

Global Service Sites

Local dealers are available to provide services in each region, in addition to the sites below.

U. S. A.

BROTHER INTERNATIONAL CORP.
MACHINE TOOLS DIV. TECHNICAL CENTER
2200 North Stonington Avenue, Suite 270, Hoffman Estates, IL 60169, U.S.A.
PHONE:(1)224-653-8415 FAX:(1)224-653-8821

Germany

BROTHER INTERNATIONALE INDUSTRIEMASCHINEN GmbH
MACHINE TOOLS DIVISION FRANKFURT TECHNICAL CENTER
Hoechst Str.94, 65835 Liederbach, Germany
PHONE:(49)69-977-6708-0 FAX:(49)69-977-6708-80

India

BROTHER INTERNATIONAL (INDIA) PVT LTD.
Machine Tools Bengaluru Technical Center
Park Landing, Ground Floor, Municipal No.5AC-709, 2nd Block, HRBR Extension,
Bengaluru - 560 043 Karnataka, India
PHONE:(91)80-43721645

China

BROTHER MACHINERY (SHANGHAI) LTD.
(MACHINE TOOLS DIV.) SHANGHAI TECHNICAL CENTER
Unit 01, 5/F., No.799, West Tianshan Rd., Changning District Shanghai 200335, P.R.China
PHONE:(86)21-2225-6666 FAX:(86)21-2225-6688

China

BROTHER MACHINERY (SHANGHAI) LTD.
CHONGQING BRANCH (MACHINE TOOLS DIV.) CHONGQING TECHNICAL CENTER
Room 105, No.51 Xuefudadao, Nan'an District, Chongqing Province, 400074, P.R.China
PHONE:(86)23-6865-5600 FAX:(86)23-6865-5560

Mexico

BROTHER INTERNATIONAL DE MÉXICO, S.A. DE C.V.
División de Maquinaria Industrial Centro Técnico Querétaro
Calle 1 No.310 Int 15, Zona Industrial Jurica, Parque Industrial Jurica,
Querétaro, QRO C.P. 76100 México
PHONE:(52)55-8503-8760 FAX:(52)442-483-2667

Thailand

BROTHER COMMERCIAL (THAILAND) LTD.
MACHINE TOOLS TECHNICAL CENTER
317 Pattanakarn Road, Pravet Sub-District, Pravet District, Bangkok 10250, Thailand
PHONE:(66)2321-5910 FAX:(66)2321-5913

India

BROTHER INTERNATIONAL (INDIA) PVT LTD.
Machine Tools Gurugram Technical Center
CE SERVICED OFFICES PVT. LTD., DLF CYBER HUB, Building No 10, Tower A, Level 1,
Phase 3, DLF Cyber City, Gurugram - 122002 Haryana - India
PHONE:(91)80-43721645

China

BROTHER MACHINERY (SHANGHAI) LTD.
DONGGUAN BRANCH (MACHINE TOOLS DIV.) DONGGUAN TECHNICAL CENTER
1F, Fuyuan Business Center Building, No.1 Lane 13, Maizyuan Road, Xin'an community,
Chang'an Town, Dongguan City, Guangdong Province, 523008, P.R.China
PHONE:(86)769-2238-1505 FAX:(86)769-2238-1506

Figures in brackets () are the country codes.

- Please read the instruction manuals and safety manuals before using Brother products for your own safety.
When using oil-based coolant oil or when machining the materials which can cause a fire (ex. Magnesium, resin material), customers are requested to take thoroughgoing safety measures against fire.
Depending on the types of cutting material, cutting tools, coolant oil, lubrication oil, it may have an influence on the machine lifecycle.
Further questions, please contact our sales representative in charge.
- When exporting this product, be sure to check the end user and their purpose of use from the viewpoint of security trade control.

Specifications may be subject to change without any notice.

