

MCDB series

DUAL-ROD SLIDE CYLINDER



Table for standard stroke

Tube I.D.	Stroke (mm)
φ 10	25,50,75
φ 16, 20, 25	25,50,75,100,125,150
φ 32	25,50,75,100,125,150,175,200

Order example:

MCDB — 03 — 10 — 50(M)

MODEL

TUBE I.D.

STROKE
(mm)

TYPE OF BEARING:

03 Slide bearing

M: Magnet

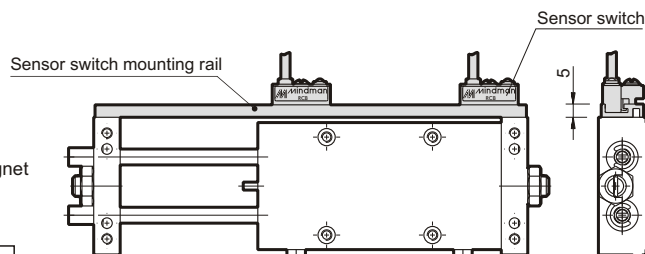
Features:

- A thin and compact dual rod cylinder unit with high precision guiding for picking and placing.
- High Anti-roll accuracy & double thrust.
- The user may use as plate slide type or body slide type according to his requirement.
- Provided with shock absorbers to absorb impact to noise.

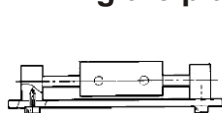
Specification:

Model	MCDB		
Acting type	Double acting		
Tube I.D. (mm)	10,16	20	25,32
Port size Rc(PT)	M5 × 0.8		PT 1/8
Medium	Air		
Max operating pressure	15 kgf/cm ²		
Min operating pressure	9.9 kgf/cm ²		
Proof pressure	1.5 kgf/cm ²	1.0 kgf/cm ²	
Available Temperature range	- 5~+ 60°C (No freezing)		
Available speed range	30~500 mm/sec		
Lubricator	Not required		
Cushion	Shock absorber		
Stroke adjustable rang	Stand stroke ±2mm		
Sensor switch	RCB		

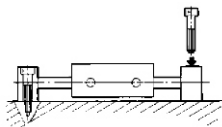
Installation of sensor switch



Affixing the plate

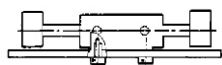


Mounting from the bottom side

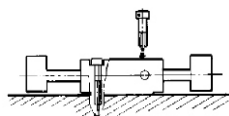


Mounting from the upper side

Affixing the housing

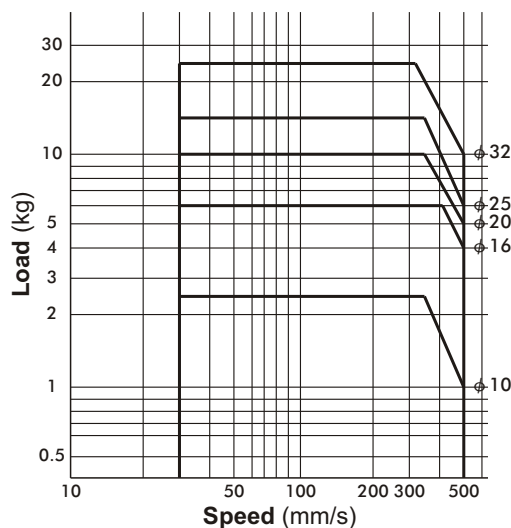


Mounting from the bottom side



Mounting from the upper side

Capacity graph



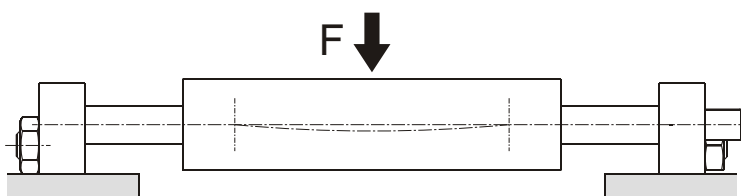
Max. Movable Load / Non-rotating Accuracy

Tube I.D. (Mm)	φ 10	φ 16	φ 20	φ 25	φ 32
Max. movable weight※	1 kg	4 kg	5 kg	6 kg	10 kg
Non-rotating accuracy (Deflection of a piston rod is not included.)	±0.09°	±0.03°	±0.03°	±0.02°	±0.01°

※ Place the center of gravity of the load and center of the slide unit close during operation.

