

CKD

Electric Component Product Digest

ROBODEX
ABSODEX

TENGINE
Powered by NIKKIDENSO

CKD Corporation

CC-1667AA

Introducing CKD's electric devices that

open up the future of Factory Automation



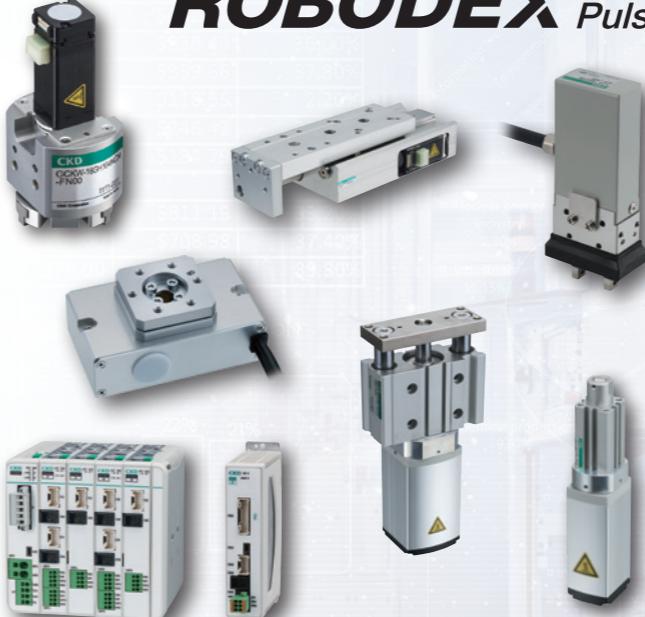
ROBODEX

Inheriting DNA and evolution, new choices, expanding possibilities

ROBODEX Std.



ROBODEX Pulse



ROBODEX Servo



ABSODEX

Making absolute trust even stronger



Index Drives



TENGINE

Beyond the possibilities created by high specs

tau DISC® Servo Motor



tau Linear



tau Linear Stage



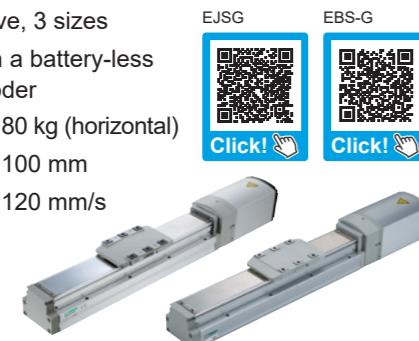
tau Servo Compass



E Series “Evolution”

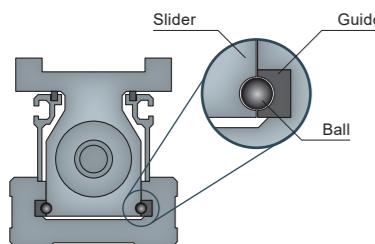
Slider Type EJSG, EBS-G Series

- Ball screw drive, 3 sizes
- Equipped with a battery-less absolute encoder
- Max. payload: 80 kg (horizontal)
- Max. stroke: 1100 mm
- Max. speed: 1120 mm/s



Compact, high-rigidity body

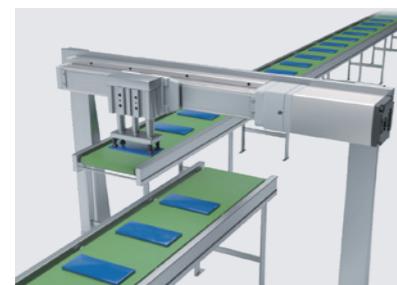
Outer rail is adopted for the guide supporting the load.



Slider Type EJSG/EBS-G series

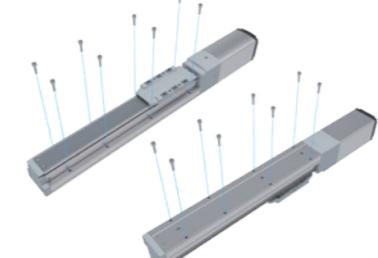
Pick & Place

Realizes high rigidity and space saving for the 1st axis of combined configuration.



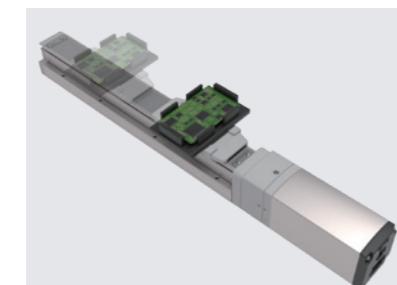
Mountable from top and bottom surfaces

Can be installed from both top and bottom surfaces without disassembling the product.



Shuttle transfer

High speed transfer is possible with high output controller.



