

Made to Order Common Specifications: -XC83: Built-in Cylinder with Lock (MDNB)



58 Built-in Cylinder with Lock (MDNB)

Symbol
-XC83

This type has a built-in cylinder with lock, which accommodates intermediate stops, emergency stops and drop prevention, etc.

Applicable Series

Series	Description	Model	Action	Note	Vol. no. (for std model)
MGG	Guide cylinder	MGG	Double acting		2-2 From P. 538

How to Order

MGG **Bearing type** **Mounting type** **Bore size** — **Stroke** — **Auto switch** — **XC83**

↳ Built-in cylinder with lock

Specifications

Applicable series	MGG					
Bore size (mm)	50	63	80	100		
Basic cylinder	MDNBB	Bore size	Stroke	D	Auto switch	X1189
Minimum operating pressure	0.2 MPa (Horizontal with no load)					
Piston speed ^{Note}	50 to 1000 mm/s		50 to 700 mm/s			
Stroke adjustment range (One side) [Built-in adjusting bolts (2 pcs.)]	0 to -15 mm					
Non-rotating accuracy ^{#2}	Slide bearing	±0.04°		±0.03°		
	Ball bushing bearing	±0.03°		±0.02°		
Shock absorber model	RB2015		RB2725			

Note) When the piston is locked, the load mass is limited by the mounting orientation and the operating pressure.

For details about the lock specifications, etc., refer to the cylinders with lock (Best Pneumatics No. 2-2).

#1 Specifications other than shown above are the same as the standard type.

#2 Non-rotating rod accuracy must be below the values shown in the table at the retraction of the cylinder (initial value), and without loads or the conditions excluding the deflection of the guide rods.

Applicable Auto Switches

Refer to pages 1575 to 1701 for the detailed specifications of auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (output)	Load voltage		Auto switch part no.	Tie-rod mounting	Band mounting	Lead wire length (m)				Pre-wired connector	Applicable load			
					DC	AC				0.5 (Nil)	1 (M)	3 (L)	5 (Z)					
Solid state auto switch	—	Grommet	No	3-wire (NPN)	5 V, 12 V	—	M9N	—	●	●	●	○	○	—	IC circuit	Relay, PLC		
				3-wire (PNP)			M9P	—	●	●	●	○	○					
		Terminal conduit		2-wire	12 V	M9B	—	●	●	●	○	○	—					
				2-wire (NPN)	5 V, 12 V	—	G39	—	—	—	—	—						
	Diagnostic indication (2-color)	Grommet	Yes	3-wire (NPN)	5 V, 12 V	—	M9NW	—	●	●	●	○	○	—	IC circuit			
				3-wire (PNP)			M9PW	—	●	●	●	○	○					
				2-wire	12 V	M9BW	—	●	●	●	○	○	—					
				3-wire (NPN)	5 V, 12 V	M9NA	—	○	○	●	○	○						
				Water resistant (2-color indicator)	Grommet	No	3-wire (PNP)	5 V, 12 V	—	M9PA	—	○	○	●	○		○	—
							2-wire			12 V	M9BA	—	○	○	●		○	
Reed auto switch	—	Grommet	Yes	3-wire (NPN equivalent)	—	5 V	—	A96	—	●	—	●	—	—	IC circuit	—		
				No	2-wire	24 V	12 V	100 V	A93	—	●	●	●	●	—		—	
		100 V or less		A90				—	●	—	●	—	—	—	IC circuit			
		—		A33				—	—	—	—	—	—	—	—		Relay, PLC	
		Terminal conduit		Yes	No	2-wire	24 V	12 V	100 V, 200 V	—	A34	—	—	—	—		—	—
—	A44		—						—	—	—	—	—	—	Relay, PLC			

* Lead wire length symbols: 0.5 m Nil (Example) M9NW
1 m M (Example) M9NWM
3 m L (Example) M9NWL
5 m Z (Example) M9NWX

* Solid state auto switch with ○: Manufactured upon receipt of order.

* Refer to page 1852 since there are applicable auto switches other than listed above.
* Refer to pages 1648 and 1649 for the details of auto switches with a pre-wired connector.
* D-A9□/M9□/M9□W/M9□A/M9□AV auto switches are shipped together (not assembled).
(Auto switch mounting brackets for the models above are mounted when shipped.)

Auto Switch Mounting Bracket: Part No.

