

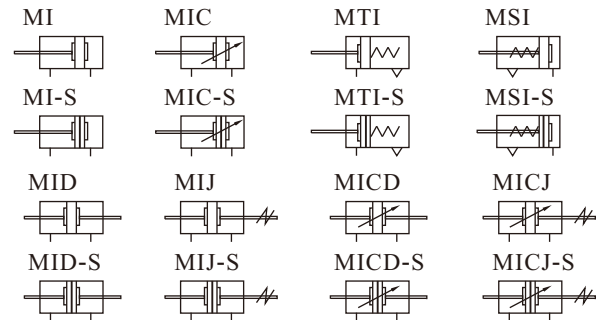
# Stainless steel mini cylinder——MI Series **BITEBI**<sup>®</sup>



## Product feature

1. In accordance with ISO6432 standard(Φ8~Φ25).
2. Front and back cover owns fixed bumper pad which can reduce the impact of direction-change of the cylinder.
3. There are several mode of back cover, which makes the installation of cylinder more convenient.
4. Front and back cover and stainless steel block adopt riveted rolling packed structure to form a reliable connection.
5. Piston rod and cylinder body with the material of stainless steel make the cylinder adapt general working environment with corrosivity.
6. There are cylinders and accessories with several specifications for installation for your choice.

## Symbol



## Specification

Bore size(mm)		8	10	12	16	20	25	32	40
Acting type		Double acting, Single acting_Push, Single acting_Pull							
		-				Double acting with cushion			
Fluid		Air(to be filtered by 40μm filter element)							
Operating pressure	Double acting	0.15~1.0MPa(22~145psi)(1.5~10.0bar)							
	Single acting	0.2~1.0MPa(28~145psi)(2.0~10.0bar)							
Proof pressure		1.5MPa(215psi)(15bar)							
Temperature °C		-20~70							
Speed range mm/s		Double acting:30~800				Single acting:50~800			
Stroke tolerance		0~150 <sup>+1.0</sup> <sub>0</sub>				>150 <sup>+1.5</sup> <sub>0</sub>			
Cushion type		MIC Series: Variable cushion				Other series: Bumper			
Port size [Note1]		M5×0.8				G1/8			G1/4

[Note1] The standard thread type is G thread, Please control us for other thread type.

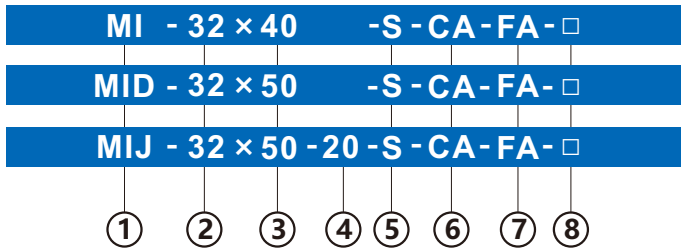
## Standard Stroke

Bore size (mm)		Standard stroke (mm)													Max.std stroke	Max. stroke							
MI	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	250	250	500			
MI MIC	16	10	15	20	25	30	40	50	60	75	80	100	125	150	160	175	200	250	300	350	400	500	600
	20 25 32 40	450	500																			500	800
MID MIJ	8 10	10	15	20	25	30	40	50	60	75	80	100	100	-									
	12	10	15	20	25	30	40	50	60	75	80	100	125	150	160	175	200	200	-				
MID, MIJ MICD, MICJ	16 20 25	10	15	20	25	30	40	50	60	75	80	100	125	150	160	175	200	250	300	300	-		
	32 40	10	15	20	25	30	40	50	60	75	80	100	125	150	160	175	200	250	300	350	400	500	-
MSI MTI	8 10 12	10	15	20	25	30	40	50														-	-
	16	10	15	20	25	30	40	50	60	75	80	100										-	-
	20 25 32 40	10	15	20	25	30	40	50	60	75	80	100	125	150								-	-

[Note] Consult us for non-standard stroke.

# Stainless steel mini cylinder——MI Series **BITEBI**<sup>®</sup>

## Ordering code



### ⑥ Back cover

Back cover	Series	Bore size
CA: Pivot type	MI MSI MTI	Φ8~Φ25
U: Perpendicular 90°		Φ8~Φ40
R: Axial air-in		Φ16~Φ40
CM: Round-end type	MIC	Φ16~Φ40
CA: Pivot type		Φ16~Φ25
U: Perpendicular 90°		Φ16~Φ40
CM: Round-end type	Others	Φ16~Φ40
No this code		

### ⑦ Mounting type

Mounting type	Series
Blank: No accessories	MI MIC MSI MTI
FA: FA type	
SDB: SDB type	
LB: LB type	
TC: TC type	MID MICD MIJ MICJ
Blank: No accessories	
FA: FA type	
LB: LB type	
TC: TC type	

### ⑧ Thread type

Blank: G thread
PT: PT thread

### ① Model

MI: Mini cylinder(Double acting)
MIC: Mini cylinder (Double acting with cushion)
MSI: Mini cylinder(Single acting_push)
MTI: Mini cylinder(Single acting_pull)
MID: Mini cylinder(Double rod)
MICD: Mini cylinder (Double rod with cushion)
MIJ: Mini cylinder(Adjustable stroke)
MICJ: Mini cylinder(Adjustable stroke with cushion)

### ② Bore size

Bore size	Series
8 10 12 16 20 25 32 40	MI
16 20 25 32 40	MIC
8 10 12 16 20 25 32 40	MSI
16 20 25 32 40	MTI
8 10 12 16 20 25 32 40	MID
16 20 25 32 40	MICD
8 10 12 16 20 25 32 40	MIJ
16 20 25 32 40	MICJ

### ③ Stroke

Refer to stroke table for details
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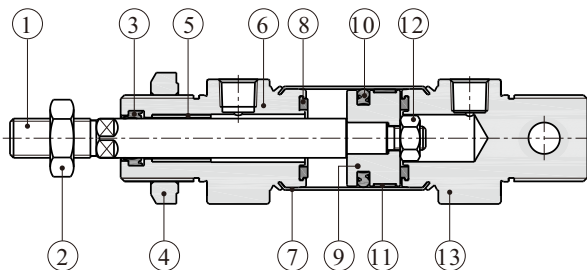
### ⑤ Magnet

Blank: Without magnet
S: With magnet

### ④ Adjustable stroke

Series	Adjustable stroke
MIJ series MICJ series	10: 10mm
	20: 20mm
	30: 30mm
	40: 40mm
	50: 50mm
	75: 75mm
	100: 100mm
Others series	No this code

## Inner structure and material of major parts



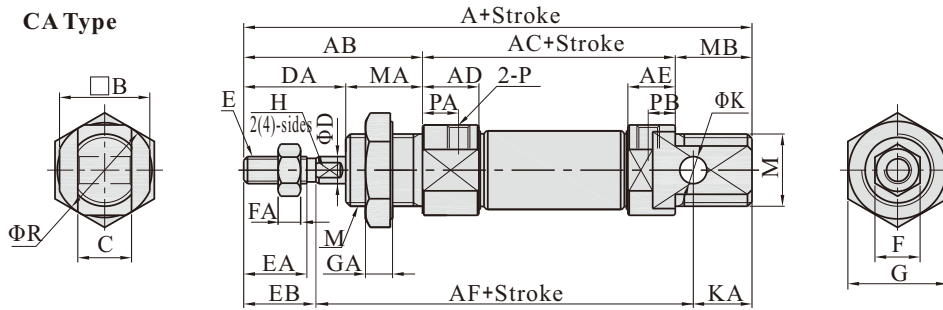
NO.	Item	Material
1	Rod	SUS304
2	Rod nut	Carbon steel
3	Front cover packing	NBR
4	Front cover nut	Carbon steel
5	Bushing	Wear resistant material
6	Front cover	Aluminum alloy
7	Barrel	SUS304(Φ8~Φ12)\SUS316L(Others)
8	Bumper	TPU
9	Piston	SUS304(Φ8~Φ12)\Aluminum alloy(Others)
10	Piston seal	NBR
11	Wear ring	Wear resistant material
12	Nut	Carbon steel
13	Back cover	Aluminum alloy

# Stainless steel mini cylinder——MI Series **BITEBI**<sup>®</sup>

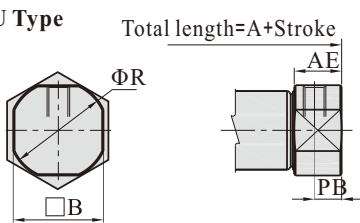
## Dimensions

MI

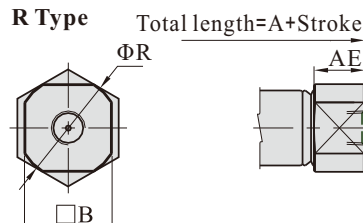
CA Type



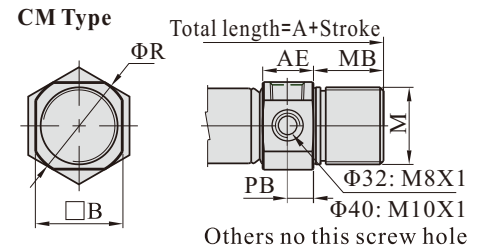
U Type



R Type



CM Type



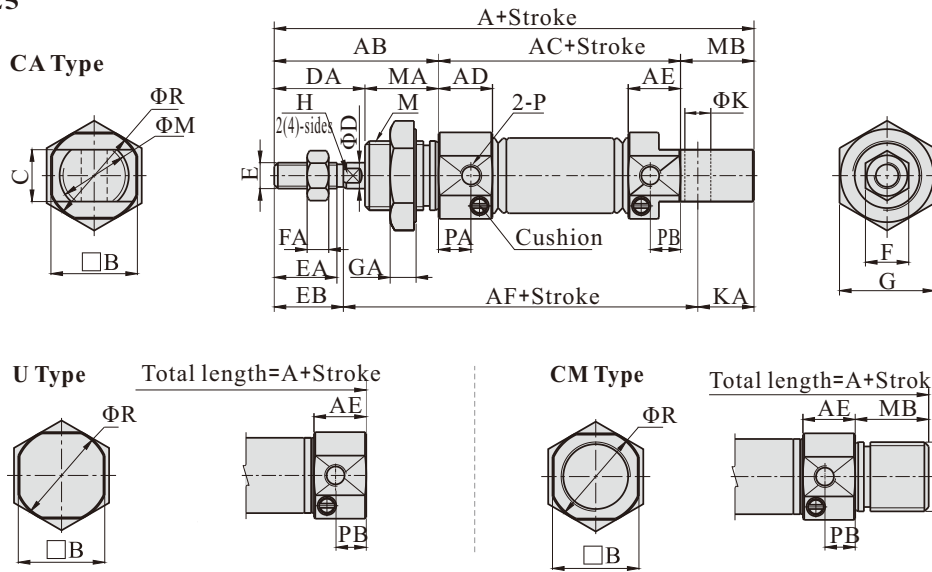
Bore size/Item	A				AB	AC	AD	AE		AF	B	C	D	DA	E	EA	EB	F	FA
	CA	U	R	CM				CA	U/R/CM										
8	86	74	-	-	28	46	11.5	9.5	9.5	64	15	8	4	16	M4×0.7	10.5	12	7	3
10	86	74	-	-	28	46	11.5	9.5	9.5	64	15	8	4	16	M4×0.7	10.5	12	7	3
12	105	88	-	-	38	50	12.5	10.5	10.5	75	18	12	6	21	M6×1.0	14.5	16	10	5
16	111	94	94	111	38	56	12.5	10.5	10.5	82	20	12	6	21	M6×1.0	14.5	16	10	5
20	126	106	106	126	44	62	14.5	14.5	14.5	95.5	25	16	8	24	M8×1.25	18	19.5	12	6
25	137	114.5	115	137	50	65	16	16	16	104.5	30	16	10	28	M10×1.25	20	21.5	17	6
32	-	125	126	140	58	-	16.5	-	16.5	-	34.5	-	12	28	M10×1.25	18.5	20	17	6
40	-	158	158	174	69	-	22	-	22	-	42.5	-	16	34	M12×1.25	22.5	24	17	7

Bore size/Item	G	GA	H	K	KA	M	MA	MB	P	PA	PB		R
											CA	U/CM	
8	17	6	-	4	10	M12×1.25	12	12	M5×0.8	7	5	5	17
10	17	6	-	4	10	M12×1.25	12	12	M5×0.8	7	5	5	17
12	22	6	5(2-Sides)	6	14	M16×1.5	17	17	M5×0.8	8	6	6	20
16	22	6	5(2-Sides)	6	13	M16×1.5	17	17	M5×0.8	8	6	6	22
20	29	7	6(2-Sides)	8	11	M22×1.5	20	20	G1/8	7.5	7.5	7.5	29
25	29	7	8(4-Sides)	8	11	M22×1.5	22	22	G1/8	8	8	8	33.5
32	36	7	10(4-Sides)	-	-	M30×1.5	30	14	G1/8	9	-	8/9	37.5
40	46	8	14(4-Sides)	-	-	M38×1.5	35	16	G1/4	12	-	11.5/12	46.5

Remark: The dimensions of magnet type cylinder are the same as non-magnet type cylinder.

# Stainless steel mini cylinder——MI Series **BITEBI**<sup>®</sup>

MIC  $\Phi 16\sim\Phi 25$

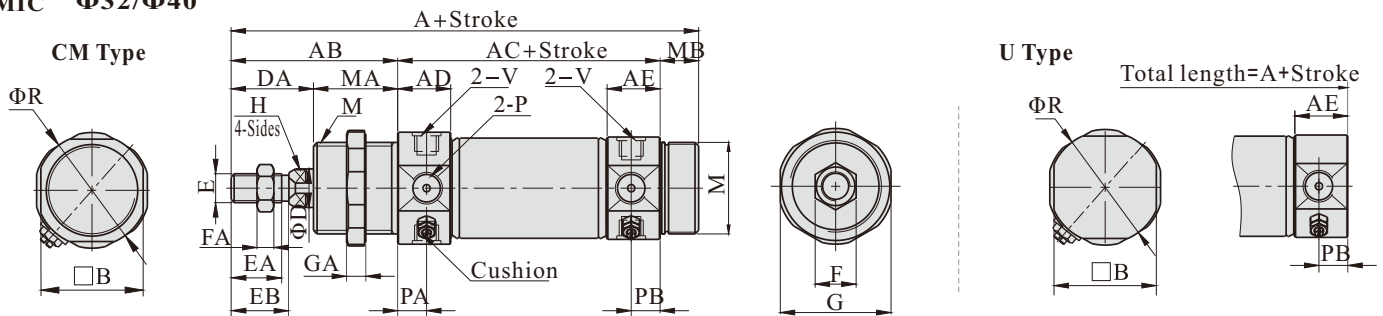


Bore size/Item	A		AB	AC	AD	AE		AF	B	C	D	DA	E	EA	EB	F	FA
	CA/CM	U				CA/CM	U										
16	111	94	38	56	12.5	12	12	82	20	12	6	21	M6×1.0	14.5	16	10	5
20	126	106	44	62	14.5	14.5	14.5	95.5	25	16	8	24	M8×1.25	18	19.5	12	6
25	137	113.5	50	65	16	16	14.5	104.5	30	16	10	28	M10×1.25	20	21.5	17	6

Bore size/Item	G	GA	H	K	KA	M	MA	MB	P	PA	PB	R
16	22	6	5(2-Sides)	6	13	M16×1.5	17	17	M5×0.8	7.5	7	22
20	29	7	6(2-Sides)	8	11	M22×1.5	20	20	G1/8	7.5	7.5	29
25	29	7	8(4-Sides)	8	11	M22×1.5	22	22	G1/8	8	8	33.5

Remark: The dimensions of magnet type cylinder are the same as non-magnet type cylinder.

MIC  $\Phi 32/\Phi 40$



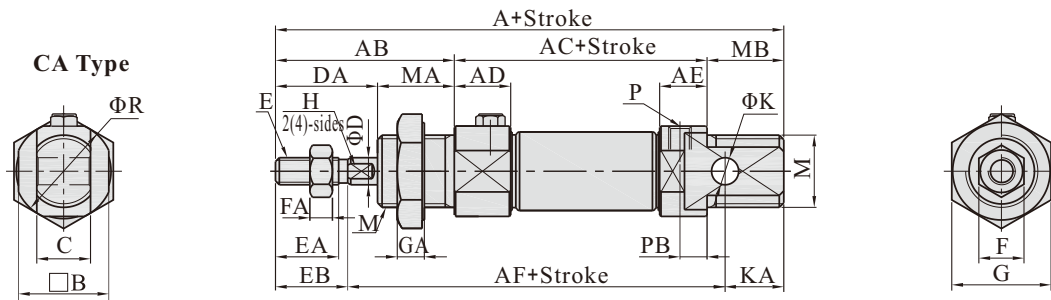
Bore size/Item	A		AB	AC	AD	AE		B	D	DA	E	EA	EB	F	FA	G	GA
	U	CM				U	CM										
32	124	140	58	68	16.5	14.5	16.5	34.5	12	28	M10×1.25	18.5	20	17	6	36	7
40	157.5	174	69	89	22	21.5	22	42.5	16	34	M12×1.25	22.5	24	17	7	46	8

Bore size/Item	H	M	MA	MB	P	PA	PB		R	V
							U	CM		
32	10(4-Sides)	M30×1.5	30	14	G1/8	9	7.5	9	37.5	M8X1
40	14(4-Sides)	M38×1.5	35	16	G1/4	12	11.5	12	46.5	M10X1

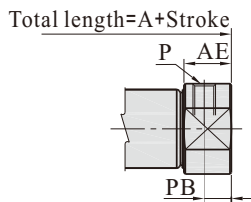
Remark: The dimensions of magnet type cylinder are the same as non-magnet type cylinder.

# Stainless steel mini cylinder——MI Series **BITEBI**<sup>®</sup>

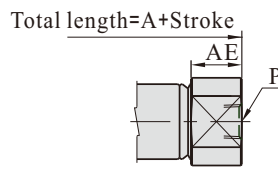
MSI



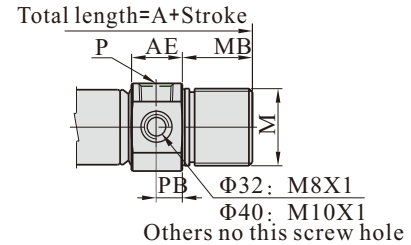
U Type



R Type



CM Type



Item	A												AB
	CA			U			R			CM			
Bore size\Stroke	0~50	51~100	101~150	0~50	51~100	101~150	0~50	51~100	101~150	0~50	51~100	101~150	
8	111	-	-	99	-	-	-	-	-	-	-	-	28
10	111	-	-	99	-	-	-	-	-	-	-	-	28
12	130	-	-	113	-	-	-	-	-	-	-	-	38
16	136	161	-	119	144	-	119	144	-	136	161	-	38
20	151	176	201	131	156	181	131	156	181	151	176	201	44
25	162	187	212	139.5	164.5	189.5	140	165	190	162	187	212	50
32	-	-	-	150	175	200	151	176	201	165	190	215	58
40	-	-	-	183	208	233	183	208	233	199	224	249	69

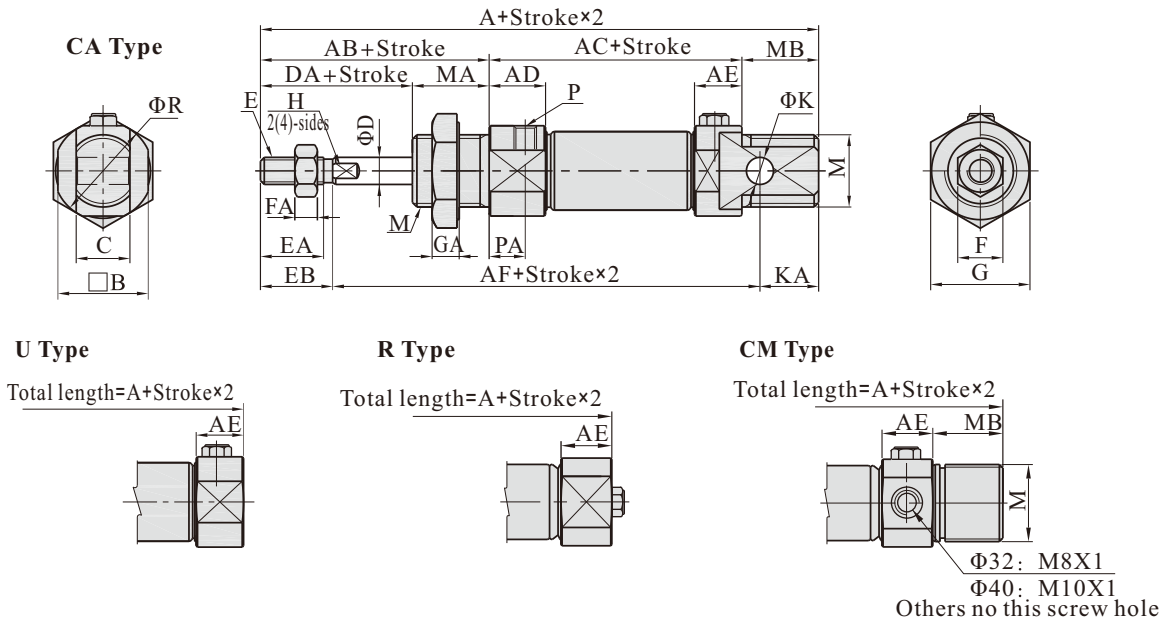
Item	AC			AD	AF			AE		B	C	D	DA	E
	Back cover	0~50	51~100		101~150	0~50	51~100	101~150	CA					
Bore size\Stroke	0~50	51~100	101~150	0~50	51~100	101~150	-	-						
8	71	-	-	11.5	89	-	-	9.5	9.5	15	8	4	16	M4×0.7
10	71	-	-	11.5	89	-	-	9.5	9.5	15	8	4	16	M4×0.7
12	75	-	-	12.5	100	-	-	10.5	10.5	18	12	6	21	M6×1.0
16	81	106	-	12.5	107	132	-	10.5	10.5	20	12	6	21	M6×1.0
20	87	112	137	14.5	120.5	145.5	170.5	14.5	14.5	25	16	8	24	M8×1.25
25	90	115	140	16	129.5	154.5	179.5	16	16	30	16	10	28	M10×1.25
32	-	-	-	16.5	-	-	-	-	16.5	34.5	-	12	28	M10×1.25
40	-	-	-	22	-	-	-	-	22	42.5	-	16	34	M12×1.25

Bore size\Item Back cover	EA	EB	F	FA	G	GA	H	K	KA	M	MA	MB	P	PA	PB		R
	CA	U/CM															
8	10.5	12	7	3	17	6	-	4	10	M12×1.25	12	12	M5×0.8	7	5	5	17
10	10.5	12	7	3	17	6	-	4	10	M12×1.25	12	12	M5×0.8	7	5	5	17
12	14.5	16	10	5	22	6	5(2-Sides)	6	14	M16×1.5	17	17	M5×0.8	8	6	6	20
16	14.5	16	10	5	22	6	5(2-Sides)	6	13	M16×1.5	17	17	M5×0.8	8	6	6	22
20	18	19.5	12	6	29	7	6(2-Sides)	8	11	M22×1.5	20	20	G1/8	7.5	7.5	7.5	29
25	20	21.5	17	6	29	7	8(4-Sides)	8	11	M22×1.5	22	22	G1/8	8	8	8	33.5
32	18.5	20	17	6	36	7	10(4-Sides)	-	-	M30×1.5	30	14	G1/8	9	-	8/9	37.5
40	22.5	24	17	7	46	8	14(4-Sides)	-	-	M38×1.5	35	16	G1/4	12	-	11.5/12	46.5

Remark: The dimensions of magnet type cylinder are the same as non-magnet type cylinder.

# Stainless steel mini cylinder——MI Series **BITEBI**<sup>®</sup>

MTI



Item	A												AB
	CA			U			R			CM			
Back cover	CA			U			R			CM			AB
Bore size\Stroke	0~50	51~100	101~150	0~50	51~100	101~150	0~50	51~100	101~150	0~50	51~100	101~150	
8	111	-	-	99	-	-	-	-	-	-	-	-	28
10	111	-	-	99	-	-	-	-	-	-	-	-	28
12	130	-	-	113	-	-	-	-	-	-	-	-	38
16	136	161	-	119	144	-	119	144	-	136	161	-	38
20	151	176	201	131	156	181	131	156	181	151	176	201	44
25	162	187	212	139.5	164.5	189.5	140	165	190	162	187	212	50
32	-	-	-	150	175	200	151	176	201	165	190	215	58
40	-	-	-	183	208	233	183	208	233	199	224	249	69

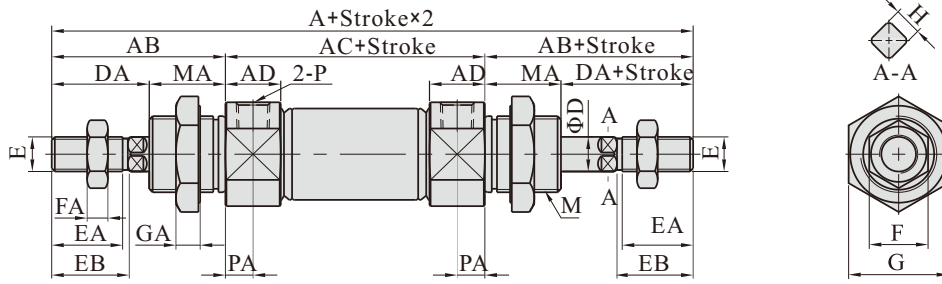
Item	AC			AD	AF			AE		B	C	D	DA	E
	AC				AF			CA	U/R/CM					
	0~50	51~100	101~150		0~50	51~100	101~150	-	-					
8	71	-	-	11.5	89	-	-	9.5	9.5	15	8	4	16	M4×0.7
10	71	-	-	11.5	89	-	-	9.5	9.5	15	8	4	16	M4×0.7
12	75	-	-	12.5	100	-	-	10.5	10.5	18	12	6	21	M6×1.0
16	81	106	-	12.5	107	132	-	10.5	10.5	20	12	6	21	M6×1.0
20	87	112	137	14.5	120.5	145.5	170.5	14.5	14.5	25	16	8	24	M8×1.25
25	90	115	140	16	129.5	154.5	179.5	16	16	30	16	10	28	M10×1.25
32	-	-	-	16.5	-	-	-	-	16.5	34.5	-	12	28	M10×1.25
40	-	-	-	22	-	-	-	-	22	42.5	-	16	34	M12×1.25

Bore size\Item	EA	EB	F	FA	G	GA	H	K	KA	M	MA	MB	P	PA	PB		R
															CA	U/CM	
8	10.5	12	7	3	17	6	-	4	10	M12×1.25	12	12	M5×0.8	7	5	5	17
10	10.5	12	7	3	17	6	-	4	10	M12×1.25	12	12	M5×0.8	7	5	5	17
12	14.5	16	10	5	22	6	5(2-Sides)	6	14	M16×1.5	17	17	M5×0.8	8	6	6	20
16	14.5	16	10	5	22	6	5(2-Sides)	6	13	M16×1.5	17	17	M5×0.8	8	6	6	22
20	18	19.5	12	6	29	7	6(2-Sides)	8	11	M22×1.5	20	20	G1/8	7.5	7.5	7.5	29
25	20	21.5	17	6	29	7	8(4-Sides)	8	11	M22×1.5	22	22	G1/8	8	8	8	33.5
32	18.5	20	17	6	36	7	10(4-Sides)	-	-	M30×1.5	30	14	G1/8	9	-	8/9	37.5
40	22.5	24	17	7	46	8	14(4-Sides)	-	-	M38×1.5	35	16	G1/4	12	-	11.5/12	46.5

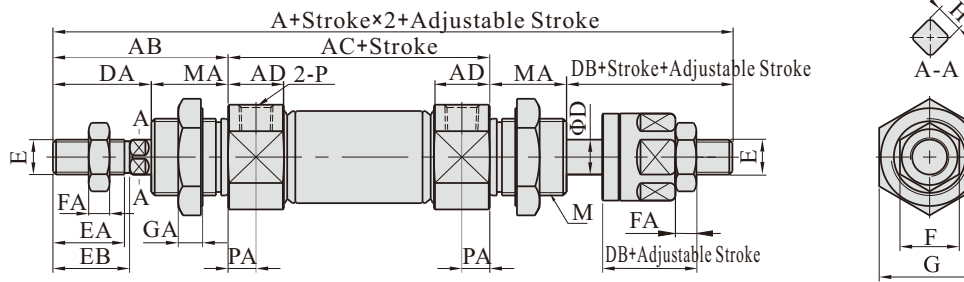
Remark: The dimensions of magnet type cylinder are the same as non-magnet type cylinder.