Rod Type EBR-G Series

- Ball screw drive, 3 sizes
- Equipped with a battery-less absolute encoder
- Max. payload: 80 kg (horizontal)
- Max. stroke: 700 mm
- Max. speed: 1000 mm/s



Click!

Equipped with external grease fitting port

Equipped with lubrication ports on both sides for direct lubrication from the outside.



* Slider type only

Rod Type EBR-G Series

Press-fitting process

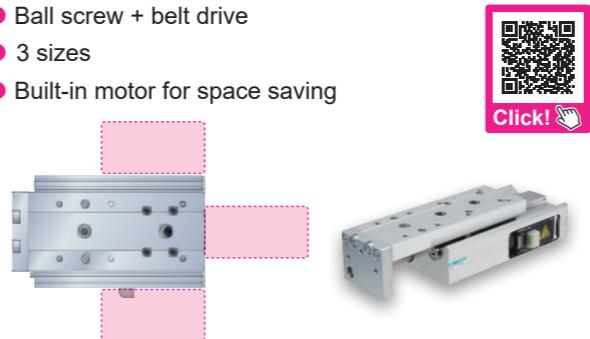
Light press-fitting is supported without external guide by guide-integrated actuator.



F Series “Fusion & Future”

Table Type FLCR-G Series

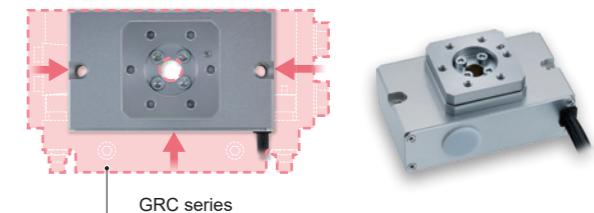
- Ball screw + belt drive
- 3 sizes
- Built-in motor for space saving



Click!

Rotary Type FGRC-G Series

- Worm gear + belt drive
- 3 sizes
- Manual table position adjustment
- Self-lock mechanism



Click!

2-Finger Gripper FLSH-G Series

- Sliding screw drive
- 3 sizes
- Manual finger position adjustment
- Self-lock mechanism



Click!

Abundant options

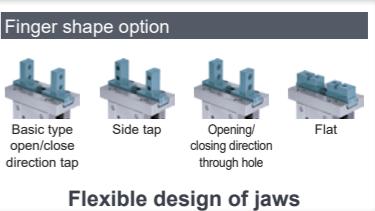
Supports various options such as with case, with rubber cover, and finger shapes.



With case



Rubber cover option



Finger shape option

Basic type open/close direction tap
Side tap
Opening/closing direction through hole
Flat

Flexible design of jaws

G Series “General purpose”

Rod Type GSSD2 Series

- Sliding screw drive, 3 sizes
- Equipped with a battery-less absolute encoder
- Max. payload 14.8 kg (horizontal)



Click!

3-Finger Gripper GCKW Series

- Sliding screw drive, 3 sizes
- Max. gripping power 29 N (one side)



Click!

Guided Type GSTG/GSTS/GSTL Series

- Sliding screw drive, 3 sizes
- Equipped with a battery-less absolute encoder
- Max. payload 14.8 kg (horizontal)



Click!

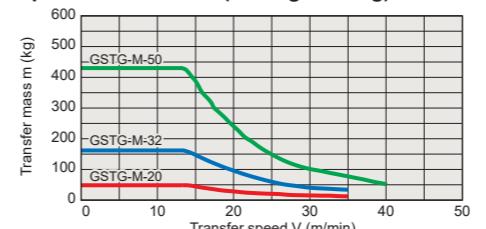
Stopper Type GSTK Series

- Sliding screw drive, 3 sizes
- Equipped with a battery-less absolute encoder
- Max. thrust 192 N (vertical)



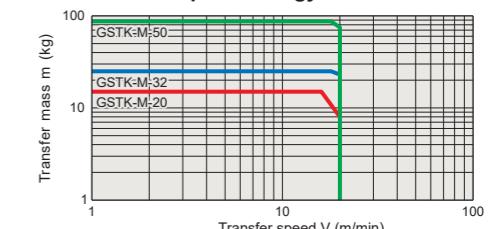
Click!

Impact load GSTG-M (Sliding bearing)

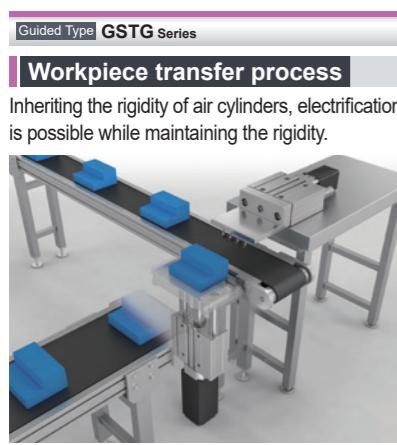
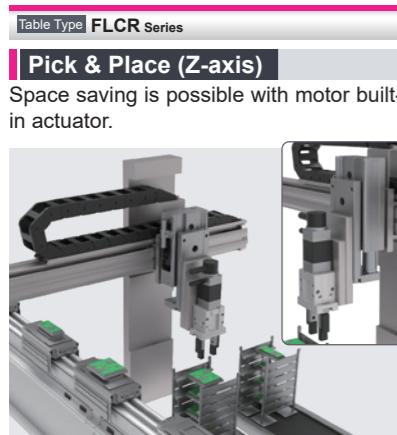


Click!

