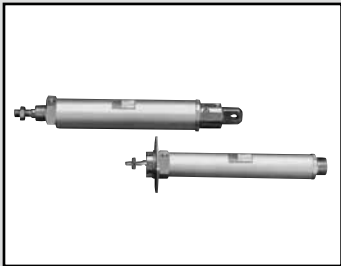


SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

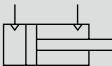


Medium bore size cylinder
Standard single rod

CMA2 Series

● Bore size: $\varnothing 20/\varnothing 30/\varnothing 40$

JIS symbol ● Double acting cylinder single rod



Specifications

Item	CMA2		
Bore size mm	$\varnothing 20$	$\varnothing 30$	$\varnothing 40$
Actuation	Double acting		
Working fluid	Compressed air		
Max. working pressure MPa	0.7 (≈ 100 psi, 7 bar)		
Min. working pressure MPa	0.1 (≈ 15 psi, 1 bar)		
Proof pressure MPa	1.05 (≈ 150 psi, 10.5 bar)		
Ambient temperature $^{\circ}\text{C}$	-10 (14 $^{\circ}\text{F}$) to 60 (140 $^{\circ}\text{F}$) (no freezing)		
Port size	Rc1/8		
Stroke tolerance mm	$^{+1.0}_0$ (to 200), $^{+1.2}_0$ (to 1000)		
Working piston speed mm/s	50 to 500		
Cushion	None		
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)		
Allowable absorbed energy J	0.024	0.05	0.093

Note: This product cannot absorb high energy generated by an external load. We recommend using an external shock absorber.

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Available stroke length (mm)	Min. stroke length (mm)
$\varnothing 20$	25/50/75/100	700	1000	1
$\varnothing 30$	150/200/250		1200	
$\varnothing 40$	300		1500	

*1 : The custom stroke length is available in 1 mm increments.

*2 : One side foot (LS) has the max. stroke length of 50 mm.

*3 : The stroke length will be 25 mm and over with bellows "J". Contact CKD when stroke length is shorter than 25 mm.

*4 : The min. working pressure of the cylinder must be less than 50% of working pressure in order to be effective in preventing the popping out. Refer to Ending Page 69.

Min. stroke length with switch

Switch model No.	1	2	3
T0, T5, T2, T3	10	27	51
T2W, T3W	10	31	55
T2Y, T3Y, T1	10	25	49
T8	10	23	47

Switch specifications

● 1-color/2-color display

Item	Proximity 2-wire	Proximity 2-wire			Proximity 3-wire				Reed 2-wire						
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V		T8H/T8V			
Applications	For programming controller, relay, compact solenoid valve	Dedicated for programmable controller			For programmable controller, relay				For programmable controller, relay	For programmable controller, relay (no lamp), serial		For programmable controller, relay			
Output method	-				NPN output	PNP output	NPN output	NPN output	-						
Pwr. supp. V.	-				10 to 28 VDC				-						
Load voltage	85 to 265 VAC	10 to 30 VDC		24 VDC ±10%	30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC
Load current	5 to 100 mA	5 to 20 mA (*3)			100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		Without indicator lamp		LED (Lit when ON)		
Leakage current	≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC	1 mA or less			10 µA or less				0 mA						
Weight g	1 m:33	1 m:18	1 m:33	1 m:18	1 m:18		1 m:33	1 m:18	1 m:18 3 m:49 5 m:80					1 m:33	
	3 m:87	3 m:49	3 m:87	3 m:49	3 m:49		3 m:87	3 m:49						3 m:87	
	5 m:142	5 m:80	5 m:142	5 m:80	5 m:80		5 m:142	5 m:80						5 m:142	

*1: Refer to Ending Page 1 for detailed switch specifications and dimensions.

*2: Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.

*3: The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

Cylinder weight

(Unit: kg)

Item/mounting	Product weight when stroke length (S) = 0 mm					Weight per switch		Additional weight per S = 10 mm
						T		
Bore size (mm)	Basic (00)	Axial foot (LB)	Flange (FA)	Clevis (CA)	Trunnion (TA/TB)	Refer to the weight in the switch specifications.	Switch rail + Band weight	
ø20	0.14	0.29	0.20	0.27	0.19			
ø30	0.29	0.55	0.44	0.50	0.39			
ø40	0.47	0.73	0.62	0.69	0.67			

(Example) Product weight of CMA2-FA-30-50-TOH-D

Product weight when S = 0 mm..... 0.44kg

Additional weight when S = 50 mm Additional weight when S = 10 mm 0.014 × $\frac{\text{Product stroke length (50)}}{10}$ = 0.07 kg

Weight of 2 switches..... 0.036 kg

Product weight 0.44 kg + 0.07 kg + 0.036 kg = 0.546 kg

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa							
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7
ø20	Push	31.4	47.1	62.8	94.2	1.26×10^2	1.57×10^2	1.88×10^2	2.20×10^2
	Pull	23.6	35.3	47.1	70.7	94.2	1.18×10^2	1.41×10^2	1.65×10^2
ø30	Push	70.7	1.06×10^2	1.41×10^2	2.12×10^2	2.83×10^2	3.53×10^2	4.24×10^2	4.95×10^2
	Pull	59.4	89.1	1.19×10^2	1.78×10^2	2.38×10^2	2.97×10^2	3.56×10^2	4.16×10^2
ø40	Push	1.26×10^2	1.88×10^2	2.51×10^2	3.77×10^2	5.03×10^2	6.28×10^2	7.54×10^2	8.80×10^2
	Pull	1.10×10^2	1.65×10^2	2.21×10^2	3.31×10^2	4.41×10^2	5.51×10^2	6.62×10^2	7.72×10^2

How to order

Without switch (built-in magnet for switch)

CMA2 - FA - 20 - 50 ————— **P I**

With switch (built-in magnet for switch)

CMA2 - FA - 20 - 50 - T0H - R - P I

A Mounting
*1

B Bore size

C Stroke length

D Switch model No.

E Switch quantity

F Option
*3, *4

G Accessory
*5

⚠ Precautions for model No. selection

*1 : One side foot (LS) has the max. stroke length of 50 mm.

*2 : Refer to page 208 for the min. stroke length with switch.

*3 : The stroke length will be 25 mm and over with bellows "J". Contact CKD when stroke length is shorter than 25 mm.

*4 : The instantaneous max. temperature is the temperature when sparks, cutting chips, etc., instantaneously contact the bellows.

*5 : "I" and "Y" cannot be selected together.

[Example of model No.]

CMA2-FA-20-50-T0H-R-PI

Model: Medium bore size cylinder/double acting/single rod

- A** Mounting : Rod side flange
- B** Bore size : ø20 mm
- C** Stroke length : 50 mm
- D** Switch model No. : Reed T0H switch, lead wire 1m
- E** Switch quantity : 1 on rod side
- F** Option : Same port position
- G** Accessory : Rod eye

Code	Description
A Mounting	
00	Basic
LB	Axial foot (Both sides)
LS	Axial foot (One side)
FA	Rod side flange
FB	Head side flange
CA	Eye bracket
CB	Clevis bracket (pin and washer included)
TA	Rod side trunnion
TB	Head side trunnion

B Bore size (mm)	
20	ø20
30	ø30
40	ø40

C Stroke length (mm)			
Bore size	Stroke length *2	Available stroke length	Custom stroke length
ø20	1 to 700	1000	In 1 mm increments
ø30	1 to 700	1200	
ø40	1 to 700	1500	

D Switch model No.			
Refer to the switch model No. table on the following page.			

* Lead wire length	
Blank	1 m (standard)
3	3 m (option)
5	5 m (option)

E Switch quantity	
R	1 on rod side
H	1 on head side
D	2
T	3

F Option			
		Max. ambient temp.	Instantaneous max. temp.
J	Bellows	100°C	200°C
L	Bellows	250°C	400°C
M	Piston rod material (stainless steel)		
P	Same port position		
P6	Copper and PTFE free		

G Accessory	
I	Rod eye
Y	Rod clevis (with pin and washer included)
B2	Clevis bracket (pin and snap ring included)

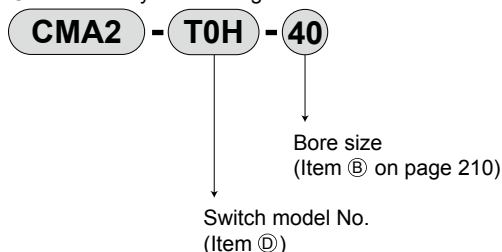
[D] Switch model No.

T switch						
Axial lead wire	Radial lead wire	Contact	Voltage		Display	Lead wire
			AC	DC		
TOH*	TOV*	Reed	●	●	1-color display	2-wire
T5H*	T5V*		●	●	Without indicator lamp	
T8H*	T8V*		●	●	1-color display	
T1H*	T1V*	Proximity	●		1-color display	2-wire
T2H*	T2V*			●		3-wire
T3H*	T3V*			●		
T3PH*	T3PV*			●	1-color display	3-wire
T2WH*	T2WV*			●	2-color display	2-wire
T2YH*	T2YV*			●		3-wire
T3WH*	T3WV*			●		
T3YH*	T3YV*			●		
T2JH*	T2JV*			●	Off-delay	2-wire

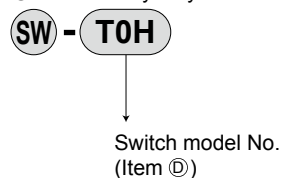
How to order switch

[T switch]

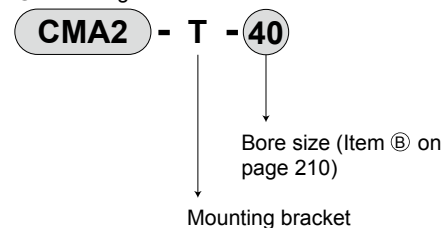
● Switch body + mounting bracket set



● Switch body only



● Mounting bracket set



How to order mounting bracket

Bore size (mm)		ø20	ø30	ø40
Mounting bracket				
Basic (00)	*3	M1-00-20	M1-00-30	M1-00-30
Axial foot (LB/LS)		M1-LB-20	M1-LB-30	M1-LB-30
Flange (FA/FB)		M1-FA-20	M1-FA-30	M1-FA-30
Eye bracket (CA)		M1-CA-20	M1-CA-30	M1-CA-30
Clevis bracket (CB)		M1-CB-20	M1-CB-30	M1-CB-30
Trunnion (TA/TB)		M1-TA-20	M1-TA-30	M1-TA-40

