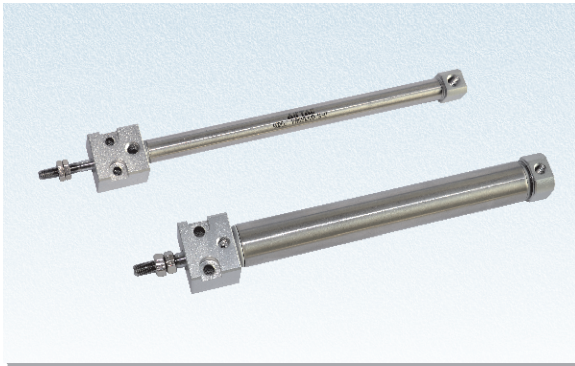


# Pen size cylinder

## PBR Series



### Specification

Bore size(mm)	6	8	10	12	16
Acting type	Double acting, Single acting_push, Single acting_pull				
Fluid	Air(to be filtered by 40 μ m filter element)				
Operating pressure	Double acting	0.1~0.7MPa(15~100psi)(1.0~7.0bar)			
	Single acting	0.2~0.7MPa(28~100psi)(2.0~7.0bar)			
Proof pressure	1.1MPa(160psi)(11bar)				
Temperature °C	-20~70				
Speed range mm/s	50~800				
Stroke tolerance	0~150 <sup>+1.0</sup> <sub>0</sub> >150 <sup>+1.4</sup> <sub>0</sub>				
Cushion type	Bumper				
Port size	M5 × 0.8				

Add) Refer to P419~442 for detail of sensor switch.

### Stroke

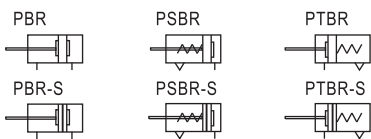
	Bore size (mm)	Standard stroke (mm)													Max. std stroke	Max. stroke		
		6	10	15	20	25	30	40	50	60	75	80	100	125			150	160
Double acting	6	10 15 20 25 30 40 50 60													60	60		
	8	10 15 20 25 30 40 50 60 75 80 100 125 150													150	150		
	10	10 15 20 25 30 40 50 60 75 80 100 125 150 160 175 200													200	200		
	12	10 15 20 25 30 40 50 60 75 80 100 125 150 160 175 200													200	300		
	16	10 15 20 25 30 40 50 60 75 80 100 125 150 160 175 200 250 300													300	300		
Single acting	6	5 10 15 20 25 30 40 50 60													—	—		
	8	5 10 15 20 25 30 40 50 60													—	—		
	10	5 10 15 20 25 30 40 50 60													—	—		
	12	5 10 15 20 25 30 40 50 60 75													—	—		
	16	5 10 15 20 25 30 40 50 60 75 100													—	—		

Note) Consult us for non-standard stroke.

### Symbol



PBR



### Product feature

1. JIS standard is implemented.
2. It belongs to mini cylinder that has compact structure, small volume and light weight.
3. The guide precision of piston rod is high and no additional lubricant is needed.
4. Screw holes are designed for mounting directly at the front cover without any accessories.
5. Piston rod stainless steel barrel make the cylinder adapt general corrosive working environment.
6. It has small cylinder diameter and quick reaction, suitable for the working environment with higher frequency.

