



# SDA series Miniature Cylinder (Stainless Steel Tube)

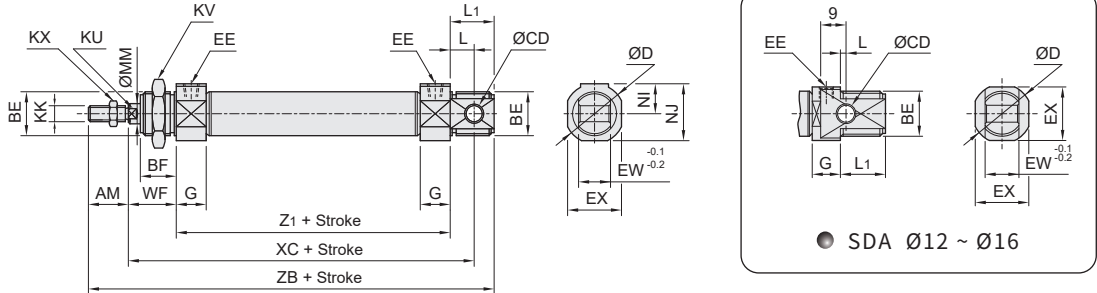
Dimensions/ Double acting

CHELIC

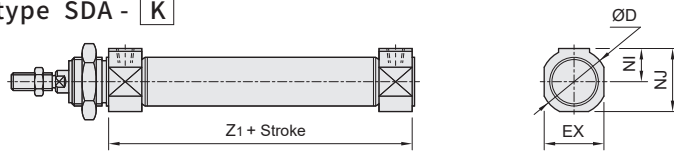
## Double acting



### Standard SDA



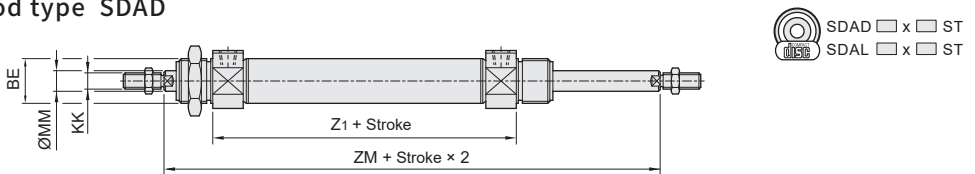
### Short head type SDA - K



Unit: mm

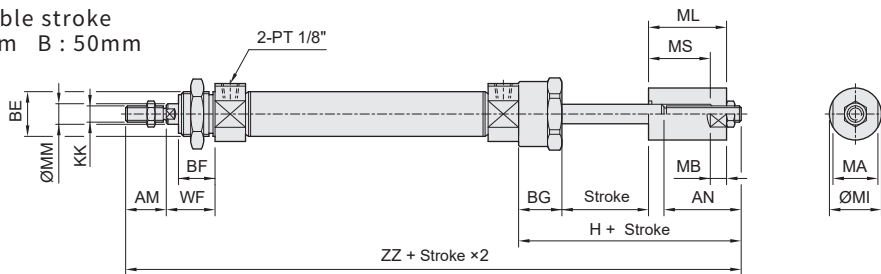
Bore size	AM	BE	BF	CD	D	EE	EX	EW	G	KK	KU	KV	KX	L	L1	MM	NI	NJ	WF	XC	Z1	ZB
Ø12	16	M16x1.5	16	6	21	M5	19	12	10	M6x1.0	5	24	12	2	16	6	—	—	22	75	51	105
Ø16	16	M16x1.5	16	6	21	M5	19	12	10	M6x1.0	5	24	12	2	16	6	—	—	22	82	58	112
Ø20	20	M22x1.5	18	8	30	PT 1/8	27	16	15	M8x1.25	7	27	14	12	22	8	15	28.5	24	95	59	125
Ø25	22	M22x1.5	20	8	30	PT 1/8	27	16	16	M10x1.25	9	27	17	12	22	10	15	28.5	28	104	64	136
Ø32	23	M27x2.0	20	10	38	PT 1/8	35	20	16	M10x1.25	10	35	17	15	27	12	19	36.5	28	115	72	150
Ø40	23	M33x2.0	20	10	45	PT 1/8	42	20	16	M14x1.5	14	41	22	15	27	16	22.5	43.5	28	115	72	150

