

LCM  
LCR  
LCG  
LCW  
LCX  
STM  
STG  
STS/STL  
STR2  
UCA2  
ULK\*  
JSK/M2  
JSG  
JSC3/JSC4  
USSD  
UFCD  
UFCD  
UB  
JSB3  
LMB  
LML  
HCM  
HCA  
LBC  
CAC4  
UCAC2  
CAC-N  
UCAC-N  
RCS2  
RCC2  
PCC  
SHC  
MCP  
GLC  
MFC  
BBS  
RRC  
GRC  
RV3\*  
NHS  
HRL  
LN  
Hand  
Chuk  
MechHnd/Chuk  
ShkAbs  
FJ  
FK  
SpdContr  
Ending



High speed cylinder/double acting/single rod

# HCA Series

● Bore size:  $\phi 20/\phi 25/\phi 32/\phi 40/\phi 50/\phi 63/\phi 80/\phi 100$

JIS symbol



## Specifications

Item		HCA (Standard/with switch)							
Bore size	mm	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Actuation		Double acting							
Working fluid		Compressed air							
Max. working pressure	MPa	1.0 ( $\approx 150$ psi, 10 bar)							
Min. working pressure	MPa	0.1 ( $\approx 15$ psi, 1 bar)							
Proof pressure	MPa	1.6 ( $\approx 230$ psi, 16 bar)							
Ambient temperature	$^{\circ}\text{C}$	-10 ( $14^{\circ}\text{F}$ ) to 60 ( $140^{\circ}\text{F}$ ) (no freezing)							
Port size		Rc1/8		Rc1/4		Rc3/8		Rc1/2	
Stroke tolerance	mm	$+2.4$ $0$	$+3.6$ $0$	$+4.3$ $0$			$+5.0$ $0$		
Working piston speed	mm/s	50 to 3000							
Cushion		Air cushion							
Lubrication		Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)							
Allowable absorbed energy J	Cushioned	7.54	11.8	18.6	29.4	46.1	73.5	118	184
	Without cushion	Cannot absorb high energy generated by external load. We recommend using an external shock absorber.							
Effective air cushion length	mm	85	75	70	70	70	70	70	70

\*1 : Refer to page 990 for absorbed energy.

## Stroke length

Bore size (mm)	Stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 20/\phi 25/\phi 32$	400 to 700	700	1
$\phi 40/\phi 50/\phi 63/\phi 80/\phi 100$	400 to 1000	1000	

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

\*2 : Stroke length exceeding the max. stroke length is available depending on the working conditions. Contact CKD.

\*3 : For types with switch, minimum stroke length varies depending on the mounting method. Refer to the table below for details.

\*4 : The stroke is available from 1 mm. However, this product's cushion area is longer than a typical cylinder, allowing high absorbed energy. Therefore, at the stroke length below or less, the cushion is usually applied, and the effects of high-speed use cannot be obtained.

Model No.	Stroke at which high-speed effects cannot be obtained	Recommended stroke length
HCA	200 mm stroke length or less	400 mm stroke length or more

## Min. stroke length with switch

Sketch	Different surface mounting		Same surface mounting	
Item	Grommet	Terminal box	Grommet	Terminal box
$\phi 20$ to $\phi 100$	15(10) mm	15(10) mm	30 mm	32 mm (Mounting A) 80 mm (Mounting B)

● \*1 : The value in ( ) is for types with one switch.

### Switch specifications

Item	Proximity switch				
	R1	R2	R2Y (2-color display)	R3	R3Y (2-color display)
Applications	Programmable controller, relay, compact solenoid valve		Dedicated for programmable controller		For programmable controller, relay, IC circuit, solenoid valve
Output method	NPN output				
Power supply voltage	4.5 VDC to 28 VDC				
Load voltage	85 VAC to 265 VAC		10 to 30 VDC		30 VDC or less
Load current	5 to 100 mA		5 to 30 mA		200 mA or less 100 mA or less
Indicator lamp	LED (Lit when ON)			Red/green LED (Lit when ON)	LED (Lit when ON) Red/green LED (Lit when ON)
Leakage current	1 mA or less with 100 VAC, 2 mA or less with 200 VAC		1 mA or less	1.2 mA or less	10 µA or less
Weight g	Grommet lead		1 m:42 3 m:100 5 m:158		1 m:56 3 m:114 5 m:172
	With terminal box		68		82

Item	Reed switch					
	R0		R4		R5	R6
Applications	For relay, programmable controller		For high capacity relay, solenoid valve		For programmable controller, relay, IC circuit (without indicator lamp), serial connection	Dedicated for programmable controller (with DC self-hold)
Load voltage	12/24 VDC	110 VAC	220 VAC	110 VAC	220 VAC	12/24 VDC 110 VAC 220 VAC
Load current	5 to 50 mA	7 to 20 mA	7 to 10 mA	20 to 200 mA	10 to 200 mA	50 mA or less 20 mA or less 10 mA or less
Indicator lamp	LED lit when ON		Lit when the indicator lamp is OFF		None	LED lit when ON
Leakage current	0 mA		1 mA or less		0 mA	0.1 mA or less
Weight g	Grommet lead		1 m:42 3 m:100 5 m:158			
	With terminal box		68			

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

### Cylinder weight

(Unit: kg)

Bore size (mm)	Product weight when stroke length S = 0 mm			Weight per switch	Mounting bracket weight per switch	Additional weight per S = 100 mm
	Basic (00)	Foot (LB)	Flange (FA/FB)			
ø20	0.73	0.91	0.80	Refer to the weight in the switch specifications.	0.02	0.11
ø25	0.80	0.98	0.87		0.02	0.14
ø32	0.85	1.03	0.92		0.02	0.16
ø40	1.37	1.63	1.69		0.02	0.27
ø50	2.13	2.56	2.50		0.02	0.34
ø63	3.17	3.88	3.81		0.03	0.42
ø80	5.75	7.27	7.12		0.03	0.67
ø100	7.92	9.94	9.75		0.03	0.91

