








Product series

Series name		Acting type	Bore size	Collocation of sensor switch				
				CS1-J	DS1-J	CS1-G	DS1-G	
Double acting type: SDA 	Adjustable stroke type: SDAJ 	Double acting	12	●	●			
				16	●	●		
				20	●	●	●	●
				25	●	●	●	●
Double rod type: SDAD 	Duplex type: SDAT Duplex-end type: SDAW 		32	●	●	●	●	
			40	●	●	●	●	
			50	●	●	●	●	
			63	●	●	●	●	
Single acting type: SSA, STA 		Single acting	12	●	●			
				16	●	●		
			20	●	●	●	●	
				25	●	●	●	●
			32	●	●	●	●	
				40	●	●	●	●
50	●	●	●	●				
63	●	●	●	●				



SDA

Installation and application 

- When load changes in the work, the cylinder with abundant output capacity shall be selected.
- Relative cylinder with high temperature resistance or corrosion resistance shall be chosen under the condition of high temperature or corrosion.
- Necessary protection measure shall be taken in the environment with higher humidity, much dust or water drops, oil dust and welding dregs.
- Dirty substances in the pipe must be eliminated before cylinder is connected with pipeline to prevent the entrance of particles into the cylinder.
- The medium used by cylinder shall be filtered to 40 μ m or below.
- As both of the front cover and piston of the cylinder are short, typically too large stroke can not be selected.
- Anti-freezing measure shall be adopted under low temperature environment to prevent moisture freezing.
- The cylinder shall avoid the influence of side load in operation to maintain the normal work of cylinder and extend the service life.
- If the cylinder is dismantled and stored for a long time, please conduct anti-rust treatment to the surface. Anti-dust caps shall be added in air inlet and outlet ports. The front and back cover can not be dismantled, which shall be especially noticed.

Criteria for selection: Cylinder thrust

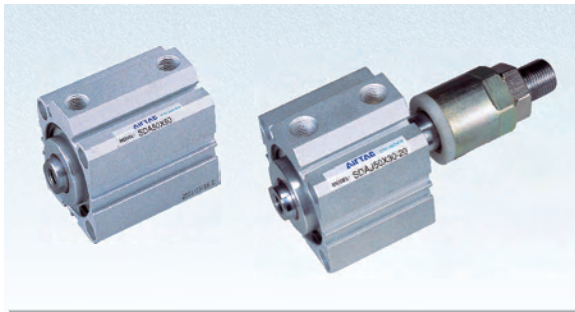
Unit: Newton(N)