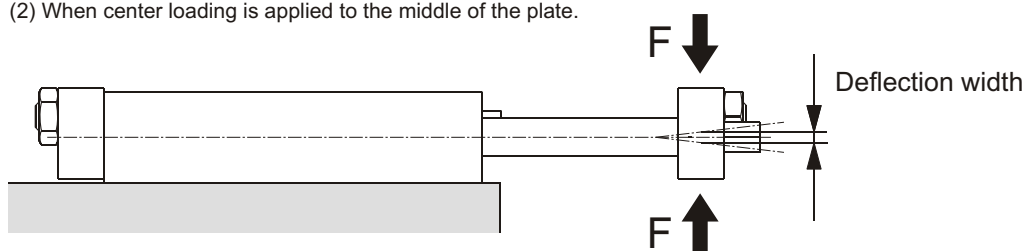
Deflection of the piston rod by center loading (Reference)

(1) When center loading is applied to the middle of the housing.



Tube I.D.	Stroke (mm) Load (N)	100	200
10	9.81	0.07	-
16	39.2	0.05	0.2
20	49	0.04	0.15
25	58.8	0.02	0.08
32	98.1	0.02	0.07

(2) When center loading is applied to the middle of the plate.

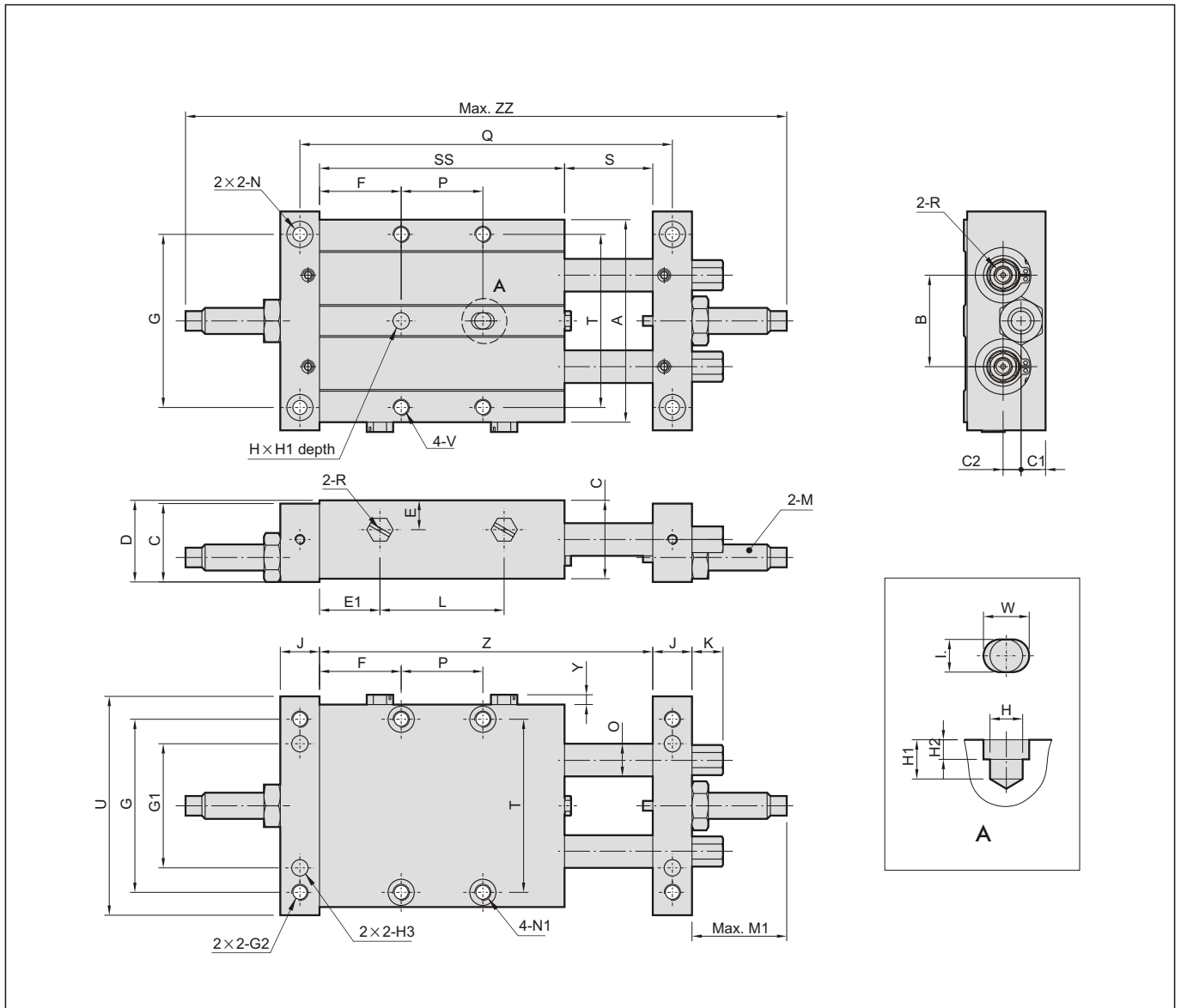