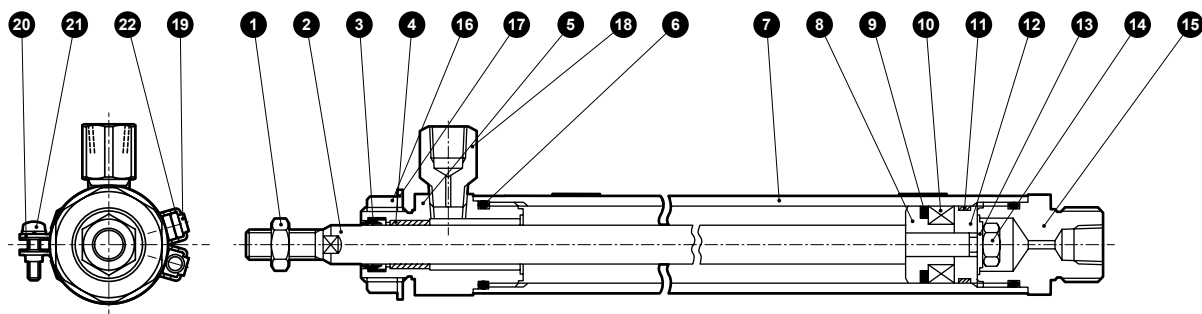
*1 : The mounting bracket model numbers above include tightening nut, toothed washer and parallel pin set.

2 : For axial foot (two-sided), 2 sets of "MI-LB-" are required.

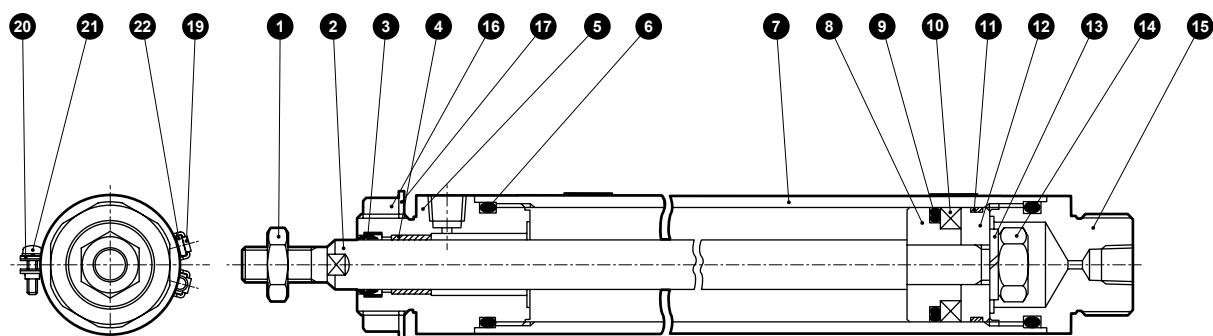
*3 : Mounting nut, toothed washer only. Although 1 set is included with the basic of the product (00), use this when needed.

Internal structure and parts list

● $\phi 20$



● $\phi 30/\phi 40$



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Rod nut	Steel	Zinc chromate	12	Piston B	Aluminum alloy	
2	Piston rod	$\phi 20/\phi 30$ Stainless steel $\phi 40$ Carbon steel	Industrial chrome plating	13	Spring washer	Steel	Zinc chromate
3	Rod packing	Nitrile rubber		14	Hexagon nut	Steel	Zinc chromate
4	Bush	Dry bearing	*1	15	Head cover	Aluminum alloy	Chromate
5	Rod cover	Aluminum alloy	Chromate	16	Nut	Steel	Zinc chromate
6	Cylinder gasket	Nitrile rubber		17	Toothed washer	Steel	Zinc chromate
7	Cylinder tube	Aluminum alloy	Hard alumite	18	Port nipple	Copper alloy	*2
8	Piston A	Aluminum alloy		With switch			
9	Piston packing	Nitrile rubber		19	Switch body		
10	Magnet	Plastic		20	Band	Stainless steel	
11	Wear ring	Polyacetal resin		21	Pan head machine screw	Stainless steel	
				22	Switch rail	Stainless steel	

*1 : Oleoresin bearing for copper and PTFE free.

*2 : The copper alloy port nipple of copper and PTFE free is nickel plated.

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
$\phi 20$	CMA2-20K	● 3 ● 6 ● 9 ● 11
$\phi 30$	CMA2-30K	
$\phi 40$	CMA2-40K	

Material of mounting bracket

Mounting	Material
LB/LS	Steel
FA/FB	Steel
TA/TB	Steel
CA/CB	Steel

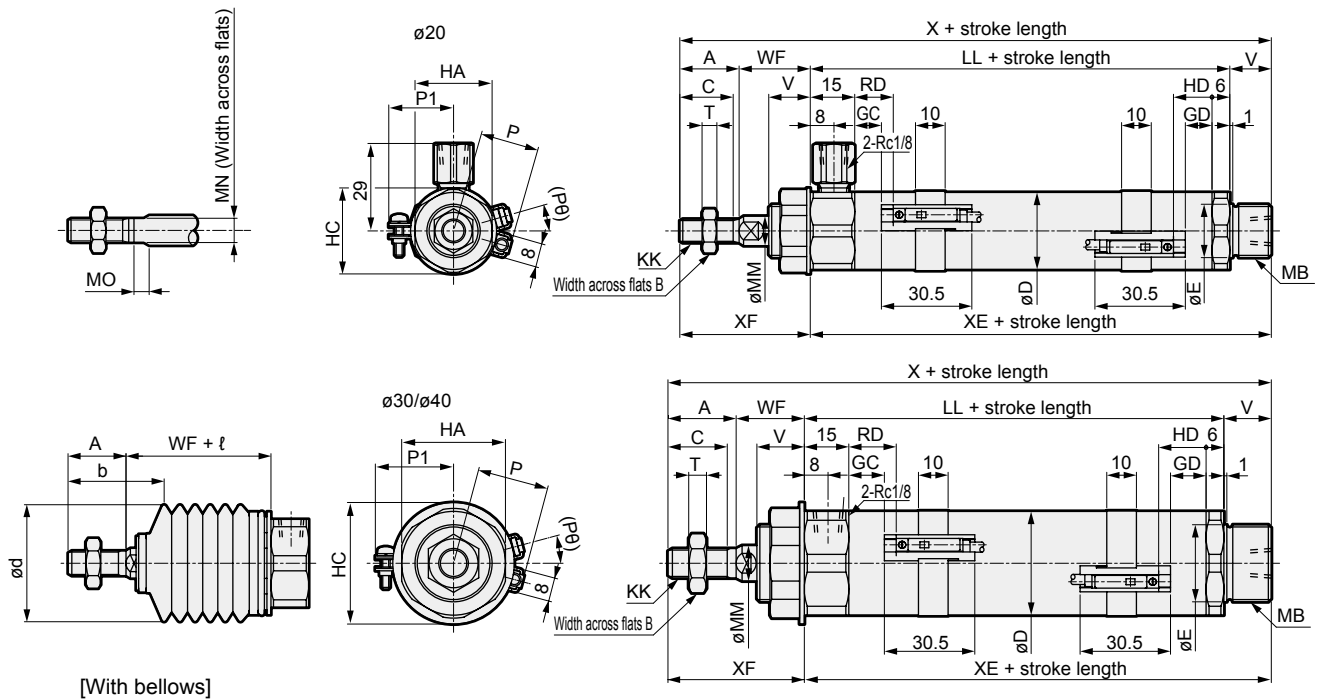
● Note: Mounting bracket will be shipped with the product.

However, if the product is supplied with bellows and the mounting bracket is LB, FA, or TA, it will be attached to the product.

Dimensions



● Basic (00)



*1 : A port nipple is included with the rod cover of ø20.

*2 : For the ℓ dimension, round up below the decimal point.

3 : Refer to page 220 for HD, RD, and protruding dimensions of T1, T8* and 2-color display switches.

*4 : For the dimensions of the accessories, refer to page 221.

RD: Rod side max. sensitivity position
HD: Head side max. sensitivity position

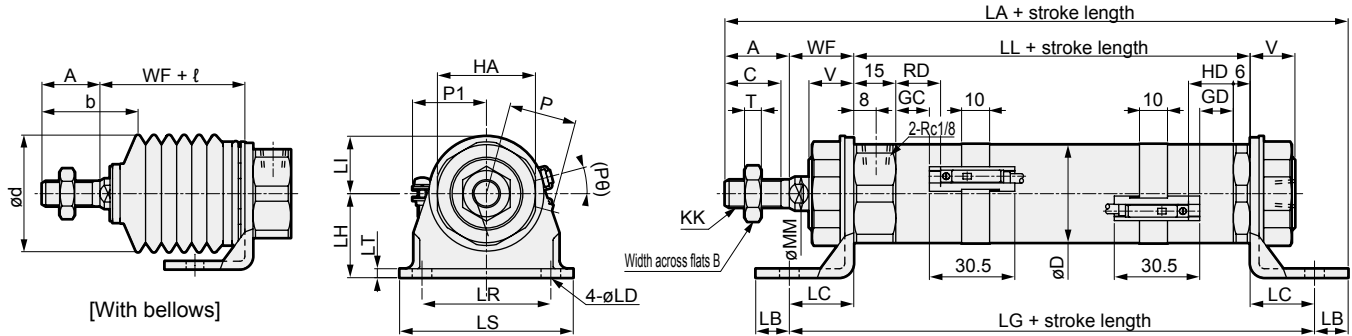
Code	Basic (00) basic dimensions																		
Bore size (mm)	A	B	C	D	E	HA	HC	KK	LL	MB	MN	MO	MM	T	V	WF	X	XE	XF
ø20	20	13	18	25	18	26	29	M8×1	66	M18×1.5	8	5	10	5	14	24	124	80	44
ø30	23	17	20	35	26	35	41	M10×1.25	72	M26×1.5	10	5	12	6	16	23	134	88	46
ø40	25	19	22	45	26	35	41	M12×1.5	74	M26×1.5	12	6	14	7	16	23	138	90	48

