



Compact cylinder—ACQ Series

■ Installation and application

- 1、When load changes in the work, the cylinder with abundant output capacity shall be selected;
- 2、Relative cylinder with high temperature resistance or corrosion resistance shall be chosen under the condition of high temperature or corrosion;
- 3、Necessary protection measure shall be taken in the environment with larger humidity, much dust or water drops, oil dust and welding dregs;
- 4、Dirty substances in the pipe must be cleared away before cylinder is connected with pipeline to prevent the entrance of sundries into the cylinder;
- 5、The medium used by cylinder shall be filtered by the filter core of above 40um;
- 6、As both of the front cover and piston of the cylinder are short, typically too large stroke can not be selected;
- 7、Anti-freezing measure shall be adopted under low temperature environment to prevent moisture freezing;
- 8、The cylinder shall avoid the influence of side load in operation to maintain the normal work of cylinder and extend the service life;
- 9、If the cylinder is dismantled and stored for a long time, please conduct anti-rust treatment to the surface. Anti-dust jam cap shall be added in air intake and outlet orifices. The front and back cover can not be dismantled, which shall be especially noticed.

■ Criteria for selection: Cylinder thrust

Unit: Newton (N)

Bore size(mm)	Rod size (mm)	Acting type	Pressure area(mm ²)	Operating pressure MPa						
				0.1	0.2	0.3	0.4	0.5	0.6	0.7
12	6	Single acting-Push type	113.1	—	13.6	24.9	36.2	47.5	58.9	70.2
		Single acting-Pull type	84.8	—	8.0	16.4	24.9	33.4	41.9	50.4
		Double acting Push side	113.1	11.3	22.6	33.9	45.2	56.5	67.9	79.2
		Double acting Pull side	84.8	8.5	17.0	25.4	33.9	42.4	50.9	59.4
16	8	Single acting-Push type	201.1	—	27.0	47.1	67.2	87.3	107.4	127.5
		Single acting-Pull type	150.8	—	17.0	32.0	47.1	62.2	77.3	92.4
		Double acting Push side	201.1	20.1	40.2	60.3	80.4	100.5	120.6	140.7
		Double acting Pull side	150.8	15.1	30.2	45.2	60.3	75.4	90.5	105.6
20	10	Single acting-Push type	314.2	—	36.8	68.2	99.7	131.1	162.5	193.9
		Single acting-Pull type	235.6	—	21.1	44.7	68.2	91.8	115.4	138.9
		Double acting Push side	314.2	31.4	62.8	94.2	125.7	157.1	188.5	219.9
		Double acting Pull side	235.6	23.6	47.1	70.7	94.2	117.8	141.4	164.9
25	12	Single acting-Push type	490.9	18.1	67.2	116.3	165.3	214.4	263.5	312.6
		Single acting-Pull type	377.8	6.8	44.6	82.3	120.1	157.9	195.7	233.4
		Double acting Push side	490.9	49.1	98.2	147.3	196.3	245.4	294.5	343.6
		Double acting Pull side	377.8	37.8	75.6	113.3	151.1	188.9	226.7	264.4
32	16	Single acting-Push type	804.2	27.4	107.8	188.3	268.7	349.1	429.5	510.0
		Single acting-Pull type	603.2	7.3	67.6	128.0	188.3	248.6	308.9	369.2
		Double acting Push side	804.2	80.4	160.8	241.3	321.7	402.1	482.5	563.0
		Double acting Pull side	603.2	60.3	120.6	181.0	241.3	301.6	361.9	422.2
40	16	Single acting-Push type	1256.6	44.7	170.3	296.0	421.7	547.3	673.0	798.6
		Single acting-Pull type	1055.6	24.6	130.1	235.7	341.2	446.8	552.3	657.9
		Double acting Push side	1256.6	125.7	251.3	377.0	502.7	628.3	754.0	879.6
		Double acting Pull side	1055.6	105.6	211.1	316.7	422.2	527.8	633.3	738.9
50	20	Single acting-Push type	1963.5	96.3	292.7	489.0	685.4	881.7	1078.1	1274.4
		Single acting-Pull type	1649.3	64.9	229.9	394.8	559.7	724.7	889.6	1054.5
		Double acting Push side	1963.5	196.3	392.7	589.0	785.4	981.7	1178.1	1374.4
		Double acting Pull side	1649.3	164.9	329.9	494.8	659.7	824.7	989.6	1154.5
63	20	Single acting-Push type	3117.2	141.7	453.4	765.2	1076.9	1388.6	1700.3	2012.1
		Single acting-Pull type	2803.1	110.3	390.6	670.9	951.2	1231.5	1511.9	1792.2
		Double acting Push side	3117.2	311.7	623.4	935.2	1246.9	1558.6	1870.3	2182.1
		Double acting Pull side	2803.1	280.3	560.6	840.9	1121.2	1401.5	1681.9	1962.2
80	25	Double acting Push side	5026.5	502.7	1005.3	1508.0	2010.6	2513.3	3015.9	3518.6
		Double acting Pull side	4535.7	453.6	907.1	1360.7	1814.3	2267.8	2721.4	3175.0
100	32	Double acting Push side	7854.0	785.4	1570.8	2356.2	3141.6	3927.0	4712.4	5497.8
		Double acting Pull side	7049.7	705.0	1409.9	2114.9	2819.9	3524.9	4229.8	4934.8

■ Product series

Series name		Mounting type				Acting type	Bore size	Collocation of sensor switch							
		Basic	FA	FB	CB			LB	CS1-J	CS1-JX	CS1-JN	CS1-JP	CS1-G	CS1-GX	CS1-GN
Double acting type: ACQ		Single acting type: ASQ、ATQ		 											
Double rod type: ACQD		Adjustable stroke type: ACQJ													



Compact cylinder

ACQ Series

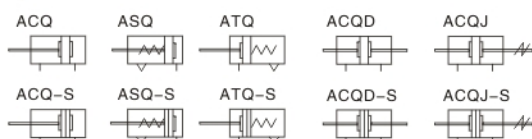


Specification

Bore size (mm)		12	16	20	25	32	40	50	63	80	100
Acting type		Double acting type									
		Single acting-Push type、Single acting-Pull type									-
Fluid		Air (to be filtered by 40um filter element)									
Operating pressure	Double acting	0.1~1.0MPa(14~145Psi)									
	Single acting	0.2~1.0MPa(28~145Psi)									
Proof pressure		1.5MPa(215Psi)									
Temperature ℃		-20~80									
Speed range mm/s		Double acting type: 30~500					Single acting type: 50~500				
Stroke tolerance		0~150 ^{+1.0} ₀					>150 ^{+1.4} ₀				
Cushion type		Bumper									
Port size ①		M5 x 0.8				1/8"		1/4"		3/8"	

① PT thread, NPT thread and G thread are available;
Add: Refer to PVI-39~VI-50 for detail of sensor switch.

