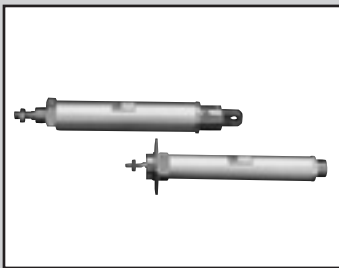


SCP*3
 CMK2
CMA2
 SCM
 SCG
 SCA2
 SCS2
 CKV2
 CAV2/
 COVPIN2
 SSD2
 SSG
 SSD
 CAT
 MDC2
 MVC
 SMG
 MSD/
 MSDG
 FC*
 STK
 SRL3
 SRG3
 SRM3
 SRT3
 MRL2
 MRG2
 SM-25
 ShkAbs
 FJ
 FK
 Spd
 Contr
 Ending

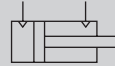


Medium bore size cylinder
 Standard single rod

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 °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 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

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

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

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

*3 : The stroke will be 25 mm and over with bellows "J". Contact CKD when stroke 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 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 LED

Item	2-wire proximity		2-wire proximity			3-wire proximity				2-wire reed						
	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	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)		No 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 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80				1 m:33 3 m:87 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 (S) = 0 mm					Weight per switch		Additional weight per S = 10 mm
	Bore size (mm)	Basic (00)	Axial foot (LB)	Flange (FA)	Clevis (CA)	Trunnion (TA/TB)	T	
ø20	0.14	0.29	0.20	0.27	0.19		0.005	0.01
ø30	0.29	0.55	0.44	0.50	0.39		0.005	0.014
ø40	0.47	0.73	0.62	0.69	0.67		0.009	0.02

(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 x $\frac{\text{Product stroke (50)}}{10}$ = 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	1.26x10 ²	1.57x10 ²	1.88x10 ²	2.20x10 ²
	Pull	23.6	35.3	47.1	70.7	94.2	1.18x10 ²	1.41x10 ²	1.65x10 ²
ø30	Push	70.7	1.06x10 ²	1.41x10 ²	2.12x10 ²	2.83x10 ²	3.53x10 ²	4.24x10 ²	4.95x10 ²
	Pull	59.4	89.1	1.19x10 ²	1.78x10 ²	2.38x10 ²	2.97x10 ²	3.56x10 ²	4.16x10 ²
ø40	Push	1.26x10 ²	1.88x10 ²	2.51x10 ²	3.77x10 ²	5.03x10 ²	6.28x10 ²	7.54x10 ²	8.80x10 ²
	Pull	1.10x10 ²	1.65x10 ²	2.21x10 ²	3.31x10 ²	4.41x10 ²	5.51x10 ²	6.62x10 ²	7.72x10 ²

- 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

How to order

No 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

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 of 50 mm.
- *2 : Refer to page 208 for the min. stroke with switch.
- *3 : The stroke will be 25 mm and over with bellows "J".
Contact CKD when stroke 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 : 50 mm
- D** Switch model No. : Reed T0H switch, lead wire 1 m
- 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 (mm)			
Bore size	Stroke *2	Available stroke	Custom stroke
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)

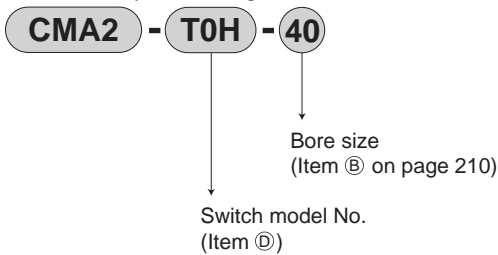
[D] Switch model No.

T-switch						
Axial lead wire	Radial lead wire	Contact	Voltage		Indicator	Lead wire
			AC	DC		
T0H*	TOV*	Reed	●	●	1-color LED	2-wire
T5H*	T5V*		●	●	No indicator lamp	
T8H*	T8V*		●	●	1-color LED	
T1H*	T1V*	Proximity	●		1-color LED	2-wire
T2H*	T2V*			●		
T3H*	T3V*			●	1-color LED	3-wire
T3PH*	T3PV*			●		
T2WH*	T2WV*			●	2-color LED	2-wire
T2YH*	T2YV*			●		
T3WH*	T3WV*			●		3-wire
T3YH*	T3YV*			●		
T2JH*	T2JV*			●	Off-delay	2-wire

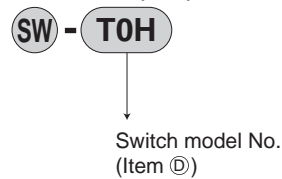
How to order switch

[T-switch]

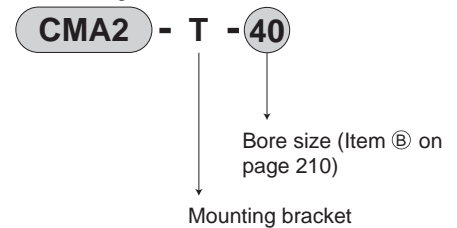
● Switch body + mounting bracket set



● Switch body only



● Mounting bracket set



How to order mounting bracket

Bore size (mm)	ø20	ø30	ø40
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.

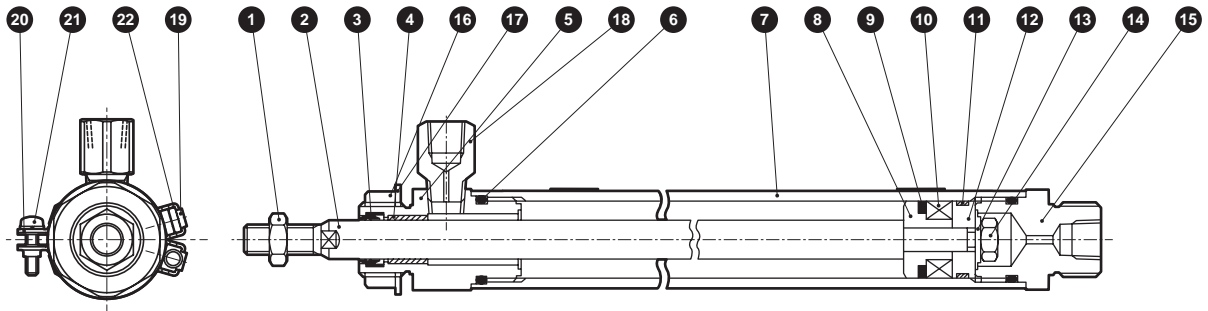
*3 : Mounting nut, toothed washer only. Although 1 set is included with the basic of the product (00), use this when needed.