### Double rod type SDAD



### Adjustable stroke cylinder SDAL

- Adjustable stroke  
A : 25mm B : 50mm



Unit: mm

Bore size (mm)	AN		AM	BE	BF	BG	H		KK	MA	MB	MI	ML		MM	MS		WF	ZZ		ZM
	A	B					A	B					A	B		A	B		A	B	
Ø20	45	70	20	M22x1.5	18	25	78	103	M8x1.25	22	8	24	43	68	8	33	58	24	181	206	107
Ø25	46	71	22	M22x1.5	20	25	79	104	M10x1.25	22	8	24	45	70	10	35	60	28	193	218	120
Ø32	46	71	23	M27x2.0	20	25	79	104	M10x1.25	27	10	29	47	72	12	35	60	28	202	227	128
Ø40	50	75	23	M33x2.0	20	25	83	108	M14x1.5	32	10	35	47	72	16	35	60	28	206	231	128

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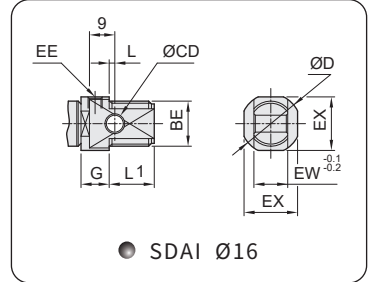
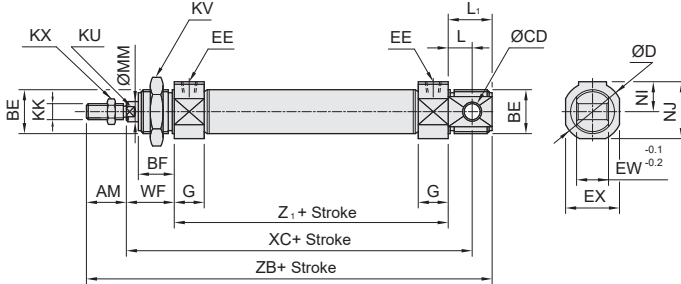
## Dimensions/ Single acting

CHELIC

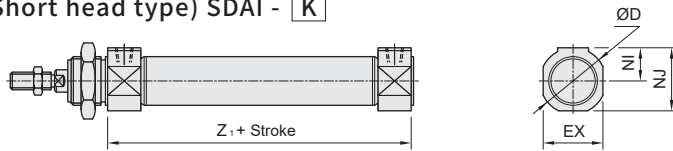
### Single acting



#### Normal in (Standard) SDAI



#### Normal in (Short head type) SDAI - K



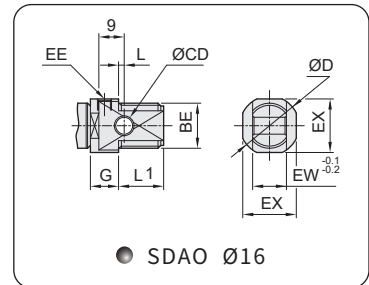
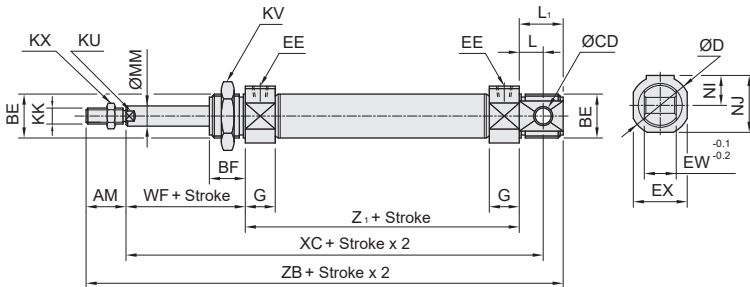
Unit: mm

Bore size (mm)	AM	BE	BF	CD	D	EE	EX	EW	G	KK	KU	KV	KX	L	L <sub>1</sub>	MM	NI	NJ	WF	Stroke 1~50			Stroke 51~100		
																				XC	Z <sub>1</sub>	Z <sub>B</sub>	XC	Z <sub>1</sub>	Z <sub>B</sub>
Ø16	16	M16x1.5	16	6	21	M5	19	12	10	M6x1.0	5	24	12	2	16	6	—	—	22	82	58	112	107	83	137
Ø20	20	M22x1.5	18	8	30	PT 1/8	27	16	15	M8x1.25	7	27	14	12	22	8	15	28.5	24	95	59	125	120	84	150
Ø25	22	M22x1.5	20	8	30	PT 1/8	27	16	16	M10x1.25	9	27	17	12	22	10	15	28.5	28	104	64	136	129	89	161
Ø32	23	M27x2.0	20	10	38	PT 1/8	35	20	16	M10x1.25	10	35	17	15	27	12	19	36.5	28	115	72	150	140	97	175
Ø40	23	M33x2.0	20	10	45	PT 1/8	42	20	16	M14x1.5	14	41	22	15	27	16	22.5	43.5	28	115	72	150	140	97	175