Symbol



Product feature

- 1、JIS standard is implemented
- 2、Riveted structure is adopted to connect the cylinder body and back cover, and piston and piston rod to make it compact and reliable;
- 3、The internal diameter of the body is treated with rolling followed by the treatment of hard anodizing, forming an excellent abrasion resistance and durability;
- 4、The seal of piston adopts heterogeneous two-way seal structure. It has compact dimension and the function of oil reservation;
- 5、Compact structure can effectively save installation space;
- 6、There are magnetic switch slots around the cylinder body, which is convenient to install inducting switch;
- 7、Installing accessories with various specifications are optional.

Stroke

Bore size (mm)		Standard stroke (mm)	Max. stroke	Available acting	
				Without magnet	With magnet
12	Double acting	5 10 15 20 25 30 35 40 45 50	50	80	70
	Single acting	5 10 15 20	20	-	-
16	Double acting	5 10 15 20 25 30 35 40 45 50 55 60	60	80	70
	Single acting	5 10 15 20	20	-	-
20	Double acting	5 10 15 20 25 30 35 40 45 50 55 60 70 75 80 90 100	100	130	130
	Single acting	5 10 15 20 25 30	30	-	-
25	Double acting	5 10 15 20 25 30 35 40 45 50 55 60 70 75 80 90 100	100	150	150
	Single acting	5 10 15 20 25 30	30	-	-
32	Double acting	5 10 15 20 25 30 35 40 45 50 55 60 70 75 80 90 100	100	150	150
	Single acting	5 10 15 20 25 30	30	-	-
40	Double acting	5 10 15 20 25 30 35 40 45 50 55 60 70 75 80 90 100	100	150	150
	Single acting	5 10 15 20 25 30	30	-	-
50	Double acting	5 10 15 20 25 30 35 40 45 50 55 60 70 75 80 90 100	100	150	150
	Single acting	5 10 15 20 25 30	30	-	-
63	Double acting	5 10 15 20 25 30 35 40 45 50 55 60 70 75 80 90 100	100	150	150
	Single acting	5 10 15 20 25 30	30	-	-
80	Double acting	5 10 15 20 25 30 35 40 45 50 55 60 70 75 80 90 100	100	150	150
	Single acting	5 10 15 20 25 30	30	-	-
100	Double acting	5 10 15 20 25 30 35 40 45 50 55 60 70 75 80 90 100	100	150	150
	Single acting	5 10 15 20 25 30	30	-	-

Note: 1、Within allowable stroke scope, when the stroke is larger than the maximum value, it shall be treated as non-standard one. Please contact the company for other special strokes.
2、The non-standard stroke within the scope of maximum stroke is transformed according to the standard stroke of the upper grade and its shape and dimension are equal to that of standard stroke cylinder of the upper grade. For instance, the non-standard stroke cylinder whose stroke is 23 is transformed from the standard cylinder whose standard stroke is 25, and their shape and dimension are the same.

Ordering code

ACQ	S	— 20 x 30	— B —	□	— P
ACQD	S	— 20 x 30	— B —	□	— P
ACQJ	S	— 20 x 30 — 30	— B —	□	— P

Model

ACQ: Compact cylinder(Double acting type)

ASQ: Compact cylinder(Single acting-Push type)

ATQ: Compact cylinder(Single acting-Pull type)

ACQD: Compact cylinder(Double rod type)

ACQJ: Compact cylinder(Adjustable stroke type)

Bore size

Stroke

Adjustable stroke

10: 10mm

20: 20mm

30: 30mm

40: 40mm

50: 50mm

Magnet

S: With magnet

Blank: Without magnet

Thread type

P: PT

T: NPT

G: G

Mounting type

Blank: No accessories

FA: FA type

CA: CA type

CB: CB type

LB: LB type

Rod type

Blank: Female thread

B: Male thread

N: No thread

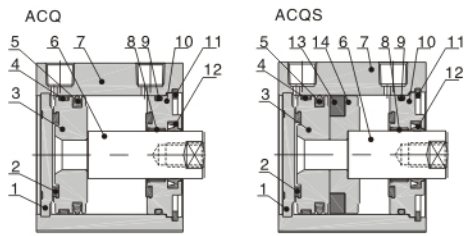
① Please refer to PV-13 for accessory parts;
② When it is M5 thread, it is blank here.

Compact cylinder

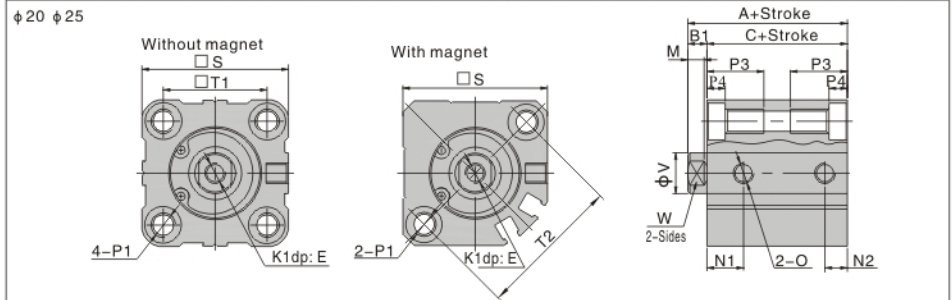
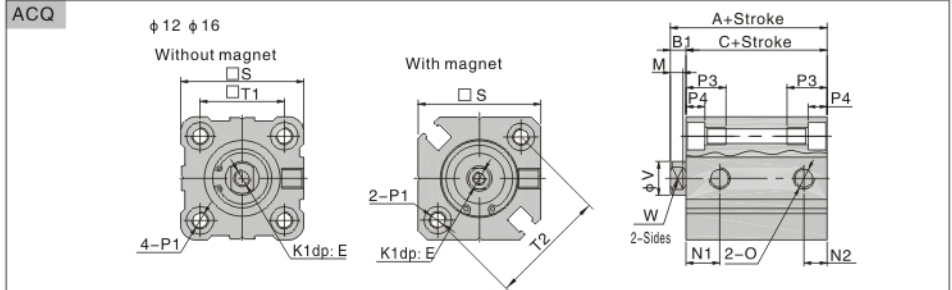
ACQ Series

Inner structure and material of major parts

■ Dimensions



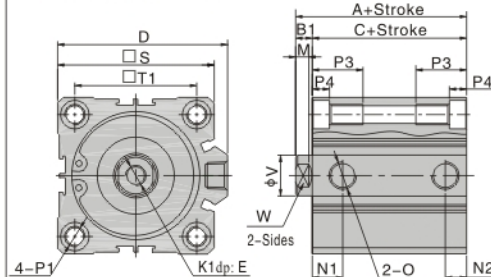
NO.	Item	Bore size					Material
		12、16	20	25	32	40~100	
1	Back cover	—	Aluminum alloy				
2	Bumper	TPU			NBR		
3	Piston	Brass	Aluminum alloy				
4	Wear ring	—			Wear resistant material		
5	Piston O-ring	NBR					
6	Piston rod	Carbon steel with 20um chrome plated					
7	Body	Aluminum alloy					
8	Bushing	—			Wear resistant material		
9	Cover gasket	NBR					
10	Front cover	Brass	Aluminum alloy				
11	C clip	Spring steel					
12	Front cover packing	NBR					
13	Magnet	Sintered metal (Neodymium-iron-boron)	Plastic				
14	Magnet holder	Brass	Aluminum alloy				



Model	Without magnet				With magnet		B1	D	E	K1	M	N1		N2	
Item	A		C		A	C						Without magnet	With magnet	Without magnet	With magnet
Bore size	St≤50	St≥60	St≤50	St≥60											
12	20.5	—	17	—	31.5	28	3.5	—	6	M3 × 0.5	3.5	7.5	9	5	7
16	22	—	18.5	—	34	30.5	3.5	—	8	M4 × 0.7	3	8	9.5	5.5	
20	24	34	19.5	29.5	36	31.5	4.5	—	7	M5 × 0.8	4	9	9.5	5.5	
25	27.5	37.5	22.5	32.5	37.5	32.5	5	—	12	M6 × 1.0	4.5	11		5.5	

Bore size/Item	O	P1									
12	M5 × 0.8	2-Sides: φ 6.5 Thread: M4 × 0.7 Thru. hole: φ 3.4	P3	P4	S	T1	T2	V	W		
16	M5 × 0.8	2-Sides: φ 6.5 Thread: M4 × 0.7 Thru. hole: φ 3.4	11	3.5	25	15.5	22	6	5		
20	M5 × 0.8	2-Sides: φ 9 Thread: M6 × 1.0 Thru. hole: φ 5.2	17	7	36	25.5	36	10	8		
25	M5 × 0.8	2-Sides: φ 9 Thread: M6 × 1.0 Thru. hole: φ 5.2	17	7	40	28	40	12	10		

φ 32 ~ φ 100 (Stroke ≤ 100)