Code	With switch											With bellows				
	T0, T5, T2, T3				T2W, T3W				P	P1	(P0)°	A	WF	b	d	ℓ
Bore size (mm)	GC	GD	RD	HD	GC	GD	RD	HD								
ø20	9	9	13	13	11	11	15	15	19.5	21	19	20	24	32	30	(Stroke length/3) + 6
ø30	12	12	16	16	14	14	18	18	24.5	26	15	23	23	38	46	(Stroke length/3.25) + 7
ø40	13	13	17	17	15	15	19	19	29.5	31	12	25	23	40	46	(Stroke length/3.25) + 7

Dimensions



● Axial foot (LB)

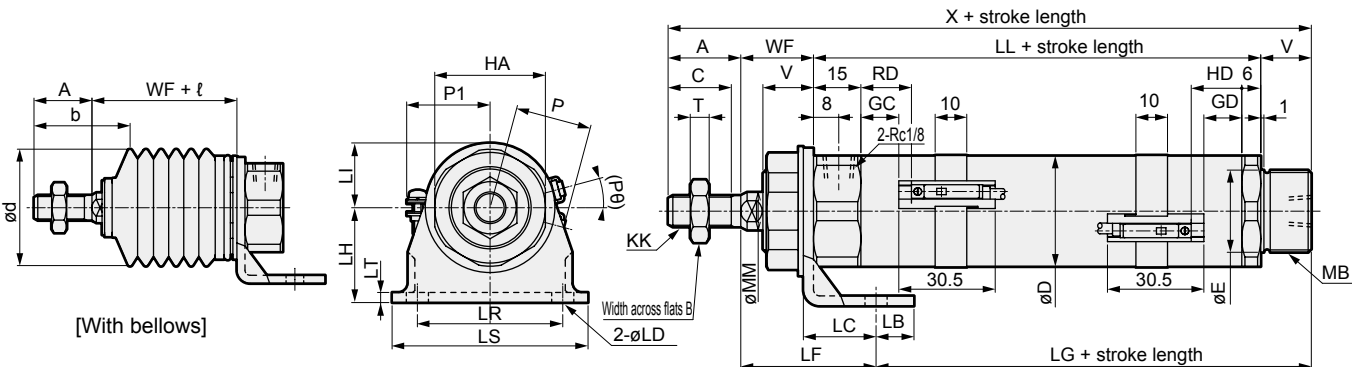


- *1 : For the width across flats of the rod, refer to the dimensions of the basic (00).
- *2 : A port nipple is included with the rod cover of $\phi 20$.
- *3 : For the ℓ dimension, round up below the decimal point.
- *4 : Refer to page 220 for HD, RD, and protruding dimensions of T1*, T8* and 2-color display switches.
- *5 : For the dimensions of the accessories, refer to page 221.

Code	Axial foot LB basic dimensions											Mounting dimensions									
Bore size (mm)	A	B	C	D	HA	KK	LL	MM	T	V	WF	LA	LB	LC	LD	LG	LH	LI	LR	LS	LT
ø20	20	13	18	25	26	M8×1	66	10	5	14	24	138	10	18	6	102	25	15	30	44	3.2
ø30	23	17	20	35	35	M10×1.25	72	12	6	16	23	153	12	23	7	118	30	20	46	62	3.2
ø40	25	19	22	45	35	M12×1.5	74	14	7	16	23	157	12	23	7	120	30	20	46	62	3.2

Code	With switch											With bellows							
	T0, T5, T2, T3				T2W, T3W				P	P1	(Pθ)°	A	WF	b	d	ℓ			
Bore size (mm)	GC	GD	RD	HD	GC	GD	RD	HD											
ø20	9	9	13	13	11	11	15	15	19.5	21	19	20	24	32	30	(Stroke length/3) + 6			
ø30	12	12	16	16	14	14	18	18	24.5	26	15	23	23	38	46	(Stroke length/3.25) + 7			
ø40	13	13	17	17	15	15	19	19	29.5	31	12	25	23	40	46	(Stroke length/3.25) + 7			

● Axial foot (single) (LS)



- *1 : Max. stroke length: 50.
- *2 : For the width across flats of the rod, refer to the dimensions of the basic (00).
- *3 : A port nipple is included with the rod cover of $\phi 20$.
- *4 : For the ℓ dimension, round up below the decimal point.
- *5 : Refer to page 220 for HD, RD, and protruding dimensions of T1*, T8* and 2-color display switches.
- *6 : For the dimensions of the accessories, refer to page 221.

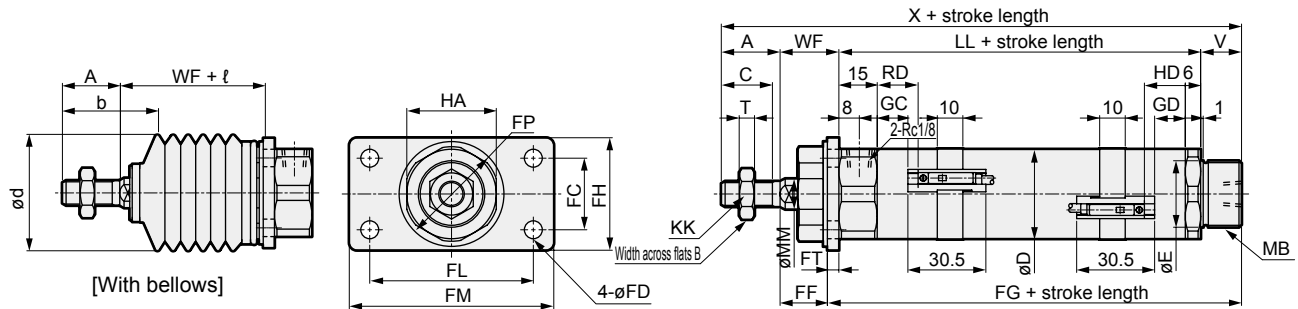
Code	Axial foot (one side) (LS) basic dimensions											Mounting dimensions								
Bore size (mm)	A	B	C	D	E	HA	KK	LL	MB	MM	T	V	WF	X	LB	LC	LD	LF	LG	LH
$\phi 20$	20	13	18	25	18	26	M8×1	66	M18×1.5	10	5	14	24	124	10	18	6	38.8	65.2	25
$\phi 30$	23	17	20	35	26	35	M10×1.25	72	M26×1.5	12	6	16	23	134	12	23	7	42.8	68.2	30
$\phi 40$	25	19	22	45	26	35	M12×1.5	74	M26×1.5	14	7	16	23	138	12	23	7	42.8	70.2	30

Code	With switch											With bellows								
Bore size (mm)	T0, T5, T2, T3				T2W, T3W				P	P1	(P θ)°	A	WF	b	d	ℓ				
	LI	LR	LS	LT	GC	GD	RD	HD												
$\phi 20$	15	30	44	3.2	9	9	13	13	11	11	15	15	19.5	21	19	20	24	32	30	(Stroke length/3) + 6
$\phi 30$	20	46	62	3.2	12	12	16	16	14	14	18	18	24.5	26	15	23	23	38	46	(Stroke length/3.25) + 7
$\phi 40$	20	46	62	3.2	13	13	17	17	15	15	19	19	29.5	31	12	25	23	40	46	(Stroke length/3.25) + 7

Dimensions



● Rod side flange (FA)

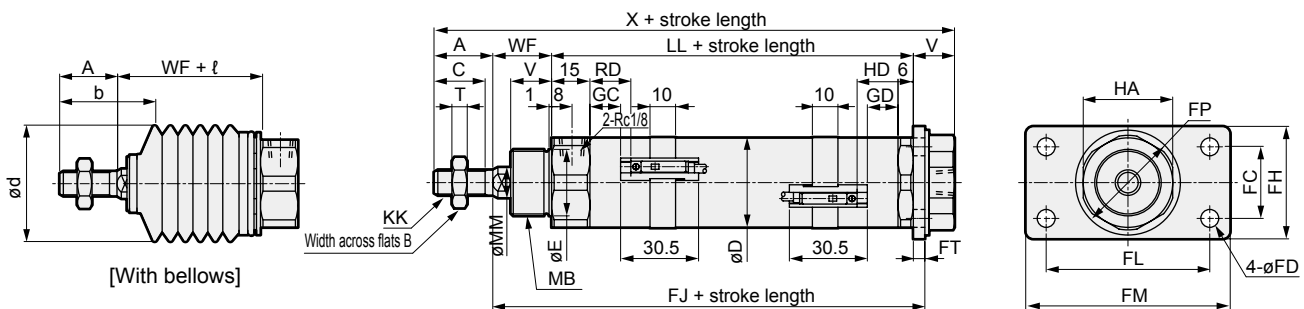


- *1 : For the width across flats of the rod, refer to the dimensions of the basic (00).
- *2 : A port nipple is included with the rod cover of ø20.
- *3 : For the ℓ dimension, round up below the decimal point.
- *4 : Refer to page 220 for HD, RD, and protruding dimensions of T1*, T8* and 2-color display switches.
- *5 : For the dimensions of the accessories, refer to page 221.