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MID



MIJ



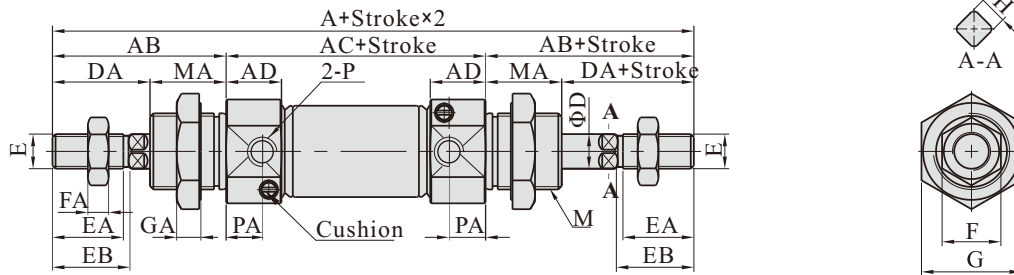
Bore size/Item	A(MID)	A(MIJ)	AB	AC	AD	D	DA	DB	E	EA	EB	F	FA	G	GA
8	104	103	28	48	11.5	4	16	15	M4×0.7	10.5	12	7	3	17	6
10	104	103	28	48	11.5	4	16	15	M4×0.7	10.5	12	7	3	17	6
12	128	128	38	52	12.5	6	21	21	M6×1.0	14.5	16	10	5	22	6
16	134	134	38	58	12.5	6	21	21	M6×1.0	14.5	16	10	5	22	6
20	150	151	44	62	14.5	8	24	25	M8×1.25	18	19.5	12	6	29	7
25	165	164	50	65	16	10	28	27	M10×1.25	20	21.5	17	6	29	7
32	184	183	58	68	16.5	12	28	27	M10×1.25	18.5	20	17	6	36	7
40	227	222	69	89	22	16	34	29	M12×1.25	22.5	24	17	7	46	8

Bore size/Item	H	M	MA	P	PA
8	-	M12×1.25	12	M5×0.8	7
10	-	M12×1.25	12	M5×0.8	7
12	5(2-Sides)	M16×1.5	17	M5×0.8	8
16	5(2-Sides)	M16×1.5	17	M5×0.8	8
20	6(2-Sides)	M22×1.5	20	G1/8	7.5
25	8(4-Sides)	M22×1.5	22	G1/8	8
32	10(4-Sides)	M30×1.5	30	G1/8	9
40	14(4-Sides)	M38×1.5	35	G1/4	12

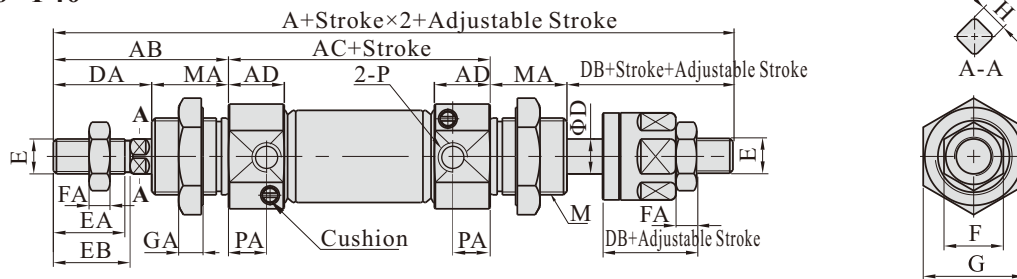
Remark: The dimensions of magnet type cylinder are the same as non-magnet type cylinder.

# Stainless steel mini cylinder——MI Series **BITEBI**<sup>®</sup>

## MICDΦ16~Φ40



## MICJΦ16~Φ40



Bore size\Item	A(MICD)	A(MICJ)	AB	AC	AD	D	DA	DB	E	EA	EB	F	FA	G	GA
16	132.5	132.5	38	56.5	12.5	6	21	21	M6×1.0	14.5	16	10	5	22	6
20	150	151	44	62	14.5	8	24	25	M8×1.25	18	19.5	12	6	29	7
25	165	164	50	65	16	10	28	27	M10×1.25	20	21.5	17	6	29	7
32	184	183	58	68	16.5	12	28	27	M10×1.25	18.5	20	17	6	36	7
40	227	222	69	89	22	16	34	29	M12×1.25	22.5	24	17	7	46	8

Bore size\Item	H	M	MA	P	PA
16	5(2-Sides)	M16×1.5	17	M5×0.8	7.5
20	6(2-Sides)	M22×1.5	20	G1/8	7.5
25	8(4-Sides)	M22×1.5	22	G1/8	8
32	10(4-Sides)	M30×1.5	30	G1/8	9
40	14(4-Sides)	M38×1.5	35	G1/4	12

Remark: The dimensions of magnet type cylinder are the same as non-magnet type cylinder.



## List for ordering code of accessories

Accessories Bore size	Mounting accessories				Knuckle				Sensor switch	
	LB	FA	SDB	TC	I	Y	F	U	CS1-G	DS1-G
8 10	F-MI10LB	F-MI8FA	F-MI8SDB	F-MI10TC	F-M4X070I	F-M4X070Y	F-M4X070F	F-M4X070U	CS1-G	DS1-G
12 16	F-MI12LB	F-MI12FA	F-MI12SDB	F-MI12TC	F-M6X100I	F-M6X100Y	F-M6X100F	F-M6X100U		
20 25	F-MI20LB	F-MI20FA	F-MI20SDB	F-MI20TC	F-M8X125I	F-M8X125Y	F-M8X125F	F-M8X125U		
32	F-MI32LB	-	F-MI32SDB	F-MI32TC	F-M10X125I	F-M10X125Y	F-M10X125F	F-M10X125U		
40	F-MI40LB	-	F-MI40SDB	F-MI40TC	F-M12X125I	F-M12X125Y	F-M12X125F	F-M12X125U		

## Accessory selection

Cylinder model	Accessories	Mounting accessories				Knuckle				Sensor switch	
		LB	FA	SDB	TC	I	Y	U	F	CS1-G	DS1-G
MI	Standard	●	●	●	●	●	●	●	●	×	×
MIC	With magnet	●	●	●	●	●	●	●	●	●	●
MSI	Standard	●	●	●	●	●	●	●	●	×	×
MTI	With magnet	●	●	●	●	●	●	●	●	●	●
MID	Standard	●	●	×	●	●	●	●	●	×	×
MICD	With magnet	●	●	×	●	●	●	●	●	●	●
MIJ	Standard	●	●	×	●	●	●	●	●	×	×
MICJ	With magnet	●	●	×	●	●	●	●	●	●	●

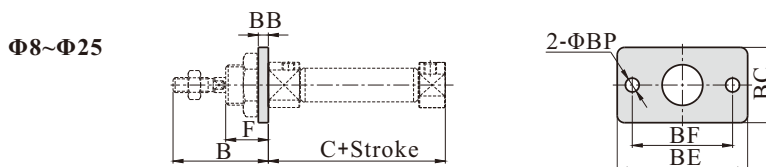
## Accessory selection

Bore size	Accessories	Mounting accessories				Knuckle			
		LB	FA	SDB	TC	I	Y	F	U
8~40		△	△	△	▲	□	□	□	□

▲—SUS304    —SPCC    □—Carbon steel

## Dimensions

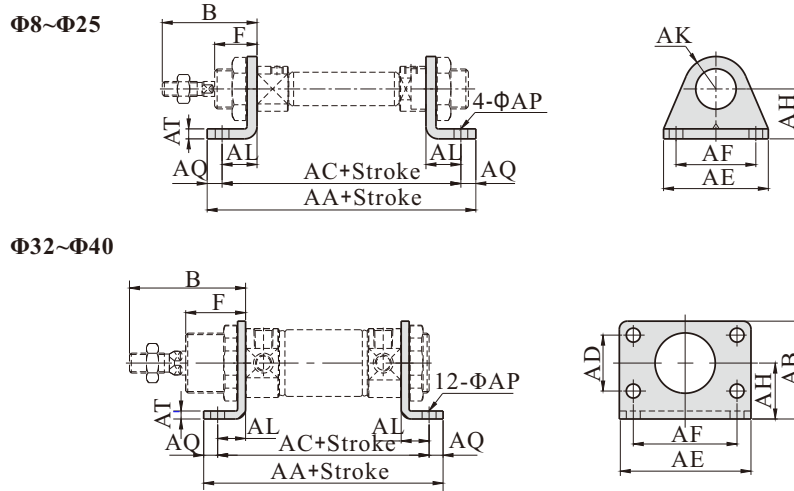
FA type



Bore size/Item	B	C	BB	BC	BE	BF	BP	F
8	28	46	2	22	40	30	4.5	12
10	28	46	2	22	40	30	4.5	12
12	38	50	3	26	52	40	5.5	17
16	38	56	3	26	52	40	5.5	17
20	44	62	3.5	38	64	50	7	20
25	50	65	3.5	38	64	50	7	22

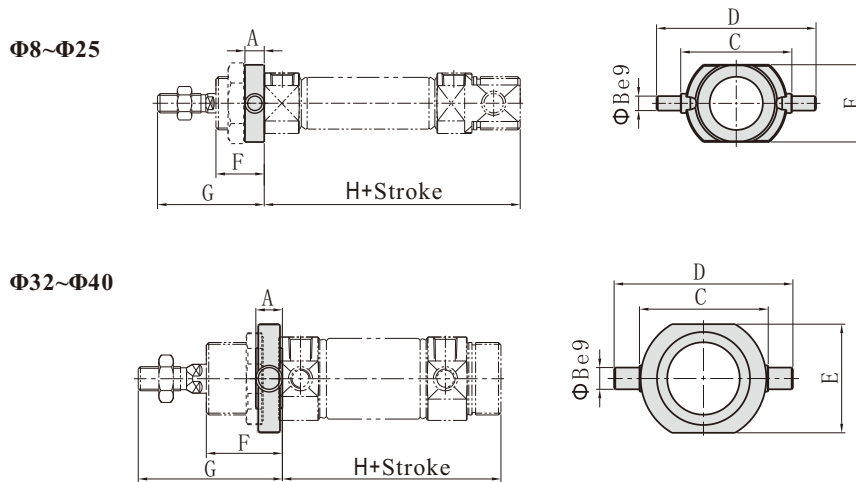
# Stainless steel mini cylinder——MI Series **BITEBI**<sup>®</sup>

## LB type



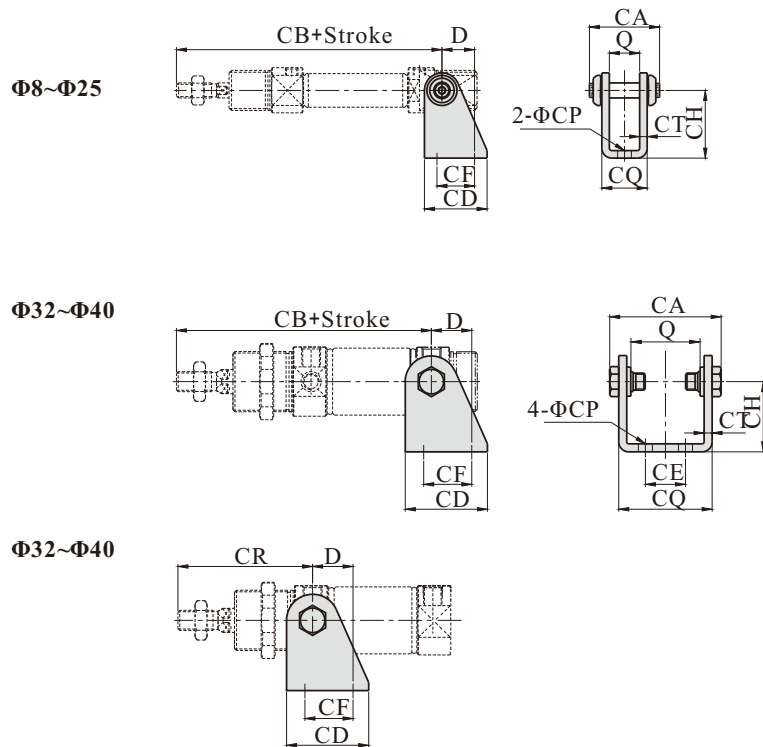
Bore size\Item	AA	AB	AC	AD	AE	AF	AH	AK	AL	AP	AQ	AT	B	F
8	78	-	68	-	35	25	16	10	11	4.5	5	2	28	12
10	78	-	68	-	35	25	16	10	11	4.5	5	2	28	12
12	90	-	78	-	42	32	20	13	14	5.5	6	2.5	38	17
16	96	-	84	-	42	32	20	13	14	5.5	6	2.5	38	17
20	112	-	96	-	54	40	25	20	17	7	8	3	44	20
25	115	-	99	-	54	40	25	20	17	7	8	3	50	22
32	110	49	96	28	66	52	28	-	14	7	7	3.5	58	30
40	149	58	129	30	80	60	33	-	20	9	10	3.5	69	35

## TC type



Bore size\Item	A	B	C	D	E	F	G	H
8	6	4	26	38	20	12	28	58
10	6	4	26	38	20	12	28	58
12	8	6	38	58	25	17	38	67
16	8	6	38	58	25	17	38	73
20	8	6	46	66	32	20	44	82
25	8	6	46	66	32	22	50	87
32	11	9	54	74	45	31.5	59.5	80.5
40	12	10	64	84	55	36.5	70.5	103.5

## SDB type



Bore size\Item	D	Q	CA	CB	CD	CE	CF	CH	CP	CQ	CT	CR
8	11	8.1	16.4	76	20	-	12.5	24	4.5	12.1	2	-
10	11	8.1	16.4	76	20	-	12.5	24	4.5	12.1	2	-
12	13	12.1	26	91	25	-	15	27	5.5	16.1	2	-
16	13	12.1	26	98	25	-	15	27	5.5	16.1	2	-
20	16	16.1	35	115	32	-	20	30	7	21.1	2.5	-
25	16	16.1	35	126	32	-	20	30	7	21.1	2.5	-
32	20	34.6	53.6	117	41	20	24	35	7	44.6	3	67
40	27	42.6	65.6	146	52	28	30	40	9	54.6	3	81

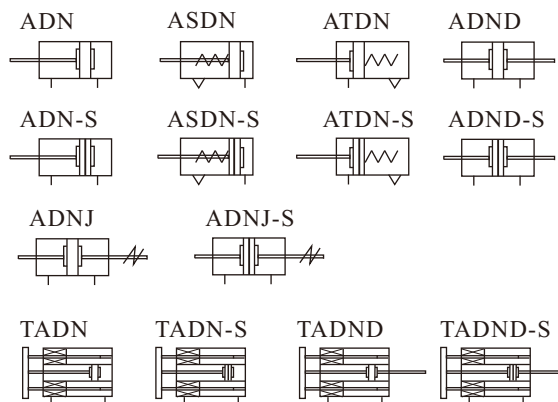
[Note] SDB is attached with relevant PIN.



## Product feature

- In accordance with ISO21287 standard, the mounting size is vogue.
- The cylinder body connects with the threads of the front and back cover, forming high strength and convenient maintenance.
- The internal diameter of the body is treated with rolling followed by the treatment of hard anodizing, forming an excellent abrasion resistance and durability.
- The seal of piston adopts heterogeneous two-way seal structure. It has compact dimension and the function of oil reservation.
- Compact structure can effectively save fifty percent installation space with ISO15552 standard cylinder.
- There are magnetic switch slots around the cylinder body, which is convenient to install inducting switch.
- Bumper is available and it can availably absorb excrescent energy.
- Installing accessorirs with various specifications are optional.

## Symbol



## Specification

Bore size(mm)		12	16	20	25	32	40	50	63	80	100	125	
Acting type		Double acting											
		Single acting_Push type, Single acting_Pull type										-	
Fluid		Air(to be filtered by 40μm filter element)											
Operating pressure	Double acting	0.15~1.0MPa(22~145psi)											
	Single acting	0.2~1.0MPa(28~145psi)											
Proof pressure		1.5MPa(215psi)											
Temperature °C		-20~70											
Speed range mm/s		Double acting: 30~500					Single acting: 50~500						
Stroke tolerance		Stroke≤100 <sup>+1.0</sup> <sub>0</sub>					Stroke>100 <sup>+1.5</sup> <sub>0</sub>						
Cushion type		Bumper											
Port size [Note1]		M5×0.8					G1/8					G1/4	

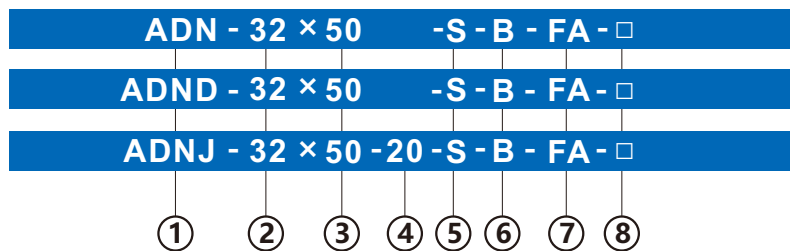
[Note1] The standard thread type is G thread, Please control us for other thread type.

## Standard Stroke

Bore size (mm)		Standard stroke (mm)											Max.stroke	
Common type	Double acting	12	5 10 15 20 25 30 35 40 45 50											50
		16	5 10 15 20 25 30 35 40 45 50 55 60 70 75											75
		20	5 10 15 20 25 30 35 40 45 50 55 60 70 75 80 90 100											100
		25	5 10 15 20 25 30 35 40 45 50 55 60 70 75 80 90 100 110 120 125 150											150
		32 40	5 10 15 20 25 30 35 40 45 50 55 60 70 75 80 90 100 110 120 125 150 160 175 200											200
		50 63	5 10 15 20 25 30 35 40 45 50 55 60 70 75 80 90 100 110 120 125 150 160 175 200 225 250											250
		80 100 125	5 10 15 20 25 30 35 40 45 50 55 60 70 75 80 90 100 110 120 125 150 160 175 200 225 250 275 300											300
Non-rotating with yoke	Single acting	12	5 10											10
		16~100	5 10 15 20 25											25
		12	5 10 15 20 25 30 35 40 45 50											50
		16	5 10 15 20 25 30 35 40 45 50 55 60 70 75											75
		20 25 32 40	5 10 15 20 25 30 35 40 45 50 55 60 70 75 80 90 100											100
		50 63 80 100	5 10 15 20 25 30 35 40 45 50 55 60 70 75 80 90 100											100

[Note] Consult us for non-standard stroke.

## Ordering code



### ① Model

- AND: Compact cylinder(Double acting)
- ASDN: Compact cylinder(Single acting-push)
- ATDN: Compact cylinder(Single acting-pull)
- ADND: Compact cylinder(Double rod)
- ADNJ: Compact cylinder(Adjustable stroke)
- TADN: Compact cylinder  
(Double acting non-rotating with yoke)
- TADND: Compact cylinder  
(Double rod non-rotating with yoke)

### ⑦ Mounting type [Note1]

Mounting type	Series
Blank: No accessories FA: FA type FB: FB type CA: CA type CB: CB type	AND ASDN ATDN
CR: CR type FTC: FTC type LB: LB type SDB: SDB type	
Blank: No accessories FB: FB type CA: CA type	TADN
CB: CB type CR: CR type FTC: FTC type	
Blank: No accessories FB: FB type	TADND
Blank: No accessories FA: FA type FTC: FTC type LB: LB type	ADND ADNJ

### ⑥ Rod type

Rod type	Series
Blank: Female thread	AND ASDN ATDN
B: Male thread	ADND ADNJ
No this code	TADN TADND

### ⑧ Thread type

Blank: G thread
PT: PT thread

### ② Bore size

Bore size	Series
12 16 20 25 32 40 50 63 80 100 125	ADN ADND ADNJ
12 16 20 25 32 40 50 63 80 100	ASDN ATDN TADN TADND

### ③ Stroke

Refer to stroke table for details

### ⑤ Magnet

Blank: Without magnet  
S: With magnet

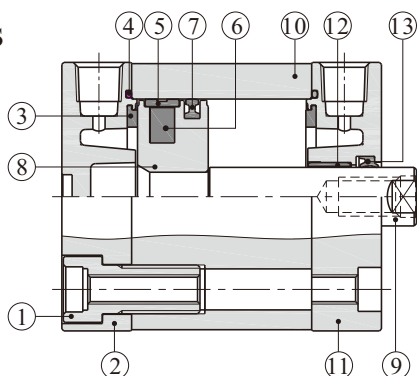
### ④ Adjustable stroke

Series	Adjustable stroke
ADNJ series	10: 10mm
	20: 20mm
	30: 30mm
	40: 40mm
	50: 50mm
	75: 75mm
100: 100mm	
Others series	No this code

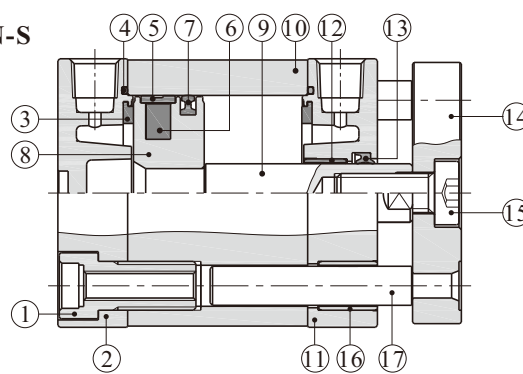
[Note1] CR must be used with CB, SDB must be used with CA, FTC must be used with TCM2.

