

Power Clamp Cylinder PWC Series



POWER CLAMP CYLINDER PWC SERIES

Lightweight and compact.

Electronic
sensor with
M12 swivel
connector

Angle settings
done simply
0 to 135 degrees

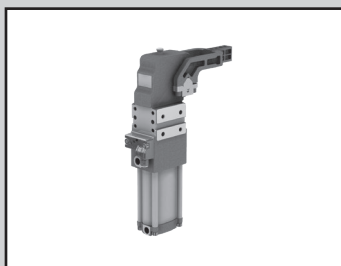
Relevant products

W4G2 series



W4G4 series

- Options: 32-point output / 16-point output / 16-point input and 16-point output, PNP / NPN
- Corresponding communication protocols EtherNet/IP, EtherCAT, CC-Link, CompoBus/S, DeviceNet, AS-i
- Small design, space saving
- Can be connected to valves W4G2 and W4G4 reducing the number of spare parts
- Protection rating IP65



Power Clamp Cylinder

PWC Series

- Cylinder diameter: $\phi 40/\phi 50/\phi 63/\phi 80$

Specifications

Description		PWC			
Cylinder diameter	mm	φ40	φ50	φ63	φ80
Action mechanism		Double-acting			
Working fluid		Compressed air			
Max. working press.	MPa	0.8 (8 bar)			
Min. working press.	MPa	0.2			
Connecting port size		G1/8	G1/4		
Open / Close angle	Degree	5 to 135			
Clamping torque (0.5MPa)	N•m	130	185	390	850
Locking torque	N•m	380	800	1,500	2,500
Weight	kg	1.45	2.7	3.5	8.54

How to order

With arm

PWC - **D1** - **50** **E** **G** - **1** **A** **4** - **R**

Without arm

PWC - **P** - **50** **E** **G**

A Operation

B Bore size

C Sensor

D Port thread

E Arm mount

F Arm material

G Arm type

H Lever color

<Example of model no.>

PWC-D1-40EG-1A04-R

Model no: Clamp cylinder

- A** Operation : Pneumatic / manual lever 1
- B** Bore size : $\phi 40$ mm
- C** Sensor : sensor (PNP)
- D** Port thread : G thread
- E** Arm mount : 1
- F** Arm material : Aluminum
- G** Arm type : Central, Offset 45mm
- H** Lever color : Red

Symbol	Description	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$
A Operation					
P	Pneumatic	●	●	●	●
G	Pneumatic / non manual lever	●	●	●	●
D1	Pneumatic / manual lever 1	●	●	●	●
D2	Pneumatic / manual lever 2				●

B Bore size (mm)	
40	$\phi 40$
50	$\phi 50$
63	$\phi 63$
80	$\phi 80$

C Sensor		$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$
E	With sensor (PNP)	●	●	●	●
A	With sensor (NPN)	●	●	●	●
N	No sensor	●	●	●	●

D Port thread		$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$
G	G thread	●	●	●	●

E Arm mount				
1	2	3	4	

F Arm material		$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$
A	Aluminum	●	●	●	●
S	Steel	●	●	●	●

G Arm type		
Symbol	Clamping position	Offset
01	Central	15mm ($\phi 40$ -63) 20mm ($\phi 80$)
02	Right	
03	Left	
04	Central	45mm
05	Right	
06	Left	

H Lever color		$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$
Blank	Green (standard)	●	●	●	●
R	Red (D1)	●			

Clamping arm direction



φ40

● 40mm bore size 16mm axis-offset 15mm

Material	Clamping position	Weight (kg)	Max. opening angle 1	Max. opening angle 2	Max. opening angle 3	Max. opening angle 4
Aluminum alloy	Central	0.24	135°	135°	N/A	45°
Steel	Central	0.44	135°	135°	N/A	45°
Aluminum alloy	Right	0.24	135°	135°	N/A	45°
Steel	Right	0.46	135°	135°	N/A	45°
Aluminum alloy	Left	0.24	135°	135°	N/A	45°
Steel	Left	0.46	135°	135°	N/A	45°