Tube I.D.	Stroke (mm) Load (N)	50	100	150	200
10	2.94	0.06	0.3	-	-
16	4.9	0.03	0.1	0.25	0.45
20	7.84	0.03	0.09	0.18	0.35
25	9.81	0.03	0.09	0.16	0.25
32	29.42	0.02	0.05	0.1	0.15

Remark: The factors are the total widths of deflections in the vertical direction.

MCDB-03 $\phi 10$ / $\phi 16$ / $\phi 25$ stroke: 25

DUAL-ROD SLIDE CYLINDER



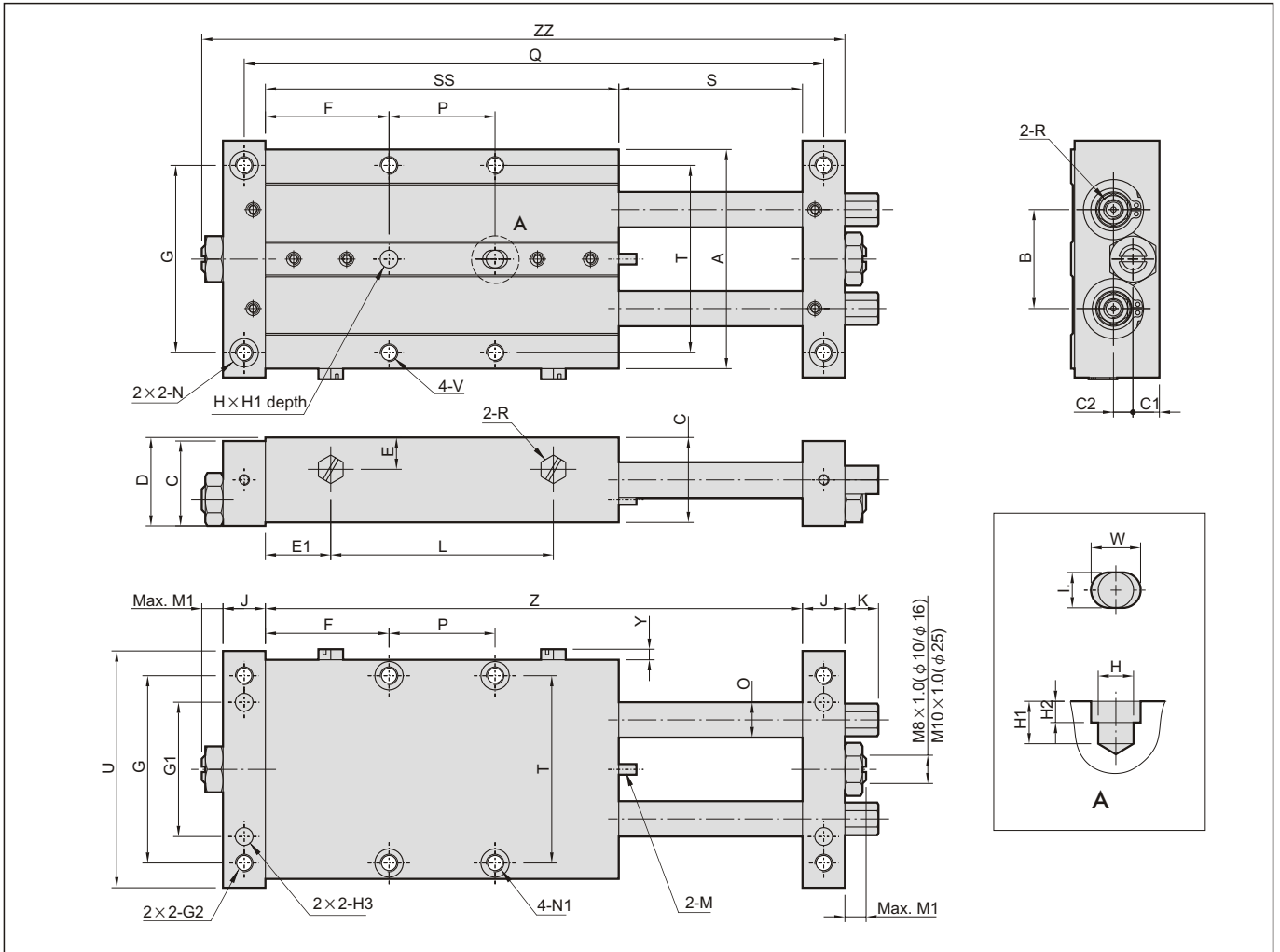
(mm)

