Series variation

SCP*2 CMK2

CMA2

SCG SCA2 SCS CKV2

CA/OV2

SSD

CAT

MDC2

MVC

SMD2

MSD*

FC*

ULK*

JSK/M2

JSG JSC3

USSD

USC

JSB3

LMB

STG STS/L

LCS

LCG

Medium bore size cylinder with valve CKV2 Series



SCP*2

CMK2 CMA2

CKV2

CA/OV2

SSD

CAT

MDC2

MVC

SMD2

MSD*

STK

ULK* JSK/M2

JSG

JSC3

USSD

USC

JSB3

LMB STG

STS/L

LCG

LCM

LCT LCY

STR2

UCA2

HCM

HCA

SRL2

SRG

SRM

SRT

MRL2

MRG2

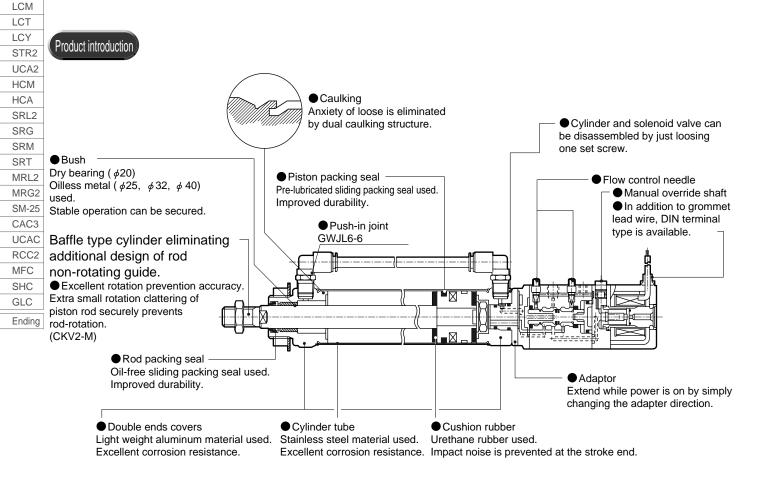
SM-25

CAC3

UCAC

●: Standard, ◎: Option, ○:Custom order, ■: Not available
Option Accessory

										Mounting style Mounting style Option				Accessory					-											
Variation	Model no. JIS symbol	Bore size (mm)	St	andar	rd strok	ke len	gth (m	nm)	n. stroke length (mm)	x. stroke length (mm)	Custom stroke length (per mm)	Basic type	Axial foot type	Rod end flange type	Rod end trunnion type	Head end trunnion type	Bellows (100 °C)	Bellows (250 °C)	Piston rod material (stainless steel)	With silencer	With surge suppressor	With indicator light	Retract at energized	Copper and PTFE free	Rod eye	Rod clevis	Eye bracket	Clevis bracket clevis type.	Switch	Page
			25	50	75	100	150	200	Min	Мах.	ő	00	LB	FA	TA	ТВ	J	L	М	W	G	E	Х	P6	ı	Υ	B2	В3		-
Double acting single rod type	CKV2	φ20, φ25, φ32, φ40	•	•	•	•	•	•	5	750	1	•	•	•	•	•	0	0	0	0	0	0	0	0	0	0	0	0	0	664
Double acting non-rotating type	CKV2-M	φ20, φ25, φ32, φ40	•	•	•	•	•	•	5	750	1	•	•	•	•	•	0	0	•	0	0	0	0	0	0	0	0	0	0	676



Medium bore size cylinder with valve Bright Strain Strain



SCP*2 CMK2

CMA2

SCM

SCG SCA2

SCS

CKV2 CA/OV2 SSD CAT MDC2 MVC SMD2 MSD* FC* STK ULK* JSK/M2 JSG JSC3 USSD USC JSB3 LMB STG STS/L LCS LCG LCM LCT LCY STR2 UCA2 HCM HCA SRL2 SRG SRM SRT MRL2 MRG2 SM-25 CAC3 UCAC RCC2 MFC SHC GLC Ending

Selection table of variation and options

: Standard: Option

○ : Available (custom order)

△ : Available depending on conditions (consult with CKD.)

X : Not available

		Code	Va	riatio	on	Por	t thr	ead	Wii	ring				C	Optic	n				
Code			Double acting basic type	Non-rotating		NPT	9		Grommet	DIN terminal box	Polyolefin with bellows	Silicone rubber with bellows	Piston rod material stainless steel	Customized piston rod end form	Copper and PTFE free	With silencer	With surge suppressor	With neon light	Retract at energized	
		Symbol	No	M		N	G		No	U	J	L	M	N	P6	W	G	E	X	
tion	Double acting basic type	Blank				0	0		•	0	0	0	0	0	0	0	0	0	0	
Variation	Non-rotating	М		$\overline{}$		0			•	0	0	0	Note 2	0	\triangle	0	0	0	0	
Port thread	NPT	N					X		0	0	0	0	0	0	0	0	0	0	0	
ort th	G	G							0	0	0	0	0	\circ	0	0		0	0	
Wiring	Grommet	Blank								Х	0	0	0	0	0	0	0	X	0	
<u> </u>	DIN terminal box	U									0	0	0	0	0	0	0	0	0	
	Polyolefin with bellows	J										Х	0	0	0	0	0	0	0	
	Silicone rubber with bellows	L											0	0	0	0	0	0	0	
	Piston rod material stainless steel	М												\bigcirc	0	0	0	0	0	
uc	Customized piston rod end form	N													0	0	0	0	0	
Option	Copper and PTFE free	P6														0	0	0	0	
	With silencer	W															0	0	0	
	With surge suppressor	G																0	0	
	With neon light	E																	0	
	Retract at energized	Х																		
	Cylinder switch	Ending 1	0	0		0	0		0	0	0	0	0	0	0	0	0	0	0	\square
ory	Rod eye	- 1	0	0		0	0		0	0	0	0		Note 1	0	0	0	0	0	
Accessory	Rod clevis	Υ	0	0		0	0		0	0	0	0	0	Note 1	0	0	0	0	0	
Acce	B2 bracket	B2	0	0		0	0		0	0	0	0	0	\bigcirc	0	0	0	0	0	
4	B3 bracket	В3	0	0		0	0		0	0	0	0	0	\bigcirc	0	0	0	0	0	

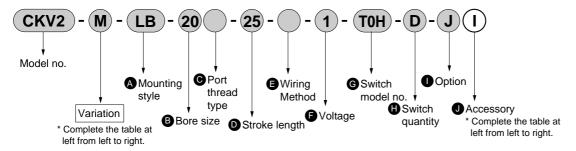
Note 1: If the size of the screw at the piston rod end is changed, this combination does not apply. Consult with CKD in this case.

Note 2: The nonrotating piston rod is made of stainless steel.

If option M, the stainless steel piston rod, is selected, stainless steel rod nuts are included.

Variation and option selection table

(How to order)



Model no.: Medium bore size cylinder with valve

• Variation: Double acting non-rotating type

 ♠ Mounting style
 : Axial foot type

 ⑤ Bore size
 : φ 20 mm

 ⑥ Port thread type
 : Rc thread

 ⑤ Stroke length
 : 25 mm

 ⑥ How to wire
 : Grommet

 ⑥ Voltage
 : 100 VAC

G Switch model no.: Reed T0H switch, lead wire 1 m

Switch quantity : 2

Option : Bellows, max. ambient temperature 100 ℃

Accessory : Rod eye

CMK2 CMA2 SCM SCG SCA2 SCS CKV2 CA/OV2 SSD CAT MDC2 MVC SMD2 MSD* FC* STK ULK* JSK/M2 JSG JSC3 USSD USC JSB3 LMB STG STS/L LCS LCG LCM LCT LCY STR2 UCA2 HCM HCA SRL2 SRG SRM SRT MRL2 MRG2 SM-25 CAC3 UCAC RCC2 MFC

SCP*2

SHC GLC Ending



SCP*2

CMK2 CMA2 SCM

SCA2

CKV2 CA/OV2

SSD CAT

MDC2

MVC

SMD₂

MSD*

FC*

STK

ULK*

JSK/M2

JSG

JSC3

USSD

USC JSB3 LMB

STG/L

LCG

LCT LCY

STR2

UCA₂

HCM

HCA

SRL₂

SRG SRM

SRT MRI 2

MRG2 SM-25

CAC3

UCAC

RCC2

MFC

SHC

GLC

Ending

Pneumatic components

Safety precautions

Always read this section before starting use.

Refer to Intro 71 for general notes of cylinders and Intro 78 for cylinder switches.

Medium bore size cylinder with valve CKV2 Series

Design & Selection

WARNING

■ Check that the valve's exhaust port (including PE port) is not smaller than the connecting port size.

A respiration effect could be generated by the operation of the valve at the valve's exhaust port, and cause foreign matter around the exhaust port to be sucked in, or could cause foreign matter to enter if the exhaust port is facing upward.

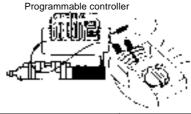
The actuator does not operate properly if exhaust is not smooth.

The actuator will not be activated normally if exhaust is not made smoothly.

A CAUTION

References

- Check the leakage current to prevent malfunctions caused by leakage currents generated at other control devices.
 - When using a programmable controller, etc., the valve could malfunction because of leakage currents from the device.
 - The value at which the leakage current has an effect differs according to the valve type.



redefices	
For 100 VAC	3.0 mA or less
For 200 VAC	1.5 mA or less
For 24 VDC	1.8 mA or less

- Switch the valve once every 30 days to prevent operation faults.
- The reed switch's contact life is generally several hundred thousand times, but may differ with working conditions. The contact life range is reached quickly if the working device is used continuously or is operated at high frequency. In this case, use a proximity switch with no contact.

