

# Parallel grippers standard

12 - 32 Ø



## Features

- Available with comprehensive range of Tube I.D. 12 ~ 32mm.
- Highly accurate air driven device for holding work-piece.
- Magnetic as standard.

## Specification

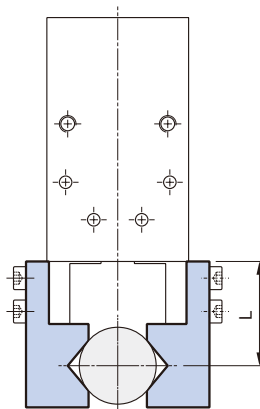
Model		MPG				
Acting Type		Double / Single acting				
Tube I.D. (mm)		12	16	20	25	32
Port size		M3×0.5	M5×0.8			
Medium		Air				
Operating pressure range	Double acting	0.15~0.7 MPa				
	Single acting	0.2~0.7 MPa				
Ambient temperature		-5~+60°C (No freezing)				
Max. operating frequency (c.p.m)		180				
Lubrication	Cylinder	Not required				
	Lever	Grease (Actuation at)				
Max. arm length (L) (mm)		30	40	60	70	85
Lever open / close stroke		6	8	12	14	16
<b>Sensor switches (*)</b>		<b>RSM switches</b>				
Weight (g)	Double acting	66	144	255	419	719
	Single acting	66.5	145	257	422	722