Thread: M6×20 Locking torque: 10N·m

● 40mm bore size 16mm axis-offset 45mm

Material	Clamping position	Weight (kg)	Max. opening angle 1	Max. opening angle 2	Max. opening angle 3	Max. opening angle 4
Aluminum alloy	Central	0.3	135°	135°	N/A	45°
Steel	Central	0.55	135°	135°	N/A	45°
Aluminum alloy	Right	0.3	135°	135°	N/A	45°
Steel	Right	0.57	135°	135°	N/A	45°
Aluminum alloy	Left	0.3	135°	135°	N/A	45°
Steel	Left	0.57	135°	135°	N/A	45°

Thread: M6×20 Locking torque: 10N·m

φ50

● 50mm bore size 19mm axis-offset 15mm

Material	Clamping position	Weight (kg)	Max. opening angle 1	Max. opening angle 2	Max. opening angle 3	Max. opening angle 4
Aluminum alloy	Central	0.41	135°	115°	135°	80°
Steel	Central	0.71	135°	115°	135°	80°
Aluminum alloy	Right	0.43	135°	115°	135°	80°
Steel	Right	0.79	135°	115°	135°	80°
Aluminum alloy	Left	0.43	135°	115°	135°	80°
Steel	Left	0.79	135°	115°	135°	80°
Aluminum alloy	Central	0.41	135°	115°	135°	80°
Aluminum alloy	Right	0.43	135°	115°	135°	80°
Aluminum alloy	Left	0.43	135°	115°	135°	80°

Thread: M6×25 Locking torque: 10 N·m

● 50mm bore size 19mm axis-offset 45mm

Material	Clamping position	Weight (kg)	Max. opening angle 1	Max. opening angle 2	Max. opening angle 3	Max. opening angle 4
Aluminum alloy	Central	0.45	135°	135°	135°	80°
Steel	Central	0.77	135°	135°	135°	80°
Aluminum alloy	Right	0.46	135°	135°	135°	80°
Steel	Right	0.81	135°	135°	135°	80°
Aluminum alloy	Left	0.46	135°	135°	135°	80°
Steel	Left	0.81	135°	135°	135°	80°

Thread: M6×25 Locking torque: 10 N·m

φ63

● 63mm bore size 22mm axis-offset 15mm

Material	Clamping position	Weight (kg)	Max. opening angle 1	Max. opening angle 2	Max. opening angle 3	Max. opening angle 4
Aluminum alloy	Central	0.52	135°	115°	135°	80°
Steel	Central	0.9	135°	115°	135°	80°
Aluminum alloy	Right	0.54	135°	115°	135°	80°
Steel	Right	0.93	135°	115°	135°	80°
Aluminum alloy	Left	0.54	135°	115°	135°	80°
Steel	Left	0.93	135°	115°	135°	80°

Thread: M8×25 Locking torque: 25N·m

● 63mm bore size 22mm axis-offset 45mm

Material	Clamping position	Weight (kg)	Max. opening angle 1	Max. opening angle 2	Max. opening angle 3	Max. opening angle 4
Aluminum alloy	Central	0.57	135°	135°	135°	75°
Steel	Central	0.98	135°	135°	135°	75°
Aluminum alloy	Right	0.58	135°	135°	135°	75°
Steel	Right	1.02	135°	135°	135°	75°
Aluminum alloy	Left	0.58	135°	135°	135°	75°
Steel	Left	1.02	135°	135°	135°	75°

Thread: M8×25 Locking torque: 25N·m

φ80

● 80mm bore size 30mm axis-offset 20mm

Material	Clamping position	Weight (kg)	Max. opening angle 1	Max. opening angle 2	Max. opening angle 3	Max. opening angle 4
Aluminum alloy	Central	1.1	135°	110°	135°	75°
Aluminum alloy	Right	1.15	135°	110°	135°	75°
Aluminum alloy	Left	1.15	135°	110°	135°	75°

