3-Jaw Chuck

CKW-HP1 Series

Changing "gripping" changes manufacturing

Increased guide rigidity even for 3-jaw type.
Achieves high rigidity, high precision, and high durability.

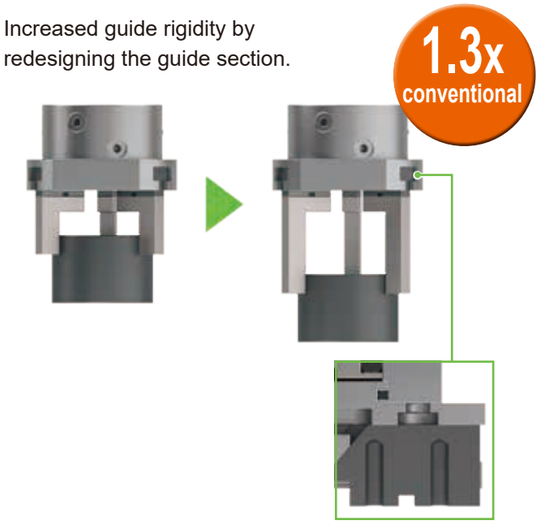
- Significant reduction in minor stoppages
- Significant reduction in replacement frequency
- Significant reduction in replacement time
- Durability of 10 million cycles or more

*According to our specified conditions

HP HIGH PRODUCTIVITY

High rigidity

Increased guide rigidity by redesigning the guide section.



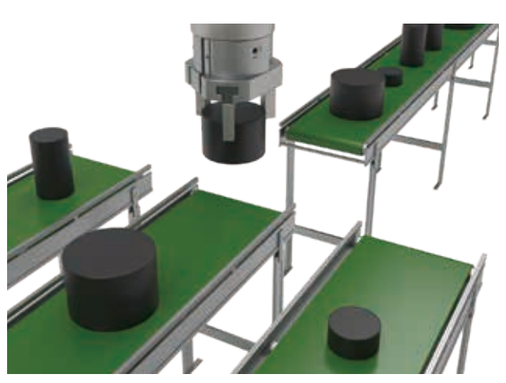
Rubber cover option

CKW-G-HP1 Chloroprene rubber

CKW-F-HP1 Fluoro Rubber

Long stroke

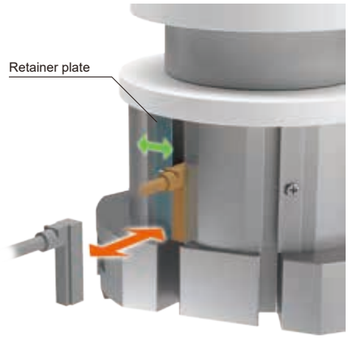
Can grip workpieces of different diameters
* The mounting pitch of the main body is compatible with the standard type.



High maintainability

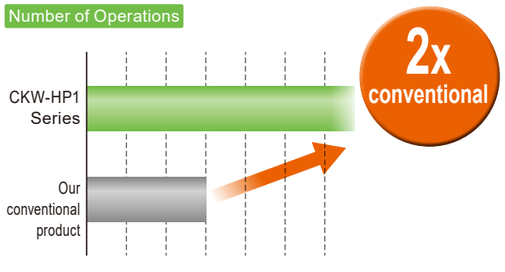
Easy switch replacement

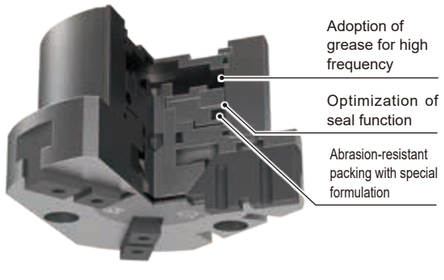
Switch replacement is possible while included to the equipment simply by sliding the retaining plate.



Long service life

Mastering sliding technology, achieving durability more than twice that of conventional products.

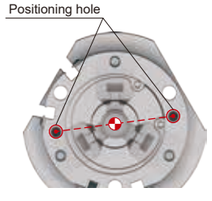




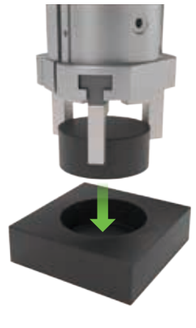
Significant reduction in replacement time

High-precision positioning hole ±0.025 mm

Added "positioning hole" based on gripping center. Contributes to reducing mounting and maintenance man-hours.



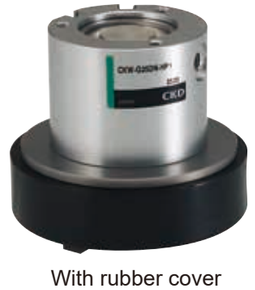
Effective for centering cylindrical workpieces.



Variation


Long stroke


Standard


With rubber cover

3-Jaw Chuck

CKW-A-HP1 Series

● Operating stroke: 4, 6, 8, 12 mm

Double Acting

RoHS

Model No. Notation Method

Without Switch
(Built-in magnet for switch)

CKW - A 16 D N —— HP1

Model No. | Rubber Cover: None | ① Actuation method: Double Acting | ②

With Switch
(Built-in magnet for switch)

CKW - A 16 D N - F2H - D - HP1

Model No. | ① Bore size | ② High-precision positioning hole | ③ Switch Model No. | ④ Number of Switches

Rubber Cover: None | Actuation method: Double Acting

① Bore size (mm)

Code	Content
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50

② High-precision positioning hole

For details, refer to P. 380.

Code	Content	
N	None	
A	Available	

③ Switch Model No.

For switch details, please refer to P. 573.
Switches are included to the product and shipped.

Contact	Indicator LED Special Function	Wiring (Output)	Load Voltage (V) AC	Load Voltage (V) DC	Load Current (mA) AC	Load Current (mA) DC	Lead wire *1 Straight	Lead wire *1 L-shape	
Solid State	1-Color	2-wire	-	10 to 30	-	5 to 20	-	F2S□	
		3-wire (NPN)	-	30 or less	-	50 or less	-	F3S□	
		2-wire	-	10 to 30	-	5 to 20 *2	F2H□	F2V□	
		3-wire (NPN)	-	30 or less	-	50 or less	F3H□	F3V□	
		3-wire (PNP)	-	30 or less	-	50 or less	F3PH□	F3PV□	

*1: For "□" in the switch model number, enter the code selected from the "*Lead wire length" table.
*2: The maximum load current value above, 20 mA, is at 25 °C.If the switch operating ambient temperature is higher than 25 °C, it will be lower than 20 mA. (At 60 °C, it will be 5 to 10 mA.)
*3: Switches other than the model numbers listed above are also available. (Custom Product) For details, see P. 573.

***Lead wire length**

Code	Content
Blank	1 m (Standard)
3	3 m (Option)

Example) Lead wire length
1 m F2S
3 m F2S3

④ Number of Switches

Code	Content
R	With 1 pc. on Open Side
H	With 1 pc. on Close Side
D	With 2 pcs

Note) When 2 switches are included, for models with a short operating stroke, both switches may turn ON depending on the size of the workpiece. Please be careful.

Switch Single Unit Model No. Notation Method

SW - F2H

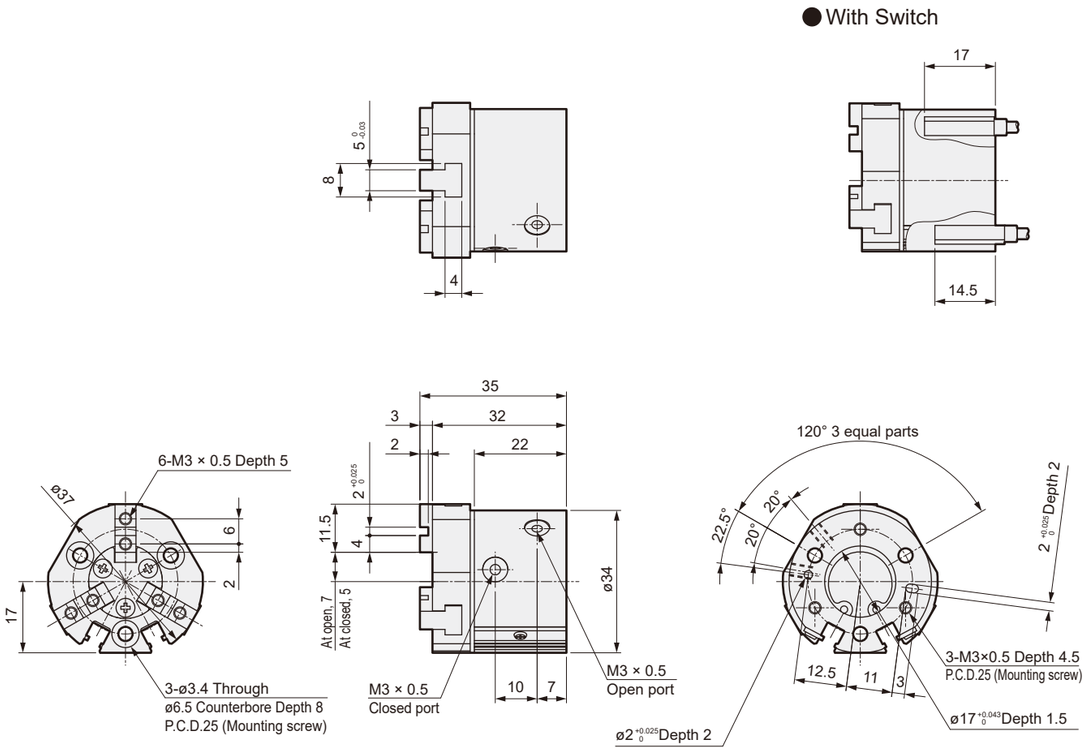
③ Switch Model No.