brother

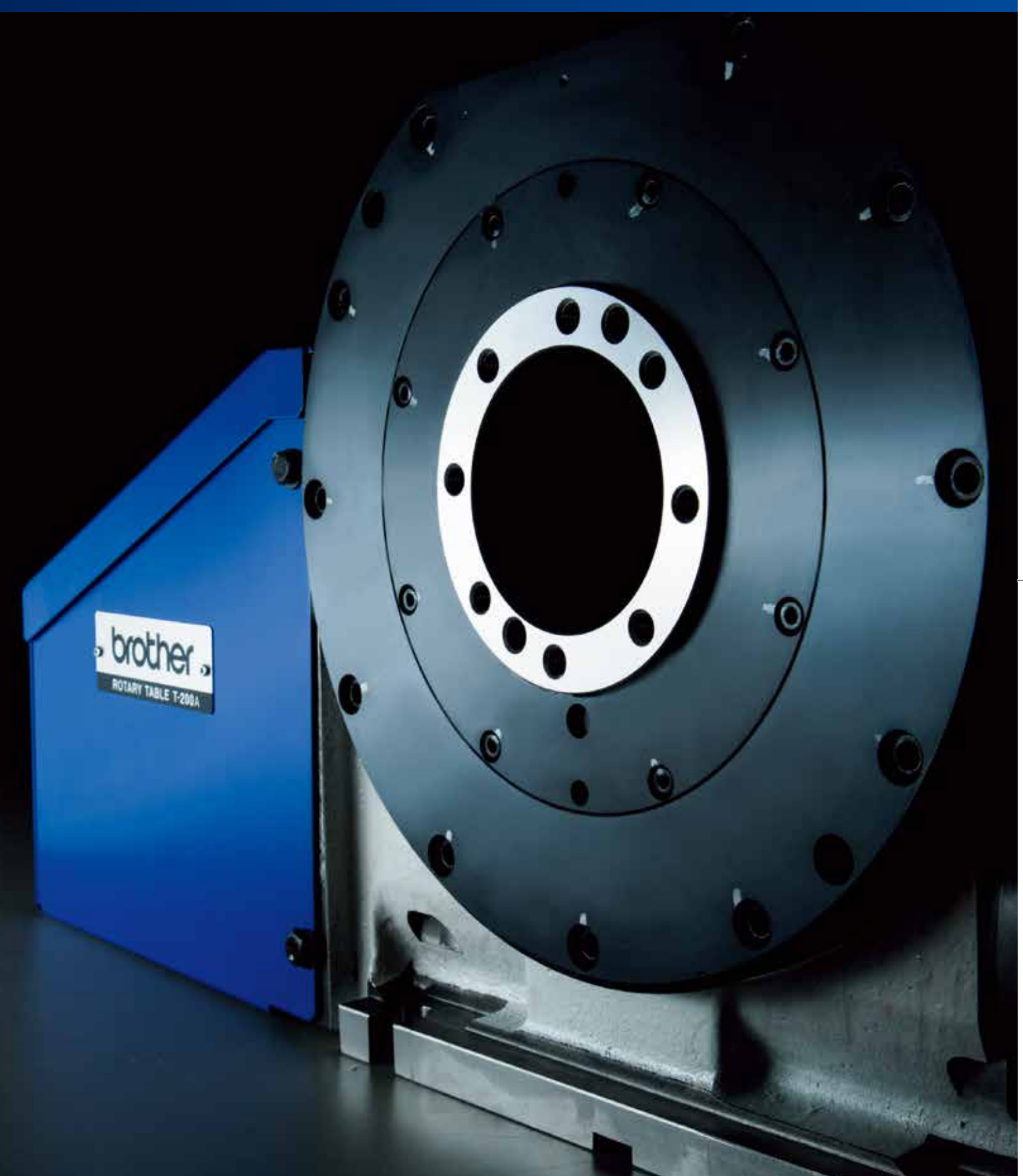
BROTHER INDUSTRIES, LTD.
Machinery Business Division

1-5, Kitajizoyama, Noda-cho, Kariya-shi,
Aichi-ken 448-0803, Japan
PHONE: 81-566-95-0075
FAX : 81-566-25-3721

<https://www.brother.com>

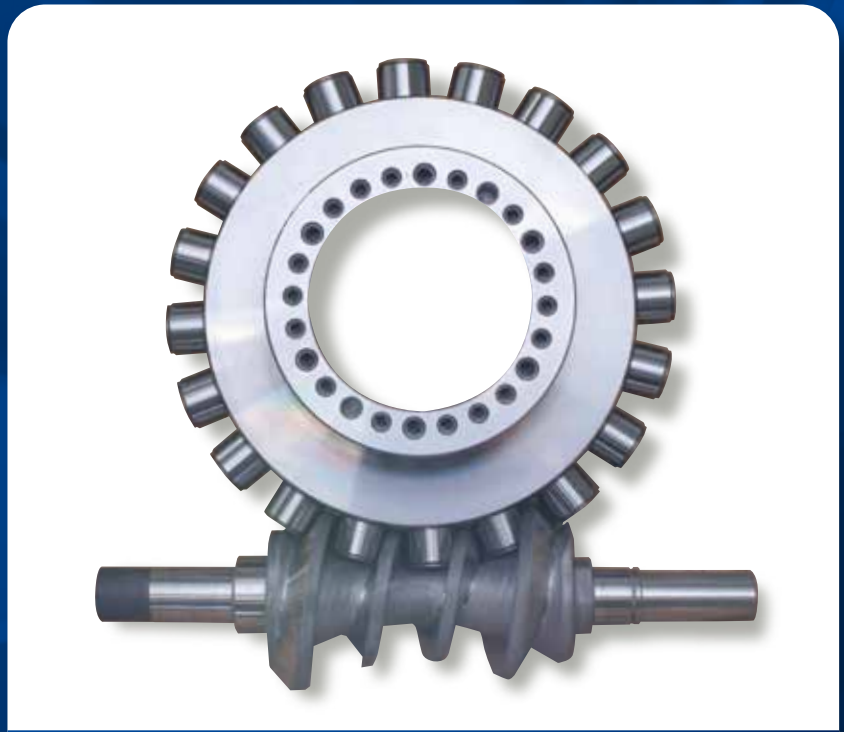
The information in this catalogue is current as of September 2019. ver.1909

