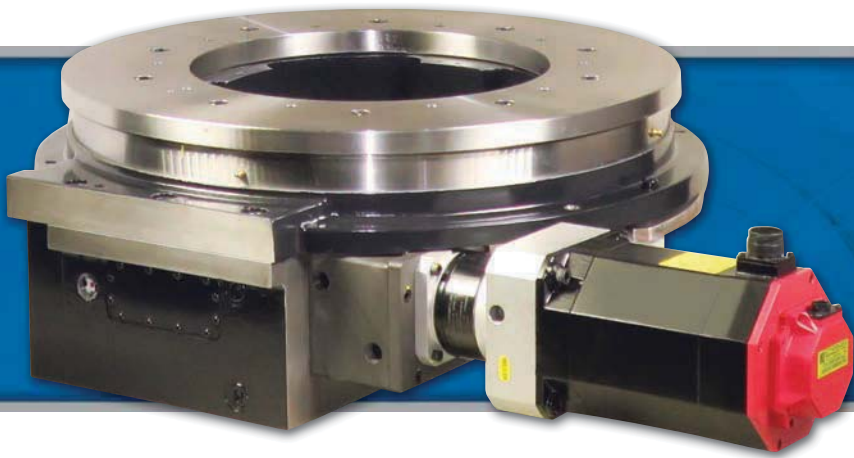




SANKYO
AUTOMATION



Precision. Quality. Reliability.

BR Series

Servo Ring Indexing Tables

Overview

BR Series Operation

SANKYO is the worldwide leader in indexing technology and continues to develop innovation in motion control. The BR series ring indexing system is based on a simple combination of a spiral cam and follower bearings mounted to a ring type turret. The precision machined profile of the cam, and the follower bearings rolling surface contact, produce jerk free smooth motions with minimal wear.

Preloaded bearings and follower bearings reduce backlash to minimize overall vibration to maintain accuracy and long service life. This versatile system is servo motor driven and fully programmable for any output motion pattern in forward or reverse directions. Multiple follower bearings interface with the cam for larger load capacities.

Each cam includes an input to output gear ratio. An inline or right angle reducer increases the gear ratio to allow large load transfer with smaller, less expensive servo motor drives. A large range of gear ratio options keep the motor at peak performance for speed and torque capacity. No need to inventory or train personnel on another servo motor brand, this system can be adapted to any servo motor manufacture.

Features

- **Speed:** Up to 25 RPM output speed
- **Accuracy:** ± 30 arc seconds indexing (± 0.002 " on a 20" radius)
- **Load Capacity:** Rotates 11,865 lb•ft² (500 kg•m²) load inertia, 180 degrees in 1.8 seconds
- **Versatile:** Programmable output motions, reconfigurable, mounts to any servo motor brand
- **Large Bore:** Tooling & components can mount inside and/or outside of the bore
- **Removable Ring:** Top rotating ring can be removed for machining & reattached with dowel pins
- **Motor Optimization:** A wide range of gear ratios eliminates oversizing & yields peak motor performance
- **Compact:** Low profile cast iron housing has a small footprint
- **Mounting:** BR housing mounts horizontal, inline or right angle reducer mounts in 90 degree increments
- **Lubrication:** Cam is in oil bath & output bearing is grease lubricated

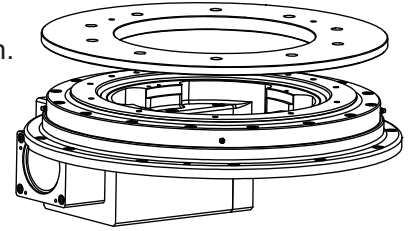
Options

- **Reducer:** Inline or right angle reducers are available in multiple ratios & accuracies
- **Custom Machining:** Custom mounting holes are available
- **Leg Spacer:** Leg spacers are available for countertop mounting
- **Machine Base:** Custom machine bases are available