Allowable absorption energy



Click!



Multi-axis Controller ECMG Series

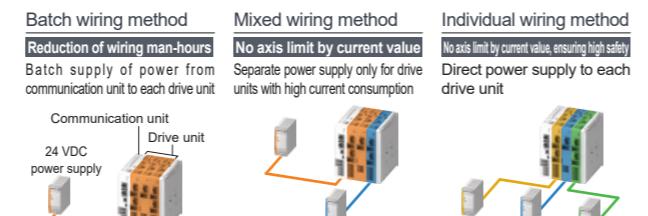
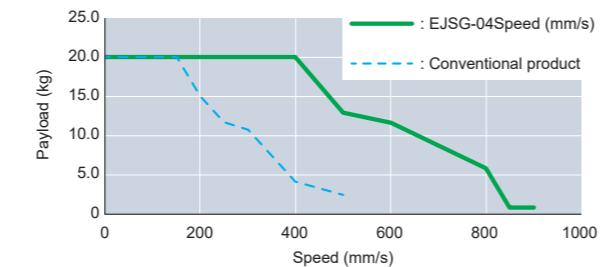
- Supports up to 16 axes
- Three types of power supply methods
- Significant improvement of basic performance

PROFI
NET

EtherCAT®

CC-Link

EtherNet/IP



Single Axis Controller ECG Series

- Two types of Controllers
- 5 types of communication methods

IO-Link EtherCAT® Parallel IO

CC-Link EtherNet/IP



Controller Built-in Type LRX Series

LRXE-BS Slider Type



Click!

LRXG-STG Guided Type



Click!

ROBODEX Pulse Light

Realizes positioning at up to 4 points

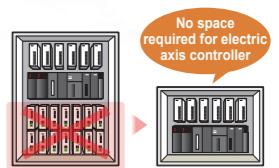
4-point mode

After specifying the point number with the point number selection bit, movement starts when the point movement start signal is turned ON. If turned OFF during operation, it decelerates and stops.

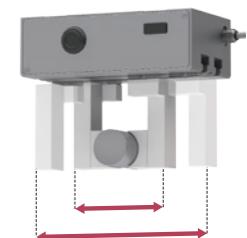


Realizes space saving of the control panel

Integration of motor and controller eliminates the need to install a controller inside the control panel. Space saving in the control panel is realized.

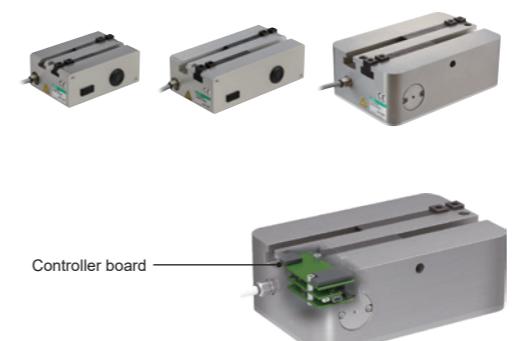
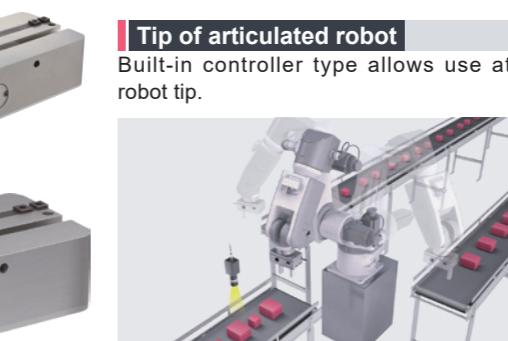


IO-Link



High gripping force, long stroke

Achieves high gripping force of 500 N (single side) and long stroke of 160 mm (80 mm single side). Can transfer heavy and diverse workpieces with a single tool.



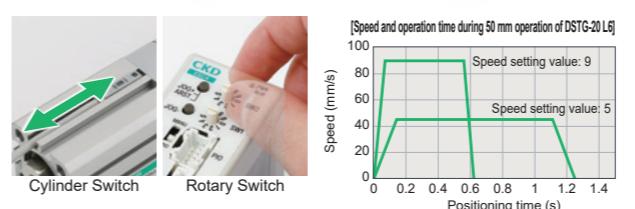
Screw drive method D Series

Specific to positioning between two points



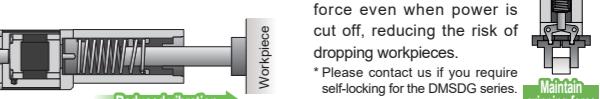
Spring drive method D Series

Specializing in clamp and grip applications



DMSDG Series

The spring mechanism eliminates the need for low-speed operation during pressing and reduces impact on the workpiece.



