

## IoT Compatible Components Series

Improving plant productivity using IoT

**EtherNet/IP™**  
**DeviceNet™**

**EtherCAT®**

**CC-Link**

**CC-Link IE Field Basic**

**PROFI®  
NET**

**PROFI®  
BUS**

**IO-Link**

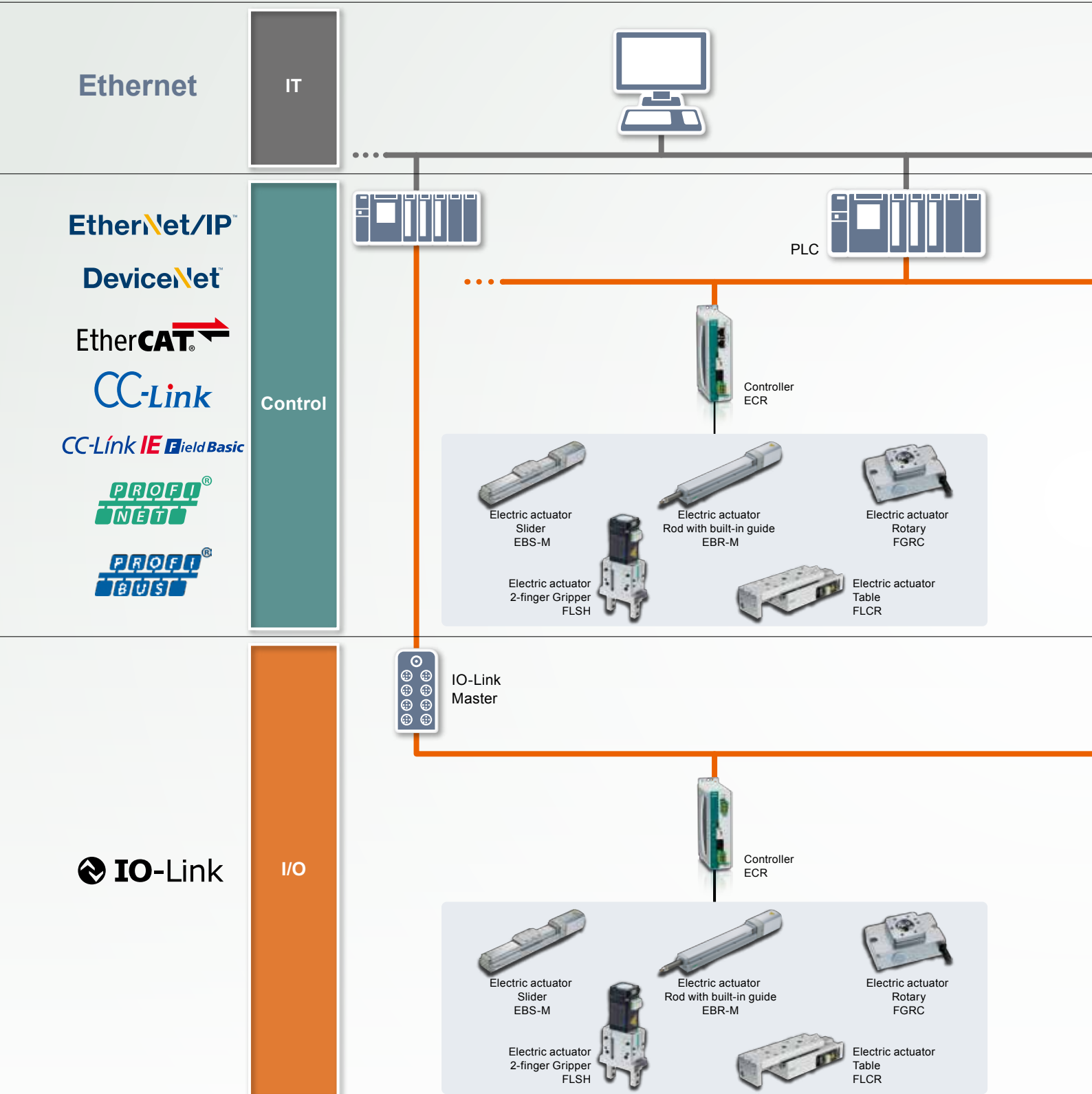
CKD Corporation

CC-1466A1

# An extensive lineup of CKD network components

With the globalization of production and the decrease in the working population, components are also required to support various networks. CKD offers a lineup of products compatible with various industrial networks at production sites and supports high customer productivity through components which allow effective collaboration between people and machines.

## System configuration





Electric components



Directional control valve



Sensor/controller

RJ45

Supported communication port  
RJ45

M12

Supported communication port  
M12



Direct drive motor  
AX  
(General purpose)



Direct drive motor  
τ DISC  
(High precision)



Pilot operated 3, 5-port valve  
W4G  
(IP65)



Pilot operated 3, 5-port valve  
4G  
(IP20)



Pilot operated 3, 5-port valve  
4E  
(Space saving)



Thin electro pneumatic regulator  
MEVT

Coming Soon



Pilot operated 3, 5-port valve  
4G  
(IP40)



Flow rate controller for air  
FCM



Flow rate sensor for air  
FSM3



Pressure sensor  
PPX



Contact sensor  
GPS3



Flow rate sensor for water  
WFK2



Flow rate sensor for liquid  
WFC

# List of supported communications by product

Product category	Product	EtherNet/IP
Electric components	Direct drive motor General purpose <b>AX1000T/AX2000T/AX4000T/AX7000X</b>	●
Electric components	Direct drive motor High precision <b>τDISC</b>	
Electric components	Electric actuator Slider <b>EBS-M</b>	
Electric components	Electric actuator Rod with built-in guide <b>EBR-M</b>	
Electric components	Electric actuator 2-finger Gripper <b>FLSH</b>	
Electric components	Electric actuator Table <b>FLCR</b>	
Electric components	Electric actuator Rotary <b>FGRC</b>	
Directional control valve	Pilot operated 3, 5-port valve <b>4G</b>	●
Directional control valve	3, 5-port pilot operated valve, plug-in block manifold <b>W4G</b>	●
Directional control valve	3, 5-port pilot operated valve, PLC-compatible block manifold <b>MN3E/MN4E</b>	
Sensor/controller	Compact flow rate controller RAPIFLOW® <b>FCM</b>	
Sensor/controller	Thin electro pneumatic regulator <b>MEVT</b>	
Sensor/controller	Compact flow rate sensor RAPIFLOW® <b>FSM3</b>	
Sensor/controller	Digital pressure sensor <b>PPX</b>	
Sensor/controller	Digital gap switch <b>GPS3</b>	
Sensor/controller	Karman vortex flow rate sensor for water FLUEREX <b>WFK2</b>	
Sensor/controller	Capacitance electromagnetic flow sensor <b>WFC</b>	

EtherNet/IP and DeviceNet are registered trademarks of ODVA.