Bore size (mm)	Rod size (mm)	Acting type	Pressure area (mm ²)	Operating pressure(MPa)							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					0.1	0.2	0.3	0.4	0.5	0.6	0.7		
12	6	Single acting	Push side	113.1	-	12.6	23.9	35.2	46.5	57.9	69.2	40	16	Single acting	Push side	1256.6	-	168.6	294.3	420.0	545.6	671.3	796.9
			Pull side	84.8	-	7.0	15.4	23.9	32.4	40.9	49.4				Pull side	1055.6	-	128.4	234.0	339.5	445.1	550.6	656.2
		Double acting	Push side	113.1	-	22.6	33.9	45.2	56.5	67.9	79.2			Double Push side	1256.6	125.7	251.3	377.0	502.7	628.3	754.0	879.6	
			Pull side	84.8	-	17.0	25.4	33.9	42.4	50.9	59.4			Double Pull side	1055.6	105.6	211.1	316.7	422.2	527.8	633.3	738.9	
16	6	Single acting	Push side	201.1	-	20.2	40.3	60.4	80.5	100.6	120.7	50	20	Single acting	Push side	1963.5	89.3	285.7	482.0	678.4	874.7	1071.1	1267.4
			Pull side	172.8	-	14.6	31.8	49.1	66.4	83.7	101.0				Pull side	1649.3	57.9	222.9	387.8	552.7	717.7	882.6	1047.5
		Double acting	Push side	201.1	-	40.2	60.3	80.4	100.5	120.6	140.7			Double Push side	1963.5	196.3	392.7	589.0	785.4	981.7	1178.1	1374.4	
			Pull side	172.8	-	34.6	51.8	69.1	86.4	103.7	121.0			Double Pull side	1649.3	164.9	329.9	494.8	659.7	824.7	989.6	1154.5	
20	8	Single acting	Push side	314.2	-	39.8	71.2	102.7	134.1	165.5	196.9	63	20	Single acting	Push side	3117.2	135.7	447.4	759.2	1070.9	1382.6	1694.3	2006.1
			Pull side	263.9	-	29.8	56.2	82.6	108.9	135.3	161.7				Pull side	2803.1	104.3	384.6	664.9	945.2	1225.5	1505.9	1786.2
		Double acting	Push side	314.2	-	62.8	94.2	125.7	157.1	188.5	219.9			Double Push side	3117.2	311.7	623.4	935.2	1246.9	1558.6	1870.3	2182.1	
			Pull side	263.9	-	52.8	79.2	105.6	131.9	158.3	184.7			Double Pull side	2803.1	280.3	560.6	840.9	1121.2	1401.5	1681.9	1962.2	
25	10	Single acting	Push side	490.9	-	69.7	118.8	167.8	216.9	266.0	315.1	80	25	Double acting	Push side	5026.5	502.7	1005.3	1508.0	2010.6	2513.3	3015.9	3518.6
			Pull side	412.3	-	54.0	95.2	136.4	177.7	218.9	260.1				Pull side	4535.7	453.6	907.1	1360.7	1814.3	2267.8	2721.4	3175.0
		Double acting	Push side	490.9	-	98.2	147.3	196.3	245.4	294.5	343.6			Double Push side	7854.0	785.4	1570.8	2356.2	3141.6	3927.0	4712.4	5497.8	
			Pull side	412.3	-	82.5	123.7	164.9	206.2	247.4	288.6			Double Pull side	7049.7	705.0	1409.9	2114.9	2819.9	3524.9	4229.8	4934.8	
32	12	Single acting	Push side	804.2	-	105.3	185.8	266.2	346.6	427.0	507.5	100	32	Double acting	Push side	7854.0	785.4	1570.8	2356.2	3141.6	3927.0	4712.4	5497.8
			Pull side	691.2	-	82.7	151.8	221.0	290.1	359.2	428.3				Pull side	7049.7	705.0	1409.9	2114.9	2819.9	3524.9	4229.8	4934.8
		Double acting	Push side	804.2	-	160.8	241.3	321.7	402.1	482.5	563.0			Double Push side	7854.0	785.4	1570.8	2356.2	3141.6	3927.0	4712.4	5497.8	
			Pull side	691.2	-	138.2	207.3	276.5	345.6	414.7	483.8			Double Pull side	7049.7	705.0	1409.9	2114.9	2819.9	3524.9	4229.8	4934.8	



Compact cylinder

SDA Series



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 °C	-20~80									
Speed range mm/s	Double acting: 30~500					Single acting: 50~500				
Stroke tolerance	0~100 ^{+1.0} ₀ >101 ^{+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

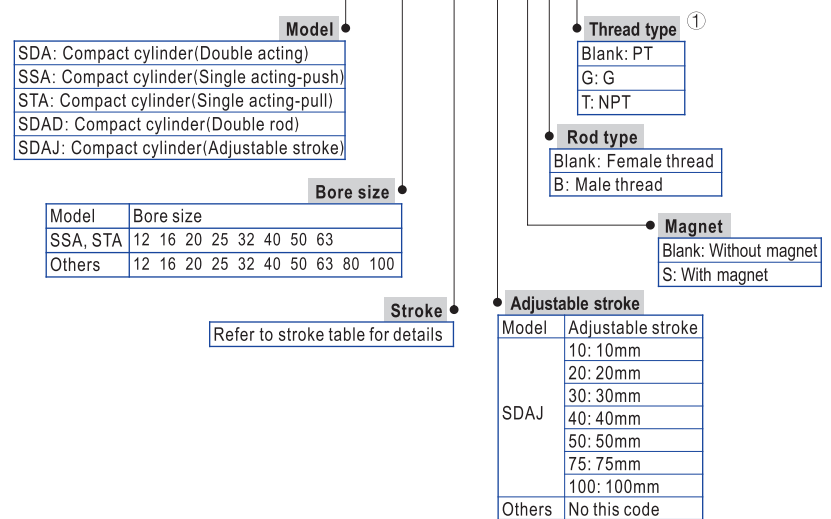
Bore size (mm)	Acting type	Magnet	Standard stroke (mm)										Max. std. stroke	Max. stroke											
			5	10	15	20	25	30	35	40	45	50			55	60	65	70	75	80	85	90	100	110	120
12	Double acting	With magnet	5	10	15	20	25	30	35	40	45	50	50	70											
		Without magnet	5	10	15	20	25	30	35	40	45	50	55	60	60	80									
16	Single acting		5	10	15	20	25	30	30	-															
			5	10	15	20	25	30	30	-															
20	Double acting	With magnet	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	90	130			
		Without magnet	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	100	100	140		
25, 32	Single acting		5	10	15	20	25	30	30	-															
			5	10	15	20	25	30	30	-															
40, 50	Double acting	With magnet	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	100	110	120	120	150
		Without magnet	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	100	110	120	130	130
63	Single acting		5	10	15	20	25	30	30	-															
			5	10	15	20	25	30	30	-															
80	Double acting	With magnet	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	100	110	120	120	150
		Without magnet	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	100	110	120	130	130