Tube I.D.	Code Stroke	A	B	C	C1	C2	D	E	E1	F	G	G1	G2	H _(H7)	H1	H2	H3 _(H7)	I	J	K	L	M	M1
10	25	48	22	18	6	3	19	6.5	14.5	21	40	28	M4×0.7×8dp	φ4	6	3	φ4×5dp	φ4	10	9.5	38	M8×1.0(MAC-0806-SN)	32.6
16	25	62	28	24	7.5	5.5	25	9	18.5	25	53	38	M5×0.8×10dp	φ5	6	3	φ5×6dp	φ5	12	9.5	38	M8×1.0(MAC-0806-SN)	30.6
25	25	79	35	32	9	9	34	16	19.5	28.5	67	50	M6×1.0×12dp	φ6	8	4	φ6×8dp	φ6	16	-	43	M10×1.0(MAC-1007-SN)	33

Tube I.D.	Code Stroke	N	N1	O	P	Q	R	S	SS	T	U	V	W	Y	Z	ZZ
10	25	φ 3.3thru 6.5×3.2dp	φ 3.2thru 6.5×3.3dp	φ 6	25	104	M5×0.8	27	67	37	52	M4×0.7×6dp	6	3	94	179.2
16	25	φ 4.3thru 8×4.5dp	φ 4.3thru 8×4.5dp	φ 10	25	114	M5×0.8	27	75	53	67	M5×0.8×10dp	7	3	102	187.2
25	25	φ 5.2thru 9.5×5dp	φ 5.5thru 9.5×5.5dp	φ 12	25	125	PT 1/8	27	82	67	84	M6×1.0×12dp	8	-	109	207

MCDB-03 ϕ 10 stroke: 50~75 ϕ 16 / ϕ 25 stroke: 50~150

DUAL-ROD SLIDE CYLINDER



MCDB-03

(mm)

Tube I.D.	Code Stroke	A	B	C	C1	C2	D	E	E1	G	G1	G2	H _(H7)	H1	H2	H3 _(H7)	I	J	K	M	M1
10	50~75	48	22	18	6	3	19	6.5	14.5	40	28	M4×0.7×8dp	ϕ 4	6	3	ϕ 4×5dp	ϕ 4	10	9.5	M8×1.0(MAC-0806-2)	8
16	50~150	62	28	24	7.5	5.5	25	9	18.5	53	38	M5×0.8×10dp	ϕ 5	6	3	ϕ 5×6dp	ϕ 5	12	9.5	M8×1.0(MAC-0806-2)	6
25	50~150	79	35	32	9	9	34	16	20.5	67	50	M6×1.0×12dp	ϕ 6	8	4	ϕ 6×8dp	ϕ 6	16	-	M10×1.0(MAC-1008-2)	6

Tube I.D.	Code Stroke	N	N1	O	R	T	U	V	W	Y
10	50~75	ϕ 3.3thru 6.5×3.2dp	ϕ 3.2thru 6.5×3.3dp	ϕ 6	M5×0.8	37	52	M4×0.7×6dp	6	3
16	50~150	ϕ 4.3thru 8×4.5dp	ϕ 4.3thru 8×4.5dp	ϕ 10	M5×0.8	53	67	M5×0.8×10dp	7	3
25	50~150	ϕ 5.2thru 9.5×5dp	ϕ 5.5thru 9.5×5.5dp	ϕ 12	PT 1/8	67	84	M6×1.0×12dp	8	-