Installation & Adjustment

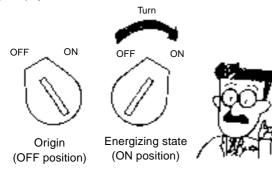
WARNING

■ The connected device functions when manual operations are carried out, so check that no hazards exist before starting.

If the valve's manual override has been operated, return to the origin (initial position) before operating the unit.

If compressed air is supplied when the cylinder is not at the origin, the cylinder could start moving and cause problems.

[Example]



A CAUTION

- Do not bump tools or devices, etc., against the solenoid during installation.
- Do not support the valves with pipes.
- Do not lift the product by coil lead.
 - Leads could disconnect.

■ Polarity

All series have no polarity. (Not polarized type)

■ Applied voltage

Check the voltage type (AC or DC) and voltage when working with electrical wiring.

Incorrect connections could lead to operation faults or coil burning.

■ Wiring confirmation

Check that connections are correct after wiring is completed.

During Use & Maintenance

1. Common

A WARNING

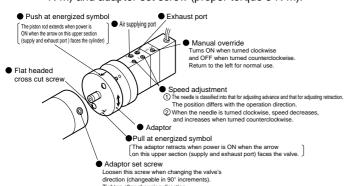
■ The connected device functions when manual operations are carried out, so check that no hazards exist before starting.

A CAUTION

- Low frequency use
 - Switch the valve once every 30 days to prevent operation faults.
- After disassembling and assembling the valve, conduct an operation test in order below and confirm that operation is correct.

Work procedures

- 1. Check the origin (OFF position) of the manual override.
- 2. Set to low pressure. (0.15 MPa)
- Switch manual override to activation (ON), and confirm that the cylinder moves.
- Return manual override to the initial position (OFF), and confirm that the cylinder returns. (This completes manual confirmation of operation.)
- 5. Conduct an energizing test.
 - After confirming manually, check operation with power on and off.
- If the DIN terminal box is used in a hot environment with power continuously on, the gasket could be thermally degraded. Replace the gasket regularly.
- Changing extension and retraction with power ON
 - Loosen the adapter set screw and flat headed cross cut screw.
 - (2) Rotate only adapter 180° in the direction of arrow.(←→ : Rotation direction)
 - (3) Tighten the flat headed cross cut screw (proper torque 1.7 N⋅m) and adapter set screw (proper torque 9 N⋅m).



Speed adjustment	Advance adjustment	Datura adjustment		
Operating direction	Advance adjustment	Return adjustmer		
Extend at energized	1	2		
Retract at energized	2	1		

■ Terminal box wiring methods

Refer to the following drawings, and wire the terminal box in steps (1) to (3).

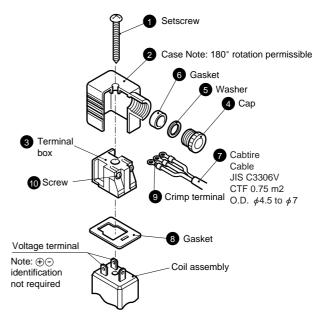
- 1) Pass the cap (4), washer (5), and gasket (6) in this order through the cabtire cable (7), and insert into the case (2).
- 2) When using a crimp terminal, treat the cabtire cable (7) at an appropriate length as shown in the figure, and crimp the crimp terminal (9) onto the end.
- 3) Remove the screw (10) from the gland (3), and pass the crimp terminal (9) through. (When using a Y type terminal, loosen and sandwich the terminal.) Retighten screw (10). (Note) Tighten at a torque of 0.5 N·m \pm 15%.

Remarks:
Bare wires can be wired. Loosen the screw (10), and insert leads into the bracket, then retighten.

- The lead wire outlet direction is changed by pulling the gland out of the case, rotating it 180°, then pressing it into the case again.
- The following crimp terminals (9) are used:

	0	1 001 121111111111111111	DOUTH OU. LID.	001 1111 0	OO. E.D.
O terminal	Y terminal	O terminal	Y terminal	O terminal	Y terminal
0.3-3	0.3-3	1.25-3	1.25-YAS3	0.5-3	0.25-B3A
	1.25Y-3		1.25-YAS3.5	1.25-3	1.25-C3A
1.25-3S	1.25Y-3.5				

Use equivalent products when using other brands.



CA/OV2

MRL2 MRG2 SM-25 CAC3

MFC SHC

Ending

SCP*2 CMK2 CMA2 SCM SCG SCA2 SCS CKV2 CA/OV2 SSD CAT MDC2 MVC SMD₂ MSD* FC* STK ULK* JSK/M2 **JSG** JSC3 USSD USC JSB3 LMB STG STS/L LCS LCG LCM LCT LCY STR2

STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25

CAC3

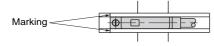
UCAC RCC2 MFC SHC GLC 2. Common (with T type switch)

A CAUTION

- Moving the switch position in the stroke direction
 - lacktriangle Switches T2, T3, T0, T5 can be finely adjusted at \pm 3 mm from the default installation position. If the adjustment range exceeds 3 mm, or when other switches are adjusted, move the band position.
 - Loosen the switch fixing screw, move the switch along the rail, and tighten at the required position.
 - When using the T2, T3, T0 or T5 switch, use a flat-tip screw-driver with 5 to 6 mm grip, 2.4 mm or smaller tip width, and 0.3 mm or thinner (clock screwdriver, precision screwdriver, etc.), and tighten with a tightening torque of 0.1 to 0.2 N·m. When using T1, T*C, T2J, T2Y, T3Y, T2YF, T3YF, T2YM, T3YM, or T8, tighten with a tightening torque of 0.5 to 0.7 N·m.
 - The switch bracket rail has a mark 4 mm from the rail end. Use this as a guide to the mounting position when replacing the switch.

Switch rail markings are set to the default switch maximum sensitivity position.

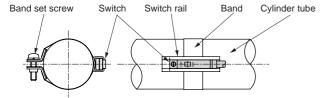
Maximum sensitivity position changes when the switch type is changed or when the switch bracket is moved. Adjust the position accordingly.



- Shifting the switch position in the circumference direction
 - Loosen the band fixing screw, shift the switch rail in the circumference direction, then tighten at the specified position. Tightening torque is 0.6 to 0.8 N·m.

■ Shifting the band position

Loosen the band fixing screw, shift the switch rail and band along cylinder tubing, then tighten at the specified position. Tightening torque is 0.6 to 0.8 N·m.



10) Farmer 100

Medium bore size cylinder with valve Double acting single rod type

CKV2 Series

• Bore size: ϕ 20, ϕ 25, ϕ 32, ϕ 40

JIS symbol ● Double acting cylinder with valve







Specifications

SCP*2

CMK2

SCM SCG SCA2 SCS

CKV2 CA/OV2 SSD CAT MDC2 MVC SMD2 MSD* FC* STK ULK* JSK/M2 JSG JSC3 USSD USC JSB3 LMB STG STS/L LCS LCG LCM LCT

Opecifications												
Descriptions	C	KV2	(standard	type/with	switc	ch)						
Bore size mm	φ 20		φ25	φ32		φ40						
Actuation			Double actir	g with valve								
Working fluid			Compre	ssed air								
Max. working pressure MPa			•									
Min. working pressure MPa		0.15										
Withstanding pressure MPa		1.6										
Ambient temperature °C		-5 to 60 (no freezing)										
Port size		Rc1/8										
Stroke tolerance mm	+	^{2.0} (up	to 200) +	^{2.4} (201 to 75	0)							
Working piston speed mm/s	50 to	50 to 500 50 to 430 50 to 3										
Cushion	Rubber cushion											
Lubrication	Not required (when lubricating, use turbine oil Class 1 ISO VG32.)											
Allowable energy absorption J	0.166	(0.308	0.424		0.639						
Solenoid valve specifications												
Rated voltage (note) V	100 AC (50/60	Hz)	200 AC	(50/60Hz)		24 DC						
Starting current A	0.056/0.048	3	0.028	/0.024		0.110						
Holding current A	0.028/0.024	4	0.014	/0.012		0.110						
Power consumption W	2.0 2.0 2.5											
Voltage fluctuation range	±10%											
Insulation class	Class B or equivalent											

• Note: 100/200 VAC are available for 110/220 VAC (60Hz).

Stroke length

LCY

STR2 UCA2 HCM HCA SRL2 SRG

SRM

SRT MRL2

MRG2

SM-25 CAC3 UCAC RCC2 MFC SHC GLC

_			
Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
<i>φ</i> 20			
φ 25	25, 50, 75,	750	_
φ 32	100, 150, 200	750	5
φ 40			

Note 1: Custom stroke length is available per 1 mm increment.

Note 2: For bellows J, the min. stroke length is 25 mm. If less than 25 mm stroke, consult with CKD.

Min. stroke length with switch

(Unit: mm)

Switch quantity		1	1			2	2		3					
	Prox	rimity	Re	Reed		Proximity		Reed		imity	Reed			
Bore size (mm) 🔪	T2, T3	T1, T*Y*	T0, T5	T8	T2, T3	T1, T*Y*	T0, T5	T8	T2, T3	T1, T*Y*	T0, T5	T8		
φ 20		1	0		25	35	25	35	50	55	50	55		
φ 25		1	0		25	35	25	35	50	55	50	55		
φ 32		1	0		25	35	25	35	50	55	50	55		
φ 40	10			25	35	25	35	50	55	50	55			
	φ 25 φ 32	Prox ϕ 20 ϕ 25 ϕ 32	Proximity	Proximity Resolve Size (mm) $ 72, 73 $ $ 71, 7^*Y^*$ $ 70, 75 $ $ 620 $ $ 10 $ $ 625 $ $ 10 $ $ 632 $ $ 10 $	Proximity Reed 30re size (mm) $T2, T3$ $T1, T*Y*$ $T0, T5$ $T8$ ϕ 20 0 ϕ 25 0 ϕ 32 0	Proximity Reed Prox 30re size (mm) T2, T3 T1, T*Y* T0, T5 T8 T2, T3 ϕ 20 10 25 ϕ 25 10 25 ϕ 32 10 25	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$							

Note 1: Switches cannot be installed more than three.