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

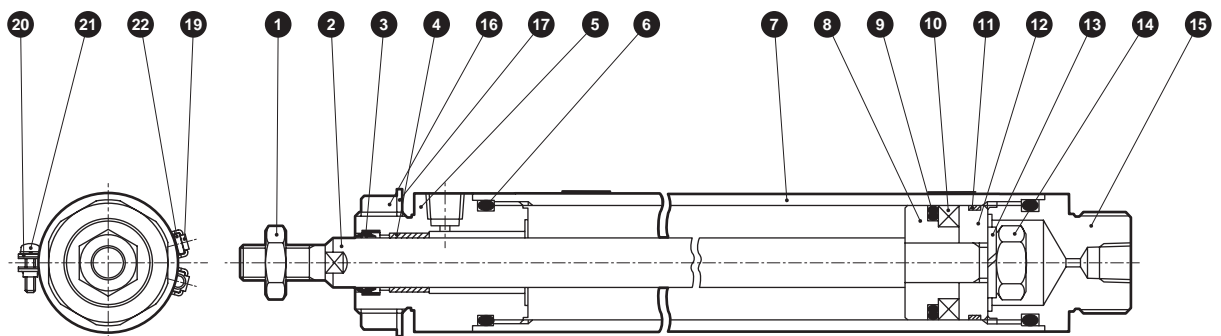
CMA2 Series

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	
$\phi 30$	CMA2-30K	3 6 9 11
$\phi 40$	CMA2-40K	

Material of mounting bracket

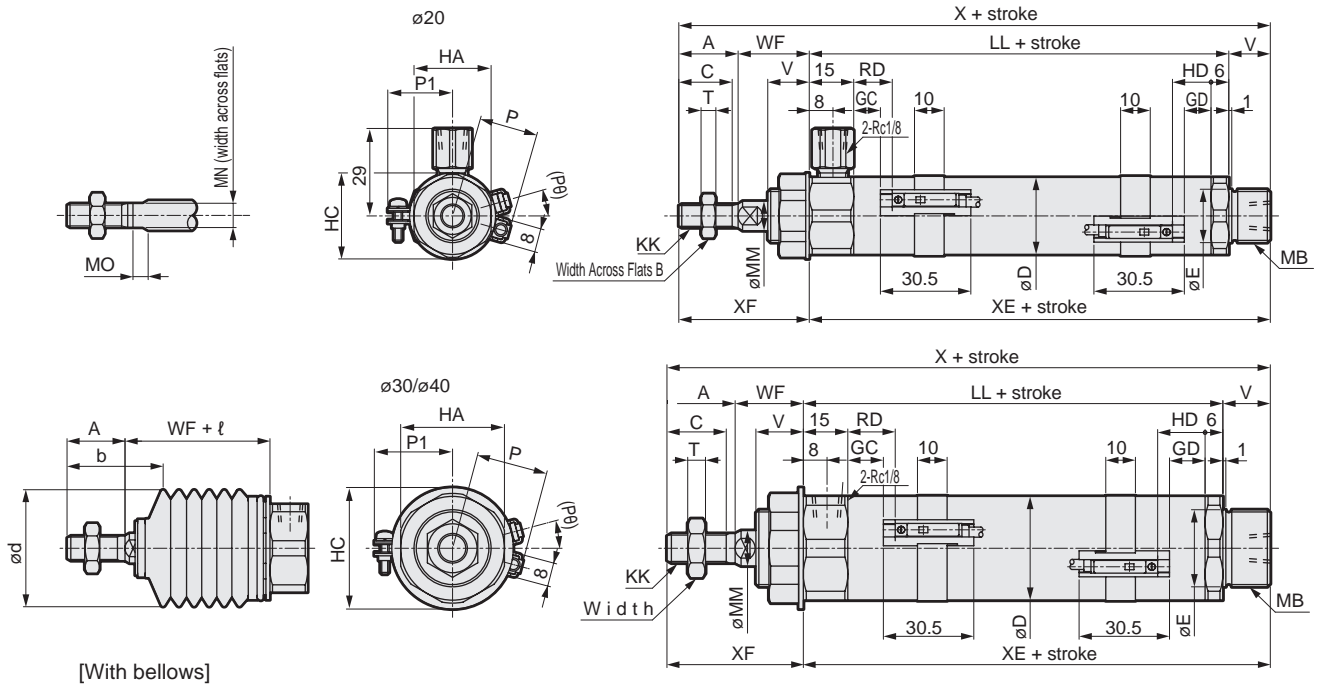
Mounting	Material
LB/LS	Steel
FA/FB	Steel
TA/TB	Steel
CA/CB	Steel

● 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 LED 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	M 8 x 1	66	M 18 x 1.5	8	5	10	5	14	24	124	80	44
ø30	23	17	20	35	26	35	41	M 10 x 1.25	72	M 26 x 1.5	10	5	12	6	16	23	134	88	46
ø40	25	19	22	45	26	35	41	M 12 x 1.5	74	M 26 x 1.5	12	6	14	7	16	23	138	90	48

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/3) + 6
ø30	12	12	16	16	14	14	18	18	24.5	26	15	23	23	38	46	(stroke/3.25) + 7
ø40	13	13	17	17	15	15	19	19	29.5	31	12	25	23	40	46	(stroke/3.25) + 7

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

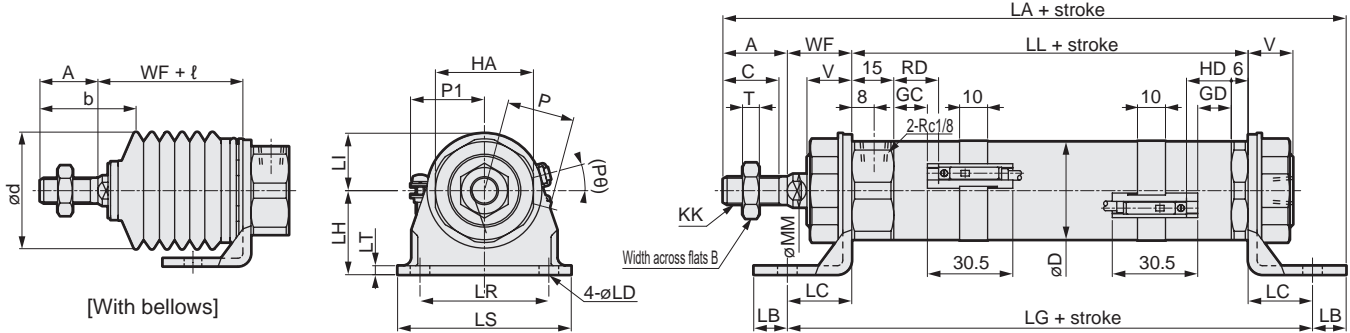
Spd
Contr

Ending

Dimensions



● Axial foot (LB)

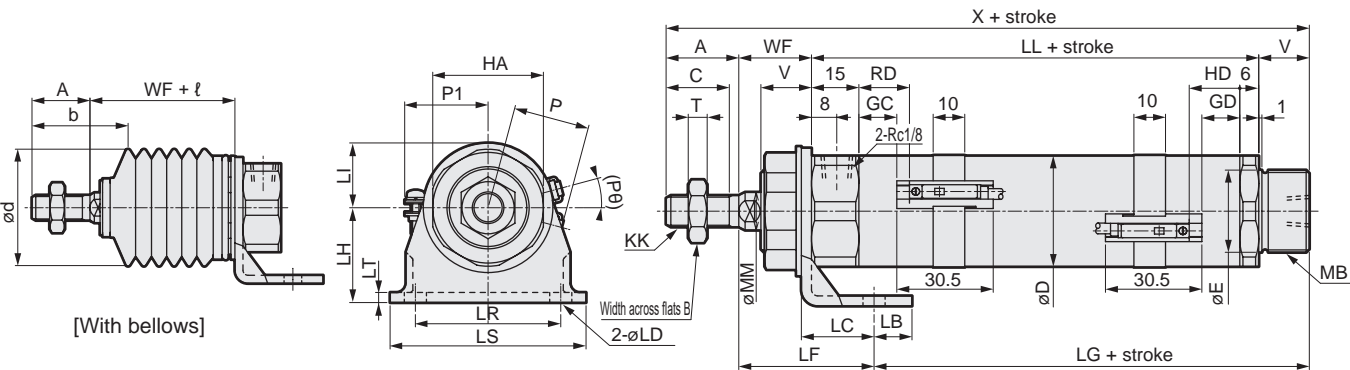


- *1 : For the width across flats of the rod, refer to the dimensions of the basic (00).
- *2 : A port nipple is included with the rod cover of $\phi 20$.
- *3 : For the ℓ dimension, round up below the decimal point.
- *4 : Refer to page 220 for HD, RD, and protruding dimensions of T1*, T8* and 2-color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