DLSH/DCKW Series

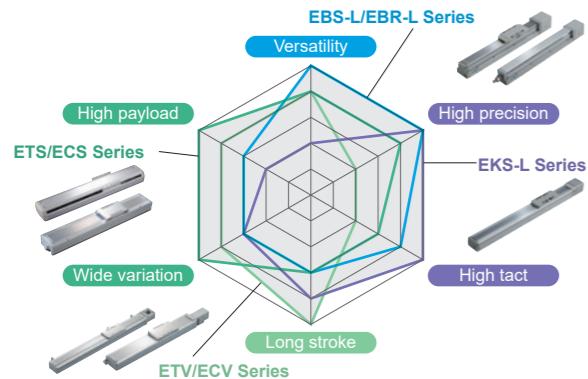
The self-lock and spring mechanism maintain gripping force even when power is cut off, reducing the risk of dropping workpieces.

* Please contact us if you require self-locking for the DMSDG series.



ROBODEX Std.

Standard model that expands the possibilities



Compatible Servo Motor Manufacturer List	EBS-L	ETS/ECS/ETV/ECV	EKS-L
Mitsubishi Electric Corporation	●	●	●
Delta Electronics, Inc.	●	●	●
SANYO DENKI CO., LTD.	●	●	●
Yaskawa Electric Corporation	●	●	●
KEYENCE CORPORATION	●	●	●
Panasonic Corporation	●	●	●
OMRON Corporation	●	●	●
Fuji Electric Co., Ltd.	●	●	●
FANUC CORPORATION	●	●	●
DENSO WAVE INCORPORATED	●	● ¹	
Bosch Rexroth AG	●	●	●
Rockwell Automation, Inc.	●	●	●
SIEMENS AG	●	●	●

Supported stepping motor manufacturers list	EBS-L	ETS ECS
Oriental Motor Co., Ltd.	●	●
MinebeaMitsumi Inc.	●	●
Dyadic Systems Co., Ltd.	●	●

* Refer to the page of each model for details about supported models and capacity.

We provide the actuator body, brackets that fit the motor of each manufacturer you selected, and other mounting parts. It is a standard model of ROBODEX that allows a wide range of choices according to the situation you want to use, such as motor unification in equipment, inventory reduction, and motion control.

¹ Only metal stopper use (ETS-X) is supported.

Slider Type EBS-L Series

- Ball Screw Drive
- Utilizes outer rail guide
- Supports servo motors 50 to 400 W
- Supports stepping motors 42 to 60
- Max. payload: 110 kg (horizontal)
- Max. stroke: 1250 mm



Rod Type EBR-L Series

- Ball Screw Drive
- Utilizes outer rail guide
- Supports servo motors 50 to 400 W
- Supports stepping motors 42 to 60
- Max. payload: 110 kg (horizontal)
- Max. stroke: 800 mm



Slider Type ETS/ECS Series

- Ball Screw Drive
- Supports servo motors 100 to 750 W
- Supports stepping motors 42 to 60
- Max. payload: 150 kg (horizontal)
- Max. stroke: 1500 mm
- Low dust specification: ECS Series



Slider Type EKS-L Series

- Ball Screw Drive
- Steel housing
- Circular arc groove guide
- Servo motor 50 to 750 W compatible
- Max. payload: 118.5 kg (horizontal)
- Longest stroke: 1500 mm



Electric Shuttle Mover

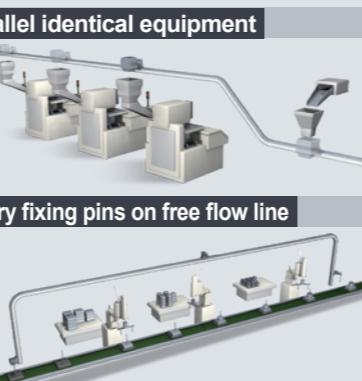
ESM Series

- Overhead P&P transport system
- Belt Drive
- Motors from various manufacturers can be mounted (motorless type)



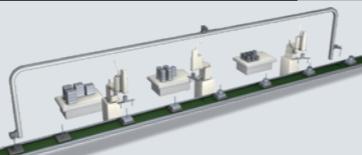
Supply parts to parallel identical equipment

Consolidate the supply of assembly parts to multiple aligned identical equipment with a single actuator.