Specifications

SCP*2

CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*

FC*

STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT

LCY

STR2

UCA2 HCM

HCA SRL2 SRG SRM SRT MRL2 MRG2

SM-25

CAC3

UCAC RCC2

MFC

Switch specifications

• 1 color/2 color indicator, strong magnetic field proof

* The T0/T5 switch can be used with 220 VAC. Contact CKD for working conditions.

	Proximit	ty 2-wire	Proximity 3	-wire	Reed 2-wire								
Descriptions	T1H/T1V	T2H/T2V/ T2JH/T2JV	T3H/T3V T3PH/T3F	TT3YH/T3YV	TOH	/T0V	T5H,	/T5V		T8H/T8\	/		
Applications	Programmable controller	Programmable	Programm	Prograi	mmable	Programmat	ole controller,	Programmable controller		ontroller,			
Applications	relay, small solenoid valve	controller dedicated	controller,	controll	er, relay	serial co	relay, IC circuit (w/o light), serial connection		relay				
Output method		-	NPN output PNP outp	ut NPN output				-					
Power voltage		=	10 to 28 \				-						
Load voltage	85 to 265 VAC	10 to 30 VDC	30 VDC or	less	12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	12/24 VDC	110 VAC	220 VAC		
Load current	5 to 100 mA	5 to 20 mA (Note 1)	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		
Light	LED	LED Red/green	LED Green	Red/green LED	LE	ΕD	Without inc	licator light		LED			
Light	(ON lighting)	(ON lighting) (ON lighting)	(ON lighting) (ON lighting	(ON lighting)	(ON li	ghting)	vvitriout iric	licator light	(ON lighting)		ng)		
Leakage current	1 mA or less with 100 VAC	1 1 1	10 A or	logo									
	2 mA or less with 200 VAC	1 mA or less	μ A or less			0 mA							

With preventive maintenance output

		Proximity 3-wire	Proximity 4-wire	Proximity 3-wire	Proximity 4-wire							
Desci	riptions	T2YFH/V	T3YFH/V	T2YMH/V	T3YMH/V							
A == 15	- 4i	Programmable	Programmable	Programmable	Programmable							
Applic	cations	controller dedicated	controller, relay	controller dedicated	controller, relay							
Outpu	ıt method		NPN output									
Light	Installation position adjustment section	D (ON lighting)										
Li	Preventive maintenance output	-	•	Yellow LED ((ON lighting)							
	Power voltage	-	10 to 28 VDC	-	10 to 28 VDC							
ular put	Load voltage	10 to 30 VDC	30 VDC or less	10 to 30 VDC	30 VDC or less							
Regular output	Load current	5 to 20 mA	50 mA or less	5 to 20 mA	50 mA or less							
	Leakage current	1 mA or less	10 μ A or less	1.2 mA or less	10 μ A or less							
Preventive maintenance output	Load voltage		30 VDC	or less								
eventiv iintenand output	Load current	20 mA or less	50 mA or less	5 to 20 mA or less	50 mA or less							
Pre mair o	Leakage current		10 <i>μ</i> A	or less								

Note 1: Refer to Ending 1 for other switch specifications.

Note 2: Max. load current above: 20 mA at 25 °C. The current will be lower than 20 mA if ambient temperature around switch is higher than 25 °C. (5 to 10 mA at 60 °C)

Cylinder weight

Cyllinder weight								(Unit: kg)
Descriptions, mounting style	F	Product weight	when stroke ler	ngth(S) = 0 mm	า	Switch weight	Switch rail	Additional weight
Bore size (mm)	Basic type (00)	Axial foot type (LB)	Rod end flange type (FA)	Rod end trunnion type (TA)	Head end trunnion type (TB)	Grommet	+ band weight	per S = 10 mm
φ 20	0.47	0.63	0.53	0.52	0.49	0.018	0.005	0.01
φ 25	0.57	0.79	0.72	0.67	0.60	0.018	0.005	0.01
φ 32	0.62	0.84	0.77	0.72	0.65	0.018	0.009	0.02
<i>φ</i> 40	0.81	1.08	0.96	0.97	0.85	0.018	0.009	0.02

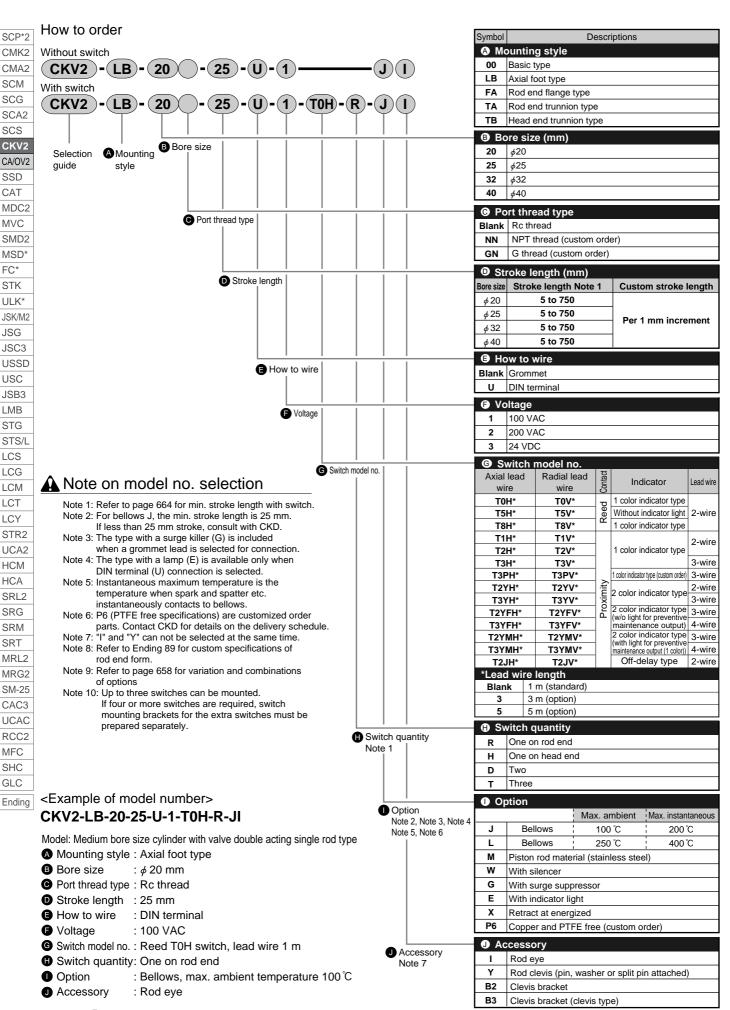
Product weight when S = 0 mm ··· 0.77 kg

Additional weight when S = 50 mm ··· Additional weight when S = 10 mm 0.02 x Stroke length of product (50) 10 mm 0.02 x

(E.g.) Product weight of CKV2-FA-32-50-1-T0H-D Weight of two switches ·········0.036 kg

Weight of switch rail + 2 bands ··· 0.018 kg

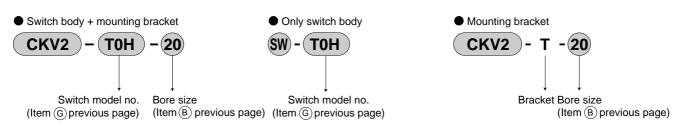
Product weight $\cdots 0.77 \text{ kg} + 0.1 \text{ kg} + 0.036 \text{ kg} + 0.018 \text{ kg} = 0.924 \text{ kg}$





How to order

How to order switch



How to order mounting bracket

Bore size (mm) Mounting bracket	<i>φ</i> 20	φ 25	φ32	φ 40
Axial foot type (LB) rod end	M1-LB-20	M1-LB-30	M1-LB-30	M1-LB-30
Axial foot type (LB) head end	M1-LBV-20	M1-LBV-30	M1-LBV-30	M1-LBV-40
Flange (FA)	M1-FA-20	M1-FA-30	M1-FA-30	M1-FA-30
Trunnion (TA)	M1-TA-20	M1-TA-30	M1-TA-30	M1-TA-40
Bolt for head end trunnion (TB)	M1-TB-20	M1-TB-30	M1-TB-30	M1-TB-40

Note 1: Mounting nut and toothed washer are attached to the mounting bracket.

Note 2: Refer to page 668 for the mounting bracket material.

Note 3: For axial foot type, one each set of [M1-LB-*] and [M1-LBV-*] is required.