## Inner structure and material of major parts

ADN-S



TADN-S

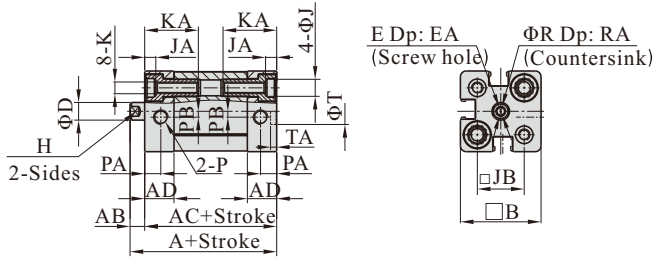


NO.	Item	Material	NO.	Item	Material
1	Screw	Carbon steel	10	Body	Aluminum alloy
2	Back cover	Aluminum alloy	11	Front cover	Aluminum alloy
3	Bumper	TPU	12	Bushing	Wear resistant material
4	O-ring	NBR	13	Front cover packing	NBR
5	Wear ring	Wear resistant material	14	Panel	Aluminum alloy
6	Magnet	Sintered metal or Plastic	15	Screw	Carbon steel
7	Piston seal	NBR	16	Bushing	Wear resistant material
8	Piston	Aluminum alloy	17	Guide rod	Stainless steel or S45C
9	Piston rod	S45C			

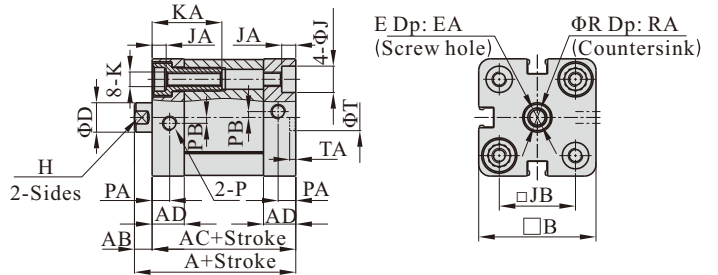
## Dimensions

### ADN series

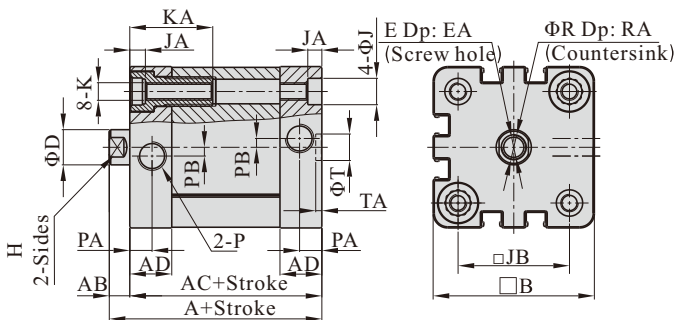
#### Φ12



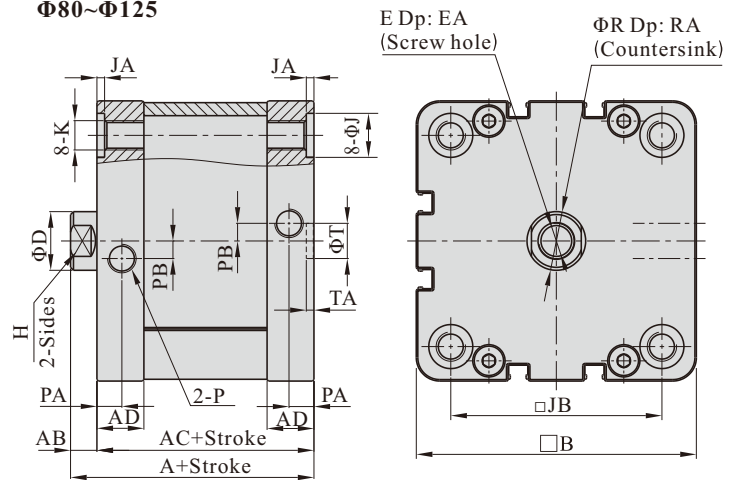
#### Φ16~Φ25



#### Φ32~Φ63



#### Φ80~Φ125



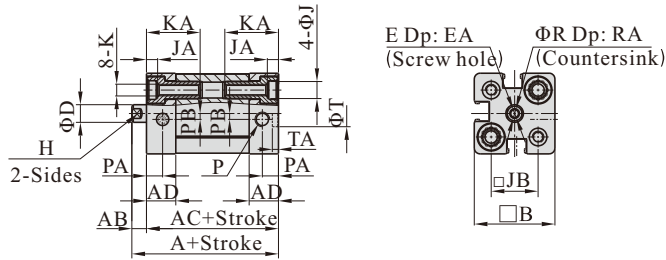
Bore size/Item	A	AB	AC	AD	B	D	E	EA	H	J	JA	JB	K	KA	P
12	40	5	35	10	27.5	6	M3×0.5	8	5	6	3.5	16	M4×0.7	18.5	M5×0.8
16	40	5	35	10	30	8	M4×0.7	10	7	6	3.5	18	M4×0.7	18.5	M5×0.8
20	43	6	37	10.5	35.5	10	M6×1.0	14	9	9	4.5	22	M5×0.8	23.5	M5×0.8
25	45	6	39	11	40	10	M6×1.0	14	9	9	4.5	26	M5×0.8	23.5	M5×0.8
32	51	7	44	14	49.5	12	M8×1.25	16	10	9	4.5	32.5	M6×1.0	28.5	G1/8
40	52.5	7	45.5	14.5	55	12	M8×1.25	16	10	9	4.5	38	M6×1.0	28.5	G1/8
50	53.5	8	45.5	14.5	65.5	16	M10×1.5	20	13	11	4.5	46.5	M8×1.25	30.5	G1/8
63	57	8	49	15	75.5	16	M10×1.5	20	13	11	4.5	56.5	M8×1.25	30.5	G1/8
80	63	9	54	16	95.5	20	M12×1.75	20	17	15	2.5	72	M10×1.5	—	G1/8
100	76	9	67	19	113.5	20	M12×1.75	20	17	15	2.5	89	M10×1.5	—	G1/8
125	92	11	81	20	134.5	25	M16×2.0	25	21	—	—	110	M12×1.75	—	G1/4

Bore size/Item	PA	PB	R	RA	T	TA
12	5.5	2	3.5	1.5	9	2.1
16	5.5	2	4.5	1.5	9	2.1
20	6	2	6.5	2.5	9	2.1
25	6	2	6.5	2.5	9	2.1
32	7.5	3	8.5	3.5	9	2.1
40	7.5	3	8.5	3.5	9	2.1
50	7.5	3	10.5	4.5	12	2.6
63	7.5	4	10.5	4.5	12	2.6
80	8.5	6	12.5	6	12	2.6
100	10.5	7	12.5	6	12	2.6
125	10.5	8	16.5	7	12	2.6

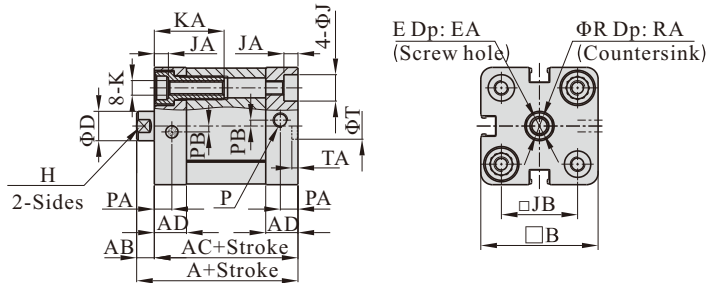
Remark: The dimensions of magnet type cylinder are the same as non-magnet type cylinder.  
Please refer to page 112 for male thread dimensions.

## ASDN series

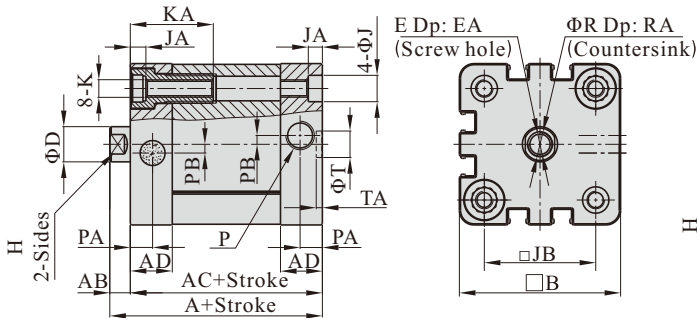
### Φ12



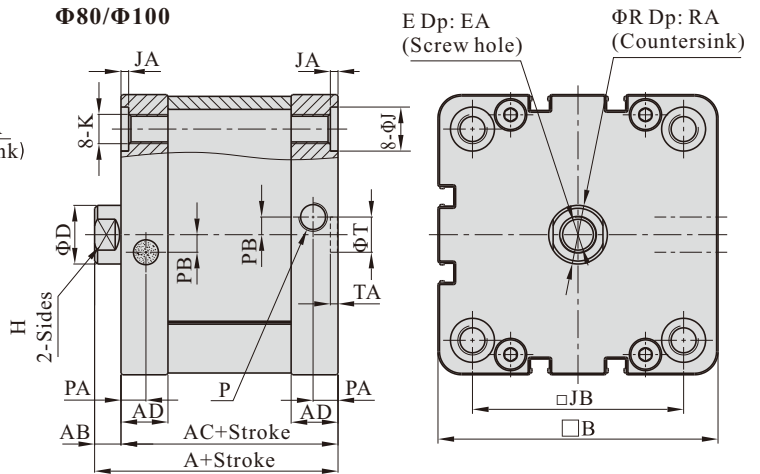
### Φ16~Φ25



### Φ32~Φ63



### Φ80/Φ100



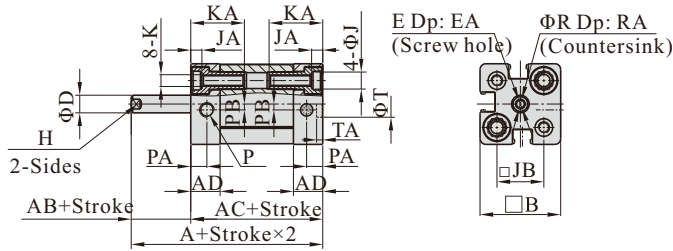
Bore size\Item	A	AB	AC	AD	B	D	E	EA	H	J	JA	JB	K	KA	P
12	40	5	35	10	27.5	6	M3×0.5	8	5	6	3.5	16	M4×0.7	18.5	M5×0.8
16	40	5	35	10	30	8	M4×0.7	10	7	6	3.5	18	M4×0.7	18.5	M5×0.8
20	43	6	37	10.5	35.5	10	M6×1.0	14	9	9	4.5	22	M5×0.8	23.5	M5×0.8
25	45	6	39	11	40	10	M6×1.0	14	9	9	4.5	26	M5×0.8	23.5	M5×0.8
32	51	7	44	14	49.5	12	M8×1.25	16	10	9	4.5	32.5	M6×1.0	28.5	G1/8
40	52.5	7	45.5	14.5	55	12	M8×1.25	16	10	9	4.5	38	M6×1.0	28.5	G1/8
50	53.5	8	45.5	14.5	65.5	16	M10×1.5	20	13	11	4.5	46.5	M8×1.25	30.5	G1/8
63	57	8	49	15	75.5	16	M10×1.5	20	13	11	4.5	56.5	M8×1.25	30.5	G1/8
80	63	9	54	16	95.5	20	M12×1.75	20	17	15	2.5	72	M10×1.5	—	G1/8
100	76	9	67	19	113.5	20	M12×1.75	20	17	15	2.5	89	M10×1.5	—	G1/8

Bore size\Item	PA	PB	R	RA	T	TA
12	5.5	2	3.5	1.5	9	2.1
16	5.5	2	4.5	1.5	9	2.1
20	6	2	6.5	2.5	9	2.1
25	6	2	6.5	2.5	9	2.1
32	7.5	3	8.5	3.5	9	2.1
40	7.5	3	8.5	3.5	9	2.1
50	7.5	3	10.5	4.5	12	2.6
63	7.5	4	10.5	4.5	12	2.6
80	8.5	6	12.5	6	12	2.6
100	10.5	7	12.5	6	12	2.6

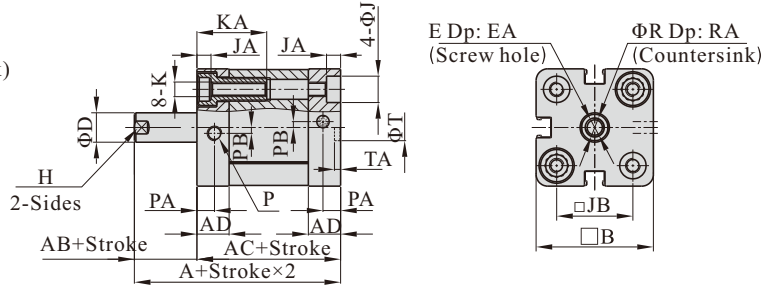
Remark: The dimensions of magnet type cylinder are the same as non-magnet type cylinder.  
Please refer to page 112 for male thread dimensions.

## ATDN series

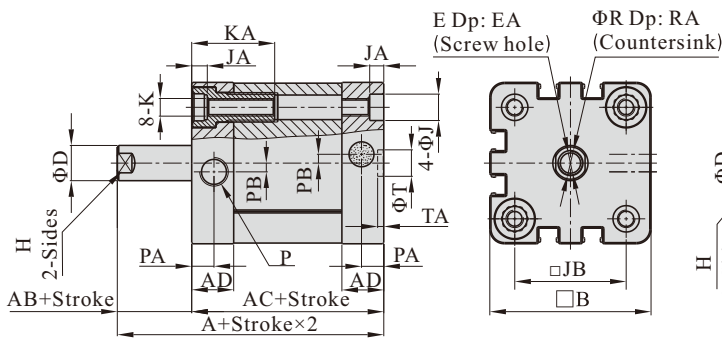
Φ12



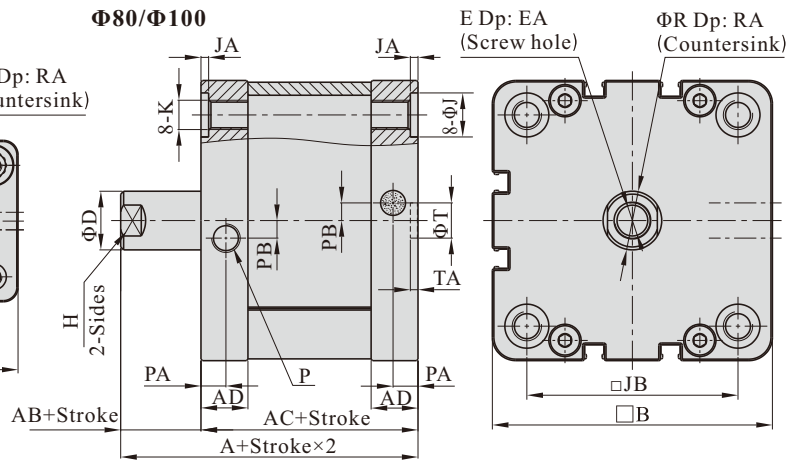
Φ16~Φ25



Φ32~Φ63



Φ80/Φ100



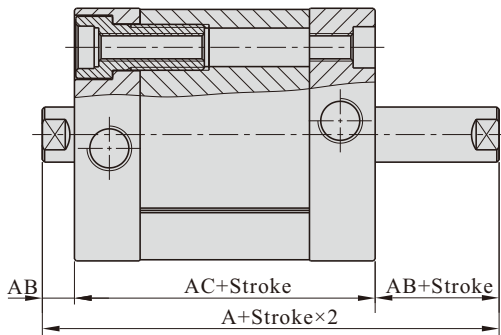
Bore size\Item	A	AB	AC	AD	B	D	E	EA	H	J	JA	JB	K	KA	P
12	40	5	35	10	27.5	6	M3×0.5	8	5	6	3.5	16	M4×0.7	18.5	M5×0.8
16	40	5	35	10	30	8	M4×0.7	10	7	6	3.5	18	M4×0.7	18.5	M5×0.8
20	43	6	37	10.5	35.5	10	M6×1.0	14	9	9	4.5	22	M5×0.8	23.5	M5×0.8
25	45	6	39	11	40	10	M6×1.0	14	9	9	4.5	26	M5×0.8	23.5	M5×0.8
32	51	7	44	14	49.5	12	M8×1.25	16	10	9	4.5	32.5	M6×1.0	28.5	G1/8
40	52.5	7	45.5	14.5	55	12	M8×1.25	16	10	9	4.5	38	M6×1.0	28.5	G1/8
50	53.5	8	45.5	14.5	65.5	16	M10×1.5	20	13	11	4.5	46.5	M8×1.25	30.5	G1/8
63	57	8	49	15	75.5	16	M10×1.5	20	13	11	4.5	56.5	M8×1.25	30.5	G1/8
80	63	9	54	16	95.5	20	M12×1.75	20	17	15	2.5	72	M10×1.5	—	G1/8
100	76	9	67	19	113.5	20	M12×1.75	20	17	15	2.5	89	M10×1.5	—	G1/8

Bore size\Item	PA	PB	R	RA	T	TA
12	5.5	2	3.5	1.5	9	2.1
16	5.5	2	4.5	1.5	9	2.1
20	6	2	6.5	2.5	9	2.1
25	6	2	6.5	2.5	9	2.1
32	7.5	3	8.5	3.5	9	2.1
40	7.5	3	8.5	3.5	9	2.1
50	7.5	3	10.5	4.5	12	2.6
63	7.5	4	10.5	4.5	12	2.6
80	8.5	6	12.5	6	12	2.6
100	10.5	7	12.5	6	12	2.6

Remark: The dimensions of magnet type cylinder are the same as non-magnet type cylinder.  
Please refer to page 112 for male thread dimensions.

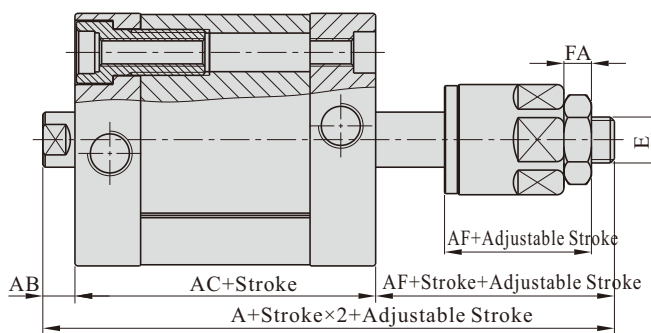


## ADND series



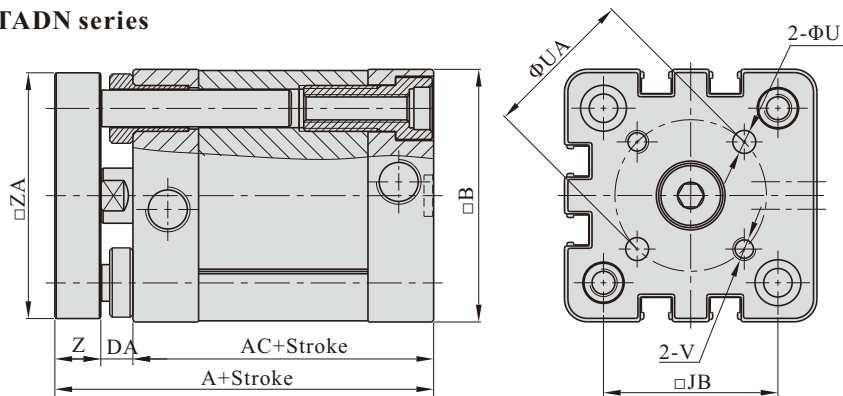
Bore size\Item	A(ADND)	A(ADNJ)	AB
12	45	57	5
16	45	61	5
20	49	68	6
25	51	70	6
32	58	78	7
40	59.5	79.5	7
50	61.5	81.5	8
63	65	85	8
80	72	92	9
100	85	105	9
125	103	127.5	11

## ADNJ series



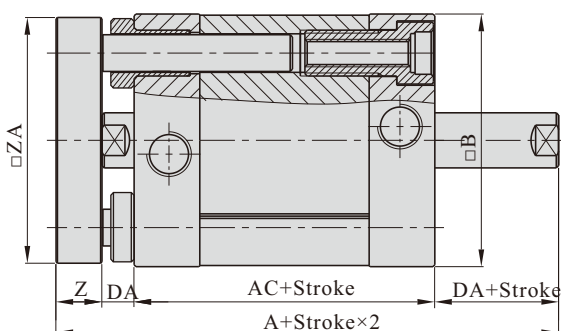
Bore size\Item	AC	AF	FA	E
12	35	17	4	M5×0.8
16	35	21	5	M6×1.0
20	37	25	6	M8×1.25
25	39	25	6	M8×1.25
32	44	27	6	M10×1.25
40	45.5	27	6	M10×1.25
50	45.5	28	7	M12×1.25
63	49	28	7	M12×1.25
80	54	29	8	M16×1.5
100	67	29	8	M16×1.5
125	81	35.5	10	M20×1.5

## TADN series



Bore size\Item	A(TADN)	A(TADND)
12	46	51
16	46	51
20	51	57
25	53	59
32	61	68
40	62.5	69.5
50	65.5	73.5
63	69	77
80	77	86
100	90	99

## TADND series

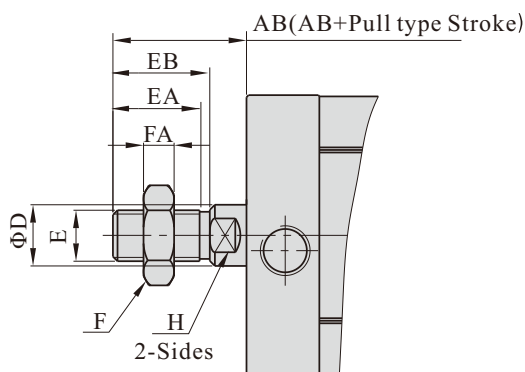


Bore size\Item	AC	B	DA	JB	U	UA	V	Z	ZA
12	35	27.5	5	16	3	12	M3×0.5	6	26.5
16	35	30	5	18	3	14	M3×0.5	6	29
20	37	35.5	6	22	4	17	M4×0.7	8	34.5
25	39	40	6	26	5	22	M5×0.8	8	39
32	44	49.5	7	32.5	5	28	M5×0.8	10	48
40	45.5	55	7	38	5	33	M5×0.8	10	53.5
50	45.5	65.5	8	46.5	6	42	M6×1.0	12	64
63	49	75.5	8	56.5	6	50	M6×1.0	12	74
80	54	95.5	9	72	8	65	M8×1.25	14	94
100	67	113.5	9	89	10	80	M10×1.5	14	112

Remark:

1. The unmarked dimension is the same as ADN standard type
2. The dimensions of magnet type cylinder are the same as non-magnet type cylinder.

## Male thread



Bore size\Item	AB	D	E	EA	EB	F	FA	H
12	15	6	M5×0.8	9	10	8	4	5
16	17	8	M6×1.0	11	12	10	5	7
20	22	10	M8×1.25	15	16	12	6	9
25	22	10	M8×1.25	15	16	12	6	9
32	26	12	M10×1.25	17	19	17	6	10
40	26	12	M10×1.25	17	19	17	6	10
50	30	16	M12×1.25	20	22	17	7	13
63	30	16	M12×1.25	20	22	17	7	13
80	37	20	M16×1.5	26	28	23	8	17
100	37	20	M16×1.5	26	28	23	8	17
125	51	25	M20×1.5	38	40	26	10	21

## List for ordering code of accessories

Accessories Bore size	Mounting accessories							
	LB	FA/FB	CA	CB	CR	SDB	FTC	TCM2
12	F-ACE12LB	F-ACE12FA	F-ACE12CA	-	-	F-MI12SDB	-	-
16	F-ACP12LB	F-ACE16FA	F-ACE16CA	-	-	F-MI12SDB	-	-
20	F-ACP20LB	F-ACE20FA	F-ACE20CA	-	-	F-MI20SDB	-	-
25	F-ACP25LB	F-ACE25FA	F-ACE25CA	-	-	F-MI20SDB	-	-
32	F-ACE32LB	F-SI32FA	F-SE32CA	F-SE32CB	F-SI32CR	-	F-SI32FTC	F-SI32TCM2
40	F-ACE40LB	F-SI40FA	F-SE40CA	F-SE40CB	F-SI40CR	-	F-SI40FTC	F-SI40TCM2
50	F-ACE50LB	F-SI50FA	F-SE50CA	F-SE50CB	F-SI50CR	-	F-SI50FTC	F-SI40TCM2
63	F-ACE63LB	F-SI63FA	F-SE63CA	F-SE63CB	F-SI63CR	-	F-SI63FTC	F-SI63TCM2
80	F-ACE80LB	F-SI80FA	F-SE80CA	F-SE80CB	F-SI80CR	-	F-SI80FTC	F-SI63TCM2
100	F-ACE100LB	F-SI100FA	F-SE100CA	F-SE100CB	F-SI100CR	-	F-SI100FTC	F-SI125TCM2
125	-	F-SI125FA	F-SE125CA	F-SE125CB	F-SI125CR	-	F-SI125FTC	F-SI125TCM2

Accessories Bore size	Knuckle				Sensor switch	
	I	Y	F	U	CS1-E	DS1-E
12	F-ACQ12I	F-ACQ12Y	F-M5X080F	F-M5X080U	CS1-E	DS1-E
16	F-M6X100I	F-M6X100Y	F-M6X100F	F-M6X100U		
20	F-M8X125I	F-M8X125Y	F-M8X125F	F-M8X125U		
25						
32	F-M10X125I	F-M10X125Y	F-M10X125F	F-M10X125U		
40						
50	F-M12X125I	F-M12X125Y	F-M12X125F	F-M12X125U		
63						
80	F-M16X150I	F-M16X150Y	F-M16X150F	F-M16X150U		
100						
125	F-M20X150I	F-M20X150Y	F-M20X150F	F-M20X150U		

## Accessory selection

Cylinder model\Accessories			Mounting accessories								Knuckle				Sensor switch		
			LB	FA	FB	CA	CB	CR	SDB	FTC	TCM2	I	Y	U	F	CS1-E	DS1-E
ADN	Female thread	Without magnet													×	×	
		With magnet	●	●	●	●	●	●	●	●	●	×	×	×	×	●	●
	Male thread	Without magnet										●	●	●	●	×	×
		With magnet										●	●	●	●	●	●
ASDN ATDN	Female thread	Without magnet													×	×	
		With magnet	●	●	●	●	●	●	●	●	●	×	×	×	×	●	●
	Male thread	Without magnet										●	●	●	●	×	×
		With magnet										●	●	●	●	●	●
ADND ADNJ	Female thread	Without magnet													×	×	
		With magnet	●	●	×	×	×	×	×	●	●	×	×	×	×	●	●
	Male thread	Without magnet										●	●	●	●	×	×
		With magnet										●	●	●	●	●	●
TADN	Female thread	Without magnet	×	×	●	●	●	●	●	●	×	×	×	×	×	×	
		With magnet	×	×	●	●	●	●	●	●	×	×	×	×	●	●	
TADND	Female thread	Without magnet	×	×	●	×	×	×	×	×	×	×	×	×	×	×	
		With magnet	×	×	●	×	×	×	×	×	×	×	×	×	●	●	

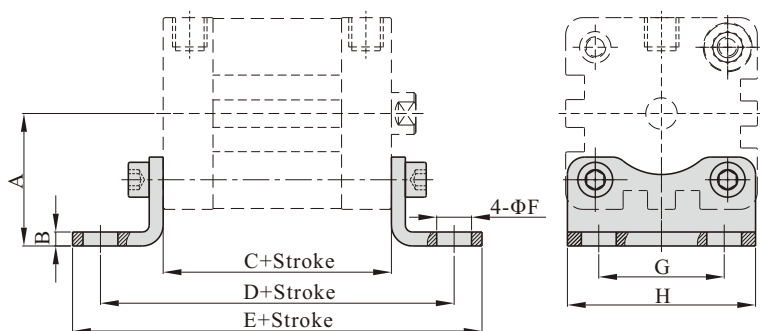
## Material of accessories

Accessories Bore size	Mounting accessories									Knuckle			
	LB	FA	FB	CA	CB	CR	SDB	FTC	TCM2	I	Y	F	U
12~25	△	●	●	●	-	-	△	■	●	□	□	□	□
32~100	△	●	●	◇	◇	◇	-	■	●	□	□	□	□
125	-	◇	◇	◇	◇	◇	-	■	●	□	□	□	□

●—Aluminum alloy; ■—Cast iron; ◇—Ductile Iron; △—SPCC; □—Carbon Steel

## Dimensions

### LB type

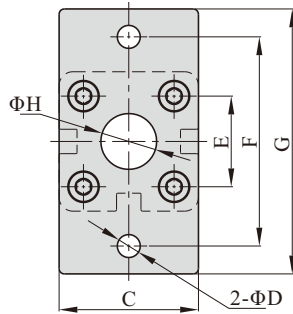
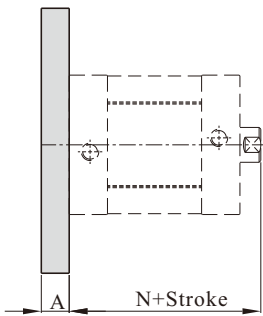


Bore size\Item	A	B	C	D	E	F	G	H
12	21	3	35	61	71	5.5	16	25
16	22	3	35	61	70.6	5.5	18	27
20	27	3.8	37	69	81.6	6.5	22	34
25	29	3.8	39	71	83.6	6.5	26	38
32	33.5	4	44	76	89	7	32	48
40	38	4	45.5	81.5	97.5	10	36	54
50	45	5	45.5	87.5	103	10	45	65
63	50	5	49	91	107	10	50	75
80	63	6	54	106	127	12	63	95
100	74	6	67	121	146	14.5	75	112

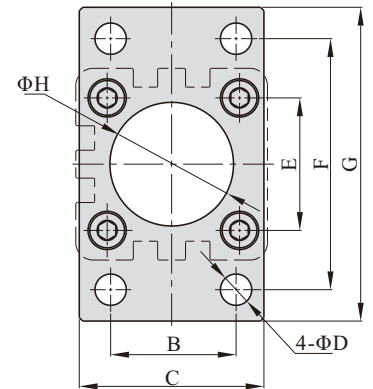
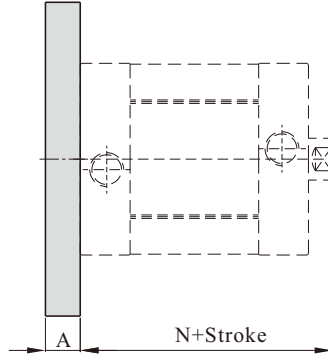
[Note] Valve C in the above table is only for ACE series.  
Please refer to relevant content for valve C of other series.