Note) 1. Please contact the company for other special strokes.

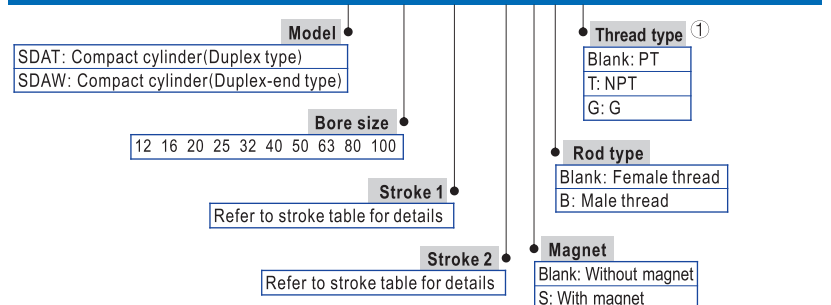
2. The dimensions of non-std stroke cylinder has the same dimensions as the next longer stroke std. stroke cylinder. e.g. 23mm stroke cylinder has the same dimensions of 25 std. stroke cylinder.

Ordering code

SDA 20 × 30 S B □
SDAD 20 × 30 S B □
SDAJ 20 × 30~30 S B □

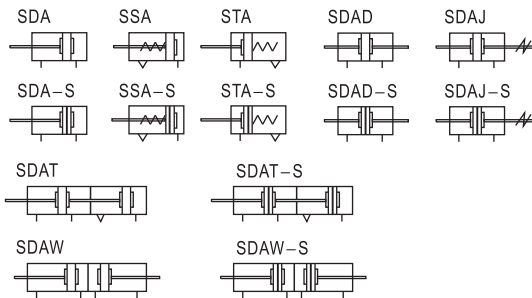


SDAT 20 × 30 × 10 S B □



① Standard thread is blank here.

Symbol



Product feature

1. Manufactured by our enterprise.
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 inner 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 sensor switch
7. Mounting accessories with various specifications are optional.



Compact cylinder

SDA Series

Inner structure and material of major parts

SDA

NO.	Item	Material
1	Back cover	No(Φ 12, 16) Aluminum alloy(Others)
2	Bumper	NBR
3	Piston	Brass(Φ 12, 16) Aluminum alloy(Others)
4	Piston seal	NBR
5	Piston rod	Carbon steel with 20 μ m chrome plated
6	Body	Aluminum alloy
7	Front cover	Aluminum alloy
8	O-ring	NBR
9	C clip	Spring steel
10	Front cover packing	NBR
11	Piston nut	Carbon steel
12	Bushing	No(Φ 12~32) Wear resistant material(Others)