Option for **SPEEDIO**
Rotary Table **T-200A**



Option for *SPEEDIO* Rotary Table **T-200A**

Further enhancement of *SPEEDIO* productivity



Roller Gear Cam Mechanism

SPEC

Specifications	
Type	Right-handed, Left-handed *1
Center height (mm/inch)	170/6.7
Gear ratio	1/20
Maximum speed (min ⁻¹)	100 (50 *2)
Maximum loading capacity (kg/lbs)	100/220 (200/440 *3)
Product weight (kg/lbs)	61/134
Applicable models *4	S300X2 (X1) / S500X2 (X1) / S700X2 (X1) / S1000X1 / R450X2 (X1) / R650X2 (X1) / F600X1 / S500Z1 / R450Z1

*1. Only right handed type available for R450X2 (Z1) and R650X2
 *2. When high inertia mode (enabled by changing parameter setting) is used.
 *3. When support table is used
 *4. S500Z1 and R450Z1 sold only in China

1 High Productivity



2 High Accuracy



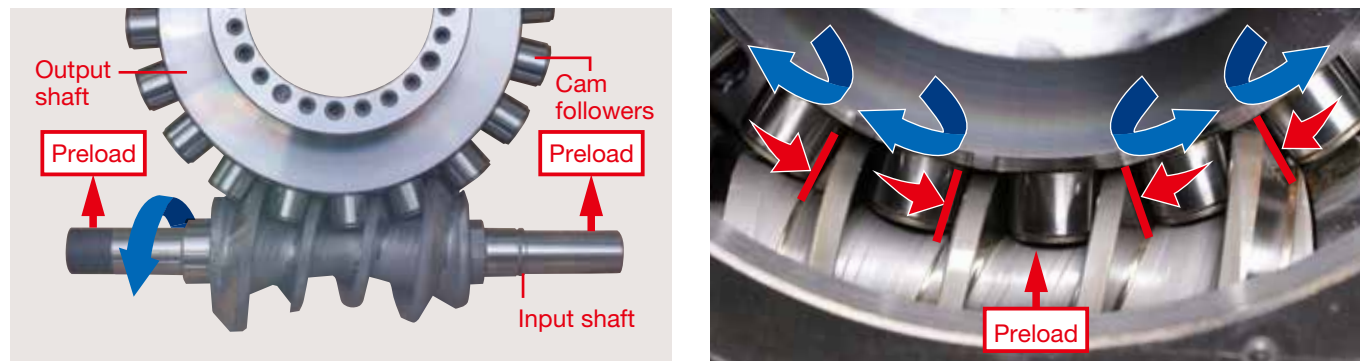
3 Maintenance free



Option for SPEEDIO Rotary Table T-200A

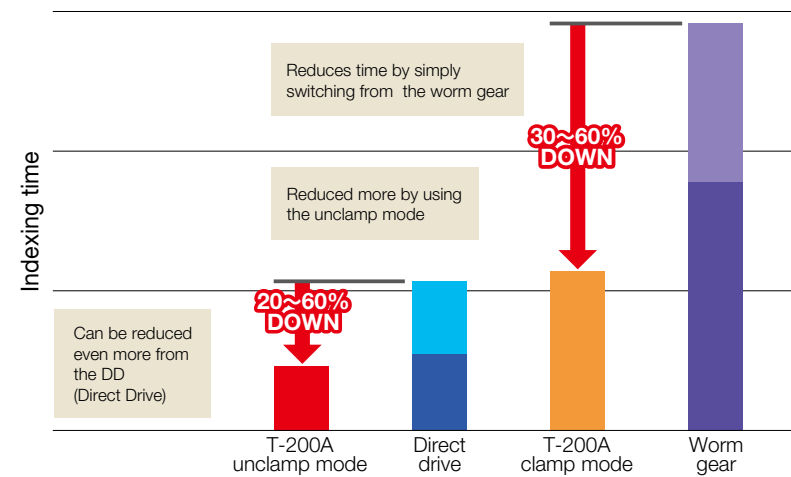
Roller Gear Cam Mechanism

By preloading the input and output shafts beforehand, the four cam followers can be always kept in contact with the cam surface, which eliminates backlash and provides high rigidity. In addition, the cam followers that rotate can transmit the motor torque efficiently, and therefore, they can rotate at low torque and be used for a long term, without wear and adjustment.



High Productivity

Indexing Time Comparison



Combining the roller gear cam with the proper motor provides high acceleration and high rotation speed. In addition, machining can be performed only by the holding torque with motor without using the clamp mechanism depending on the machining load.