EtherCAT is a patented technology and registered trademark licensed in Germany by Beckhoff Automation GmbH.

CC-Link and CC-Link IE Field Basic are registered trademarks of Mitsubishi Electric Corporation.

PROFINET, PROFIBUS and IO-Link are trademarks of PROFIBUS User Organization.





DeviceNet	EtherCAT	CC-Link	CC-Link IE Field Basic	PROFINET	PROFI-BUS DP	IO-Link
●	●	●			●	
	●	●				
	●	●				●
	●	●				●
	●	●				●
	●	●				●
	●	●				●
●	●	●	●	●	●	Coming Soon ●
●	●	●	●	●		
●	●	●				
						●
●		●				
						●
						●
						●
						●
						●
Page 7	Page 8	Page 10	Page 12	Page 14	Page 15	Page 16



## Pilot operated 3, 5-port valve

**4G**

**RJ45**

### Specifications

- Cylinder bore size :  $\varnothing 20$  to  $\varnothing 100$
- Working pressure range : 0.2 MPa to 0.7 MPa
- Degree of protection : IP20

### Features

- The superb sliding mechanism of the main valve realizes low friction and long service life \*\*
- Response time  $12 \pm 2$  ms (4G1 type)
- Durability count: 100 million cycles (single solenoid) \*\*

\* 1.4 GA/BR, M4GA/BR, MN4GA/BR only



## 3, 5-port pilot operated valve, plug-in block manifold

**W4G**

**M12**

### Specifications

- Cylinder bore size :  $\varnothing 20$  to  $\varnothing 125$
- Working pressure range : 0.2 MPa to 0.7 MPa
- Degree of protection : IP65

### Features

- The adopted plug-in method enables easy replacement of valves
- Service life is extended by improvements in structure of sliding section, packing, etc.
- Durability count: 60 million cycles (at 0.5 MPa with clean air)



## Direct drive motor General purpose

**AX1000T/AX2000T/AX4000T/AX7000X**

**RJ45**

### Specifications

- Max. torque : 6 to 1,000 N·m
- Indexing accuracy :  $\pm 15$  to 30 sec
- Highest Rotational Speed : 30 to 300 rpm

### Features

- Ideal for indexing with outer rotor structure
- Origin return is not required thanks to the battery-less absolute position detector
- The AI adjustment function of AX Tools (provided free of charge) supports adjustment
- High reliability and maintenance-free gearless structure





## Pilot operated 3, 5-port valve

### 4G

#### Specifications

- Cylinder bore size :  $\varnothing 20$  to  $\varnothing 100$
- Working pressure range : 0.2 MPa to 0.7 MPa
- Degree of protection : IP20

#### Features

- The superb sliding mechanism of the main valve realizes low friction and long service life <sup>\*1</sup>
- Response time  $12 \pm 2$  ms (4G1 type)
- Durability count: 100 million cycles (single solenoid) <sup>\*1</sup>

\* 1.4 GA/BR, M4GA/BR, MN4GA/BR only



## 3, 5-port pilot operated valve, plug-in block manifold

### W4G

#### Specifications

- Cylinder bore size :  $\varnothing 20$  to  $\varnothing 125$
- Working pressure range : 0.2 MPa to 0.7 MPa
- Degree of protection : IP65

#### Features

- The adopted plug-in method enables easy replacement of valves
- Service life is extended by improvements in structure of sliding section, packing, etc.
- Durability count: 60 million cycles (at 0.5 MPa with clean air)



M12



## 3, 5-port pilot operated valve, PLC-compatible block manifold

### MN3E/MN4E

#### Specifications

- Cylinder bore size :  $\varnothing 2.5$  to  $\varnothing 40$
- Working pressure range : 0.2 MPa to 0.7 MPa

#### Features

- Space saving design with valve width of 7 mm and 10 mm
- Responsivity: 12 ms (built-in 3-port valves x 2 pcs) Ideal for air operated valve operation
- Supports various fittings ( $\varnothing 1.8$ ,  $\varnothing 3$ ,  $\varnothing 4$ ) to help save space in equipment



## Thin electro pneumatic regulator

### MEVT

#### Specifications

- Max. flow rate  
MEVT100 2  $\ell$ /min, MEVT500 6  $\ell$ /min
- Pressure control range  
MEVT100 0 to 100 kPa  
MEVT500 0 to 0.5 MPa
- Linearity  $\pm 0.5\%$  F.S. or less

#### Features

- Thin electro pneumatic regulator, manifold. Width per station: 14 mm, 80 g
- High repeatability of 0.3% F.S., high response time of 0.1 sec (without load)
- DIN rail mountable. Can be selected from bottom mounting and back mounting



## Direct drive motor General purpose

### AX1000T/AX2000T/AX4000T/AX7000X

#### Specifications

- Max. torque : 6 to 1,000 N·m
- Indexing accuracy :  $\pm 15$  to 30 sec
- Highest Rotational Speed : 30 to 300 rpm

#### Features

- Ideal for indexing with outer rotor structure
- Origin return is not required thanks to the battery-less absolute position detector
- The AI adjustment function of AX Tools (provided free of charge) supports adjustment
- High reliability and maintenance-free gearless structure





## Pilot operated 3, 5-port valve

### 4G

#### Specifications

- Cylinder bore size :  $\varnothing 20$  to  $\varnothing 100$
- Working pressure range : 0.2 MPa to 0.7 MPa
- Degree of protection : IP20

#### Features

- The superb sliding mechanism of the main valve realizes low friction and long service life <sup>\*1</sup>
- Response time  $12 \pm 2$  ms (4G1 type)
- Durability count: 100 million cycles (single solenoid) <sup>\*1</sup>

\* 1.4 GA/BR, M4GA/BR, MN4GA/BR only

### RJ45



## 3, 5-port pilot operated valve, plug-in block manifold

### W4G

#### Specifications

- Cylinder bore size :  $\varnothing 20$  to  $\varnothing 125$
- Working pressure range : 0.2 MPa to 0.7 MPa
- Degree of protection : IP65

#### Features

- The adopted plug-in method enables easy replacement of valves
- Service life is extended by improvements in structure of sliding section, packing, etc.
- Durability count: 60 million cycles (at 0.5 MPa with clean air)

