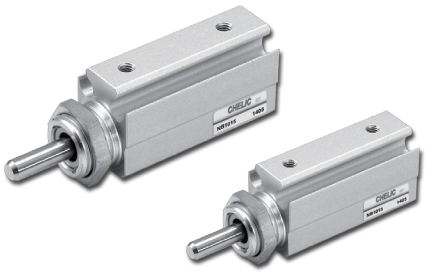
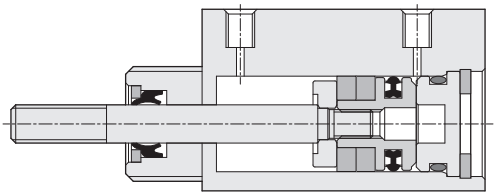
NB series Pin Cylinder

Product features

CHELIC

Internal structure





Specification

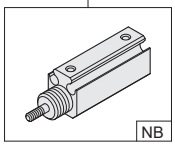
Item / Bore size (mm)	Ø6	Ø10	Ø16
Action	Double acting		
Fluid	Air		
Pressure range Kgf/cm² (kPa)	1 ~ 6 (100 ~ 600)		
Max. service pressure Kgf/cm² (kPa)	7 (700)		
Ambient and fluid temperature ℃	0 ~ 60		
Operated speed mm/s	50 ~ 500		
Sensing device	Standard: Without magnet/ S: With magnet		

Bore size and stroke

Bore size	Stroke							
	5	10	15	20	25	30	35	40
6	●	●	●	●	●	–	–	–
10	●	●	●	●	●	●	●	●
16	●	●	●	●	●	●	●	●

Code of order

NB — Model



NB:
Cartridge cylinder

16 — Bore size

6 – Ø6 mm
10 – Ø10 mm
16 – Ø16 mm

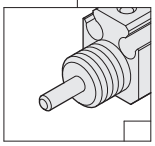
×

10 — Stroke

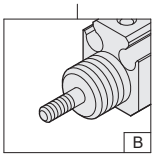
5 – 5 mm
10 – 10 mm
15 – 15 mm
20 – 20 mm
25 – 25 mm
30 – 30 mm
35 – 35 mm
40 – 40 mm

—

B — Thread type



Note:
Round bar type



B: Male thread

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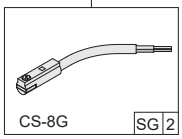
SG | 2 — Sensor switch



SG : Sensor switch (CS-8G)

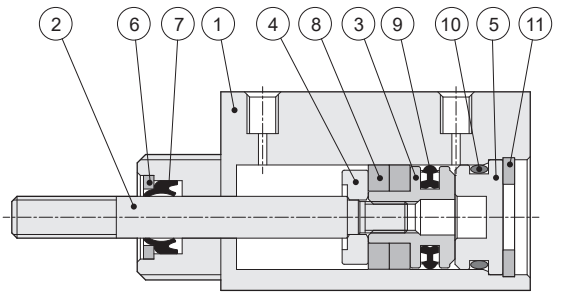
2 : Number of sensor switch
1 = 1 PCS
2 = 2 PCS

Theoretical output

Bore size (mm)	Rod size (mm)	Acting	Piston area (cm^2)	Air pressure (kgf/cm^2)						
				1	2	3	4	5	6	7
6	3	Push	0.28	–	0.56	0.84	1.12	1.4	1.68	1.96
		Pull	0.21	–	0.42	0.63	0.84	1.05	1.26	1.47
10	4	Push	0.79	–	1.58	2.37	3.16	3.95	4.74	5.53
		Pull	0.53	–	1.06	1.59	2.12	2.65	3.18	3.71
16	6	Push	2.01	–	4.02	6.03	8.04	10.05	12.06	14.07
		Pull	1.73	–	3.46	5.19	6.92	8.65	10.38	12.11

Note: All of above are theoretical data. Before actual adoption, the frictional resistance and mechanical efficiency shall be taken into consideration (about 70% ~ 80%).

Internal structure



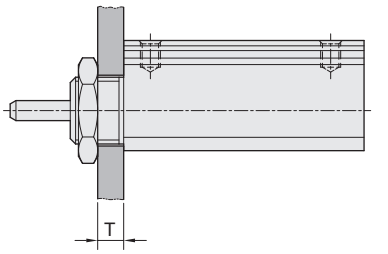
Components and material list

No.	Item	Material	No.	Item	Material
01	Body	Aluminum alloy	07	Shaft packing	NBR
02	Main shaft	Copper alloy	08	Magnet	Rare earth material
03	Piston	Stainless steel	09	Piston Packing	NBR
04	Magnet cap	Copper alloy	10	Rear cover O-ring	NBR
05	Rear cover	Aluminum alloy	11	Clip	Alloy steel
06	Packing plate	Aluminum alloy			

Note: The gripper body surface processed with anodizing .