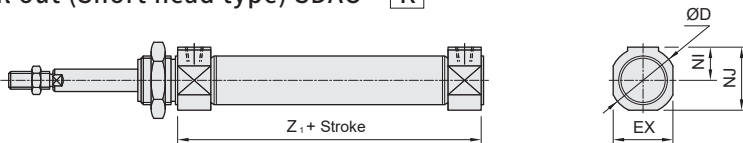
SBA

SDA

#### Normal out (Standard) SDAO



#### Normal out (Short head type) SDAO - K



Unit: mm

Bore size (mm)	AM	BE	BF	CD	D	EE	EX	EW	G	KK	KU	KV	KX	L	L <sub>1</sub>	MM	NI	NJ	WF	Stroke 1~50			Stroke 51~100		
																				XC	Z <sub>1</sub>	Z <sub>B</sub>	XC	Z <sub>1</sub>	Z <sub>B</sub>
Ø16	16	M16x1.5	16	6	21	M5	19	12	10	M6x1.0	5	24	12	2	16	6	—	—	22	82	58	112	107	83	137
Ø20	20	M22x1.5	18	8	30	PT 1/8	27	16	15	M8x1.25	7	27	14	12	22	8	15	28.5	24	95	59	125	120	84	150
Ø25	22	M22x1.5	20	8	30	PT 1/8	27	16	16	M10x1.25	9	27	17	12	22	10	15	28.5	28	104	64	136	129	89	161
Ø32	23	M27x2.0	20	10	38	PT 1/8	35	20	16	M10x1.25	10	35	17	15	27	12	19	36.5	28	115	72	150	140	97	175
Ø40	23	M33x2.0	20	10	45	PT 1/8	42	20	16	M14x1.5	14	41	22	15	27	16	22.5	43.5	28	115	72	150	140	97	175

SDX

DB□2

DBT

FDA

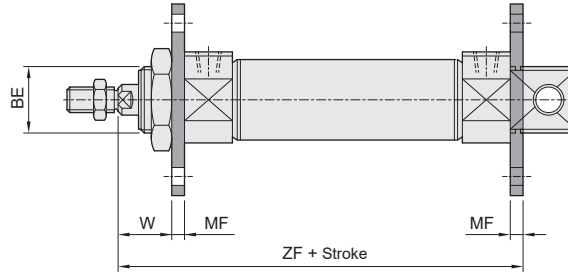
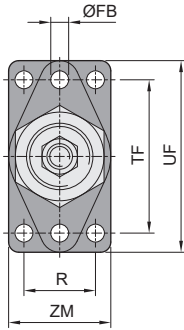
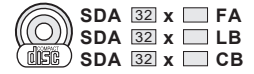
FDX

# SDA series Miniature Cylinder (Stainless Steel Tube)

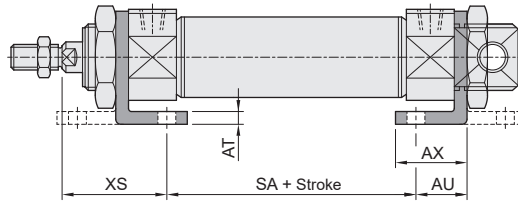
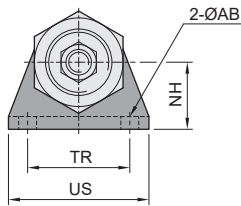
## Dimensions/ Mounting accessory