### Ordering code

**PBR 16 × 30 S U**

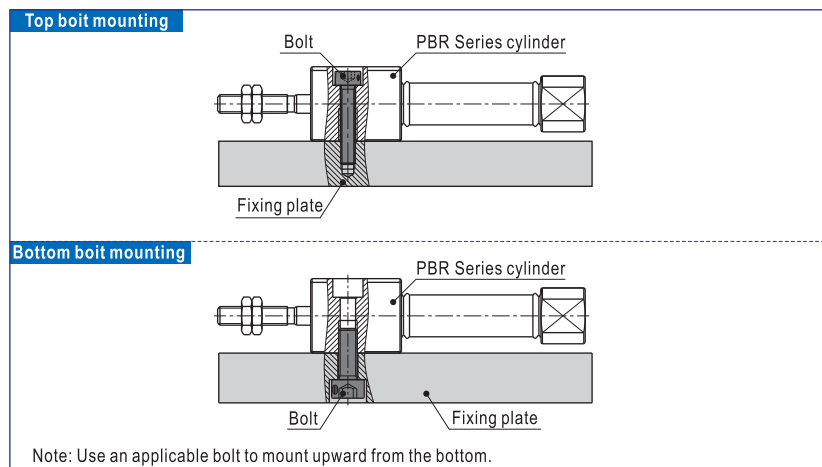
Model		Back cover	
PBR: Pen size cylinder (Double acting)	U: Perpendicular 90°	Model	Bore size
PSBR: Pen size cylinder (Single acting_push)	R: Axial air-in	PBR	8 10 12 16
PTBR: Pen size cylinder (Single acting_pull)	R: Axial air-in	PSBR	6 8 10 12 16
		PTBR	6 8 10 12 16

**Bore size**  
6 8 10 12 16

**Stroke**  
Refer to stroke table for details

**Magnet**  
Blank: Without magnet  
S: With magnet

### Mounting type



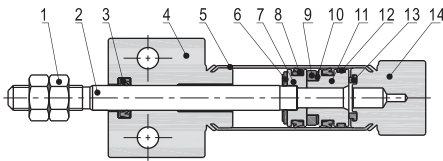
# Pen size cylinder



## PBR Series

### Inner structure and material of major parts

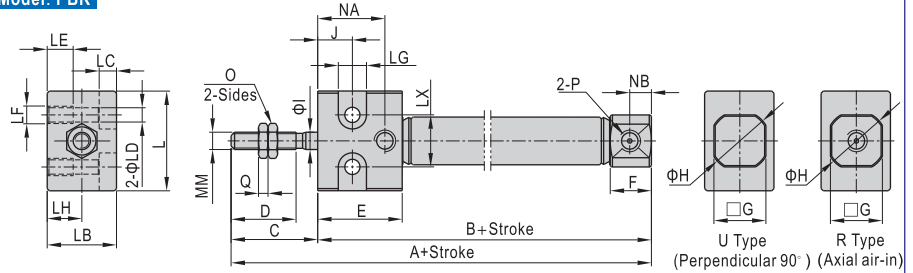
Double acting with magnet



NO.	Item	Material
1	Rod nut	Carbon steel
2	Piston rod	SUS304
3	Front cover O-ring	NBR
4	Front cover	Aluminum alloy
5	Barrel	SUS316L
6	Bumper	TPU
7	Piston	SUS303\Aluminum alloy
8	Piston seal	NBR
9	Magnet	Sintered metal (Neodymium-iron-boron)
10	Magnet washer	NBR
11	Magnet holder	Aluminum alloy
12	Wear ring	Wear resistant material
13	Bumper	TPU
14	Back cover	Aluminum alloy

### Dimensions

Model: PBR

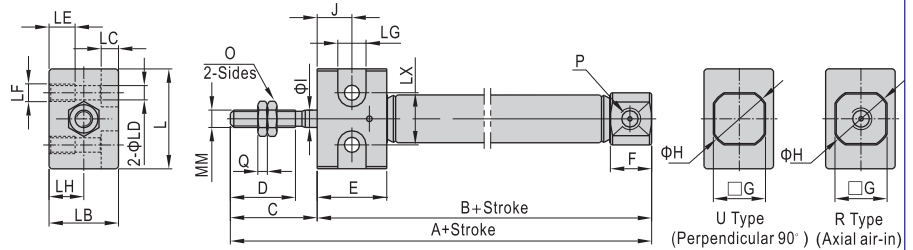


Bore size \ Item	A	B	C	D	E	F	G	H	I	J	L	LB	LC	LD
6	70	50	20	15	19	6.7	10	11	3	8	17.2	14	4	3.3
8	74	54	20	15	19.5	9.5	12	14	4	8	19.2	16	4	3.3
10	74	54	20	15	19.5	9.5	12	14	4	8	19.2	16	4	3.3
12	74	54	20	15	19.5	9.5	15	17	5	8	24.2	20	5	4.3
16	76	56	20	15	19.8	9.2	18	20	6	8	24.2	20	5	4.3