## FA/FB type

Φ12~Φ25



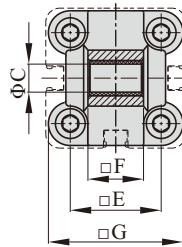
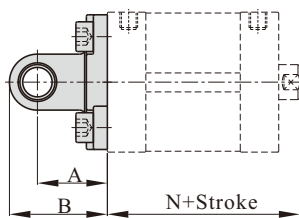
Φ32~Φ125



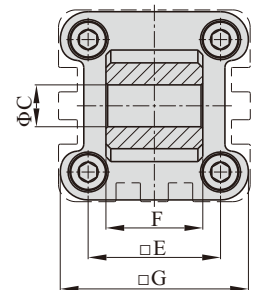
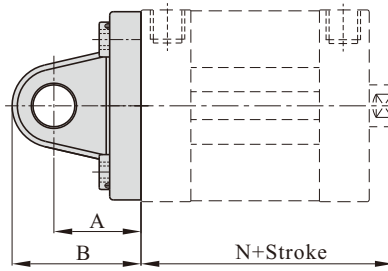
Bore size\Item	A	B	C	D	E	F	G	H	N
12	8	-	25	5.5	16	40	55	10	40
16	8	-	30	5.5	18	43	55	10	40
20	8	-	35	6.6	22	55	68	16	43
25	8	-	39.5	6.6	26	60	76	16	45
32	10	32	47	7	32.5	64	80	30.5	51
40	10	36	53	9	38	72	90	35.5	52.5
50	12	45	65	9	46.5	90	108	40.5	53.5
63	12	50	75	9	56.5	100	118	45.5	57
80	16	63	95	12.5	72	126	150	45.5	63
100	16	75	115	14.5	89	150	176	55.5	76
125	20	90	139	16.5	110	180	218	60.5	92

## CA type

Φ12~Φ25



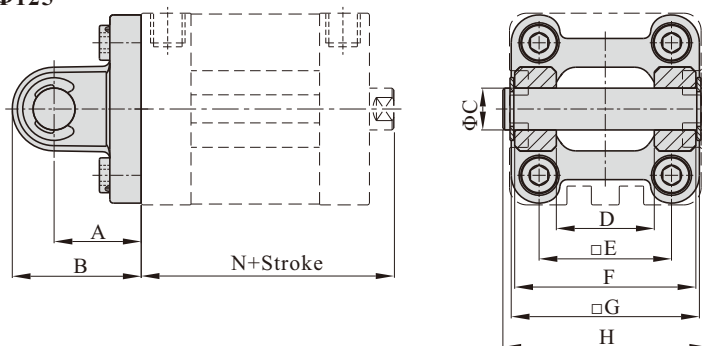
Φ32~Φ125



Bore size\Item	A	B	C	E	F	G	N
12	16	22	6	16	11.9	24	40
16	16	22	6	18	11.9	28.5	40
20	20	28	8	22	15.9	34.5	43
25	20	28	8	26	15.9	38.5	45
32	22	32.5	10	32.5	25.8	46.5	51
40	25	37	12	38	27.8	54	52.5
50	27	39	12	46.5	31.7	64	53.5
63	32	47	16	56.5	39.7	75	57
80	36	51.5	16	72	49.7	93	63
100	41	61	20	89	59.7	110	76
125	50	74	25	110	69.7	134	92

## CB type

Φ32~Φ125

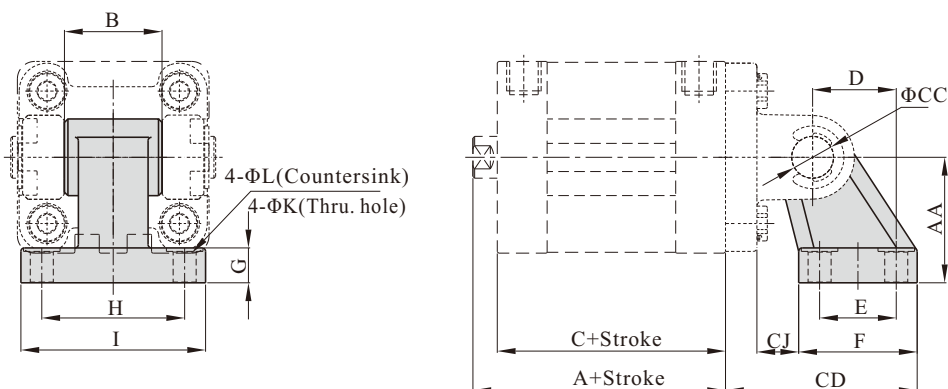


Bore size\Item	A	B	C	D	E	F	G	H	N
32	22	32.5	10	26	32.5	45	46.5	51	51
40	25	37	12	28	38	52	54	59	52.5
50	27	39	12	32	46.5	60	64	67	53.5
63	32	47	16	40	56.5	70	75	77	57
80	36	51.5	16	50	72	90	93	97	63
100	41	61	20	60	89	110	110	119	76
125	50	74	25	70	110	130	134	139	92

[Note] CB is attached with relevant PIN.

## CR type

Φ32~Φ125

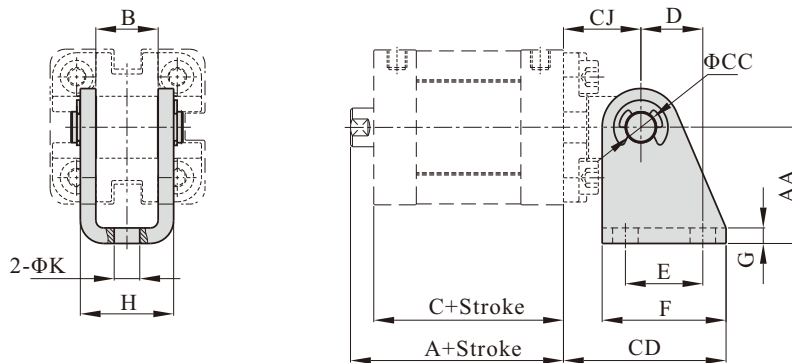


Bore size\Item	A	AA	B	C	CC	CD	CJ	D	E	F	G	H	I	K	L
32	51	32	26	44	10	50	10	21	18	31	8	38	51	6.6	11
40	52.5	36	28	45.5	12	56	12	24	22	35	10	41	54	6.6	11
50	53.5	45	32	45.5	12	68	13	33	30	45	12	50	65	9	14
63	57	50	40	49	16	77	17	37	35	50	12	52	67	9	14
80	63	63	50	54	16	93	19	47	40	60	14	66	86	11	17
100	76	71	60	67	20	106	22	55	50	70	15	76	96	11	17
125	92	90	70	81	25	135	26	70	60	90	20	94	124	14	20

[Note] CR can't be used alone, it must be used with CB.

## SDB type

Φ12~Φ25

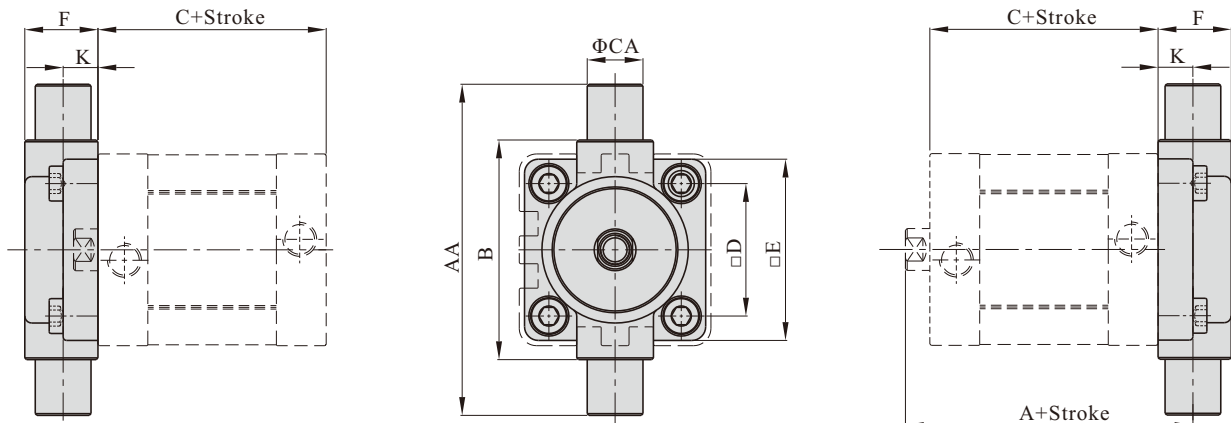


Bore size\Item	A	AA	B	C	CC	CD	CJ	D	E	F	G	H	K
12	40	27	12.1	35	6	34	16	13	15	25	2	18.1	5.5
16	40	27	12.1	35	6	34	16	13	15	25	2	18.1	5.5
20	43	30	16.1	37	8	42	20	16	20	32	2.5	24.1	6.6
25	45	30	16.1	39	8	42	20	16	20	32	2.5	24.1	6.6

[Note] SDB can't be used alone, it must be used with CA.

## FTC type

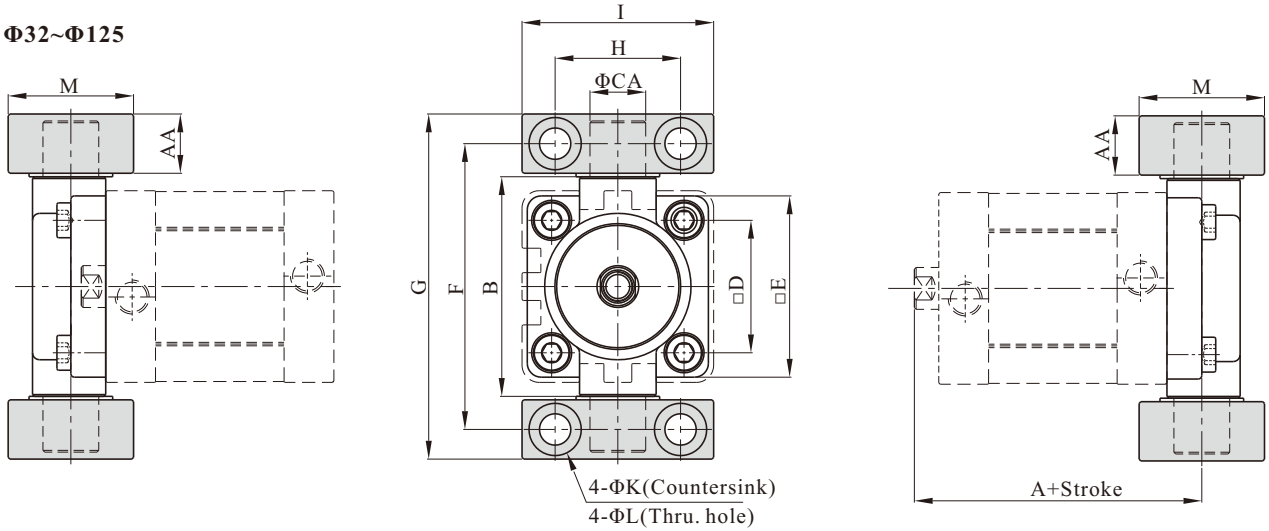
Φ32~Φ125



Bore size\Item	A	AA	B	C	CA	D	E	F	K
32	63	74	50	44	12	32.5	46	19	10
40	66.5	95	63	45.5	16	38	52	21	10
50	71.5	107	75	45.5	16	46.5	64	26	12
63	77	130	90	49	20	56.5	74	28	12
80	85	150	110	54	20	72	94	31	16
100	102	185	132	67	25	89	114	35	16
125	124	210	160	81	25	110	139	43	20

## TCM2 type

Φ32~Φ125

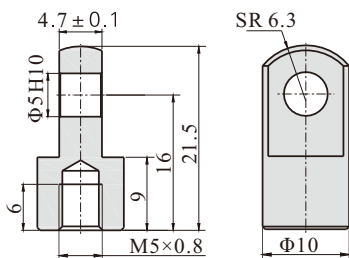


Bore size\Item	A	AA	B	CA	D	E	F	G	H	I	K	L	M
32	63	14	52	12	32.5	46	66	80	32	46	11	7	30
40	66.5	17	65	16	38	52	82	99	36	55	15	9	36
50	71.5	17	75	16	46.5	64	94	111	36	55	15	9	36
63	77	20.5	90	20	56.5	74	113.5	134	42	65	18	11	40
80	85	20.5	112	20	72	94	133.5	154	42	65	18	11	40
100	102	24.5	135	25	89	114	159.5	184	50	75	20	14	50
125	124	24.5	170	25	110	139	187.5	212	50	75	20	14	50

[Note] TCM2 can't be used alone, it must be used with FTC.  
The installation position of the accessories can not be adjusted arbitrarily.

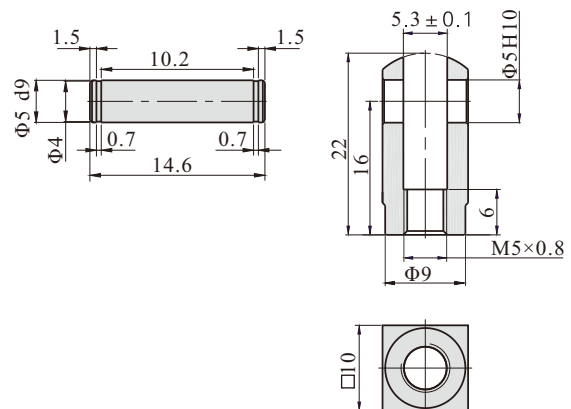
## I Knuckle

F-ACQ12I



## Y Knuckle

F-ACQ12Y

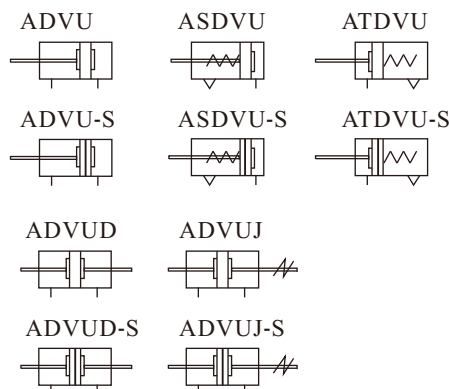




## Product feature

1. DIN standard cylinder.
2. The cylinder body connects with the threads of the front and back cover, forming high strength and convenient maintenance.
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.

## Symbol



## 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 40μm 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	0~150 <sup>+1.0</sup> <sub>0</sub> >150 <sup>+1.4</sup> <sub>0</sub>									
Cushion type	Bumper									
Port size [Note1]	M5×0.8				G1/8				G1/4	

[Note1] The standard thread type is G thread, Please control us for other thread type.

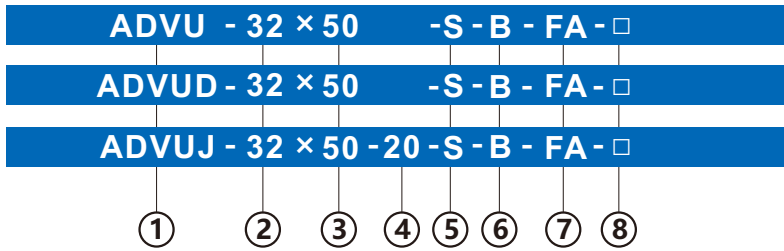
## Standard Stroke

Bore size (mm)		Standard stroke (mm)	Max. std stroke	Max. stroke
12 16	Double acting	5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 110 120 125 150 160 175 200	200	200
	Single acting	5 10	10	-
20 25	Double acting	5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 110 120 125 150 160 175 200	200	200
	Single acting	5 10 15 20 25	25	-
32 40 50 63	Double acting	5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 110 120 125 150 160 175 200 225 250 275 300	300	300
	Single acting	5 10 15 20 25	25	-
80 100	Double acting	5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 110 120 125 150 160 175 200 225 250 275 300 325 350 375 400	400	400
	Single acting	5 10 15 20 25	25	-

[Note] Consult us for non-standard stroke.



## Ordering code



### ① Model

ADVU: Tight cylinder(Double acting)  
 ASDVU: Tight cylinder(Single acting-push)  
 ATDVU: Tight cylinder(Single acting-pull)  
 ADVUD: Tight cylinder(Double rod)  
 ADVUJ: Tight cylinder(Adjustable stroke)

### ② Bore size

12 16 20 25 32 40 50 63 80 100

### ③ Stroke

Refer to stroke table for details

### ④ Adjustable stroke

Series	Adjustable stroke
ADVUJ series	10: 10mm
	20: 20mm
	30: 30mm
	40: 40mm
	50: 50mm
	75: 75mm
	100: 100mm
Others series	No this code

### ⑤ Magnet

Blank: Without magnet  
 S: With magnet

### ⑦ Mounting typ

Mounting type	Series
Blank: No accessories FA: FA type FB: FB type CA: CA type CB: CB type LB: LB type	ADVU ASDVU ATDVU
Blank: No accessories FA: FA type LB: LB type	ADVUD ADVUJ

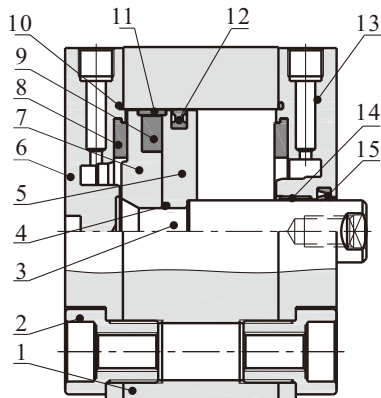
### ⑥ Rod type

Blank: Female thread  
 B: Male thread

### ⑧ Thread type

Blank: G thread  
 PT: PT thread

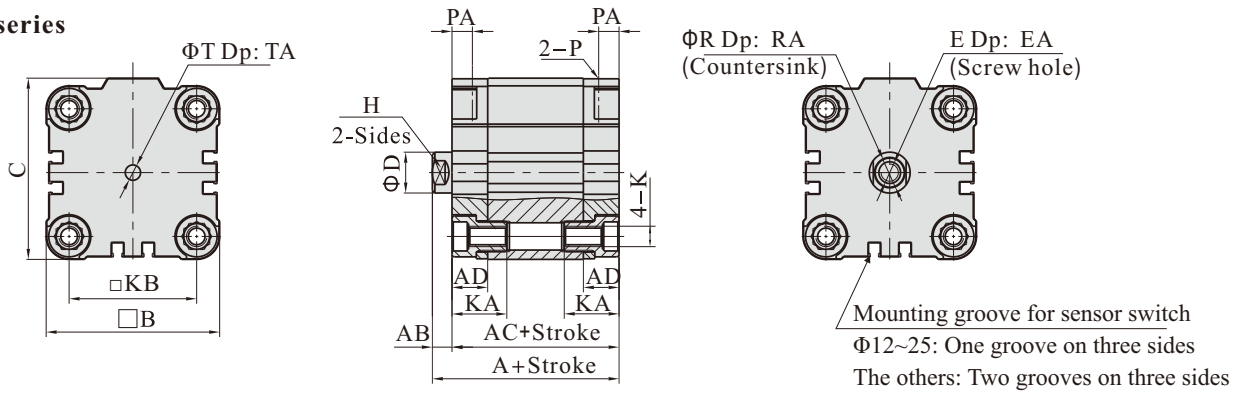
## Inner structure and material of major parts



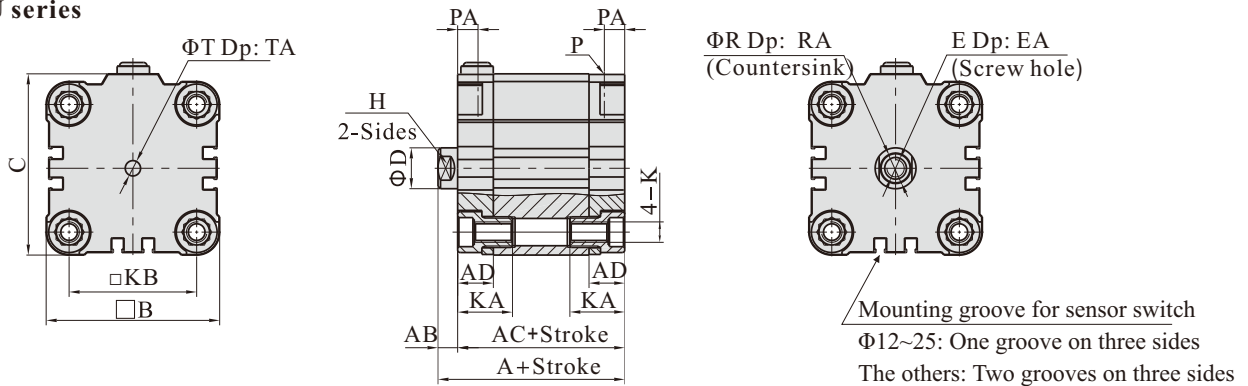
NO.	Item	Material
1	Body	Aluminum alloy
2	Screw	Carbon steel
3	Piston rod	Φ12~25: Stainless steel
		Others: S45C
4	O-ring	NBR
5	Piston	Aluminum alloy
6	Back cover	Aluminum alloy
7	Magnet holder	Aluminum alloy
8	Bumper	TPU
9	Magnet	Φ12~32: Sintered metal
		Others: Plastic
10	O-ring	NBR
11	Wear ring	Φ12~32: No
		Others: Wear resistant material
12	Piston seal	NBR
13	Front cover	Aluminum alloy
14	Bushing	Φ12~20: No
		Others: Wear resistant material
15	Front cover packing	NBR

## Dimensions

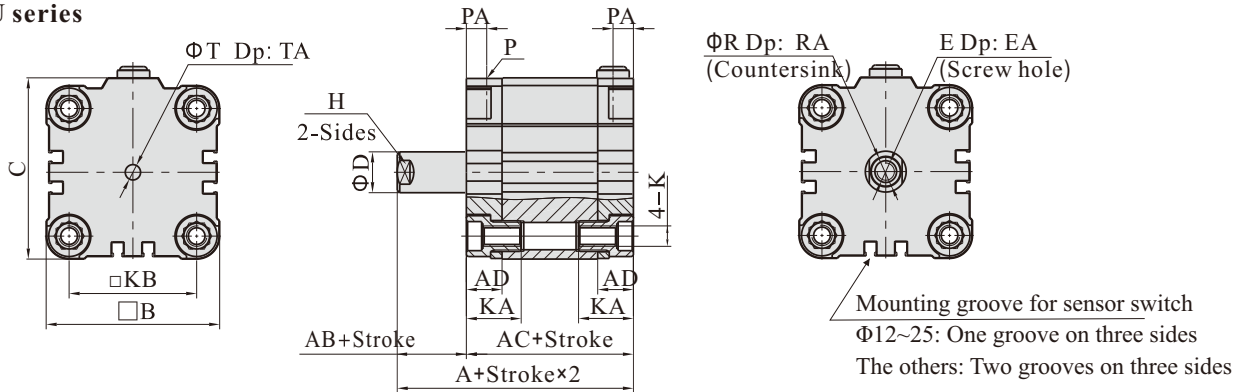
### ADVU series



### ASDVU series



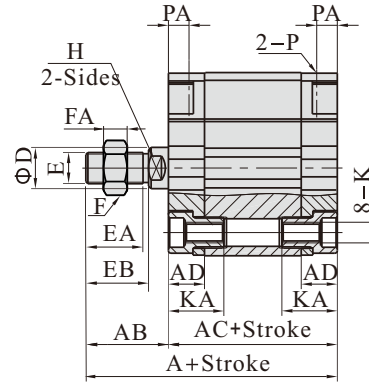
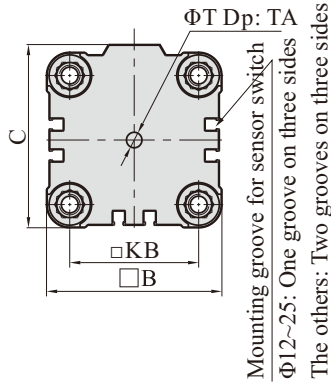
### ATDVU series



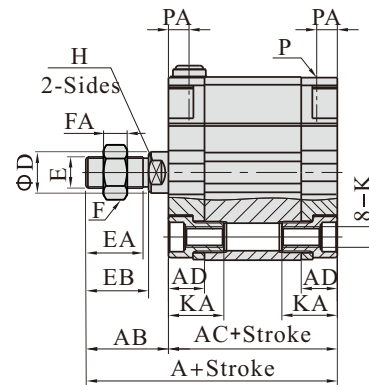
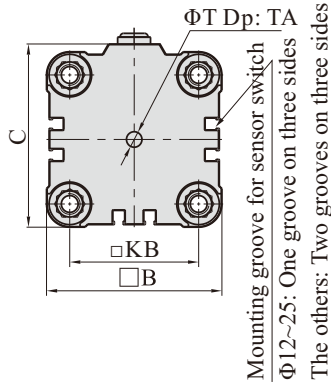
Bore size\Item	A	AB	AC	AD	B	C	D	E	EA	H	K	KA	KB	P	PA	R	RA	T	TA
12	42.5	4.5	38	11.5	29	30	6	M3×0.5	8	5	M4×0.7	18	18	M5×0.8	7	3.5	1.5	6	4
16	42.5	4.5	38	11.5	29	30	8	M4×0.7	10	6	M4×0.7	18	18	M5×0.8	7	4.5	1.5	6	4
20	42.5	4.5	38	11.5	36	37.5	10	M5×0.8	12	8	M5×0.8	18	22	M5×0.8	7	5.5	2	6	4
25	45	5.5	39.5	11.5	40	41.5	10	M5×0.8	12	8	M5×0.8	18	26	M5×0.8	7	5.5	2	6.1	4
32	50.5	6	44.5	14	50	52	12	M6×1.0	14	10	M6×1.0	21	32	G1/8	8	6.5	2.5	6.1	4
40	52	6.5	45.5	14	60	62.5	12	M6×1.0	14	10	M6×1.0	21	42	G1/8	8	6.5	2.5	6.1	4
50	53	7.5	45.5	14	68	71	16	M8×1.25	16	13	M8×1.25	21.5	50	G1/8	8	8.5	3.5	6.1	4
63	57.5	7.5	50	15	87	91	16	M8×1.25	16	13	M10×1.5	24	62	G1/8	8	8.5	3.5	8.1	4
80	64	8	56	16	107	111	20	M10×1.5	20	17	M10×1.5	27	82	G1/8	8.5	10.5	4.5	8.1	4
100	76.5	10	66.5	19	128	133	25	M12×1.75	24	22	M10×1.5	32	103	G1/4	10.5	12.5	6	8.1	4

Remark: The dimensions of magnet type cylinder are the same as non-magnet type cylinder.

