

A03

AIR CYLINDER

Series A03G, A03G1, A03G2

Cat No A03G - 01 - 01 - C

COMPACT CYLINDER WITH GUIDE ROD MAGNETIC (Double Acting - Ø12 to 100mm)

Features

- ☐ Compact, lightweight and space saving design
- ☐ Large clamping force in relation to their size
- ☐ Low friction, long life seal design
- ☐ Elastomer end cushion
- ☐ Load can be directly mounted
- ☐ A guide rod is installed to improve lateral load resistance
- ☐ Non-Rotating accuracy $\pm 0.3^\circ$ (or) less



Application

These compact cylinders are widely used in low cost automation, SPMs, industrial machinery, Jigs & fixtures etc.

Technical Specifications

Model	Compact Cylinder With Guide Rod Type (Seal Type)										
Type	Double Acting Cylinder										
Mountings	Mounting hole / Thread in Barrel										
Mounting orientation	Vertical & Horizontal										
Cylinder bore Ø	mm	12	16	20	25	32	40	50	63	80	100
Standard strokes*	mm	5, 10, 15, 20, 25, 30, 40		5, 10, 15, 20, 25, 30, 40, 50		5, 10, 15, 20, 25, 30, 40, 50, 60		10, 20, 30, 40, 50, 60, 70, 80			
Medium		Compressed air - filtered - lubricated									
Working pressure range	bar	1.5 to 10		1 to 10							
Medium temperature	C	+5° to +60°									
Ambient temperature	C	-10° to +60°									

* For Non-standard or longer stroke cylinders, contact your regional dealer or JANATICS H.O.

Output force (force in N : 1N = 0.1 kgf)

Cylinder bore Ø (in mm)	Rod Ø (in mm)		Working pressure in bar								
			2	3	4	5	6	7	8	9	10
12	6	Extend	20	30	40	50	60	70	80	90	100
		Retract	15	22	30	38	46	53	61	68	76
16	8	Extend	36	54	72	90	108	126	144	162	180
		Retract	27	40	54	67	81	95	108	122	135
20	10	Extend	56	84	112	140	169	196	224	254	282
		Retract	42	63	84	106	127	148	169	190	212
25	12	Extend	88	132	176	220	264	308	352	396	440
		Retract	68	102	136	170	204	238	272	306	340
32	16	Extend	145	217	289	362	434	507	579	651	724
		Retract	108	162	217	271	325	380	434	488	542
40	16	Extend	226	339	452	565	678	792	905	1018	1130
		Retract	190	285	380	475	570	665	760	855	950
50	20	Extend	353	530	706	884	1060	1237	1414	1590	1767
		Retract	297	445	594	742	890	1039	1187	1336	1484
63	20	Extend	561	842	1122	1403	1683	1964	2244	2525	2805
		Retract	505	757	1009	1261	1514	1766	2018	2270	2523
80	25	Extend	905	1357	1809	2262	2714	3167	3619	4072	4524
		Retract	816	1225	1633	2041	2449	2857	3266	3674	4082
100	30	Extend	1414	2120	2827	3534	4241	4948	5655	6362	7068
		Retract	1287	1929	2573	3216	3859	4502	5145	5789	6432

* Integrated guides achieves lateral load resistances & high non-rotating accuracy. (Above values have been worked out taking frictional loss into consideration)

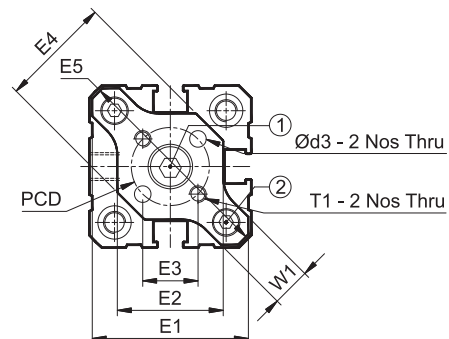
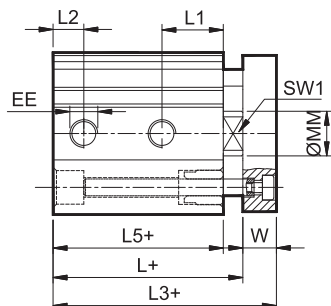
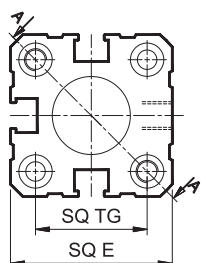
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Series A03G, A03G1, A03G2

