

# ISO 6432 STAINLESS STEEL MINI CYLINDERS

## Installation & Application

Cylinder should be sized according to work load.

Cylinders should be protected from dirty environments.

Dirty substances in the pipe must be cleared away before cylinder is connected with pipeline to prevent the entrance of sundries into the cylinder.

Use only clean filtered air to 40  $\mu\text{m}$  (lubricated if necessary).

Anti-freezing measure shall be adopted under low temperature environments to prevent moisture freezing.

Test cylinder under no load, prior to first run, turn buffer adjustment to minimum and gradually increase to avoid damage.

In order for the cylinder to achieve long service life, do not side load cylinder.

When the cylinder with magnet is selected and used, it is suggested to use KELM sensor to avoid detecting failure.



## Thrust Data

Unit: Newton (N)

Bore mm	Rod mm	Type	Pressure area mm <sup>2</sup>	Operating Pressure MPa							
				0.1	0.2	0.3	0.4	0.5	0.6	0.7	
8	4	Single Acting-Push type	50.2	-	3.6	8.6	13.6	18.6	23.6	28.7	
		Single Acting-Pull type	37.7	-	1.0	4.8	8.6	12.3	16.1	19.9	
		Double Acting	Push side	50.2	5.0	10.1	15.1	20.1	25.1	30.1	35.2
			Pull side	37.7	3.8	7.5	11.3	15.1	18.8	22.6	26.4
10	4	Single Acting-Push type	78.5	-	5.9	13.8	21.6	29.5	37.3	45.2	
		Single Acting-Pull type	65.9	-	3.4	10.0	16.6	23.2	29.8	36.4	
		Double Acting	Push side	78.5	7.9	15.7	23.6	31.4	39.3	47.1	55.0
			Pull side	65.9	6.6	13.2	19.8	26.4	33.0	39.6	46.2
12	6	Single Acting-Push type	113.0	-	10.1	21.4	32.7	44.0	55.3	66.6	
		Single Acting-Pull type	84.8	-	4.5	12.9	21.4	29.9	38.4	46.9	
		Double Acting	Push side	113.0	11.3	22.6	33.9	45.2	56.5	67.8	79.1
			Pull side	84.8	8.5	17.0	25.4	33.9	42.4	50.9	59.4
16	6	Single Acting-Push type	201.0	-	14.6	34.7	54.8	74.9	95.0	115.1	
		Single Acting-Pull type	172.7	-	8.9	26.2	43.5	60.8	78.0	95.3	
		Double Acting	Push side	201.0	20.1	40.2	60.3	80.4	100.5	120.6	140.7
			Pull side	172.7	17.3	34.5	51.8	69.1	86.4	103.6	120.9
20	8	Single Acting-Push type	314.0	-	25.3	56.7	88.1	119.5	150.9	182.3	
		Single Acting-Pull type	263.8	-	15.3	41.6	68.0	94.4	120.8	147.1	
		Double Acting	Push side	314.0	31.4	62.8	94.2	125.6	157.0	188.4	219.8
			Pull side	263.8	26.4	52.8	79.1	105.5	131.9	158.3	184.6
25	10	Single Acting-Push type	490.6	-	43.1	92.2	141.3	190.3	239.3	288.4	
		Single Acting-Pull type	412.1	-	27.4	68.6	109.8	151.1	192.3	233.5	
		Double Acting	Push side	490.6	49.1	98.1	147.2	196.3	245.3	294.4	343.4
			Pull side	412.1	41.2	82.4	123.6	164.9	206.1	247.3	288.5
32	12	Single Acting-Push type	804.3	30.2	110.9	191.3	277.1	352.1	432.6	513.0	
		Single Acting-Pull type	691.2	19.1	88.2	157.4	226.5	295.6	364.7	388.8	
		Double Acting	Push side	804.3	80.2	160.9	241.3	327.1	402.1	482.6	563.0
			Pull side	691.2	69.1	138.2	207.4	276.5	345.6	414.7	438.8
40	16	Single Acting-Push type	1256.6	64.7	190.3	316.0	441.7	567.3	693.0	818.7	
		Single Acting-Pull type	1055.6	44.6	150.1	255.7	361.2	466.8	572.4	677.9	
		Double Acting	Push side	1256.6	125.7	251.3	377.0	502.7	628.3	754.0	879.7
			Pull side	1055.6	105.6	211.1	316.7	422.2	527.8	633.4	738.9