### M12



## 3, 5-port pilot operated valve, PLC-compatible block manifold

### MN3E/MN4E

#### Specifications

- Cylinder bore size :  $\varnothing 2.5$  to  $\varnothing 40$
- Working pressure range : 0.2 MPa to 0.7 MPa

#### Features

- Space saving design with valve width of 7 mm and 10 mm
- Responsivity: 12 ms (built-in 3-port valves x 2 pcs) Ideal for air operated valve operation
- Supports various fittings ( $\varnothing 1.8$ ,  $\varnothing 3$ ,  $\varnothing 4$ ) to help save space in equipment

### RJ45



## Direct drive motor General purpose

### AX1000T/AX2000T/AX4000T/AX7000X

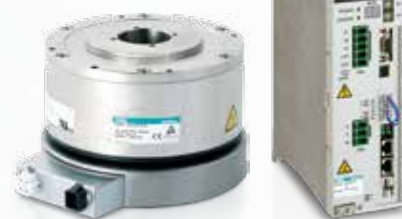
#### Specifications

- Max. torque : 6 to 1,000 N·m
- Indexing accuracy :  $\pm 15$  to 30 sec
- Highest Rotational Speed : 30 to 300 rpm

#### Features

- Ideal for indexing with outer rotor structure
- Origin return is not required thanks to the battery-less absolute position detector
- The AI adjustment function of AX Tools (provided free of charge) supports adjustment
- High reliability and maintenance-free gearless structure

### RJ45



## Direct drive motor High precision

### $\tau$ DISC

#### Specifications

- Max. torque: 7.5 to 3,700 N·m
- Absolute positioning precision of  $\pm 10$  to 15 arcsec (with correction option)
- Rated rotation speed 1 to 15 rps

#### Features

- Compact design with high torque density per motor volume
- Stable operation even with large inertia
- Achieves high-speed and high-precision positioning
- Ideal for converting AC servo motor + speed reduction mechanism into direct drive



### RJ45







## Electric actuator Slider

### EBS-M

#### Specifications

- Max. load capacity (horizontal) : 80 kg
- Max. speed : 1,100 mm/s
- Repeatability :  $\pm 0.01$  mm

#### Features

- Equipped with a battery-less absolute encoder to reduce downtime of the equipment
- Outer rail is adopted to achieve compact and highly rigid body
- Easy maintenance with the standard equipment of grease port



RJ45



## Electric actuator Rod with built-in guide

### EBR-M

#### Specifications

- Max. load capacity (horizontal): 80 kg
- Max. speed : 900 mm/s
- Repeatability :  $\pm 0.01$  mm

#### Features

- Equipped with a battery-less absolute encoder to reduce downtime of the equipment
- Built-in guides reduce the need for additional guides
- Mounting holes are provided on top and bottom of the product to enable installation without disassembly



RJ45



## Electric actuator 2-finger Gripper

### FLSH

#### Specifications

- Max. gripping power : 65 N (one side)
- Max. stroke length : 14 mm (one side: 7 mm)
- Max. gripping speed : 25 mm (one side)

#### Features

- Achieves the same dimensions and capacity as the pneumatic equipment
- Includes self-lock mechanism and manual operation
- Compatible with Air Hand LSH



RJ45



## Electric actuator Table

### FLCR

#### Specifications

- Max. load capacity (horizontal) : 11 kg
- Max. speed : 300 mm/s
- Maximum pressing force : 210 N

#### Features

- Achieves the same dimensions and capacity as the pneumatic equipment
- High rigidity with linear guide
- Dimensional compatibility with the Air type LCR Series



RJ45



## Electric actuator Rotary

### FGRC

#### Specifications

- Max. torque : 4.66 N·m
- Allowable moment of inertia :  $0.0297 \text{ kg} \cdot \text{m}^2$
- Max. angular speed : 200 deg/s

#### Features

- Achieves the same dimensions and capacity as the pneumatic equipment
- Includes self-lock mechanism and manual operation
- The center of rotation and the center of the actuator body are coaxial



RJ45



## Pilot operated 3, 5-port valve

### 4G

#### Specifications

- Cylinder bore size :  $\varnothing 20$  to  $\varnothing 140$
- Working pressure range : 0.2 MPa to 0.7 MPa
- Degree of protection : IP20

#### Features

- The superb sliding mechanism realizes low friction and long service life \*1
- Response time  $12 \pm 2$  ms (4G1 type)
- Durability count: 100 million cycles (single solenoid) \*1

\* 1.4 GA/BR, M4GA/BR, MN4GA/BR only



## 3, 5-port pilot operated valve, plug-in block manifold

### W4G

#### Specifications

- Cylinder bore size :  $\varnothing 20$  to  $\varnothing 125$
- Working pressure range : 0.2 MPa to 0.7 MPa
- Degree of protection : IP65

#### Features

- The adopted plug-in method enables easy replacement of valves
- Service life is extended by improvements in structure of sliding section, packing, etc.
- Durability count: 60 million cycles (at 0.5 MPa with clean air)



## 3, 5-port pilot operated valve, PLC-compatible block manifold

### MN3E/MN4E

#### Specifications

- Cylinder bore size :  $\varnothing 2.5$  to  $\varnothing 40$
- Working pressure range : 0.2 MPa to 0.7 MPa

#### Features

- Space saving design with valve width of 7 mm and 10 mm
- Responsivity: 12 ms (built-in 3-port valves x 2 pcs)  
Ideal for air operated valve operation
- Supports various fittings ( $\varnothing 1.8$ ,  $\varnothing 3$ ,  $\varnothing 4$ ) to help save space in equipment



## Thin electro pneumatic regulator

### MEVT

#### Specifications

- Max. flow rate : MEVT100 2  $\ell$ /min, MEVT500 6  $\ell$ /min
- Pressure control range MEVT100:  
0 to 100 kPa, MEVT500: 0 to 0.5 MPa
- Linearity  $\pm 0.5\%$  F.S. or less

#### Features

- Thin electro pneumatic regulator, manifold  
Width per station: 14 mm, 80 g
- High repeatability of 0.3% F.S., high response time of 0.1 sec (without load)
- DIN rail mountable. Can be selected from bottom mounting and back mounting



## Direct drive motor General purpose

### AX1000T/AX2000T/AX4000T/AX7000X

#### Specifications

- Max. torque : 6 to 1,000 N·m
- Indexing accuracy :  $\pm 15$  to 30 sec
- Highest Rotational Speed: 30 to 300 rpm