Collection of temporary fixing pins on free flow line

Collect the pins that temporarily fixed the workpiece at the start of assembly, at the end. Return to the starting location.



ROBODEX Servo

High payload and high mechanical rigidity enable unrestricted space

Cartesian Robot KBX Series

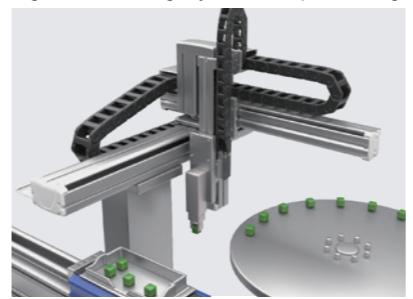
- All models are absolute types
- Servo motor: 50 to 750 W
- Ball screw drive, 6 sizes, max. stroke: 1700 mm, Max. payload: 250 kg
- Belt drive, 4 sizes, max. stroke: 4450 mm, max. payload: 200 kg
- I/O (NPN, PNP), CC-Link, DeviceNet, EtherNet/IP *
- Abundant variations can be constructed by combining standard modules

* The Special Specification Product will be installed



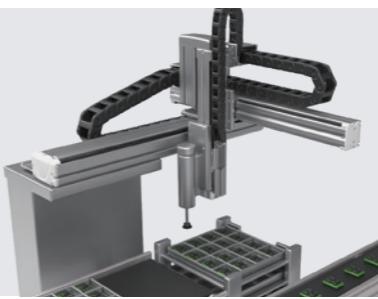
Pick & Place

Combination of up to 4 axes is possible. High mechanical rigidity achieves space saving.



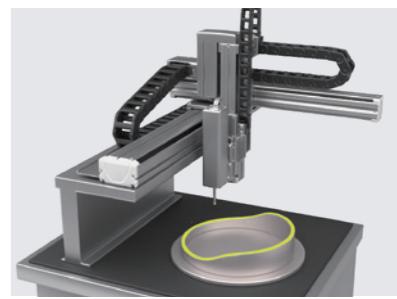
Palletizing

Palletizing operation can be easily realized by the robot controller.



Circular interpolation motion

Circular motion is possible with orthogonal axes, such as in the application process of circular workpieces.



Flexible space and time at high speed

Horizontal Articulated (SCARA) Robot KHL Series (standard) /KHE Series (high precision)

* Japan only release

- Compact with high performance
- Ideal for light press fitting and screw tightening
- Easy-to-use PC software
- Can be connected to various image processing systems
- Compatible with all-types of networks

KHL



KHE



Ethernet / PROFINET /
DeviceNet /
CC-Link / EtherNet/IP™
EtherCAT® / PROFINET™



Pick & Place

High mechanical rigidity enables optimization of pick & place.



Palletizing

Palletizing operation can be easily realized by the robot controller.



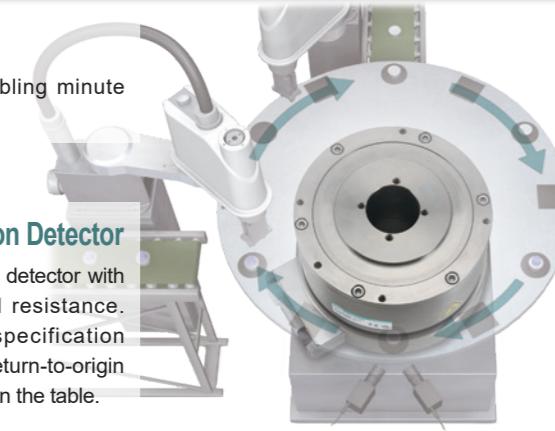
Linear interpolation

High trajectory accuracy allows use in coating processes, etc.



High Precision

Can be used for assembling minute electronic components.



Built-in Rotary Position Detector

Built-in resolver, a position detector with excellent environmental resistance. Battery-less absolute specification eliminates the need for return-to-origin and recognizes the angle on the table.

High Torque

Not only lightweight aluminum tables but also large index tables exceeding 2 m in diameter can be mounted directly.



Built-in Bearing

High rigidity bearing is built in. Strong against moment and suitable for press-fitting work.

Benefits of ABSODEX

- Reduction of the number of parts
- No backlash
- Space-saving
- Maintenance-free
- Sensorless
- Reduced design processes
- Silent
- Improved environmental friendliness



ABSODEX

Flexible Operation

Realize desired operation with abundant program creation functions. Since changing operation is easy, it responds flexibly to specification changes of equipment and lines. Reuse is also possible.



5 Series available according to applications

High Precision Type AX1R Series

- Maximum torque: 22 to 210 N·m
- 5 sizes
- High precision
- Ideal for assembly and inspection



Click!

High Speed Rotation Type AX2R Series

- Maximum torque: 6 to 18 N·m
- 3 sizes
- Small diameter / high-speed rotation
- P&P, Ideal for turntable and assembly



Click!