# ISO 6432 STAINLESS STEEL MINI CYLINDERS

## Specification



Bore size mm	8	10	12	16	20	25	32	40
Acting Type	Double Acting type,		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 (14 - 145psi)						
	Single Acting	0.2 - 1.0MPa (28 - 145psi)						
Proof Pressure	1.5MPa (215psi)							
Temperature	-20 to +70°C							
Speed range mm/s	Double Acting type		30-800		Single Acting type		50-800	
Stroke tolerance	0-150 + <sup>1.0</sup> / <sub>0</sub>				> 150 + <sup>1.0</sup> / <sub>0</sub>			
Cushion type	KB Series Variable			All Other series		Bumper		
Port	M5 x 0.8			1/8"		1/4"		

G thread as standard, PT & NPT are available on request

## Ordering Code

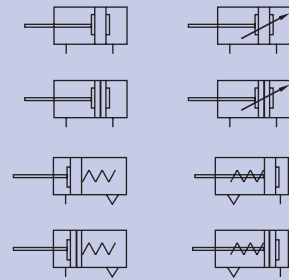
KC — 10 × 40 — S — CA

Bore size                      Stroke                      Back cover

Model	KA : Mini cylinder(Double Acting type)	KB : Mini cylinder(Double Acting with cushion type)	KC : Mini cylinder(Single Acting-Push type)	KD : Mini cylinder(Single Acting-Pull type)
Magnet	S : With magnet Blank : Without magnet			
Back cover	CA : Pivot type	Adaptable bore size		
U : Perpendicular 90°	8, 10, 12, 16, 20, 25			
R : Axial air-in	8, 10, 12, 16, 20, 25, 32, 40			
CM : Round-end type	16, 20, 25, 32, 40			

① KB Not available with type R rear cover;

## Symbol



## Available Strokes

Bore size mm	Standard stroke mm	Max stroke mm	
Double Acting	8	10 15 20 25 30 40 50 60 75 80 100 125 150	150
	10	10 15 20 25 30 40 50 60 75 80 100 125 150 160 175 200	200
	12	10 15 20 25 30 40 50 60 75 80 100 125 150 160 175 200 250	250
Double Acting with cushion	16	10 15 20 25 30 40 50 60 75 80 100 125 150 160 175 200 250 300	300
	20		500
	25	10 15 20 25 30 40 50 60 75 80 100 125 150 160 175 200 250 300	600
	32	350 400 450 500 600	600
	40		600
Single Acting	8		-
	10	10 15 20 25 30 40 50	-
	12		-
	16	10 15 20 25 30 40 50 60 75 80 100	-
	20		-
	25	10 15 20 25 30 40 50 60 75 80 100 125 150	-
	32		-
40		-	

## Product Features

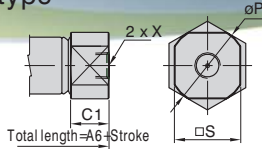
- In accordance with ISO6432 standard.
- Front and rear cap cushioning.
- There are several versions of back end cap, which makes the installation of cylinders more convenient.
- Crimped end cap design.
- Piston rod and cylinder body stainless steel.
- There are cylinders and accessories with several specifications for installation for your choice.

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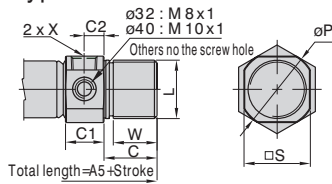
## Dimensions

### KA Series

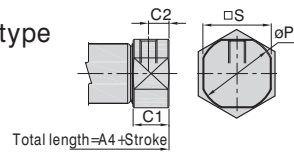
#### R type



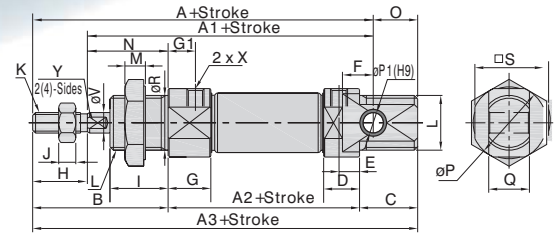
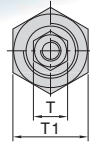
#### CM type



