

# SDA series - Miniature cylinder (Stainless steel tube)

Operating specification and Ordering expression

CHELIC PNEUMATIC



## Internal structure



ISO-6432

## Specification

Unit : mm

Item	Bore size	Ø12 ~ Ø16	Ø20 ~ Ø40
Operation		Double acting	
Fluid		Air	
Mounting type		FA, LB, CB	
Pressure range	kgf/cm <sup>2</sup> (kpa)	1 ~ 7 (100 ~ 700)	
Max. service pressure	kgf/cm <sup>2</sup> (kpa)	9 (900)	
Ambient and Fluid temperature	°C	0 ~ 60	
Range of service speed	mm/sec	50 ~ 700	
Cushion		Without cushion	Rubber lining / Pneumatic absorber
Lubrication		Lubrication free	
Bore size		M5 x 0.8	Rc 1/8
Sensing device		With magnet	

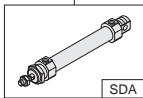
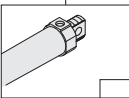
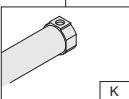
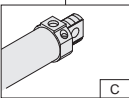
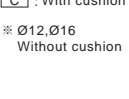
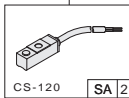
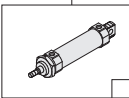
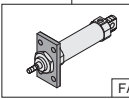
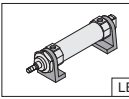
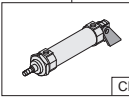
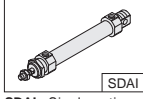
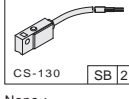
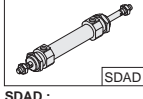
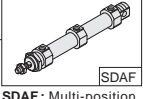
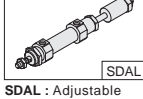
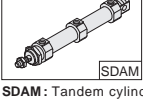
## Standard stroke

Unit : mm

Bore size	Standard stroke	Max. stroke	Maximum
Ø12	25、50、75、100、150	150	150
Ø16	25、50、75、100、150	150	
Ø20	25、50、75、100、150、200、250、300	300	300
Ø25	25、50、75、100、150、200、250、300	300	
Ø32	25、50、75、100、150、200、250、300	500	500
Ø40	25、50、75、100、150、200、250、300	500	

## How to order

**SDA** - **25** × **150** - **C** - **SA 2** - **FA**

<b>Model</b>  SDA : Standard	<b>Bore size</b> 12 - Ø12 mm 16 - Ø16 mm 20 - Ø20 mm 25 - Ø25 mm 32 - Ø32 mm 40 - Ø40 mm	<b>Stroke</b> 25 - 25 mm 50 - 50 mm 75 - 75 mm 100 - 100 mm 125 - 125 mm 150 - 150 mm 175 - 175 mm 200 - 200 mm ※ Refer to stroke list	<b>Head cover shape</b>  None : Standard  K : Short head	<b>Cushion</b>  None : No cushion  C : With cushion ※ Ø12,Ø16 Without cushion	<b>Sensor switch</b>  None : Without sensor switch SA : Sensor switch code (CS-120) 2 : Number of sensor switch 1 = 1 PCS 2 = 2 PCS ( Suitable for : SDA12 )	<b>Mounting type</b>  None : Standard  FA : Front flange mounting  LB : Foot mounting  CB : Clevis
 SDAI : Single acting (Normal in)					 None : Without sensor switch SB : Sensor switch code (CS-130) 2 : Number of sensor switch 1 = 1 PCS 2 = 2 PCS ( Suitable for : SDA16 - 40 )	
 SDAD : Double rod type	 SDAF : Multi-position tandem Cylinder					
 SDAL : Adjustable stroke cylinder	 SDAM : Tandem cylinder					