MCDB-03 : ϕ 10

Code Stroke	F	L	P	Q	S	SS	Z	ZZ
50	26	63	40	154	52	92	144	172
75	26	88	65	204	77	117	194	222

MCDB-03 : ϕ 16

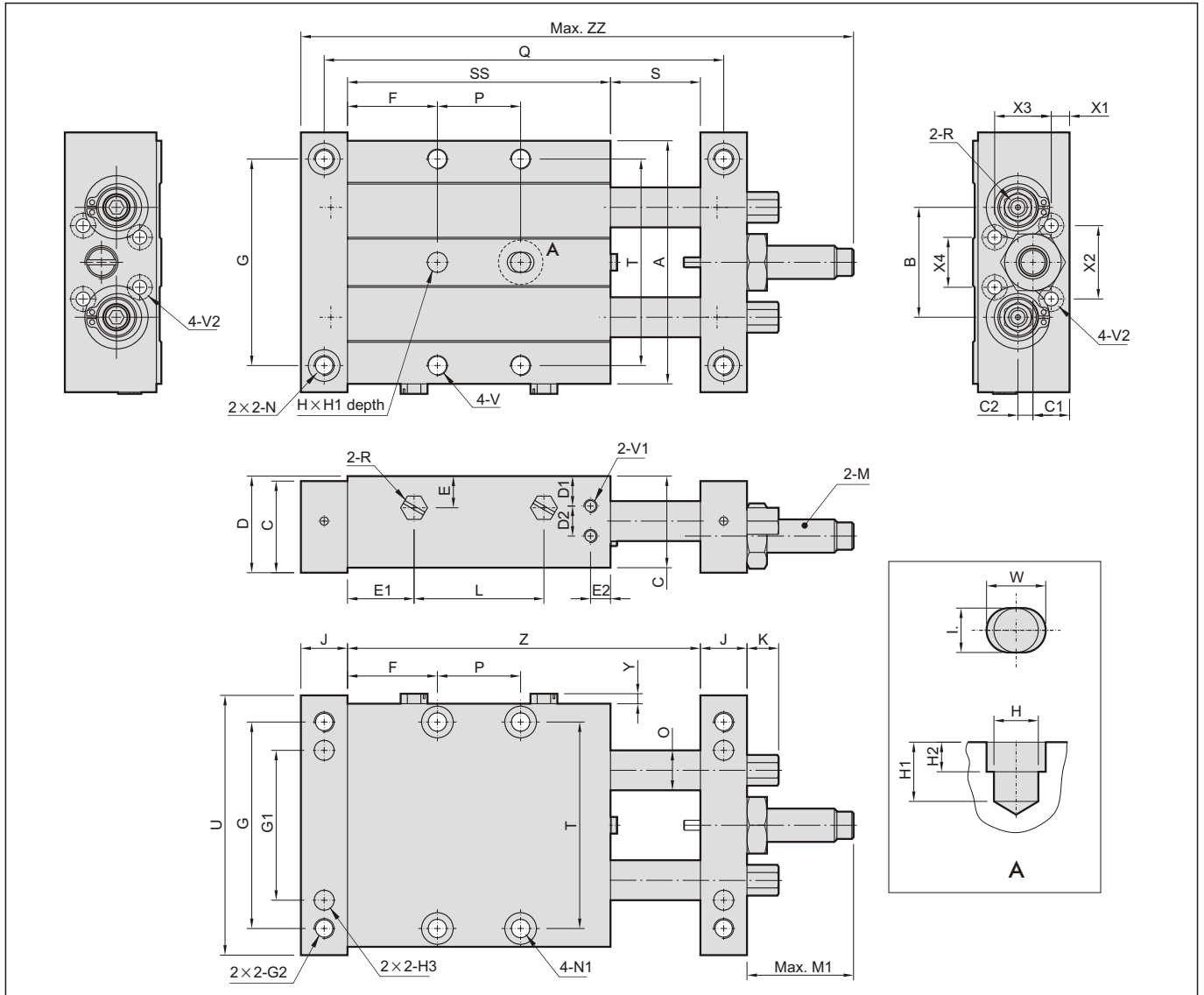
Code Stroke	F	L	P	Q	S	SS	Z	ZZ
50	35	63	30	164	52	100	152	182
75	32.5	88	60	214	77	125	202	232
100	37.5	113	75	264	102	150	252	282
125	42.5	138	90	314	127	175	302	332
150	55	163	90	364	152	200	352	382