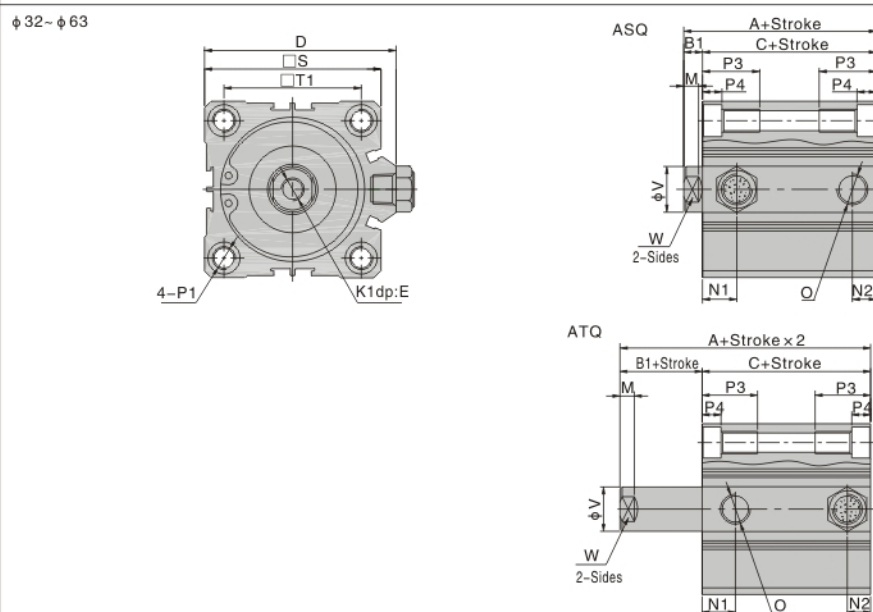
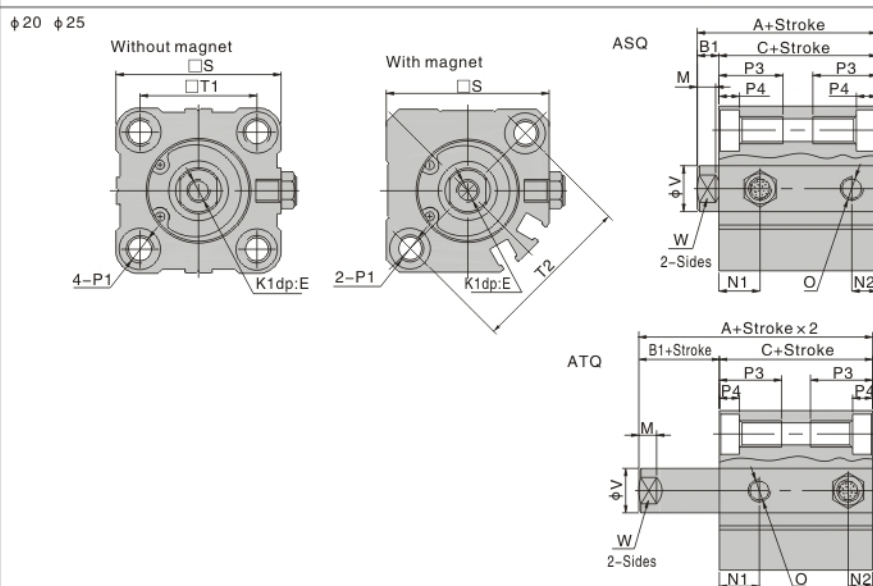
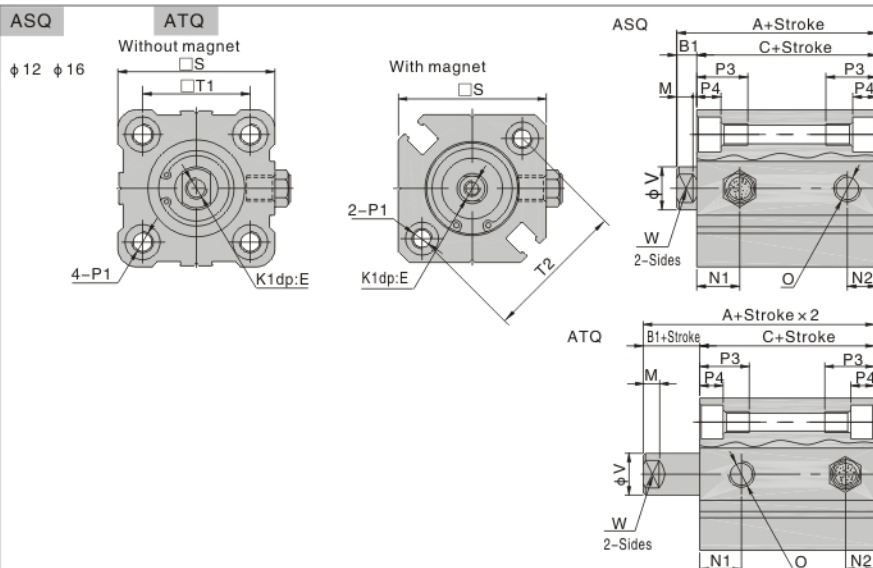
Item	Bore size	O	P1								
32	1/8"	2-Sides: φ 9 Thread: M6 × 1.0 thru. hole: φ 5.2									
40	1/8"	2-Sides: φ 9 Thread: M6 × 1.0 thru. hole: φ 5.2									
50	1/4"	2-Sides: φ 11 Thread: M8 × 1.25 thru. hole: φ 6.5									
63	1/4"	2-Sides: φ 14 Thread: M10 × 1.5 thru. hole: φ 8.7									
80	3/8"	2-Sides: φ 17.5 Thread: M12 × 1.75 thru. hole: φ 10.7									
100	3/8"	2-Sides: φ 17.5 Thread: M12 × 1.75 thru. hole: φ 10.7									

Item	Bore size	P3	P4	S	T1	T2	V	W
32	17	7	45	34	—	16	14	
40	17	7	53	40	—	16	14	
50	22	8	64	50	—	20	17	
63	28.5	10.5	77	60	—	20	17	
80	35.5	13.5	98	77	—	25	22	
100	35.5	13.5	117	94	—	32	27	

Model	Without magnet				With magnet		B1	D	E	K1	M	N1		N2		
Item	A		C		A	C						Without magnet	With magnet	Without magnet	With magnet	
Bore size	St.≤50	St.≥60	St.≤50	St.≥60												
32	St=5	30	40	23	33	40	33	7	49.5	13	M8×1.25	6	7.5	10.5	6.5	7.5
	St>5												10.5		7.5	
40		36.5	46.5	29.5	39.5	46.5	39.5	7	57	13	M8×1.25	6	11		8	
50	St=5	38.5	48.5	30.5	40.5	48.5	40.5	8	71	15	M10×1.5	6.5	9	10.5	9	10.5
	St>5												10.5		10.5	
63	St=5	44	54	36	46	54	46	8	84	15	M10×1.5	6.5	14	15	9.5	10.5
	St>5												15		10.5	
80		53.5	63.5	43.5	53.5	63.5	53.5	10	104	20	M16×2.0	8.5	16		14	
100		65	75	53	63	75	63	12	123.5	26	M20×2.5	9.5	20		17.5	

Compact cylinder

ACQ Series



Model	Without magnet					
Bore size/Item	A			C		
Stroke	5/10	15/20	25/30	5/10	15/20	25/30
12	25.5	30.5	—	22	27	—
16	27	32	—	23.5	28.5	—
20	29	34	39	24.5	29.5	34.5
25	32.5	37.5	42.5	27.5	32.5	37.5
32	35	40	45	28	33	38
40	41.5	46.5	51.5	34.5	39.5	44.5
50	48.5	53.5	58.5	40.5	45.5	50.5
63	54	59	64	46	51	56

Model	With magnet					
Bore size/Item	A			C		
Stroke	5/10	15/20	25/30	5/10	15/20	25/30
12	36.5	41.5	—	33	38	—
16	39	44	—	35.5	40.5	—
20	41	46	51	36.5	41.5	46.5
25	42.5	47.5	52.5	37.5	42.5	47.5
32	45	50	55	38	43	48
40	51.5	56.5	61.5	44.5	49.5	54.5
50	58.5	63.5	68.5	50.5	55.5	60.5
63	64	69	74	56	61	66