Mounting type

Bore size	Thread specification	Maximum tightening torque (kg.m)	Panel maximum thickness (T) mm
6	M10×1.0P	1.2	4
10	M12×1.0P	2.1	4
16	M14×1.0P	3.4	5



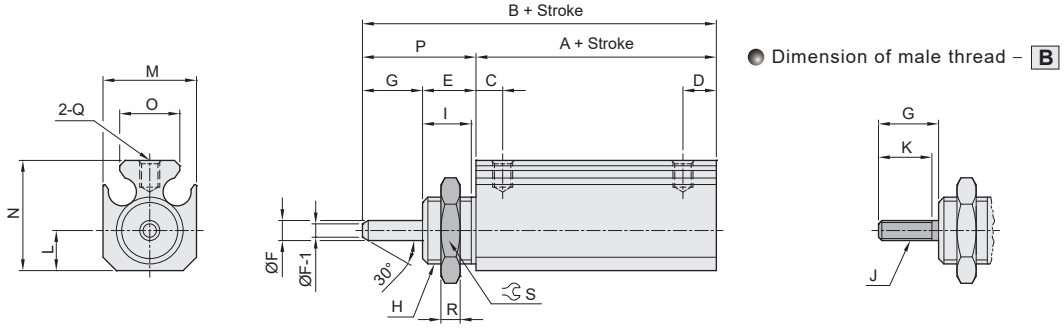
NB series Pin Cylinder

Dimension

Standard type

NB Ø6 ~ Ø16

NB □ × □ ST

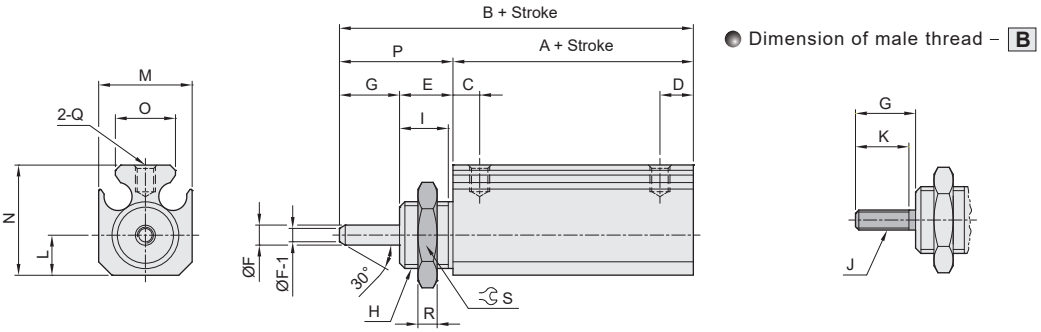


Unit: mm

Bore size	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
6	16	33	5	5	8	3	9	M10×1.0P	6.5	M3×0.5P	7	6	14	16.5	9	17	M3×0.5P	3	13
10	19.5	39.5	5.5	7.1	8	4	12	M12×1.0P	6.5	M4×0.7P	10	7	15	19	9.6	20	M3×0.5P	3	14
16	19.5	43.5	6	7	10	6	14	M14×1.0P	8.5	M5×0.8P	12	10	20	24.5	14	24	M5×0.8P	4	19

With magnet

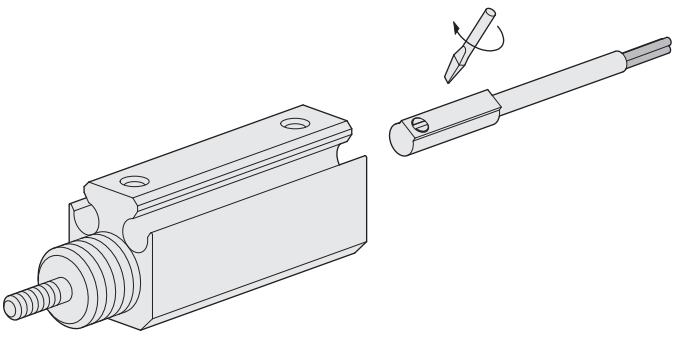
NB Ø6 ~ Ø16 – S



Unit: mm

Bore size	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
6	21	38	5	5	8	3	9	M10×1.0P	6.5	M3×0.5P	7	6	14	16.5	9	17	M3×0.5P	3	13
10	24.5	44.5	5.5	7.1	8	4	12	M12×1.0P	6.5	M4×0.7P	10	7	15	19	9.6	20	M3×0.5P	3	14
16	24.5	48.5	6	7	10	6	14	M14×1.0P	8.5	M5×0.8P	12	10	20	24.5	14	24	M5×0.8P	4	19

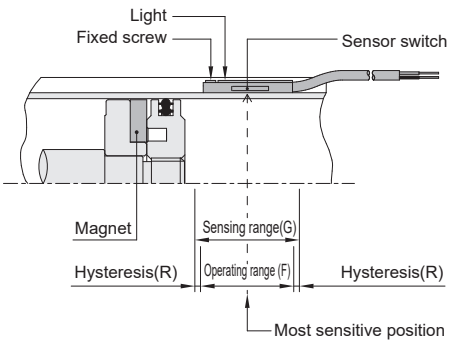
Sensor switch installation



Sensing range

Sensor switch is fixed on the cylinder body. The magnetic piston head will activate the sensor switch when it enters the operating range. It has 0.5mm differential.

Sensor switch setting and operating range



Operating range

When piston head moves the switch setting and adjustment will be based on the responding range generated by the magnetic field and the switch.(Please refer to the right table)

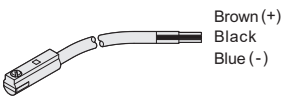
Unit: mm

Model	CS-8G	
Bore size	Operating range(F)	Hysteresis(R)
Ø6	2.5	1
Ø10	4	1
Ø16	6	1

Sensor switch introduction

Voltage: DC 5 ~ 30V

CS-8G



Voltage: DC 4.5 ~ 28V

CS-8GN(P)