

Long stroke parallel hand Double acting/single acting

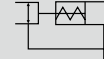
# HGP Series

● Operational stroke length: 56 mm

Double acting

Single acting  
(normally open)

Single acting  
(normally closed)



## Specifications

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item	HGP
Size	3CS
Bore size mm	ø25
Actuation	Double acting/single acting
Working fluid	Compressed air
Max. working pressure MPa	0.7 (≈101 psi, 7 bar)
Min. working pressure MPa	0.3 (≈44 psi, 3 bar)
Ambient temperature °C	5 (41°F) to 60 (140°F)
Port size	M5
Operating stroke length mm	56
Rod diameter mm	ø10
Volumetric capacity (reciprocating) cm <sup>3</sup>	11.8
Repeatability mm	±0.03
Weight kg	0.85
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)

## Switch specifications

Item	Proximity 2-wire	Proximity 3-wire
	T2H/V	T3H/V
Applications	Dedicated for programmable controller	For programmable controller, relay
Output method	-	NPN output
Power supply voltage	-	10 to 28 VDC
Load voltage/current	10 to 30 VDC, 5 to 20 mA (*1)	30 VDC or less, 100 mA or less
Display lamp	LED (Lit when ON)	
Leakage current	1 mA or less	10 µA or less
Weight	1 m: 18g 3 m: 49g 5 m: 80 g *3	

\*1: The above max. load current is 20 mA at 25°C.

The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

\*2: Refer to Ending Page 1 for detailed switch specifications and dimensions.

\*3: The weight of switch mounting bracket is 1.5 g.

- LCM
- LCR
- LCC
- LCW
- LCC
- LCX
- STM
- STG
- STS/STL
- STR2
- UCA2
- ULK\*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3\*
- NHS
- HRL
- LN
- Hand
- Chuk
- MecHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending
- LSH-HP
- LSH
- FH100
- BSA2
- BHA/BHG
- LHA
- LHAG
- HAP
- HKP
- HCP
- HGP
- HLF2
- HLA/HLB
- HLAG/HLBG
- HLC
- HLD
- HMF
- HMF-G
- HMFB
- HFP
- FH500
- HBL
- HJL
- HMD
- HDL
- HJD
- BHE

## How to order

Without switch (built-in magnet for switch)

**HGP - 3CS - O**

With switch (built-in magnet for switch)

**HGP - 3CS - O - T2H - R**

**A** Size

**B** Option

**C** Switch model No.

**D** Switch quantity

[Example of model No.]

**HGP-3CS-O-T2H-R**

Model: Long stroke parallel hand

- A** Size : 3CS
- B** Option : Single acting, normally open
- C** Switch model No.: Proximity S3 switch, lead wire 1 m
- D** Switch quantity : One on open side

Code	Description				
<b>A Size</b>					
3CS					
<b>B Option</b>					
Blank	Standard (double acting)				
O	Single acting (normally open)				
C	Single acting (normally closed)				
<b>C Switch model No.</b>					
Lead wire	Lead wire	Contact	Voltage	Display	Lead wire
Straight	Radial		AC	DC	
T2H*	T2V*	Proximity			1-color
T3H*	T3V*				display
					2-wire
					3-wire
<b>* Lead wire length</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				

## How to order switch

● For switch T\*H\*

- Switch body + mounting bracket set

**HGP - T2H**

Switch model No.  
(Item © above)

- Switch body

**SW - T2H**

Switch model No.  
(Item © above)

- Mounting bracket set

**HGP - T**

● For switch T\*V\*

- Switch body + mounting bracket set

**HGP - T2V - \***

Switch model No.  
(Item © above)

- Switch body

**SW - T2V**

Switch model No.  
(Item © above)

- Mounting bracket set

**HGP - TV - \***

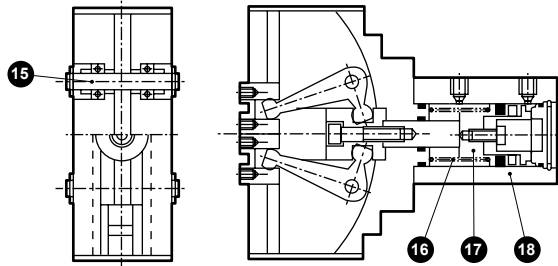
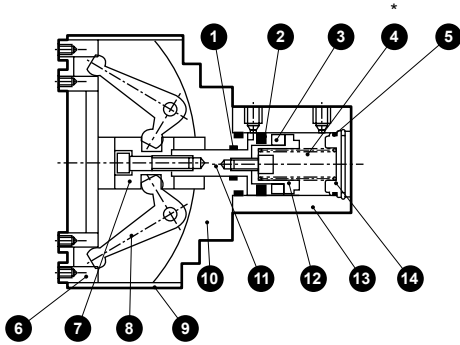
(Select either R (open side) or H (closed side) for sections marked with an asterisk (\*).)