Item	N1		N2	
Model	K1	M	Without magnet	With magnet
Bore size				
12	M3 × 0.5	3.5	7.5	9
16	M4 × 0.7	3	8	9.5
20	M5 × 0.8	4	9	9.5
25	M6 × 1.0	4.5	11	11
32	M8 × 1.25	6	10.5	10.5
40	M8 × 1.25	6	11	11
50	M10 × 1.5	6.5	10.5	10.5
63	M10 × 1.5	6.5	15	15

Item	P1	
Bore size	O	P1
12	M5 × 0.8	2-Sides φ6.5 Thread M4 × 0.7 Thru-hole: φ3.4
16	M5 × 0.8	2-Sides φ6.5 Thread M4 × 0.7 Thru-hole: φ3.4
20	M5 × 0.8	2-Sides φ9 Thread M6 × 1.0 Thru-hole: φ5.2
25	M5 × 0.8	2-Sides φ9 Thread M6 × 1.0 Thru-hole: φ5.2
32	1/8"	2-Sides φ9 Thread M6 × 1.0 Thru-hole: φ5.2
40	1/8"	2-Sides φ9 Thread M6 × 1.0 Thru-hole: φ5.2
50	1/4"	2-Sides φ11 Thread M8 × 1.25 Thru-hole: φ6.5
63	1/4"	2-Sides φ14 Thread M10 × 1.5 Thru-hole: φ8.7

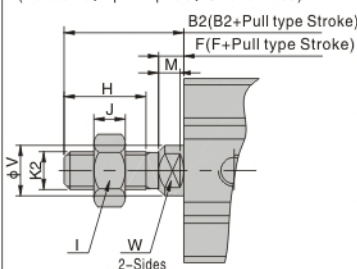
Item	P3	P4	B1	D	E	S	T1	T2	V	W
Bore size										
12	11	3.5	3.5	—	6	25	15.5	22	6	5
16	11	3.5	3.5	—	8	29	20	28	8	6
20	17	7	4.5	—	7	36	25.5	36	10	8
25	17	7	5	—	12	40	28	40	12	10
32	17	7	7	49.5	13	45	34	—	16	14
40	17	7	7	57	13	53	40	—	16	14
50	22	8	8	71	15	64	50	—	20	17
63	28.5	10.5	8	84	15	77	60	—	20	17

Compact cylinder

ACQ Series

Dimensions of male thread

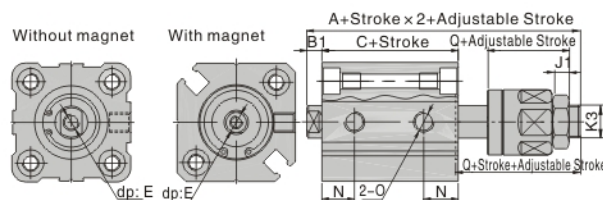
(Bore size: $\phi 12 - \phi 100$, Stroke ≤ 100)



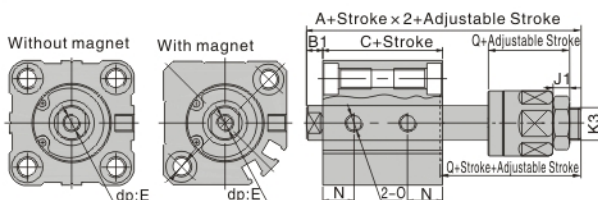
Item	B2	F	H	I	J	K2	M	V	W
Bore size									
12	14	3.5	9	8	4	M5 x 0.8	3.5	6	5
16	15.5	3.5	10	10	5	M6 x 1.0	3	8	6
20	18.5	4.5	12	12	6	M8 x 1.25	4	10	8
25	22.5	5	15	17	6	M10 x 1.25	4.5	12	10
32	28.5	5	20.5	19	8	M14 x 1.5	4	16	14
40	28.5	5	20.5	19	8	M14 x 1.5	4	16	14
50	33.5	5	26	27	11	M18 x 1.5	4	20	17
63	33.5	5	26	27	11	M18 x 1.5	4	20	17
80	43.5	8	32.5	32	13	M22 x 1.5	6	25	22
100	43.5	8	32.5	36	13	M26 x 1.5	5.5	32	27

ACQJ

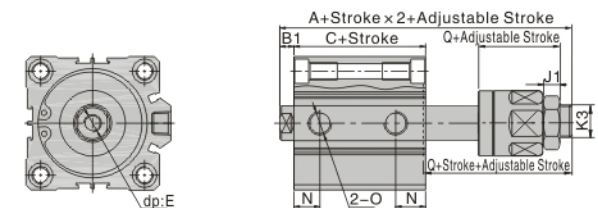
$\phi 12 \phi 16$



$\phi 20 \phi 25$

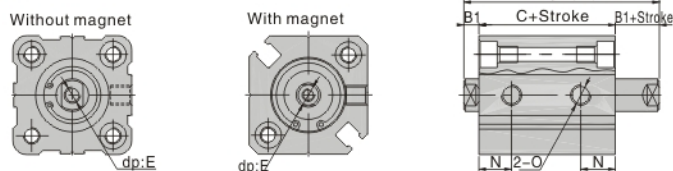


$\phi 32 - \phi 100$

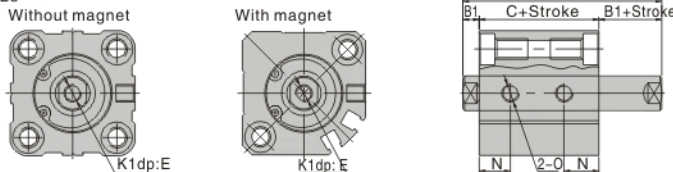


ACQD

$\phi 12 \phi 16$



$\phi 20 \phi 25$



$\phi 32 - \phi 63$



Model	Without magnet		With magnet		B1	E	N
	A	C	A	C			
Bore size\Item							
12	32.2	25.2	39.4	32.4	3.5	6	9
16	33	26	43	36	3.5	8	9.5
20	35	26	47	38	4.5	7	9.5
25	39	29	49	39	5	9.5(S=5) 12(S>5)	11
32	44.5	30.5	54.5	40.5	7	9(S≤10) 13(S>10)	10
40	54	40	64	50	7	11(S≤10) 13(S>10)	13
50	56.5	40.5	66.5	50.5	8	12(S≤10) 15(S>10)	13.5
63	58	42	68	52	8	12(S≤10) 15(S>10)	14.5(S=5) 16(S>5)
80	71	51	81	61	10	14(S≤15) 20(S>15)	16
100	84.5	60.5	94.5	70.5	12	20(S≤25) 26(Others)	21

Remark: 1、The unmarked dimension is the same as ACQ standard type;
2、Please refer to this page above for male thread dimensions.