(Example) Product weight of HCA-00-40B-500-R0-D	<ul style="list-style-type: none"> <li>● Product weight for 0 mm stroke length.....1.37 kg</li> <li>● Additional weight for 500 mm stroke length.....<math>0.27 \times \frac{500}{100} = 1.35</math> kg</li> <li>● Weight of 2 switches.....<math>2 \times 0.042</math> kg + <math>2 \times 0.02</math> kg = 0.124 kg</li> <li>● Product weight.....<math>1.37 + 1.35 + 0.124 = 2.844</math> kg</li> </ul>
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### 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	0.8	0.9	1.0
ø20	Push	31.4	47.1	62.8	94.2	$1.26 \times 10^2$	$1.57 \times 10^2$	$1.88 \times 10^2$	$2.20 \times 10^2$	$2.51 \times 10^2$	$2.83 \times 10^2$	$3.14 \times 10^2$
	Pull	23.6	35.3	47.1	70.7	94.2	$1.18 \times 10^2$	$1.41 \times 10^2$	$1.65 \times 10^2$	$1.88 \times 10^2$	$2.12 \times 10^2$	$2.36 \times 10^2$
ø25	Push	49.1	73.6	98.2	$1.47 \times 10^2$	$1.96 \times 10^2$	$2.45 \times 10^2$	$2.95 \times 10^2$	$3.44 \times 10^2$	$3.93 \times 10^2$	$4.42 \times 10^2$	$4.91 \times 10^2$
	Pull	37.8	56.7	75.6	$1.13 \times 10^2$	$1.51 \times 10^2$	$1.89 \times 10^2$	$2.27 \times 10^2$	$2.64 \times 10^2$	$3.02 \times 10^2$	$3.40 \times 10^2$	$3.78 \times 10^2$
ø32	Push	80.4	$1.21 \times 10^2$	$1.61 \times 10^2$	$2.41 \times 10^2$	$3.22 \times 10^2$	$4.02 \times 10^2$	$4.83 \times 10^2$	$5.63 \times 10^2$	$6.43 \times 10^2$	$7.24 \times 10^2$	$8.04 \times 10^2$
	Pull	69.1	$1.04 \times 10^2$	$1.38 \times 10^2$	$2.07 \times 10^2$	$2.76 \times 10^2$	$3.46 \times 10^2$	$4.15 \times 10^2$	$4.84 \times 10^2$	$5.53 \times 10^2$	$6.22 \times 10^2$	$6.91 \times 10^2$
ø40	Push	$1.26 \times 10^2$	$1.88 \times 10^2$	$2.51 \times 10^2$	$3.77 \times 10^2$	$5.03 \times 10^2$	$6.28 \times 10^2$	$7.54 \times 10^2$	$8.80 \times 10^2$	$1.01 \times 10^3$	$1.13 \times 10^3$	$1.26 \times 10^3$
	Pull	$1.06 \times 10^2$	$1.58 \times 10^2$	$2.11 \times 10^2$	$3.17 \times 10^2$	$4.22 \times 10^2$	$5.28 \times 10^2$	$6.33 \times 10^2$	$7.39 \times 10^2$	$8.44 \times 10^2$	$9.50 \times 10^2$	$1.06 \times 10^3$
ø50	Push	$1.96 \times 10^2$	$2.95 \times 10^2$	$3.93 \times 10^2$	$5.89 \times 10^2$	$7.85 \times 10^2$	$9.82 \times 10^2$	$1.18 \times 10^3$	$1.37 \times 10^3$	$1.57 \times 10^3$	$1.77 \times 10^3$	$1.96 \times 10^3$
	Pull	$1.65 \times 10^2$	$2.47 \times 10^2$	$3.30 \times 10^2$	$4.95 \times 10^2$	$6.60 \times 10^2$	$8.25 \times 10^2$	$9.90 \times 10^2$	$1.15 \times 10^3$	$1.32 \times 10^3$	$1.48 \times 10^3$	$1.65 \times 10^3$
ø63	Push	$3.12 \times 10^2$	$4.68 \times 10^2$	$6.23 \times 10^2$	$9.35 \times 10^2$	$1.25 \times 10^3$	$1.56 \times 10^3$	$1.87 \times 10^3$	$2.18 \times 10^3$	$2.49 \times 10^3$	$2.81 \times 10^3$	$3.12 \times 10^3$
	Pull	$2.80 \times 10^2$	$4.20 \times 10^2$	$5.61 \times 10^2$	$8.41 \times 10^2$	$1.12 \times 10^3$	$1.40 \times 10^3$	$1.68 \times 10^3$	$1.96 \times 10^3$	$2.24 \times 10^3$	$2.52 \times 10^3$	$2.80 \times 10^3$
ø80	Push	$5.03 \times 10^2$	$7.54 \times 10^2$	$1.01 \times 10^3$	$1.51 \times 10^3$	$2.01 \times 10^3$	$2.51 \times 10^3$	$3.02 \times 10^3$	$3.52 \times 10^3$	$4.02 \times 10^3$	$4.52 \times 10^3$	$5.03 \times 10^3$
	Pull	$4.54 \times 10^2$	$6.80 \times 10^2$	$9.07 \times 10^2$	$1.36 \times 10^3$	$1.81 \times 10^3$	$2.27 \times 10^3$	$2.72 \times 10^3$	$3.17 \times 10^3$	$3.63 \times 10^3$	$4.08 \times 10^3$	$4.54 \times 10^3$
ø100	Push	$7.85 \times 10^2$	$1.18 \times 10^3$	$1.57 \times 10^3$	$2.36 \times 10^3$	$3.14 \times 10^3$	$3.93 \times 10^3$	$4.71 \times 10^3$	$5.50 \times 10^3$	$6.28 \times 10^3$	$7.07 \times 10^3$	$7.85 \times 10^3$
	Pull	$7.15 \times 10^2$	$1.07 \times 10^3$	$1.43 \times 10^3$	$2.14 \times 10^3$	$2.86 \times 10^3$	$3.57 \times 10^3$	$4.29 \times 10^3$	$5.00 \times 10^3$	$5.72 \times 10^3$	$6.43 \times 10^3$	$7.15 \times 10^3$

- LCM
- LCR
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- LCW
- LCX
- STM
- STG
- STS/STL
- STR2
- UCA2
- ULK\*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA**
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
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FK
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Ending

## How to order

Without switch (built-in magnet for switch)



With switch (built-in magnet for switch)



**A** Mounting  
\*1

**B** Bore size

**C** Port thread

**D** Cushion

**E** Stroke length

**F** Switch model No.

**G** Switch quantity

**H** Accessory

Code	Description
<b>A Mounting</b>	
00	Basic
LB	Axial foot
FA	Rod side flange
FB	Head side flange

<b>B Bore size (mm)</b>	
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

<b>C Port thread</b>	
Blank	Rc thread
N	NPT thread (made-to-order product)
G	G thread (made-to-order product)

<b>D Cushion</b>	
B	Both sides cushioned
R	Rod side cushioned
H	Head side cushioned
N	Without cushion

<b>E Stroke length (mm)</b>		
Bore size	Stroke length	Custom stroke length
ø20 to ø32	1 to 700	In 1 mm increments
ø40 to ø100	1 to 1000	

<b>F Switch model No.</b>						
Grommet	Terminal box	Contact	Voltage		Display	Lead wire
			AC	DC		
R1*	R1B	Proximity	●	□	1-color display	2-wire
R2*	R2B		□	●		
R2Y*	R2YB		□	●	2-color display	3-wire
R3Y*	R3YB		□	●		
R3*	R3B	Reed	●	●	1-color display	2-wire
R4*	R4B		●	□		
R5*	R5B		●	●	Without indicator lamp	
R6*	R6B		□	●		

<b>* Lead wire length</b>	
Blank	1 m (standard)
3	3 m (option)
5	5 m (option)

<b>G Switch quantity</b>	
R	1 on rod side
H	1 on head side
D	2
T	3

<b>H Accessory</b>	
I	Rod eye
Y	Rod clevis (pin and snap ring attached)

## ⚠ Precautions for model No. selection

\*1: Mounting bracket, nut, and toothed washer are attached with product at shipment.

