

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 ^{+1.0} ₀ >150 ^{+1.4} ₀				
Cushion type		Bumper				
Port size		M5 × 0.8				

Add) Refer to P397~420 for detail of sensor switch.

Stroke

Bore size (mm)			Standard stroke (mm)																	Max. std stroke	Max. stroke
PBR	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
PSBR PTBR	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.

Ordering code

PBR 16 × 30 S U

Model

PBR: Pen size cylinder
(Double acting)

PSBR: Pen size cylinder
(Single acting_push)

PTBR: Pen size cylinder
(Single acting_pull)

Bore size

6 8 10 12 16

Stroke

Refer to stroke table for details

Back cover

Model	Back cover	Bore size
PBR	U: Perpendicular 90°	6 8 10 12 16
PSBR	R: Axial air-in	6 8 10 12 16
PTBR	R: Axial air-in	6 8 10 12 16

Magnet

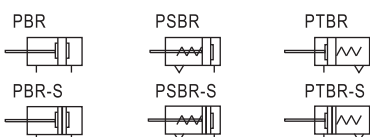
Blank: Without magnet

S: With magnet

Mounting type

Top bolt mounting	
Bottom bolt mounting	
Note: Use an applicable bolt to mount upward from the bottom.	

Symbol



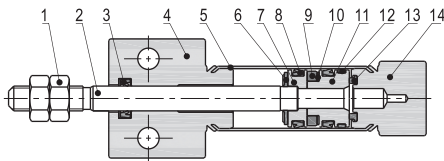
Product feature

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.

PBR Series

Inner structure and material of major parts

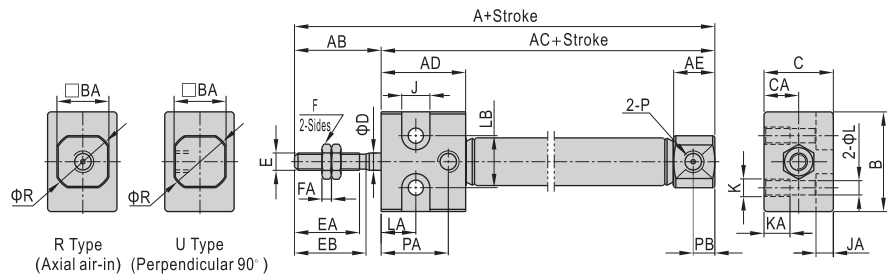
Double acting with magnet



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

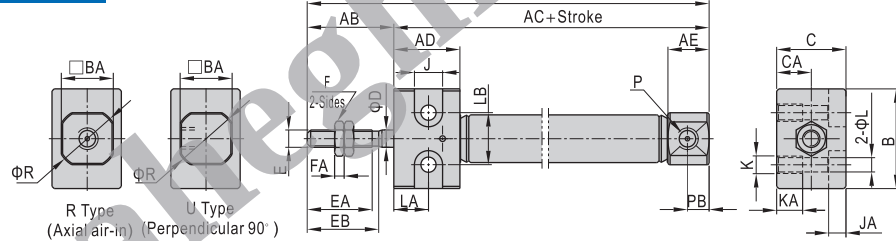


Bore size \ Item	A	AB	AC	AD	AE	B	BA	C	CA	D	E	EA	EB	F	FA
6	70	20	50	19	7	17.2	10	14	7	3	M3×0.5	15	16	5.5	2.4
8	74	20	54	19.5	9.5	19.2	12	16	8	4	M4×0.7	15	16.5	7	2.2
10	74	20	54	19.5	9.5	19.2	12	16	8	4	M4×0.7	15	16.5	7	2.2
12	74	20	54	19.5	9.5	24.2	15	20	10	5	M5×0.8	15	16.5	8	4
16	76	20	56	20	9.5	24.2	18	20	10	6	M5×0.8	15	16.5	8	4

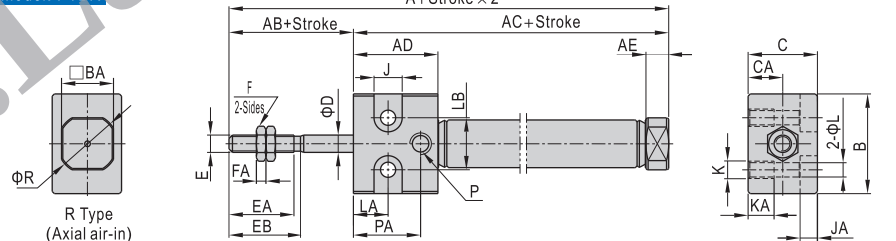
Bore size \ Item	J	JA	K	KA	L	LA	LB	P	PA	PB	R
6	6.5	4	M4×0.7	7	3.3	8	10	M5×0.8	14	5	11
8	6.5	4	M4×0.7	7	3.3	8	12	M5×0.8	15	5	14
10	6.5	4	M4×0.7	7	3.3	8	12	M5×0.8	15.5	5	14
12	8	5	M5×0.8	8	4.3	8	16	M5×0.8	15.5	5	17
16	8	5	M5×0.8	8	4.3	8	16	M5×0.8	15.5	5	20

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



Bore size \ Item	Stroke	5~15	16~30	31~45	46~60	61~75	76~100	AB	5~15	16~30	31~45	46~60	61~75	76~100	AD	AE	B
PSBR	6	70	79	83	97	-	-	20	50	59	63	77	-	-	13	7	17.2
	8	76.5	82.5	93.5	101.5	-	-	20	56.5	62.5	73.5	81.5	-	-	13	9.5	19.2
	10	73.5	81	93	105	-	-	20	53.5	61	73	85	-	-	13	9.5	19.2
	12	73.5	81	93	105	111.5	-	20	53.5	61	73	85	91.5	-	13	9.5	24.2
	16	74.5	83	95	107	113	119	20	54.5	63	75	87	93	99	13	9.5	24.2

Bore size \ Item	Stroke	5~15	16~30	31~45	46~60	61~75	76~100	AB	5~15	16~30	31~45	46~60	61~75	76~100	AD	AE	B
PTBR	6	74.5	83.5	87.5	101.5	-	-	20	54.5	63.5	67.5	81.5	-	-	19	5	17.2
	8	78.5	84.5	95.5	103.5	-	-	20	58.5	64.5	75.5	83.5	-	-	19.5	5	19.2
	10	76.5	84	96	108	-	-	20	56.5	64	76	88	-	-	19.5	5	19.2
	12	76.5	84	96	108	114.5	-	20	56.5	64	76	88	94.5	-	19.5	5	24.2
	16	77.5	86	98	110	116	122	20	57.5	66	78	90	96	102	20	5	24.2

Bore size \ Item	BA	C	CA	D	E	EA	EB	F	FA	J	JA	K	KA	L	LA	LB	P	PA	PB	R
6	10	14	7	3	M3×0.5	15	16	5.5	2.4	6.5	4	M4×0.7	7	3.3	8	10	M5×0.8	14	-	11
8	12	16	8	4	M4×0.7	15	16.5	7	2.2	6.5	4	M4×0.7	7	3.3	8	12	M5×0.8	15	5	14
10	12	16	8	4	M4×0.7	15	16.5	7	2.2	6.5	4	M4×0.7	7	3.3	8	12	M5×0.8	15.5	5	14
12	15	20	10	5	M5×0.8	15	16.5	8	4	8	5	M5×0.8	8	4.3	8	16	M5×0.8	15.5	5	17
16	18	20	10	6	M5×0.8	15	16.5	8	4	8	5	M5×0.8	8	4.3	8	16	M5×0.8	15.5	5	20

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.