SCP*2 CMK2 CMA2 SCM

SCG SCA2

SCS CKV2 CA/OV2

SSD CAT MDC2 MVC

SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG

JSC3 USSD

USC JSB3 LMB

STG/L LCS

LCG LCM LCT

LCY STR2 UCA2

HCM HCA SRL2

SRG SRM SRT MRL2

MRG2 SM-25 CAC3

UCAC RCC2 MFC

SHC

Ending

SCP*2 CMK2

SCM SCG

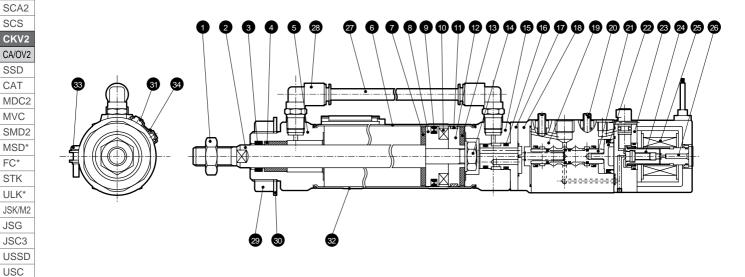
JSB3 LMB STG STS/L LCS LCG LCM LCT LCY STR2 UCA2 HCM HCA SRL2 SRG SRM SRT MRL2 MRG2 SM-25 CAC3 UCAC

RCC2 MFC

SHC GLC Ending

Internal structure and parts list

CKV2 (with switch)



	I		1		1-		
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1_1_	Rod nut	Steel	Zinc chromate	17	Adaptor	Steel	Zinc chromate
2	Piston rod	ϕ 20, ϕ 25 are stainless steel.	Industrial chrome plating	18	Сар	Aluminum alloy die-casting	Chromate
	Piston rou	ϕ 32, ϕ 40 are carbon steel.	industrial chrome platting	19	Valve body	Aluminum alloy	Alumite
3	Rod packing seal	Nitrile rubber		20	Speed adjustment needle	Brass	
4	Bush	Dry bearing	φ 20 Note 1	21	Spool assembly		
4	Dusii	SBK2118	φ 25, φ 32, φ 40	22	Piston assembly		
5	Rod cover	Aluminum alloy		23	Pie valve body	Nylon	
6	Cylinder tube	Stainless steel		24	Plunger assembly		
7	Cushion rubber	Urethane rubber		25	Coil assembly		
8	Piston A	Aluminum alloy		26	Core assembly		
9	Piston packing seal	Nitrile rubber		27	Pass-pipe	Nylon	
10	Magnet	Plastic		28	Joint		GWJL-6-6
11	Wear ring	Polyacetal		29	Nut	Steel	Zinc chromate
12	Piston B	Aluminum alloy		30	Toothed washer	Steel	Zinc chromate
13	Spacer	Steel	Zinc chromate	With	switch		
14	Hexagon nut	Steel	Zinc chromate	31	Switch body		
15	Head cover	Aluminum alloy		32	Band	Stainless steel	
16	O ring	Nitrile rubber		33	Pan head machine screw	Stainless steel	
Note	1: Oil impregnated	cast iron bearing is us	sed for copper and PTFE free.	34	Switch rail	Stainless steel	

Mounting bracket material

Mounting style	Material	Remarks
LB	Steel	Zinc chromate
FA	Steel	Zinc chromate
TA	Steel	Zinc chromate

Note: The mounting bracket is shipped with the product.

Valve repair parts list

Kit No.	Repair parts number
CKV2-VK	16 21 22

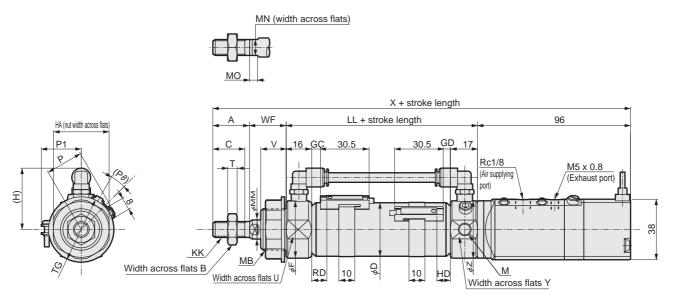
SCP*2 CMK2

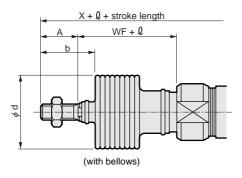
Double acting single rod type

Dimensions



● Basic type (00)





Note 1: Refer to page 682 for HD, RD, and projecting dimensions of T1* and T8* switches and the 2-color indicator switch with preventive maintenance output.

Note 2: ℓ dimensions below decimal point are rounded up.

Note 3: Refer to page 683 for accessory dimensions.

Symbol	Basic	dimer	nsions	for ba	sic typ	e (00)															. [
Bore size (mm)	Α	В	С	D	F	(H)	HA	k	ίK	LL	М	N	ИΒ	MM	MN	МО	Т	TG	U	V	
φ 20	20	13	18	21.4	28	38.5	26	M8:	x 1.0	67	M8	M18	3 x 1.5	10	8	5	5	29	24	14	. [
φ 25	23	17	20	26.4	32	38.5	35	M10:	x 1.25	70	M8	M26	3 x 1.5	12	10	5	6	41	30	16	
φ 32	23	17	20	33.6	36	38.5	35	M10	M10 x 1.25 70 M8				x 1.5	12	10	5	6	41	34	16	
<i>φ</i> 40	25	19	22	41.6	45	43.0	35	M12 x 1.5 74 M10			M10	M26	3 x 1.5	14	12	6	7	41	43	16	
Symbol					With	switch		5 W12 X 1.5 74 W10				With	bellows	;							,
Bore size (mm)	WF	Х	Υ	Z	GC	GD	RD	HD	Р	P1	(P <i>θ</i>)°	b	d			l					i
φ 20	24	207	34	36	4.0	3.0	8.0	7.0	17.3	19.5	22	30	30	(S	troke l	ength/	3) + 6				
φ 25	23	212	34	36	5.5	4.5	9.5	8.5	19.8			46	(Str	oke ler	ngth/3.	25) + ⁻	7				
φ 32	23	212	34	36	5.5	4.5	9.5	8.5	24.3	25.5	15	32	46	(Str	oke ler	ngth/3.	25) +	7			
φ 40	23	218	34	45	7.0	6.5	11.0					34	46	(Str	oke ler	ngth/3.	25) +	7			

Dimensions

SCP*2 CMK2

CMA2

SCM SCG SCA2 SCS CKV2

CA/OV2

SSD

CAT

MDC2

MVC

SMD2

MSD*

FC*

ULK*

JSK/M2

JSG

JSC3

USSD USC JSB3

LMB

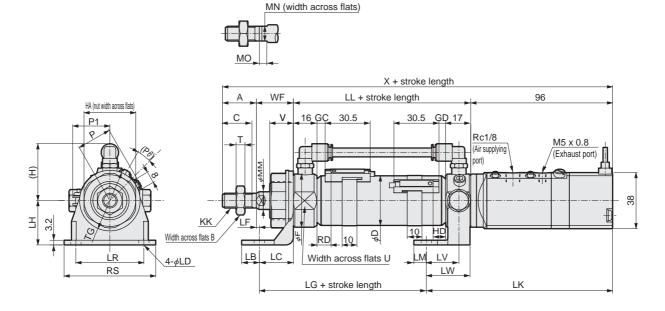
STG/LCS/LCG/LCM/LCT/LCY/STR2

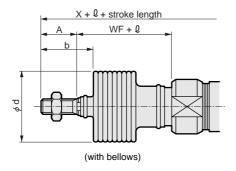
UCA2 HCM

HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending



Axial foot type (LB)





Note 1: Refer to page 682 for HD, RD, and projecting dimensions of T1* and T8* switches and the 2-color indicator switch with preventive maintenance output. Note 2: Refer to page 683 for accessory dimensions.

Symbol	Basic	dimer	nsions	for axi	al foot	type (LB)												Installation	dimensions
Bore size (mm)	Α	В	С	D	F	(H)	HA	KK	LL	MM	MN	МО	Т	TG	U	V	WF	Χ	LB	LC
φ 20	20	13	18	21.4	28	38.5	26	M8 x 1.0	67	10	8	5	5	29	24	14	24	207	10	18
φ 25	23	17	20	26.4	32	38.5	35	M10 x 1.25	70	12	10	5	6	41	30	16	23	212	12	23
φ 32	23	17	20	33.6	36	38.5	35	M10 x 1.25	70	12	10	5	6	41	34	16	23	212	12	23
φ 40	25	19	22	41.6	45	43	35	M12 x 1.5	74	14	12	6	7	41	43	16	23	218	12	23
Symbol	Insta													With b	ellows					
Bore size (mm)	LD	LF	LG	LH	LK	LM	LR	LS	LT	LV	LW	GC	GD	RD	HD	Р	P1	$(P\theta)^{\circ}$	b	d
<i>φ</i> 20	6	6	55	25	126	7.5	30	44	55.4	22	29.5	4.0	3.0	8.0	7.0	17.3	19.5	22	30	30
φ 25	7	0	63	30	126	8.5	46	62	55.4	22	29.5	5.5	4.5	9.5	8.5	19.8	22.0	18	32	46
φ 32	7	0	63	30	126	8.5	46	62	55.4	22	29.5	5.5	4.5	9.5	8.5	24.3	25.5	15	32	46
φ 40	7	0	64	30	129	8	46	62	68.4	25	35	7.0	6.5	11.0	10.5	28.3	29.5	12	34	46
Symbol														·						

<i>φ</i> 40	7	0	64	30
Symbol				
Bore size (mm)			l	
<i>φ</i> 20	(Str	oke ler	ngth/3)	+ 6
φ 25	(Strok	ke leng	th/3.2	5) + 7
φ 32	(Strok	ke leng	th/3.2	5) + 7
φ 40	(Strok	ke leng	th/3.2	5) + 7

SCP*2

SCM SCG SCA2 SCS CKV2

CA/OV2

SSD

CAT

MDC2

MVC

SMD2 MSD*

FC* STK ULK*

JSK/M2

JSG JSC3 USSD

USC

JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY

STR2

UCA2

HCM HCA SRL2 SRG SRM SRT MRL2 MRG2 SM-25 CAC3 UCAC RCC2 MFC SHC

Double acting single rod type

Dimensions

φ 32

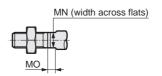
φ 40

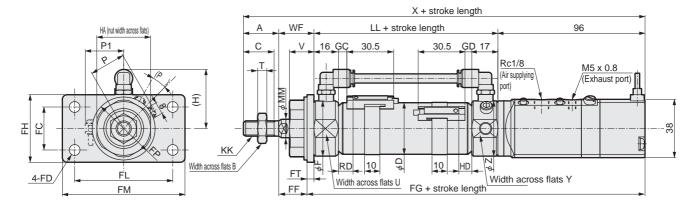
(Stroke length/3.25) + 7

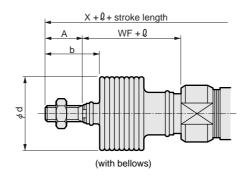
(Stroke length/3.25) + 7



Rod end flange type (FA)







Note 1: Refer to page 682 for HD, RD, and projecting dimensions of T1* and T8* switches and the 2-color indicator switch with preventive maintenance output. Note 2: Refer to page 683 for dimensions of an accessory.

