Pen size cylinder

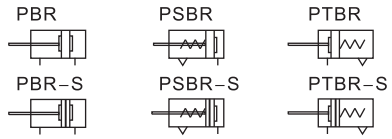
PBR Series

Specification

Bore size(mm)		6	8	10	12	16
Acting type		Double acting、Single acting				
Fluid		Air(to be filtered by 40μm filter element)				
Operating pressure	Double acting	0.15~0.7MPa(22~100psi)(1.5~7.0bar)				
	Single acting	0.2~0.7MPa(28~100psi)(2.0~7.0bar)				
Proof pressure		1.2MPa(175psi)(12bar)				
Temperature ℃		-20~70				
Speed range mm/s		50~800				
Stroke tolerance		0~150 $^{+1.0}_{0}$ >150 $^{+1.5}_{0}$				
Cushion type		Bumper				
Port size		M5×0.8				

Add) Refer to P427 for detail of sensor switch.

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.

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	200
	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

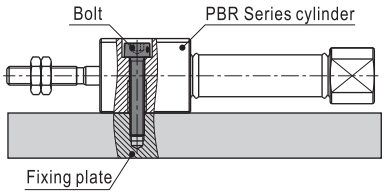
PBR 16×30 S U

① ② ③ ④ ⑤

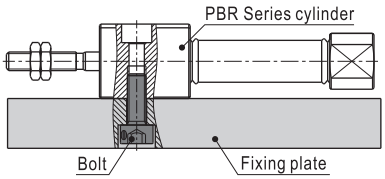
①Model	②Bore size	③Stroke	④Magnet	⑤Back cover		
PBR: Pen size cylinder(Double acting) PSBR: Pen size cylinder (Single acting_push) PTBR: Pen size cylinder(Single acting_pull)	6 8 10 12 16	Refer to stroke table for details	Blank: Without magnet S: With magne	Model	Back cover	Bore size
				PBR PSBR	U: Perpendicular 90°	Φ8~Φ16
					R: Axial air-in	Φ6~Φ16
				PTBR	R: Axial air-in	Φ6~Φ16

Mounting type

Top bolt mounting



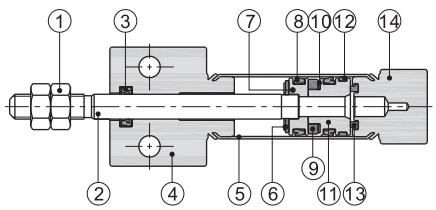
Bottom bolt mounting



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

Inner structure and material of major parts

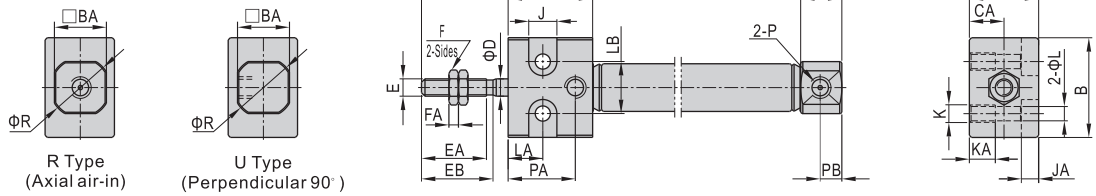
Double acting with magnet



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

Dimensions

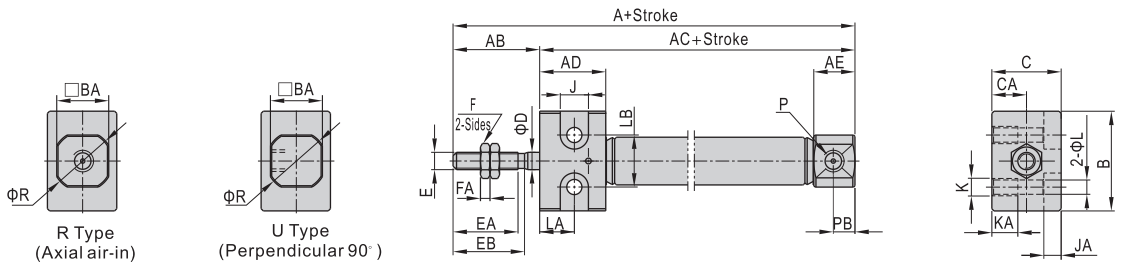
PBR



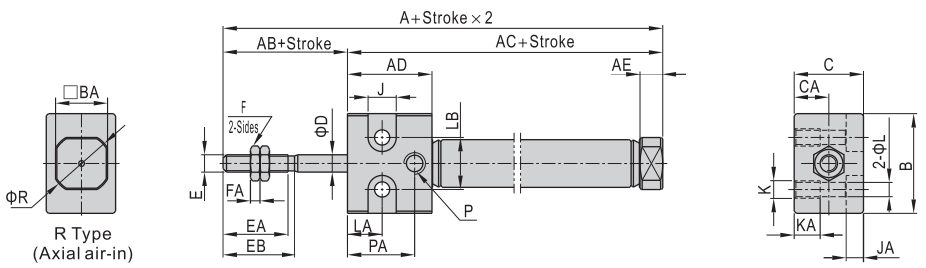
Bore size\Item	A	AB	AC	AD	AE	B	BA	C	CA	D	E	EA	EB	F	FA	J	JA	K	KA	L	LA	LB	P	PA	PB	R
6	70	20	50	19	7	17.2	10	14	7	3	M3×0.5	15	16	5.5	2.4	6.5	4	M4×0.7	7	3.3	8	10	M5×0.8	14	-	11
8	74	20	54	19.5	9.5	19.2	12	16	8	4	M4×0.7	15	16.5	7	2.2	6.5	4	M4×0.7	7	3.3	8	12	M5×0.8	15	5	14
10	74	20	54	19.5	9.5	19.2	12	16	8	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	74	20	54	19.5	9.5	24.2	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	76	20	56	20	9.5	24.2	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.

PSBR



PTBR



Bore size\Item	A												AC											
Model	PSBR						PTBR						PSBR						PTBR					
Stroke	5~15	16~30	31~45	46~60	61~75	76~100	5~15	16~30	31~45	46~60	61~75	76~100	5~15	16~30	31~45	46~60	61~75	76~100	5~15	16~30	31~45	46~60	61~75	76~100
6	70	79	83	97	-	-	74.5	83.5	87.5	101.5	-	-	50	59	63	77	-	-	54.5	63.5	67.5	81.5	-	-
8	76.5	82.5	93.5	101.5	-	-	78.5	84.5	95.5	103.5	-	-	56.5	62.5	73.5	81.5	-	-	58.5	64.5	75.5	83.5	-	-
10	73.5	81	93	105	-	-	76.5	84	96	108	-	-	53.5	61	73	85	-	-	56.5	64	76	88	-	-
12	73.5	81	93	105	111.5	-	76.5	84	96	108	114.5	-	53.5	61	73	85	91.5	-	56.5	64	76	88	94.5	-
16	74.5	83	95	107	113	119	77.5	86	98	110	116	122	54.5	63	75	87	93	99	57.5	66	78	90	96	102

Bore size\Item	AD		AB	AE		B	BA	C	CA	D	E	EA	EB	F	FA	J	JA	K	KA	L	LA	LB	P	PA	PB	R
Model	PSBR	PTBR		PSBR	PTBR																					
6	13	19	20	7	5	17.2	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	13	19.5	20	9.5	5	19.2	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	13	19.5	20	9.5	5	19.2	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	13	19.5	20	9.5	5	24.2	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	13	20	20	9.5	5	24.2	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.