Standard Type AX4R Series

- Maximum torque: 9 to 1000 N·m
- 8 sizes
- Large hollow bore
- P&P, Ideal for turntable and assembly



Click!

Waterproof / Dustproof Type AX8R Series

- Special Specifications
- Maximum torque: 45 to 70 N·m
- 2 sizes
- Waterproof specs. (IP65 or equivalent)
- Ideal for inspection and alignment



Click!

Various Drivers

- Compatible within each series
- The startup support tool is available for free on our HP



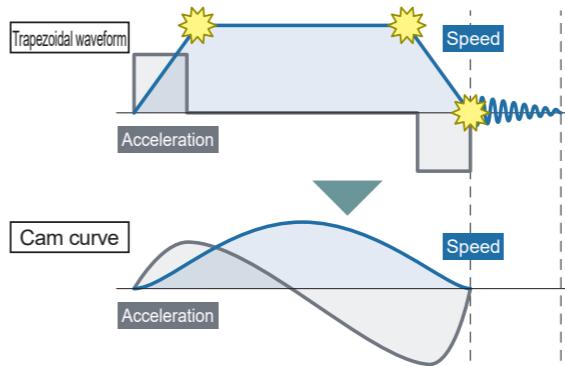
Parallel IO
EtherCAT®
CC-Link
EtherNet/IP™



Click!

High motion characteristics

Smooth acceleration/deceleration by cam curve enables high speed and high cycle operation.

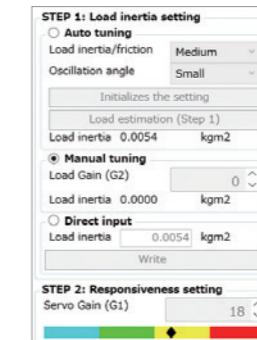
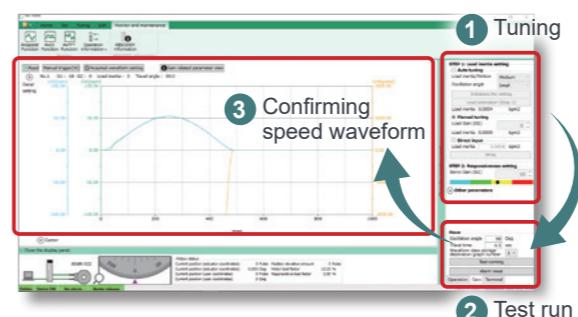


Shockless positioning

Stop smoothly

Gain adjustment is easy

Gain adjustment is 2 steps: load estimation and response adjustment. Load estimation now allows direct setting of inertia value. Response adjustment has increased from conventional 16 levels to 32 levels, allowing finer adjustment. Furthermore, executing test operation allows immediate confirmation of adjustment results, shortening adjustment time.



Gain adjustment according to load is possible

- Reduction of startup time
- Suppression of overshoot

Application Example

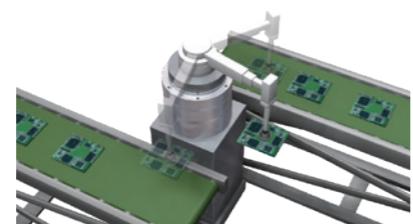
Assembly / Inspection

Assembly and inspection can be realized on a rotary table with indexing operation.



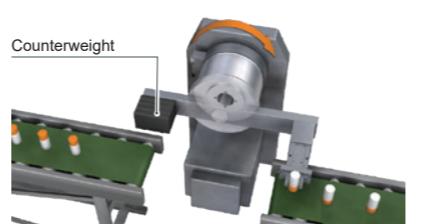
Pick & Place

Handling between processes is possible by oscillating.



Reversing transfer

Can be used for reversing mechanism by balancing the workpiece.



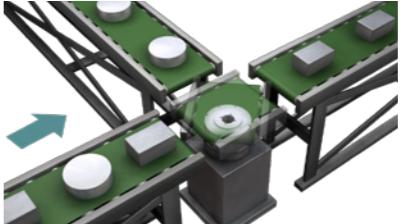
Stocker

Can be used for stocker for workpiece supply. Enables support for multiple product types.



Conveyor transfer

Can be used for direction change and posture change on conveyor. *Attention to rigidity is required.



Handling Θ axis

Can be used as tip axis for workpiece angle adjustment. *Attention to rigidity is required.



■ High performance direct drive motor



Standard Type ND-s Series

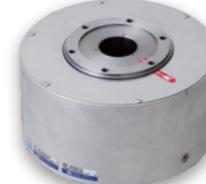
- Space saving/cost balance
- Rated torque: 3.4 to 500 N·m



Click!

High Speed Rotation Type ND-s HS Series

- High speed pick&Place, continuous high-speed rotation
- Rated torque: 8 to 24 N·m



Click!

