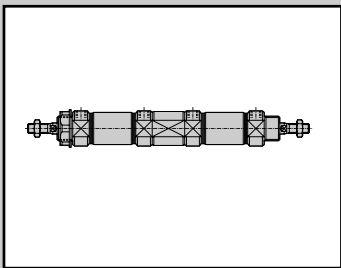


SCP*2
CMK2
 CMA2
 SCM
 SCG
 SCA2
 SCS
 CKV2
 CA/OV2
 SSD
 CAT
 MDC2
 MVC
 SMD2
 MSD*
 FC*
 STK
 ULK*
 JSK/M2
 JSG
 JSC3
 USSD
 USC
 JSB3
 LMB
 STG
 STS/L
 LCS
 LCG
 LCM
 LCT
 LCY
 STR2
 UCA2
 HCM
 HCA
 SRL2
 SRG
 SRM
 SRT
 MRL2
 MRG2
 SM-25
 CAC3
 UCAC
 RCC2
 MFC
 SHC
 GLC
 Ending

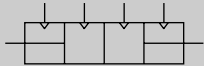


Medium bore size cylinder
 Double acting back to back type

CMK2-B Series

● Bore size: ϕ 20, ϕ 25, ϕ 32, ϕ 40

JIS symbol ● Double acting cylinder back to back type



Specifications

Descriptions	CMK2-B			
Bore size mm	ϕ 20	ϕ 25	ϕ 32	ϕ 40
Actuation	Double acting back to back type			
Working fluid	Compressed air			
Max. working pressure MPa	1.0			
Min. working pressure MPa	0.1			
Withstanding pressure MPa	1.6			
Ambient temperature $^{\circ}\text{C}$	-10 to 60 (no freezing)			
Port size	Rc1/8			
Stroke tolerance mm	$^{+2.0}_{0}$ (up to 200), $^{+2.4}_{0}$ (over 200)			
Working piston speed mm/s	50 to 500			
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

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
ϕ 20	25, 50, 75, 100, 150, 200, 250, 300	750	5
ϕ 25			
ϕ 32			
ϕ 40			

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

Note 2: For bellows "J" type, stroke length should be longer than 25 mm.

Consult with CKD when stroke length is shorter than 25 mm.

Min. stroke length of type with switch

(Unit: mm)

Switch quantity	1				2				3			
	Proximity		Reed		Proximity		Reed		Proximity		Reed	
	T2, T3	T1, T*Y*	T0, T5	T8	T2, T3	T1, T*Y*	T0, T5	T8	T2, T3	T1, T*Y*	T0, T5	T8
Bore size (mm)												
ϕ 20	10				25	35	25	35	50	55	50	55
ϕ 25	10				25	35	25	35	50	55	50	55
ϕ 32	10				25	35	25	35	50	55	50	55
ϕ 40	10				25	35	25	35	50	55	50	55

Note 1: Up to three switches can be mounted.

Switch specifications

- 1 color/2 color indicator

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

Descriptions	Proximity 2-wire			Proximity 3-wire			Reed 2-wire						
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/T2YV	T3H/T3V	T3PH/T3PV (Custom order)	T3YH/T3YV	TOH/TOV		T5H/T5V		T8H/T8V		
Applications	Programmable controller Relay, small solenoid valve	Programmable controller dedicated		Programmable controller, relay			Programmable controller, relay		Programmable controller, relay, IC circuit (w/o light), serial connection		Programmable controller, relay		
Output method	-			NPN output	PNP output	NPN output	-						
Power voltage	-			10 to 28 VDC			-						
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 (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/Green LED (ON lighting)	LED (ON lighting)		Without indicator light		LED (ON lighting)		
Leakage current	1 mA or less with 100 VAC 2 mA or less with 200 VAC	1 mA or less		10 μA or less			0 mA						

- With preventive maintenance output

Descriptions		Proximity 3-wire	Proximity 4-wire	Proximity 3-wire	Proximity 4-wire
		T2YFH/V	T3YFH/V	T2YMH/V	T3YMH/V
Applications		Programmable controller dedicated	Programmable controller, relay	Programmable controller dedicated	Programmable controller, relay
Output method		NPN output			
Light	Installation position adjustment	Red/Green LED (ON lighting)			
	Preventive maintenance output	-		Yellow LED (ON lighting)	
Regular Output section	Power voltage	-	10 to 28 VDC	-	10 to 28 VDC
	Load voltage	10 to 30 VDC	30 VDC or less	10 to 30 VDC	30 VDC or less
	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 section	Load voltage	30 VDC or less			
	Load current	20 mA or less	50 mA or less	5 to 20 mA or less	50 mA or less
	Leakage current	10 μ A or less			

Note 1: Refer to Ending 1 for other switches.

Note 2: The above maximum load current of 20 mA applies at 25 °C. If the switch's working ambient temperature exceeds 25 °C, the load current will be lower than 20 mA. (5 to 10 mA when 60 °C)

Cylinder weight

(Unit: kg)

Descriptions/mounting style	Product weight when stroke length (S) = 0 mm			Additional weight			Switch weight	Switch rail + band weight	Additional weight per S = 10 mm
	Basic type (00)	Axial foot type (LB)	Flange type (FA/FB)	Basic type (00)	Axial foot type (LB)	Flange type (FA)	Grommet		
Bore size (mm)									
φ 20	0.17	0.32	0.23	0.03	0.18	0.09	0.018	0.005	0.01
φ 25	0.26	0.52	0.41	0.03	0.29	0.18	0.018	0.005	0.01
φ 32	0.30	0.56	0.45	0.05	0.31	0.20	0.018	0.009	0.02
φ 40	0.48	0.74	0.63	0.10	0.36	0.25	0.018	0.009	0.02

(E.g.) Product weight of CMK2-B-FA-32-50-T0H-D-50-TOH-R	(weight of S1)								
	When S = 0 mm, product weight is 0.45 kg								
	Additional weight at S = 50 mm is additional weight at S = 10 mm 0.02 X $\frac{\text{Product stroke length (50)}}{10}$ = 0.10 kg								
	Weight of two switches is 0.036 kg								
	Weight of switch rail and two bands is 0.018 kg								
	Weight of S1 is 0.45 kg + 0.1 kg + 0.036 kg + 0.018 kg = 0.604 kg								
	(weight of S2)								
	When S = 0 mm, product weight is 0.45 kg								
	Additional weight at S = 50 mm is additional weight at S = 10 mm 0.02 X $\frac{\text{Product stroke length (50)}}{10}$ = 0.10 kg								
	Weight of two switches is 0.036 kg								
	Weight of switch rail and two bands is 0.018 kg								
	Weight of S2 is 0.45 kg + 0.10 kg + 0.036 kg + 0.018 kg = 0.604 kg								
	Product weight (S1 weight + S2 weight + additional weight) is								
	0.604 kg + 0.604 kg + 0.20 kg = 1.408 kg								

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

Medium bore size cylinder
Standard type

CMK2-B Series

How to order

Without switch

CMK2-B - 00 - 20 - 25 - 50 - J I

With switch

CMK2-B - 00 - 20 - 25 - T0H - D - 50 - T0H - R - J I

A Mounting style B Bore size

C Port thread type

D Stroke length

D Stroke length

E Switch model no.

E Switch model no.

F Switch quantity
Note 8

F Switch quantity

Note on model no. selection

Note 1: Refer to page 160 for min. stroke length with switch.

Note 2: For bellows "J" type, stroke length should be longer than 25 mm. Consult with CKD when stroke length is shorter than 25 mm.

Note 3: Applicable tube O.D. of F; push-in joint (straight), FE; push-in joint (elbow) is $\phi 6$.

Note 4: Instantaneous maximum temperature is the temperature when spark and spatter etc. instantaneously contacts to bellows.

Note 5: Refer to Ending 89 for custom specifications of rod end form.

Note 6: Refer to page 84 for variation and combinations of options.

Note 7: With the back to back type, the port alignment is adjusted with spacers, so X and M dimensions have a tolerance of 0 to 1.5 mm.