Dimensions

SDA

Bore size\Item	A		AC		AB	B	BA	D	DA	E	EA	H	J	JA	K
	Without magnet	With magnet	Without magnet	With magnet											
12	22	17	32	27	5	25	-	6	4	M3 × 0.5	6	5	6.5	4.5	M5 × 0.8 Thru.hole: Φ 4.2
16	24	18.5	34	28.5	5.5	29	-	6	4	M3 × 0.5	6	5	6.5	4.5	M5 × 0.8 Thru.hole: Φ 4.2
20	25	19.5	35	29.5	5.5	34	36	8	4	M4 × 0.7	8	6	6.5	4.5	M5 × 0.8 Thru.hole: Φ 4.2
25	27	21	37	31	6	40	42	10	4	M5 × 0.8	10	8	8.2	5.5	M6 × 1.0 Thru.hole: Φ 4.6
32	31.5	24.5	41.5	34.5	7	44	50	12	4.5	M6 × 1.0	12	10	8.2	5.5	M6 × 1.0 Thru.hole: Φ 4.6
40	33	26	43	36	7	52	58.5	16	4	M8 × 1.25	12	14	10	7.5	M8 × 1.25 Thru.hole: Φ 6.5
50	37	28	47	38	9	62	71.5	20	5	M10 × 1.5	15	17	11	8.5	M8 × 1.25 Thru.hole: Φ 6.5
63	41	32	51	42	9	75	84.5	20	5	M10 × 1.5	15	17	11	8.5	M8 × 1.25 Thru.hole: Φ 6.5
80	52	41	62	51	11	94	104	25	6	M14 × 1.5	20	22	14	10.5	M12 × 1.75 Thru.hole: Φ 9.2
100	63	51	73	61	12	114	124	32	7	M18 × 1.5	20	27	17.5	13	M14 × 2.0 Thru.hole: Φ 11.3

Bore size\Item	KA	KB	M	MA	P	PA		PB		T
						St=5	St>5	St=5	St>5	
12	12	16.2	10.2	1	M5 × 0.8	7.5	7.5	5	5	23
16	12	19.8	11	1.5	M5 × 0.8	8	8	5.5	5.5	28
20	14	24	13	1.5	M5 × 0.8	9	9	5.5	5.5	-
25	15	28	17	2	M5 × 0.8	9	9	5.5	5.5	-
32	16	34	22	2.5	1/8"	9	9	6.5	9	-
40	20	40	28	3	1/8"	9.5	9.5	7.5	7.5	-
50	25	48	38	4	1/4"	8	10.5	8	10.5	-
63	25	60	40	4	1/4"	9.5	12	9.5	11	-
80	25	74	45	5	3/8"	11.5	14.5	11.5	14.5	-
100	30	90	55	5	3/8"	16	20.5	16	20.5	-