Options & Model Code

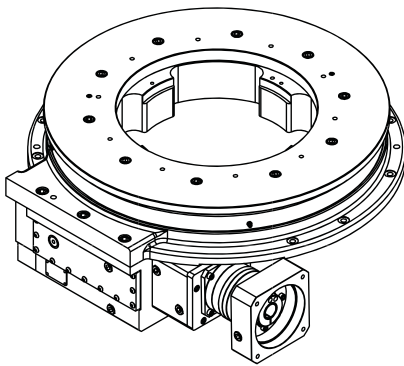
Removable Mounting Ring Plate

The output mounting plate is removable if additional machining is required. Dowel pins are used to locate the mounting ring back to the original location. As an option, Sankyo can provide custom machining or a new dial plate to meet your needs.

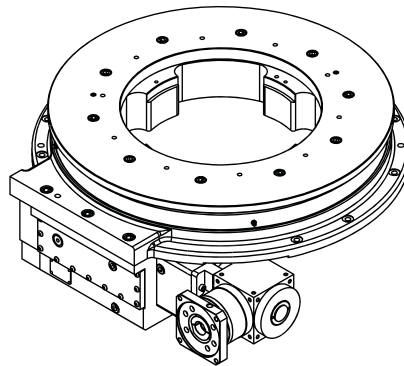


Reducer Options

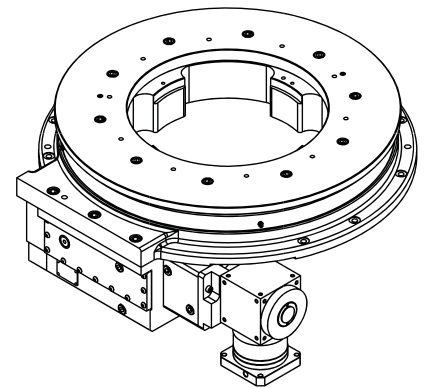
Sankyo offers an inline or right angle type reducers. Both can adapt to any servo motor brand of your choice. Right angle reducers can rotate in 90 degree increments for versatile mounting options.



Inline Reducer



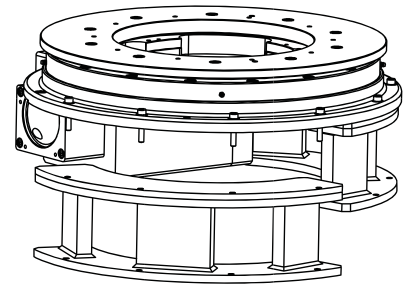
Right Angle Reducer
Position-1



Right Angle Reducer
Position-2

Riser Option

For tabletop mounting, a riser stand is offered to make the cam housing level to the output bearing ring surface. The riser is a bolt-on option with open sides and made in two pieces reduced weight. Rigid machine bases are offered with freestanding frames and custom configuration top plate.