Low-profile Type ND-u series

- Ultra-thin motor with a thickness of 39.5 mm
- Rated torque: 11.5 to 35 N·m



Click!

High Rigidity / High Precision Type DD-s Series

- High load, large inertia, stopping accuracy
- Rated torque: 10 to 2000 N·m



Click!

High Response Type HD-s Series

- Cylinder shape, high-speed index, high torque/high-speed rotation
- Rated torque: 27 to 68 N·m



Click!

Large Torque / Cylinder Type iD Series (air-cooling)

- Can save energy by combining with a power regenerative Drivers
- Rated torque: 150 to 7,000 N·m



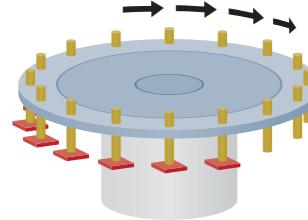
Click!

* Water-cooled type with even larger capacity is also available.

Application Examples

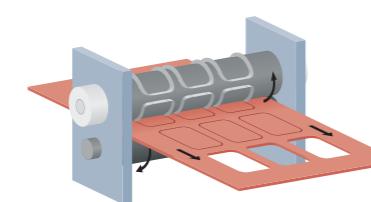
High Speed Index Drive

Can be used for high-speed indexing operations in handlers, visual inspections, etc.



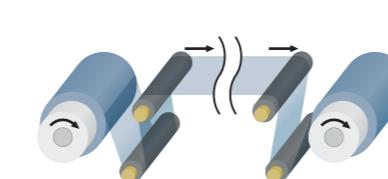
Rotary Drive

Can be used in operations where speed stability is important, such as die cutters and printing machines.



Unwinding, Winding Drive

Can be used in film handling processes such as laminators and coaters.



■ Diverse lineup from straight units to arcs

tau Linear

Linear Type

- Rated thrust: 13.8 to 1500 N



Click!

tau Servo Compass

Coreless / Arc Type

- Rated tangential thrust: 120 to 300 N



Click!

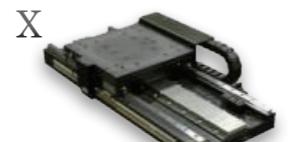
■ High-spec stage that focuses on accuracy

tau Linear Stage

High Precision Type τ Linear Stage



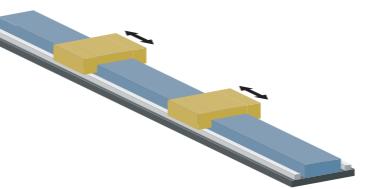
Click!



Application Examples

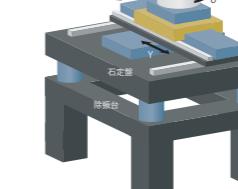
Stage Block

Compatible with max. stroke 21.3 m and max. speed 5 m/s.



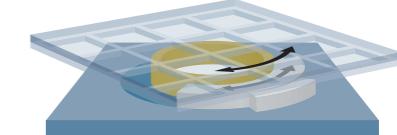
τ Linear Stage

Construction of X/XY/XYΘ stages is possible. Positioning accuracy, speed stability performance guarantee (Option).



τ Servo Compass

Compatible from minute angle to 1 rotation operation. Space-saving alignment stage can be realized.



■ Driver

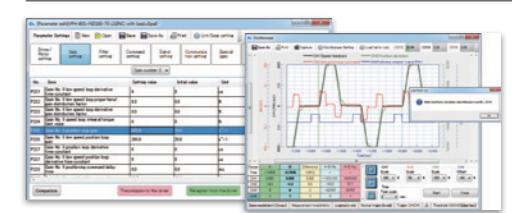
High Performance Type VPHSeries

- Excellent speed stability that significantly suppresses torque ripple
- Stable operation when stopped
- Smooth operation reduces Positioning time



Click!

■ Configuration Tool



Click!

niEAT

- Interactive support for typical initial setup
- Automatic adjustment is completed in about 5 mins. by simply entering the conditions being used
- Automatically sets filters and adjusts the gain

Index Drives

OTHER

Synchronized motion of multiple axes

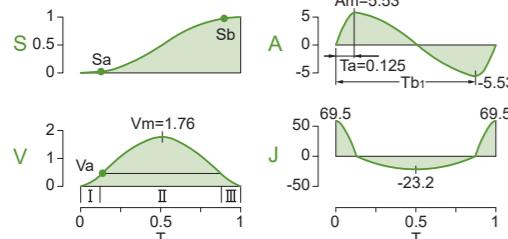
Synchronization characteristics

Operation of multiple cam units is possible with one drive

High-speed/frequency swiveling and stopping of output shaft

Motion characteristics

Realizes smooth motion curve by cam



High-precision repeated motion using uniform rotation speed

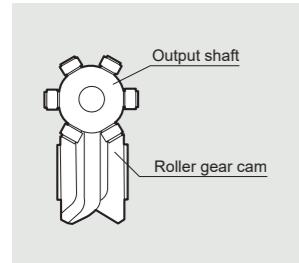
Repetitive characteristics

By giving constant speed rotation to the input shaft, a series of motions can be repeated with extremely excellent precision

Ideal for driving index tables

Roller Gear Cam Unit

Compact, high speed, high output, high precision, high rigidity



Standard Type
ZRS-04 to 14



Click!