Code	Axial foot LB basic dimensions											Mounting dimensions									
	A	B	C	D	HA	KK	LL	MM	T	V	WF	LA	LB	LC	LD	LG	LH	LI	LR	LS	LT
$\phi 20$	20	13	18	25	26	M8x1	66	10	5	14	24	138	10	18	6	102	25	15	30	44	3.2
$\phi 30$	23	17	20	35	35	M10x1.25	72	12	6	16	23	153	12	23	7	118	30	20	46	62	3.2
$\phi 40$	25	19	22	45	35	M12x1.5	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	(P θ)°	A	WF	b	d	ℓ
	GC	GD	RD	HD	GC	GD	RD	HD								
$\phi 20$	9	9	13	13	11	11	15	15	19.5	21	19	20	24	32	30	(Stroke/3) + 6
$\phi 30$	12	12	16	16	14	14	18	18	24.5	26	15	23	23	38	46	(Stroke/3.25) + 7
$\phi 40$	13	13	17	17	15	15	19	19	29.5	31	12	25	23	40	46	(Stroke/3.25) + 7

● Axial foot (single) (LS)



- *1 : Max. stroke: 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 LED switches.
- *6 : For the dimensions of the accessories, refer to page 221.

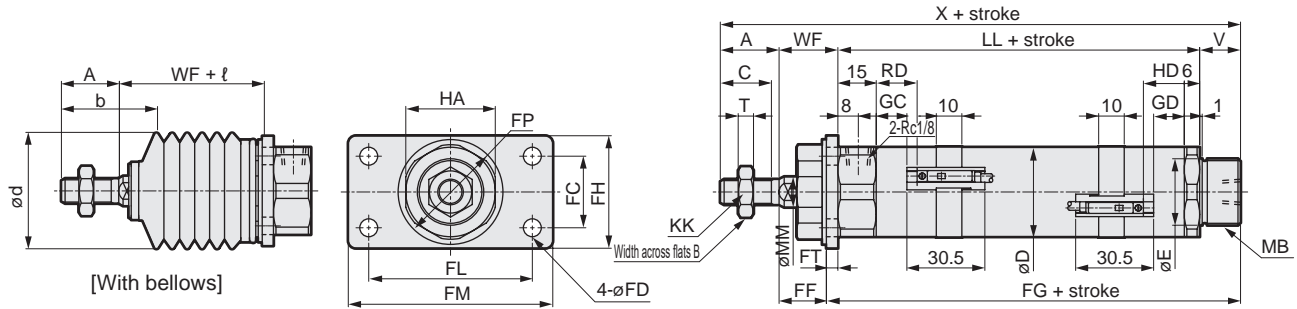
Code	Axial foot (one side) (LS) Basic dimensions											Mounting dimensions								
	A	B	C	D	E	HA	KK	LL	MB	MM	T	V	WF	X	LB	LC	LD	LF	LG	LH
$\phi 20$	20	13	18	25	18	26	M8x1	66	M18x1.5	10	5	14	24	124	10	18	6	38.8	65.2	25
$\phi 30$	23	17	20	35	26	35	M10x1.25	72	M26x1.5	12	6	16	23	134	12	23	7	42.8	68.2	30
$\phi 40$	25	19	22	45	26	35	M12x1.5	74	M26x1.5	14	7	16	23	138	12	23	7	42.8	70.2	30

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

Dimensions



● Rod side flange (FA)

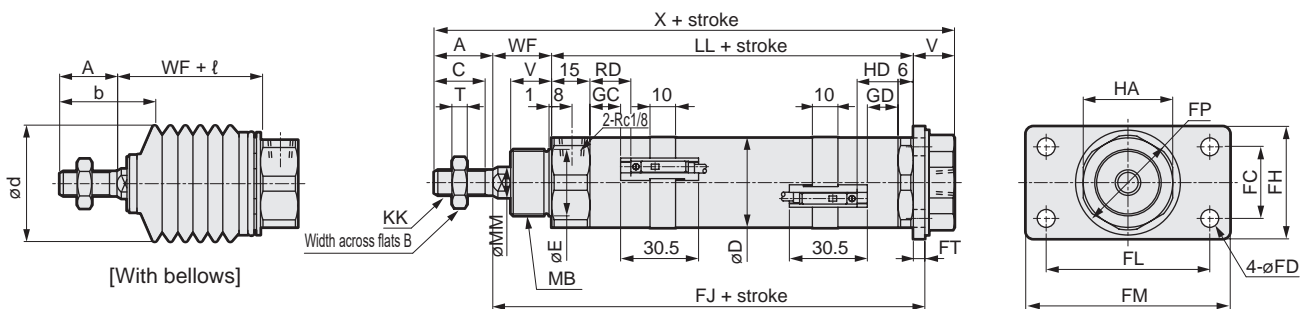


- *1 : For the width across flats of the rod, refer to the dimensions of the basic (00).
- *2 : A port nipple is included with the rod cover of $\phi 20$.
- *3 : For the ℓ dimension, round up below the decimal point.
- *4 : Refer to page 220 for HD, RD, and protruding dimensions of T1*, T8* and 2-color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

Code	Rod side flange (FA) Basic dimensions													Mounting dimensions					
	A	B	C	D	E	HA	KK	LL	MB	MM	T	V	WF	X	FC	FD	FF	FG	FH
$\phi 20$	20	13	18	25	18	26	M8x1	66	M18x1.5	10	5	14	24	124	20	6	20.8	83.2	34
$\phi 30$	23	17	20	35	26	35	M10x1.25	72	M26x1.5	12	6	16	23	134	28	7	18.5	92.5	44
$\phi 40$	25	19	22	45	26	35	M12x1.5	74	M26x1.5	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					
$\phi 20$	40	54	29	3.2	9	9	13	13	11	11	15	15	20	24	32	30	(Stroke/3) + 6
$\phi 30$	64	80	41	4.5	12	12	16	16	14	14	18	18	23	23	38	46	(Stroke/3.25) + 7
$\phi 40$	64	80	41	4.5	13	13	17	17	15	15	19	19	25	23	40	46	(Stroke/3.25) + 7

● Head side flange (FB)



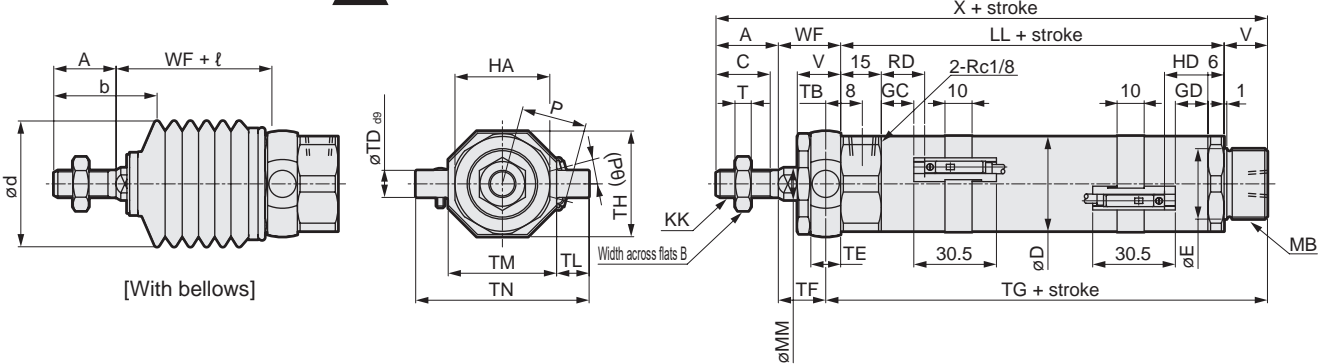
- *1 : For the width across flats of the rod, refer to the dimensions of the basic (00).
- *2 : A port nipple is included with the rod cover of $\phi 20$.
- *3 : For the ℓ dimension, round up below the decimal point.
- *4 : Refer to page 220 for HD, RD, and protruding dimensions of T1*, T8* and 2-color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

Code	Head side flange (FB) Basic dimensions													Mounting dimensions					
	A	B	C	D	E	HA	KK	LL	MB	MM	T	V	WF	X	FC	FD	FH	FJ	FL
$\phi 20$	20	13	18	25	18	26	M8x1	66	M18x1.5	10	5	14	24	124	20	6	34	93.2	40
$\phi 30$	23	17	20	35	26	35	M10x1.25	72	M26x1.5	12	6	16	23	134	28	7	44	99.5	64
$\phi 40$	25	19	22	45	26	35	M12x1.5	74	M26x1.5	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					
$\phi 20$	54	29	3.2	9	9	13	13	11	11	15	15	20	24	32	30	(Stroke/3) + 6
$\phi 30$	80	41	4.5	12	12	16	16	14	14	18	18	23	23	38	46	(Stroke/3.25) + 7
$\phi 40$	80	41	4.5	13	13	17	17	15	15	19	19	25	23	40	46	(Stroke/3.25) + 7

Dimensions

● Rod side trunnion (TA)

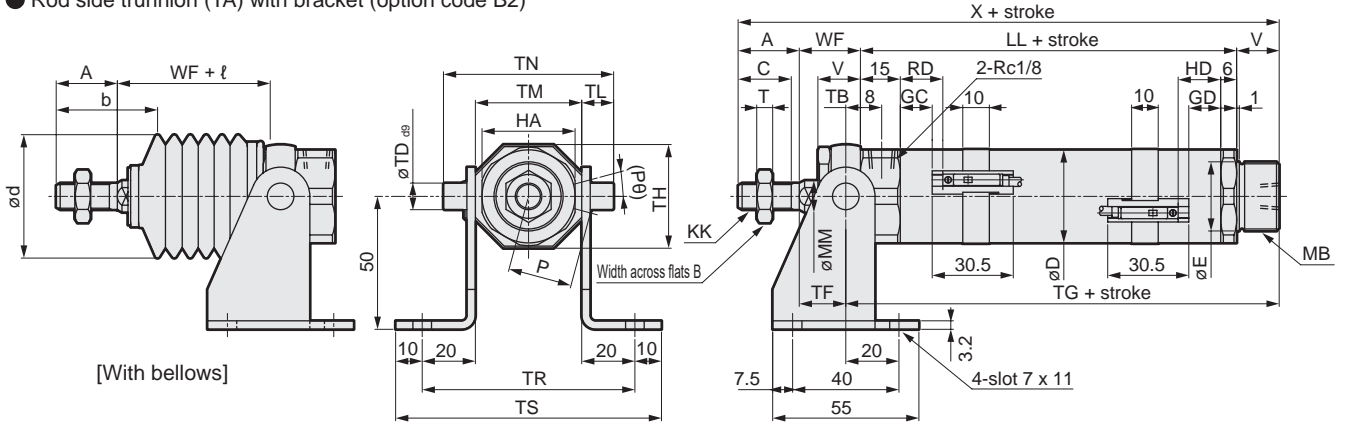


- *1 : For the width across flats of the rod, refer to the dimensions of the basic (00).
- *2 : A port nipple is included with the rod cover of $\phi 20$.
- *3 : For the ℓ dimension, round up below the decimal point.
- *4 : Refer to page 220 for HD, RD, and protruding dimensions of T1*, T8* and 2-color LED 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
$\phi 20$	20	13	18	25	18	26	M8x1.0	66	M18x1.5	10	5	14	24	124	4.5	8	9	19.5	84.5	29.5
$\phi 30$	23	17	20	35	26	35	M10x1.25	72	M26x1.5	12	6	16	23	134	5.5	10	11	17.5	93.5	39
$\phi 40$	25	19	22	45	26	35	M12x1.5	74	M26x1.5	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) $^\circ$	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/3) + 6	
$\phi 30$	12	40	64	12	12	16	16	14	14	18	18	24.5	15	23	23	38	46	(Stroke/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/3.25) + 7	

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



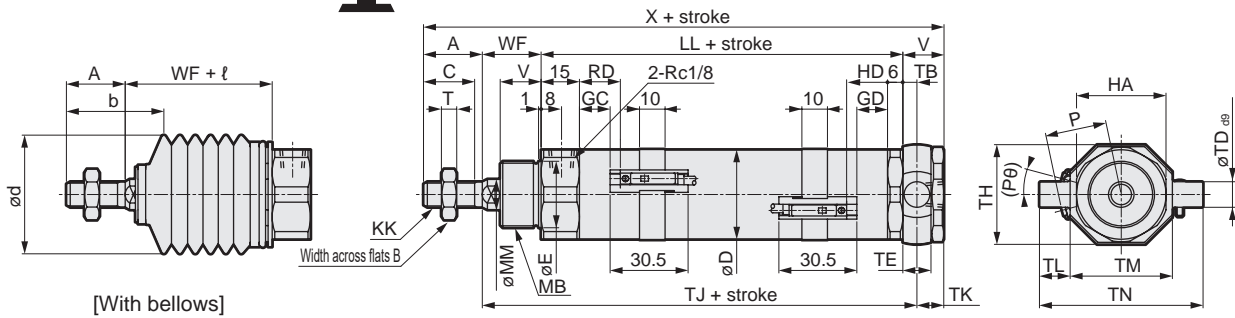
- *1 : For the width across flats of the rod, refer to the dimensions of the basic (00).
- *2 : A port nipple is included with the rod cover of $\phi 20$.
- *3 : For the ℓ dimension, round up below the decimal point.
- *4 : Refer to page 220 for HD, RD, and protruding dimensions of T1*, T8* and 2-color LED 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
$\phi 20$	20	13	18	25	26	M8x1.0	66	M18x1.5	10	5	14	24	124	4.5	8	9	19.5	84.5	29.5	8
$\phi 30$	23	17	20	35	35	M10x1.25	72	M26x1.5	12	6	16	23	134	5.5	10	11	17.5	93.5	39	12
$\phi 40$	25	19	22	45	35	M12x1.5	74	M26x1.5	14	7	16	23	138	5.5	10	11	17.5	95.5	44	9.5

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

Dimensions

● Head side trunnion (TB)

