/cm ²]
Clamp torque	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° ~ 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	—	—	—	—	—	—	
Options	0° (Horizontal)	kg	35	35	60	120	150	500	—	—	—	—	—	
	Allowable work weight 0° ~ 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	F N	3,920	3,920	7,840	13,720	19,600	39,200	—	—	—	—	—		
Allowable load (when table is clamped)	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·m ²	0.08	0.08	0.19	0.59	1.53	9.38	—	—	—	—	—		

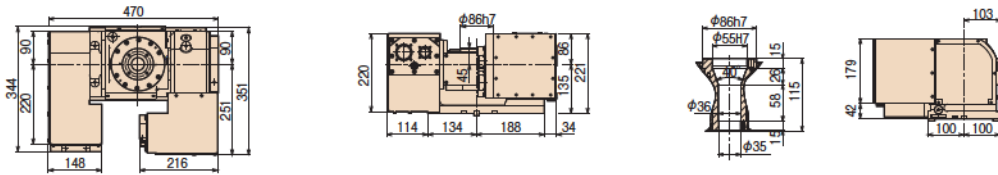
☞ Servo motors of other manufacturers **P.66** ☞ When assembling a faceplate or a fixture with the main spindle **P.76**

* 1 The tolerance of the table T-slot width is applicable to four standard slots arranged crosswise. ☞ Dimensions **P.60**

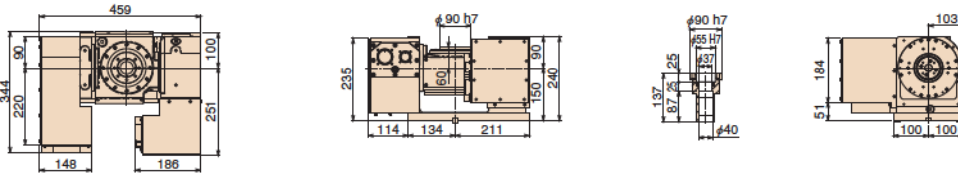
Dimensions

Unit: mm

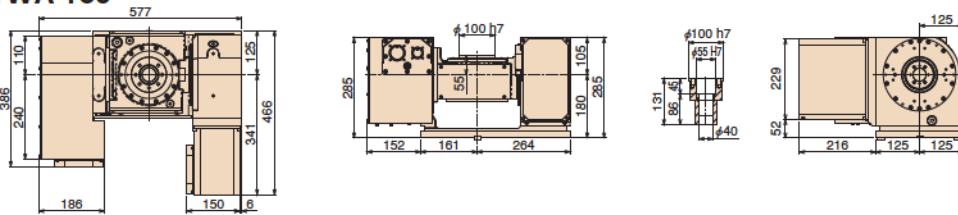
TWA-100



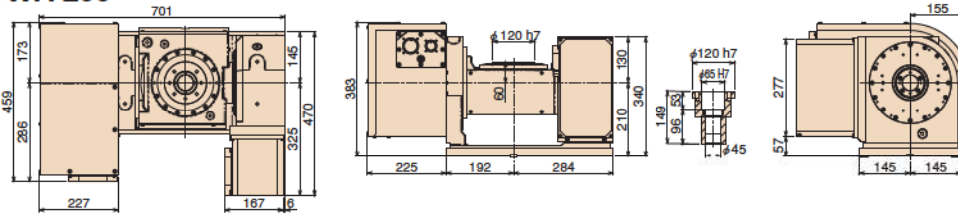
TWA-130



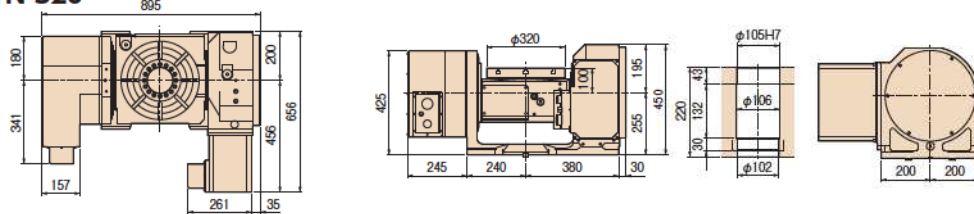
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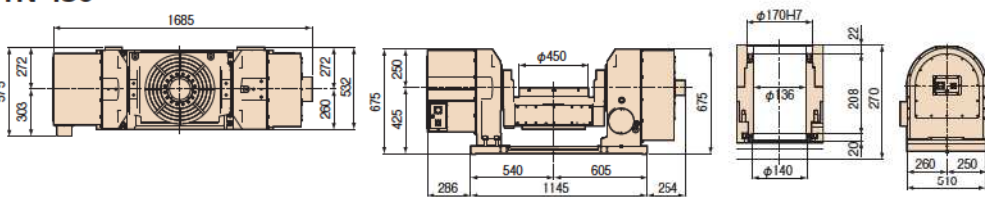
TWA-200



TN-320

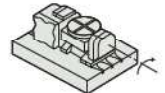


TN-450

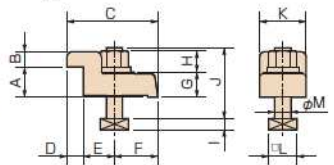


Layout a

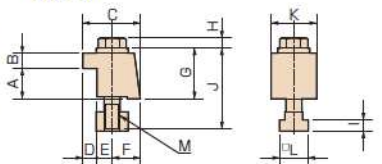
Layout b



Type I



Type IV



RBS

TBS

RWE/RWA
RN

RWE/RWA-B
RNCV-B

RNCM

RWB

RWB-K
RNC

RCH
RNC

RCV
RNCV

Multi-Spindle
RWM

TWA/TN

TTNC

THNC

Multi-Spindle
TWM

RDS

RTV
RTT

RCB

NC Controllers

Accessories

Options

Technical Information

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

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	40~160 *	14	20	12	70	10	35	25	20	12	8	50	35	23	12
TWA-130	I	4	a b	40~190 *	14	20	12	70	10	35	25	20	17	8	55	35	23	12
TWA-160	I	4	a b	78~150 63~117	18	20	12	70	10	35	25	17	15	11	55	35	28	16
TWA-200	I	4	a b	80~180 78~125	18	25	12	80	12	33	35	22	21	11	65	40	28	16
TN-320	I	4	a b	140~190 95~180	18	25	12	80	12	33	35	22	21	11	65	40	28	16
TN-450	IV	4	a b	80~250 *	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)