**SBA**  
Pen Cylinder

**SDA**  
Miniature cylinder

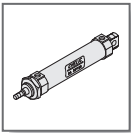
**SDX**  
Miniature cylinder

**DBS2**  
Block cylinder

**DBF2**  
Block cylinder

**DBT**  
Block cylinder

**FDA**  
Miniature Cylinder

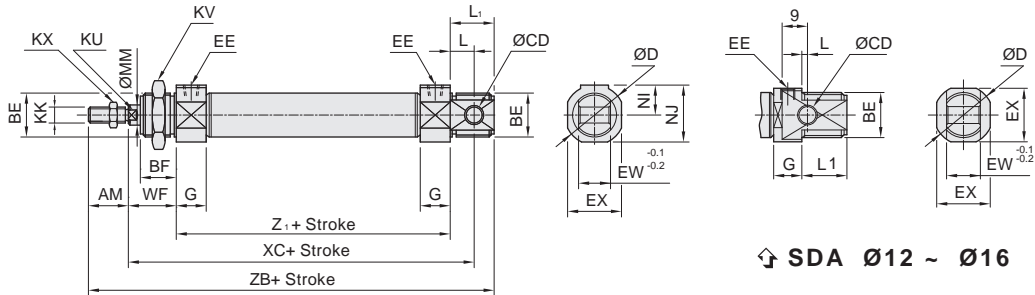


# SDA series - Miniature cylinder (Stainless steel tube)

## External dimension

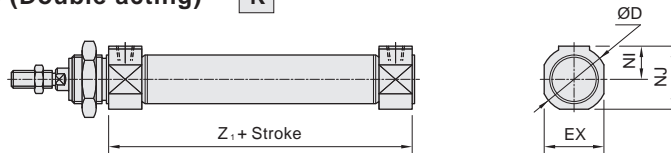
CHELIC PNEUMATIC

### Standard (Double acting) — SDA



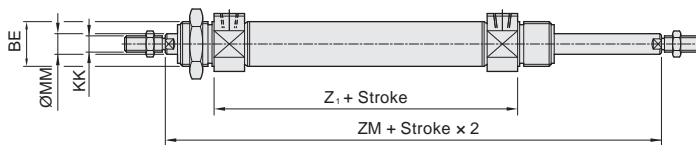
SDA Ø12 ~ Ø16

### Short head type (Double acting) — K



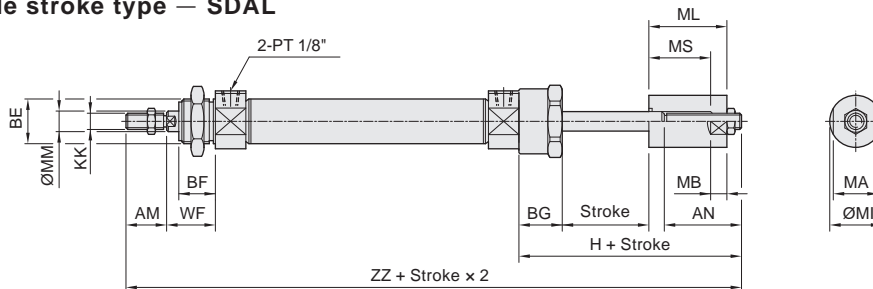
Bore size	AM	BE	BF	CD	D	EE	EX	EW	G	KK	KU	KV	KX	L	L <sub>1</sub>	MM	NI	NJ	WF	XC	Z <sub>1</sub>	ZB
Ø12	16	M16x1.5	16	6	21	M5	19	12	10	M6x1.0	5	24	12	2	16	6	—	—	22	75	51	105
Ø16	16	M16x1.5	16	6	21	M5	19	12	10	M6x1.0	5	24	12	2	16	6	—	—	22	82	58	112
Ø20	20	M22x1.5	18	8	30	PT 1/8	27	16	15	M8x1.25	7	27	14	12	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 (Double acting) — SDAD

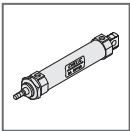


### Adjustable stroke type — SDAL

- Adjustable stroke
- A : 25mm
- B : 50mm



Bore size	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

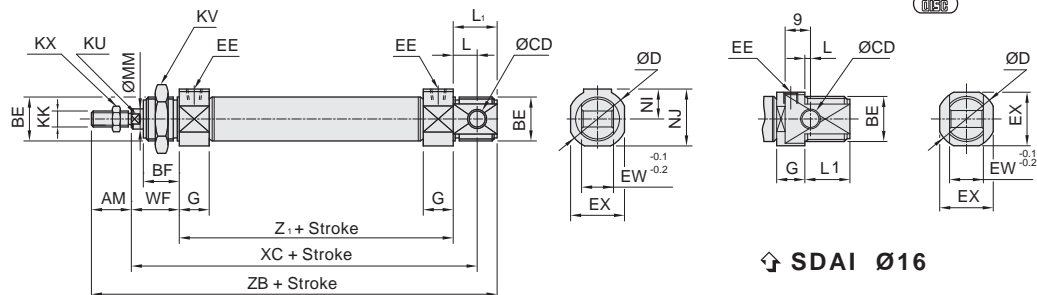


# SDAI , SDAO series - Miniature cylinder

External dimension

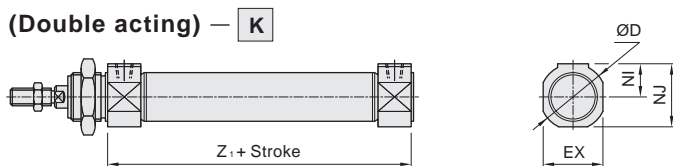
CHELIC PNEUMATIC

## Standard (Double acting) – SDAI



SDAI Ø16

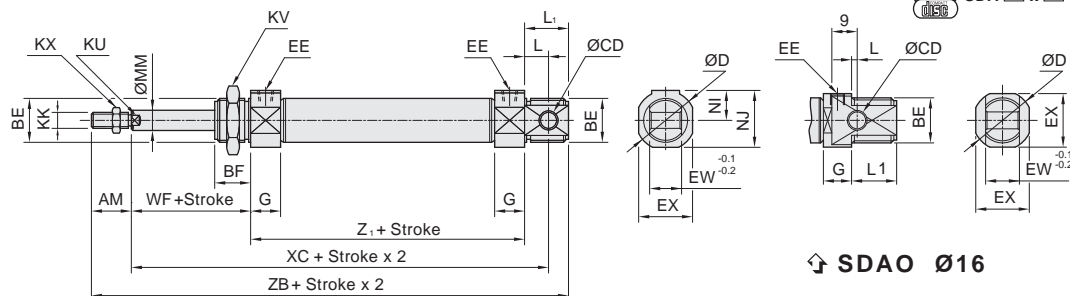
## Short head type (Double acting) – K



Unit : mm

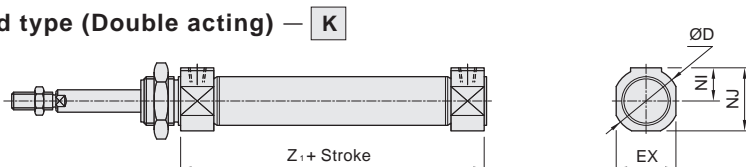
Bore size	AM	BE	BF	CD	D	EE	EX	EW	G	KK	KU	KV	KX	L	L <sub>1</sub>	MM	NI	NJ	WF	Stroke 1~50			Stroke 51~100		
																				XC	Z <sub>1</sub>	ZB	XC	Z <sub>1</sub>	ZB
Ø16	16	M16x1.5	16	6	21	M5	19	12	10	M6x1.0	5	24	12	2	16	6	-	-	22	82	58	112	107	83	137
Ø20	20	M22x1.5	18	8	30	PT 1/8	27	16	15	M8x1.25	7	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

## Double rod type (Double acting) – SDAO



SDAO Ø16

## Short head type (Double acting) – K



Unit : mm

Bore size	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>	ZB	XC	Z <sub>1</sub>	ZB
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**  
Pen  
Cylinder

**SDA**  
Miniature  
cylinder

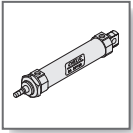
**SDX**  
Miniature  
cylinder

**DBS2**  
Block  
cylinder

**DBF2**  
Block  
cylinder

**DBT**  
Block  
cylinder

**FDA**  
Miniature  
Cylinder

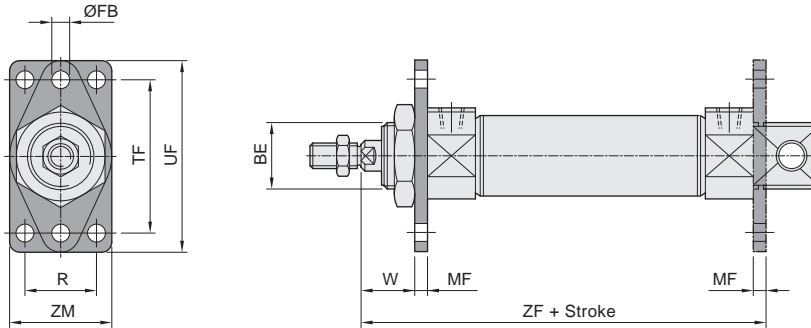
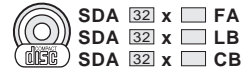


# SDA series - Miniature cylinder (Stainless steel tube)

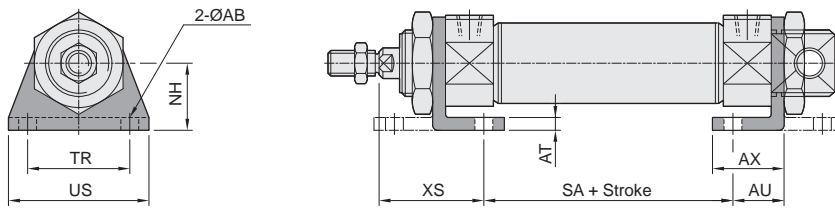
External dimension

CHELIC PNEUMATIC

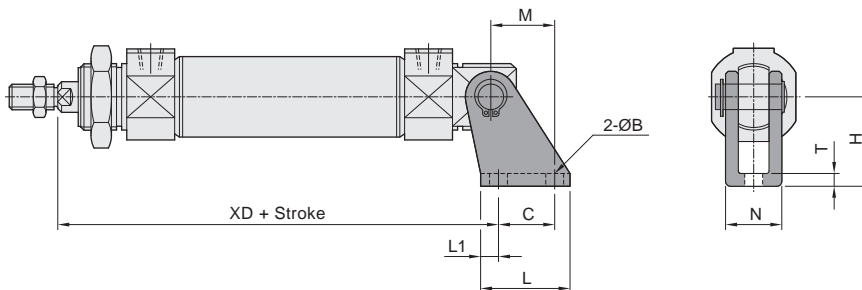
## Flange mounting type — FA



## Foot mounting type — LB

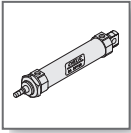


## Clevis with supporting bracket type — CB



Unit : mm

Bore size	AB	AT	AU	AX	B	BE	C	FB	H	L	L1	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

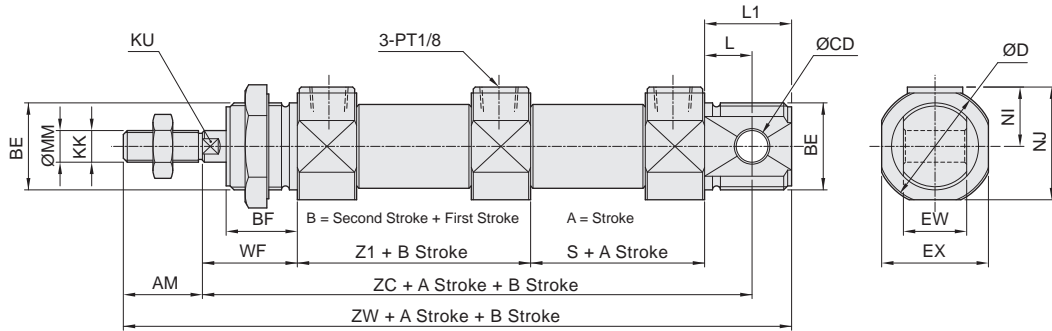


# SDAF, SDAM series - Miniature cylinder

External dimension

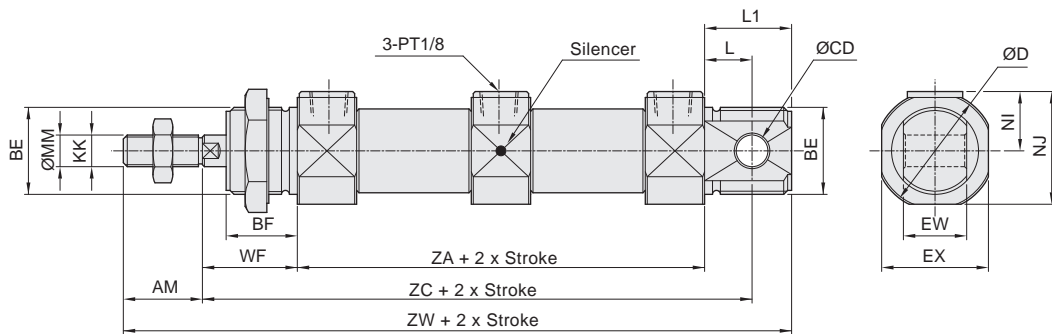
CHELIC PNEUMATIC

## SDAF — Multi-Position tandem stainless steel cylinder



※ Note : Max. stroke : 200 mm

## SDAM — Tandem stainless steel cylinder



※ Note : Max. stroke : 200 mm

Unit : mm

Bore size	AM	BE	BF	CD	D	EX	EW	KK	KU	L	L1	MM	NI	NJ	S	WF	ZA	ZC	ZW	Z1
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

**SBA**  
Pen  
Cylinder

**SDA**  
Miniature  
cylinder

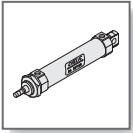
**SDX**  
Miniature  
cylinder

**DBS2**  
Block  
cylinder

**DBF2**  
Block  
cylinder

**DBT**  
Block  
cylinder

**FDA**  
Miniature  
Cylinder



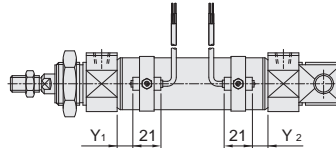
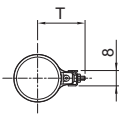
# SDA series - Miniature cylinder ( With sensor switch )

## Sensor switch installation and Operated setting

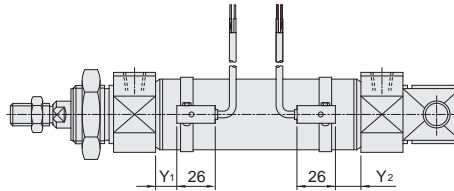
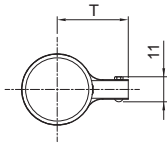
CHELIC PNEUMATIC

### ◀ Sensor switch installation position and Dimension ( Reference )

#### ● SDA Ø 12 ~ Ø16



#### ● SDA Ø 20 ~ Ø40



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

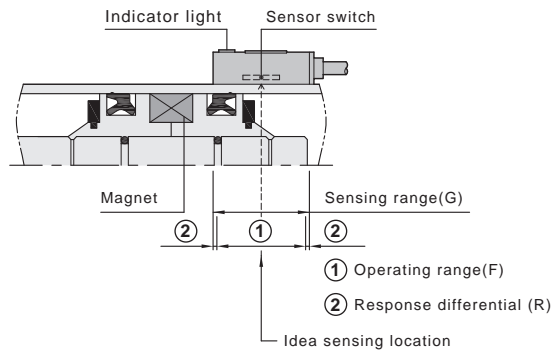
- Please install sensor at front and rear sides of cylinder, it is better to make same direction as line of visible at easy visible position of indicator light.
- Electric wire is arranged following cylinder and fixed to avoid any pulling and dragging affecting the reception of signal.

### ◀ Sensing 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

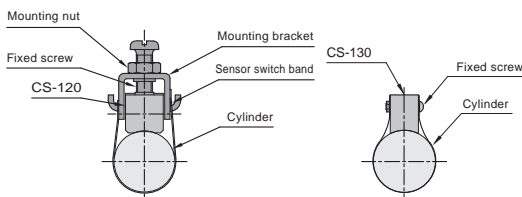
When piston head moves the switch setting and adjustment will be based on the responding range generated by the magnetic field and the switch. (Please refer to the below table)



Unit : mm

Model	CS-120		CS-130	
	Operating range (F)	Response differential(R)	Operating range (F)	Response differential(R)
Ø 12	6	1	—	—
Ø 16	—	—	7	1
Ø 20	—	—	7.5	1
Ø 25	—	—	9	1
Ø 32	—	—	9	1.2
Ø 40	—	—	9	1.2

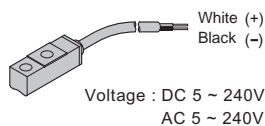
### ◀ Accessory and Assembly



### ◀ Connection type

#### ● CS-120

( Suitable for : Ø12 )



#### ● CS-130

( Suitable for : Ø16 ~ Ø40 )