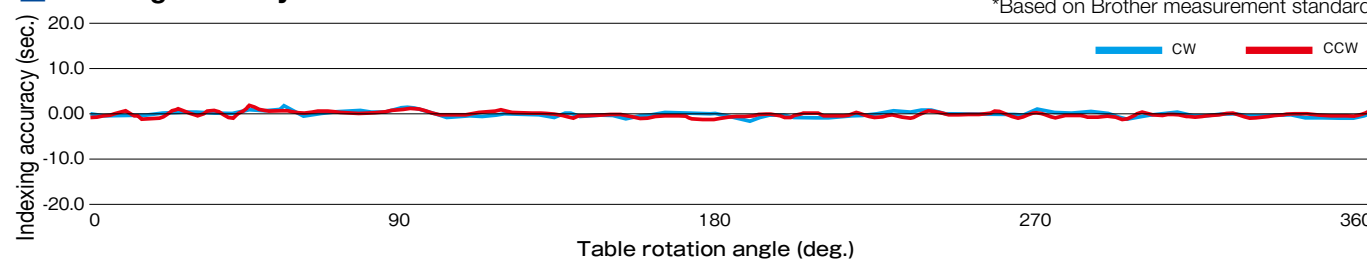
Max. speed : **100min⁻¹**

(0→180 degree Indexing time)
 Clamp mode : **1.02sec.**
 Unclamp mode : **0.45sec.**

High Accuracy

Backlash can be eliminated with preloading the cam followers. Even machining with the turning direction in reverse will not adversely affect the machining surface.

Indexing accuracy



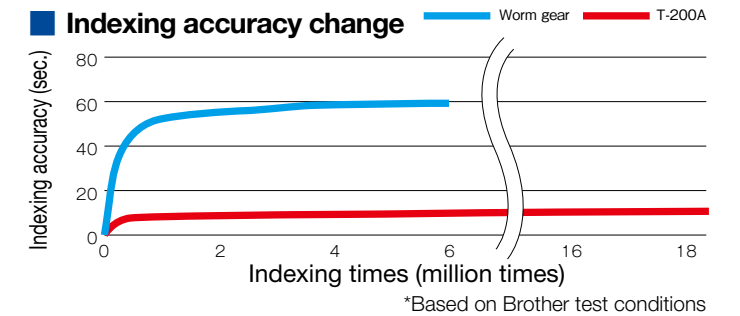
Indexing accuracy : **10sec. or less**
 Repeatability : **4sec. or less**

*Based on Brother measurement standard

Maintenance free

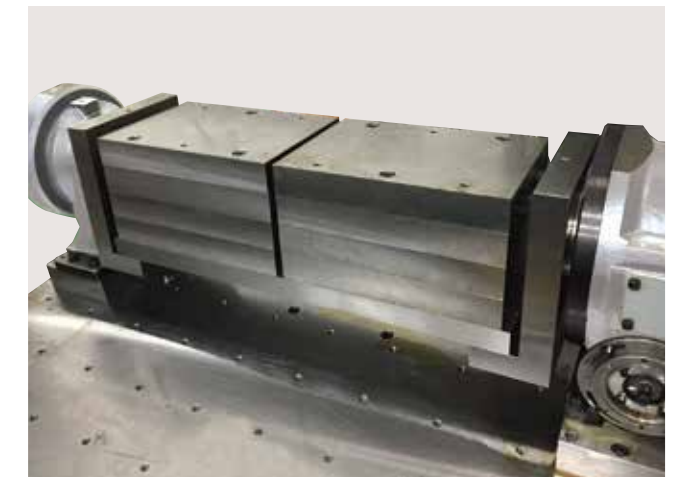
There is very little wear because the contact area is a rolling surface that rotates. While the worm gear requires regular adjustment, the roller gear cam does not require any adjustment even in long term use.

Accuracy change after indexing 18 million times : **12sec. or less**



High Stability

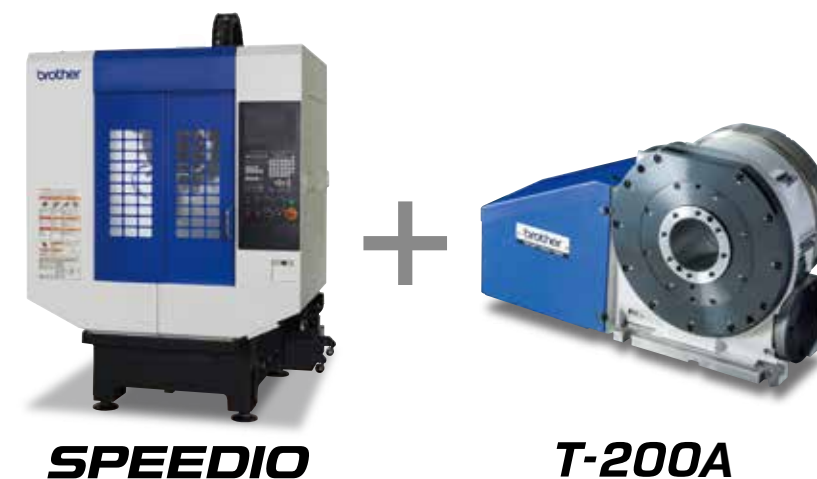
The system offers high transmission efficiency between the input and output shafts. This completely eliminates vibration and oscillation which are likely to occur during inertia or with unbalanced fixtures, thereby always providing stable operation at high speed. Even when fixtures or workpieces are changed, the adjustments such as parameters are not so much required.