Thread: M10×35 Locking torque: 35N·m

● 80mm bore size 30mm axis-offset 45mm

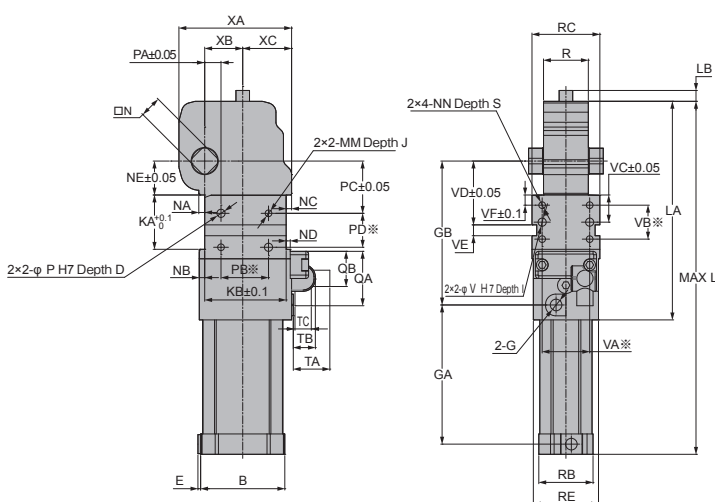
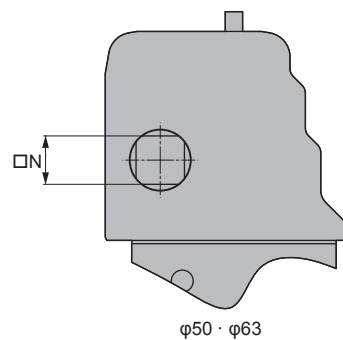
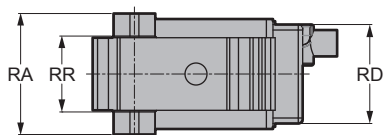
Material	Clamping position	Weight (kg)	Max. opening angle 1	Max. opening angle 2	Max. opening angle 3	Max. opening angle 4
Aluminum alloy	Central	1.18	135°	110°	135°	75°
Aluminum alloy	Right	1.2	135°	110°	135°	75°
Aluminum alloy	Left	1.2	135°	110°	135°	75°

Thread: M10×35 Locking torque: 35N·m

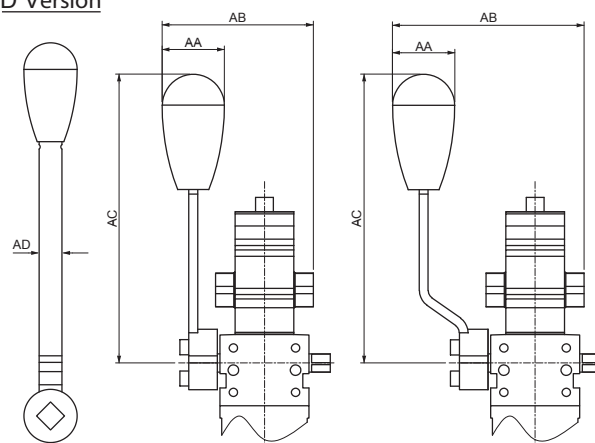
Dimension

• PWC

※ Locating pin hole dimension tolerance: ± 0.02
Screw hole dimension tolerance: ± 0.1



D Version



Code																										
Cylinder diam. (mm)	B	D	E	G	GA	GB	I	J	KA	KB	L	LA	LB	MM	N	NA	NB	NC	ND	NE	NN	P	PA	PB	PC	PD
φ40	62	10	2	G1/8	102.5	106	10	10	40	60	260	161	8	M6	16	4.35	4	4	3	25	M6	6	12	35	38.5	25
φ50	78	12	2	G1/4	118	135	12	12	55	93	314.5	200.5	8	M10	19	10.5	6.5	5.5	4.5	36.5	M8	10	10	50	55	45
φ63	105	12	2	G1/4	130.5	133.5	12	12	55	93	332.5	209.5	9	M8	22	12	7.5	7	7.5	36.5	M8	10	10	50	55	45
φ80	138	12	2	G1/4	187	188	12	12	80	134	474	286	9	M12	30	10	8	8	9	50	M10	12	15	70	65	75