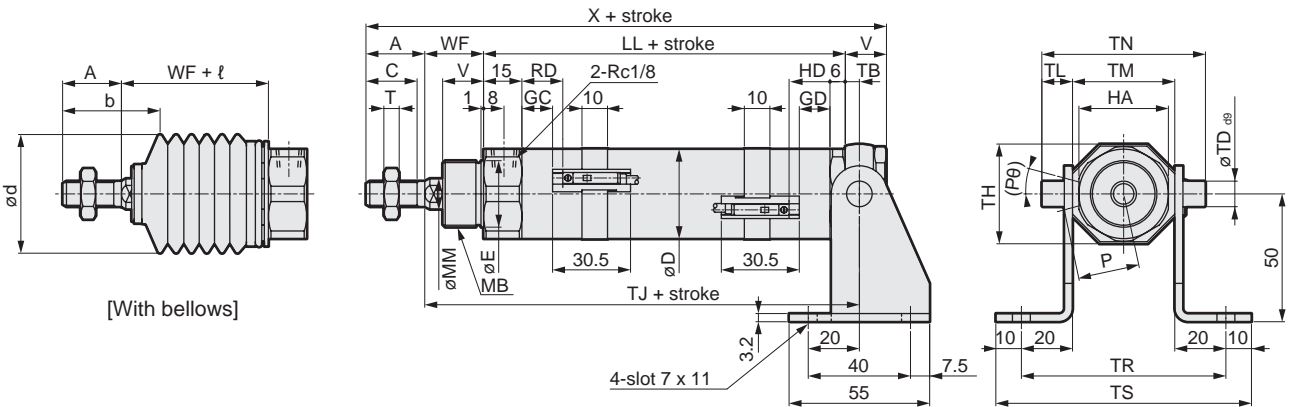


- *1 : For the width across flats of the rod, refer to the dimensions of the basic (00).
- *2 : A port nipple is included with the rod cover of $\phi 20$.
- *3 : For the ℓ dimension, round up below the decimal point.
- *4 : Refer to page 220 for HD, RD, and protruding dimensions of T1*, T8* and 2-color LED 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
$\phi 20$	20	13	18	25	18	26	M8x1.0	66	M18x1.5	10	5	14	24	124	4.5	8	9	29.5	94.5
$\phi 30$	23	17	20	35	26	35	M10x1.25	72	M26x1.5	12	6	16	23	134	5.5	10	11	39	100.5
$\phi 40$	25	19	22	45	26	35	M12x1.5	74	M26x1.5	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	(P θ) $^\circ$	A	WF	b	d	ℓ
					GC	GD	RD	HD	GC	GD	RD	HD							
$\phi 20$	9.5	8	30	46	9	9	13	13	11	11	15	15	19.5	19	20	24	32	30	(Stroke/3) + 6
$\phi 30$	10.5	12	40	64	12	12	16	16	14	14	18	18	24.5	15	23	23	38	46	(Stroke/3.25) + 7
$\phi 40$	10.5	9.5	53	72	13	13	17	17	15	15	19	19	29.5	12	25	23	40	46	(Stroke/3.25) + 7

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



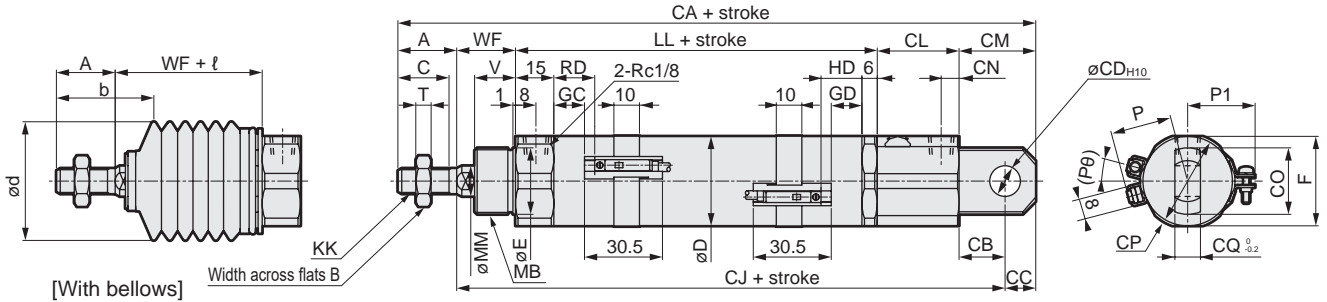
- *1 : For the width across flats of the rod, refer to the dimensions of the basic (00).
- *2 : A port nipple is included with the rod cover of $\phi 20$.
- *3 : For the ℓ dimension, round up below the decimal point.
- *4 : Refer to page 220 for HD, RD, and protruding dimensions of T1*, T8* and 2-color LED 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
$\phi 20$	20	13	18	25	26	M8x1.0	66	M18x1.5	10	5	14	24	124	4.5	8	29.5	94.5	8	30
$\phi 30$	23	17	20	35	35	M10x1.25	72	M26x1.5	12	6	16	23	134	5.5	10	39	100.5	12	40
$\phi 40$	25	19	22	45	35	M12x1.5	74	M26x1.5	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	(P θ) $^\circ$	A	WF	b	d	ℓ
				GC	GD	RD	HD	GC	GD	RD	HD							
$\phi 20$	46	70	90	9	9	13	13	11	11	15	15	19.5	19	20	24	32	30	(Stroke/3) + 6
$\phi 30$	64	80	100	12	12	16	16	14	14	18	18	24.5	15	23	23	38	46	(Stroke/3.25) + 7
$\phi 40$	72	93	113	13	13	17	17	15	15	19	19	29.5	12	25	23	40	46	(Stroke/3.25) + 7

Dimensions

● Eye bracket (CA)

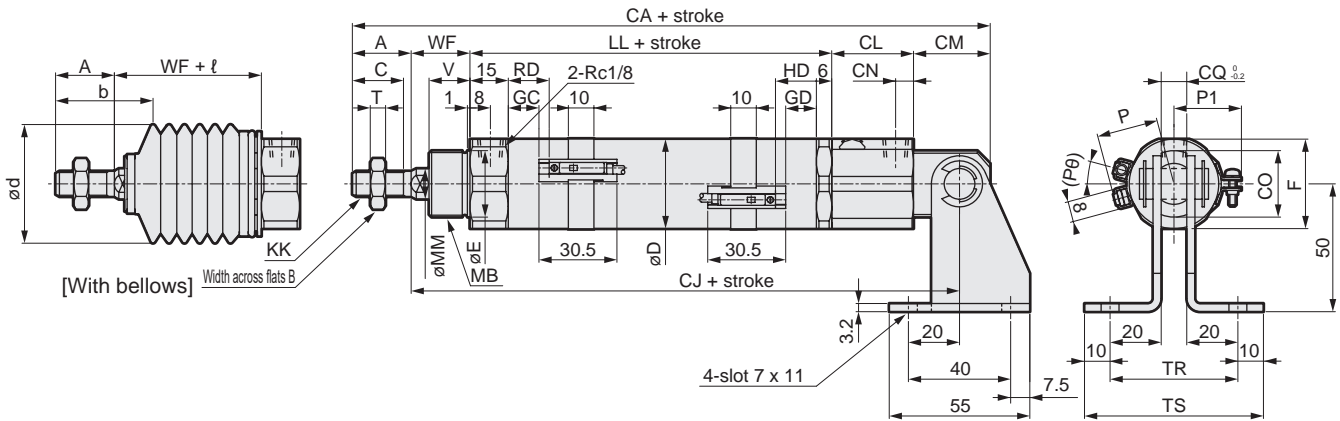


- *1 : For the width across flats of the rod, refer to the dimensions of the basic (00).
- *2 : A port nipple is included with the rod cover of $\varnothing 20$.
- *3 : For the ℓ dimension, round up below the decimal point.
- *4 : Refer to page 220 for HD, RD, and protruding dimensions of T1*, T8* and 2-color LED 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
	$\varnothing 20$		20	13	18	25	18	26	M8x1.0	66	M18x1.5	10	5	14	24	165	14	10	10	135	31	24	8
	$\varnothing 30$		23	17	20	35	26	35	M10x1.25	72	M26x1.5	12	6	16	23	180	18	12	12	145	32	30	7
	$\varnothing 40$		25	19	22	45	26	35	M12x1.5	74	M26x1.5	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	(P θ)°	A	WF	b	d	ℓ	
				GC	GD	RD	HD	GC	GD	RD	HD									
	$\varnothing 20$	22	28	8	9	9	13	13	11	11	15	15	19.5	21	19	20	24	32	30	(Stroke/3) + 6
	$\varnothing 30$	26	37	10	12	12	16	16	14	14	18	18	24.5	26	15	23	23	38	46	(Stroke/3.25) + 7
	$\varnothing 40$	26	37	10	13	13	17	17	15	15	19	19	29.5	31	12	25	23	40	46	(Stroke/3.25) + 7

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



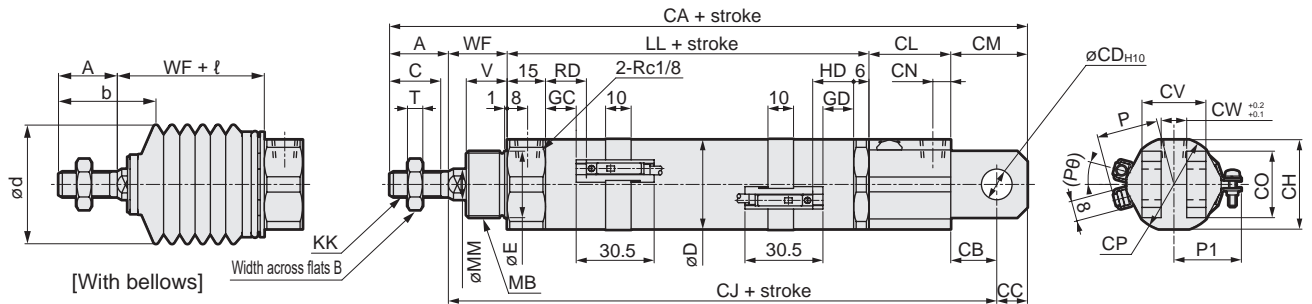
- *1 : For the width across flats of the rod, refer to the dimensions of the basic (00).
- *2 : A port nipple is included with the rod cover of $\varnothing 20$.
- *3 : For the ℓ dimension, round up below the decimal point.
- *4 : Refer to page 220 for HD, RD, and protruding dimensions of T1*, T8* and 2-color LED 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
	$\varnothing 20$		20	13	18	25	26	M8x1.0	66	M18x1.5	10	5	14	24	165	135	31	24	8	22	8
	$\varnothing 30$		23	17	20	35	35	M10x1.25	72	M26x1.5	12	6	16	23	180	145	32	30	7	26	10
	$\varnothing 40$		25	19	22	45	35	M12x1.5	74	M26x1.5	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	(P θ)°	A	WF	b	d	ℓ	
			GC	GD	RD	HD	GC	GD	RD	HD									
	$\varnothing 20$	48	68	9	9	13	13	11	11	15	15	19.5	21	19	20	24	32	30	(Stroke/3) + 6
	$\varnothing 30$	50	70	12	12	16	16	14	14	18	18	24.5	26	15	23	23	38	46	(Stroke/3.25) + 7
	$\varnothing 40$	50	70	13	13	17	17	15	15	19	19	29.5	31	12	25	23	40	46	(Stroke/3.25) + 7

Dimensions

● Clevis bracket (CB)

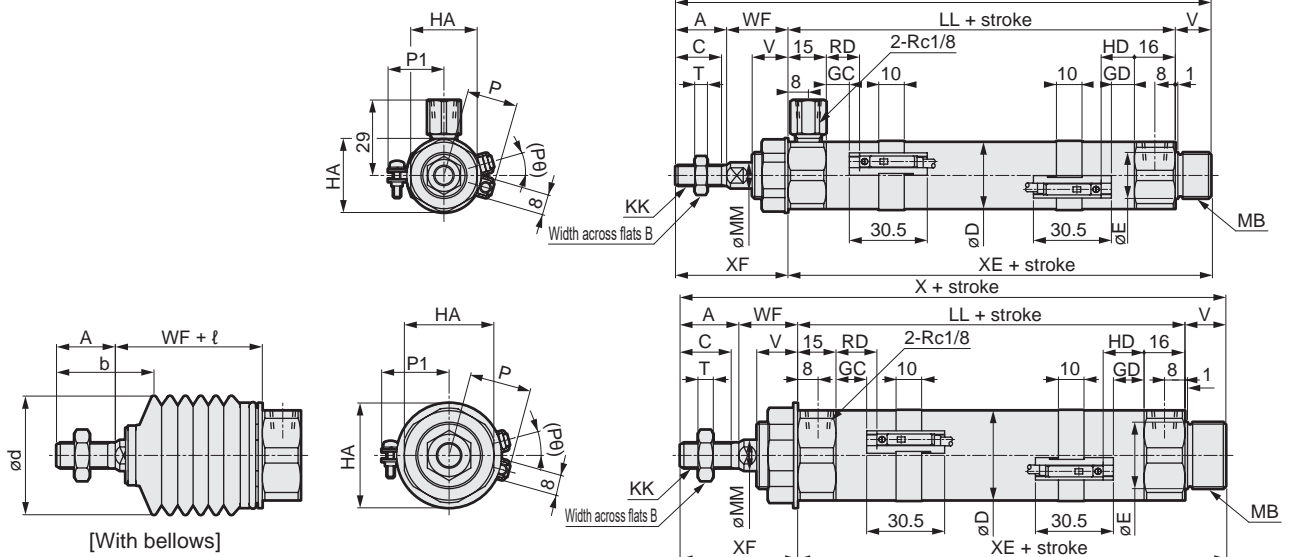


*1 : For the width across flats of the rod, refer to the dimensions of the basic (00). *4 : Refer to page 220 for HD, RD, and protruding dimensions of T1*, T8* and 2-color LED switches.
 *2 : A port nipple is included with the rod cover of ø20.
 *3 : For the t dimension, round up below the decimal point.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

Code	Clevis bracket (CB) Basic dimensions											Mounting dimensions									
	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	M8x1.0	66	M18x1.5	10	5	14	24	165	14	10	10	26	135	31	24	8
ø30	23	17	20	35	26	M10x1.25	72	M26x1.5	12	6	16	23	180	18	12	12	35	145	32	30	7
ø40	25	19	22	45	26	M12x1.5	74	M26x1.5	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/3) + 6
ø30	26	37	25	10	12	12	16	16	14	14	18	18	24.5	26	15	23	23	38	46	(Stroke/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/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 t dimension, round up below the decimal point.
 4 : Refer to page 220 for HD, RD, and protruding dimensions of T1, T8* and 2-color LED switches.
 *5 : For the dimensions of the accessories, refer to page 221.