	Max. speed	Acceptable inertia
Standard mode	100min⁻¹	1.0kg·m²
High inertia mode	50min⁻¹	4.0kg·m²

Reliable Service

One contact window throughout inquiry to after-sale service together with SPEEDIO.



Scan QR code to watch video of T-200A.

Machining demonstration



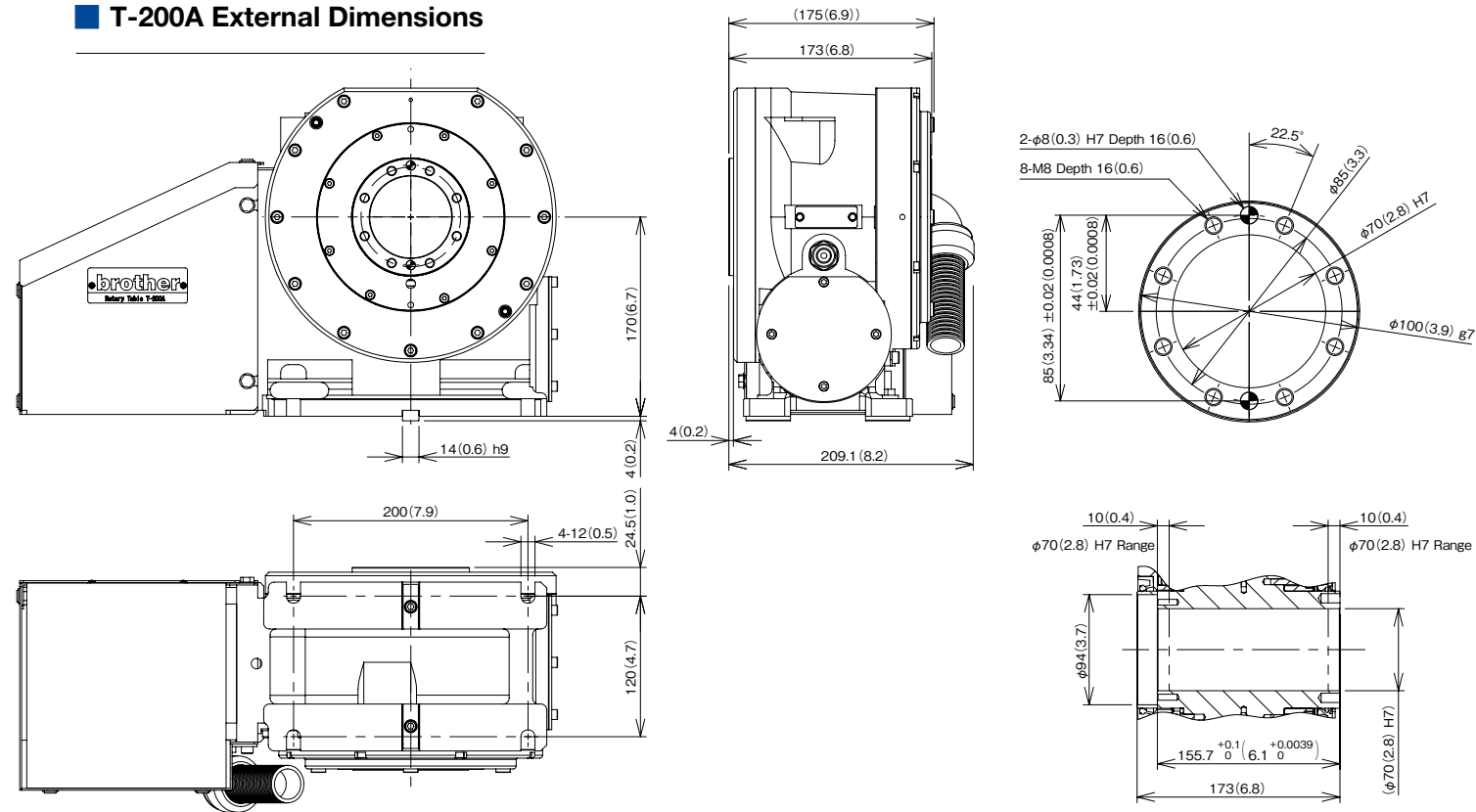
Roller gear cam animation



*Separate data communication fee incurs.