MCDB-03 : ϕ 25

Code Stroke	F	L	P	Q	S	SS	Z	ZZ
50	31	66	45	175	52	107	159	197
75	33.5	91	65	225	77	132	209	247
100	33.5	116	90	275	102	157	259	297
125	46	141	90	325	127	182	309	347
150	58.5	166	90	375	152	207	359	397

MCDB-03 $\phi 20$ stroke: 25 $\phi 32$ stroke: 25~50

DUAL-ROD SLIDE CYLINDER



MCDB-03

(mm)

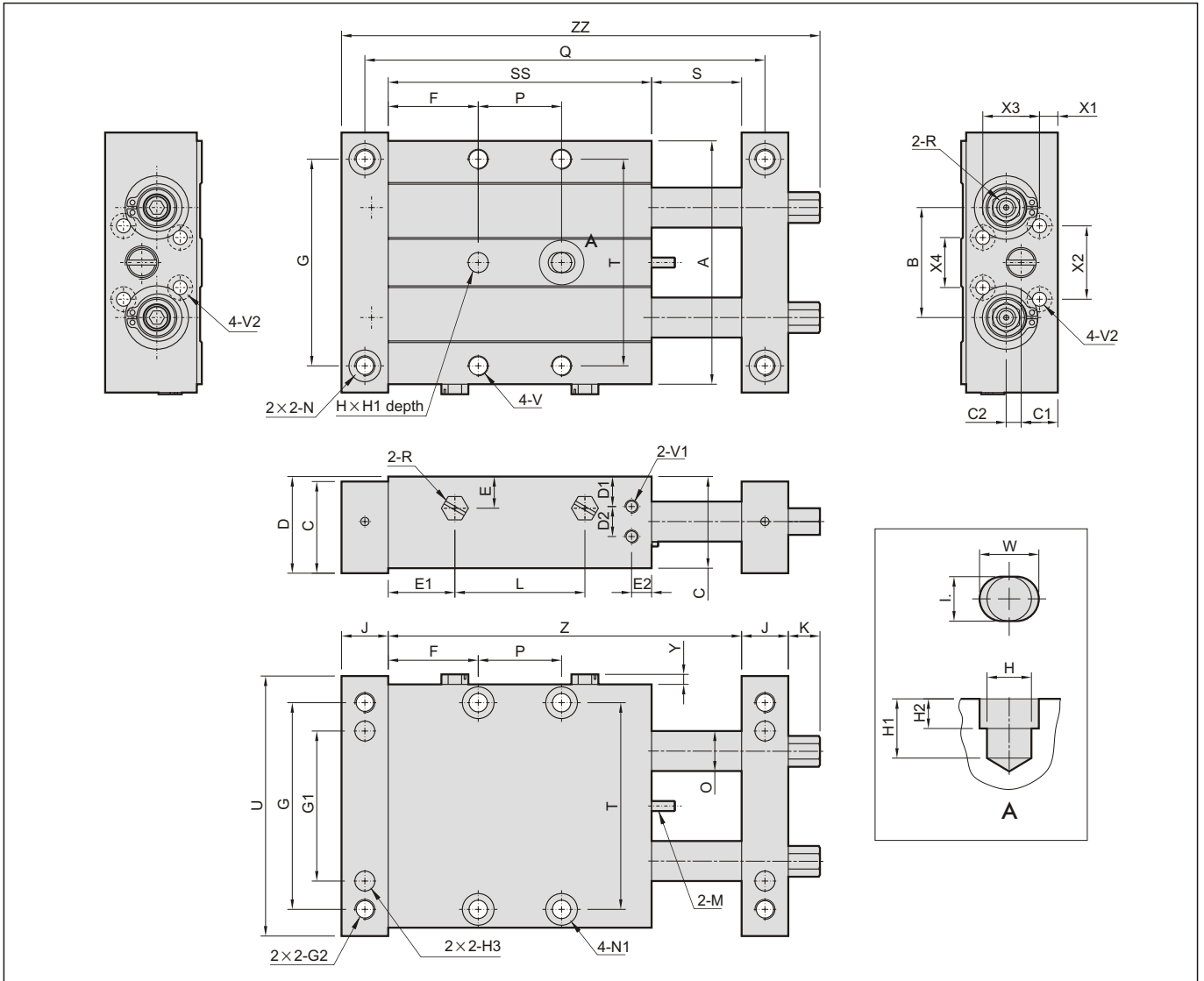
Tube I.D.	Code Stroke	A	B	C	C1	C2	D	D1	D2	E	E1	E2	F	G	G1	G2	H _(H7)	H1	H2	H3 _(H7)	I	J	K	L
20	25	73	33	27.5	11	4.5	29	9	9	9.5	20	6	27	62	45	M6×1.0×12dp	φ6	6	8	φ6×8dp	φ6	14	9.5	39
	50	113	55	38.5	13.5	7	40	10.5	12	15	27.5	10	37	105	84	M8×1.25×15dp	φ8	8	12	φ8×12dp	φ8	20	14.5	41