Auto switch model	Bore size (mm)			
	ø50	ø63	ø80	ø100
D-A9□/A9□V D-M9□/M9□V D-M9□W/M9□WV D-M9□A/M9□AV	BA7-040	BA7-040	BA7-063	BA7-063
D-A3□/A44 D-G39/K39	BMB1-050	BMB1-063	BMB1-080	BMB1-100
D-Z7□/Z80 D-Y59□/Y69□ D-Y7P/Y7PV D-Y7□W/Y7□WV D-Y7BA	BMB4-050	BMB4-050	BA4-063	BA4-063

[Mounting screw set made of stainless steel]

The following set of mounting screws made of stainless steel (including nuts) is available. Use it in accordance with the operating environment. (Please order the auto switch mounting bracket separately, since it is not included.)

BBA1: Stainless steel screw set for D-A5/A6/F5/J5 types

Note) Refer to page 1689 for the details of BBA1.

When shipping cylinders with D-M9□A/M9□AV/Y7BA auto switches, the stainless steel screws above are used to secure auto switch mounting brackets.



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Besides the models listed on the previous page, the following auto switches are applicable.
Refer to pages 1575 and 1701 for details.

Auto switch type	Part no.	Electrical entry (Felching direction)	Features
Reed	D-A93V, A96V	Grommet (Perpendicular)	—
	D-A90V		Without indicator light
	D-Z73, Z76	Grommet (In-line)	—
	D-Z80		Without indicator light
Solid state	D-M9NV, M9PV, M9BV	Grommet (Perpendicular)	—
	D-Y69A, Y69B, Y7PV		—
	D-M9NWV, M9PWV, M9BWW		Diagnostic indication (2-color)
	D-Y7NWV, Y7PWV, Y7BWW		Water resistant (2-color indicator)
	D-M9NAV, M9PAV, M9BAV	Grommet (In-line)	—
	D-Y59A, Y59B, Y7P		—
	D-Y7NW, Y7PW, Y7BW		Diagnostic indication (2-color)
	D-Y7BA		Water resistant (2-color indicator)

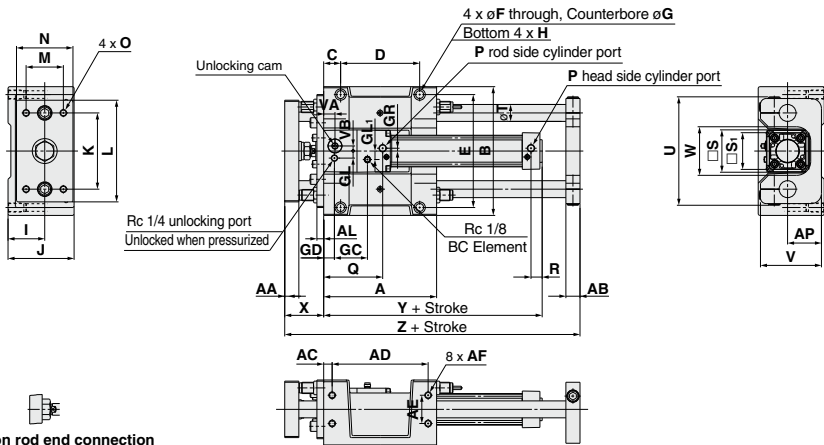
* For solid state switches, auto switches with a pre-wired connector are also available. Refer to pages 1648 and 1649 for details.

* Normally closed (NC = b contact) solid state auto switches (D-F9G/F9H/Y7G/Y7H types) are also available. Refer to pages 1593 and 1595 for details.

Refer to the MNB series in Best Pneumatics No.2-2 for the minimum auto switch mounting stroke, proper auto switch mounting position and operating range.