Option for *SPEEDIO* Rotary Table **T-200A**

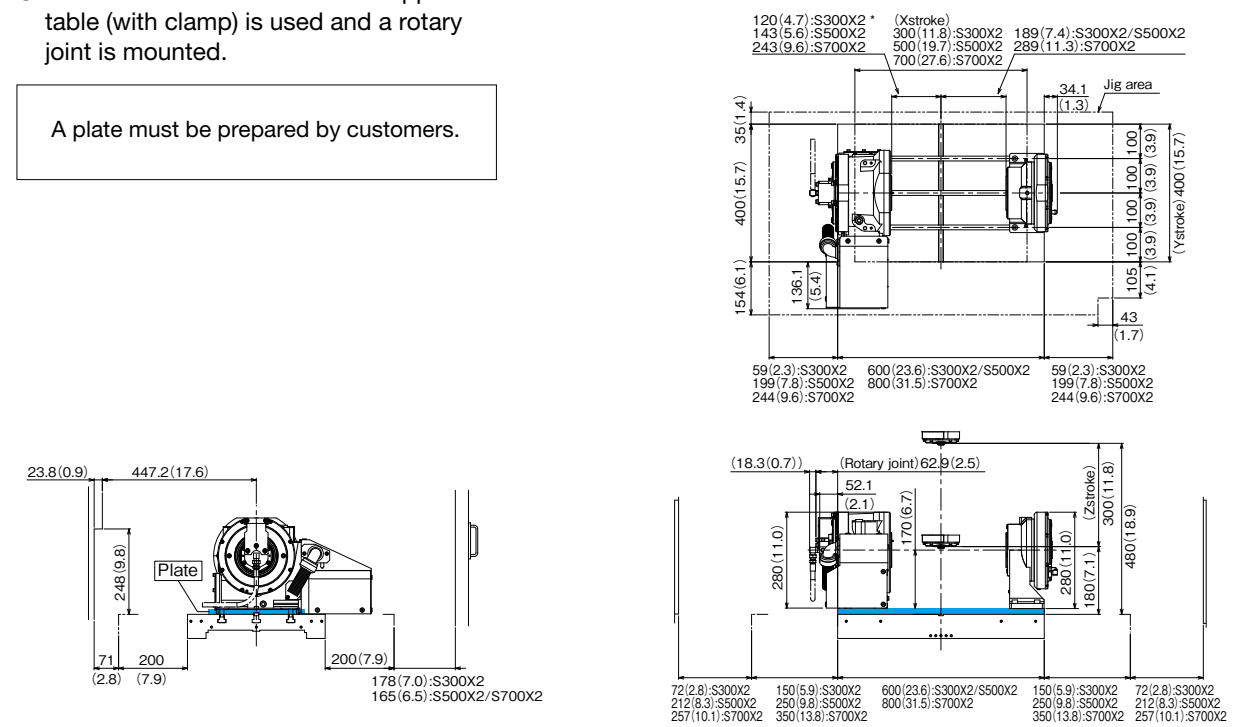
T-200A External Dimensions



Mounting layout S300X2 (X1) / S500X2 (X1) / S700X2 (X1)

● The illustration shows when a support table (with clamp) is used and a rotary joint is mounted.

A plate must be prepared by customers.

