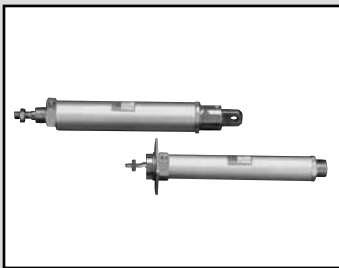


SCP*3
 CMK2
CMA2
 SCM
 SCG
 SCA2
 SCS2
 CKV2
 CAV2/
 COVPIN2
 SSD2
 SSG
 SSD
 CAT
 MDC2
 MVC
 SMG
 MSD/
 MSDG
 FC*
 STK
 SRL3
 SRG3
 SRM3
 SRT3
 MRL2
 MRG2
 SM-25
 ShkAbs
 FJ
 FK
 Spd
 Contr
 Ending

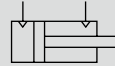


Medium bore size cylinder
 Standard single rod

CMA2 Series

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

JIS symbol ● Double acting cylinder single rod



Specifications

Descriptions	CMA2		
Bore size mm	$\phi 20$	$\phi 30$	$\phi 40$
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	${}_{0}^{+1.0}$ (to 200), ${}_{0}^{+1.2}$ (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)
$\phi 20$	25/50/75/100	700	1000	1
$\phi 30$	150/200/250		1200	
$\phi 40$	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

Descriptions	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 (custom)	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 (*2)		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 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:33 3 m:87 5 m:142				

*1: Refer to Ending Page 1 for other switch specifications.

*2: Max. load current of 20 mA as above is applied at 25°C. The current will be lower than 20 mA when operating ambient temperature around the switch is higher than 25°C.
(5 to 10 mA at 60°C)

*3: Dimensions depend on switch model No. Refer to Ending Page 18 for details.

Cylinder weight

(Unit: kg)

Item/mounting	Product weight when stroke length (S) = 0 mm					Weight per switch		Additional weight per S = 10 mm
	Basic (00)	Axial foot (LB)	Flange (FA)	Clevis (CA)	Trunnion (TA/TB)	T		
Bore size (mm)						Refer to the weight in the switch specifications.	Switch rail + Band weight	
φ20	0.14	0.29	0.20	0.27	0.19		0.005	0.01
φ30	0.29	0.55	0.44	0.50	0.39		0.005	0.014
φ40	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 × $\frac{\text{Product stroke length (50)}}{10} = 0.07 \text{ kg}$ 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
φ20	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
φ30	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
φ40	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

- 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

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 194 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 : φ20 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	Content
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 attached)
TA	Rod side trunnion
TB	Head side trunnion

B Bore size (mm)	
20	φ20
30	φ30
40	φ40

C Stroke length (mm)			
Bore size	Stroke length *2	Available stroke length	Custom stroke length
φ20	1 to 700	1000	In 1 mm increments
φ30	1 to 700	1200	
φ40	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 attached)
B2	Clevis bracket (pin and snap ring attached)

[D] Switch model No.

T switch						
Axial lead wire	Radial lead wire	Contact	Voltage		Display	Lead wire
			AC	DC		
T0H*	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*			●		
T3H*	T3V*			●		
T3PH*	T3PV*			●	1-color display (custom order)	3-wire
T2WH*	T2WV*			●	2-color display	2-wire
T2YH*	T2YV*			●		
T3WH*	T3WV*			●		
T3YH*	T3YV*			●	Off-delay	2-wire
T2JH*	T2JV*			●		

How to order switch

[T switch]

● Switch body + mounting bracket set

CMA2 - **T0H** - **40**

Switch model No.
(Item ①)

Bore size
(Item ② on the previous page)

● Switch body only

SW - **T0H**

Switch model No.
(Item ①)

● Mounting bracket set

CMA2 - **T** - **40**

Bore size (Item ② on the previous page)

Mounting bracket

How to order mounting bracket

Bore size (mm)		φ20	φ30	φ40
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.

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

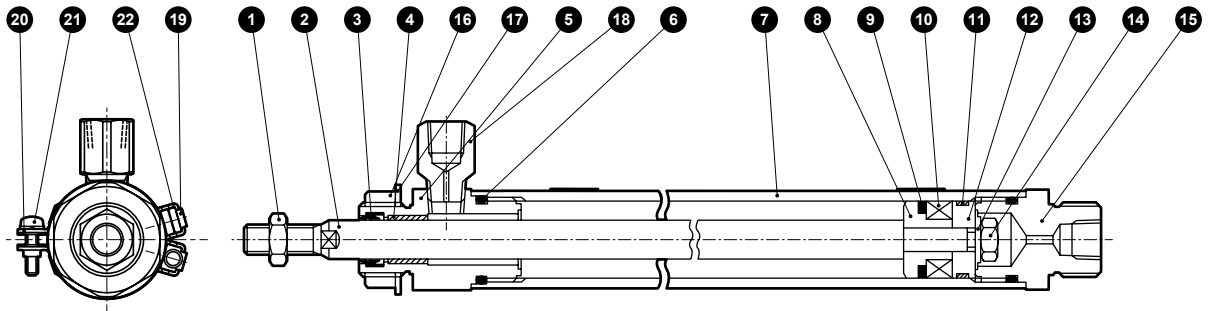
FK

Spd
Contr

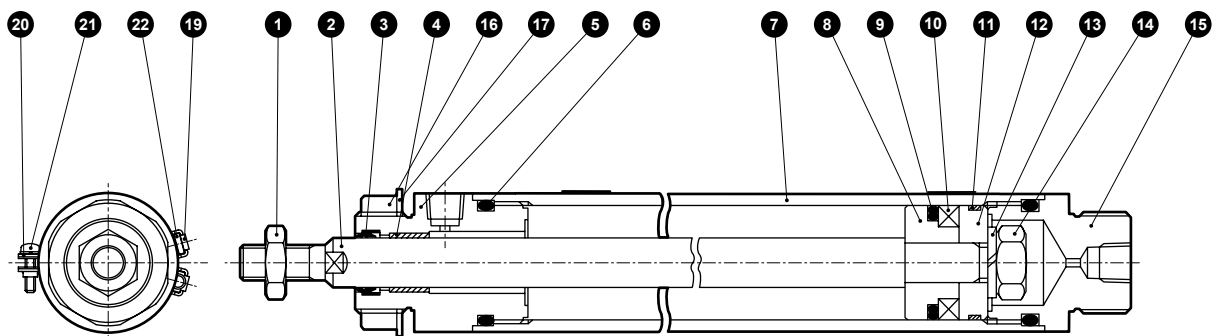
Ending

Internal structure and parts list

● φ20



● φ30/φ40



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Rod nut	Steel	Zinc chromate	12	Piston B	Aluminum alloy	
2	Piston rod	φ20/φ30 Stainless steel φ40 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.
φ20	CMA2-20K	
φ30	CMA2-30K	● 3 ● 6 ● 9 ● 11
φ40	CMA2-40K	