Code	Rod side flange (FA) basic dimensions														Mounting dimensions				
Bore size (mm)	A	B	C	D	E	HA	KK	LL	MB	MM	T	V	WF	X	FC	FD	FF	FG	FH
ø20	20	13	18	25	18	26	M8×1	66	M18×1.5	10	5	14	24	124	20	6	20.8	83.2	34
ø30	23	17	20	35	26	35	M10×1.25	72	M26×1.5	12	6	16	23	134	28	7	18.5	92.5	44
ø40	25	19	22	45	26	35	M12×1.5	74	M26×1.5	14	7	16	23	138	28	7	18.5	94.5	44

Code					With switch								With bellows				
	FL	FM	FP	FT	T0, T5, T2, T3				T2W, T3W				A	WF	b	d	ℓ
					GC	GD	RD	HD	GC	GD	RD	HD					
ø20	40	54	29	3.2	9	9	13	13	11	11	15	15	20	24	32	30	(Stroke length/3) + 6
ø30	64	80	41	4.5	12	12	16	16	14	14	18	18	23	23	38	46	(Stroke length/3.25) + 7
ø40	64	80	41	4.5	13	13	17	17	15	15	19	19	25	23	40	46	(Stroke length/3.25) + 7

● Head side flange (FB)



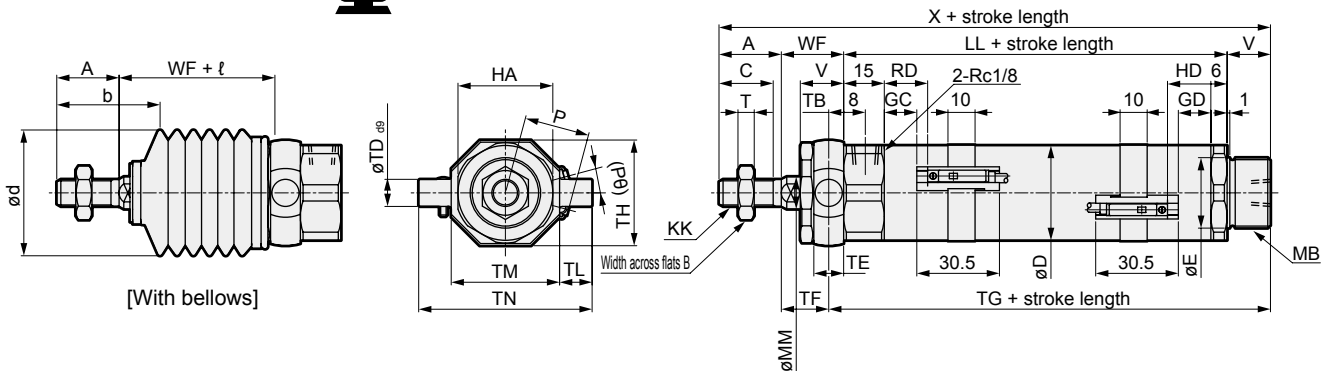
- *1 : For the width across flats of the rod, refer to the dimensions of the basic (00).
- *2 : A port nipple is included with the rod cover of ø20.
- *3 : For the ℓ dimension, round up below the decimal point.
- *4 : Refer to page 220 for HD, RD, and protruding dimensions of T1*, T8* and 2-color display switches.
- *5 : For the dimensions of the accessories, refer to page 221.

Code	Head side flange (FB) basic dimensions														Mounting dimensions				
Bore size (mm)	A	B	C	D	E	HA	KK	LL	MB	MM	T	V	WF	X	FC	FD	FH	FJ	FL
ø20	20	13	18	25	18	26	M8×1	66	M18×1.5	10	5	14	24	124	20	6	34	93.2	40
ø30	23	17	20	35	26	35	M10×1.25	72	M26×1.5	12	6	16	23	134	28	7	44	99.5	64
ø40	25	19	22	45	26	35	M12×1.5	74	M26×1.5	14	7	16	23	138	28	7	44	101.5	64

Code	With switch											With bellows						
	FM	FP	FT	T0, T5, T2, T3				T2W, T3W				A	WF	b	d	ℓ		
				GC	GD	RD	HD	GC	GD	RD	HD							
ø20	54	29	3.2	9	9	13	13	11	11	15	15	20	24	32	30	(Stroke length/3) + 6		
ø30	80	41	4.5	12	12	16	16	14	14	18	18	23	23	38	46	(Stroke length/3.25) + 7		
ø40	80	41	4.5	13	13	17	17	15	15	19	19	25	23	40	46	(Stroke lenath/3.25) + 7		

Dimensions

● Rod side trunnion (TA)



*1 : For the width across flats of the rod, refer to the dimensions of the basic (00).

*2 : A port nipple is included with the rod cover of $\phi 20$.

*3 : For the ℓ dimension, round up below the decimal point.

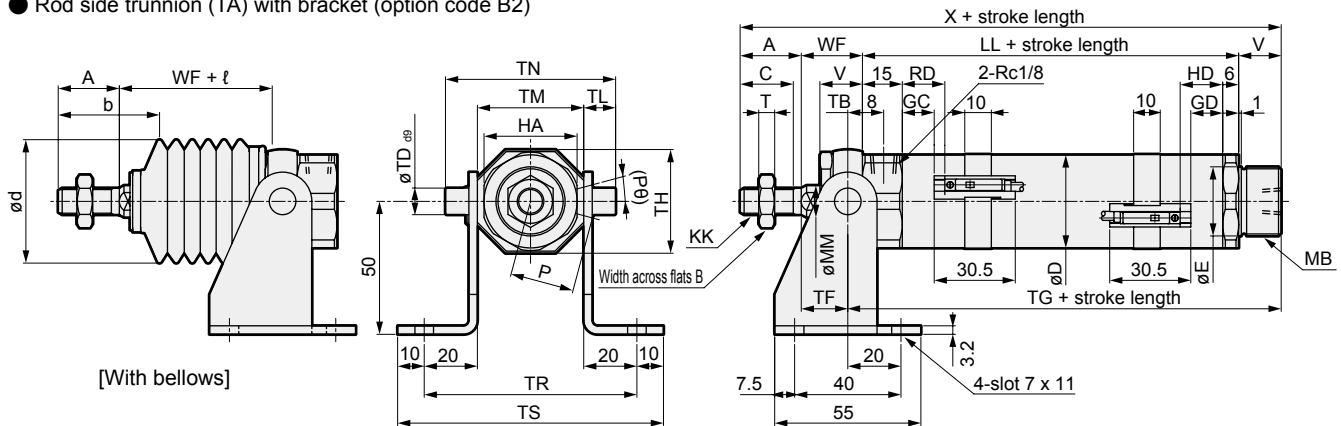
4 : Refer to page 220 for HD, RD, and protruding dimensions of T1, T8* and 2-color display switches.

*5 : For the dimensions of the accessories, refer to page 221.

Code	Rod side trunnion (TA) basic dimensions														Mounting dimensions					
Bore size (mm)	A	B	C	D	E	HA	KK	LL	MB	MM	T	V	WF	X	TB	TD	TE	TF	TG	TH
$\phi 20$	20	13	18	25	18	26	M8×1.0	66	M18×1.5	10	5	14	24	124	4.5	8	9	19.5	84.5	29.5
$\phi 30$	23	17	20	35	26	35	M10×1.25	72	M26×1.5	12	6	16	23	134	5.5	10	11	17.5	93.5	39
$\phi 40$	25	19	22	45	26	35	M12×1.5	74	M26×1.5	14	7	16	23	138	5.5	10	11	17.5	95.5	44

Code	With switch												With bellows					
Bore size (mm)	TL	TM	TN	T0, T5, T2, T3				T2W, T3W				P	(P θ)°	A	WF	b	d	ℓ
				GC	GD	RD	HD	GC	GD	RD	HD							
$\phi 20$	8	30	46	9	9	13	13	11	11	15	15	19.5	19	20	24	32	30	(Stroke length/3) + 6
$\phi 30$	12	40	64	12	12	16	16	14	14	18	18	24.5	15	23	23	38	46	(Stroke length/3.25) + 7
$\phi 40$	9.5	53	72	13	13	17	17	15	15	19	19	29.5	12	25	23	40	46	(Stroke length/3.25) + 7

● Rod side trunnion (TA) with bracket (option code B2)



*1 : For the width across flats of the rod, refer to the dimensions of the basic (00).

*2 : A port nipple is included with the rod cover of $\phi 20$.

*3 : For the ℓ dimension, round up below the decimal point.

4 : Refer to page 220 for HD, RD, and protruding dimensions of T1, T8* and 2-color display switches.

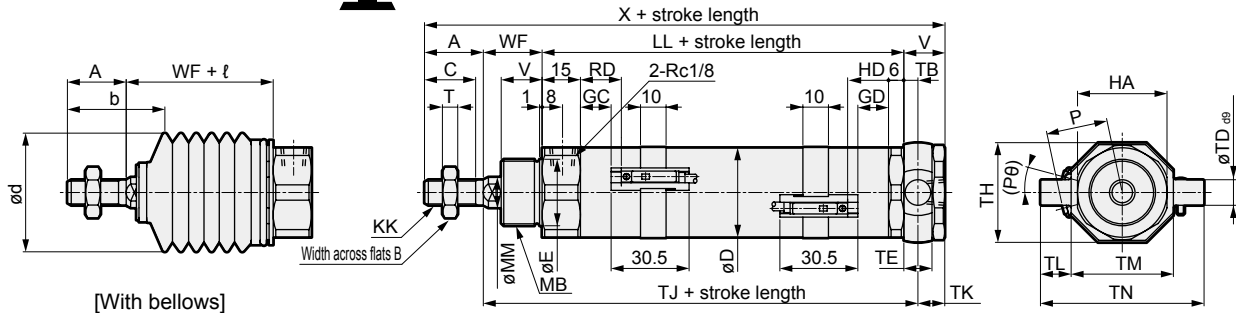
*5 : For the dimensions of the accessories, refer to page 221.