Code	Basic (00) Basic dimensions											X	XE	XF			
	A	B	C	D	E	HA	HC	KK	LL	MB	MM				T	V	WF
ø20	20	13	18	25	18	26	29	M8x1.0	76	M18x1.5	10	5	14	24	134	90	44
ø30	23	17	20	35	26	35	41	M10x1.25	82	M26x1.5	12	6	16	23	144	98	46
ø40	25	19	22	45	26	35	41	M12x1.5	84	M26x1.5	14	7	16	23	148	100	48

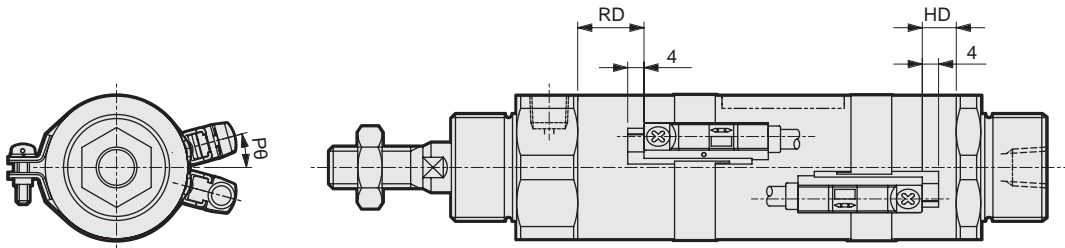
Code	With switch											With bellows								
	GC	GD	RD	HD	T0, T5, T2, T3				T2W, T3W				P	P1	(P0)°	A	WF	b	d	ℓ
					GC	GD	RD	HD	GC	GD	RD	HD								
ø20	9	9	13	13	11	11	15	15	19.5	21	19	20	24	32	30	(Stroke/3) + 6				
ø30	12	12	16	16	14	14	18	18	24.5	26	15	23	23	38	46	(Stroke/3.25) + 7				
ø40	13	13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

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

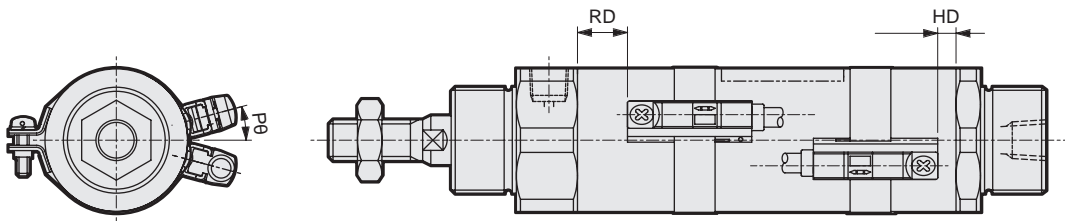
CMA2 Series common dimensions (2-color LED, off-delay, with T1* and T8* switches)

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

· Stroke of less than 33 mm



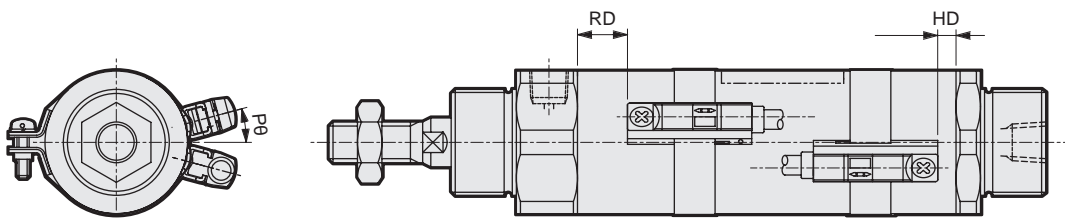
· Stroke of 33 mm and over



Mounting dimensions of 2-color LED, 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

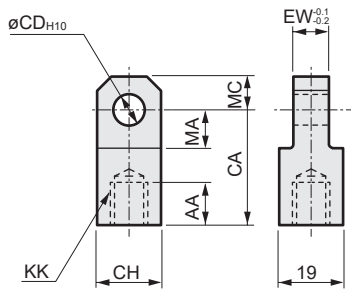
Code	RD	HD	(Pθ)°
Bore size (mm)			
ø20	7	7	19
ø30	10	10	15
ø40	11	11	12

CMA2 Series common accessory dimensions



● Rod eye (I)

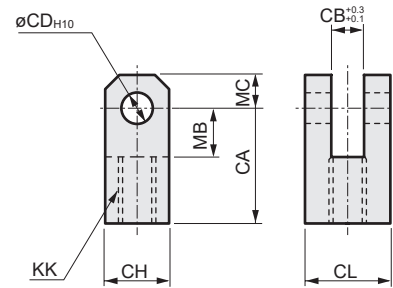
Material: Steel
Zinc chromate treatment



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	M8x1.0	13	10	60
M1-I-30	30	14	36	12	25	10	M10x1.25	16	12	106
M1-I-40	40	14	36	12	25	10	M12x1.5	16	12	100

● Rod clevis (Y)

Material: Steel
Zinc chromate treatment

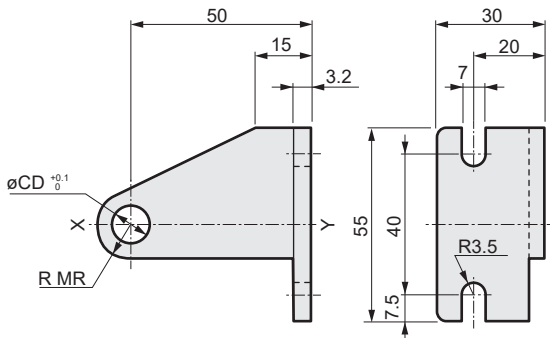


Note: A pin and washer are included.

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	M8x1.0	13	10	99
M1-Y-30	30	36	10	12	25	25	M10x1.25	16	12	197
M1-Y-40	40	36	10	12	25	25	M12x1.5	16	12	193

● Clevis bracket (B2)

Material: Steel
Zinc chromate treatment



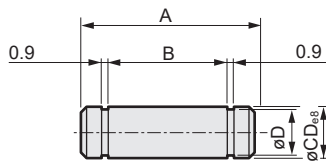
Model No.	Compatible model	Applicable bore size (mm)	CD	MR	Weight (g)
M1-B2-30-CA	CMA2-CA	20	10	11	158
M1-B2-40-CA	Clevis	30/40	12	11	162
M1-B2-20-TA	CMA2-TA/TB	20	8	8	132
M1-B2-30-TA	Trunnion	30/40	10	11	142

*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

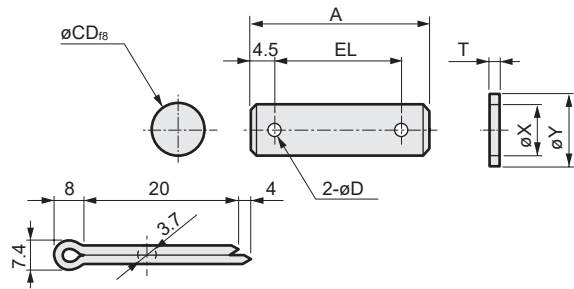


Model No.	Applicable bore size (mm)	A	B	CD	D	Applicable snap ring	Weight (g)
M1-P2-20	20	25	20	10	9	E9	16
M1-P2-30	30/40	27	22	12	9	E9	24

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	1.6	10.5	18	29
M1-P-30	30/40	46	4	12	37	2.5	12.5	22	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/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

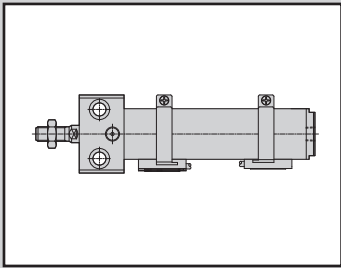
FJ

FK

Spd
Contr

Ending

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 $^{\circ}\text{C}$	-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 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