Specifications

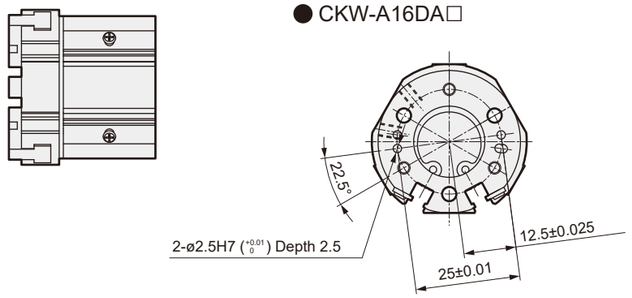
Item		CKW-A-HP1					
Bore size	mm	ø16	ø20	ø25	ø32	ø40	ø50
Actuation method		Double Acting					
Operating Fluid		Compressed Air					
Max. Working Pressure	MPa	0.7					
Min. Operating Pressure	MPa	0.2			0.1		
Ambient Temperature	°C	-10 to 60 (However, no freezing)					
Port Size		M3	M5				
Operating stroke	mm	4		6	8		12
Rod diameter	mm	ø6		ø8	ø10	ø12	ø14
Repeatability	mm	±0.01					
Weight	kg	0.08	0.13	0.17	0.31	0.46	0.65
Lubrication		Not Required					

Outline dimension drawing (Bore size: ø16)

● CKW-A16-HP1

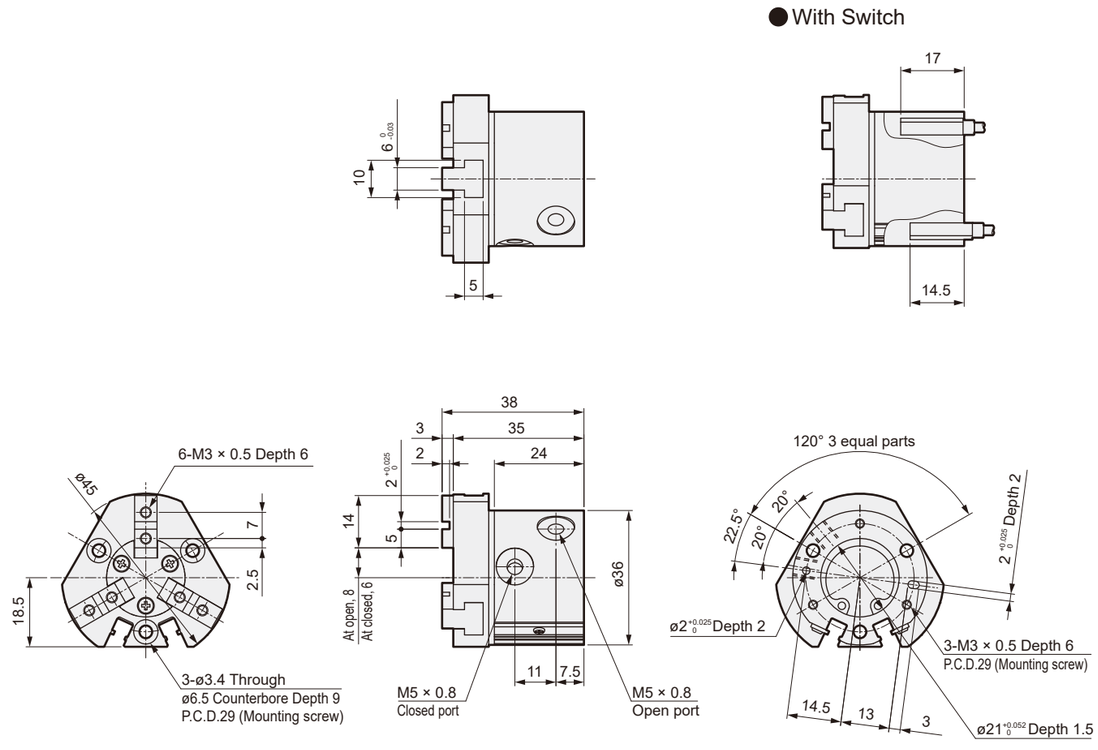


● CKW-A16DA□

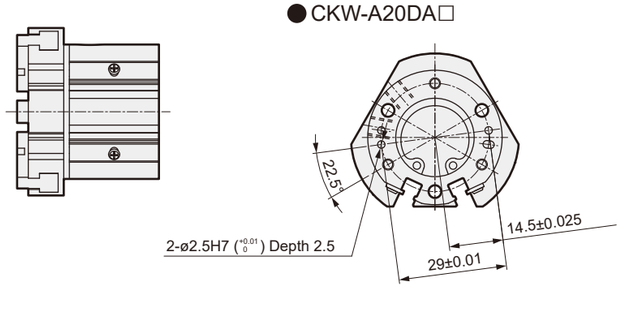


Outline dimension drawing (Bore size: ø20)

● CKW-A20-HP1

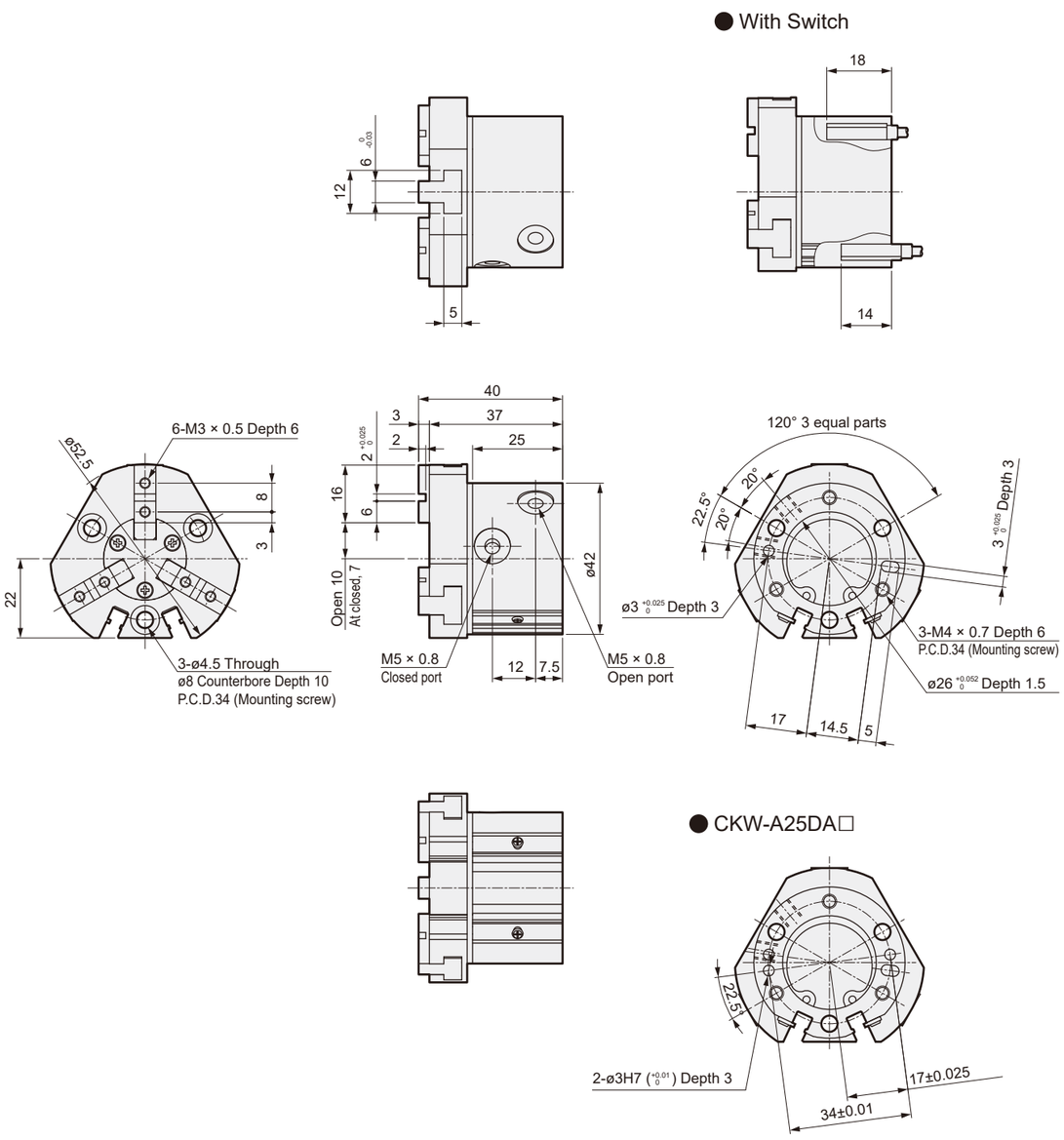


● CKW-A20DA□



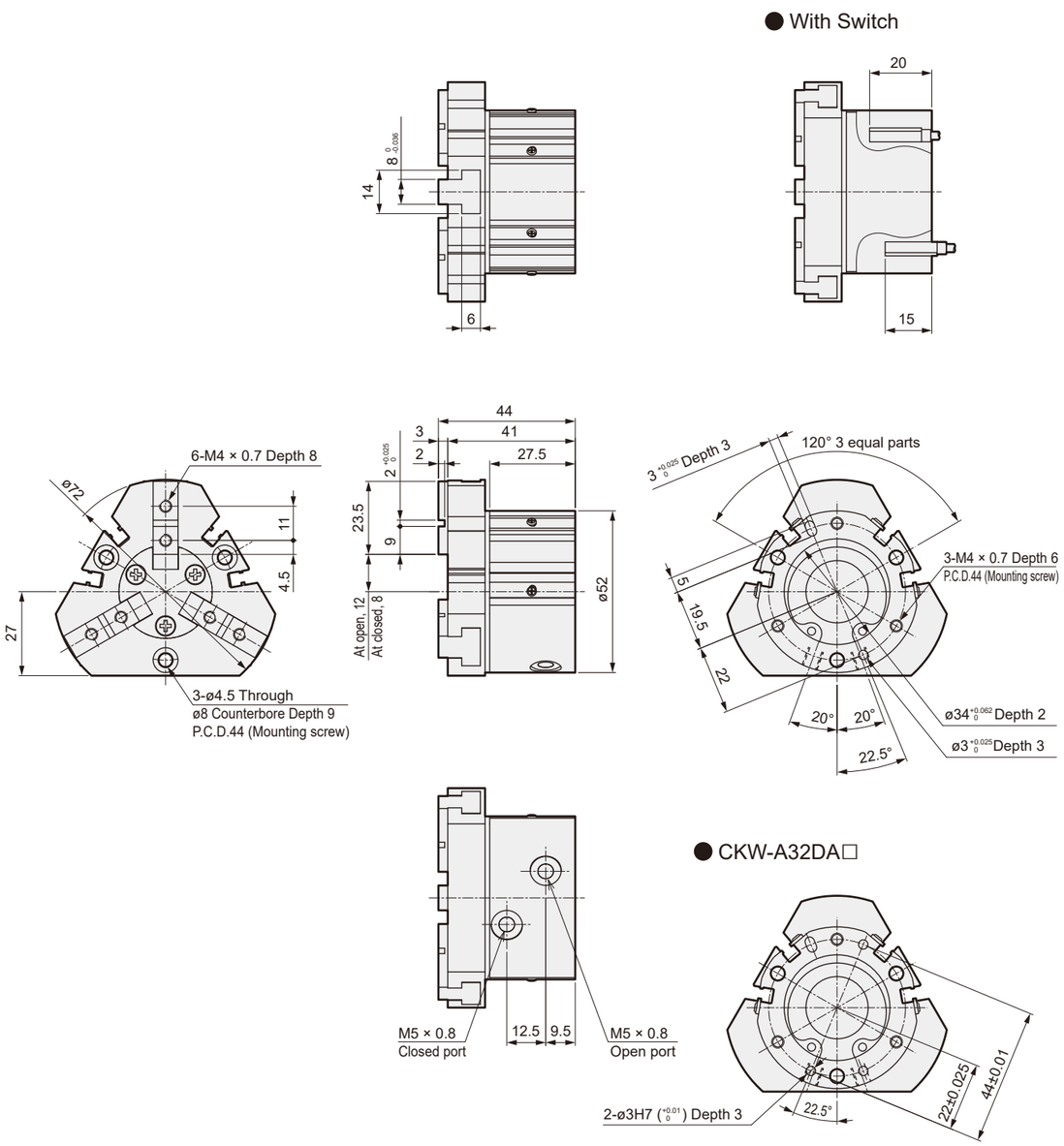
Outline Dimension Drawing (Bore size: ø25)