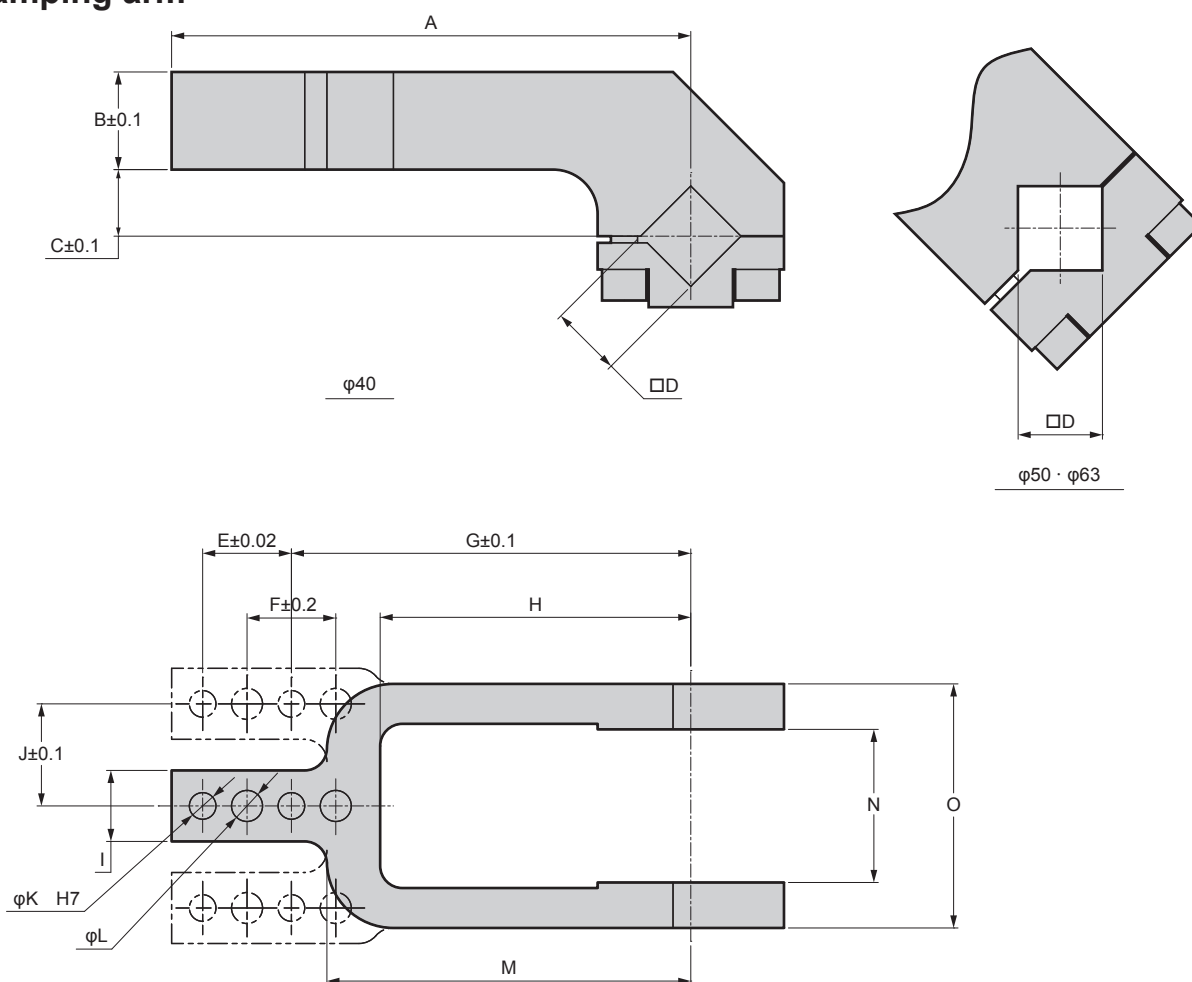
Code																								
Cylinder diam. (mm)	QA	QB	R	RA	RB	RC	RD	RE	RR	S	TA	TB	TC	V	VA	VB	VC	VD	VE	VF	XA	XB	XC	
φ40	40	29.4	33	55	40	50	45	48	34.5	10	29.2	18.5	M12x1	6	35	25	20	47	8H7	7.5	83	28	36	
φ50	40	29.4	45	68	45	48	45	47	48	12	29	18.5	M12x1	8	30	32	27	71.5	12N9	11	109	30.5	85.5	
φ63	40	29.4	51	78	46	54	45	53	54	12	29	18.5	M12x1	8	30	32	27	71.5	12N9	11	112	33.5	53.5	
φ80	40	29.4	74	108	66.6	76	45	69	76	12	29	18.5	M12x1	8	50	50	40	96.5	12N9	15	162	52	69	

D Version

	Color	AA	AB	AC	AD	AE
D1 φ40	Green	35	85	163	15	5
	Red	35	85	163	15	5
D1 φ50	Green	35	91	201	15	5
D1 φ63	Green	35	99	201	15	5
D2 φ80	Green	35	146	245	15	5