[Example of model No.]

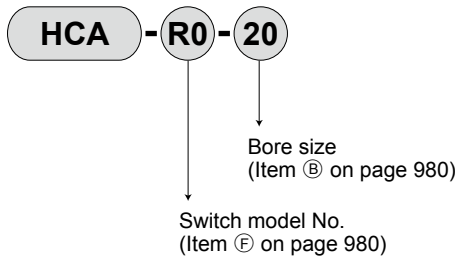
### HCA-00-20B-400-R0-R-I

Model: High speed cylinder Double acting/single rod

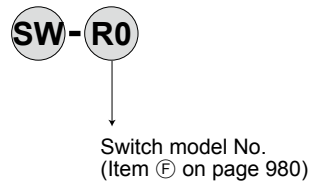
- A** Mounting : Basic
- B** Bore size : ø20 mm
- C** Port thread : Rc thread
- D** Cushion : Both sides cushioned
- E** Stroke length : 400 mm
- F** Switch model No.: Reed R0 switch, lead wire 1 m
- G** Switch quantity : 1 on rod side
- H** Accessory : Rod eye

## How to order switch

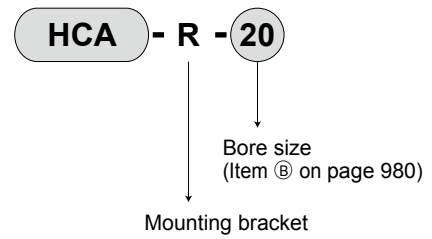
● Switch body + mounting bracket set



● Switch body only



● Mounting bracket set



● Terminal box only

·For R□B



## How to order mounting bracket

Bore size (mm)	20	25	32	40	50	63	80	100
Mounting bracket								
Foot (LB)	HCA-LB-20	HCA-LB-25	HCA-LB-32	HCA-LB-40	HCA-LB-50	HCA-LB-63	HCA-LB-80	HCA-LB-100
Flange (FA/FB)	HCA-FA-20	HCA-FA-25	HCA-FA-32	HCA-FA-40	HCA-FA-50	HCA-FA-63	HCA-FA-80	HCA-FA-100

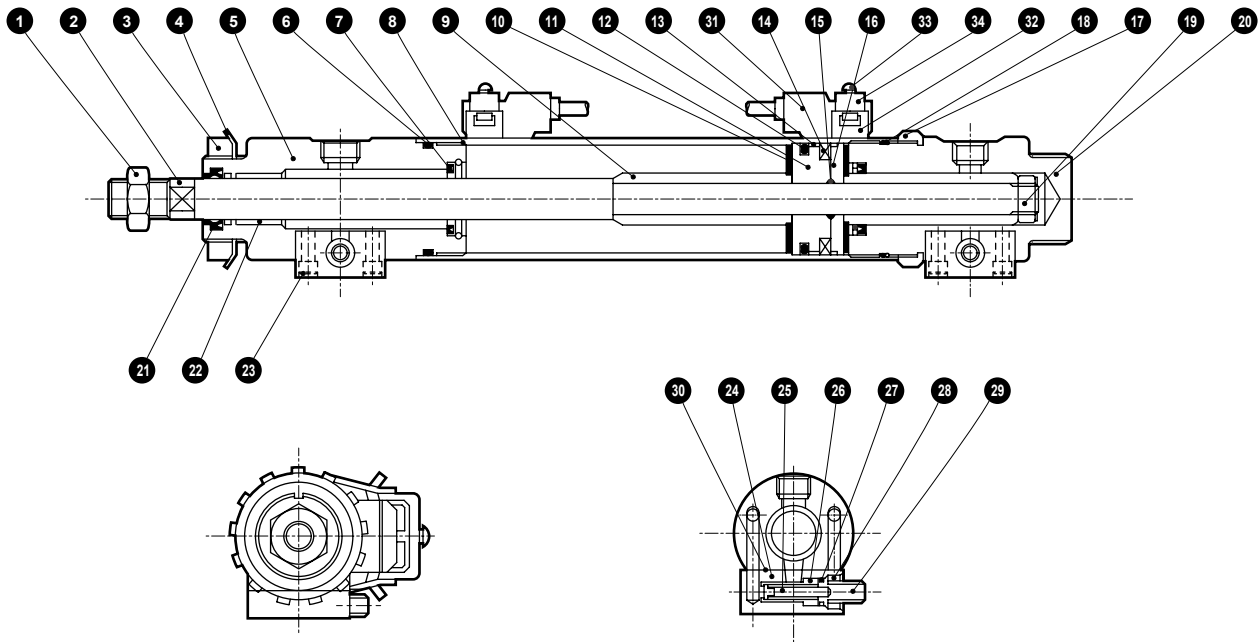
\*1 : The foot mounting bracket is provided as 2 pcs./set.

- LCM
- LCR
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- STM
- STG
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- LCM
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- LCG
- LCW
- LCX
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- STG
- STS/STL
- STR2
- UCA2
- ULK\*
- JSK/M2
- JSG
- JSC3/JSC4
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- UFCD
- UFCD
- UB
- JSB3
- LMB
- LML
- HCM
- HCA**
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3\*
- NHS
- HRL
- LN
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- FJ
- FK
- SpdContr
- Ending

## Internal structure and parts list

● HCA



Note : The shape differs slightly for the  $\phi 20$  type only.

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Rod nut	Steel	Zinc chromate	19	Piston nut	Steel	Zinc chromate
2	Piston rod	Steel	Industrial chrome plating	20	Head cover	Aluminum alloy	Alumite
3	Nut	Steel	Zinc plated	21	Rod packing	Nitrile rubber	
4	Toothed washer	Steel	Zinc plated	22	Bush	Oil impregnated bearing alloy	
5	Rod cover	Aluminum alloy	Alumite	23	Hexagon socket head cap screw	Alloy steel	Black finish
6	Cylinder gasket	Nitrile rubber		24	Adjuster case	Aluminum alloy	Alumite
7	Cushion packing	Urethane, steel		25	Check valve	Copper alloy	
8	Cylinder tube	Aluminum alloy	Hard alumite	26	Spring	Stainless steel	
9	Cushion ring	Steel	Industrial chrome plating	27	Adjusting gasket	Nitrile rubber	
10	Cushion rubber	Urethane rubber		28	U nut	Steel	Zinc chromate
11	Piston	Aluminum alloy	Chromate	29	Adjusting bolt	Steel	Nickeling
12	Piston packing	Nitrile rubber		30	Case gasket	Special fiber cloth	Special fabric + nitrile rubber
13	Wear ring	Acetal resin		With switch			
14	Magnet	Plastic		31	Switch body		
15	Piston gasket	Nitrile rubber		32	Band	Stainless steel	
16	Piston holder	Aluminum alloy	Chromate	33	Pan head machine screw	Steel	
17	Lock nut	Steel	Black chrome plating	34	Mounting bracket	Stainless steel	
18	Back up ring	Steel	Zinc chromate				

## Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
$\phi 20$	HCA-20K	
$\phi 25$	HCA-25K	
$\phi 32$	HCA-32K	
$\phi 40$	HCA-40K	6 7 10 12 13
$\phi 50$	HCA-50K	21 30
$\phi 63$	HCA-63K	
$\phi 80$	HCA-80K	
$\phi 100$	HCA-100K	

Note : Specify the kit No. when placing an order.

