

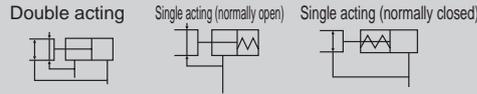
Compact cross roller parallel hand Double acting/single acting

# BHA-FP1 Series

● Operating stroke length: 5, 9, 11, 15 mm



Pneumatic Cylinders II  
Catalog No. CB-030SA



## Specifications

Item		BHA			
		01CS1	03CS1	04CS1	05CS1
Size		01CS1	03CS1	04CS1	05CS1
Bore size	mm	ø12	ø16	ø20	ø25
Actuation		Double acting/single acting			
Working fluid		Compressed air			
Max. working pressure	MPa	0.7			
Min. working pressure	Double acting	0.1			
	Normally open	0.3			
	Normally closed				
Ambient temperature	°C	5 to 60			
Port size		M3	M5		
Operating stroke length	mm	5	9	11	15
Rod diameter	mm	ø6	ø8	ø10	ø12
Capacity of reciprocation	cm <sup>3</sup>	0.32	1.58	2.89	6.32
Repeatability	mm	±0.01			
Product weight	kg	0.100	0.145	0.253	0.420
Lubrication		Not required			

## How to order

Without switch

**BHA** - **01CS1** - **O** ————— **FP1**

With switch

**BHA** - **01CS1** - **O** - **T2H** - **R** - **FP1**

**A** Size

**B** Option  
\*1

**C** Switch model No.  
\* indicates the lead wire length.

**D** Switch quantity

Code	Description
<b>A Size</b>	
<b>01CS1</b>	
<b>03CS1</b>	
<b>04CS1</b>	
<b>05CS1</b>	

<b>B Option</b>	
<b>Blank</b>	Standard (double acting)
<b>O</b>	Single acting (normally open)
<b>C</b>	Single acting (normally closed)
<b>Y1</b>	With attachment (S50C)
<b>Y2</b>	With attachment (MC nylon)

<b>C Switch model No.</b>						
Lead wire	Lead wire	Contact	Voltage		Display	Lead wire
			AC	DC		
<b>T2H*</b>	<b>T2V*</b>	Proximity		●	1-color display	2-wire
<b>T3H*</b>	<b>T3V*</b>			●		3-wire

<b>* Lead wire length</b>	
<b>Blank</b>	1 m (standard)
<b>3</b>	3 m (option)
<b>5</b>	5 m (option)

<b>D Switch quantity</b>	
<b>R</b>	1 on open side
<b>H</b>	1 on closed side
<b>D</b>	2

### ⚠ Precautions for model No. selection

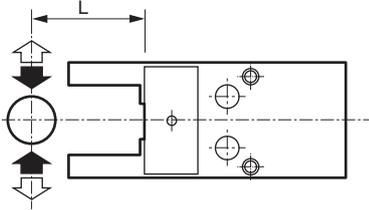
\*1: For attachment of option Y1 and Y2, two are attached on delivery.

\*2: Refer to Pneumatic Cylinders II (CB-030SA) for switches other than those listed here.

### Gripping power performance data

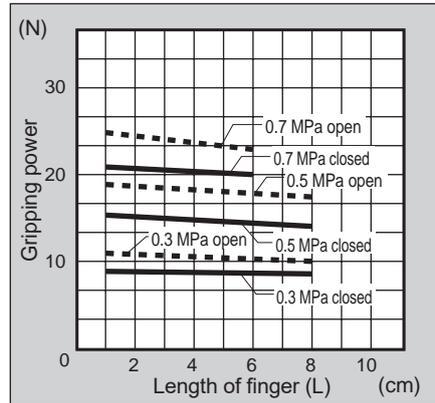
The gripping power in the opening/closing directions with finger length L of hand with a supply pressure of 0.3, 0.5 and 0.7 MPa is shown.