Material of mounting bracket

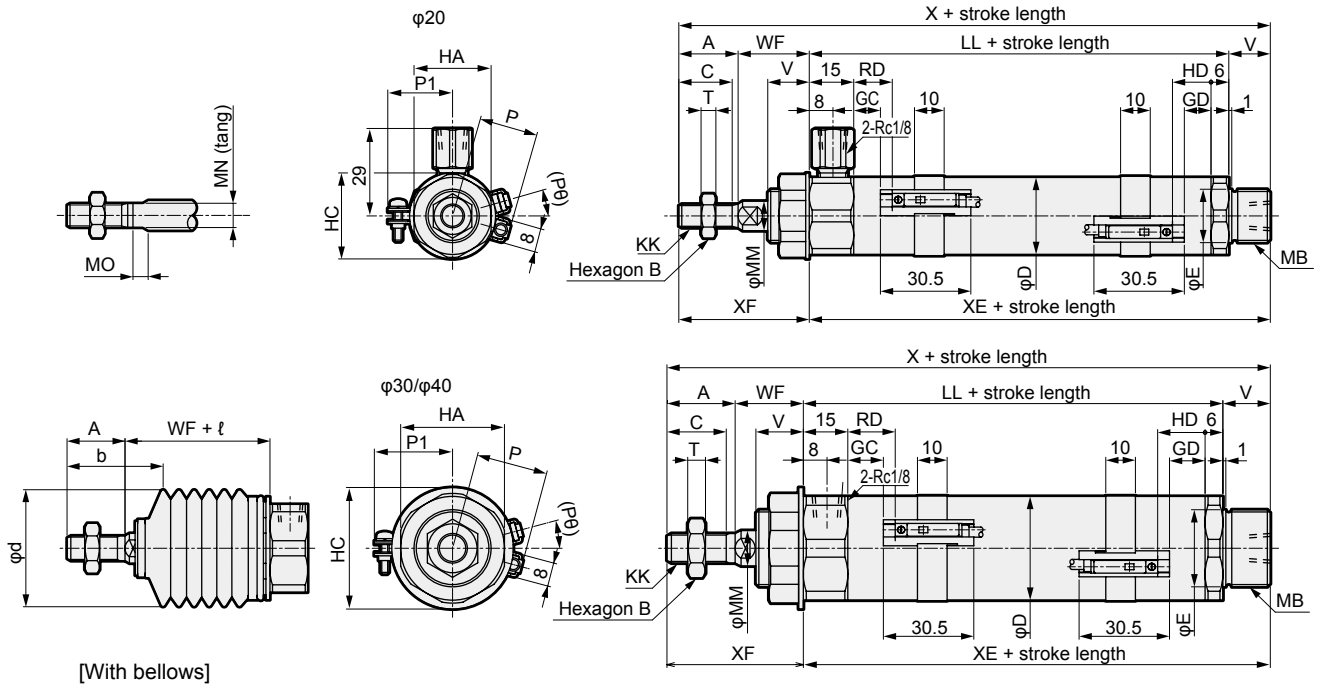
Mounting	Material
LB/LS	Steel
FA/FB	Steel
TA/TB	Steel
CA/CB	Steel

● 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 φ20.

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

3 : Refer to page 206 for HD, RD, and protruding dimensions of T1, T8* and 2-color display switches.

*4 : For the dimensions of the accessories, refer to page 207.

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
φ20	20	13	18	25	18	26	29	M8×1	66	M18×1.5	8	5	10	5	14	24	124	80	44
φ30	23	17	20	35	26	35	41	M10×1.25	72	M26×1.5	10	5	12	6	16	23	134	88	46
φ40	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								
φ20	9	9	13	13	11	11	15	15	19.5	21	19	20	24	32	30	(Stroke length/3) + 6
φ30	12	12	16	16	14	14	18	18	24.5	26	15	23	23	38	46	(Stroke length/3.25) + 7
φ40	13	13	17	17	15	15	19	19	29.5	31	12	25	23	40	46	(Stroke length/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

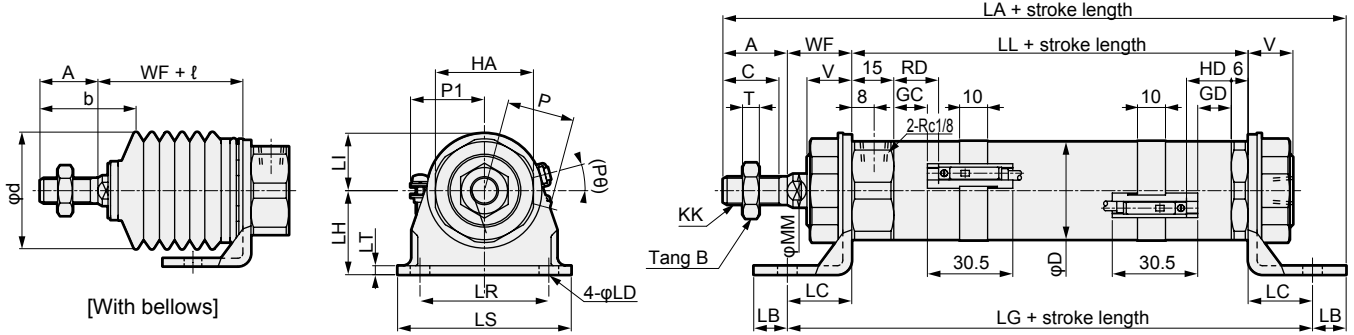
Spd
Contr

Ending

Dimensions



● Axial foot (LB)

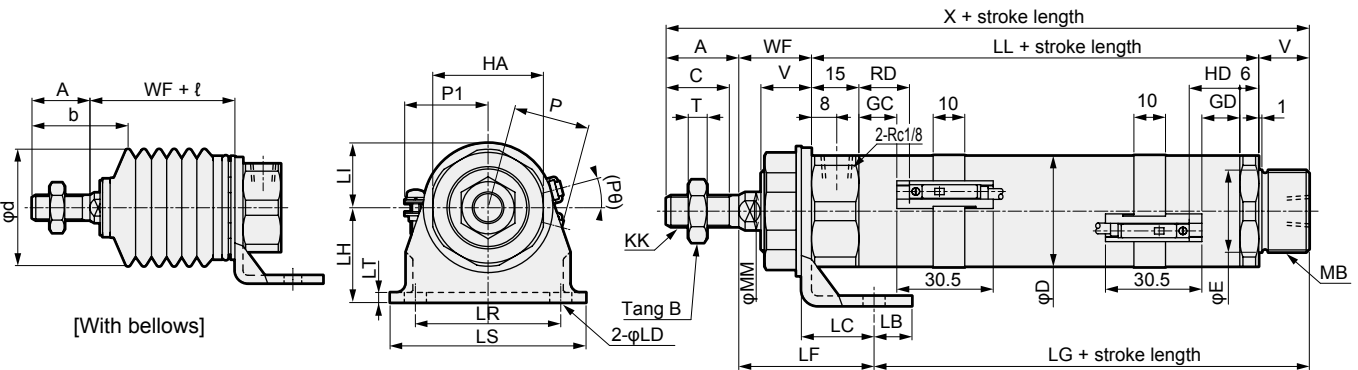


- *1 : For the tang of the rod, refer to the dimensions of the basic (00).
- *2 : A port nipple is included with the rod cover of φ20.
- *3 : For the l dimension, round up below the decimal point.
- *4 : Refer to page 206 for HD, RD, and protruding dimensions of T1*, T8* and 2-color display switches.
- *5 : For the dimensions of the accessories, refer to page 207.