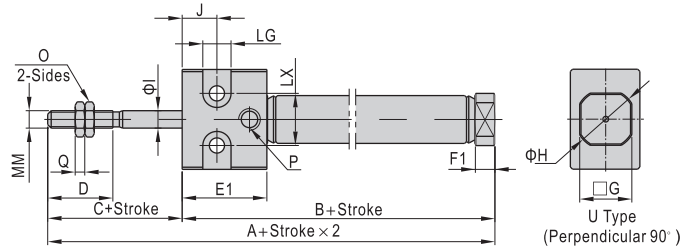
Bore size \ Item	LE	LF	LG	LH	LX	MM	NA	NB	O	P	Q
6	7	M4×0.7	6.5	7	10	M3×0.5	14	-	5.5	M5×0.8	2.4
8	7	M4×0.7	6.5	8	12	M4×0.7	15	5	7	M5×0.8	2.2
10	7	M4×0.7	6.5	8	12	M4×0.7	15.5	5	7	M5×0.8	2.2
12	8	M5×0.8	8	10	16	M5×0.8	15.5	5	8	M5×0.8	4
16	8	M5×0.8	8	10	16	M5×0.8	15.5	4.8	8	M5×0.8	4

Remark: The dimensions of magnet type cylinder are the same as non-magnet type cylinder.  
Only axial air intake type of back cover is available for Φ6mm bore size.

Model: PSBR



Model: PTBR



Stroke	Bore size \ Item	A						B						C	D
		5~15	16~30	31~45	46~60	61~75	76~100	5~15	16~30	31~45	46~60	61~75	76~100		
PSBR	6	70	79	83	97	-	-	50	59	63	77	-	-	20	15
	8	76.5	82.5	93.5	101.5	-	-	56.5	62.5	73.5	81.5	-	-	20	15
	10	73.5	81	93	105	-	-	53.5	61	73	85	-	-	20	15
	12	73.5	81	93	105	111.5	-	53.5	61	73	85	91.5	-	20	15
16	74.5	83	95	107	113	119	54.5	63	75	87	93	99	20	15	

Stroke	Bore size \ Item	A						B						C	D
		5~15	16~30	31~45	46~60	61~75	76~100	5~15	16~30	31~45	46~60	61~75	76~100		
PTBR	6	74.5	83.5	87.5	101.5	-	-	54.5	63.5	67.5	81.5	-	-	20	15
	8	78.5	84.5	95.5	103.5	-	-	58.5	64.5	75.5	83.5	-	-	20	15
	10	76.5	84	96	108	-	-	56.5	64	76	88	-	-	20	15
	12	76.5	84	96	108	114.5	-	56.5	64	76	88	94.5	-	20	15
16	77.5	86	98	110	116	122	57.5	66	78	90	96	102	20	15	

Bore size \ Item	E	E1	F	F1	G	H	I	J	L	LB	LC	LD	LE	LF	LG	LH	LX	MM	O	P	Q
6	13	19	6.7	5	10	11	3	8	17.2	14	4	3.3	7	M4×0.7	6.5	7	10	M3×0.5	5.5	M5×0.8	2.4
8	13	19.5	9.5	5	12	14	4	8	19.2	16	4	3.3	7	M4×0.7	6.5	8	12	M4×0.7	7	M5×0.8	2.2
10	13	19.5	9.5	5	12	14	4	8	19.2	16	4	3.3	7	M4×0.7	6.5	8	12	M4×0.7	7	M5×0.8	2.2
12	13	19.5	9.5	5	15	17	5	8	24.2	20	5	4.3	8	M5×0.8	8	10	16	M5×0.8	8	M5×0.8	4
16	13	19.8	9.2	5	18	20	6	8	24.2	20	5	4.3	8	M5×0.8	8	10	16	M5×0.8	8	M5×0.8	4

Remark: The dimensions of magnet type cylinder are the same as non-magnet type cylinder.  
Only axial air intake type of back cover is available for Φ6mm bore size.



PBR