Symbol	Rod 6	end flar	nge ty	pe (FA) basi	c dime	nsions	;												
Bore size (mm)	Α	В	С	D	F	(H)	HA		KK	LL	MM	MN	МО	Т	U	V	WF	Х	Υ	Z
__ 20	20	13	18	21.4	28	38.5	26	M8	3 x 1.0	67	10	8	5	5	24	14	24	207	34	36
φ 25	23	17	20	26.4	32	38.5	35	M10	0 x 1.25	70	12	10	5	6	30	16	23	212	34	36
φ 32	23	17	20	33.6	36	38.5	35	M10	x 1.25	70	12	10	5	6	34	16	23	212	34	36
φ 40	25	19	22	41.6	45	43	35	M1	2 x 1.5	74	14	12	6	7	43	16	23	218	43	45
Symbol	Instal	lation o	dimen	sions							With	switch							With b	ellows
Bore size (mm)	FC	FD	FF	F(3 F	Н	FL	FM	FT	FP	GC	GD	RD	HD	Р	F	21	(P <i>θ</i>)°	b	d
<i>φ</i> 20	20	6	20.	B 166	.2 3	4 4	40	54	3.2	29	4.0	3.0	8.0	7.0	17.	3 19	9.5	22	30	30_
φ 25	28	7	18.	5 170	.5 4	4 (64	80	4.5	41	5.5	4.5	9.5	8.5	19.	3 22	2.0	18	32	46
φ 32	28	7	18.	5 170	.5 4	4 (64	80	4.5	41	5.5	4.5	9.5	8.5	24.	3 25	5.5	15	32	46
φ 40	28	7	18.	5 174	.5 4	4 (64	80	4.5	41	7.0	6.5	11.0	10.5	28.	3 29	9.5	12	34	46
Symbol																				
Bore size (mm)			Q																	
φ 20	(St	roke le	ngth/	3) + 6	_															
φ 25	(Stro	ke len	gth/3.	25) + 7	•															

SCP*2 CMK2

SCM
SCG
SCA2
SCS
CKV2
CA/OV2

CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2

JSG

JSC3

USSD

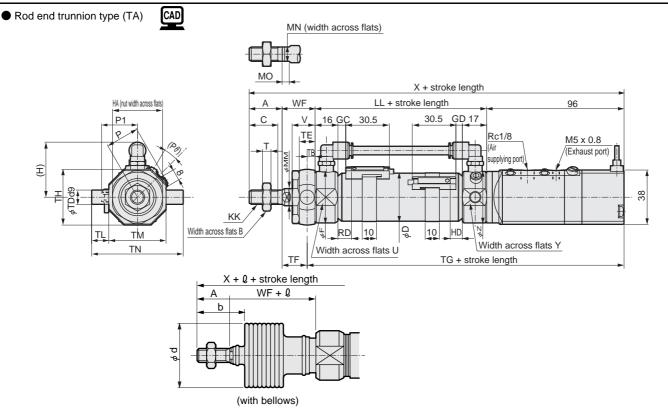
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG

SRM SRT MRL2 MRG2 SM-25 CAC3 UCAC RCC2

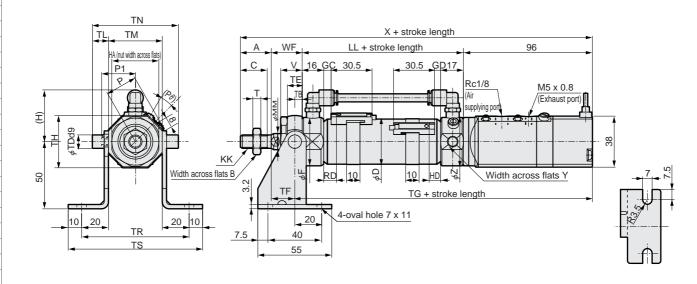
> SHC GLC

Ending

Dimensions



Rod side trunnion type (TA) bracket (option symbol B2)



Note 1: Refer to page 682 for HD, RD, and projecting dimensions of T1* and T8* switches and the 2-color indicator switch with preventive maintenance output. Note 2: Refer to page 683 for accessory dimensions.

Note 2: Refer to pag	je 683	for acc	cessor	y dime	nsions	3.																	
Symbol	Basi	c dim	ensio	ns for	rod e	nd tru	ınnior	n type	(TA)												Installa	tion dime	ensions
Bore size (mm)	Α	В	С	D	F	(H)	НА	K	K	LL	MM	MN	МО	Т	U	V	WF	Χ	Υ	Z	ТВ	TD	TE
φ 20	20	13	18	21.4	28	38.5	26	M8 >	κ 1.0	67	10	8	5	5	24	14	24	207	34	36	4.5	8	9
φ 25	23	17	20	26.4	32	38.5	35	M10 x	< 1.25	70	, 12 10 0 0 00 10 20 212 01 00					36	5.5	10	11				
φ 32	23	17	20	33.6	36	38.5	35	M10 x	< 1.25	70	12	10	5	6	34	16	23	212	34	36	5.5	10	11
φ 40	25	19	22	41.6	45	43	35	M12	x 1.5	74	14	12	6	7	43	16	23	218 43 45			5.5	10	11
Symbol									With	swite	ch					With	bellov	NS	'S				
Bore size (mm)	TF	TG	TH	TL	TM	TN	TR	TS	GC	GD	RD	HD	Р	P1	(P <i>θ</i>)°	b	d			l			
φ 20	19.5	167.5	29.5	8	30	46	70	90	4.0	3.0	8.0	7.0	17.3	19.5	22	30	30	(Stroke length/3) + 6					
φ 25	17.5	171.5	39	12	40	64	80	100	5.5	4.5	9.5	8.5	19.8	22.0	18	32	46	(Stroke length/3.25) + 7					
φ 32	17.5	171.5	39	12	40	64	80	100	5.5	4.5	9.5	8.5	24.3	25.5	15	32	46	(Stroke length/3.25) + 7					
φ 40	17.5	175.5	44	9.5	53	72	93	113	7.0	6.5	11.0	10.5	28.3	29.5	12	34	46	(Stro	(Stroke length/3.25) + 7				

SCP*2 CMK2

CMA2

SCM SCG SCA2 SCS

CKV2

CA/OV2

SSD

CAT

MDC2

MVC SMD2 MSD* FC*

STK

ULK* JSK/M2

JSG

JSC3

USSD USC JSB3 LMB STG STS/L

LCS

LCG LCM LCT LCY

STR2

UCA2

HCM

HCA

SRL2

SRG SRM SRT

MRL2

MRG2

SM-25 CAC3

UCAC

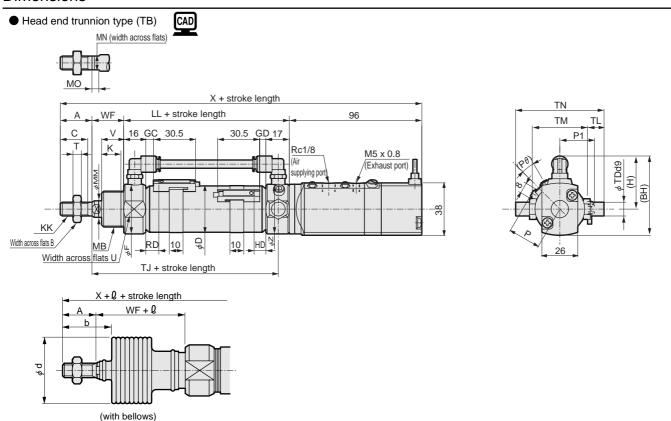
RCC2

MFC SHC GLC

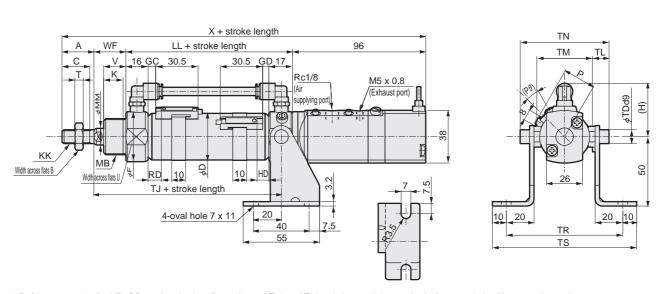
Ending

Double acting single rod type

Dimensions



Head side trunnion type (TB), with bracket (option symbol B2)



Note 1: Refer to page 682 for HD, RD, and projecting dimensions of T1* and T8* switches and the 2-color indicator switch with preventive maintenance output. Note 2: Refer to page 683 for accessory dimensions.