Model	Without magnet		With magnet		B1	E	N	Q	J1	K3
	A	C	A	C						
Bore size\Item										
12	45.2	25.2	52.4	32.4	3.5	6	9	17	4	M5X0.8
16	50	26	60	36	3.5	8	9.5	21	5	M6x1.0
20	55	26	67	38	4.5	7	9.5	25	6	M8x1.25
25	60.5	29	70.5	39	5	9.5(S=5) 12(S>5)	11	27	6	M10X1.25
32	64.9	30.5	74.9	40.5	7	9(S≤10) 13(S>10)	10	28	7	M12x1.25
40	74.5	40	84.5	50	7	11(S≤10) 13(S>10)	13	28	7	M12X1.25
50	77	40.5	87	50.5	8	12(S≤10) 15(S>10)	13.5	29	8	M16X1.5
63	78.4	42	88.4	52	8	12(S≤10) 15(S>10)	14.5(S=5) 16(S>5)	29	8	M16X1.5
80	95.8	51	105.8	61	10	14(S≤15) 20(S>15)	16	35.5	10	M20X1.5
100	114.360.5	124.370.5	124.370.5	124.370.5	12	20(S≤25) 26(others)	21	42.5	13.5	M27x2.0

Remark: 1、The unmarked dimension is the same as ACQ standard type;
2、Please refer to this page above for male thread dimensions.

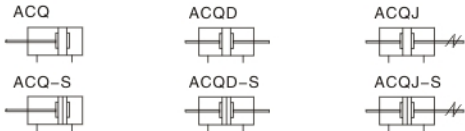
Compact cylinder

ACQ Series(longer stroke type)

AIRTAC



Symbol

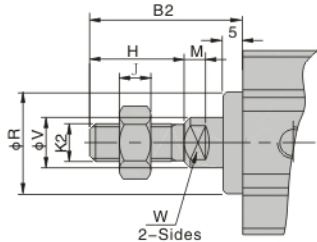


Product feature

- 1、JIS standard is implemented and it has long stroke;
- 2、The cylinder body and front and back covers are fixed by C clip; riveted structure is adopted to connect the piston and piston rod to make it compact and reliable;
- 3、The internal diameter of the cylinder body is treated with honing to form excellent abrasion resistance and durability;
- 4、The guide distance of front cover is extended to produce an excellent guidance function;
- 5、Compact structure can effectively save installation space;
- 6、There are magnetic switch slots around the cylinder body, which is convenient to install inducting switch;
- 7、Mounting accessories with various specifications are optional.

Dimensions of male thread

(Bore size: $\phi 32 - \phi 100$, Stroke > 100, Longer stroke type)



Bore size/Item	B2	H	J	K2	M	R	V	W
32	38.5	23.5	8	M14 x 1.5	6	22	16	14
40	38.5	23.5	8	M14 x 1.5	6	28	16	14
50	43.5	28.5	11	M18 x 1.5	6.5	35	20	17
63	43.5	28.5	11	M18 x 1.5	6.5	35	20	17
80	53.5	35.5	13	M22 x 1.5	8.5	43	25	22
100	53.5	35.5	13	M26 x 1.5	10	59	32	27

Specification

Bore size (mm)	32	40	50	63	80	100
Acing type	Double acting type					
Fluid	Air (to be filtered by 40um filter element)					
Operating pressure	0.1~1.0MPa(14~145Psi)					
Proof pressure	1.5MPa(215Psi)					
Temperature $^{\circ}\text{C}$	-20~80					
Speed range mm/s	30~500					
Stroke tolerance	101~150 $^{+1.0}_{-0}$ > 150 $^{+1.4}_{-0}$					
Cushion type	Bumper					
Port size ①	1/8"		1/4"		3/8"	

① PT thread, NPT thread and G thread are available;
Add: Refer to PVI-39~VI-50 for detail of sensor switch.

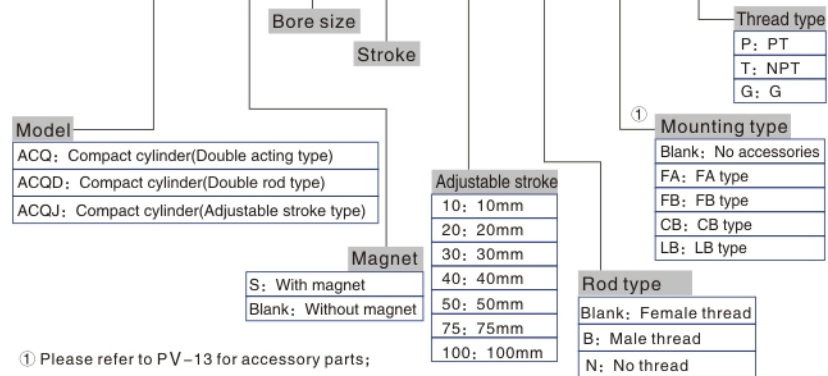
Stroke

Bore size (mm)	32, 40, 50, 63, 80, 100	Standard stroke (mm)	Max. stroke	Available stroke
		125 150 175 200 225 250 275 300	300	350

Note: Within allowable stroke scope, when the stroke is larger than the maximum value, it shall be treated as non-standard one. Please contact the company for other special strokes.