- Open direction (↔) (Broken line)
- Closed direction (▶) (shown with continuous line)

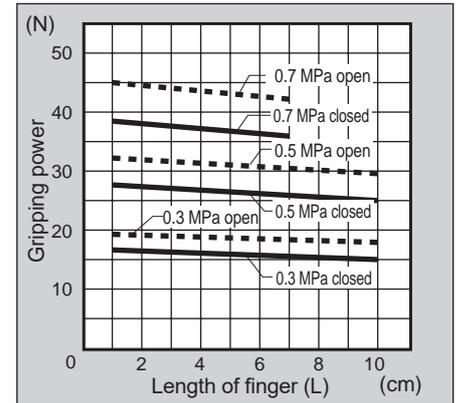


(Note) O type gripping power decreases approximately 20 to 30% in the closing direction compared to double acting. C type gripping power decreases approximately 10 to 20% in the opening direction compared to the double acting type. When making a selection, read the precautions for design and selection in Pneumatic Cylinders II (CB-030SA).

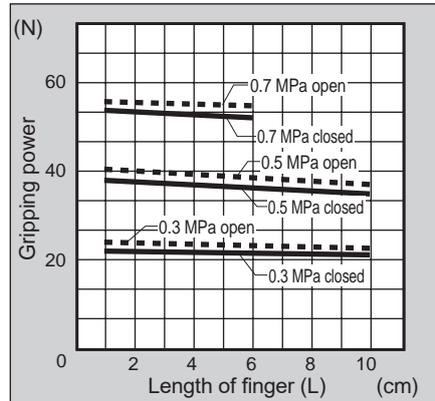
● BHA-01CS1



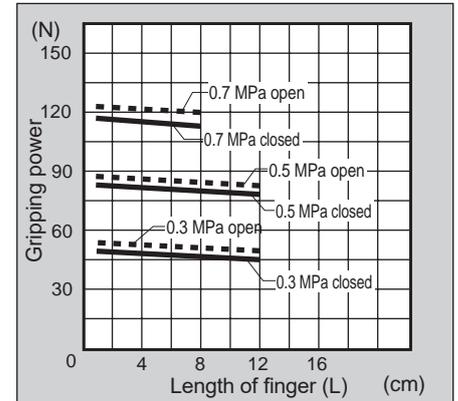
● BHA-03CS1



● BHA-04CS1



● BHA-05CS1



For dimensions, refer to the BHA Series in "Pneumatic Cylinders II (CB-030SA)".

Electric actuator	Pneumatic cylinders	Assistive device	Pneumatic valves	FL/Auxiliary Components Electronic Component	Vacuum components	Main line components	Fluid control valves	Main line components	Anti-bacterial/ bacteria-removing filter	Vacuum components	Fluid control valves
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Compact cross roller parallel hand with rubber cover Double acting/single acting

# BHG-FP1 Series

● Operating stroke length: 5, 9, 11, 15 mm

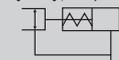


Pneumatic Cylinders II  
Catalog No. CB-030SA

Double acting

Single acting (normally open)

Single acting (normally closed)



## Specifications

Item		BHG			
		01CS	03CS	04CS	05CS
Size					
Bore size	mm	ø12	ø16	ø20	ø25
Actuation		Double acting/single acting			
Working fluid		Compressed air			
Max. working pressure	MPa	0.7			
Min. working pressure MPa	Double acting	0.15			
	Normally open	0.3			
	Normally closed				
Ambient temperature	°C	5 to 60			
Port size		M3		M5	
Operating stroke length	mm	5	9	11	15
Rod diameter	mm	ø6	ø8	ø10	ø12
Volumetric capacity (reciprocating)	cm <sup>3</sup>	0.32	1.58	2.89	6.32
Repeatability	mm	±0.01			
Weight	kg	0.118	0.165	0.238	0.455
Lubrication		Not required			
Rubber cover		Food Sanitation Act compliant materials (silicone rubber) blue			

## How to order

Without switch (built-in magnet for switch)

**BHG - 01CS - O - FP1**

With switch (built-in magnet for switch)

**BHG - 01CS - O - T2H - R - FP1**

A Size

B Option  
\*1

C Switch model No.