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
φ20	φ20		20	13	18	25	26	M8×1	66	10	5	14	24	138	10	18	6	102	25	15	30	44	3.2
φ30	φ30		23	17	20	35	35	M10×1.25	72	12	6	16	23	153	12	23	7	118	30	20	46	62	3.2
φ40	φ40		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
	GC	GD	RD	HD	GC	GD	RD	HD								
φ20	9	9	13	13	11	11	15	15	19.5	21	19	20	24	32	30	(Stroke length/3) + 6
φ30	12	12	16	16	14	14	18	18	24.5	26	15	23	23	38	46	(Stroke length/3.25) + 7
φ40	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 tang of the rod, refer to the dimensions of the basic (00).
- *3 : A port nipple is included with the rod cover of φ20.
- *4 : For the l dimension, round up below the decimal point.
- *5 : Refer to page 206 for HD, RD, and protruding dimensions of T1*, T8* and 2-color display switches.
- *6 : For the dimensions of the accessories, refer to page 207.

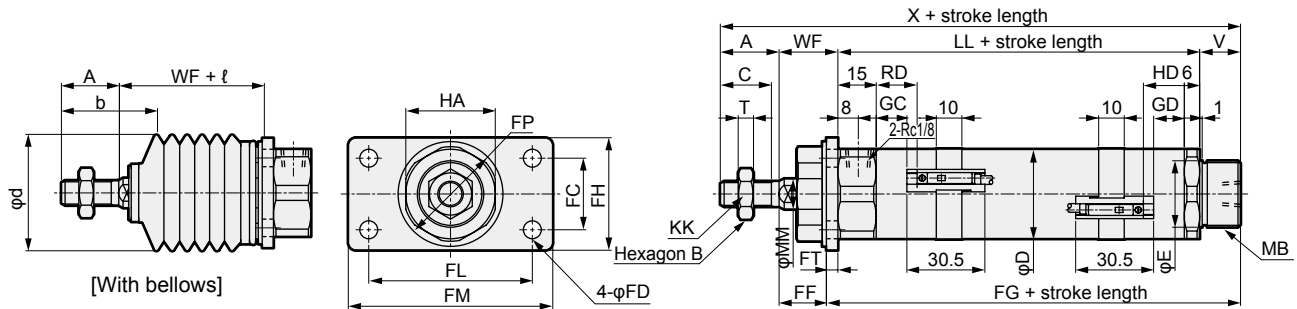
Code	Axial foot (one side) (LS) basic dimensions											Mounting dimensions										
	Bore size (mm)		A	B	C	D	E	HA	KK	LL	MB	MM	T	V	WF	X	LB	LC	LD	LF	LG	LH
φ20	φ20		20	13	18	25	18	26	M8×1	66	M18×1.5	10	5	14	24	124	10	18	6	38.8	65.2	25
φ30	φ30		23	17	20	35	26	35	M10×1.25	72	M26×1.5	12	6	16	23	134	12	23	7	42.8	68.2	30
φ40	φ40		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								
	T0, T5, T2, T3				T2W, T3W				P	P1	(Pθ)°	A	WF	b	d	l				
	LI	LR	LS	LT	GC	GD	RD	HD									GC	GD	RD	HD
φ20	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
φ30	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
φ40	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)

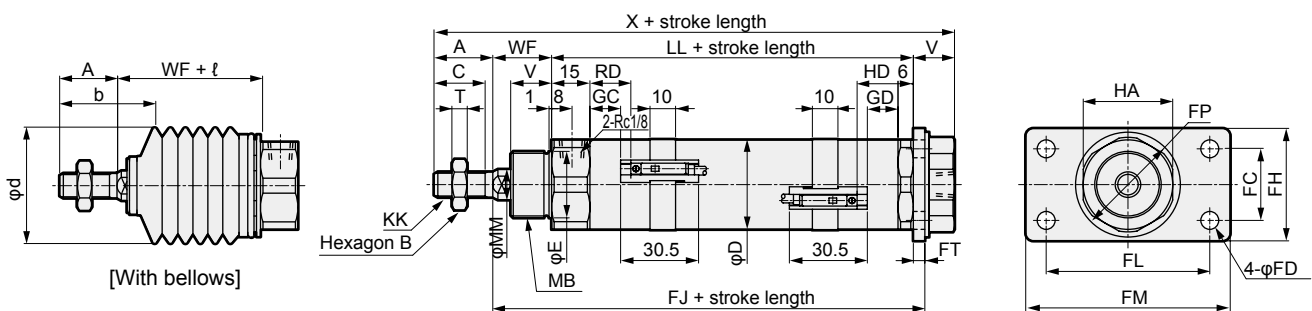


- *1 : For the tang of the rod, refer to the dimensions of the basic (00).
- *2 : A port nipple is included with the rod cover of φ20.
- *3 : For the ℓ dimension, round up below the decimal point.
- *4 : Refer to page 206 for HD, RD, and protruding dimensions of T1*, T8* and 2-color display switches.
- *5 : For the dimensions of the accessories, refer to page 207.

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
φ20		20	13	18	25	18	26	M8×1	66	M18×1.5	10	5	14	24	124	20	6	20.8	83.2	34
φ30		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
φ40		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						
Bore size (mm)		FL	FM	FP	FT	T0, T5, T2, T3				T2W, T3W				A	WF	b	d	ℓ
						GC	GD	RD	HD	GC	GD	RD	HD					
φ20		40	54	29	3.2	9	9	13	13	11	11	15	15	20	24	32	30	(Stroke length/3) + 6
φ30		64	80	41	4.5	12	12	16	16	14	14	18	18	23	23	38	46	(Stroke length/3.25) + 7
φ40		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)