#### Features

- Ideal for indexing with outer rotor structure
- Origin return is not required thanks to the battery-less absolute position detector
- The AI adjustment function of AX Tools (provided free of charge) supports adjustment
- High reliability and maintenance-free gearless structure



## Direct drive motor High precision

### $\tau$ DISC

#### Specifications

- Max. torque: 7.5 to 3,700 N·m
- Absolute positioning precision of  $\pm 10$  to 15 arcsec (with correction option)
- Rated rotation speed 1 to 15 rps

#### Features

- Compact design with high torque density per motor volume
- Stable operation even with large inertia
- Achieves high-speed and high-precision positioning
- Ideal for converting AC servo motor + speed reduction mechanism into direct drive



NIKKI  
DENSO



## Electric actuator Slider

### EBS-M

#### Specifications

- Max. load capacity (horizontal) : 80 kg
- Max. speed : 1,100 mm/s
- Repeatability :  $\pm 0.01$  mm

#### Features

- Equipped with a battery-less absolute encoder to reduce downtime of the equipment
- Outer rail is adopted to achieve compact and highly rigid body
- Easy maintenance with the standard equipment of grease port



## Electric actuator Rod with built-in guide

### EBR-M

#### Specifications

- Max. load capacity (horizontal) : 80 kg
- Max. speed : 900 mm/s
- Repeatability :  $\pm 0.01$  mm

#### Features

- Equipped with a battery-less absolute encoder to reduce downtime of the equipment
- Built-in guides reduce the need for additional guides
- Mounting holes are provided on top and bottom of the product to enable installation without disassembly



## Electric actuator 2-finger Gripper

### FLSH

#### Specifications

- Max. gripping power : 65 N (one side)
- Max. stroke length : 14 mm (one side: 7 mm)
- Max. gripping speed : 25 mm (one side)

#### Features

- Achieves the same dimensions and capacity as the pneumatic equipment
- Includes self-lock mechanism and manual operation
- Compatible with Air Hand LSH



## Electric actuator Table

### FLCR

#### Specifications

- Max. load capacity (horizontal) : 11 kg
- Max. speed : 300 mm/s
- Maximum pressing force : 210 N

#### Features

- Achieves the same dimensions and capacity as the pneumatic equipment
- High rigidity with linear guide
- Dimensional compatibility with the Air type LCR Series



## Electric actuator Rotary

### FGRC

#### Specifications

- Max. torque : 4.66 N·m
- Allowable moment of inertia : 0.0297 kg·m<sup>2</sup>
- Max. angular speed : 200 deg/s

#### Features

- Achieves the same dimensions and capacity as the pneumatic equipment
- Includes self-lock mechanism and manual operation
- The center of rotation and the center of the actuator body are coaxial







## Pilot operated 3, 5-port valve

### 4G

### RJ45

#### Specifications

- Cylinder bore size :  $\varnothing 20$  to  $\varnothing 100$
- Working pressure range : 0.2 MPa to 0.7 MPa
- Degree of protection : IP20

#### Features

- The superb sliding mechanism of the main valve realizes low friction and long service life \*1
- Response time  $12 \pm 2$  ms (4G1 type)
- Durability count: 100 million cycles (single solenoid) \*\*

\* 1.4 GA/BR, M4GA/BR, MN4GA/BR only



## 3, 5-port pilot operated valve, plug-in block manifold

### W4G

### M12

#### Specifications

- Cylinder bore size :  $\varnothing 20$  to  $\varnothing 125$
- Working pressure range : 0.2 MPa to 0.7 MPa
- Degree of protection : IP65

#### Features

- The adopted plug-in method enables easy replacement of valves
- Service life is extended by improvements in structure of sliding section, packing, etc.
- Durability count: 60 million cycles (at 0.5 MPa with clean air)





# MEMO



### Pilot operated 3, 5-port valve

**4G**

**RJ45**

#### Specifications

- Cylinder bore size :  $\varnothing 20$  to  $\varnothing 100$
- Working pressure range : 0.2 MPa to 0.7 MPa
- Degree of protection : IP20

#### Features

- The superb sliding mechanism of the main valve realizes low friction and long service life \*1
- Response time  $12 \pm 2$  ms (4G1 type)
- Durability count: 100 million cycles (single solenoid) \*\*

\* 1.4 GA/BR, M4GA/BR, MN4GA/BR only



### 3, 5-port pilot operated valve, plug-in block manifold

**W4G**

**M12**

#### Specifications

- Cylinder bore size:  $\varnothing 20$  to  $\varnothing 125$
- Working pressure range: 0.2 MPa to 0.7 MPa
- Degree of protection: IP65

#### Features

- The adopted plug-in method enables easy replacement of valves
- Service life is extended by improvements in structure of sliding section, packing, etc.
- Durability count: 60 million cycles (at 0.5 MPa with clean air)





## Pilot operated 3, 5-port valve

### 4G

#### Specifications

- Cylinder bore size :  $\varnothing 20$  to  $\varnothing 100$
- Working pressure range : 0.2 MPa to 0.7 MPa
- Degree of protection : IP20

#### Features

- The superb sliding mechanism of the main valve realizes low friction and long service life \*\*
- Response time  $12 \pm 2$  ms (4G1 type)
- Durability count: 100 million cycles (single solenoid) \*\*

\* 1.4 GA/BR, M4GA/BR, MN4GA/BR only



## Direct drive motor General purpose

### AX1000T/AX2000T/AX4000T/AX7000X

#### Specifications

- Max. torque : 6 to 1,000 N·m
- Indexing accuracy :  $\pm 15$  to 30 sec
- Highest Rotational Speed : 30 to 300 rpm

#### Features

- Ideal for indexing with outer rotor structure
- Origin return is not required thanks to the battery-less absolute position detector
- The AI adjustment function of AX Tools (provided free of charge) supports adjustment
- High reliability and maintenance-free gearless structure





## Pilot operated 3, 5-port valve Coming Soon

### 4G

#### Specifications

- Cylinder bore size :  $\varnothing 20$  to  $\varnothing 100$
- Working pressure range : 0.2 MPa to 0.7 MPa
- Degree of protection : IP40

#### Features

- The superb sliding mechanism of the main valve realizes low friction and long service life <sup>\*1</sup>
- Response time  $12 \pm 2$  ms (4G1 type)
- Durability count: 100 million cycles (single solenoid) <sup>\*1</sup>