## Material of mounting bracket

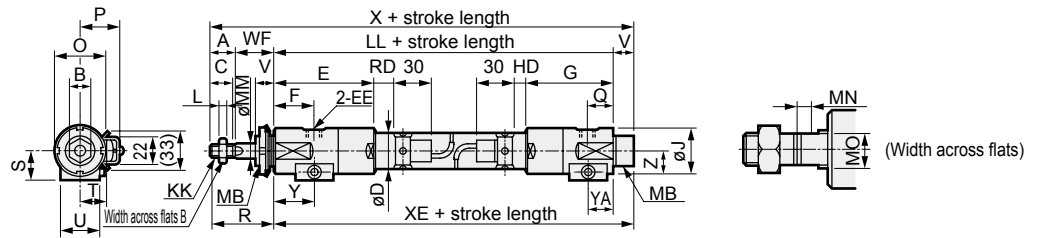
Mounting	Material	Remarks
LB	Steel	Zinc plated
FA/FB	Steel	Zinc plated

## Dimensions

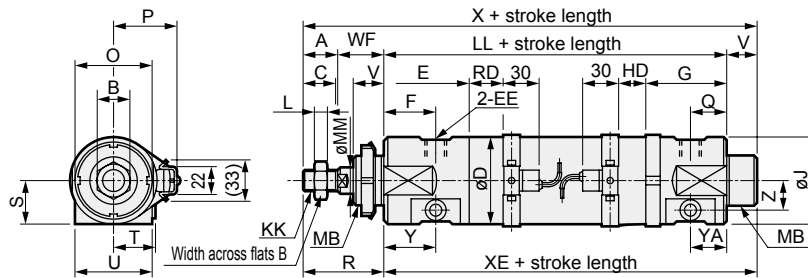
- Basic (00) R type with switch



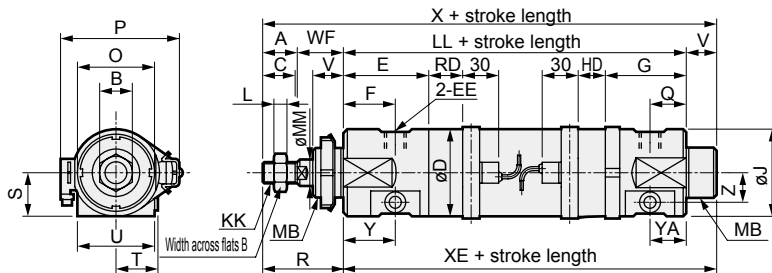
ø20, ø25



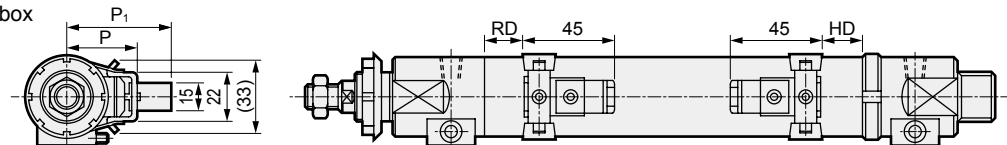
ø32 to ø63



ø80, ø100



- R type with switch terminal box



\*1 : For the dimensions of the accessories, refer to page 987.

Code	Basic (00) basic dimensions																	
Bore size (mm)	A	B	C	D	E	EE	F	G	J	KK	L	LL	MB	MM	MN	MO	O	Q
ø 20	20	13	18	25	86	Rc1/8	34	74	33	M8×1	5	223	M25×1.5	10	4	8	42	22
ø 25	20	17	18	30	82	Rc1/8	32.5	71	37	M10×1.25	6	213	M25×1.5	12	5	10	42	21.5
ø 32	22	17	20	37	67	Rc1/4	42	57	37	M10×1.25	6	197	M25×1.5	12	5	10	42	25
ø 40	22	22	20	46	73	Rc1/4	45.5	57	46	M14×1.5	8	203	M35×1.5	16	6	14	57	25
ø 50	28	27	26	56.4	77	Rc3/8	47.5	60	56	M18×1.5	11	211	M40×1.5	20	7	17	62	24.5
ø 63	28	27	26	69.4	69	Rc3/8	42	65	69.4	M18×1.5	11	214	M40×1.5	20	7	17	62	29
ø 80	36	32	34	88	73	Rc1/2	45	70	88	M22×1.5	13	232	M60×2	25	10	22	86	31.5
ø100	45	41	43	108	72	Rc1/2	42	72	108	M26×1.5	16	235	M60×2	30	11	27	86	30
Code	Basic (00) basic dimensions											With switch						
Bore size (mm)	R	S	T	U	V	WF	X	XE	Y	YA	Z	HD	P	P <sub>1</sub>	RD			
ø 20	44	21.5	17 to 20	29	16	24	283	239	34	22	15	15.5	28	48	17.5			
ø 25	52	23.5	18.5 to 22	32	16	32	281	229	32.5	21.5	17	13	34	54	14.5			
ø 32	52	23.5	18.5 to 22	32	20	30	269	217	42	25	17	22	35	55	21			
ø 40	54	28.5	22 to 27	38	20	32	277	223	45.5	25	21	22	39	59	21			
ø 50	61	35.5	27 to 34.5	48	20	33	292	231	47.5	24.5	25.5	19	44	64	25			
ø 63	66	35.7	34 to 43	62	25	38	305	239	42	29	25.7	21	52	72	28			
ø 80	78	46.5	41 to 51	76	25	42	335	257	45	31.5	34.5	24.5	114	134	33.5			
ø100	93	55.5	48 to 60	90	30	48	358	265	42	30	43.5	25	134	154	35			