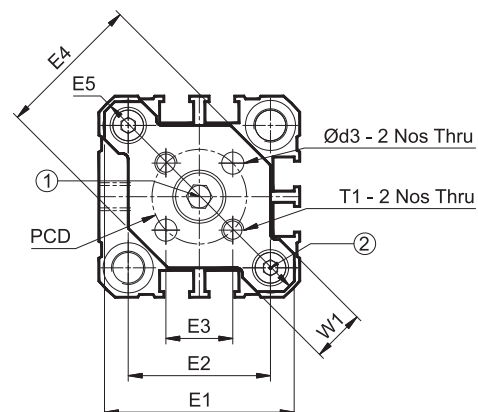
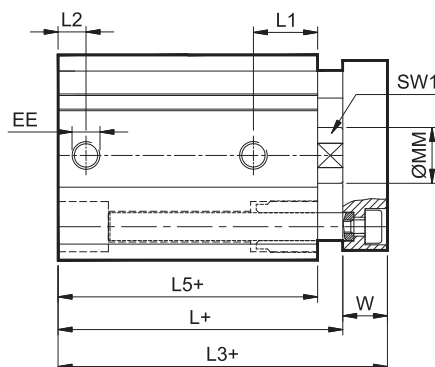
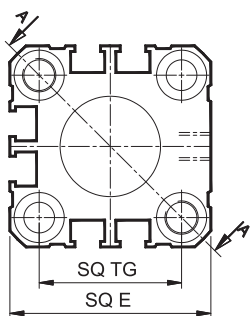
Cat No A03G - 01 - 01 - C

Basic cylinder

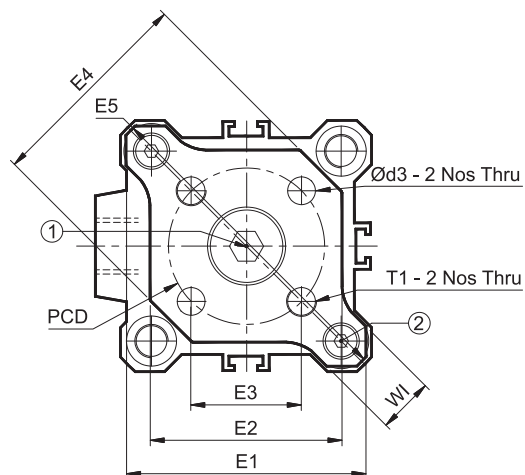
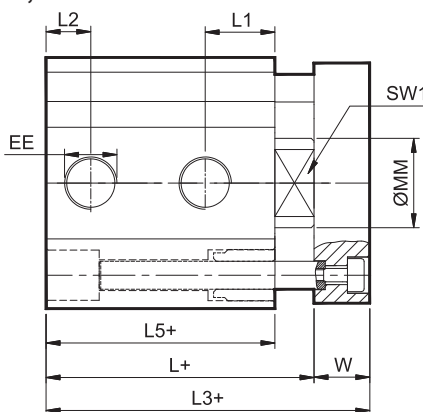
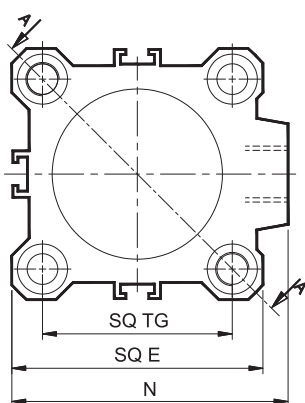
Sizes - Ø12, Ø16



Sizes - Ø20, Ø25



Sizes - Ø32, Ø40, Ø50, Ø63, Ø80, Ø100



Section AA

+ Add stroke

Model G	Model G1	Model G2
Counter bore and thread on both sides	Counter bore and through hole on both sides	Thread on both sides

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Model G - Counter bore and thread on both sides