Dimension

● Clamping arm

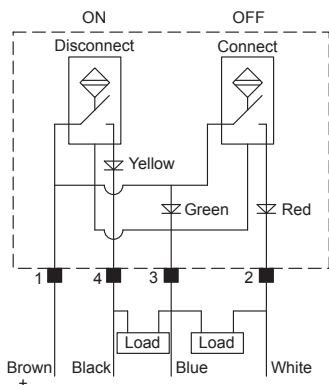
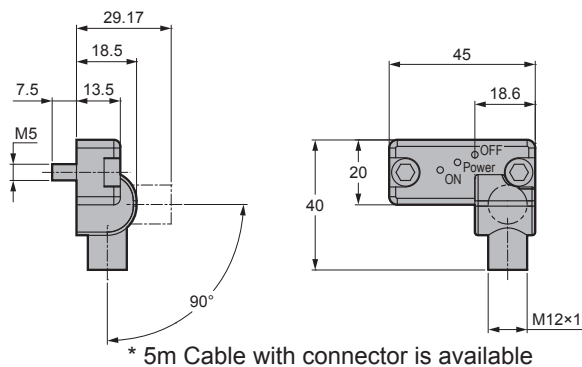


Code																					
		Version	Steel model	Steel weight	Aluminum model	Aluminum weight	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
φ40	1	Central	PWC-Q1601	495	PWC-B1601	240	117	22	15	16	20	20	90	70	16		6	7	82	34.5	55
	2	Right	PWC-Q1602	501	PWC-B1602	240															
	3	Left	PWC-Q1603	505	PWC-B1603	240										23					
	4	Central	PWC-Q1604	568	PWC-B1604	300	117	22	45	16	20	20	90	70	16		6	7	82	34.5	55
	5	Right	PWC-Q1605	586	PWC-B1605	300															
	6	Left	PWC-Q1606	592	PWC-B1606	300										23					
φ50	1	Central	PWC-Q1901	880	PWC-B1901	410	144	28	15	19	30	30	105	80	20		6	9	95	48	68
	2	Right	PWC-Q1902	916	PWC-B1902	430															
	3	Left	PWC-Q1903	915	PWC-B1903	430										34					
	4	Central	PWC-Q1904	954	PWC-B1904	450	144	28	45	19	30	30	105	80	20		6	9	95	48	68
	5	Right	PWC-Q1905	1025	PWC-B1905	460															
	6	Left	PWC-Q1906	1014	PWC-B1906	460										34					
φ63	1	Central	PWC-Q2201	1106	PWC-B2201	520	144	28	15	22	30	30	105	80	20		6	9	95	54	78
	2	Right	PWC-Q2202	1112	PWC-B2202	540															
	3	Left	PWC-Q2203	1112	PWC-B2203	540										37					
	4	Central	PWC-Q2204	1212	PWC-B2204	570	144	28	45	22	30	30	105	80	20		6	9	95	54	78
	5	Right	PWC-Q2205	1225	PWC-B2205	580															
	6	Left	PWC-Q2206	1235	PWC-B2206	580										37					
φ80	1	Central			PWC-B3001	1150	179	35	20	30	30	30	140	115	25		6	9	135	76	108
	2	Right			PWC-B3002	1150															
	3	Left			PWC-B3003	1150										51					
	4	Central			PWC-B3004	1180	179	35	45	30	30	30	140	115	25		6	9	135	76	108
	5	Right			PWC-B3005	1200															
	6	Left			PWC-B3006	1200										51					

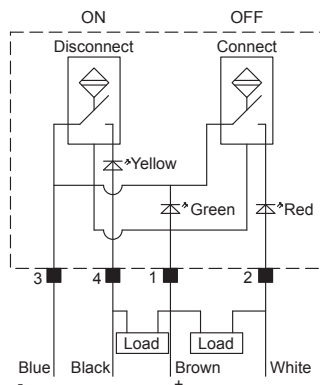
Dimension

• Switch specifications

Load voltage	DC10 to 30V
Internal voltage drop	below 2V
Load current	below 100mA
Consumption current	below 30mA
Short circuit protection	protected
Protection rating	IEC IP68
Ambient temperature	-25 to +60°C
Power indicator	Green LED
Releasing indicator	Yellow LED
Clamping indicator	Red LED
Output	PNP, NPN



Wiring diagram [PNP]



Wiring diagram [NPN]