Code	Rod side trunnion (TA) with bracket (option code B2) basic dimensions													Mounting dimensions					
Bore size (mm)	A	B	C	D	HA	KK	LL	MB	MM	T	V	WF	X	TB	TD	TF	TG	TH	TL
ø20	20	13	18	25	26	M8×1.0	66	M18×1.5	10	5	14	24	124	4.5	8	19.5	84.5	29.5	8
ø30	23	17	20	35	35	M10×1.25	72	M26×1.5	12	6	16	23	134	5.5	10	17.5	93.5	39	12
ø40	25	19	22	45	35	M12×1.5	74	M26×1.5	14	7	16	23	138	5.5	10	17.5	95.5	44	9.5

Code					With switch										With bellows					
	TM	TN	TR	TS	T0, T5, T2, T3				T2W, T3W				P	(Pθ)°	A	WF	b	d	ℓ	
					GC	GD	RD	HD	GC	GD	RD	HD								
ø20	30	46	70	90	9	9	13	13	11	11	15	15	19.5	19	20	24	32	30	(Stroke length/3) + 6	
ø30	40	64	80	100	12	12	16	16	14	14	18	18	24.5	15	23	23	38	46	(Stroke length/3.25) + 7	
ø40	53	72	93	113	13	13	17	17	15	15	19	19	29.5	12	25	23	40	46	(Stroke length/3.25) + 7	

Dimensions

● Head side trunnion (TB)

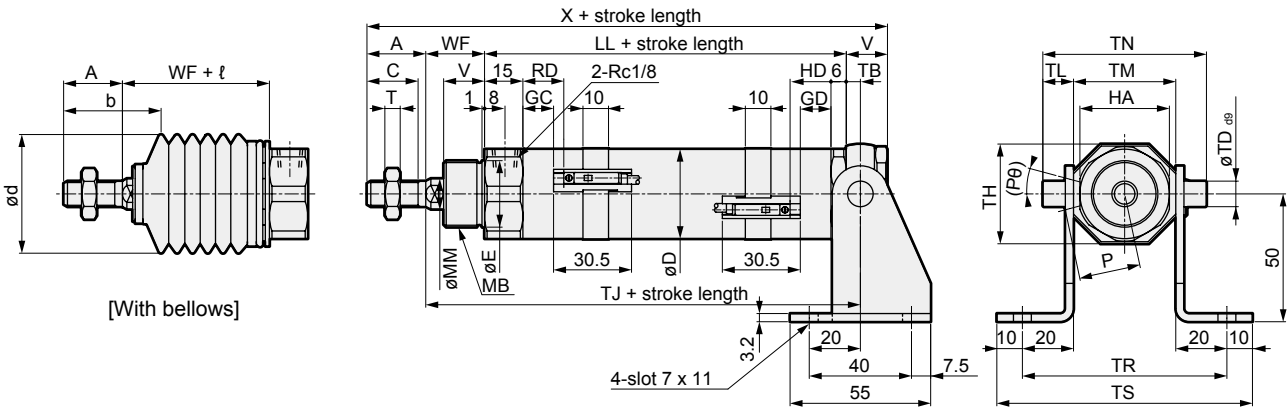


- *1 : For the width across flats of the rod, refer to the dimensions of the basic (00).
 *2 : A port nipple is included with the rod cover of ø20.
 *3 : For the ℓ dimension, round up below the decimal point.
 4 : Refer to page 220 for HD, RD, and protruding dimensions of T1, T8* and 2-color display switches.
 *5 : For the dimensions of the accessories, refer to page 221.

Code	Head side trunnion (TB) basic dimensions														Mounting dimensions				
Bore size (mm)	A	B	C	D	E	HA	KK	LL	MB	MM	T	V	WF	X	TB	TD	TE	TH	TJ
ø20	20	13	18	25	18	26	M8×1.0	66	M18×1.5	10	5	14	24	124	4.5	8	9	29.5	94.5
ø30	23	17	20	35	26	35	M10×1.25	72	M26×1.5	12	6	16	23	134	5.5	10	11	39	100.5
ø40	25	19	22	45	26	35	M12×1.5	74	M26×1.5	14	7	16	23	138	5.5	10	11	44	102.5

Code					With switch									With bellows					
	TK	TL	TM	TN	T0, T5, T2, T3				T2W, T3W				P	(Pθ)°	A	WF	b	d	ℓ
					GC	GD	RD	HD	GC	GD	RD	HD							
ø20	9.5	8	30	46	9	9	13	13	11	11	15	15	19.5	19	20	24	32	30	(Stroke length/3) + 6
ø30	10.5	12	40	64	12	12	16	16	14	14	18	18	24.5	15	23	23	38	46	(Stroke length/3.25) + 7
ø40	10.5	9.5	53	72	13	13	17	17	15	15	19	19	29.5	12	25	23	40	46	(Stroke length/3.25) + 7

● Head side trunnion (TB) with bracket (option code B2)



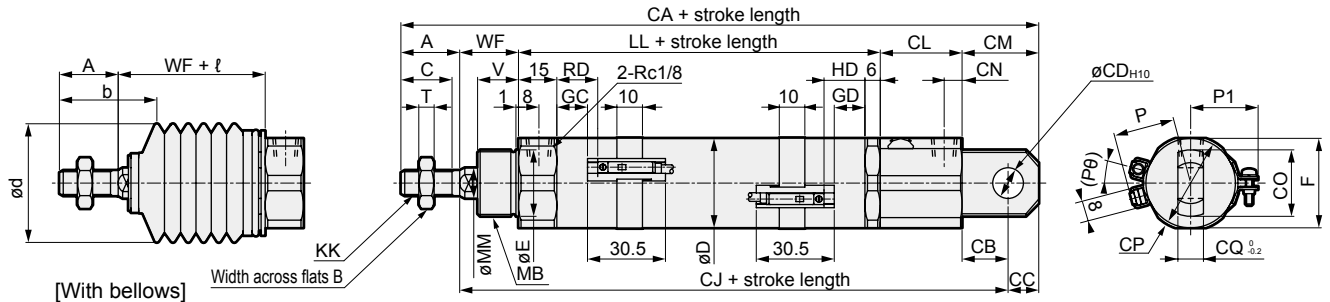
- *1 : For the width across flats of the rod, refer to the dimensions of the basic (00).
 *2 : A port nipple is included with the rod cover of ø20.
 *3 : For the ℓ dimension, round up below the decimal point.
 4 : Refer to page 220 for HD, RD, and protruding dimensions of T1, T8* and 2-color display switches.
 *5 : For the dimensions of the accessories, refer to page 221.

Code	Head side trunnion (TB) with bracket (option code B2) basic dimensions													Mounting dimensions					
Bore size (mm)	A	B	C	D	HA	KK	LL	MB	MM	T	V	WF	X	TB	TD	TH	TJ	TL	TM
ø20	20	13	18	25	26	M8×1.0	66	M18×1.5	10	5	14	24	124	4.5	8	29.5	94.5	8	30
ø30	23	17	20	35	35	M10×1.25	72	M26×1.5	12	6	16	23	134	5.5	10	39	100.5	12	40
ø40	25	19	22	45	35	M12×1.5	74	M26×1.5	14	7	16	23	138	5.5	10	44	102.5	9.5	53

Code				With switch									With bellows						
	TN	TR	TS	T0, T5, T2, T3				T2W, T3W				P	(Pθ)°	A	WF	b	d	ℓ	
				GC	GD	RD	HD	GC	GD	RD	HD								
ø20	46	70	90	9	9	13	13	11	11	15	15	19.5	19	20	24	32	30	(Stroke length/3) + 6	
ø30	64	80	100	12	12	16	16	14	14	18	18	24.5	15	23	23	38	46	(Stroke length/3.25) + 7	
ø40	72	93	113	13	13	17	17	15	15	19	19	29.5	12	25	23	40	46	(Stroke length/3.25) + 7	

Dimensions

● Eye bracket (CA)

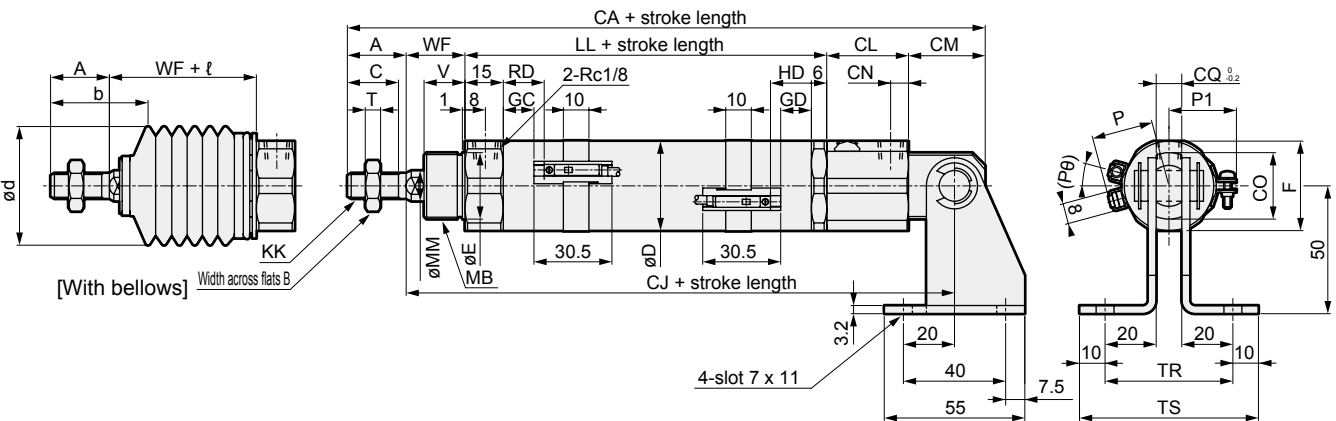


- *1 : For the width across flats of the rod, refer to the dimensions of the basic (00).
 *2 : A port nipple is included with the rod cover of $\phi 20$.
 *3 : For the ℓ dimension, round up below the decimal point.
 4 : Refer to page 220 for HD, RD, and protruding dimensions of T1, T8* and 2-color display switches.
 *5 : For the dimensions of the accessories, refer to page 221.