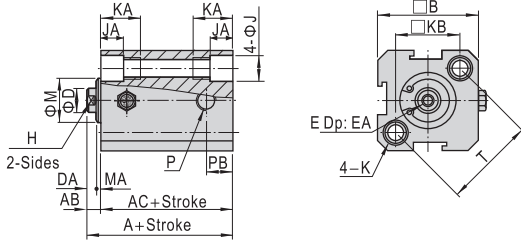
SDA

Compact cylinder

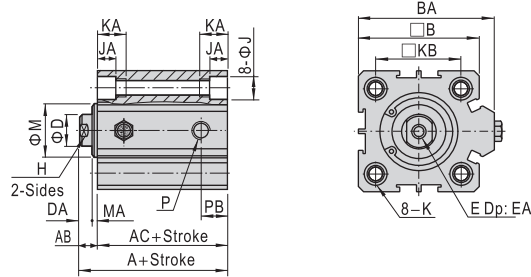
SDA Series

SSA

Φ12 Φ16

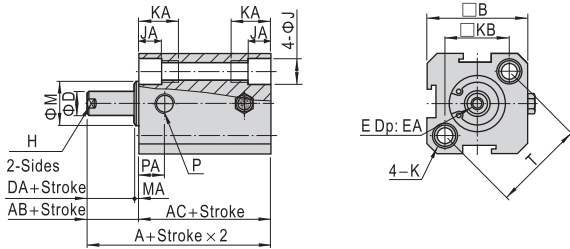


Φ20~Φ63

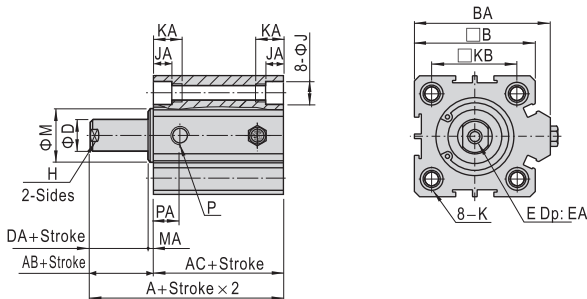


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Φ12 Φ16

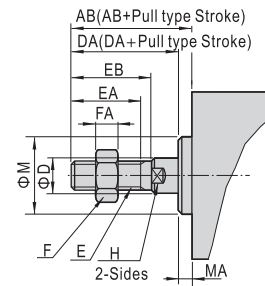


Φ20~Φ63

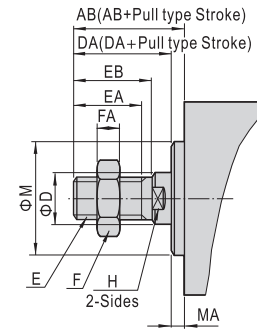


Male thread

Φ12 Φ16



Φ20~Φ100



Item Bore size	AB	D	DA	E	EA	EB	F	FA	H	M	MA		
											SDA	ISDA	J Others
12	17	6	16	M5 × 0.8	10	12	8	4	5	10.2	1	1	
16	17.5	6	16	M5 × 0.8	10	12	8	4	5	11	1.5	1.5	
20	20.5	8	19	M6 × 1.0	13	15	10	5	6	13	1.5	1.5	
25	23	10	21	M8 × 1.25	15	17	12	6	8	17	2	2	
32	25	12	22	M10 × 1.5	15	18	17	6	10	22	3	2.5	
40	35	16	32	M14 × 1.5	25	28	19	8	14	28	3	3	
50	37	20	33	M18 × 1.5	25	28	27	11	17	38	4	4	
63	37	20	33	M18 × 1.5	25	28	27	11	17	40	4	4	
80	44	25	39	M22 × 1.5	30	33	32	13	22	45	5	5	
100	50	32	45	M26 × 1.5	35	38	36	13	27	55	5	5	

Bore size\Item	A				AC				AB	B	BA
	Without magnet		With magnet		Without magnet		With magnet				
Stroke	St≤10	St>10	St≤10	St>10	St≤10	St>10	St≤10	St>10			
12	32	42	27	37	42	52	37	47	5	25	-
16	34	44	28.5	38.5	44	54	38.5	48.5	5.5	29	-
20	35	45	29.5	39.5	45	55	39.5	49.5	5.5	34	36
25	37	47	31	41	47	57	41	51	6	40	42
32	41.5	51.5	34.5	44.5	51.5	61.5	44.5	54.5	7	44	50
40	43	53	36	46	53	63	46	56	7	52	58.5
50	47	57	38	48	57	67	48	58	9	62	71.5
63	51	61	42	52	61	71	52	62	9	75	84.5

Bore size\Item	D	DA	E	EA	H	J	JA	K	KA	KB
12	6	4	M3 × 0.5	6	5	6.5	4.5	M5 × 0.8 Thru.hole: Φ4.2	12	16.2
16	6	4	M3 × 0.5	6	5	6.5	4.5	M5 × 0.8 Thru.hole: Φ4.2	12	19.8
20	8	4	M4 × 0.7	8	6	6.5	4.5	M5 × 0.8 Thru.hole: Φ4.2	14	24
25	10	4	M5 × 0.8	10	8	8.2	5.5	M6 × 1.0 Thru.hole: Φ4.6	15	28
32	12	4	M6 × 1.0	12	10	8.2	5.5	M6 × 1.0 Thru.hole: Φ4.6	16	34
40	16	4	M8 × 1.25	12	14	10	7.5	M8 × 1.25 Thru.hole: Φ6.5	20	40
50	20	5	M10 × 1.5	15	17	11	8.5	M8 × 1.25 Thru.hole: Φ6.5	25	48
63	20	5	M10 × 1.5	15	17	11	8.5	M8 × 1.25 Thru.hole: Φ6.5	25	60

Bore size\Item	M	MA	P	PA	PB	T
12	10.2	1	M5 × 0.8	7.5	5	23
16	11	1.5	M5 × 0.8	8	5.5	28
20	13	1.5	M5 × 0.8	9	5.5	-
25	17	2	M5 × 0.8	9	5.5	-
32	22	2.4	1/8"	9	9	-
40	28	3	1/8"	9.5	7.5	-
50	38	4	1/4"	10.5	10.5	-
63	40	4	1/4"	12	11	-