● CKW-A25-HP1



External dimensions diagram (Bore size: ø32)

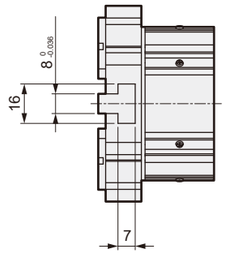
● CKW-A32-HP1

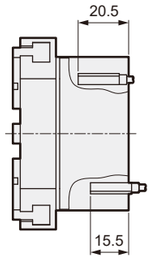


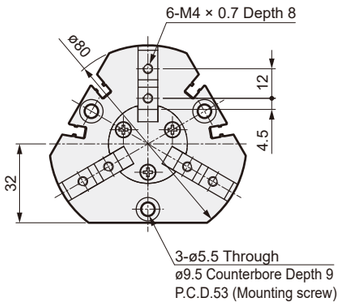
Outline Dimensional Drawing (Bore size: ø40)

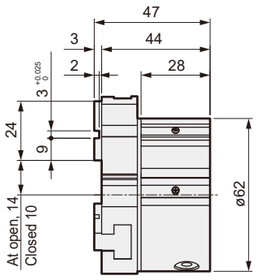
● CKW-A40-HP1

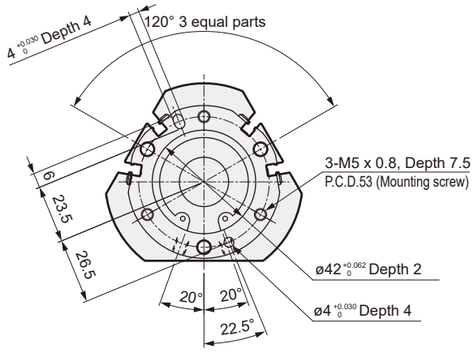
● With Switch



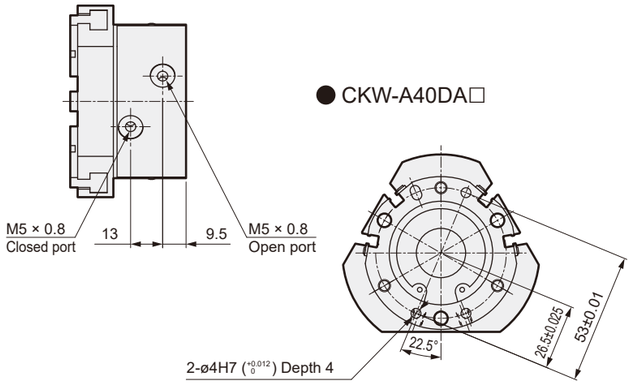








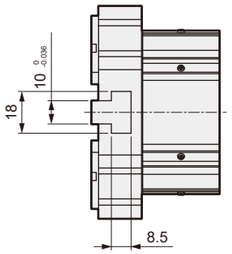
● CKW-A40DA□

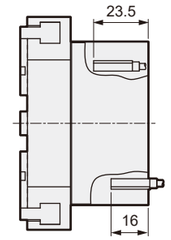


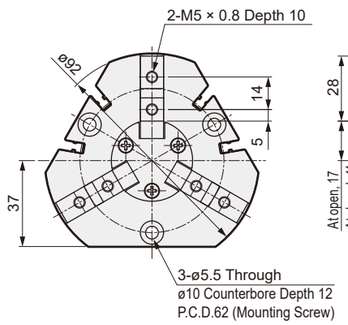
External Dimensions (Bore size: ø50)

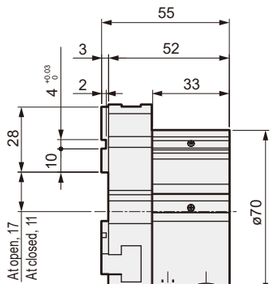
● CKW-A50-HP1

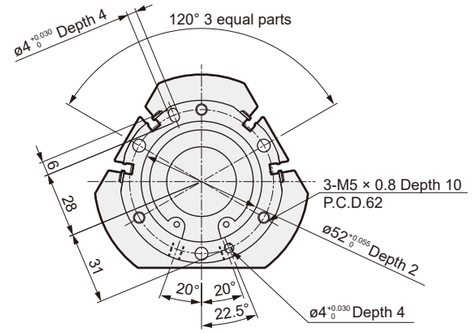
● With Switch



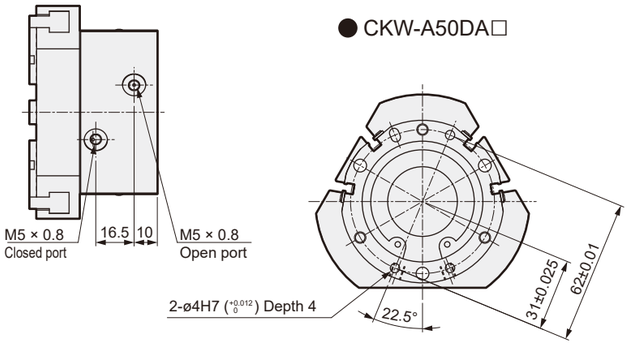








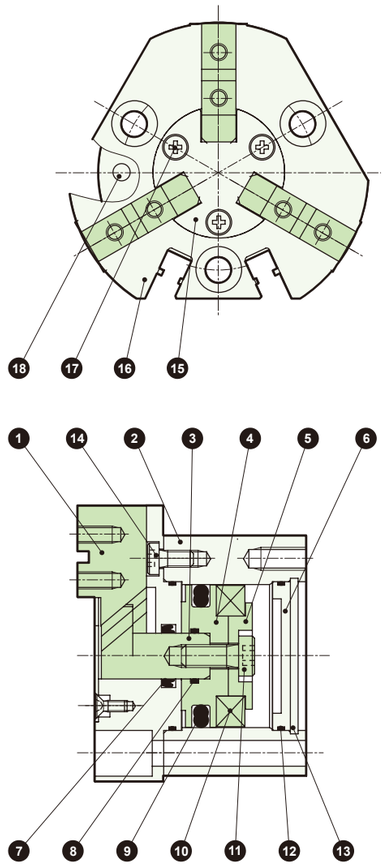
● CKW-A50DA□



CKW-A-HP1 Series

Internal Structure Diagram/Material

● CKW-A16 to 50-HP1



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Finger	Steel		11	Hexagon Socket Head Cap Screw	Stainless Steel	
2	Body	Aluminum Alloy	Hard Anodized	12	Gasket	Nitrile Rubber	
3	Piston 1	Steel		13	C-type retaining ring	Stainless Steel	
4	Piston 2	Aluminum Alloy	Chromate	14	Hexagon Socket Head Cap Screw	Stainless Steel	
5	Piston 3	Aluminum Alloy	Chromate	15	Cover	Stainless Steel	
6	Bottom plate	Aluminum Alloy	Chromate	16	Adapter	Aluminum Alloy	Hard Anodized
7	Rod Packing	Nitrile Rubber		17	Phillips flat head screw	Stainless Steel	
8	Piston Gasket	Nitrile Rubber		18	Parallel Pin	Stainless steel	
9	Piston Packing	Nitrile Rubber		19	Retaining plate	Stainless Steel	
10	Magnet	–		20	Pan Head Screw	Stainless Steel	

For maintenance parts, refer to the CKD component product site (https://www.ckd.co.jp/kiki/en/) → "Model No." → See "Maintenance Parts"

MEMO

Check Valve

CKW-HP
CKL2
CKLG2
CKL2 -□-HC
CKH2
CKLB2
CKG
CK
CKA
CKS
CKS-F
CKF
CKJ

Cylinder Switch
Ending

3-Jaw Chuck with Rubber Cover

CKW-G-HP1, CKW-F-HP1 Series

●Operating stroke: 4, 6, 8 mm

Double Acting

RoHS

Model No. Notation Method

Without Switch
(Built-in magnet for switch)

CKW – G 16 D N ——— HP1

- CKW: Model No.
- G: ❶ Rubber Cover
- 16: ❷ Bore size
- D: ❷ Operating Method Double Acting
- N: ❸ High-precision positioning hole
- HP1: ❹ Switch Model No.

With Switch
(Built-in magnet for switch)

CKW – G 16 D N – F2H – D – HP1

- CKW: Model No.
- G: ❶ Rubber Cover
- 16: ❷ Bore size
- D: ❷ Operating Method Double Acting
- N: ❸ High-precision positioning hole
- F2H: ❹ Switch Model No.
- D: ❺ Number of Switches
- HP1: ❹ Switch Model No.