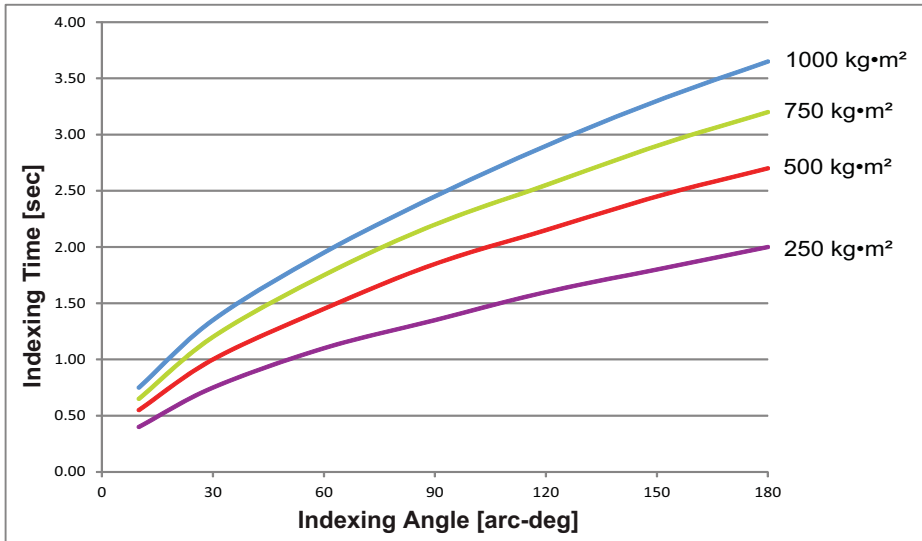
Model Code Nomenclature

BR 750 - 40 - AA - R / X - VRB090 - 005 - 28GH24

Model	Size	Cam Ratio	Reducer Mounting Code	Riser Option	Special Item	Reducer Drive Type	Reducer Ratio	Motor Adapter Code
BR	550 750	40 40:1	AA VRB, EVB, PAII, PAIR BA PA, SP CB ATB	R (2) Riser Spacers	/X Requires Drawing	Inline or right angle reducer model & frame size	005 5:1 010 10:1	Reducer motor mount adapter code

Load Capacity

BR550 Load & Time Capacity

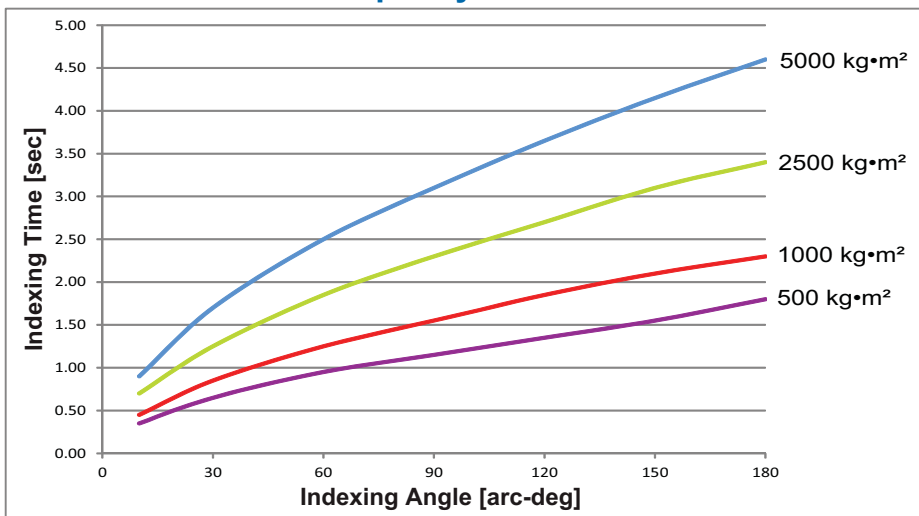


Application Examples

Load: 50 kg·m²
Rotation: 30 degrees
Motion Time: 0.4 sec.
Dwell Time: 1 sec.
B10 Life Hours: 58,000
Reducer: 3:1 Ratio
Motor: MPL-B4560F

Load: 1,000 kg·m²
Rotation: 180 degrees
Motion Time: 3.7 sec.
Dwell Time: 8 sec.
B10 Life Hours: 8,000
Reducer: 3:1 Ratio
Motor: MPM-A1651F

BR750 Load & Time Capacity

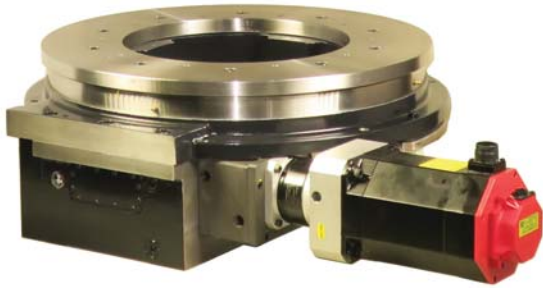


Application Examples

Load: 20 kg·m²
Rotation: 10 degrees
Motion Time: 0.2 sec.
Dwell Time: 1 sec.
B10 Life Hours: 120,000+
Reducer: 3:1 Ratio
Motor: MPL-B540K