+ Add stroke

Product No.	Cylinder bore Ø	MM	Ød1	Ød2	L4	SW1	L1	L2	EE	TG ±0.1	E	N	L5	L	L3	W	E1	E2	E3	PCD ±0.1	T1	Ød3	W1	E4	E5	T2	L6
A03012000G	12	6	3.5	6	5.5	5	11.5	5	M5x0.8	15.5	25	-	33.5	37	43	6	24	15	7.1	10	M3x0.5	3	7.5	15	31.5	M4x0.7	8
A03016000G	16	8	3.5	6	5.5	6	11	5.5	M5x0.8	20	29	-	34.5	38	44	6	28	19	9.9	14	M3x0.5	3	7.5	20	37	M4x0.7	8
A03020000G	20	10	5.5	9	9.5	8	11.5	5	M5x0.8	25.5	36	-	36.5	40	48	8	34	25.5	12	17	M4x0.7	4	9.5	26	45.5	M6x1	10
A03025000G	25	12	5.5	9	9.5	10	11	5	M5x0.8	28	40	-	39	44	52	8	38	29.5	15.6	22	M5x0.8	5	9.5	30	50.5	M6x1	10
A03032000G	32	16	5.5	9	9.5	14	12.5	8	G1/8	34	45	49.5	46	53	63	10	43	34.4	19.8	28	M5x0.8	5	10	38	58.5	M6x1	10
A03040000G	40	16	5.5	9	9.5	14	11.5	8	G1/8	40	52	57	41.5	48.5	58.5	10	50	41.4	23.3	33	M5x0.8	5	10	46	67.5	M6x1	10
A03050000G	50	20	6.6	10.5	11	17	14	10.5	G1/4	50	64	71	47	55	67	12	62	53.4	29.7	42	M6x1	6	13	58	84.5	M8x1.25	13
A03063000G	63	20	9	13.5	11	17	14	10.5	G1/4	60	77	84	48	56	68	12	74	59.6	35.4	50	M6x1	6	15.5	69	100	M10x1.5	16
A03080000G	80	25	11	16.5	14.5	22	18.5	12.5	G3/8	77	98	104	58.5	68.5	82.5	14	95	79.5	46	65	M8x1.25	8	20	89	129	M12x1.75	19
A03100000G	100	30	11	16.5	14.5	27	21	12.5	G3/8	94	117	123.5	62.5	73.5	89.5	16	114	99	56.6	80	M10x1.5	10	20	113	153	M12x1.75	19

Model G1 - Counter bore and through hole on both sides

+ Add stroke

Product No.	Cylinder bore Ø	MM	Ød1	Ød2	L4	SW1	L1	L2	EE	TG ±0.1	E	N	L5	L	L3	W	E1	E2	E3	PCD ±0.1	T1	Ød3	W1	E4	E5
A03012000G1	12	6	3.5	6	5.5	5	11.5	5	M5x0.8	15.5	25	-	33.5	37	43	6	24	15	7.1	10	M3x0.5	3	7.5	15	31.5
A03016000G1	16	8	3.5	6	5.5	6	11	5.5	M5x0.8	20	29	-	34.5	38	44	6	28	19	9.9	14	M3x0.5	3	7.5	20	37
A03020000G1	20	10	5.5	9	9.5	8	11.5	5	M5x0.8	25.5	36	-	36.5	40	48	8	34	25.5	12	17	M4x0.7	4	9.5	26	45.5
A03025000G1	25	12	5.5	9	9.5	10	11	5	M5x0.8	28	40	-	39	44	52	8	38	29.5	15.6	22	M5x0.8	5	9.5	30	50.5
A03032000G1	32	16	5.5	9	9.5	14	12.5	8	G1/8	34	45	49.5	46	53	63	10	43	34.4	19.8	28	M5x0.8	5	10	38	58.5
A03040000G1	40	16	5.5	9	9.5	14	11.5	8	G1/8	40	52	57	41.5	48.5	58.5	10	50	41.4	23.3	33	M5x0.8	5	10	46	67.5
A03050000G1	50	20	6.6	10.5	11	17	14	10.5	G1/4	50	64	71	47	55	67	12	62	53.4	29.7	42	M6x1	6	13	58	84.5
A03063000G1	63	20	9	13.5	11	17	14	10.5	G1/4	60	77	84	48	56	68	12	74	59.6	35.4	50	M6x1	6	15.5	69	100
A03080000G1	80	25	11	16.5	14.5	22	18.5	12.5	G3/8	77	98	104	58.5	68.5	82.5	14	95	79.5	46	65	M8x1.25	8	20	89	129
A03100000G1	100	30	11	16.5	14.5	27	21	12.5	G3/8	94	117	123.5	62.5	73.5	89.5	16	114	99	56.6	80	M10x1.5	10	20	113	153