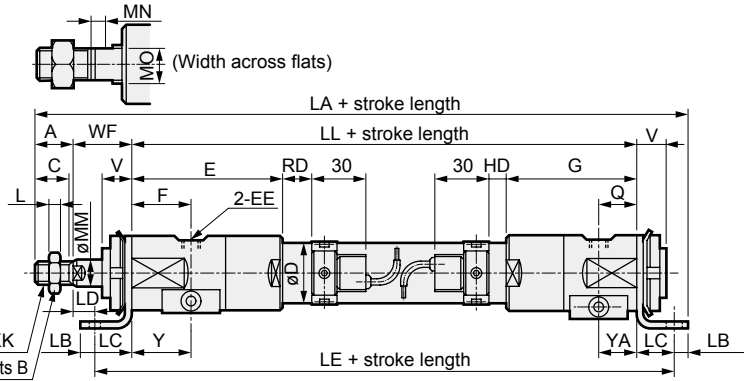
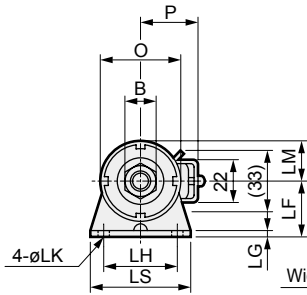
- LCM
- LCR
- LCG
- LCW
- LCX
- STM
- STG
- STS/STL
- STR2
- UCA2
- ULK\*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA**
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3\*
- NHS
- HRL
- LN
- Hand
- Chuk
- MechHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending

## Dimensions

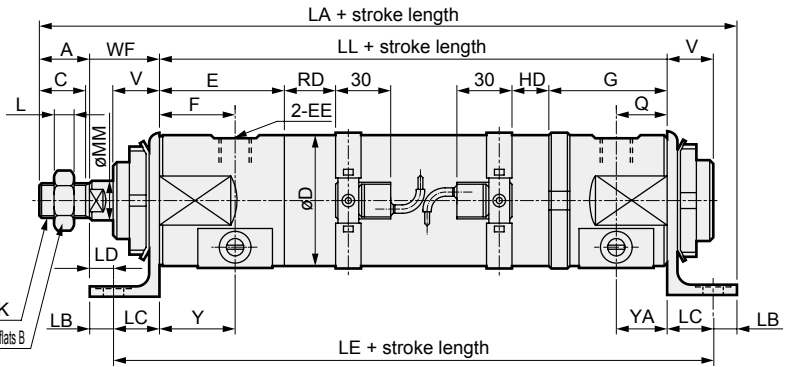
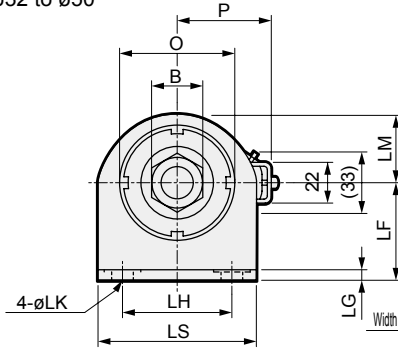


### ● Axial foot (LB)

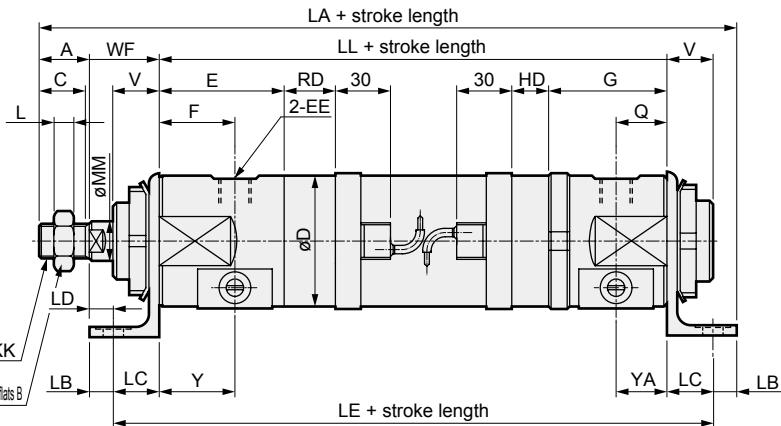
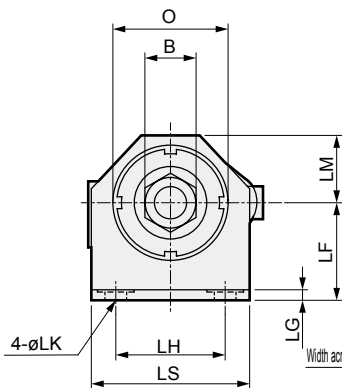
ø20, ø25



ø32 to ø50



ø63 to ø100



\*1 : For the dimensions of the accessories, refer to page 987.

Code	Axial foot (LB) basic dimensions																	
Bore size (mm)	A	B	C	D	E	EE	F	G	KK	L	LL	MM	MN	MO	O	Q	V	WF
ø 20	20	13	18	25	86	Rc1/8	34	74	M8×1	5	223	10	4	8	42	22	16	24
ø 25	20	17	18	30	82	Rc1/8	32.5	71	M10×1.25	6	213	12	5	10	42	21.5	16	32
ø 32	22	17	20	37	67	Rc1/4	42	57	M10×1.25	6	197	12	5	10	42	25	20	30
ø 40	22	22	20	46	73	Rc1/4	45.5	57	M14×1.5	8	203	16	6	14	57	25	20	32
ø 50	28	27	26	56.4	77	Rc3/8	47.5	60	M18×1.5	11	211	20	7	17	62	24.5	20	33
ø 63	28	27	26	69.4	69	Rc3/8	42	65	M18×1.5	11	214	20	7	17	62	29	25	38
ø 80	36	32	34	88	73	Rc1/2	45	70	M22×1.5	13	232	25	10	22	86	31.5	25	42
ø100	45	41	43	108	72	Rc1/2	42	72	M26×1.5	16	235	30	11	27	86	30	30	48