Ordering code

ACQ	S	— 50 × 150	— B —	□	— P
ACQD	S	— 50 × 150	— B —	□	— P
ACQJ	S	— 50 × 150 — 30	— B —	□	— P

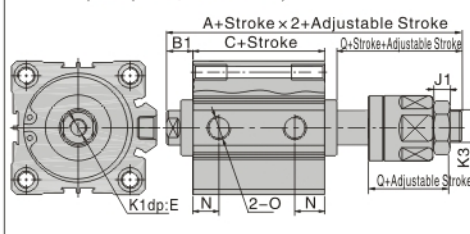


① Please refer to PV-13 for accessory parts;

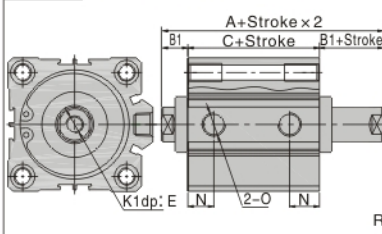
Dimensions

ACQ									
$\phi 32 - \phi 100$ (Stroke > 100)									
Bore size/Item	A	B1	C	D	E	P1			
32	62.5	17	45.5	49.5	13	2-Sides:M6 x 1.0 Thru.hole $\phi 5.2$	10	12	22
40	72	17	55	57	13	2-Sides:M6 x 1.0 Thru.hole $\phi 5.2$	10	12	28
50	73.5	18	55.5	71	15	2-Sides:M8 x 1.25 Thru.hole $\phi 6.5$	14	13	35
63	75	18	57	84	15	2-Sides:M10 x 1.5 Thru.hole $\phi 8.7$	18	13	35
80	86	20	66	104	21	2-Sides:M12 x 1.75 Thru.hole $\phi 10.7$	22	15	43
100	97.5	22	75.5	123.5	27	2-Sides:M12 x 1.75 Thru.hole $\phi 10.7$	22	17	59

ACQJ $\phi 32 - \phi 100$ (Stroke > 100)



ACQD $\phi 32 - \phi 100$ (Stroke > 100)



Item		Without magnet			With magnet							
		A	C	B1	A	C	B1	E	N	Q	J1	K3
Bore size		ACQD	ACQJ		ACQD	ACQJ						
32	79.5	95.5	45.5	89.5	105.5	55.5	17	13	12.5	28	7	M12X1.25
40	89	105	55	99	115	65	17	13	14	28	7	M12X1.25
50	91.5	107.5	55.5	101.5	117.5	65.5	18	15	14	29	8	M16X1.5
63	93	109	57	103	119	67	18	15	16.5	29	8	M16X1.5
80	106	126.5	66	116	136.5	76	20	21	19	35.5	10	M20X1.5
100	119.5	145	75.5	129.5	155	85.5	22	27	23	42.5	13.5	M27X2.0

Remark: 1. The unmarked dimension is the same as ACQ standard type.

Accessories

Ordering code

F — ACQ 50 LB			
Accessory	Cylinder model	Bore size	Accessories type
			①
			Mounting accessories
			LB LB Type
			FA FA Type
			FB FB Type
			CB ② CB Type

① Please see accessory list on PV-14 for detail of accessories.

② CB is attached with relevant PIN.

Accessories for choosing list

Cylinder model	Accessory	Mounting accessory				Knuckle ①				Sensor switch ②	
		LB	FA	FB	CB	Y	I	F	U	CS1-J	CS1-G
ACQ	Female thread	Standard	●	●	●	●	×	×	×	×	×
	With magnet	●	●	●	●	×	×	×	×	●	●
	Male thread	Standard	●	●	●	●	×	×	×	×	×
	With magnet	●	●	●	●	●	×	×	×	●	●
ASQ	Female thread	Standard	●	●	●	×	×	×	×	×	×
	With magnet	●	●	●	●	×	×	×	×	●	●
	Male thread	Standard	●	●	●	●	×	×	×	×	×
	With magnet	●	●	●	●	●	×	×	×	●	●
ATQ	Female thread	Standard	●	●	●	×	×	×	×	×	×
	With magnet	●	●	●	●	×	×	×	×	●	●
	Male thread	Standard	●	●	●	●	×	×	×	×	×
	With magnet	●	●	●	●	●	×	×	×	●	●
ACQD	Female thread	Standard	●	●	×	×	×	×	×	×	×
	With magnet	●	●	×	×	×	×	×	×	●	●
	Male thread	Standard	●	●	×	●	×	×	×	×	×
	With magnet	●	●	×	●	●	×	×	×	●	●
ACQJ	Female thread	Standard	●	●	×	×	×	×	×	×	×
	With magnet	●	●	×	×	×	×	×	×	●	●
	Male thread	Standard	●	●	×	●	×	×	×	×	×
	With magnet	●	●	×	●	●	×	×	×	●	●

①: Please refer to PVI-33~VI-38 for knuckle detail;

②: Please refer to PVI-39~VI-50 for detail of sensor switch.

Material of accessories

Accessories	Mounting accessories				Joint accessories			
Bore size	FA	FB	CB	LB	Y	I	F	U
12~16	Aluminum alloy		Aluminum alloy	SPCC	S45C	S45C		
20、25	Gray cast iron				Cast steel			
32~100					Cast steel			

Dimensions

FA\FB

$\phi 12 \sim \phi 25$

$\phi 32 \sim \phi 100$

Item	Without magnet				With magnet									
Bore size	A		C		A	C	M	N	N1	FD	FT	FV	FX	FZ
Stroke	≤50	≥60	≤50	≥60										
12	20.5	—	17	—	31.5	28	15.5	4.5	7.5	4.5	5.5	25	45	55
16	22	—	18.5	—	34	30.5	20	4.5	7.5	4.5	5.5	30	45	55
20	24	34	19.5	29.5	36	31.5	25.5	6.5	10.5	6.5	8	39	48	60
25	27.5	37.5	22.5	32.5	37.5	32.5	28	6.5	10.5	6.5	8	42	52	64
32	30	40	23	33	40	33	34	6.5	10.5	5.5	8	48	56	65
40	36.5	46.5	29.5	39.5	46.5	39.5	40	6.5	10.5	5.5	8	54	62	72
50	38.5	48.5	30.5	40.5	48.5	40.5	50	8.5	13.5	6.5	9	67	76	89
63	44	54	36	46	54	46	60	10.5	16.5	9	9	80	92	108
80	53.5	63.5	43.5	53.5	63.5	53.5	77	12.5	18.5	11	11	99	116	134
100	65	75	53	63	75	63	94	12.5	18.5	11	11	117	136	154

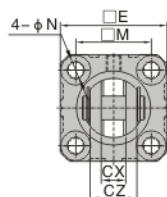
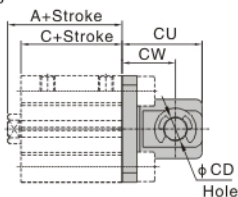
LB		φ 12~φ 25		φ 32~φ 100	

Item	C ①			M	N	X	LD	LH	LT	LX	LY	LZ
Bore size	Without magnet	With magnet										
Stroke	≤50	≥60	magnet									
12	17	—	28	15.5	4.5	8	4.5	17	2	34	29.5	44
16	18.5	—	30.5	20	4.5	8	4.5	19	2	38	33.5	48
20	19.5	29.5	31.5	25.5	6.5	9.2	6.5	24	3	48	42	62
25	22.5	32.5	32.5	28	6.5	10.7	6.5	26	3	52	46	66
32	23	33	33	34	6.5	11.2	6.5	13	3	57	20	71
40	29.5	39.5	39.5	40	6.5	11.2	6.5	13	3	64	20	78
50	30.5	40.5	40.5	50	8.5	12.2	8.5	14	3	79	22	95
63	36	46	46	60	10.5	13.7	10.5	16	3	95	26	113
80	43.5	53.5	53.5	77	13	16.5	13	20.5	4.5	118	32	140
100	53	63	63	94	13	23	13	24	6	137	36	162

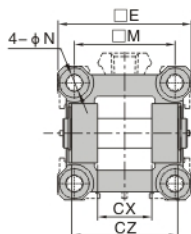
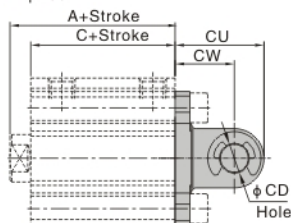
①: Value C in the above table is only for ACQ series. Please refer to relevant content for value C of other series.

CB

φ 12~φ 25



φ 32~φ 100



Item Bore size	Without magnet				With magnet		E	M	N	CD	CU	CW	CX	CZ
	A ①		C		A	C								
Stroke	≤50	≥60	≤50	≥60	A	C								
12	20.5	—	17	—	31.5	28	25	15.5	4.5	5	20	14	5.3	9.8
16	22	—	18.5	—	34	30.5	29	20	4.5	5	21	15	6.8	11.8
20	24	34	19.5	29.5	36	31.5	36	25.5	6.5	8	27	18	8.3	15.8
25	27.5	37.5	22.5	32.5	37.5	32.5	40	28	6.5	10	30	20	10.3	19.8
32	30	40	23	33	40	33	45.5	34	6.5	10	30	20	18.3	35.8
40	36.5	46.5	29.5	39.5	46.5	39.5	53.5	40	6.5	10	32	22	18.3	35.8
50	38.5	48.5	30.5	40.5	48.5	40.5	64.5	50	8.5	14	42	28	22.3	43.8
63	44	54	36	46	54	46	77.5	60	10.5	14	44	30	22.3	43.8
80	53.5	63.5	43.5	53.5	63.5	53.5	98.5	77	12.5	18	56	38	28.3	55.8
100	65	75	53	63	75	63	117.5	94	12.5	22	67	45	32.3	63.8

①: Values of A and C in the above table are only for ACQ series. Please refer to relevant content for values of A and C of other series.

List for ordering code of accessories

Accessory	Mounting accessory				Knuckle				Sensor switch
	LB	FA	FB	CB	I:I Knuckle	Y:Y Knuckle	F:F Knuckle	U:U Knuckle	
12	F-ACQ12LB	F-ACQ12FA	F-ACQ12FB	F-ACQ12CB	F-M05080IQ	F-M05080YQ	—	F-M05080U	CS1-G
16	F-ACQ16LB	F-ACQ16FA	F-ACQ16FB	F-ACQ16CB	F-M06100IQ	F-M06100YQ	—	F-M06100U	
20	F-ACQ20LB	F-ACQ20FA	F-ACQ20FB	F-ACQ20CB	F-M08125IQ	F-M08125YQ	F-M08125F	F-M08125U	
25	F-ACQ25LB	F-ACQ25FA	F-ACQ25FB	F-ACQ25CB	F-M10125IQ	F-M10125YQ	F-M10125F	F-M10125U	
32	F-ACQ32LB	F-ACQ32FA	F-ACQ32FB	F-ACQ32CB	F-M14150IQ	F-M14150YQ	F-M14150F	F-M14150U	CS1-J CS1-G
40	F-ACQ40LB	F-ACQ40FA	F-ACQ40FB	F-ACQ40CB	F-M18150IQ	F-M18150YQ	F-M18150F	F-M18150U	
50	F-ACQ50LB	F-ACQ50FA	F-ACQ50FB	F-ACQ50CB	F-M22150IQ	F-M22150YQ	—	—	
63	F-ACQ63LB	F-ACQ63FA	F-ACQ63FB	F-ACQ63CB	F-M26150IQ	F-M26150YQ	—	—	
80	F-ACQ80LB	F-ACQ80FA	F-ACQ80FB	F-ACQ80CB	F-M26150IQ	F-M26150YQ	—	—	
100	F-ACQ100LB	F-ACQ100FA	F-ACQ100FB	F-ACQ100CB	F-M26150IQ	F-M26150YQ	—	—	