❶Rubber Cover

Code	Content
G	Chloroprene rubber
F	Fluoro Rubber

❷Bore size (mm)

Code	Content
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40

❸High-precision positioning hole

For details, refer to P. 380.

Code	Content	
N	None	
A	Available	

❹Switch Model No.

For switch details, please refer to P. 573.
Switches are included to the product and shipped.

Contact	Indicator LED Special Function	Wiring (Output)	Load Voltage (V) AC	Load Voltage (V) DC	Load Current (mA) AC	Load Current (mA) DC	Lead wire *1 Straight	Lead wire *1 L-shape	
Solid State	1-Color	2-wire	-	10 to 30	-	5 to 20	-	F2S□	
		3-wire (NPN)	-	30 or less	-	50 or less	-	F3S□	
		2-wire	-	10 to 30	-	5 to 20 □2	F2H□	F2V□	
		3-wire (NPN)	-	30 or less	-	50 or less	F3H□	F3V□	
		3-wire (PNP)	-	30 or less	-	50 or less	F3PH□	F3PV□	

*1: For "□" in the switch model number, enter the code selected from the "*Lead wire length" table.
*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)
*3: Switches other than the model numbers listed above are also available. (Custom Product) For details, see P. 573.

*Lead wire length

Code	Content
Blank	1 m (Standard)
3	3 m (Option)

Example) Lead wire length
1 m F2S
3 m F2S3

❺ Number of Switches

Code	Content
R	With 1 pc. on Open Side
H	With 1 pc. on Close Side
D	With 2 pcs

Note) When 2 switches are included, for models with a short operating stroke, both switches may turn ON depending on the size of the workpiece. Please be careful.

Switch Single Unit Model No. Notation Method

SW – F2H

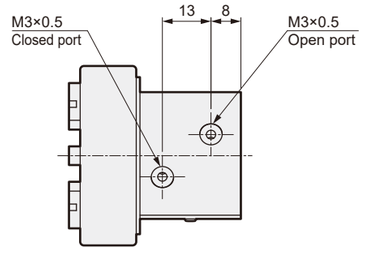
- F2H: ❹ Switch Model No.

Specifications

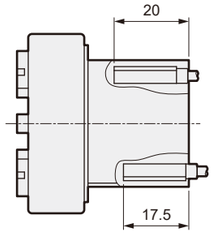
Item		CKW-G-HP1•CKW-F-HP1				
Bore size	mm	ø16	ø20	ø25	ø32	ø40
Actuation method		Double Acting				
Operating Fluid		Compressed Air				
Max. Working Pressure	MPa	0.7				
Min. Operating Pressure	MPa	0.2			0.1	
Ambient Temperature	°C	-10 to 60 (However, no freezing)				
Port Size		M3	M5			
Operating stroke	mm	4		6	8	
Rod diameter	mm	ø6		ø8	ø10	ø12
Repeatability	mm	±0.01				
Weight	kg	0.12	0.19	0.26	0.50	0.65
Lubrication		Not Required				

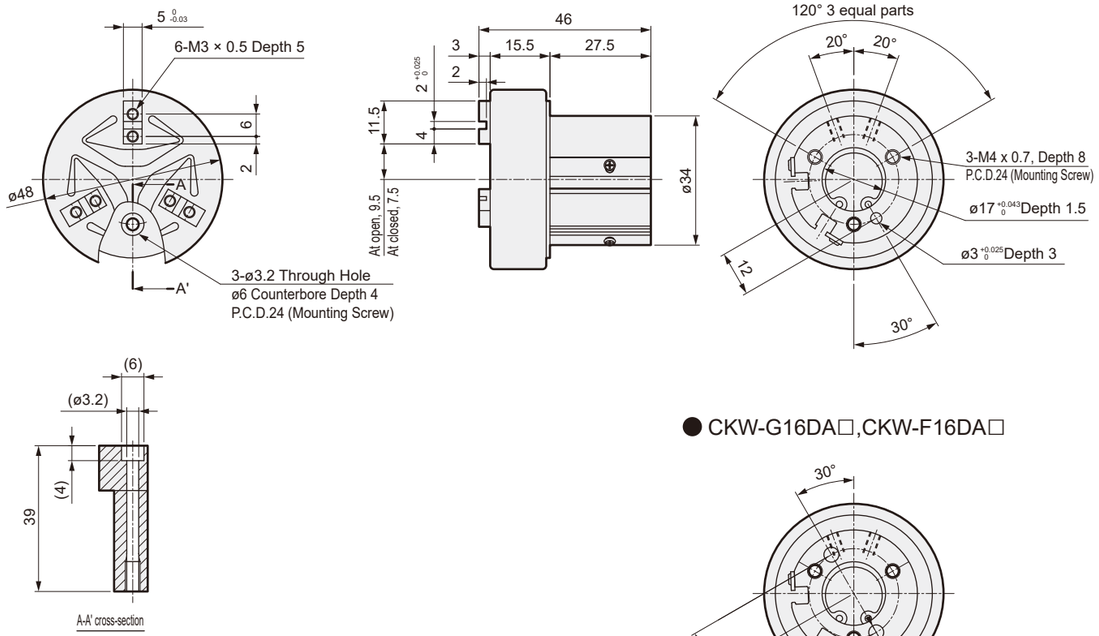
Outline dimension drawing (Bore size: ø16)

● CKW-G16-HP1, CKW-F16-HP1



● With Switch

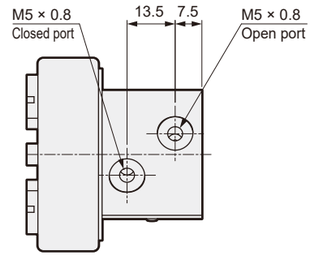




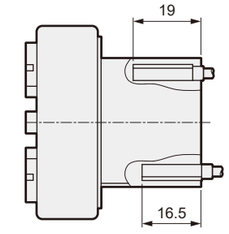
● CKW-G16DA□,CKW-F16DA□

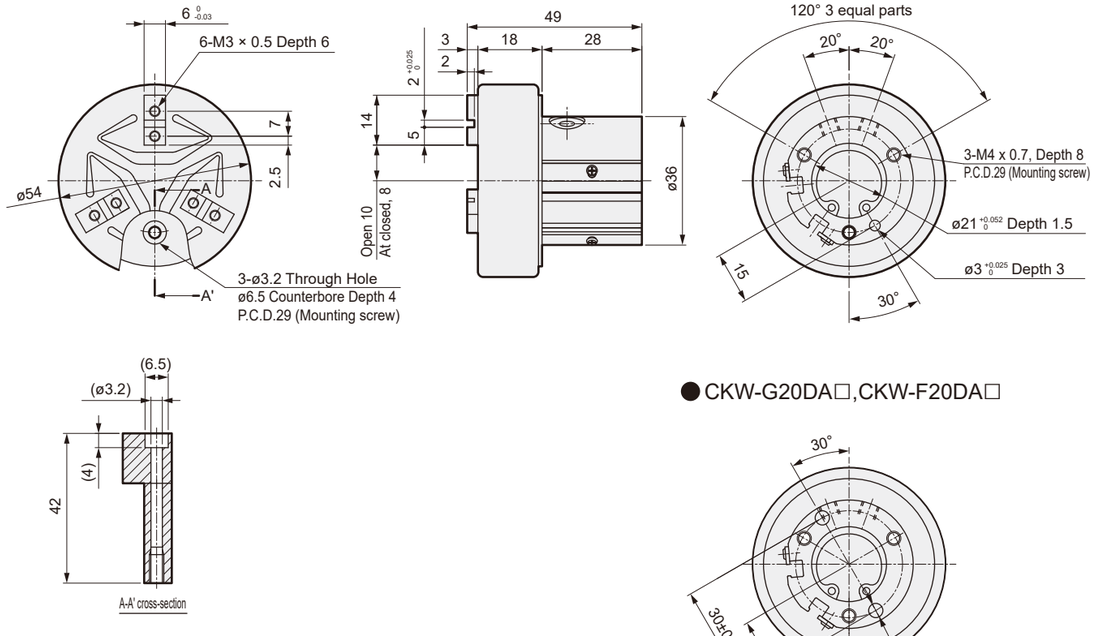
Outline dimension drawing (Bore size: ø20)

● CKW-G20-HP1, CKW-F20-HP1



● With Switch

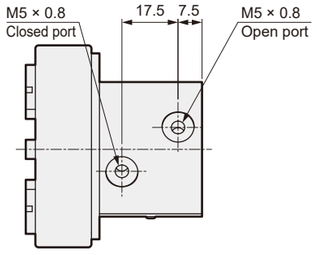




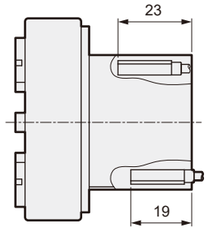
● CKW-G20DA□,CKW-F20DA□

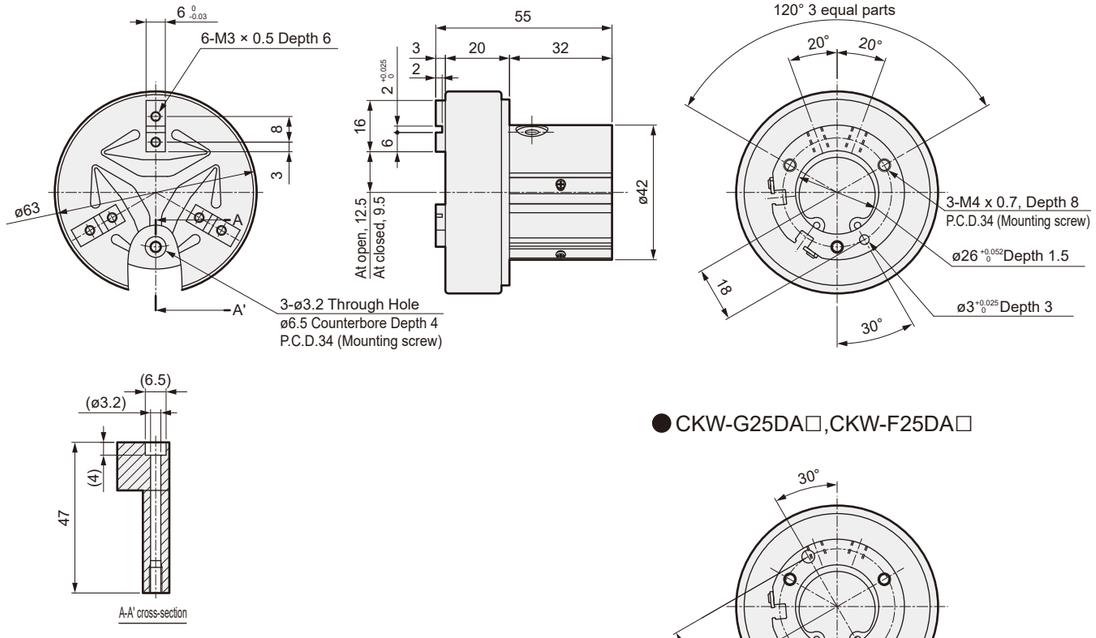
Outline Dimension Drawing (Bore size: ø25)