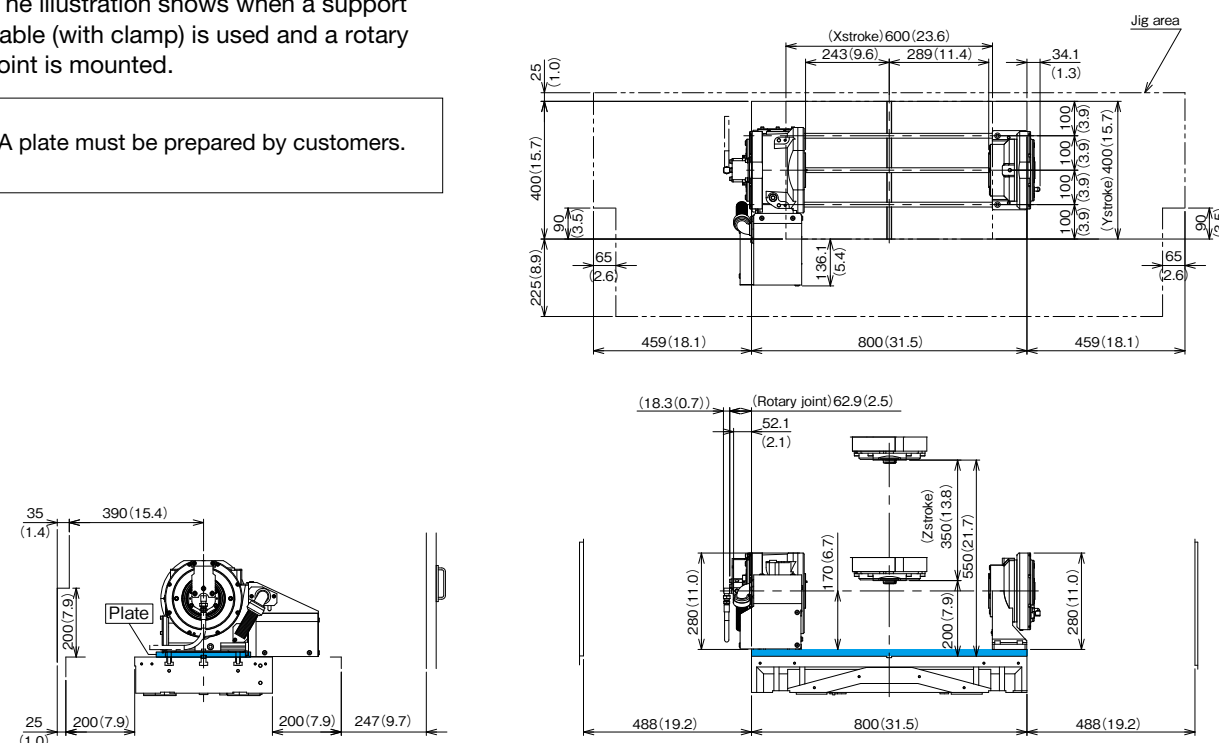


※ In case of S300X2, T-200A with rotary joint can not be installed on the table edge.

Mounting layout F600X1

● The illustration shows when a support table (with clamp) is used and a rotary joint is mounted.

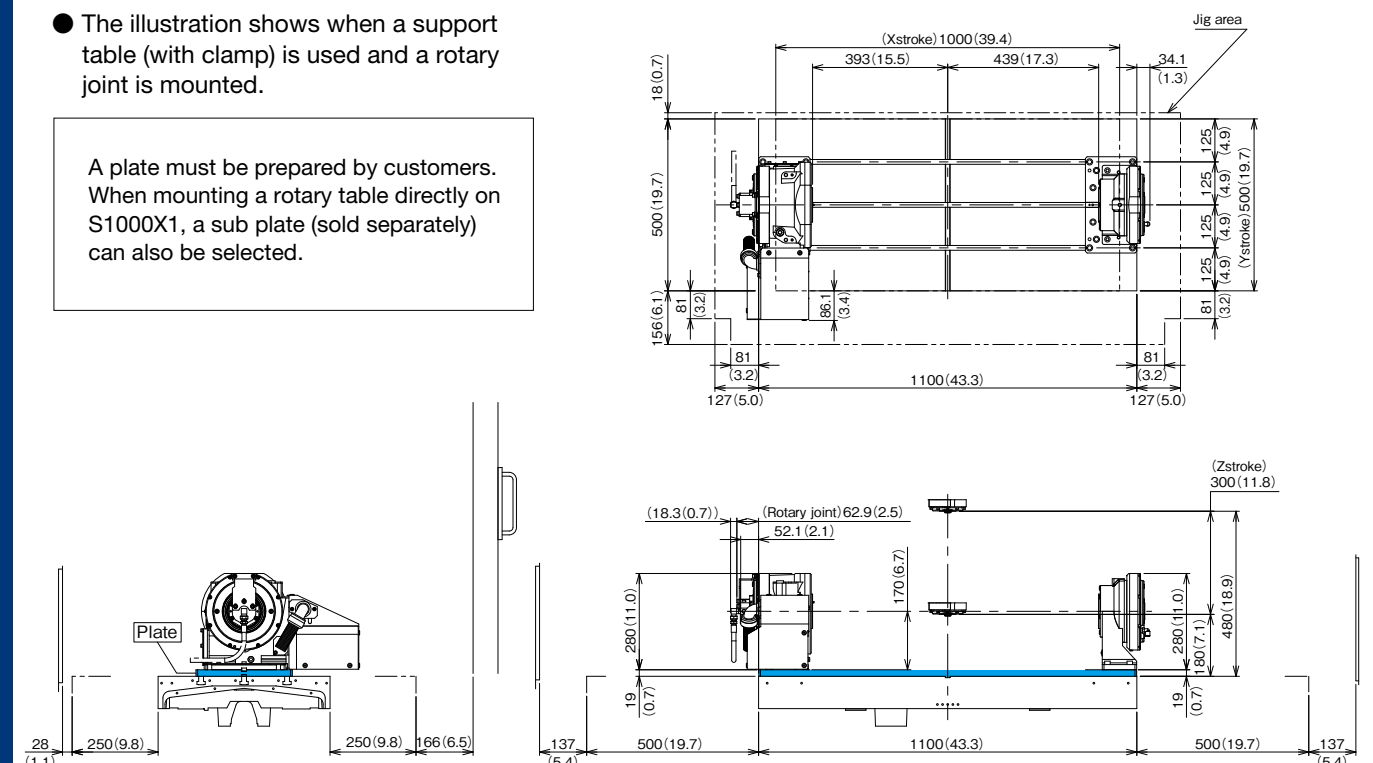
A plate must be prepared by customers.