Ideal for driving index tables

Pick and Place

● High Precision/High Rigidity ● Compact, thin and space saving

Linear P&P Unit

Arm Type A
PPLX 040 to 080



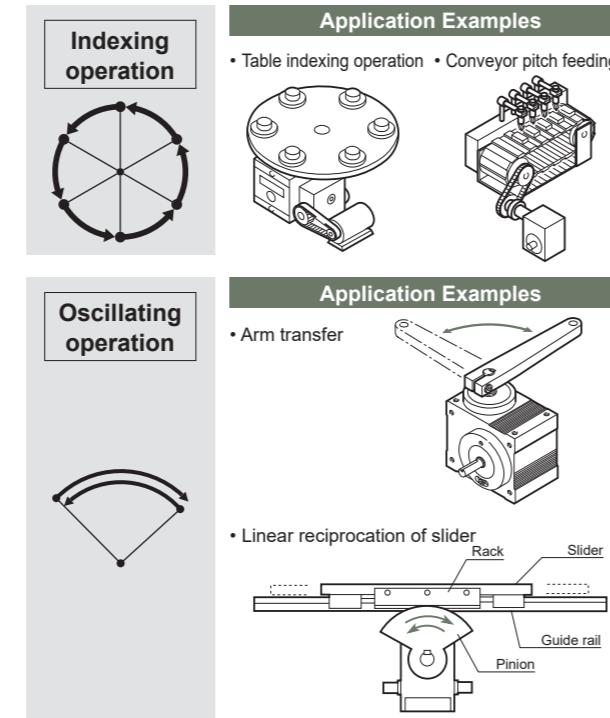
Table Type B
PPLX 040 to 080



Click!

Two motions available

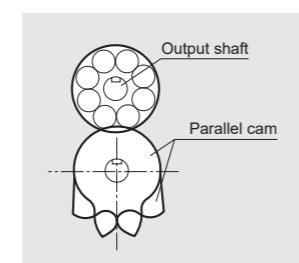
Continuously performs movement and stop at a determined angle around the output shaft. Index operation and oscillate operation can be selected.



Ideal for conveyor drive

Parallel Cam Unit

Input shaft and output shaft are parallel

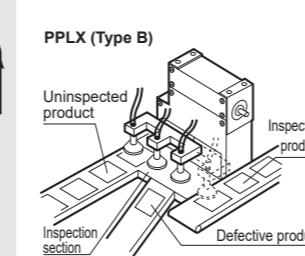
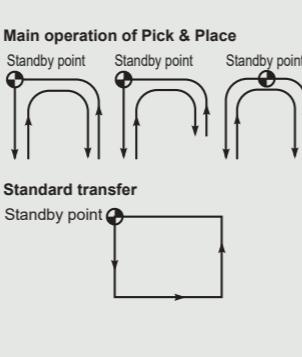


Parallel Cam Unit
PCIS 040 to 125



Click!

Application Examples



Caravan car

You can see various demo machines



Customer service

We solve customer problems related to electric products!

Equipment
Specification Review

Model Selection /
Technical Calculation

Equipment Startup
Adjustments

Troubleshooting

Delivering information easier and faster

YouTube Videos

Operation manuals for dedicated software S-Tools, maintenance methods, etc. are available.



Click!

HP Electric Content

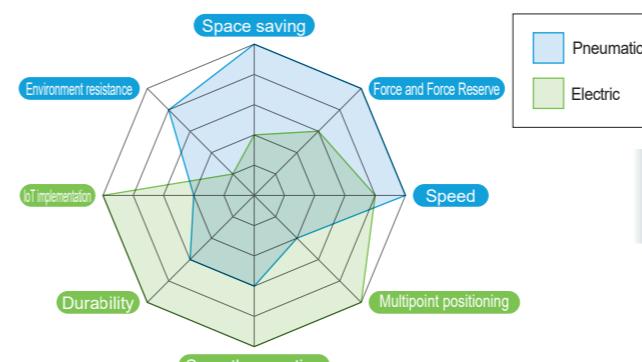
We propose the optimal model of electric equipment. First, register as a CKD plus member.



Click!

Pneumatic and Electric Motion benefits comparison

In this case, Pneumatic or Electric?



Here is a hint!



Click!



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