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

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

Min. stroke 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 LED

Item	2-wire proximity		2-wire proximity			3-wire proximity				2-wire reed							
	T1H/T1V		T2H/T2V	T2YH/	T2WH/	T3H/	T3PH/	T3YH/	T3WH/	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	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)		No 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 (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.
	(LS)		(FA)		
ø20	0.18		0.16		0.005
ø30	0.36		0.31		0.005
ø40	0.61		0.51		0.009

(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 x $\frac{\text{Product stroke (50)}}{10}$ = 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	1.26x10 ²	1.57x10 ²	1.88x10 ²	2.20x10 ²
	Pull	23.6	35.3	47.1	70.7	94.2	1.18x10 ²	1.41x10 ²	1.65x10 ²
ø30	Push	70.7	1.06x10 ²	1.41x10 ²	2.12x10 ²	2.83x10 ²	3.53x10 ²	4.24x10 ²	4.95x10 ²
	Pull	59.4	89.1	1.19x10 ²	1.78x10 ²	2.38x10 ²	2.97x10 ²	3.56x10 ²	4.16x10 ²
ø40	Push	1.26x10 ²	1.88x10 ²	2.51x10 ²	3.77x10 ²	5.03x10 ²	6.28x10 ²	7.54x10 ²	8.80x10 ²
	Pull	1.10x10 ²	1.65x10 ²	2.21x10 ²	3.31x10 ²	4.41x10 ²	5.51x10 ²	6.62x10 ²	7.72x10 ²

CMA2-E Series

- 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

How to order

No 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

■ The custom stroke 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 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 : \varnothing 20 mm
- C** Stroke : 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	\varnothing 20	
30	\varnothing 30	
40	\varnothing 40	
C Stroke (mm)		
Bore size	Stroke *1	Custom stroke
\varnothing 20	1 to 700	In 1 mm increments
\varnothing 30	1 to 700	
\varnothing 40	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)	

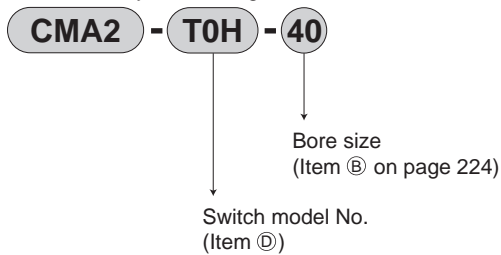
[D] Switch model No.

T-switch							
Axial lead wire	Radial lead wire	Contact	Voltage		Indicator	Lead wire	
			AC	DC			
TOH*	TOV*	Reed	●	●	1-color LED	2-wire	
T5H*	T5V*		●	●	No indicator lamp		
T8H*	T8V*		●	●	1-color LED		
T1H*	T1V*	Proximity	●		1-color LED	2-wire	
T2H*	T2V*			●			3-wire
T3H*	T3V*			●		3-wire	
T3PH*	T3PV*			●	1-color LED	3-wire	
T2WH*	T2WV*			●	2-color LED	2-wire	
T2YH*	T2YV*			●			3-wire
T3WH*	T3WV*			●			
T3YH*	T3YV*			●			
T2JH*	T2JV*			●	Off-delay	2-wire	

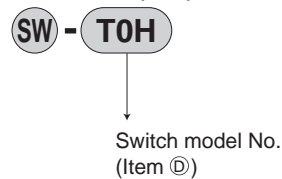
How to order switch

[T-switch]

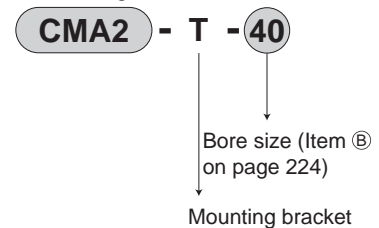
● Switch body + mounting bracket set



● Switch body only



● Mounting bracket set



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

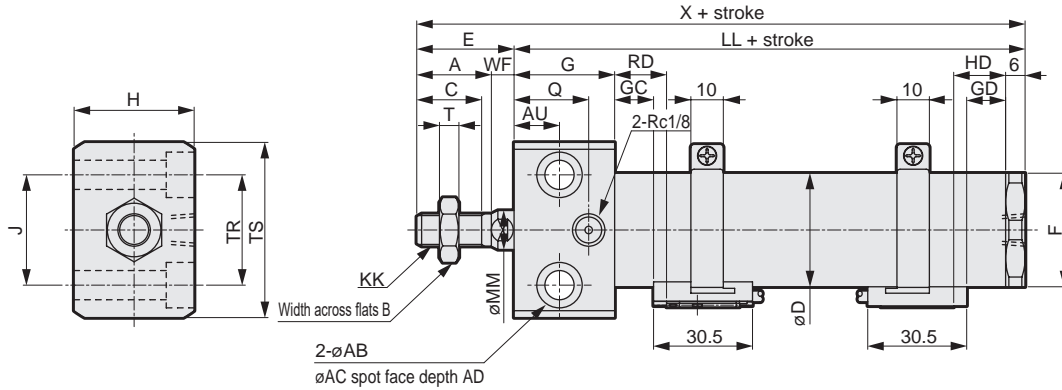
Ending

CMA2-E Series

Dimensions



● Side foot mounting (LS)



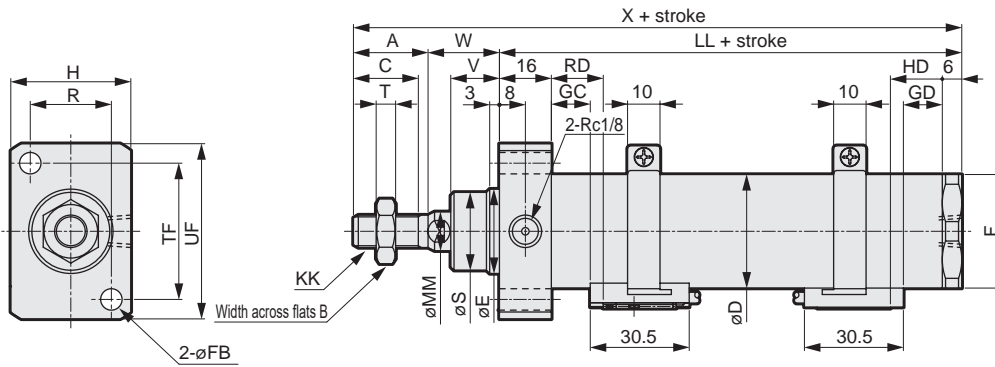
RD: Rod side max. sensitivity position
HD: Head side max. sensitivity position

1: Refer to page 220 for HD, RD, and protruding dimensions of T1, T8* and 2-color LED 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	M8x1.0	79	10	20	5	22	38	
ø30	23	9	14	8.6	14	17	20	35	30	35	31	37	30	M10x1.25	88	12	23	6	34	54	
ø40	25	11	17.5	10.8	15	19	22	45	31	46	32	48	41	M12x1.5	91	14	24	7	46	68	

Code	WF	X	With switch										P	P1	(Pθ)°
			T0, T5, T2, T3				T2W, T3W								
			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 LED 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	M8x1.0	67	10	19	17	5	29	38	12	23	
ø30	23	17	20	35	26	35	6.6	37	M10x1.25	73	12	25	24	6	42	54	15	22	
ø40	25	19	22	45	26	46	9	48	M12x1.5	75	14	32	24	7	52	68	16	22	

Code	X	With switch										P	P1	(Pθ)°
		T0, T5, T2, T3				T2W, T3W								
		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.