<sup>\*</sup> 1.4 GA/BR, M4GA/BR, MN4GA/BR only



## Compact flow rate controller RAPIFLOW<sup>®</sup>

### FCM

#### Specifications

- Flow rate control range : 0.015 to 100 l/min (air, nitrogen,)  
(Applicable fluid) 0.015 to 50 l/min (argon)  
0.015 to 10 l/min (oxygen, city gas, propane)  
0.06 to 20 l/min (helium)
- Accuracy:  $\pm 3\%$  F.S. Repeatability:  $\pm 1\%$  F.S.
- IO-Link communication specifications: Transmission speed: com3 (230.4 kbps)  
Minimum cycle time: 2 ms

#### Features

- Equipped digital display makes control status visible at a glance. Can be operated using the buttons on the unit or IO-Link
- Outputs instantaneous flow rate and integrating flow as process data



## Compact flow rate sensor RAPIFLOW<sup>®</sup>

### FSM3

#### Specifications

- Flow rate range : 0.5 L/min to 1,000 L/min
- Applicable fluids : clean air, compressed air, nitrogen gas, argon, oxygen\*, carbon dioxide, and gas mixture (argon + carbon dioxide)
- IO-Link communication specifications  
Transmission speed: COM2 (38.4 kbps)  
Min. cycle time: 5 ms

#### Features

- Five types of gases can be measured with just one unit thanks to the gas type switching function
- Body material: resin, stainless steel (can be used selectively depending on the environment)
- Uni-directional and bi-directional fluid measurement
- High precision/high-speed response  
Repeatability : Within  $\pm 1\%$  F.S.  
Display accuracy : Within  $\pm 3\%$  F.S.

<sup>\*</sup>For stainless steel body only



## Digital pressure sensor

### PPX

#### Specifications

- Set pressure For low pressure : -101.0 to +101.0 kPa  
For high pressure: -0.101 to +1.010 MPa
- IO-Link communication specifications  
Transmission speed: COM3 (230.4 kbps)  
Min. cycle time: 1.0 ms

#### Features

- Compact size of  $30 \times 25.5$
- Set value can be changed while viewing the present value
- Oil free wetted section (option)



## Digital gap switch

### GPS3

#### Specifications

- Working pressure: 50 to 200 kPa
- Detection range  
Short range : 0.02 to 0.15 mm  
Wide range : 0.03 to 0.4 mm
- IO-Link communication specifications  
Transmission speed : COM2 (38.4 kbps)  
Min. cycle time : 5 ms

#### Features

- Digital display enables contact confirmation at a glance
- High precision 2-point output
- Detection air flow clog notification function



## Karman vortex flow rate sensor for water FLUEREX

### WFK2

#### Specifications

- Flow rate range : 0.4 to 250 L/min
- Applicable fluids : pure water, industrial water
- IO-Link communication specifications  
Transmission speed : COM2 (38.4 kbps)  
Min. cycle time : 5 ms

#### Features

- All models equipped as standard with water temperature measuring function
- Manual valve for easy flow rate adjustment (option)
- Display screen rotation







## Capacitance electromagnetic flow sensor WFC

M12



### Specifications

- Flow rate range : 0.5 to 60 L/min
- Applicable fluids : Fluids (conductive fluids) that do not corrode water/wetted part materials
- IO-Link communication specifications  
Transmission speed: COM2 (38.4 kbps)  
Min. cycle time: 5 ms

### Features

- The Flo-Thru structure allows use even with water of poor quality
- Max. working pressure: 2.0MPa
- Fluid temperature measuring function (option)



## Electric actuator Slider EBS-M

### Specifications

- Max. load capacity (horizontal) : 80 kg
- Max. speed : 1,100 mm/s
- Repeatability :  $\pm 0.01$  mm

### Features

- Equipped with a battery-less absolute encoder to reduce downtime of the equipment
- Outer rail is adopted to achieve compact and highly rigid body
- Easy maintenance with the standard equipment of grease port



## Electric actuator Rod with built-in guide EBR-M

### Specifications

- Max. load capacity (horizontal) : 80 kg
- Max. speed : 900 mm/s
- Repeatability :  $\pm 0.01$  mm

### Features

- Equipped with a battery-less absolute encoder to reduce downtime of the equipment
- Built-in guides reduce the need for additional guides
- Mounting holes are provided on top and bottom of the product to enable installation without disassembly



## Electric actuator 2-finger Gripper FLSH

### Specifications

- Max. gripping power : 65 N (one side)
- Max. stroke length : 14 mm (one side: 7 mm)
- Max. gripping speed : 25 mm (one side)

### Features

- Achieves the same dimensions and capacity as the pneumatic equipment
- Includes self-lock mechanism and manual operation
- Compatible with Air Hand LSH



## Electric actuator Table FLCR

### Specifications

- Max. load capacity (horizontal) : 11 kg
- Max. speed : 300 mm/s
- Maximum pressing force : 210 N

### Features

- Achieves the same dimensions and capacity as the pneumatic equipment
- High rigidity with linear guide
- Dimensional compatibility with the Air type LCR Series



## Electric actuator Rotary FGRC

### Specifications

- Max. torque : 4.66 N·m
- Allowable moment of inertia : 0.0297 kg·m<sup>2</sup>
- Max. angular speed : 200 deg/s

### Features

- Achieves the same dimensions and capacity as the pneumatic equipment
- Includes self-lock mechanism and manual operation
- The center of rotation and the center of the actuator body are coaxial








# Global Service Network

We supply high-quality products to the world through our Global

In order to ensure prompt delivery of the optimal products, technologies and services, we are working to expand our bases in Japan and overseas and to strengthen our ties with customers. In particular, we have set up offices in major regions of Europe, North America and Asia and are working more closely with customers in various regions of the world.



## Plants overseas

<b>China</b> [CKD CHINA]  Strategic supply base for global products	<b>Thailand</b> [CKD THAI]  Overseas production base covering the ASEAN region	<b>South Korea</b> [CKD KOREA]  Overseas manufacturing base for devices used in semiconductor manufacturing equipment	<b>Malaysia</b> [M-CKD PRECISION]  Plant providing rapid response to users' needs	<b>Indonesia</b> [PT CKD MANUFACTURING INDONESIA]  Overseas manufacturing base that meets Indonesian market needs
---	--	---	--	---