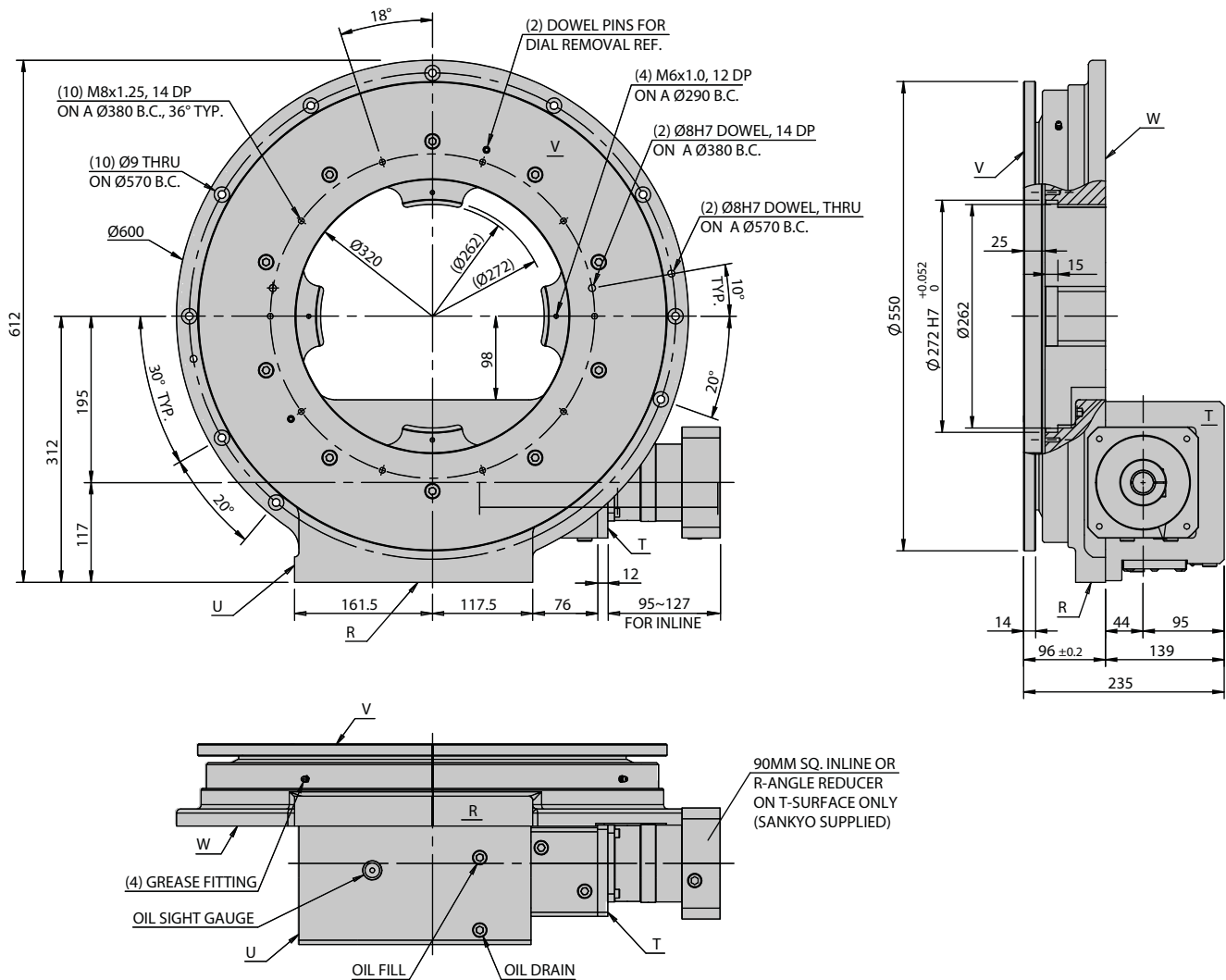
Load: 5,000 kg·m²
Rotation: 180 degrees
Motion Time: 4.6 sec.
Dwell Time: 8 sec.
B10 Life Hours: 8,000
Reducer: 7:1 Ratio
Motor: MPM-A1653F