#### U type



#### CA type



Item Bore	A	A1	A2	A3	A4	A5	A6	B	C	C1	C2	D	E	F	G	G1	H	I
8	76	64	46	86	74	-	-	28	12	9.5	5	9.5	5	6	11.5	7	12	12
10	76	64	46	86	74	-	-	28	12	9.5	5	9.5	5	6	11.5	7	12	12
12	91	75	50	105	88	-	-	38	17	10.5	6	10.5	6	9	12.5	8	16	17
16	98	82	56	111	94	111	94	38	17	10.5	6	10.5	6	9	12.5	8	16	17
20	115	95	62	126	106	126	106	44	20	14.5	7.5	14.5	7.5	12	14.5	7.5	20	20
25	126	104	65	137	114.5	137	115	50	22	16	8	16	8	12	16	8	22	22
32	-	-	-	-	125	140	126	58	14	16.5	9	-	-	-	16.5	9	20	30
40	-	-	-	-	158	174	158	69	16	22	12	-	-	-	22	12	24	35

Item Bore	J	K	L	M	N	O	P	P1	Q	R	S	T	T1	X	V	W	Y
8	2.5	M4 × 0.7	M12 × 1.25	6	16	10	17	4	8	12	15	7	17	M5 × 0.8	4	-	-
10	2.5	M4 × 0.7	M12 × 1.25	6	16	10	17	4	8	12	15	7	17	M5 × 0.8	4	-	-
12	5	M6 × 1.0	M16 × 1.5	6	22	14	20	6	12	16	18	10	22	M5 × 0.8	6	-	5
16	5	M6 × 1.0	M16 × 1.5	6	22	13	22	6	12	16	20	10	22	M5 × 0.8	6	13.5	5
20	6	M8 × 1.25	M22 × 1.5	7	24	11	29	8	16	22	25	12	29	1/8"	8	16.5	6
25	6	M10 × 1.25	M22 × 1.5	7	28	11	33.5	8	16	22	30	17	29	1/8"	10	18.5	8
32	6	M10 × 1.25	M30 × 1.5	7	38	-	37.5	-	-	30	34.5	17	36	1/8"	12	10.5	10
40	7	M12 × 1.25	M38 × 1.5	8	45	-	46.5	-	-	38	42.5	17	46	1/4"	16	12.5	14

### KB Series

ø16 - ø25

Bore/Item	A	A1	A2	A3	A4	A5	B	C	D
16	98	82	56	111	94	111	38	17	12.1
20	115	95	62	126	106	126	44	20	14.5
25	126	104	65	137	113.5	137	50	22	16

Bore/Item	D1	D2	D3	E	F	G	G1	G2
16	7	9	12.1	6	9	12.5	7.5	9.5
20	7.5	10.5	14.5	8	12	14.5	7.5	10.5
25	8	10.5	14.5	8	12	16	8	12

Bore/Item	H	I	J	K	L	M	O	N
16	16	17	5	M6 × 1.0	M16 × 1.5	6	13	22
20	20	20	6	M8 × 1.25	M22 × 1.5	7	11	24
25	22	22	6	M10 × 1.25	M22 × 1.5	7	11	28

Bore/Item	P	Q	R	S	T	T1	V	W	X
16	22	12	5	20	10	22	6	13.5	M5 × 0.8
20	29	16	6	25	12	29	8	16.5	1/8"
25	33.5	16	9	30	17	29	10	18.5	1/8"