## Global Service Network

<b>EUROPE</b> <ul style="list-style-type: none"> <li>CKD EUROPE B.V. (SCHIPHOL-RIJK)                             <ul style="list-style-type: none"> <li>Germany Office GERMANY OFFICE</li> <li>Czech Office CZECH OFFICE</li> <li>UK Office UK OFFICE</li> </ul> </li> <li>CKD CORPORATION EUROPE BRANCH</li> </ul>	<b>Republic of Korea</b> <ul style="list-style-type: none"> <li>CKD KOREA CORPORATION (SEOUL)                             <ul style="list-style-type: none"> <li>Suwon Sales Office</li> <li>Cheon'an Sales Office</li> <li>Ulsan Sales Office</li> </ul> </li> </ul>	<b>Thailand</b> <ul style="list-style-type: none"> <li>CKD THAI CORPORATION LTD. (BANGKOK)                             <ul style="list-style-type: none"> <li>Rayong Sales Office</li> <li>Nava Nakorn Sales Office</li> <li>Eastern Seaboard Sales Office</li> <li>Lamphun Sales Office</li> <li>Korat Sales Office</li> <li>Amata Nakorn Sales Office</li> <li>Prachin Buri Sales Office</li> <li>Saraburi Sales Office</li> </ul> </li> </ul>	<b>NORTH AMERICA</b> <ul style="list-style-type: none"> <li>United States                             <ul style="list-style-type: none"> <li>CKD USA CORPORATION (CHICAGO)                                     <ul style="list-style-type: none"> <li>Lexington Sales Office</li> <li>San Jose Sales Office / Technical Center</li> <li>San Antonio Sales Office</li> <li>Detroit Sales Office</li> <li>Boston Office</li> </ul> </li> </ul> </li> </ul>
<b>ASIA</b> <ul style="list-style-type: none"> <li>China                             <ul style="list-style-type: none"> <li>CKD (Shanghai) Corporation                                     <ul style="list-style-type: none"> <li>Shanghai Puxi Office</li> <li>Shanghai Pudong Office</li> <li>Ningbo Office</li> <li>Hangzhou Office</li> <li>Wuxi Office</li> <li>Kunshan Office</li> <li>Suzhou Office</li> <li>Nanjing Office</li> <li>Hefei Office</li> <li>Chengdu Office</li> <li>Wuhan Office</li> <li>Zhengzhou Office</li> <li>Changsha Office</li> <li>Chongqing Office</li> <li>Xi'an Office</li> <li>Guangzhou Office</li> <li>Zhongshan Office</li> <li>Shenzhen West Office</li> <li>Shenzhen East Office</li> <li>Dongguan Office</li> <li>Xiamen Office</li> <li>Fuzhou Office</li> <li>Shenyang Office</li> <li>Changchun Office</li> <li>Dalian Office</li> <li>Beijing Office</li> <li>Tianjin Office</li> <li>Qingdao Office</li> <li>Weifang Office</li> <li>Jinan Office</li> <li>Yantai Office</li> </ul> </li> </ul> </li> </ul>	<b>Taiwan</b> <ul style="list-style-type: none"> <li>TAIWAN CKD CORPORATION (TAIPEI)                             <ul style="list-style-type: none"> <li>Hsinchu Sales Office</li> <li>Taichung Sales Office</li> <li>Tainan Sales Office</li> <li>Kaohsiung Sales Office</li> </ul> </li> </ul>	<b>India</b> <ul style="list-style-type: none"> <li>CKD INDIA PRIVATE LIMITED (GURGAON)                             <ul style="list-style-type: none"> <li>Bangalore Sales Office</li> </ul> </li> </ul>	<b>CENTRAL AND SOUTH AMERICA</b> <ul style="list-style-type: none"> <li>Mexico                             <ul style="list-style-type: none"> <li>CKD MEXICO, S. DE R.L. DE C. V. (QUERETARO)</li> </ul> </li> </ul>
	<b>Singapore</b> <ul style="list-style-type: none"> <li>CKD SINGAPORE PTE. LTD. (SINGAPORE)</li> <li>CKD CORPORATION BRANCH OFFICE (Asia Pacific)</li> </ul>	<b>Indonesia</b> <ul style="list-style-type: none"> <li>PT CKD TRADING INDONESIA (JAKARTA)                             <ul style="list-style-type: none"> <li>Bekasi Sales Office</li> <li>Karawang Sales Office</li> <li>Surabaya Sales Office</li> </ul> </li> </ul>	
	<b>Malaysia</b> <ul style="list-style-type: none"> <li>M-CKD PRECISION SDN. BHD. (SHAH ALAM)                             <ul style="list-style-type: none"> <li>Johor Bahru Sales Office</li> <li>Penang Sales Office</li> </ul> </li> </ul>	<b>Vietnam</b> <ul style="list-style-type: none"> <li>CKD VIETNAM ENGINEERING CO., LTD. (HANOI)</li> </ul>	

# Service Network, while strengthening our ties with customers.



## Plants in Japan

### Headquarters Plant



Main plant for FA business

### Kasugai Plant



Manufacturing factory for fluid control components used in semiconductor manufacturing equipment

### Yokkaichi Plant



Mass production plant of pneumatic and fluid valves that aims to save power and space

### Inuyama Plant



Main plant for pneumatic cylinders that aims for high function and high performance

### Tohoku Plant



Production plant for fluid control components mainly for semiconductor manufacturing, and components for automotive, electrical and electronics industries

## Domestic Sales Network

### East Japan Branch Office

〒105-0013  
Bunkahousou Media Plus 4F, Hamamatsu-cho 1-31-1, Minato-ku, Tokyo  
TEL (03) 5402-3620 FAX (03) 5402-0120120

#### Eastern Region Sales Office

〒981-3133  
SAKAE Izumi Chuo Bldg. #401, Izumi Chuo 4-chome 1-5, Izumi-ku, Sendai  
TEL: (022) 772-3041 FAX: (022) 772-3047  
Sendai Sales Office / Utsunomiya Sales Office / Kitakami Sales Office  
Yamagata Sales Office / Ota Sales Office / Koriyama Sub-Office

#### Tokyo Sales Division

〒105-0013  
Bunkahousou Media Plus 4F, Hamamatsu-cho 1-31-1, Minato-ku, Tokyo  
TEL (03) 5402-3628 FAX (03) 5402-01221  
Tokyo Sales Office / Sapporo Branch Office / Saitama Sales Office  
Ibaraki Sales Office / Tachikawa Sales Office / Chiba Sales Office / Nagaoka Sales Office

#### Minami-Kanto Sales Division

〒243-0027  
Aikoh-higashi 1-22-6, Atsugi-shi, Kanagawa  
TEL (046) 226-5201 FAX (046) 226-5208  
Yokohama Sales Office / Atsugi Sales Office / Kofu Sales Office

### Central Japan Branch Office

〒485-8551  
2-250 Oujii, Komaki City, Aichi  
TEL (0568) 74-1356 FAX (0568) 77-3317