● CKW-G25-HP1, CKW-F25-HP1

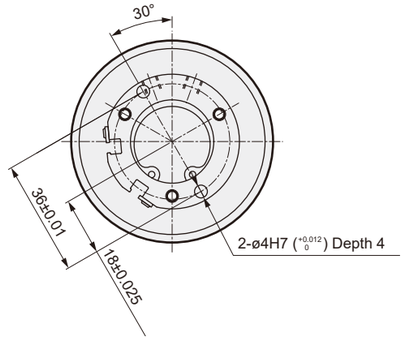


● With Switch



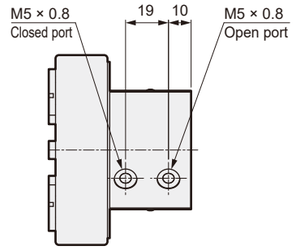


● CKW-G25DA□,CKW-F25DA□

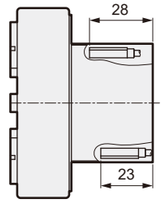


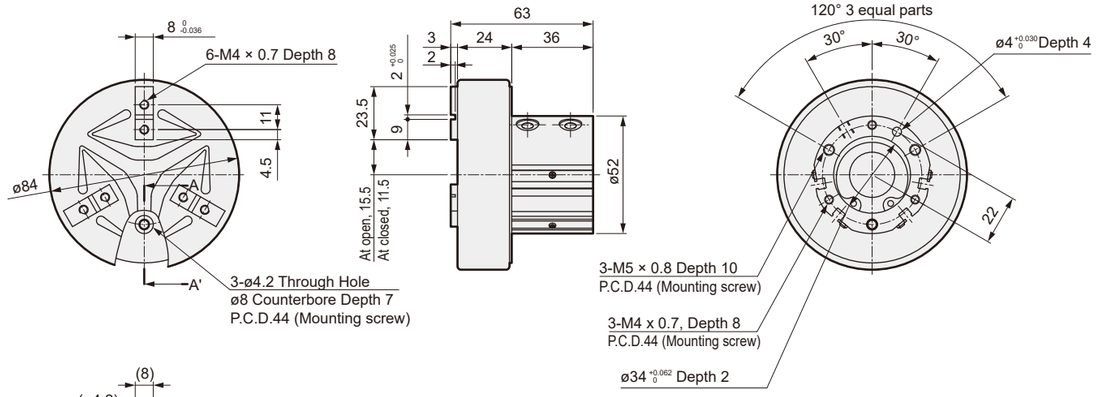
External dimensions diagram (Bore size: ø32)

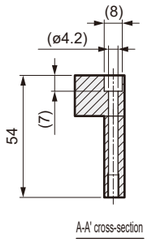
● CKW-G32-HP1, CKW-F32-HP1



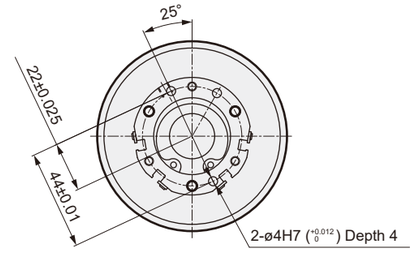
● With Switch





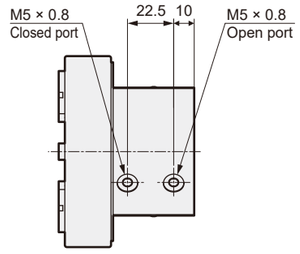


● CKW-G32DA□,CKW-F32DA□

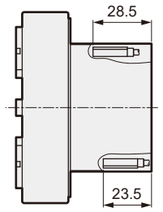


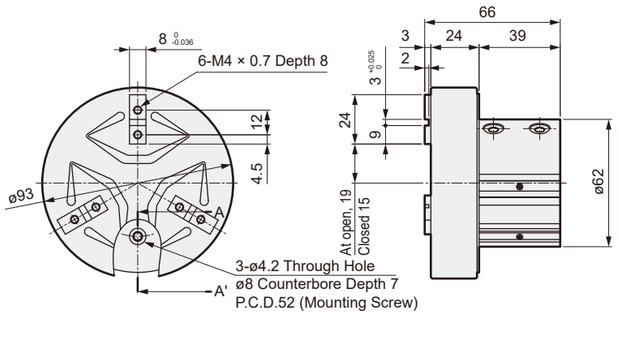
Outline Dimensional Drawing (Bore size: ø40)

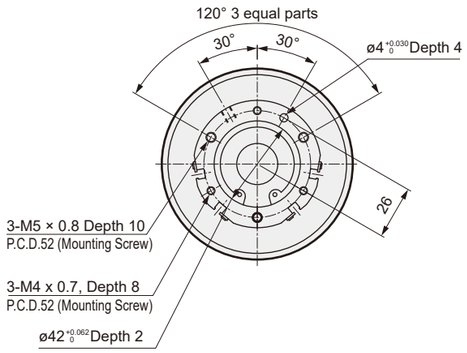
● CKW-G40-HP1, CKW-F40-HP1

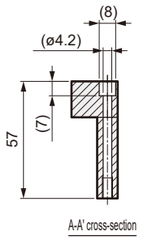


● With Switch

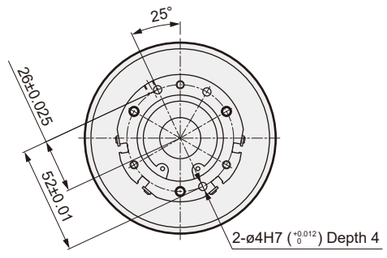






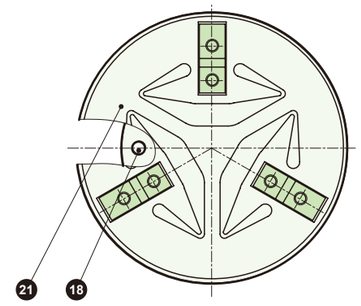


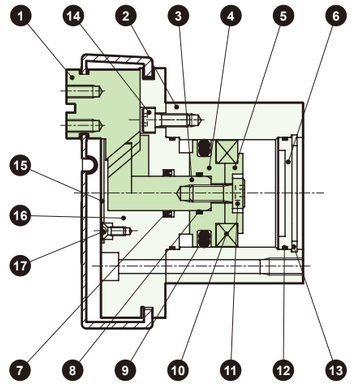
● CKW-G40DA□,CKW-F40DA□

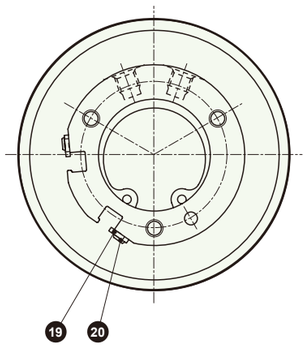


Internal Structure Diagram/Material

● CKW-G16 to 40-HP1,CKW-F16 to 40-HP1







Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Finger	Steel		12	Gasket	Nitrile Rubber	
2	Body	Aluminum Alloy	Hard Anodized	13	C-type retaining ring	Stainless Steel	
3	Piston 1	Steel		14	Hexagon Socket Head Cap Screw	Stainless steel	
4	Piston 2	Aluminum Alloy	Chromate	15	Cover	Stainless Steel	
5	Piston 3	Aluminum Alloy	Chromate	16	Adapter	Aluminum Alloy	Hard Anodized
6	Bottom plate	Aluminum Alloy	Chromate	17	Phillips flat head screw	Stainless Steel	
7	Rod Packing	Nitrile Rubber		18	Parallel Pin	Stainless Steel	
8	Piston Gasket	Nitrile Rubber		19	Retaining plate	Stainless Steel	
9	Piston Packing	Nitrile Rubber		20	Pan Head Screw	Stainless Steel	
10	Magnet	–		21	Rubber Cover	CKW-G: Chloroprene rubber CKW-F: Fluoro Rubber	
11	Hexagon Socket Head Cap Screw	Stainless Steel					

For maintenance parts, refer to the CKD component product site (https://www.ckd.co.jp/kiki/en/) → "Model No." → See "Maintenance Parts"

3-Jaw Long Stroke Chuck

CKWL-A-HP1 Series

●Operating stroke: 10, 12, 16, 20 mm

Double Acting

RoHS

Model No. Notation Method

Without Switch
(Built-in magnet for switch)

CKWL - A 16 D N ——— HP1

Model No. | Without Rubber Cover | ❶ | Operating Method Double Acting | ❷

With Switch
(Built-in magnet for switch)

CKWL - A 16 D N - F2H - D - HP1

Model No. | ❶ Bore size | ❷ High-precision positioning hole | ❹ Number of Switches

Without rubber cover | Operating Method Double Acting | ❸ Switch Model No.

❶ Bore size (mm)

Code	Content
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40

❷ High-precision positioning hole

For details, refer to P. 380.

Code	Content	
N	None	
A	Available	

❸ Switch Model No.

For switch details, please refer to P. 573.
Switches are included to the product and shipped.

Contact	Indicator LED Special Function	Wiring (Output)	Load Voltage (V) AC	Load Voltage (V) DC	Load Current (mA) AC	Load Current (mA) DC	Lead wire *1 Straight	Lead wire *1 L-shape	
Solid State	1-Color	2-wire	-	10 to 30	-	5 to 20	-	F2S□	
		3-wire (NPN)	-	30 or less	-	50 or less	-	F3S□	
		2-wire	-	10 to 30	-	5 to 20 *2	F2H□	F2V□	
		3-wire (NPN)	-	30 or less	-	50 or less	F3H□	F3V□	
		3-wire (PNP)	-	30 or less	-	50 or less	F3PH□	F3PV□	

*1: For "□" in the switch model number, enter the code selected from the "*Lead wire length" table.
*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)
*3: Switches other than the model numbers listed above are also available. (Custom Product) For details, see P. 573.