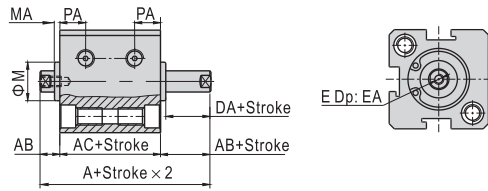


Compact cylinder

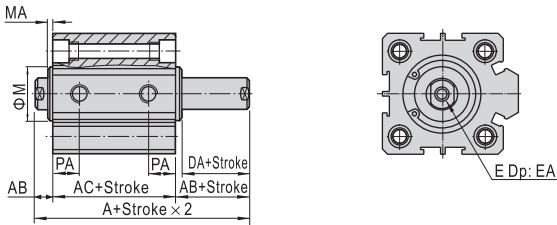
SDA Series

SDAD

Φ12 Φ16



Φ20 ~ Φ100



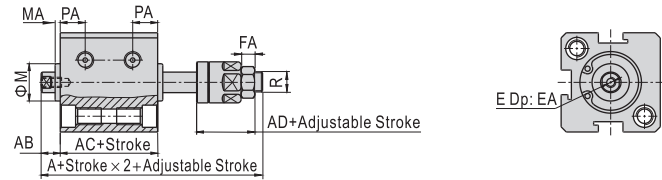
Bore size\Item	A		AC		AB	DA
	Without magnet	With magnet	Without magnet	With magnet		
12	27	17	37	27	5	4
16	29.5	18.5	39.5	28.5	5.5	4
20	30.5	19.5	40.5	29.5	5.5	4
25	33	21	43	31	6	4
32	38.5	24.5	48.5	34.5	7	4
40	40	26	50	36	7	4
50	46	28	56	38	9	5
63	50	32	60	42	9	5
80	63	41	73	51	11	6
100	75	51	85	61	12	7

Bore size\Item	E	EA		M	MA	PA	
		St≤10	St>10			St=5	St>5
12	M3 × 0.5	6	6	10.2	1	5.5	6.3
16	M3 × 0.5	6	6	11	1.5	6.5	7.3
20	M4 × 0.7	8(St=5 is 6.5)	15	1.5	7.5	7.5	
25	M5 × 0.8	10(St=5 is 7)	17	2	8	8	
32	M6 × 1.0	8	12	22	3	8	9
40	M8 × 1.25	8	12	28	3	8	10
50	M10 × 1.5	8	15	38	4	8	10.5
63	M10 × 1.5	10	15	40	4	9.5	11.8
80	M14 × 1.5	13	20	45	5	11.5	14.5
100	M18 × 1.5	18	20	55	5	16	20.5

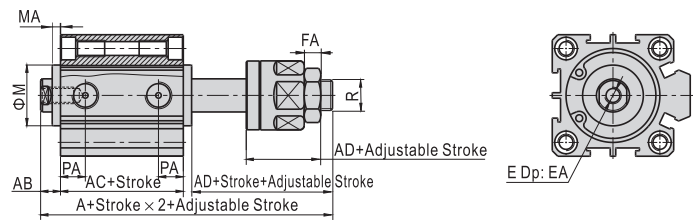
Note) The unmarked dimension is the same as SDA standard type.
Please refer to Page 284 for the dimension of male thread.

SDAJ

Φ12 Φ16



Φ20 ~ Φ100



Bore size\Item	A		AC		AB	AD	E
	Without magnet	With magnet	Without magnet	With magnet			
12	40	17	50	27	5	17	M3 × 0.5
16	42.5	18.5	52.5	28.5	5.5	17	M3 × 0.5
20	47.5	19.5	57.5	29.5	5.5	21	M4 × 0.7
25	54	21	64	31	6	25	M5 × 0.8
32	61.5	24.5	71.5	34.5	7	27	M6 × 1.0
40	64	26	74	36	7	28	M8 × 1.25
50	70	28	80	38	9	29	M10 × 1.5
63	74	32	84	42	9	29	M10 × 1.5
80	92.5	41	102.5	51	11	35.5	M14 × 1.5
100	110.5	51	120.5	61	12	42.5	M18 × 1.5

Bore size\Item	EA		FA	M	MA	PA		R
	St≤10	St>10				St=5	St>5	
12	6	6	4	10.2	1	5.5	6.3	M5 × 0.8
16	6	6	4	11	1.5	6.5	7.3	M5 × 0.8
20	8(St=5 is 6.5)	15	5	15	1.5	7.5	7.5	M6 × 1.0
25	10(St=5 is 7)	17	6	17	2	8	8	M8 × 1.25
32	8	12	6	22	3	8	9	M10 × 1.25
40	8	12	7	28	3	8	10	M12 × 1.25
50	8	15	8	38	4	8	10.5	M16 × 1.5
63	10	15	8	40	4	9.5	11.8	M16 × 1.5
80	13	20	10	45	5	11.5	14.5	M20 × 1.5
100	18	20	13.5	55	5	16	20.5	M27 × 2.0

Note) The unmarked dimension is the same as SDA standard type.
Please refer to Page 284 for the dimension of male thread.