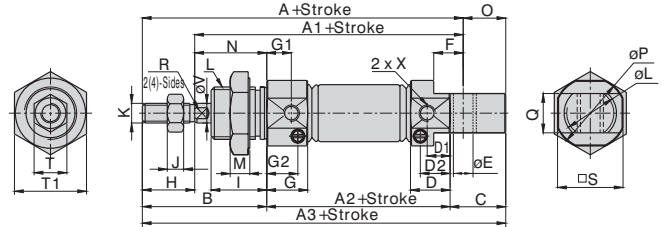
ø32, ø40

Bore/Item	A2	A4	A5	B	C	D	D1	D2	D3	D4
32	68	124	140	58	14	16.5	9	11.5	14.5	7.5
40	89	157.5	174	69	16	22	12	12	21.5	11.5

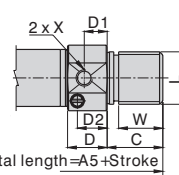
Bore/Item	D5	G	G1	G2	H	I	J	K
32	11	16.5	9	11.8	20	30	6	M10 × 1.25
40	14	22	12	12	24	35	7	M12 × 1.25

Bore/Item	L	M	N	P	S	T	T1	V	W	X
32	M30 × 1.5	7	38	37.5	34.5	17	36	12	10.5	1/8"
40	M38 × 1.5	8	45	46.5	42.5	17	46	16	12.5	1/4"

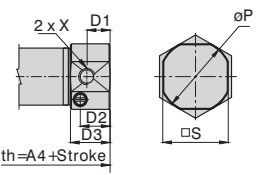
#### CA Type



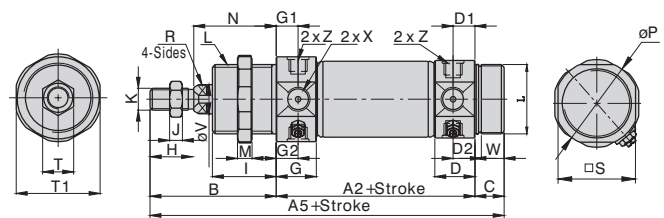
#### CM Type



#### U Type

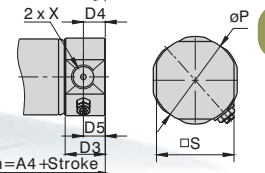


#### CM Type



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

#### U: Type

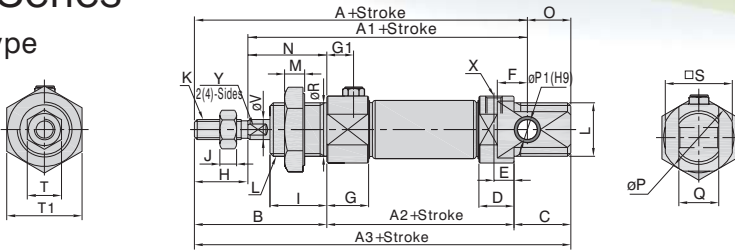


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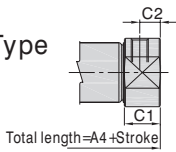
## Dimensions

### KC Series

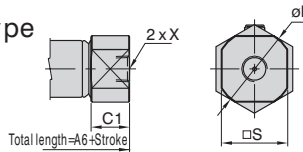
#### CA type



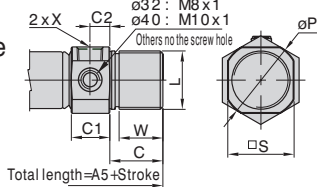
#### U Type



#### R Type



#### CM Type



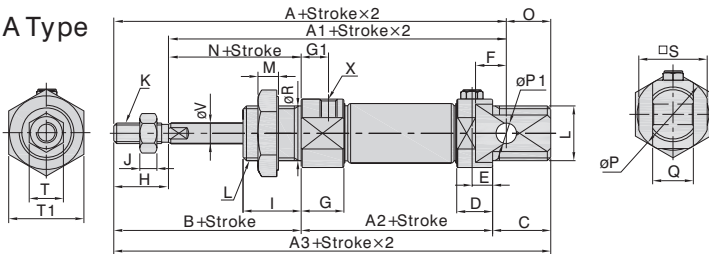
Bore/Item	A			A1			
	Stroke	0-50	51-100	101-150	0-50	51-100	101-150
8	101	-	-	-	89	-	-
10	101	-	-	-	89	-	-
12	116	-	-	-	100	-	-
16	123	148	-	-	107	132	-
20	140	165	190	-	120	145	170
25	151	176	201	-	129	154	179
32	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-