***Lead wire length**

Code	Content
Blank	1 m (Standard)
3	3 m (Option)

Example) Lead wire length
1 m F2S
3 m F2S3

❹ Number of Switches

Code	Content
R	With 1 pc. on Open Side
H	With 1 pc. on Close Side
D	With 2 pcs

Note) When 2 switches are included, for models with a short operating stroke, both switches may turn ON depending on the size of the workpiece. Please be careful.

Switch Single Unit Model No. Notation Method

SW - F2H

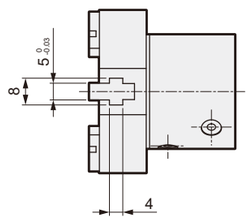
❸ Switch Model No.

Specifications

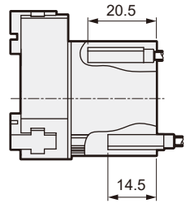
Item		CKWL-A-HP1				
Bore size	mm	ø16	ø20	ø25	ø32	ø40
Actuation method		Double Acting				
Operating Fluid		Compressed Air				
Max. Working Pressure	MPa	0.7				
Min. Operating Pressure	MPa	0.2			0.1	
Ambient Temperature	°C	-10 to 60 (However, no freezing)				
Port Size		M3	M5			
Operating stroke	mm	10		12	16	20
Rod diameter	mm	ø6		ø8	ø10	ø12
Repeatability	mm	±0.01				
Weight	kg	0.13	0.18	0.22	0.46	0.66
Lubrication		Not Required				

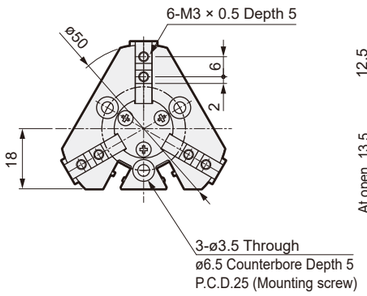
Outline dimension drawing (Bore size: ø16)

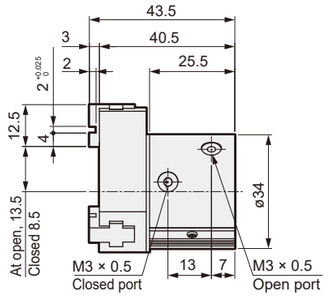
● CKWL-A16-HP1

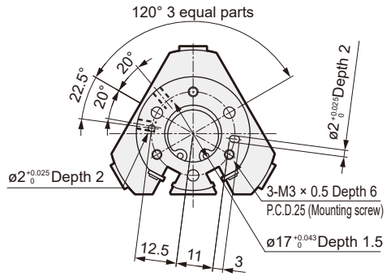


● With Switch

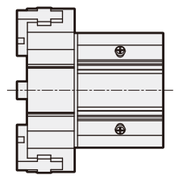


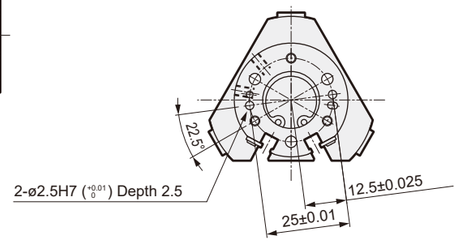






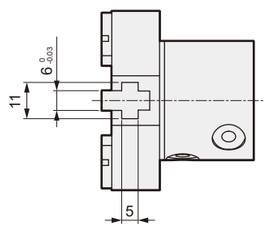
● CKWL-A16DA□



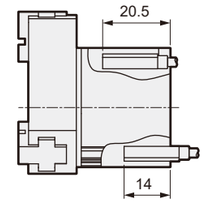


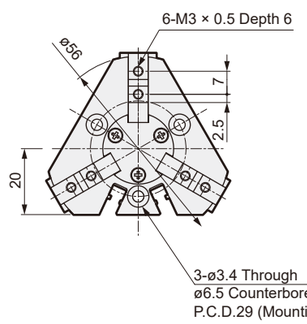
Outline dimension drawing (Bore size: ø20)

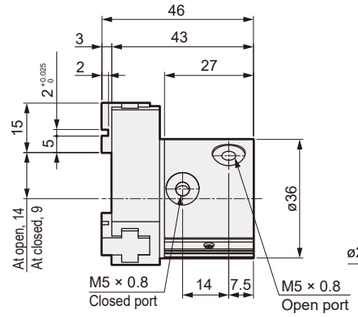
● CKWL-A20-HP1

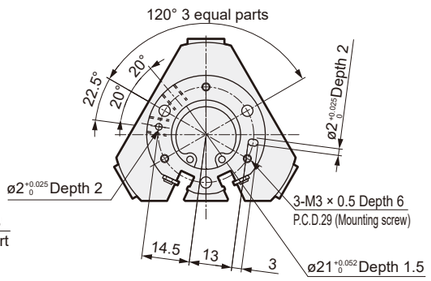


● With Switch

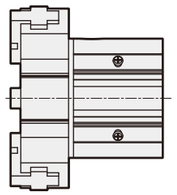


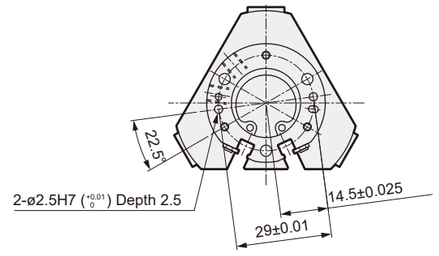






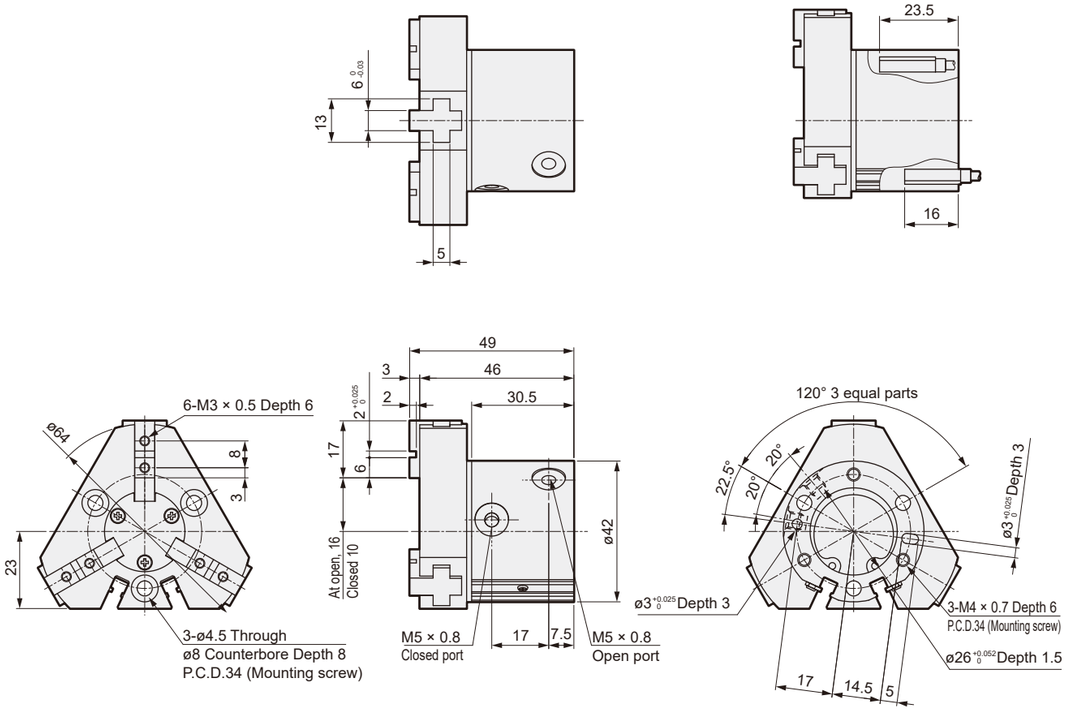
● CKWL-A20DA□

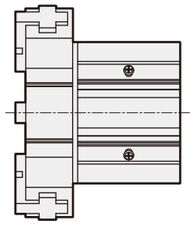




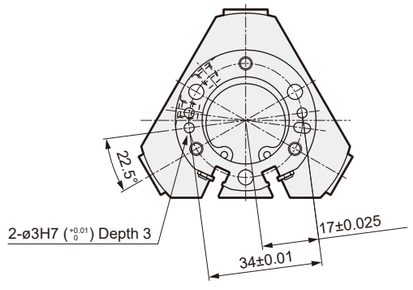
Outline Dimension Drawing (Bore size: ø25)

● CKWL-A25-HP1



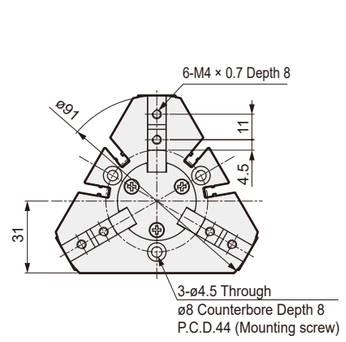


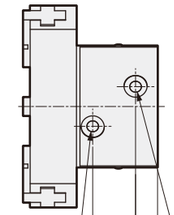
● CKWL-A25DA□



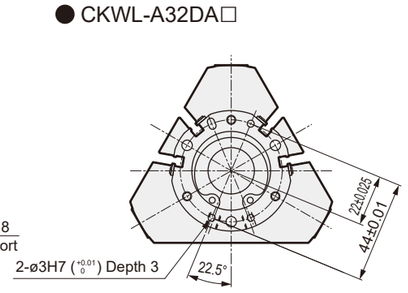
External dimensions diagram (Bore size: ø32)