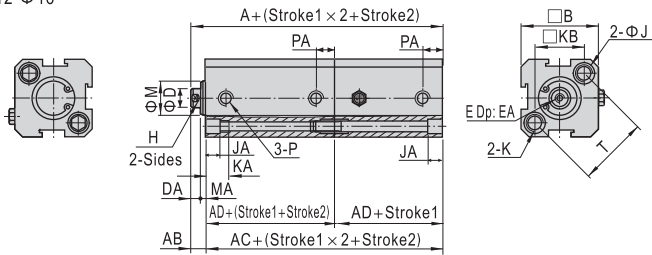
SDA

Compact cylinder

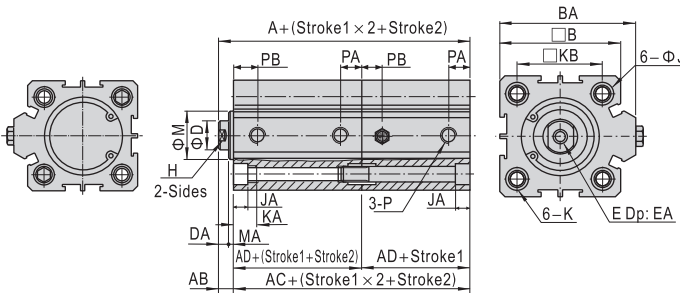
SDA Series

SDAT

Φ12 Φ16



Φ20~Φ100



Note) Please refer to Page 284 for the dimension of male thread.

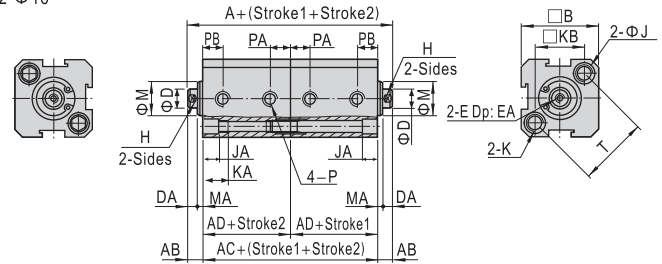
Bore size/Item	Without magnet			With magnet			AB	B	BA	D	DA
	A	AC	AD	A	AC	AD					
12	39	34	17	59	54	27	5	25	-	6	4
16	42.5	37	18.5	62.5	57	28.5	5.5	29	-	6	4
20	44.5	39	19.5	64.5	59	29.5	5.5	34	36	8	4
25	48	42	21	68	62	31	6	40	42	10	4
32	56	49	24.5	76	69	34.5	7	44	50	12	4
40	59	52	26	79	72	36	7	52	58.5	16	4
50	65	56	28	85	76	38	9	62	71.5	20	5
63	73	64	32	93	84	42	9	75	84.5	20	5
80	93	82	41	113	102	51	11	94	104	25	6
100	114	102	51	134	122	61	12	114	124	32	7

Bore size/Item	E	EA	H	J	JA	K	KA
12	M3 × 0.5	6	5	6.5	4.5	M5 × 0.8 Thru.hole: Φ 4.2	12
16	M3 × 0.5	6	5	6.5	4.5	M5 × 0.8 Thru.hole: Φ 4.2	12
20	M4 × 0.7	8	6	6.5	4.5	M5 × 0.8 Thru.hole: Φ 4.2	14
25	M5 × 0.8	10	8	8.2	5.5	M6 × 1.0 Thru.hole: Φ 4.6	15
32	M6 × 1.0	12	10	8.2	5.5	M6 × 1.0 Thru.hole: Φ 4.6	16
40	M8 × 1.25	12	14	10	7.5	M8 × 1.25 Thru.hole: Φ 6.5	20
50	M10 × 1.5	15	17	11	8.5	M8 × 1.25 Thru.hole: Φ 6.5	25
63	M10 × 1.5	15	17	11	8.5	M8 × 1.25 Thru.hole: Φ 6.5	25
80	M14 × 1.5	20	22	14	10.5	M12 × 1.75 Thru.hole: Φ 9.2	25
100	M18 × 1.5	20	27	17.5	13	M14 × 2.0 Thru.hole: Φ 11.3	30