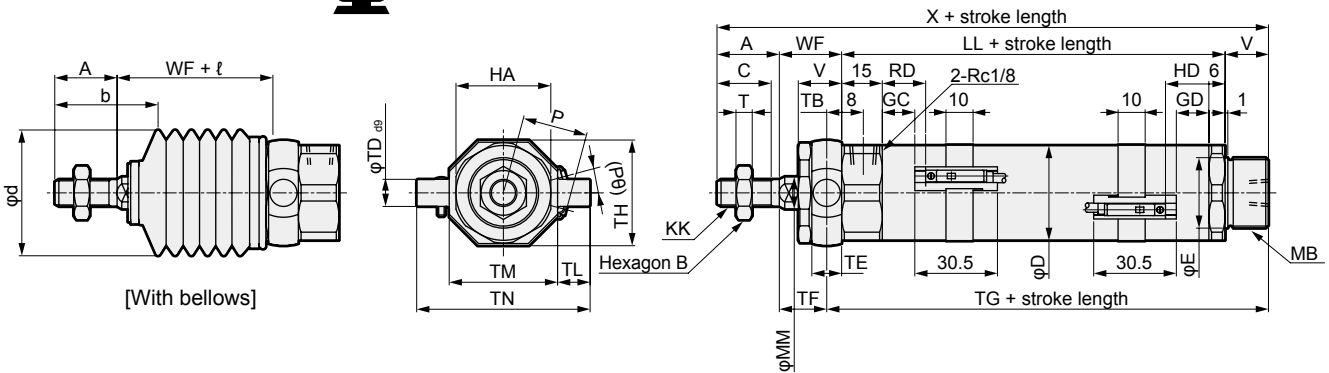
- *1 : For the tang of the rod, refer to the dimensions of the basic (00).
- *2 : A port nipple is included with the rod cover of φ20.
- *3 : For the ℓ dimension, round up below the decimal point.
- *4 : Refer to page 206 for HD, RD, and protruding dimensions of T1*, T8* and 2-color display switches.
- *5 : For the dimensions of the accessories, refer to page 207.

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
φ20		20	13	18	25	18	26	M8×1	66	M18×1.5	10	5	14	24	124	20	6	34	93.2	40
φ30		23	17	20	35	26	35	M10×1.25	72	M26×1.5	12	6	16	23	134	28	7	44	99.5	64
φ40		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					
Bore size (mm)		FM	FP	FT	T0, T5, T2, T3				T2W, T3W				A	WF	b	d	ℓ
					GC	GD	RD	HD	GC	GD	RD	HD					
φ20		54	29	3.2	9	9	13	13	11	11	15	15	20	24	32	30	(Stroke length/3) + 6
φ30		80	41	4.5	12	12	16	16	14	14	18	18	23	23	38	46	(Stroke length/3.25) + 7
φ40		80	41	4.5	13	13	17	17	15	15	19	19	25	23	40	46	(Stroke length/3.25) + 7

Dimensions

● Rod side trunnion (TA)

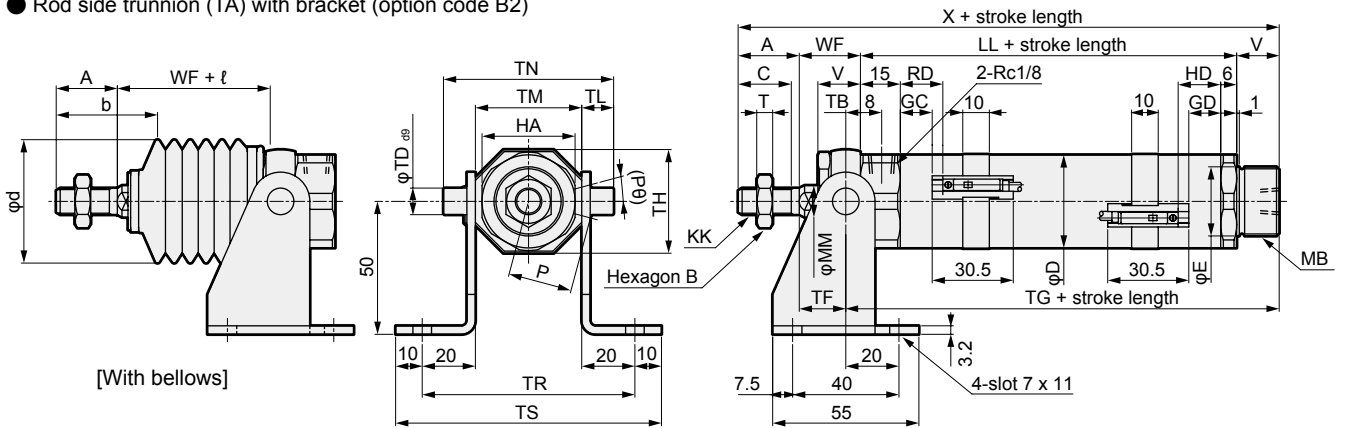


- *1 : For the tang of the rod, refer to the dimensions of the basic (00).
- *2 : A port nipple is included with the rod cover of $\phi 20$.
- *3 : For the ℓ dimension, round up below the decimal point.
- *4 : Refer to page 206 for HD, RD, and protruding dimensions of T1*, T8* and 2-color display switches.
- *5 : For the dimensions of the accessories, refer to page 207.

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
SSG	$\phi 20$		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
SSD	$\phi 30$		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
CAT	$\phi 40$		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							
MVC	$\phi 20$	8	30	46	9	9	13	13	11	11	15	15	19.5	19	20	24	32	30	(Stroke length/3) + 6
SMG	$\phi 30$	12	40	64	12	12	16	16	14	14	18	18	24.5	15	23	23	38	46	(Stroke length/3.25) + 7
MSD/MSDG	$\phi 40$	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)



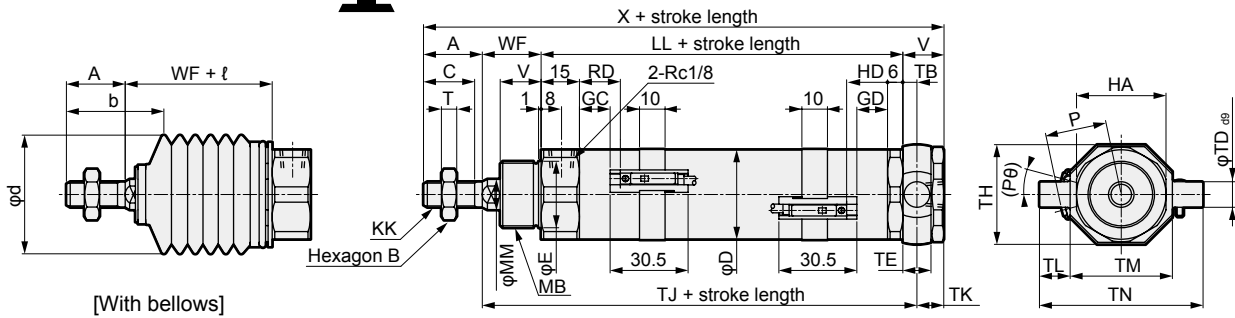
- *1 : For the tang of the rod, refer to the dimensions of the basic (00).
- *2 : A port nipple is included with the rod cover of $\phi 20$.
- *3 : For the ℓ dimension, round up below the decimal point.
- *4 : Refer to page 206 for HD, RD, and protruding dimensions of T1*, T8* and 2-color display switches.
- *5 : For the dimensions of the accessories, refer to page 207.