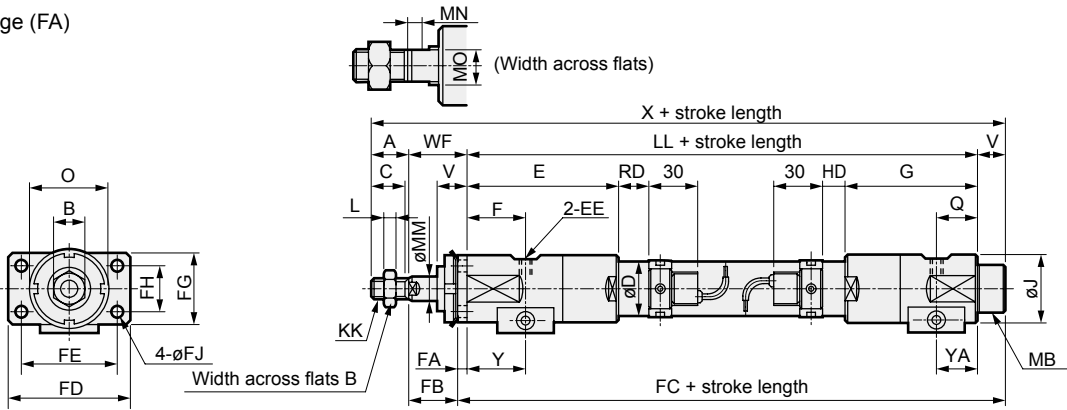
Code	Mounting method													With switch		
Bore size (mm)	Y	YA	LA	LB	LC	LD	LE	LF	LG	LH	LK	LM	LS	HD	P	RD
ø 20	34	22	295	8	20	4	263	30	3.2	40	6.6	19	54	15.5	28	17.5
ø 25	32.5	21.5	293	8	20	12	253	30	3.2	40	6.6	19	54	13	34	14.5
ø 32	42	25	277	8	20	10	237	30	3.2	40	6.6	19	54	22	35	21
ø 40	45.5	25	289	10	22	10	247	40	3.2	40	9	24	58	22	39	21
ø 50	47.5	24.5	307	10	25	8	261	45	4.5	45	9	29	63	19	44	25
ø 63	42	29	318	13	25	13	264	53	5.5	60	11	36.5	86	21	52	28
ø 80	45	31.5	355	15	30	12	292	63	8	71	14	45	102	24.5	114	33.5
ø100	42	30	373	15	30	18	295	75	8	85	14	54	118	25	134	35

## Dimensions

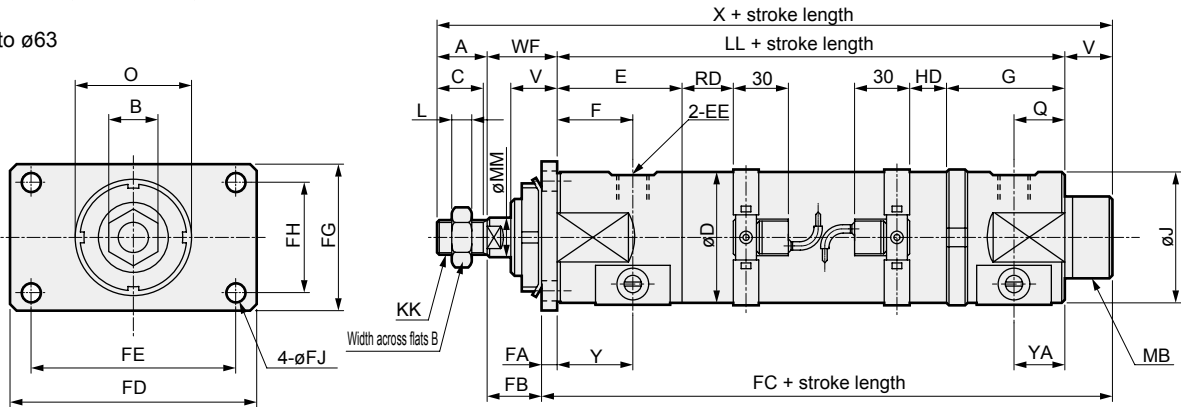


### ● Rod side flange (FA)

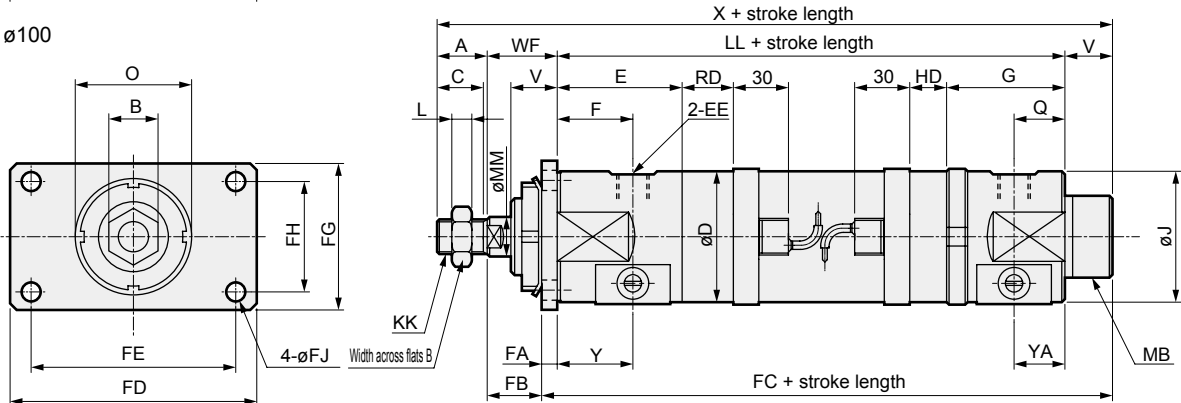
ø20, ø25



ø32 to ø63



ø80, ø100



\*1 : For the dimensions of the accessories, refer to page 987.

Code		Rod side flange (FA) basic dimensions																	
Bore size (mm)		A	B	C	D	E	EE	F	G	J	KK	L	LL	MB	MM	MN	MO	O	Q
ø 20		20	13	18	25	86	Rc1/8	34	74	33	M8×1	5	223	M25×1.5	10	4	8	42	22
ø 25		20	17	18	30	82	Rc1/8	32.5	71	37	M10×1.25	6	213	M25×1.5	12	5	10	42	21.5
ø 32		22	17	20	37	67	Rc1/4	42	57	37	M10×1.25	6	197	M25×1.5	12	5	10	42	25
ø 40		22	22	20	46	73	Rc1/4	45.5	57	46	M14×1.5	8	203	M35×1.5	16	6	14	57	25
ø 50		28	27	26	56.4	77	Rc3/8	47.5	60	56	M18×1.5	11	211	M40×1.5	20	7	17	62	24.9
ø 63		28	27	26	69.4	69	Rc3/8	42	65	69.4	M18×1.5	11	214	M40×1.5	20	7	17	62	29
ø 80		36	32	34	88	73	Rc1/2	45	70	88	M22×1.5	13	232	M60×2	25	10	22	86	31.5
ø100		45	41	43	108	72	Rc1/2	42	72	108	M26×1.5	16	235	M60×2	30	11	27	86	30
Code		Mounting dimensions											With switch						
Bore size (mm)		V	WF	X	Y	YA	FA	FB	FC	FD	FE	FG	FH	FJ	HD	RD			
ø 20		16	24	283	34	22	4.5	19.5	243.5	66	52	38	24	6.6	15.5	17.5			
ø 25		16	32	281	32.5	21.5	4.5	27.5	233.5	66	52	38	24	6.6	13	14.5			
ø 32		20	30	269	42	25	4.5	25.5	221.5	66	52	38	24	6.6	22	21			
ø 40		20	32	277	45.5	25	9	23	232	100	80	58	40	9	22	21			
ø 50		20	33	292	47.5	24.5	9	24	240	108	90	65	45	9	19	25			
ø 63		25	38	305	42	29	9	29	248	134	112	80	60	11	21	28			
ø 80		25	42	335	45	31.5	14	28	271	160	132	100	71	14	24.5	33.5			
ø100		30	48	358	42	30	14	34	279	178	150	114	85	14	25	35			