Symbol	Basic	dime	nsions	for he	ead en	d truni	nion ty	/pe (T	B)												
Bore size (mm)	Α	В	ВН	С	D	F	(H)	K		KK	LL	MI	ВП	MM	MN	МО	Т	U	V	WF	Χ
φ 20	20	13	57.5	18	21.4	28	38.	5 12	M8	3 x 1.0	67	M18 x	1.5	10	8	5	5	24	14	24	207
φ 25	23	17	57.5	20	26.4	32	38.	5 14	M1	0 x 1.25	70	M26 x	1.5	12	10	5	6	30	16	23	212
φ 32	23	17	57.5	20	33.6	36	38.	5 14	M1	0 x 1.25	70	M26 x	1.5	12	10	5	6	34	16	23	212
<i>φ</i> 40	25	19	62	22	41.6	45	43	14	M1	2 x 1.5	74	M26 x	1.5	14	12	6	7	43	16	23	218
Symbol		Insta	llation	dimer	sions				With	switch	1					With	n bello	ws			
Bore size (mm)	Ζ	TD	TJ	TL	TM	TN	TR	TS	GC	GD	RD	HD	Р	P1	$(P\theta)$	° b	d		l		
φ 20	36	8	83	8	44	60	84	104	4.0	3.0	8.0	7.0	17.3	19.5	22	30	30	(Stı	roke le	ngth/3) + 6
φ 25	36	10	85	10	44	64	84	104	5.5	4.5	9.5	8.5	19.8	22.0	18	32	46	(Stro	ke len	gth/3.2	5) + 7
φ 32	36	10	85	10	44	64	84	104	5.5	4.5	9.5	8.5	24.3	25.5	15	32	46	(Stroke length/3.25) +		5) + 7	
φ 40	45	10	89	10	53	73	93	113	7.0	6.5	11.0	10.5	28.3	29.5	12	34	46	(Stro	ke len	gth/3.2	5) + 7

Dimensions

SCP*2 CMK2

SCM SCG

SCS

SSD

CAT

MVC

FC*

STK

ULK*

JSG

USC JSB3 LMB STG

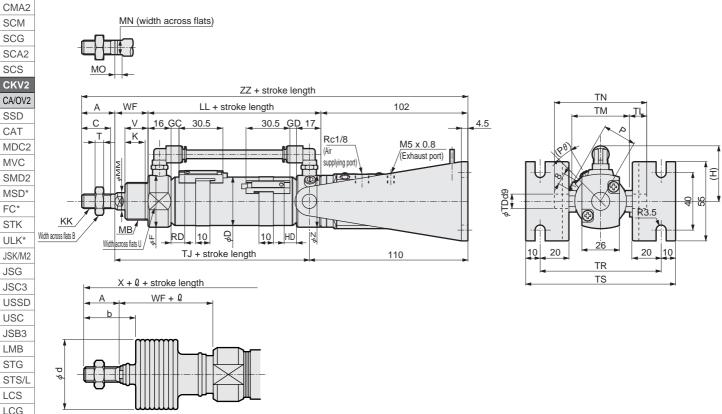
LCS LCG

LCM LCT

LCY

STR2 UCA2 HCM HCA SRL2 SRG SRM SRT MRL2 MRG2 SM-25 CAC3 UCAC RCC2 MFC SHC GLC Ending Head side trunnion type (TB), with bracket (option symbol B3)

(with bellows)



Note 1: Refer to page 682 for HD, RD, and projecting dimensions of T1* and T8* switches and the 2-color indicator switch with preventive maintenance output. Note 2: Refer to page 683 for accessory dimensions.

Symbol	Basic	0 13 18 21.4 28 38.5 12 M8 x 1.0 67 M18 x 1.5 10 8 5 5 24 14 24 213 3 17 20 26.4 32 38.5 14 M10 x 1.25 70 M26 x 1.5 12 10 5 6 30 16 23 218 3 17 20 33.6 36 38.5 14 M10 x 1.25 70 M26 x 1.5 12 10 5 6 34 16 23 218																			
Bore size (mm)	Α	В	С	D	F	(H)	K		KK	L	L	MB	1	ИΜ	MN	МО	Т	U	V	WF	ZZ
φ 20	20	13	18	21.4	28	38.5	12	М	8 x 1.0	6	7 N	118 x 1	.5	10	8	5	5	24	14	24	213
φ 25	23	17	20	26.4	32	38.5	14				0 1	126 x 1	.5	12	10	5	6	30	16	23	218
φ 32	23	17	20	33.6	36	38.5	14	M1	0 x 1.2	5 7	0 N	126 x 1	.5	12	10	5	6	34	16	23	218
φ 40	25	19	22	41.6	45	43	14	M1	12 x 1.	5 7	4 N	126 x 1	.5	14	12	6	7	43	16	23	224
Symbol	Install	ation o	dimen	sions				With switch							Wit	h bello	ows				
Bore size (mm)	TI)	TJ	TL	TM	TN	TR	TS	GC	GD	RD	HD	Р	$(P\theta)$	° b	d			l		
<i>φ</i> 20	8-0		83	8	44	60	84	104	4.0	3.0	8.0	7.0	17.3	22	30	30	(S	troke l	ength/	3) + 6	_
φ 25	10 -0	.040 .076	85	10	44	64	84	104	5.5	4.5	9.5	8.5	19.8	18	32	46	(Str	oke ler	ngth/3.	.25) +	7_
φ 32	10 -0		85	10	44	64	84	104	5.5	4.5	9.5	8.5	24.3	15	32	46	(Str	oke ler	ngth/3.	.25) +	<u>7_</u>
φ 40	10-0	.040 .076	89	10	53	73	93	113				10.5	28.3	12	34	46	(Str	oke ler	ngth/3.	.25) +	7



Medium bore size cylinder with valve Double acting non-rotating type

CKV2-M Series

Bore size: φ 20, φ 25, φ 32, φ 40

JIS symbol ● Double acting cylinder non-rotating type with valve





Specifications

SCS

CA/OV2 SSD CAT MDC2 MVC SMD2 MSD* FC* STK ULK* JSK/M2 JSG JSC3 USSD USC JSB3 LMB

STG/LCS/LCG/LCM/LCT/LCY/STR2

UCA2

HCM HCA SRL2 SRG SRM SRT MRL2

MRG2

SM-25 CAC3

UCAC

MFC SHC GLC

•									
Descriptions		CKV:	2-M						
Bore size mm	φ20	φ25	φ32	φ40					
Actuation		Double acting n	on-rotating type						
Working fluid		Compre	ssed air						
Max. working pressure MPa		,	1						
Min. working pressure MPa		0.	15						
Withstanding pressure MPa		1	.6						
Ambient temperature °C		-5 to 60 (n	o freezing)						
Port size		Ro	1/8						
Stroke tolerance mm		^{+2.0} (up to 200) ⁺²	^{2.4} (201 to 750)						
Working piston speed mm/s	50 to	500	50 to 430	50 to 300					
Cushion		Rubber	cushion						
Lubrication Not required (when lubricating, use turbine oil Class 1 ISO VG32.)									
Revolvable angle tolerance Note Degree		±1.5		±1					
Allowable energy absorption J	0.166	0.308	0.424	0.639					

Note: Value when stroke length is 0 mm (excluding bent of piston rod)

Solenoid valve spe	ecific	ations		
Rated voltage	<	100 AC (50/60Hz)	200 AC (50/60Hz)	24 DC
Starting current	Α	0.056/0.048	0.028/0.024	0.110
Holding current	Α	0.028/0.024	0.014/0.012	0.110
Power consumption	V	2.0	2.0	2.5
Voltage fluctuation ra	nge		±10%	
Insulation class			Class B or equivalent	

● Note: 100/200 VAC are available for 110/220 VAC (60Hz).

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
φ 20			
φ 25	25, 50, 75	750	F
φ 32	100, 150, 200	/50	5
φ 40			

Note 1: Custom stroke length is available per 1 mm increment.

Note 2: For bellows J, the min. stroke length is 25 mm. If less than 25 mm stroke, consult with CKD.

Min. stroke length with switch

(Unit: mm)

Switch quantity	1				2				3			
	Proximity		Re	ed	Prox	Proximity		Reed		imity	Reed	
Bore size (mm)	T2, T3	T1, T*Y*	T0, T5	T8	T2, T3	T1, T*Y*	T0, T5	T8	T2, T3	T1, T*Y*	T0, T5	T8
φ20		1	0		25	35	25	35	50	55	50	55
φ25		1	0		25	35	25	35	50	55	50	55
φ32	10			25	35	25	35	50	55	50	55	
φ40	10			25	35	25	35	50	55	50	55	

Note 1: Switches cannot be installed more than three.

Specifications

SCP*2

CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*

FC*

STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT

LCY

STR2

UCA2 HCM HCA

SRG SRM SRT MRL2 MRG2 SM-25 CAC3

UCAC

RCC2

Switch specifications

• 1 color/2 color indicator, strong magnetic field proof

* The T0/T5 switch can be used with 220 VAC. Contact CKD for working conditions.

	Proximit	y 2-wire		Pro	ximity 3-	wire	Reed 2-wire						
Descriptions	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/T2YV	T3H/T3V	T3PH/T3PV (Custom order)	T3YH/T3YV	ТОН	/T0V	T5H	/T5V		T8H/T8\	/
Applications	Programmable controller	Progran	nmable	Programmable						ole controller, uit (w/o light),	Program	nmable co	ontroller,
Applications	relay, small solenoid valve	controller	dedicated	controller, relay		controll	er, relay	serial co	nnection	relay			
Output method		-			PNP output	NPN output				-			
Power voltage		-	10 to 28 VDC										
Load voltage	85 to 265 VAC	10 to 3	0 VDC	30	VDC or I	ess	12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	12/24 VDC	110 VAC	220 VAC
Load current	5 to 100 mA	5 to 20 m/	A (Note 1)	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
Light	LED	LED	Red/green LED	LED	Green LED	Red/green LED	LE	ΕD	Without inc	dicator light		LED	
шуп	(ON lighting)	(ON lighting)	(ON lighting)	(ON lighting)	(ON lighting)	(ON lighting)	(ON lighting)		With lout in it	alcator light	(0	ON lightin	ıg)
Leakage current I	1 mA or less with 100 VAC	1 m A (or lace	10	"Δ or le	200	0 mA						
	2 mA or less with 200 VAC	1 mA or less		10 μ A or less		OTIA							

With preventive maintenance output

Dogg	riptions	Proximity 3-wire	Proximity 4-wire	Proximity 3-wire	Proximity 4-wire				
Desci	ιμιιστιδ	T2YFH/V	T3YFH/V	T2YMH/V	T3YMH/V				
Applia	cations	Programmable	Programmable	Programmable	Programmable				
Applic	alions	controller dedicated	controller, relay	controller dedicated	controller, relay				
Outpu	ut method		NPN (output					
jht	Installation position adjustment section		Red/green LED (ON lighting)						
Light	Preventive maintenance output	-		Yellow LED (ON lighting)					
_	Power voltage	-	10 to 28 VDC	=	10 to 28 VDC				
Regular output	Load voltage	10 to 30 VDC	30 VDC or less	10 to 30 VDC	30 VDC or less				
Reg out	Load current	5 to 20 mA	50 mA or less	5 to 20 mA	50 mA or less				
	Leakage current	1 mA or less	10 μA or less	1.2 mA or less	10 μA or less				
nuce Ince	Load voltage		30 VDC	or less					
Load voltage Load current Leakage curre		20 mA or less	50 mA or less	5 to 20 mA or less	50 mA or less				
maj e	Leakage current		10 <i>μ</i> A	or less					

Note 1: Refer to Ending 1 for other switch specifications.