Note 8: Up to three switches can be mounted. If more than four switches are required, switch mounting brackets for the extra switches must be prepared separately.

<Example of model number>

CMK2-B-00-20-25-T0H-D-50-T0H-R-JI

Model: Medium bore size cylinder double acting back to back type

A Mounting style : Basic type

B Bore size : $\phi 20$ mm

C Port thread type : Rc thread

D Stroke length (S1) : 25 mm

E Switch model no. (S1) : Reed T0H switch 1st step stroke 25 mm indicated with S1
Lead wire 1 m +2nd step stroke 50 mm indicated with S2
Total stroke length 75 mm S1 + S2

F Switch quantity (S1) : Two

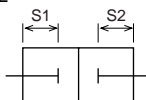
D Stroke length (S2) : 50 mm

E Switch model no. (S2) : Reed T0H switch and lead wire 1 m

F Switch quantity (S2) : One on rod end

G Option : Bellows, max. ambient temperature 100 °C or instantaneous max. temperature 200 °C

H Accessory : Rod eye



Symbol	Descriptions
A Mounting style	
00	Basic type
LB	Axial foot type (both sides)
FA	Rod side flange type

B Bore size (mm)	
20	$\phi 20$
25	$\phi 25$
32	$\phi 32$
40	$\phi 40$

C Port thread type	
Blank	Rc thread
NN	NPT thread (custom order)
GN	G thread (custom order)

D Stroke length (mm)		
Bore size	Stroke length Note 1	Custom stroke length
$\phi 20$	5 to 750	By 1 mm increment
$\phi 25$	5 to 750	
$\phi 32$	5 to 750	
$\phi 40$	5 to 750	

E Switch model no.				
Lead wire Straight type	Lead wire L type	Contact	Indicator	Lead wire
T0H*	T0V*	Reed	1 color	2-wire
T5H*	T5V*		Without indicator light	
T8H*	T8V*		1 color	
T1H*	T1V*	Proximity	1 color	2-wire
T2H*	T2V*			3-wire
T3H*	T3V*			3-wire
T3PH*	T3PV*		1 color (custom order)	3-wire
T2YH*	T2YV*		2 color	2-wire
T3YH*	T3YV*			3-wire
T2YFH*	T2YFV*		2 color (w/o light for preventive maintenance output)	3-wire
T3YFH*	T3YFV*		2 color (Light available for preventive maintenance output (1 color))	4 wire
T2YMH*	T2YMV*			3-wire
T3YMH*	T3YMV*			4 wire
T2JH*	T2JV*		Off-delay type	2-wire

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

F Switch quantity	
R	One on rod end
H	One on head end
D	Two
T	Three

G Option			
		Max. ambient	Max. instantaneous
J	Bellows	100 °C	200 °C
L	Bellows	250 °C	400 °C
F	Push-in joint (straight)		
FE	Push-in joint (elbow)		
M	Piston rod material (stainless steel)		
P6	Copper and PTFE free		

H Accessory	
I	Rod eye
Y	Rod clevis (pin and washer split pin attached)
B2	Clevis bracket (pin and snap ring attached)

How to order switch

● Switch body + mounting bracket

CMK2 - **T0H** - **20**

Switch model no. (item ⑤ on previous page)

Bore size (item ⑥ on previous page)

● Only switch body

SW - **T0H**

Switch model no. (item ⑤ on previous page)

● Mounting bracket

CMK2 - **T** - **20**

Bracket

Bore size (item ⑥ on previous page)

How to order mounting bracket

Bore size (mm)	φ20	φ25	φ32	φ40
Mounting bracket				
Axial foot type (LB)	M1-LB-20	M1-LB-30	M1-LB-30	M1-LB-30
Flange (FA)	M1-FA-20	M1-FA-30	M1-FA-30	M1-FA-30

Note 1: Mounting nut/toothed washer are attached to each mounting bracket.
Note 2: Two sets of "M1-LB-*" in the above table are required for the axial direction foot (double-sided).

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

Medium bore size cylinder
Standard type