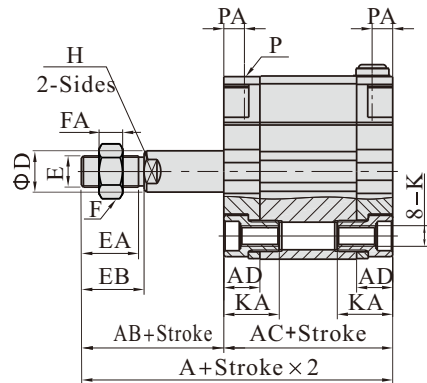
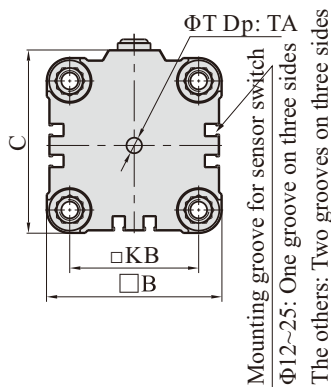
## ADVU-B series



## ASDVU-B series



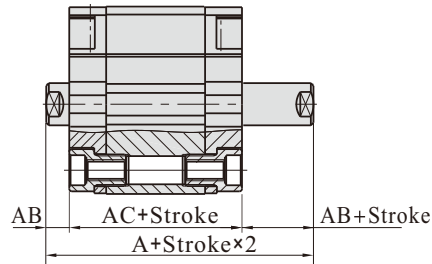
## ATDVU-B series



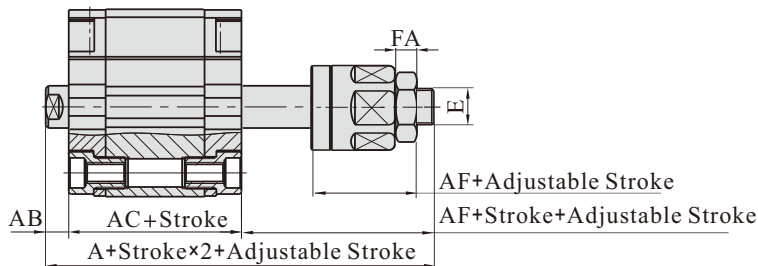
Bore size\Item	A	AB	AC	AD	B	C	D	E	EA	EB	F	FA	H	K	KA	KB	P	PA	T	TA
12	58.5	20.5	38	11.5	29	30	6	M6×1.0	15	16	10	5	5	M4×0.7	18	18	M5×0.8	7	6	4
16	62.5	24.5	38	11.5	29	30	8	M8×1.25	19	20	12	6	6	M4×0.7	18	18	M5×0.8	7	6	4
20	64.5	26.5	38	11.5	36	37.5	10	M10×1.25	20	22	17	6	8	M5×0.8	18	22	M5×0.8	7	6	4
25	67	27.5	39.5	11.5	40	41.5	10	M10×1.25	20	22	17	6	8	M5×0.8	18	26	M5×0.8	7	6.1	4
32	72.5	28	44.5	14	50	52	12	M10×1.25	20	22	17	6	10	M6×1.0	21	32	G1/8	8	6.1	4
40	74	28.5	45.5	14	60	62.5	12	M10×1.25	20	22	17	6	10	M6×1.0	21	42	G1/8	8	6.1	4
50	77	31.5	45.5	14	68	71	16	M12×1.25	22	24	17	7	13	M8×1.25	21.5	50	G1/8	8	6.1	4
63	81.5	31.5	50	15	87	91	16	M12×1.25	22	24	17	7	13	M10×1.5	24	62	G1/8	8	8.1	4
80	96	40	56	16	107	111	20	M16×1.5	30	32	23	8	17	M10×1.5	27	82	G1/8	8.5	8.1	4
100	116.5	50	66.5	19	128	133	25	M20×1.5	38	40	26	10	22	M10×1.5	32	103	G1/4	10.5	8.1	4

Remark: The dimensions of magnet type cylinder are the same as non-magnet type cylinder.

## ADVUD series



## ADVUJ series



Bore size\Item	A(ACPD)	A(ACPJ)	AB	AC	AF	E	FA
12	47	63.5	4.5	38	21	M6×1.0	5
16	47	67.5	4.5	38	25	M8×1.25	6
20	47	69.5	4.5	38	27	M10×1.25	6
25	50.5	72	5.5	39.5	27	M10×1.25	6
32	56.5	77.5	6	44.5	27	M10×1.25	6
40	58.5	79	6.5	45.5	27	M10×1.25	6
50	60.5	81	7.5	45.5	28	M12×1.25	7
63	65	85.5	7.5	50	28	M12×1.25	7
80	72	93	8	56	29	M16×1.5	8
100	86.5	112	10	66.5	35.5	M20×1.5	10

Remark)

1. The dimensions of magnet type cylinder are the same as non-magnet type cylinder.
2. Please refer to this page for male thread dimensions.
3. The unmarked dimension is the same as ADVU standard type.

## List for ordering code of accessories

Accessories Bore size	Mounting accessory				Knuckle		Sensor switch
	LB	FA/FB	CA	CB	F: F Knuckle	U: U Knuckle	
12	F-ADVU12LB	F-ADVU12FA	F-ADVU12CA	-	-	F-M6X100U	CS1-G DS1-G
16	F-ADVU12LB	F-ADVU12FA	F-ADVU12CA	-	F-M8X125F	F-M8X125U	
20	F-ADVU20LB	F-ADVU20FA	F-ADVU20CA	-	F-M10X125F	F-M10X125U	
25	F-ADVU25LB	F-ADVU25FA	F-ADVU25CA	-			
32	F-ADVU32LB	F-ADVU32FA	-	F-ADVU32CB	F-M12X125F	F-M12X125U	
40	F-ADVU40LB	F-ADVU40FA	-	F-ADVU40CB			
50	F-ADVU50LB	F-ADVU50FA	-	F-ADVU50CB			
63	F-ADVU63LB	F-ADVU63FA	-	F-ADVU63CB	F-M16X150F	F-M16X150U	
80	F-ADVU80LB	F-ADVU80FA	-	F-ADVU80CB	F-M20X150F	F-M20X150U	
100	F-ADVU100LB	F-ADVU100FA	-	F-ADVU100CB	F-M20X150F	F-M20X150U	

## Accessory selection

Cylinder model	Accessories	Mounting accessory					Knuckle		Sensor switch	
		LB	FA	FB	CA	CB	F	U	CS1-G	DS1-G
ADVU	Female thread	Standard					×	×	×	×
		With magnet	●	●	●	●	●	●	●	●
	Male thread	Standard	●	●	●	●	●	●	×	×
		With magnet	●	●	●	●	●	●	●	●
ASDVU ATDVU	Female thread	Standard					×	×	×	×
		With magnet	●	●	●	●	●	●	●	●
	Male thread	Standard	●	●	●	●	●	●	×	×
		With magnet	●	●	●	●	●	●	●	●
ADVUD ADVUJ	Female thread	Standard					×	×	×	×
		With magnet	●	●	×	×	×	×	●	●
	Male thread	Standard	●	●	×	×	×	×	×	×
		With magnet	●	●	●	●	●	●	●	●

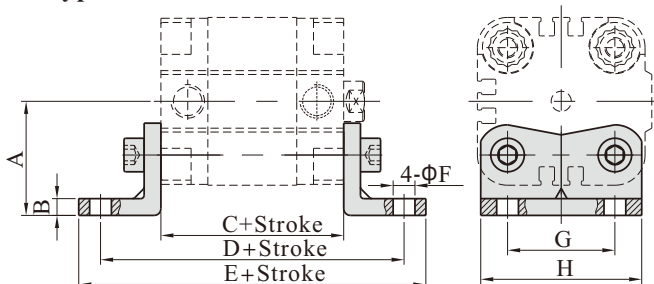
## Material of accessories

Accessories Bore size	Mounting accessories					Knuckle	
	LB	FA	FB	CA	CB	F	U
12~25	○	●	●	●	-	□	□
32~100	○	●	●	-	●	□	□

●—Aluminum alloy; ○—SPCC; □—Carbon Steel

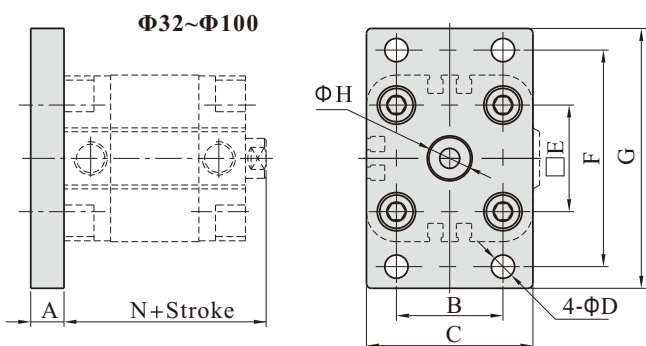
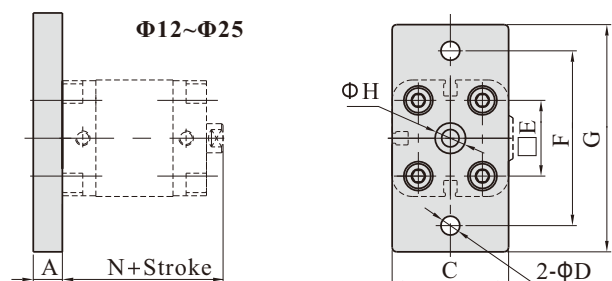
## Dimensions

### LB type



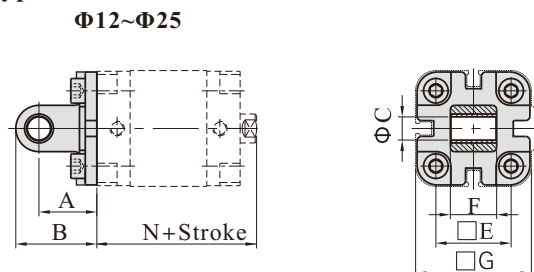
Bore size\Item	A	B	C	D	E	F	G	H
12	22	3	38	64	73.6	5.5	18	27
16	22	3	38	64	73.6	5.5	18	27
20	27	3.8	38	70	82.6	6.5	22	34
25	29	3.8	39.5	71.5	84	6.5	26	38
32	34	4.8	44.5	80.5	97.1	6.5	32	48
40	40.5	4.8	45.5	85.5	102.1	9	42	58
50	47	5.8	45.5	93.5	110.1	9	50	66
63	56.5	5.8	50	104	127.6	11	62	85
80	68.5	7.5	56	116	139.6	11	82	105
100	81	7.5	66.5	132.5	156.1	13.5	103	126

## FA/FB type

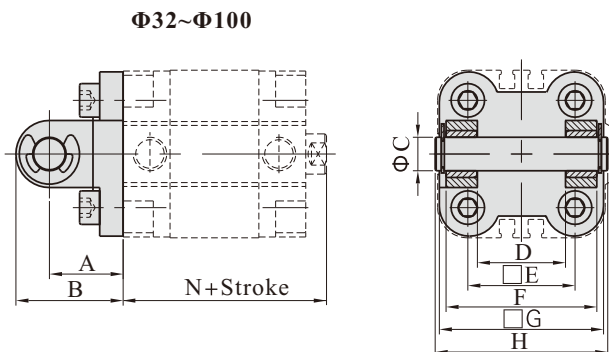


Bore size\Item	A	B	C	D	E	F	G	H	N
12	10	-	30	5.5	18	43	55	14	42.5
16	10	-	30	5.5	18	43	55	14	42.5
20	10	-	36	6.5	22	55	68	16	42.5
25	10	-	40	6.5	26	60	78	16	45
32	10	32	50	7	32	65	78	18	50.5
40	10	36	60	9	42	82	102	18	52
50	12	45	68	9	50	90	110	22	53
63	15	50	87	9	62	110	128	22	57.5
80	15	63	107	12	82	135	160	28	64
100	15	75	128	14	103	163	190	34	76.5

## CA type



## CB type



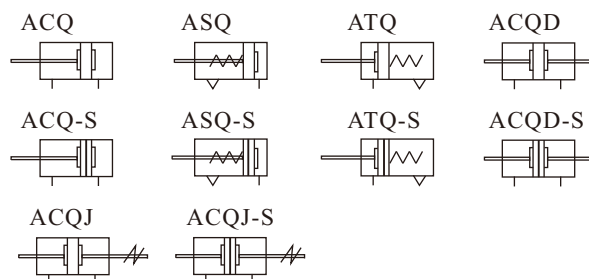
Bore size\Item	A	B	C	D	E	F	G	H	N
12	16	22	6	-	18	12	27.5	-	42.5
16	16	22	6	-	18	12	27.5	-	42.5
20	20	28	8	-	22	16	34.5	-	42.5
25	20	28	8	-	26	16	38.5	-	45
32	22	32	10	26	32	45	48	51.5	50.5
40	25	37	12	28	42	52	58	59	52
50	27	39	12	32	50	60	66	67	53
63	32	48	16	40	62	70	85	77	57.5
80	36	52	16	50	82	90	105	97	64
100	41	61	20	60	103	110	126	119	76.5



## 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.

## Symbol



## Specification

Bore size(mm)	12	16	20	25	32	40	50	63	80	100	125	140	160
Acting type	Double acting												
	Single acting_Push type, Single acting_Pull type										-		
Fluid	Air(to be filtered by 40μm filter element)												
Operating pressure	Double acting	0.15~1.0MPa(22~145psi)											
	Single acting	0.2~1.0MPa(28~145psi)											
Proof pressure	1.5MPa(215psi)												
Temperature °C	-20~70												
Speed range mm/s	Double acting: 30~500 Single acting: 50~500												
Stroke tolerance	Stroke≤100 <sup>+1.0</sup> <sub>0</sub> Stroke>100 <sup>+1.5</sup> <sub>0</sub>												
Cushion type	Bumper												
Port size [Note1]	M5×0.8				G1/8		G1/4		G3/8				

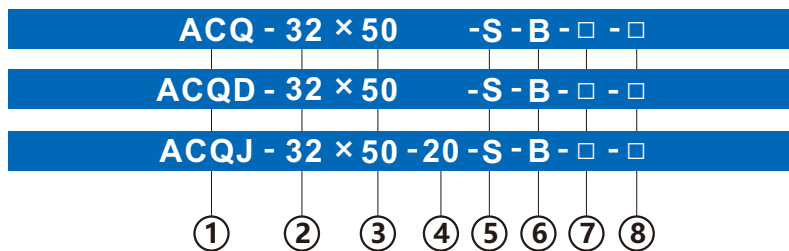
[Note1] The standard thread type is G thread, Please control us for other thread type.

## Standard Stroke

Bore size (mm)		Standard stroke (mm)	Max.std stroke
12	Double acting	5 10 15 20 25 30 35 40 45 50	50
	Single acting	5 10 15 20	20
16	Double acting	5 10 15 20 25 30 35 40 45 50 55 60	60
	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
	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 90 100 125 150 175 200 250 300	300
	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 90 100 125 150 175 200 250 300	300
125 140 160	Double acting	10 20 30 40 50 75 100 125 150 175 200 250 300	300

[Note] Consult us for non-standard stroke.

## Ordering code



### ① 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)

### ② Bore size

Bore size	Series
12 16 20 25 32 40 50 63 80	ACQ ACQD ACQJ
100 125 140 160	
12 16 20 25 32 40 50 63	ASQ ATQ

### ⑦ Mounting type

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

### ⑥ Rod type

- Blank: Female thread
- B: Male thread

### ⑧ Thread type [Note1]

- Blank: G thread
- PT: PT thread

### ③ Stroke

Refer to stroke table for details

### ⑤ Magnet

- Blank: Without magnet
- S: With magnet

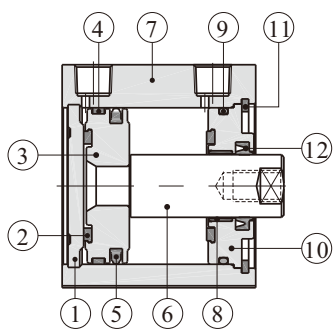
### ④ Adjustable stroke

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

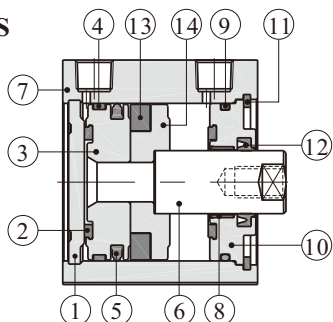
[Note1]Standard thread is blank here.

## Inner structure and material of major parts

ACQ



ACQ-S



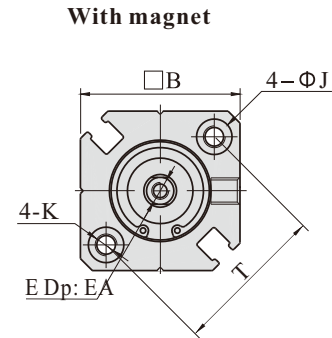
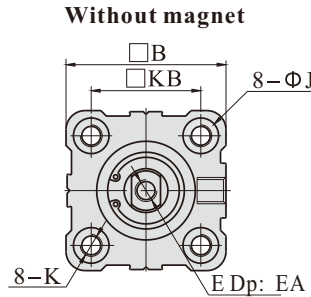
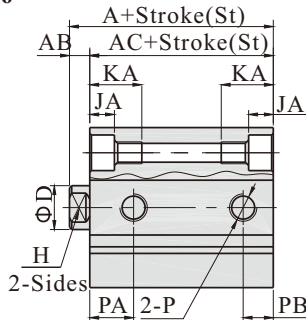
NO.	Item	Material
1	Back cover	Aluminum alloy
2	Bumper	TPU or NBR
3	Piston	Brass or Aluminum alloy
4	Wear ring	Wear resistant material
5	Piston seal	NBR
6	Piston rod	Carbon steel with 20μm chrome plated
7	Body	Aluminum alloy
8	Bushing	Wear resistant material
9	O-ring	NBR
10	Front cover	Aluminum alloy
11	C clip	Spring steel
12	Front cover packing	NBR
13	Magnet	Sintered metal or Plastic
14	Magnet holder	Brass or Aluminum alloy



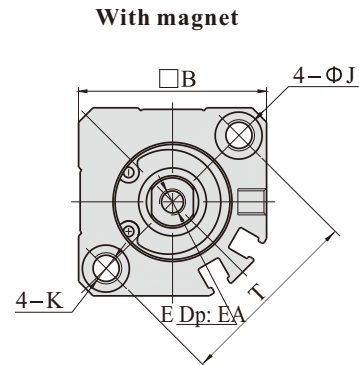
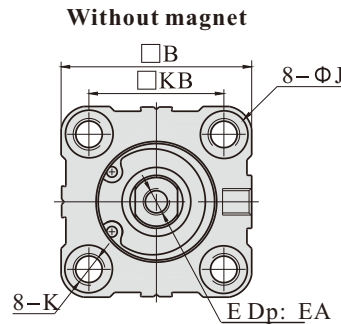
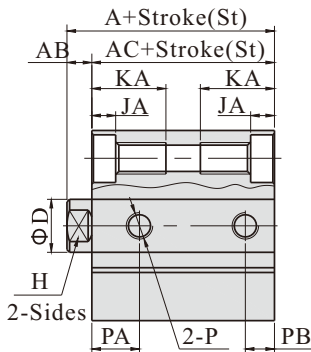
## ■ Dimensions

### ACQ series

#### Φ12\Φ16



#### Φ20~Φ25

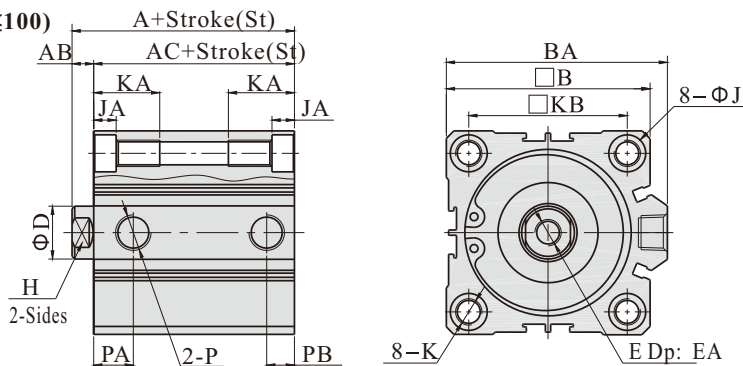


Type	No magnet						With magnet		AB	B	D	E	EA	H	J	JA
	A			AC			A	AC								
	Stroke	St≤50	St=55	St≥60	St≤50	St=55	St≥60									
12	20.5	-	-	17	-	-	31.5	28	3.5	25	6	M3×0.5	6	5	6	3.5
16	22	22	22	18.5	18.5	18.5	34	30.5	3.5	29	8	M4×0.7	8	6	6	3.5
20	24	-	34	19.5	-	29.5	36	31.5	4.5	36	10	M5×0.8	7	8	9	5.5
25	27.5	-	37.5	22.5	-	32.5	37.5	32.5	5	40	12	M6×1.0	12	10	9	5.5

Type	Bore size\Item	K	KA	KB	P	No magnet		With magnet		T
						PA	PB	PA	PB	
						Stroke				
12	M4×0.7 Thru.hole:Φ3.4	11	15.5	M5×0.8	7.5	5	9	7	22	
16	M4×0.7 Thru.hole:Φ3.4	11	20	M5×0.8	8	5.5	9.5	5.5	28	
20	M6×1.0 Thru.hole:Φ5.2	17	25.5	M5×0.8	9	5.5	9.5	5.5	36	
25	M6×1.0 Thru.hole:Φ5.2	17	28	M5×0.8	11	5.5	11	5.5	40	

## ACQ series

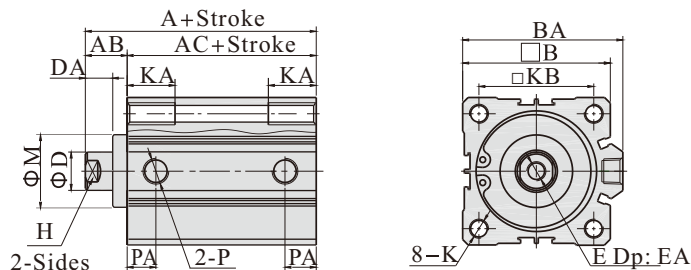
### Φ32~Φ100 (Stroke≤100)



Item Bore size	A(No magnet)		A (With magnet)	AB	AC(No magnet)		AC (With magnet)	B	BA	D	E
	St≤50	St≥60			St≤50	St≥60					
32	30	40	40	7	23	33	33	45	49.5	16	M8×1.25
40	36.5	46.5	46.5	7	29.5	39.5	39.5	53	57	16	M8×1.25
50	38.5	48.5	48.5	8	30.5	40.5	40.5	64	71	20	M10×1.5
63	44	54	54	8	36	46	46	77	84	20	M10×1.5
80	53.5	63.5	63.5	10	43.5	53.5	53.5	98	104	25	M16×2.0
100	65	75	75	12	53	63	63	117	123.5	32	M20×2.5

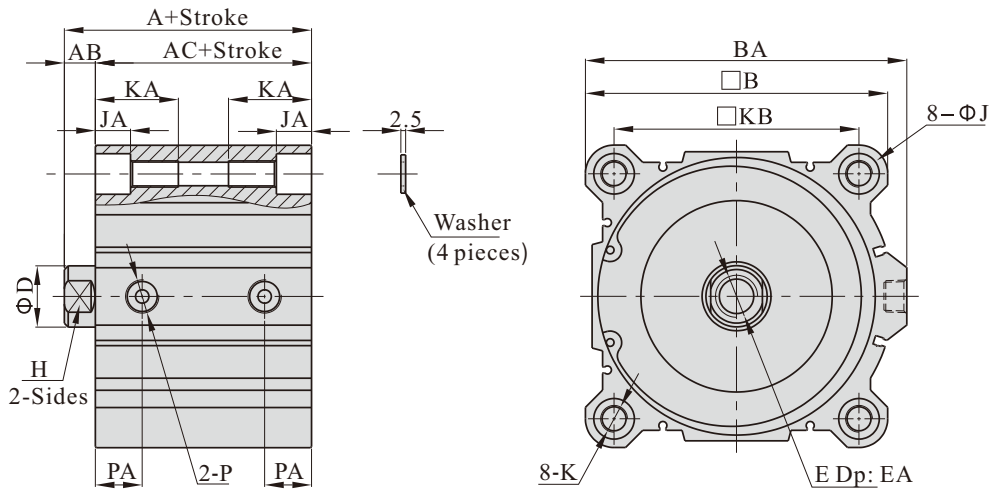
Item Bore size	EA	H	J	JA	K	KA	KB	P	No magnet		With magnet	
									PA	PB	PA	PB
32	13	14	9	5.5	M6×1.0 Thru.hole:Φ5.2	17	34	G1/8	7.5	6.5	10.5	7.5
									10.5	7.5		
40	13	14	9	5.5	M6×1.0 Thru.hole:Φ5.2	17	40	G1/8	11	8	11	8
50	15	17	10.5	6.5	M8×1.25 Thru.hole:Φ6.8	22	50	G1/4	9	9	10.5	10.5
									10.5	10.5		
63	15	17	14	9	M10×1.5 Thru.hole:Φ8.5	28.5	60	G1/4	14	9.5	15	10.5
									15	10.5		
80	20	22	17	11	M12×1.75 Thru.hole:Φ10.3	35.5	77	G3/8	16	14	16	14
100	26	27	17	11	M12×1.75 Thru.hole:Φ10.3	35.5	94	G3/8	20	17.5	20	17.5

### Φ32~Φ100 (Stroke>100)



Bore size\Item	A	AB	AC	B	BA	D	DA	E	EA	H	K	KA	KB	M	P	PA
32	62.5	17	45.5	45	49.5	16	12	M8×1.25	13	14	M6×1.0 Thru.hole:Φ5.2	17	34	22	G1/8	12.5
40	72	17	55	53	57	16	12	M8×1.25	13	14	M6×1.0 Thru.hole:Φ5.2	17	40	28	G1/8	14
50	73.5	18	55.5	64	71	20	13	M10×1.5	15	17	M8×1.25 Thru.hole:Φ6.7	22	50	35	G1/4	14
63	75	18	57	77	84	20	13	M10×1.5	15	17	M10×1.5 Thru.hole:Φ8.5	27	60	35	G1/4	16.5
80	86	20	66	98	104	25	15	M16×2.0	21	22	M12×1.75 Thru.hole:Φ10.4	32	77	43	G3/8	19
100	97.5	22	75.5	117	123.5	32	17	M20×2.5	27	27	M12×1.75 Thru.hole:Φ10.4	33	94	59	G3/8	23

ACQ series  
Φ125~Φ160

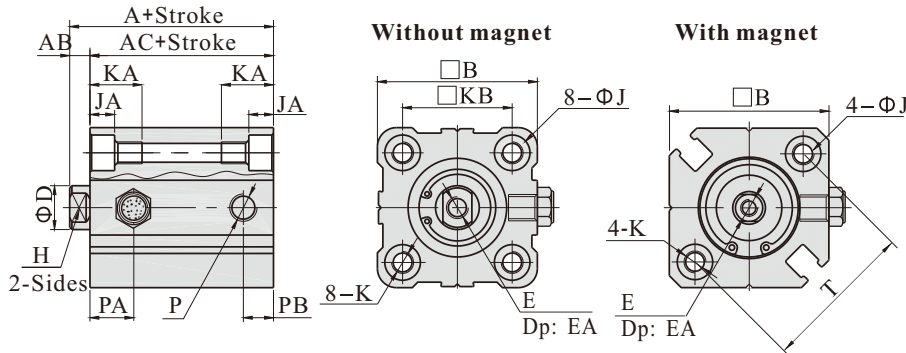


Bore size\Item	A	AB	AC	B	BA	D	E	EA (St≤10)	EA (St>10)	H	J	JA	K	KA	KB	P	PA
125	99	16	83	142	153	32	M22×2.5	22.5	30	27	21.5	18.4	M14×2.0 Thru.hole:Φ12.4	43.5	114	G3/8	24.5
140	99	16	83	158	168	32	M22×2.5	22.5	30	27	21.5	18.4	M14×2.0 Thru.hole:Φ12.4	43.5	128	G3/8	24.5
160	108	17	91	178	188	40	M24×3.0	26.5	33	36	24.5	21.2	M16×2.0 Thru.hole:Φ14.4	49	144	G3/8	27.5

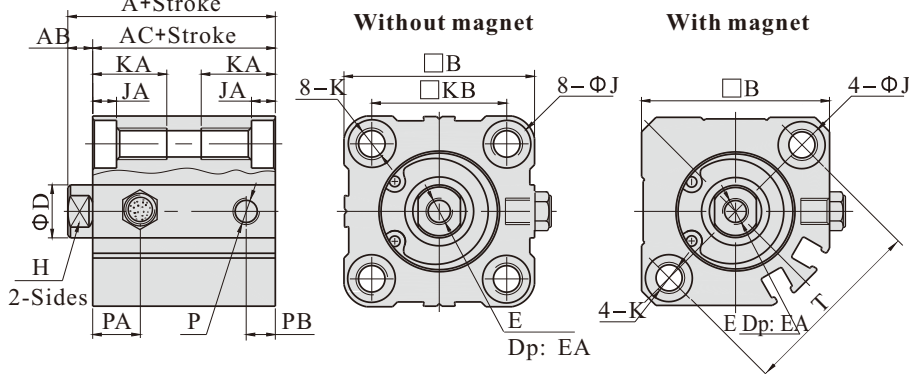
Remark) Washer must be used when the cylinder be mounted by through hole. Please refer to this page for male thread dimensions.