Note 2: Max. load current above: 20 mA at 25 °C. The current will be lower than 20 mA if ambient temperature around switch is higher than 25 °C. (5 to 10 mA at 60 °C)

Cylinder weight

(Unit: kg) SRL2

Descriptions, mounting style	l	Product weigth	Switch weight	Switch rail	Additional weight			
Bore size (mm)	Basic type (00)	Axial foot type (LB)	Rod end flange type (FA)	Rod end trunnion type (TA)	Head end trunnion type (TB)	Grommet	+ band weight	per S = 10 mm
φ20	0.47	0.63	0.53	0.52	0.49	0.018	0.005	0.01
φ25	0.57	0.79	0.72	0.67	0.60	0.018	0.005	0.01
φ32	0.62	0.84	0.77	0.72	0.65	0.018	0.009	0.02
φ40	0.81	1.08	0.96	0.97	0.85	0.018	0.009	0.02

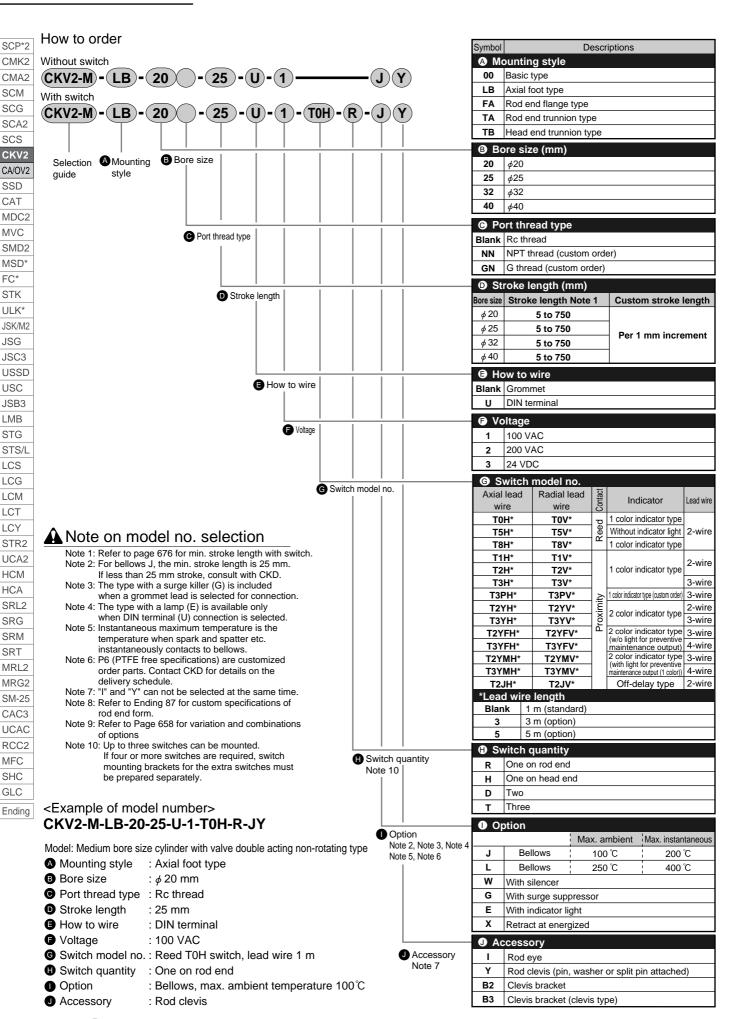
Product weigth when $S = 0 \text{ mm} \cdot \cdot \cdot 0.77 \text{ kg}$

(E.g.) Product weigth of CKV2-M-FA-32-50-1-T0H-D

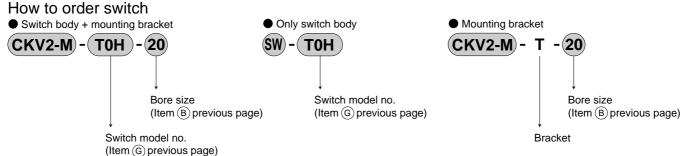
Additional weigth when S = 50 mm \cdots Additional weigth when S = 10 mm \cdots 0.02 x $\frac{\text{Stroke length of product (50)}}{10}$ = 0.10 kg Weigth of two switches \cdots 0.036 kg

Weigth of switch rail + 2 bands ··· 0.018 kg

Product weigth \cdots 0.77 kg + 0.1 kg + 0.036 kg + 0.018 kg = 0.924 kg



How to order



How to order mounting bracket

Bore size (mm) Mounting bracket	φ 2 0	φ25	φ32	ϕ 40
Axial foot type (LB) rod end	M1-LB-20	M1-LB-30	M1-LB-30	M1-LB-30
Axial foot type (LB) head end	M1-LBV-20	M1-LBV-30	M1-LBV-30	M1-LBV-40
Flange (FA)	M1-FA-20	M1-FA-30	M1-FA-30	M1-FA-30
Trunnion (TA)	M1-TA-20	M1-TA-30	M1-TA-30	M1-TA-40
Bolt for head end trunnion (TB)	M1-TB-20	M1-TB-30	M1-TB-30	M1-TB-40

Note 1: Mounting nut and toothed washer are attached to the mounting bracket.

Note 2: Refer to page 668 for mounting bracket material.

Note 3: For axial foot type, one each set of [M1-LB-*] and [M1-LBV-*] is required.

SCP*2 CMK2 CMA2 SCM SCG SCA2 SCS CKV2 CA/OV2 SSD CAT MDC2 MVC SMD2 MSD* FC* STK ULK*

USSD USC JSB3

JSK/M2 JSG JSC3

LMB STG STS/L

LCS LCG LCM

LCT LCY STR2 UCA2

HCM HCA SRL2 SRG

SRM SRT MRL2

MRG2 SM-25 CAC3 UCAC

RCC2 MFC SHC

GLC Ending

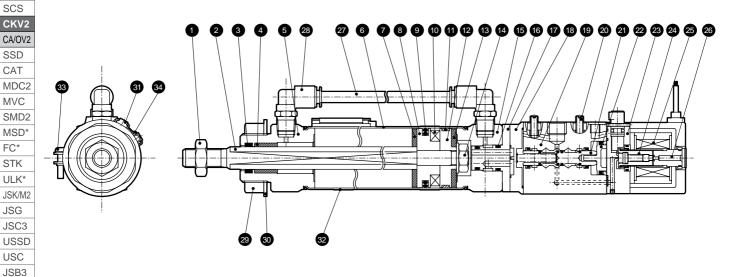
Internal structure and parts list

CKV2-M (with switch)

SCP*2 CMK2

SCM SCG SCA2

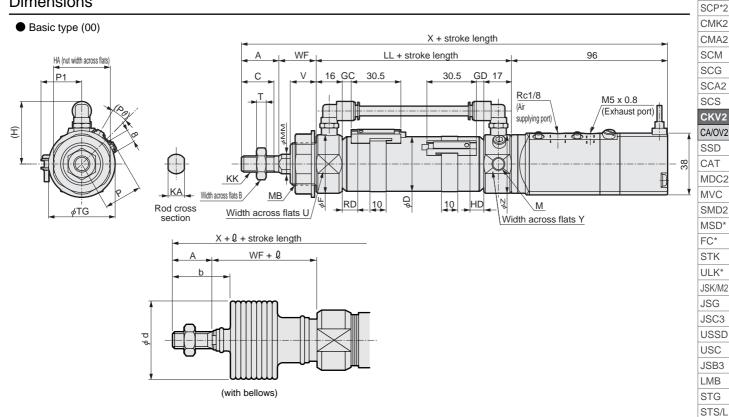
LMB STG STS/L LCS LCG LCM LCT LCY STR2 UCA2 HCM HCA SRL2 SRG SRM SRT MRL2 MRG2 SM-25 CAC3 UCAC RCC2 MFC SHC GLC Ending



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Rod nut	Steel	Zinc chromate	18	Сар	Aluminum alloy die-casting	Chromate
2	Piston rod	Stainless steel		19	Valve body	Aluminum alloy	Alumite
3	Rod packing seal	Nitrile rubber		20	Speed adjustment needle	Brass	
4	Bush	SBK2118	Note 1	21	Spool assembly	-	
5	Rod cover	Aluminum alloy		22	Piston assembly	-	
6	Cylinder tube	Stainless steel		23	Pie valve body	Nylon	
7	Cushion rubber	Urethane rubber		24	Plunger assembly	-	
8	Piston A	Aluminum alloy		25	Coil assembly	-	
9	Piston packing seal	Nitrile rubber		26	Core assembly	-	
10	Magnet	Plastic		27	Pass-pipe	Nylon	
11	Wear ring	Polyacetal		28	Joint	-	GWJL6-6
12	Piston B	Aluminum alloy		29	Nut	Steel	Zinc chromate
13	Spacer	Steel	Zinc chromate	30	Toothed washer	Steel	Zinc chromate
14	Hexagon nut	Steel	Zinc chromate	With	switch		
15	Head cover	Aluminum alloy		31	Switch body	-	
16	O ring	Nitrile rubber		32	Band	Stainless steel	
17	Adaptor	Steel	Zinc chromate	33	Pan head machine screw	Stainless steel	
Note 1	l: Oil impregnated	resin bearing is used for	or copper and PTFE free.	34	Switch rail	Stainless steel	

Double acting non-rotating type

Dimensions



Note 1: Refer to pages 670 to 674 for the dimensions of other mounting style.