Dimensions

Basic type ø50 to ø100



ø100 piston rod end connection

Standard Stroke

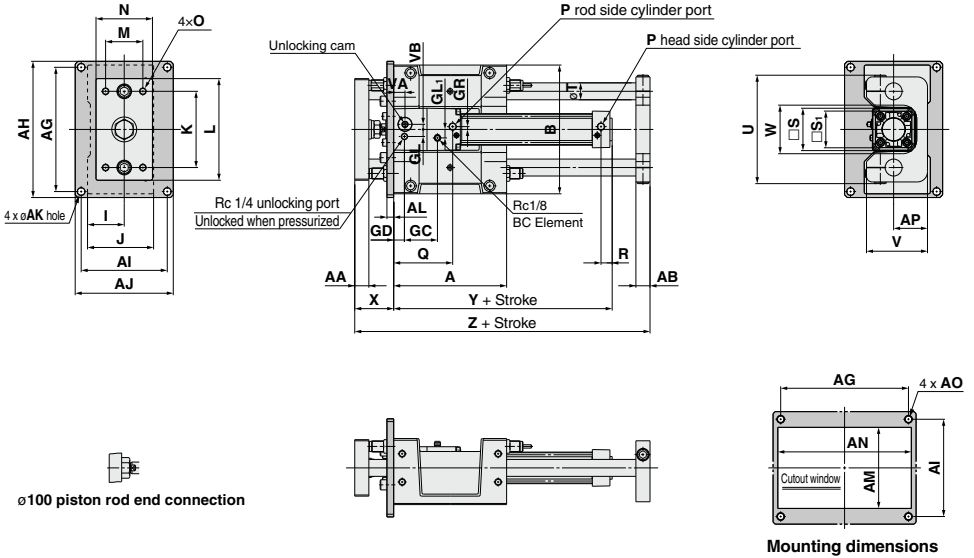
Bore size (mm)	Stroke range (mm)	A	AA	AB	AC	AD	AE	AF	AL	AP	B	C	D	E	F	G	GC	GD	GL	GL1	GR	H	I
50	75, 100, 125	200	25	25	15	170	50	M12 x 1.75 depth 24	12	60	228	30	140	200	13.5	20 depth 14.5	58.5	19	12.5	15	5	M16 x 2 depth 28	65
63	150, 200	230	25	27	15	200	55	M12 x 1.75 depth 24	12	70	262	30	170	234	13.5	20 depth 14.5	68	23	17.5	12	9	M16 x 2 depth 28	75
80	250, 300	280	30	30	17.5	245	70	M14 x 2 depth 28	16	80	304	35	210	274	15	23 depth 17	81	33	22	18	11.5	M18 x 2.5 depth 32	85
100		280	32	30	17.5	245	70	M14 x 2 depth 28	16	80	304	35	210	274	15	23 depth 17	96	37.5	25	20	17	M18 x 2.5 depth 32	85

Long Stroke

Bore size (mm)	Stroke range (mm)																			Bore size (mm)	Stroke range (mm)	
	J	K	L	M	N	O	P	Q	R	S	S ₁	T	U	V	VA	VB	W	X	Y			Z
50	117	135	180	66	100	M12 x 1.75 depth 23	Rc 1/4	104.5	19.5	75	65	30	192	108	20	9	86	69	187	323	50	350 to 1000
63	138	160	214	76	115	M12 x 1.75 depth 23	Rc 3/8	119.5	20.5	90	75	35	224	128	23	8.5	104	69	201	358	63	350 to 1000
80	153	190	245	80	125	M14 x 2 depth 28	Rc 3/8	150	23	102	95	40	262	143	33	10.5	128	87	249	431	80	350 to 1000
100	153	190	245	80	125	M14 x 2 depth 30	Rc 1/2	170	23	116	114	40	262	143	37.5	10.5	128	87	269	431	100	350 to 1000

Dimensions

Front mounting flange type
ø50 to ø100



Standard Stroke

Bore size (mm)	Stroke range (mm)	A	AA	AB	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	B	GC	GD	GL	GL1	GR	I	J	K	L	M	N
50	75, 100, 125	200	25	25	228	250	158	180	14	12	135	234	M12	60	228	58.5	19	12.5	15	5	65	117	135	180	66	100
	150, 200	230	25	27	262	284	178	200	14	12	155	268	M12	70	262	68	23	17.5	12	9	75	138	160	214	76	115
	280, 300	280	30	30	300	326	200	226	16	16	175	310	M14	80	304	81	33	22	18	11.5	85	153	190	245	80	125
100		280	32	30	300	326	200	226	16	16	175	310	M14	80	304	96	37.5	25	20	17	85	153	190	245	80	125

Long Stroke

Bore size (mm)	O	P	Q	R	S	S1	T	U	V	VA	VB	W	X	Y	Z
50	M12 x 1.75 depth 23	Rc 1/4	104.5	19.5	75	65	30	192	108	20	9	86	69	187	323
63	M12 x 1.75 depth 23	Rc 3/8	119.5	20.5	90	75	35	224	128	23	8.5	104	69	201	358
80	M14 x 2 depth 28	Rc 3/8	150	23	102	95	40	262	143	33	10.5	128	87	249	431
100	M14 x 2 depth 30	Rc 1/2	170	23	116	114	40	262	143	37.5	10.5	128	87	269	431

Bore size (mm)	Stroke range (mm)
50	350 to 1000
63	350 to 1000
80	350 to 1000
100	350 to 1000