## ASQ series

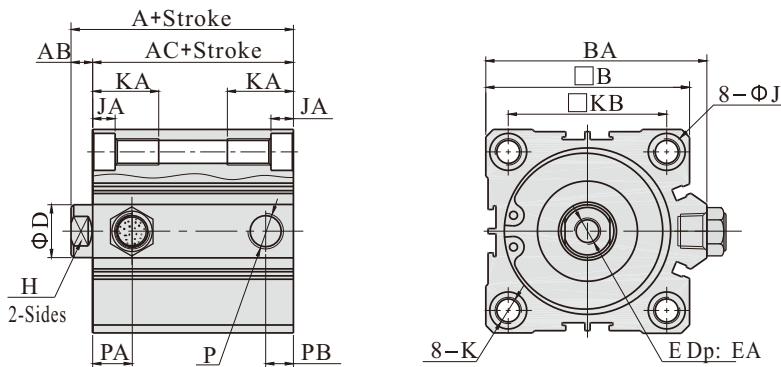
Φ12\Φ16



Φ20\Φ25



Φ32~Φ63



Bore size\Item Stroke	A(No magnet)			B	AB
	5\10	15\20	25\30		
12	25.5	30.5	-	25	3.5
16	27	32	-	29	3.5
20	29	34	39	36	4.5
25	32.5	37.5	42.5	40	5
32	35	40	45	45	7
40	41.5	46.5	51.5	53	7
50	48.5	53.5	58.5	64	8
63	54	59	64	77	8

Bore size\Item Stroke	A(With magnet)			BA	D
	5\10	15\20	25\30		
12	36.5	41.5	-	-	6
16	39	44	-	-	8
20	41	46	51	-	10
25	42.5	47.5	52.5	-	12
32	45	50	55	49.5	16
40	51.5	56.5	61.5	57	16
50	58.5	63.5	68.5	71	20
63	64	69	74	84	20

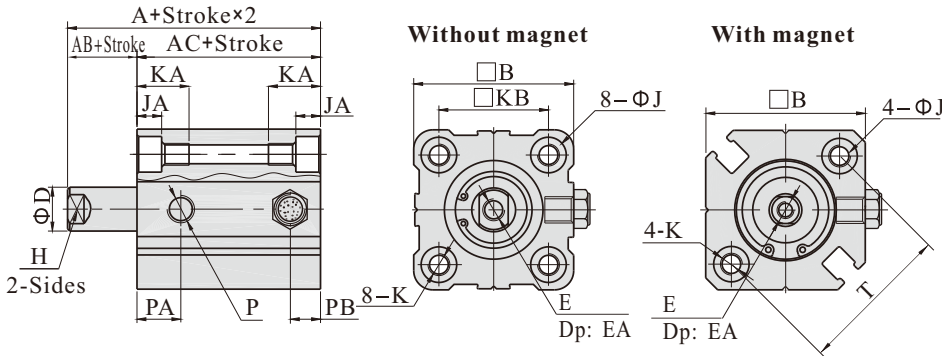
Bore size\Item Stroke	AC(No magnet)			E
	5\10	15\20	25\30	
12	22	27	-	M3×0.5
16	23.5	28.5	-	M4×0.7
20	24.5	29.5	34.5	M5×0.8
25	27.5	32.5	37.5	M6×1.0
32	28	33	38	M8×1.25
40	34.5	39.5	44.5	M8×1.25
50	40.5	45.5	50.5	M10×1.5
63	46	51	56	M10×1.5

Bore size\Item Stroke	AC(With magnet)			EA
	5\10	15\20	25\30	
12	33	38	-	6
16	35.5	40.5	-	8
20	36.5	41.5	46.5	7
25	37.5	42.5	47.5	12
32	38	43	48	13
40	44.5	49.5	54.5	13
50	50.5	55.5	60.5	15
63	56	61	66	15

Bore size\Item	H	J	JA	K	KA	KB	P	PA (No magnet)	PA (With magnet)	PB (No magnet)	PB (With magnet)	T
12	5	6	3.5	M4×0.7 Thru.hole:Φ3.4	11	15.5	M5×0.8	7.5	9	5	7	22
16	6	6	3.5	M4×0.7 Thru.hole:Φ3.4	11	20	M5×0.8	8	9.5	5.5	5.5	28
20	8	9	5.5	M6×1.0 Thru.hole:Φ5.2	17	25.5	M5×0.8	9	9.5	5.5	5.5	36
25	10	9	5.5	M6×1.0 Thru.hole:Φ5.2	17	28	M5×0.8	11	11	5.5	5.5	40
32	14	9	5.5	M6×1.0 Thru.hole:Φ5.2	17	34	G1/8	10.5	10.5	7.5	7.5	-
40	14	9	5.5	M6×1.0 Thru.hole:Φ5.2	17	40	G1/8	11	11	8	8	-
50	17	10.5	6.5	M8×1.25 Thru.hole:Φ6.8	22	50	G1/4	10.5	10.5	10.5	10.5	-
63	17	14	9	M10×1.5 Thru.hole:Φ8.5	28.5	60	G1/4	15	15	10.5	10.5	-

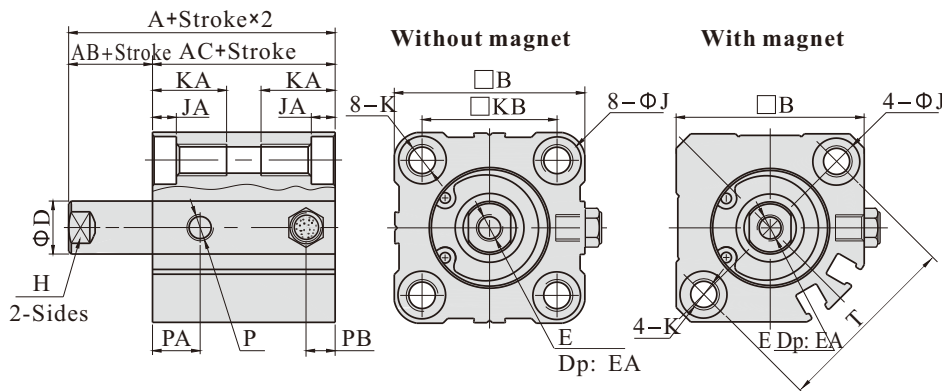
## ATQ series

Φ12\Φ16



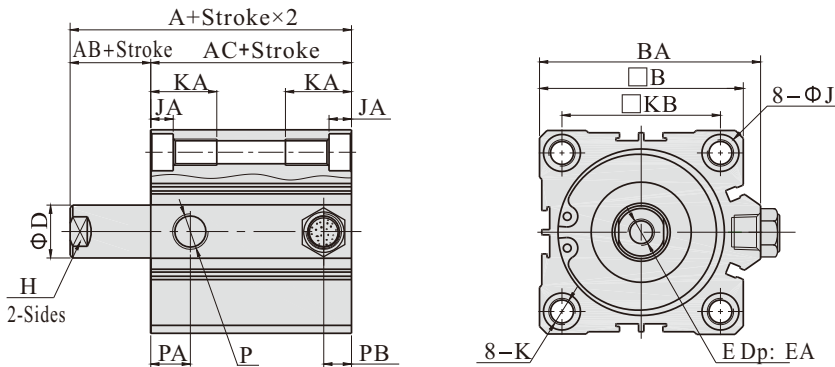
Bore size\Item Stroke	A(No magnet)			B	AB
	5\10	15\20	25\30		
12	25.5	30.5	-	25	3.5
16	27	32	-	29	3.5
20	29	34	39	36	4.5
25	32.5	37.5	42.5	40	5
32	35	40	45	45	7
40	41.5	46.5	51.5	53	7
50	48.5	53.5	58.5	64	8
63	54	59	64	77	8

Φ20\Φ25



Bore size\Item Stroke	A(With magnet)			BA	D
	5\10	15\20	25\30		
12	36.5	41.5	-	-	6
16	39	44	-	-	8
20	41	46	51	-	10
25	42.5	47.5	52.5	-	12
32	45	50	55	49.5	16
40	51.5	56.5	61.5	57	16
50	58.5	63.5	68.5	71	20
63	64	69	74	84	20

Φ32~Φ63



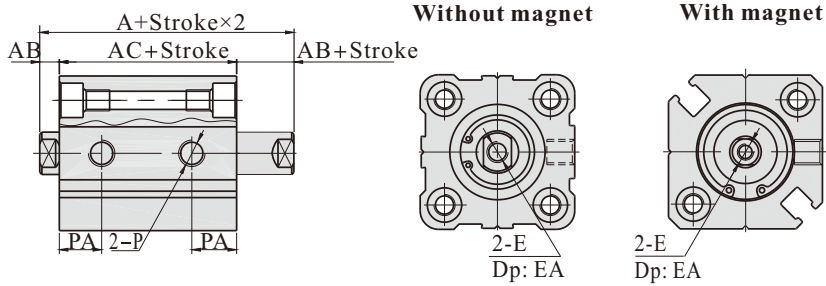
Bore size\Item Stroke	AC(No magnet)			E
	5\10	15\20	25\30	
12	22	27	-	M3×0.5
16	23.5	28.5	-	M4×0.7
20	24.5	29.5	34.5	M5×0.8
25	27.5	32.5	37.5	M6×1.0
32	28	33	38	M8×1.25
40	34.5	39.5	44.5	M8×1.25
50	40.5	45.5	50.5	M10×1.5
63	46	51	56	M10×1.5

Bore size\Item Stroke	AC(With magnet)			EA
	5\10	15\20	25\30	
12	33	38	-	6
16	35.5	40.5	-	8
20	36.5	41.5	46.5	7
25	37.5	42.5	47.5	12
32	38	43	48	13
40	44.5	49.5	54.5	13
50	50.5	55.5	60.5	15
63	56	61	66	15

Bore size\Item	H	J	JA	K	KA	KB	P	PA (No magnet)	PA (With magnet)	PB (No magnet)	PB (With magnet)	T
12	5	6	3.5	M4×0.7 Thru.hole:Φ3.4	11	15.5	M5×0.8	7.5	9	5	7	22
16	6	6	3.5	M4×0.7 Thru.hole:Φ3.4	11	20	M5×0.8	8	9.5	5.5	5.5	28
20	8	9	5.5	M6×1.0 Thru.hole:Φ5.2	17	25.5	M5×0.8	9	9.5	5.5	5.5	36
25	10	9	5.5	M6×1.0 Thru.hole:Φ5.2	17	28	M5×0.8	11	11	5.5	5.5	40
32	14	9	5.5	M6×1.0 Thru.hole:Φ5.2	17	34	G1/8	10.5	10.5	7.5	7.5	-
40	14	9	5.5	M6×1.0 Thru.hole:Φ5.2	17	40	G1/8	11	11	8	8	-
50	17	10.5	6.5	M8×1.25 Thru.hole:Φ6.8	22	50	G1/4	10.5	10.5	10.5	10.5	-
63	17	14	9	M10×1.5 Thru.hole:Φ8.5	28.5	60	G1/4	15	15	10.5	10.5	-

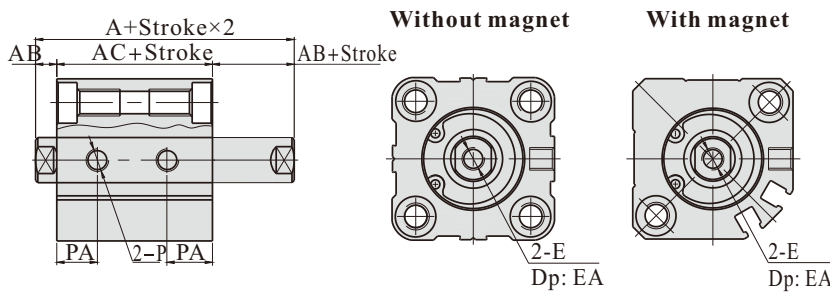
## ACQD series

Φ12\Φ16



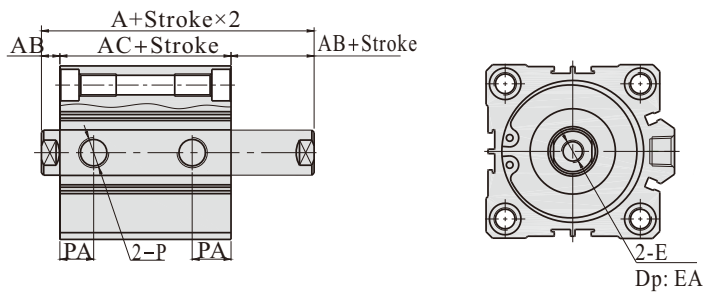
Item Bore size	A		AB
	No magnet	With magnet	
12	32.2	39.4	3.5
16	33	43	3.5
20	35	47	4.5
25	39	49	5
32	44.5(79.5)	54.5(89.5)	7(17)
40	54(89)	64(99)	7(17)
50	56.5(91.5)	66.5(101.5)	8(18)
63	58(93)	68(103)	8(18)
80	71(106)	81(116)	10(20)
100	84.5(119.5)	94.5(129.5)	12(22)
125	-	115	16
140	-	115	16
160	-	125	17

Φ20\Φ25

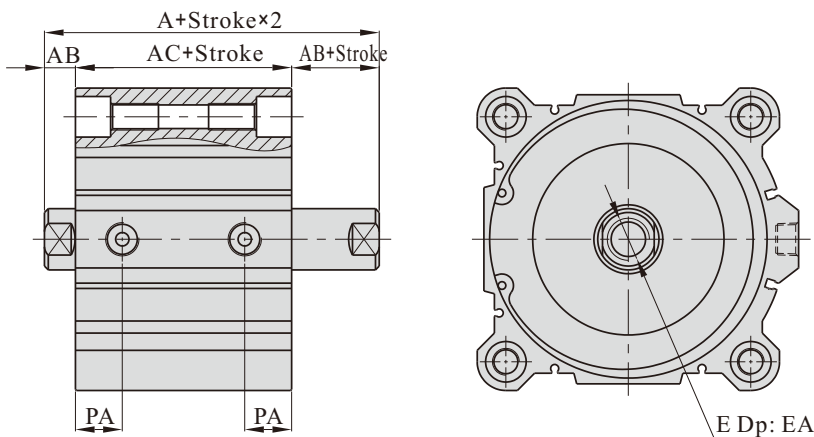


Item Bore size	AC		E
	No magnet	With magnet	
12	25.2	32.4	M3×0.5
16	26	36	M4×0.7
20	26	38	M5×0.8
25	29	39	M6×1.0
32	30.5(45.5)	40.5(55.5)	M8×1.25
40	40(55)	50(65)	M8×1.25
50	40.5(55.5)	50.5(65.5)	M10×1.5
63	42(57)	52(67)	M10×1.5
80	51(66)	61(76)	M16×2.0
100	60.5(75.5)	70.5(85.5)	M20×2.5
125	-	83	M22×2.5
140	-	83	M22×2.5
160	-	91	M24×3.0

Φ32~Φ100



Φ125~Φ160



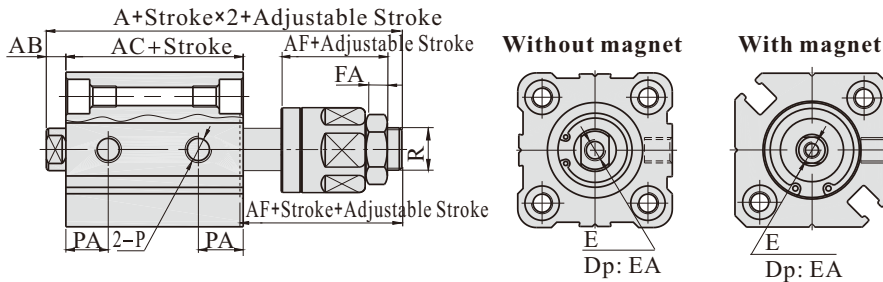
Item Bore size	EA		PA
12	6		9
16	8		9.5
20	7		9.5
25	9.5(St=5)/12(St>5)		11
32	9(St≤10)/13(St>10)		10
40	11(St≤10)/13(St>10)		13
50	12(St≤10)/15(St>10)		13.5
63	12(St≤10)/15(St>10)		15
80	14(St≤15)/20(St>15)		16
100	20(St≤25)/26(St>25)		21
125	22.5(St≤10)/30(St>10)		24.5
140	22.5(St≤10)/30(St>10)		24.5
160	26.5(St≤10)/33(St>10)		27.5

Remark)

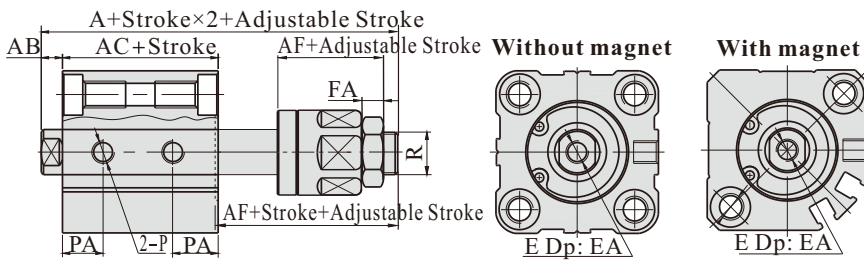
1. The value on ( ) is the value when stroke>100mm.
2. The unmarked dimension is the same as ACQ standard type. Please refer to page 129 for male thread dimensions.

## ACQJ series

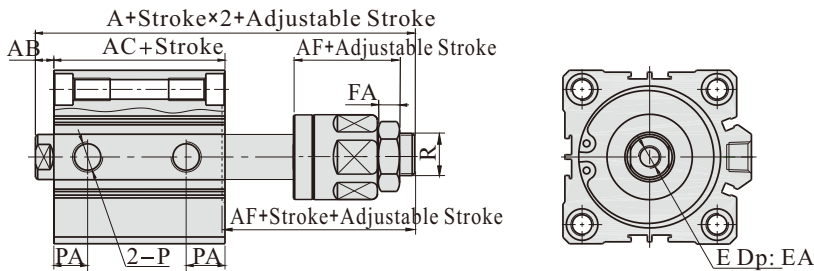
Φ12\Φ16



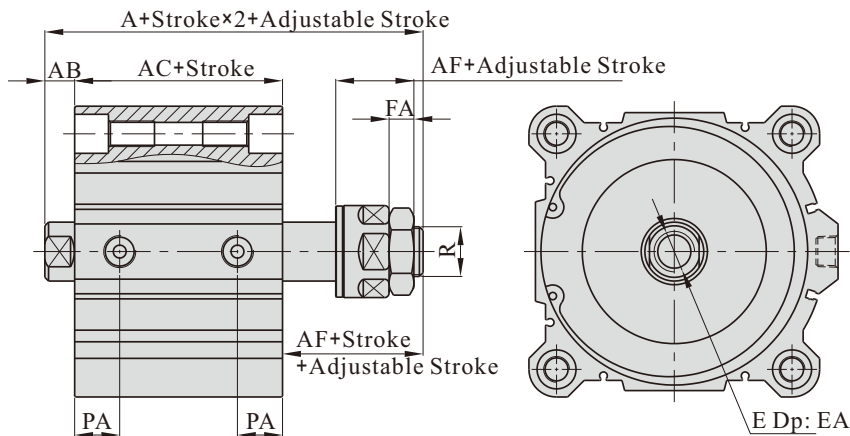
Φ20\Φ25



Φ32~Φ100



Φ125~Φ160



Item Bore size	A		AB	FA
	No magnet	With magnet		
12	45.2	52.4	3.5	4
16	50	60	3.5	5
20	55	67	4.5	6
25	60.5	70.5	5	6
32	64.9(95.5)	74.9(105.5)	7(17)	7
40	74.5(105)	84.5(115)	7(17)	7
50	77(107.5)	87(117.5)	8(18)	8
63	78.4(109)	88.4(119)	8(18)	8
80	95.8(126.5)	105.8(136.5)	10(20)	10
100	114.3(145)	124.3(155)	12(22)	13.5
125	-	140.8	16	13.5
140	-	140.8	16	13.5
160	-	175.3	17	18

Item Bore size	AC		AF	R
	No magnet	With magnet		
12	25.2	32.4	17	M5×0.8
16	26	36	21	M6×1.0
20	26	38	25	M8×1.25
25	29	39	27	M10×1.25
32	30.5(45.5)	40.5(55.5)	28	M12×1.25
40	40(55)	50(65)	28	M12×1.25
50	40.5(55.5)	50.5(65.5)	29	M16×1.5
63	42(57)	52(67)	29	M16×1.5
80	51(66)	61(76)	35.5	M20×1.5
100	60.5(75.5)	70.5(85.5)	42.5	M27×2.0
125	-	83	42.5	M27×2.0
140	-	83	42.5	M27×2.0
160	-	91	68	M36×2.0

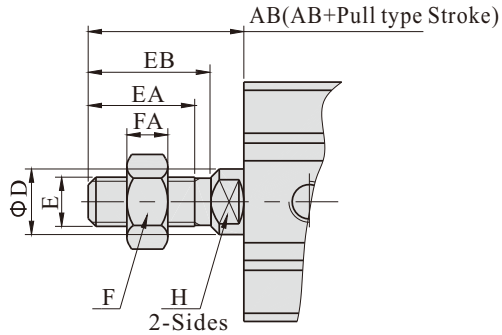
Item Bore size	E		
	E	EA	PA
12	M3×0.5	6	9
16	M4×0.7	8	9.5
20	M5×0.8	7	9.5
25	M6×1.0	9.5(St=5)/12(St>5)	11
32	M8×1.25	9(St≤10)/13(St>10)	10
40	M8×1.25	11(St≤10)/13(St>10)	13
50	M10×1.5	12(St≤10)/15(St>10)	13.5
63	M10×1.5	12(St≤10)/15(St>10)	15
80	M16×2.0	14(St≤15)/20(St>15)	16
100	M20×2.5	20(St≤25)/26(St>25)	21
125	M22×2.5	22.5(St≤10)/30(St>10)	24.5
140	M22×2.5	22.5(St≤10)/30(St>10)	24.5
160	M24×3.0	26.5(St≤10)/33(St>10)	27.5

Remark)

1. The value in ( ) is the value when stroke>100mm.
2. The unmarked dimension is the same as ACQ standard type. Please refer to page 129 for male thread dimensions.

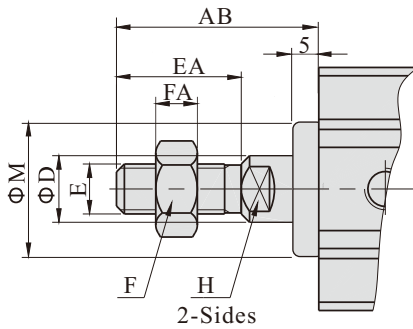
## Male thread

(Bore size:  $\Phi 12\sim\Phi 100$ , Stroke $\leq 100$ )



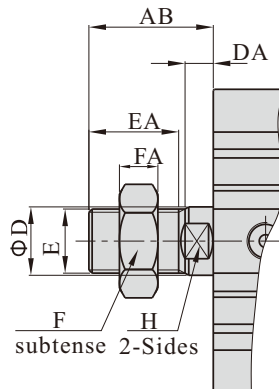
Bore size\Item	AB	D	E	EA	EB	F	FA	H
12	14	6	M5×0.8	9	10	8	4	5
16	15.5	8	M6×1.0	10	11.5	10	5	6
20	18.5	10	M8×1.25	12	13.5	12	6	8
25	22.5	12	M10×1.25	15	17	17	6	10
32	28.5	16	M14×1.5	20.5	23.5	19	8	14
40	28.5	16	M14×1.5	20.5	23.5	19	8	14
50	33.5	20	M18×1.5	26	28.5	27	11	17
63	33.5	20	M18×1.5	26	28.5	27	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

(Bore size:  $\Phi 32\sim\Phi 100$  Stroke $>100$ )



Bore size\Item	AB	D	E	EA	FA	F	H	M
32	38.5	16	M14×1.5	23	8	19	14	22
40	38.5	16	M14×1.5	23	8	19	14	28
50	43.5	20	M18×1.5	28	11	27	17	35
63	43.5	20	M18×1.5	28	11	27	17	35
80	53.5	25	M22×1.5	35	13	32	22	43
100	53.5	32	M26×1.5	35	13	36	27	59

(Bore size:  $\Phi 125\sim\Phi 160$ )



Bore size\Item	AB	D	E	EA	EB	F	FA	H
125	58	32	M30×1.5	42	45	46	18	27
140	58	32	M30×1.5	42	45	46	18	27
160	64	40	M36×1.5	47	50	55	21	36



## With guider type



### Product feature

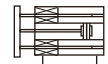
1. JIS standard is implemented and with guider.
2. C clip is adopted to connect the cylinder body and back cover or front cover to make it compact and reliable.
3. The internal diameter of the body is treated with rolling followed by the treatment of hard anodizing, forming an excellent abrasion resistance and durability.
4. The seal of piston adopts heterogeneous two-way seal structure. It has compact dimension and the function of 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. Double rod non-rotating structure enables to bear large working load and lateral load.

### Symbol

TACQ



TACQ-S



### Specification

Bore size(mm)	12	16	20	25	32	40	50	63	80	100
Acting type	Double acting									
Fluid	Air(to be filtered by 40μm filter element)									
Operating pressure	0.15~1.0MPa(22~145psi)									
Proof pressure	1.5MPa(215psi)									
Temperature °C	-20~70									
Speed range mm/s	30~500									
Stroke tolerance	$+1.0_0$									
Cushion type	Bumper									
Port size [Note1]	M5×0.8				1/8"		1/4"		3/8"	
Non-rotating tolerance [Note2]	±0.2°				±0.1°					

[Note1] The standard thread type is G thread, Please control us for other thread type.

[Note2] Retract position.

### Standard Stroke

Bore size (mm)	Standard stroke (mm)	Max.std stroke	Middle stroke range(mm)
12 16	5 10 15 20 25 30	30	1~29
20 25	5 10 15 20 25 30 35 40 45 50	50	1~49
32 40	5 10 15 20 25 30 35 40 45 50 55 75 100	100	1~99
50 63 80 100	10 15 20 25 30 35 40 45 50 55 75 100	100	5~99

[Note] Consult us for non-standard stroke.

## With guider type

### Ordering code

TACQ - 32 × 50 - S - □

① ② ③ ④ ⑤

#### ① Model

TACQ: Compact cylinder(Double acting with guider)

#### ② Bore size

12 16 20 25 32 40 50 63 80 100

#### ④ Magnet

Blank: Without magnet

S: With magnet

#### ⑤ Thread type [Note1]

Blank: G thread

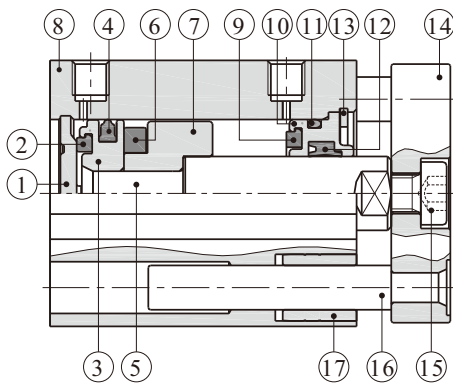
PT: PT thread

#### ③ Stroke

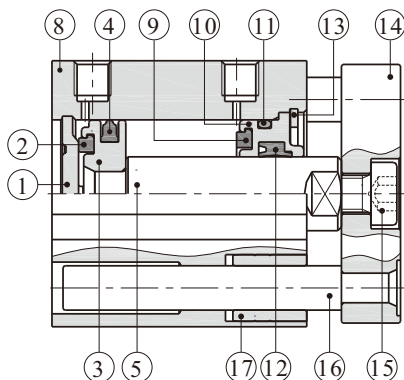
Refer to stroke table for details

### Inner structure and material of major parts

TACQ-S



TACQ



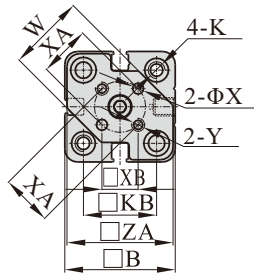
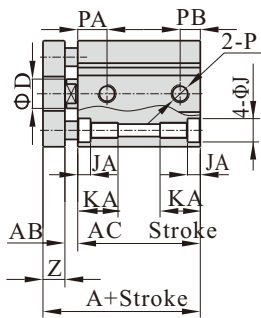
NO.	Item	Material	NO.	Item	Material
1	Back cover	Aluminum alloy	10	Front cover	Aluminum alloy
2	Bumper	NBR	11	O-ring	NBR
3	Piston	Aluminum alloy	12	Front cover packing	NBR
4	Piston seal	NBR			
5	Piston rod	Carbon steel with 20μm chrome plated	13	C clip	Spring steel
			14	Fixing plate	Aluminum alloy
6	Magnet	Sintered metal	15	Screw	Carbon steel
			16	Leader	Stainless steel
7	Magnet holder	Aluminum alloy	17	Bushing	Brass
8	Body	Aluminum alloy			
9	Wear ring	NBR			

# Compact cylinder——TACQ Series

## With guider type

### Dimensions

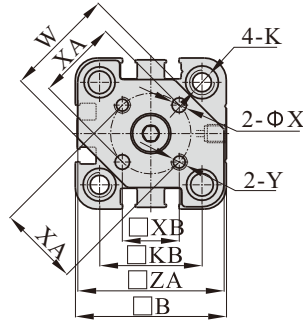
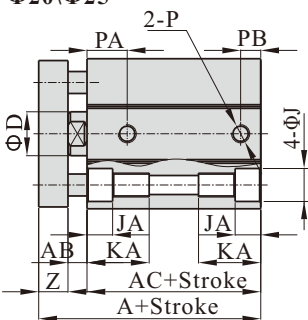
Φ12\Φ16



Item Bore size	A		AC	
	No magnet	With magnet	No magnet	With magnet
12	26.5	37.5	17.3	28.3
16	28	40	19	31
20	32	44	20.5	32.5
25	35.5	45.5	23	33

Item Bore size	AB	B	D	J	JA	K	KA	KB
	12	3	26	6	6			
16	3	30	8	6	3.5	M4×0.7 Thru.hole:Φ3.4	11.5	20
20	3.5	36	10	9	5.5	M6×1.0 Thru.hole:Φ5.2	18	25.5
25	4.5	41	12	9	5.5	M6×1.0 Thru.hole:Φ5.2	17.5	28

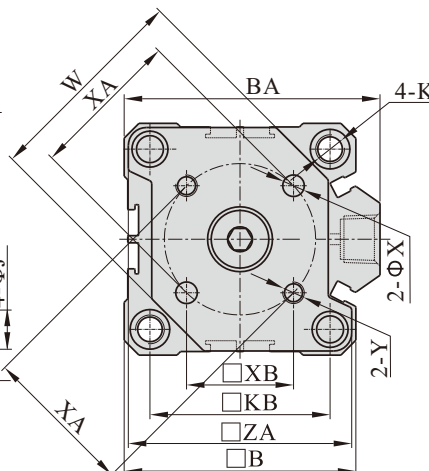
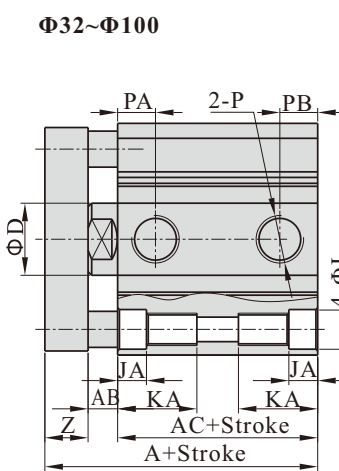
Φ20\Φ25



Item Bore size	PA		PB	
	No magnet	With magnet	No magnet	With magnet
12	7.5	9	5	7
16	8.5	10	5.5	5.5
20	10	10.5	5.5	5.5
25	11.5	11.5	5.5	5.5

Item Bore size	P	W	X	XA	XB	Y	Z	ZA
	12	M5×0.8	15	3	10	7.1	M3×0.5	6
16	M5×0.8	21	3	14	9.9	M3×0.5	6	29
20	M5×0.8	26	4	17	12	M4×0.7	8	35
25	M5×0.8	30	5	22	15.6	M5×0.8	8	40

Φ32~Φ100



Item Bore size	A(No magnet)		A (With magnet)	AB	B	BA	D	J	JA
	St≤50	St≥75							
32	40	50	50	6.5	45	49.5	16	9	5.5
40	46.5	56.5	56.5	6.6	53	57	16	9	5.5
50	50.5	60.5	60.5	7.5	64	71	20	10.5	6.5
63	56	66	66	8	77	84	20	14	9
80	67.5	77.5	77.5	10	98	104	25	17	11
100	81	91	91	12	117	123.5	32	17	11

Item Bore size	AC(No magnet)		AC (With magnet)	K
	St≤50	St≥75		
32	23.5	33.5	33.5	M6×1.0 Thru.hole:Φ5.2
40	30	40	40	M6×1.0 Thru.hole:Φ5.2
50	31	41	41	M8×1.25 Thru.hole:Φ6.7
63	36	46	46	M10×1.5 Thru.hole:Φ8.5
80	43.5	53.5	53.5	M12×1.75 Thru.hole:Φ10.4
100	53	63	63	M12×1.75 Thru.hole:Φ10.4

Item Bore size	KA	KB	P	PA	PA	PB	PB	W	X	XA	XB	Y	Z	ZA
				(No magnet)	(With magnet)	(No magnet)	(With magnet)							
32	17.5	34	1/8"	8	10.5	6.5	7.5	37	5	28	19.8	M5×0.8	10	43
				11		7.5								
40	17.5	40	1/8"	11	11	8	8	46	5	33	23.3	M5×0.8	10	51
50	22.5	50	1/4"	10.5	10.5	11	11	58	6	42	29.7	M6×1.0	12	62
63	28.5	60	1/4"	15	15	10.5	10.5	69	6	50	35.4	M6×1.0	12	75
80	35.5	77	3/8"	16	16	14	14	90	8	65	46	M8×1.25	14	95
100	35.5	94	3/8"	20	20	17.5	17.5	113.5	10	80	56.6	M10×1.5	16	114.5

## Accessories

### List for ordering code of accessories

Accessories Bore size	Mounting accessories			Knuckle				Sensor switch
	LB	FA/FB	CB	I	Y	F	U	
12	F-ACQ12LB	F-ACQ12FA	F-ACQ12CB	F-ACQ12I	F-ACQ12Y	—	F-M5X080U	CS1-G DS1-G
16	F-ACQ16LB	F-ACQ16FA	F-ACQ16CB	F-ACQ16I	F-ACQ16Y	—	F-M6X100U	
20	F-ACQ20LB	F-ACQ20FA	F-ACQ20CB	F-ACQ20I	F-ACQ20Y	F-M8X125F	F-M8X125U	
25	F-ACQ25LB	F-ACQ25FA	F-ACQ25CB	F-ACQ25I	F-ACQ25Y	F-M10X125F	F-M10X125U	
32	F-ACQ32LB	F-ACQ32FA	F-ACQ32CB	F-ACQ32I	F-ACQ32Y	F-M14X150F	F-M14X150U	CS1-J DS1-J CS1-G DS1-G
40	F-ACQ40LB	F-ACQ40FA	F-ACQ40CB					
50	F-ACQ50LB	F-ACQ50FA	F-ACQ50CB	F-ACQ50I	F-ACQ50Y	F-M18X150F	F-M18X150U	
63	F-ACQ63LB	F-ACQ63FA	F-ACQ63CB					
80	F-ACQ80LB	F-ACQ80FA	F-ACQ80CB	F-ACQ80I	F-ACQ80Y	—	—	
100	F-ACQ100LB	F-ACQ100FA	F-ACQ100CB	F-ACQ100I	F-ACQ100Y	—	F-M26X150U	
125	—	—	—					CS1-H\DS1-H CS1-G\DS1-G
140	—	—	—					
160	—	—	—					

### Accessory selection

Cylinder model\Accessories			Mounting accessories				Knuckle				Sensor switch		
			LB	FA	FB	CB [1]	I	Y	U	F	C(D)S1-J	C(D)S1-G	C(D)S1-H
ACQ	Female thread	Without magnet					×	×	×	×	×	×	×
		With magnet	●	●	●	●					●	●	●
	Male thread	Without magnet					●	●	●	●	×	×	×
		With magnet	●	●	●	●					●	●	●
ASQ ATQ	Female thread	Without magnet					×	×	×	×	×	×	×
		With magnet	●	●	●	●					●	●	●
	Male thread	Without magnet					●	●	●	●	×	×	×
		With magnet	●	●	●	●					●	●	●
ACQD ACQJ	Female thread	Without magnet					×	×	×	×	×	×	×
		With magnet	●	●	×	×					●	●	●
	Male thread	Without magnet					●	●	●	●	×	×	×
		With magnet	●	●	×	×					●	●	●

### Material of accessories

Accessories Bore size	Mounting accessories				Knuckle			
	LB	FA	FB	CB	I	Y	F	U
12, 15	△	●	●	●	▲	▲	▲	▲
20, 25	△	●	●	●	▲	▲	▲	▲
32~100	△	●	●	■	▲	■	▲	▲

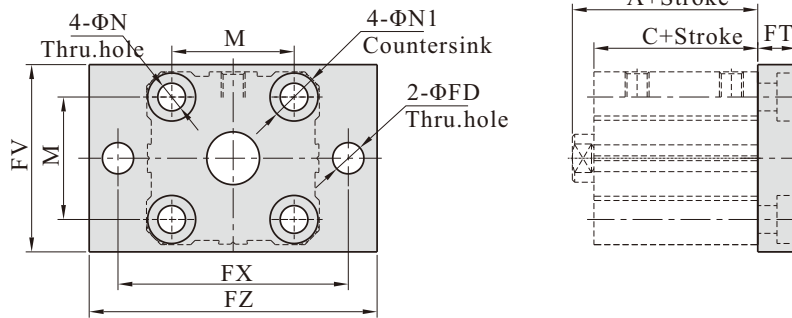
●—Aluminum alloy; ■—Carbon Steel; ▲—S45C; △—SPCC

## Accessories

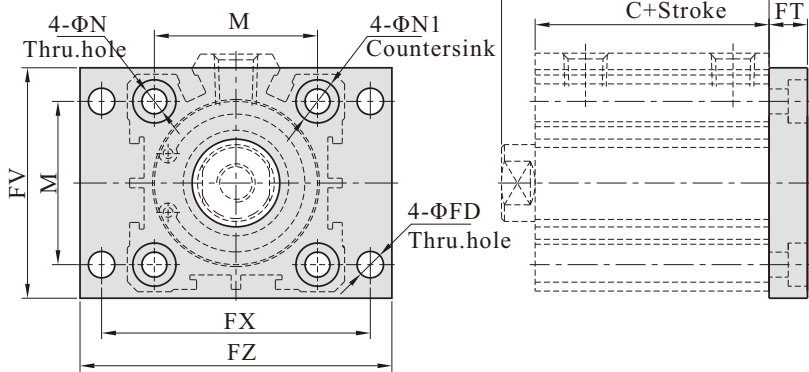
### Dimensions

#### FA/FB type

Φ12~Φ25



Φ32~Φ100

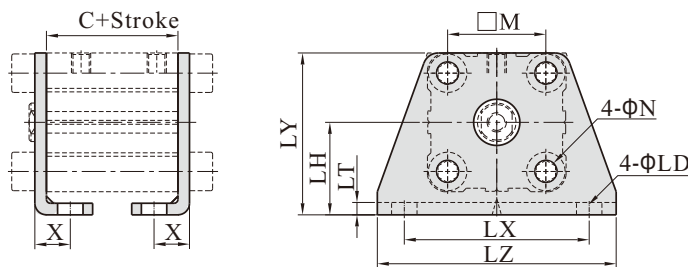


Item Bore size Stroke	A			With magnet	C			With magnet
	No magnet ≤50	55	≥60		No magnet ≤50	55	≥60	
12	20.5	-	-	31.5	17	-	-	28
16	22	22	-	34	18.5	18.5	-	30.5
20	24	-	34	36	19.5	-	29.5	31.5
25	27.5	-	37.5	37.5	22.5	-	32.5	32.5
32	30	-	40	40	23	-	33	33
40	36.5	-	46.5	46.5	29.5	-	39.5	39.5
50	38.5	-	48.5	48.5	30.5	-	40.5	40.5
63	44	-	54	54	36	-	46	46
80	53.5	-	63.5	63.5	43.5	-	53.5	53.5
100	65	-	75	75	53	-	63	63

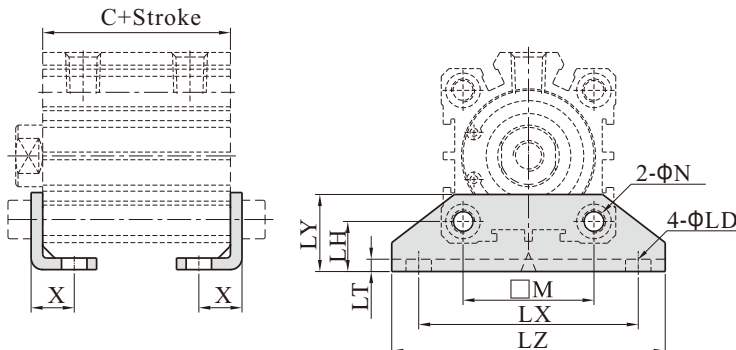
Item Bore size	N	N1	FD	FT	FV	FX	FZ	M
12	4.5	7.5	4.5	5.5	25	45	55	15.5
16	4.5	7.5	4.5	5.5	30	45	55	20
20	6.5	10.5	6.5	8	39.5	48	60	25.5
25	6.5	10.5	6.5	8	42	52	64	28
32	6.5	10.5	5.5	8	48	56	65	34
40	6.5	10.5	5.5	8	54	62	72	40
50	8.5	13.5	6.5	9	67	76	89	50
63	10.5	16.5	9	10	80	92	108	60
80	12.5	18.5	11	12	99	116	134	77
100	12.5	18.5	11	12	117	136	154	94

#### LB type

Φ12~Φ25



Φ32~Φ100



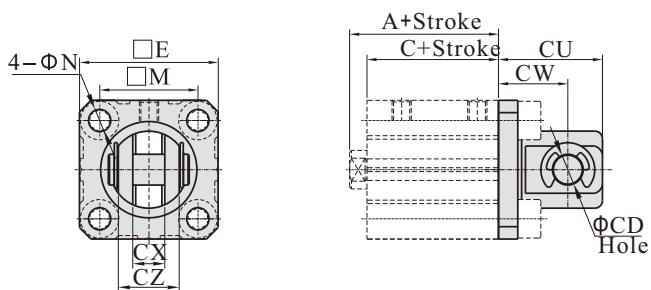
Item Bore size Stroke	C			With magnet	M	N	X
	No magnet ≤50	55	≥60				
12	17	-	-	28	15.5	4.5	8
16	18.5	18.5	-	30.5	20	4.5	8
20	19.5	-	29.5	31.5	25.5	6.5	9.2
25	22.5	-	32.5	32.5	28	6.5	10.7
32	23	-	33	33	34	6.5	11.2
40	29.5	-	39.5	39.5	40	6.5	11.2
50	30.5	-	40.5	40.5	50	8.5	12.2
63	36	-	46	46	60	10.5	13.7
80	43.5	-	53.5	53.5	77	13	16.5
100	53	-	63	63	94	13	23

Item Bore size	LD	LH	LT	LX	LY	LZ
12	4.5	17	2	34	29.5	44
16	4.5	19	2	38	33.5	48
20	6.5	24	3	48	42	62
25	6.5	26	3	52	46	66
32	6.5	13	3	57	20	71
40	6.5	13	3	64	20	78
50	8.5	14	3	79	22	95
63	10.5	16	3	95	26	113
80	13	20.5	4.5	118	32	140
100	13	24	6	137	36	162

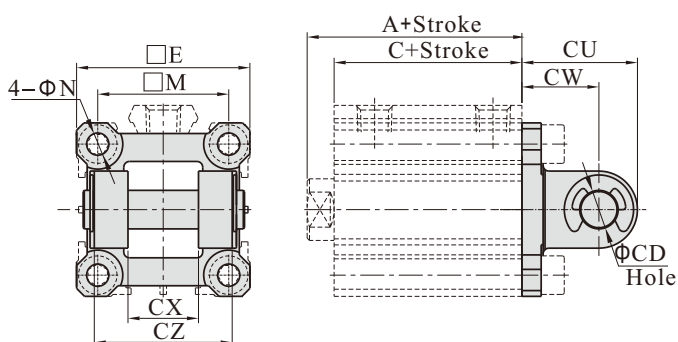
## Accessories

### CB type

Φ12~Φ25



Φ32~Φ100



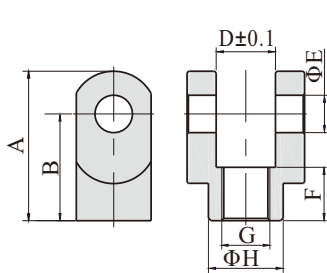
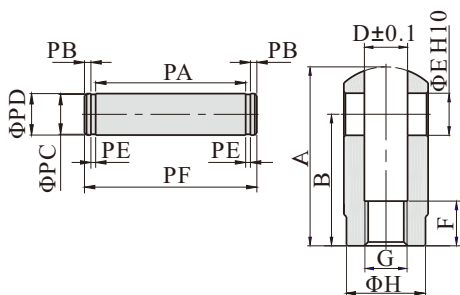
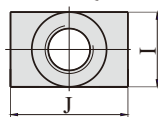
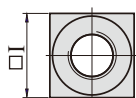
Item Bore size Stroke	A			With magnet	C			With magnet
	No magnet				No magnet			
	≤50	55	≥60		≤50	55	≥60	
12	20.5	-	-	31.5	17	-	-	28
16	22	22	-	34	18.5	18.5	-	30.5
20	24	-	34	36	19.5	-	29.5	31.5
25	27.5	-	37.5	37.5	22.5	-	32.5	32.5
32	30	-	40	40	23	-	33	33
40	36.5	-	46.5	46.5	29.5	-	39.5	39.5
50	38.5	-	48.5	48.5	30.5	-	40.5	40.5
63	44	-	54	54	36	-	46	46
80	53.5	-	63.5	63.5	43.5	-	53.5	53.5
100	65	-	75	75	53	-	63	63

Item Bore size	E	M	N	CD	CU	CW	CX	CZ
12	25	15.5	4.5	5	20	14	5.3	9.8
16	29	20	4.5	5	21	15	6.8	11.8
20	36	25.5	6.5	8	27	18	8.3	15.8
25	40	28	6.5	10	30	20	10.3	19.8
32	45.5	34	6.5	10	30	20	18.3	35.8
40	53.5	40	6.5	10	32	22	18.3	35.8
50	64.5	50	8.5	14	42	28	22.3	43.8
63	77.5	60	10.5	14	44	30	22.3	43.8
80	98.5	77	12.5	18	56	38	28.3	55.8
100	117.5	94	12.5	22	67	45	32.3	63.8

### Y Knuckle

F-ACQ12Y  
F-ACQ16Y  
F-ACQ20Y  
F-ACQ25Y

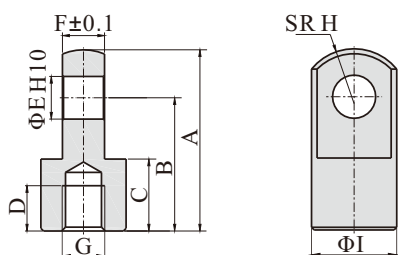
F-ACQ32Y  
F-ACQ50Y  
F-ACQ80Y  
F-ACQ100Y



Type/Item	A	B	D	E	F	G
F-ACQ12Y	22	16	5.3	5	6	M5×0.8
F-ACQ16Y	28	21	6.6	5	11	M6×1.0
F-ACQ20Y	34	25	8.3	8	8.5	M8×1.25
F-ACQ25Y	41	30	10.3	10	10.5	M10×1.25
F-ACQ32Y	42	30	18.4	10	16	M14×1.5
F-ACQ50Y	56	40	22.4	14	20	M18×1.5
F-ACQ80Y	71	50	28.4	18	23	M22×1.5
F-ACQ100Y	79	55	32.4	22	24	M26×1.5

Type/Item	H	I	J	PA	PB	PC	PD	PE	PF
F-ACQ12Y	9	10	-	10.2	1.5	4	5	0.7	14.6
F-ACQ16Y	11	12	-	12.4	1.5	4	5	0.7	16.8
F-ACQ20Y	15	16	-	16.2	1.5	7	8	0.9	21
F-ACQ25Y	19	20	-	20.2	2	8	10	1.1	26.4
F-ACQ32Y	22	22	36	36.2	2	8	10	1.1	42.4
F-ACQ50Y	28	28	44	44.2	2	12	14	1.1	50.4
F-ACQ80Y	38	38	56	56.2	2	15	18	1.7	63.6
F-ACQ100Y	44	44	64	64.2	2.5	19	22	1.7	72.6

### I Knuckle



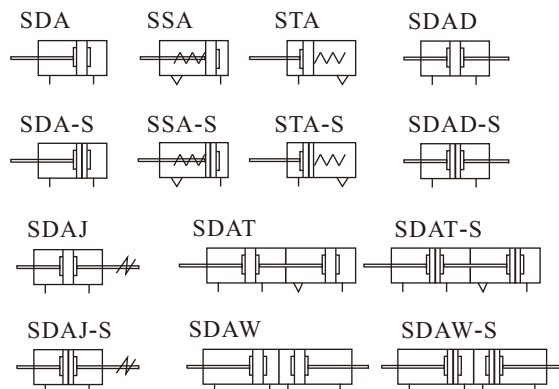
Type/Item	A	B	C	D	E	F	G	H	I
F-ACQ12I	21.5	16	9	6	5	4.7	M5×0.8	6.3	10
F-ACQ16I	32	25	11	8	5	6.2	M6×1.0	8.1	12
F-ACQ20I	34	25	13.5	8.5	8	7.7	M8×1.25	10.3	16
F-ACQ25I	41	30	16	11	10	9.7	M10×1.25	12.8	20
F-ACQ32I	42	30	16	14	10	17.6	M14×1.5	12	22
F-ACQ50I	56	40	20	18	14	21.6	M18×1.5	16	28
F-ACQ80I	71	50	23	21	18	27.6	M22×1.5	21	38
F-ACQ100I	79	55	24	22	22	31.6	M26×1.5	24	44



## 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.

## Symbol



## 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 40μm filter element)										
Operating pressure	Double acting	0.15~1.0MPa(22~145psi)(1.5~10.0bar)										
	Single acting	0.2~1.0MPa(28~145psi)(2.0~10.0bar)										
Proof pressure		1.5MPa(215psi)(15bar)										
Temperature °C		-20~70										
Speed range mm/s		Double acting: 30~500					Single acting: 50~500					
Stroke tolerance		Stroke≤100 $+1.0_0$					Stroke>100 $+1.5_0$					
Cushion type		Bumper										
Port size [Note1]		M5×0.8				G1/8		G1/4		G3/8		

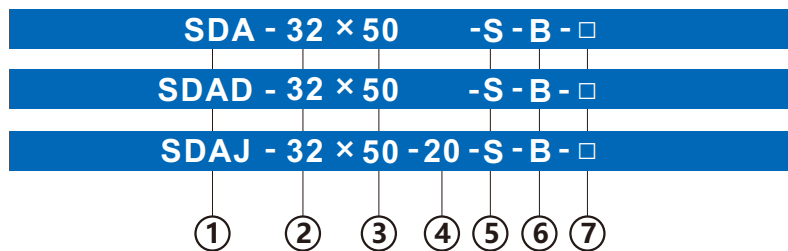
[Note1] The standard thread type is G thread, Please control us for other thread type.

## Standard Stroke

Bore size (mm)		Standard stroke (mm)										Max.std stroke	
12 16	Double acting	With magnet	5 10 15 20 25 30 35 40 45 50										50
		Without magnet	5 10 15 20 25 30 35 40 45 50 55 60										60
		Single acting	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
		Without magnet	5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 100										100
			Single acting	5 10 15 20 25 30									
25 32 40 50 63	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
		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
			Single acting	5 10 15 20 25 30									
80 100	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
		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] Consult us for non-standard stroke.

## Ordering code



### ① Model

SDA: Compact cylinder(Double acting)  
 SSA: Compact cylinder(Single acting-push)  
 STA: Compact cylinder(Single acting-pull)  
 SDAD: Compact cylinder(Double rod)  
 SDAJ: Compact cylinder(Adjustable stroke)

### ② Bore size

Bore size	Series
12 16 20 25 32 40 50 63 80 100	SDA SDAD SDAJ
12 16 20 25 32 40 50 63	SSA STA

### ⑥ Rod type

Blank: Female thread  
 B: Male thread

### ⑦ Thread type

Blank: G thread  
 PT: PT thread

### ③ Stroke

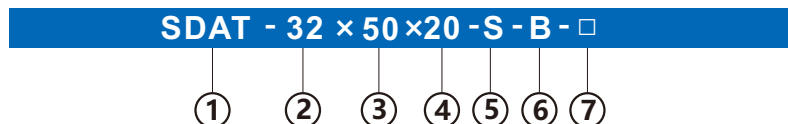
Refer to stroke table for details

### ⑤ Magnet

Blank: Without magnet  
 S: With magnet

### ④ Adjustable stroke

Series	Adjustable stroke
SDAJ series	10: 10mm
	20: 20mm
	30: 30mm
	40: 40mm
	50: 50mm
75: 75mm	
100: 100mm	
Others series	No this code



### ① Model

SDAT: Compact cylinder (Duplex type)  
 SDAW: Compact cylinder(Duplex-end type)

### ② Bore size

12 16 20 25 32 40 50 63 80 100

### ⑦ Thread type

Blank: G thread  
 PT: PT thread

### ⑥ Rod type

Blank: Female thread  
 B: Male thread

### ⑤ Magnet

Blank: Without magnet  
 S: With magnet

### ③ Stroke I

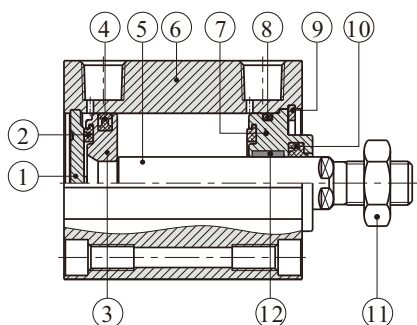
Refer to stroke table for details

### ④ Stroke II

Refer to stroke table for details

## Inner structure and material of major parts

SDA

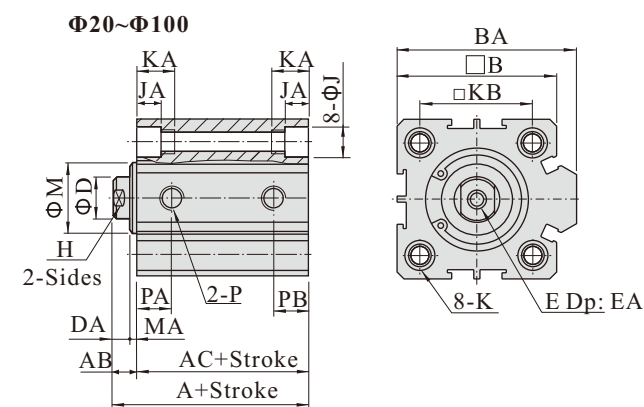
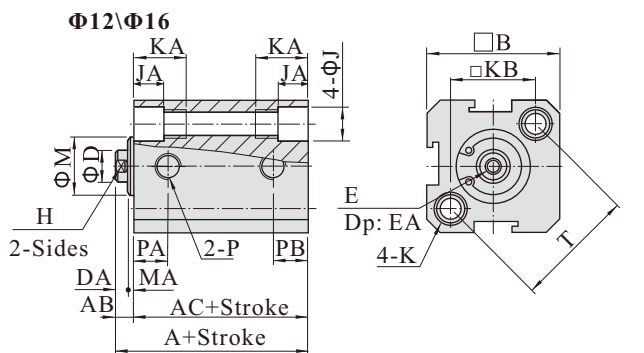


NO.	Item	Material
1	Back cover	No(Φ 12, 16)/Aluminum alloy(Others)
2	Bumper	NBR
3	Piston	Brass(Φ 12, 16)/Aluminum alloy(Others)
4	Piston seal	NBR
5	Piston rod	Carbon steel with 20μm chrome plated
6	Body	Aluminum alloy
7	Front cover	Aluminum alloy
8	O-ring	NBR
9	C clip	Spring steel
10	Front cover packing	NBR
11	Piston nut	Carbon steel
12	Bushing	No(Φ12~32)/Wear resistant material(Others)



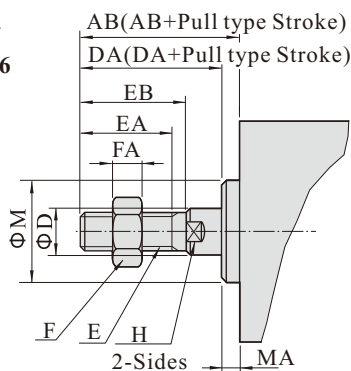
## Dimensions

### SDA series

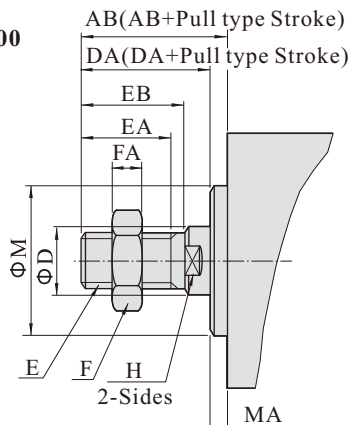


### Male thread

#### Φ12\Φ16



#### Φ20~Φ100



Item	A	AC	A	AC	AB	B	BA	D	DA
Bore size	Without magnet	With magnet	Without magnet	With magnet					
12	22	17	32	27	5	25	-	6	4
16	24	18.5	34	28.5	5.5	29	-	6	4
20	25	19.5	35	29.5	5.5	34	36	8	4
25	27	21	37	31	6	40	42	10	4
32	31.5	24.5	41.5	34.5	7	44	50	12	4.5
40	33	26	43	36	7	52	58.5	16	4
50	37	28	47	38	9	62	71.5	20	5
63	41	32	51	42	9	75	84.5	20	5
80	52	41	62	51	11	94	104	25	6
100	63	51	73	61	12	114	124	32	7

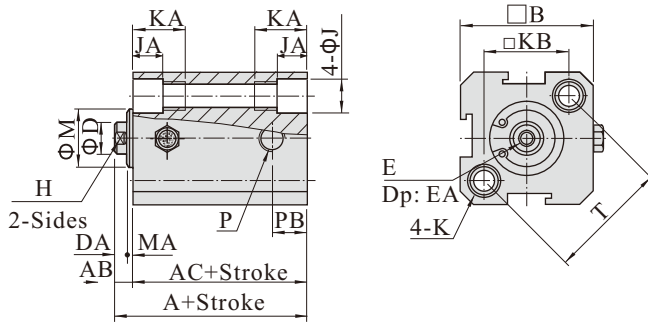
Item	E	EA	H	J	JA	K
Bore size						
12	M3×0.5	6	5	6.5	4.5	M5×0.8Thru.hole:Φ4.2
16	M3×0.5	6	5	6.5	4.5	M5×0.8Thru.hole:Φ4.2
20	M4×0.7	8	6	6.5	4.5	M5×0.8Thru.hole:Φ4.2
25	M5×0.8	10	8	8.2	5.5	M6×1.0Thru.hole:Φ5.2
32	M6×1.0	12	10	8.2	5.5	M6×1.0Thru.hole:Φ5.2
40	M8×1.25	12	14	10.5	6.5	M8×1.25Thru.hole:Φ6.7
50	M10×1.5	15	17	10.5	6.5	M8×1.25Thru.hole:Φ6.7
63	M10×1.5	15	17	10.5	6.5	M8×1.25Thru.hole:Φ6.7
80	M14×1.5	20	22	17	11	M12×1.75Thru.hole:Φ10.4
100	M18×1.5	20	27	19	13	M14×2.0Thru.hole:Φ12.4

Item	KA	KB	M	MA	P	PA		PB		T
						St=5	St>5	St=5	St>5	
Bore size										
12	12	16.3	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	28
20	14	24	13	1.5	M5×0.8	8	9	5	5.5	-
25	15	28	17	2	M5×0.8	9	9	5.5	5.5	-
32	16	34	22	2.5	G1/8	9	9	6.5	9	-
40	20	40	28	3	G1/8	9.5	9.5	7.5	7.5	-
50	25	48	38	4	G1/4	8	10.5	8	10.5	-
63	25	60	40	4	G1/4	9.5	12	9.5	11	-
80	25	74	45	5	G3/8	11.5	14.5	11.5	14.5	-
100	30	90	55	5	G3/8	16	20.5	16	20.5	-

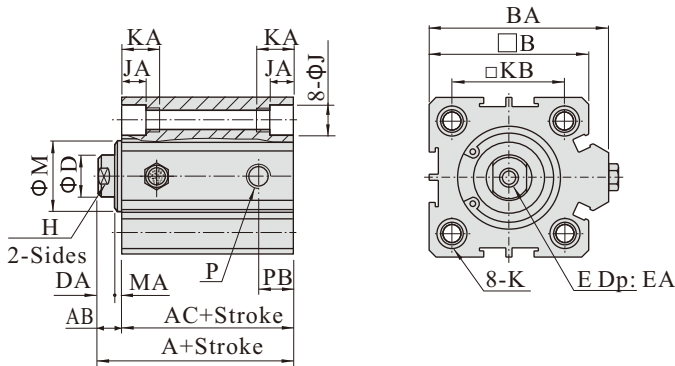
Item	AB	D	DA	E	EA	EB	F	FA	H	M	MA	
											SDAD/SDAJ	Others
Bore size												
12	17	6	16	M5×0.8	10	12	8	4	5	10.2	1	1
16	17.5	6	16	M5×0.8	10	12	8	4	5	11	1.5	1.5
20	20.5	8	19	M6×1.0	13	15	10	5	6	13	1.5	1.5
25	23	10	21	M8×1.25	15	17	12	6	8	17	2	2
32	25	12	22	M10×1.25	15	18	17	6	10	22	3	2.5
40	35	16	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

## SSA series

Φ12\Φ16

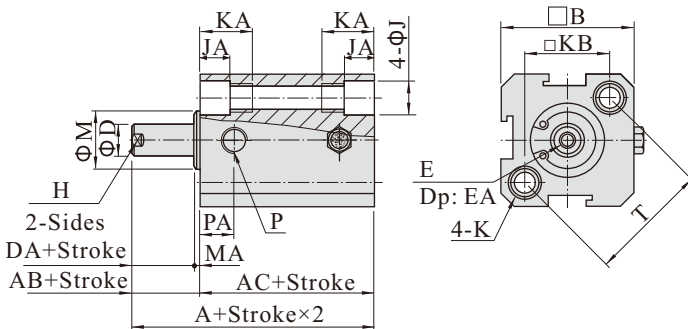


Φ20~Φ100

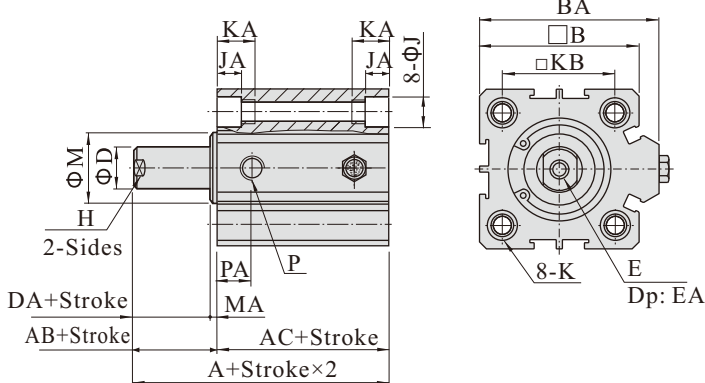


## STA series

Φ12\Φ16



Φ20~Φ100



Bore size/Item	A(Without magnet)		A(With magnet)		AB
	St≤10	St>10	St≤10	St>10	
12	32	42	42	52	5
16	34	44	44	54	5.5
20	35	45	45	55	5.5
25	37	47	47	57	6
32	41.5	51.5	51.5	61.5	7
40	43	53	53	63	7
50	47	57	57	67	9
63	51	61	61	71	9

Bore size/Item	AC(Without magnet)		AC(With magnet)		B
	St≤10	St>10	St≤10	St>10	
12	27	37	37	47	25
16	28.5	38.5	38.5	48.5	29
20	29.5	39.5	39.5	49.5	34
25	31	41	41	51	40
32	34.5	44.5	44.5	54.5	44
40	36	46	46	56	52
50	38	48	48	58	62
63	42	52	52	62	75

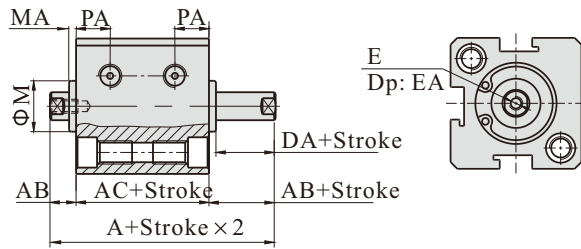
Bore size/Item	BA	D	DA	E	EA	H	J	JA
12	-	6	4	M3×0.5	6	5	6.5	4.5
16	-	6	4	M3×0.5	6	5	6.5	4.5
20	36	8	4	M4×0.7	8	6	6.5	4.5
25	42	10	4	M5×0.8	10	8	8.2	5.5
32	50	12	4	M6×1.0	12	10	8.2	5.5
40	58.5	16	4	M8×1.25	12	14	10.5	6.5
50	71.5	20	5	M10×1.5	15	17	10.5	6.5
63	84.5	20	5	M10×1.5	15	17	10.5	6.5

Bore size/Item	K	KA	KB	M	MA
12	M5×0.8 Thru.hole:Φ4.2	12	16.3	10.2	1
16	M5×0.8 Thru.hole:Φ4.2	12	19.8	11	1.5
20	M5×0.8 Thru.hole:Φ4.2	14	24	13	1.5
25	M6×1.0 Thru.hole:Φ5.2	15	28	17	2
32	M6×1.0 Thru.hole:Φ5.2	16	34	22	2.4
40	M8×1.25 Thru.hole:Φ6.7	20	40	28	3
50	M8×1.25 Thru.hole:Φ6.7	25	48	38	4
63	M8×1.25 Thru.hole:Φ6.7	25	60	40	4

Bore size/Item	P	PA	PB	T
12	M5×0.8	7.5	5	23
16	M5×0.8	8	5.5	28
20	M5×0.8	9	5.5	-
25	M5×0.8	9	5.5	-
32	G1/8	9	9	-
40	G1/8	9.5	7.5	-
50	G1/4	10.5	10.5	-
63	G1/4	12	11	-

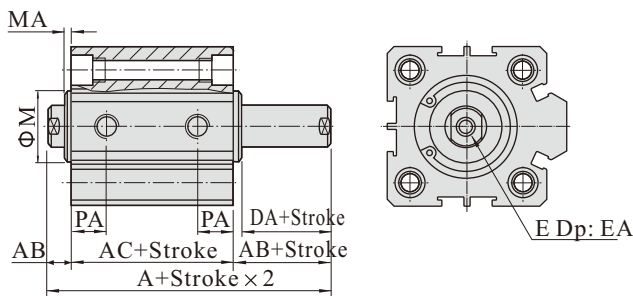
## SDAD series

Φ12\Φ16



Item	A	AC	A	AC	AB	DA
	Without magnet		With magnet			
Bore size 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

Φ20~Φ100

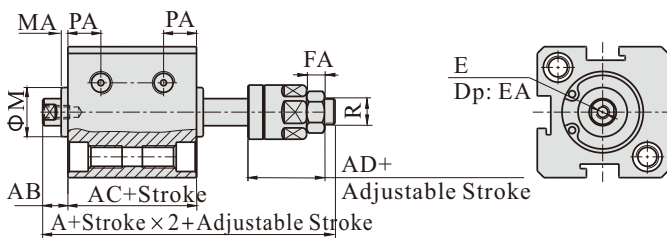


Item	E	EA		M	MA	PA	
		St≤10	St>10			St=5	St>5
Bore size 12	M3×0.5	6	6	10.2	1	5.5	6.3
16	M3×0.5	6	6	11	1.5	6.5	7.3
20	M4×0.7	8(6.5 for St=5)		15	1.5	7.5	7.5
25	M5×0.8	10(7 for St=5)		17	2	8	8
32	M6×1.0	8	12	22	3	8	9
40	M8×1.25	8	12	28	3	8	10
50	M10×1.5	8	15	38	4	8	10.5
63	M10×1.5	10	15	40	4	9.5	11.8
80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

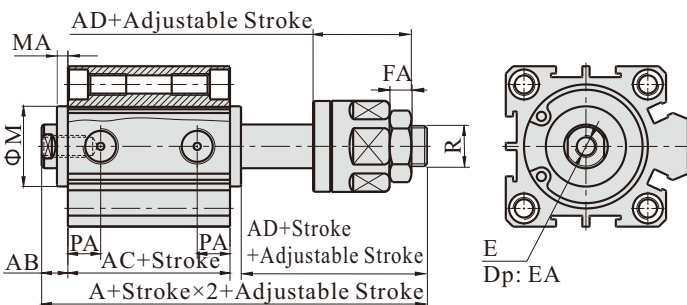
## SDAJ series

Φ12\Φ16



Item	A	AC	A	AC	AB	AD	E
	Without magnet		With magnet				
Bore size 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

Φ20~Φ100

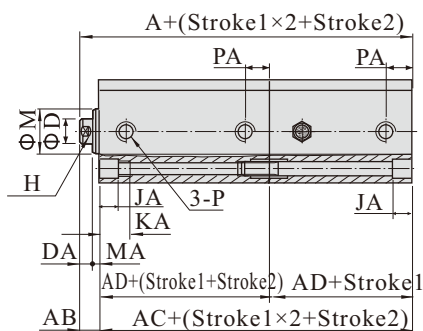


Item	EA		FA	M	MA	PA		R
	St≤10	St>10				St=5	St>5	
Bore size 12	6	6	4	10.2	1	5.5	6.3	M5×0.8
16	6	6	4	11	1.5	6.5	7.3	M5×0.8
20	8(6.5 for St=5)		5	15	1.5	7.5	7.5	M6×1.0
25	10(7 for St=5)		6	17	2	8	8	M8×1.25
32	8	12	6	22	3	8	9	M10×1.25
40	8	12	7	28	3	8	10	M12×1.25
50	8	15	8	38	4	8	10.5	M16×1.5
63	10	15	8	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

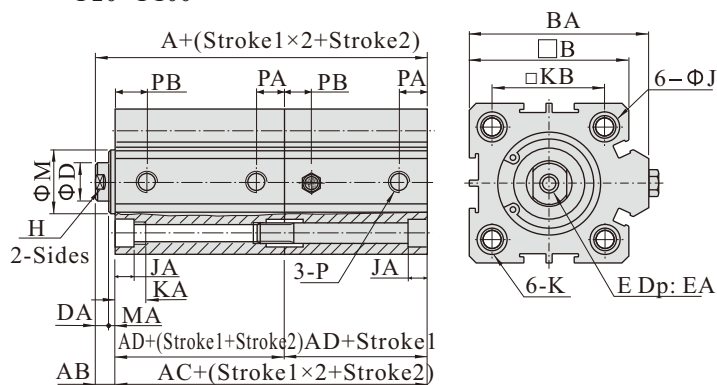
Note) The unmarked dimension is the same as SDA standard type.

## SDAT series

Φ12\Φ16



Φ20~Φ100



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

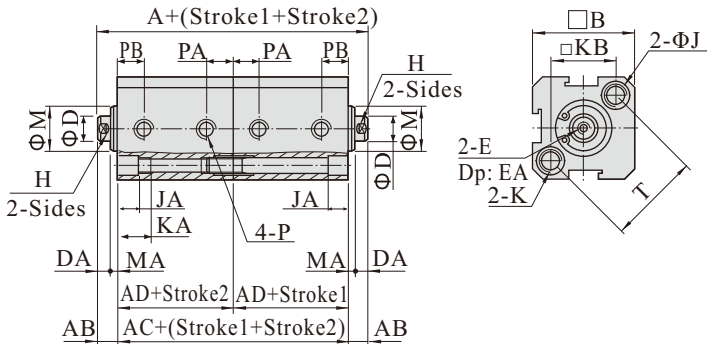
Bore size\Item	BA	D	DA	E	EA	H
12	-	6	4	M3×0.5	6	5
16	-	6	4	M3×0.5	6	5
20	36	8	4	M4×0.7	8	6
25	42	10	4	M5×0.8	10	8
32	50	12	4	M6×1.0	12	10
40	58.5	16	4	M8×1.25	12	14
50	71.5	20	5	M10×1.5	15	17
63	84.5	20	5	M10×1.5	15	17
80	104	25	6	M14×1.5	20	22
100	124	32	7	M18×1.5	20	27

Bore size\Item	J	JA	K	KA
12	6.5	4.5	M5×0.8 Thru.hole:Φ4.2	12
16	6.5	4.5	M5×0.8 Thru.hole:Φ4.2	12
20	6.5	4.5	M5×0.8 Thru.hole:Φ4.2	14
25	8.2	5.5	M6×1.0 Thru.hole:Φ5.2	15
32	8.2	5.5	M6×1.0 Thru.hole:Φ5.2	16
40	10.5	6.5	M8×1.25 Thru.hole:Φ6.7	20
50	10.5	6.5	M8×1.25 Thru.hole:Φ6.7	25
63	10.5	6.5	M8×1.25 Thru.hole:Φ6.7	25
80	17	11	M12×1.75 Thru.hole:Φ10.4	25
100	19	13	M14×2.0 Thru.hole:Φ12.4	30

Bore size	Item	KB	M	MA	P	PA		PB	
						St=5	St>5	St=5	St>5
12	16.3	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	8	9	
25	28	17	2	M5×0.8	5.5	5.5	9	9	
32	34	22	2.5	G1/8	6.5	9	9	9	
40	40	28	3	G1/8	7.5	7.5	9.5	9.5	
50	48	38	4	G1/4	8	10.5	8	10.5	
63	60	40	4	G1/4	9.5	11	9.5	12	
80	74	45	5	G3/8	11.5	14.5	11.5	14.5	
100	90	55	5	G3/8	16	20.5	16	20.5	

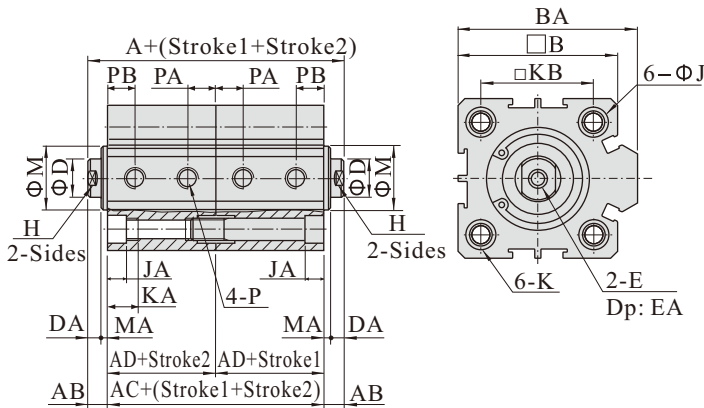
## SDAW series

Φ12\Φ16



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

Φ20~Φ100



Bore size\Item	BA	D	DA	E	EA	H
12	-	6	4	M3×0.5	6	5
16	-	6	4	M3×0.5	6	5
20	36	8	4	M4×0.7	8	6
25	42	10	4	M5×0.8	10	8
32	50	12	4	M6×1.0	12	10
40	58.5	16	4	M8×1.25	12	14
50	71.5	20	5	M10×1.5	15	17
63	84.5	20	5	M10×1.5	15	17
80	104	25	6	M14×1.5	20	22
100	124	32	7	M18×1.5	20	27

Bore size\Item	J	JA	K	KA
12	6.5	4.5	M5×0.8 Thru.hole:Φ4.2	12
16	6.5	4.5	M5×0.8 Thru.hole:Φ4.2	12
20	6.5	4.5	M5×0.8 Thru.hole:Φ4.2	14
25	8.2	5.5	M6×1.0 Thru.hole:Φ5.2	15
32	8.2	5.5	M6×1.0 Thru.hole:Φ5.2	16
40	10.5	6.5	M8×1.25 Thru.hole:Φ6.7	20
50	10.5	6.5	M8×1.25 Thru.hole:Φ6.7	25
63	10.5	6.5	M8×1.25 Thru.hole:Φ6.7	25
80	17	11	M12×1.75 Thru.hole:Φ10.4	25
100	19	13	M14×2.0 Thru.hole:Φ12.4	30

Bore size	Item	KB	M	MA	P	PA		PB	
						St=5	St>5	St=5	St>5
12	16.3	10.2	1	M5×0.8	5	5	7.5	7.5	
16	19.8	11	1.5	M5×0.8	5	5.5	8	8	
20	24	13	1.5	M5×0.8	5	5.5	8	9	
25	28	17	2	M5×0.8	5.5	5.5	9	9	
32	34	22	2.5	G1/8	6.5	9	9	9	
40	40	28	3	G1/8	7.5	7.5	9.5	9.5	
50	48	38	4	G1/4	8	10.5	8	10.5	
63	60	40	4	G1/4	9.5	11	9.5	12	
80	74	45	5	G3/8	11.5	14.5	11.5	14.5	
100	90	55	5	G3/8	16	20.5	16	20.5	