#### Nagoya Sales Division

〒485-8551  
2-250 Oujii, Komaki City, Aichi  
TEL (0568) 74-1356 FAX (0568) 77-3317  
Nagoya Sales Office / Komaki Sales Office / Matsumoto Sales Office  
Toyama Sales Office / Kanazawa Sales Office / Yokkaichi Sales Office

#### Tokai Sales Division

〒473-0912  
Hirota 103, Hirota-cho, Toyota-shi, Aichi  
TEL (0565) 54-4771 FAX (0565) 54-4755  
Toyota Sales Office / Mikawa Sales Office / Shizuoka Sales Office  
Hamamatsu Sales Office

### West Japan Branch Office

〒550-0001  
Tosabori 1-3-20, Nishi-ku, Osaka-shi, Osaka  
TEL (06) 6459-5770 FAX (06) 6446-1945

#### Osaka Sales Division

〒550-0001  
Tosabori 1-3-20, Nishi-ku, Osaka-shi, Osaka  
TEL (06) 6459-5775 FAX (06) 6446-1955  
Osaka Sales Office / Osaka East Sales Office / Shiga Sales Office  
Kyoto Sales Office / Nara Sales Office / Kobe Sales Office

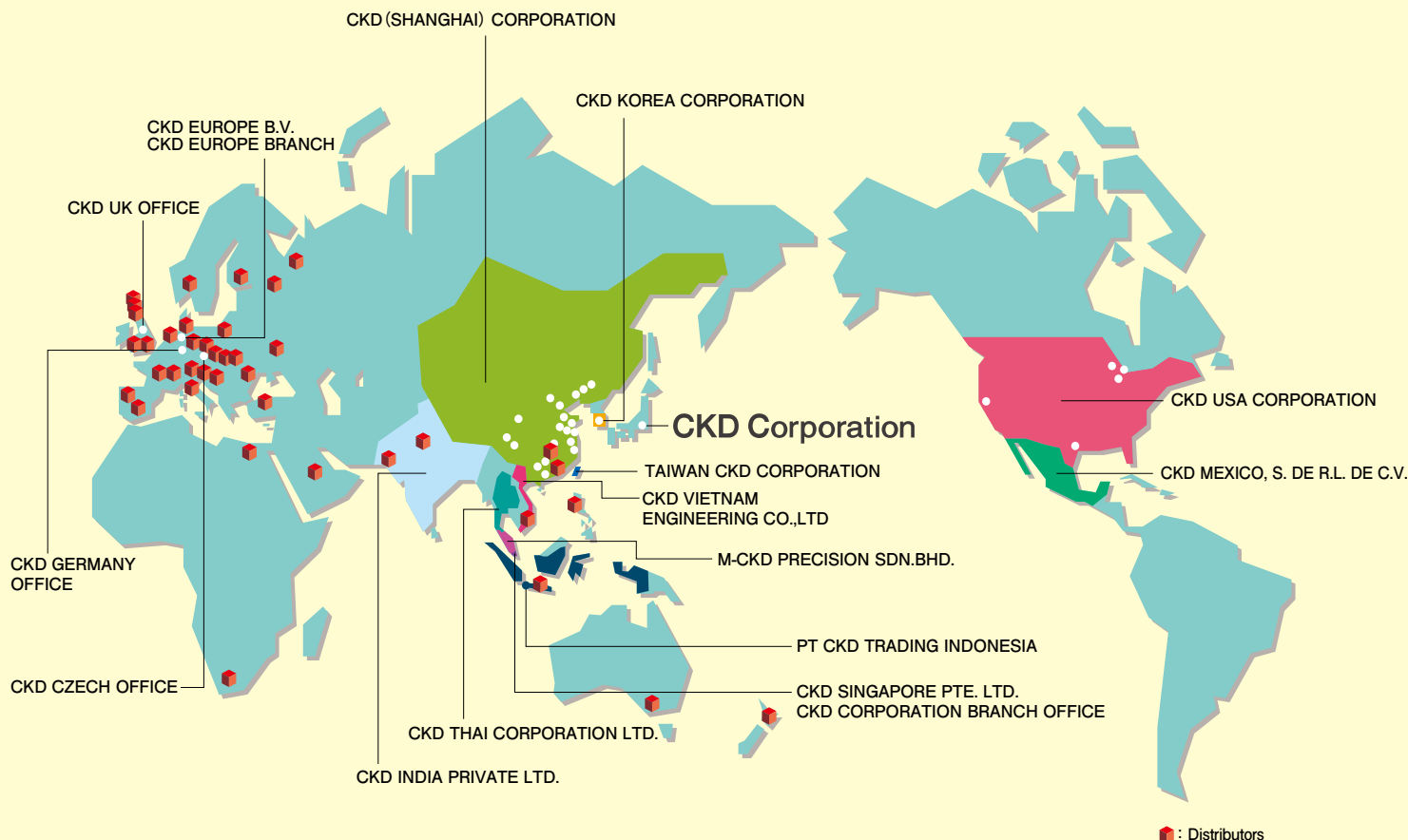
#### Western Region Sales Office

〒730-0029  
Kureshin Hiroshima Bldg. 3F, Mikawa-cho 2-6, Naka-ku, Hiroshima-shi, Hiroshima  
TEL (082) 545-5125 FAX (082) 244-2010  
Hiroshima Sales Office / Okayama Sales Office / Yamaguchi Sales Office / Takamatsu Sales Office  
Matsuyama Sales Office / Fukuoka Sales Office / Kitakyushu Sales Office / Kumamoto Sales Office

### Affiliated companies

- CKD Global Service Co., Ltd.
- CKD Field Engineering Co., Ltd.
- CKD Shikoku Seiko Co., Ltd.
- CKD Nikki Denso Co., Ltd.