Code	Eye bracket (CA) basic dimensions													Mounting dimensions							
Bore size (mm)	A	B	C	D	E	F	KK	LL	MB	MM	T	V	WF	CA	CB	CC	CD	CJ	CL	CM	CN
ø20	20	13	18	25	18	26	M8×1.0	66	M18×1.5	10	5	14	24	165	14	10	10	135	31	24	8
ø30	23	17	20	35	26	35	M10×1.25	72	M26×1.5	12	6	16	23	180	18	12	12	145	32	30	7
ø40	25	19	22	45	26	35	M12×1.5	74	M26×1.5	14	7	16	23	184	18	12	12	147	32	30	7

Code				With switch											With bellows					
	CO	CP	CQ	T0, T5, T2, T3				T2W, T3W				P	P1	(Pθ)°	A	WF	b	d	ℓ	
				GC	GD	RD	HD	GC	GD	RD	HD									
ø20	22	28	8	9	9	13	13	11	11	15	15	19.5	21	19	20	24	32	30	(Stroke length/3) + 6	
ø30	26	37	10	12	12	16	16	14	14	18	18	24.5	26	15	23	23	38	46	(Stroke length/3.25) + 7	
ø40	26	37	10	13	13	17	17	15	15	19	19	29.5	31	12	25	23	40	46	(Stroke length/3.25) + 7	

● Eye bracket (CA) with bracket (option code B2)



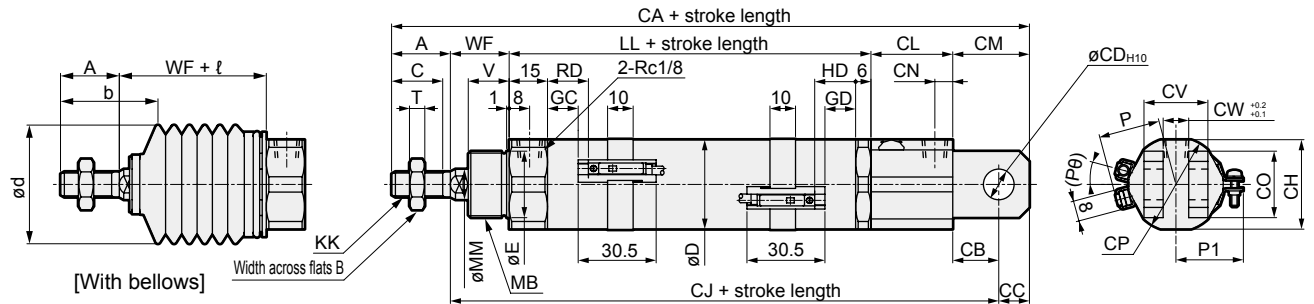
- *1 : For the width across flats of the rod, refer to the dimensions of the basic (00).
 *2 : A port nipple is included with the rod cover of $\phi 20$.
 *3 : For the ℓ dimension, round up below the decimal point.
 4 : Refer to page 220 for HD, RD, and protruding dimensions of T1, T8* and 2-color display switches.
 *5 : For the dimensions of the accessories, refer to page 221.

Code	Eye bracket (CA) with bracket (option code B2) basic dimensions												Mounting dimensions						
Bore size (mm)	A	B	C	D	F	KK	LL	MB	MM	T	V	WF	CA	CJ	CL	CM	CN	CO	CQ
ø20	20	13	18	25	26	M8×1.0	66	M18×1.5	10	5	14	24	165	135	31	24	8	22	8
ø30	23	17	20	35	35	M10×1.25	72	M26×1.5	12	6	16	23	180	145	32	30	7	26	10
ø40	25	19	22	45	35	M12×1.5	74	M26×1.5	14	7	16	23	184	147	32	30	7	26	10

Code			With switch										With bellows						
	TR	TS	T0, T5, T2, T3				T2W, T3W				P	P1	(P0)°	A	WF	b	d	ℓ	
			GC	GD	RD	HD	GC	GD	RD	HD									
ø20	48	68	9	9	13	13	11	11	15	15	19.5	21	19	20	24	32	30	(Stroke length/3) + 6	
ø30	50	70	12	12	16	16	14	14	18	18	24.5	26	15	23	23	38	46	(Stroke length/3.25) + 7	
ø40	50	70	13	13	17	17	15	15	19	19	29.5	31	12	25	23	40	46	(Stroke length/3.25) + 7	

Dimensions

● Clevis bracket (CB)

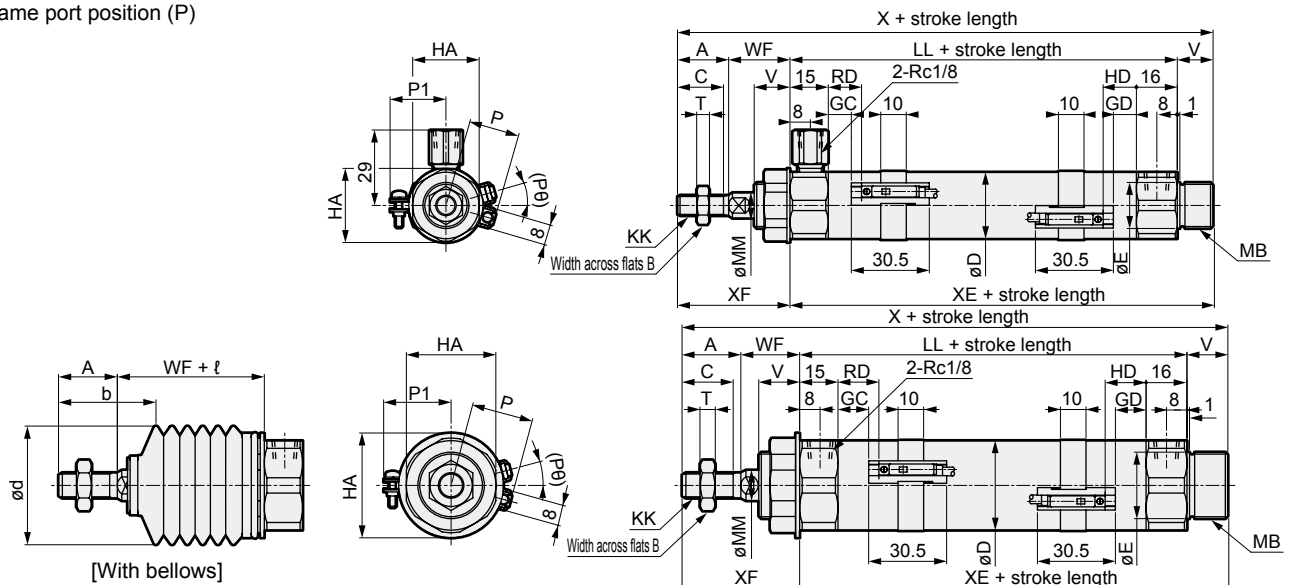


- *1 : For the width across flats of the rod, refer to the dimensions of the basic (00). *4 : Refer to page 220 for HD, RD, and protruding dimensions of T1*, T8* and 2-color display switches.
 *2 : A port nipple is included with the rod cover of Ø20.
 *3 : For the ℓ dimension, round up below the decimal point.
 *5 : For the dimensions of the accessories, refer to page 221.

Code	Clevis bracket (CB) basic dimensions												Mounting dimensions								
Bore size (mm)	A	B	C	D	E	KK	LL	MB	MM	T	V	WF	CA	CB	CC	CD	CH	CJ	CL	CM	CN
ø20	20	13	18	25	18	M8×1.0	66	M18×1.5	10	5	14	24	165	14	10	10	26	135	31	24	8
ø30	23	17	20	35	26	M10×1.25	72	M26×1.5	12	6	16	23	180	18	12	12	35	145	32	30	7
ø40	25	19	22	45	26	M12×1.5	74	M26×1.5	14	7	16	23	184	18	12	12	35	147	32	30	7

Code					With switch									With bellows						
	CO	CP	CV	CW	T0, T5, T2, T3				T2W, T3W				P	P1	(P0)°	A	WF	b	d	ℓ
					GC	GD	RD	HD	GC	GD	RD	HD								
ø20	22	28	19	8	9	9	13	13	11	11	15	15	19.5	21	19	20	24	32	30	(Stroke length/3) + 6
ø30	26	37	25	10	12	12	16	16	14	14	18	18	24.5	26	15	23	23	38	46	(Stroke length/3.25) + 7
ø40	26	37	25	10	13	13	17	17	15	15	19	19	29.5	31	12	25	23	40	46	(Stroke length/3.25) + 7

● Same port position (P)



- *1 : A port nipple is included with the rod cover of Ø20.
 *2 : For the width across flats of the rod, refer to the dimensions of the basic (00).
 *3 : For the ℓ dimension, round up below the decimal point.
 4 : Refer to page 220 for HD, RD, and protruding dimensions of T1, T8* and 2-color display switches.
 *5 : For the dimensions of the accessories, refer to page 221.

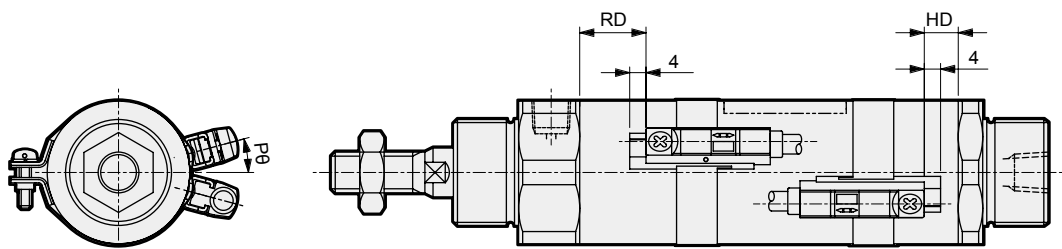
Code	Basic (00) basic dimensions																
Bore size (mm)	A	B	C	D	E	HA	HC	KK	LL	MB	MM	T	V	WF	X	XE	XF
ø20	20	13	18	25	18	26	29	M8×1.0	76	M18×1.5	10	5	14	24	134	90	44
ø30	23	17	20	35	26	35	41	M10×1.25	82	M26×1.5	12	6	16	23	144	98	46
ø40	25	19	22	45	26	35	41	M12×1.5	84	M26×1.5	14	7	16	23	148	100	48

