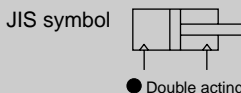


Small direct mounting cylinder, double acting single rod type

MDC2 Series

● Bore size: $\phi 4$, $\phi 6$, $\phi 8$, $\phi 10$



Specifications

Descriptions	MDC2/MDC2-L (with switch)			
Bore size mm	$\phi 4$ Note 1	$\phi 6$	$\phi 8$	$\phi 10$
Actuation	Double acting			
Working fluid	Compressed air			
Max. working pressure MPa	0.7			
Min. working pressure MPa	0.2	0.15	0.1	
Withstanding pressure MPa	1.05			
Ambient temperature $^{\circ}\text{C}$	-10 to 60 (no freezing) Note 2			
Port size	M3			M5
Stroke tolerance mm	+0.5			
	0			
Working piston speed mm/s	50 to 500			
Cushion	None			
Lubrication	Not required (when lubricating, use turbine oil Class 1 ISO VG32.)			
Allowable energy absorption J	A cylinder without cushion cannot absorb an energy generated by an external load. Use this with leadless or install an external shock absorber.			

Note 1: $\phi 4$ is not available for MDC2-L.

Note 2: When proximity switch is installed, use the product at 40 $^{\circ}\text{C}$ or less.

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length with 2 switches (mm)		Min. stroke length with 1 switch (mm)	
			Reed switch	Proximity switch	Reed switch	Proximity switch
$\phi 4$	3, 6	6	-	-	-	-
$\phi 6$	4, 6, 8	8	6	4	4	4
$\phi 8$	4, 6, 8	8	8	4	4	4
$\phi 10$	4, 6, 10	10	6	4	4	4

Note: Other than standard stroke length is not available.

Cylinder switch specifications

Descriptions	Reed 2 wire	Proximity 2 wire	Proximity 3 wire
	F0H/V	F2H/V	F3H/V
Applications	Programmable controller		Programmable controller, relay
Output method	-		NPN output
Power voltage	-	-	10 to 28 VDC
Load voltage	24 VDC	10 to 30 VDC	30 VDC or less
Load current	5 to 20mA (Note 1)	5 to 20mA (Note 1)	50mA or less
Current consumption	-	-	10mA or less (at ON state) at 24 VDC
Internal voltage drop	4 V or less		0.5 V or less
Light	Yellow LED (ON lighting)		
Leakage current	1mA or less		10 μA or less
Lead wire length (standard)	Standard 1m (oil resistant vinyl cabtire cord 2 conductor 0.15mm ²)		Standard 1m (oil resistant vinyl cabtire cord 3 conductor 0.15mm ²)
Maximum shock resistance	294m/s ²	980m/s ²	
Insulation resistance	20M Ω and over at 500 VDC megger		
Withstand voltage	No failure at 1000 VAC for one minute.		
Ambient temperature	-10 to + 60 $^{\circ}\text{C}$		
Protective structure	IEC standards IP67, JIS C 0920 (water tight type), oil resistance		

Note 1: Max. load current 20mA is the value at 25 $^{\circ}\text{C}$.

When ambient temperature around switch is higher than 25 $^{\circ}\text{C}$, the value is lower than 20mA. (5 to 10mA at 60 $^{\circ}\text{C}$)

Clean room specifications (Catalog No. CB-033SA)

- Dust generation preventing structure for use in clean room

MDC2 P7*

MDC2 P5*

Cylinder weight

Stroke length (mm)	3		4		6		8		10		Weight per 1 switch (g)
	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	
φ4	6.4	-	-	-	7.3	-	-	-	-	-	-
φ6	-	-	11.4	13.1	12.4	14	13.4	15	-	-	10
φ8	-	-	16.1	18.2	17.4	19.5	18.7	20.8	-	-	10
φ10	-	-	21.4	23.3	22.6	24.5	-	-	25	26.9	10

How to order

- Without switch

MDC2 - 6 - 4

- With switch

MDC2-L - 6 - 4 - F2V - R

A Model no.

B Bore size

C Stroke length

D Switch model no. Note 1
Note 2
Note 3
Note 4

E Switch quantity

Note on model no. selection

- Note 1: For φ 4 cylinder, switches are not available.
 Note 2: Min. stroke length with two reed switches is 6mm for φ 6, 8mm for φ 8 and 6mm for φ 10.
 Note 3: MDC2 with reed switch cannot be installed on magnetic substance (iron plate, etc.). Failure to observe this may cause switch detection defective.
 Note 4: For MDC2-L-6 with reed switch, use mounting bolts that do not contain magnetic substance (stainless steel hexagon socket head cap screw etc.). Failure to observe this may cause switch detection defective.

<Example of model number>

MDC2-L-6-4-F2V-R

Model: Small direct mounting cylinder

- A Model no. : Double acting single rod type with switch
- B Bore size : φ 6mm
- C Stroke length : 6mm
- D Switch model no. : Proximity switch F2V, lead wire 1m
- E Switch quantity : 1 on rod end

Symbol	Descriptions			
A Model no.				
MDC2	Double acting, single rod type	Without switch		
MDC2-L	Double acting, single rod type	With switch		
B Bore size				
4	φ4			
6	φ6			
8	φ8			
10	φ10			
C Stroke length (mm)				
3	3 (φ 4)			
4	4 (φ 6 to φ 10)			
6	6 (φ 4 to φ 10)			
8	8 (φ 6, φ 8)			
10	10 (φ 10)			
D Switch model no.				
Axial lead wire	Radial lead wire	Contact	Indicator	Lead wire
F0H*	F0V*	Reed	1 color indicator type	2-wire
F2H*	F2V*	Proximity		3-wire
F3H*	F3V*			
*Lead wire length				
Blank	1m (standard)			
3	3m (option)			
E Switch quantity				
R	1 on rod end			
H	1 on head end			
D	Two			

How to order switch

SW - F0H

Switch model no. (Item D above)

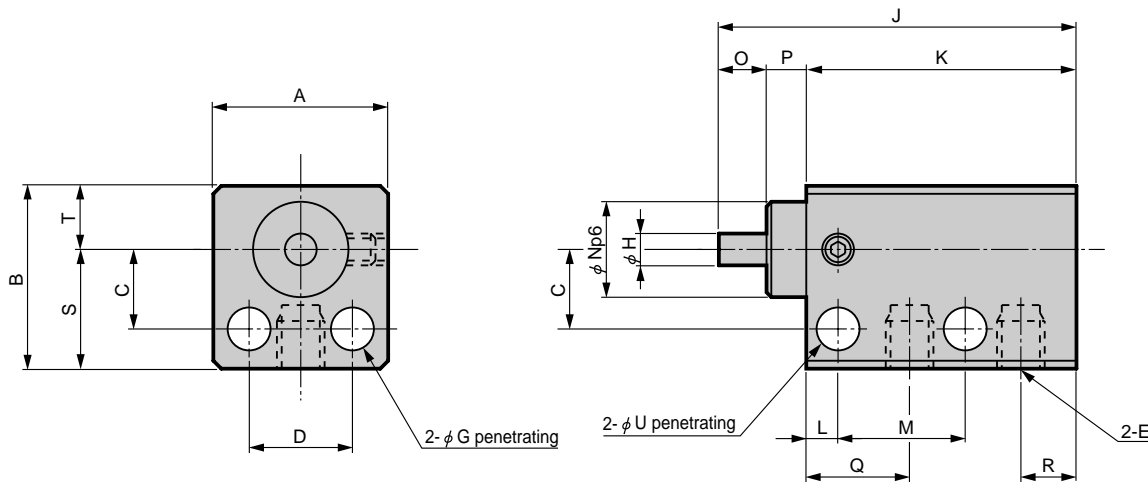
SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Small direct mounting cylinder
Space saving structure

Dimensions



- MDC2-4-3, 6 (single acting retract/with switch)



Model no.	A	B	C	D	E	G	H	J	K	L	M	N	O	P	Q	R	S	T	U
MDC2-4-3	11	11.5	5	6.5	M3	2.7	2	22.5	17	2	8	6	3	2.5	6.5	3.5	7.5	4	2.7
MDC2-4-6	11	11.5	5	6.5	M3	2.7	2	25.5	20	2	11	6	3	2.5	6.5	3.5	7.5	4	2.7

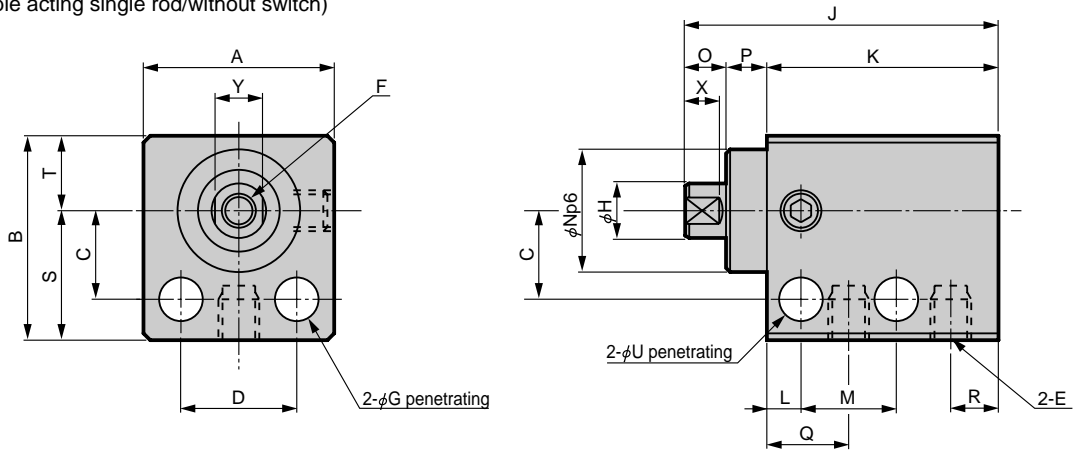
SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Small direct mounting cylinder
Space saving structure

Dimensions

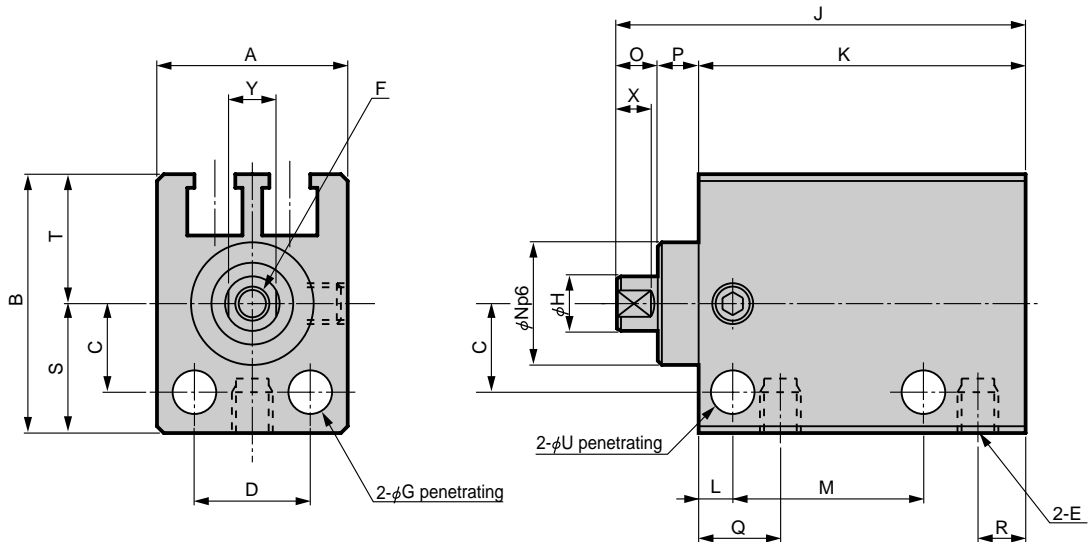


● MDC2-6, 8, 10 (double acting single rod/without switch)



Model no.	Stroke length	A	B	C	D	E	F	G	H	J	K	L	M	O	N	P	Q	R	S	T	U	X	Y
MDC2-6	4	14	15	6.5	8.5	M3	M2.5 x	3.2	4	23	17	2.5	7.5	3	9	3	6	3.5	9.5	5.5	3.2	2.5	3.5
	0.45						25			19	9												
	depth 4						27			21	11												
MDC2-8	4	16	17	7.5	10	M3	M3 x	3.2	5	23	17	2.5	7.5	3	11	3	6	3.5	10.5	6.5	3.2	2.5	4.5
	0.5						25			19	9												
	depth 5						27			21	11												
MDC2-10	4	16	17.5	8	10	M5	M3 x	3.2	6	28	22	2.5	9.5	3	11	3	7	5	11	6.5	3.2	2.5	5
	0.5						30			24	11.5												
	depth 5						34			28	15.5												

● MDC2-L-6, 8, 10 (double acting single rod/with switch)

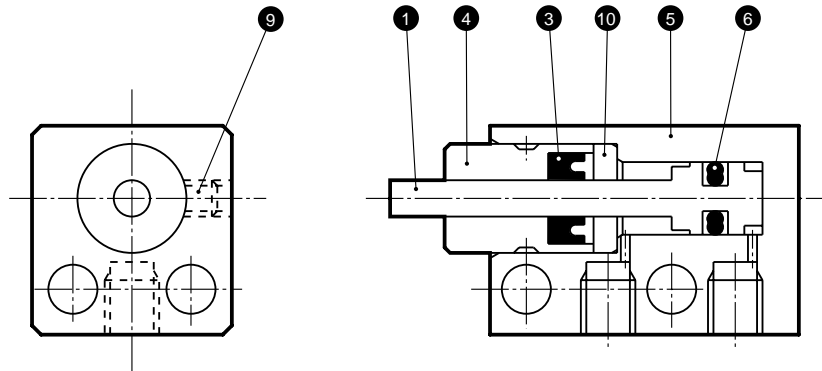


Model no.	Stroke length	A	B	C	D	E	F	G	H	J	K	L	M	O	N	P	Q	R	S	T	U	X	Y
MDC2-L-6	4	14	19	6.5	8.5	M3	M2.5 x	3.2	4	28	22	2.5	12.5	3	9	3	6	3.5	9.5	9.5	3.2	2.5	3.5
	0.45						30			24	14												
	depth 4						32			26	16												
MDC2-L-8	4	16	22	7.5	10	M3	M3 x	3.2	5	28	22	2.5	12.5	3	11	3	6	3.5	11	11	3.2	2.5	4.5
	0.5						30			24	14												
	depth 5						32			26	16												
MDC2-L-10	4	16	22	8	10	M5	M3 x	3.2	6	31	25	2.5	12.5	3	11	3	7	5	11	11	3.2	2.5	5
	0.5						33			27	14.5												
	depth 5						37			31	18.5												

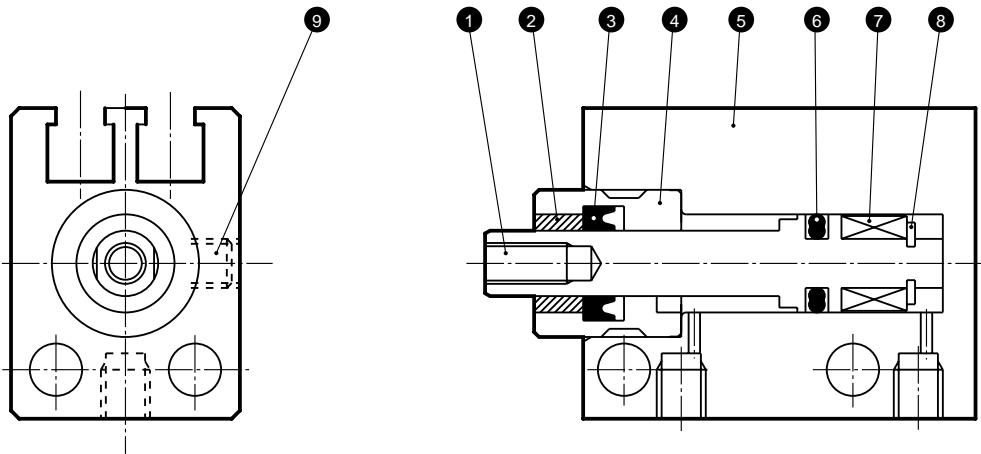
Internal structure and parts list

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

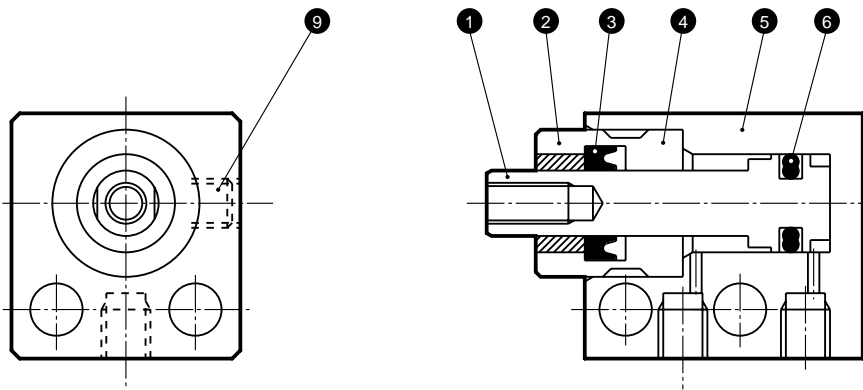
● MDC2-4 (double acting single rod type)



● MDC2-L-6, 8, 10 (double acting single rod type/with switch)



● MDC2-6, 8, 10 (double acting single rod type)



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston	Stainless steel		6	Piston packing seal	Nitrile rubber	
2	Bush	Oil impregnated copper alloy		7	Magnet	Plastic	
3	Rod packing seal	Nitrile rubber		8	E type snap ring	Stainless steel	
4	Rod bushing	ϕ 4: phosphor bronze ϕ 6 to ϕ 10: stainless steel		9	Hexagon socket head set screw	Stainless steel	
5	Body	Aluminum alloy	Hard alumite	10	Collar	Stainless steel	