BR550 Specifications



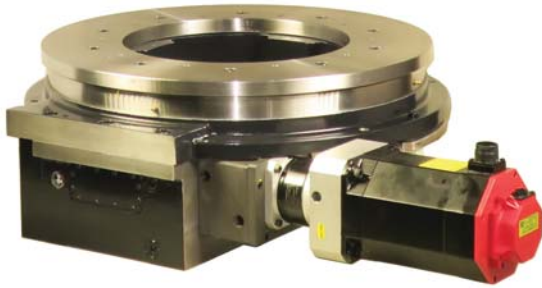
Total Gear Ratio	120:1 to 400:1 (40:1 cam)
Max. Acceleration Torque	13,718 lb•in (1,550 N•m)
Max. Static Rated Torque	19,471 lb•in (2,200 N•m)
Emergency Stop Torque	15,046 lb•in (1,700 N•m)
Max. Output Torque (5 RPM)	9,116 lb•in (1,030 N•m)
Max. Output Speed	25 RPM
Nominal Output Speed	8 RPM
Angular Positioning Accuracy	±32 to 35 arc seconds
Repetitive Positioning Accuracy	±12 to 15 arc seconds
Output Axial/Radial Runout	≤ 0.0016 in (≤ 40 μm)
Max. Static Output Axial Load	9,801 lbs (43,600 N)
Max. Static Output Radial Load	2,697 lbs (12,000 N)
Max. Static Output Bending/Tilt	29,207 lb•in (3,300 N•m)
BR Unit Only Weight	385 lbs (175 kg)
Inline Reducer Weight	8.2 lbs (3.7 kg)

BR550 Dimensions



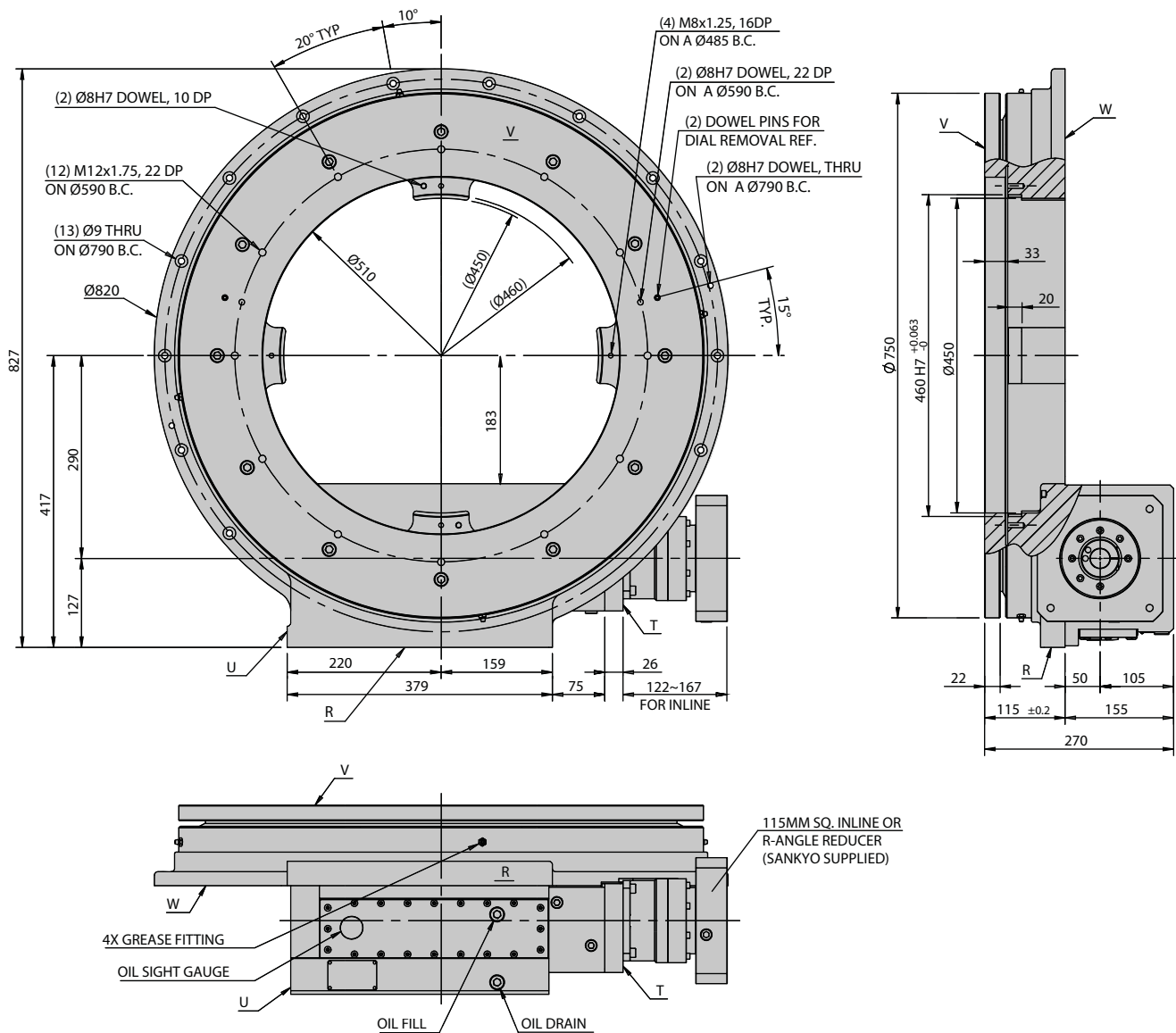
Dimensions are in mm and subject to change without notice