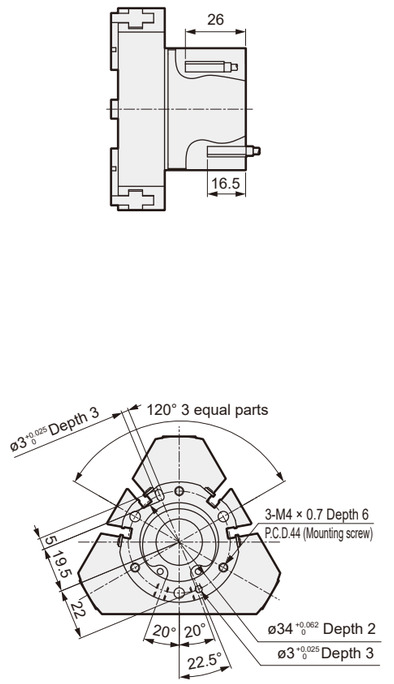
● CKWL-A32-HP1





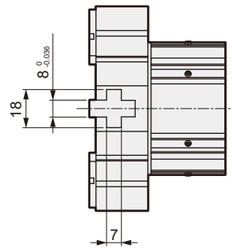
● CKWL-A32DA□



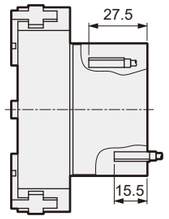


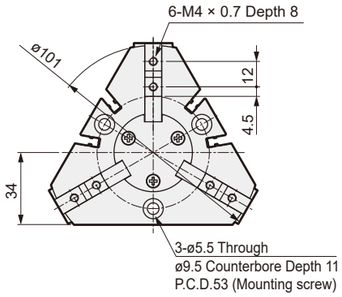
Outline Dimensional Drawing (Bore size: ø40)

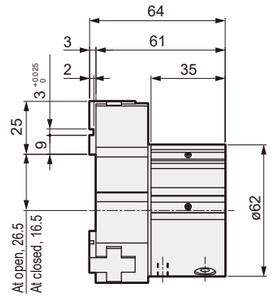
● CKWL-A40-HP1

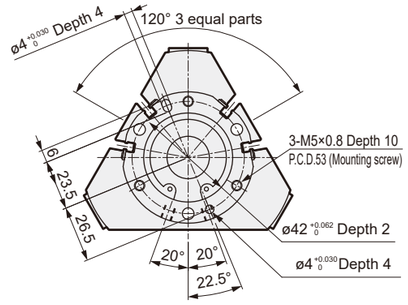


● With Switch

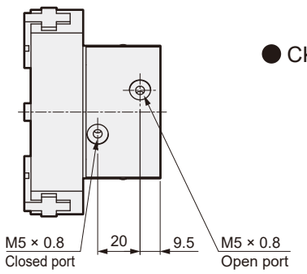


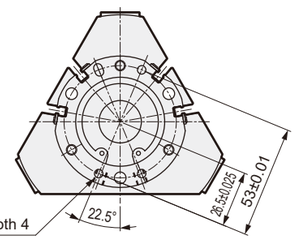






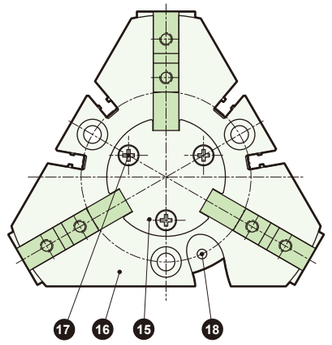
● CKWL-A40DA□

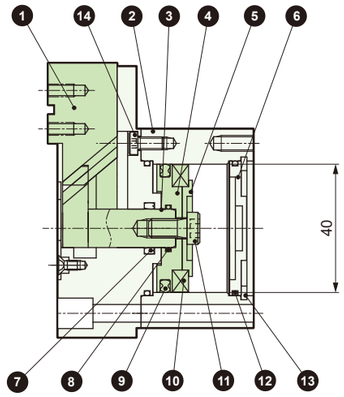


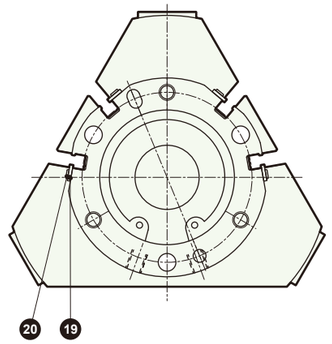


Internal Structure Diagram/Material

● CKWL-A16 to 40-HP1







Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
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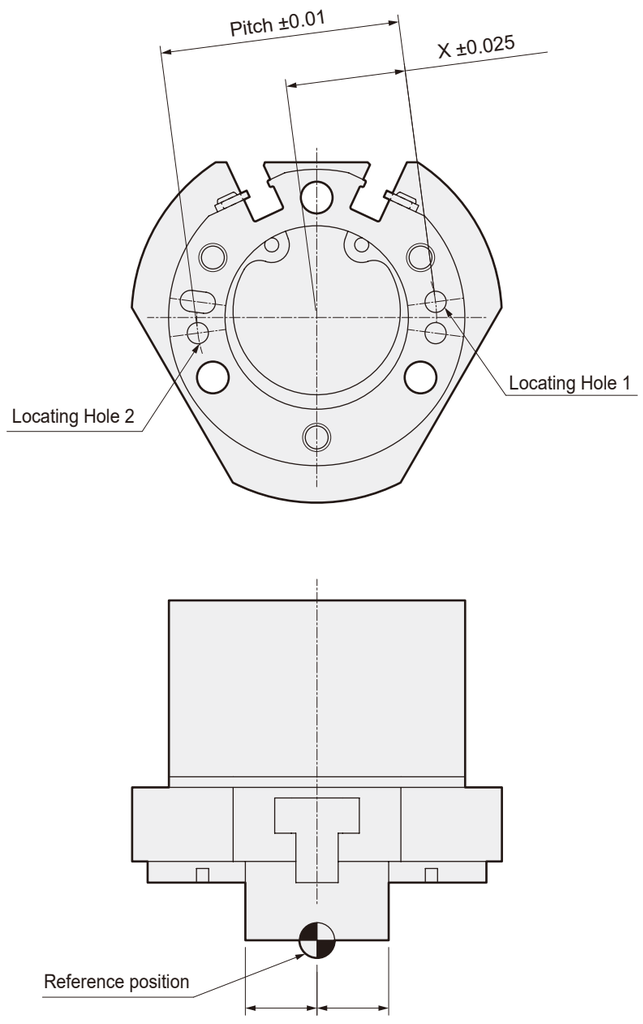
3	Piston 1	Steel		13	C-type retaining ring	Stainless Steel	
4	Piston 2	Aluminum Alloy	Chromate	14	Hexagon Socket Head Cap Screw	Stainless Steel	
5	Piston 3	Aluminum Alloy	Chromate	15	Cover	Stainless Steel	
6	Bottom plate	Aluminum Alloy	Chromate	16	Adapter	Aluminum Alloy	Hard Anodized
7	Rod Packing	Nitrile Rubber		17	Phillips flat head screw	Stainless Steel	
8	Piston Gasket	Nitrile Rubber		18	Parallel Pin	Stainless steel	
9	Piston Packing	Nitrile Rubber		19	Retaining plate	Stainless Steel	
10	Magnet	–		20	Pan Head Screw	Stainless Steel	

For maintenance parts, refer to the CKD component product site (https://www.ckd.co.jp/kiki/en/) → "Model No." → See "Maintenance Parts"

Reference Position of Locating Hole

●Gripping center reference, high-precision positioning hole
Positioning can be done based on the gripping center.



Reference Position of Locating Hole
Center when gripping the inside of the finger at intermediate stroke

MEMO

Check Valve
CKW-HP
CKL2
CKLG2
CKL2 -□-HC
CKH2
CKLB2
CKG
CK
CKA
CKS
CKS-F
CKF
CKJ
Cylinder Switch
Ending

CKW-HP1 Selection Guide

STEP-1 Select appropriate model from required gripping force

① Calculation of Required Gripping Force

To transport a workpiece (weight WL), a gripping force FW that satisfies the following formula is required.

$$F_W > \frac{W_L \times g \times K}{n}$$

F_W : Required Gripping Force [N]
n : Number of attachments = 3
W_L : Workpiece Weight [kg]
g : Gravitational acceleration = 9.8 [m/s²]
K : Conveyance Factor
5 [Holding only]
10 [Normal transport]
20 [Rapid acceleration transport]

About Conveyance Factor K

Calculation Example) When decelerating from a conveyance speed V = 0.75 m/s to stop in 0.1 seconds, with a friction coefficient μ of 0.1 between the workpiece and finger, it is as follows.

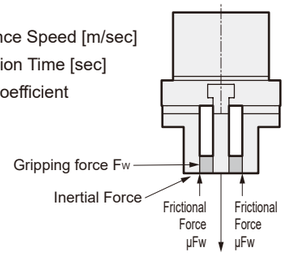
Determine the transport coefficient K from the force applied to the workpiece

V : Conveyance Speed [m/sec]
t : Deceleration Time [sec]
μ : Friction Coefficient

• Inertial force = W_L (V/t)
• Gravity = $W_L g$

• Required gripping force $F_W > \frac{W_L(V/t) + W_L g}{n\mu} = \frac{W_L(V/t + g)}{n\mu} = \frac{17.3\,W_L}{3 \times 0.1} = 57.7\,WL$

∴ The transport coefficient K at this time is, from the above formula $\frac{V/t + g}{\mu g} = \frac{0.75/0.1 + 9.8}{0.1 \times 9.8} \approx 20$

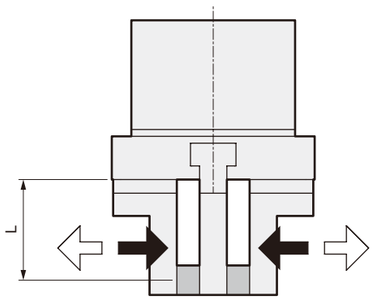


Note) The transport coefficient K needs to allow a margin for impacts during transport, etc. Even if the friction coefficient μ is higher than μ=0.1, set the conveyance factor K to 10 to 20 or more for safety.

② Model selection from required gripping force

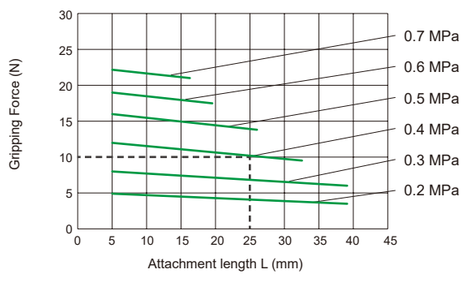
Gripping force changes depending on "gripping direction," "attachment length," and "supply pressure." Confirm from the gripping force graph that sufficient gripping force can be obtained under your operating conditions.
For the gripping force graph, refer to P. 384, 385.