## Order example

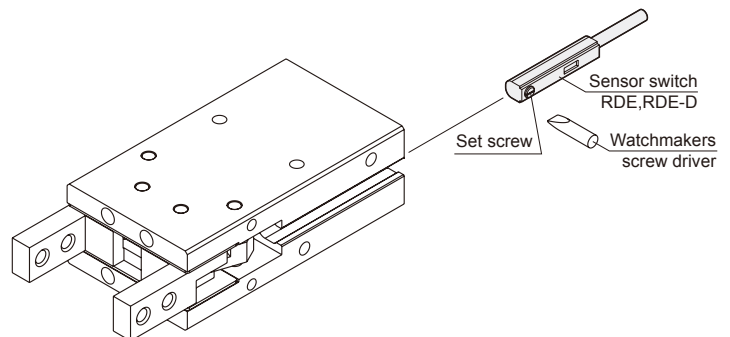
**MPG — 12 — 6**

MODEL	Piston diameter	Stroke
	12	6
	16	8
	20	12
	25	14
	32	16

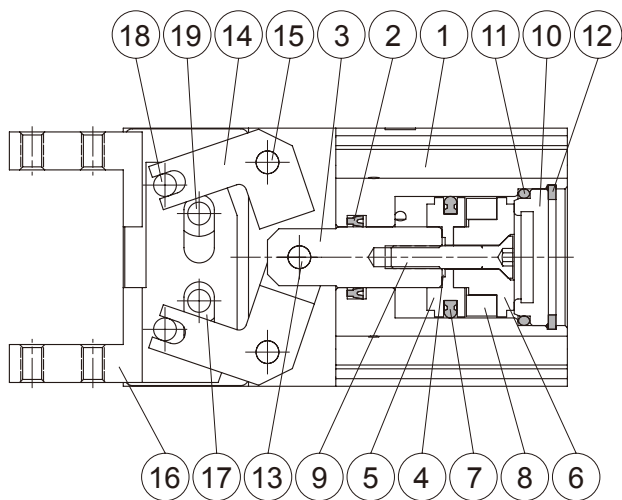
## Length of gripping point



## Installation of sensor switch

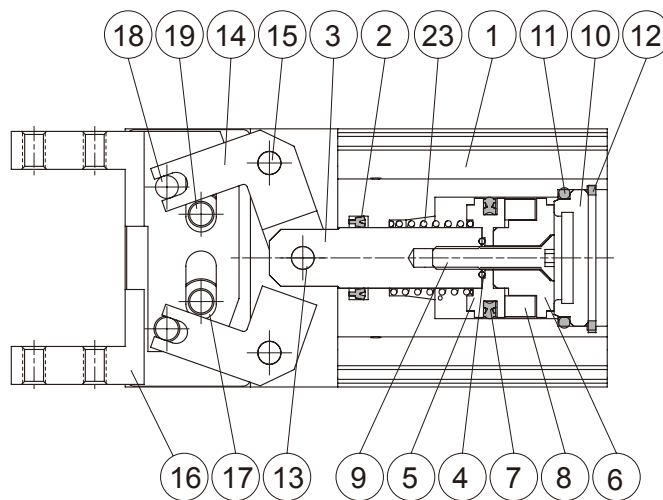


**Double acting**



**Single acting**

Normally open



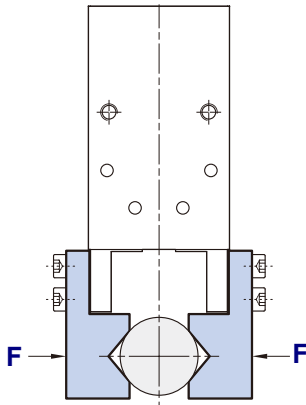
## Material

No.	Part name	Material
1	Body	Aluminum alloy
2	Rod packing	NBR
3	Piston rod	Stainless steel
4	Gasket	NBR
5	Piston-R	Aluminum alloy
6	Piston-H	Aluminum alloy
7	Piston packing	NBR
8	Magnet ring	Magnet material
9	Screw	Stainless steel
10	Head cover	Carbon steel
11	Cover ring	NBR
12	Stop ring	Spring steel
13	Spindle river	Bearing steel
14	Grip per	Carbon steel
15	Grip rivet	Carbon steel
16	Grip per	Carbon steel
17	Bush	Stainless steel
18	Grip rivet	Bearing steel
19	Grip rivet	Carbon steel
20	Screw	SCM
21	Screw	SCM
22	Washer for grip	Stainless steel
23	Spring	Spring steel

## Effective gripping force (Double acting)

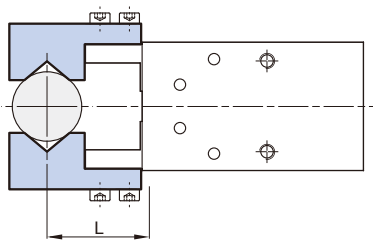
Indication of effective force.

The effective gripping force shown in the graphs to the right is expressed as F, which is the thrust of one finger, when both fingers and attachments are in full contact with the workpiece as shown in the figure below.