Mounting layout S1000X1

● The illustration shows when a support table (with clamp) is used and a rotary joint is mounted.

A plate must be prepared by customers. When mounting a rotary table directly on S1000X1, a sub plate (sold separately) can also be selected.



Option for *SPEEDIO* Rotary Table **T-200A**

Specifications		
Type		Right-handed, Left-handed *1
Through hole diameter	(mm/inch)	70H7/2.8H7
Center height	(mm/inch)	170/6.7
Gear ratio		1/20
Maximum speed	(min ⁻¹)	100 (50 *2)
Bi-directional positioning accuracy (ISO230-2 compliant)	(s)	20 or less
Bi-directional positioning repeatability (ISO230-2 compliant)	(s)	10 or less
Indexing accuracy *3	(s)	10 or less
Repeatability *3	(s)	4 or less
Maximum loading capacity	(kg/lbs)	100/220 (200/440 *4)
Allowable work inertia	(kg·m ² /lbs·ft ²)	1.0/23.7 (4.0/94.8 *2)
Allowable unbalanced load	(kg·m/ft·lbs)	5.0/36.2
Clamp method		Pneumatic
Clamp torque	(N·m/ft·lbs)	280/207 (at 0.5MPa)
Maximum holding torque *5	(N·m/ft·lbs)	720/531 (at 0.5MPa)
Product weight	(kg/lbs)	61/134
Applicable models *6		S300X2 (X1) / S500X2 (X1) / S700X2 (X1) / S1000X1 / R450X2 (X1) / R650X2 (X1) / F600X1 / S500Z1 / R450Z1

*1. Only right-handed type available for R450X2 (Z1) and R650X2. *2. When high inertia mode (enabled by changing parameter setting) is used.
 *3. Based on Brother measurement standard. *4. When support table is used. *5. Obtained by the clamp torque plus the motor's holding torque.
 *6. S500Z1 and R450Z1 sold only in China.

Accuracy standards

Measurement items	Diagram	Allowable value (mm)
Deflection of table top surface		0.015
Deflection of table outer peripheral surface		0.010
Parallelism between rotation center and vertical mounting reference surface		0.020 for 150 mm
Squareness between table top surface and vertical mounting reference surface		0.020
Parallelism between rotary axis and guide block of vertical mounting reference surface		0.025 for 150 mm

● Positioning accuracy in one direction

Positioning at any 12 points in one direction (same direction), the differences between the command value input from NC and the actually positioned angle are measured, obtaining the difference between the measured maximum and minimum value of the 12 points. It is a commonly used measurement method which is not influenced by backlash because it rotates in one direction.

● Positioning accuracy and repeatability in one direction

5 times positioning at any 1 point in one direction (same direction), the differences between the actually positioned angles are measured. This is performed at any 12 points, obtaining the maximum value of the differences at each point. It is a commonly used measurement method which is not influenced by backlash because it rotates in one direction.

● Bi-directional positioning accuracy (Complies with ISO230-2)

Positioning at any 12 points is performed in the forward direction and then positioning at same 12 points are done from the reverse direction. The differences between the command value input from NC and the actually positioned angle are measured. This is performed 5 times at each point, obtaining the value accounted for variations in measured difference. The measurement is performed under more severe conditions than that of positioning accuracy in one direction, because backlash affects the result.

● Bi-directional positioning accuracy and repeatability (Complies with ISO230-2)

5 times positioning at any 1 point in the forward direction and from the reverse direction, the differences between the actually positioned angles are measured. This is performed at any 12 points, obtaining the maximum value of the differences at each point. The measurement is performed under more severe conditions than that of positioning accuracy and repeatability in one direction, because backlash affects the result.

● Clamp torque

Torque applied at the time when a minute positional deviation between the clamping part and the output shaft occurs, while removing the motor and the input shaft and applying a load to the output shaft with the clamp mechanism activated.

● Maximum holding torque

Torque before the positional deviation occurs, with all parts mounted, while applying a load to the output shaft with the motor and the clamping mechanism activated.

● Allowable workpiece inertia

Maximum value for inertia of object is attached to the fixture mounting face.

● Allowable unbalanced load

Maximum value for offset of object attached to the fixture mounting face.
 $U[\text{kg}\cdot\text{m}] = w[\text{kg}] \times L[\text{mm}] / 1000$

● Angle unit

1[°]=60[min]=3600[s]

● Example of calculating

Q. When the indexing accuracy is 10 seconds, what is the error at the edge 100mm radius from the center of rotation?
 A. $10[\text{s}] = 10/3600 \approx 0.0028[^\circ]$
 $100[\text{mm}] \times \tan(0.0028^\circ) = 0.005[\text{mm}]$
 When the rotation direction is displaced by 10 [s], the vertical deviation is 5 μm at the edge 100mm radius from the center of rotation.