CHELIC

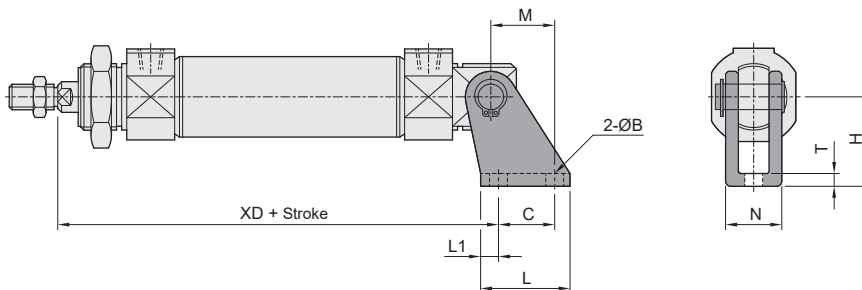
### Front flange - FA



### Double clevis - LB



### Female clevis - CB



Unit: mm

Bore size	AB	AT	AU	AX	B	BE	C	FB	H	L	L <sub>1</sub>	M	MF	N	NH	R	SA	T	TF	TR	UF	US	W	XD	XS	ZF	ZM
Ø12	6	4	14	20	6	M16x1.5	15	6	27	25	5	13	4	18	20	—	31	3	40	32	53	42	18	73	32	77	30
Ø16	6	4	14	20	6	M16x1.5	15	6	27	25	5	13	4	18	20	—	38	3	40	32	53	42	18	80	32	84	30
Ø20	7	5	17	25	7	M22x1.5	20	7	30	32	6	16	5	24	25	—	35	4	50	40	66	54	19	91	36	88	40
Ø25	7	5	17	25	7	M22x1.5	20	7	30	32	6	16	5	24	25	—	40	4	50	40	66	54	23	100	40	97	40
Ø32	7	5	20	30	7	M27x2.0	25	7	40	40	7.5	20	5	28	35	20	42	4	60	40	80	55	23.5	110	43.5	104.5	45
Ø40	9	5	20	30	9	M33x2.0	25	9	40	40	7.5	20	5	28	40	30	42	4	80	50	100	75	23.5	110	43.5	104.5	50

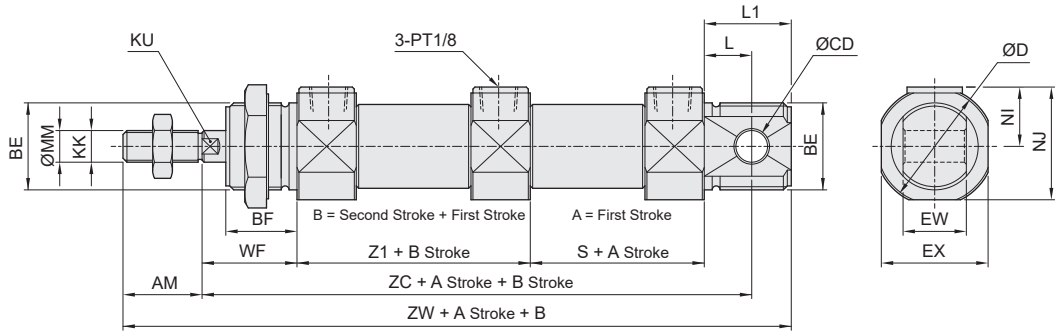
# SDA series Miniature Cylinder (Stainless Steel Tube)