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
ShkAbs	$\phi 20$		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
FJ	$\phi 30$		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
FK	$\phi 40$		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							
	Bore size (mm)	TM	TN	TR	TS	T0, T5, T2, T3				T2W, T3W				P	(P θ)°	A	WF	b	d	ℓ
						GC	GD	RD	HD	GC	GD	RD	HD							
Spd Contr	$\phi 20$	30	46	70	90	9	9	13	13	11	11	15	15	19.5	19	20	24	32	30	(Stroke length/3) + 6
Ending	$\phi 30$	40	64	80	100	12	12	16	16	14	14	18	18	24.5	15	23	23	38	46	(Stroke length/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 length/3.25) + 7

Dimensions

● Head side trunnion (TB)

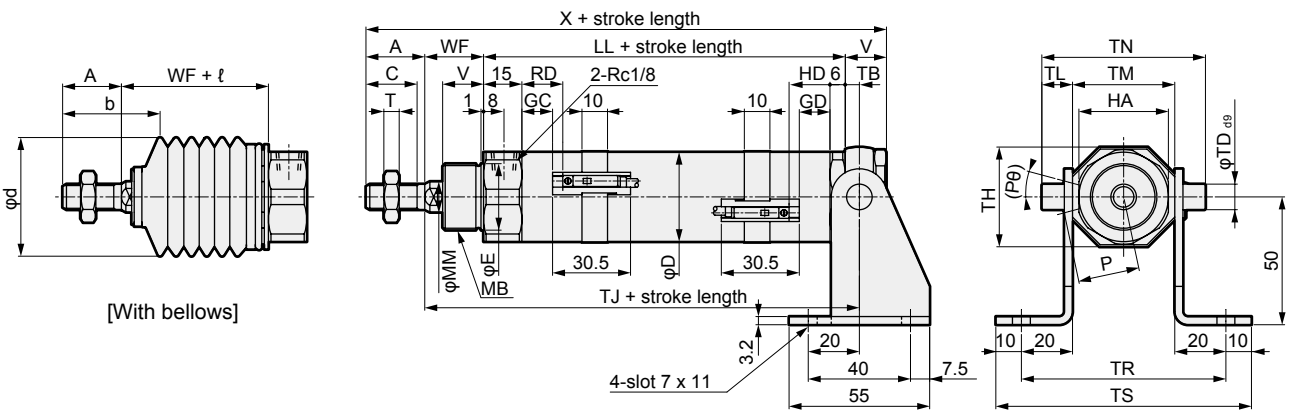


- *1 : For the tang of the rod, refer to the dimensions of the basic (00).
- *2 : A port nipple is included with the rod cover of φ20.
- *3 : For the l dimension, round up below the decimal point.
- *4 : Refer to page 206 for HD, RD, and protruding dimensions of T1*, T8* and 2-color display switches.
- *5 : For the dimensions of the accessories, refer to page 207.

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
φ20		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
φ30		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
φ40		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							
Bore size (mm)		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							
φ20		9.5	8	30	46	9	9	13	13	11	11	15	15	19.5	19	20	24	32	30	(Stroke length/3) + 6
φ30		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
φ40		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)



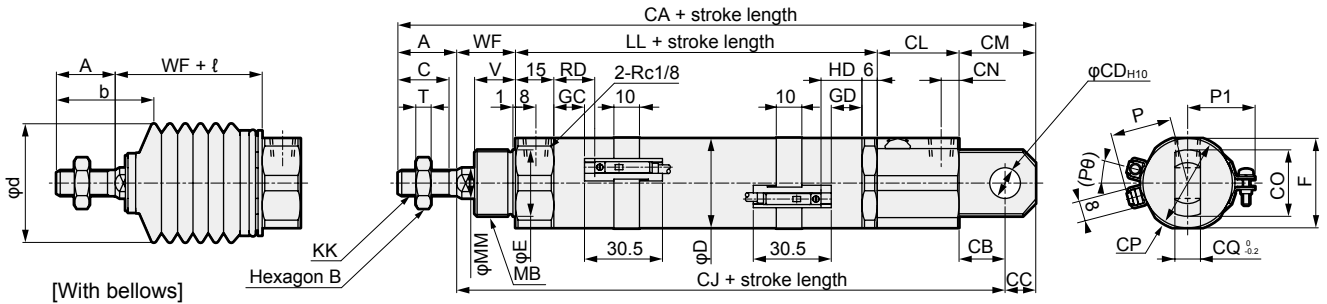
- *1 : For the tang of the rod, refer to the dimensions of the basic (00).
- *2 : A port nipple is included with the rod cover of φ20.
- *3 : For the l dimension, round up below the decimal point.
- *4 : Refer to page 206 for HD, RD, and protruding dimensions of T1*, T8* and 2-color display switches.
- *5 : For the dimensions of the accessories, refer to page 207.

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
φ20		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
φ30		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
φ40		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						
Bore size (mm)		TN	TR	TS	T0, T5, T2, T3				T2W, T3W				P	(Pθ)°	A	WF	b	d	ℓ
					GC	GD	RD	HD	GC	GD	RD	HD							
φ20		46	70	90	9	9	13	13	11	11	15	15	19.5	19	20	24	32	30	(Stroke length/3) + 6
φ30		64	80	100	12	12	16	16	14	14	18	18	24.5	15	23	23	38	46	(Stroke length/3.25) + 7
φ40		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)

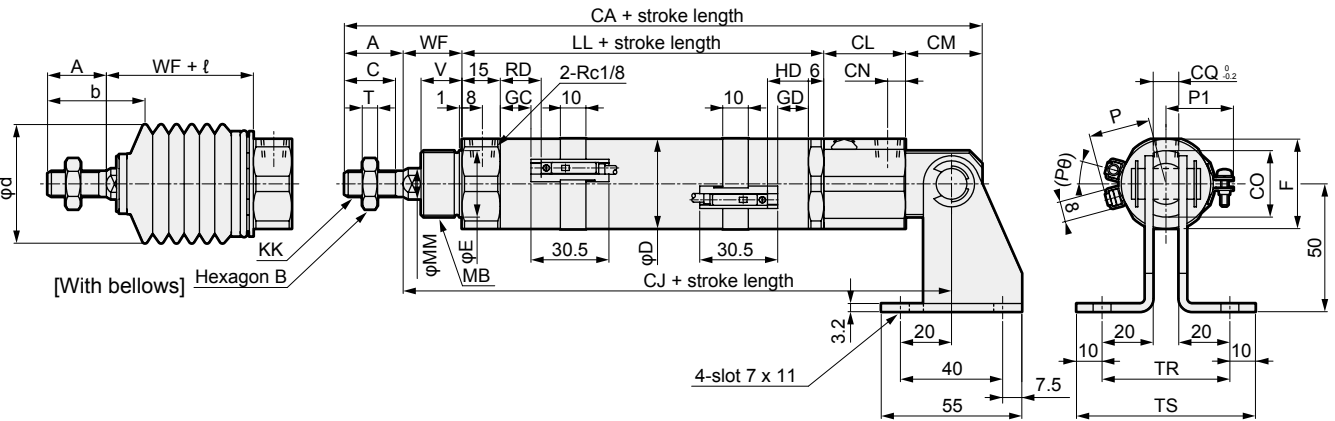


- *1 : For the tang of the rod, refer to the dimensions of the basic (00).
- *2 : A port nipple is included with the rod cover of φ20.
- *3 : For the ℓ dimension, round up below the decimal point.
- *4 : Refer to page 206 for HD, RD, and protruding dimensions of T1*, T8* and 2-color display switches.
- *5 : For the dimensions of the accessories, refer to page 207.