## CKD Corporation

Website <https://www.ckd.co.jp/>

### ASIA

#### 喜開理(上海)機器有限公司

#### CKD(SHANGHAI)CORPORATION

- 営業部 / 上海浦西事務所 (SALES HEADQUARTERS / SHANGHAI PUXI OFFICE)  
Room 601, 6th Floor, Yuanzhongkeyan Building, No. 1905 Hongmei Road, Xinhui District, Shanghai 200233, China  
PHONE +86-21-61911888 FAX +86-21-60905357
- 上海浦東事務所 (SHANGHAI PUDONG OFFICE)
- 寧波事務所 (NINGBO OFFICE)
- 杭州事務所 (HANGZHOU OFFICE)
- 無錫事務所 (WUXI OFFICE)
- 昆山事務所 (KUNSHAN OFFICE)
- 蘇州事務所 (SUZHOU OFFICE)
- 南京事務所 (NANJING OFFICE)
- 合肥事務所 (HEFEI OFFICE)
- 成都事務所 (CHENGDU OFFICE)
- 武漢事務所 (WUHAN OFFICE)
- 鄭州事務所 (ZHENGZHOU OFFICE)
- 長沙事務所 (CHANGSHA OFFICE)
- 重慶事務所 (CHONGQING OFFICE)
- 西安事務所 (XI'AN OFFICE)
- 廣州事務所 (GUANGZHOU OFFICE)
- 中山事務所 (ZHONGSHAN OFFICE)
- 深圳西事務所 (WEST SHENZHEN OFFICE)
- 深圳東事務所 (EAST SHENZHEN OFFICE)
- 東莞事務所 (DONGGUAN OFFICE)
- 廈門事務所 (XIAMEN OFFICE)
- 福州事務所 (FUZHOU OFFICE)
- 瀋陽事務所 (SHENYANG OFFICE)
- 長春事務所 (CHANGCHUN OFFICE)
- 大連事務所 (DALIAN OFFICE)
- 北京事務所 (BEIJING OFFICE)
- 天津事務所 (TIANJIN OFFICE)
- 青島事務所 (QINGDAO OFFICE)
- 濟南事務所 (JINAN OFFICE)
- 煙台事務所 (YANTAI OFFICE)

#### CKD INDIA PRIVATE LTD.

##### ● HEADQUARTERS

Unit No. 607, 6th Floor, Welldone Tech Park, Sector 48, Sohna Road, Gurgaon-122018, Haryana, India  
PHONE +91-124-418-8212

##### ● BANGALORE OFFICE

##### ● PUNE OFFICE

#### PT CKD TRADING INDONESIA

##### ● HEAD OFFICE

Menara Bidakara 2, 18th Floor, Jl. Jend. Gatot Subroto Kav. 71-73, Pancoran, Jakarta 12870, Indonesia  
PHONE +62-21-2938-6601 FAX +62-21-2906-9470

##### ● BEKASI OFFICE

##### ● KARAWANG OFFICE

##### ● SURABAYA OFFICE

□ 2-250 O uji, Komaki City, Aichi 485-8551, Japan

□ PHONE +81-568-74-1338 FAX +81-568-77-3461

#### CKD KOREA CORPORATION

##### ● HEADQUARTERS

(3rd Floor), 44, Sinsu-ro, Mapo-gu, Seoul 04088, Korea  
PHONE +82-2-783-5201 ~ 5203 FAX +82-2-783-5204

- 水原營業所 (SUWON OFFICE)
- 天安營業所 (CHEONAN OFFICE)
- 蔚山營業所 (ULSAN OFFICE)

#### M-CKD PRECISION SDN.BHD.

##### ● HEAD OFFICE

Lot No.6, Jalan Modal 23/2, Seksyen 23, Kawasan MIEL, Fasa 8, 40300 Shah Alam, Selangor Darul Ehsan, Malaysia  
PHONE +60-3-5541-1468 FAX +60-3-5541-1533

- JOHOR BAHRU BRANCH OFFICE
- PENANG BRANCH OFFICE

#### CKD SINGAPORE PTE. LTD.

No.33 Tannery Lane #04-01 Hoesteel Industrial Building, Singapore 347789, Singapore  
PHONE +65-67442623 FAX +65-67442486

#### CKD CORPORATION BRANCH OFFICE

No.33 Tannery Lane #04-01 Hoesteel Industrial Building, Singapore 347789, Singapore  
PHONE +65-67442620 FAX +65-68421022

#### CKD THAI CORPORATION LTD.

##### ● HEADQUARTERS

19th Floor, Smooth Life Tower, 44 North Sathorn Road, Silom, Bangkok, Bangkok 10500, Thailand  
PHONE +66-2-267-6300 FAX +66-2-267-6304-5

- RAYONG OFFICE
- NAVANAKORN OFFICE
- EASTERN SEABOARD OFFICE
- LAMPHUN OFFICE
- KORAT OFFICE
- AMATANAKORN OFFICE
- PRACHINBURI OFFICE
- SARABURI OFFICE

#### 台灣喜開理股份有限公司

#### TAIWAN CKD CORPORATION

##### ● HEADQUARTERS

16F-3, No. 7, Sec. 3, New Taipei Blvd., Xinzhuang Dist., New Taipei City 242, Taiwan  
PHONE +886-2-8522-8198 FAX +886-2-8522-8128

- 新竹營業所 (HSINCHU OFFICE)
- 台中營業所 (TAICHUNG OFFICE)
- 台南營業所 (TAINAN OFFICE)
- 高雄營業所 (KAOHSIUNG OFFICE)

#### CKD VIETNAM ENGINEERING CO.,LTD.

18th Floor, CMC Tower, Duy Tan Street, Cau Giay District, Hanoi, Vietnam  
PHONE +84-24-3795-7631 FAX +84-24-3795-7637

### EUROPE

#### CKD EUROPE B.V.

##### ● HEADQUARTERS

Beechavenue 125A, 1119 RB Schiphol-Rijk, the Netherlands  
PHONE +31-23-554-1490

- GERMANY OFFICE
- CZECH.O.Z.

#### CKD CORPORATION EUROPE BRANCH

Beechavenue 125A, 1119 RB Schiphol-Rijk, the Netherlands  
PHONE +31-23-554-1490

##### ● UK OFFICE

### NORTH AMERICA & LATIN AMERICA

#### CKD MEXICO, S. DE R.L. DE C.V.

Cerrada la Noria No. 200 Int. A-01, Querétaro Park II, Parque Industrial Querétaro, Santa Rosa Jáuregui, Querétaro, C.P. 76220, México  
PHONE +52-442-161-0624

#### CKD USA CORPORATION

##### ● HEADQUARTERS

1605 Penny Lane, Schaumburg, IL 60173, USA  
PHONE +1-847-648-4400 FAX +1-847-565-4923

- LEXINGTON OFFICE
- SAN ANTONIO OFFICE
- SAN JOSE OFFICE/ TECHNICAL CENTER
- DETROIT OFFICE
- BOSTON OFFICE

The goods and/or their replicas, the technology and/or software found in this catalog are subject to complementary export regulations by Foreign Exchange and Foreign Trade Law of Japan.

If the goods and/or their replicas, the technology and/or software found in this catalog are to be exported from Japan, Japanese laws require the exporter makes sure that they will never be used for the development and/or manufacture of weapons for mass destruction.