Code	With switch											With bellows						
	T0, T5, T2, T3				T2W, T3W				P	P1	(P0)°	A	WF	b	d	ℓ		
Bore size (mm)	GC	GD	RD	HD	GC	GD	RD	HD										
ø20	9	9	13	13	11	11	15	15	19.5	21	19	20	24	32	30	(Stroke length/3) + 6		
ø30	12	12	16	16	14	14	18	18	24.5	26	15	23	23	38	46	(Stroke length/3.25) + 7		
ø40	13	13	17	17	15	15	19	19	29.5	31	12	25	23	40	46	(Stroke length/3.25) + 7		

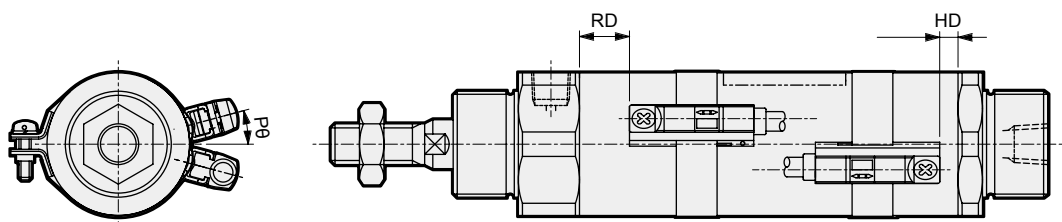
CMA2 Series common dimensions (2-color display, off-delay, with T1* and T8* switches)

● CMA2-20 to 40 (2-color display, off-delay, T1* switch: T2YH/V, T3YH/V, T2JH/V, T1H/V)

· Stroke length of less than 33 mm



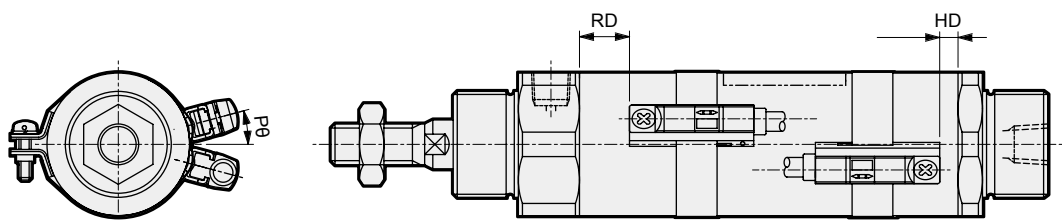
· Stroke length of 33 mm and over



Mounting dimensions of 2 color display, off-delay and T1* switch

Code	RD	HD	(Pθ)°
Bore size (mm)			
ø20	12	12	9
ø30	15	15	15
ø40	16	16	12

● CMA2-20 to 40 (T8 switch: T8*H/V)



T8* Switch mounting dimensions

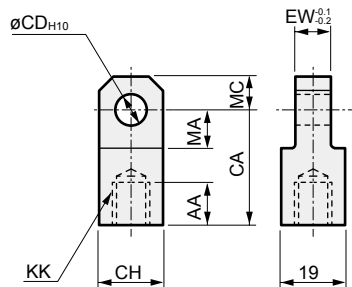
Code	RD	HD	(Pθ)°
Bore size (mm)			
ø20	7	7	19
ø30	10	10	15
ø40	11	11	12

CMA2 Series common accessory dimensions



● Rod eye (I)

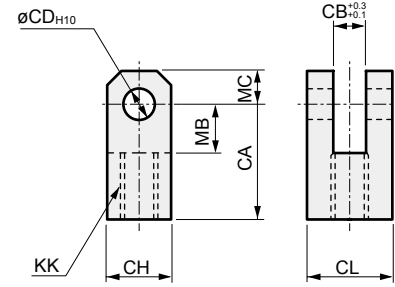
Material: Steel
Zinc chromate treatment



Model No.	Applicable bore size (mm)	AA	CA	CD	CH	EW	KK	MA	MC	Weight (g)
M1-I-20	20	14	30	10	19	8	M8×1.0	13	10	60
M1-I-30	30	14	36	12	25	10	M10×1.25	16	12	106
M1-I-40	40	14	36	12	25	10	M12×1.5	16	12	100

● Rod clevis (Y)

Material: Steel
Zinc chromate treatment

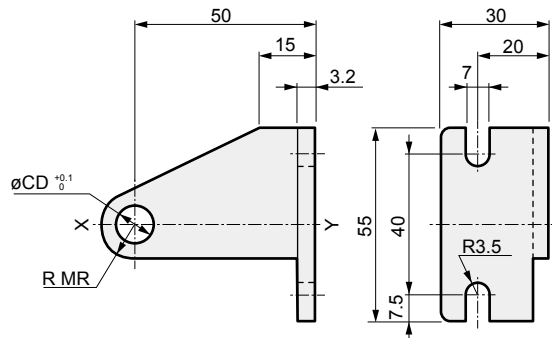


Note: A pin and washer are included.

Model No.	Applicable bore size (mm)	CA	CB	CD	CH	CL	KK	MB	MC	Weight (g)
M1-Y-20	20	30	8	10	19	19	M8×1.0	13	10	99
M1-Y-30	30	36	10	12	25	25	M10×1.25	16	12	197
M1-Y-40	40	36	10	12	25	25	M12×1.5	16	12	193

● Clevis bracket (B2)

Material: Steel
Zinc chromate treatment



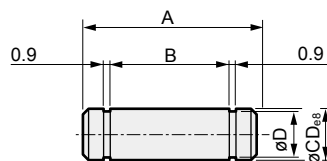
Model No.	Compatible model	Applicable bore size (mm)	CD	MR	Weight (g)
M1-B2-30-CA	CMA2-CA	20	10	11	158
M1-B2-40-CA	Clevis	30/40	12	11	162
M1-B2-20-TA	CMA2-TA/TB	20	8	8	132
M1-B2-30-TA	Trunnion	30/40	10	11	142

*1: One pair is composed of two pieces with XY symmetry.

*2: The model No. above includes snap ring and pin. (However, the pin and snap rings are not attached with the trunnion.)

● Clevis bracket pin (P2)

Material: Steel
Zinc chromate treatment

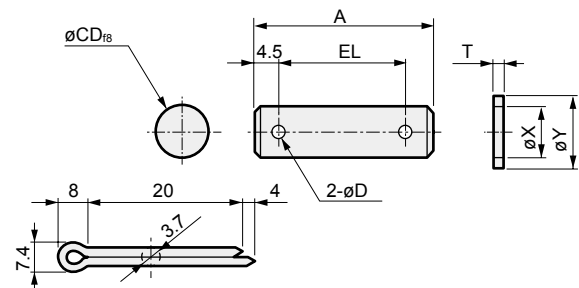


Model No.	Applicable bore size (mm)	A	B	CD	D	Applicable snap ring	Weight (g)
M1-P2-20	20	25	20	10	9	E9	16
M1-P2-30	30/40	27	22	12	9	E9	24

Note: A pin and snap ring for bracket use are included with the product.
(However, the pin and snap rings are not attached with the trunnion.)

● Rod clevis pin (P)

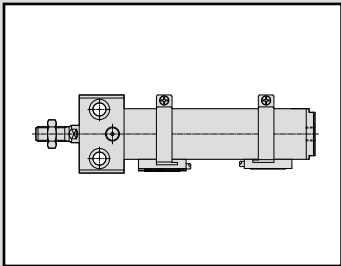
Material: Steel
Zinc chromate treatment



Model No.	Applicable bore size (mm)	A	D	CD	EL	T	X	Y	Weight (g)
M1-P-20	20	37	4	10	28	2	10.5	18	29
M1-P-30	30/40	46	4	12	37	2.5	13	21	50

Note: A pin and a washer for rod clevis use are included with the product.

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

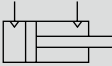


Medium bore size cylinder
 Double acting/direct mounting

CMA2-E Series

● Bore size: $\varnothing 20/\varnothing 30/\varnothing 40$

JIS symbol ● Double acting cylinder single rod





Specifications

Item	CMA2-E			
Bore size	mm	$\varnothing 20$	$\varnothing 30$	$\varnothing 40$
Actuation		Double acting		
Working fluid		Compressed air		
Max. working pressure	MPa	0.7 (≈100 psi, 7 bar)		
Min. working pressure	MPa	0.1 (≈15 psi, 1 bar)		
Proof pressure	MPa	1.0 (≈150 psi, 10 bar)		
Ambient temperature	°C	-10 (14°F) to 60 (140°F) (no freezing)		
Port size		Rc1/8		
Stroke tolerance	mm	$^{+1.0}_0$ (to 200), $^{+1.2}_0$ (to 700)		
Working piston speed	mm/s	50 to 500		
Cushion		None		
Lubrication		Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)		
Allowable absorbed energy	J	0.024	0.05	0.093

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\varnothing 20$	25, 50, 75, 100,	700	1
$\varnothing 30$	150, 200, 250,		
$\varnothing 40$	300		

*1: The custom stroke length is available in 1 mm increments.

Min. stroke length with switch (T switch)

Switch model No.	1	2	3
T0, T5, T2, T3	10	27	51
T2W, T3W	10	31	55
T2Y, T3Y, T1	10	25	49
T8	10	23	47

Switch specifications

● 1-color/2-color display

Item	Proximity 2-wire	Proximity 2-wire			Proximity 3-wire				Reed 2-wire						
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V		T5H/T5V		T8H/T8V		
Applications	For programming controller, relay, compact solenoid valve	Dedicated for programmable controller			For programmable controller, relay				For programmable controller, relay		For programmable controller, relay (no lamp), serial		For programmable controller, relay		
Output method	-				NPN output	PNP output	NPN output	NPN output	-						
Pwr. supp. V.	-				10 to 28 VDC				-						
Load voltage	85 to 265 VAC	10 to 30 VDC		24 VDC ±10%	30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC
Load current	5 to 100 mA	5 to 20 mA (*3)			100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		Without indicator lamp		LED (Lit when ON)		
Leakage current	≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC	1 mA or less			10 µA or less				0 mA						
Weight g	1 m:33	1 m:18	1 m:33	1 m:18	1 m:18		1 m:33	1 m:18	1 m:18 3 m:49 5 m:80				1 m:33		
	3 m:87	3 m:49	3 m:87	3 m:49	3 m:49		3 m:87	3 m:49					3 m:87		
	5 m:142	5 m:80	5 m:142	5 m:80	5 m:80		5 m:142	5 m:80					5 m:142		

*1: Refer to Ending Page 1 for detailed switch specifications and dimensions.