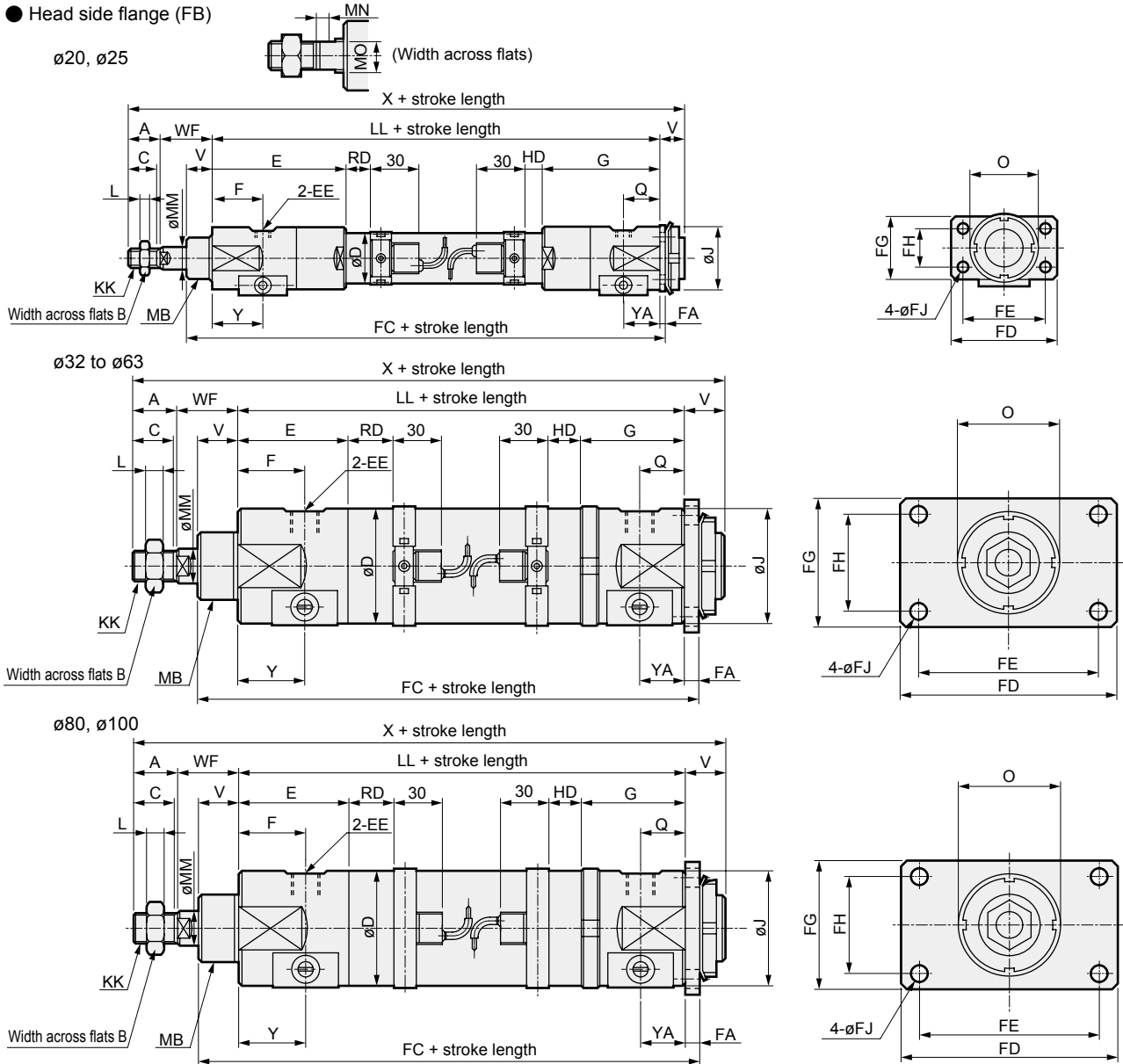
- LCM
- LCR
- LCG
- LCW
- LCX
- STM
- STG
- STS/STL
- STR2
- UCA2
- ULK\*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM**
- HCA**
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3\*
- NHS
- HRL
- LN
- Hand
- Chuk
- MechHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending



## Dimensions



### ● Head side flange (FB)



\*1 : For the dimensions of the accessories, refer to page 987.

Code	Head side flange (FB) basic dimensions																	
Bore size (mm)	A	B	C	D	E	EE	F	G	J	KK	L	LL	MB	MM	MN	MO	O	Q
ø 20	20	13	18	25	86	Rc1/8	34	74	33	M8×1	5	223	M25×1.5	10	4	8	42	22
ø 25	20	17	18	30	82	Rc1/8	32.5	71	37	M10×1.25	6	213	M25×1.5	12	5	10	42	21.5
ø 32	22	17	20	37	67	Rc1/4	42	57	37	M10×1.25	6	197	M25×1.5	12	5	10	42	25
ø 40	22	22	20	46	73	Rc1/4	45.5	57	46	M14×1.5	8	203	M35×1.5	16	6	14	57	25
ø 50	28	27	26	56.4	77	Rc3/8	47.5	60	56	M18×1.5	11	211	M40×1.5	20	7	17	62	24.5
ø 63	28	27	26	69.4	69	Rc3/8	42	65	69.4	M18×1.5	11	214	M40×1.5	20	7	17	62	29
ø 80	36	32	34	88	73	Rc1/2	45	70	88	M22×1.5	13	232	M60×2	25	10	22	86	31.5
ø100	45	41	43	108	72	Rc1/2	42	72	108	M26×1.5	16	235	M60×2	30	11	27	86	30

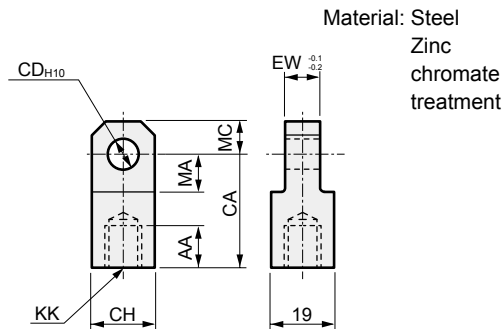
  

Code	Mounting dimensions												With switch	
Bore size (mm)	V	WF	X	Y	YA	FA	FD	FE	FG	FH	FJ	FI	HD	RD
ø 20	16	24	283	34	22	4.5	66	52	38	24	6.6	251.5	15.5	17.5
ø 25	16	32	281	32.5	21.5	4.5	66	52	38	24	6.6	233.5	13	14.5
ø 32	20	30	269	42	25	4.5	66	52	38	24	6.6	231.5	22	21
ø 40	20	32	277	45.5	25	9	100	80	58	40	9	244	22	21
ø 50	20	33	292	47.5	24.5	9	108	90	65	45	9	253	19	25
ø 63	25	38	305	42	29	9	134	112	80	60	11	248	21	28
ø 80	25	42	335	45	31.5	14	160	132	100	71	14	271	24.5	33.5
ø100	30	48	358	42	30	14	178	150	114	85	14	279	25	35