Bore/Item	A2			A3			
	Stroke	0-50	51-100	101-150	0-50	51-100	101-150
8	71	-	-	-	111	-	-
10	71	-	-	-	111	-	-
12	75	-	-	-	130	-	-
16	81	106	-	-	136	161	-
20	87	112	137	-	151	176	201
25	90	115	140	-	162	187	212
32	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-

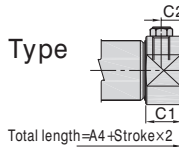
Bore/Item	A4			A5			
	Stroke	0-50	51-100	101-150	0-50	51-100	101-150
8	99	-	-	-	-	-	-
10	99	-	-	-	-	-	-
12	113	-	-	-	-	-	-
16	119	144	-	-	136	161	-
20	131	156	181	-	151	176	201
25	139.5	164.5	189.5	-	162	187	212
32	150	175	200	-	165	190	215
40	183	208	233	-	199	224	249

### KD Series

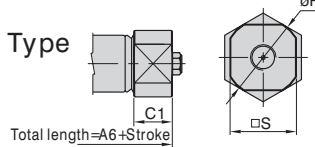
#### CA Type



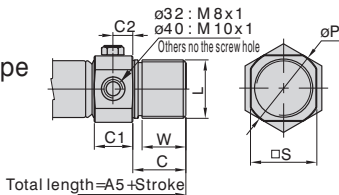
#### U Type



#### R Type



#### CM Type



Bore/Item	A6			B	C	C1	C2
	Stroke	0-50	51-100				
8	-	-	-	28	12	9.5	5
10	-	-	-	28	12	9.5	5
12	-	-	-	38	17	10.5	6
16	119	144	-	38	17	10.5	6
20	131	156	181	44	20	14.5	7.5
25	140	165	190	50	22	16	8
32	151	176	201	58	14	16.5	9
40	183	208	233	69	16	22	12

Bore/Item	D	E	F	G	G1	H	I	J	K	L	M
8	9.5	5	6	11.5	7	12	12	2.5	M4 x 0.7	M12 x 1.25	6
10	9.5	5	6	11.5	7	12	12	2.5	M4 x 0.7	M12 x 1.25	6
12	10.5	6	9	12.5	8	16	17	5	M6 x 1.0	M16 x 1.5	6
16	10.5	6	9	12.5	8	16	17	5	M6 x 1.0	M16 x 1.5	6
20	14.5	7.5	12	14.5	7.5	20	20	6	M8 x 1.25	M22 x 1.5	7
25	16	8	12	16	8	22	22	6	M10 x 1.25	M22 x 1.5	7
32	-	-	-	16.5	9	20	30	6	M10 x 1.25	M30 x 1.5	7
40	-	-	-	22	12	24	35	7	M12 x 1.25	M38 x 1.5	8

Bore/Item	N	O	P	P1	Q	R	S	T	T1	X	V	W	Y
8	16	10	17	4	8	12	15	7	17	M5 x 0.8	4	-	-
10	16	10	17	4	8	12	15	7	17	M5 x 0.8	4	-	-
12	22	14	20	6	12	16	18	10	22	M5 x 0.8	6	-	5
16	22	13	22	6	12	16	20	10	22	M5 x 0.8	6	13.5	5
20	24	11	29	8	16	22	25	12	29	1/8"	8	16.5	6
25	28	11	33.5	8	16	22	30	17	29	1/8"	10	18.5	8
32	38	-	37.5	-	-	30	34.5	17	36	1/8"	12	10.5	10
40	45	-	46.5	-	-	38	42.5	17	46	1/4"	16	12.5	14

No.	Item	Material	
		8 - 12 (Bore)	16 - 40 (Bore)
1	Rod	304	
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	304	
8	Bumper	TPU	
9	Piston	303	Aluminum Alloy
10	Piston O-ring	NBR	
11	Wear Ring	Wear Resistant Material	
12	Nut	Carbon Steel	
13	Back Cover	Aluminum Alloy	