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
φ20	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	
φ30	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	
φ40	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								
	Bore size (mm)	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								
φ20	22	28	8	9	9	13	13	11	11	15	15	19.5	21	19	20	24	32	30	(Stroke length/3) + 6	
φ30	26	37	10	12	12	16	16	14	14	18	18	24.5	26	15	23	23	38	46	(Stroke length/3.25) + 7	
φ40	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)



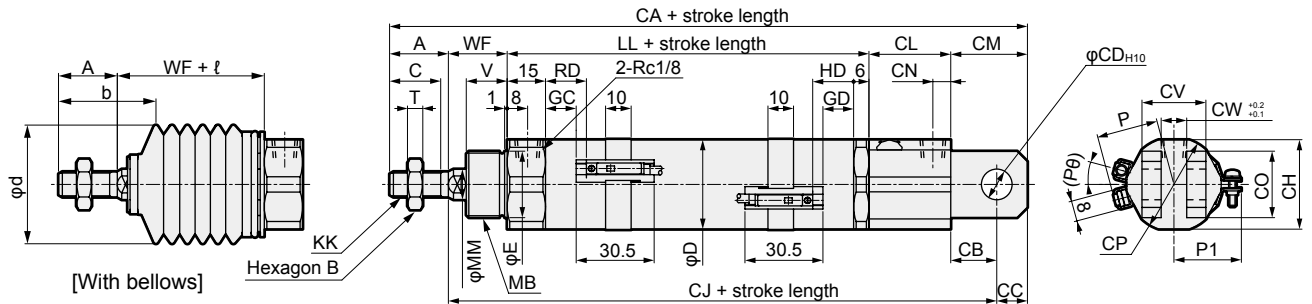
- *1 : For the tang of the rod, refer to the dimensions of the basic (00).
- *2 : A port nipple is included with the rod cover of φ20.
- *3 : For the ℓ dimension, round up below the decimal point.
- *4 : Refer to page 206 for HD, RD, and protruding dimensions of T1*, T8* and 2-color display switches.
- *5 : For the dimensions of the accessories, refer to page 207.

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
φ20	20	13	18	25	26	M8×1.0	66	M18×1.5	10	5	14	24	165	135	31	24	8	22	8	
φ30	23	17	20	35	35	M10×1.25	72	M26×1.5	12	6	16	23	180	145	32	30	7	26	10	
φ40	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							
	Bore size (mm)	TR	TS	T0, T5, T2, T3				T2W, T3W				P	P1	(Pθ)°	A	WF	b	d	ℓ
				GC	GD	RD	HD	GC	GD	RD	HD								
φ20	48	68	9	9	13	13	11	11	15	15	19.5	21	19	20	24	32	30	(Stroke length/3) + 6	
φ30	50	70	12	12	16	16	14	14	18	18	24.5	26	15	23	23	38	46	(Stroke length/3.25) + 7	
φ40	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 tang of the rod, refer to the dimensions of the basic (00).

*2 : A port nipple is included with the rod cover of φ20.

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

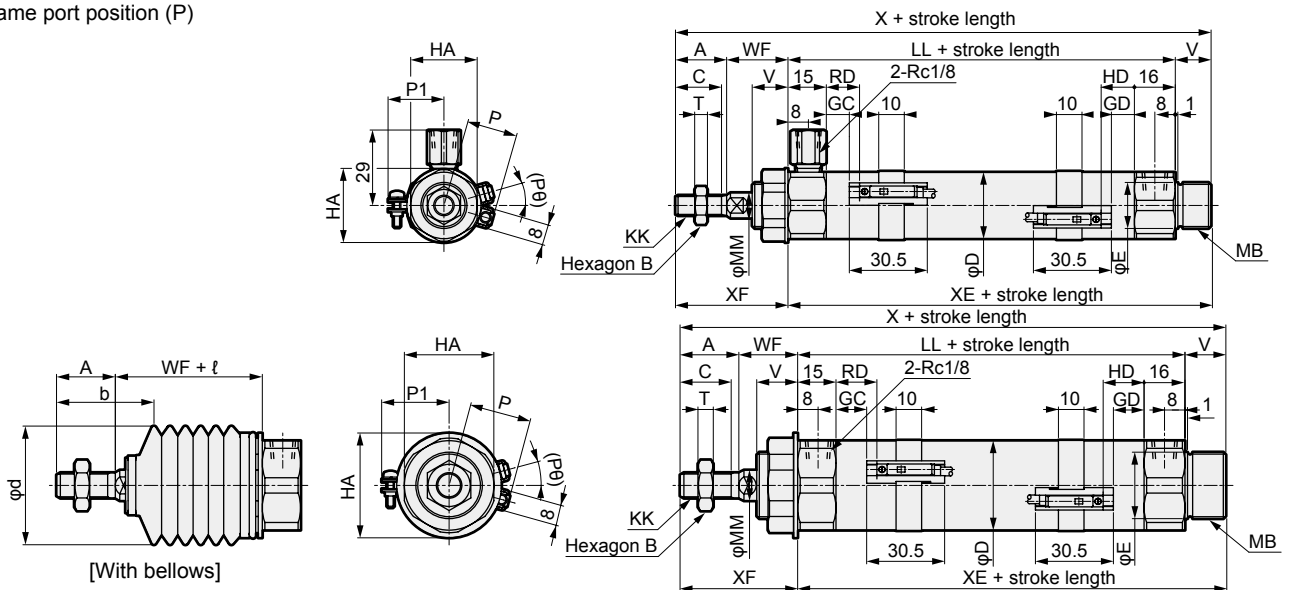
4 : Refer to page 206 for HD, RD, and protruding dimensions of T1, T8* and 2-color display switches.

*5 : For the dimensions of the accessories, refer to page 207.

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
φ20	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
φ30	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
φ40	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	(Pθ)°	A	WF	b	d	ℓ
					GC	GD	RD	HD	GC	GD	RD	HD								
φ20	22	28	19	8	9	9	13	13	11	11	15	15	19.5	21	19	20	24	32	30	(Stroke length/3) + 6
φ30	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
φ40	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 φ20.

*2 : For the tang 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 206 for HD, RD, and protruding dimensions of T1, T8* and 2-color display switches.

*5 : For the dimensions of the accessories, refer to page 207.

