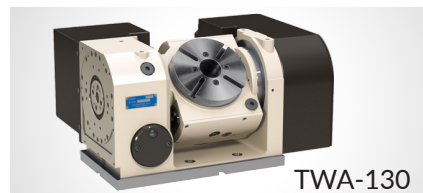


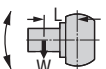
## TWA-100, 130, 160, 200/ TN-320

### 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.



TWA-130

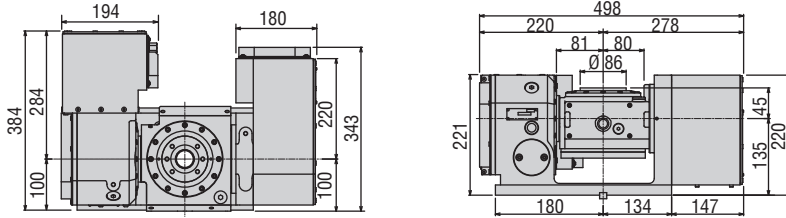
| Table Model                        |                                                                                                   |                                                                                              | TWA-100                   |              | TWA-130                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

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

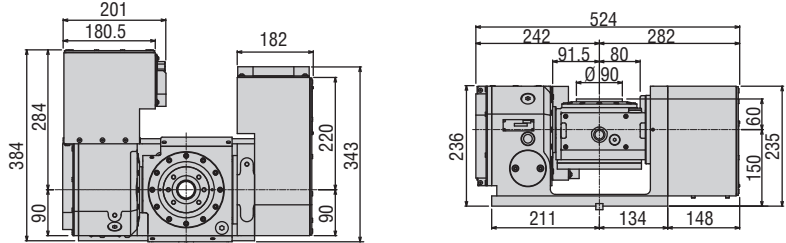
## Dimensions

Drawings not to scale • Dimensions = mm

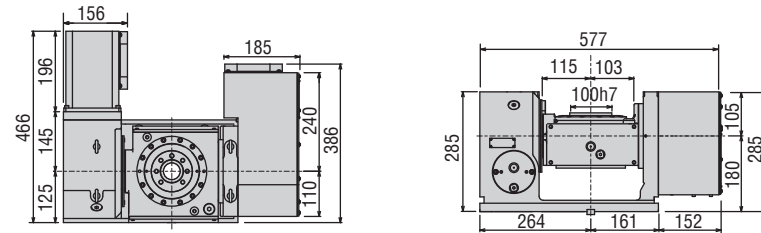
### TWA-100



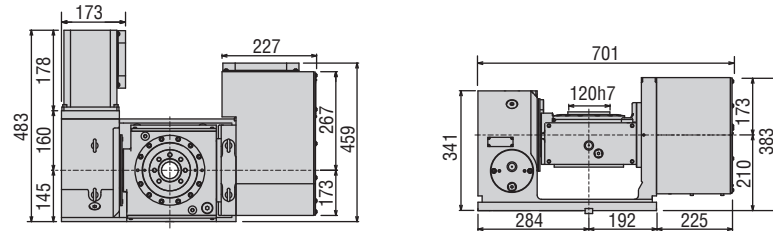
### TWA-130



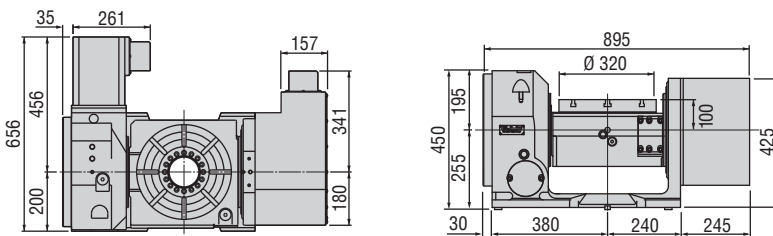
### TWA-160



### TWA-200



### TN-320



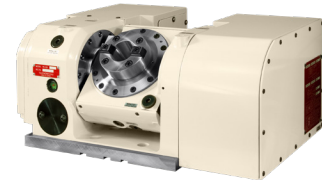
The dimensions above are for tables with a FANUC servo motor. Other motors available (dimensions may increase).

## WORKPIECE MOUNTING SPACE FOR TILTING ROTARY TABLES

|         | 0 ~+90° | 0 ~+107° | -17° ~ 0 |
|---------|---------|----------|----------|
| TN-101  |         |          |          |
| TWA-130 |         |          |          |
| TWA-160 |         |          |          |
| TWA-200 |         |          |          |
| TN-320  |         |          |          |

Note: To ensure workpiece, rotary table, and machine tool integration, contact KOMA for 3D CAD support.

## TN-130 Pull Stud Option



## Options & Accessories

|                     |      |
|---------------------|------|
| TPC NC Controller   | p.62 |
| Chucks              | p.74 |
| Tailstock           | p.75 |
| Support Spindle     | p.77 |
| Face Plate          | p.77 |
| Encoder / Scale     | p.78 |
| Pull Stud Device    | p.79 |
| Rotary Joint        | p.79 |
| Booster             | p.80 |
| PVC or Steel Cables | p.81 |

## Clamping Block and Bolt

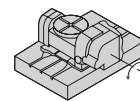
Dimensions = mm

|         | Type | Q'ty | Layout | T-Slot Width | A  | B  | C  | D  | E  | F  | G  | H  | I  | J  | K  | L  | M  |
|---------|------|------|--------|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|
| TWA-100 | I    | 4    | a<br>b | 14           | 20 | 12 | 70 | 10 | 35 | 25 | 20 | 12 | 8  | 50 | 35 | 23 | 12 |
| TWA-130 | I    | 4    | a<br>b | 14           | 20 | 12 | 70 | 10 | 35 | 25 | 20 | 17 | 8  | 55 | 35 | 23 | 12 |
| TWA-160 | I    | 4    | a<br>b | 18           | 20 | 12 | 70 | 10 | 35 | 25 | 17 | 15 | 11 | 55 | 35 | 28 | 16 |
| TWA-200 | I    | 4    | a<br>b | 18           | 25 | 12 | 80 | 12 | 33 | 35 | 22 | 21 | 11 | 65 | 40 | 28 | 16 |
| TN-320  | I    | 4    | a<br>b | 18           | 25 | 12 | 80 | 12 | 33 | 35 | 22 | 21 | 11 | 65 | 40 | 28 | 16 |

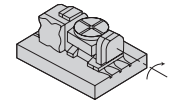
Note 1: In the case of layout B, contact us for details about mounting.

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 from KOMA (opt.)

## Layout a



## Layout b



## Type I