Model G2 - Thread on both sides

+ Add stroke

Product No.	Cylinder bore Ø	MM	Ød1	SW1	L1	L2	EE	TG ±0.1	E	N	L5	L	L3	W	E1	E2	E3	PCD ±0.1	T1	Ød3	W1	E4	E5	T2	L6
A03012000G2	12	6	3.5	5	11.5	5	M5x0.8	15.5	25	-	33.5	37	43	6	24	15	7.1	10	M3x0.5	3	7.5	15	31.5	M4x0.7	8
A03016000G2	16	8	3.5	6	11	5.5	M5x0.8	20	29	-	34.5	38	44	6	28	19	9.9	14	M3x0.5	3	7.5	20	37	M4x0.7	8
A03020000G2	20	10	5.5	8	11.5	5	M5x0.8	25.5	36	-	36.5	40	48	8	34	25.5	12	17	M4x0.7	4	9.5	26	45.5	M6x1	10
A03025000G2	25	12	5.5	10	11	5	M5x0.8	28	40	-	39	44	52	8	38	29.5	15.6	22	M5x0.8	5	9.5	30	50.5	M6x1	10
A03032000G2	32	16	5.5	14	12.5	8	G1/8	34	45	49.5	46	53	63	10	43	34.4	19.8	28	M5x0.8	5	10	38	58.5	M6x1	10
A03040000G2	40	16	5.5	14	11.5	8	G1/8	40	52	57	41.5	48.5	58.5	10	50	41.4	23.3	33	M5x0.8	5	10	46	67.5	M6x1	10
A03050000G2	50	20	6.6	17	14	10.5	G1/4	50	64	71	47	55	67	12	62	53.4	29.7	42	M6x1	6	13	58	84.5	M8x1.25	13
A03063000G2	63	20	9	17	14	10.5	G1/4	60	77	84	48	56	68	12	74	59.6	35.4	50	M6x1	6	15.5	69	100	M10x1.5	16
A03080000G2	80	25	11	22	18.5	12.5	G3/8	77	98	104	58.5	68.5	82.5	14	95	79.5	46	65	M8x1.25	8	20	89	129	M12x1.75	19
A03100000G2	100	30	11	27	21	12.5	G3/8	94	117	123.5	62.5	73.5	89.5	16	114	99	56.6	80	M10x1.5	10	20	113	153	M12x1.75	19

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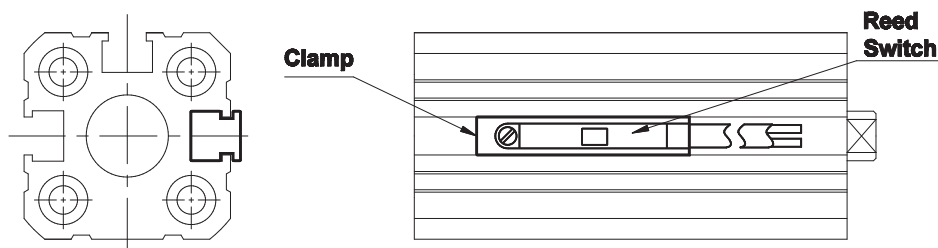
ACCESSORIES FOR MAGNETIC CYLINDERS Series A03

REED SWITCH



Function

The reed switch and clamp assembly is mounted on the Air cylinder (Series A03), for proximity sensing. The piston of the cylinder is equipped with a permanent magnet which activates the reed switch on approaching it. The reed switch closes the circuit giving an electrical signal, which could be used further as required. The accuracy of the sensing distance depends on the speed of operation of the piston.

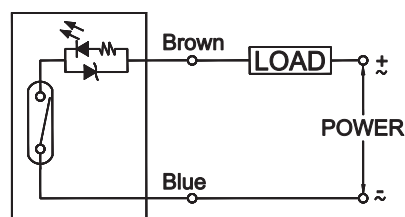


Technical Specifications - Reed Switch

Model	AM2012 / AM2032
Suitable cylinder	A03 Series
Operating voltage	5 ~ 120V DC/AC
Switching current	100mA max
Switching rating	6W max.
Voltage drop	3.5V max.
Switching logic	SPST, Normally open
Operating temperature	- 10° to 70° C
Shock	30 G
Vibration	9 G
Type of protection	IEC 529, IP67
Colour of LED	Red
Cable	Ø2.8, 2C, PVC, 2Meter