BR750 Specifications



Total Gear Ratio	120:1 to 400:1 (40:1 cam)
Max. Acceleration Torque	37,084 lb•in (4,190 N•m)
Max. Static Rated Torque	52,927 lb•in (5,980 N•m)
Emergency Stop Torque	43,899 lb•in (4,960 N•m)
Max. Output Torque (5 RPM)	26,375 lb•in (2,980 N•m)
Max. Output Speed	25 RPM
Nominal Output Speed	8 RPM
Angular Positioning Accuracy	±32 to 35 arc seconds
Repetitive Positioning Accuracy	±12 to 15 arc seconds
Output Axial/Radial Runout	≤ 0.0019 in (≤ 50 μm)
Max. Static Output Axial Load	13,263 lbs (59,000 N)
Max. Static Output Radial Load	4,945 lbs (22,000 N)
Max. Static Output Bending/Tilt	72,576 lb•in (8,200 N•m)
BR Unit Only Weight	661 lbs (300 kg)
Inline Reducer Weight	17.6 lbs (8.0 kg)

BR750 Dimensions



Servo Indexer Sizing Form



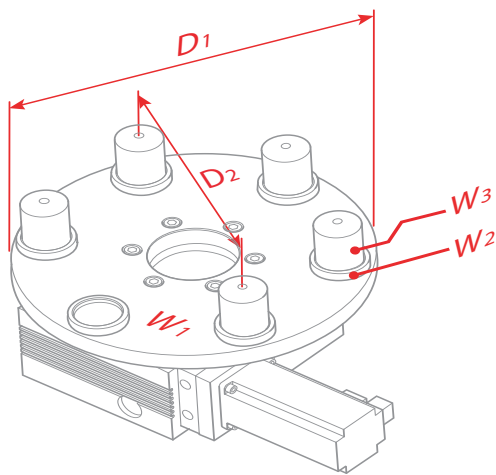
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Company			
Address			
Contact Name			
Tel		Fax	
E-mail Address			

A) List the longest output motion in degrees & time to complete this motion with dwell/process time:

B) Please provide the application information below



D_1 - Table Diameter [mm]
W_1 - Table Weight [kg]
D_2 - Part/fixture Diameter [mm]
W_2 - Fixture Weight [kg]
W_2 - Fixture Quantity
W_3 - Part Weight [kg]
W_3 - Part Quantity

If known, additional axial/radial load [N]