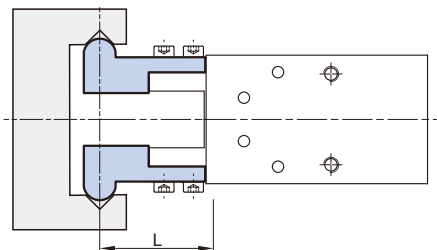


$$1\text{N} = 0.102 \text{ kgf}$$

$$1\text{MPa} = 10.2 \text{ kgf/cm}^2$$

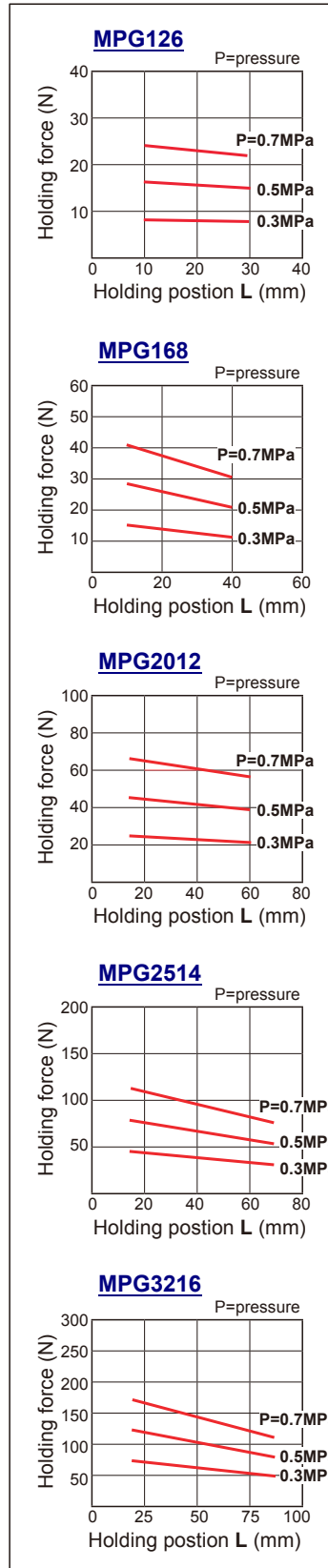


External grip

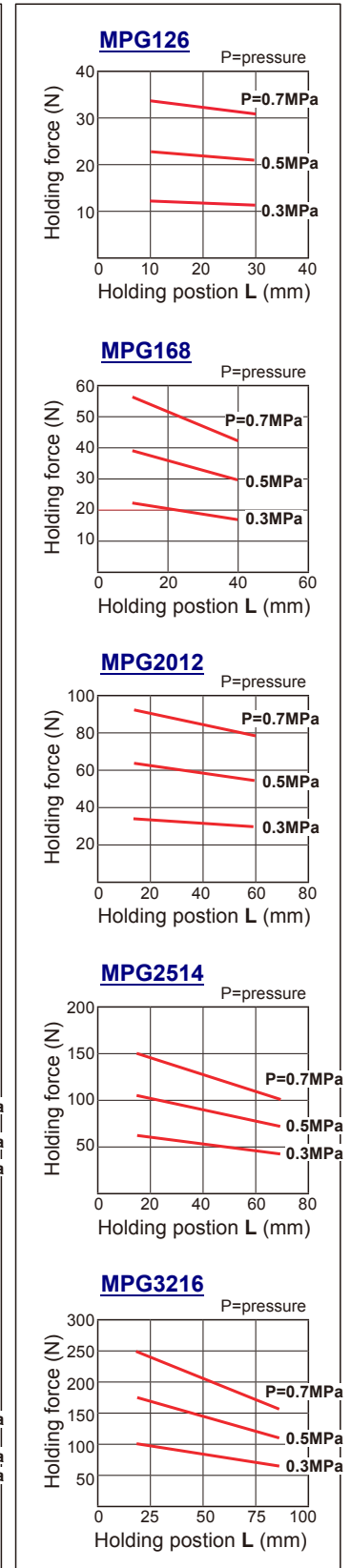


Internal grip

## External gripping force Double acting



## Internal gripping force Double acting

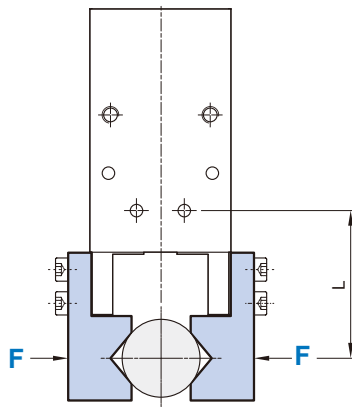


## Effective gripping force (Single acting)

Indication of effective force.

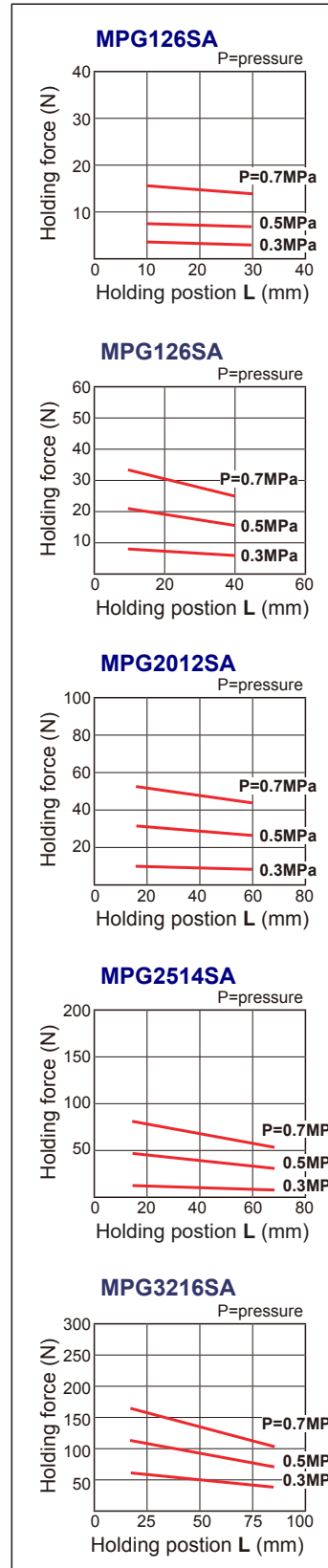
The effective gripping force shown in the graphs to the right is expressed as F, which is the thrust of one finger, when both fingers and attachments are in full contact with the workpiece as shown in the figure below.