### Accessory dimensions

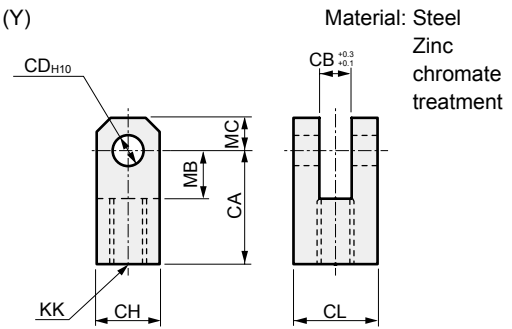
#### ● Rod eye/clevis dimensions (ø20/25/32)

Rod eye (I)



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	13	10	60
M1-I-30	25/32	14	36	12	25	10	M10×1.25	16	12	110

Rod clevis (Y)

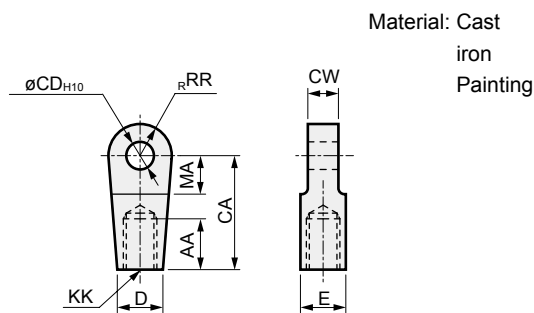


Note : A pin, a washer and a split pin are attached.

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	13	10	100
M1-Y-30	25/32	36	10	12	25	25	M10×1.25	16	12	210

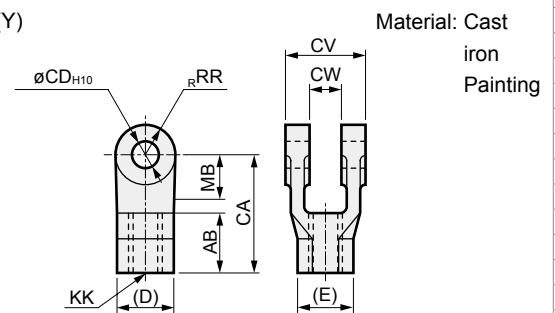
#### ● Rod eye/clevis dimensions (ø40/50/63/80/100)

Rod eye (I)



Model No.	Bore size (mm)	AA	CA	CD	CW	D	E	KK	MA	RR	Weight (kg)
S1-I-40	40	20	50	12	18 <sup>+0.1</sup> <sub>-0.4</sub>	27	27	M14×1.5	21	16	0.26
S1-I-50	50	21	50	12	18 <sup>+0.1</sup> <sub>-0.4</sub>	27	27	M18×1.5	21	16	0.24
S1-I-63	63	21	50	14	20 <sup>+0.1</sup> <sub>-0.4</sub>	27	27	M18×1.5	21	16	0.25
S1-I-80	80	30	70	20	28 <sup>+0.1</sup> <sub>-0.4</sub>	46	41	M22×1.5	30	25	0.88
S1-I-100	100	30	70	20	22 <sup>+0.1</sup> <sub>-0.4</sub>	46	41	M26×1.5	30	25	0.84

Rod clevis (Y)



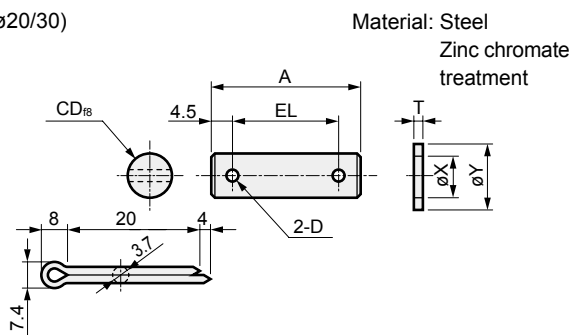
Model No.	Bore size (mm)	AB	CA	CD	CV	CW	D	E	KK	MB	RR	Weight (kg)
S1-Y-40	40	24	50	12	36	18 <sup>+0.4</sup> <sub>+0.1</sub>	27	31.2	M14×1.5	19	16	0.25
S1-Y-50	50	24	50	12	36	18 <sup>+0.4</sup> <sub>+0.1</sub>	27	31.2	M18×1.5	19	16	0.24
S1-Y-63	63	24	50	14	40	20 <sup>+0.4</sup> <sub>+0.1</sub>	27	31.2	M18×1.5	19	16	0.26
S1-Y-80	80	35	70	20	56	28 <sup>+0.4</sup> <sub>+0.1</sub>	41	47.3	M22×1.5	30	25	0.90
S1-Y-100	100	35	70	20	56	28 <sup>+0.4</sup> <sub>+0.1</sub>	41	47.3	M26×1.5	30	25	0.85

\*1 : Pin and snap ring are attached.

\*2 : The MB dimension is the effective length of the CW dimension.

#### ● Pin dimensions

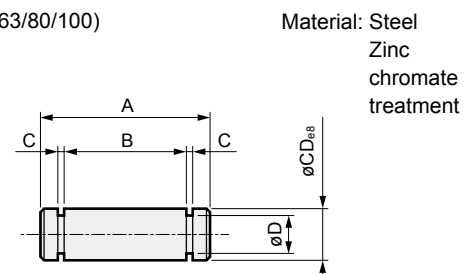
Pin (P) (ø20/30)



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	30
M1-P-30	25/32	46	4	12	37	2.5	13	21	50

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

Pin (P) (ø40/50/63/80/100)



Model No.	Applicable bore size (mm)	A	B	C	D	CD	Weight (g)	Applicable snap ring
S1-P-40	40/50	43.5	36.2	1.15	11.5	12	40	C type for shaft 12
S1-P-63	63	47.5	40.2	1.15	13.4	14	60	C type for shaft 14
S1-P-80	80/100	64	56.2	1.35	19	20	100	C type for shaft 20

Note : A pin and a snap ring for rod clevis use are attached with the product.

\* Specify the model No. when placing an order.

- LCM
- LCR
- LCG
- LCW
- LCX
- STM
- STG
- STS/STL
- STR2
- UCA2
- ULK\*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM**
- HCA**
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3\*
- NHS
- HRL
- LN
- Hand
- Chuk
- MechHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending