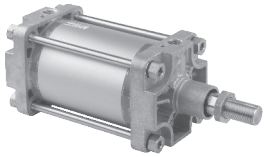
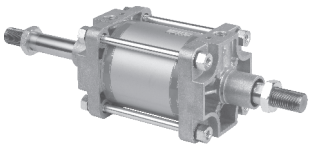
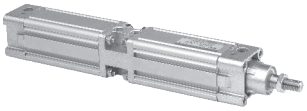
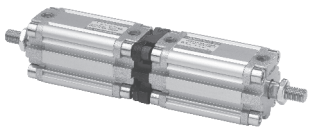
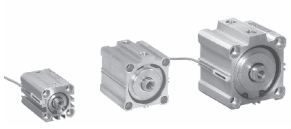
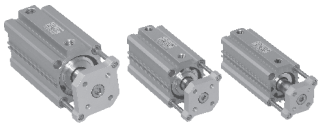
Product Selection Guide

JANATICS Pneumatic

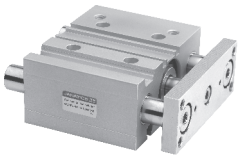
1. PNEUMATIC ACTUATORS

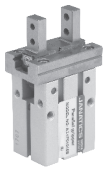
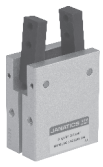
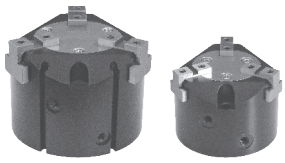
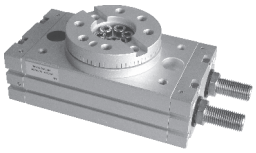
ISO Standard Cylinder Series A12, A13 Sizes : Ø32 - 100mm	**Double End Cylinder** Series A10, A11 Sizes : Ø32 - 100mm	**ISO Standard Cylinder** Series A27, A28 Sizes : Ø32 - 100mm	**Double End Cylinder** Series A25, A26 Sizes : Ø32 - 100mm
			
Page No. 1.1.1 - 1.1.7	**1.1.8 - 1.1.11**	**1.2.1 - 1.2.8**	**1.2.9 - 1.2.13**
ISO Standard Cylinder Series A16, A17 Sizes : Ø125, 160, 200, 250mm	**Double End Cylinder** Series A18, A19 Sizes : Ø125, 160, 200mm	**Square Type (Profile) Cylinder** Series A23, A24 Sizes : Ø32 - 125mm	**Square Type (Profile) Double End Cylinder** Series A20, A21 Sizes : Ø32 - 125mm
			
Page No. 1.3.1 - 1.3.8	**1.3.9 - 1.3.12**	**1.4.1 - 1.4.7**	**1.4.8 - 1.4.11**
Tandem Cylinder Series A23T, A24T Sizes : Ø32 - 125mm	**Non Rotating Rod Cylinder (Hexagonal piston rod)** Series A23H, A24H Sizes : Ø32 - 63mm	**Compact ISO Cylinder** Series A63, A64 Sizes : Ø25 - 100mm	**Multi Position Cylinder** Series A63, A64 Sizes : Ø32 - 100mm
			
Page No. 1.4.12 - 1.4.13	**1.4.14 - 1.4.15**	**1.5.1 - 1.5.5**	**1.5.6 - 1.5.7**
Compact ISO Double End Cylinder Series A60, A61 Sizes : Ø25 - 100mm	**Compact Cylinder** Series A02, A03 Sizes : Ø12 - 100mm	**Compact Cylinder With Guide Rod** Series A02G, A02G1, A02G2 Sizes : Ø12 - 100mm	**Compact Cylinder With Guide Rod Magnetic** Series A03G, A03G1, A03G2 Sizes : Ø12 - 100mm
			
Page No. 1.5.8 - 1.5.11	**1.6.1 - 1.6.9**	**1.6.10 - 1.6.14**	**1.6.15 - 1.6.19**
ISO Miniature Cylinder Series A51, A52 Sizes : Ø12 - 25mm	**ISO Miniature Cylinder** Series A51, A52 Sizes : Ø8 - 10mm	**ISO Miniature Cylinder with Cushioning** Series A55, A56 Size : Ø25mm	**ISO Miniature Double End Cylinder** Series A53, A54 Sizes : Ø12 - 25mm
			
Page No. 1.7.1 - 1.7.6	**1.7.7 - 1.7.11**	**1.7.12**	**1.7.13 - 1.7.16**

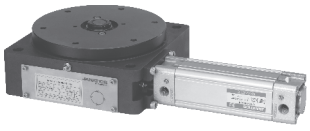
Product Selection Guide

JANATICS Pneumatic

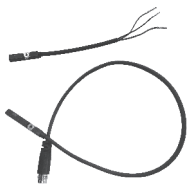
1. PNEUMATIC ACTUATORS

Low Friction Cylinders	Round Cylinder	Compact Guided Cylinder (Bushing type)	Rotary Clamp Cylinder
Series A50 Size : Ø25mm	Series A75, A76 Sizes : Ø32 - 63mm	Series A91SL Sizes : Ø12 - 63mm	Series A01R2 Sizes : Ø12 - 63mm
			
Page No. 1.7.17 - 1.1.21	**1.8.1 - 1.8.6**	**1.9.1 - 1.9.13**	**1.10.1 - 1.10.7**

Parallel Grippers	Angular Grippers	Three Point Chuck	Rotary Actuator
Series AG2P Sizes : Ø10 - 40mm	Series AG1A Sizes : Ø10 - 32mm	Series AG3J Sizes : Ø16 - 100mm	Series A1R Sizes : Ø10 - 63mm
			
Page No. 1.11.1 - 1.11.5	**1.11.6 - 1.11.10**	**1.11.11 - 1.11.21**	**1.12.1 - 1.12.9**

Rotary Indexing Table
Series RIT-180 Stages : 4, 6, 8, 12, 24

1.13.1 - 1.13.2

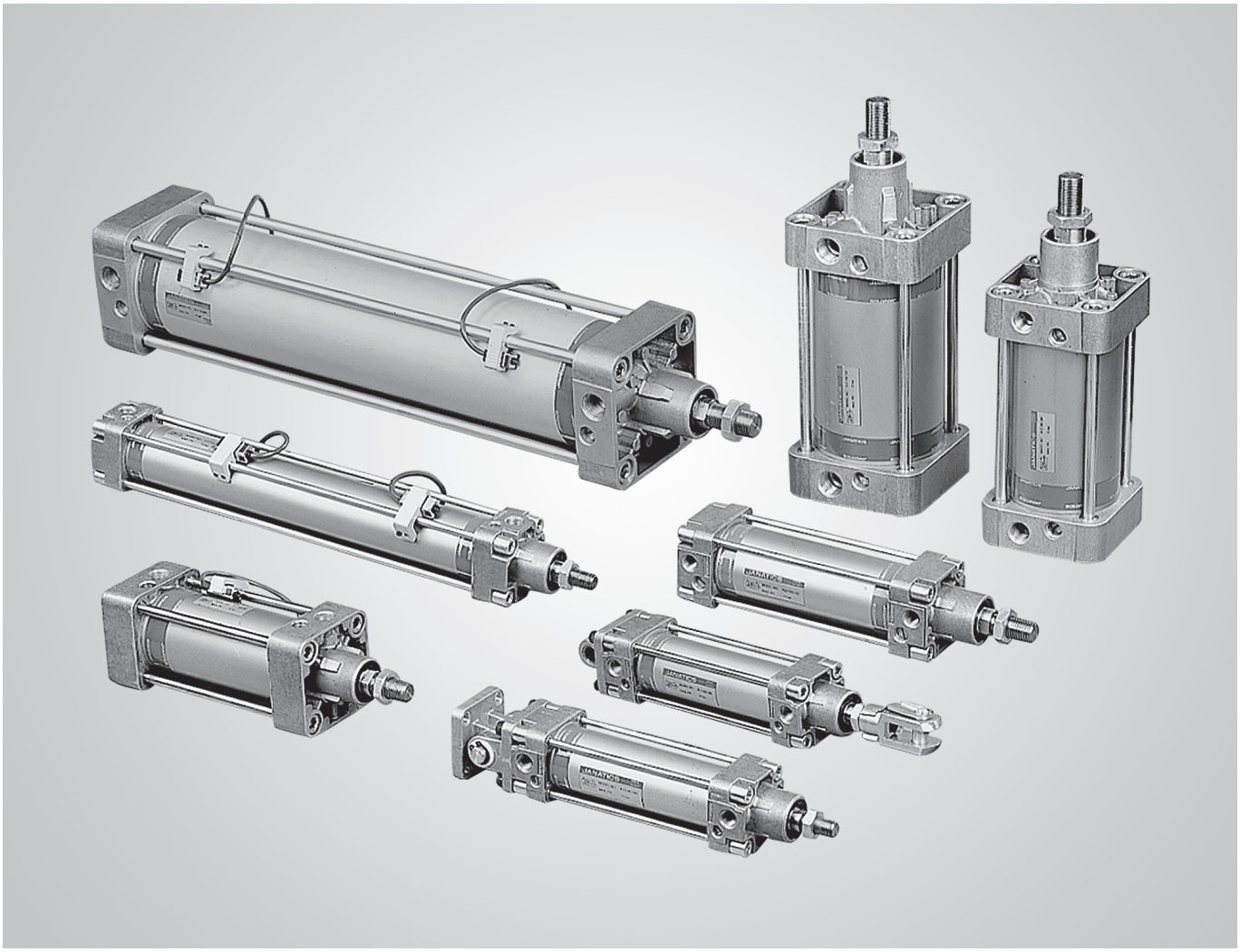
1a. PNEUMATIC ACTUATORS - ACCESSORIES

Magnetic Sensor	Magnetic Sensor	Connector with Cable	Shock Absorber
Series AM40, AM41 Cylinder series A23, A23H, A27, A27H, A25, A25H, A20, A20H, A63	Series AM42 Magnetic cylinder series A20, A23, A60, A63	Series AC	Series SA1E Stroke : 4, 6, 7, 10, 12, 15, 25mm
			
Page No. 1a.1.1 - 1a.1.2	**1a.2.1 - 1a.2.2**	**1a.3.1**	**1a.4.1 - 1a.4.5**

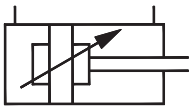
JANATICS
Pneumatic

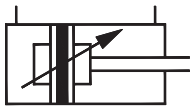
Air Cylinders

Series A12, A16, A28 - Double Acting cylinder (Non Magnetic)
Series A13, A17, A27 - Double Acting cylinder (Magnetic)
Series A10, A19, A25 - Double End Double Acting cylinder (Magnetic)
Series A11, A18, A26 - Double End Double Acting cylinder (Non Magnetic)



- ❑ Conforms to ISO 6431 / CETOP RP43P, RP53P and ISO 15552 / VDMA 24562 standards
- ❑ Double Acting Cylinders
- ❑ Sizes - ø32, ø40, ø50, ø63, ø80, ø100, ø125, ø160, ø200 and ø250
- ❑ Standard mountings
- ❑ Accessories


A12 - Non-magnetic


A13 - Magnetic

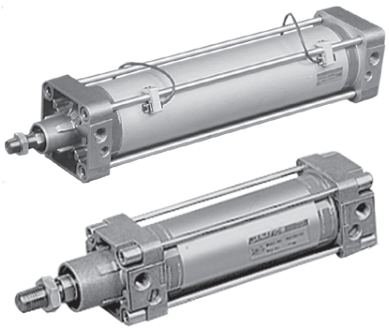
AIR CYLINDER

Series A12, A13

Cat No A12, A13 - 01 - 03

AIR CYLINDERS Double Acting (Ø32 - 100 mm)

As per ISO 6431 / CETOP RP43P, RP53P standards



Features

- ❑ Adjustable cushioning at both ends
- ❑ Wide varieties of mountings
- ❑ Low friction
- ❑ Long life

Technical Specifications

Cylinder bore Ø	(mm)	32	40	50	63	80	100
Cushion stroke	(mm)	21	23	23	23	28	28
Standard strokes*	(mm)	25 50 80 100 125 160 200 250 300 320 400 500					
Medium		Compressed air – filtered – lubricated					
Working pressure		0.5 to 10 bar					
Ambient temperature		-10° to +60° C					
Medium temperature		+5° to +50° C					
Materials of construction		Aluminium, Brass, Nitrile, Steel, Acetal, Iron, Bronze, polyurethane					
Mountings		Basic cylinder, Foot mounting, Front flange, Rear flange, Male clevis, Female clevis, Front trunnion, Rear trunnion, Centre trunnion					
Accessories		Clevis foot bracket, Wall mounting bracket, Trunnion bracket, Rod end fork, Rod end aligner, Rod end spherical eye					

* For Non standard or longer stroke cylinders, contact your regional dealer or **JANATICS**

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
32	12	Extend	145	217	289	362	434	507	579	651	724
		Retract	124	187	249	311	373	435	498	559	621
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	891	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	25	Extend	1414	2120	2828	3534	4241	4948	5655	6362	7069
		Retract	1325	1988	2650	3313	3976	4640	5300	5965	6625

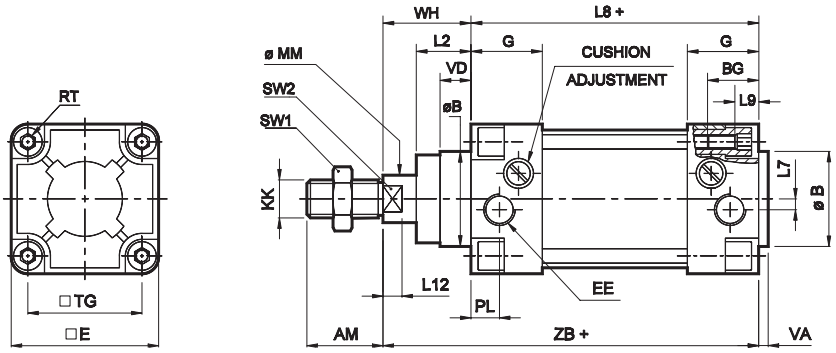
(Above values have been worked out taking frictional loss into consideration)

AIR CYLINDER

Series A12, A13

Cat No A12, A13 - 01 - 03

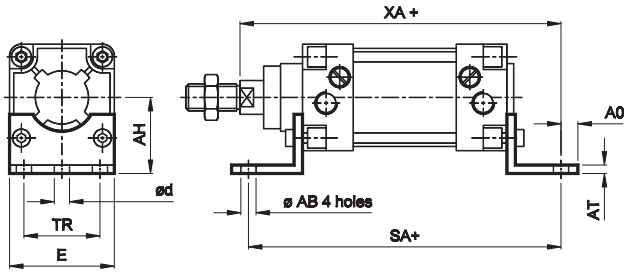
Basic cylinder



+ Add stroke

Cylinder bore Ø	KK	AM	MM	SW2	L12	SW1	B e11	VD	VA	L2	E max	G	TG	RT	BG min	L9	EE	PL	L7	WH	ZB	L8	Stroke tol
32	M10 x 1.25	22	12	10	6	17	30	11	3.5	20.5	44	25	32	M6	16	5	G1/8	8.5	0	26 ± 1.3	120 ± 0.9	94	+2 0
40	M12 x 1.25	24	16	13	6.5	19	35	12	4	24.5	55	28	40	M6	16	5	G1/4	12	3	30 ± 1.3	135 ± 0.9	105	
50	M16 x 1.5	32	20	16	8	24	40	13	4	30	63	30	48	M6	16	5	G1/4	12	5	37 ± 1.3	143 ± 0.9	106	
63	M16 x 1.5	32	20	16	8	24	45	14.5	4	30.5	83	33	60	M8	16	6	G3/8	16.5	10	37 ± 1.7	158 ± 1.1	121	+2.5 0
80	M20 x 1.5	40	25	21	10	30	45	5	4	38.5	98	33	72	M10	16	6	G3/8	16	15	46 ± 1.7	174 ± 1.1	128	
100	M20 x 1.5	40	25	21	10	30	55	20	4	44	115	37	89	M10	16	6	G1/2	18	15	51 ± 1.7	189 ± 1.1	138	

Foot mounting

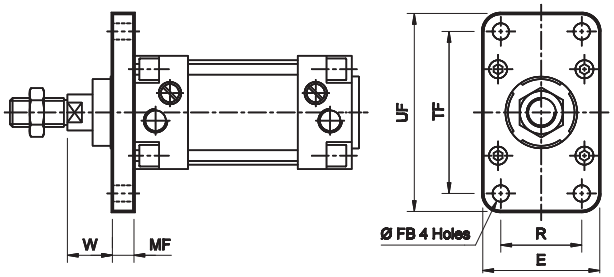


+ Add stroke

Cylinder bore Ø	TR ±0.3	AB	AH Js15	AO max.	AT	E	SA	Tol	d*	XA	Tol	Ordering no.
32	32	7 H14	32	8	4	46	142		5.8	144		ML1032
40	36	9 H13	36	10	4	52	161	± 1.25	7.8	163	± 1.25	ML040
50	45	9 H13	45	12	5	65	170		7.8	175		ML050
63	50	9 H13	50	12	5	75	185		7.8	190		ML063
80	63	12 H14	63	17	6	95	210	± 1.5	9.8	215	± 1.5	ML1080
100	75	14.5 H14	71	19	6	115	220		11.8	230		ML1100

* Suitable for reaming

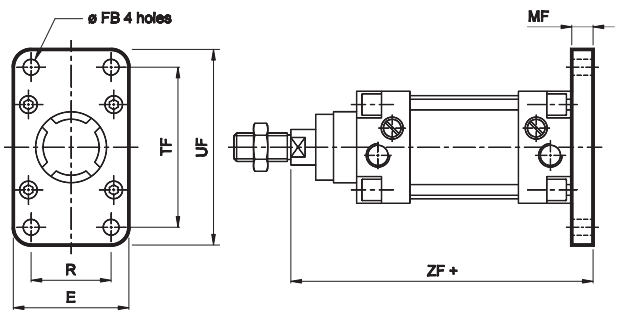
Front flange



+ Add stroke

Cylinder bore Ø	TF ± 0.3	R ± 0.3	FB H13	MF	UF max.	E max.	W	Tol	Ordering no.
32	64	32	7	10	80	50	16		MF1032
40	72	36	9	10	90	55	20	± 1.5	MF040
50	90	45	9	12	110	65	25		MF050
63	100	50	9	12	125	83	25		MF063
80	126	63	12	16	155	100	30	± 1.8	MF1080
100	150	75	14	16	185	120	35		MF1100

Rear flange



+ Add stroke

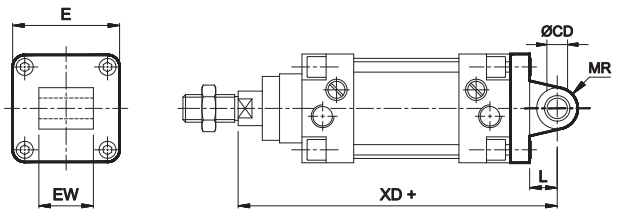
Cylinder bore Ø	TF ± 0.3	R ± 0.3	FB H13	MF	UF	E	ZF	Tol	Ordering no.
32	64	32	7	10	80	50	130		MF1032
40	72	36	9	10	90	55	145	±1.25	MF040
50	90	45	9	12	110	65	155		MF050
63	100	50	9	12	125	83	170		MF063
80	126	63	12	16	155	100	190	±1.5	MF1080
100	150	75	14	16	185	120	205		MF1100

AIR CYLINDER

Series A12, A13

Cat No A12, A13 - 01 - 03

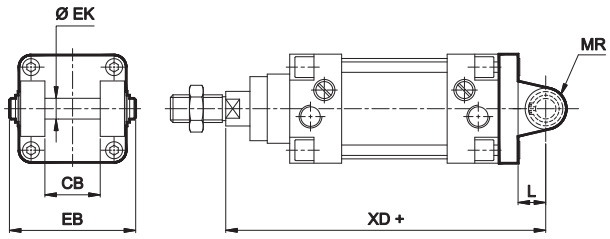
Male clevis



+ Add stroke

Cylinder bore Ø	CD H9	EW	Tol	L min	MR max	E max	XD	Tol	Ordering no.
32	10	26	- 0.2 - 0.6	12	11	45	142	± 1.25	MS032
40	12	28		15	13	54	160		MS040
50	12	32		15	13	64	170		MS050
63	16	40		20	17	82	190	± 1.5	MS063
80	16	50		20	17	94	210		MS1080
100	20	60		25	21	111	230		MS1100

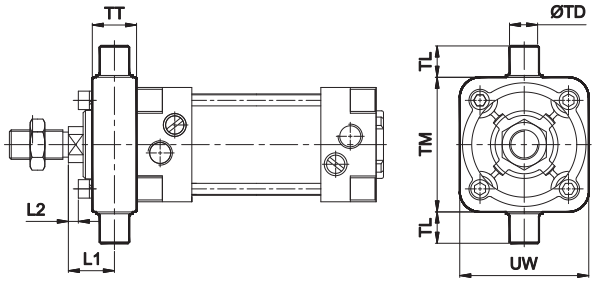
Female clevis



+ Add stroke

Cylinder bore Ø	EK e8	L min	MR max	EB max	CB H14	XD	Tol	Ordering no.
32	10	12	11	56	26	142	± 1.25	MD032
40	12	15	13	65	28	160		MD040
50	12	15	13	73	32	170		MD050
63	16	20	17	86	40	190	± 1.5	MD063
80	16	20	17	106	50	210		MD1080
100	20	25	21	129	60	230		MD1100

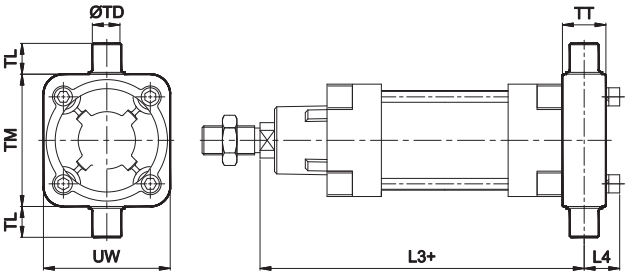
Front trunnion



+ Add stroke

Cylinder bore Ø	TD e9	TL h14	TM h14	UW	TT	R	L1	Tol	L2 approx	Ordering no.
32	12	12	50	48	16	1	18	± 1.5	2	MT0032
40	16	16	63	55	22	1.5	19		0	MT0040
50	16	16	75	70	24	1.6	25		5	MT0050
63	20	20	90	86	28	1.6	23	± 2	-1	MT0063
80	20	20	110	110	32	1.6	30		1.5	MT0080
100	25	25	132	135	40	2	31		-1.5	MT0100

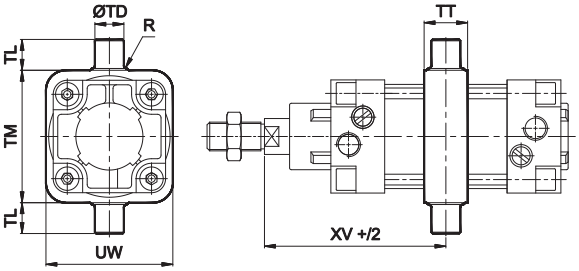
Rear trunnion



+ Add stroke

Cylinder bore Ø	TD e9	TL h14	TM h14	UW	TT	R	L3	Tol	L4 approx	Ordering no.
32	12	12	50	48	16	1	128	± 1.2	16	MT0032
40	16	16	63	55	22	1.5	146		19	MT0040
50	16	16	75	70	24	1.6	155		20	MT0050
63	20	20	90	86	28	1.6	172	± 1.3	24	MT0063
80	20	20	110	110	32	1.6	190		29	MT0080
100	25	25	132	135	40	2	209		33	MT0100

Centre trunnion



+ Add stroke

Cylinder bore Ø	TD e9	TL h14	TM h14	UW	TT	R	XV	Tol
32	12	12	50	48	16	1	73	± 2
40	16	16	63	55	22	1.5	82.5	
50	16	16	75	70	24	1.6	90	
63	20	20	90	86	28	1.6	97.5	
80	20	20	110	110	32	1.6	110	
100	25	25	132	135	40	2	120	

Note : Cylinder with Centre trunnion is factory fitted, please contact JANATICS - H.O

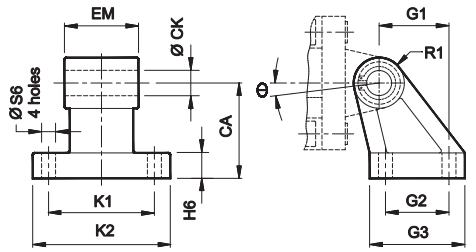
AIR CYLINDER

Series A12, A13

Cat No A12, A13 - 01 - 03

Accessories for Air Cylinder series A12, A13

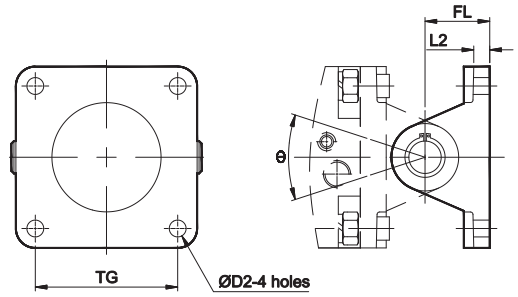
Clevis foot bracket (CETOP - RP 107 P)



Cylinder bore Ø	K1 Js14	G2 Js14	S6 H13	CA Js16	CK H9	EM	Tol	G1 ±0.2	H6	R1 max	K2	G3	θ°	Ordering no. @
32	38	18	5.5	32	10	26	- 0.2 - 0.6	21	9	10	51	31	10	AA032
40	41	22	5.5	36	12	28		24	10	11	54	35	15	AA040
50	50	30	6.6	45	12	32		33	12	13	65	45	15	AA050
63	52	35	6.6	50	16	40		37	12	15	67	50	15	AA063
80	66	40	9	63	16	50		47	14	15	86	60	15	AA080
100	76	50	9	71	20	60		55	15	19	96	70	15	AA100

@ Adoptable to cylinder with female clevis

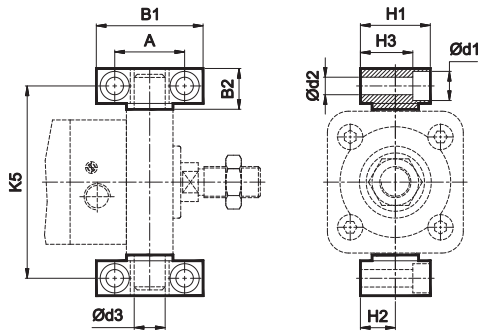
Wall mounting bracket



Cylinder bore Ø	TG	D2	L2	FL	θ°	Ordering no. @	Ordering no. #
32	32	6.6	5.5	22	90	AV032	AW032
40	40	6.6	5.5	25	90	AV040	AW040
50	48	6.6	6.5	27	90	AV050	AW050
63	60	9	6.5	32	90	AV063	AW063
80	72	11	10	36	60	AV1080	AW1080
100	89	11	10	41	60	AV1100	AW1100

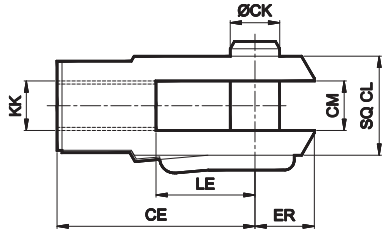
@ Adoptable to cylinder with male clevis
# Adoptable to cylinder with female clevis

Trunnion bracket



Cylinder bore Ø	B1	B2	A	d1	d2 H13	d3 H9	H1	H2	H3	K5 Js14	Ordering no.
32	46	18	32 ±0.2	11	6.6	12	30	15 ±0.1	23	71	AT032
40	55	21	36 ±0.2	15	9	16	36	18 ±0.1	27	87	AT040
50	55	21	36 ±0.2	15	9	16	36	18 ±0.1	27	99	AT040
63	65	23	42 ±0.2	16.5	11	20	40	20 ±0.1	29	116	AT063
80	65	23	42 ±0.2	16.5	11	20	40	20 ±0.1	29	136	AT063
100	75	28.5	50 ±0.2	20	14	25	50	25 ±0.1	37	164	AT100

Rod end Fork (ISO 8140)

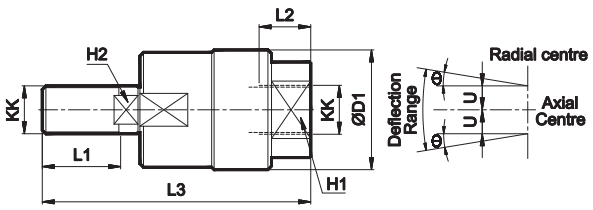


Cylinder bore Ø	KK	CE	CK f 8	CM B12	LE	ER max	CL	Ordering no.
32	M10 x 1.25	40	10	10	20	16	20	AF010
40	M12 x 1.25	48	12	12	24	19	24	AF012
50 / 63	M16 x 1.5	64	16	16	32	25	32	AF016
80 / 100	M20 x 1.5	80	20	20	40	32	40	AF020

AIR CYLINDER

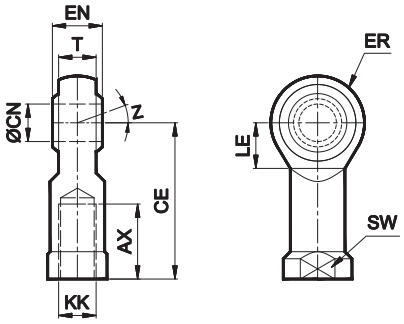
Series A12, A13

Rod end Aligner



Cylinder bore Ø	KK	L1	L2	L3	H1	H2	D1	U	± θ°	Ordering no.
32	M10 x 1.25	20	14	65	17	8	28	0.75	5	AR010
40	M12 x 1.25	22	18	75	19	10	32	1	5	AR012
50 / 63	M16 x 1.5	25	22	91	27	13	41	1	5	AR016
80 / 100	M20 x 1.5	30	28	112	32	16	50	1.5	5	AR020

Rod end spherical eye (ISO 8139)



Cylinder bore Ø	KK	CN H9	T	EN h12	CE	LE min	ER max	AX	SW	Z	Ordering no.
32	M10 x 1.25	10	10.5	14	43	15	14	20	17	13°	AP010
40	M12 x 1.25	12	12	16	50	17	16	22	19		AP012
50 / 63	M16 x 1.5	16	15	21	64	22	21	28	22	15°	AP016
80 / 100	M20 x 1.5	20	18	25	77	26	25	33	30/32		AP020

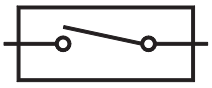
AIR CYLINDER

Series A12, A13

Cat No A12, A13 - 01 - 03

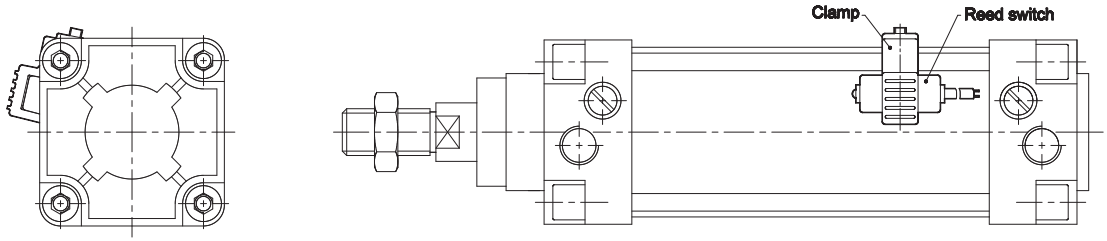
ACCESSORIES FOR MAGNETIC CYLINDERS Series A10, A13

REED SWITCH



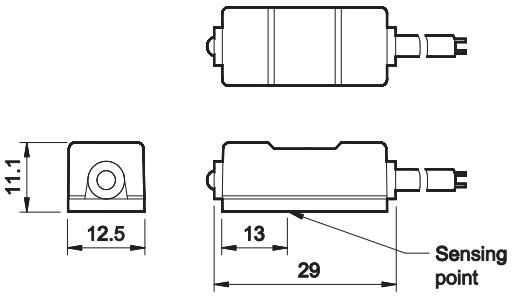
Function

The reed switch and clamping kit assembly is mounted on the Air cylinder (Series A10, A13), 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.

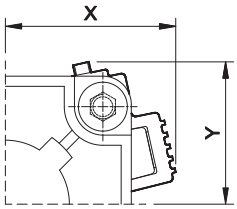


Technical Specifications - Reed Switch

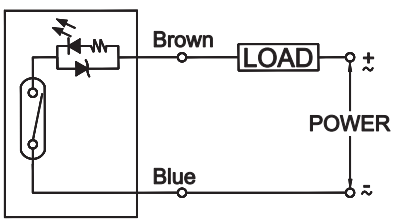
Model	880006
Operating voltage	DC / AC 5 - 240V
Switching current	100mA max
Switch rating	10 W max
Voltage drop	3.5V max.
Response time	On + off <1ms
Switching logic	SPST, Normally open
Operating temperature	-10° to +70° C
Shock	30 G
Vibration	9 G
Protection circuit	None
Type of protection	IEC 529, IP67
Colour of LED	Green
Cable	Ø4, 2C, 2meter



Cylinder bore Ø	X	Y	Ordering no. for Clamp (a)	Ordering no. Reed Switch (b)	Ordering no. (a+b)
32	37	29	SA0001	880006	AM1032
40	40	31			
50	44	37			
63	45	48	SA0002		AM1063
80	57	-	SA0003		AM1080
100	65	-			



Circuit and connect diagram



AIR CYLINDER

Series A12, A13

Cat No A12, A13 - 01 - 03

How to order

A | 12 | 040 | 050 | D

Model	
12	Standard cylinder
13	Magnetic cylinder

Cylinder bore (mm)	
032	- Ø 32
040	- Ø 40
050	- Ø 50
063	- Ø 63
080	- Ø 80
100	- Ø 100

Stroke (mm)	
025	- 25
050	- 50
080	- 80
100	- 100
125	- 125
160	- 160
200	- 200
250	- 250
300	- 300
320	- 320
400	- 400
500	- 500

Mountings	
O	- Basic
L	- Foot Mounting
F	- Front Flange
R	- Rear Flange
S	- Male Clevis
D	- Female Clevis
N	- Front Trunnion
M	- Rear Trunnion
T	- Centre Trunnion

Example:

Ordering no. for standard cylinder with 40 dia bore, 50 mm stroke with female clevis mounting : **A12 040 050 D**

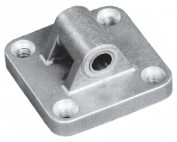
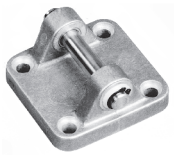
Note:

If ordered as 40 dia, 50 mm stroke cylinder, Basic cylinder **A12 040 050 O** will be supplied.

For repeat order when the details are taken from cylinder nameplate, mention the mounting style separately.

For ordering **Accessories** refer corresponding tables for Ordering numbers.

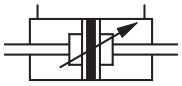
For ordering individual **Mounting** kits (If needed separately) the order numbers are as below

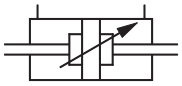
Cylinder bore Ø	Foot mounting *	Front / Rear flange *	Male clevis *	Female clevis *	Front / Rear trunnion *
					
32	ML1032	MF1032	MS032	MD032	MT0032
40	ML040	MF040	MS040	MD040	MT0040
50	ML050	MF050	MS050	MD050	MT0050
63	ML063	MF063	MS063	MD063	MT0063
80	ML1080	MF1080	MS1080	MD1080	MT0080
100	ML1100	MF1100	MS1100	MD1100	MT0100

* Supplied with 4nos. of screws

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

Subject to change


A10 - Magnetic


A11 - Non-magnetic

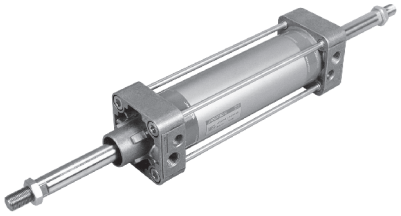
AIR CYLINDER

Series A10, A11

AIR CYLINDERS Double End Double Acting (Ø32 - 100 mm)

Features

- ❑ Adjustable cushioning at both ends
- ❑ Wide varieties of mountings
- ❑ Low friction
- ❑ Long life



Technical Specifications

Cylinder bore Ø	(mm)	32	40	50	63	80	100
Cushion length	(mm)	21	23	23	23	28	28
Standard strokes*	(mm)	25 50 80 100 125 160 200 250 300 320 400 500					
Medium		Compressed air - filtered - lubricated					
Working pressure		0.5 to 10 bar					
Ambient temperature		-10° to +60° C					
Medium temperature		+5° to +50° C					
Materials of construction		Aluminium, Brass, Nitrile, Polyurethane, Steel, Acetal					
Mountings		Basic cylinder, Foot mounting, Flange, Female clevis, Trunnion, Centre trunnion					
Accessories		Trunnion bracket, Rod end fork, Rod end aligner, Rod end spherical eye					

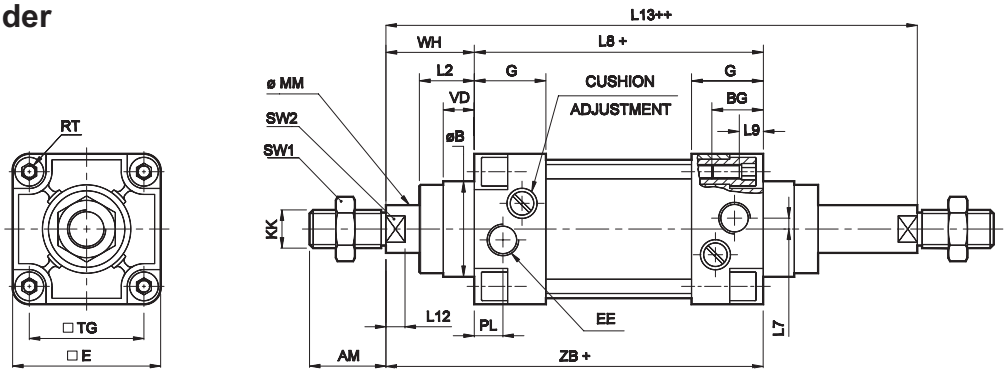
* For Non standard or longer stroke cylinders, contact your regional dealer or **JANATICS**

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
32	12	124	187	249	311	373	435	498	559	621
40	16	190	285	380	475	570	665	760	855	950
50	20	297	445	594	742	891	1039	1187	1336	1484
63	20	505	757	1009	1261	1514	1766	2018	2270	2523
80	25	816	1225	1633	2041	2449	2857	3266	3674	4082
100	25	1325	1988	2650	3313	3976	4640	5300	5965	6625

(Above values have been worked out taking frictional loss into consideration)

Basic cylinder



+ Add stroke
++ Add stroke twice

Cylinder bore Ø	KK	AM	MM	SW2	L12	SW1	B e11	VD	L2	E max	G	TG	RT	BG min	L9	EE	PL	L7	WH	Tol	ZB	Tol	L13	Tol	L8	Tol	Stroke Tol
32	M10 x 1.25	22	12	10	6	17	30	11	20.5	44	25	32	M6	16	5	G1/8	8.5	0	26		120		147		94	±0.6	+ 2 0
40	M12 x 1.25	24	16	13	6.5	19	35	12	24.5	55	28	40	M6	16	5	G1/4	12	3	30	±1.3	135	±0.9	166	±1.5	105		
50	M16 x 1.5	32	20	16	8	24	40	13	30	63	30	48	M6	16	5	G1/4	12	5	37		143		181		106	±0.7	
63	M16 x 1.5	32	20	16	8	24	45	14.5	30.5	83	33	60	M8	16	6	G3/8	16.5	10	37		158		196		121		+ 2.5 0
80	M20 x 1.5	40	25	21	10	30	45	18	38.5	98	33	72	M10	16	6	G3/8	16	15	46	±1.7	174	±1.1	221	±2	128	±0.8	
100	M20 x 1.5	40	25	21	10	30	55	20	44	115	37	89	M10	16	6	G1/2	18	15	51		189		241		138		

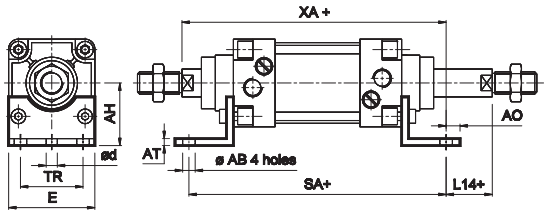
AIR CYLINDER

Series A10, A11

Cat No A10, A11 - 01 - 03

MOUNTINGS FOR AIR CYLINDER Series A10, A11

Foot mounting

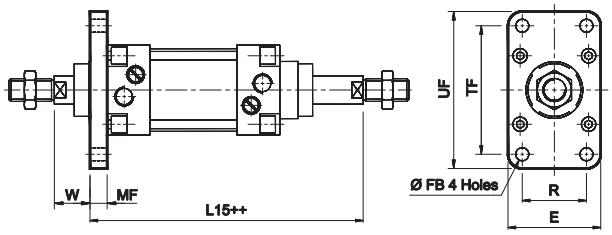


+ Add stroke

Cylinder bore Ø	TR ±0.3	AB	AH Js15	AO max	AT	E	d*	SA ±Tol	L14 ±Tol	XA ±Tol	Recommended Bolt size	Ordering no.
32	32	7 H14	32	8	4	46	5.8	142 ±1.25	3 ±1.5	144 ±1.25	M6	ML1032
40	36	9 H13	36	10	4	52	7.8	161 ±1.25	3 ±1.5	163 ±1.25	M8	ML040
50	45	9 H13	45	12	5	65	7.8	170 ±1.25	6 ±1.5	175 ±1.25	M8	ML050
63	50	9 H13	50	12	5	75	7.8	185 ±1.5	6 ±2	190 ±1.5	M8	ML063
80	63	12 H14	63	17	6	95	9.8	210 ±1.5	6 ±2	215 ±1.5	M10	ML1080
100	75	14.5 H14	71	19	6	115	11.8	220 ±1.5	11 ±2	230 ±1.5	M12	ML1100

* Suitable for reaming

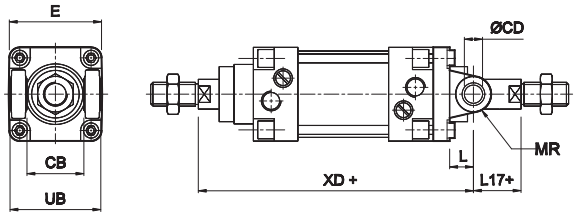
Flange



++ Add stroke twice

Cylinder bore Ø	TF ±0.3	R ±0.3	FB H13	MF	UF max	E max	W	Tol	L15	Tol	Recommended Bolt size	Ordering no.
32	64	32	7	10	80	50	16		131		M6	MF1032
40	72	36	9	10	90	55	20	±1.5	146	±1.5	M8	MF040
50	90	45	9	12	110	65	25		156		M8	MF050
63	100	50	9	12	125	83	25		171		M8	MF063
80	126	63	12	16	155	100	30	±1.8	191	±2	M10	MF1080
100	150	75	14	16	185	120	35		206		M12	MF1100

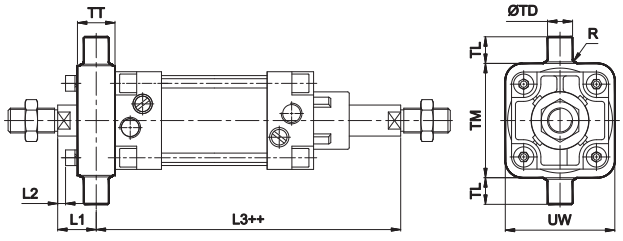
Female clevis



+ Add stroke

Cylinder bore Ø	CD H9	CB H14	L min	MR max	UB h14	E max	L17	Tol	XD	Tol	Ordering no.
32	10	26	12	11	45	45	5		142		MB032
40	12	28	15	13	52	54	6	±1.5	160	±1.25	MB040
50	12	32	15	13	60	64	11		170		MB050
63	16	40	20	17	70	82	6	±2	190		MB063
80	16	50	20	17	90	94	11	±1.8	210	±1.5	MB1080
100	20	60	25	21	110	111	11		230		MB1100

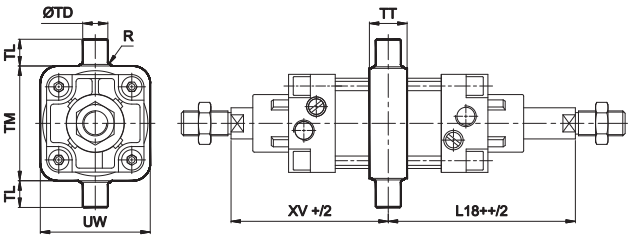
Trunnion



++ Add stroke twice

Cylinder bore Ø	TD e9	TL h14	TM h14	UW	TT	R	L1	Tol	L2 Approx	L3	Tol	Ordering no.
32	12	12	50	48	16	1	18		2	129		MT0032
40	16	16	63	55	22	1.5	19	±1.5	0	147		MT0040
50	16	16	75	70	24	1.6	25		5	156	±2	MT0050
63	20	20	90	86	28	1.6	23		-1	173		MT0063
80	20	20	110	110	32	1.6	30	±2	1.8	191		MT0080
100	25	25	132	135	40	2	31		-1.2	210		MT0100

Centre trunnion



+ Add stroke
++ Add stroke twice

Cylinder bore Ø	TD e9	TL h14	TM h14	UW	TT	R	XV	Tol	L18	Tol
32	12	12	50	48	16	1	73		74	
40	16	16	63	55	22	1.5	82.5		83.5	
50	16	16	75	70	24	1.6	90	± 2	91	± 2
63	20	20	90	86	28	1.6	97.5		98.5	
80	20	20	110	110	32	1.6	110		111	
100	25	25	132	135	40	2	120		121	

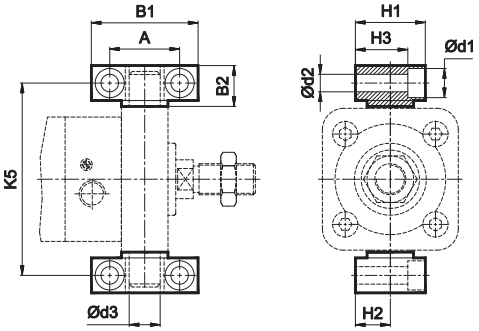
Note : Cylinder with Centre trunnion is factory fitted, please contact **JANATICS - H.O**

AIR CYLINDER

Series A10, A11

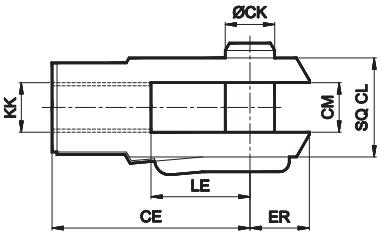
Accessories for Air Cylinder series A10, A11

Trunnion bracket



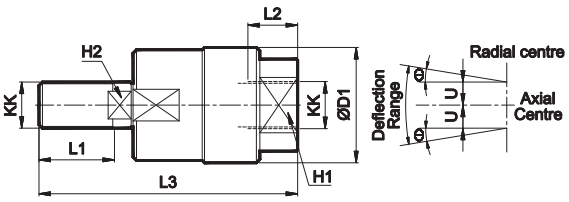
Cylinder bore Ø	B1	B2	A	d1	d2 H13	d3 H9	H1	H2	H3	K5 Js14	Ordering no.
32	46	18	32 ±0.2	11	6.6	12	30	15 ±0.1	23	71	AT032
40	55	21	36 ±0.2	15	9	16	36	18 ±0.1	27	87	AT040
50	55	21	36 ±0.2	15	9	16	36	18 ±0.1	27	99	AT040
63	65	23	42 ±0.2	16.5	11	20	40	20 ±0.1	29	116	AT063
80	65	23	42 ±0.2	16.5	11	20	40	20 ±0.1	29	136	AT063
100	75	28.5	50 ±0.2	20	14	25	50	25 ±0.1	37	164	AT100

Rod end Fork (ISO 8140)



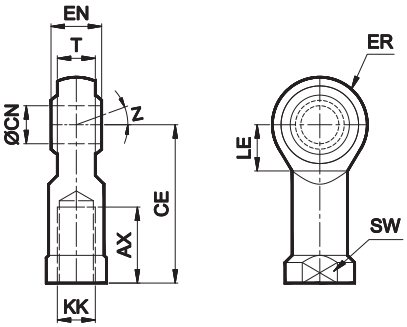
Cylinder bore Ø	KK	CE	CK f 8	CM B12	LE	ER max.	CL	Ordering no.
32	M10 x 1.25	40	10	10	20	16	20	AF010
40	M12 x 1.25	48	12	12	24	19	24	AF012
50 / 63	M16 x 1.5	64	16	16	32	25	32	AF016
80 / 100	M20 x 1.5	80	20	20	40	32	40	AF020

Rod end Aligner



Cylinder bore Ø	KK	L1	L2	L3	H1	H2	D1	U	± θ°	Ordering no.
32	M10 x 1.25	20	14	65	17	8	28	0.75	5	AR010
40	M12 x 1.25	22	18	75	19	10	32	1	5	AR012
50 / 63	M16 x 1.5	25	22	91	27	13	41	1	5	AR016
80 / 100	M20 x 1.5	30	28	112	32	16	50	1.5	5	AR020

Rod end spherical eye (ISO 8139)



Cylinder bore Ø	KK	CN H9	T	EN h12	CE	LE min	ER max	AX	SW	Z	Ordering no.
32	M10 x 1.25	10	10.5	14	43	15	14	20	17	13°	AP010
40	M12 x 1.25	12	12	16	50	17	16	22	19		AP012
50 / 63	M16 x 1.5	16	15	21	64	22	21	28	22	15°	AP016
80 / 100	M20 x 1.5	20	18	25	77	26	25	33	30/32		AP020

AIR CYLINDER

Series A10, A11

How to order

A | 10 | 040 | 050 | B

Model	
10	Magnetic cylinder
11	Standard cylinder

Cylinder bore (mm)	
032	- Ø 32
040	- Ø 40
050	- Ø 50
063	- Ø 63
080	- Ø 80
100	- Ø 100

Stroke (mm)	
025	- 25
050	- 50
080	- 80
100	- 100
125	- 125
160	- 160
200	- 200
250	- 250
300	- 300
320	- 320
400	- 400
500	- 500

Mountings	
O	- Basic
L	- Foot Mounting
F	- Flange
B	- Female Clevis
N	- Trunnion
T	- Centre Trunnion

Note

For details of Accessories for Magnetic sensor, refer catalogue **Series A12, A13 (Page no. 1.1.6)**

Example:

Ordering no. for magnetic cylinder with 40 dia bore, 50 mm stroke with female clevis mounting: **A10 040 050 B**

Note:

If ordered as 40 dia, 50 mm stroke cylinder, Basic cylinder **A11 040 050 O** will be supplied.

For repeat order when the details are taken from cylinder nameplate, mention the mounting style separately.

For ordering **Accessories** refer corresponding tables for Ordering numbers.

For ordering individual **Mounting** kits (If needed separately) the order numbers are as below

Cylinder bore Ø	Foot mounting *	Flange *	Female clevis *	Trunnion *
				
32	ML1032	MF1032	MB032	MT0032
40	ML040	MF040	MB040	MT0040
50	ML050	MF050	MB050	MT0050
63	ML063	MF063	MB063	MT0063
80	ML1080	MF1080	MB1080	MT0080
100	ML1100	MF1100	MB1100	MT0100

* Supplied with 4nos. of screws

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

Subject to change


A27 - Magnetic


A28 - Non-magnetic

AIR CYLINDER

Series A27, A28

Cat No A27, A28 - 01 - 01 - B

AIR CYLINDERS Double Acting - Ø32 - 100 mm

As per ISO 15552 / VDMA 24562 standards

Features

- ❑ Adjustable cushioning at both ends with elastomer pads
- ❑ Wide varieties of mountings.
- ❑ Magnetic and Non magnetic version
- ❑ Optional - High temperature (FKM seals) 150°C max. **
- ❑ Optional - Non corrosive Stainless steel piston rod and piston rod lock nut (SS 304) **

Technical Specifications

Cylinder bore Ø		(mm)	32	40	50	63	80	100	
Cushion stroke		(mm)	21	23	23	23	28	28	
Standard strokes *		(mm)	25 50 80 100 125 160 200 250 300 320 400 500						
Medium			Compressed air - filtered - lubricated						
Working pressure			0.5 to 10 bar						
Ambient temperature			-10° to +60° C						
Medium temperature	Regular		+5° to +50° C						
	High temperature applications**		+5° to +150° C max.						
Materials of construction			Aluminium, Brass, Steel, Acetal, Polyurethane, Nitrile (Regular), FKM (High temperature)						
Mountings			Basic cylinder, Foot mounting, Front flange, Rear flange, Male clevis, Male clevis (with spherical bearing), Female clevis, Female clevis (King pin), Front trunnion, Rear trunnion, Centre trunnion						
Accessories			Clevis foot bracket, Wall mounting bracket, Trunnion bracket, Rod end fork, Rod end aligner, Rod end spherical eye						

* For Non standard or longer stroke cylinders, contact your regional dealer or **JANATICS**

** Refer Special Ordering number.

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
32	12	Extend	145	217	289	362	434	507	579	651	724
		Retract	124	187	249	311	373	435	498	559	621
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	891	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	25	Extend	1414	2120	2828	3534	4241	4948	5655	6362	7069
		Retract	1325	1988	2650	3313	3976	4640	5300	5965	6625

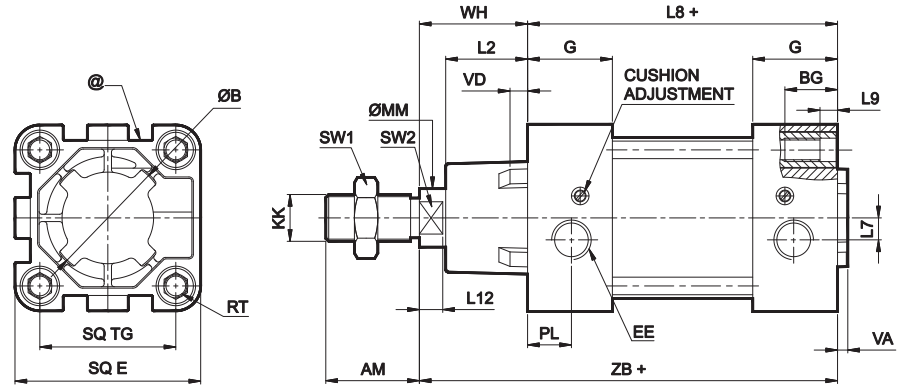
(Above values have been worked out taking frictional loss into consideration)

AIR CYLINDER

Series A27, A28

Cat No A27, A28 - 01 - 01 - B

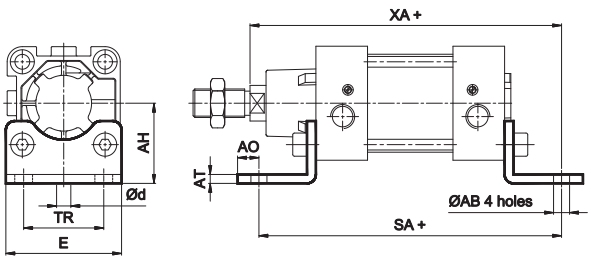
Basic cylinder



+ Add stroke

Cylinder bore Ø	KK	AM	MM	SW2	L12	SW1	B e11	VD	VA	L2	E max	G	TG	RT	BG min	EE	PL	L7	WH	Tol	ZB	Tol	L8	Tol	L9	Stroke tol
32	M10x1.25	22	12	10	6	17	30	6	4	18.5	45	25.5	32.5	M6	16	G1/8	13	5	26		120	± 1	94	± 0.6	5	
40	M12x1.25	24	16	13	6.5	19	35	6.5	4	20.5	51	29	38	M6	16	G1/4	14.5	5	30	± 1.4	135		105	± 0.7	5	+ 2 + 0
50	M16x1.5	32	20	16	8	24	40	6.5	4	28	64	29	46.5	M8	16	G1/4	15	7.5	37		143		106	± 0.7	6	
63	M16x1.5	32	20	16	8	24	45	6.5	4	27.5	74	35	56.5	M8	16	G3/8	17	10	37		158		121	± 0.8	6	
80	M20x1.5	40	25	21	10	30	45	6.5	4	34	94	35	72	M10	16	G3/8	18	14	46	± 1.8	174	± 1.1	128	± 0.8	6	+ 2.5 + 0
100	M20x1.5	40	25	21	10	30	55	6.5	4	35	111	38.5	89	M10	16	G1/2	18	10	51		189		138	± 1	6	

Foot mounting

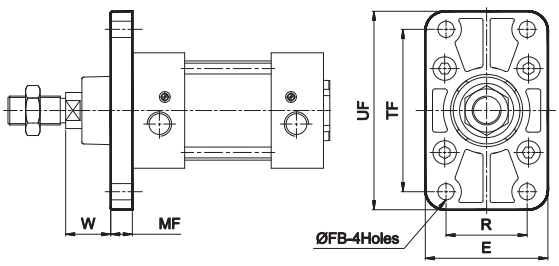


+ Add stroke

Cylinder bore Ø	TR ±0.3	AB H14	AH Js16	AO max	AT	E	d*	SA	Tol	XA	Tol	Recommended Bolt size	Ordering No
32	32	7	32	8	4	46	5.8	142		144		M6	ML1032
40	36	10	36	10	4	52	7.8	161	±1.25	163	±1.25	M8	ML1040
50	45	10	45	12	5	65	7.8	170		175		M8	ML1050
63	50	10	50	12	5	75	7.8	185		190		M8	ML1063
80	63	12	63	17	6	95	9.8	210	±1.6	215	±1.6	M10	ML1080
100	75	14.5	71	19	6	115	11.8	220		230		M12	ML1100

* Suitable for reaming

Front flange



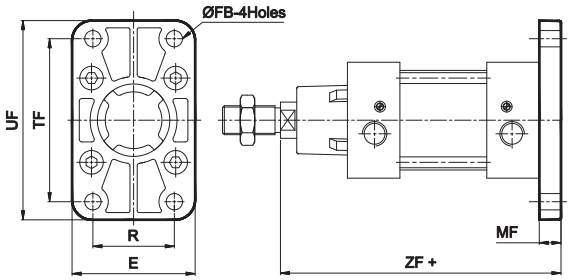
+ Add stroke

Cylinder bore Ø	TF ±0.3	R ±0.3	FB H13	MF	UF	E	ZF	Tol	Recommended Bolt size	Ordering No
32	64	32	7	10	80	50	130		M6	MF1032
40	72	36	9	10	90	55	145	±1.25	M8	MF1040
50	90	45	9	12	110	68	155		M8	MF1050
63	100	50	9	12	125	78	170		M8	MF1063
80	126	63	12	16	155	100	190	±1.6	M10	MF1080
100	150	75	14	16	185	120	205		M12	MF1100

AIR CYLINDER

Series A27, A28

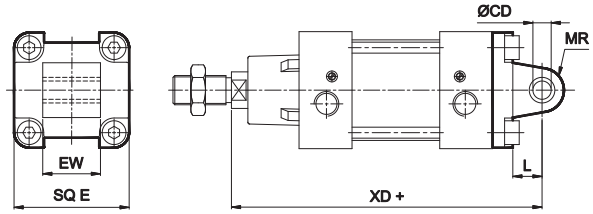
Rear flange



+ Add stroke

Cylinder bore Ø	TF ±0.3	R ±0.3	FB H13	MF	UF	E	ZF	Tol	Recommended Bolt size	Ordering No
32	64	32	7	10	80	50	130	±1.25	M6	MF1032
40	72	36	9	10	90	55	145		M8	MF1040
50	90	45	9	12	110	68	155		M8	MF1050
63	100	50	9	12	125	78	170	±1.6	M8	MF1063
80	126	63	12	16	155	100	190		M10	MF1080
100	150	75	14	16	185	120	205		M12	MF1100

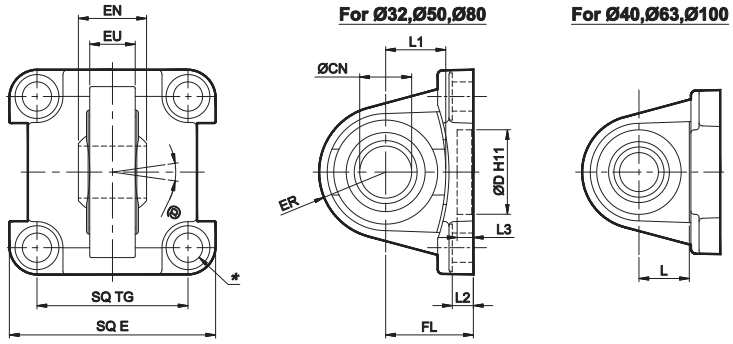
Male clevis



+ Add stroke

Cylinder bore Ø	CD H9	EW	Tol	L min	MR max	E max	XD	Tol	Ordering No
32	10	26	- 0.2 - 0.6	12	11	45	142	±1.25	MS1032
40	12	28		15	13	51	160		MS1040
50	12	32		15	13	64	170		MS1050
63	16	40		20	17	74	190	±1.6	MS1063
80	16	50		20	17	94	210		MS1080
100	20	60		25	21	111	230		MS1100

Male Clevis (with spherical bearing)



Bore dia	CN H7	EN	EU	L	L1	ER max	SQ E	SQ TG	L2	FL	ØD H11	L3 min	@	Recommended Bolt size *	Ordering no.
32	10	14	10.5	-	13.5	15.5	45	32.5	5.5	22	30	4.5	±4°	M6 x 20	MG1032
40	12	16	12	15.5	-	17.5	51	38	5.5	25	35			M6 x 20	MG1040
50	16	21	15	-	19min	20.5	64	46.5	6.5	27	40			M8 x 20	MG1050
63	16	21	15	19min	-	22.5	74	56.5	6.5	32	45			M8 x 20	MG1063
80	20	25	18	-	24min	27.5	94	72	10	36	45			M10 x 25	MG1080
100	20	25	18	24min	-	29.5	111	89	10	41	55			M10 x 25	MG1100

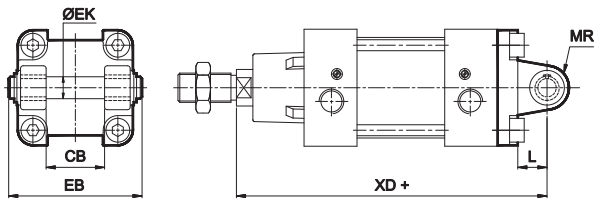
* Supplied with 4nos. of screws

AIR CYLINDER

Series A27, A28

Cat No A27, A28 - 01 - 01 - B

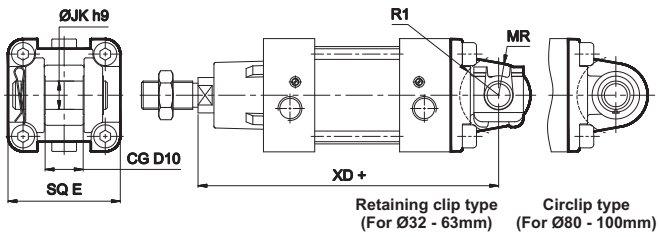
Female clevis



+ Add stroke

Cylinder bore Ø	EK e8	CB H14	L min	MR max	EB max	XD	Tol	Ordering No
32	10	26	12	11	56	142	±1.25	MD1032
40	12	28	15	13	65	160		MD1040
50	12	32	15	13	73	170		MD1050
63	16	40	20	17	86	190	±1.6	MD1063
80	16	50	20	17	106	210		MD1080
100	20	60	25	21	129	230		MD1100

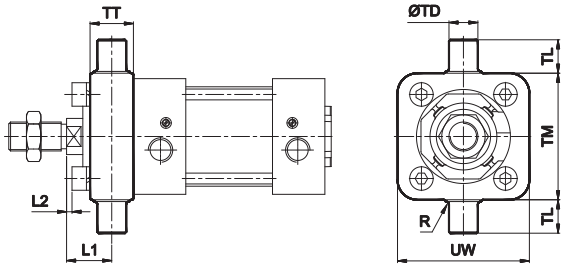
Female clevis (King pin)



+ Add stroke

Cylinder bore Ø	JK h9	CG D10	R1	MR max	SQ E	XD	Tol	Ordering No
32	10	14	17	11	45	142	±1.25	MK1032
40	12	16	20	13	51	160		MK1040
50	16	21	22	18	64	170		MK1050
63	16	21	25	18	74	190	±1.6	MK1063
80	20	25	30	22	94	210		MK1080
100	20	25	32	22	111	230		MK1100

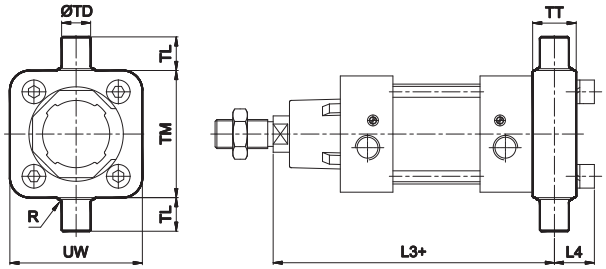
Front trunnion



+ Add stroke

Cylinder bore Ø	TD e9	TL h14	TM h14	UW	TT	R	L1	Tol	L2 approx	Ordering No
32	12	12	50	48	16	1	18	±1.5	2	MT1032
40	16	16	63	55	22	1.6	19		0	MT1040
50	16	16	75	70	24	1.6	25		3	MT1050
63	20	20	90	86	28	1.6	23	±1.8	-1	MT1063
80	20	20	110	110	32	1.6	30		1.8	MT0080
100	25	25	132	135	40	2	31		-1.2	MT0100

Rear trunnion



+ Add stroke

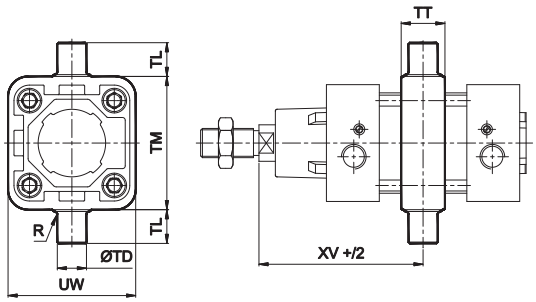
Cylinder bore Ø	TD e9	TL h14	TM h14	UW	TT	R	L3	Tol	L4 approx	Ordering No
32	12	12	50	48	16	1	128	±1.5	16	MT1032
40	16	16	63	55	22	1.6	146		19	MT1040
50	16	16	75	70	24	1.6	155		22	MT1050
63	20	20	90	86	28	1.6	172	±1.8	24	MT1063
80	20	20	110	110	32	1.6	190		29	MT0080
100	25	25	132	135	40	2	209		33	MT0100

AIR CYLINDER

Series A27, A28

Cat No A27, A28 - 01 - 01 - B

Centre trunnion



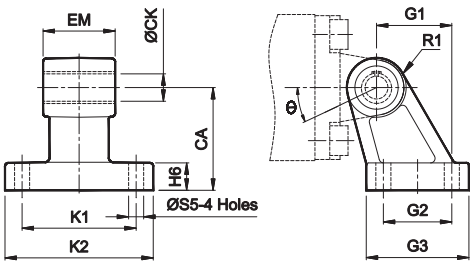
+ Add stroke

Cylinder bore Ø	TD e9	TL h14	TM h14	UW	TT	R	XV ± 2
32	12	12	50	48	16	1	73
40	16	16	63	55	22	1.5	82.5
50	16	16	75	70	24	1.6	90
63	20	20	90	86	28	1.6	97.5
80	20	20	110	110	32	1.6	110
100	25	25	132	135	40	2	120

Note : Cylinder with Centre trunnion is factory fitted, please contact **JANATICS - H.O**

Accessories for Air Cylinder series A27, A28

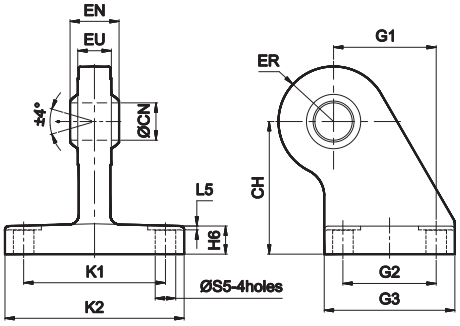
Clevis foot bracket



Cylinder bore Ø	K1 Js14	G2 Js14	S5 H13	CA Js15	CK H9	EM - 0.2 - 0.6	G1 Js14	H6	R1 max	K2	G3	θ°	Recommended Bolt size	Ordering no. @
32	38	18	6.6	32	10	26	21	8	10	51	31	10	M6	AA1032
40	41	22	6.6	36	12	28	24	10	11	54	35	15	M6	AA1040
50	50	30	9	45	12	32	33	12	13	65	45	15	M8	AA1050
63	52	35	9	50	16	40	37	12	15	67	50	15	M8	AA1063
80	66	40	11	63	16	50	47	14	15	86	60	15	M10	AA1080
100	76	50	11	71	20	60	55	15	19	96	70	15	M10	AA1100

@ Adoptable to cylinder with female clevis

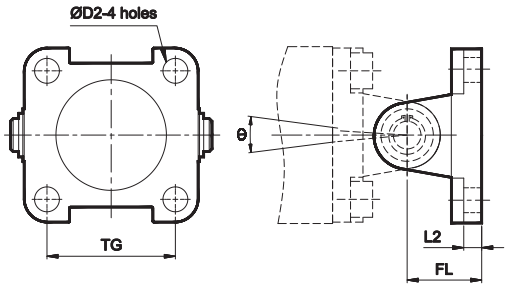
Clevis foot bracket (with spherical bearing)



Cylinder bore Ø	K1 Js14	G2 Js14	S5 H13	CH Js15	CN H7	EU max	G1 Js14	H6	ER max	K2 max	G3	EN -0.1	L5	Ordering no. @
32	38	18	6.6	32	10	10.5	21	10	16	51	31	14	1	AB1032
40	41	22	6.6	36	12	12	24	10	18	54	35	16	1	AB1040
50	50	30	9	45	16	15	33	12	21	65	45	21	1	AB1050
63	52	35	9	50	16	15	37	12	23	67	50	21	1	AB1063
80	66	40	11	63	20	18	47	14	28	86	60	25	2	AB1080
100	76	50	11	71	20	18	55	15	30	96	70	25	2	AB1100

@ Adoptable to cylinder with female clevis

Wall mounting bracket



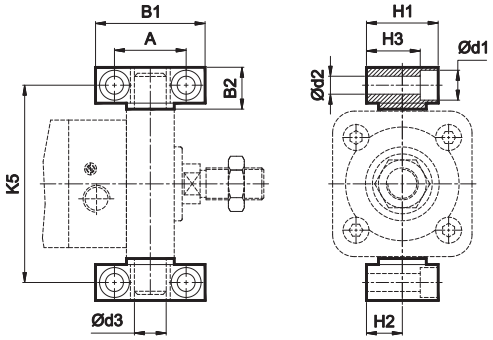
Cylinder bore Ø	TG	D2	L2	FL	θ°	Recommended Bolt size	Ordering no. @	Ordering no. #
32	32.5	6.6	5.5	22	90	M6	AV1032	AW1032
40	38	6.6	5.5	25	90	M6	AV1040	AW1040
50	46.5	9	6.5	27	90	M8	AV1050	AW1050
63	56.5	9	6.5	32	90	M8	AV1063	AW1063
80	72	11	10	36	60	M10	AV1080	AW1080
100	89	11	10	41	60	M10	AV1100	AW1100

@ Adoptable to cylinder with male clevis
# Adoptable to cylinder with female clevis

AIR CYLINDER

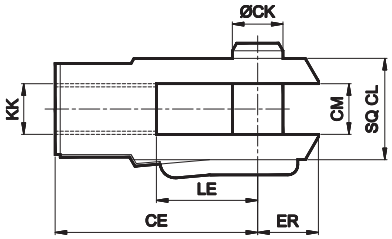
Series A27, A28

Trunnion bracket



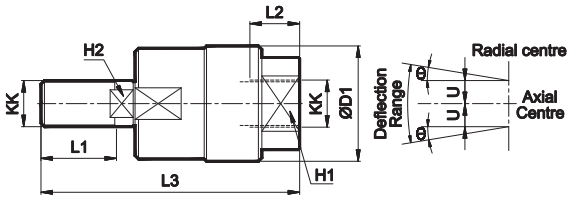
Cylinder bore Ø	B1	B2	A	d1	d2 H13	d3 H9	H1	H2	H3	K5 Js14	Ordering no.
32	46	18	32 ±0.2	11	6.6	12	30	15 ±0.1	23	71	AT032
40	55	21	36 ±0.2	15	9	16	36	18 ±0.1	27	87	AT040
50	55	21	36 ±0.2	15	9	16	36	18 ±0.1	27	99	AT040
63	65	23	42 ±0.2	16.5	11	20	40	20 ±0.1	29	116	AT063
80	65	23	42 ±0.2	16.5	11	20	40	20 ±0.1	29	136	AT063
100	75	28.5	50 ±0.2	20	14	25	50	25 ±0.1	37	164	AT100

Rod end Fork (ISO 8140)



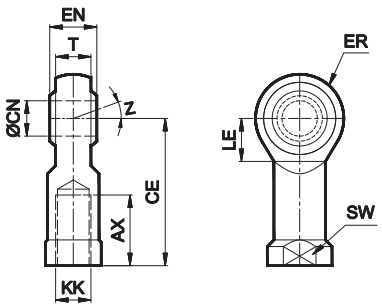
Cylinder bore Ø	KK	CE	CK f 8	CM B12	LE	ER max	CL	Ordering no.
32	M10 x 1.25	40	10	10	20	16	20	AF010
40	M12 x 1.25	48	12	12	24	19	24	AF012
50 / 63	M16 x 1.5	64	16	16	32	25	32	AF016
80 / 100	M20 x 1.5	80	20	20	40	32	40	AF020

Rod end Aligner



Cylinder bore Ø	KK	L1	L2	L3	H1	H2	D1	U	± θ°	Ordering no.
32	M10 x 1.25	20	14	65	17	8	28	0.75	5	AR010
40	M12 x 1.25	22	18	75	19	10	32	1	5	AR012
50 / 63	M16 x 1.5	25	22	91	27	13	41	1	5	AR016
80 / 100	M20 x 1.5	30	28	112	32	16	50	1.5	5	AR020

Rod end spherical eye (ISO 8139)



Cylinder bore Ø	KK	CN H9	T	EN h12	CE	LE min	ER max	AX	SW	Z	Ordering no.
32	M10 x 1.25	10	10.5	14	43	15	14	20	17	13°	AP010
40	M12 x 1.25	12	12	16	50	17	16	22	19		AP012
50 / 63	M16 x 1.5	16	15	21	64	22	21	28	22	15°	AP016
80 / 100	M20 x 1.5	20	18	25	77	26	25	33	30/32		AP020

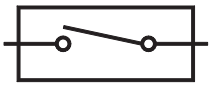
AIR CYLINDER

Series A27, A28

Cat No A27, A28 - 01 - 01 - B

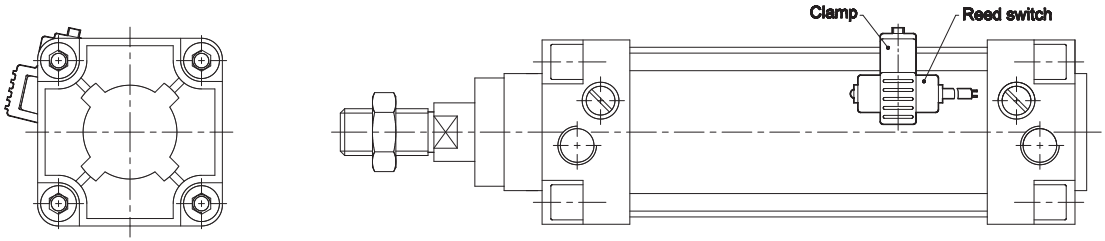
ACCESSORIES FOR MAGNETIC CYLINDERS Series A25, A27

REED SWITCH



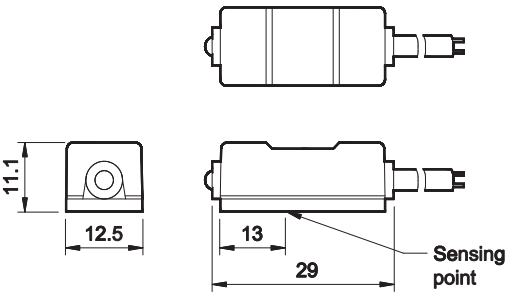
Function

The reed switch and clamping kit assembly is mounted on the Air cylinder (Series A25, A27), 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.

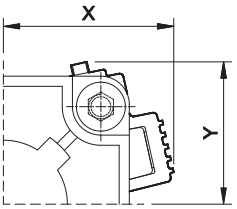


Technical Specifications - Reed Switch

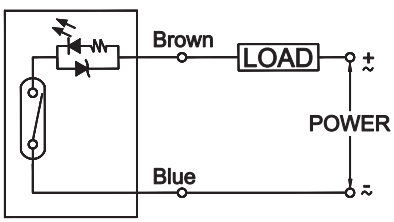
Model	880006
Operating voltage	DC / AC 5 - 240V
Switching current	100mA max
Switch rating	10 W max
Voltage drop	3.5V max.
Response time	On + off <1ms
Switching logic	SPST, Normally open
Operating temperature	-10° to +70° C
Shock	30 G
Vibration	9 G
Protection circuit	None
Type of protection	IEC 529, IP67
Colour of LED	Green
Cable	Ø4, 2C, 2meter



Cylinder bore Ø	X	Y	Ordering no. for Clamp (a)	Ordering no. Reed Switch (b)	Ordering no. (a+b)
32	37	29	SA0001	880006	AM1032
40	40	31			
50	44	37			
63	45	48	SA0002		AM1063
80	57	-	SA0003		AM1080
100	65	-			



Circuit and connect diagram



AIR CYLINDER

Series A27, A28

Cat No A27, A28 - 01 - 01 - B

How to order

A — 28 — 040 — 050 — D — — Optional: H

Model	
27	Magnetic cylinder
28	Standard cylinder

Piston Ø (mm)	
032	- Ø 32
040	- Ø 40
050	- Ø 50
063	- Ø 63
080	- Ø 80
100	- Ø 100

Stroke (mm)	
025	- 25
050	- 50
080	- 80
100	- 100
125	- 125
160	- 160
200	- 200
250	- 250
300	- 300
320	- 320
400	- 400
500	- 500

Mountings	
O	- Basic
L	- Foot Mounting
F	- Front Flange
R	- Rear Flange
S	- Male Clevis
G	- Male Clevis (with spherical bearing)
D	- Female Clevis
K	- Female Clevis (King pin)
M	- Rear Trunnion
N	- Front Trunnion
T	- Centre Trunnion

Special Cylinders	
H	- High temp
S	- SS piston rod

Example:

Ordering no. for standard cylinder with 40 dia bore, 50 mm stroke with female clevis mounting with High temp:
A28 040 050 D - H

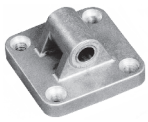
Note:

If ordered as 40 dia, 50 mm stroke cylinder, Basic cylinder **A28 040 050 O** will be supplied.

For repeat order when the details are taken from cylinder nameplate, mention the mounting style separately.

For ordering **Accessories** refer corresponding tables for Ordering numbers.

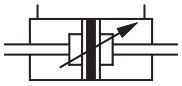
For ordering individual **Mounting** kits (If needed separately) the order numbers are as below

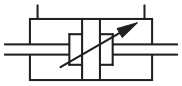
Cylinder bore Ø	Foot mounting *	Front / Rear flange *	Male clevis *	Female clevis *	Front / Rear trunnion *	Female clevis (King pin) *
						
32	ML1032	MF1032	MS1032	MD1032	MT1032	MK1032
40	ML1040	MF1040	MS1040	MD1040	MT1040	MK1040
50	ML1050	MF1050	MS1050	MD1050	MT1050	MK1050
63	ML1063	MF1063	MS1063	MD1063	MT1063	MK1063
80	ML1080	MF1080	MS1080	MD1080	MT0080	MK1080
100	ML1100	MF1100	MS1100	MD1100	MT0100	MK1100

* Supplied with 4nos. of screws

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

Subject to change


A25 - Magnetic


A26 - Non-magnetic

AIR CYLINDER

Series A25, A26

AIR CYLINDERS Double End Double Acting - Ø32 - 100 mm

As per ISO 15552 / VDMA 24562 standards

Features

- ❑ Adjustable cushioning at both ends with elastomer pads
- ❑ Wide varieties of mountings
- ❑ Magnetic and Non magnetic version
- ❑ Optional - High temperature (FKM seals) 150°C max. **
- ❑ Optional - Non corrosive Stainless steel piston rod and piston rod lock nut (SS 304) **

Technical Specifications

Cylinder bore Ø	(mm)	32	40	50	63	80	100	
Cushion stroke	(mm)	21	23	23	23	28	28	
Standard strokes *	(mm)	25 50 80 100 125 160 200 250 300 320 400 500						
Medium		Compressed air - filtered - lubricated						
Working pressure		0.5 to 10 bar						
Ambient temperature		-10° to +60° C						
Medium temperature	Regular	+5° to +50° C						
	High temperature applications**	+5° to +150° C max.						
Materials of construction		Aluminium, Brass, Steel, Acetal, Polyurethane, Nitrile (Regular), FKM (High temperature)						
Mountings		Basic cylinder, Foot mounting, Front & Rear Flange, Female clevis, Front & Rear Trunnion, Center Trunnion						
Accessories		Trunnion bracket, Rod end fork, Rod end aligner, Rod end spherical eye						

* For Non standard or longer stroke cylinders, contact your regional dealer or **JANATICS**

** Refer Special Ordering number.

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
32	12	124	187	249	311	373	435	498	559	621
40	16	190	285	380	475	570	665	760	855	950
50	20	297	445	594	742	891	1039	1187	1336	1484
63	20	505	757	1009	1261	1514	1766	2018	2270	2523
80	25	816	1225	1633	2041	2449	2857	3266	3674	4082
100	25	1325	1988	2650	3313	3976	4640	5300	5965	6625

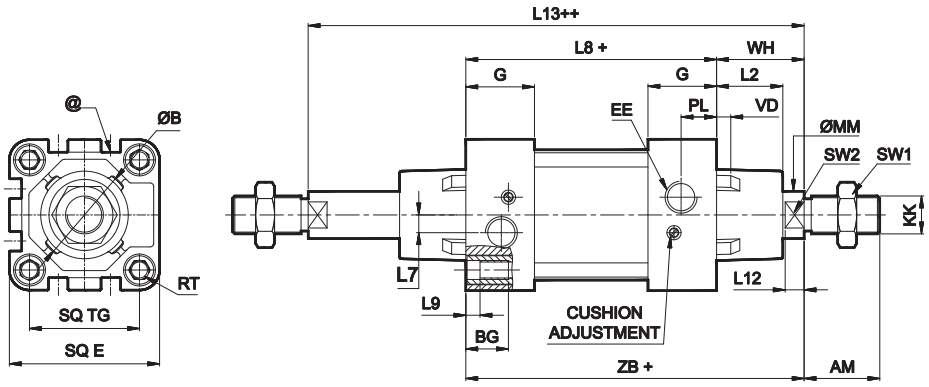
(Above values have been worked out taking frictional loss into consideration)

AIR CYLINDER

Series A25, A26

Cat No A25, A26 - 01 - 01

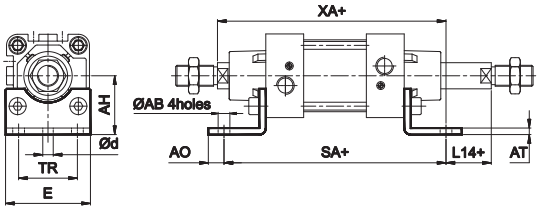
Basic cylinder



+ Add stroke
++ Add stroke twice

Cylinder bore Ø	KK	AM	MM	SW2	L12	SW1	B e11	VD	L2	E max	G	TG	RT	BG min	EE	PL	L7	WH	Tol	ZB	Tol	L8	Tol	L9	L13	Tol	Stroke tol
32	M10x1.25	22	12	10	6	17	30	6	18.5	45	25.5	32.5	M6	16	G1/8	13	5	26	±1.4	120	±1	94	±0.6	5	147	±1.5	+2 +0
40	M12x1.25	24	16	13	6.5	19	35	6.5	20.5	51	29	38	M6	16	G1/4	14.5	5	30		135		105	±0.7	5	166		
50	M16x1.5	32	20	16	8	24	40	6.5	28	64	29	46.5	M8	16	G1/4	15	7.5	37	±1.8	143	±1.1	106	±0.7	6	181		
63	M16x1.5	32	20	16	8	24	45	6.5	27.5	74	35	56.5	M8	16	G3/8	17	10	37		158		121	±0.8	6	196		+2.5 +0
80	M20x1.5	40	25	21	10	30	45	6.5	34	94	35	72	M10	16	G3/8	18	14	46		174		128	±0.8	6	221		
100	M20x1.5	40	25	21	10	30	55	6.5	35	111	38.5	89	M10	16	G1/2	18	10	51		189		138	±1	6	241		

Foot mounting

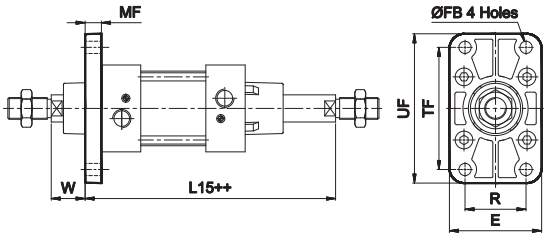


+ Add stroke

Cylinder bore Ø	TR ±0.3	AB H14	AH JS16	AO max	AT	E	d*	SA	Tol	L14	Tol	XA	Tol	Recommended Bolt size	Ordering no.
32	32	7	32	8	4	46	5.8	142	± 1.25	3	± 1.5	144	± 1.25	M6	ML1032
40	36	10	36	10	4	52	7.8	161		3		163		M8	ML1040
50	45	10	45	12	5	65	7.8	170		6	± 1.8	175		M8	ML1050
63	50	10	50	12	5	75	7.8	185	± 1.6	6		190	± 1.6	M8	ML1063
80	63	12	63	17	6	95	9.8	210		6		215		M10	ML1080
100	75	14.5	71	19	6	115	11.8	220		11		230		M12	ML1100

* Suitable for reaming

Flange



++ Add stroke twice

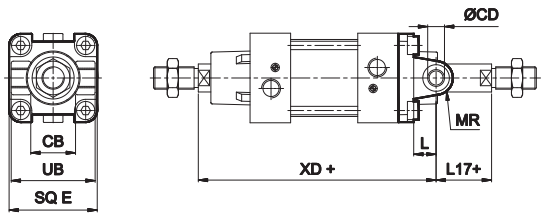
Cylinder bore Ø	TF ± 0.3	R ± 0.3	FB H13	MF	UF	E	W	Tol	L15	Tol	Recommended Bolt size	Ordering no.
32	64	32	7	10	80	50	16	± 1.6	131	± 1.25	M6	MF1032
40	72	36	9	10	90	55	20		146		M8	MF1040
50	90	45	9	12	110	68	25		156		M8	MF1050
63	100	50	9	12	125	78	25	± 2	171	± 1.6	M8	MF1063
80	126	63	12	16	155	100	30		191		M10	MF1080
100	150	75	14	16	185	120	35		206		M12	MF1100

AIR CYLINDER

Series A25, A26

Cat No A25, A26 - 01 - 01

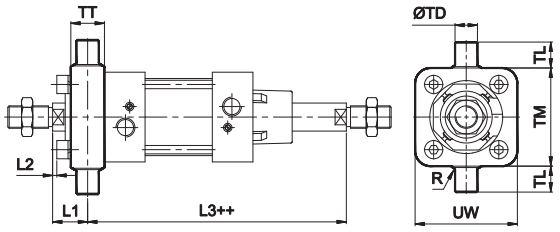
Female clevis



+ Add stroke

Cylinder bore Ø	CD	CB H14	L min	MR max	UB h14	E max	L17	Tol	XD	Tol	Ordering no.
32	10	26	12	11	45	45	5	±1.5	142		MB1032
40	12	28	15	13	52	51	6		160	±1.25	MB1040
50	12	32	15	13	60	64	11	±1.8	170		MB1050
63	16	40	20	17	70	74	6		190	±1.6	MB1063
80	16	50	20	17	90	94	11		210		MB1080
100	20	60	25	21	110	111	11		230		MB1100

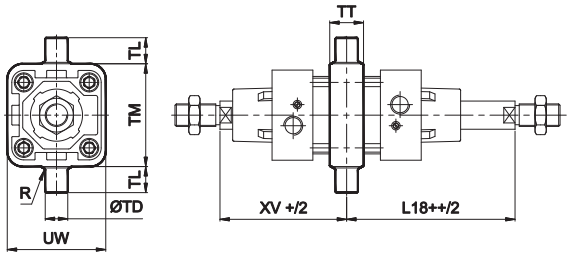
Trunnion



++ Add stroke twice

Cylinder bore Ø	TD e9	TL h14	TM h14	UW	TT	R	L1	Tol	L2 approx	L3	Tol	Ordering no.
32	12	12	50	48	16	1	18		2	129		MT1032
40	16	16	63	55	22	1.6	19	±1.5	0	147	±1.5	MT1040
50	16	16	75	70	24	1.6	25		3	156		MT1050
63	20	20	90	86	28	1.6	23		-1	173		MT1063
80	20	20	110	110	32	1.6	30	±1.8	1.8	191	±2	MT0080
100	25	25	132	135	40	2	31		-1.2	210		MT0100

Centre Trunnion



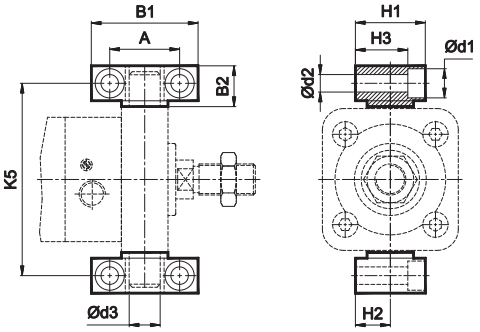
+ Add stroke
++ Add stroke twice

Cylinder bore Ø	TD e9	TL h14	TM h14	UW	TT	R	XV ± 2	L18 ± 2
32	12	12	50	48	16	1	73	74
40	16	16	63	55	22	1.5	82.5	83.5
50	16	16	75	70	24	1.6	90	91
63	20	20	90	86	28	1.6	97.5	98.5
80	20	20	110	110	32	1.6	110	111
100	25	25	132	135	40	2	120	121

Note : Cylinder with Centre trunnion is factory fitted, please contact **JANATICS - H.O**

Accessories for Air Cylinder series A25, A26

Trunnion bracket

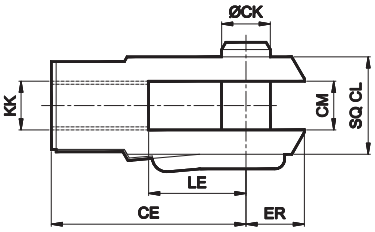


Cylinder bore Ø	B1	B2	A	d1	d2 H13	d3 H9	H1	H2	H3	K5 Js14	Ordering no.
32	46	18	32 ±0.2	11	6.6	12	30	15 ±0.1	23	71	AT032
40	55	21	36 ±0.2	15	9	16	36	18 ±0.1	27	87	AT040
50	55	21	36 ±0.2	15	9	16	36	18 ±0.1	27	99	AT040
63	65	23	42 ±0.2	16.5	11	20	40	20 ±0.1	29	116	AT063
80	65	23	42 ±0.2	16.5	11	20	40	20 ±0.1	29	136	AT063
100	75	28.5	50 ±0.2	20	14	25	50	25 ±0.1	37	164	AT100

AIR CYLINDER

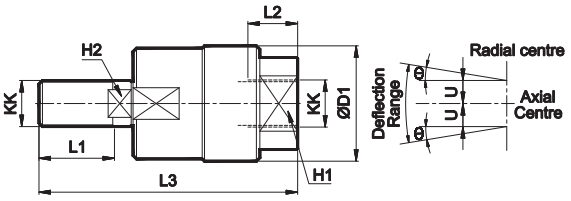
Series A25, A26

Rod end Fork (ISO 8140)



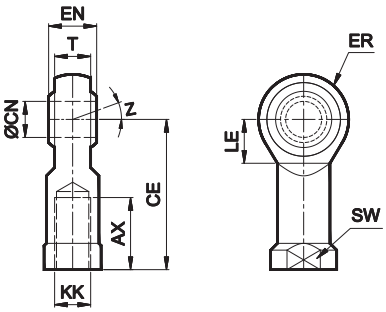
Cylinder bore Ø	KK	CE	CK f 8	CM B12	LE	ER max	CL	Ordering no.
32	M10 x 1.25	40	10	10	20	16	20	AF010
40	M12 x 1.25	48	12	12	24	19	24	AF012
50 / 63	M16 x 1.5	64	16	16	32	25	32	AF016
80 / 100	M20 x 1.5	80	20	20	40	32	40	AF020

Rod end Aligner



Cylinder bore Ø	KK	L1	L2	L3	H1	H2	D1	U	± θ°	Ordering no.
32	M10 x 1.25	20	14	65	17	8	28	0.75	5	AR010
40	M12 x 1.25	22	18	75	19	10	32	1	5	AR012
50 / 63	M16 x 1.5	25	22	91	27	13	41	1	5	AR016
80 / 100	M20 x 1.5	30	28	112	32	16	50	1.5	5	AR020

Rod end spherical eye (ISO 8139)



Cylinder bore Ø	KK	CN H9	T	EN h12	CE	LE min	ER max	AX	SW	Z	Ordering no.
32	M10 x 1.25	10	10.5	14	43	15	14	20	17	13°	AP010
40	M12 x 1.25	12	12	16	50	17	16	22	19		AP012
50 / 63	M16 x 1.5	16	15	21	64	22	21	28	22	15°	AP016
80 / 100	M20 x 1.5	20	18	25	77	26	25	33	30/32		AP020

AIR CYLINDER

Series A25, A26

How to order

A | 26 | 040 | 050 | B | — | Optional: H

Model	
25	Magnetic cylinder
26	Standard cylinder

Piston Ø (mm)	
032	- Ø 32
040	- Ø 40
050	- Ø 50
063	- Ø 63
080	- Ø 80
100	- Ø 100

Stroke (mm)	
025	- 25
050	- 50
080	- 80
100	- 100
125	- 125
160	- 160
200	- 200
250	- 250
300	- 300
320	- 320
400	- 400
500	- 500

Mountings		
O	-	Basic
L	-	Foot Mounting
F	-	Flange
B	-	Female Clevis
N	-	Trunnion
T	-	Centre trunnion

Special Cylinders	
H	- High temp
S	- SS piston rod

Note

For details of Accessories for Magnetic sensor, refer catalogue **Series A27, A28 (Page no. 1.2.7)**

Example:

Ordering no. for standard cylinder with 40 dia bore, 50 mm stroke with female clevis mounting with High temp:
A26 040 050 B - H

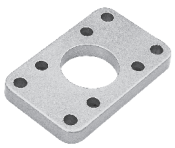
Note:

If ordered as 40 dia, 50 mm stroke cylinder, Basic cylinder **A26 040 050 O** will be supplied.

For repeat order when the details are taken from cylinder nameplate, mention the mounting style separately.

For ordering **Accessories** refer corresponding tables for Ordering numbers.

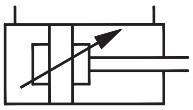
For ordering individual **Mounting** kits (If needed separately) the order numbers are as below

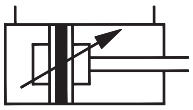
Cylinder bore Ø	Foot mounting *	Flange *	Female clevis *	Trunnion *
				
32	ML1032	MF1032	MB1032	MT1032
40	ML1040	MF1040	MB1040	MT1040
50	ML1050	MF1050	MB1050	MT1050
63	ML1063	MF1063	MB1063	MT1063
80	ML1080	MF1080	MB1080	MT0080
100	ML1100	MF1100	MB1100	MT0100

* Supplied with 4nos. of screws

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

Subject to change


A16 - Non-magnetic


A17 - Magnetic

AIR CYLINDER

Series A16, A17

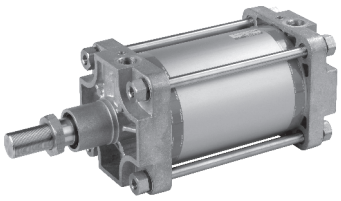
Cat No A16, A17 - 01 - 01 - E

AIR CYLINDERS Double Acting (Ø125, 160, 200, 250 mm)

As per ISO 15552 / VDMA 24562 standards

Features

- ❑ Adjustable cushioning at both ends
- ❑ Wide varieties of mountings
- ❑ Low friction
- ❑ Long life
- ❑ Optional - High temperature (FKM seals) 150°C max. **
- ❑ Optional - Non corrosive Stainless steel piston rod and piston rod lock nut (SS 304) **



Technical Specifications

Cylinder bore Ø (mm)		125	160	200	250
Cushion stroke (mm)		40	40	40	50
Standard strokes * (mm)		50 80 100 125 160 200 250 300 320 400 500			
Medium		Compressed air - filtered - lubricated			
Working pressure		0.5 to 10 bar			
Ambient temperature		-10° to +60° C			
Medium temperature	Regular	+5° to +50° C			
	High temperature applications**	+5° to +150° C max.			
Materials of construction		Aluminium, Brass, Steel, Acetal, Iron, Polyurethane, Nitrile (Regular), Viton (High temperature)			
Mountings		Basic cylinder, Foot mounting, Front flange, Rear flange, Male clevis, Female clevis, Female clevis (King pin), Centre trunnion, Front trunnion, Rear trunnion			
Accessories		Clevis foot bracket, Wall mounting bracket, Trunnion bracket, Rod end fork, Rod end aligner, Rod end spherical eye			

* For Non standard or longer stroke cylinders, contact your regional dealer or **JANATICS**

** Refer Special Ordering number.

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
Ø125	32	Extend	2209	3313	4417	5522	6626	7731	8835	9940	11044
		Retract	2064	3096	4128	5160	6192	7224	8256	9288	10320
Ø160	40	Extend	3619	5428	7238	9047	10857	12666	14476	16286	18095
		Retract	3392	5089	6785	8482	10178	11875	13571	15268	16964
Ø200	40	Extend	5654	8482	11309	14137	16964	19792	22619	25446	28274
		Retract	5428	8143	10857	13571	16286	19000	21714	24429	27143
Ø250	50	Extend	8836	13253	17671	22089	26507	30925	35343	39760	44178
		Retract	8482	12723	16964	21205	25446	29688	33929	38170	42411

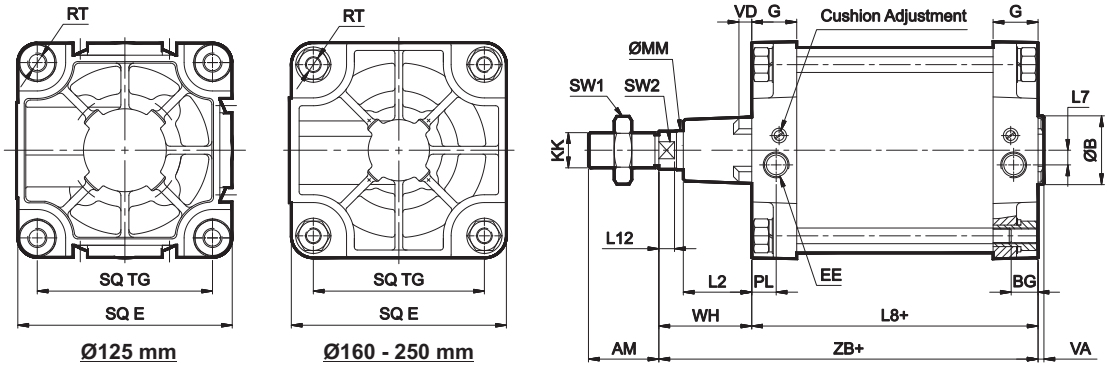
(Above values have been worked out taking frictional loss into consideration)

AIR CYLINDER

Series A16, A17

Cat No A16, A17 - 01 - 01 - E

Basic cylinder

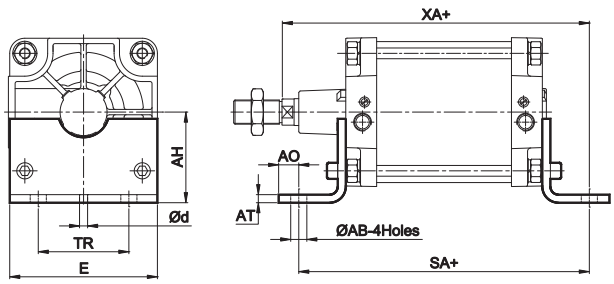


+ Add stroke

Cylinder bore Ø	KK	AM	MM	SW2	L12	SW1	B e11	VD	VA	L2	E max	G	TG	RT	BG min	EE	PL	L7	WH ± 2.2	ZB	L8	Stroke tol
125	M27 x 2	54	32	27	13	41	60	10	6	48.5	136	44	110	M12	20	G1/2	20	12	65	225 ± 1.2	160 ± 1.0	+4 0
160	M36 x 2	72	40	36	16	55	65	8	6	60	183	51	140	M16	24	G3/4	26	15	80	260 ± 1.5	180 ± 1.1	
200	M36 x 2	72	40	36	16	55	75	8	6	70	222	46	175	M16	24	G3/4	25	15	95	275 ± 1.5	180 ± 1.6	
250	M42 x 2	84	50	46	20	65	90	12	10	75	272	56	220	M20	25	G1	31	25	105	305 ± 2	200 ± 1.6	+5 0

MOUNTINGS FOR AIR CYLINDER Series A16, A17

Foot mounting

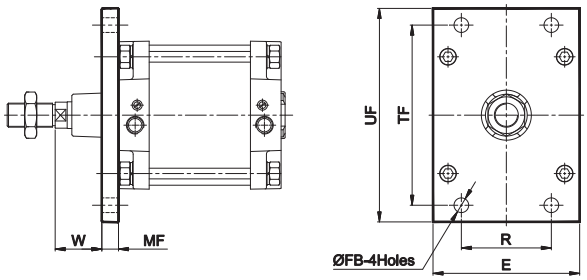


+ Add stroke

Cylinder bore Ø	TR ±0.3	AB H14	AH Js16	AO max	AT	E	SA ±2	d*	XA ±2	Ordering no.
125	90	16.5	90	17	8	140	250	11.8	270	ML0125
160	115	18.5	115	17	10	180	300	11.8	320	ML0160
200	135	24	135	30	12	222	320	11.8	345	ML0200
250	165	28	165	35	20	265	350	11.8	380	ML0250

* Suitable for reaming

Front flange



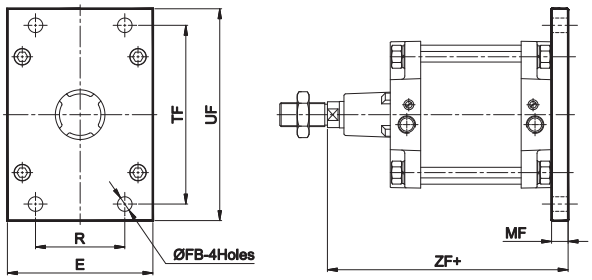
+ Add stroke

Cylinder bore Ø	TF	R	FB H13	MF	UF	E	W ±2.5	Ordering no.
125	180 ±0.3	90 ±0.3	16	20	211	142	45	MF0125
160	230 ±0.3	115 ±0.3	18	20	276	180	60	MF0160
200	270 ±0.3	135 ±0.3	22	25	320	222	70	MF0200
250	330 ±0.7	165 ±0.5	26	25	390	265	80	MF0250

AIR CYLINDER

Series A16, A17

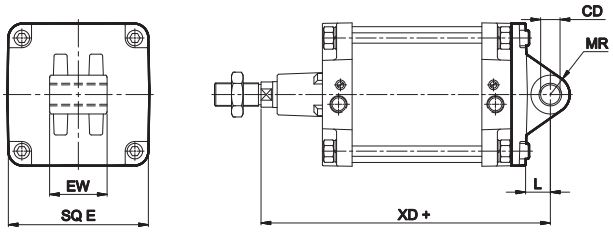
Rear flange



+ Add stroke

Cylinder bore Ø	TF	R	FB H13	MF	UF	E	ZF ± 2	Ordering no.
125	180 ±0.3	90 ±0.3	16	20	211	142	245	MF0125
160	230 ±0.3	115 ±0.3	18	20	276	180	280	MF0160
200	270 ±0.3	135 ±0.3	22	25	320	222	300	MF0200
250	330 ±0.7	165 ±0.5	26	25	390	265	330	MF0250

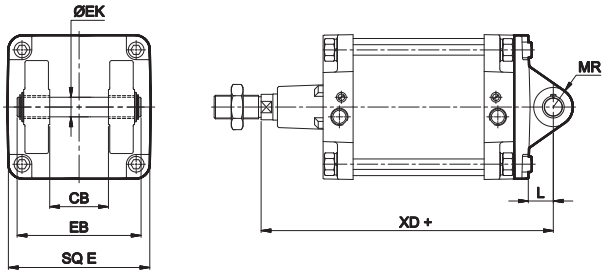
Male clevis



+ Add stroke

Cylinder bore Ø	CD H9	EW	Tol	L min	MR max	E max	XD ± 2	Ordering no.
125	25	70	- 0.5 - 1.2	30	26	142	275	MS0125
160	30	90		35	31	180	315	MS0160
200	30	90		35	31	222	335	MS0200
250	40	110		45	41	270	375	MS0250

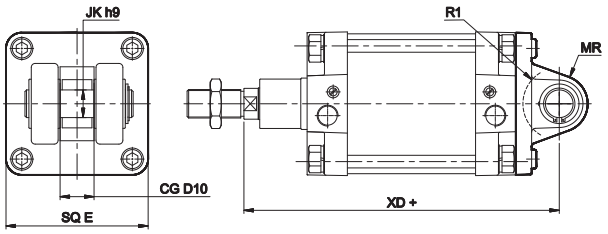
Female clevis



+ Add stroke

Cylinder bore Ø	EK e8	L min	MR max	EB max	CB H14	E max	XD ± 2	Ordering no.
125	25	30	26	148	70	142	275	MD0125
160	30	35	31	191	90	180	315	MD0160
200	30	35	31	191	90	222	335	MD0200
250	40	45	41	220	110	270	375	MD0250

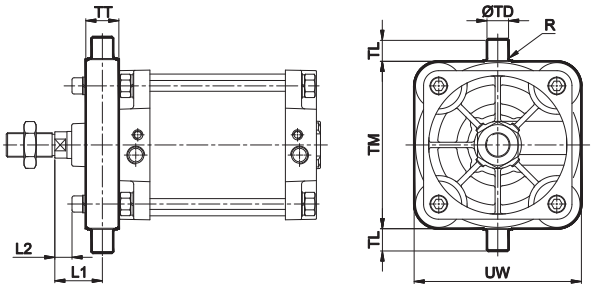
Female clevis (King pin)



+ Add stroke

Cylinder bore Ø	JK h9	CG D10	R1	MR max	SQ E	XD	Tol	Ordering no.
125	30	37	42	30	142	275	± 2	MK0125
160	35	43	46	36	180	315		MK0160

Front trunnion



+ Add stroke

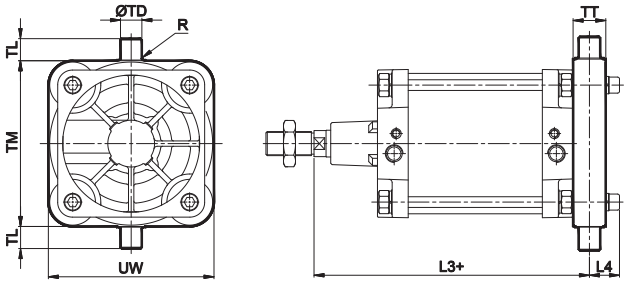
Cylinder bore Ø	TD e9	TL h14	TM h14	UW	TT	R	L1 ± 2.5	L2 Approx.	Ordering no.
125	25	25	160	155	44	2	43	6.5	MT0125
160	32	32	200	195	49	2.5	55.5	11.5	MT0160
200	32	32	250	248	49	2.5	70.5	26.5	MT0200
250	40	40	320	318	60	3.2	75	21	MT0250

AIR CYLINDER

Series A16, A17

Cat No A16, A17 - 01 - 01 - E

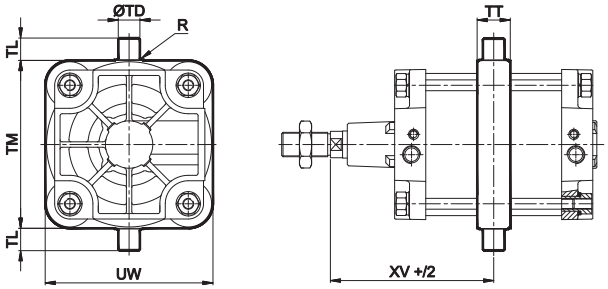
Rear trunnion



+ Add stroke

Cylinder bore Ø	TD e9	TL h14	TM h14	UW	TT	R	L3 ± 1.8	L4	Ordering no.
125	25	25	160	155	44	2	247	36.5	MT0125
160	32	32	200	195	49	2.5	284.5	44	MT0160
200	32	32	250	248	49	2.5	299.5	44	MT0200
250	40	40	320	318	60	3.2	335	54	MT0250

Centre trunnion



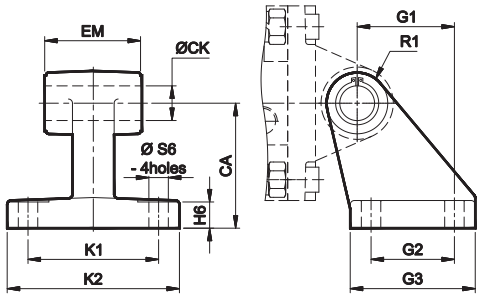
+ Add stroke

Cylinder bore Ø	TD e9	TL h14	TM h14	UW	TT	R	XV ± 2.5
125	25	25	160	155	44	2	145
160	32	32	200	195	49	2.5	170
200	32	32	250	248	49	2.5	185
250	40	40	320	318	60	3.2	205

Note : Cylinder with Centre trunnion is factory fitted, please contact **JANATICS - H.O**

Accessories for Air Cylinder series A16, A17

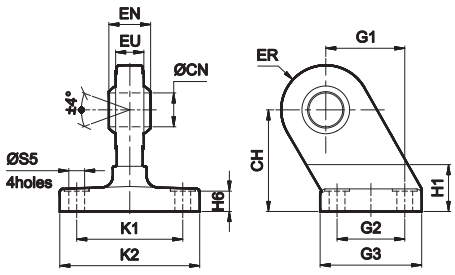
Clevis foot bracket



Cylinder bore Ø	K1 Js14	G2 Js14	S6 H13	CA Js15	CK H9	EM	Tol	G1	Tol	H6	R1 max	K2	G3	Ordering no. @
125	94	60	14	90	25	70	- 0.5 - 1.5	70	±0.2	20	23.5	124	90	AA0125
160	118	88	14	115	30	90		97		25	31.5	156	126	AA0160
200	122	90	18	135	30	90		105	±0.3	30	31.5	162	130	AA0200
250	150	110	22	165	40	110		128	±0.5	32	45	200	160	AA0250

@ Adoptable to cylinder with female clevis

Clevis foot bracket (with spherical bearing)



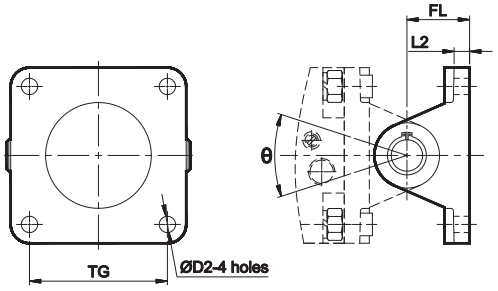
Cylinder bore Ø	K1 Js14	G2 Js14	S5 H13	CH Js15	CN H7	EU max	G1 Js14	H6	ER max	K2	G3	EN -0.1	L5	H1 max	Ordering no. @
125	94	60	14	90	30	25	70	20	40	124	90	37	2	50	AB1125

@ Adoptable to cylinder with female clevis (King pin)

AIR CYLINDER

Series A16, A17

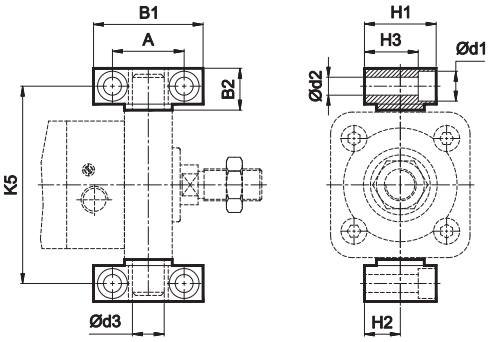
Wall mounting bracket



Cylinder bore Ø	TG	D2	L2	FL ±0.2	θ°	Ordering no. @	Ordering no. #
125	110	13	10	50	80	AV0125	AW0125
160	140	17	10	55	80	AV0160	AW0160
200	175	17	11	60	90	AV0200	AW0200
250	220	22	11	70	80	AV0250	AW0250

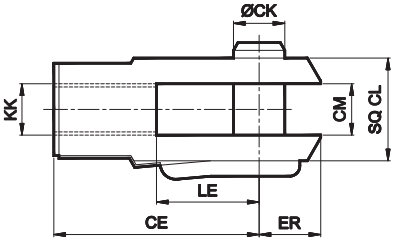
@ Adoptable to cylinder with male clevis
# Adoptable to cylinder with female clevis

Trunnion bracket



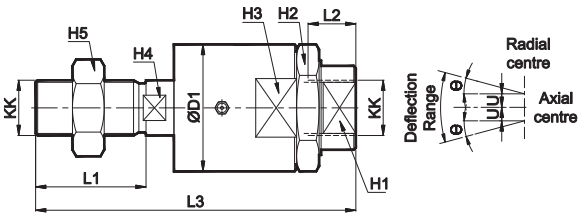
Cylinder bore Ø	B1	B2	A	d1	d2 H13	d3 H9	H1	H2	H3	K5 Js14	Ordering no.
125	75	28.5	50 ±0.2	20	14	25	50	25 ±0.1	37	192	AT100
160	92	40	60 ±0.3	25	18	32	60	30 ±0.2	43	245	AT0160
200	92	40	60 ±0.3	25	18	32	60	30 ±0.2	43	295	AT0160
250	140	50	90 ±0.3	32	22	40	70	35 ±0.2	48	375	AT0250

Rod end Fork (ISO 8140)



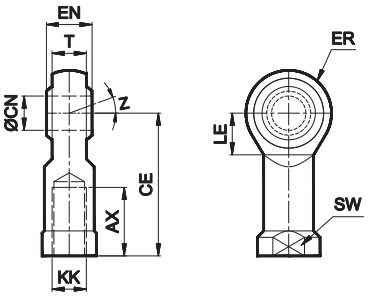
Cylinder bore Ø	KK	CE	CK f 8	CM B12	LE	ER max	CL	Ordering no.
125	M27 x 2	110	30	30	55	45	55	AF030
160 & 200	M36 x 2	144	35	35	72	53	70	AF035
250	M42 x 2	168	40	40	86	77	85	AF040

Rod end Aligner



Cylinder bore Ø	KK	L1	L2	L3	H1	H2	H3	H4	H5	ØD1	U	θ°	Ordering no.
125	M27 x 2	54	42	157	41	55	55	24	41	62	1.5	5	AR027
160 & 200	M36 x 2	72	55	251	60	75	75	32	55	80	1.5	5	AR036

Rod end spherical eye (ISO 8139)



Cylinder bore Ø	KK	CN H9	T	EN h12	CE	LE min	ER max	AX	SW	Z	Ordering no.
125	M27 x 2	30	25	37	110	36	35	51	41	15°	AP027
160 & 200	M36 x 2	35	28	43	125	41	40	56	50		AP036
250	M42 x 2	40	33	49	142	46	45	60	55		AP040

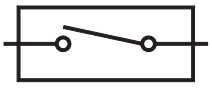
AIR CYLINDER

Series A16, A17

Cat No A16, A17 - 01 - 01 - E

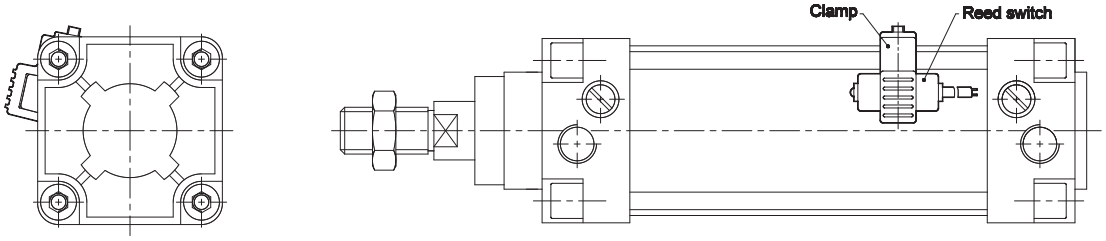
ACCESSORIES FOR MAGNETIC CYLINDERS Series A17, A19

REED SWITCH - (Ø125, 160, 200 mm)



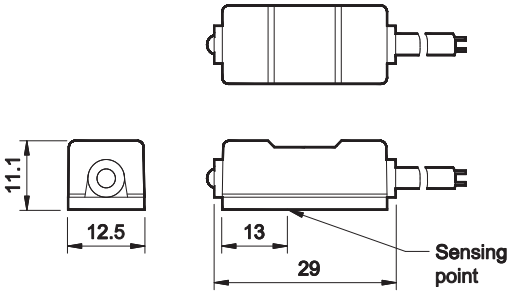
Function

The reed switch and clamping kit assembly is mounted on the Air cylinder (Series A17, A19), 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.

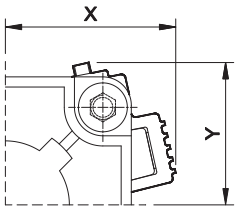


Technical Specifications - Reed Switch

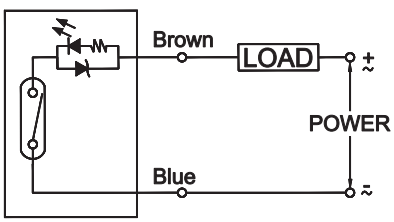
Model	880006
Operating voltage	DC / AC 5 - 240V
Switching current	100mA max
Switch rating	10 W max
Voltage drop	3.5V max.
Response time	On + off <1ms
Switching logic	SPST, Normally open
Operating temperature	-10° to +70° C
Shock	30 G
Vibration	9 G
Protection circuit	None
Type of protection	IEC 529, IP67
Colour of LED	Green
Cable	Ø4, 2C, 2meter



Cylinder bore Ø	X	Y	Ordering no. for Clamp (a)	Ordering no. Reed Switch (b)	Ordering no. (a+b)
125	71	76	SA0005	880006	AM1125
160	-	-	SA0006		AM1160
200	-	-	SA0007		AM1200



Circuit and connect diagram



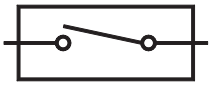
AIR CYLINDER

Series A16, A17

Cat No A16, A17 - 01 - 01 - E

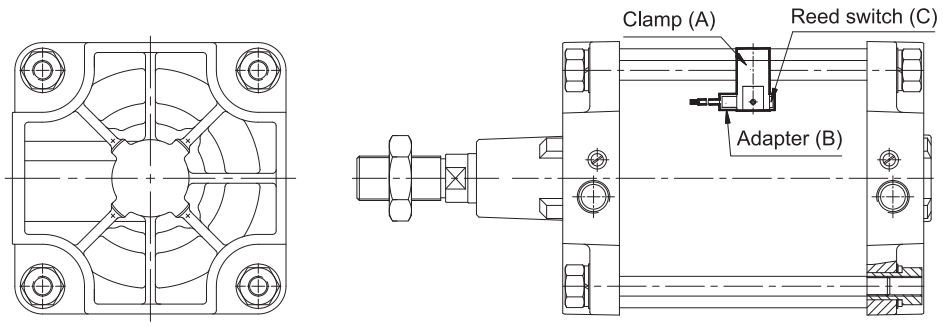
ACCESSORIES FOR MAGNETIC CYLINDERS Series A17

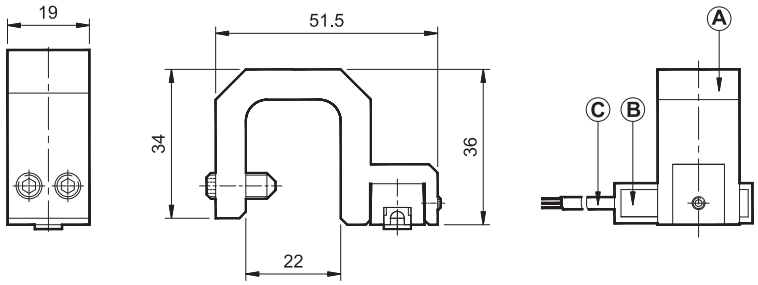
REED SWITCH (Ø250 mm)



Function

The reed switch and clamping kit assembly is mounted on the Air cylinder (Series A17) 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.





Cylinder bore Ø	Ordering no. for Clamp (a)	Ordering no. for Reed switch Adapter (b)	Ordering no. for Reed switch (c)	Ordering no. for (a+b+c)
250	SA0068	A1M01	*	@

* For Reed switch refer AM40 - Series page no 1a.1.1 & 1a.1.2

How to order @

AM50 — 250 — 0 — FL-04

Bore (mm)	
20	- Ø250

Switch type	
0	(Reed switch 2 wire type)
1	(Reed switch 3 wire type)
2	(Solid state type, Current sourcing - PNP)
3	(Solid state type, Current sinking - NPN)

End connection	
FL-04	(Flying lead with 2 meter cable length)
QD-02	(Quick disconnector with 300mm cable length)

AIR CYLINDER

Series A16, A17

Cat No A16, A17 - 01 - 01 - E

How to order

A | 16 | 160 | 100 | D | — | Optional: H

Model	
16	Standard cylinder
17	Magnetic cylinder

Piston Ø (mm)	
125	- Ø 125
160	- Ø 160
200	- Ø 200
250	- Ø 250

Stroke (mm)	
050	- 50
080	- 80
100	- 100
125	- 125
160	- 160
200	- 200
250	- 250
300	- 300
320	- 320
400	- 400
500	- 500

Mountings	
O	- Basic
L	- Foot Mounting
F	- Front Flange
R	- Rear Flange
S	- Male Clevis
D	- Female Clevis
K	- Female Clevis (King pin)
N	- Front Trunnion
M	- Rear Trunnion
T	- Centre Trunnion

Special Cylinders	
H	- High temp
S	- SS piston rod

Example:

Ordering no. for standard cylinder with 160 dia bore, 100 mm stroke with female clevis mounting with High temp:
A16 160 100 D - H

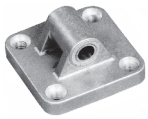
Note:

If ordered as 160 dia, 100 mm stroke cylinder, Basic cylinder **A16 160 100 O** will be supplied.

For repeat order when the details are taken from cylinder nameplate, mention the mounting style separately.

For ordering **Accessories** refer corresponding tables for Ordering numbers.

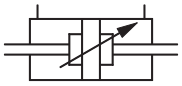
For ordering individual **Mounting** kits (If needed separately) the order numbers are as below

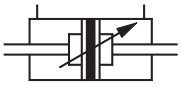
Cylinder bore Ø	Foot mounting *	Front / Rear flange *	Male clevis *	Female clevis *	Front / Rear trunnion *	Female clevis (King pin) *
						
125	ML0125	MF0125	MS0125	MD0125	MT0125	MK0125
160	ML0160	MF0160	MS0160	MD0160	MT0160	MK0160
200	ML0200	MF0200	MS0200	MD0200	MT0200	---
250	ML0250	MF0250	MS0250	MD0250	MT0250	---

* Supplied with 4nos. of screws

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

Subject to change


A18 - Non-magnetic


A19 - Magnetic

AIR CYLINDER

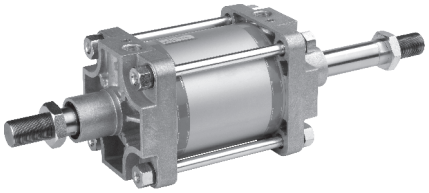
Series A18, A19

Cat No A18, A19 - 01 - 01 - C

AIR CYLINDERS Double Acting Double End (Ø125, 160, 200 mm)

Features

- ❑ Adjustable cushioning at both ends
- ❑ Wide varieties of mountings
- ❑ Low friction
- ❑ Long life
- ❑ Optional - High temperature (FKM seals) 150°C max. **
- ❑ Optional - Non corrosive Stainless steel piston rod and piston rod lock nut (SS 304) **



Technical Specifications

Cylinder bore Ø (mm)		125	160	200
Cushion length (mm)		40	40	40
Standard strokes* (mm)		50 80 100 125 160 200 250 300 320 400 500		
Medium		Compressed air - filtered - lubricated		
Working pressure		0.5 to 10 bar		
Ambient temperature		-10° to +60° C		
Medium temperature	Regular	+5° to +50° C		
	High temperature applications**	+5° to +150° C max.		
Materials of construction		Aluminium, Brass, Polyurethane, Steel, Acetal, Nitrile (Regular), FKM (High temperature)		
Mountings		Basic cylinder, Foot mounting, Flange, Female clevis, Front & Rear trunnion, Centre trunnion		
Accessories		Trunnion bracket, Rod end fork, Rod end spherical eye		

* For Non standard or longer stroke cylinders, contact your regional dealer or **JANATICS**

** Refer Special Ordering number.

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
125	32	2064	3096	4128	5160	6192	7224	8256	9288	10320
160	40	3392	5089	6785	8482	10178	11875	13571	15268	16964
200	40	5428	8143	10857	13571	16286	19000	21714	24429	27143

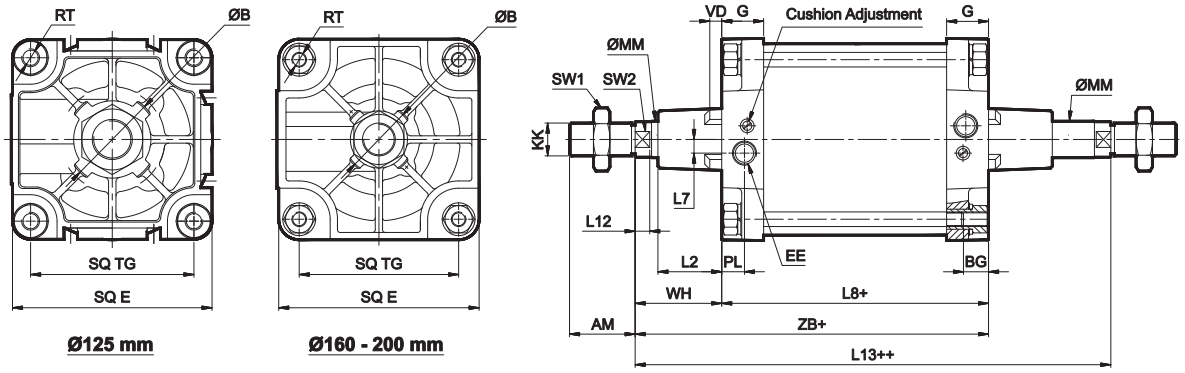
(Above values have been worked out taking frictional loss into consideration)

AIR CYLINDER

Series A18, A19

Cat No A18, A19 - 01 - 01 - C

Basic cylinder

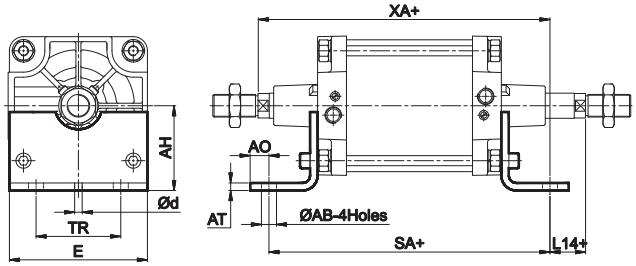


+ Add stroke
++ Add stroke twice

Cylinder bore Ø	KK	AM	MM	SW2	L12	SW1	B e11	VD	L2	E max	G	TG	RT	BG min	EE	PL	L7	WH ±2.2	ZB	Tol	L13 ±2	L8	Tol	Stroke tol
125	M27 x 2	54	32	27	13	41	60	10	48.5	136	44	110	M12	20	G1/2	20	12	65	225	±1.2	292	160	±1	+ 4 0
160	M36 x 2	72	40	36	16	55	65	8	60	183	51	140	M16	24	G3/4	26	15	80	260	±1.5	341	180	±1.1	
200	M36 x 2	72	40	36	16	55	75	8	70	222	46	175	M16	24	G3/4	25	15	95	275	±1.5	372	180	±1.6	

MOUNTINGS FOR AIR CYLINDER Series A18, A19

Foot mounting

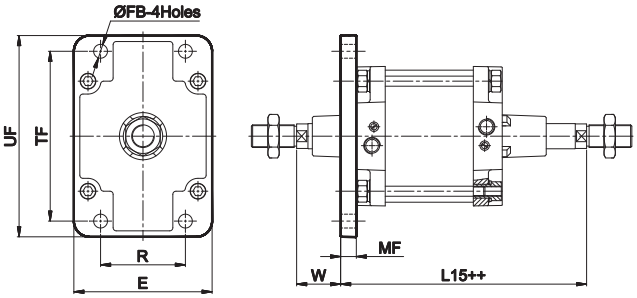


+ Add stroke

Cylinder bore Ø	TR ±0.3	AB H14	AH Js16	AO Max	AT	E	d*	SA ±2	L14 ±2.5	XA ±2	Ordering no.
125	90	16.5	90	17	8	140	11.8	250	22	270	ML0125
160	115	18.5	115	17	10	180	11.8	300	21	320	ML0160
200	135	24	135	30	12	220	11.8	320	27	345	ML0200

* Suitable for reaming

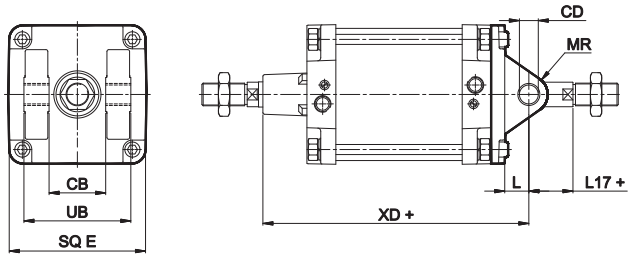
Flange



++ Add stroke twice

Cylinder bore Ø	TF ±0.3	R ±0.3	FB H13	MF	UF	E	W ±2.5	L15	Tol	Ordering no.
125	180	90	16	20	211	141	45	247	±2	MF0125
160	230	115	18	20	276	180	60	281	±2.5	MF0160
200	270	135	22	25	320	221	70	302		MF0200

Female clevis



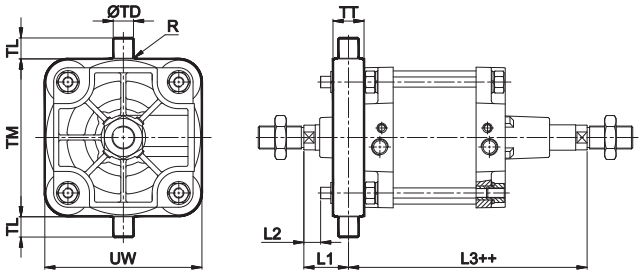
+ Add stroke

Cylinder bore Ø	CD H9	CB H14	L	MR max	UB h14	E max	L17 ±2.5	XD ±2	Ordering no.
125	25	70	30	26	130	140	17	275	MB0125
160	30	90	35	31	170	180	26	315	MB0160
200	30	90	35	31	170	220	37	335	MB0200

AIR CYLINDER

Series A18, A19

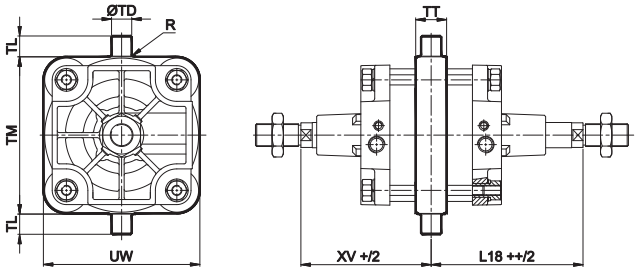
Trunnion



++ Add stroke twice

Cylinder bore Ø	TD e9	TL h14	TM h14	UW	TT	R	L1	L2 Approx	L3 ± 2.5	Ordering no.
125	25	25	160	155	44	2	43	6.5	249	MT0125
160	32	32	200	195	49	2.5	55.5	11.5	285.5	MT0160
200	32	32	250	248	49	2.5	70.5	26.5	301.5	MT0200

Centre trunnion



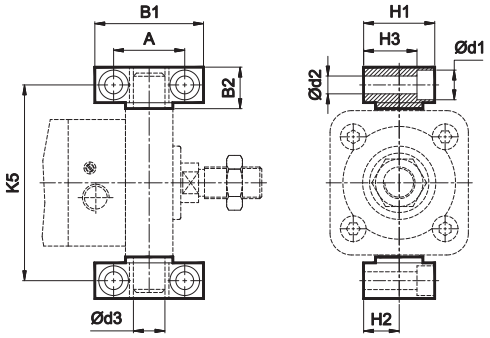
+ Add stroke
++ Add stroke twice

Cylinder bore Ø	TD e9	TL h14	TM h14	UW	TT	R	XV ±2.5	L18 ±2.5
125	25	25	160	155	44	2	145	147
160	32	32	200	195	49	2.5	170	171
200	32	32	250	248	49	2.5	185	187

Note : Cylinder with Centre trunnion is factory fitted, please contact **JANATICS - H.O**

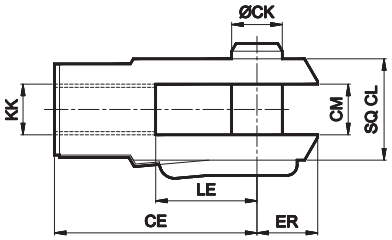
Accessories for Air Cylinder series A18, A19

Trunnion bracket



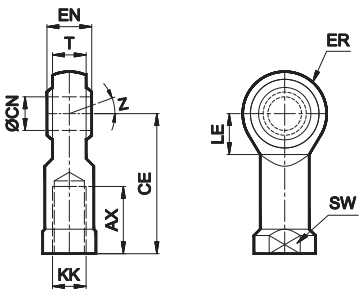
Cylinder bore Ø	B1	B2	A	d1	d2 H13	d3 H9	H1	H2	H3	K5 Js14	Ordering no.
125	75	28.5	50 ±0.2	20	14	25	50	25 ±0.1	37	192	AT100
160	92	40	60 ±0.3	25	18	32	60	30 ±0.2	43	245	AT0160
200	92	40	60 ±0.3	25	18	32	60	30 ±0.2	43	295	AT0160

Rod end Fork (ISO 8140)



Cylinder bore Ø	KK	CE	CK f 8	CM B12	LE	ER max	CL	Ordering no.
125	M27 x 2	110	30	30	55	45	55	AF030
160 & 200	M36 x 2	144	35	35	72	53	70	AF035

Rod end spherical eye (ISO 8139)



Cylinder bore Ø	KK	CN H9	T	EN h12	CE	LE min	ER max	AX	SW	Z	Ordering no.
125	M27 x 2	30	25	37	110	36	35	51	41	15°	AP027
160 & 200	M36 x 2	35	28	43	125	41	40	56	50		AP036

AIR CYLINDER

Series A18, A19

How to order

A | 19 | 160 | 100 | B | — | Optional H

Model	
18	Standard cylinder
19	Magnetic cylinder

Piston Ø (mm)	
125	- Ø 125
160	- Ø 160
200	- Ø 200

Stroke (mm)	
050	- 50
080	- 80
100	- 100
125	- 125
160	- 160
200	- 200
250	- 250
300	- 300
320	- 320
400	- 400
500	- 500

Mountings	
O	- Basic
L	- Foot Mounting
F	- Flange
B	- Female Clevis
N	- Trunnion
T	- Centre trunnion

Special Cylinders	
H	- High temp
S	- SS piston rod

Note

For details of Accessories for Magnetic sensor, refer catalogue **Series A16, A17** (Page no. 1.3.6)

Example:

Ordering no. for magnetic cylinder with 160 dia bore, 100 mm stroke with female clevis mounting with High temp:
A19 160 100 B - H

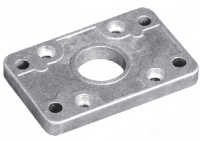
Note:

If ordered as 40 dia, 50 mm stroke cylinder, Basic cylinder **A18 040 050 O** will be supplied.

For repeat order when the details are taken from cylinder nameplate, mention the mounting style separately.

For ordering **Accessories** refer corresponding tables for Ordering numbers.

For ordering individual **Mounting** kits (If needed separately) the order numbers are as below

Cylinder bore Ø	Foot mounting *	Flange *	Female clevis *	Front & Rear trunnion *
				
125	ML0125	MF0125	MB0125	MT0125
160	ML0160	MF0160	MB0160	MT0160
200	ML0200	MF0200	MB0200	MT0200

* Supplied with 4nos. of screws

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

JANATICS
Pneumatic

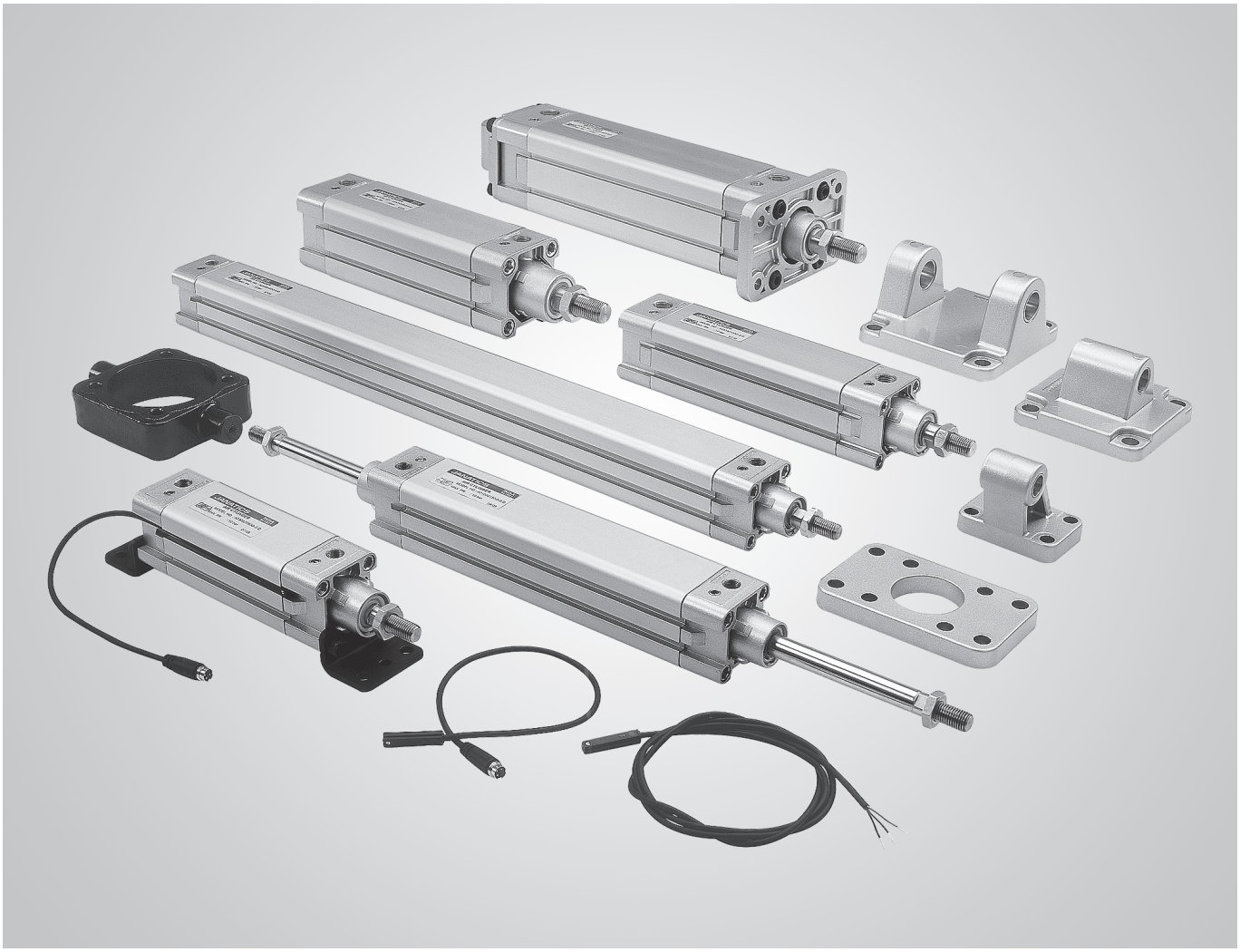
Air Cylinders (Square type profile)

Series A23 - Double Acting cylinder (Magnetic)

Series A24 - Double Acting cylinder (Non Magnetic)

Series A20 - Double End Double Acting cylinder (Magnetic)

Series A21 - Double End Double Acting cylinder (Non Magnetic)



- ❑ Conforms to ISO 15552 / VDMA 24562 standards (Series A23, A24)
- ❑ Double Acting Cylinders
- ❑ Sizes - ø32 , ø40 , ø50 , ø63 , ø80 , ø100 , ø125mm
- ❑ ISO / VDMA standard mountings
- ❑ Accessories


A23 - Magnetic


A24 - Non magnetic

AIR CYLINDER

Series A23, A24

Cat No A23, A24 - 01 - 02 - G

Double Acting Cylinders (Square type) Ø32 - 125 mm

As per ISO 15552 / VDMA 24562 standards

Features

- ❑ Adjustable cushioning at both ends with elastomer pads
- ❑ Wide varieties of mountings as per ISO 15552 / VDMA 24562 standards
- ❑ Magnetic and Non magnetic version
- ❑ Low Friction (Optional)
- ❑ Aluminium profile (square) cylinder barrel
- ❑ Magnetic sensor common for all sizes (Refer Magnetic sensor catalogue)
- ❑ Optional - High temperature (FKM seals) 150°C max. **
- ❑ Optional - Non corrosive Stainless steel piston rod and piston rod lock nut (SS 304) **

Technical Specifications

Cylinder bore Ø (mm)		32	40	50	63	80	100	125
Cushion stroke (mm)		21	23	23	23	28	28	40
Standard strokes * (mm)		25, 50, 80, 100, 125, 160, 200, 250, 300, 320, 400, 500						50, 80, 100, 125, 160, 200, 250, 300, 320, 400, 500
Medium		Compressed air - filtered - lubricated						
Working pressure, bar	A23, A24	0.5 to 10						
	A23L, A24L #	0.3 to 10		0.2 to 10		0.1 to 10		Not available
Ambient temperature		-10° to +60° C						
Medium temperature	Regular	+5° to +50° C						
	High temperature applications**	+5° to +150°C max.						
Materials of construction		Aluminium, Brass, Steel, Acetal, Polyurethane, Nitrile (Regular), FKM (High temperature)						
Mountings		Basic cylinder, Foot mounting, Front flange, Rear flange, Male clevis, Male clevis (with spherical bearing), Female clevis, Female clevis (King pin), Front trunnion, Rear trunnion,						
Accessories		Clevis foot bracket, Clevis foot bracket (spherical), Wall mounting bracket, Trunnion bracket, Rod end fork, Rod end aligner, Rod end spherical eye						

* - For Non standard or longer stroke cylinders, contact your regional dealer or **JANATICS**
** - Refer Special Ordering number.
# - Applicable only for standard strokes (Upto 500mm)

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
32	12	Extend	145	217	289	362	434	507	579	651	724
		Retract	124	187	249	311	373	435	498	559	621
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	891	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	25	Extend	1414	2120	2828	3534	4241	4948	5655	6362	7069
		Retract	1325	1988	2650	3313	3976	4640	5300	5965	6625
125	32	Extend	2209	3313	4417	5522	6626	7731	8835	9940	11044
		Retract	2064	3096	4128	5160	6192	7224	8256	9288	10320

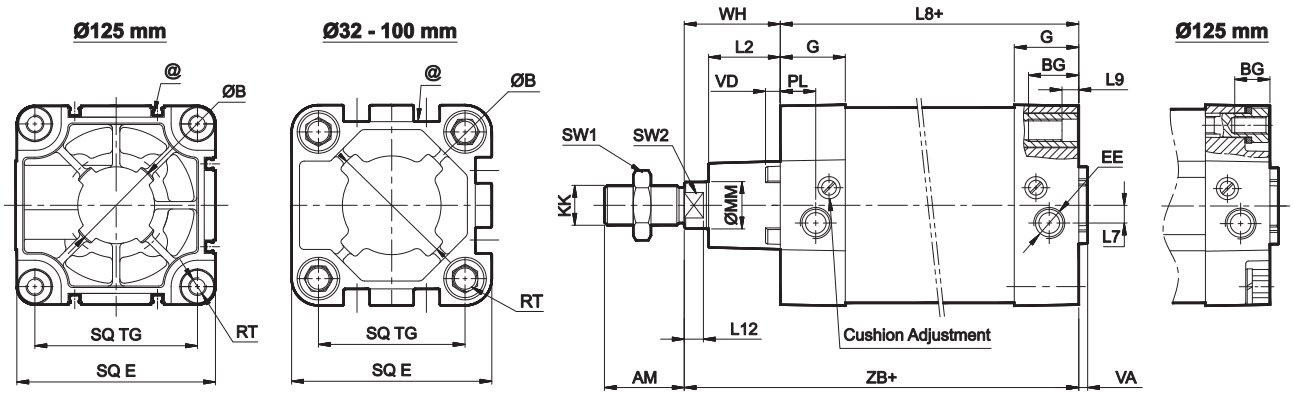
(Above values have been worked out taking frictional loss into consideration)

AIR CYLINDER

Series A23, A24

Cat No A23, A24 - 01 - 02 - G

Basic cylinder

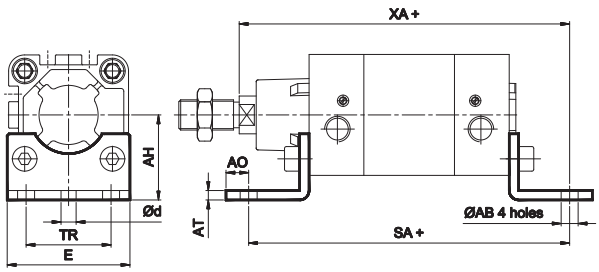


+ Add stroke

Cylinder Bore Ø	KK	AM	MM	SW2	L12	SW1	B e11	VD	VA	L2	E max	G	TG	RT	BG min	EE	PL	L7	WH	Tol	ZB	Tol	L8	Tol	L9	Stroke tol
32	M10x1.25	22	12	10	6	17	30	6	4	18.5	45	25.5	32.5	M6	16	G1/8	13	5	26		120	±1	94	± 0.6	5	
40	M12x1.25	24	16	13	6.5	19	35	6.5	4	20.5	51	29	38	M6	16	G1/4	14.5	5	30	±1.3	135		105		5	+ 2 + 0
50	M16x1.5	32	20	16	8	24	40	6.5	4	28	64	29	46.5	M8	16	G1/4	15	7.5	37		143		106	± 0.7	6	
63	M16x1.5	32	20	16	8	24	45	6.5	4	27.5	74	35	56.5	M8	16	G3/8	17	10	37		158	±1.1	121		6	
80	M20x1.5	40	25	21	10	30	45	6.5	4	34	94	35	72	M10	16	G3/8	18	14	46	±1.5	174		128	± 0.8	6	+ 2.5 + 0
100	M20x1.5	40	25	21	10	30	55	6.5	4	35	111	38.5	89	M10	16	G1/2	18	10	51		189		138		6	
125	M27x2	54	32	27	13	41	60	10	6	48.5	136	44	110	M12	20	G1/2	20	12	65	±2.2	225	±1.2	160	±1	-	+ 4 + 0

@ - T Groove for magnetic sensor, Refer catalogue series AM4

Foot mounting

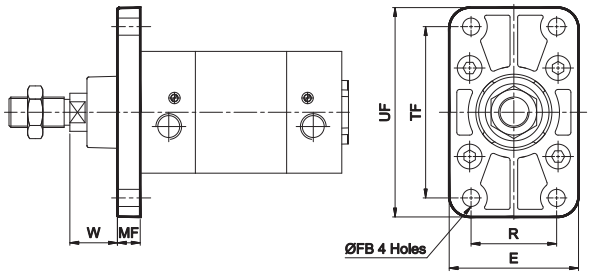


+ Add stroke

Cylinder Bore Ø	TR ±0.3	AB H14	AH Js15	AO max	AT	E	d*	SA	Tol	XA	Tol	Recommended Bolt size	Ordering no.
32	32	7	32	8	4	46	5.8	142		144		M6	ML1032
40	36	10	36	10	4	52	7.8	161	± 1.25	163	± 1.25	M8	ML1040
50	45	10	45	12	5	65	7.8	170		175		M8	ML1050
63	50	10	50	12	5	75	7.8	185		190		M8	ML1063
80	63	12	63	17	6	95	9.8	210	± 1.6	215	± 1.5	M10	ML1080
100	75	14.5	71	19	6	115	11.8	220		230		M12	ML1100
125	90	16.5	90	17	8	140	11.8	250	±2	270	±2	M12	ML0125

* Suitable for reaming

Front flange



+ Add stroke

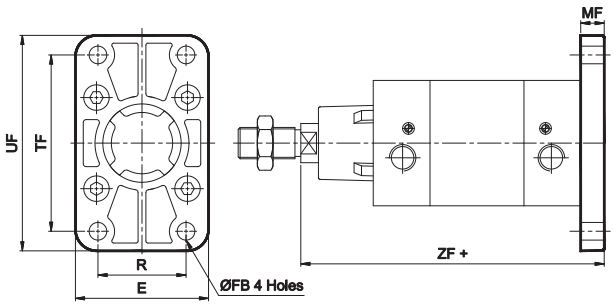
Cylinder Bore Ø	TF ±0.3	R ±0.3	FB H13	MF	UF	E	W	Tol	Recommended Bolt size	Ordering no.
32	64	32	7	10	80	50	16		M6	MF1032
40	72	36	9	10	90	55	20	±1.5	M8	MF1040
50	90	45	9	12	110	68	25		M8	MF1050
63	100	50	9	12	125	78	25		M8	MF1063
80	126	63	12	16	155	100	30	±1.8	M10	MF1080
100	150	75	14	16	185	120	35		M12	MF1100
125	180	90	16	20	211	141	45	±2.5	M12	MF0125

AIR CYLINDER

Series A23, A24

Cat No A23, A24 - 01 - 02 - G

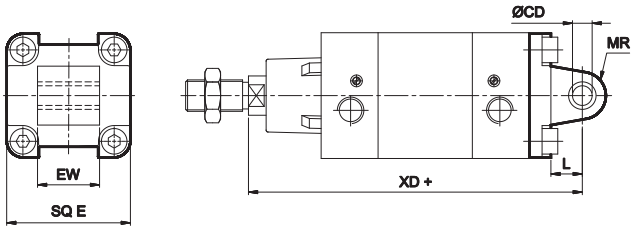
Rear flange



+ Add stroke

Cylinder Bore Ø	TF ±0.3	R ±0.3	FB H13	MF	UF	E	ZF	Tol	Recommended Bolt size	Ordering no.
32	64	32	7	10	80	50	130	±1.25	M6	MF1032
40	72	36	9	10	90	55	145		M8	MF1040
50	90	45	9	12	110	68	155		M8	MF1050
63	100	50	9	12	125	78	170	±1.5	M8	MF1063
80	126	63	12	16	155	100	190		M10	MF1080
100	150	75	14	16	185	120	205		M12	MF1100
125	180	90	16	20	211	141	245	±2	M12	MF0125

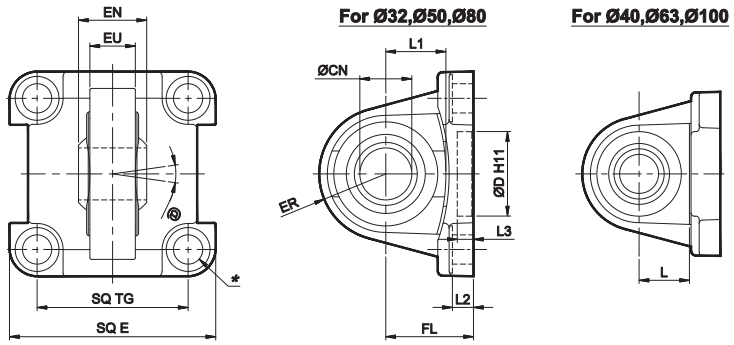
Male clevis



+ Add stroke

Cylinder Bore Ø	CD H9	EW	Tol	L	MR	E max	XD	Tol	Ordering no.
32	10	26	- 0.2 - 0.6	12	11	45	142	±1.25	MS1032
40	12	28		15	13	51	160		MS1040
50	12	32		15	13	64	170		MS1050
63	16	40		20	17	74	190	±1.5	MS1063
80	16	50		20	17	94	210		MS1080
100	20	60		25	21	111	230		MS1100
125	25	70	- 0.5 - 1.2	30	26	140	275	±2	MS0125

Male Clevis (with spherical bearing)



Bore dia	CN H7	EN	EU	L	L1	ER max	SQ E	SQ TG	L2	FL	ØD H11	L3 min	@	Recommended Bolt size *	Ordering no.
32	10	14	10.5	-	13.5	15.5	45	32.5	5.5	22	30	4.5	±4°	M6 x 20	MG1032
40	12	16	12	15.5	-	17.5	51	38	5.5	25	35			M6 x 20	MG1040
50	16	21	15	-	19min	20.5	64	46.5	6.5	27	40			M8 x 20	MG1050
63	16	21	15	19min	-	22.5	74	56.5	6.5	32	45			M8 x 20	MG1063
80	20	25	18	-	24min	27.5	94	72	10	36	45			M10 x 25	MG1080
100	20	25	18	24min	-	29.5	111	89	10	41	55			M10 x 25	MG1100

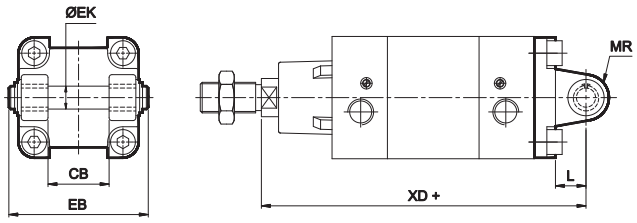
* Supplied with 4nos. of screws

AIR CYLINDER

Series A23, A24

Cat No A23, A24 - 01 - 02 - G

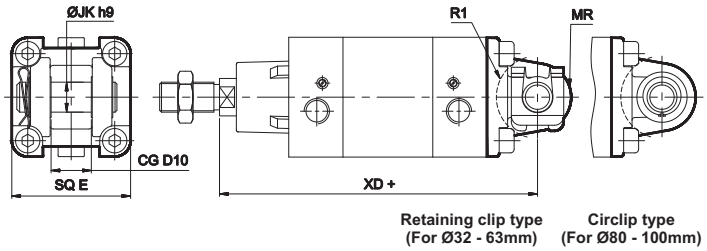
Female clevis



+ Add stroke

Cylinder Bore Ø	EK e8	CB H14	L	MR	EB max	XD	Tol	Ordering no.
32	10	26	12	11	56	142	±1.25	MD1032
40	12	28	15	13	65	160		MD1040
50	12	32	15	13	73	170		MD1050
63	16	40	20	17	86	190	±1.5	MD1063
80	16	50	20	17	106	210		MD1080
100	20	60	25	21	129	230		MD1100
125	25	70	30	26	148	275	±2	MD0125

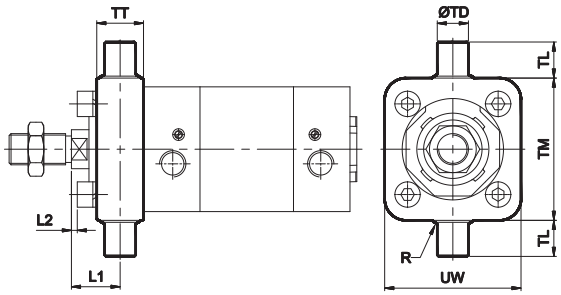
Female clevis (King pin)



+ Add stroke

Cylinder bore Ø	JK h9	CG D10	R1	MR max	SQ E	XD	Tol	Ordering no.
32	10	14	17	11	45	142	±1.25	MK1032
40	12	16	20	13	51	160		MK1040
50	16	21	22	18	64	170		MK1050
63	16	21	25	18	74	190	±1.6	MK1063
80	20	25	30	22	94	210		MK1080
100	20	25	32	22	111	230		MK1100
125	30	37	42	30	136	275	±2	MK0125

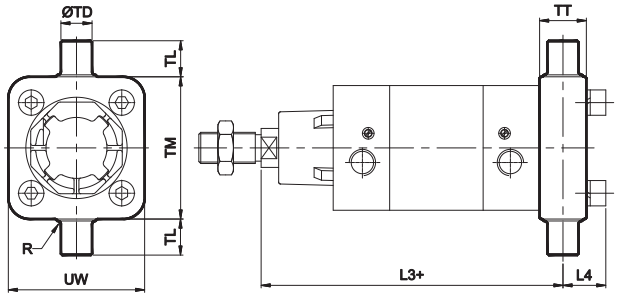
Front trunnion



+ Add stroke

Cylinder Bore Ø	TD e9	TL h14	TM h14	UW	TT	R	L1	Tol	L2 approx	Ordering no.
32	12	12	50	48	16	1	18		2	MT1032
40	16	16	63	55	22	1.5	19	±1.5	0	MT1040
50	16	16	75	70	24	1.6	25		3	MT1050
63	20	20	90	86	28	1.6	23		-1	MT1063
80	20	20	110	110	32	1.6	30	±1.8	1.8	MT0080
100	25	25	132	135	40	2	31		-1.2	MT0100
125	25	25	160	155	44	2	43	±2.5	6.5	MT0125

Rear trunnion



+ Add stroke

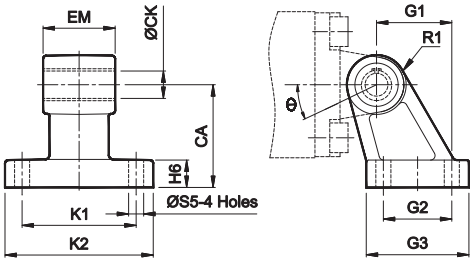
Cylinder Bore Ø	TD e9	TL h14	TM h14	UW	TT	R	L3	Tol	L4 approx	Ordering no.
32	12	12	50	48	16	1	128		16	MT1032
40	16	16	63	55	22	1.5	146	±1.5	19	MT1040
50	16	16	75	70	24	1.6	155		22	MT1050
63	20	20	90	86	28	1.6	172		24	MT1063
80	20	20	110	110	32	1.6	190		29	MT0080
100	25	25	132	135	40	2	209	±1.8	33	MT0100
125	25	25	160	155	44	2	247		36.5	MT0125

AIR CYLINDER

Series A23, A24

Accessories for Air Cylinder series A23, A24

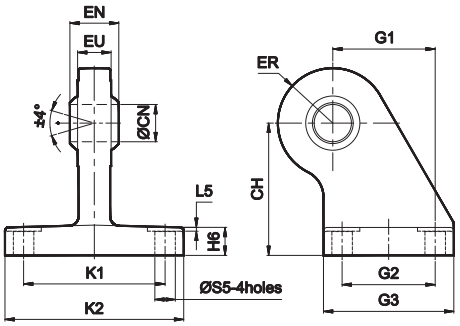
Clevis foot bracket



Cylinder Bore Ø	K1 Js14	G2 Js14	S5 H13	CA Js15	CK H9	EM	Tol	G1 Js14	H6	R1 max	K2	G3	θ°	Recommended Bolt size	Ordering no. @
32	38	18	6.6	32	10	26	-0.2 -0.6	21	8	10	51	31	10	M6	AA1032
40	41	22	6.6	36	12	28		24	10	11	54	35	15	M6	AA1040
50	50	30	9	45	12	32		33	12	13	65	45	15	M8	AA1050
63	52	35	9	50	16	40		37	12	15	67	50	15	M8	AA1063
80	66	40	11	63	16	50		47	14	15	86	60	15	M10	AA1080
100	76	50	11	71	20	60		55	15	19	96	70	15	M10	AA1100
125	94	60	14	90	25	70	-0.5 -1.5	70 ±0.2	20	23.5	124	90	-	M12	AA0125

@ Adoptable to cylinder with female clevis

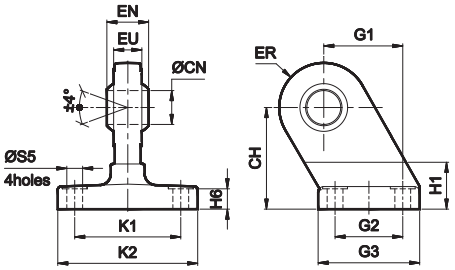
Clevis foot bracket (with spherical bearing)



Cylinder bore Ø	K1 Js14	G2 Js14	S5 H13	CH Js15	CN H7	EU max	G1 Js14	H6	ER max	K2 max	G3	EN -0.1	L5	Ordering no. @
32	38	18	6.6	32	10	10.5	21	10	16	51	31	14	1	AB1032
40	41	22	6.6	36	12	12	24	10	18	54	35	16	1	AB1040
50	50	30	9	45	16	15	33	12	21	65	45	21	1	AB1050
63	52	35	9	50	16	15	37	12	23	67	50	21	1	AB1063
80	66	40	11	63	20	18	47	14	28	86	60	25	2	AB1080
100	76	50	11	71	20	18	55	15	30	96	70	25	2	AB1100

@ Adoptable to cylinder with female clevis

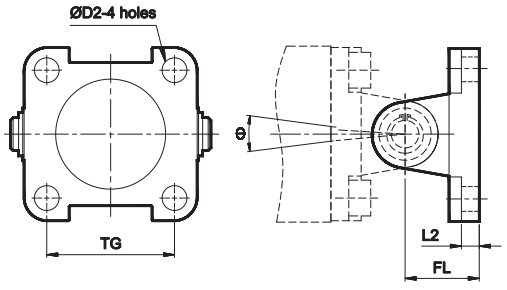
Clevis foot bracket (with spherical bearing)



Cylinder bore Ø	K1 Js14	G2 Js14	S5 H13	CH Js15	CN H7	EU max	G1 Js14	H6	ER max	K2	G3	EN -0.1	L5	H1 max	Ordering no. @
125	94	60	14	90	30	25	70	20	40	124	90	37	2	50	AB1125

@ Adoptable to cylinder with female clevis (King pin)

Wall mounting bracket



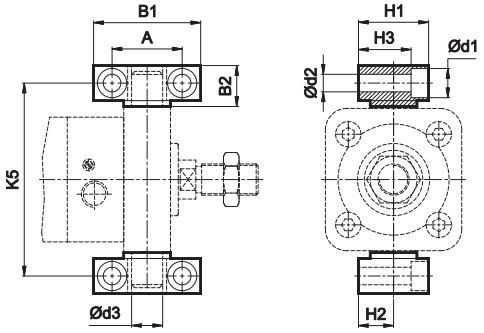
Cylinder bore Ø	TG	D2	L2	FL	θ°	Recommended Bolt size	Ordering no. @	Ordering no. #
32	32.5	6.6	5.5	22	90	M6	AV1032	AW1032
40	38	6.6	5.5	25	90	M6	AV1040	AW1040
50	46.5	9	6.5	27	90	M8	AV1050	AW1050
63	56.5	9	6.5	32	90	M8	AV1063	AW1063
80	72	11	10	36	60	M10	AV1080	AW1080
100	89	11	10	41	60	M10	AV1100	AW1100
125	110	13	10	50 ±0.2	80	M12	AV0125	AW0125

@ Adoptable to cylinder with male clevis
# Adoptable to cylinder with female clevis

AIR CYLINDER

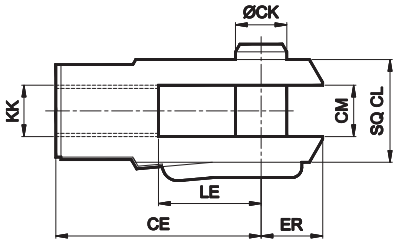
Series A23, A24

Trunnion bracket



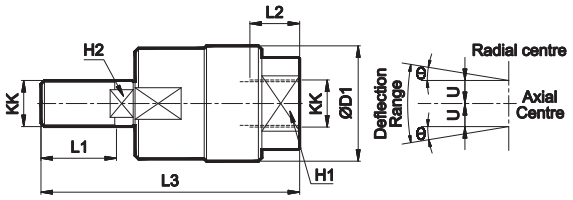
Cylinder bore Ø	B1	B2	A	d1	d2 H13	d3 H9	H1	H2	H3	K5 Js14	Ordering no.
32	46	18	32 ±0.2	11	6.6	12	30	15 ±0.1	23	71	AT032
40	55	21	36 ±0.2	15	9	16	36	18 ±0.1	27	87	AT040
50	55	21	36 ±0.2	15	9	16	36	18 ±0.1	27	99	AT040
63	65	23	42 ±0.2	16.5	11	20	40	20 ±0.1	29	116	AT063
80	65	23	42 ±0.2	16.5	11	20	40	20 ±0.1	29	136	AT063
100	75	28.5	50 ±0.2	20	14	25	50	25 ±0.1	37	164	AT100
125	75	28.5	50 ±0.2	20	14	25	50	25 ±0.1	37	192	AT100

Rod end Fork (ISO 8140)



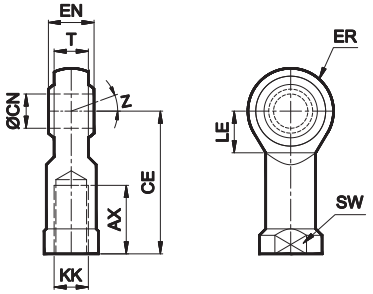
Cylinder bore Ø	KK	CE	CK f 8	CM B12	LE	ER max	CL	Ordering no.
32	M10 x 1.25	40	10	10	20	16	20	AF010
40	M12 x 1.25	48	12	12	24	19	24	AF012
50 / 63	M16 x 1.5	64	16	16	32	25	32	AF016
80 / 100	M20 x 1.5	80	20	20	40	32	40	AF020
125	M27 x 2	110	30	30	55	45	55	AF030

Rod end Aligner



Cylinder bore Ø	KK	L1	L2	L3	H1	H2	D1	U	± θ°	Ordering no.
32	M10 x 1.25	20	14	65	17	8	28	0.75	5	AR010
40	M12 x 1.25	22	18	75	19	10	32	1	5	AR012
50 / 63	M16 x 1.5	25	22	91	27	13	41	1	5	AR016
80 / 100	M20 x 1.5	30	28	112	32	16	50	1.5	5	AR020

Rod end spherical eye (ISO 8139)



Cylinder bore Ø	KK	CN H9	T	EN h12	CE	LE min	ER max	AX	SW	Z	Ordering no.
32	M10 x 1.25	10	10.5	14	43	15	14	20	17	13°	AP010
40	M12 x 1.25	12	12	16	50	17	16	22	19		AP012
50 / 63	M16 x 1.5	16	15	21	64	22	21	28	22	15°	AP016
80 / 100	M20 x 1.5	20	18	25	77	26	25	33	30/32		AP020
125	M27 x 2	30	25	37	110	36	35	51	41		AP027

AIR CYLINDER

Series A23, A24

Cat No A23, A24 - 01 - 02 - G

How to order

A | 24 | Optional | 040 | 050 | D | — | Optional

Model	
23	Magnetic cylinder
24	Standard cylinder

Type	
L	Low Friction Cylinder

Note: Ø125 mm Low friction cylinder not available

Piston Ø (mm)	
032	- Ø 32
040	- Ø 40
050	- Ø 50
063	- Ø 63
080	- Ø 80
100	- Ø 100
125	- Ø 125

Stroke (mm)	
025	- 25
050	- 50
080	- 80
100	- 100
125	- 125
160	- 160
200	- 200
250	- 250
300	- 300
320	- 320
400	- 400
500	- 500

Mountings	
O	- Basic
L	- Foot Mounting
F	- Front Flange
R	- Rear Flange
S	- Male Clevis
G	- Male Clevis (with spherical bearing)
D	- Female Clevis
K	- Female Clevis (King pin)
M	- Rear Trunnion
N	- Front Trunnion

Special Cylinders	
H	- High temp
S	- SS piston rod

Note: Low friction cylinder not available in High temp model.

Note

For details of Accessories for Magnetic sensor, refer catalogue **Series AM4** (Page no. 1a.1.1)

Example:

Ordering no. for standard cylinder with 40 dia bore, 50 mm stroke with female clevis mounting: **A24 040 050 D**

Note:

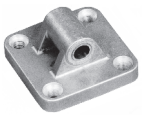
If ordered as 40 dia, 50 mm stroke cylinder, Basic cylinder **A24 040 050 O** will be supplied.

If ordered as 40 dia, 50 mm stroke cylinder, Low friction cylinder **A24L 040 050 O** will be supplied.

For repeat order when the details are taken from cylinder nameplate, mention the mounting style separately.

For ordering **Accessories** refer corresponding tables for ordering numbers.

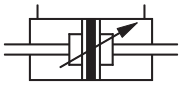
For ordering individual **Mounting** kits (If needed separately) the order numbers are as below

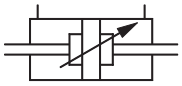
Cylinder bore Ø	Foot mounting*	Front / Rear flange*	Male clevis*	Female clevis*	Front / Rear trunnion*	Female clevis (King pin)*
						
32	ML1032	MF1032	MS1032	MD1032	MT1032	MK1032
40	ML1040	MF1040	MS1040	MD1040	MT1040	MK1040
50	ML1050	MF1050	MS1050	MD1050	MT1050	MK1050
63	ML1063	MF1063	MS1063	MD1063	MT1063	MK1063
80	ML1080	MF1080	MS1080	MD1080	MT0080	MK1080
100	ML1100	MF1100	MS1100	MD1100	MT0100	MK1100
125	ML0125	MF0125	MS0125	MD0125	MT0125	MK0125

* Supplied with 4nos. of screws

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

Subject to change


A20 - Magnetic


A21 - Non-magnetic

AIR CYLINDER

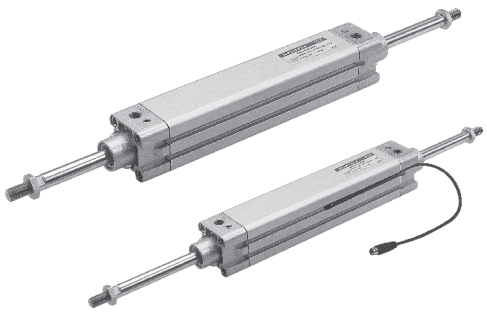
Series A20, A21

Cat No A20, A21 - 01 - 02 - D

Double End Double Acting Cylinders (Square type) Ø32 - 125 mm

Features

- ❑ Adjustable cushioning at both ends with elastomer pads
- ❑ Wide varieties of mountings as per ISO 15552 / VDMA 24562 standards
- ❑ Magnetic and Non magnetic version
- ❑ Aluminium profile (square) cylinder barrel
- ❑ Magnetic sensor common for all sizes (Refer Magnetic sensor catalogue)
- ❑ Optional - High temperature (FKM seals) 150°C max. **
- ❑ Optional - Non corrosive Stainless steel piston rod and piston rod lock nut (SS 304) **



Technical Specifications

Cylinder bore Ø (mm)		32	40	50	63	80	100	125
Cushion stroke (mm)		21	23	23	23	28	28	40
Standard strokes * (mm)		25, 50, 80, 100, 125, 160, 200, 250, 300, 320, 400, 500						50, 80, 100, 125, 160, 200, 250, 300, 320, 400, 500
Medium		Compressed air - filtered - lubricated						
Working pressure		0.5 to 10 bar						
Ambient temperature		-10° to +60° C						
Medium temperature	Regular	+5° to +50° C						
	High temperature applications**	+5° to +150° C max.						
Materials of construction		Aluminium, Brass, Steel, Acetal, Polyurethane, Nitrile (Regular), FKM (High temperature)						
Mountings		Basic cylinder, Foot mounting, Flange, Female clevis, Trunnion,						
Accessories		Trunnion bracket, Rod end fork, Rod end aligner, Rod end spherical eye						

* For Non standard or longer stroke cylinders, contact your regional dealer or **JANATICS**
** Refer Special Ordering number.

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
32	12	124	187	249	311	373	435	498	559	621
40	16	190	285	380	475	570	665	760	855	950
50	20	297	445	594	742	891	1039	1187	1336	1484
63	20	505	757	1009	1261	1514	1766	2018	2270	2523
80	25	816	1225	1633	2041	2449	2857	3266	3674	4082
100	25	1325	1988	2650	3313	3976	4640	5300	5965	6625
125	32	2064	3096	4128	5160	6192	7224	8256	9288	10320

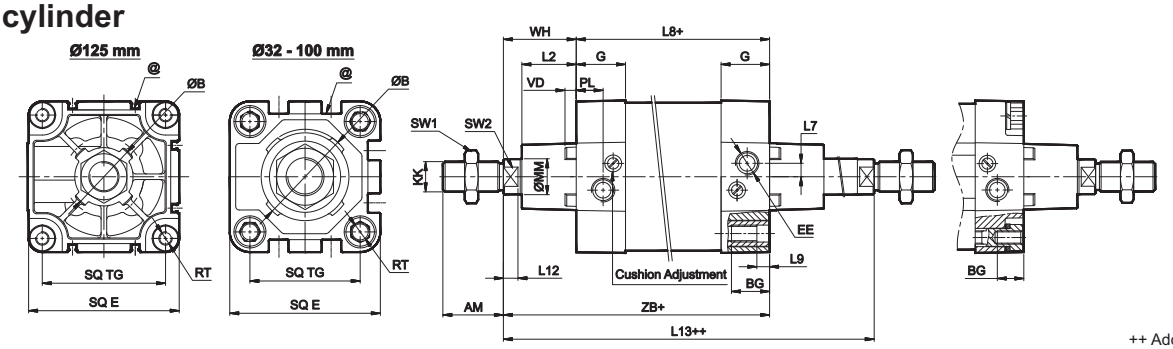
(Above values have been worked out taking frictional loss into consideration)

AIR CYLINDER

Series A20, A21

Cat No A20, A21 - 01 - 02 - D

Basic cylinder

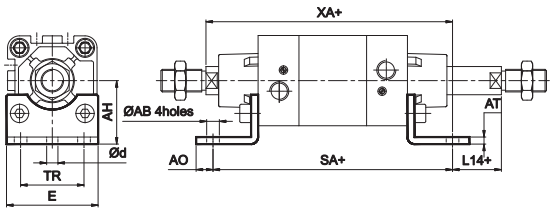


+ Add stroke
++ Add stroke twice

Cylinder bore Ø	KK	AM	MM	SW2	L12	SW1	B e11	VD	L2	E max	G	TG	RT	BG min	EE	PL	L7	WH	Tol	ZB	Tol	L8	Tol	L9	L13	Tol	Stroke tol
32	M10x1.25	22	12	10	6	17	30	6	18.5	45	25.5	32.5	M6	16	G1/8	13	5	26	±1.3	120	±1	94	±0.6	5	147	±1.5	+ 2 + 0
40	M12x1.25	24	16	13	6.5	19	35	6.5	20.5	51	29	38	M6	16	G1/4	14.5	5	30		135		105		5	166		
50	M16x1.5	32	20	16	8	24	40	6.5	28	64	29	46.5	M8	16	G1/4	15	7.5	37	±1.5	143	±1.1	106	±0.7	6	181		+ 2.5 + 0
63	M16x1.5	32	20	16	8	24	45	6.5	27.5	74	35	56.5	M8	16	G3/8	17	10	37		158		121	±0.8	6	196		
80	M20x1.5	40	25	21	10	30	45	6.5	34	94	35	72	M10	16	G3/8	18	14	46		174		128		6	221		
100	M20x1.5	40	25	21	10	30	55	6.5	35	111	38.5	89	M10	16	G1/2	18	10	51		189		138		6	241		
125	M27x2	54	32	27	13	41	60	10	48.5	136	44	110	M12	20	G1/2	20	12	65	±2.2	225	±1.2	160	±1	-	292	±2	+ 4 + 0

@ - T Groove for magnetic sensor, Refer catalogue series AM4

Foot mounting

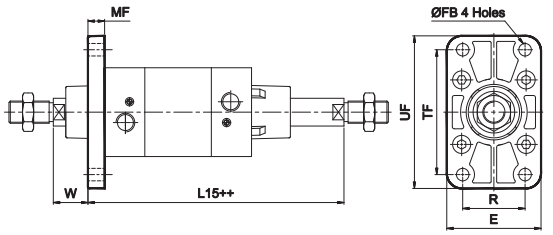


+ Add stroke

Cylinder bore Ø	TR ±0.3	AB H14	AH JS15	AO max	AT	E	d*	SA	Tol	L14	Tol	XA	Tol	Recommended Bolt size	Ordering no.
32	32	7	32	8	4	46	5.8	142	± 1.25	3	± 1.5	144	± 1.25	M6	ML1032
40	36	10	36	10	4	52	7.8	161		3		163		M8	ML1040
50	45	10	45	12	5	65	7.8	170		6	± 1.8	175		M8	ML1050
63	50	10	50	12	5	75	7.8	185	± 1.6	6		190	± 1.5	M8	ML1063
80	63	12	63	17	6	95	9.8	210		6		215		M10	ML1080
100	75	14.5	71	19	6	115	11.8	220		11		230		M12	ML1100
125	90	16.5	90	17	8	140	11.8	250	±2	22	± 2.5	270	±2	M12	ML0125

* Suitable for reaming

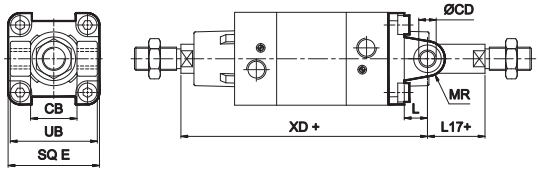
Flange



++ Add stroke twice

Cylinder bore Ø	TF ± 0.3	R ± 0.3	FB H13	MF	UF	E	W	Tol	L15	Tol	Recommended Bolt size	Ordering no.
32	64	32	7	10	80	50	16	±1.5	131	±1.25	M6	MF1032
40	72	36	9	10	90	55	20		146		M8	MF1040
50	90	45	9	12	110	68	25		156		M8	MF1050
63	100	50	9	12	125	78	25	±1.8	171	±1.5	M8	MF1063
80	126	63	12	16	155	100	30		191		M10	MF1080
100	150	75	14	16	185	120	35		206		M12	MF1100
125	180	90	16	20	211	141	45	±2.5	247	±2	M12	MF0125

Female clevis



+ Add stroke

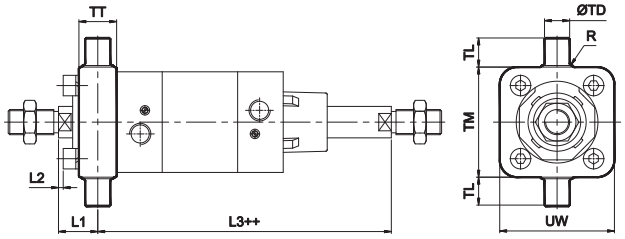
Cylinder bore Ø	CD H9	CB H14	L	MR max	UB h14	E max	L17	Tol	XD	Tol	Ordering no.
32	10	26	12	11	45	45	5	±1.5	142	±1.25	MB1032
40	12	28	15	13	52	51	6		160		MB1040
50	12	32	15	13	60	64	11	±1.8	170	±1.5	MB1050
63	16	40	20	17	70	74	6		190		MB1063
80	16	50	20	17	90	94	11		210		MB1080
100	20	60	25	21	110	111	11		230		MB1100
125	25	70	30	26	130	140	17	±2.5	275	±2	MB0125

AIR CYLINDER

Series A20, A21

Cat No A20, A21 - 01 - 02 - D

Trunnion

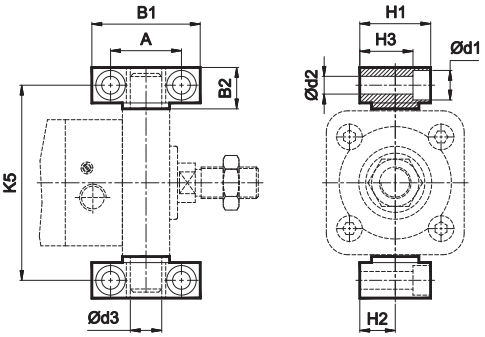


++ Add stroke twice

Cylinder bore Ø	TD e9	TL h14	TM h14	UW	TT	R	L1	Tol	L2 approx	L3	Tol	Ordering no.
32	12	12	50	48	16	1	18		2	129		MT1032
40	16	16	63	55	22	1.5	19	±1.5	0	147	±1.5	MT1040
50	16	16	75	70	24	1.6	25		3	156		MT1050
63	20	20	90	86	28	1.6	23		-1	173		MT1063
80	20	20	110	110	32	1.6	30	±1.8	1.8	191	±2	MT0080
100	25	25	132	135	40	2	31		-1.2	210		MT0100
125	25	25	160	155	44	2	43	±2	6.5	249	±2.5	MT0125

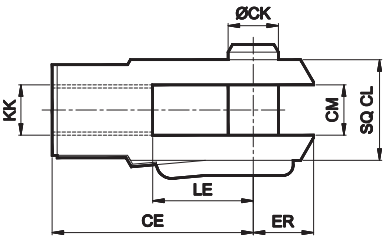
Accessories for Air Cylinder series A20, A21

Trunnion bracket



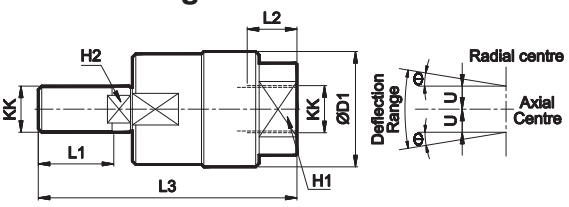
Cylinder bore Ø	B1	B2	A	d1	d2 H13	d3 H9	H1	H2	H3	K5 Js14	Ordering no.
32	46	18	32 ±0.2	11	6.6	12	30	15 ±0.1	23	71	AT032
40	55	21	36 ±0.2	15	9	16	36	18 ±0.1	27	87	AT040
50	55	21	36 ±0.2	15	9	16	36	18 ±0.1	27	99	AT040
63	65	23	42 ±0.2	16.5	11	20	40	20 ±0.1	29	116	AT063
80	65	23	42 ±0.2	16.5	11	20	40	20 ±0.1	29	136	AT063
100	75	28.5	50 ±0.2	20	14	25	50	25 ±0.1	37	164	AT100
125	75	28.5	50 ±0.2	20	14	25	50	25 ±0.1	37	192	AT100

Rod end Fork (ISO 8140)



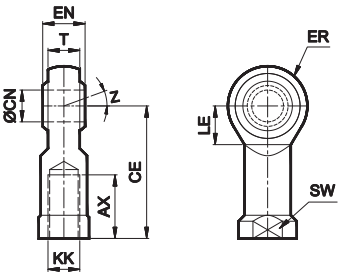
Cylinder bore Ø	KK	CE	CK f 8	CM B12	LE	ER max	CL	Ordering no.
32	M10 x 1.25	40	10	10	20	16	20	AF010
40	M12 x 1.25	48	12	12	24	19	24	AF012
50 / 63	M16 x 1.5	64	16	16	32	25	32	AF016
80 / 100	M20 x 1.5	80	20	20	40	32	40	AF020
125	M27 x 2	110	30	30	55	45	55	AF030

Rod end Aligner



Cylinder bore Ø	KK	L1	L2	L3	H1	H2	D1	U	± θ°	Ordering no.
32	M10 x 1.25	20	14	65	17	8	28	0.75	5	AR010
40	M12 x 1.25	22	18	75	19	10	32	1	5	AR012
50 / 63	M16 x 1.5	25	22	91	27	13	41	1	5	AR016
80 / 100	M20 x 1.5	30	28	112	32	16	50	1.5	5	AR020

Rod end spherical eye (ISO 8139)



Cylinder bore Ø	KK	CN H9	T	EN h12	CE	LE min	ER max	AX	SW	Z	Ordering no.
32	M10 x 1.25	10	10.5	14	43	15	14	20	17	13°	AP010
40	M12 x 1.25	12	12	16	50	17	16	22	19		AP012
50 / 63	M16 x 1.5	16	15	21	64	22	21	28	22	15°	AP016
80 / 100	M20 x 1.5	20	18	25	77	26	25	33	30/32		AP020
125	M27 x 2	30	25	37	110	36	35	51	41		AP027

AIR CYLINDER

Series A20, A21

How to order

A | 21 | 040 | 050 | B | — | Optional: H

Model	
20	Magnetic cylinder
21	Standard cylinder

Piston Ø (mm)	
032	- Ø 32
040	- Ø 40
050	- Ø 50
063	- Ø 63
080	- Ø 80
100	- Ø 100
125	- Ø 125

Stroke (mm)	
025	- 25
050	- 50
080	- 80
100	- 100
125	- 125
160	- 160
200	- 200
250	- 250
300	- 300
320	- 320
400	- 400
500	- 500

Mountings	
O	- Basic
L	- Foot Mounting
F	- Flange
B	- Female Clevis
N	- Trunnion

Special Cylinders	
H	- High temp
S	- SS piston rod

Note

For details of Accessories for Magnetic sensor, refer catalogue **Series AM4** (Page no. 1a.1.1)

Example:

Ordering no. for standard cylinder with 40 dia bore, 50 mm stroke with female clevis mounting with High temp:
A21 040 050 B - H

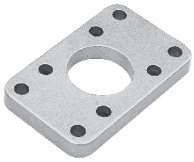
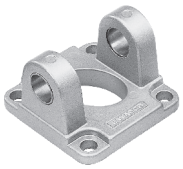
Note:

If ordered as 40 dia, 50 mm stroke cylinder, Basic cylinder **A21 040 050 O** will be supplied.

For repeat order when the details are taken from cylinder nameplate, mention the mounting style separately.

For ordering **Accessories** refer corresponding tables for Ordering numbers.

For ordering individual **Mounting** kits (If needed separately) the order numbers are as below

Cylinder bore Ø	Foot mounting *	Flange *	Female clevis *	Trunnion *
				
32	ML1032	MF1032	MB1032	MT1032
40	ML1040	MF1040	MB1040	MT1040
50	ML1050	MF1050	MB1050	MT1050
63	ML1063	MF1063	MB1063	MT1063
80	ML1080	MF1080	MB1080	MT0080
100	ML1100	MF1100	MB1100	MT0100
125	ML0125	MF0125	MB0125	MT0125

* Supplied with 4nos. of screws

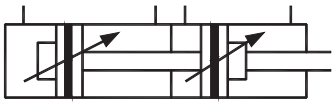
For your special requirements of cylinders or for further informations contact your regional dealer or **JANATICS**

Subject to change

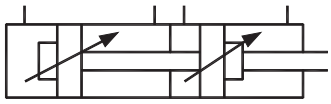
AIR CYLINDER

Series A23T, A24T

Tandem Cylinders - (Series A23T, A24T - Ø32 to 125 mm)



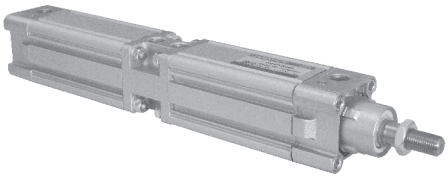
A23T - Magnetic



A24T - Non-magnetic

Features

- ❑ Adjustable cushioning at both ends
- ❑ Wide varieties of mountings as per ISO 15552 / VDMA 24562 standards
- ❑ Magnetic and Non magnetic version
- ❑ Aluminium profile (square) cylinder barrel
- ❑ Magnetic sensor common for all sizes (Refer Magnetic sensor catalogue)
- ❑ Piston rod - Non rusting (SS 304 material on request) **



Function

A tandem cylinder consists of two or more cylinders arranged one behind the other but designed as a single unit.

By connecting 2 or 3 cylinders with the same piston diameter and stroke in series, the force in the extended condition can be doubled or tripled compared to a single cylinder.

The force in the return stroke corresponds to that of a single cylinder with corresponding piston diameter.

Technical Specifications

Cylinder bore Ø	(mm)	32	40	50	63	80	100	125
Cushion stroke	(mm)	15	15	15	13	19	19	29
Standard strokes *	(mm)	25, 50, 80, 100, 125, 160, 200, 250, 300, 320, 400, 500						50, 80, 100, 125, 160, 200, 250, 300, 320, 400, 500
Medium		Compressed air - filtered - lubricated						
Working pressure		0.5 to 10 bar						
Ambient temperature		-10° to +60° C						
Medium temperature		+5° to +50° C						
Materials of construction		Aluminium, Brass, Nitrile, Steel, Acetal, Polyurethane						
Mountings		Basic cylinder, Foot mounting, Front flange, Rear flange, Male clevis, Male clevis (with spherical bearing), Female clevis, Female clevis (King pin), Front trunnion, Rear trunnion						
Accessories		Clevis foot bracket, Clevis foot bracket (spherical), Wall mounting bracket, Trunnion bracket, Rod end fork, Rod end aligner, Rod end spherical eye						

* For Non standard or longer stroke cylinders, contact your regional dealer or **JANATICS**

** On special request only

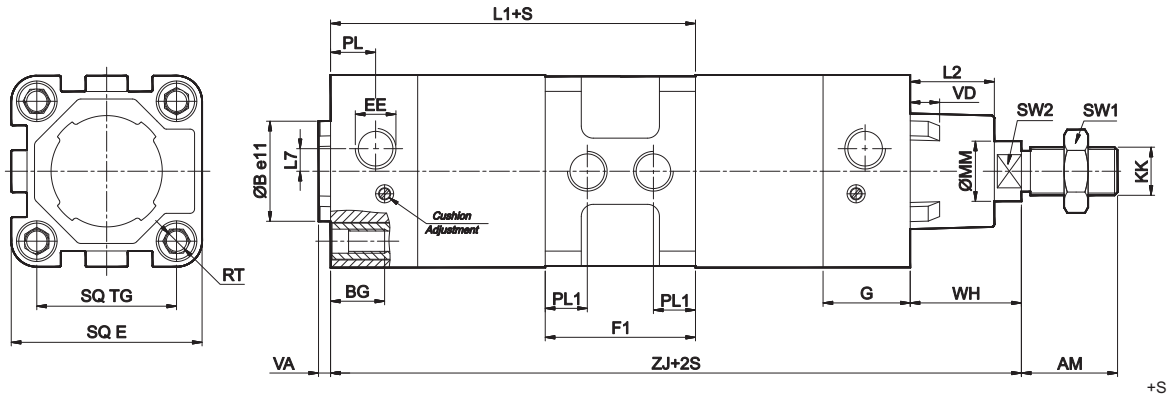
Note : For details of Cylinder Accessories & Mountings, refer catalogue **Series A23, A24** (Page no. 1.4.1) and Magnetic sensor, refer catalogue **Series AM4** (Page no. 1a.1.1)

AIR CYLINDER

Series A23T, A24T

Cat No A23T, A24T - 01 - 01 - A

Tandem Cylinders - (Series A23T, A24T - Ø32 to 125 mm)



+S = Add stroke
+2S = Add stroke twice

Cylinder Bore Ø	KK	AM	MM	SW2	SW1	B e11	VD	VA	L2	E max	G	TG	RT	BG min	EE	PL	L7	WH	Tol	PL1	F1	L1	ZJ	Tol	Stroke tol
32	M10x1.25	22	12	10	17	30	6	4	18.5	45	25.5	32.5	M6	16	G1/8	13	5	26	±3	9	38	108.5	205	±2	+ 5 0
40	M12x1.25	24	16	13	19	35	6.5	4	20.5	51	29	38	M6	16	G1/4	14.5	5	30	±3	11	44	122	230		
50	M16x1.5	32	20	16	24	40	6.5	4	28	64	29	46.5	M8	16	G1/4	15	7.5	37	±3.5	14	50	129	245	±2.5	
63	M16x1.5	32	20	16	24	45	6.5	4	27.5	74	35	56.5	M8	16	G3/8	17	10	37	±4	17	64	152	277		+ 6 0
80	M20x1.5	40	25	21	30	45	6.5	4	34	94	35	72	M10	16	G3/8	18	14	46	±3.5	19	68	164	306	±3	
100	M20x1.5	40	25	21	30	55	6.5	4	35	111	38.5	89	M10	16	G1/2	18	10	51	±4	21	75	177.5	331		
125	M27x2	54	32	27	41	60	10	6	48.5	136	44	110	M12	24	G1/2	20	12	65	±4	18.5	70	189	373		+ 7 0

For details of Mountings & Accessories refer Product Catalogue **Series A23, A24 (Page no. 1.4.1)**

How to order

A **24** **T** **040** **050** **D**

Model	
23	Magnetic cylinder
24	Standard cylinder

Tandem Cylinder	
T	- Tandem

Piston Ø (mm)	
032	- Ø 32
040	- Ø 40
050	- Ø 50
063	- Ø 63
080	- Ø 80
100	- Ø 100
125	- Ø 125

Stroke (mm)	
025	- 25
050	- 50
080	- 80
100	- 100
125	- 125
160	- 160
200	- 200
250	- 250
300	- 300
320	- 320
400	- 400
500	- 500

Mountings	
L	- Foot Mounting
F	- Front Flange
R	- Rear Flange
S	- Male Clevis
G	- Male Clevis (with spherical bearing)
D	- Female Clevis
K	- Female Clevis (King pin)
M	- Rear Trunnion
N	- Front Trunnion

Note

For details of Accessories for Magnetic sensor, refer product catalogue **Series AM4 (Page no. 1a.1.1)**

Example:

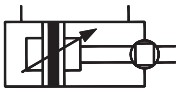
Ordering no. for tandem cylinder with 40 dia bore, 50 mm stroke with female clevis mounting: **A24T 040 050 D**

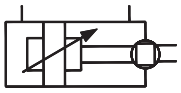
Note:

If ordered as 40 dia, 50 mm stroke cylinder, tandem cylinder **A24T 040 050** will be supplied.

For repeat order when the details are taken from cylinder nameplate, mention the mounting style separately.

Subject to change


A23H - Magnetic


A24H - Non-magnetic

AIR CYLINDER

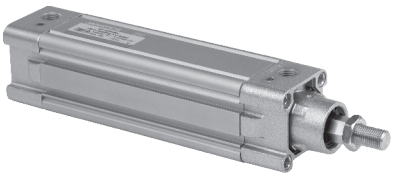
Series A23H, A24H

Cat No A23H, A24H - 01 - 01 - A

NON ROTATING ROD CYLINDER - Double Acting Cylinders (Square type) Ø32 - 63 mm

As per ISO 15552 / VDMA 24562 standards

Features



- ❑ Hexagonal piston rod for non rotation
- ❑ Adjustable cushioning at both ends with elastomer pads
- ❑ Wide varieties of mountings as per ISO 15552 / VDMA 24562 standards
- ❑ Magnetic and Non magnetic version
- ❑ Aluminium profile (square) cylinder barrel
- ❑ Magnetic sensor common for all sizes (Refer Magnetic sensor catalogue)
- ❑ Piston rod - Non rusting stainless steel material

Technical Specifications

Cylinder bore Ø	(mm)	32	40	50	63
Cushion stroke	(mm)	21	23	23	23
Non rotating accuracy		± 0.65°	± 0.5°		
Allowable rotating torque	Nm max.	0.25	0.45	0.64	
Standard strokes *	(mm)	25, 50, 80, 100, 125, 160, 200, 250, 300, 320, 400, 500			
Medium		Compressed air - filtered - lubricated			
Working pressure		0.5 to 10 bar			
Ambient temperature		-10° to +60° C			
Medium temperature		+5° to +50° C			
Materials of construction		Aluminium, Brass, Nitrile, Steel, Acetal, Polyurethane, SS			
Mountings		Foot mounting, Front flange, Rear flange, Male clevis, Male clevis (with spherical bearing), Female clevis, Female clevis (King pin), Front trunnion, Rear trunnion, Centre trunnion			
Accessories		Clevis foot bracket, Clevis foot bracket (spherical), Wall mounting bracket, Trunnion bracket, Rod end fork, Rod end aligner, Rod end spherical eye			

* For Non standard or longer stroke cylinders, contact your regional dealer or **JANATICS**

Note: For details of Cylinder Mountings and Accessories, refer Product catalogue **Series A23, A24** (Page no. 1.4.1) and Magnetic sensor, refer catalogue **Series AM4** (Page no. 1a.1.1)

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

Cylinder bore Ø (in mm)	Rod size (Hex) (in mm)		Working pressure in bar								
			2	3	4	5	6	7	8	9	10
32	12	Extend	145	217	289	362	434	507	579	651	724
		Retract	122	183	244	306	367	428	489	550	610
40	14	Extend	226	339	452	565	678	792	905	1018	1130
		Retract	195	293	391	489	587	685	782	880	978
50	19	Extend	353	530	706	884	1060	1237	1414	1590	1767
		Retract	297	445	594	742	890	1040	1188	1336	1485
63	19	Extend	561	842	1122	1403	1683	1964	2244	2525	2805
		Retract	505	757	1009	1262	1514	1766	2018	2270	2523

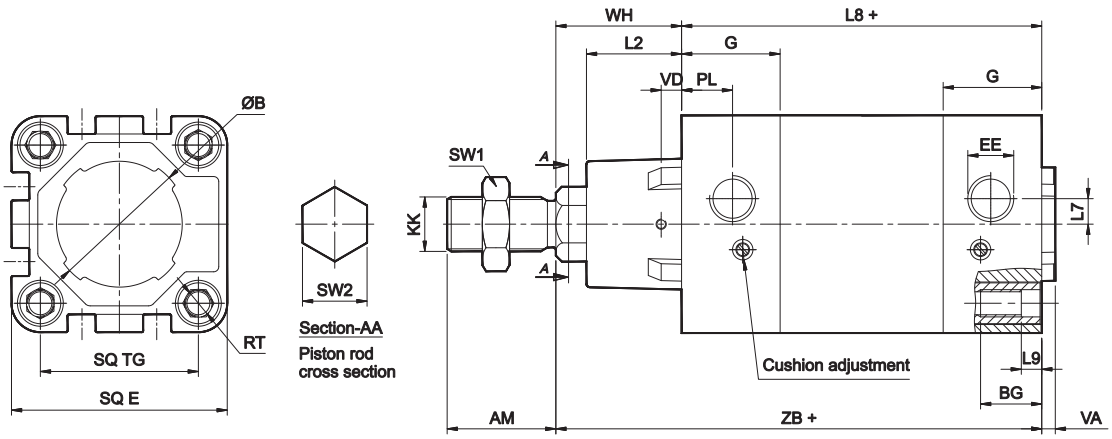
(Above values have been worked out taking frictional loss into consideration)

AIR CYLINDER

Series A23H, A24H

Cat No A23H, A24H - 01 - 01 - A

Basic cylinder



+ Add stroke

Cylinder Bore Ø	KK	AM	SW1	SW2	B e11	VD	VA	L2	E max	G	TG	RT	BG min	EE	PL	L7	WH	Tol	ZB	Tol	L8	Tol	L9	Stroke tol
32	M10x1.25	22	17	12	30	6	4	18.5	45	25.5	32.5	M6	16	G1/8	13	5	26	±1.8	120	±1.2	94	± 0.6	5	+ 2 0
40	M12x1.25	24	19	14	35	6.5	4	20.5	51	29	38	M6	16	G1/4	14.5	5	30	±1.7	135		105	± 0.7	5	
50	M16x1.5	32	24	19	40	6.5	4	28	64	29	46.5	M8	16	G1/4	15	7.5	37	±1.7	143		106		6	
63	M16x1.5	32	24	19	45	6.5	4	27	74	35	56.5	M8	16	G3/8	17	10	37	±1.7	158		121	± 0.9	6	+ 2.5 0

@ - T Groove for magnetic sensor, Refer catalogue series AM4

How to order

A **24** **H** **040** **050** **D**

Model	
23	Magnetic cylinder
24	Standard cylinder

Hex. Piston Rod	
H	- Hex. Piston Rod

Piston Ø (mm)	
032	- Ø 32
040	- Ø 40
050	- Ø 50
063	- Ø 63

Stroke (mm)	
025	- 25
050	- 50
080	- 80
100	- 100
125	- 125
160	- 160
200	- 200
250	- 250
300	- 300
320	- 320
400	- 400
500	- 500

Mountings	
L	- Foot Mounting
F	- Front Flange
R	- Rear Flange
S	- Male Clevis
G	- Male Clevis (with spherical bearing)
D	- Female Clevis
K	- Female Clevis (King pin)
M	- Rear Trunnion
N	- Front Trunnion
T	- Centre Trunnion

Note

For details of Accessories for Magnetic sensor, refer product catalogue **Series AM4 (Page no. 1a.1.1)**

Example:

Ordering no. for non rotating cylinder basic with 40 dia bore, 50 mm stroke with female clevis: **A24H 040 050 D**

Note:

If ordered as 40 dia, 50mm stroke, non rotating cylinder basic **A24H 040 050** will be supplied.

For repeat order when the details are taken from cylinder nameplate, mention the mounting style separately.

Subject to change

JANATICS
Pneumatic

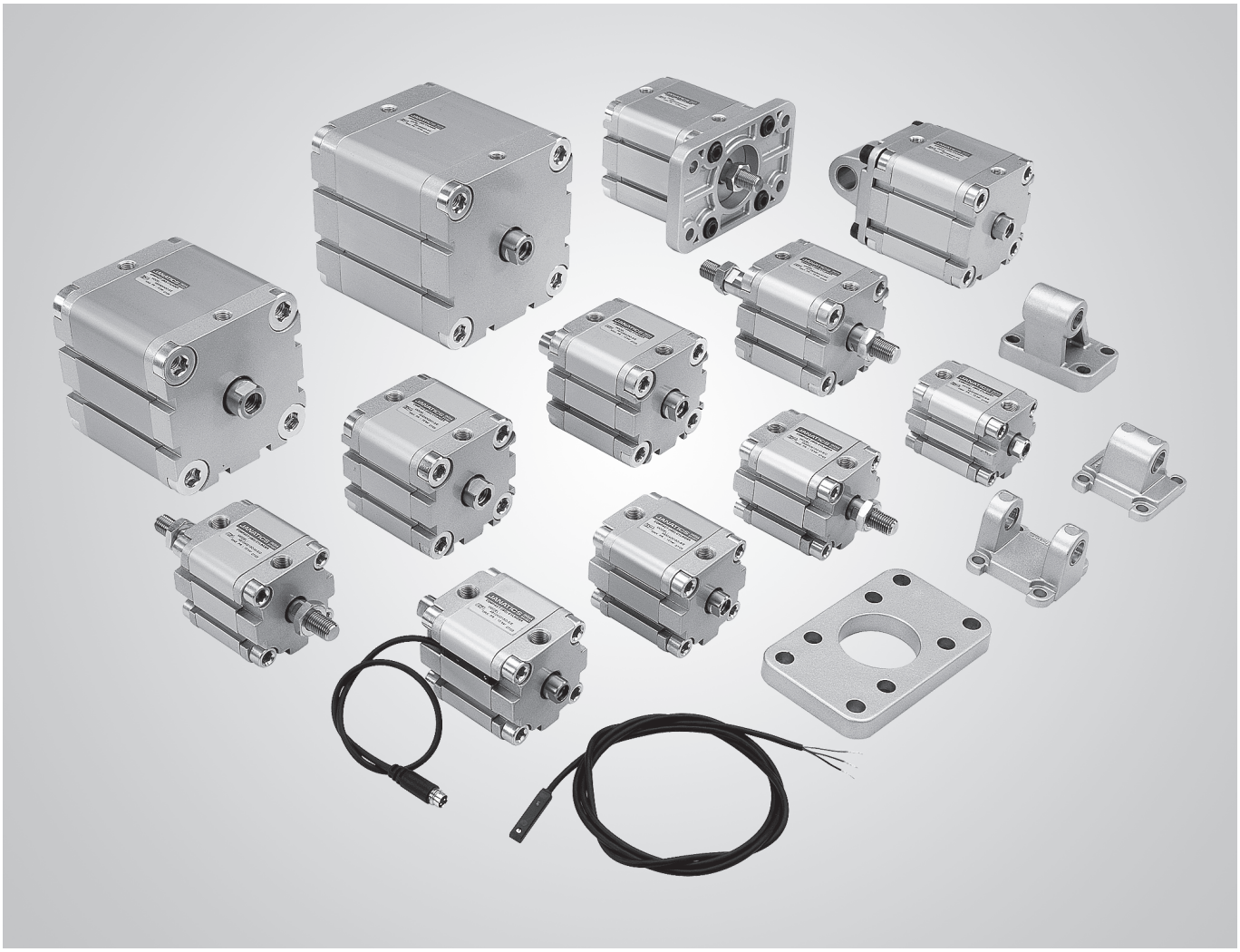
Air Cylinders (Compact ISO type)

Series A63 - Double Acting cylinder (Magnetic)

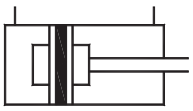
Series A64 - Double Acting cylinder (Non Magnetic)

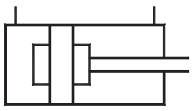
Series A60 - Double End Double Acting cylinder (Magnetic)

Series A61 - Double End Double Acting cylinder (Non Magnetic)



- ❑ Conforms to ISO 21287 standards (Series A63, A64)
- ❑ Double Acting Cylinders
- ❑ Sizes - ø25 , ø32 , ø40 , ø50 , ø63 , ø80 , ø100
- ❑ Standard mountings
- ❑ Accessories


A63 - Magnetic


A64 - Non-magnetic

AIR CYLINDER

Series A63, A64

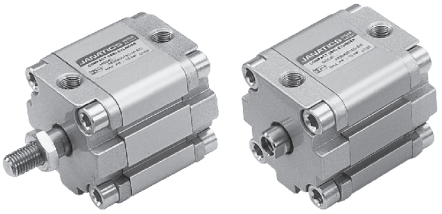
Cat No A63, A64 - 01 - 02 - D

Double Acting Cylinders (Compact ISO type) Ø25 - 100 mm

As per ISO 21287 standards

Features

- ❑ Elastomer end cushioning
- ❑ Wide varieties of mountings
- ❑ Space saving
- ❑ Magnetic and Non magnetic version
- ❑ Aluminium profile (square) cylinder barrel
- ❑ Magnetic sensor common for all sizes
  (Refer Magnetic sensor catalogue)
- ❑ Optional: High temperature (FKM seals) 150° C max.
  (only applicable for high temperature series)



Technical Specifications

Cylinder bore Ø (mm)	25	32	40	50	63	80	100
Standard strokes * (mm)	5, 10, 15, 20, 25, 30, 40, 50, 60	10, 15, 20, 25, 30, 40, 50, 60, 70, 80					
Medium	Compressed air - filtered - lubricated						
Working pressure range	0.5 to 10 bar						
Ambient temperature	-10° to +60° C						
Medium temperature	Regular	+5° to +50° C					
	High temperature applications	-10° to +150° C					
Materials of construction	Aluminium, Nitrile, Steel, Polyurethane / Aluminium, Steel, FKM (only applicable for high temperature series)						
Mountings @	Basic cylinder, Foot mounting, Front flange, Rear flange, Male clevis, Female clevis,						
Accessories #	Clevis foot bracket, Wall mounting bracket, Rod end fork, Rod end aligner, Rod end spherical eye						

* For Non standard or longer stroke cylinders, contact your regional dealer or **JANATICS**

@ Ø25mm Female clevis not available. # Ø25mm Clevis foot bracket and Wall mounting bracket not available.

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
25	10	Extend	88	132	176	220	264	308	352	396	440
		Retract	74	111	148	185	222	260	296	334	370
32	12	Extend	145	217	289	362	434	507	579	651	724
		Retract	124	187	249	311	373	435	498	559	622
40	12	Extend	226	339	452	565	678	792	905	1018	1130
		Retract	206	309	411	514	617	720	823	926	1029
50	16	Extend	353	530	707	883	1060	1237	1413	1590	1767
		Retract	317	476	634	793	952	1110	1269	1427	1586
63	16	Extend	561	842	1122	1403	1683	1964	2244	2525	2805
		Retract	525	787	1050	1312	1575	1837	2099	2362	2624
80	20	Extend	905	1357	1809	2262	2714	3167	3619	4071	4524
		Retract	848	1272	1696	2120	2544	2969	3393	3817	4241
100	20	Extend	1414	2120	2827	3534	4241	4948	5655	6362	7068
		Retract	1357	2036	2714	3393	4071	4750	5429	6107	6786

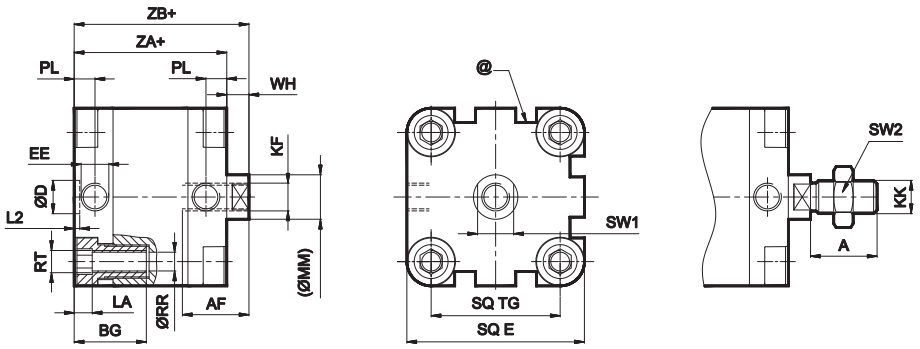
(Above values have been worked out taking frictional loss into consideration)

AIR CYLINDER

Series A63, A64

Cat No A63, A64 - 01 - 02 - D

Basic cylinder

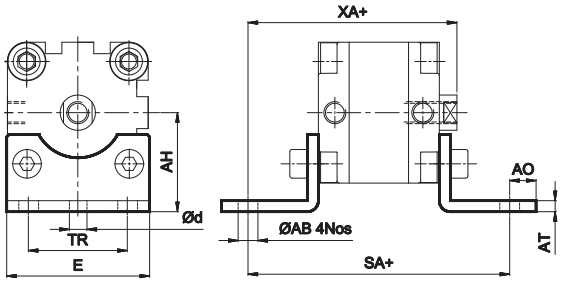


+ Add stroke

Cylinder bore Ø	KF	MM	AF	RR min	RT	SW1	PL	LA	BG min	EE	TG	E max	D H10	L2	ZA	Tol	ZB	Tol	WH	Tol	KK	A -0.5	SW2	Stroke tol
25	M6x1	10	10	4.1	M5	9	6	6	5	M5x0.8	26	40	9	2	39	±0.5	45	±1.4	6	±1.4	M8x1.25	16	13	+ 2 0
32	M8x1.25	12	12	5.1	M6	10	7.5	5.5	15	G1/8	32.5	45	10	2	44		51	± 1.6	7	±1.6	M10x1.25	19	17	
40	M8x1.25	12	12	5.1	M6	10	7.5	5.5	15	G1/8	38	51	10	2	45	±0.7	52		7		M10x1.25	19	17	
50	M10x1.5	16	16	6.4	M8	13	7.5	5.5	16	G1/8	46.5	64	12	2	45		53		8		M12x1.25	22	19	
63	M10x1.5	16	16	6.4	M8	13	7.5	5.5	16	G1/8	56.5	74	12	2	49	±0.8	57		8		M12x1.25	22	19	+ 2.5 0
80	M12x1.75	20	20	8.4	M10	17	8	5.5	17	G1/8	72	94	12	2	54		64	± 2	10	±2	M16x1.5	28	24	
100	M12x1.75	20	20	8.4	M10	17	12.5	5.5	17	G1/8	89	111	12	3	67	±1	77		10		M16x1.5	28	24	

@ - T Groove for magnetic sensor, Refer catalogue series AM4

Foot mounting

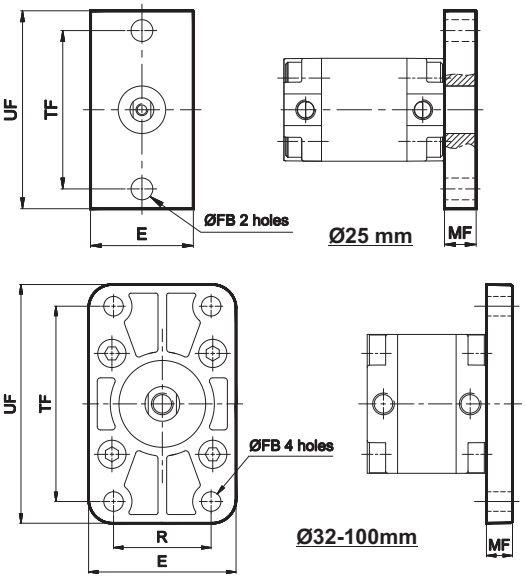


+ Add stroke

Cylinder bore Ø	AB H14	AO max	AT	AH JS16	d*	TR JS14	E	SA	Tol	XA	Tol	Recommended Bolt size	Ordering no.
25	7	6	4	29	5.8	26	40	71	± 1.25	61	± 1.25	M6	ML2025
32	7	7	4	33.5	5.8	32	46	76		67			ML2032
40	10	9	4	38	7.8	36	52	81		70		M8	ML2040
50	10	9	5	45	7.8	45	65	87		74			ML2050
63	10	9	5	50	7.8	50	75	91	± 1.6	78	± 1.6		ML2063
80	12	11	6	63	9.8	63	95	106		90		M10	ML2080
100	14.5	13	6	74	11.8	75	115	121		104		M12	ML2100

* Suitable for reaming

Front flange



+ Add stroke

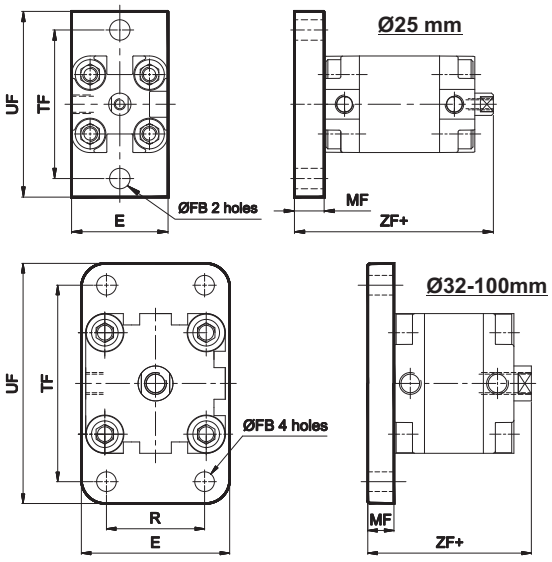
Cylinder bore Ø	MF	UF	TF ±0.3	R ±0.3	E	FB H13	ØD H11	Recommended Bolt size	Ordering no.
25	8	76	60	-	40	6.6	16	M6	MF2025
32	10	80	64	32	50	7	-		MF1032
40	10	90	72	36	55	9		M8	MF1040
50	12	110	90	45	68	9			MF1050
63	12	125	100	50	78	9			MF1063
80	16	155	126	63	100	12		M10	MF1080
100	16	185	150	75	120	14		M12	MF1100

AIR CYLINDER

Series A63, A64

Cat No A63, A64 - 01 - 02 - D

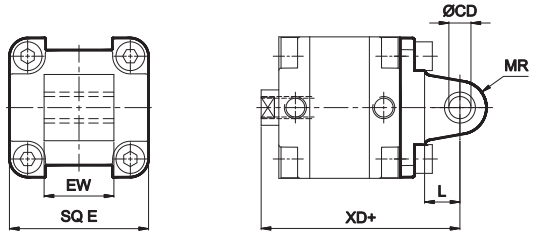
Rear flange



+ Add stroke

Cylinder bore Ø	MF	UF	TF ±0.3	R ±0.3	E	FB H13	ZF	Tol	Recommended Bolt size	Ordering no.
25	8	76	60	-	40	6.6	53	±1.5	M6	MF2025
32	10	80	64	32	50	7	61	±1.8		MF1032
40	10	90	72	36	55	9	62		M8	MF1040
50	12	110	90	45	68	9	65			MF1050
63	12	125	100	50	78	9	69			MF1063
80	16	155	126	63	100	12	80	±2.2	M10	MF1080
100	16	185	150	75	120	14	93		M12	MF1100

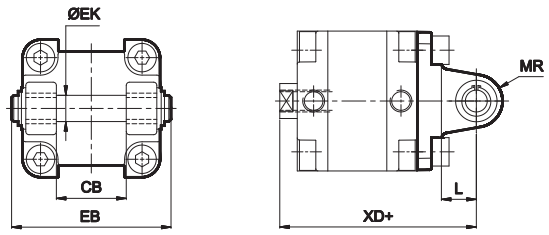
Male clevis



+ Add stroke

Cylinder bore Ø	CD H9	EW	Tol	L	MR	E max	XD	Tol	Ordering no.
25	8	16	- 0.2 - 0.6	12	9	40	65	±1.6	MS2025
32	10	26		12	11	45	73	±1.8	MS1032
40	12	28		15	13	51	77		MS1040
50	12	32		15	13	64	80		MS1050
63	16	40		20	17	74	89		MS1063
80	16	50		20	17	94	100	±2.2	MS1080
100	20	60		25	21	111	118		MS1100

Female clevis

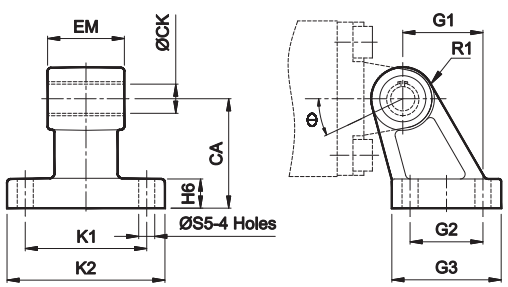


+ Add stroke

Cylinder bore Ø	EK e8	CB H14	L	MR	EB max	XD	Tol	Ordering no.
32	10	26	12	11	56	73	±1.8	MD1032
40	12	28	15	13	65	77		MD1040
50	12	32	15	13	73	80		MD1050
63	16	40	20	17	86	89		MD1063
80	16	50	20	17	106	100	±2.2	MD1080
100	20	60	25	21	129	118		MD1100

Accessories for Air Cylinder series A63, A64

Clevis foot bracket



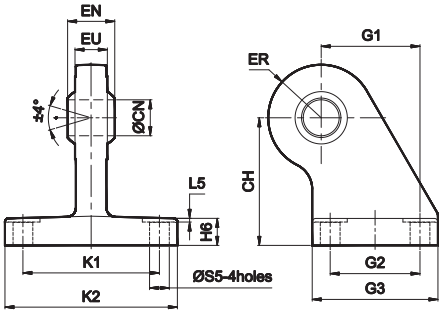
Cylinder bore Ø	K1 Js14	G2 Js14	S5 H13	CA Js15	CK H9	EM	Tol	G1 Js14	H6	R1 max	K2	G3	θ°	Recommended Bolt size	Ordering no. @
32	38	18	6.6	32	10	26	-0.2 -0.6	21	8	10	51	31	10	M6	AA1032
40	41	22	6.6	36	12	28		24	10	11	54	35	15	M6	AA1040
50	50	30	9	45	12	32		33	12	13	65	45	15	M8	AA1050
63	52	35	9	50	16	40		37	12	15	67	50	15	M8	AA1063
80	66	40	11	63	16	50		47	14	15	86	60	15	M10	AA1080
100	76	50	11	71	20	60		55	15	19	96	70	15	M10	AA1100

@ Adoptable to cylinder with female clevis

AIR CYLINDER

Series A63, A64

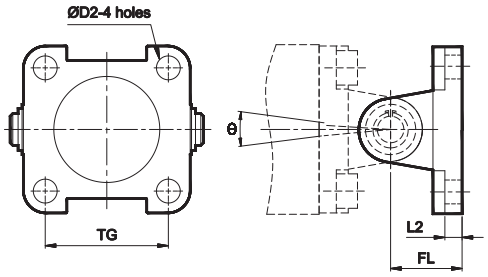
Clevis foot bracket (with spherical bearing)



Cylinder bore Ø	K1 Js14	G2 Js14	S5 H13	CH Js15	CN H7	EU max	G1 Js14	H6	ER max	K2 max	G3	EN -0.1	L5	Ordering no. @
32	38	18	6.6	32	10	10.5	21	10	16	51	31	14	1	AB1032
40	41	22	6.6	36	12	12	24	10	18	54	35	16	1	AB1040
50	50	30	9	45	16	15	33	12	21	65	45	21	1	AB1050
63	52	35	9	50	16	15	37	12	23	67	50	21	1	AB1063
80	66	40	11	63	20	18	47	14	28	86	60	25	2	AB1080
100	76	50	11	71	20	18	55	15	30	96	70	25	2	AB1100

@ Adoptable to cylinder with female clevis

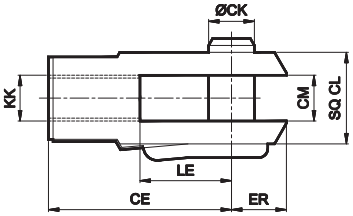
Wall mounting bracket



Cylinder bore Ø	TG	D2	L2	FL	θ°	Recommended Bolt size	Ordering no. @	Ordering no. #
32	32.5	6.6	5.5	22	90	M6	AV1032	AW1032
40	38	6.6	5.5	25	90	M6	AV1040	AW1040
50	46.5	9	6.5	27	90	M8	AV1050	AW1050
63	56.5	9	6.5	32	90	M8	AV1063	AW1063
80	72	11	10	36	60	M10	AV1080	AW1080
100	89	11	10	41	60	M10	AV1100	AW1100

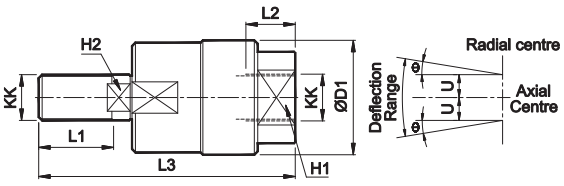
@ Adoptable to cylinder with male clevis
# Adoptable to cylinder with female clevis

Rod end Fork (ISO 8140)



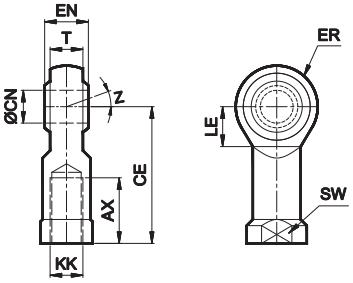
Cylinder bore Ø	KK	CE	CK f8	CM B12	LE	ER max	CL	Ordering no.
25	M8x1.25	32	8	8	16	13	16	AF008
32 / 40	M10x1.25	40	10	10	20	16	20	AF010
50 / 63	M12x1.25	48	12	12	24	19	24	AF012
80 / 100	M16x1.5	64	16	16	32	25	32	AF016

Rod end Aligner



Cylinder bore Ø	KK	L1	L2	L3	H1	H2	D1	U	± θ°	Ordering no.
25	M8x1.25	15	10	48	12	7	20	0.75	5	AR008
32 / 40	M10x1.25	20	14	65	17	8	28	0.75	5	AR010
50 / 63	M12x1.25	22	18	75	19	10	32	1	5	AR012
80 / 100	M16x1.5	25	22	91	27	13	41	1	5	AR016

Rod end spherical eye (ISO 8139)



Cylinder bore Ø	KK	CN H9	T	EN h12	CE	LE min	ER max	AX	SW	Z	Ordering no.
25	M8x1.25	8	9	12	36	13	12	16	14	13°	AP008
32 / 40	M10x1.25	10	10.5	14	43	15	14	20	17		AP010
50 / 63	M12x1.25	12	12	16	50	17	16	22	19		AP012
80 / 100	M16x1.5	16	15	21	64	22	21	28	22	15°	AP016

AIR CYLINDER

Series A63, A64

Cat No A63, A64 - 01 - 02 - D

How to order

A — 64 — 040 — 050 — O — (Optional) M — (Optional) H

Model	
63	Magnetic cylinder
64	Standard cylinder

Piston Ø (mm)	
025	- Ø 25
032	- Ø 32
040	- Ø 40
050	- Ø 50
063	- Ø 63
080	- Ø 80
100	- Ø 100

Stroke (mm)	
005	- 5
010	- 10
015	- 15
020	- 20
025	- 25
030	- 30
040	- 40
050	- 50
060	- 60
070	- 70
080	- 80

Mountings	
O	- Basic
L	- Foot Mounting
F	- Front Flange
R	- Rear Flange
S	- Male Clevis
D	- Female Clevis@

@ Ø25mm Female clevis not available

M - Male thread

Special Cylinders	
H	- High temp

Note

For details of Accessories for Magnetic sensor, refer catalogue **Series AM4** (Page no. 1a.1.1)

Example:

Ordering no. for standard cylinder with 40 dia bore, 50 mm stroke with Female thread : **A64 040 050 O**

Ordering no. for standard cylinder with 40 dia bore, 50 mm stroke with Male thread : **A64 040 050 O - M**

Ordering no. for standard cylinder with 40 dia bore, 50 mm stroke with Male thread with High temp : **A64 040 050 O - M - H**

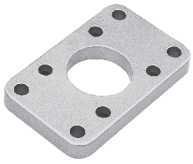
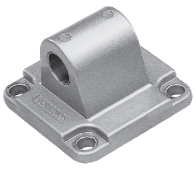
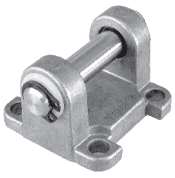
Note:

If ordered as 40 dia, 50 mm stroke cylinder, Basic cylinder **A64 040 050 O** will be supplied.

For repeat order when the details are taken from cylinder nameplate, mention the mounting style separately.

For ordering **Accessories** refer corresponding tables for part numbers.

For ordering individual **Mounting kits** (If needed separately) the order numbers are as below

Cylinder bore Ø	Foot mounting *	Front / Rear flange *	Male clevis *	Female clevis *
				
25	ML2025	MF2025	MS2025	-
32	ML2032	MF1032	MS1032	MD1032
40	ML2040	MF1040	MS1040	MD1040
50	ML2050	MF1050	MS1050	MD1050
63	ML2063	MF1063	MS1063	MD1063
80	ML2080	MF1080	MS1080	MD1080
100	ML2100	MF1100	MS1100	MD1100

* Supplied with 4nos. of screws

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

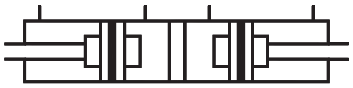
Subject to change

AIR CYLINDER

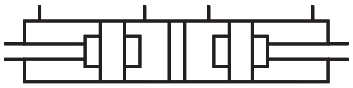
Series A63, A64

Cat No A63, A64 - 01 - 03 - A

Multi Position Cylinders - (Series A63, A64 - Ø32 to 100 mm)



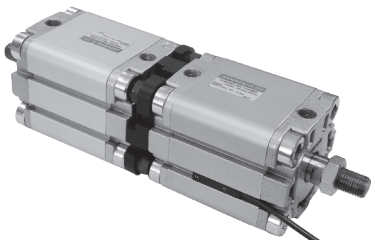
A63 - Magnetic



A64 - Non-magnetic

Features

- ❑ Elastomer end cushioning
- ❑ Wide varieties of mountings
- ❑ Space saving
- ❑ Magnetic and Non magnetic version
- ❑ Aluminium profile (square) cylinder barrel
- ❑ Magnetic sensor common for all sizes
  (Refer Magnetic sensor catalogue)



Technical Specifications

Cylinder bore Ø (mm)	32	40	50	63	80	100
Standard strokes * (mm)	10, 15, 20, 25, 30, 40, 50, 60, 70, 80					
Medium	Compressed air - filtered - lubricated					
Working pressure range	0.5 to 10 bar					
Ambient temperature	-10° to +60° C					
Medium temperature	+5° to +50° C					
Materials of construction	Aluminium, Nitrile, Steel, Polyurethane					
Mountings @	Basic cylinder, Foot mounting, Front flange, Rear flange, Male clevis, Female clevis,					
Accessories #	Clevis foot bracket, Wall mounting bracket, Rod end fork, Rod end aligner, Rod end spherical eye					

* For Non standard or longer stroke cylinders, contact your regional dealer or **JANATICS**

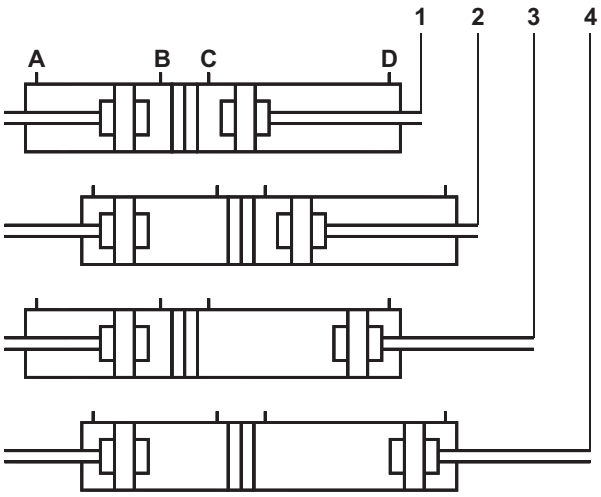
Note: For details of Cylinder Accessories, refer catalogue **Series A63, A64** (Page no. 1.5.1) and Magnetic sensor, refer catalogue **Series AM4** (Page no. 1a.1.1)

Multi position cylinder can transform to 3 or 4 positions depending upon selection of their strokes, by connecting two cylinders of identical piston diameter and different stroke length in series (back-to-back). The pistons of this cylinder travels in opposite directions. The cylinders is precisely stopped at the end of each stroke by mechanical stopper. One end of the piston rod should be fixed for the cylinder to execute motion. The cylinder must be connected only with slideing objects i.e. linear guides. The cylinder transforms to the end position directly, or through intermediate position, which can be obtained through appropriate actuation.

Two cylinders of identical diameter with different stroke length connected in series to achieve 4 positions:

The multiposition cylinder used in this system executes to 4 positions including home position. The cylinder are with identical diameter Ø32 with strokes of cylinders being 50 mm and 100 mm i.e. 1:2 ratio. The required sequence of the cylinder were be obtained by energising the valves in appropriate order as mentioned below:

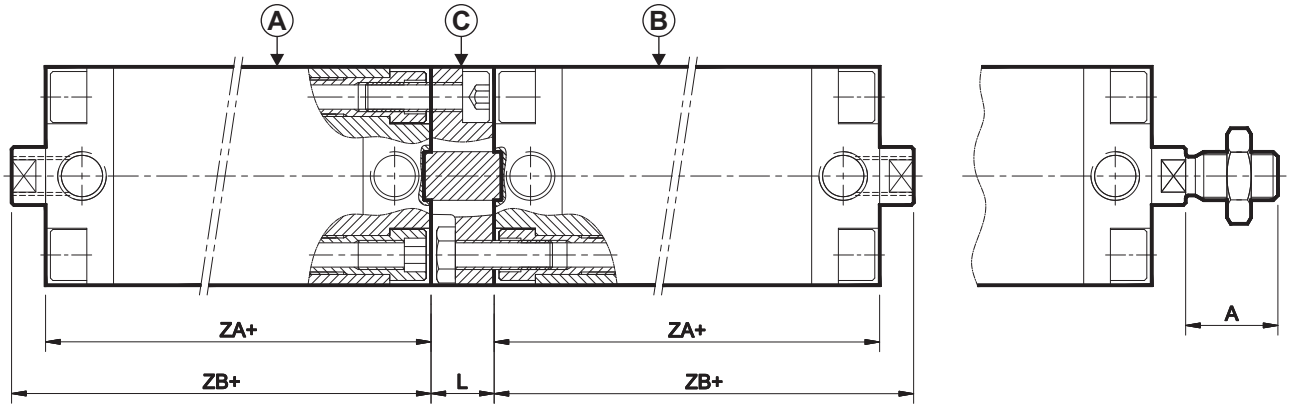
- ❑ Ports A, D - Stroke 1
- ❑ Ports B, D - Stroke 2
- ❑ Ports A, C - Stroke 3
- ❑ Ports B, C - Stroke 4



AIR CYLINDER

Series A63, A64

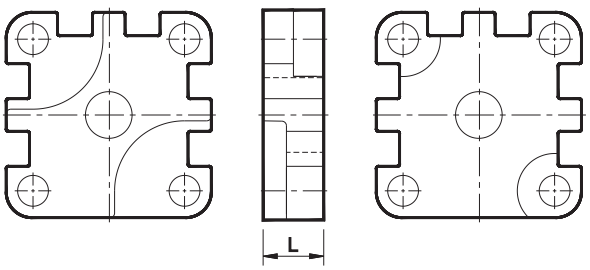
Multi Position Cylinders - (Series A63, A64 - Ø32 to 100 mm)



+ Add stroke

Cylinder bore Ø	ZA	Tol	ZB	Tol	L	A $^{-0.5}$
32	44	±0.5	51	±1.6	13	19
40	45	±0.7	52		15	19
50	45		53		15	22
63	49	±0.8	57		15	22
80	54		64	±2	17	28
100	67	±1	77		19.5	28

Intermediate Flange - (Ø32 - 100 mm)



Cylinder bore Ø	L	Ordering No.
32	13	AJ2032
40	15	AJ2040
50		AJ2050
63		AJ2063
80	17	AJ2080
100	19.5	AJ2100

Note :- Supplied with hexagonal bolt - 2 nos., Socket head cap screw - 2nos. & Guide pin - 1 no.

How to order

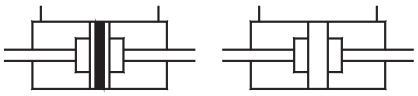
Female Thread

Ordering example :- a. A63050050O, b. A63050060O, c. Intermediate flange = **Ordering no. A63050050060MO**

Male Thread

Ordering example :- a. A63050050O-M, b. A63050060O-M, c. Intermediate flange = **Ordering no. A63050050060MOM**

For details of Mountings & Accessories refer Product Catalogue **Series A63, A64** (Page no. 1.5.1)



A60 - Magnetic A61 - Non-magnetic

AIR CYLINDER

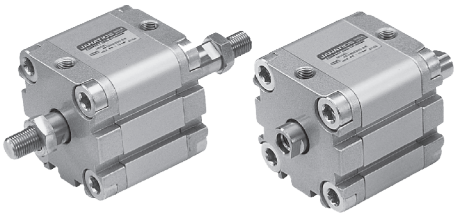
Series A60, A61

Cat No A60, A61 - 01 - 02 - C

Double End Double Acting Cylinders (Compact ISO type) Ø25 - 100 mm

Features

- ❑ Elastomer end cushioning
- ❑ Wide varieties of mountings
- ❑ Space saving
- ❑ Magnetic and Non magnetic version
- ❑ Aluminium profile (square) cylinder barrel
- ❑ Magnetic sensor common for all sizes
  (Refer Magnetic sensor catalogue)



Technical Specifications

Cylinder bore Ø (mm)	25	32	40	50	63	80	100
Standard strokes * (mm)	10 15 20 25 30 40 50 60 70 80						
Medium	Compressed air - filtered - lubricated						
Working pressure range	0.5 to 10 bar						
Ambient temperature	-10° to +60° C						
Medium temperature	+5° to +50° C						
Materials of construction	Barrel - Aluminium, O ring - Nitrile, Piston rod - Steel, Seals - Polyurethane						
Mountings	Basic cylinder, Foot mounting, Flange, Female clevis,						
Accessories	Rod end fork, Rod end aligner, Rod end spherical eye						

* For Non standard or longer stroke cylinders, contact your regional dealer or **JANATICS**

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

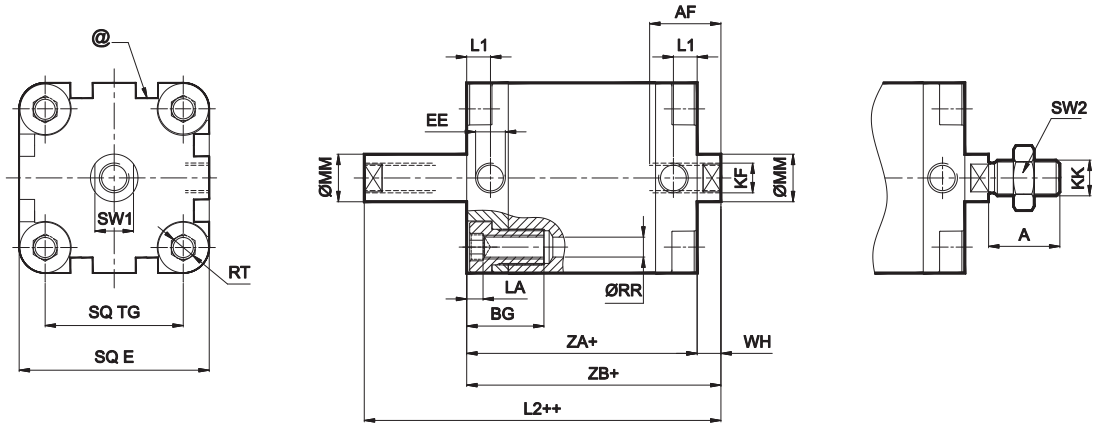
Cylinder bore Ø (in mm)	Rod Ø (in mm)	Working pressure in bar								
		2	3	4	5	6	7	8	9	10
25	10	74	111	148	185	222	260	296	334	371
32	12	124	187	249	311	373	435	498	559	622
40	12	206	309	411	514	617	720	823	926	1029
50	16	317	476	634	793	952	1110	1269	1427	1586
63	16	525	787	1050	1312	1575	1837	2099	2362	2624
80	20	848	1272	1696	2120	2544	2969	3393	3817	4241
100	20	1357	2036	2714	3393	4071	4750	5429	6107	6786

(Above values have been worked out taking frictional loss into consideration)

AIR CYLINDER

Series A60, A61

Basic cylinder

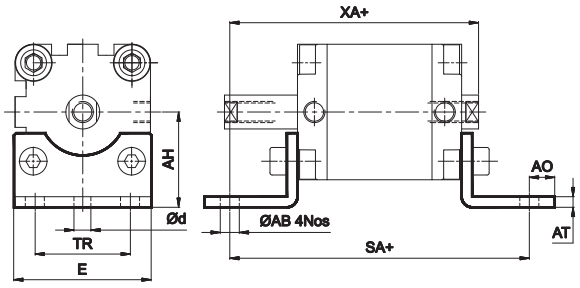


+ Add stroke
++ Add stroke twice

Cylinder bore Ø	KF	MM	AF	RR min	RT	SW1	L1	LA	BG min	EE	TG	E max	ZA	Tol	ZB	Tol	WH	Tol	L2	Tol	KK	A -0.5	SW2	Stroke tol
25	M6x1	10	10	4.1	M5	9	6	6	15	M5x0.8	26	40	39	±0.5	45	±1.4	6	± 1.4	52		M8x1.25	16	13	
32	M8x1.25	12	12	5.1	M6	10	7.5	5.5	15	G1/8	32.5	45	44	±0.5	51		7		59.5	±1	M10x1.25	19	17	+ 2 0
40	M8x1.25	12	12	5.1	M6	10	7.5	5.5	15	G1/8	38	51	45	±0.7	52	±1.6	7	±1.6	60		M10x1.25	19	17	
50	M10x1.5	16	16	6.4	M8	13	7.5	5.5	16	G1/8	46.5	64	45		53		8		62	±1.2	M12x1.25	22	19	
63	M10x1.5	16	16	6.4	M8	13	7.5	5.5	16	G1/8	56.5	74	49	±0.8	57		8		66		M12x1.25	22	19	+ 2.5 0
80	M12x1.75	20	20	8.4	M10	17	8	5.5	17	G1/8	72	94	54		64	±2	10	±2	75	±1.5	M16x1.5	28	24	
100	M12x1.75	20	20	8.4	M10	17	12.5	5.5	17	G1/8	89	111	67	±1	77		10		88		M16x1.5	28	24	

@ - T Groove for magnetic sensor, Refer catalogue series AM4

Foot mounting

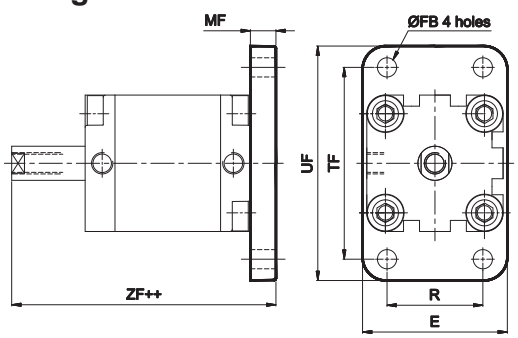


+ Add stroke

Cylinder bore Ø	AB H14	AO max	AT	AH JS16	d*	TR JS14	E	SA	Tol	XA	Tol	Recommended Bolt size	Ordering no.
25	7	6	4	29	5.8	26	40	71		61		M6	ML2025
32	7	7	4	33.5	5.8	32	45	76	± 1.25	67	± 1.25		ML2032
40	10	9	4	38	7.8	36	52	81		70		M8	ML2040
50	10	9	5	45	7.8	45	65	87		74			ML2050
63	10	9	5	50	7.8	50	75	91		78			ML2063
80	12	11	6	63	9.8	63	95	106	± 1.6	90	± 1.6	M10	ML2080
100	14.5	13	6	74	11.8	75	115	121		104		M12	ML2100

* Suitable for reaming

Flange



+ Add stroke

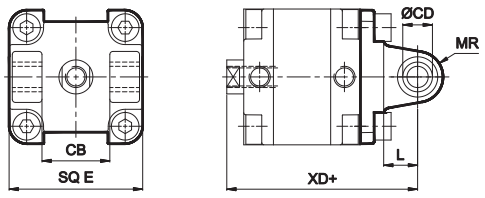
Cylinder bore Ø	MF	UF	TF ±0.3	R ±0.3	E	FB H13	ZF	Tol	Recommended Bolt size	Ordering no.
25	8	76	60	-	40	6.6	54	±1.5	M6	MF1025
32	10	80	64	32	50	7	62.5			MF1032
40	10	90	72	36	55	9	63	±1.8		MF1040
50	12	110	90	45	68	9	66		M8	MF1050
63	12	125	100	50	78	9	70			MF1063
80	16	155	126	63	100	12	81	±2.2	M10	MF1080
100	16	185	150	75	120	14	94		M12	MF1100

AIR CYLINDER

Series A60, A61

Cat No A60, A61 - 01 - 02 - C

Female clevis

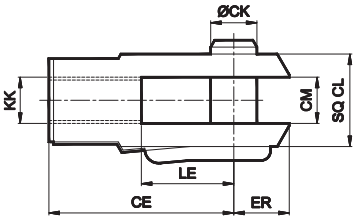


+ Add stroke

Cylinder bore Ø	CD H9	CB H14	L	MR	E	XD	Tol	Ordering no.
32	10	26	12	11	45	73	±1.8	MB1032
40	12	28	15	13	51	77		MB1040
50	12	32	15	13	64	80		MB1050
63	16	40	20	17	74	89		MB1063
80	16	50	20	17	94	100	±2.2	MB1080
100	20	60	25	21	111	118		MB1100

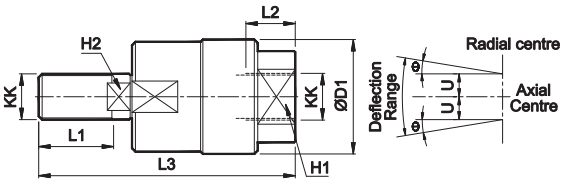
Accessories for Air Cylinder series A60, A61

Rod end Fork (ISO 8140)



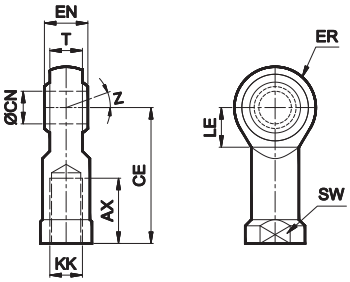
Cylinder bore Ø	KK	CE	CK f8	CM B12	LE	ER max	CL	Ordering no.
25	M8x1.25	32	8	8	16	13	16	AF008
32 / 40	M10x1.25	40	10	10	20	16	20	AF010
50 / 63	M12x1.25	48	12	12	24	19	24	AF012
80 / 100	M16x1.5	64	16	16	32	25	32	AF016

Rod end Aligner



Cylinder bore Ø	KK	L1	L2	L3	H1	H2	D1	U	± θ°	Ordering no.
25	M8x1.25	15	10	48	12	7	20	0.75	5	AR008
32 / 40	M10x1.25	20	14	65	17	8	28	0.75	5	AR010
50 / 63	M12x1.25	22	18	75	19	10	32	1	5	AR012
80 / 100	M16x1.5	25	22	91	27	13	41	1	5	AR016

Rod end spherical eye (ISO 8139)



Cylinder bore Ø	KK	CN H9	T	EN h12	CE	LE min	ER max	AX	SW	Z	Ordering no.
25	M8x1.25	8	9	12	36	13	12	16	14	13°	AP008
32 / 40	M10x1.25	10	10.5	14	43	15	14	20	17		AP010
50 / 63	M12x1.25	12	12	16	50	17	16	22	19		AP012
80 / 100	M16x1.5	16	15	21	64	22	21	28	22	15°	AP016

AIR CYLINDER

Series A60, A61

Cat No A60, A61 - 01 - 02 - C

How to order

A	61	040	050	O	—	Optional M

Model

60	Magnetic cylinder
61	Standard cylinder

Piston Ø (mm)

025	- Ø 25
032	- Ø 32
040	- Ø 40
050	- Ø 50
063	- Ø 63
080	- Ø 80
100	- Ø 100

Stroke (mm)

010	- 10
015	- 15
020	- 20
025	- 25
030	- 30
040	- 40
050	- 50
060	- 60
070	- 70
080	- 80

Mountings

O	- Basic
L	- Foot Mounting
F	- Front Flange
B	- Female Clevis

Ø25mm Female clevis not available

M - Male thread

Note

For details of Accessories for Magnetic sensor, refer catalogue **Series AM4** (Page no. 1a.1.1)

Example:

Ordering no. for standard cylinder with 40 dia bore, 50 mm stroke with Female thread : **A61 040 050 O**

Ordering no. for standard cylinder with 40 dia bore, 50 mm stroke with Male thread : **A61 040 050 O - M**

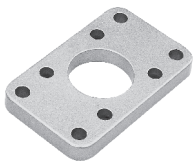
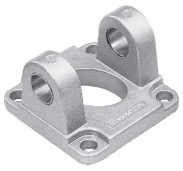
Note:

If ordered as 40 dia, 50 mm stroke cylinder, Basic cylinder **A61 040 050 O** will be supplied.

For repeat order when the details are taken from cylinder nameplate, mention the mounting style separately.

For ordering **Accessories** refer corresponding tables for part numbers.

For ordering individual **Mounting** kits (If needed separately) the order numbers are as below

Cylinder bore Ø	Foot mounting *	Flange *	Female clevis *
			
25	ML2025	MF1025	NA
32	ML2032	MF1032	MB1032
40	ML2040	MF1040	MB1040
50	ML2050	MF1050	MB1050
63	ML2063	MF1063	MB1063
80	ML2080	MF1080	MB1080
100	ML2100	MF1100	MB1100

* Supplied with 4nos. of screws

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

Subject to change

JANATICS
Pneumatic

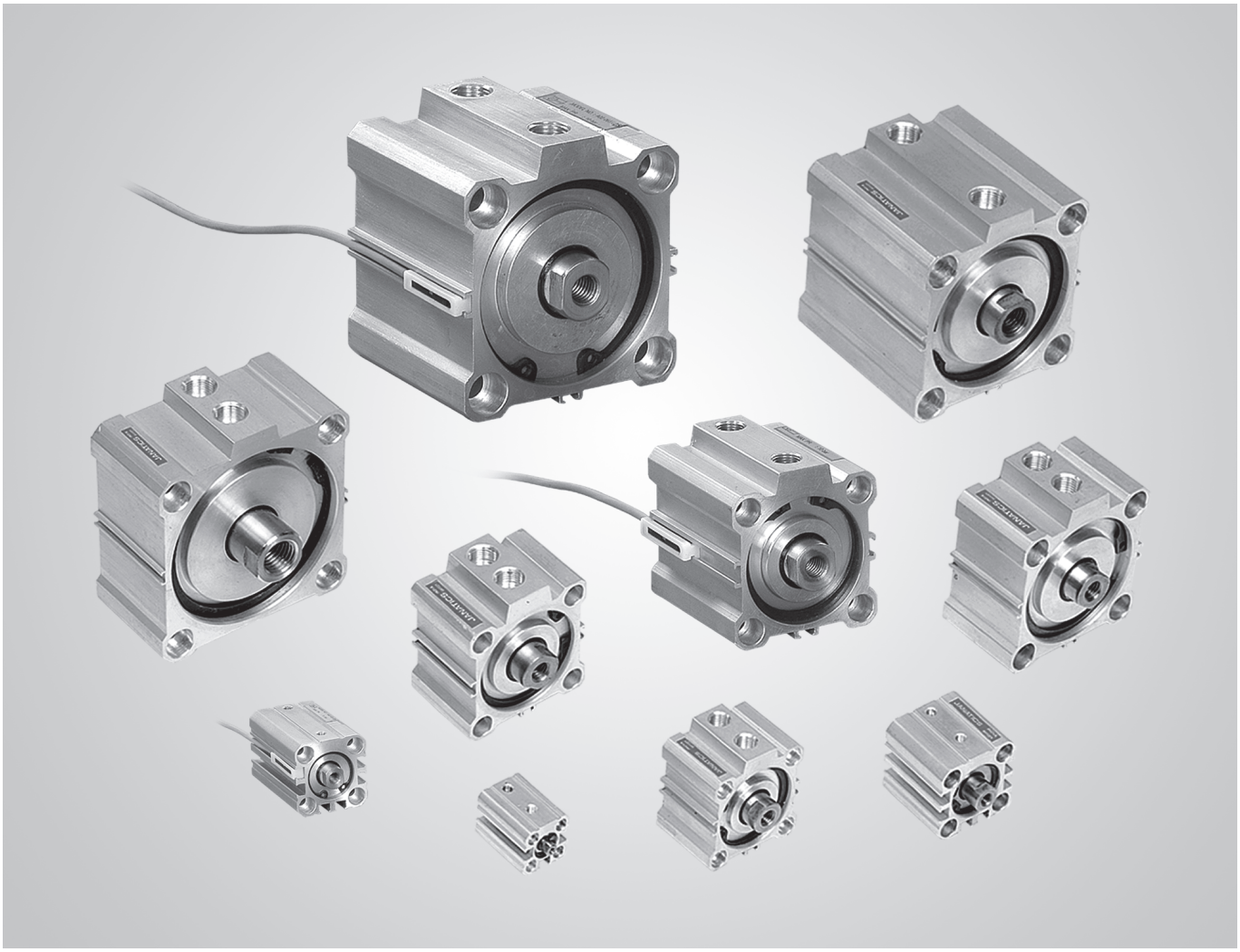
Compact Cylinders

Series A02 - Double Acting cylinder (Non Magnetic)

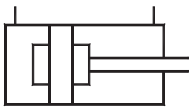
Series A03 - Double Acting cylinder (Magnetic)

Series A02G - Compact Cylinder with Guide rod (Non Magnetic)

Series A03G - Compact Cylinder with Guide rod (Magnetic)



- Double Acting Cylinders
- Sizes - ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100



A02 - Non-magnetic

AIR CYLINDER

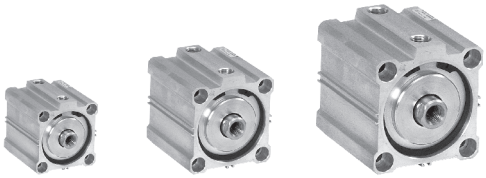
Series A02

Cat No A02 - 01 - 03 - B

COMPACT CYLINDERS Double Acting (Ø12 - 100 mm)

Features

- ❑ Compact, light weight, and space saving design
- ❑ Large clamping force in relation to their size
- ❑ Low friction, long life seal design
- ❑ Elastomer end cushion



Application

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

Technical Specifications

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	0.5 - 10 bar									
Ambient temperature	-10° to +60° C									
Medium temperature	+5° to +50° C									

* For Non standard or longer stroke cylinders, contact your regional dealer or **JANATICS**

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

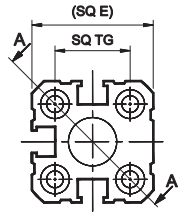
(Above values have been worked out taking frictional loss into consideration)

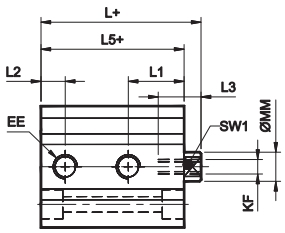
AIR CYLINDER

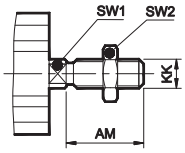
Series A02

Basic cylinder

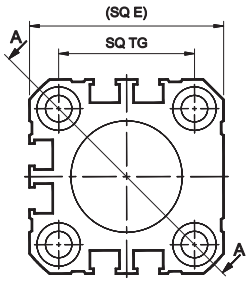
Sizes - Ø12, Ø16

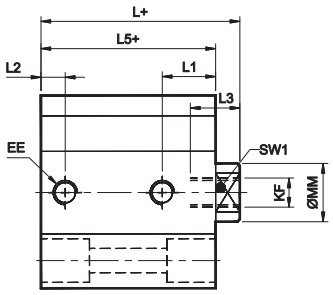


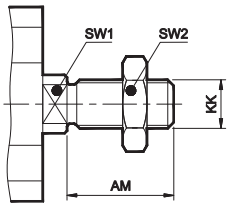




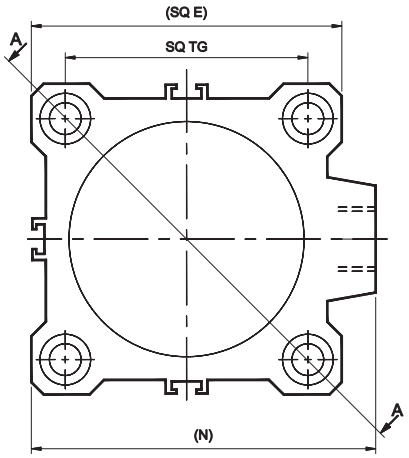
Sizes - Ø20, Ø25

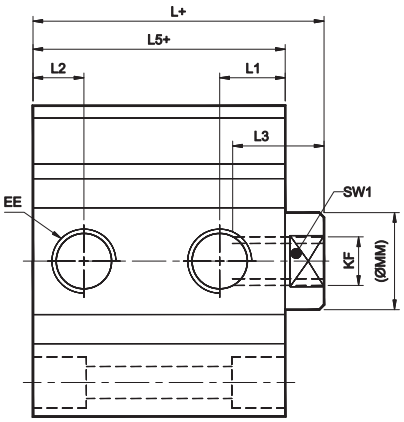


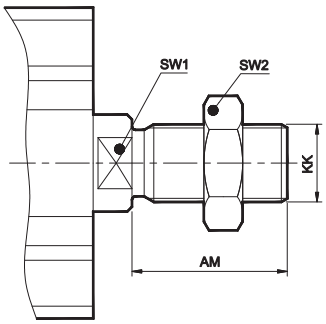




Sizes - Ø32, Ø40, Ø50, Ø63, Ø80, Ø100

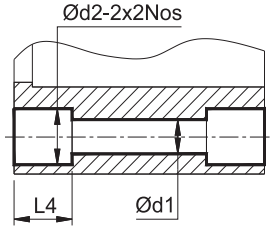
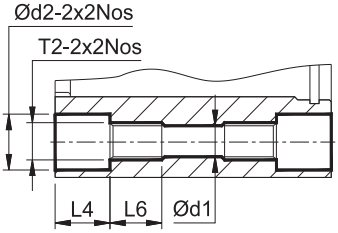
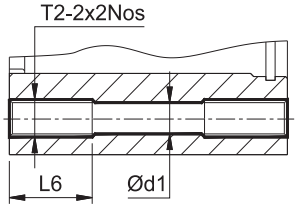






Section AA

+ Add stroke

Model O	Model 1	Model 2
Counter bore and through hole on both sides	**Counter bore and thread on both sides**	**Thread on both sides**
		

AIR CYLINDER

Series A02

Cat No A02 - 01 - 03 - B

Model O - Counter bore and through hole on both sides

+ Add stroke

Product No.	Cylinder bore Ø	KF	MM	L3	d1	d2	L4	SW1	L1	L2	EE	TG	E	N	L5	L	KK	AM	SW2
A020120000O	12	M3 x 0.5	6	6	3.5	6	5.5	5	11.5	5	M5 x 0.8	15.5	25	-	29.5	33	M6 x 1	16	10
A020160000O	16	M4 x 0.7	8	8	3.5	6	5.5	6	11	5.5	M5 x 0.8	20	29	-	30.5	34	M8 x 1.25	20	13
A020200000O	20	M5 x 0.8	10	8	5.5	9	9.5	8	11.5	5	M5 x 0.8	25.5	36	-	31.5	35	M10 x 1.25	22	17
A020250000O	25	M6 x 1	12	12	5.5	9	9.5	10	11	5	M5 x 0.8	28	40	-	36	41	M10 x 1.25	22	17
A020320000O	32	M8 x 1.25	16	13	5.5	9	9.5	14	12.5	8	G1/8	34	45	49.5	41	48	M12 x 1.25	24	19
A020400000O	40	M8 x 1.25	16	13	5.5	9	9.5	14	11.5	8	G1/8	40	52	57	36.5	43.5	M12 x 1.25	24	19
A020500000O	50	M10 x 1.5	20	15	6.6	10.5	11	17	14	10.5	G1/4	50	64	71	42	50	M16 x 1.5	32	24
A020630000O	63	M10 x 1.5	20	15	9	13.5	11	17	14	10.5	G1/4	60	77	84	43	51	M16 x 1.5	32	24
A020800000O	80	M16 x 2	25	21	11	16.5	14.5	22	18.5	12.5	G3/8	77	98	104	54.5	64.5	M20 x 1.5	40	30
A021000000O	100	M20 x 2.5	30	27	11	16.5	14.5	27	21	12.5	G3/8	94	117	123.5	57.5	68.5	M20 x 1.5	40	30

Model 1 - Counter bore and thread on both sides

+ Add stroke

Product No.	Cylinder bore Ø	KF	MM	L3	d1	d2	L4	SW1	L1	L2	EE	TG	E	N	L5	L6	L	KK	AM	SW2	T2
A020120001	12	M3 x 0.5	6	6	3.5	6	5.5	5	11.5	5	M5 x 0.8	15.5	25	-	29.5	8	33	M6 x 1	16	10	M4x0.7
A020160001	16	M4 x 0.7	8	8	3.5	6	5.5	6	11	5.5	M5 x 0.8	20	29	-	30.5	8	34	M8 x 1.25	20	13	M4x0.7
A020200001	20	M5 x 0.8	10	8	5.5	9	9.5	8	11.5	5	M5 x 0.8	25.5	36	-	31.5	10	35	M10 x 1.25	22	17	M6x1
A020250001	25	M6 x 1	12	12	5.5	9	9.5	10	11	5	M5 x 0.8	28	40	-	36	10	41	M10 x 1.25	22	17	M6x1
A020320001	32	M8 x 1.25	16	13	5.5	9	9.5	14	12.5	8	G1/8	34	45	49.5	41	10	48	M12 x 1.25	24	19	M6x1
A020400001	40	M8 x 1.25	16	13	5.5	9	9.5	14	11.5	8	G1/8	40	52	57	36.5	10	43.5	M12 x 1.25	24	19	M6x1
A020500001	50	M10 x 1.5	20	15	6.6	10.5	11	17	14	10.5	G1/4	50	64	71	42	13	50	M16 x 1.5	32	24	M8x1.25
A020630001	63	M10 x 1.5	20	15	9	13.5	11	17	14	10.5	G1/4	60	77	84	43	16	51	M16 x 1.5	32	24	M10x1.5
A020800001	80	M16 x 2	25	21	11	16.5	14.5	22	18.5	12.5	G3/8	77	98	104	54.5	19	64.5	M20 x 1.5	40	30	M12x1.75
A021000001	100	M20 x 2.5	30	27	11	16.5	14.5	27	21	12.5	G3/8	94	117	123.5	57.5	19	68.5	M20 x 1.5	40	30	M12x1.75

Model 2 - Thread on both sides

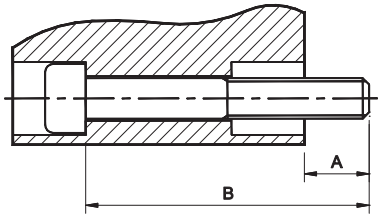
+ Add stroke

Product No.	Cylinder bore Ø	KF	MM	L3	d1	SW1	L1	L2	EE	TG	E	N	L5	L6	L	KK	AM	SW2	T2
A020120002	12	M3 x 0.5	6	6	3.5	5	11.5	5	M5 x 0.8	15.5	25	-	29.5	8	33	M6 x 1	16	10	M4x0.7
A020160002	16	M4 x 0.7	8	8	3.5	6	11	5.5	M5 x 0.8	20	29	-	30.5	8	34	M8 x 1.25	20	13	M4x0.7
A020200002	20	M5 x 0.8	10	8	5.5	8	11.5	5	M5 x 0.8	25.5	36	-	31.5	10	35	M10 x 1.25	22	17	M6x1
A020250002	25	M6 x 1	12	12	5.5	10	11	5	M5 x 0.8	28	40	-	36	10	41	M10 x 1.25	22	17	M6x1
A020320002	32	M8 x 1.25	16	13	5.5	14	12.5	8	G1/8	34	45	49.5	41	10	48	M12 x 1.25	24	19	M6x1
A020400002	40	M8 x 1.25	16	13	5.5	14	11.5	8	G1/8	40	52	57	36.5	10	43.5	M12 x 1.25	24	19	M6x1
A020500002	50	M10 x 1.5	20	15	6.6	17	14	10.5	G1/4	50	64	71	42	13	50	M16 x 1.5	32	24	M8x1.25
A020630002	63	M10 x 1.5	20	15	9	17	14	10.5	G1/4	60	77	84	43	16	51	M16 x 1.5	32	24	M10x1.5
A020800002	80	M16 x 2	25	21	11	22	18.5	12.5	G3/8	77	98	104	54.5	19	64.5	M20 x 1.5	40	30	M12x1.75
A021000002	100	M20 x 2.5	30	27	11	27	21	12.5	G3/8	94	117	123.5	57.5	19	68.5	M20 x 1.5	40	30	M12x1.75

AIR CYLINDER

Series A02

Recommended bolt size for basic mounting



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
A02 012 005	6	M3 x 35	A02 016 005	5	M3 x 35	A02 020 005	8	M5 x 35	A02 025 005	8.5	M5 x 40	A02 032 005	8.5	M5 x 45
010	6	x 40	010	5	x 40	010	8	x 40	010	8.5	x 45	010	8.5	x 50
015	6	x 45	015	5	x 45	015	8	x 45	015	8.5	x 50	015	8.5	x 55
020	6	x 50	020	5	x 50	020	8	x 50	020	8.5	x 55	020	8.5	x 60
025	6	x 55	025	5	x 55	025	8	x 55	025	8.5	x 60	025	8.5	x 65
030	6	x 60	030	5	x 60	030	8	x 60	030	8.5	x 65	030	8.5	x 70
040	6	x 70	040	5	x 70	040	8	x 70	040	8.5	x 75	040	8.5	x 80
						050	8	x 80	050	8.5	x 85	050	8.5	x 90
												060	8.5	x 100

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
A02 040 005	8	M5 x 40	A02 050 010	9	M6 x 50	A02 063 010	13	M8 x 55	A02 080 010	15	M10 x 65	A02 100 010	17	M10 x 70
010	8	x 45	020	9	x 60	020	13	x 65	020	15	x 75	020	17	x 80
015	8	x 50	030	9	x 70	030	13	x 75	030	15	x 85	030	17	x 90
020	8	x 55	040	9	x 80	040	13	x 85	040	15	x 95	040	17	x 100
025	8	x 60	050	9	x 90	050	13	x 95	050	15	x 105	050	17	x 110
030	8	x 65	060	9	x 100	060	13	x 105	060	15	x 115	060	17	x 120
040	8	x 75	070	9	x 110	070	13	x 115	070	15	x 125	070	17	x 130
050	8	x 85	080	9	x 120	080	13	x 125	080	15	x 135	080	17	x 140
060	8	x 95												

How to order

A02 — **040** — **050** — **O** — Optional: **M**

Piston Ø (mm)	
012	- Ø 12
016	- Ø 16
020	- Ø 20
025	- Ø 25
032	- Ø 32
040	- Ø 40
050	- Ø 50
063	- Ø 63
080	- Ø 80
100	- Ø 100

Stroke (mm)	
005	- 5
010	- 10
015	- 15
020	- 20
025	- 25
030	- 30
040	- 40
050	- 50
060	- 60
070	- 70
080	- 80

Mounting type	
O	- Basic Counter bore and through hole on both sides
1	- Counter bore and thread on both sides
2	- Thread on both sides

M - Male thread

Example:

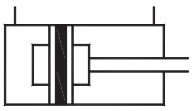
Ordering no. for cylinder with 40 dia bore, 50 mm stroke with Female thread : **A02 040 050 O**

Ordering no. for cylinder with 40 dia bore, 50 mm stroke with Male thread : **A02 040 050 O - M**

Ordering no. for cylinder with 40 dia bore, 50 mm stroke, thread on both sides with Male thread : **A02 040 050 2 - M**

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

Subject to change


A03 - Magnetic

AIR CYLINDER

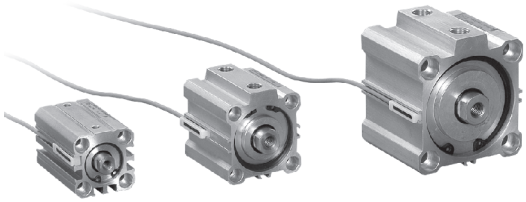
Series A03

Cat No A03 - 01 - 03 - B

COMPACT CYLINDERS MAGNETIC Double Acting (Ø12 - 100 mm)

Features

- ❑ Compact, light weight, and space saving design
- ❑ Large clamping force in relation to their size
- ❑ Low friction, long life seal design
- ❑ Elastomer end cushion



Application

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

Technical Specifications

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	0.5 - 10 bar									
Ambient temperature	-10° to +60° C									
Medium temperature	+5° to +50° C									

* For Non standard or longer stroke cylinders, contact your regional dealer or **JANATICS**

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

(Above values have been worked out taking frictional loss into consideration)

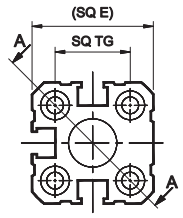
AIR CYLINDER

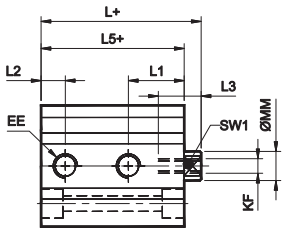
Series A03

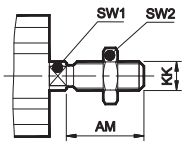
Cat No A03 - 01 - 03 - B

Basic cylinder

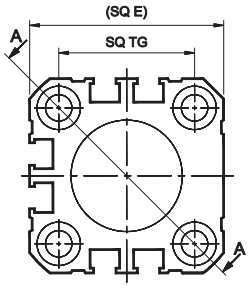
Sizes - Ø12, Ø16

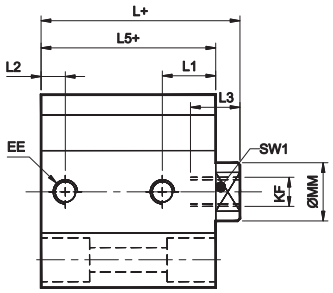


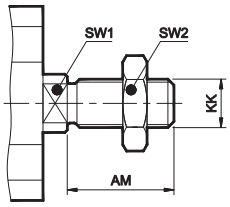




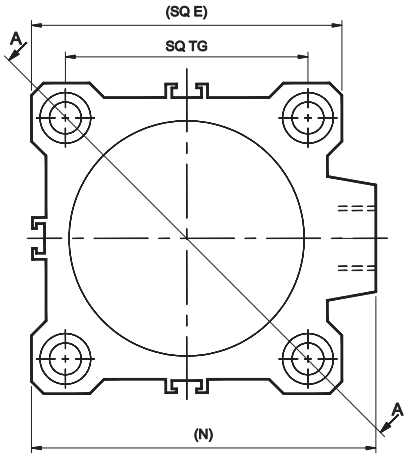
Sizes - Ø20, Ø25

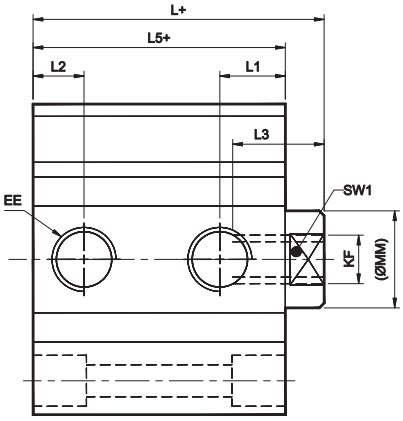


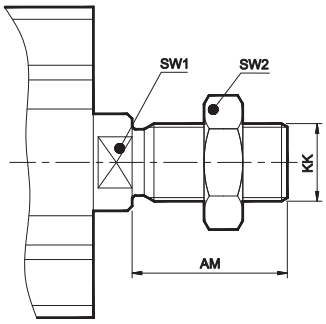




Sizes - Ø32, Ø40, Ø50, Ø63, Ø80, Ø100

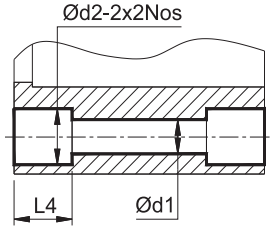
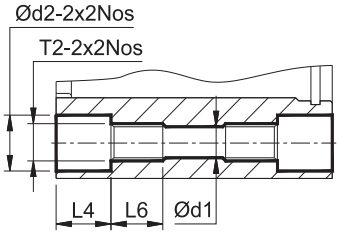
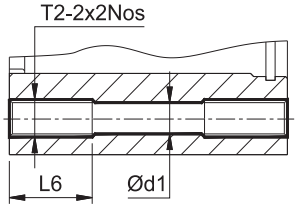






Section AA

+ Add stroke

Model O	Model 1	Model 2
Counter bore and through hole on both sides	Counter bore and thread on both sides	Thread on both sides
		

AIR CYLINDER

Series A03

Cat No A03 - 01 - 03 - B

Model O - Counter bore and through hole on both sides

+ Add stroke

Product No.	Cylinder bore Ø	KF	MM	L3	d1	d2	L4	SW1	L1	L2	EE	TG	E	N	L5	L	KK	AM	SW2
A030120000	12	M3 x 0.5	6	6	3.5	6	5.5	5	11.5	5	M5 x 0.8	15.5	25	-	33.5	37	M6 x 1	16	10
A030160000	16	M4 x 0.7	8	8	3.5	6	5.5	6	11	5.5	M5 x 0.8	20	29	-	34.5	38	M8 x 1.25	20	13
A030200000	20	M5 x 0.8	10	8	5.5	9	9.5	8	11.5	5	M5 x 0.8	25.5	36	-	36.5	40	M10 x 1.25	22	17
A030250000	25	M6 x 1	12	12	5.5	9	9.5	10	11	5	M5 x 0.8	28	40	-	39	44	M10 x 1.25	22	17
A030320000	32	M8 x 1.25	16	13	5.5	9	9.5	14	12.5	8	G1/8	34	45	49.5	46	53	M12 x 1.25	24	19
A030400000	40	M8 x 1.25	16	13	5.5	9	9.5	14	11.5	8	G1/8	40	52	57	41.5	48.5	M12 x 1.25	24	19
A030500000	50	M10 x 1.5	20	15	6.6	10.5	11	17	14	10.5	G1/4	50	64	71	47	55	M16 x 1.5	32	24
A030630000	63	M10 x 1.5	20	15	9	13.5	11	17	14	10.5	G1/4	60	77	84	48	56	M16 x 1.5	32	24
A030800000	80	M16 x 2	25	21	11	16.5	14.5	22	18.5	12.5	G3/8	77	98	104	58.5	68.5	M20 x 1.5	40	30
A031000000	100	M20 x 2.5	30	27	11	16.5	14.5	27	21	12.5	G3/8	94	117	123.5	62.5	73.5	M20 x 1.5	40	30

Model 1 - Counter bore and thread on both sides

+ Add stroke

Product No.	Cylinder bore Ø	KF	MM	L3	d1	d2	L4	SW1	L1	L2	EE	TG	E	N	L5	L6	L	KK	AM	SW2	T2
A030120001	12	M3 x 0.5	6	6	3.5	6	5.5	5	11.5	5	M5 x 0.8	15.5	25	-	33.5	8	37	M6 x 1	16	10	M4x0.7
A030160001	16	M4 x 0.7	8	8	3.5	6	5.5	6	11	5.5	M5 x 0.8	20	29	-	34.5	8	38	M8 x 1.25	20	13	M4x0.7
A030200001	20	M5 x 0.8	10	8	5.5	9	9.5	8	11.5	5	M5 x 0.8	25.5	36	-	36.5	10	40	M10 x 1.25	22	17	M6x1
A030250001	25	M6 x 1	12	12	5.5	9	9.5	10	11	5	M5 x 0.8	28	40	-	39	10	44	M10 x 1.25	22	17	M6x1
A030320001	32	M8 x 1.25	16	13	5.5	9	9.5	14	12.5	8	G1/8	34	45	49.5	46	10	53	M12 x 1.25	24	19	M6x1
A030400001	40	M8 x 1.25	16	13	5.5	9	9.5	14	11.5	8	G1/8	40	52	57	41.5	10	48.5	M12 x 1.25	24	19	M6x1
A030500001	50	M10 x 1.5	20	15	6.6	10.5	11	17	14	10.5	G1/4	50	64	71	47	13	55	M16 x 1.5	32	24	M8x1.25
A030630001	63	M10 x 1.5	20	15	9	13.5	11	17	14	10.5	G1/4	60	77	84	48	16	56	M16 x 1.5	32	24	M10x1.5
A030800001	80	M16 x 2	25	21	11	16.5	14.5	22	18.5	12.5	G3/8	77	98	104	58.5	19	68.5	M20 x 1.5	40	30	M12x1.75
A031000001	100	M20 x 2.5	30	27	11	16.5	14.5	27	21	12.5	G3/8	94	117	123.5	62.5	19	73.5	M20 x 1.5	40	30	M12x1.75

Model 2 - Thread on both sides

+ Add stroke

Product No.	Cylinder bore Ø	KF	MM	L3	d1	SW1	L1	L2	EE	TG	E	N	L5	L6	L	KK	AM	SW2	T2
A030120002	12	M3 x 0.5	6	6	3.5	5	11.5	5	M5 x 0.8	15.5	25	-	33.5	8	37	M6 x 1	16	10	M4x0.7
A030160002	16	M4 x 0.7	8	8	3.5	6	11	5.5	M5 x 0.8	20	29	-	34.5	8	38	M8 x 1.25	20	13	M4x0.7
A030200002	20	M5 x 0.8	10	8	5.5	8	11.5	5	M5 x 0.8	25.5	36	-	36.5	10	40	M10 x 1.25	22	17	M6x1
A030250002	25	M6 x 1	12	12	5.5	10	11	5	M5 x 0.8	28	40	-	39	10	44	M10 x 1.25	22	17	M6x1
A030320002	32	M8 x 1.25	16	13	5.5	14	12.5	8	G1/8	34	45	49.5	46	10	53	M12 x 1.25	24	19	M6x1
A030400002	40	M8 x 1.25	16	13	5.5	14	11.5	8	G1/8	40	52	57	41.5	10	48.5	M12 x 1.25	24	19	M6x1
A030500002	50	M10 x 1.5	20	15	6.6	17	14	10.5	G1/4	50	64	71	47	13	55	M16 x 1.5	32	24	M8x1.25
A030630002	63	M10 x 1.5	20	15	9	17	14	10.5	G1/4	60	77	84	48	16	56	M16 x 1.5	32	24	M10x1.5
A030800002	80	M16 x 2	25	21	11	22	18.5	12.5	G3/8	77	98	104	58.5	19	68.5	M20 x 1.5	40	30	M12x1.75
A031000002	100	M20 x 2.5	30	27	11	27	21	12.5	G3/8	94	117	123.5	62.5	19	73.5	M20 x 1.5	40	30	M12x1.75

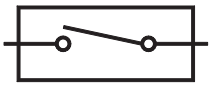
AIR CYLINDER

Series A03

Cat No A03 - 01 - 03 - B

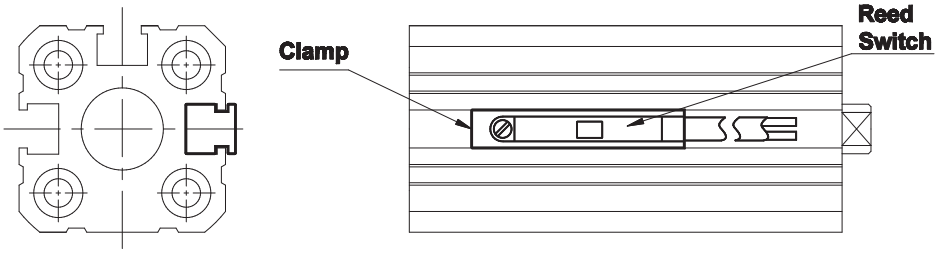
ACCESSORIES FOR MAGNETIC CYLINDERS Series A03

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.

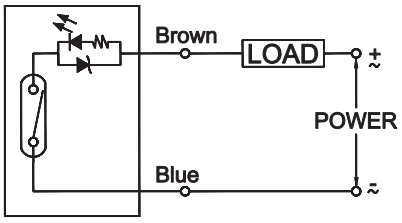


Technical Specifications - Reed Switch

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 60529, 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

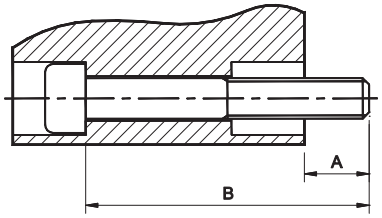
Circuit and connect diagram



AIR CYLINDER

Series A03

Recommended bolt size for basic mounting



*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
A03 012 005	7	M3 x 40	A03 016 005	6	M3 x 40	A03 020 005	8	M5 x 40	A03 025 005	10.5	M5 x 45	A03 032 005	8.5	M5 x 50
010	7	x 45	010	6	x 45	010	8	x 45	010	10.5	x 50	010	8.5	x 55
015	7	x 50	015	6	x 50	015	8	x 50	015	10.5	x 55	015	8.5	x 60
020	7	x 55	020	6	x 55	020	8	x 55	020	10.5	x 60	020	8.5	x 65
025	7	x 60	025	6	x 60	025	8	x 60	025	10.5	x 65	025	8.5	x 70
030	7	x 65	030	6	x 65	030	8	x 65	030	10.5	x 70	030	8.5	x 75
040	7	x 75	040	6	x 75	040	8	x 75	040	10.5	x 80	040	8.5	x 85
						050	8	x 85	050	10.5	x 90	050	8.5	x 95
												060	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
A03 040 005	8	M5 x 45	A03 050 010	9	M6 x 55	A03 063 010	13	M8 x 60	A03 080 010	16	M10 x 70	A03 100 010	17	M10 x 75
010	8	x 50	020	9	x 65	020	13	x 70	020	16	x 80	020	17	x 85
015	8	x 55	030	9	x 75	030	13	x 80	030	16	x 90	030	17	x 95
020	8	x 60	040	9	x 85	040	13	x 90	040	16	x 100	040	17	x 105
025	8	x 65	050	9	x 95	050	13	x 100	050	16	x 110	050	17	x 115
030	8	x 70	060	9	x 105	060	13	x 110	060	16	x 120	060	17	x 125
040	8	x 80	070	9	x 115	070	13	x 120	070	16	x 130	070	17	x 135
050	8	x 90	080	9	x 125	080	13	x 130	080	16	x 140	080	17	x 145
060	8	x 100												

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

How to order

A03 — **040** — **050** — **O** — Optional: **M**

Piston Ø (mm)	
012	- Ø 12
016	- Ø 16
020	- Ø 20
025	- Ø 25
032	- Ø 32
040	- Ø 40
050	- Ø 50
063	- Ø 63
080	- Ø 80
100	- Ø 100

Stroke (mm)	
005	- 5
010	- 10
015	- 15
020	- 20
025	- 25
030	- 30
040	- 40
050	- 50
060	- 60
070	- 70
080	- 80

Mounting type	
O	- Basic Counter bore and through hole on both sides
1	- Counter bore and thread on both sides
2	- Thread on both sides

M - Male thread

Example:

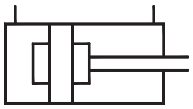
Ordering no. for cylinder with 40 dia bore, 50 mm stroke with Female thread : **A03 040 050 O**

Ordering no. for cylinder with 40 dia bore, 50 mm stroke with Male thread : **A03 040 050 O - M**

Ordering no. for cylinder with 40 dia bore, 50 mm stroke, thread on both sides with Male thread : **A03 040 050 2 - M**

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

Subject to change



AIR CYLINDER

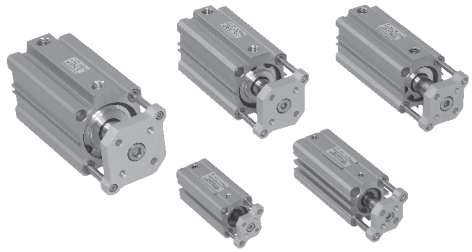
Series A02G, A02G1, A02G2

Cat No A02G - 01 - 01 - C

COMPACT CYLINDER WITH GUIDE ROD (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 ±0.3º (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 talking frictional loss into consideration)

AIR CYLINDER

Series A02G, A02G1, A02G2

CAUTION:-

1. **Do not scratch or touch the sliding parts of the piston rod and guide rods.**
   Damage to seals may cause air leakage or faulty operation.
2. **Mounting of work piece**
   a) When screwing the bolt onto the threaded portion of the plate make sure that the cylinder is in fully extended position. And also see that the tightening torque should not affect the guide rods.
   b) When a work piece is mounted on the piston rod end or mounting plate, check whether they are aligned center to the work piece and mounting plate. If they are off-centered, the lateral load is generated and it may cause air leakage & damage to the seals.
3. **This product should not be used as a stopper**

Plate Non - Rotating Accuracy

Bore Size Ø (mm)	Non-Rotating Accuracy
12,16	±0.3°
20 to 40	±0.2°
50 to 100	±0.1°

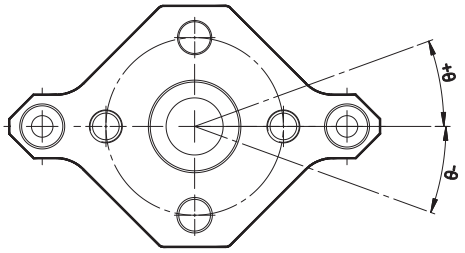
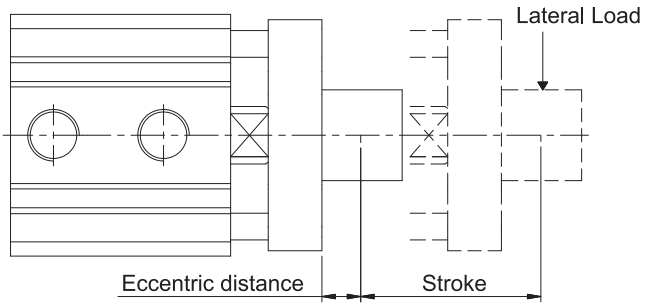
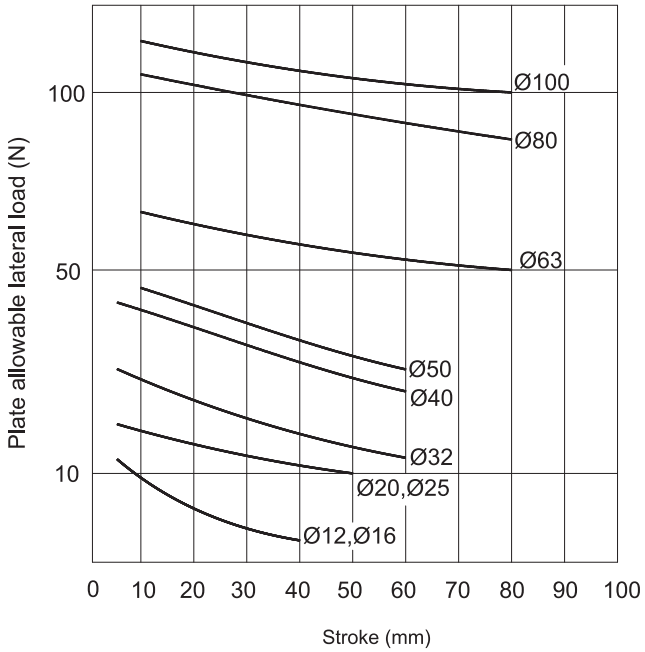


Plate Allowable Lateral Load

Make sure to operate strictly within the allowable lateral load range to the plate.

Operation outside of this range may result in shorter service life or damage to the device.





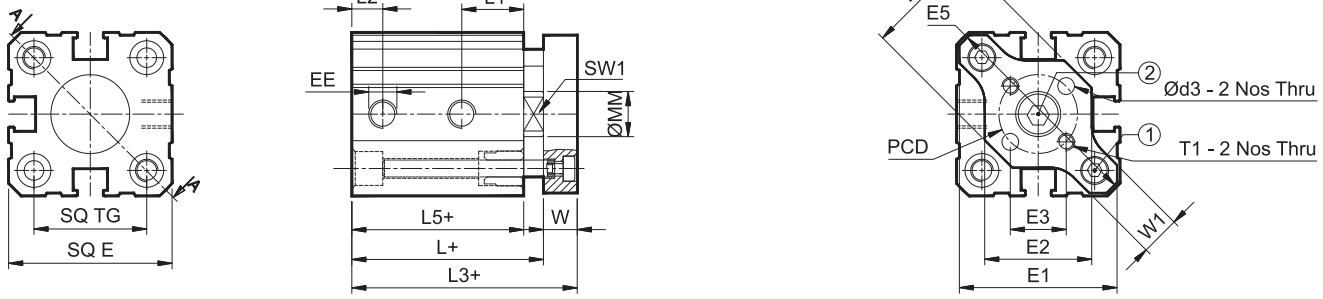
AIR CYLINDER

Series A02G, A02G1, A02G2

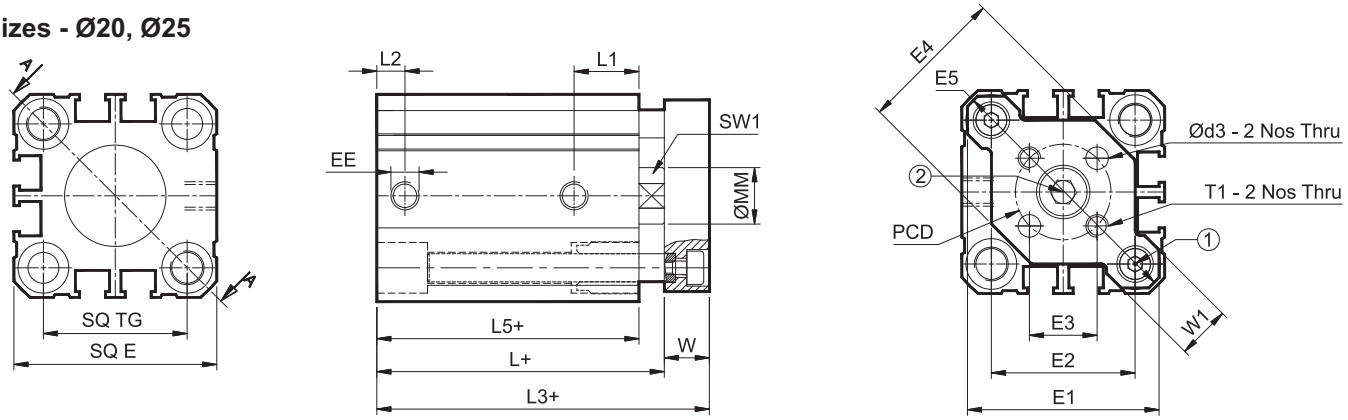
Cat No A02G - 01 - 01 - C

Basic cylinder

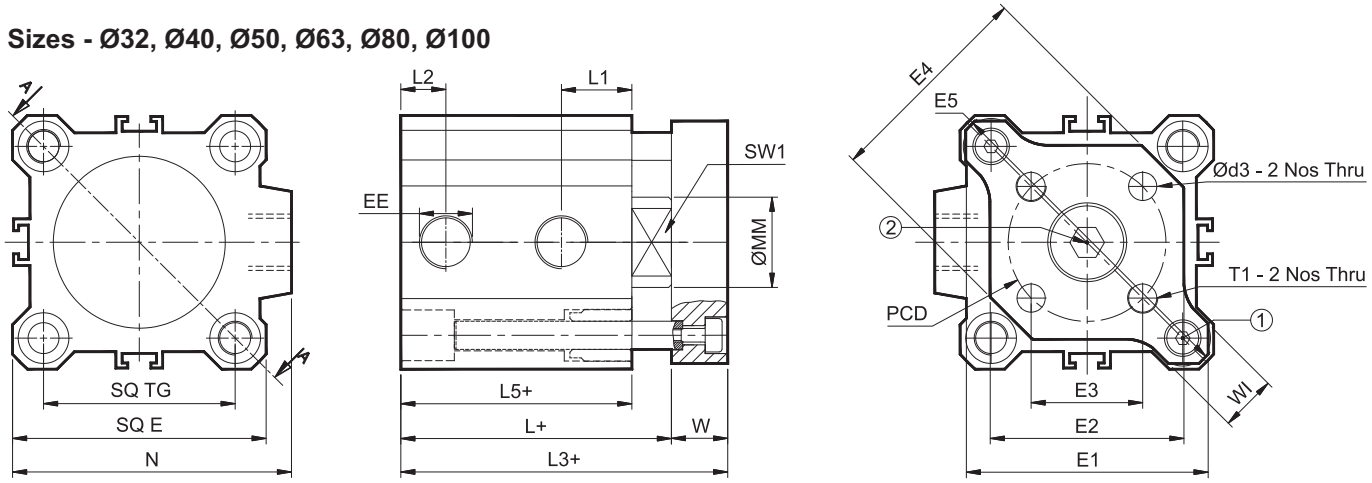
Sizes - Ø12, Ø16



Sizes - Ø20, Ø25

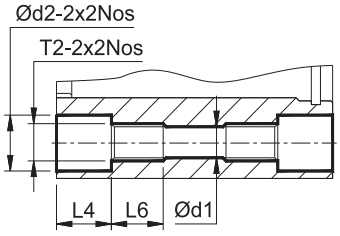
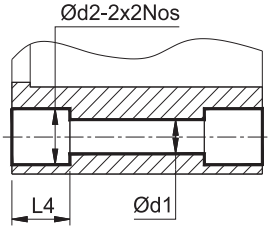
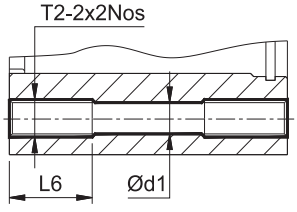


Sizes - Ø32, Ø40, Ø50, Ø63, Ø80, Ø100



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
		

AIR CYLINDER

Series A02G, A02G1, A02G2

Cat No A02G - 01 - 01 - C

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
A02012000G	12	6	3.5	6	5.5	5	11.5	5	M5x0.8	15.5	25	-	29.5	33	39	6	24	15	7.1	10	M3x0.5	3	7.5	15	31.5	M4x0.7	8
A02016000G	16	8	3.5	6	5.5	6	11	5.5	M5x0.8	20	29	-	30.5	34	40	6	28	19	9.9	14	M3x0.5	3	7.5	20	37	M4x0.7	8
A02020000G	20	10	5.5	9	9.5	8	11.5	5	M5x0.8	25.5	36	-	31.5	35	43	8	34	25.5	12	17	M4x0.7	4	9.5	26	45.5	M6x1	10
A02025000G	25	12	5.5	9	9.5	10	11	5	M5x0.8	28	40	-	36	41	49	8	38	29.5	15.6	22	M5x0.8	5	9.5	30	50.5	M6x1	10
A02032000G	32	16	5.5	9	9.5	14	12.5	8	G1/8	34	45	49.5	41	48	58	10	43	34.4	19.8	28	M5x0.8	5	10	38	58.5	M6x1	10
A02040000G	40	16	5.5	9	9.5	14	11.5	8	G1/8	40	52	57	36.5	43.5	53.5	10	50	41.4	23.3	33	M5x0.8	5	10	46	67.5	M6x1	10
A02050000G	50	20	6.6	10.5	11	17	14	10.5	G1/4	50	64	71	42	50	62	12	62	53.4	29.7	42	M6x1	6	13	58	84.5	M8x1.25	13
A02063000G	63	20	9	13.5	11	17	14	10.5	G1/4	60	77	84	43	51	63	12	74	59.6	35.4	50	M6x1	6	15.5	69	100	M10x1.5	16
A02080000G	80	25	11	16.5	14.5	22	18.5	12.5	G3/8	77	98	104	54.5	64.5	78.5	14	95	79.5	46	65	M8x1.25	8	20	89	129	M12x1.75	19
A02100000G	100	30	11	16.5	14.5	27	21	12.5	G3/8	94	117	123.5	57.5	68.5	84.5	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
A02012000G1	12	6	3.5	6	5.5	5	11.5	5	M5x0.8	15.5	25	-	29.5	33	39	6	24	15	7.1	10	M3x0.5	3	7.5	15	31.5
A02016000G1	16	8	3.5	6	5.5	6	11	5.5	M5x0.8	20	29	-	30.5	34	40	6	28	19	9.9	14	M3x0.5	3	7.5	20	37
A02020000G1	20	10	5.5	9	9.5	8	11.5	5	M5x0.8	25.5	36	-	31.5	35	43	8	34	25.5	12	17	M4x0.7	4	9.5	26	45.5
A02025000G1	25	12	5.5	9	9.5	10	11	5	M5x0.8	28	40	-	36	41	49	8	38	29.5	15.6	22	M5x0.8	5	9.5	30	50.5
A02032000G1	32	16	5.5	9	9.5	14	12.5	8	G1/8	34	45	49.5	41	48	58	10	43	34.4	19.8	28	M5x0.8	5	10	38	58.5
A02040000G1	40	16	5.5	9	9.5	14	11.5	8	G1/8	40	52	57	36.5	43.5	53.5	10	50	41.4	23.3	33	M5x0.8	5	10	46	67.5
A02050000G1	50	20	6.6	10.5	11	17	14	10.5	G1/4	50	64	71	42	50	62	12	62	53.4	29.7	42	M6x1	6	13	58	84.5
A02063000G1	63	20	9	13.5	11	17	14	10.5	G1/4	60	77	84	43	51	63	12	74	59.6	35.4	50	M6x1	6	15.5	69	100
A02080000G1	80	25	11	16.5	14.5	22	18.5	12.5	G3/8	77	98	104	54.5	64.5	78.5	14	95	79.5	46	65	M8x1.25	8	20	89	129
A02100000G1	100	30	11	16.5	14.5	27	21	12.5	G3/8	94	117	123.5	57.5	68.5	84.5	16	114	99	56.6	80	M10x1.5	10	20	113	153

Model G2 - Thread on both sides

+ Add stroke

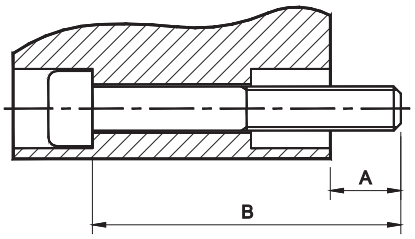
Product No.	Cylinder bore Ø	MM	Ød1	SW1	L1	L2	EE	TG ±0.1	E	N	L5	L	L3	W	E1	E2	E3	PCD ±0.1	T1	Ød3	W1	E4	E5	T2	L6
A02012000G2	12	6	3.5	5	11.5	5	M5x0.8	15.5	25	-	29.5	33	39	6	24	15	7.1	10	M3x0.5	3	7.5	15	31.5	M4x0.7	8
A02016000G2	16	8	3.5	6	11	5.5	M5x0.8	20	29	-	30.5	34	40	6	28	19	9.9	14	M3x0.5	3	7.5	20	37	M4x0.7	8
A02020000G2	20	10	5.5	8	11.5	5	M5x0.8	25.5	36	-	31.5	35	43	8	34	25.5	12	17	M4x0.7	4	9.5	26	45.5	M6x1	10
A02025000G2	25	12	5.5	10	11	5	M5x0.8	28	40	-	36	41	49	8	38	29.5	15.6	22	M5x0.8	5	9.5	30	50.5	M6x1	10
A02032000G2	32	16	5.5	14	12.5	8	G1/8	34	45	49.5	41	48	58	10	43	34.4	19.8	28	M5x0.8	5	10	38	58.5	M6x1	10
A02040000G2	40	16	5.5	14	11.5	8	G1/8	40	52	57	36.5	43.5	53.5	10	50	41.4	23.3	33	M5x0.8	5	10	46	67.5	M6x1	10
A02050000G2	50	20	6.6	17	14	10.5	G1/4	50	64	71	42	50	62	12	62	53.4	29.7	42	M6x1	6	13	58	84.5	M8x1.25	13
A02063000G2	63	20	9	17	14	10.5	G1/4	60	77	84	43	51	63	12	74	59.6	35.4	50	M6x1	6	15.5	69	100	M10x1.5	16
A02080000G2	80	25	11	22	18.5	12.5	G3/8	77	98	104	54.5	64.5	78.5	14	95	79.5	46	65	M8x1.25	8	20	89	129	M12x1.75	19
A02100000G2	100	30	11	27	21	12.5	G3/8	94	117	123.5	57.5	68.5	84.5	16	114	99	56.6	80	M10x1.5	10	20	113	153	M12x1.75	19

AIR CYLINDER

Series A02G, A02G1, A02G2

Cat No A02G - 01 - 01 - C

Recommended bolt size for mounting for A02G1 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
A02012005G1	6	M3 x 35	A02016005G1	5	M3 x 35	A02020005G1	8	M5 x 35	A02025005G1	8.5	M5 x 40	A02032005G1	8.5	M5 x 45
010G1	6	x 40	010G1	5	x 40	010G1	8	x 40	010G1	8.5	x 45	010G1	8.5	x 50
015G1	6	x 45	015G1	5	x 45	015G1	8	x 45	015G1	8.5	x 50	015G1	8.5	x 55
020G1	6	x 50	020G1	5	x 50	020G1	8	x 50	020G1	8.5	x 55	020G1	8.5	x 60
025G1	6	x 55	025G1	5	x 55	025G1	8	x 55	025G1	8.5	x 60	025G1	8.5	x 65
030G1	6	x 60	030G1	5	x 60	030G1	8	x 60	030G1	8.5	x 65	030G1	8.5	x 70
040G1	6	x 70	040G1	5	x 70	040G1	8	x 70	040G1	8.5	x 75	040G1	8.5	x 80
						050G1	8	x 80	050G1	8.5	x 85	050G1	8.5	x 90
												060G1	8.5	x 100

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
A02040005G1	8	M5 x 40	A02050010G1	9	M6 x 50	A02063010G1	13	M8 x 55	A02080010G1	15	M10 x 65	A02100010G1	17	M10 x 70
010G1	8	x 45	020G1	9	x 60	020G1	13	x 65	020G1	15	x 75	020G1	17	x 80
015G1	8	x 50	030G1	9	x 70	030G1	13	x 75	030G1	15	x 85	030G1	17	x 90
020G1	8	x 55	040G1	9	x 80	040G1	13	x 85	040G1	15	x 95	040G1	17	x 100
025G1	8	x 60	050G1	9	x 90	050G1	13	x 95	050G1	15	x 105	050G1	17	x 110
030G1	8	x 65	060G1	9	x 100	060G1	13	x 105	060G1	15	x 115	060G1	17	x 120
040G1	8	x 75	070G1	9	x 110	070G1	13	x 115	070G1	15	x 125	070G1	17	x 130
050G1	8	x 85	080G1	9	x 120	080G1	13	x 125	080G1	15	x 135	080G1	17	x 140
060G1	8	x 95												

How to order

A02 | **025** | **025** | **G**

Piston Ø (mm)	
012	- Ø 12
016	- Ø 16
020	- Ø 20
025	- Ø 25
032	- Ø 32
040	- Ø 40
050	- Ø 50
063	- Ø 63
080	- Ø 80
100	- Ø 100

Stroke (mm)	
005	- 5
010	- 10
015	- 15
020	- 20
025	- 25
030	- 30
040	- 40
050	- 50
060	- 60
070	- 70
080	- 80

Guide rod mounting type	
G	- Counter bore with thread
G1	- Counter bore with through hole
G2	- Thread

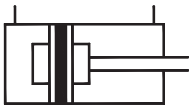
Ordering Example:

Compact double acting cylinder with guide rod bore Ø25 and stroke 25 mm (Counter bore with thread):
A02025025G

Compact double acting cylinder with guide rod bore Ø25 and stroke 25 mm (Counter bore with thru hole):
A02025025G1

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

Subject to change



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 ±0.3º (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 talking frictional loss into consideration)

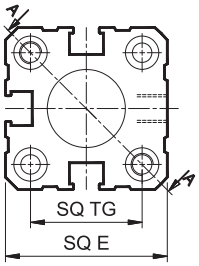
AIR CYLINDER

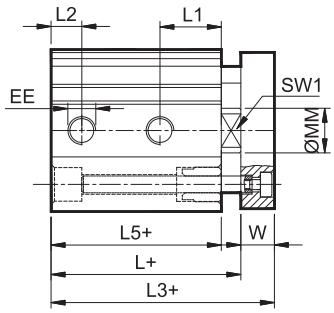
Series A03G, A03G1, A03G2

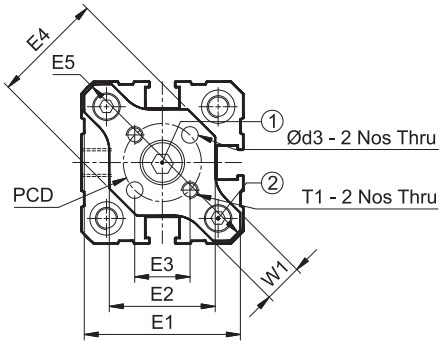
Cat No A03G - 01 - 01 - C

Basic cylinder

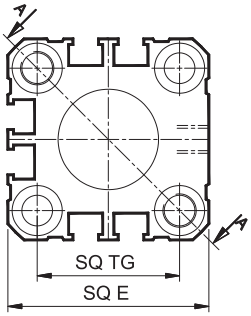
Sizes - Ø12, Ø16

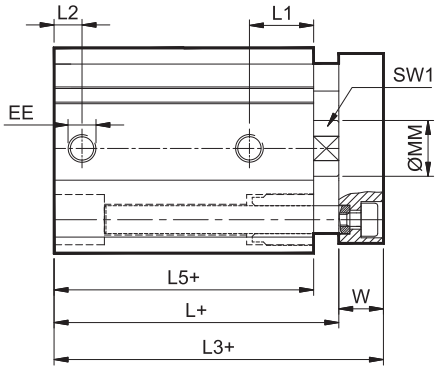


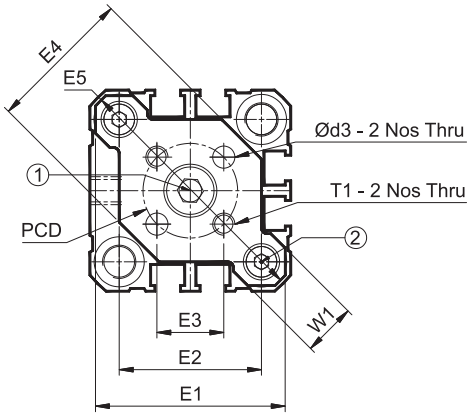




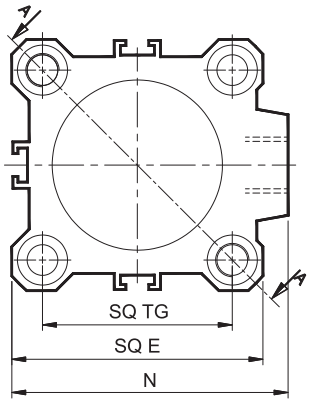
Sizes - Ø20, Ø25

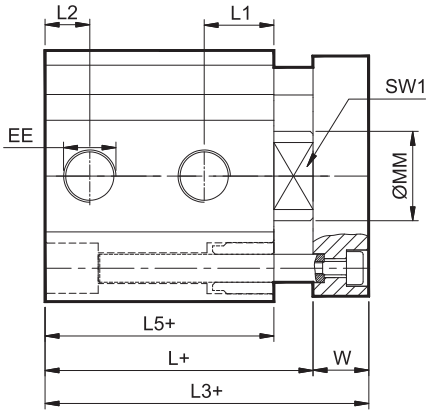


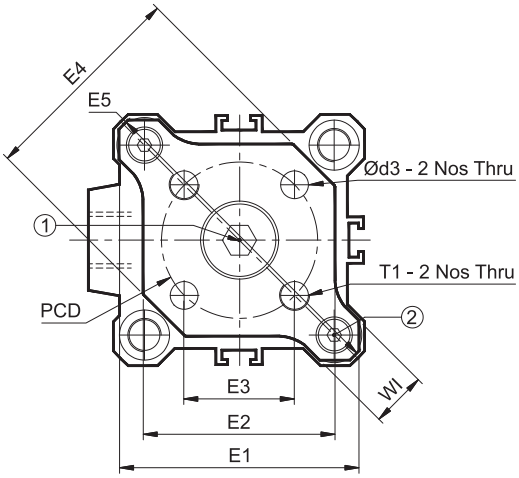




Sizes - Ø32, Ø40, Ø50, Ø63, Ø80, Ø100

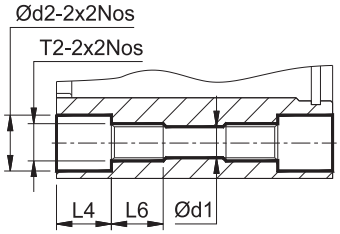
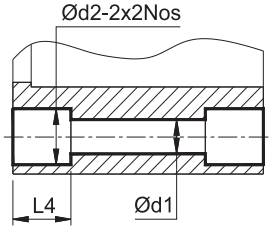
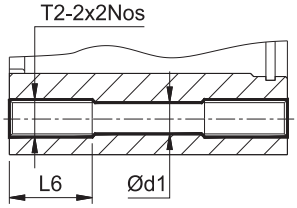






Section AA

+ 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
		

AIR CYLINDER

Series A03G, A03G1, A03G2

Cat No A03G - 01 - 01 - C

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

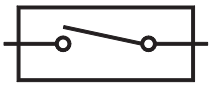
AIR CYLINDER

Series A03G, A03G1, A03G2

Cat No A03G - 01 - 01 - C

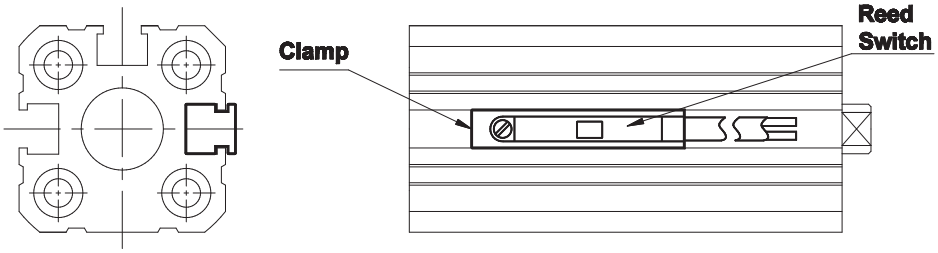
ACCESSORIES FOR MAGNETIC CYLINDERS Series A03

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.

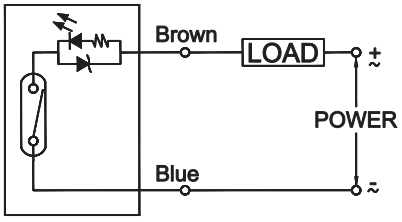


Technical Specifications - Reed Switch

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

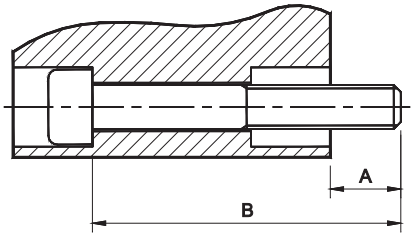
Circuit and connect diagram



AIR CYLINDER

Series A03G, A03G1, A03G2

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)	
012	- Ø 12
016	- Ø 16
020	- Ø 20
025	- Ø 25
032	- Ø 32
040	- Ø 40
050	- Ø 50
063	- Ø 63
080	- Ø 80
100	- Ø 100

Stroke (mm)	
005	- 5
010	- 10
015	- 15
020	- 20
025	- 25
030	- 30
040	- 40
050	- 50
060	- 60
070	- 70
080	- 80

Guide rod mounting type	
G	- Counter bore with thread
G1	- Counter bore with through hole
G2	- Thread

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**

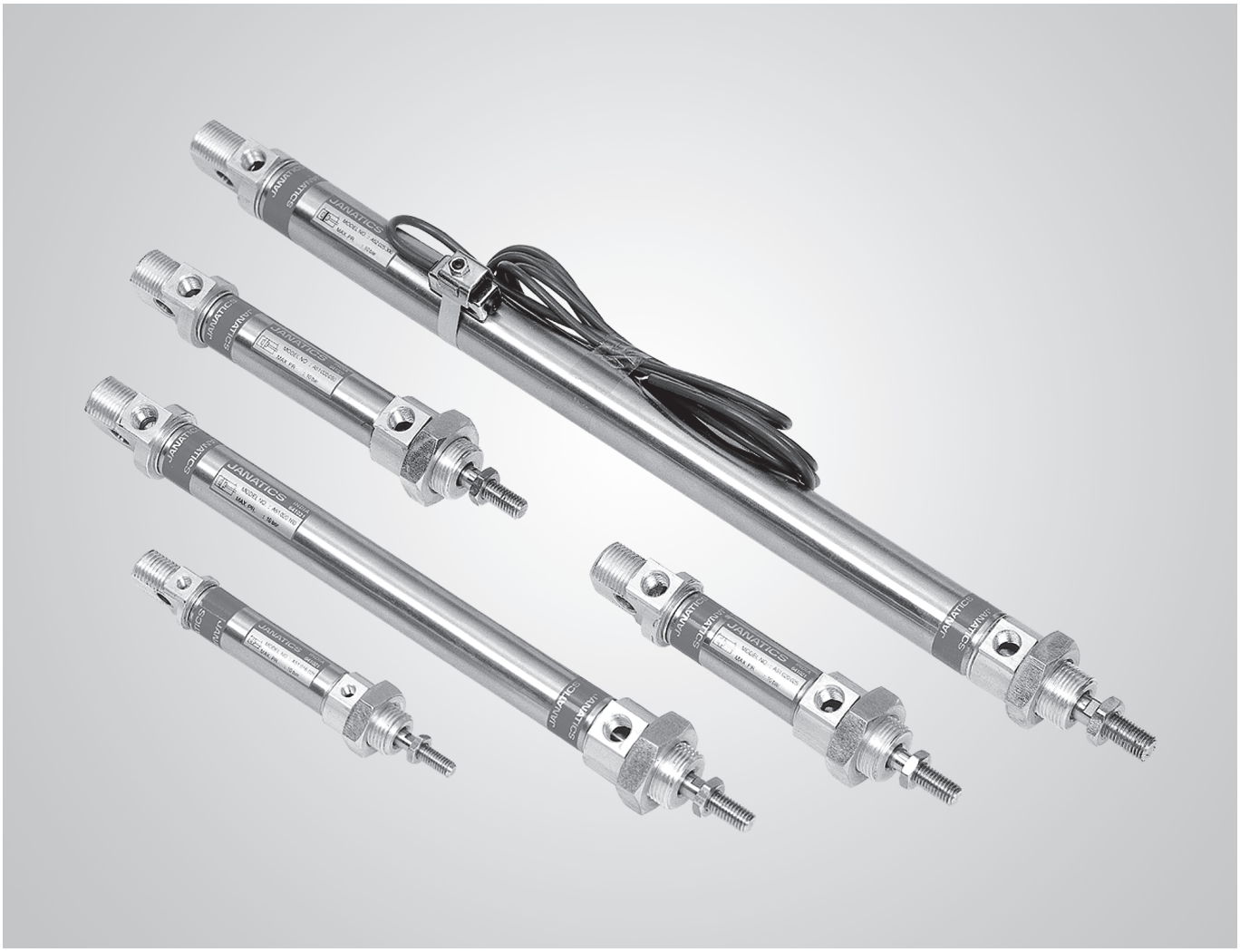
Subject to change

JANATICS
Pneumatic

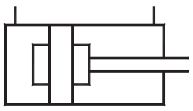
Air Cylinders

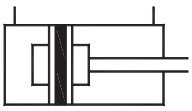
Series A51 - Double Acting cylinder (Non Magnetic)

Series A52 - Double Acting cylinder (Magnetic)



- ❑ Conforms to ISO 6432 / CETOP RP52P standards
- ❑ Double Acting Cylinders
- ❑ Sizes - ø8, ø10, ø12, ø16, ø20, ø25
- ❑ Standard mountings
- ❑ Accessories


A51 - Non-magnetic


A52 - Magnetic

AIR CYLINDER

Series A51, A52

Cat No A51 - 03

AIR CYLINDERS Double Acting (Ø12 - 25 mm)

As per ISO 6432 / CETOP RP52P standards

Features

- ❑ Elastomer cushioning at both ends
- ❑ Wide varieties of mountings
- ❑ Low friction
- ❑ Long life

Technical Specifications

Cylinder bore Ø (mm)	12	16	20	25
Standard strokes * (mm)	10 25 40 50 80 100 125 160 200 250 300			
Medium	Compressed air - filtered - lubricated			
Working pressure	0.5 - 10 bar			
Ambient temperature	-10° to +60° C			
Medium temperature	+5° to +50° C			
Materials of construction	Aluminium, Brass, Nitrile, Polyurethane, Steel, Acetal			
Mountings	Front foot mounting, Double foot mounting, Front flange, Rear flange, Front trunnion, Rear trunnion			
Accessories	Clevis foot bracket, Trunnion bracket, Rod end fork, Rod end aligner			

* For Non standard or longer stroke cylinders, contact your regional dealer or **JANATICS**

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	6	Extend	36	54	72	90	108	126	144	162	180
		Retract	31	46	62	78	94	108	124	140	156
20	8	Extend	56	84	112	140	169	196	224	254	282
		Retract	47	71	95	118	142	166	189	214	237
25	10	Extend	88	132	176	220	264	308	352	396	440
		Retract	74	111	148	185	222	260	296	334	371

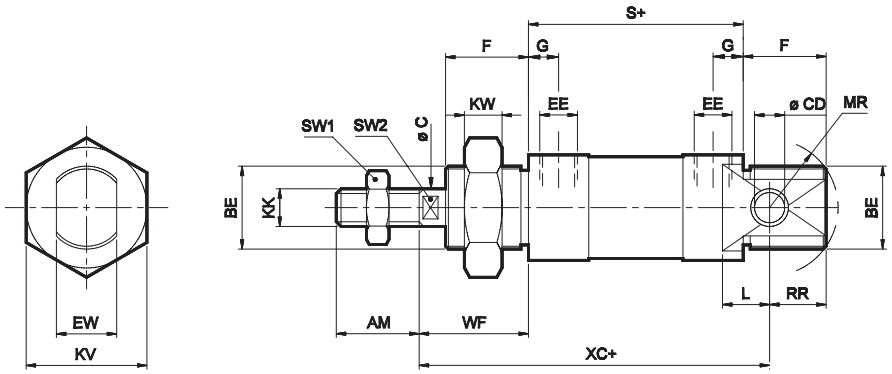
(Above values have been worked out taking frictional loss into consideration)

AIR CYLINDER

Series A51, A52

Cat No A51 - 03

Basic cylinder

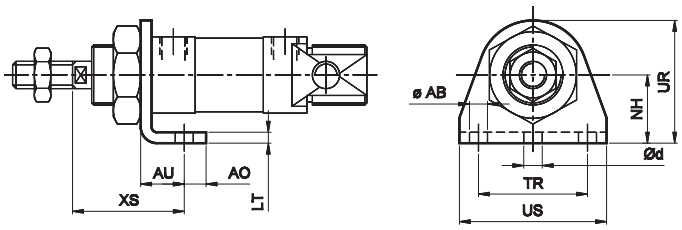


+ Add stroke

Cylinder bore Ø	MR	BE	F	CD H9	RR	L	G	EE	S	KW	C	SW1	SW2	KK	AM	WF ±1.2	XC ±1	EW d13	KV	Stroke tol	
																				10 - 100	Above 100
12	17	M16x1.5	17	6	15	9	6	M5x0.8	$51^{\pm 0.5}$	8	6	10	5	M6x1	16	22	75	12	24		
16	17	M16x1.5	17	6	15	9	6	M5x0.8	$58^{\pm 0.5}$	8	6	10	5	M6x1	16	22	82	12	24	+ 1.5 + 0	+ 2.5 + 0
20	20	M22x1.5	20	8	16	12	8	G1/8	$67^{\pm 0.7}$	10	8	13	7	M8x1.25	20	24	95	16	32		
25	21	M22x1.5	22	8	17	12	8	G1/8	$71^{\pm 0.7}$	10	10	17	9	M10x1.25	22	28	104	16	32		

MOUNTINGS FOR AIR CYLINDER Series A51

Front Foot Mounting

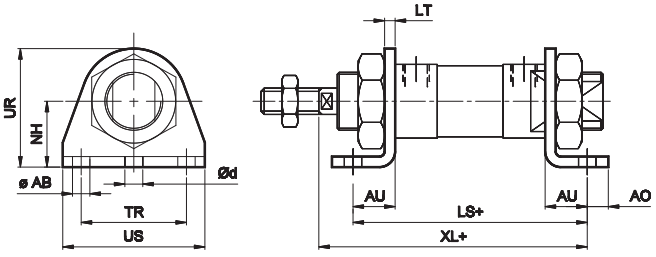


+ Add stroke

Cylinder bore Ø	LT	AU	AO	d*	XS ±1.4	NH ±0.3	TR Js14	US	AB H13	UR	Ordering no.
12	2	12	6	4.8	32	20	32	42	5.5	33	ML016
16	2	12	6	4.8	32	20	32	42	5.5	33	ML016
20	4	16	8	5.8	36	25	40	54	6.6	45	ML022
25	4	16	8	5.8	40	25	40	54	6.6	45	ML022

* Suitable for reaming

Double Foot Mounting



+ Add stroke

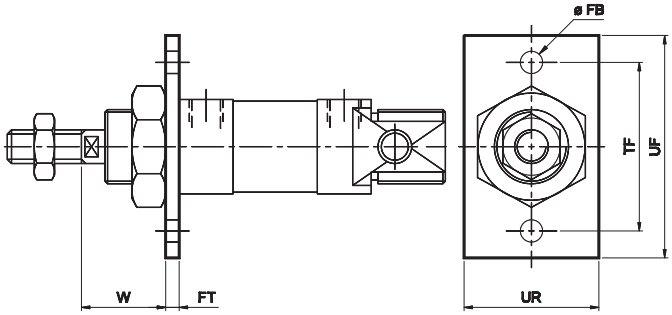
Cylinder bore Ø	UR	AB H13	TR Js14	NH ±0.3	AO	AU	d*	LT	US	LS	XL ±1	Ordering no.
12	33	5.5	32	20	6	12	4.8	2	42	$75^{\pm 0.7}$	85	MS016
16	33	5.5	32	20	6	12	4.8	2	42	$82^{\pm 0.7}$	92	MS016
20	45	6.6	40	25	8	16	5.8	4	54	$99^{\pm 0.9}$	107	MS022
25	45	6.6	40	25	8	16	5.8	4	54	$103^{\pm 0.9}$	115	MS022

* Suitable for reaming

AIR CYLINDER

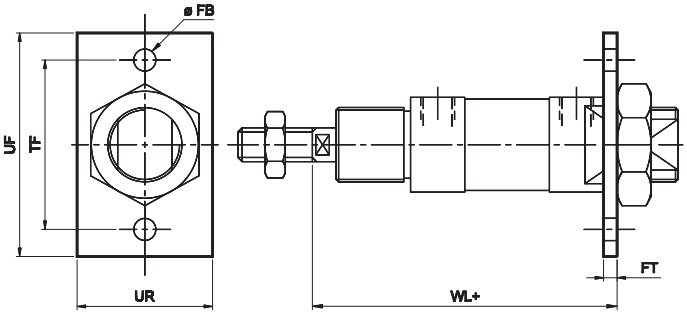
Series A51, A52

Front flange



Cylinder bore Ø	TF Js14	UF	UR	FB H13	FT	W ±1.4	Ordering no.
12	40	50	30	5.5	4	18	MF016
16	40	50	30	5.5	4	18	MF016
20	50	66	40	6.6	5	19	MF022
25	50	66	40	6.6	5	23	MF022

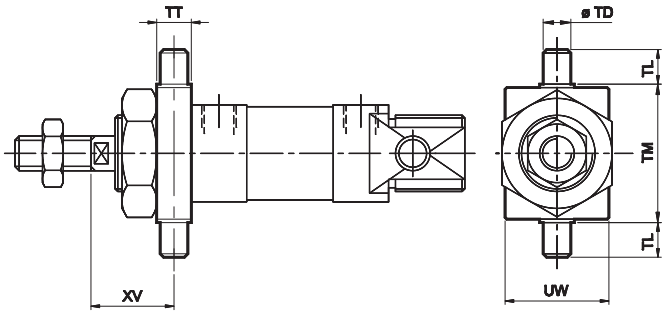
Rear flange



+ Add stroke

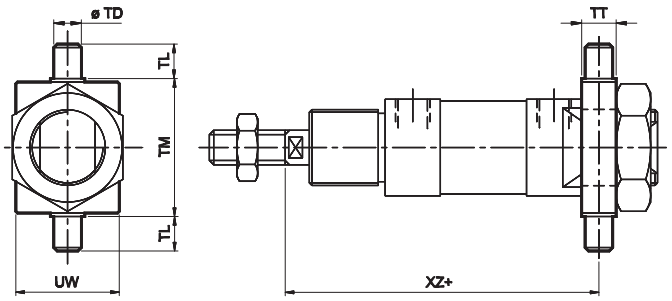
Cylinder bore Ø	TF Js14	UF	UR	FB H13	FT	WL ±1.2	Ordering no.
12	40	50	30	5.5	4	77	MF016
16	40	50	30	5.5	4	84	MF016
20	50	66	40	6.6	5	96	MF022
25	50	66	40	6.6	5	104	MF022

Front trunnion



Cylinder bore Ø	TM h14	UW	TD e9	TT	XV ±1.4	TL h14	Ordering no.
12	30	25	6	8	18	10	MT016
16	30	25	6	8	18	10	MT016
20	40	30	8	10	19	10	MT022
25	40	30	8	10	23	10	MT022

Rear trunnion



For trunnion brackets see " Accessories "

+ Add stroke

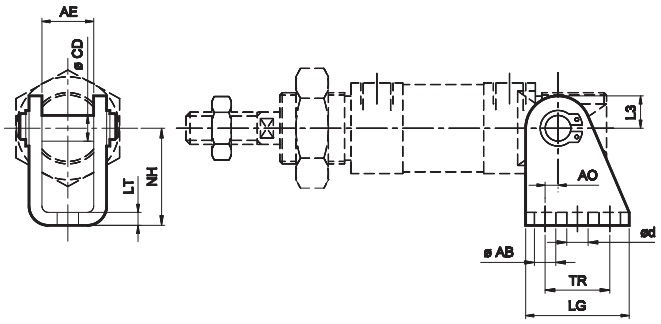
Cylinder bore Ø	TM h14	UW	TD e9	TT	XZ ±1.2	TL h14	Ordering no.
12	30	25	6	8	77	10	MT016
16	30	25	6	8	84	10	MT016
20	40	30	8	10	96	10	MT022
25	40	30	8	10	104	10	MT022

AIR CYLINDER

Series A51, A52

Accessories for Air Cylinder series A51, A52

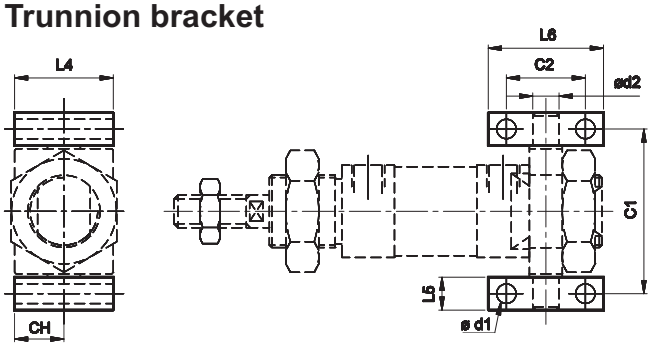
Clevis foot bracket (CETOP - RP 107 P)



Cylinder bore Ø	AE	AB H13	LT	NH	L3	CD e8	d*	TR Js14	LG	AO	Ordering no.
12	12.1	5.5	2	27	7	6	3.8	15	25	2	AA016
16	12.1	5.5	2	27	7	6	3.8	15	25	2	AA016
20	16.1	6.6	4	30	10	8	4.8	20	32	4	AA022
25	16.1	6.6	4	30	10	8	4.8	20	32	4	AA022

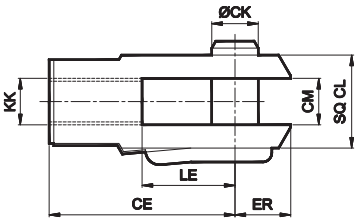
* Suitable for reaming

Trunnion bracket



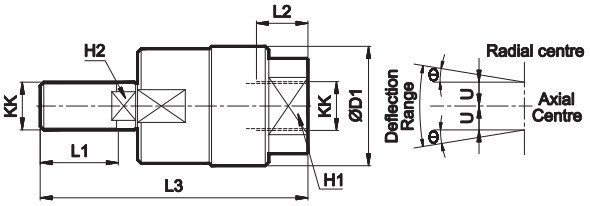
Cylinder bore Ø	C1	C2 Js14	d1 H13	L4	L5	L6	CH	d2 H9	Ordering no.
12	38	20	4.3	25	8	30	16	6	AT016
16	38	20	4.3	25	8	30	16	6	AT016
20	50	24	6.6	30	10	35	20	8	AT022
25	50	24	6.6	30	10	35	20	8	AT022

Rod end Fork (ISO 8140)



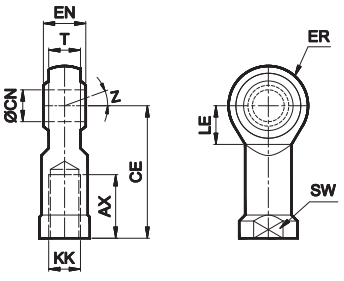
Cylinder bore Ø	KK	LE	CM B12	CE	CK f8	CL	ER	Ordering no.
12	M6X1	12	6	24	6	12	9.5	AF006
16	M6X1	12	6	24	6	12	9.5	AF006
20	M8X1.25	16	8	32	8	16	13	AF008
25	M10X1.25	20	10	40	10	20	16	AF010

Rod end Aligner



Cylinder bore Ø	KK	L1	L2	L3	D1	H1	H2	± θ°	U	Ordering no.
12 / 16	M6X1	12	8	38	18	10	4	5	0.75	AR006
20	M8X1.25	15	10	48	20	12	7	5	0.75	AR008
25	M10X1.25	20	14	65	28	17	8	5	0.75	AR010

Rod end spherical eye



Cylinder bore Ø	KK	CN H9	T	EN h12	CE	LE min	ER max	AX	SW h13	Z	Ordering no.
12 / 16	M6X1	6	6.75	9	30	11	10	12	11	13°	AP006
20	M8X1.25	8	9	12	36	13	12	16	13 /14		AP008
25	M10X1.25	10	10.5	14	43	15	14	20	17		AP010

AIR CYLINDER

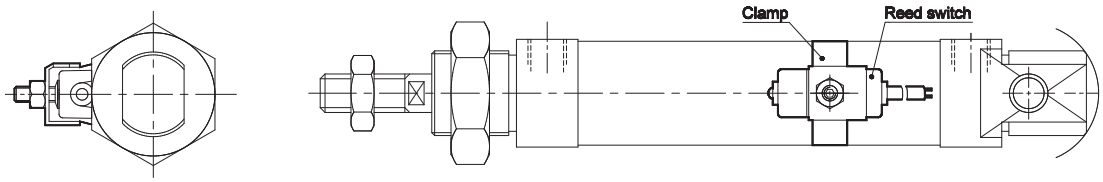
Series A51, A52

ACCESSORIES FOR MAGNETIC CYLINDERS Series A52, A55

REED SWITCH

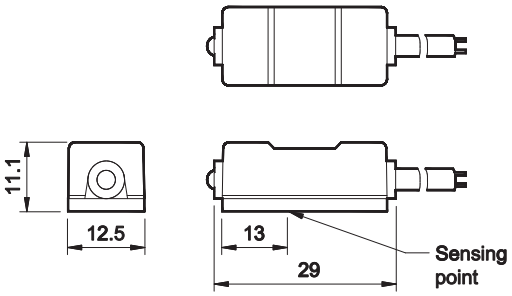
Function

The reed switch and clamping kit assembly is mounted on the Air cylinder (Series A52, A55), 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.

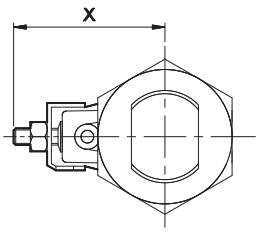


Technical Specifications - Reed Switch

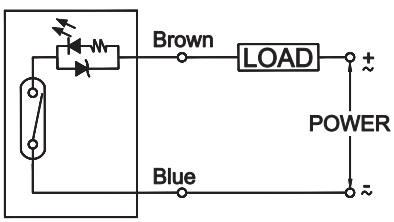
Model	880006
Operating voltage	DC / AC 5 - 240V
Switching current	100mA max
Switch rating	10 W max
Voltage drop	3.5V max.
Response time	On + off <1ms
Switching logic	SPST, Normally open
Operating temperature	-10° to +70° C
Shock	30 G
Vibration	9 G
Protection circuit	None
Type of protection	IEC 529, IP67
Colour of LED	Green
Cable	Ø4, 2C, 2meter



Bore Dia	X	Ordering no. for Clamp (a)	Ordering no. for Reed Switch (b)	Ordering no. (a+b)
12	32	810000	880006	AM1012
16	34	810001		AM1016
20	36	810002		AM1020
25	38	810003		AM1025



Circuit and connect diagram



AIR CYLINDER

Series A51, A52

Cat No A51 - 03

How to order

A | 51 | 016 | 050 | D

Model	
51	Standard cylinder
52	Magnetic cylinder

Bore Ø (mm)	
012	- Ø 12
016	- Ø 16
020	- Ø 20
025	- Ø 25

Stroke (mm)	
010	- 10
025	- 25
040	- 40
050	- 50
080	- 80
100	- 100
125	- 125
160	- 160
200	- 200
250	- 250
300	- 300

Mountings	
O	- Basic
L	- Front Foot Mounting
D	- Double Foot Mounting
F	- Front Flange
R	- Rear Flange
M	- Front Trunnion
N	- Rear Trunnion

Example:

Ordering no. for standard cylinder with 16 dia bore, 50 mm stroke with Double foot mounting : **A51 016 050 D**

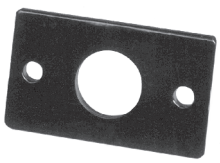
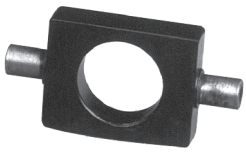
Note:

If ordered as16 dia, 50 mm stroke cylinder, Basic cylinder **A51 016 050 O** will be supplied.

For repeat order when the details are taken from cylinder nameplate, mention the mounting style separately.

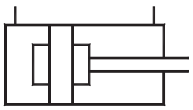
For ordering **Accessories**: mention part numbers in corresponding tables.

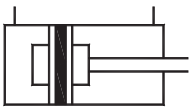
For ordering individual **Mounting** kits (If needed separately): mention the ordering numbers as below

Cylinder bore Ø	Front Foot mounting	Double Foot mounting	Flange (Front or Rear)	Trunnion (Front or Rear)
				
12	ML016	MS016	MF016	MT016
16	ML016	MS016	MF016	MT016
20	ML022	MS022	MF022	MT022
25	ML022	MS022	MF022	MT022

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

Subject to change


A51 - Non-magnetic


A52 - Magnetic

AIR CYLINDER

Series A51, A52

AIR CYLINDERS Double Acting (Ø8 & Ø10 mm)

As per ISO 6432 / CETOP RP52P standards

Features

- ❑ Elastomer cushioning at both ends
- ❑ Wide varieties of mountings
- ❑ Low friction
- ❑ Long life

Technical Specifications

Cylinder bore Ø (mm)	8	10
Standard strokes* (mm)	10 25 40 50 80 100	
Medium	Compressed air - filtered - lubricated	
Working pressure	0.5 to 10 bar	
Ambient temperature	-10° to +60° C	
Medium temperature	+5° to +50° C	
Materials of construction	Aluminium, Brass, Nitrile, Polyurethane, Steel	
Mountings	Front foot mounting, Double foot mounting, Front flange, Rear flange, Front trunnion, Rear trunnion	
Accessories	Clevis foot bracket Rod end fork	

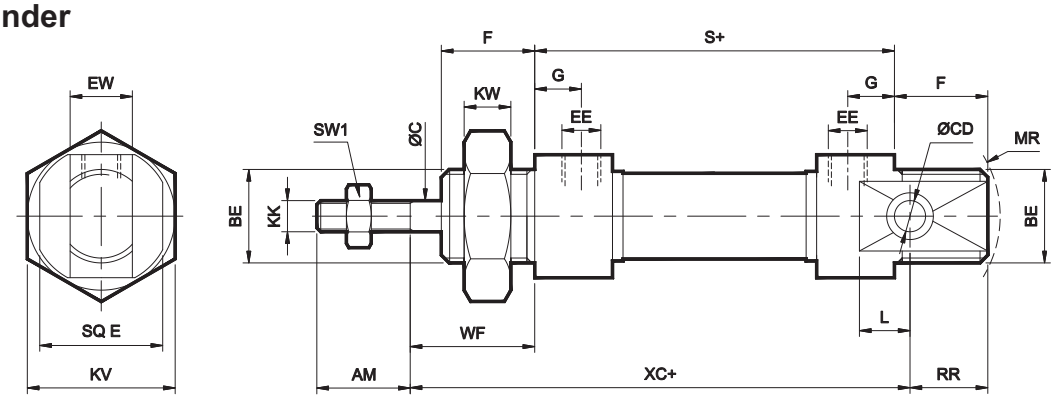
* For Non standard or longer stroke cylinders, contact your regional dealer or **JANATICS**

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
8	4	Extend	9	13	18	22	27	31	36	40	45
		Retract	6	10	13	16	20	23	27	30	33
10	4	Extend	14	21	28	35	42	49	56	63	70
		Retract	11	17	23	29	35	41	47	53	59

(Above values have been worked out taking frictional loss into consideration)

Basic cylinder



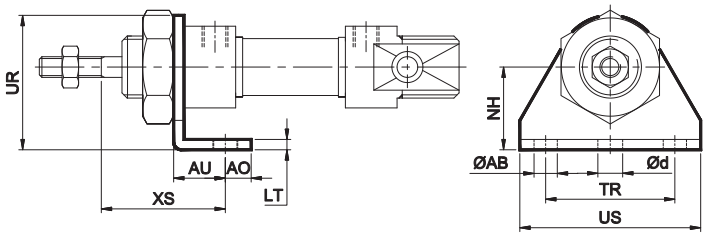
+ Add stroke

Cylinder bore Ø	MR	BE	F	CD H9	RR	L	G	EE	S ±0.5	KW	C	SW1	KK	AM	WF ±1.2	XC ±1	EW d13	KV	SQ E	D	Stroke tol 10 - 100	Stroke tol 125 - 300
8	12	M12 x 1.25	12	4	10	6.5	6	M5 x 0.8	46	6	4	7	M4 x 0.7	12	16	64	8	19	16	9	+ 1.5 + 0	+ 2.5 + 0
10	12	M12 x 1.25	12	4	10	6.5	6	M5 x 0.8	46	6	4	7	M4 x 0.7	12	16	64	8	19	16	11		

AIR CYLINDER
Series A51, A52

MOUNTINGS FOR AIR CYLINDER Series A51, A52

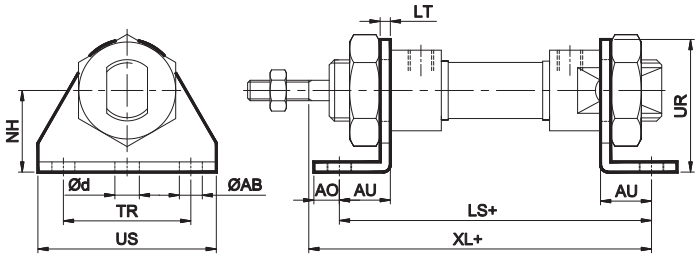
Front Foot Mounting



Cylinder bore Ø	LT	AU	AO	d*	XS ±1.4	NH ±0.3	TR Js14	US	AB H13	UR	Ordering No.
8	2	10	5	3.8	24	16	25	35	4.5	26	ML012
10	2	10	5	3.8	24	16	25	35	4.5	26	ML012

* Suitable for reaming

Double Foot Mounting

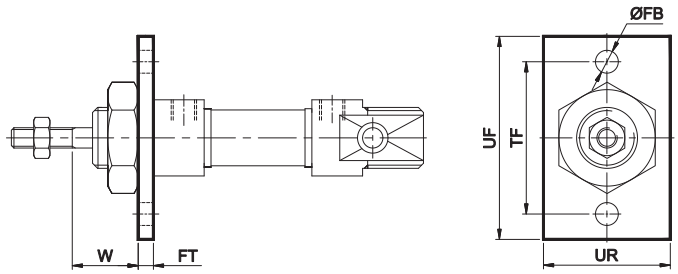


+ Add stroke

Cylinder bore Ø	UR	AB H13	TR Js14	NH ±0.3	AO	AU	d*	LT	US	LS ±0.7	XL ±1.2	Ordering No.
8	26	4.5	25	16	5	10	3.8	2	35	66	72	MS012
10	26	4.5	25	16	5	10	3.8	2	35	66	72	MS012

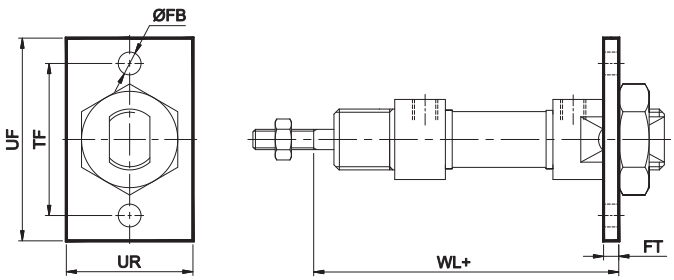
* Suitable for reaming

Front flange



Cylinder bore Ø	TF Js14	UF	UR	FB H13	FT	W ±1.4	Ordering No.
8	30	40	25	4.5	3	13	MF012
10	30	40	25	4.5	3	13	MF012

Rear flange



+ Add stroke

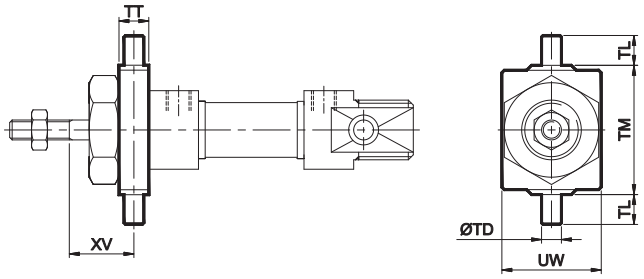
Cylinder bore Ø	TF Js14	UF	UR	FB H13	FT	WL ±1.2	Ordering No.
8	30	40	25	4.5	3	65	MF012
10	30	40	25	4.5	3	65	MF012

AIR CYLINDER

Series A51, A52

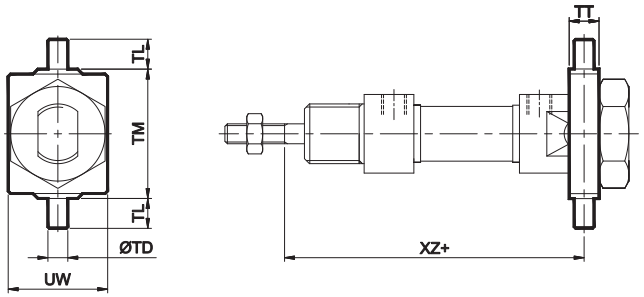
Cat No A51, A52 - 01 - 01

Front trunnion



Cylinder bore Ø	TM h14	UW	TD e9	TT	XV ±1.4	TL h14	Ordering No.
8	26	20	4	6	13	6	MT012
10	26	20	4	6	13	6	MT012

Rear trunnion

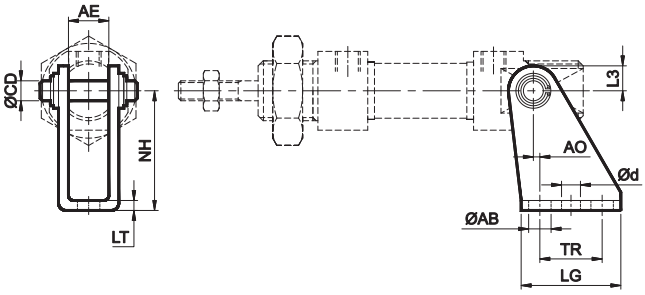


+ Add stroke

Cylinder bore Ø	TM h14	UW	TD e9	TT	XZ ±1.2	TL h14	Ordering No.
8	26	20	4	6	65	6	MT012
10	26	20	4	6	65	6	MT012

ACCESSORIES FOR AIR CYLINDER Series A51, A52

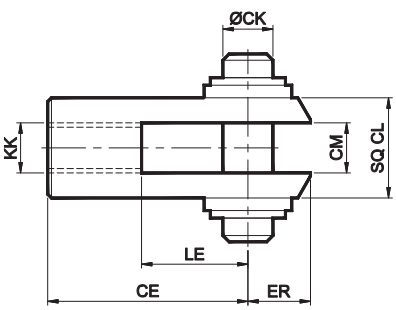
Clevis foot bracket



Cylinder bore Ø	AE	AB H13	LT	NH	L3	CD e8	d*	TR Js14	LG	AO	Ordering no.
8	8.1	4.5	2	24	5	4	3.8	12.5	20	1.3	AA012
10	8.1	4.5	2	24	5	4	3.8	12.5	20	1.3	AA012

* Suitable for reaming

Rod end Fork (ISO 8140)



Cylinder bore Ø	KK	LE min	CM B12	CE	CK e8	CL max	ER	Ordering no.
8	M4 x 0.7	8	4	16	4	8	6.5	AF004
10	M4 x 0.7	8	4	16	4	8	6.5	AF004

AIR CYLINDER

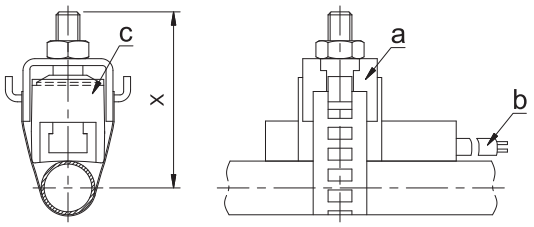
Series A51, A52

ACCESSORIES FOR MAGNETIC CYLINDERS Series A52

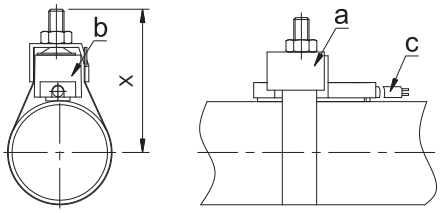
REED SWITCH

Function

The reed switch and clamping kit assembly is mounted on the Air cylinder (Series A52), 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.



For A52008



For A52010

Cylinder bore Ø	Ordering no. for Clamp (a)	Ordering no. for Reed switch Adapter (b)	Ordering no. for Reed switch (c)	Ordering no. for (a+b+c)	X
08	810011	A1M01	*	@	29.5
10	810000	A1M02			

* For Reed switch refer Series AM4 (Page no. 1a.1.1)

How to order @

AM70 — **08** — **0** — **FL-04**

Cylinder bore Ø	
08	- Ø8
10	- Ø10

Switch type	
0	(Reed switch 2 wire type)
1	(Reed switch 3 wire type)
2	(Solid state type, Current sourcing - PNP)
3	(Solid state type, Current sinking - NPN)

End connection	
FL-04	(Flying lead with 2 meter cable length)
QD-02	(Quick disconnector with 300mm cable length)

AIR CYLINDER

Series A51, A52

How to order

A | 51 | 010 | 050 | D

Model	
51	Standard cylinder
52	Magnetic cylinder

Bore Ø (mm)	
008	- Ø8
010	- Ø10

Stroke (mm)	
010	- 10
025	- 25
040	- 40
050	- 50
080	- 80
100	- 100

Mountings	
O	- Basic
L	- Front Foot Mounting
D	- Double Foot Mounting
F	- Front Flange
R	- Rear Flange
M	- Front Trunnion
N	- Rear Trunnion

Example:

Ordering no. for standard cylinder with 10 dia bore, 50 mm stroke with Double foot mounting : **A51 010 050 D**

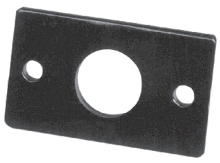
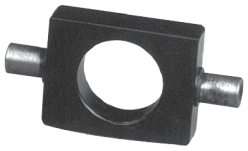
Note:

If ordered as10 dia, 50 mm stroke cylinder, Basic cylinder **A51 010 050 O** will be supplied.

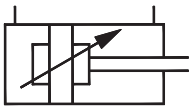
For repeat order when the details are taken from cylinder nameplate, mention the mounting style separately.

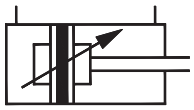
For ordering **Accessories**: mention part numbers in corresponding tables.

For ordering individual **Mounting** kits (If needed separately): mention the ordering numbers as below

Bore dia	Front Foot Mounting	Double Foot Mounting	Flange (Front & Rear)	Trunion (Front & Rear)
				
008	ML012	MS012	MF012	MT012
010	ML012	MS012	MF012	MT012

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


A56 - Non-magnetic


A55 - Magnetic

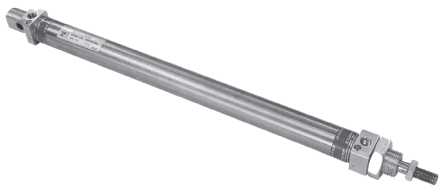
AIR CYLINDER

Series A55, A56

MINIATURE CYLINDERS Double Acting with Cushioning (Ø25 mm)

As per ISO 6432 / CETOP RP52P standards

Features



- ❑ Adjustable cushioning at both ends
- ❑ Wide varieties of mountings
- ❑ Low friction
- ❑ Long life

Technical Specifications

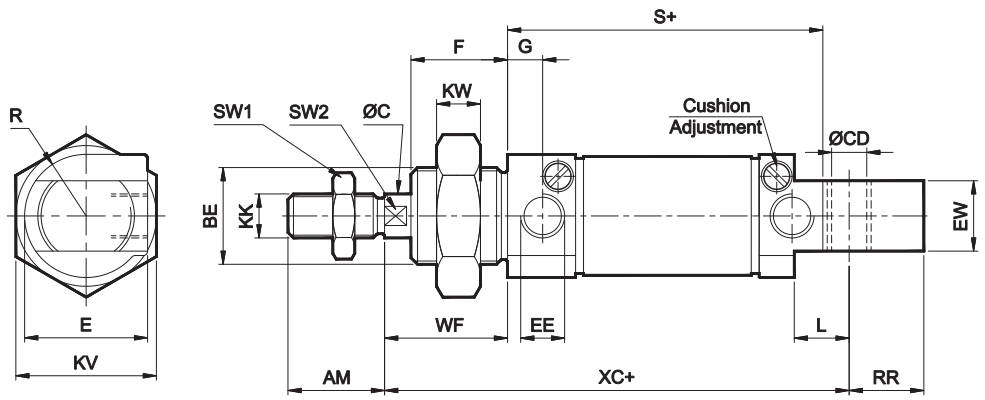
Cylinder bore Ø (mm)	25
Cushion stroke (mm)	13
Standard strokes * (mm)	10 25 40 50 80 100 125 160 200 250 300
Medium	Compressed air - filtered - lubricated
Working pressure	0.5 to 10 bar
Ambient temperature	-10° to +60° C
Medium temperature	+5° to +50° C
Materials of construction	Aluminium, Brass, Nitrile, Polyurethane, Steel, Acetal
Mountings	Front foot mounting, Double foot mounting, Front flange, Rear flange, Front trunnion, Rear trunnion
Accessories	Clevis foot bracket, Trunnion bracket, Rod end fork, Rod end aligner

* For Non standard or longer stroke cylinders, contact your regional dealer or **JANATICS**

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
25	10	Extend	88	132	176	220	264	308	352	396	440
		Retract	74	111	148	185	222	260	296	334	371

(Above values have been worked out taking frictional loss into consideration)

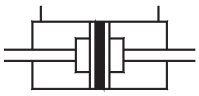


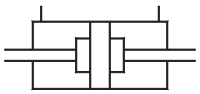
+ Add stroke

Cylinder bore Ø	BE	F	CD H9	RR	L	G	EE	S ±0.7	KW	C	SW1	SW2	KK	E	R	AM	WF ±1.2	XC ±1	EW d13	KV	Stroke tol	
																					10 - 100	Above 100
25	M22 X 1.5	22	8	17	12	8	G1/8	71	10	10	17	9	M10 X 1.25	28	14	22	28	104	16	32	+ 1.5 + 0	+ 2.5 + 0

For details of Mountings, Accessories & How to order refer **Series A51, A52 (Page no. 1.7.1)**

Subject to change


A53 - Magnetic


A54 - Non-magnetic

AIR CYLINDER

Series A53, A54

Cat No A53, A54 - 01 - 01 - B

AIR CYLINDERS Double Acting Double End (Ø12 - 25 mm)

As per ISO 6432 / CETOP RP52P standards

Features

- ❑ Elastomer cushioning at both ends
- ❑ Wide varieties of mountings
- ❑ Low friction
- ❑ Long life

Technical Specifications

Bore dia (mm)	12	16	20	25
Standard strokes * (mm)	10 25 40 50 80 100 125 160 200 250 300			
Medium	Compressed air - filtered - lubricated			
Working pressure	0.5 to 10 bar			
Ambient temperature	-10° to +60° C			
Medium temperature	+5° to +50° C			
Materials of construction	Aluminium, Brass, Nitrile, Polyurethane, Steel, Acetal			
Mountings	Double foot mounting, Flange, Trunnion			
Accessories	Trunnion bracket, Rod end fork, Rod end aligner, Rod end spherical eye			

* For Non standard or longer stroke cylinders, contact your regional dealer or **JANATICS**

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

Bore dia (in mm)	Rod dia (in mm)	Working pressure in bar								
		2	3	4	5	6	7	8	9	10
12	6	15	22	30	38	46	53	61	68	76
16	6	31	46	62	78	94	108	124	140	156
20	8	47	71	95	118	142	166	189	214	237
25	10	74	111	148	185	222	260	296	334	371

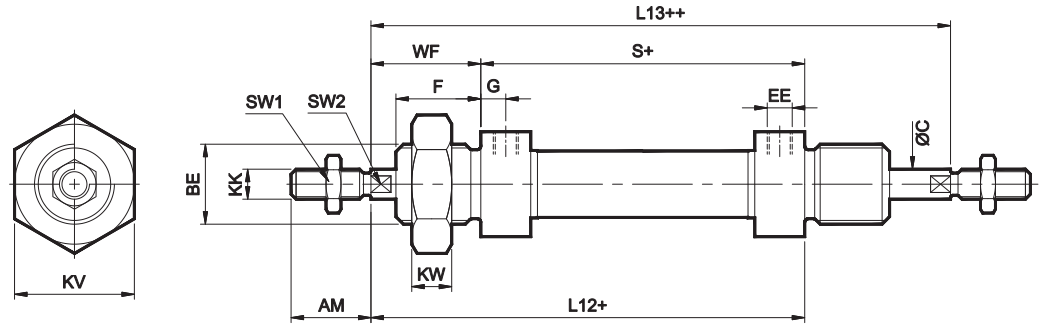
(Above values have been worked out taking frictional loss into consideration)

AIR CYLINDER

Series A53, A54

Cat No A53, A54 - 01 - 01 - B

Basic cylinder

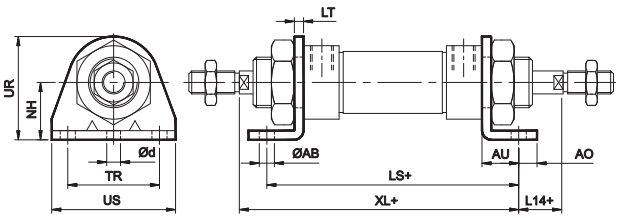


+ Add stroke
++ Add twice stroke

Bore Dia	BE	F	G	EE	S	tol	KW	C	SW1	SW2	KK	AM	WF ±1.2	L12 ±1.5	KV	L13 ±1.5	Stroke tol 10 - 100	Stroke tol 125 - 300
12	M16 X 1.5	17	6	M5 X 0.8	51	± 0.5	8	6	10	5	M6 X 1	16	22	73	24	96	+ 1.5 + 0	+ 2.5 + 0
16	M16 X 1.5	17	6	M5 X 0.8	58	± 0.5	8	6	10	5	M6 X 1	16	22	80	24	103		
20	M22 X 1.5	20	8	G 1/8	67	± 0.7	10	8	13	7	M8 X 1.25	20	24	91	32	116		
25	M22 X 1.5	22	8	G 1/8	71	± 0.7	10	10	17	9	M10 X 1.25	22	28	99	32	128		

MOUNTINGS FOR AIR CYLINDER Series A53, A54

Double Foot Mounting

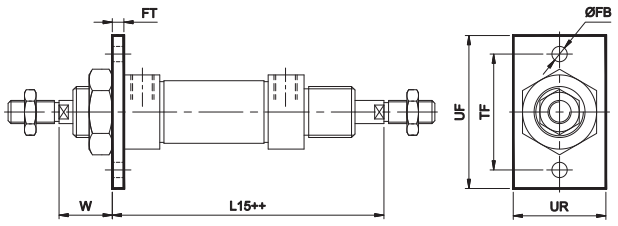


+ Add stroke

Bore Dia	UR	AB H13	TR Js14	NH ±0.3	AO	AU	d*	LT	US	LS	XL ±1	L14 ±1.3	Ordering No
12	33	5.5	32	20	6	12	4.8	2	42	75 $^{\pm 0.7}$	85	11	MS016
16	33	5.5	32	20	6	12	4.8	2	42	82 $^{\pm 0.7}$	92	11	MS016
20	45	6.6	40	25	8	16	5.8	4	54	99 $^{\pm 0.9}$	107	9	MS022
25	45	6.6	40	25	8	16	5.8	4	54	103 $^{\pm 0.9}$	115	13	MS022

* Suitable for reaming

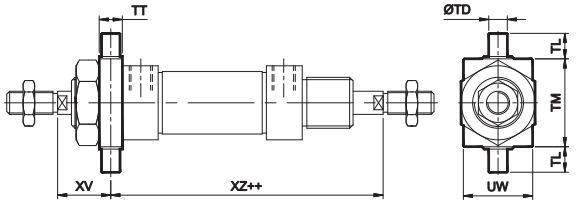
Flange



++ Add twice stroke

Bore dia	TF Js14	UF	UR	FB H13	FT	L15 ±1.2	W ± 1.4	Ordering No
12	40	50	30	5.5	4	78	18	MF016
16	40	50	30	5.5	4	85	18	MF016
20	50	66	40	6.6	5	97	19	MF022
25	50	66	40	6.6	5	105	23	MF022

Trunnion



++ Add twice stroke

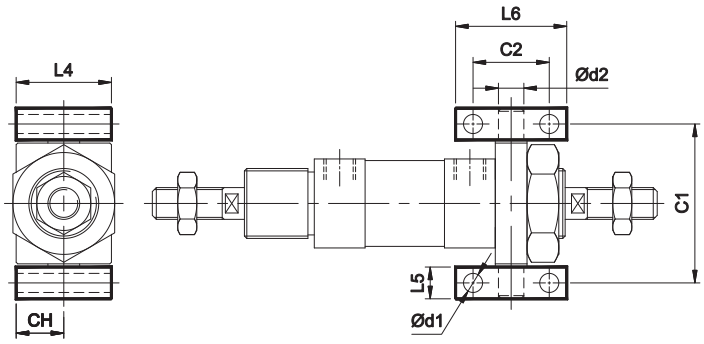
Bore dia	TM h14	UW	TD e9	TT	TL h14	XZ ±1.2	XV ±1.4	Ordering No
12	30	25	6	8	10	78	18	MT016
16	30	25	6	8	10	85	18	MT016
20	40	30	8	10	10	97	19	MT022
25	40	30	8	10	10	105	23	MT022

AIR CYLINDER

Series A53, A54

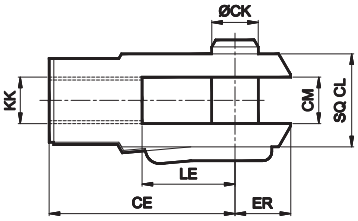
ACCESSORIES FOR AIR CYLINDER Series A53, A54

Trunnion bracket



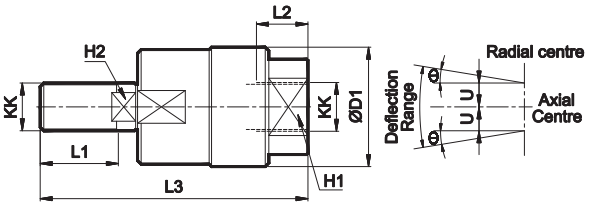
Bore dia	C1	C2 Js14	d1 H13	L4	L5	L6	CH	d2 H9	Ordering no.
12	38	20	4.3	25	8	30	16	6	AT016
16	38	20	4.3	25	8	30	16	6	AT016
20	50	24	6.6	30	10	35	20	8	AT022
25	50	24	6.6	30	10	35	20	8	AT022

Rod end Fork (ISO 8140)



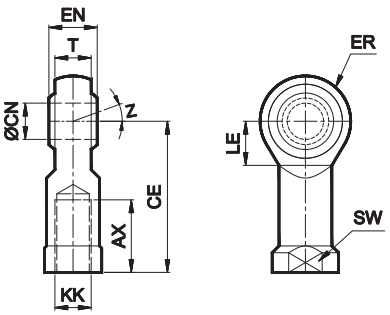
Bore dia	KK	LE	CM B12	CE	CK f8	CL	ER	Ordering no.
12	M6X1	12	6	24	6	12	9.5	AF006
16	M6X1	12	6	24	6	12	9.5	AF006
20	M8X1.25	16	8	32	8	16	13	AF008
25	M10X1.25	20	10	40	10	20	16	AF010

Rod end Aligner



Bore dia	KK	L1	L2	L3	D1	H1	H2	± θ°	U	Ordering no.
12 / 16	M6X1	12	8	38	18	10	4	5	0.75	AR006
20	M8X1.25	15	10	48	20	12	7	5	0.75	AR008
25	M10X1.25	20	14	65	28	17	8	5	0.75	AR010

Rod end spherical eye



Bore dia	KK	CN H9	T	EN h12	CE	LE min	ER max	AX	SW h13	Z	Ordering no.
12 / 16	M6X1	6	6.75	9	30	11	10	12	11	13°	AP006
20	M8X1.25	8	9	12	36	13	12	16	13 /14		AP008
25	M10X1.25	10	10.5	14	43	15	14	20	17		AP010

AIR CYLINDER

Series A53, A54

How to order

A | 54 | 016 | 050 | D

Model	
53	Magnetic cylinder
54	Standard cylinder

Bore Ø (mm)	
012	- Ø 12
016	- Ø 16
020	- Ø 20
025	- Ø 25

Stroke (mm)	
010	- 10
025	- 25
040	- 40
050	- 50
080	- 80
100	- 100
125	- 125
160	- 160
200	- 200
250	- 250
300	- 300

Mountings	
O	- Basic
D	- Double Foot Mounting
F	- Flange
M	- Trunnion

For details of accessories for magnetic cylinders refer Product Catalogue **Series A51, A52 (Page no. 1.7.5)**

Example:

Ordering no. for standard cylinder with 16 dia bore, 50 mm stroke with Double foot mounting : **A54 016 050 D**

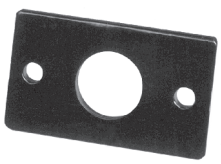
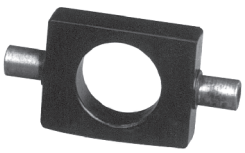
Note:

If ordered as16 dia, 50 mm stroke cylinder, Basic cylinder **A54 016 050 O** will be supplied.

For repeat order when the details are taken from cylinder nameplate, mention the mounting style separately.

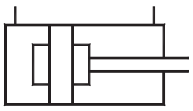
For ordering **Accessories**: mention part numbers in corresponding tables.

For ordering individual **Mounting** kits (If needed separately): mention the ordering numbers as below

Cylinder bore Ø	Double Foot mounting	Flange (Front or Rear)	Trunnion (Front or Rear)
			
12	MS016	MF016	MT016
16	MS016	MF016	MT016
20	MS022	MF022	MT022
25	MS022	MF022	MT022

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

JANATICS
Pneumatic



A50 - Non-magnetic

AIR CYLINDER

Series A50

Cat No A50 - 01 - 01 - A

LOW FRICTION CYLINDERS Double Acting (Ø25mm)

As per ISO 6432 / CETOP RP52P standards

Features

- ❑ The special seal reduce the wear
- ❑ Lower Response Pressure
- ❑ Low friction
- ❑ Long life
- ❑ Wide varieties of mountings

Technical Specifications

Cylinder bore Ø (mm)	25
Standard strokes * (mm)	10 25 40 50 80 100 125 160 200 250 300
Medium	Compressed air - filtered - lubricated
Working pressure	0.3 to 10 bar
Ambient temperature	-10° to +60° C
Medium temperature	+5° to +50° C
Materials of construction	Aluminium, Brass, Steel, Viton, Nylon
Mountings	Front foot mounting, Double foot mounting, Front flange, Rear flange, Front trunnion, Rear trunnion
Accessories	Clevis foot bracket, Trunnion bracket, Rod end fork, Rod end aligner

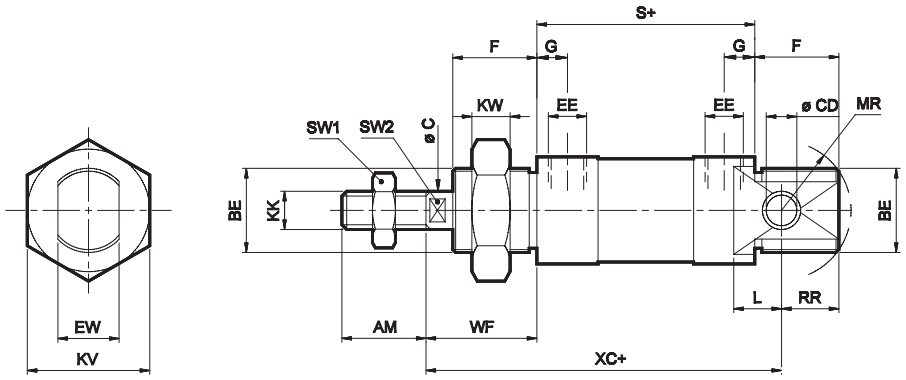
* For Non standard or longer stroke cylinders, contact your regional dealer or **JANATICS**

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
25	10	Extend	88	132	176	220	264	308	352	396	440
		Retract	74	111	148	185	222	260	296	334	371

(Above values have been worked out taking frictional loss into consideration)

Basic cylinder



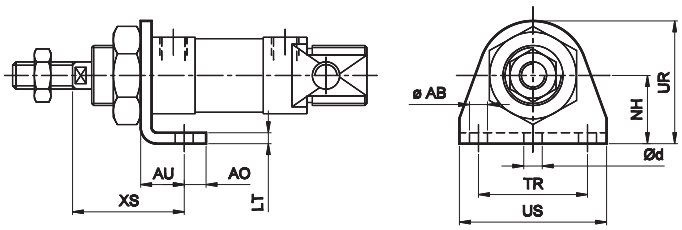
+ Add stroke

Cylinder bore Ø	MR	BE	F	CD H9	RR	L	G	EE	S	KW	C	SW1	SW2	KK	AM	WF ±1.2	XC ±1	EW d13	KV	Stroke tol	
																				10 - 100	Above 100
25	21	M22x1.5	22	8	17	12	8	G1/8	$71^{\pm 0.7}$	10	10	17	9	M10x1.25	22	28	104	16	32	+ 1.5 + 0	+ 2.5 + 0

AIR CYLINDER
Series A50

MOUNTINGS FOR AIR CYLINDER Series A50

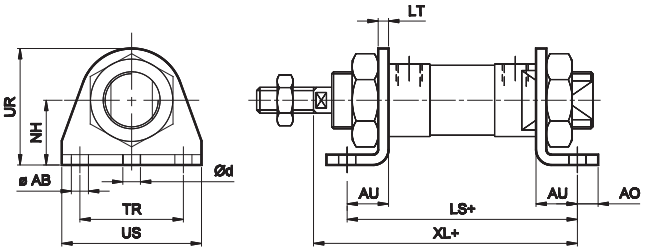
Front Foot Mounting



Cylinder bore Ø	LT	AU	AO	d*	XS ±1.4	NH ±0.3	TR Js14	US	AB H13	UR	Ordering no.
25	4	16	8	5.8	40	25	40	54	6.6	45	ML022

* Suitable for reaming

Double Foot Mounting

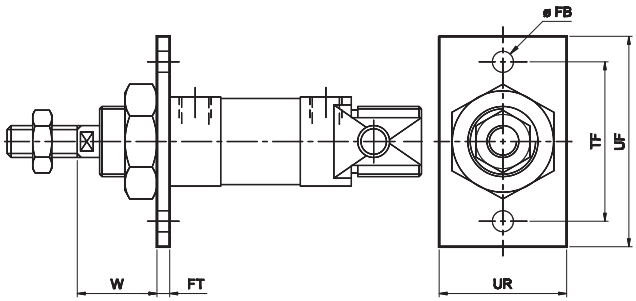


+ Add stroke

Cylinder bore Ø	UR	AB H13	TR Js14	NH ±0.3	AO	AU	d*	LT	US	LS	XL ±1	Ordering no.
25	45	6.6	40	25	8	16	5.8	4	54	103 $^{\pm 0.9}$	115	MS022

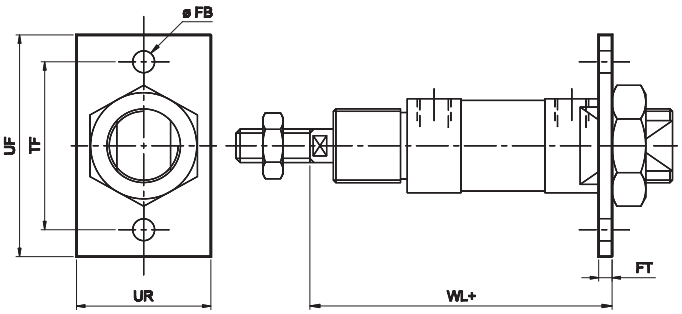
* Suitable for reaming

Front flange



Cylinder bore Ø	TF Js14	UF	UR	FB H13	FT	W ±1.4	Ordering no.
25	50	66	40	6.6	5	23	MF022

Rear flange



+ Add stroke

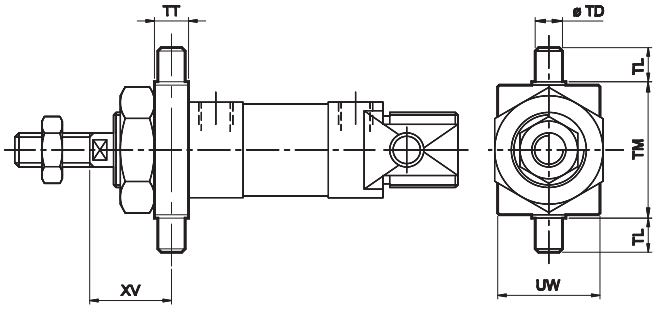
Cylinder bore Ø	TF Js14	UF	UR	FB H13	FT	WL ±1.2	Ordering no.
25	50	66	40	6.6	5	104	MF022

AIR CYLINDER

Series A50

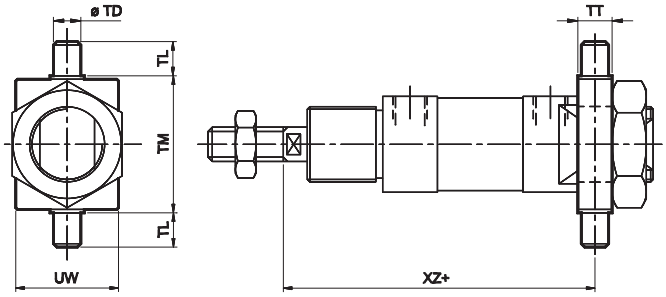
Cat No A50 - 01 - 01 - A

Front trunnion



Cylinder bore Ø	TM h14	UW	TD e9	TT	XV ±1.4	TL h14	Ordering no.
25	40	30	8	10	23	10	MT022

Rear trunnion



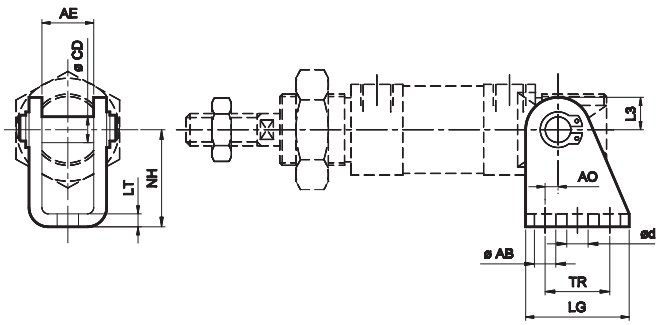
+ Add stroke

Cylinder bore Ø	TM h14	UW	TD e9	TT	XZ ±1.2	TL h14	Ordering no.
25	40	30	8	10	104	10	MT022

For trunnion brackets see " Accessories "

ACCESSORIES FOR AIR CYLINDER Series A50

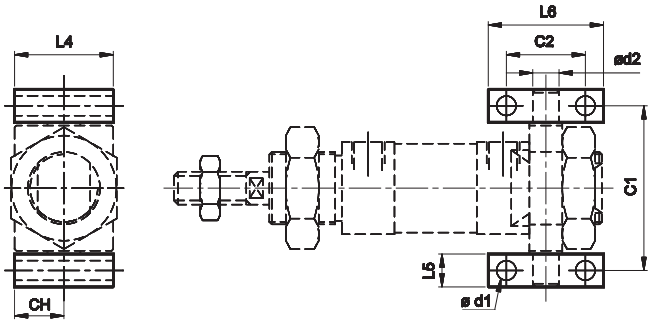
Clevis foot bracket (CETOP - RP 107 P)



Cylinder bore Ø	AE	AB H13	LT	NH	L3	CD e8	d*	TR Js14	LG	AO	Ordering no.
25	16.1	6.6	4	30	10	8	4.8	20	32	4	AA022

* Suitable for reaming

Trunnion bracket



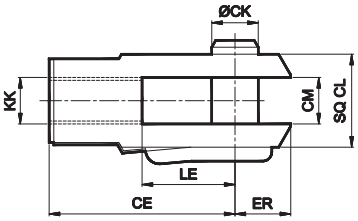
Cylinder bore Ø	C1	C2 Js14	d1 H13	L4	L5	L6	CH	d2 H9	Ordering no.
25	50	24	6.6	30	10	35	20	8	AT022

AIR CYLINDER

Series A50

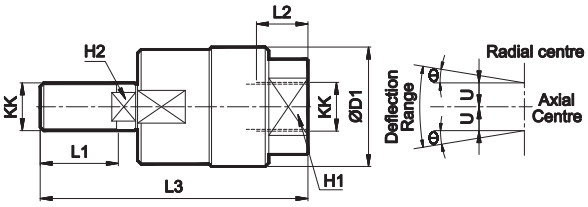
Cat No A50 - 01 - 01 - A

Rod end Fork (ISO 8140)



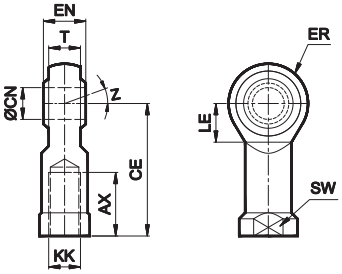
Cylinder bore Ø	KK	LE	CM B12	CE	CK f8	CL	ER	Ordering no.
25	M10X1.25	20	10	40	10	20	16	AF010

Rod end Aligner



Cylinder bore Ø	KK	L1	L2	L3	D1	H1	H2	± θ°	U	Ordering no.
25	M10X1.25	20	14	65	28	17	8	5	0.75	AR010

Rod end spherical eye



Cylinder bore Ø	KK	CN H9	T	EN h12	CE	LE min	ER max	AX	SW h13	Z	Ordering no.
25	M10X1.25	10	10.5	14	43	15	14	20	17	13°	AP010

AIR CYLINDER

Series A50

Cat No A50 - 01 - 01 - A

How to order

A **50** **025** **050** **D**

Model	
50	Standard cylinder

Bore Ø (mm)	
025	- Ø 25

Stroke (mm)	
010	- 10
025	- 25
040	- 40
050	- 50
080	- 80
100	- 100
125	- 125
160	- 160
200	- 200
250	- 250
300	- 300

Mountings	
O	- Basic
L	- Front Foot Mounting
D	- Double Foot Mounting
F	- Front Flange
R	- Rear Flange
M	- Front Trunnion
N	- Rear Trunnion

Example:

Ordering no. for standard cylinder with 25 dia bore, 50 mm stroke with Double foot mounting : **A50 025 050 D**

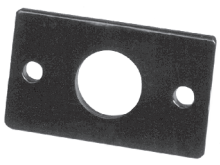
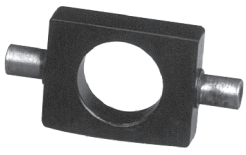
Note:

If ordered as 25 dia, 50 mm stroke cylinder, Basic cylinder **A50 025 050 O** will be supplied.

For repeat order when the details are taken from cylinder nameplate, mention the mounting style separately.

For ordering **Accessories**: mention part numbers in corresponding tables.

For ordering individual **Mounting** kits (If needed separately): mention the ordering numbers as below

Cylinder bore Ø	Front Foot mounting	Double Foot mounting	Flange (Front or Rear)	Trunnion (Front or Rear)
				
25	ML022	MS022	MF022	MT022

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

Subject to change


A76 - Non-magnetic


A75 - Magnetic

AIR CYLINDER

Series A75, A76

Cat No A75, A76 - 01 - 01

Round Cylinders - Ø32, 40, 50 and 63 mm

Double Acting with Adjustable Cushioning

Features

- ❑ Available in magnetic and Non magnetic version
- ❑ Adjustable cushioning at both ends
- ❑ Threaded end cover - hence direct mounting on the machine is possible
- ❑ Miniature type - compact in size
- ❑ Piston rod made of Non corrosive stainless steel piston rod (SS303)

Applications

❑ Suitable for Packing and Packaging machines, ❑ Printing machines, ❑ Machine tools / SPMs, ❑ Food industries, ❑ Medical equipments, ❑ Textile machines, ❑ Leak testing equipment, ❑ Air gauging equipment and many more...

Technical Specifications

Bore dia	(mm)	32	40	50	63
Cushion stroke	(mm)	12	15	15	15
Standard strokes *	(mm)	25 40 50 80 100 125 160 200 250 300 320 400 500			
Medium		Compressed air - filtered - lubricated			
Working pressure		0.5 - 10 bar			
Ambient temperature		-10° to +60° C			
Medium temperature		+5° to +50° C			
Materials of construction		Cylinder barrel, Piston rod - SS, Aluminium, Brass, Nitrile, Polyurethane, Steel, Acetal,			
Mountings		Front foot mounting, Double foot mounting, Front trunnion, Rear trunnion			
Accessories		Clevis foot bracket (Rear end cover side), Clevis foot bracket (Suitable for Front and Rear side), Rod end fork, Rod end aligner, Rod end spherical eye,			

* For Non standard or longer stroke cylinders, contact your regional dealer or **JANATICS**

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
32	12	Extend	145	217	289	362	434	507	579	651	724
		Retract	124	187	249	311	373	435	498	559	622
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	707	883	1060	1237	1413	1590	1767
		Retract	297	445	594	742	891	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

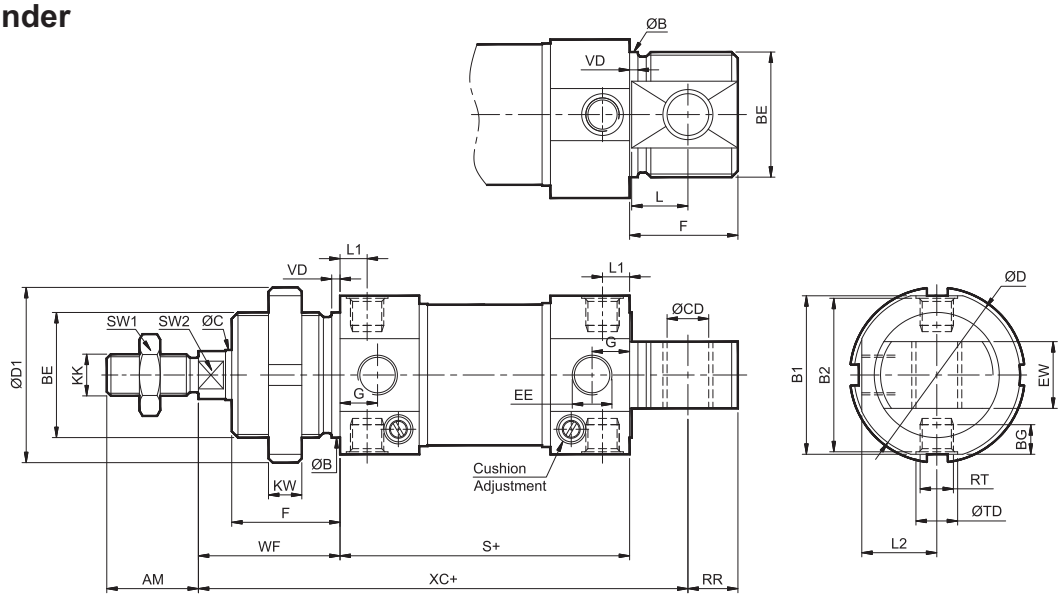
(Above values have been worked out taking frictional loss into consideration)

AIR CYLINDER

Series A75, A76

Cat No A75, A76 - 01 - 01

Basic cylinder



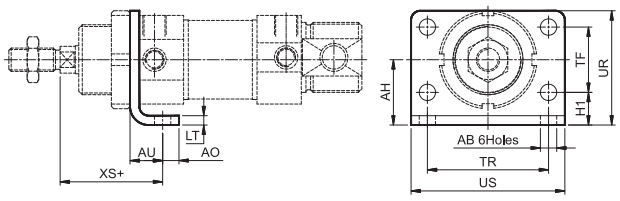
+ Add stroke

Cylinder bore Ø	BE	F	ØCD E10	L	RR	G	EE	L1	VD	L2	BG	TD H10	B h9	D1	C	D	S	Tol	XC	Tol
32	M30x1.5	26	10	13	12	9	G1/8	6.5	2	18	6.5	10	30	42	12	40	69.5	±1	117.5	±1
40	M38x1.5	30	12	15	14	12	G1/4	10	3	22.5	8	12	38	50	16	49	84.5		139.5	
50	M45x1.5	33	16	16	16	12	G1/4	9	3	27.5	10	14	45	60	20	59	86		147	
63	M45x1.5	33	16	16	16	13	G3/8	9.5	3	35	15	16	45	60	20	73	94		156.2	

Cylinder bore Ø	WF	Tol	KW	EW d13	B1	B2	SW1	SW2	KK	AM	RT	Stroke Tol
32	34	±1.3	8	16	38	36.8	17	10	M10x1.25	22	M8x1	+ 2 0
40	39		10	18	46	44.8	19	13	M12x1.25	24	M10x1	
50	44		10	21	57	55.8	24	17	M16x1.5	32	M12x1.5	
63	45	±1.5	10	21	70	67	24	17	M16x1.5	32	M14x1.5	+ 2.5 0

MOUNTINGS FOR AIR CYLINDER Series A75, A76

Front Foot Mounting

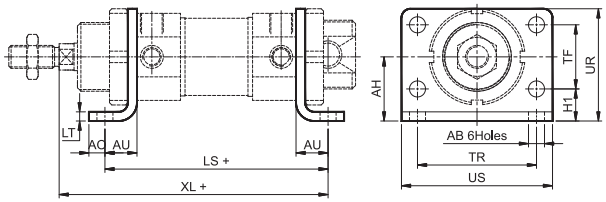


+ Add stroke

Cylinder bore Ø	UR ±0.5	AB H13	TR ±0.2	AH	Tol	AO	AU	LT	US	TF	H1	XS	Tol	Ordering No
32	49	7	52	28	±0.3	7	14	4	66	28	14	44	±1.6	ML4032
40	58	9	60	33		10	20	5	80	30	18	54		ML4040
50	70	9	70	40		10	20	6	90	40	20	58		ML4050
63	80	9	76	45		10	20	6	96	50	20	59	±1.8	ML4063

* Suitable for reaming

Double Foot Mounting



+ Add stroke

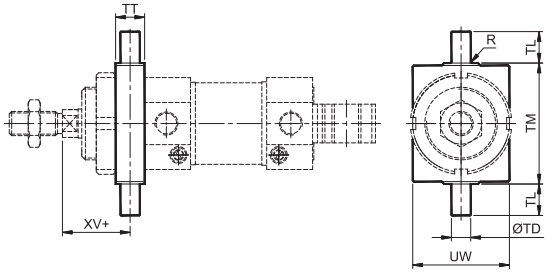
Cylinder bore Ø	UR ±0.5	AB H13	TR ±0.2	AH	Tol	AO	AU	LT	US	LS ±1.4	XL ±1.5	TF	H1	Ordering No
32	49	7	52	28	±0.3	7	14	4	66	97.5	117.5	28	14	MS4032
40	58	9	60	33		10	20	5	80	124.5	143.5	30	18	MS4040
50	70	9	70	40		10	20	6	90	126	150	40	20	MS4050
63	80	9	76	45		10	20	6	96	134	159	50	20	MS4063

* Suitable for reaming

AIR CYLINDER
Series A75, A76

Cat No A75, A76 - 01 - 01

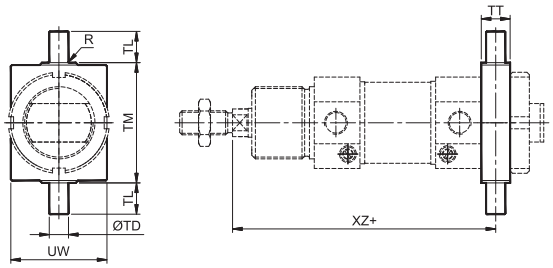
Front trunnion



+ Add stroke

Cylinder bore Ø	TD f8	TL h14	TM h14	UW	TT	R	XV	Tol	Ordering No
32	8	13	50	$40^{-0.5}$	12	0.5	28		MT030
40	10	16	60	50	15	0.5	31.5	±1.5	MT038
50	12	18	80	65	20	1	34		MT045
63	12	18	80	65	20	1	35	±1.8	MT045

Rear trunnion

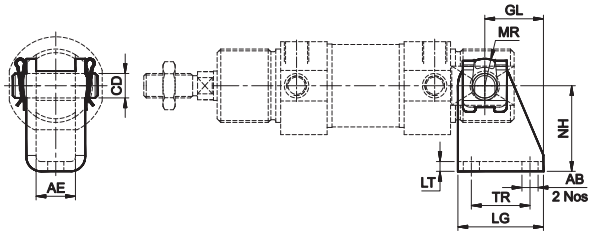


+ Add stroke

Cylinder bore Ø	TD f8	TL h14	TM h14	UW	TT	XZ ±1.5	R	Ordering No
32	8	13	50	$40^{-0.5}$	12	109.5	0.5	MT030
40	10	16	60	50	15	131	0.5	MT038
50	12	18	80	65	20	140	1	MT045
63	12	18	80	65	20	149	1	MT045

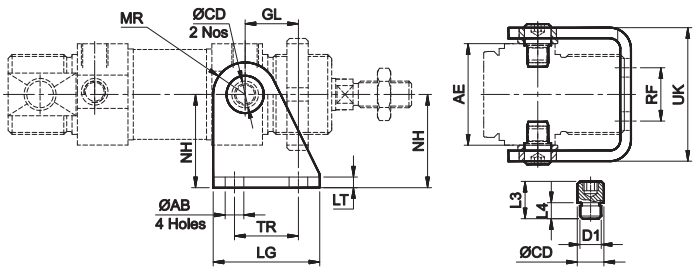
ACCESSORIES FOR AIR CYLINDER Series A75, A76

Clevis foot bracket (Suitable for Rear End Cover side)



Cylinder bore Ø	AE H13	AB H13	LT	NH	Tol	MR	ØCD e8	TR	Tol	GL	LG	Ordering no.
32	16.1	6.6	4	35	+0.4 -0.2	11	10	24		18.5	35	AA030
40	18.1	9	5	40		13	12	30	±0.2	24.5	45	AA038
50 & 63	21.1	9	6	45	+0.5 -0.2	14	16	34		28	50	AA045

Clevis foot bracket (Suitable for Front & Rear End Cover sides)

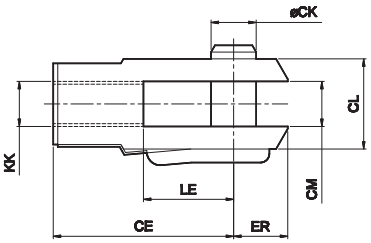


Cylinder bore Ø	ØCD H8/f8	AE	D1	NH	GL	LT	ØAB H14	L3	L4	Tol	MR	RF	Tol	TR	UK	LG	Ordering no.
32	10	38.1	M8x1	35	20	4	7	14	6		12	20		24	50.1	40	AD032
40	12	46.1	M10x1	40	27	4	9	17	7.5	±0.1	13	28	±0.2	30	60.1	50	AD040
50	14	57.1	M12x1.5	45	30	6	9	20.5	9.5		14	36		34	74..1	54	AD050
63	16	70.4	M14x1.5	50	34	6	9	26.5	13.5		15	42		35	88.1	65	AD063

AIR CYLINDER

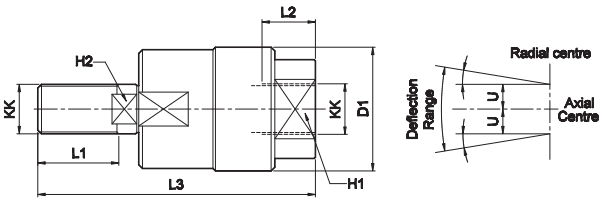
Series A75, A76

Rod end Fork (ISO 8140)



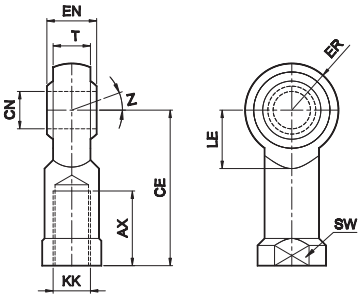
Cylinder bore Ø	KK	CE	CK f 8	CM B12	LE	ER max	CL	Ordering no.
32	M10 x 1.25	40	10	10	20	16	20	AF010
40	M12 x 1.25	48	12	12	24	19	24	AF012
50 / 63	M16 x 1.5	64	16	16	32	25	32	AF016

Rod end Aligner



Cylinder bore Ø	KK	L1	L2	L3	H1	H2	D1	U	± θ°	Ordering no.
32	M10 x 1.25	20	14	65	17	8	28	0.75	5	AR010
40	M12 x 1.25	22	18	75	19	10	32	1	5	AR012
50 / 63	M16 x 1.5	25	22	91	27	13	41	1	5	AR016

Rod end spherical eye (ISO 8139)



Cylinder bore Ø	KK	CN H9	T	EN h12	CE	LE min	ER max	AX	SW	Z	Ordering no.
32	M10 x 1.25	10	10.5	14	43	15	14	20	17	13°	AP010
40	M12 x 1.25	12	12	16	50	17	16	22	19		AP012
50 / 63	M16 x 1.5	16	15	21	64	22	21	28	22	15°	AP016

AIR CYLINDER

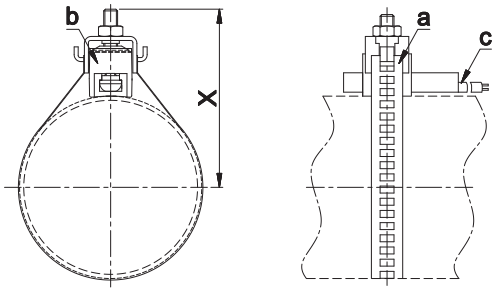
Series A75, A76

ACCESSORIES FOR MAGNETIC CYLINDERS Series A75

REED SWITCH

Function

The reed switch and clamping kit assembly is mounted on the Air cylinder (Series A75), 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.