1N=0.102 kgf  
1MPa=10.2 kgf/cm<sup>2</sup>

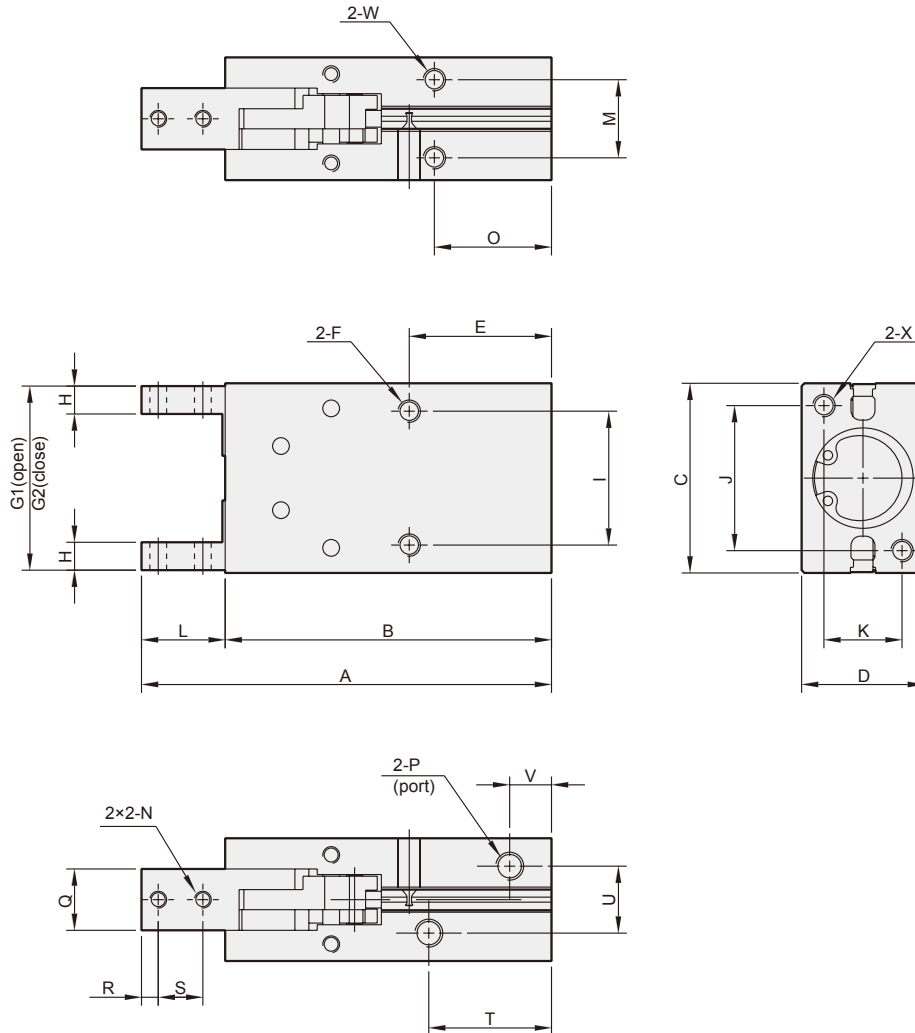


**External grip**  
(Single acting / Normally open)

## External gripping force Single acting / N.O.



# Parallel grippers Dimensions $\varnothing 12 - \varnothing 32$



Code Tube I.D.	A	B	C	D	E	F	G1	G2	H	I	J	K	L	M	N	O
12	63.5 (68.5)	50.5 (55.5)	28	16	20 (25)	M3×0.5×5 depth	27	21	4	18	17	10	13	10	M3×0.5	16 (21)
16	73.5 (78.5)	58.5 (63.5)	34	22	25.5 (30.5)	M4×0.7×11 depth	33	25	5	24	26	14	15	14	M3×0.5	21 (26)
20	88.5 (93.5)	69.5 (74.5)	45	26	25 (30)	M5×0.8×8 depth	44	32	6	30	35	16	19	16	M4×0.7	19 (24)
25	102.5 (107.5)	78.5 (83.5)	52	32	28 (33)	M6×1.0×10 depth	51	37	8	36	40	20	24	20	M5×0.8	22 (27)
32	120.5 (125.5)	90.5 (95.5)	60	40	34 (39)	M6×1.0×10 depth	59	43	10	44	46	24	30	26	M6×1.0	26 (31)

Code Tube I.D.	P	Q	R	S	T	U	V	W	X
12	M3×0.5×5 depth	7	3	6	23	10.2	7.5	M3×0.5×5 depth	M3×0.5×5 depth
16	M5×0.8×5 depth	11	3	8	22	12	7.5	M4×0.7×7 depth	M4×0.7×7 depth
20	M5×0.8×5 depth	12	4	10	26	13	8	M5×0.8×8 depth	M5×0.8×8 depth
25	M5×0.8×5 depth	14	5	12	29	18	8.5	M6×1.0×10 depth	M6×1.0×10 depth
32	M5×0.8×5 depth	20	7	15	35	24	10.5	M6×1.0×10 depth	M6×1.0×10 depth

\* Values in ( ) are for single acting.