LCM
LCR
LCC
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
<b>Hand</b>
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending
LSH-HP
LSH
FH100
BSA2
BHA/BHG
LHA
LHAG
HAP
HKP
HCP
<b>HGP</b>
HLF2
HLA/HLB
HLAG/HLBG
HLC
HLD
HMF
HMF-G
HMFB
HFP
FH500
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HDL
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BHE

## Internal structure and parts list

● Standard (double acting)/O (normally open)

● C (normally closed)



**Cannot be disassembled**

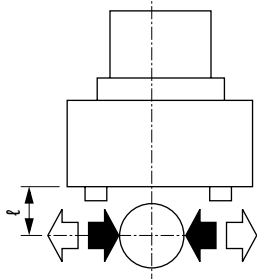
\*Standard (double acting) type does not contain 4 spring.

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Rod packing	Nitrile rubber		11	Piston A	Stainless steel	
2	Piston packing	Nitrile rubber		12	Piston B	Acetal resin	
3	Magnet			13	Cylinder	Aluminum alloy	
4	Spring	Steel	O type only	14	Cylinder guard	Acetal resin	
5	Cylinder gasket	Nitrile rubber		15	Fulcrum axis	Steel	
6	Finger	Steel		16	Spring	Stainless steel	
7	Operation ring	Steel		17	Piston	Stainless steel	
8	Arm	Steel		18	Cylinder	Aluminum alloy	
9	Side cover	Stainless steel					
10	Body	Aluminum alloy					

## Gripping power performance data

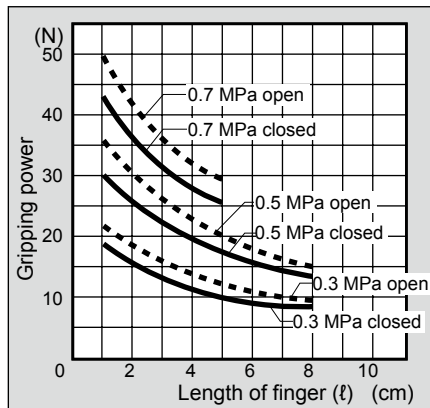
- Gripping power represents the thrust (per one finger) in the arrow direction shown in the figure.
- The gripping power in the opening/closing directions with finger length  $l$  of the hand with a supply pressure of 0.3, 0.5 and 0.7 MPa is shown.

- Open direction (⇄) - - - - (shown with broken line)
- Closed direction (⇄) ——— (shown with continuous line)



(Note) For selection, see page 1764 for design and selection precautions.

● HGP-3CS



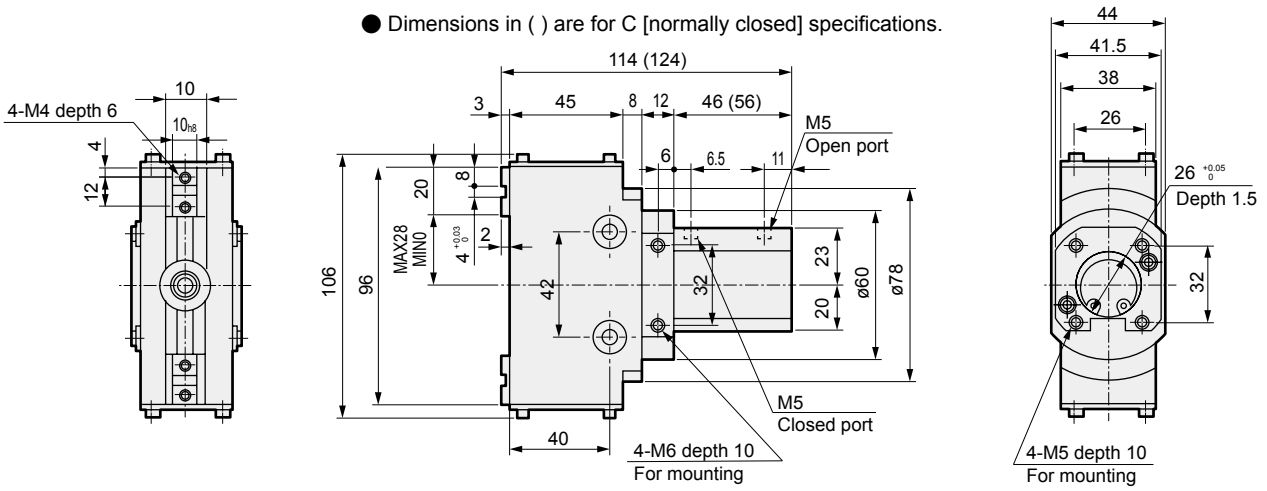
(Note) O type gripping power decreases approximately 20 to 30% in the closed direction compared to double acting.  
C type gripping power decreases approximately 10 to 20% in the open direction compared to double acting.

### Dimensions

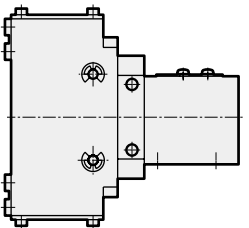
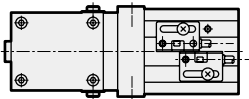


● HGP-3CS Standard/O/C

● Dimensions in ( ) are for C [normally closed] specifications.



● With switch



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LCG
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LCX
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STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
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