Code	Basic (00) basic dimensions											Mounting dimensions						
Bore size (mm)	A	B	C	D	E	HA	HC	KK	LL	MB	MM	T	V	WF	X	XE	XF	
φ20	20	13	18	25	18	26	29	M8×1.0	76	M18×1.5	10	5	14	24	134	90	44	
φ30	23	17	20	35	26	35	41	M10×1.25	82	M26×1.5	12	6	16	23	144	98	46	
φ40	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								
	GC	GD	RD	HD	T0, T5, T2, T3				T2W, T3W				P	P1	(Pθ)°	A	WF	b	d	ℓ
					GC	GD	RD	HD	GC	GD	RD	HD								
φ20	9	9	13	13	11	11	15	15	19.5	21	19	20	24	32	30	(Stroke length/3) + 6				
φ30	12	12	16	16	14	14	18	18	24.5	26	15	23	23	38	46	(Stroke length/3.25) + 7				
φ40	13	13	17	17	15	15	19	19	29.5	31	12	25	23	40	46	(Stroke length/3.25) + 7				

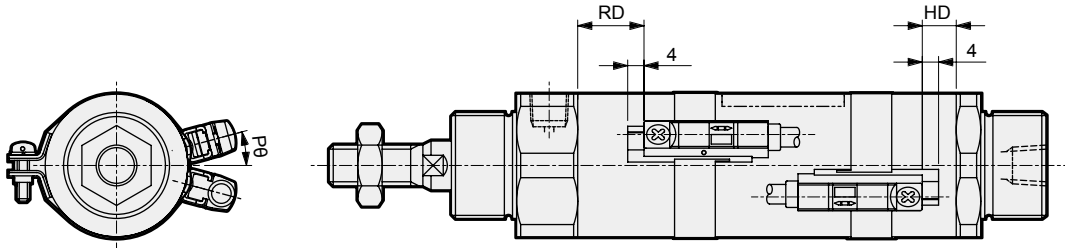
CMA2 Series

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

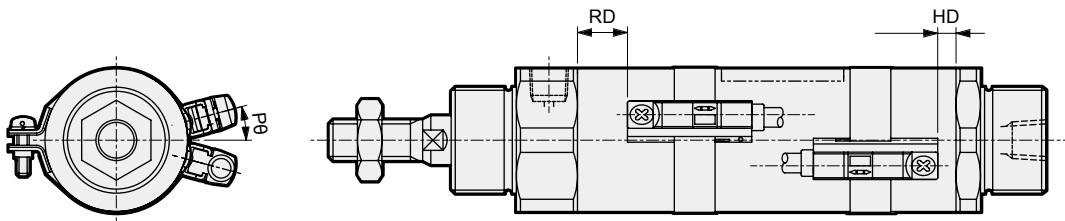
CMA2 Series common dimensions (2-color display, off-delay, with T1* and T8* switches)

● 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



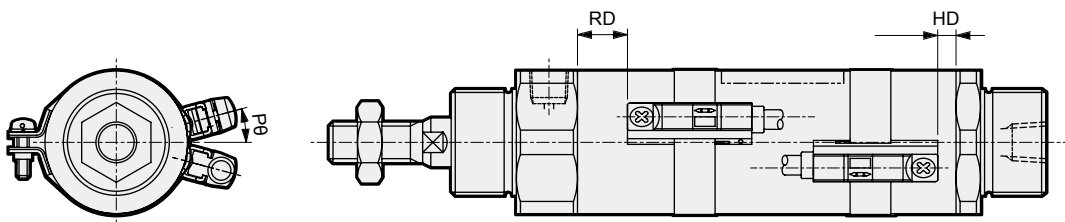
· Stroke length of 33 mm and over



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

Code	RD	HD	(Pθ)°
Bore size (mm)			
φ20	12	12	9
φ30	15	15	15
φ40	16	16	12

● CMA2-20 to 40 (T8 switch: T8*H/V)



T8* Switch mounting dimensions

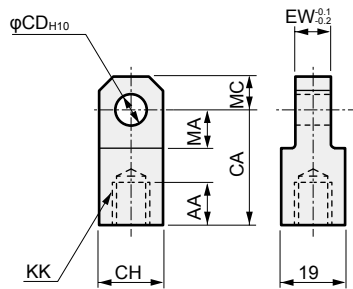
Code	RD	HD	(Pθ)°
Bore size (mm)			
φ20	7	7	19
φ30	10	10	15
φ40	11	11	12

CMA2 Series common accessory dimensions



● Rod eye (I)

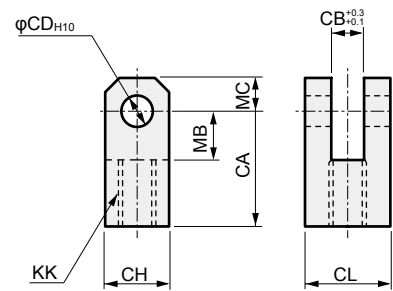
Material: Steel
Zinc chromate treatment



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

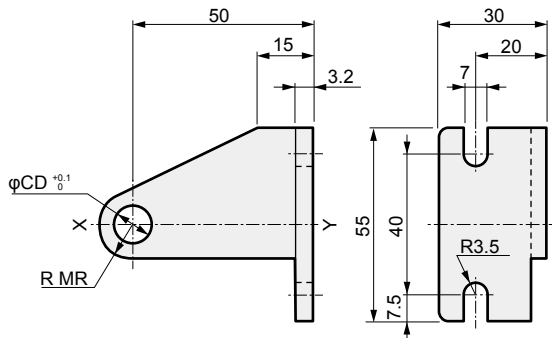


Note: A pin and washer are attached.

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



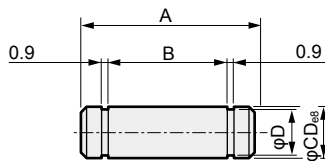
Model No.	Compatible model	Applicable bore size (mm)	CD	MR	Weight (g)
M1-B2-30-CA	CMA2-CA	20	10	11	158
M1-B2-40-CA	Clevis	30/40	12	11	162
M1-B2-20-TA	CMA2-TA/TB	20	8	8	132
M1-B2-30-TA	Trunnion	30/40	10	11	142

*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

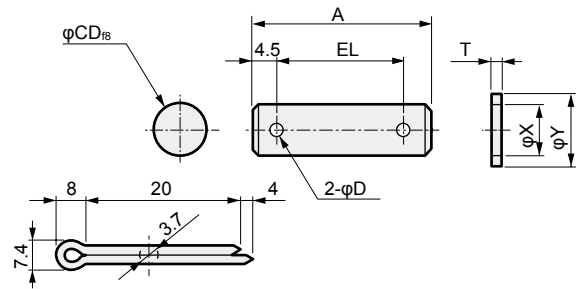


Model No.	Applicable bore size (mm)	A	B	CD	D	Applicable snap ring	Weight (g)
M1-P2-20	20	25	20	10	9	E9	16
M1-P2-30	30/40	27	22	12	9	E9	24