• Switch Cable specifications

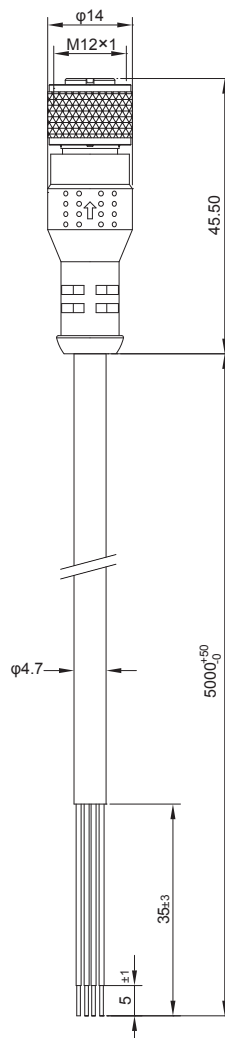
Model: PWC-CBL-05

Connector features

Product type	M12 circular connector with moulded cable
Connector type	Straight 180°
Contacts type	Female 4 poles
Number of contacts connected	4
Protection class	IP69K
Rated voltage	250V AC/DC
Rated current	4 A

Cable features

Pneumax cable code	EC001-05
Number of conductors	4
Conductors section	0.34mm ² (AWG22)
Cable material	PUR UL style 21576 
Coating colour	Black
Conductors insulation material	TPO
Cable length	5000mm
Stripping	35mm Standard
Peeling and tinning	5mm Standard



- BROWN ○ ———— (1)
- WHITE ○ ———— (2)
- BLUE ○ ———— (3)
- BLACK ○ ———— (4)

Technical data

L is the distance from the bearing center of the load to the center of gravity of the clamping arm. The weight of front-end allowable load should be used within the allowable range.

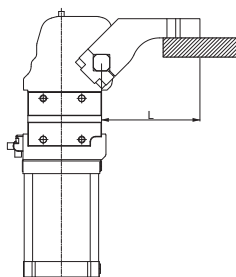
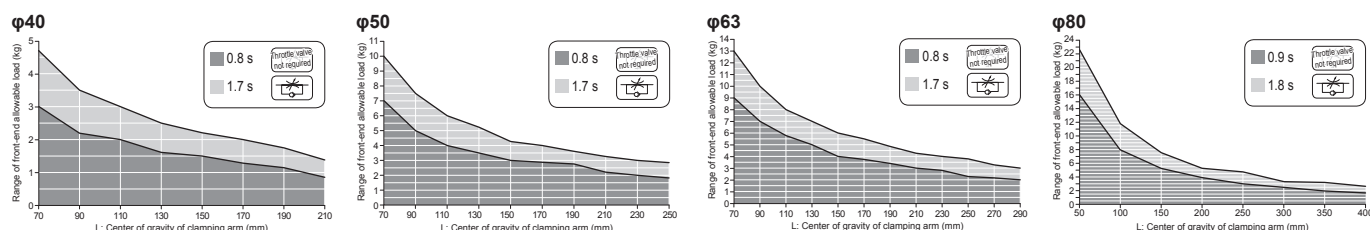


Chart for max allowable load



Pneumatic components

Safety Precautions

Be sure to read this section before use.

For cylinder common items and cylinder switches, please refer to Pneumatic Cylinder Catalog (CB-029SA).

Product-specific caution: Power Clamp Cylinder PWC series

Mounting, installation and adjustment

⚠ WARNING

- Please do not disassemble it, otherwise danger will occur.

⚠ CAUTION

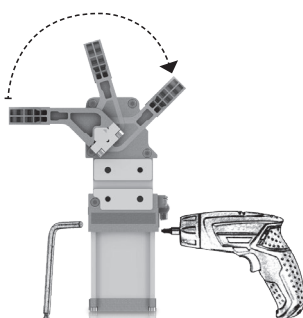
- Before installation, thoroughly clean the connecting pipe to ensure that there is no foreign matter or chip inside the cylinder.

Use and maintenance

⚠ WARNING

- During equipment maintenance, in order to ensure safety, please take measures separately to prevent the load from falling due to its own weight.

Clamping arm angle adjustment method



- ① Unfold the clamping arm into position.
※ The clamping arm must be opened with compressed air.
- ② Insert 5mm adjusting screw by the front or rear of the cylinder with a hexagonal wrench or electric screw. The adjustment can be made according to any opening angle.

※ CAUTION

It is not possible to adjust to a position or angle unreachable by the clamping arm.

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