*2: Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.

*3: The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

Cylinder weight

(Unit: kg)

Item/mounting	Product weight when stroke length (S) = 0 mm		Weight per switch		Additional weight per S = 10 mm	
			T			
Bore size (mm)	Side foot	Flange	Refer to the weight in the switch specifications.	Switch rail + band weight		
	(LS)	(FA)				
ø20	0.18	0.16			0.005	0.01
ø30	0.36	0.31			0.005	0.014
ø40	0.61	0.51		0.009	0.02	

(Example) Product weight of CMA2-E-FA-30-50-TOH-D

Product weight when S = 0 mm..... 0.31kg

Additional weight when S = 50 mm Additional weight when S = 10 mm 0.014 × $\frac{\text{Product stroke length (50)}}{10}$ = 0.07 kg

Weight of 2 switches..... 0.036 kg

Product weight..... 0.31kg + 0.07 kg + 0.036 kg = 0.416kg

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa							
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7
ø20	Push	31.4	47.1	62.8	94.2	1.26×10^2	1.57×10^2	1.88×10^2	2.20×10^2
	Pull	23.6	35.3	47.1	70.7	94.2	1.18×10^2	1.41×10^2	1.65×10^2
ø30	Push	70.7	1.06×10^2	1.41×10^2	2.12×10^2	2.83×10^2	3.53×10^2	4.24×10^2	4.95×10^2
	Pull	59.4	89.1	1.19×10^2	1.78×10^2	2.38×10^2	2.97×10^2	3.56×10^2	4.16×10^2
ø40	Push	1.26×10^2	1.88×10^2	2.51×10^2	3.77×10^2	5.03×10^2	6.28×10^2	7.54×10^2	8.80×10^2
	Pull	1.10×10^2	1.65×10^2	2.21×10^2	3.31×10^2	4.41×10^2	5.51×10^2	6.62×10^2	7.72×10^2

CMA2-E Series

How to order

Without switch (built-in magnet for switch)

CMA2-E - FA - 20 - 25 ——— M I

With switch (built-in magnet for switch)

CMA2-E - FA - 20 - 25 - T0H - R - M I

A Mounting

B Bore size

C Stroke length

■ The custom stroke length is available in 1 mm increments.

D Switch model No.

E Switch quantity

F Option

G Accessory
*2

⚠ Precautions for model No. selection

*1: Refer to page 222 for the min. stroke length with switch.

*2: "I" and "Y" cannot be selected together.

[Example of model No.]

CMA2-E-FA-20-25-T0H-R-MY

Model: Medium bore size cylinder, double acting/direct mounting

- A** Mounting : Flange mounting
- B** Bore size : ø20 mm
- C** Stroke length : 25 mm
- D** Switch model No. : Reed T0H switch, lead wire 1m
- E** Switch quantity : 1 on rod side
- F** Option : Piston rod material change
- G** Accessory : Rod clevis

Code		Description	
A Mounting			
LS		Side foot mounting	
FA		Flange mounting	
B Bore size (mm)			
20		ø20	
30		ø30	
40		ø40	
C Stroke length (mm)			
Bore size		Stroke length *1	Custom stroke length
ø20		1 to 700	In 1 mm increments
ø30		1 to 700	
ø40		1 to 700	
D Switch model No.			
Refer to the switch model No. table on the following page.			
* Lead wire length			
Blank		1 m (standard)	
3		3 m (option)	
5		5 m (option)	
E Switch quantity			
R		1 on rod side	
H		1 on head side	
D		2	
T		3	
F Option			
M		Piston rod material (stainless steel)	
G Accessory			
I		Rod eye	
Y		Rod clevis (with pin and washer included)	

[D] Switch model No.

T switch						
Axial lead wire	Radial lead wire	Contact	Voltage		Display	Lead wire
			AC	DC		
TOH*	TOV*	Reed	●	●	1-color display	2-wire
T5H*	T5V*		●	●	Without indicator lamp	
T8H*	T8V*		●	●	1-color display	
T1H*	T1V*	Proximity	●		1-color display	2-wire
T2H*	T2V*			●		3-wire
T3H*	T3V*			●		
T3PH*	T3PV*			●	1-color display	3-wire
T2WH*	T2WV*			●	2-color display	2-wire
T2YH*	T2YV*			●		3-wire
T3WH*	T3WV*			●		
T3YH*	T3YV*			●		
T2JH*	T2JV*			●	Off-delay	2-wire

How to order switch

[T switch]

● Switch body + mounting bracket set

CMA2 - T0H - 40

Switch model No.
(Item ①)Bore size
(Item ② on page 224)

● Switch body only

SW - T0H

Switch model No.
(Item ①)

● Mounting bracket set

CMA2 - T - 40

Bore size (Item ②
on page 224)

Mounting bracket

Internal structure

Same as standard. Refer to page 212.

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

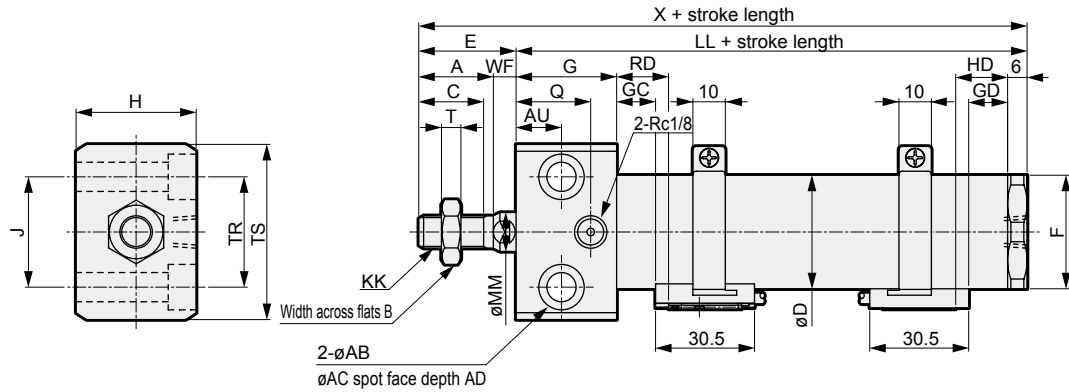
Ending

CMA2-E Series

Dimensions



● Side foot mounting (LS)



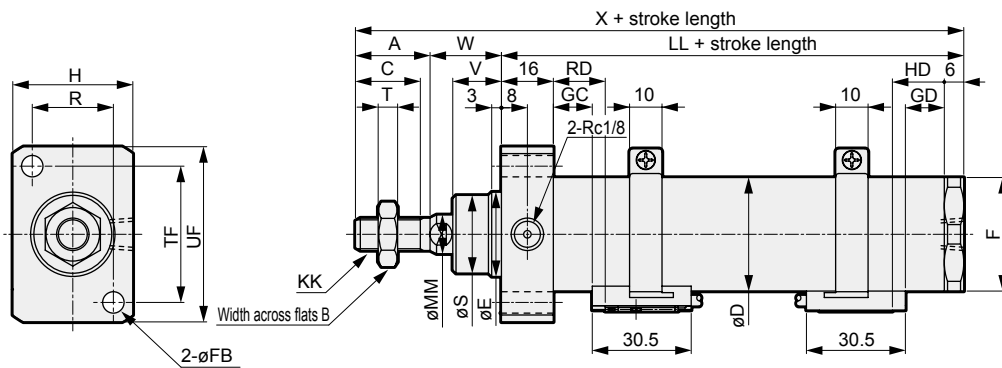
RD: Rod side max. sensitivity position
HD: Head side max. sensitivity position

1: Refer to page 220 for HD, RD, and protruding dimensions of T1, T8* and 2-color display switches.

Code	A	AB	AC	AD	AU	B	C	D	E	F	G	H	J	KK	LL	MM	Q	T	TR	TS
Bore size (mm)																				
ø20	20	6.6	11	6.5	9.5	13	18	25	31	26	28	28	22	M8×1.0	79	10	20	5	22	38
ø30	23	9	14	8.6	14	17	20	35	30	35	31	37	30	M10×1.25	88	12	23	6	34	54
ø40	25	11	17.5	10.8	15	19	22	45	31	46	32	48	41	M12×1.5	91	14	24	7	46	68

Code	WF	X	With switch										
			T0, T5, T2, T3				T2W, T3W				P	P1	(P0)°
Bore size (mm)	GC	GD	RD	HD	GC	GD	RD	HD					
ø20	11	110	9	9	13	13	11	11	15	15	19.5	21	19
ø30	7	118	12	12	16	16	14	14	18	18	24.5	26	15
ø40	6	112	13	13	17	17	15	15	19	19	29.5	31	12

● Flange mounting (FA)



RD: Rod side max. sensitivity position
HD: Head side max. sensitivity position

1: Refer to page 220 for HD, RD, and protruding dimensions of T1, T8* and 2-color display switches.

Code	A	B	C	D	E	F	FB	H	KK	LL	MM	R	S	T	TF	UF	V	W
Bore size (mm)																		
ø20	20	13	18	25	18	26	5.5	28	M8×1.0	67	10	19	17	5	29	38	12	23
ø30	23	17	20	35	26	35	6.6	37	M10×1.25	73	12	25	24	6	42	54	15	22
ø40	25	19	22	45	26	46	9	48	M12×1.5	75	14	32	24	7	52	68	16	22

Code	X	With switch											
		T0, T5, T2, T3				T2W, T3W				P	P1	(P0)°	
Bore size (mm)		GC	GD	RD	HD	GC	GD	RD	HD				
ø20	110	9	9	13	13	11	11	15	15	19.5	21	19	
ø30	118	12	12	16	16	14	14	18	18	24.5	26	15	
ø40	112	13	13	17	17	15	15	19	19	29.5	31	12	

* For the dimensions of the accessories, refer to page 221.