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

● Rod clevis pin (P)

Material: Steel
Zinc chromate treatment

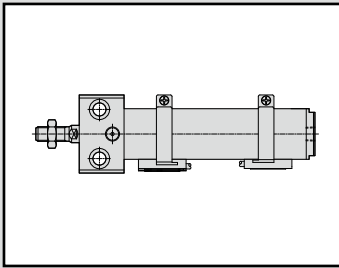


Model No.	Applicable bore size (mm)	A	D	CD	EL	T	X	Y	Weight (g)
M1-P-20	20	37	4	10	28	2	10.5	18	29
M1-P-30	30/40	46	4	12	37	2.5	13	21	50

Note: A pin and a washer for rod clevis use are attached 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

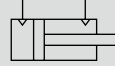


Medium bore size cylinder
 Double acting/direct mounting

CMA2-E Series

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

JIS symbol ● Double acting cylinder single rod



Specifications

Descriptions	CMA2-E		
Bore size mm	$\phi 20$	$\phi 30$	$\phi 40$
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 length

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

Descriptions	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 (custom)	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 (*2)			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:49 5 m:80					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:80					5 m:142		

*1: Refer to Ending Page 1 for other switch specifications.

*2: Max. load current of 20 mA as above is applied at 25°C. The current will be lower than 20 mA when operating ambient temperature around the switch is higher than 25°C.
(5 to 10 mA at 60°C)

*3: Dimensions depend on switch model No. Refer to Ending Page 18 for details.

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.
	(LS)		(FA)		
φ20	0.18		0.16		0.005
φ30	0.36		0.31		0.005
φ40	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 × $\frac{\text{Product stroke length (50)}}{10}$ = 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
φ20	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
φ30	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
φ40	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

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

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 208 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 : φ20 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	Content	
A Mounting		
LS	Side foot mounting	
FA	Flange mounting	
B Bore size (mm)		
20	φ20	
30	φ30	
40	φ40	
C Stroke length (mm)		
Bore size	Stroke length *1	Custom stroke length
φ20	1 to 700	In 1 mm increments
φ30	1 to 700	
φ40	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 attached)	

[D] Switch model No.

T switch						
Axial lead wire	Radial lead wire	Contact	Voltage		Display	Lead wire
			AC	DC		
T0H*	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 (custom order)	3-wire
T2WH*	T2WV*			●	2-color display	2-wire
T2YH*	T2YV*			●		3-wire
T3WH*	T3WV*			●		
T3YH*	T3YV*			●	Off-delay	2-wire
T2JH*	T2JV*			●		

How to order switch

[T switch]

● Switch body + mounting bracket set

CMA2 - T0H - 40

↓
Switch model No.
(Item ①)

↓
Bore size
(Item ② on the previous page)

● Switch body only

SW - T0H

↓
Switch model No.
(Item ①)

● Mounting bracket set

CMA2 - T - 40

↓
Mounting bracket

↓
Bore size (Item ② on the previous page)

Internal structure

Same as standard. Refer to page 198.

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

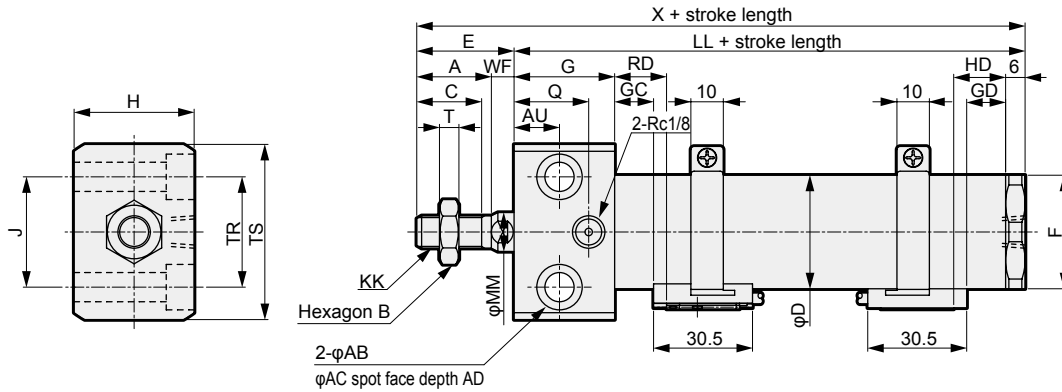
Ending

CMA2-E Series

Dimensions



● Side foot mounting (LS)



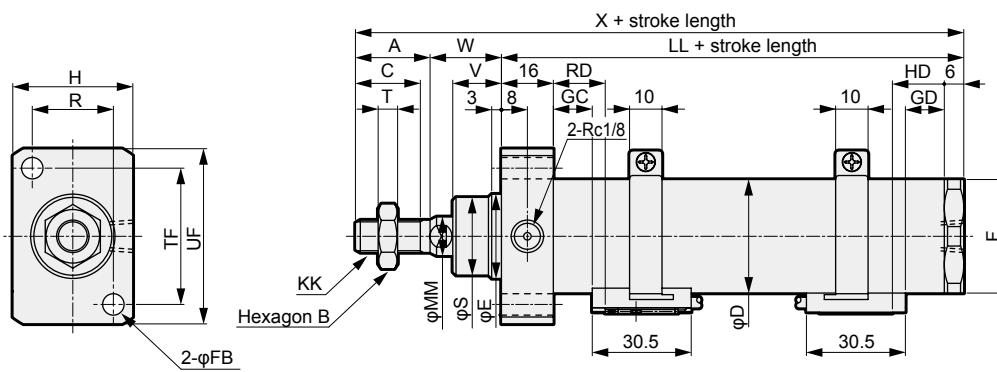
RD: Rod side max. sensitivity position
HD: Head side max. sensitivity position

1: Refer to page 206 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)																				
φ20	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
φ30	23	9	14	8.6	14	17	20	35	30	35	31	37	30	M10×1.25	88	12	23	6	34	54
φ40	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										P	P1	(Pθ)°
			T0, T5, T2, T3				T2W, T3W								
			GC	GD	RD	HD	GC	GD	RD	HD					
φ20	11	110	9	9	13	13	11	11	15	15	19.5	21	19		
φ30	7	118	12	12	16	16	14	14	18	18	24.5	26	15		
φ40	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 206 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)																		
φ20	20	13	18	25	18	26	5.5	28	M8×1.0	67	10	19	17	5	29	38	12	23
φ30	23	17	20	35	26	35	6.6	37	M10×1.25	73	12	25	24	6	42	54	15	22
φ40	25	19	22	45	26	46	9	48	M12×1.5	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					
φ20	110	9	9	13	13	11	11	15	15	19.5	21	19		
φ30	118	12	12	16	16	14	14	18	18	24.5	26	15		
φ40	112	13	13	17	17	15	15	19	19	29.5	31	12		

* For the dimensions of the accessories, refer to page 207.