Tube I.D.	Code Stroke	M	M1	N	N1	O	P	Q	R	S	SS	T	U	V
20	25	M10×1.0(MAC-1008-2)	32	φ5.2thru 9.5×5dp	φ5.5thru 9.5×5.5dp	φ12	25	120	M5×0.8	27	79	62	78	M6×1.0×9dp
	50	M14×1.5(MAC-1412-SN)	50	φ6.9thru 11×6.5dp	φ6.9thru 11×7dp	φ20	22	143	PT 1/8	27	96	100	118	M8×1.25×15dp

Tube I.D.	Code Stroke	V1	V2	W	X1	X2	X3	X4	Y	Z	ZZ
20	25	M4×0.7×5dp	M5×0.8thru 7.5×4.5dp(back side)	8	5.5	22	17	15	3	106	166
	50	M6×1.0×7dp	M5×0.8thru 7.5×4.5dp(back side)	10	7.5	31	24.5	31	-	123	213

MCDB-03 $\phi 20$ stroke: 50~150 $\phi 32$ stroke: 75~200

DUAL-ROD SLIDE CYLINDER



MCDB-03

(mm)

Tube I.D.	Code Stroke	A	B	C	C1	C2	D	D1	D2	E	E1	E2	G	G1	G2	H _(H7)	H1	H2	H3 _(H7)	I	J	K	M
20	50~150	73	33	27.5	11	4.5	29	9	10.5	9.5	20	6	62	45	M6×1.0×12dp	$\phi 6$	8	4	$\phi 6 \times 8dp$	$\phi 6$	14	9.5	M10×1.0(MAC-1008-2)
32	75~200	113	55	38.5	13.5	7	40	9	12	15	28	10	105	84	M8×1.25×15dp	$\phi 8$	12	6	$\phi 8 \times 12dp$	$\phi 8$	20	14.5	M14×1.5(MAC-1412-SN)

Tube I.D.	Code Stroke	N	N1	O	R	R1	T	U	V	V1	V2	W	X1	X2	X3	X4	Y
20	50~150	$\phi 5.2$ thru $9.5 \times 5dp$	$\phi 5.5$ thru $9.5 \times 5.5dp$	$\phi 12$	M5×0.8	M4×0.7×5dp	62	78	M6×1.0×9dp	M4×0.7×5dp	M5×0.8 thru $7.5 \times 4.5dp$ (back side)	8	5.5	22	17	15	3
32	75~200	$\phi 6.9$ thru $11 \times 6.5dp$	$\phi 6.9$ thru $11 \times 7dp$	$\phi 20$	PT 1/8	M6×1.0×7dp	100	118	M8×1.25×15dp	M6×1.0×7dp	M5×0.8 thru $7.5 \times 4.5dp$ (back side)	10	7.5	31	24.5	31	-

MCDB-03 : $\phi 20$

Code Stroke	F	L	P	Q	S	SS	Z	ZZ
50	34.5	64	35	170	52	104	156	193.5
75	34.5	89	60	220	77	129	206	243.5
100	39.5	114	75	270	102	154	256	293.5
125	44.5	139	90	320	127	179	306	343.5
150	57	164	90	370	152	204	356	393.5

MCDB-03 : $\phi 32$

Code Stroke	F	L	P	Q	S	SS	Z	ZZ
75	38	90	70	243	77	146	223	277.5
100	38	115	95	293	102	171	273	327.5
125	38	140	120	343	127	196	323	377.5
150	38	165	145	393	152	221	373	427.5
175	38	190	170	443	177	246	423	477.5
200	38	215	195	493	202	271	473	527.5