

# HarmonicDrive®

## High Precision SHA-CG Actuators

### Compact, Hollow Shaft Design

#### Direct Drive Motor Performance

~ 80-90% less weight

~ 50% more compact

High torque for fast acceleration and positioning

The SHA-CG delivers high precision with improved positioning accuracy and surface runout. Ideal for high precision rotary applications such as indexing tables.



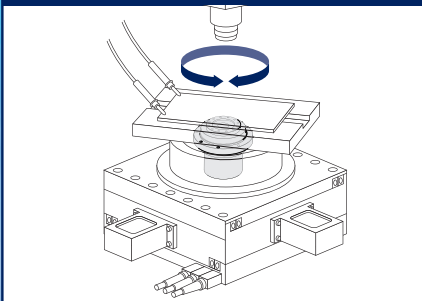
#### Application Examples

Measurement, Analytical and Test Systems

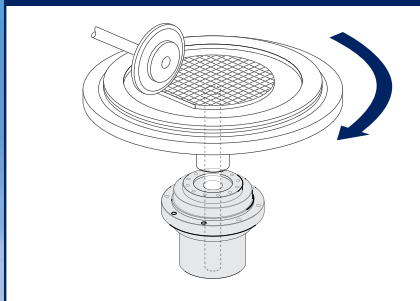
Optical Equipment

Machine Tools

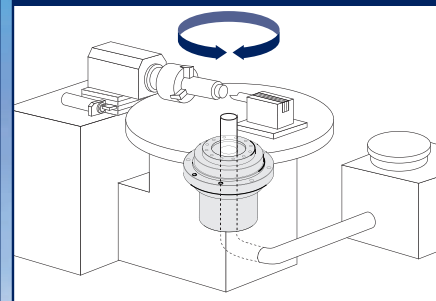
#### Theta Axis



#### Wafer Dicing



#### Precision Machining (Indexing Device)



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The SHA-CG Series actuators is compact, delivers high torque and features a hollow shaft that allows design versatility in demanding applications.

## SHA-CG Series

### Model Options

**■ Gearhead**

Standard	Harmonic Drive® Gear - CSG Series 50:1 ~ 160:1
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**■ Cable Orientation**

Standard	Rear exit
Option	Side exit

**■ Encoder**

Standard	Magnetic Absolute Encoder (17 bit) Multi-Turn (16 bit) (Nikon -A Format)
Option	Absolute Encoder: Panasonic format, Mitsubishi format, <b>Rise-C</b> format Incremental Encoder

**■ Brake**

Standard	No Brake
Option	Motor Brake (Integrated without dimension change)

**■ Servomotor**

Standard	200V AC 100V AC (size 25)
Option	100V AC 72V DC, 48V DC

**■ Environmental**

Standard	IP 54 Temperature Range 0°C - 40°C UL, CE marking, RoHS
Option	IP 65




**■ Output Bearing**

Standard	Cross Roller Bearing
Option	Larger size bearing for higher load capacities

**■ Option**

Origin & End Limit Sensor
Mounting Stand

### Driver and Extension Cables

General Purpose I/O Commands Control Modes (Position / Velocity / Current)	Size 20	Size 25	Size 32	Size 40
  MECHATROLINK-IICommands	REL-230-18	REL-230-18 REL-230-36	REL-230-18 REL-230-36	REL-230-36 REL-230-40
 CC-Link Commands	HA-800B-3D/E-200	HA-800B-6D/E-100 HA-800B-3D/E-200	HA-800B-6D/E-200	HA-800B-6D/E-200 (HA-800B-24D/E-200)
	HA-800C-3D/E-200	HA-800C-6D/E-100 HA-800C-3D/E-200	HA-800C-6D/E-200	HA-800C-6D/E-200 (HA-800C-24D/E-200)