Gripping Direction



●Opening direction (⇦)
●Closing direction (➡)

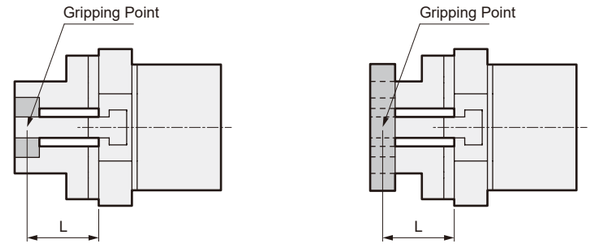
How to Read Gripping Force Graph
(For CKW-A16 outer diameter gripping force)



For example, if the supply pressure is 0.4 MPa and the attachment length is 25 mm, the resulting gripping force will be 10 N.

STEP-2 Confirmation of Attachment Shape

Use the attachment wilow profile the ranges shown on P. 384, 385.



●Use attachments that are as lightweight and short as possible.
If they are long and heavy, the inertial force during opening and closing becomes large, which may cause backlash in the attachments or accelerate wear of the attachment sliding parts, adversely affecting the service life.

●Even if the attachment shape is wilow profile the performance data, making it as small as possible will allow the product to be used for a long time. Also, if L is long, unexpected vibration, etc., could cause erroneous gripping and falling during transport. With "Cylinder diameter ×1.3/working pressure" as a guide, if L is longer than that, set the transport coefficient of STEP-1 to a high value (Guideline: Transport coefficient of 20 or more).

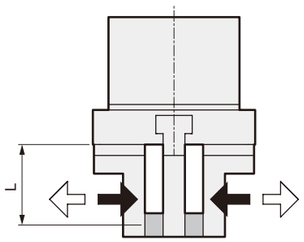
●The weight of the attachments affects the service life, so please keep it below the following.
W < 1/4H (1 piece) W : Weight of attachment
H : Gripper Product Weight

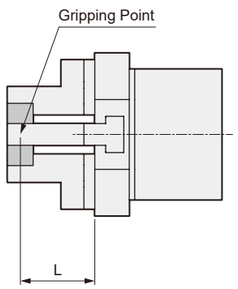
Gripping Force Performance Data CKW-A-HP1, CKWL-A-HP1

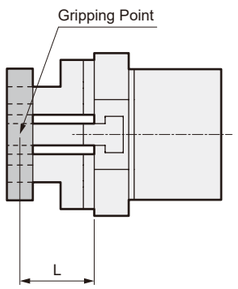
- Gripping force represents the thrust (for one finger) in the direction of the arrow shown in the figure.
- Indicates the gripping force at attachment length L of the gripper when the supply pressure is up to 0.7 MPa.
- Use attachment lengths wilow profile the range below.

●Opening direction (⇦)
●Closing direction (➡)

Note) When selecting, check the design and selection precautions on P. 490.

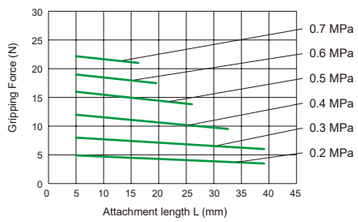




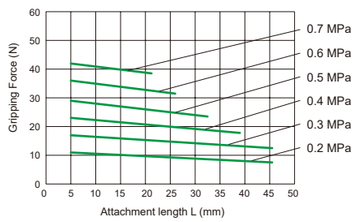


Outer diameter gripping force

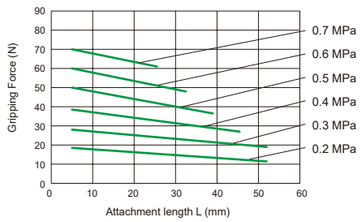
CKW□-A16



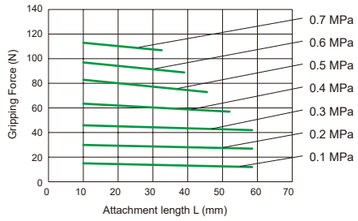
CKW□-A20



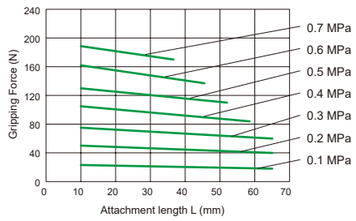
CKW□-A25



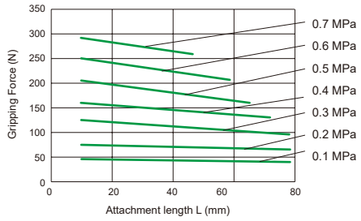
CKW□-A32



CKW□-A40

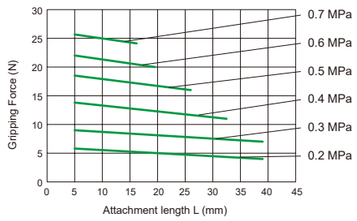


CKW-A50

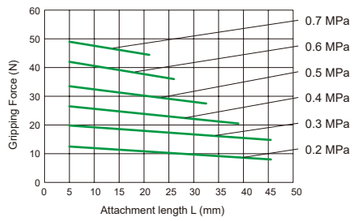


Inner diameter gripping force

CKW□-A16



CKW□-A20



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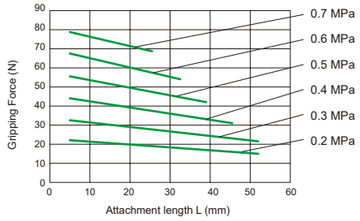

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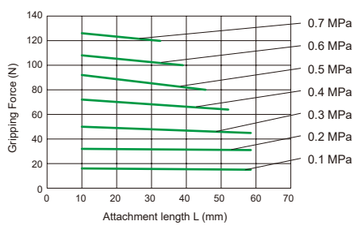

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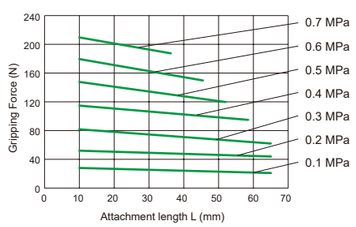
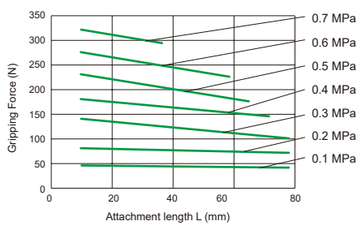


CKW-A50

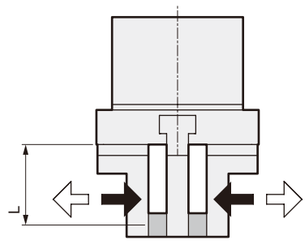


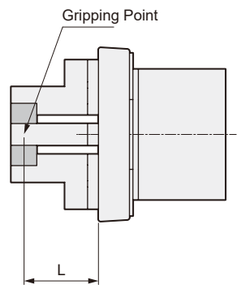
Gripping Force Performance Data CKW-G-HP1, CKW-F-HP1

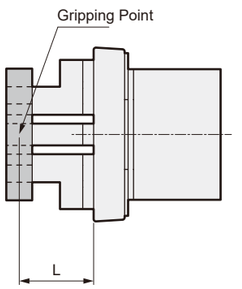
- Gripping force represents the thrust (for one finger) in the direction of the arrow shown in the figure.
- Indicates the gripping force at attachment length L of the gripper when the supply pressure is up to 0.7 MPa.
- Use attachment lengths wilow profile the range below.

●Opening direction (⇦)
●Closing direction (➡)

Note) When selecting, check the design and selection precautions on P. 490.

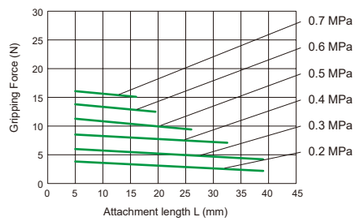




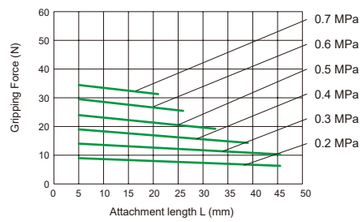


Outer diameter gripping force

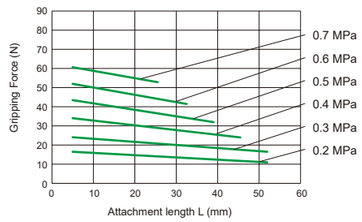
CKW-G/F16



CKW-G/F20



CKW-G/F25



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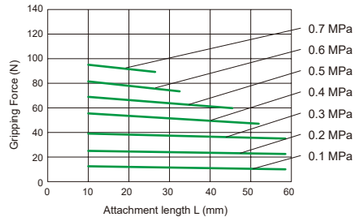

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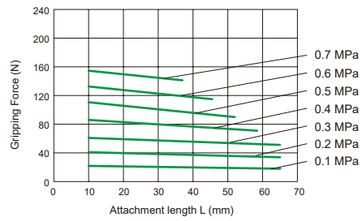
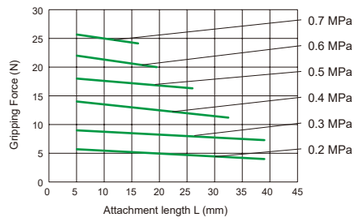


Inner diameter gripping force

CKW-G/F16



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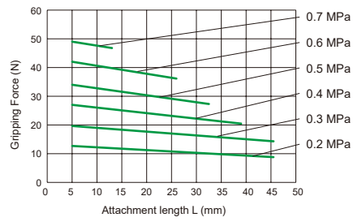

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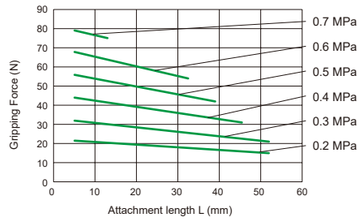

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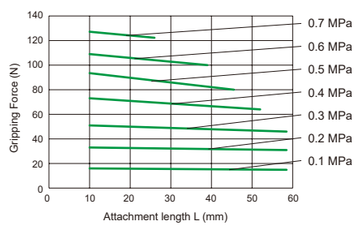

CKW-G/F40