Bore Dia	Ordering no. for Reed switch & Clamp
Ø12, Ø16, Ø20, Ø 25	AM2012
Ø32, Ø40, Ø50, Ø63, Ø80, Ø100	AM2032

Circuit and connect diagram

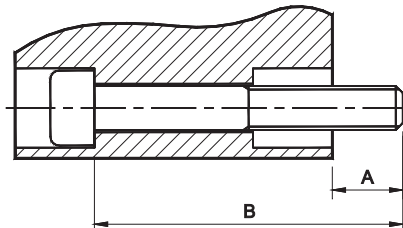


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Cat No A03G - 01 - 01 - C

Recommended bolt size for mounting for A03G1 type only



*Ordering no.	A	Bolt size B	*Ordering no.	A	Bolt size B	*Ordering no.	A	Bolt size B	*Ordering no.	A	Bolt size B	Ordering no.	A	Bolt size B
A03012005G1	7	M3 x 40	A03016005G1	6	M3 x 40	A03020005G1	8	M5 x 40	A03025005G1	10.5	M5 x 45	A03032005G1	8.5	M5 x 50
010G1	7	x 45	010G1	6	x 45	010G1	8	x 45	010G1	10.5	x 50	010G1	8.5	x 55
015G1	7	x 50	015G1	6	x 50	015G1	8	x 50	015G1	10.5	x 55	015G1	8.5	x 60
020G1	7	x 55	020G1	6	x 55	020G1	8	x 55	020G1	10.5	x 60	020G1	8.5	x 65
025G1	7	x 60	025G1	6	x 60	025G1	8	x 60	025G1	10.5	x 65	025G1	8.5	x 70
030G1	7	x 65	030G1	6	x 65	030G1	8	x 65	030G1	10.5	x 70	030G1	8.5	x 75
040G1	7	x 75	040G1	6	x 75	040G1	8	x 75	040G1	10.5	x 80	040G1	8.5	x 85
						050G1	8	x 85	050G1	10.5	x 90	050G1	8.5	x 95
												060G1	8.5	x 105

Ordering no.	A	Bolt size B	Ordering no.	A	Bolt size B	Ordering no.	A	Bolt size B	Ordering no.	A	Bolt size B	Ordering no.	A	Bolt size B
A03040005G1	8	M5 x 45	A03050010G1	9	M6 x 55	A03063010G1	13	M8 x 60	A03080010G1	16	M10 x 70	A03100010G1	17	M10 x 75
010G1	8	x 50	020G1	9	x 65	020G1	13	x 70	020G1	16	x 80	020G1	17	x 85
015G1	8	x 55	030G1	9	x 75	030G1	13	x 80	030G1	16	x 90	030G1	17	x 95
020G1	8	x 60	040G1	9	x 85	040G1	13	x 90	040G1	16	x 100	040G1	17	x 105
025G1	8	x 65	050G1	9	x 95	050G1	13	x 100	050G1	16	x 110	050G1	17	x 115
030G1	8	x 70	060G1	9	x 105	060G1	13	x 110	060G1	16	x 120	060G1	17	x 125
040G1	8	x 80	070G1	9	x 115	070G1	13	x 120	070G1	16	x 130	070G1	17	x 135
050G1	8	x 90	080G1	9	x 125	080G1	13	x 130	080G1	16	x 140	080G1	17	x 145
060G1	8	x 100												

* For piston Ø12 to Ø25 use only non magnetic Stainless Steel bolt.

How to order

A03	025	025	G
Piston Ø (mm)	Stroke (mm)	Guide rod mounting type	
012 - Ø 12	005 - 5	G - Counter bore with thread	
016 - Ø 16	010 - 10	G1 - Counter bore with through hole	
020 - Ø 20	015 - 15	G2 - Thread	
025 - Ø 25	020 - 20		
032 - Ø 32	025 - 25		
040 - Ø 40	030 - 30		
050 - Ø 50	040 - 40		
063 - Ø 63	050 - 50		
080 - Ø 80	060 - 60		
100 - Ø 100	070 - 70		
	080 - 80		

Ordering Example:

Compact double acting cylinder with guide rod bore Ø25 and stroke 25 mm (Counter bore with thread):

A03025025G

Compact double acting cylinder with guide rod bore Ø25 and stroke 25 mm (Counter bore with thru hole):

A03025025G1

For your special requirements of cylinders or for further informations contact your regional dealer or **JANATICS**

Subject to change