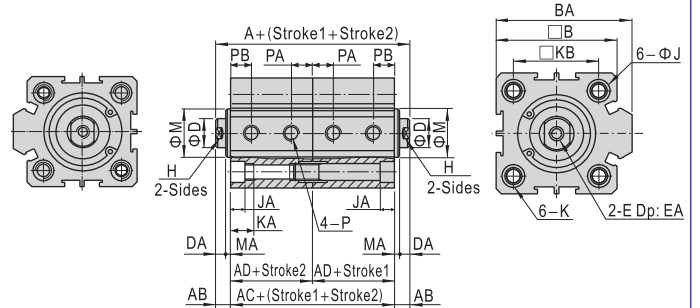
Bore size/Item	KB	M	MA	P	PA		PB	
					St=5	St>5	St=5	St>5
12	16.2	10.2	1	M5 × 0.8	5	5	7.5	7.5
16	19.8	11	1.5	M5 × 0.8	5.5	5.5	8	8
20	24	13	1.5	M5 × 0.8	5.5	5.5	9	9
25	28	17	2	M5 × 0.8	5.5	5.5	9	9
32	34	22	2.5	1/8"	6.5	9	9	9
40	40	28	3	1/8"	7.5	7.5	9.5	9.5
50	48	38	4	1/4"	8	10.5	8	10.5
63	60	40	4	1/4"	9.5	11	9.5	12
80	74	45	5	3/8"	11.5	14.5	11.5	14.5
100	90	55	5	3/8"	16	20.5	16	20.5

SDAW

Φ12 Φ16



Φ20~Φ100



Note) Please refer to Page 284 for the dimension of male thread.

Bore size/Item	Without magnet			With magnet			AB	B	BA	D	DA
	A	AC	AD	A	AC	AD					
12	44	34	17	64	54	27	5	25	-	6	4
16	48	37	18.5	68	57	28.5	5.5	29	-	6	4
20	50	39	19.5	70	59	29.5	5.5	34	36	8	4
25	54	42	21	74	62	31	6	40	42	10	4
32	63	49	24.5	83	69	34.5	7	44	50	12	4
40	66	52	26	86	72	36	7	52	58.5	16	4
50	74	56	28	94	76	38	9	62	71.5	20	5
63	82	64	32	102	84	42	9	75	84.5	20	5
80	104	82	41	124	102	51	11	94	104	25	6
100	126	102	51	146	122	61	12	114	124	32	7

Bore size/Item	E	EA	H	J	JA	K	KA
12	M3 × 0.5	6	5	6.5	4.5	M5 × 0.8 Thru.hole: Φ 4.2	12
16	M3 × 0.5	6	5	6.5	4.5	M5 × 0.8 Thru.hole: Φ 4.2	12
20	M4 × 0.7	8	6	6.5	4.5	M5 × 0.8 Thru.hole: Φ 4.2	14
25	M5 × 0.8	10	8	8.2	5.5	M6 × 1.0 Thru.hole: Φ 4.6	15
32	M6 × 1.0	12	10	8.2	5.5	M6 × 1.0 Thru.hole: Φ 4.6	16
40	M8 × 1.25	12	14	10	7.5	M8 × 1.25 Thru.hole: Φ 6.5	20
50	M10 × 1.5	15	17	11	8.5	M8 × 1.25 Thru.hole: Φ 6.5	25
63	M10 × 1.5	15	17	11	8.5	M8 × 1.25 Thru.hole: Φ 6.5	25
80	M14 × 1.5	20	22	14	10.5	M12 × 1.75 Thru.hole: Φ 9.2	25
100	M18 × 1.5	20	27	17.5	13	M14 × 2.0 Thru.hole: Φ 11.3	30

Bore size/Item	KB	M	MA	P	PA		PB	
					St=5	St>5	St=5	St>5
12	16.2	10.2	1	M5 × 0.8	5	5	7.5	7.5
16	19.8	11	1.5	M5 × 0.8	5.5	5.5	8	8
20	24	13	1.5	M5 × 0.8	5.5	5.5	9	9
25	28	17	2	M5 × 0.8	5.5	5.5	9	9
32	34	22	2.5	1/8"	6.5	9	9	9
40	40	28	3	1/8"	7.5	7.5	9.5	9.5
50	48	38	4	1/4"	8	10.5	8	10.5
63	60	40	4	1/4"	9.5	11	9.5	12
80	74	45	5	3/8"	11.5	14.5	11.5	14.5
100	90	55	5	3/8"	16	20.5	16	20.5