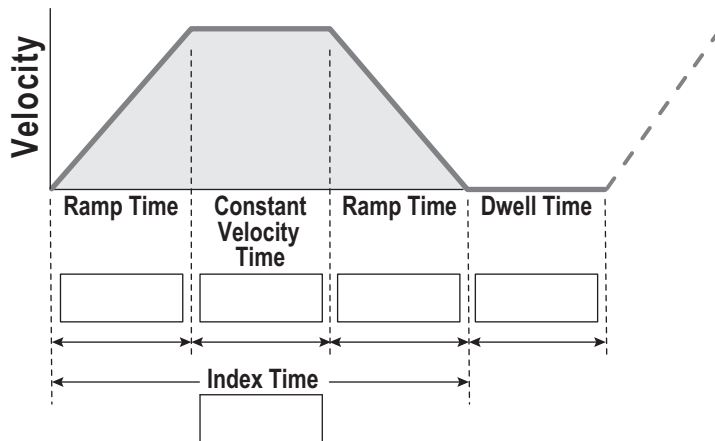
If known, bending moment/unbalanced load [Nm]

C) Acceleration, motion, deceleration time & dwell/process time [sec]

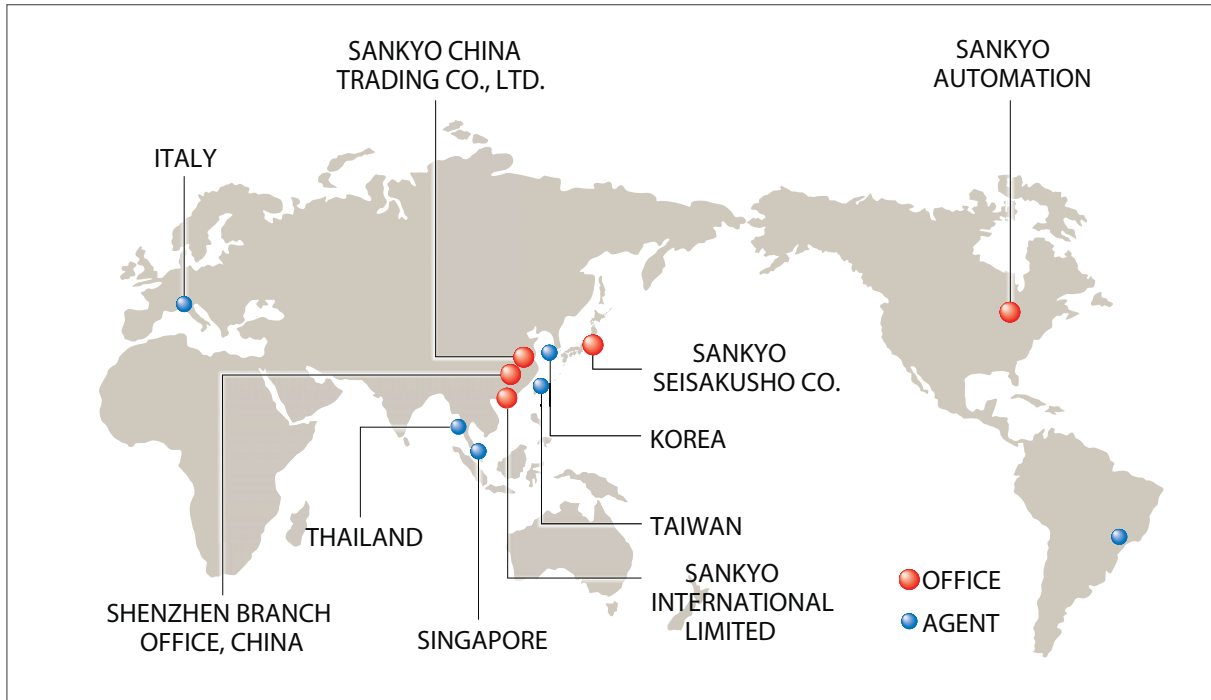
Servo Motor Brand Name

Model Number [if known]

Notes



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