## Dimensions/ Tandem cylinder

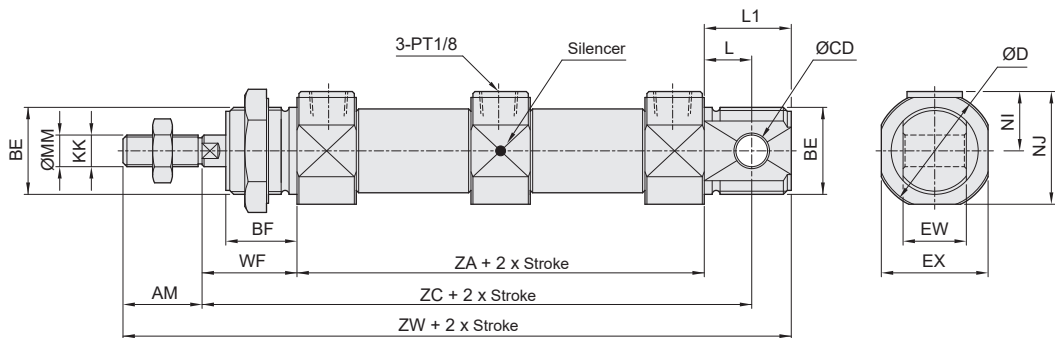
CHELIC

### Tandem

#### Multi-position tandem cylinder SDAF



#### Tandem cylinder SDAM



SBA

SDA

SDX

DB□2

DBT

FDA

FDX

※ Note: Max. stroke: 200 mm

Unit: mm

Bore size	AM	BE	BF	CD	D	EX	EW	KK	KU	L	L <sub>1</sub>	MM	NI	NJ	S	WF	ZA	ZC	ZW	Z <sub>1</sub>
Ø20	20	M22x1.5P	18	8	30	27	16	M8x1.25P	7	12	22	8	15	28.5	44	24	103	139	169	59
Ø25	22	M22x1.5P	20	8	30	27	16	M10x1.25P	9	12	22	10	15	28.5	48	28	112	152	184	64
Ø32	23	M27x2.0P	20	10	38	35	20	M10x1.25P	10	15	27	12	19	36.5	56	28	128	171	206	72
Ø40	23	M33x2.0P	20	10	45	42	20	M14x1.5P	14	15	27	16	22.5	43.5	56	28	128	171	206	72

# SDA series Miniature Cylinder (Stainless Steel Tube)

## Sensor switch operating range and the setting

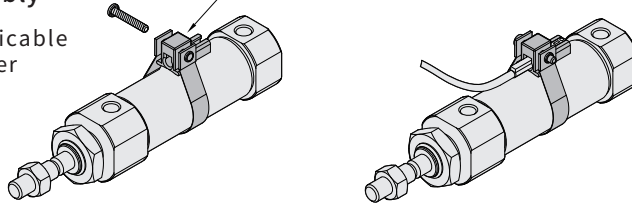
CHELIC

### Mounting of sensor switch

#### Accessory and assembly

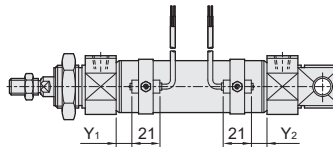
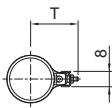
- CS-9D series - Applicable to round body cylinder

Round the metallic belt to the cylinder body with sensor switch like below images, then screw to the holder and tighten to prevent sensor switch fallen.

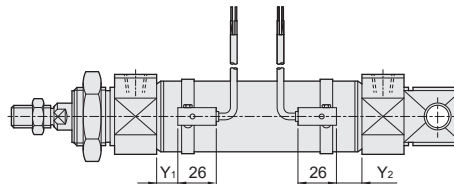
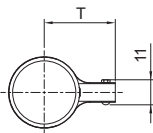


#### Sensor switch mounting type/ Dimension (Reference)

- SDA  $\varnothing 12 \sim \varnothing 16$



- SDA  $\varnothing 20 \sim \varnothing 40$



Unit: mm

Bore size	T	Y <sub>1</sub>	Y <sub>2</sub>
$\varnothing 12$	18.5	3	3
$\varnothing 16$	20.5	5	6
$\varnothing 20$	22.5	6.5	5
$\varnothing 25$	25	9	10
$\varnothing 32$	29	12	15
$\varnothing 40$	33	13	11

- Please install sensor switch at front and rear sides of cylinder, it is better to make same direction as line of visible at easy visible position of indicator light.
- Electric wire is arranged following cylinder and fixed to avoid any pulling and dragging affecting the reception of signal.

### Setting range

Sensor switch is fixed on the cylinder body. The magnetic piston head will activate the Sensor switch when it enters the operating range. It has 0.5mm differential.

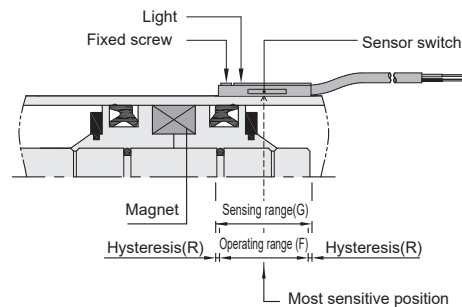
### Operating range

When piston head moves the switch setting and adjustment will be based on the responding range generated by the magnetic field and the switch. (Please refer to the below table)

Unit: mm

Model	CS-9D	
Bore size	Operating range (F)	Hysteresis(R)
$\varnothing 12$	4.5	1
$\varnothing 16$	4.5	1
$\varnothing 20$	4	1
$\varnothing 25$	5	1
$\varnothing 32$	5.5	1
$\varnothing 40$	7	1

### Sensor switch setting and operating range



### Sensor switch introduction

#### CS-9D

Voltage: DC 5 ~ 120V  
AC 5 ~ 120V