Note 2: Refer to page 682 for HD, RD, and projecting dimensions of T1* and T8* switches and the 2 color indicator switch with preventive maintenance output. Note 3: Refer to page 683 for accessory dimensions.

																			LCT
Symbol	Basic	dime	nsions	s for ba	sic ty	pe (00))												LCT
Bore size (mm)	Α	В	С	D	F	(H)	НА	KA	KK	LL	М	MB	MM	Т	TG	U	V	WF	LCY
φ20	20	13	18	21.4	28	38.5	26	8	M8 x 1.	0 67	M8	M18 x 1.5	10	5	29	24	14	24	STR2
φ25	23	17	20	26.4	32	38.5	35	10	M10 x 1.	25 70	M8	M26 x 1.5	12	6	41	30	16	23	UCA2
φ32	23	17	20	33.6	36	38.5	35	10	M10 x 1.	25 70	M8	M26 x 1.5	12	6	41	34	16	23	НСМ
φ40	25	19	22	41.7	45	43.0	35	12	M12 x 1	.5 74	M10	M26 x 1.5	14	7	41	43	16	23	HCA
												1							SRL2
Symbol				With	switch					ll Wi	h bello	ws							
Symbol		I v		With			ш	Г	D4 (D/	-	h bello	ws							SRG
Symbol Bore size (mm)	X	Υ	Z	With GC	switch GD	RD	HD	Р	P1 (P <i>t</i>	-	h bello	ws	l						SRG
	X 207	Y 34					HD 7.0	P 17.3	P1 (P <i>t</i>)° b	d	ws (Stroke I	Ł	(3) + 6					SRG SRM
Bore size (mm) ϕ 20	207	-	Z 36	GC 4.0	GD 3.0	RD 8.0	7.0	17.3	19.5 22	9)° b	d 30	(Stroke I	ength/						SRG
Bore size (mm) \$\dpsi 20\$ \$\dpsi 25\$	207 212	34	36 36	GC 4.0 5.5	GD 3.0 4.5	RD 8.0 9.5	7.0 8.5	17.3 19.8	19.5 22 22.0 18	9)° b 2 30 3 32	d 30 46	(Stroke I	ength/ ngth/3	.25) +	7				SRG SRM
Bore size (mm) ϕ 20	207	-	Z 36	GC 4.0	GD 3.0	RD 8.0	7.0	17.3	19.5 22	9)° b 2 30 3 32	d 30 46	(Stroke I	ength/ ngth/3	.25) +	7				SRG SRM SRT MRL2
Bore size (mm) \$\dpsi 20\$ \$\dpsi 25\$	207 212	34	36 36	GC 4.0 5.5	GD 3.0 4.5	RD 8.0 9.5	7.0 8.5 8.5	17.3 19.8	19.5 22 22.0 18 25.5 19	7)° b 2 30 3 32 5 32	d 30 46 46	(Stroke I	ength/ ngth/3 ngth/3	.25) + .25) +	7 7				SRG SRM SRT

CAC3 UCAC RCC2 MFC SHC GLC Ending

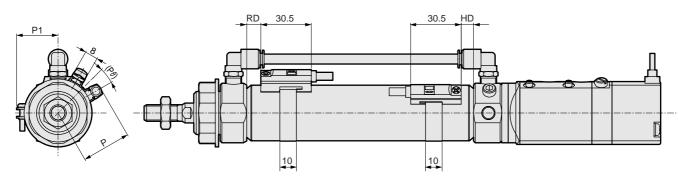
LCS

LCG

LCM

CKV2 Series common (2 color indicator type, with preventive maintenance output with switch) dimensions

● CKV2-**-**-T²₃YH/V, T²₃YFH/V, T²₃YMH/V



2 color indicator type, preventive maintenance output switch installation dimensions

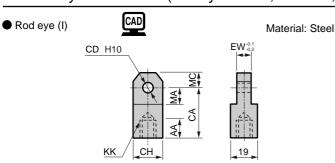
Symbol	T1, T ² ₂ Y, T ² ₂ Y ^F ₄ T8		HD Note 2		Р				
Bore size (mm)			T1, T ₃ ² Y, T ₃ ² Y _M ^F	Т8	T1	T ₃ Y, T8	T ₃ Y _M ^F	P1	(P <i>θ</i>)°
φ20	7.0	2.0	6.0	1	28.5	23.1	28.1	19.5	22
φ 25	8.5	3.5	7.5	2.5	31.0	25.6	30.6	22.0	18
φ32	8.5	3.5	7.5	2.5	35.5	30.1	35.1	25.5	15
φ 40	10.5	5.5	9.5	4.5	39.5	34.1	39.1	29.5	12

SCP*2 CMK2 CMA2 SCM SCG SCA2 SCS CKV2 CA/OV2 SSD CAT MDC2 MVC SMD2 MSD* FC* STK ULK* JSK/M2 JSG JSC3 USSD USC JSB3 LMB STG STS/L LCS LCG LCM LCT LCY STR2 UCA2 HCM HCA SRL2 SRG SRM SRT MRL2 MRG2 SM-25 CAC3 UCAC

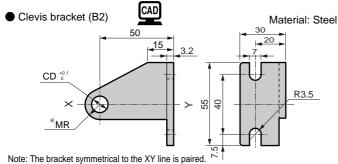
MFC
SHC
GLC
Ending

Accessory

Accessory dimensions (rod eye/clevis, bracket, pin)

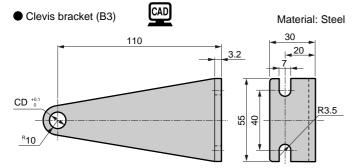


Model no.	Applicable tube	AA	СА	CD	СН	EW	KK	MA	МС	Weight (g)
M1-I-20	φ20	14	30	10	19	8	M8 x 1.0	13	10	60
M1-I-30	φ 25, φ 32	16	36	12	25	10	M10 x 1.25	16	12	110
M1-I-40	φ40	16	36	12	25	10	M12 x 1.5	16	12	100



Model no.	Applicable tube I.D. (mm)	CD	MR	Weight (g)
M1-B2-20-TA	φ20	8	8	130
M4 P2 20 TA	135 133 140	10	11	150

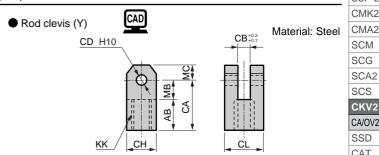
Note: Snap ring and pin are attached



Model no.	Applicable tube I.D. (mm)	CD	Weight (g)
 M1-B3-20-TA	φ20	8	370
M1-B3-30-TA	φ25, φ32, φ40	10	360

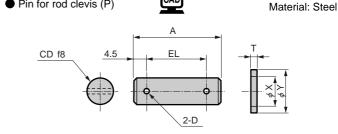
Note: Snap ring and pin are attached.

Silencer (SL-M5) The silencer is sold as 2 pcs./set. M5



Note: Pin, washer and split pin are				attached.								
Model no.	Applicable tube	AB	CA	СВ	CD	СН	CL	KK	MB	МС	Weight (g)	
M1-Y-20	φ20	17	30	8	10	19	19	M8 x 1.0	13	10	100	
M1-Y-30	φ 25, φ 30	20	36	10	12	25	25	M10 x 1.25	16	12	210	
M1-Y-40	<i>φ</i> 40	20	36	10	12	25	25	M12 x 1.5	16	12	200	

CAD



Model no.	Applicable tube I.D. (mm)	Α	D	CD	EL	Т	Х	Υ	Weight (g)
M1-P-20	φ20	37	4	10	28	2	10.5	18	30
M1-P-30	φ 25, φ 32, φ 40	46	4	12	37	2.5	13	21	50

Note: For rod clevis, pin, washer and split pin are attached to the product.

Rod end nut (NR)

Pin for rod clevis (P)

B	
KK	

	Model no.	Applicable tube I.D. (mm)	В	С	KK	Т	Weight (g)
	M1-NR-20	φ20	13	15	M8 x 1.0	5	3
Ī	M1-NR-30	φ25, φ 32	17	19.6	M10 x 1.25	6	7
	M1-NR-40	φ40	19	21.9	M12 x 1.5	7	9

How to wire

1 low to wife	
Grommet	DIN terminal (U), light (E)
Coil	Cabtire Use code of $\phi 4.5$ to $\phi 7$.

Note 1: The light and surge suppressor cannot be assembled into the grommet. Note 2: Refer to the terminal box wiring methods on page 661 for connections to the DIN terminal box.

SCP*2 CMK2 CMA2 SCM SCG SCA2 SCS

CKV2

SSD CAT MDC2 MVC SMD2 MSD3 FC* STK ULK' JSK/M2

JSG JSC3 USSD USC JSB3 LMB STG STS/L

LCS LCG LCM LCT LCY

STR2 UCA2 HCM HCA SRL2

Material: Steel

SRG SRM SRT MRL2 MRG2

SM-25 CAC3 UCAC RCC2 MFC SHC

GLC Ending