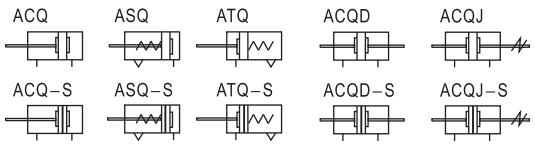
Symbol



Product feature

1. JIS standard is implemented.
2. C clip is adopted to connect the cylinder body and back cover or front cover, and riveted structure is adopted to connect 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 grease 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.

Specification

Bore size(mm)		12	16	20	25	32	40	50	63	80	100
Acting type		Double acting									
		Single acting-Push type, Single acting-Pull type								–	
Fluid		Air(to be filtered by 40 μ m filter element)									
Operating pressure	Double acting	0.1~1.0MPa(15~145psi)(1.0~10.0bar)									
	Single acting	0.2~1.0MPa(28~145psi)(2.0~10.0bar)									
Proof pressure		1.5MPa(215psi)(15bar)									
Temperature ℃		-20~80									
Speed range mm/s		Double acting: 30~500 Single acting: 50~500									
Stroke tolerance		$0\sim100^{+1.0}_{0}$ $>100^{+1.5}_{0}$									
Cushion type		Bumper									
Port size ①		M5×0.8				1/8"		1/4"		3/8"	

① PT thread, G thread and NPT thread are available. Add) Refer to P457~480 for detail of sensor switch.

Stroke

Bore size (mm)		Standard stroke (mm)	Max. std stroke	Max. stroke	
				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 25	Double acting	5 10 15 20 25 30 35 40 45 50 60 70 75 80 90 100	100	140	130
	Single acting	5 10 15 20 25 30	30	-	-
32 40 50 63	Double acting	5 10 15 20 25 30 35 40 45 50 60 70 75 80 90 100	100	100	100
	Single acting	5 10 15 20 25 30			
80 100	Double acting	5 10 15 20 25 30 35 40 45 50 60 70 75 80 90 100	100	-	-

Note) 1. Please contact the company for other special strokes.
2. The dimensions of non-std stroke cylinder has the same dimensions as the next longer stroke std. stroke cylinder. e.g. 23mm stroke cylinder has the same dimensions of 25 std. stroke cylinder.

Ordering code

ACQ 20×30 S B □ □

ACQD 20×30 S B □ □

ACQJ 20×30-30 S B □ □

Model

ACQ: Compact cylinder(Double acting)
ASQ: Compact cylinder (Single acting-push)
ATQ: Compact cylinder (Single acting-pull)
ACQD: Compact cylinder(Double rod)
ACQJ: Compact cylinder (Adjustable stroke)

Bore size

Model	Bore size
ACQ	12 16 20 25 32 40 50 63 80 100
ASQ	12 16 20 25 32 40 50 63
ATQ	12 16 20 25 32 40 50 63
ACQD	12 16 20 25 32 40 50 63 80 100
ACQJ	12 16 20 25 32 40 50 63 80 100

Stroke

Refer to stroke table for details

Adjustable stroke

Model	Adjustable stroke
ACQJ	10: 10mm
	20: 20mm
	30: 30mm
	40: 40mm
	50: 50mm
	75: 75mm
	100: 100mm
Others	No this code

Thread type ②

Blank: PT
G: G
T: NPT

Mounting type ①

Model	Mounting type
ACQ ASQ ATQ	Blank: No accessories
	FA: FA type
	FB: FB type
	CB: CB type
	LB: LB type
ACQD ACQJ	Blank: No accessories
	FA: FA type
	FB: FB type
	LB: LB type

Rod type

Blank: Female thread
B: Male thread

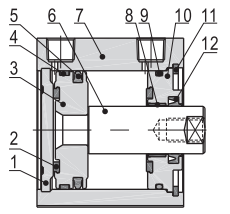
Magnet

Blank: Without magnet
S: With magnet

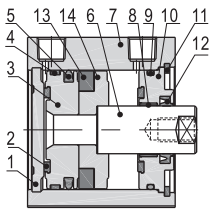
① Please refer to page 279 for accessory parts.
② Standard thread is blank here.

Inner structure and material of major parts

ACQ



ACQS

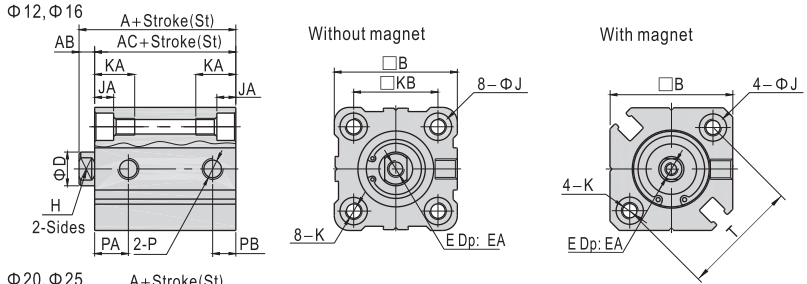


NO.	Item		Material
1	Back cover		No(Φ12, 16)\Aluminum alloy(Others)
2	Bumper		TPU(Φ12~25)NBR(Others)
3	Piston		Brass(Φ12, 16)\Aluminum alloy(Others)
4	Wear ring		No(Φ12~32)\Wear resistant material(Others)
5	Piston seal		NBR
6	Piston rod		Carbon steel with 20 μ m chrome plated
7	Body		Aluminum alloy
8	Bushing		No(Φ12~32)\Wear resistant material(Others)
9	O-ring		NBR
10	Front cover		Aluminum alloy
11	C clip		Spring steel
12	Front cover packing		NBR
13	Magnet	Φ12~25	Sintered metal(Neodymium-iron-boron)
		Others	Plastic
14	Magnet holder		Brass(Φ12, 16)Aluminum alloy(Others)

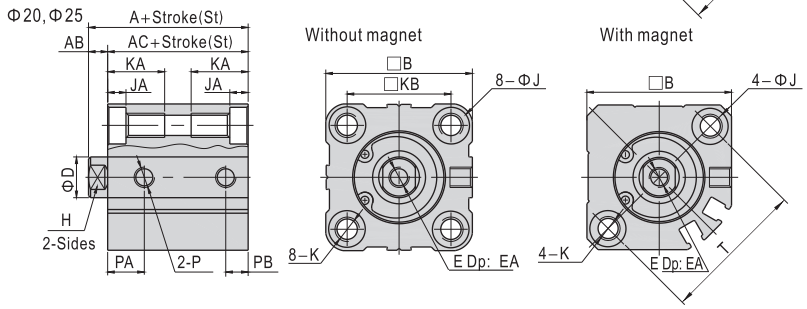
Dimensions

ACQ

Φ12, Φ16



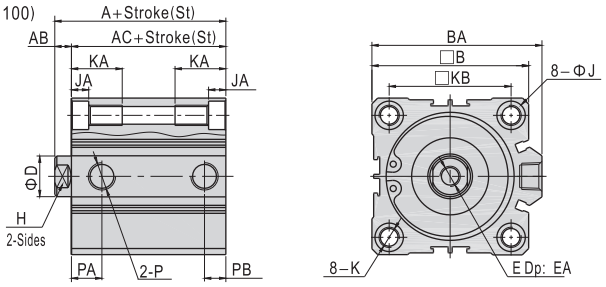
Φ20, Φ25



Bore size\Item	A			AC			PA	PB	A	AC	PA	PB	AB
	Without magnet								With magnet				
	St≤50	St=55	St≥60	St≤50	St=55	St≥60	–	–					
12	20.5	-	-	17	-	-	7.5	5	31.5	28	9	7	3.5
16	22	22	-	18.5	18.5	-	8	5.5	34	30.5	9.5	5.5	3.5
20	24	-	34	19.5	-	29.5	9	5.5	36	31.5	9.5	5.5	4.5
25	27.5	-	37.5	22.5	-	32.5	11	5.5	37.5	32.5	11	5.5	5

Bore size\Item	B	D	E	EA	H	J	JA	K	KA	KB	P	T
12	25	6	M3×0.5	6	5	6.5	3.5	M4×0.7 Thru.hole: Φ3.4	11	15.5	M5×0.8	22
16	29	8	M4×0.7	8	6	6.5	3.5	M4×0.7 Thru.hole: Φ3.4	11	20	M5×0.8	28
20	36	10	M5×0.8	7	8	9	7	M6×1.0 Thru.hole: Φ5.2	17	25.5	M5×0.8	36
25	40	12	M6×1.0	12	10	9	7	M6×1.0 Thru.hole: Φ5.2	17	28	M5×0.8	40

Φ32~Φ100 (Stroke≤100)

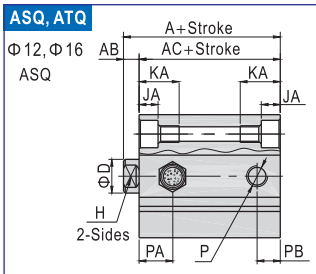


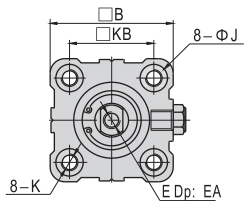
Item	A		AC		A	AC	AB	B	BA	D	E	EA
	Without magnet				With magnet							
Bore size\Stroke	St≤50	St≥60	St≤50	St≥60	-	-						
32	30	40	23	33	40	33	7	45	49.5	16	M8×1.25	13
40	36.5	46.5	29.5	39.5	46.5	39.5	7	53	57	16	M8×1.25	13
50	38.5	48.5	30.5	40.5	48.5	40.5	8	64	71	20	M10×1.5	15
63	44	54	36	46	54	46	8	77	84	20	M10×1.5	15
80	53.5	63.5	43.5	53.5	63.5	53.5	10	98	104	25	M16×2.0	20
100	65	75	53	63	75	63	12	117	123.5	32	M20×2.5	26

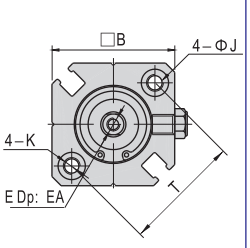
Bore size\Item		H	J	JA	K	KA	KB	P	PA	PB	PA	PB
									Without magnet		With magnet	
32	St=5	14	9	7	M6×1.0 Thru.hole: Φ5.2	17	34	1/8"	7.5	6.5	10.5	7.5
	St>5								10.5	7.5		
40		14	9	7	M6×1.0 Thru.hole: Φ5.2	17	40	1/8"	11	8	11	8
50	St=5	17	11	8	M8×1.25 Thru.hole: Φ6.8	22	50	1/4"	9	9	10.5	10.5
	St>5								10.5	10.5		
63	St=5	17	14	10.5	M10×1.5 Thru.hole: Φ8.5	28.5	60	1/4"	14	9.5	15	10.5
	St>5								15	10.5		
80		22	17.5	13.5	M12×1.75 Thru.hole: Φ10.3	35.5	77	3/8"	16	14	16	14
100		27	17.5	13.5	M12×1.75 Thru.hole: Φ10.3	35.5	94	3/8"	20	17.5	20	17.5

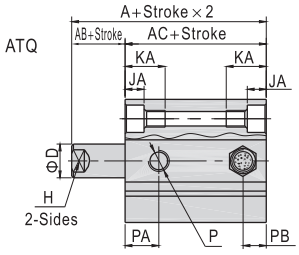
ASQ, ATQ

Φ12, Φ16

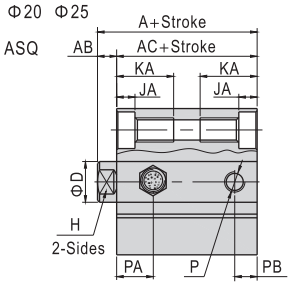


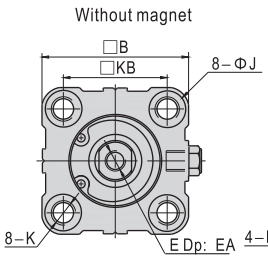


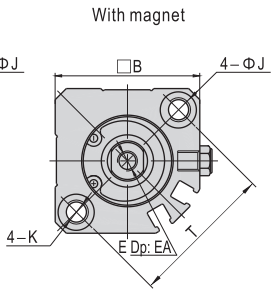


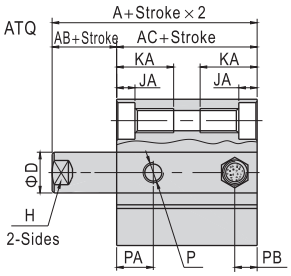


Φ20 Φ25

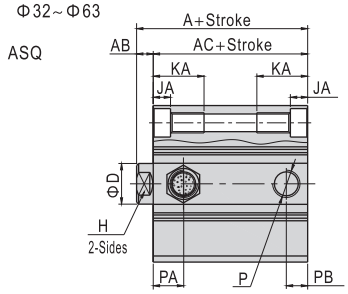


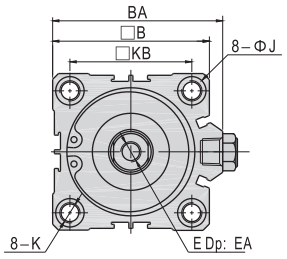


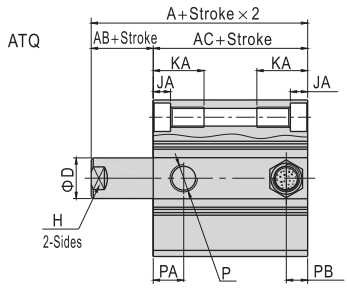




Φ32~Φ63







Bore size\Item	A(Without magnet)			A(With magnet)			AB	B	BA	D
Stroke	5\10	15\20	25\30	5\10	15\20	25\30				
12	25.5	30.5	-	36.5	41.5	-	3.5	25	-	6
16	27	32	-	39	44	-	3.5	29	-	8
20	29	34	39	41	46	51	4.5	36	-	10
25	32.5	37.5	42.5	42.5	47.5	52.5	5	40	-	12
32	35	40	45	45	50	55	7	45	49.5	16
40	41.5	46.5	51.5	51.5	56.5	61.5	7	53	57	16
50	48.5	53.5	58.5	58.5	63.5	68.5	8	64	71	20
63	54	59	64	64	69	74	8	77	84	20

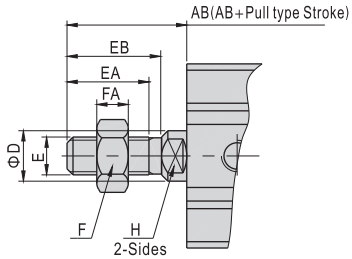
Bore size\Item	AC(Without magnet)			AC(With magnet)			E	EA	H
Stroke	5\10	15\20	25\30	5\10	15\20	25\30			
12	22	27	-	33	38	-	M3×0.5	6	5
16	23.5	28.5	-	35.5	40.5	-	M4×0.7	8	6
20	24.5	29.5	34.5	36.5	41.5	46.5	M5×0.8	7	8
25	27.5	32.5	37.5	37.5	42.5	47.5	M6×1.0	12	10
32	28	33	38	38	43	48	M8×1.25	13	14
40	34.5	39.5	44.5	44.5	49.5	54.5	M8×1.25	13	14
50	40.5	45.5	50.5	50.5	55.5	60.5	M10×1.5	15	17
63	46	51	56	56	61	66	M10×1.5	15	17

Bore size\Item	J	JA	K	KA	KB	P
12	6.5	3.5	M4×0.7 Thru.hole: Φ3.4	11	15.5	M5×0.8
16	6.5	3.5	M4×0.7 Thru.hole: Φ3.4	11	20	M5×0.8
20	9	7	M6×1.0 Thru.hole: Φ5.2	17	25.5	M5×0.8
25	9	7	M6×1.0 Thru.hole: Φ5.2	17	28	M5×0.8
32	9	7	M6×1.0 Thru.hole: Φ5.2	17	34	1/8"
40	9	7	M6×1.0 Thru.hole: Φ5.2	17	40	1/8"
50	11	8	M8×1.25 Thru.hole: Φ6.8	22	50	1/4"
63	14	10.5	M10×1.5 Thru.hole: Φ8.5	28.5	60	1/4"

Model	Without magnet		With magnet		T
Bore size\Item	PA	PB	PA	PB	
12	7.5	5	9	7	22
16	8	5.5	9.5	5.5	28
20	9	5.5	9.5	5.5	36
25	11	5.5	11	5.5	40
32	10.5	7.5	10.5	7.5	-
40	11	8	11	8	-
50	10.5	10.5	10.5	10.5	-
63	15	10.5	15	10.5	-

Male thread

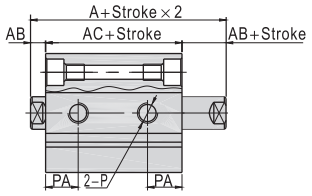
(Bore size: Φ12~Φ100, Stroke≤100)

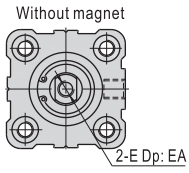


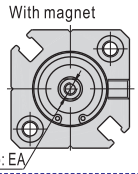
Bore size\Item	AB	D	E	EA	EB	F	FA	H
12	14	6	M5×0.8	9	10.5	8	4	5
16	15.5	8	M6×1.0	10	12	10	5	6
20	18.5	10	M8×1.25	12	14	12	6	8
25	22.5	12	M10×1.25	15	17.5	17	6	10
32	28.5	16	M14×1.5	20.5	23.5	19	8	14
40	28.5	16	M14×1.5	20.5	23.5	19	8	14
50	33.5	20	M18×1.5	26	28.5	27	11	17
63	33.5	20	M18×1.5	26	28.5	27	11	17
80	43.5	25	M22×1.5	32.5	35.5	32	13	22
100	43.5	32	M26×1.5	32.5	35.5	36	13	27

ACQD

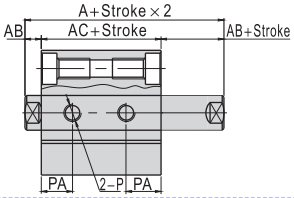
Φ12 Φ16

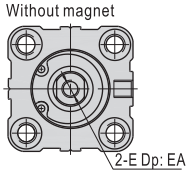


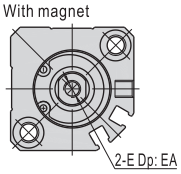




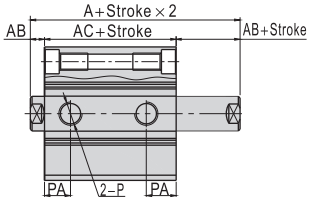
Φ20 Φ25

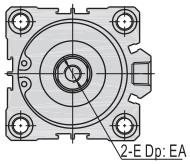






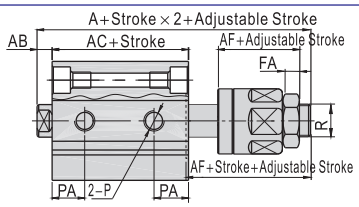
Φ32~Φ100

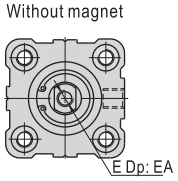


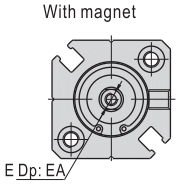


ACQJ

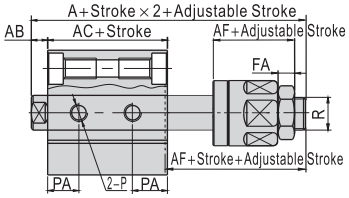
Φ12 Φ16

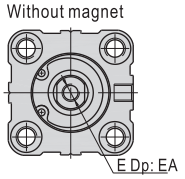


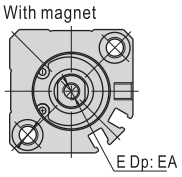




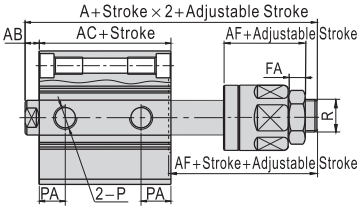
Φ20 Φ25

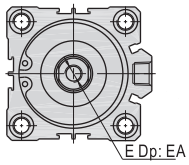






Φ32~Φ100





Item	A		A		AB	AC		AC		AF
	Without magnet		With magnet			Without magnet		With magnet		
Bore size\Model	ACQD	ACQJ	ACQD	ACQJ		ACQD	ACQJ	ACQD	ACQJ	
12	32.2	45.2	39.4	52.4	3.5	25.2	25.2	32.4	32.4	17
16	33	50	43	60	3.5	26	26	36	36	21
20	35	55	47	67	4.5	26	26	38	38	25
25	39	60.5	49	70.5	5	29	29	39	39	27
32	44.5	64.9	54.5	74.9	7	30.5	30.5	40.5	40.5	28
40	54	74.5	64	84.5	7	40	40	50	50	28
50	56.5	77	66.5	87	8	40.5	40.5	50.5	50.5	29
63	58	78.4	68	88.4	8	42	42	52	52	29
80	71	95.8	81	105.8	10	51	51	61	61	35.5
100	84.5	114.3	94.5	124.3	12	60.5	60.5	70.5	70.5	42.5

Bore size\Item	E	EA	FA	PA	R
12	M3×0.5	6	4	9	M5×0.8
16	M4×0.7	8	5	9.5	M6×1.0
20	M5×0.8	7	6	9.5	M8×1.25
25	M6×1.0	9.5(St=5)/12(St>5)	6	11	M10×1.25
32	M8×1.25	9(St≤10)/13(St>10)	7	10	M12×1.25
40	M8×1.25	11(St≤10)/13(St>10)	7	13	M12×1.25
50	M10×1.5	12(St≤10)/15(St>10)	8	13.5	M16×1.5
63	M10×1.5	12(St≤10)/15(St>10)	8	14.5(St=5)/16(St>5)	M16×1.5
80	M16×2.0	14(St≤15)/20(St>15)	10	16	M20×1.5
100	M20×2.5	20(St≤25)/26(St>25)	13.5	21	M27×2.0

Remark) The unmarked dimension is the same as ACQ standard type. Please refer to this page for male thread dimensions.

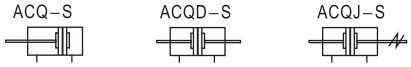
Specification

Bore size(mm)	125	140	160
Acting type	Double acting		
Fluid	Air(to be filtered by 40 μ m filter element)		
Operating pressure	0.05~1.0MPa(7~145psi)		
Proof pressure	1.5MPa(215psi)		
Temperature ℃	-20~80		
Speed range mm/s	30~500		
Stroke tolerance mm	$0\sim100^{+1.0}_{0}$	$>100^{+1.5}_{0}$	
Cushion type	Bumper		
Port size ①	3/8"		

① PT thread, G thread and NPT thread are available. Add) Refer to P457~480 for detail of sensor switch.

Symbol

ACQ-S ACQD-S ACQJ-S



Stroke

Bore size (mm)	Standard stroke (mm)	Max. std stroke	Max. stroke
125 140 160	10 20 30 40 50 75 100 125 150 175 200 250 300	300	300

Note) 1. Please contact the company for other special strokes.
2. The dimensions of non-std stroke cylinder has the same dimensions as the next longer stroke std. stroke cylinder. e.g. 23mm stroke cylinder has the same dimensions of 25 std. stroke cylinder.

Product feature

1. JIS standard is implemented.
2. C clip is adopted to connect the cylinder body and back cover or front cover 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 grease 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.

ACQ

Ordering code

ACQ 125 × 30 S B □
ACQD 125 × 30 S B □
ACQJ 125 × 30–30 S B □

Model
ACQ: Compact cylinder(Double acting)
ACQD: Compact cylinder(Double rod)
ACQJ: Compact cylinder(Adjustable stroke)

Bore size
125 140 160

Stroke
Refer to stroke table for details

Adjustable stroke

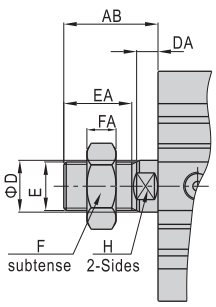
Model	Adjustable stroke
ACQJ	10: 10mm
	20: 20mm
	30: 30mm
	40: 40mm
	50: 50mm
	75: 75mm
	100: 100mm
Others	No this code

Thread type
Blank: PT
G: G
T: NPT

Rod type
Blank: Female thread
B: Male thread

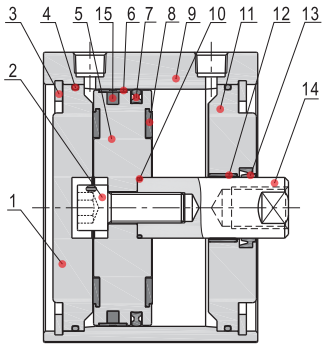
Magnet
S: With magnet

Male thread



Bore size\Item	AB	D	DA	E	EA	F	FA	H
125	58	32	13	M30 × 1.5	42	46	18	27
140	58	32	13	M30 × 1.5	42	46	18	27
160	64	40	14	M36 × 1.5	47	55	21	36

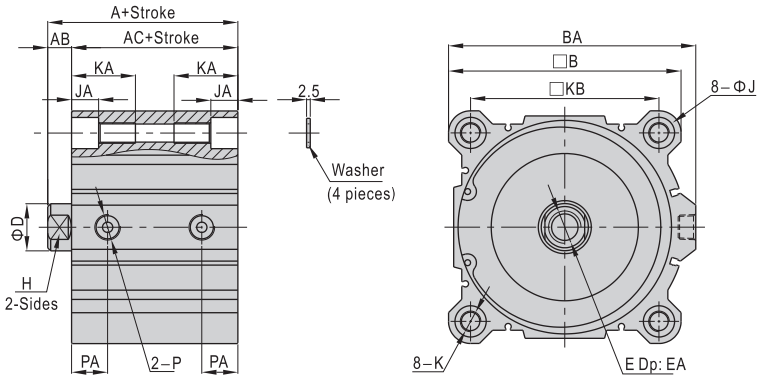
Inner structure and material of major parts



NO.	Item	Material
1	Back cover	Aluminum alloy
2	Screw	Carbon steel
3	C clip	Spring steel
4	O-ring	NBR
5	Piston	Aluminum alloy
6	Wear ring	Wear resistant material
7	Piston seal	NBR
8	Bumper	NBR
9	Body	Aluminum alloy
10	O-ring	NBR
11	Front cover	Aluminum alloy
12	Bushing	Wear resistant material
13	Front cover packing	NBR
14	Piston rod	Carbon steel with 20 μ m chrome plated
15	Magnet	Rubber

Dimensions

ACQ

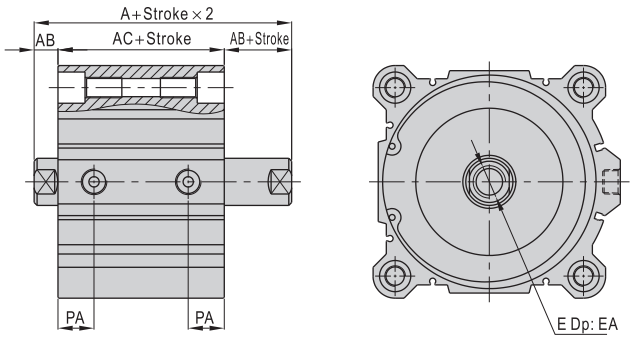


Bore size\Item	A	AB	AC	B	BA	D	E	EA(St≤10)	EA(St>10)	H
125	99	16	83	142	153	32	M22×2.5	22.5	30	27
140	99	16	83	158	168	32	M22×2.5	22.5	30	27
160	108	17	91	178	188	40	M24×3.0	26.5	33	36

Bore size\Item	J	JA	K	KA	KB	P	PA
125	21.5	18.4	M14×2.0 Thru.hole: Φ12.3	43.5	114	3/8"	24.5
140	21.5	18.4	M14×2.0 Thru.hole: Φ12.3	43.5	128	3/8"	24.5
160	24.5	21.2	M16×2.0 Thru.hole: Φ14.3	49	144	3/8"	27.5

Remark) Washer must be used when the cylinder be mounted by through hole.
Please refer to page 272 for male thread dimensions.

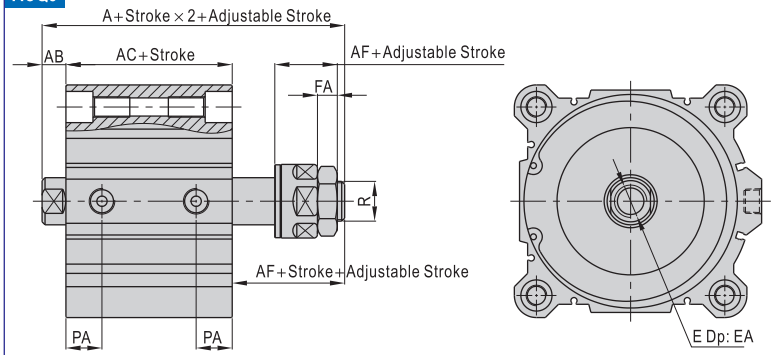
ACQD



Bore size\Item	A	AB	AC	E	EA		PA
					St≤10	St>10	
125	115	16	83	M22×2.5	22.5	30	24.5
140	115	16	83	M22×2.5	22.5	30	24.5
160	125	17	91	M24×3.0	26.5	33	27.5

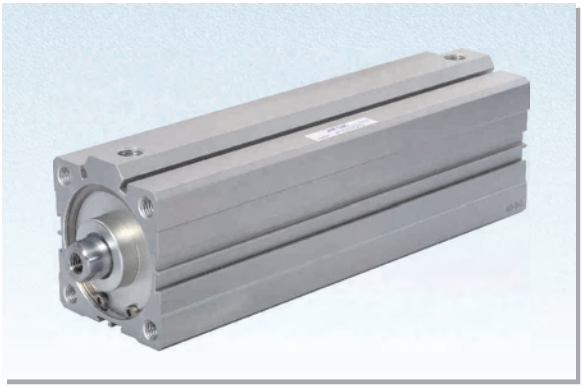
Remark) The unmarked dimension is the same as ACQ standard type.
Please refer to page 272 for male thread dimensions.

ACQJ

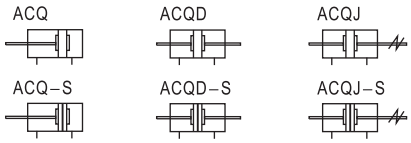


Bore size\Item	A	AB	AC	AF	E	EA		FA	PA	R
						St≤10	St>10			
125	140.8	16	83	42.5	M22×2.5	22.5	30	13.5	24.5	M27×2.0
140	140.8	16	83	42.5	M22×2.5	22.5	30	13.5	24.5	M27×2.0
160	175.3	17	91	68	M24×3.0	26.5	33	18	27.5	M36×2.0

Remark) The unmarked dimension is the same as ACQ standard type.
Please refer to page 272 for male thread dimensions.



Symbol



Product feature

1. JIS standard is implemented.
2. C clip is adopted to connect the cylinder body and back cover or front cover, and riveted structure is adopted to connect 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 greasel 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.

ACQ

Specification

Bore size(mm)	32	40	50	63	80	100
Acting type	Double acting					
Fluid	Air(to be filtered by 40 μ m filter element)					
Operating pressure	0.1~1.0MPa(15~145psi)					
Proof pressure	1.5MPa(215psi)					
Temperature ℃	-20~80					
Speed range mm/s	30~500					
Stroke tolerance mm	$^{+1.5}_{0}$					
Cushion type	Bumper					
Port size ①	1/8"		1/4"		3/8"	

① PT thread, G thread and NPT thread are available. Add) Refer to P457~480 for detail of sensor switch.

Stroke

Bore size (mm)	Standard stroke (mm)	Max. std stroke	Max. stroke
32 40 50 63 80 100	125 150 175 200 250 300	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 50 × 150 S B □ □

ACQD 50 × 150 S B □ □

ACQJ 50 × 150–30 S B □ □

Model

ACQ: Compact cylinder (Double acting)
ACQD: Compact cylinder (Double rod)
ACQJ: Compact cylinder (Adjustable stroke)

Bore size

32 40 50 63 80 100

Stroke

Refer to stroke table for details

Adjustable stroke

Model	Adjustable stroke
ACQJ	10: 10mm
	20: 20mm
	30: 30mm
	40: 40mm
	50: 50mm
	75: 75mm
	100: 100mm
Others	No this code

Thread type

Blank: PT
G: G
T: NPT

Mounting type ①

Model	Mounting type
ACQ	Blank: No accessories
	FA: FA type
	FB: FB type
	CB: CB type
	LB: LB type
ACQD ACQJ	Blank: No accessories
	FA: FA type
	FB: FB type
	LB: LB type

Rod type

Blank: Female thread
B: Male thread

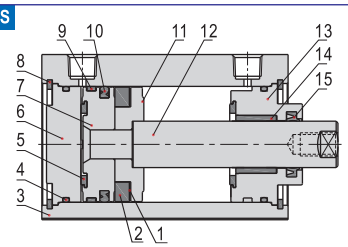
Magnet

Blank: Without magnet
S: With magnet

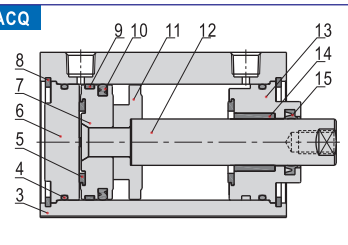
① Please refer to page 279 for accessory parts.

Inner structure and material of major parts

ACQS



ACQ

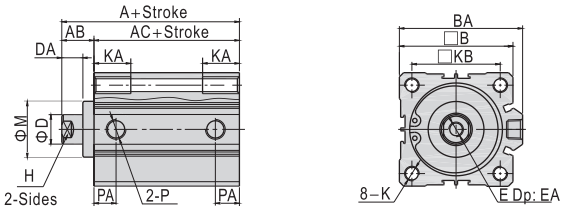


NO.	Item	Material	NO.	Item	Material
1	Magnet washer	NBR	9	Wear ring	No(Φ32)\Wear resistant material(Others)
2	Magnet	Plastic	10	Piston seal	NBR
3	Body	Aluminum alloy	11	Magnet holder	Aluminum alloy
4	O-ring	NBR	12	Piston rod	Carbon steel with 20 μ m chrome plated
5	Bumper	NBR	13	Front cover	Aluminum alloy
6	Back cover	Aluminum alloy	14	Bushing	No(Φ32)\Wear resistant material(Others)
7	Piston	Aluminum alloy	15	Front cover packing	NBR
8	C clip	Spring steel			

Dimensions

ACQ

Φ32~Φ100(Stroke > 100)

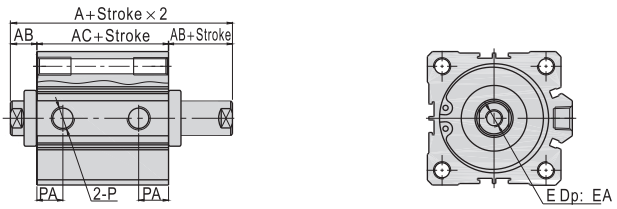


Bore size\Item	A	AB	AC	B	BA	D	DA	E	EA
32	62.5	17	45.5	45	49.5	16	12	M8 × 1.25	13
40	72	17	55	53	57	16	12	M8 × 1.25	13
50	73.5	18	55.5	64	71	20	13	M10 × 1.5	15
63	75	18	57	77	84	20	13	M10 × 1.5	15
80	86	20	66	98	104	25	15	M16 × 2.0	21
100	97.5	22	75.5	117	123.5	32	17	M20 × 2.5	27

Bore size\Item	H	K	KA	KB	M	P	PA
32	14	M6 × 1.0 Thru.hole: Φ5.2	17	34	22	1/8"	12.5
40	14	M6 × 1.0 Thru.hole: Φ5.2	17	40	28	1/8"	14
50	17	M8 × 1.25 Thru.hole: Φ6.8	22	50	35	1/4"	14
63	17	M10 × 1.5 Thru.hole: Φ8.5	27	60	35	1/4"	16.5
80	22	M12 × 1.75 Thru.hole: Φ10.3	32	77	43	3/8"	19
100	27	M12 × 1.75 Thru.hole: Φ10.3	33	94	59	3/8"	23

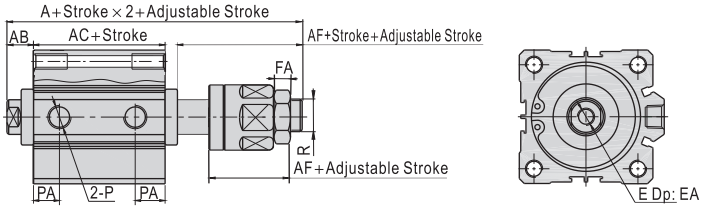
ACQD

Φ32~Φ100(Stroke > 100)



ACQJ

Φ32~Φ100(Stroke > 100)

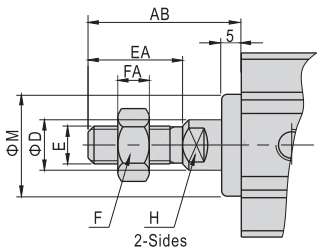


Bore size\Item	A		AC	A		AC	AB	AF	EA	FA	PA	R
	Without magnet			With magnet								
Model	ACQD	ACQJ	ACQD\ACQJ	ACQD	ACQJ	ACQD\ACQJ						
32	79.5	95.5	45.5	89.5	105.5	55.5	17	28	13	7	12.5	M12 × 1.25
40	89	105	55	99	115	65	17	28	13	7	14	M12 × 1.25
50	91.5	107.5	55.5	101.5	117.5	65.5	18	29	15	8	14	M16 × 1.5
63	93	109	57	103	119	67	18	29	15	8	16.5	M16 × 1.5
80	106	126.5	66	116	136.5	76	20	35.5	21	10	19	M20 × 1.5
100	119.5	145	75.5	129.5	155	85.5	22	42.5	27	13.5	23	M27 × 2.0

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

Male thread

(Bore size: Φ32~Φ100 Stroke>100 Longer type)



Bore size\Item	AB	D	E	EA	FA	F	H	M
32	38.5	16	M14 × 1.5	23.5	8	19	14	22
40	38.5	16	M14 × 1.5	23.5	8	19	14	28
50	43.5	20	M18 × 1.5	28.5	11	27	17	35
63	43.5	20	M18 × 1.5	28.5	11	27	17	35
80	53.5	25	M22 × 1.5	35.5	13	32	22	43
100	53.5	32	M26 × 1.5	35.5	13	36	27	59