D Switch quantity

Code	Description					
<b>A Size</b>						
01CS						
03CS						
04CS						
05CS						
<b>B Option</b>						
Blank	Standard (double acting)					
O	Single acting (normally open)					
C	Single acting (normally closed)					
Y1	With attachment (S50C)					
Y2	With attachment (MC nylon)					
<b>C Switch model No.</b>						
Lead wire	Lead wire L-shaped	Contact	Voltage		Display	Lead wire
Straight			AC	DC		
T2H*	T2V*	Proximity	●	1-color display	2-wire	
T3H*	T3V*		●	3-wire		
<b>* Lead wire length 3-wire</b>						
Blank	1 m (standard)					
3	3 m (option)					
5	5 m (option)					
<b>D Switch quantity</b>						
R	1 on open side					
H	1 on closed side					
D	2					

### ⚠ Precautions for model No. selection

\*1: For attachment of option Y1 and Y2, two are attached on delivery.

\*2: Refer to Pneumatic Cylinders II (CB-030SA) for switches other than those listed here.

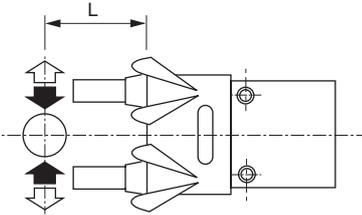
Rubber cover part model No.

Size	Part model No.
01CS	BHG-01K-FP1
03CS	BHG-03K-FP1
04CS	BHG-04K-FP1
05CS	BHG-05K-FP1

## Gripping power performance data

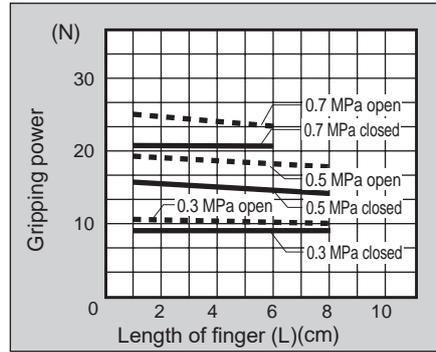
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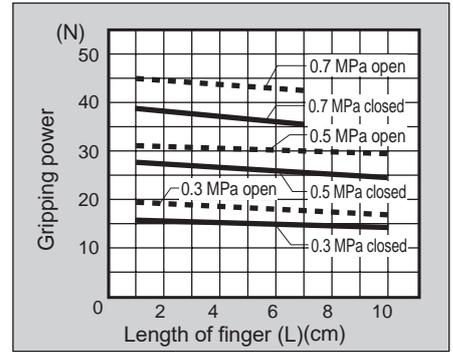


(Note) O type gripping power decreases approximately 20 to 30% in the closing direction compared to double acting. C type gripping power decreases approximately 10 to 20% in the opening direction compared to the double acting type. When making a selection, read the precautions for design and selection in Pneumatic Cylinders II (CB-030SA).

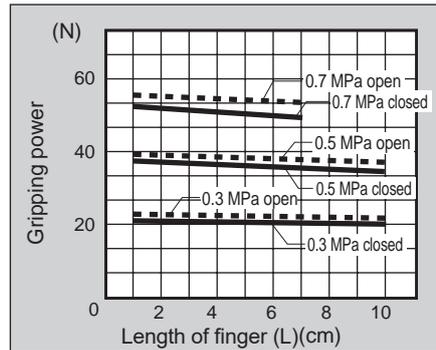
● BHG-01CS



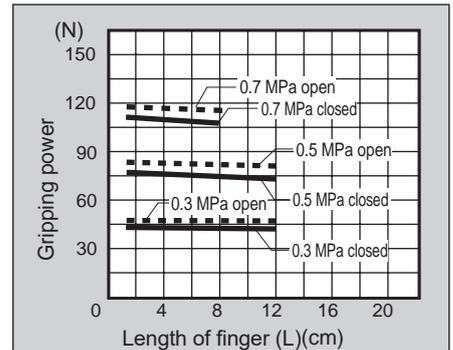
● BHG-03CS



● BHG-04CS



● BHG-05CS



For dimensions, refer to the BHG Series in "Pneumatic Cylinders II (CB-030SA)".

Electric actuator  
Pneumatic cylinders  
Assistive device  
Pneumatic valves  
FRL/Auxiliary Components  
Electronic Component  
Vacuum components  
Main line components  
Fluid control valves  
Main line components  
Anti-bacterial/bacteria-removing filter  
Vacuum components  
Fluid control valves

FP1

FP2