Cylinder bore Ø	Ordering no. for Clamp (a)	Ordering no. for Reed switch Adapter (b)	Ordering no. for Reed switch (c)	Ordering no. for (a+b+c)	X
32	810013	A1M01	*	@	42
40	810014				47
50	810016				51
63	810017				58

* For Reed switch refer **Series AM4 (Page no. 1a.1.1)**

How to order @

AM70 — **32** — **0** — **FL-04**

Cylinder bore Ø	
32	- Ø32
40	- Ø40
50	- Ø50
63	- Ø63

Switch type	
0	(Reed switch 2 wire type)
1	(Reed switch 3 wire type)
2	(Solid state type, Current sourcing - PNP)
3	(Solid state type, Current sinking - NPN)

End connection	
FL-04	(Flying lead with 2 meter cable length)
QD-02	(Quick disconnector with 300mm cable length)

AIR CYLINDER

Series A75, A76

Cat No A75, A76 - 01 - 01

How to order

A **76** **032** **100** **D**

Model	
76	Standard cylinder
75	Magnetic cylinder

Bore Ø (mm)	
032	- Ø 32
040	- Ø 40
050	- Ø 50
063	- Ø 63

Stroke (mm)	
025	- 25
040	- 40
050	- 50
080	- 80
100	- 100
125	- 125
160	- 160
200	- 200
250	- 250
300	- 300
320	- 320
400	- 400
500	- 500

Mountings	
L	- Front foot mounting
D	- Double foot mounting
M	- Front trunnion
N	- Rear trunnion

Example:

Ordering no. for standard cylinder with 32 dia bore, 100 mm stroke with Basic : **A76 032 100**

Ordering no. for standard cylinder with 32 dia bore, 100 mm stroke with Double foot mounting : **A76 032 100 D**

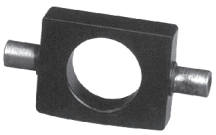
Note:

If ordered as 32 dia, 100 mm stroke cylinder, Basic cylinder **A76 032 100** will be supplied.

For repeat order when the details are taken from cylinder nameplate, mention the mounting style separately.

For ordering **Accessories**: mention part numbers in corresponding tables.

For ordering individual **Mounting** kits (If needed separately): mention the ordering numbers as below

Cylinder bore Ø	Front Foot mounting	Double Foot mounting	Trunnion (Front or Rear)
			
32	ML4032	MS4032	MT030
40	ML4040	MS4040	MT038
50	ML4050	MS4050	MT045
63	ML4063	MS4063	MT045

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

Subject to change

COMPACT GUIDED CYLINDER

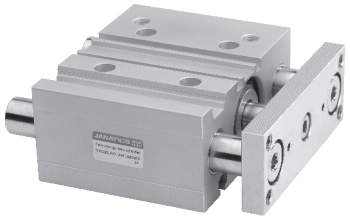
Series A91SL

Cat No A91SL - 01 - 01 - B

COMPACT GUIDED CYLINDER (Bushing type) - Ø12, 16, 20, 25, 32, 40, 50, 63mm

Features

- ❑ For ease of loading & unloading workpiece at restriction
- ❑ Compact cylinders with strong clamping force, Ø12 to 63mm
- ❑ Improved mounting accuracy. Guide bush and positioning pin hole ensure high-precision mounting
- ❑ Body machined from extruded aluminium that mounts directly to equipment for rigid, secure mounting in small space
- ❑ Compact equipment design is possible. Suited for electronic parts inspection clamps. Ideal for use in small mounting space
- ❑ Optional : High temperature (FKM seals) 150°C max. (only applicable for high temperature series)



Technical Specifications

Series		A91SL							
Bearing type		Bushing							
Cylinder bore Ø	(mm)	12	16	20	25	32	40	50	63
Standard stroke *	(mm)	10, 20, 30, 40, 50, 75, 100		20, 30, 40, 50, 75, 100, 125, 150, 175, 200		25, 50, 75, 100, 125, 150, 175, 200			
Working pressure	(bar)	1.2 to 10		1 to 10					
Medium		Compressed air - Filtered - Non-lubricated (without moisture)							
Ambient temperature	°C	-10 to +60 (Standard); -10 to +150 (only applicable for high temperature series)							
Medium temperature	°C	+5 to +50 (Standard); +5 to +150 (only applicable for high temperature series)							
Materials of construction		Aluminium, Brass, Steel, Gunmetal, Polyurethane, Nitrile (Regular), FKM (High temperature)							
Cushion		Rubber bumper on both ends							
Stroke length tolerance	(mm)	+1.5 0							

* For Non standard or longer stroke cylinders, contact your regional dealer or **JANATICS**

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

Bore dia (mm)	Rod size (mm)	Operating direction	Piston area (mm^2)	Operating pressure in bar								
				2	3	4	5	6	7	8	9	10
12	6	OUT	113	23	34	45	57	68	79	90	102	113
		IN	85	17	26	34	43	51	60	68	77	85
16	8	OUT	201	40	60	80	101	121	141	161	181	201
		IN	151	30	45	60	76	91	106	121	136	151
20	10	OUT	314	63	94	126	157	188	220	251	283	314
		IN	236	47	71	94	118	142	165	189	212	236
25	12	OUT	491	98	147	196	246	295	344	393	442	491
		IN	378	76	113	151	189	227	265	302	340	378
32	16	OUT	804	161	241	322	402	482	563	643	724	804
		IN	603	121	181	241	302	362	422	482	543	603
40	16	OUT	1257	251	377	503	629	754	880	1006	1131	1257
		IN	1056	211	317	422	528	634	739	845	950	1056
50	20	OUT	1963	393	589	785	982	1178	1374	1570	1767	1963
		IN	1649	330	495	660	825	990	1154	1319	1484	1649
63	20	OUT	3117	623	935	1247	1559	1870	2182	2494	2805	3117
		IN	2803	561	841	1121	1402	1682	1962	2242	2523	2803

(Above values have been worked out taking frictional loss into consideration)

COMPACT GUIDED CYLINDER

Series A91SL

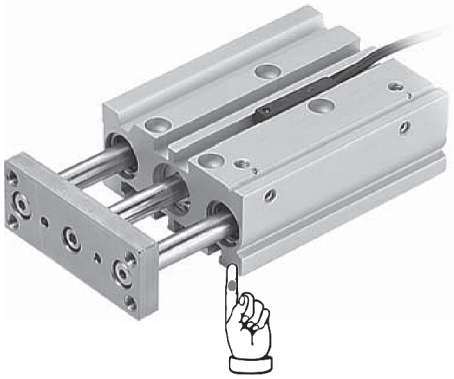
Weight Table - Bushing Type

Unit : (kg)

Bore dia (mm)	Model	Stroke (mm)											
		10	20	25	30	40	50	75	100	125	150	175	200
12	A91SL	0.24	0.28	-	0.31	0.35	0.39	0.50	0.59	-	-	-	-
16	A91SL	0.33	0.38	-	0.43	0.48	0.53	0.68	0.80	-	-	-	-
20	A91SL	-	0.67	-	0.75	0.83	0.91	1.17	1.37	1.57	1.76	1.96	2.16
25	A91SL	-	0.95	-	1.05	1.16	1.27	1.65	1.92	2.19	2.47	2.74	3.01
32	A91SL	-	-	1.69	-	-	2.07	2.47	2.85	3.24	3.62	4.00	4.38
40	A91SL	-	-	1.95	-	-	2.37	2.83	3.25	3.68	4.10	4.53	4.95
50	A91SL	-	-	3.36	-	-	4.00	4.73	5.37	6.01	6.65	7.29	7.93
63	A91SL	-	-	4.18	-	-	4.94	5.78	6.54	7.29	8.05	8.80	9.56

CAUTION NOTES

Be sure to read before handling



Precautions

1. Never place your hands or fingers between the plate and the body

Be very careful to prevent your hands or fingers from getting caught in the gap between the cylinder body and the plate when the air is applied.

Caution

1. Do not scratch or gouge the sliding portion of the piston rod and the guide rod

Damaged seals, etc., will result in leakage or malfunction.

2. Bottom of cylinder

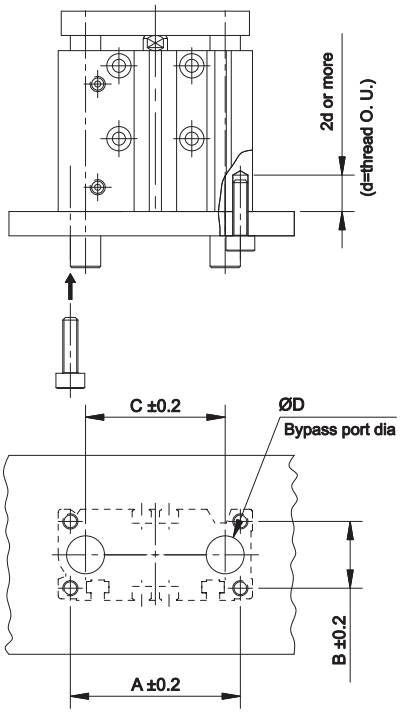
The guide rods may protrude from the bottom of the cylinder at the end of the retracting stroke. Therefore, wherever the cylinder is to be bottom mounted, it is necessary to provide bypass ports in the mounting surface for the guide rods, as well as holes for the hexagon socket head screws, which are used for mounting. Moreover, in applications where impact occurs from a stopper, etc., the mounting bolts should be inserted to a depth of 2d or more (1.5d or more for standard).

COMPACT GUIDED CYLINDER

Series A91SL

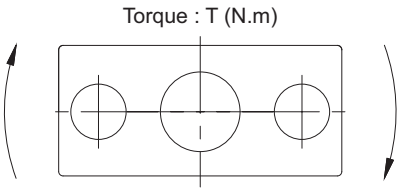
Standard Type

Bore dia (mm)	A	B	C	D	Hex. socket head cap screw
12	50	18	41	10	M4x0.7
16	56	22	46	12	M5x0.8
20	72	24	54	14	M5x0.8
25	82	30	64	18	M6x1.0
32	98	34	78	22	M8x1.25
40	106	40	86	22	M8x1.25
50	130	46	110	27	M10x1.5
63	142	58	124	27	M10x1.5



Operating Condition

Allowable Rotational Torque of Plate

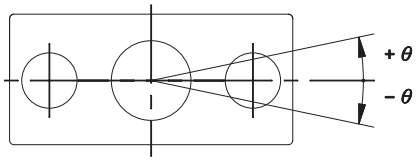


T (N.m)

Bore dia (mm)	Stroke (mm)											
	10	20	25	30	40	50	75	100	125	150	175	200
12	0.39	0.32	-	0.27	0.24	0.21	0.43	0.36	-	-	-	-
	0.61	0.45	-	0.35	0.58	0.50	0.37	0.29	-	-	-	-
16	0.69	0.58	-	0.49	0.43	0.38	0.69	0.58	-	-	-	-
	0.99	0.74	-	0.59	0.99	0.86	0.65	0.52	-	-	-	-
20	-	1.05	-	0.93	0.83	0.75	1.88	1.63	1.44	1.28	1.16	1.06
	-	1.26	-	1.03	2.17	1.94	1.52	1.25	1.34	1.17	1.03	0.93
25	-	1.76	-	1.55	1.38	1.25	2.96	2.57	2.26	2.02	1.83	1.67
	-	2.11	-	1.75	3.37	3.02	2.38	1.97	2.05	1.78	1.58	1.41
32	-	-	6.35	-	-	5.13	5.69	4.97	4.42	3.98	3.61	3.31
	-	-	5.95	-	-	4.89	5.11	4.51	6.34	5.79	5.33	4.93
40	-	-	7.00	-	-	5.66	6.27	5.48	4.87	4.38	3.98	3.65
	-	-	6.55	-	-	5.39	5.62	4.96	6.98	6.38	5.87	5.43
50	-	-	13.0	-	-	10.8	12.0	10.6	9.50	8.60	7.86	7.24
	-	-	9.17	-	-	7.62	9.83	8.74	11.6	10.7	9.83	9.12
63	-	-	14.7	-	-	12.1	13.5	11.9	10.7	9.69	8.86	8.16
	-	-	10.2	-	-	8.48	11.0	9.74	13.0	11.9	11.0	10.2

1 N.m = 10.2 kgf.cm

Non-Rotating Accuracy of Plate



Bore dia (mm)	Non-rotating accuracy θ
12	±0.08°
16	
20	±0.07°
25	

Bore dia (mm)	Non-rotating accuracy θ
32	±0.06°
40	
50	±0.05°
63	

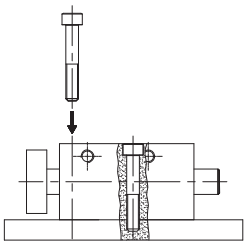
COMPACT GUIDED CYLINDER

Series A91SL

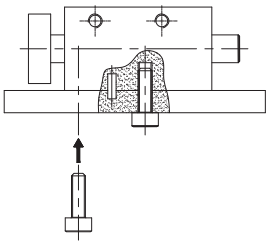
Cat No A91SL - 01 - 01 - B

Four Mounting Style

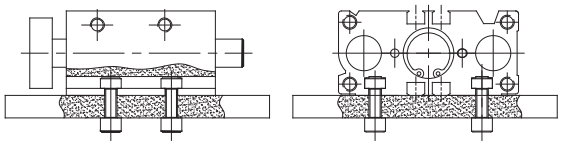
1. Top Mounting



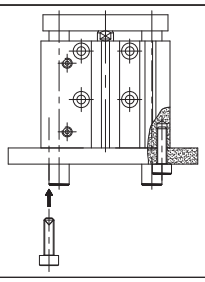
2. Side Mounting



3. T-slot Mounting



4. Bottom Mounting



Easy positioning

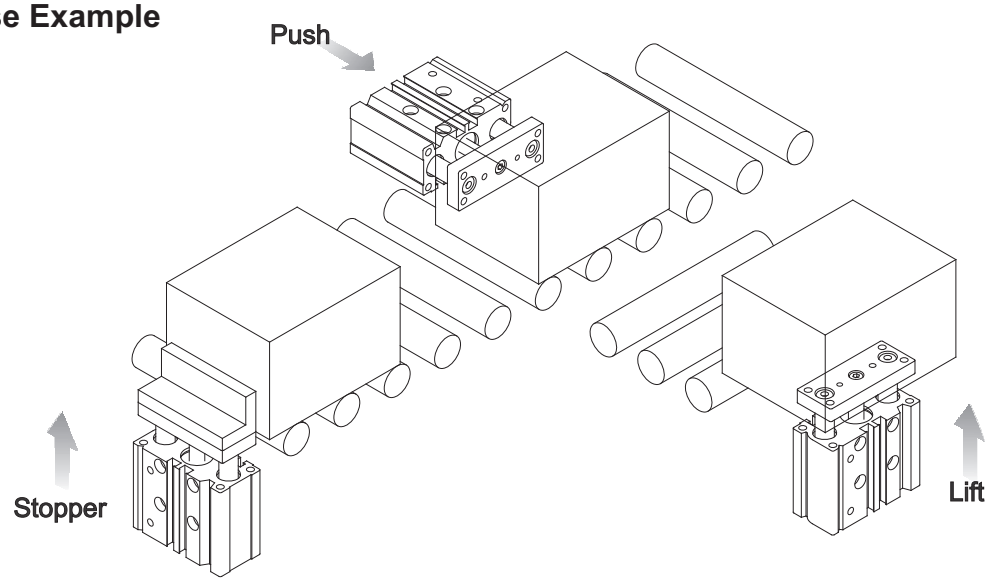
Knock pin holes provided on each mounting surface.

Stroke corresponding list - stroke variations

Bearing type	Bore dia (mm)	Stroke (mm)											
		10	20	25	30	40	50	75	100	125	150	175	200
A91SL Bushing	12	●	●	○	●	●	●	●	●				
	16	●	●	○	●	●	●	●	●				
	20		●	○	●	●	●	●	●	●	●	●	●
	25		●	○	●	●	●	●	●	●	●	●	●
	32			●	○	○	●	●	●	●	●	●	●
	40			●	○	○	●	●	●	●	●	●	●
	50			●	○	○	●	●	●	●	●	●	●
	63			●	○	○	●	●	●	●	●	●	●

(●) Standard stroke. (○) It's available, but please contact with us for detailed dimensions.

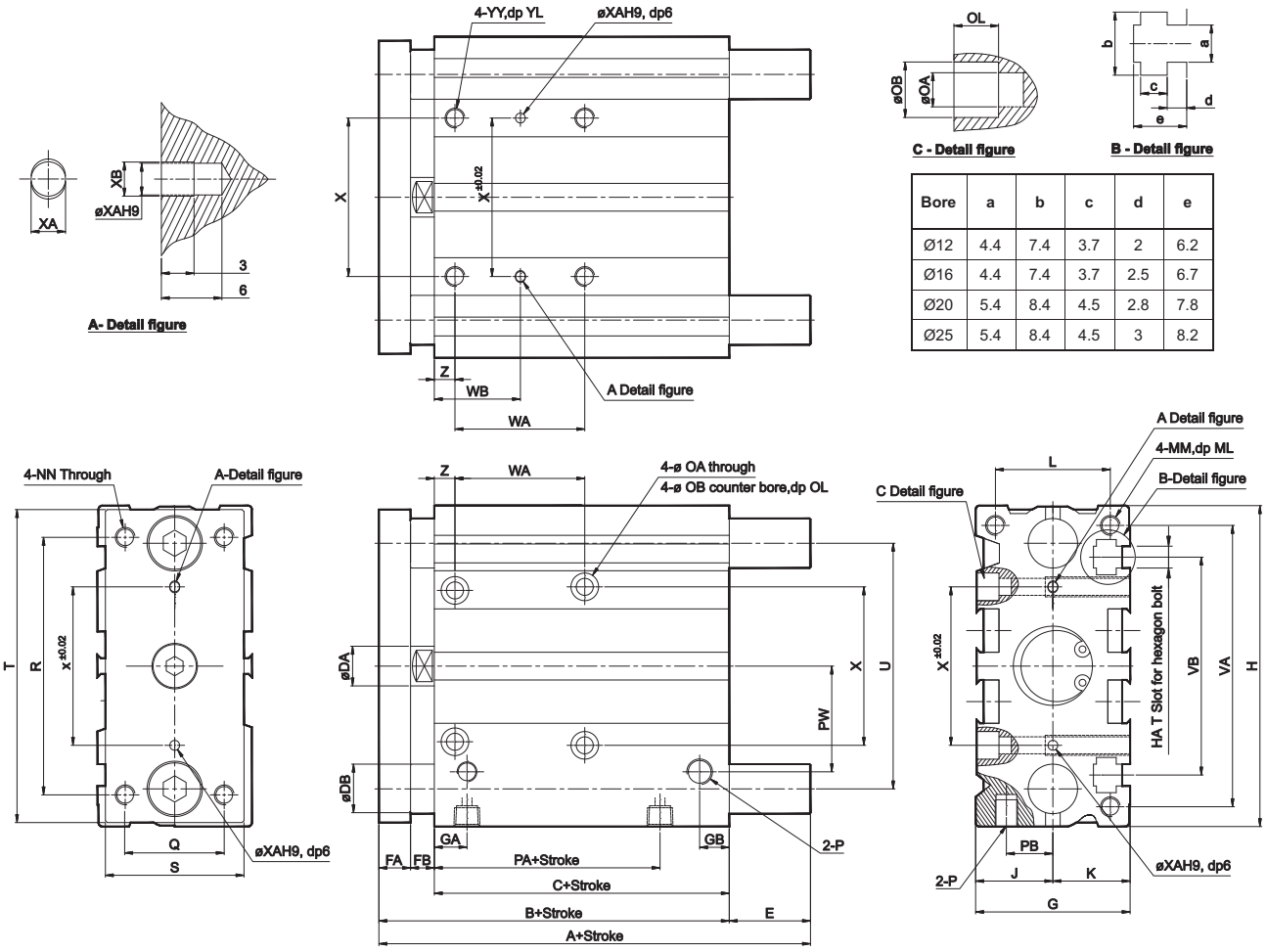
Multipurpose Example



COMPACT GUIDED CYLINDER

Series A91SL

Basic Dimensions



Bore	a	b	c	d	e
Ø12	4.4	7.4	3.7	2	6.2
Ø16	4.4	7.4	3.7	2.5	6.7
Ø20	5.4	8.4	4.5	2.8	7.8
Ø25	5.4	8.4	4.5	3	8.2

A91SL Common Dimensions

Bore	B	C	DA	FA	FB	G	GA	GB	H	HA	J	K	L	MM	ML	NN	OA	OB	OL	P	PA	PB	PW
Ø12	42	29	6	8	5	26	11	10	58	M4	13	13	18	M4x0.7	10	M4x0.7	4.3	8	4.5	M5x0.8	13	8	18
Ø16	46	33	8	8	5	30	11	9.5	64	M4	15	15	22	M5x0.8	12	M5x0.8	4.3	8	4.5	M5x0.8	15	10	19
Ø20	53	37	10	10	6	36	10.5	10.5	83	M5	18	18	24	M5x0.8	13	M5x0.8	5.3	9.5	5.5	G1/8	12.5	10.5	25
Ø25	53.5	37.5	12	10	6	42	11.5	11	93	M5	21	21	30	M6x1.0	15	M6x1.0	5.3	9.5	5.5	G1/8	12.5	13.5	28.5

Bore	Q	R	S	T	U	VA	VB	WA (stroke)					WB (stroke)					X	XA	XB	YY	YL	Z
								From 10 stroke to less than 40 stroke	From 40 stroke to less than 125 stroke	From 125 stroke to less than 250 stroke	From 250 stroke to less than 300 stroke	From 300 stroke to 400 stroke	From 10 stroke to less than 40 stroke	From 40 stroke to less than 125 stroke	From 125 stroke to less than 250 stroke	From 250 stroke to less than 300 stroke	From 300 stroke to 400 stroke						
Ø12	14	48	22	56	41	50	37	20	40	110	200	-	15	25	60	105	-	23	3	3.5	M5x0.8	10	5
Ø16	16	54	25	62	46	56	38	24	44	110	200	-	17	27	60	105	-	24	3	3.5	M5x0.8	10	5
Ø20	18	70	30	81	54	72	44	24	44	120	200	300	29	39	77	117	167	28	3	3.5	M6x1.0	12	17
Ø25	26	78	38	91	64	82	50	24	44	120	200	300	29	39	77	117	167	34	4	4.5	M6x1.0	12	17

A91SL (Bushing) A / DB / E Dimensions

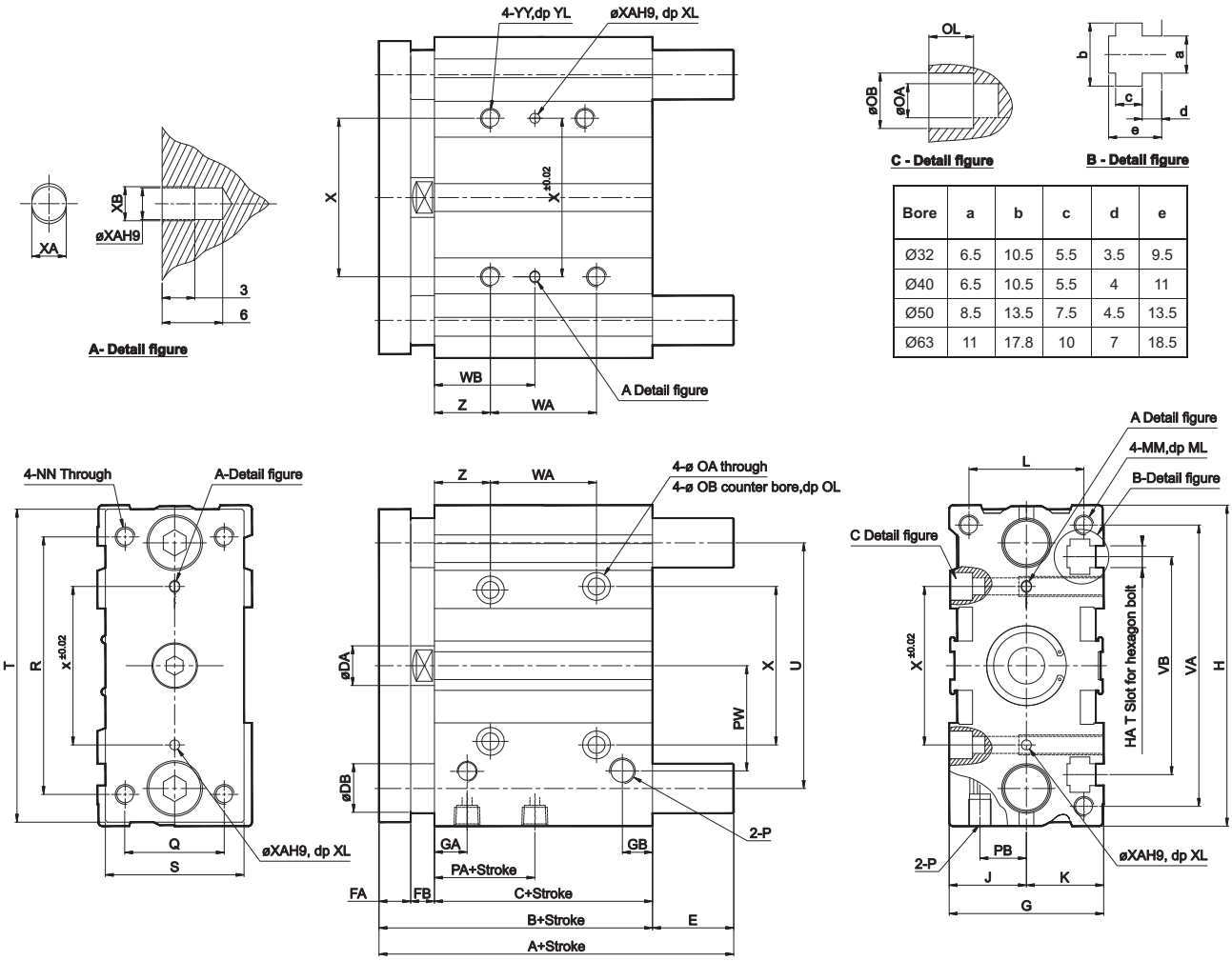
Bore	A (stroke)			DB	E (stroke)		
	50 stroke or less	Over 50 stroke to 100 stroke	Over 100 stroke to 200 stroke		50 stroke or less	Over 50 stroke to 100 stroke	Over 100 stroke to 200 stroke
Ø12	42	60.5	85	8	0	18	43
Ø16	46	64.5	95	10	0	18	49

Bore	A (stroke)		DB	E (stroke)	
	50 stroke or less	Over 50 stroke to 200 stroke		50 stroke or less	Over 50 stroke to 200 stroke
Ø20	53	84.5	12	0	31
Ø25	53.5	85	16	0	31.5

COMPACT GUIDED CYLINDER

Series A91SL

Basic Dimensions



Bore	a	b	c	d	e
Ø32	6.5	10.5	5.5	3.5	9.5
Ø40	6.5	10.5	5.5	4	11
Ø50	8.5	13.5	7.5	4.5	13.5
Ø63	11	17.8	10	7	18.5

A91SL Common Dimensions

Bore	B	C	DA	FA	FB	G	GA	GB	H	HA	J	K	L	MM	ML	NN	OA	OB	OL	P	PA	PB	PW
Ø32	59.5	37.5	16	12	10	48	12.5	11.5	112	M6	24	24	34	M8x1.25	20	M8x1.25	6.6	11	7.5	G1/8	7	15	34
Ø40	66	44	16	12	10	54	15	15	120	M6	27	27	40	M8x1.25	20	M8x1.25	6.6	11	7.5	G1/8	13	18	38
Ø50	72	44	20	16	12	64	15.5	14.5	148	M8	32	32	46	M10x1.5	22	M10x1.5	8.6	14	9.5	G1/4	9	21.5	47
Ø63	77	49	20	16	12	78	16.5	15	162	M10	39	39	58	M10x1.5	22	M10x1.5	8.6	14	9.5	G1/4	14	28	58

Bore	Q	R	S	T	U	VA	VB	WA (stroke)					WB (stroke)					X	XA	XB	XC	XL	YY	YL	Z
								From 25 stroke to less than 50 stroke	From 50 stroke to less than 125 stroke	From 125 stroke to less than 250 stroke	From 250 stroke to 300 stroke	Over 300 stroke to 400 stroke	From 25 stroke to less than 50 stroke	From 50 stroke to less than 125 stroke	From 125 stroke to less than 250 stroke	From 250 stroke to 300 stroke	Over 300 stroke to 400 stroke								
Ø32	30	96	44	110	78	98	63	24	48	124	200	300	33	45	83	121	171	42	4	4.5	3	6	M8x1.25	16	21
Ø40	30	104	44	118	86	106	72	24	48	124	200	300	34	46	84	122	172	50	4	4.5	3	6	M8x1.25	16	22
Ø50	40	130	60	146	110	130	92	24	48	124	200	300	36	48	86	124	174	66	5	6	4	8	M10x1.5	20	24
Ø63	50	130	70	158	124	142	110	28	52	128	200	300	38	50	88	124	174	80	5	6	4	8	M10x1.5	20	24

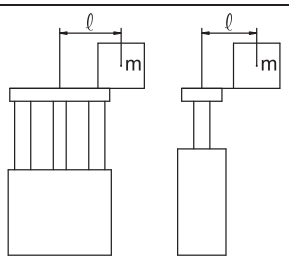
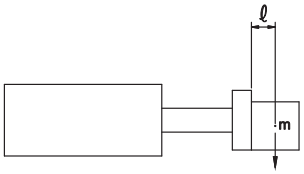
A91SL (Bushing) A / DB / E Dimensions

Bore	A (stroke)		DB	E (stroke)	
	50 stroke or less	Over 50 stroke to 200 stroke		50 stroke or less	Over 50 stroke to 200 stroke
Ø32	97	102	20	37.5	42.5
Ø40	97	102	20	31	36
Ø50	106.5	118	25	34.5	46
Ø63	106.5	118	25	29.5	41

COMPACT GUIDED CYLINDER

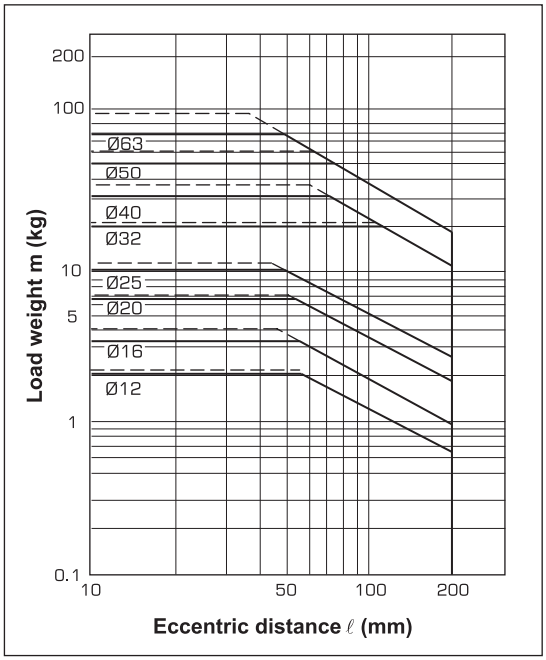
Series A91SL

Model Selection

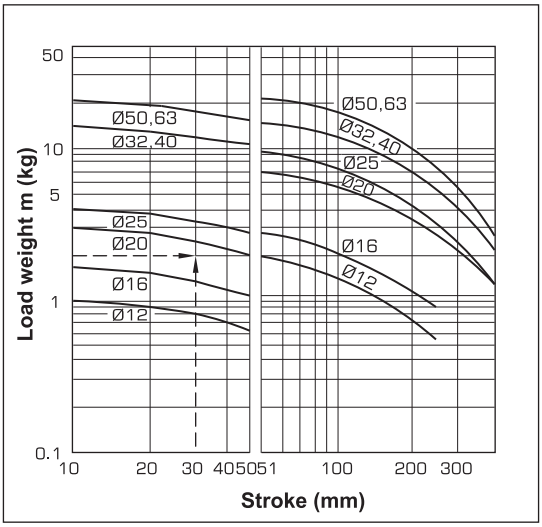
Mounting orientation	Vertical		Horizontal	
				
Max speed (mm/s)	200	400	200	400
Graph (bushing type)	(A), (B)	(C), (D)	(M), (N)	(O), (P)

Selection example 1 (Vertical mounting)	Selection example 1 (Horizontal mounting)
Selection conditions	Selection conditions
Mounting : Vertical	Mounting : Horizontal
Bearing type : Bushing	Bearing type : Bushing
Stroke : 30mm	Distance between plate and load center of gravity (l): 50mm
Max. speed : 200 mm/s	Max. speed : 200 mm/s
Load weight (m): 3kg	Load weight (m): 2kg
Eccentric distance (l): 90mm	Stroke : 30mm
Find the point of intersection for the load weight of 3kg and the eccentric distance of 90mm on graph (A), based on vertical mounting with bushing type. The stroke is 30mm while the speed is 200 mm/s.	Find the point of intersection for the load weight of 2kg and stroke 30mm on graph (M), based on horizontal mounting with bushing type. The distance is 50mm between the plate and load center of gravity while the speed is 200 mm/s.
So A91SL25x30 is selected.	So A91SL20x30 is selected.

Graph (A) 50mm stroke or less, V=200mm/s



Graph (M) l=50mm, V=200mm/s



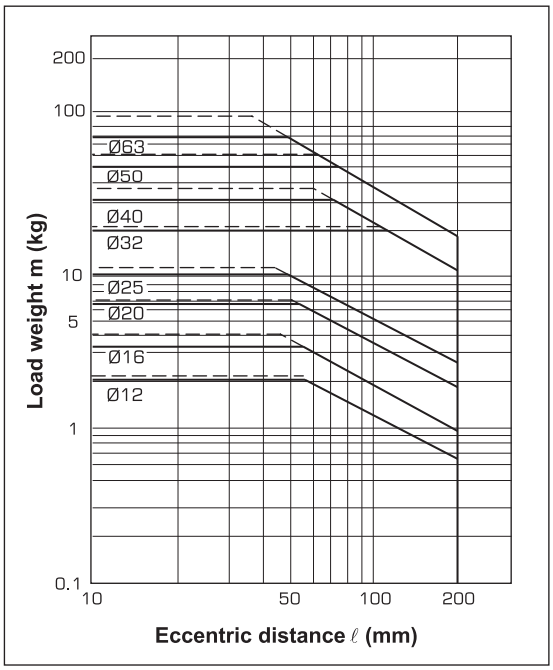
COMPACT GUIDED CYLINDER

Series A91SL

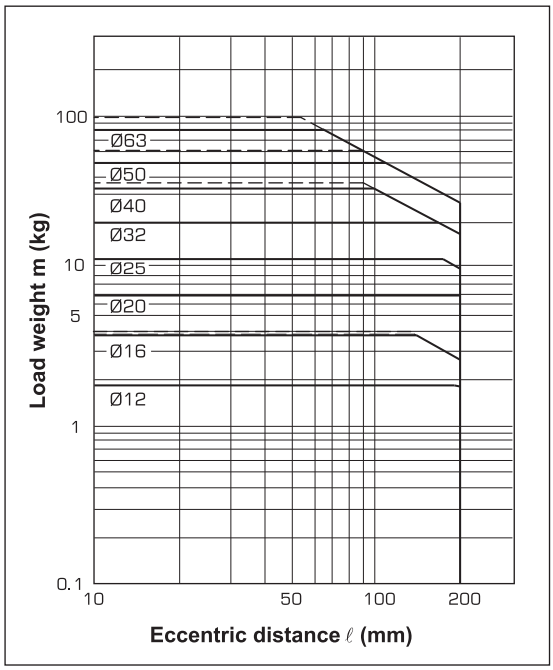
Vertical mounting (Bushing)
- A91SL Ø12 to 63mm

——————— Operating pressure 4 bar
– – – – – – – – – Operating pressure 5 bar or above

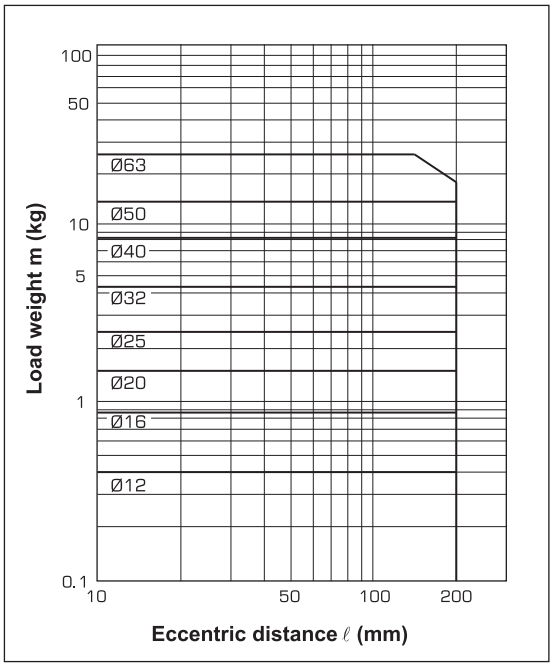
(A) 50mm stroke or less, V=200mm/s



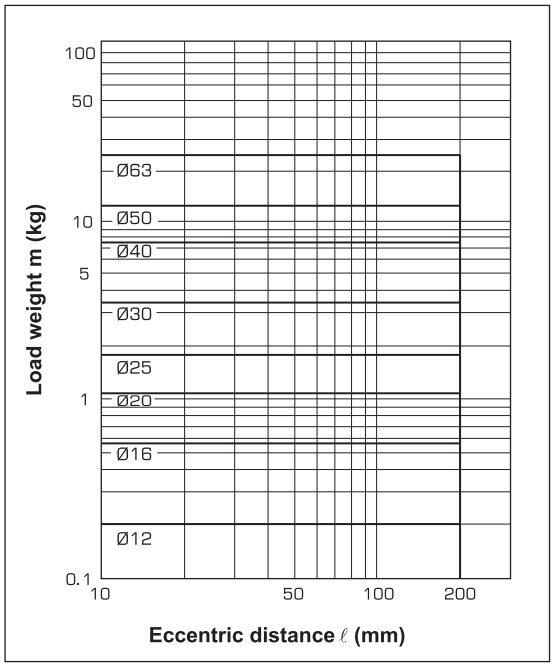
(B) Over 50 stroke, V=200mm/s



(C) 50mm stroke or less, V=400mm/s



(D) Over 50 stroke, V=400mm/s



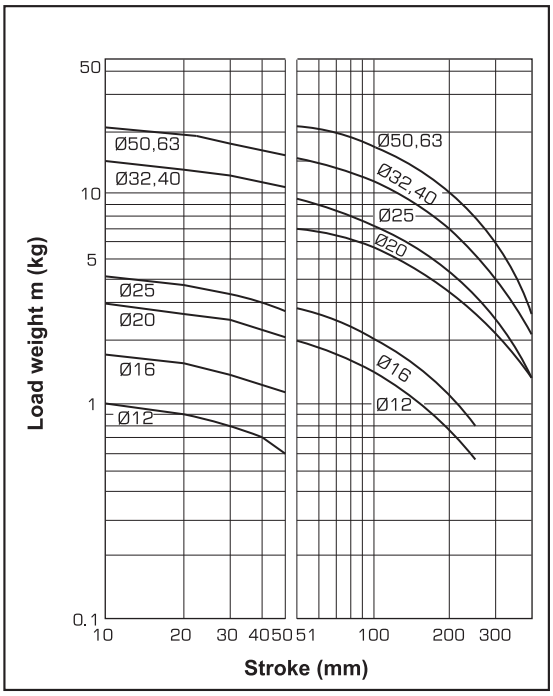
COMPACT GUIDED CYLINDER

Series A91SL

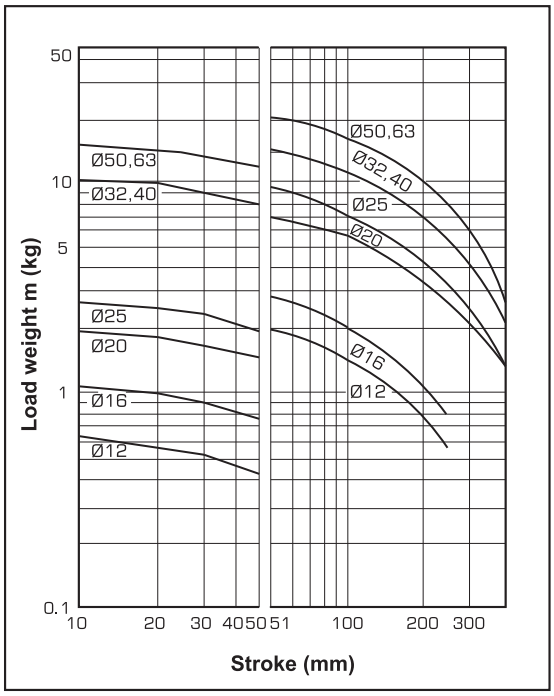
Horizontal mounting (Bushing)
- A91SL Ø12 to 63mm

———— Operating pressure 4 bar

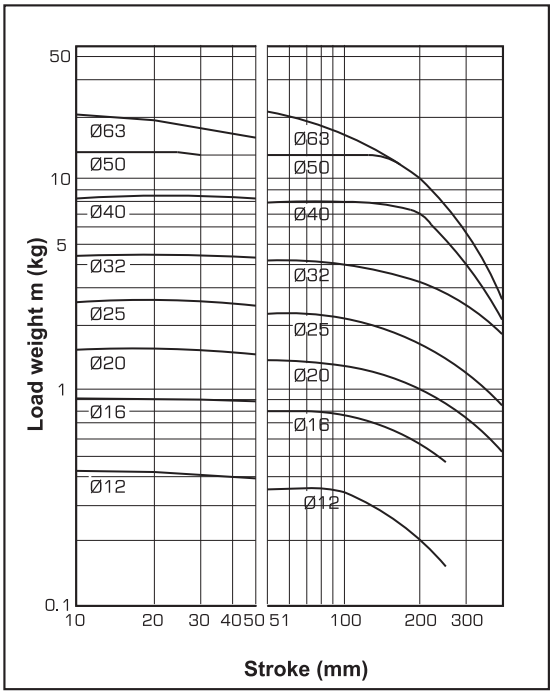
(M) ℓ=50mm, V=200mm/s



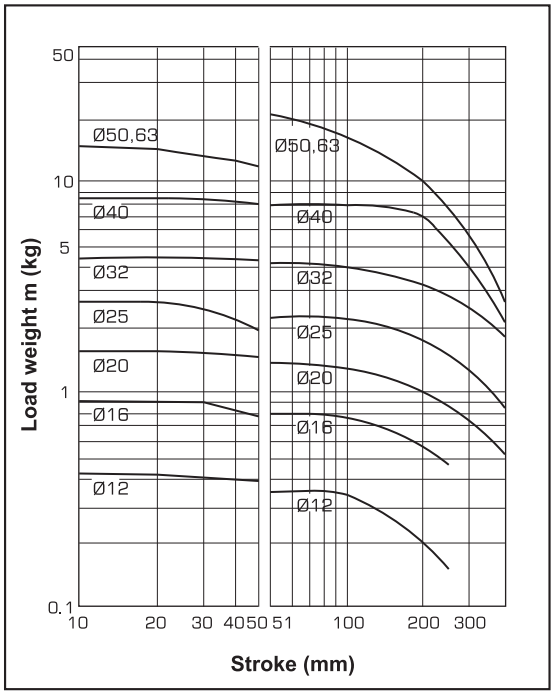
(N) ℓ=100mm, V=200mm/s



(O) ℓ=50mm, V=400mm/s



(P) ℓ=100mm, V=400mm/s

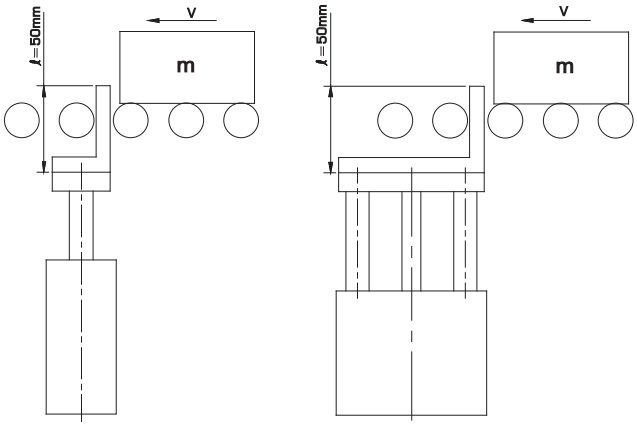


COMPACT GUIDED CYLINDER

Series A91SL

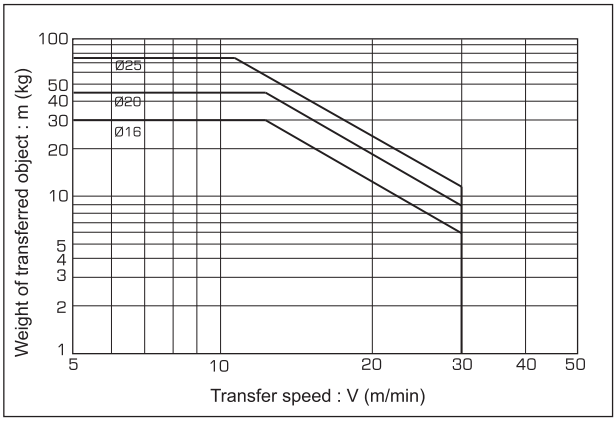
Operating range when used as stopper

Cylinder bore size Ø12 to 25mm (Bushing)



When selecting a model with a longer (ℓ) dimension, be sure to choose a bore size which is sufficiently large.

A91SL Ø12 to 25mm (Bushing)

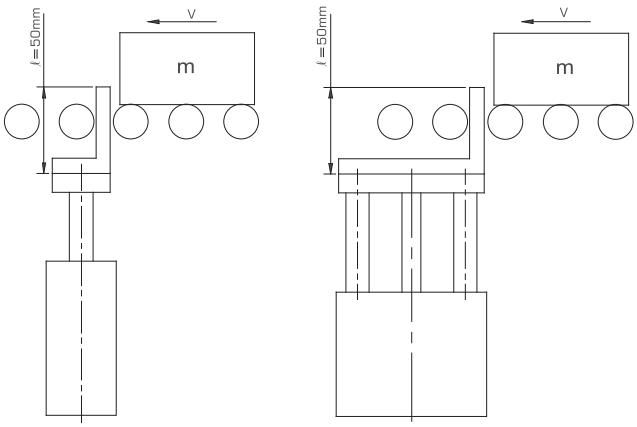


Caution

Caution on handling

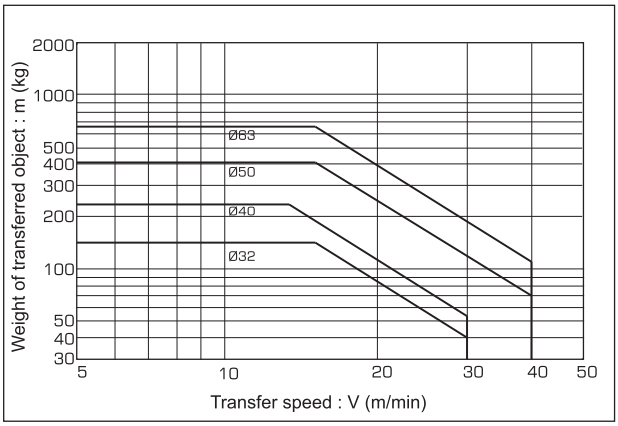
Note 1 : When using as a stopper, select a model with 30 stroke or less.

Cylinder bore size Ø32 to 63mm (Bushing)



When selecting a model with a longer (ℓ) dimension, be sure to choose a bore size which is sufficiently large.

A91SL Ø32 to 63mm (Bushing)



Caution

Caution on handling

Note 1 : When using as a stopper, select a model with 30 stroke or less.

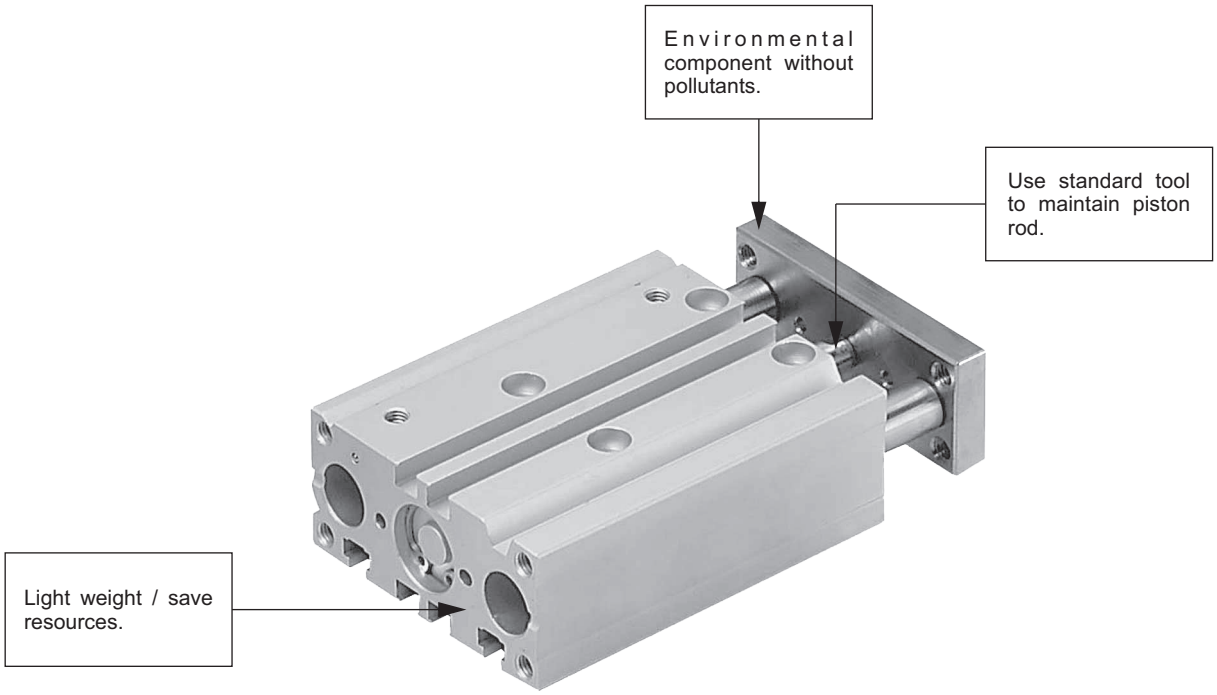
COMPACT GUIDED CYLINDER

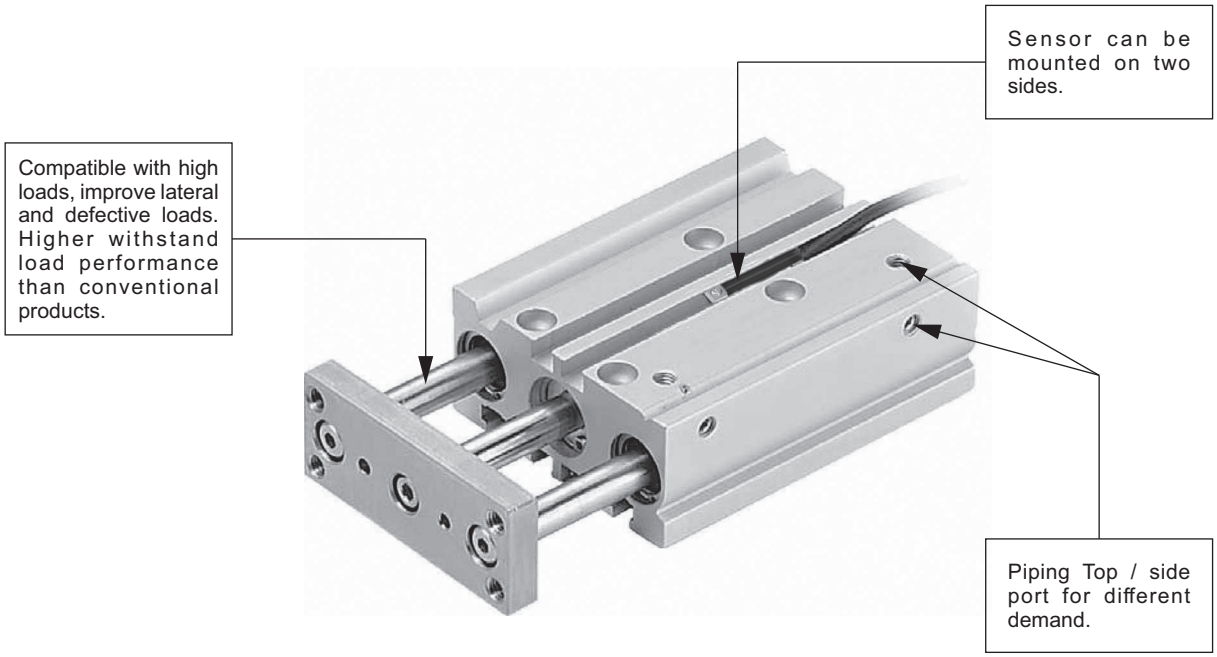
Series A91SL

Sensors can be mounted on two sides

Bushing type

The lateral withstand load is more than twice that of a traditional stopper cylinder (round bar type) and is usable for use with lateral loads accompanied by impact.

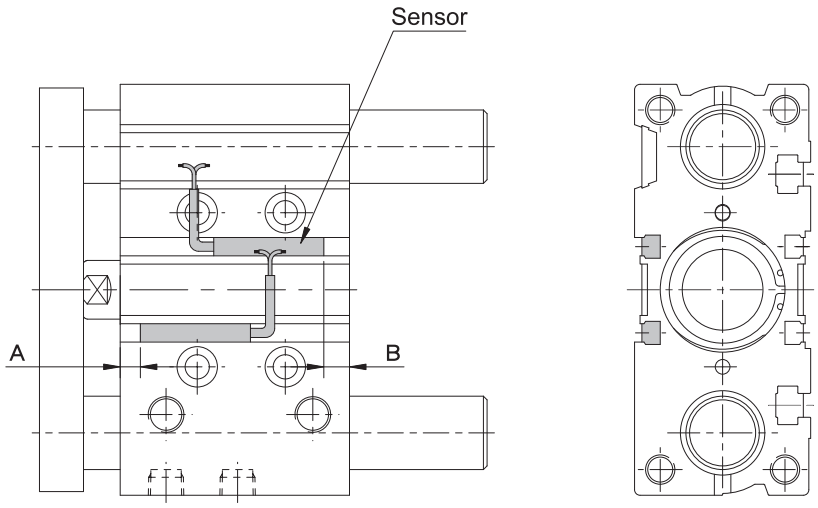




COMPACT GUIDED CYLINDER

Series A91SL

Proper sensor mounting position (Detection at stroke end) and its mounting height



Proper mounting

Cylinder Bore dia (mm)	A	B
12	2	0
16	1.5	1
20	4.5	2
25	2	7

Cylinder Bore dia (mm)	A	B
32	0	7
40	2.5	12
50	10	4.5
63	10.5	9

Reed Switch Mounting

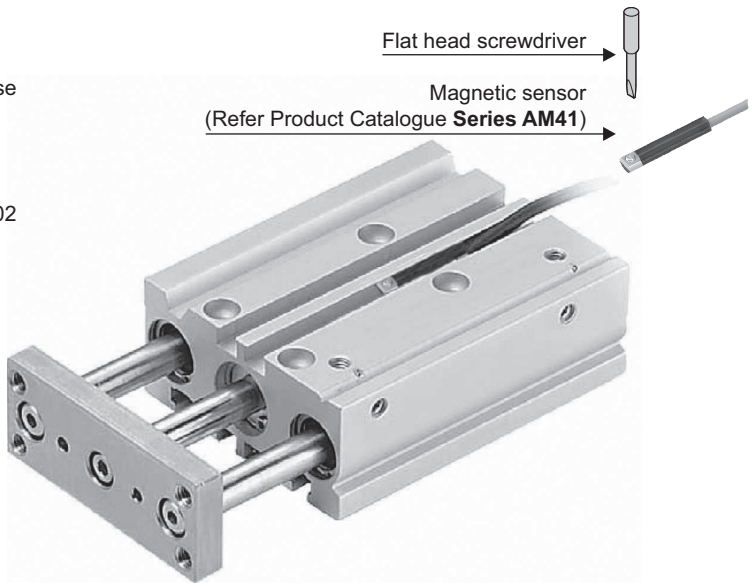
Caution ⚠

Application tool

To tighten the fixed screws on the reed switch, please use Ø5~Ø6 flat head screwdriver.

Torque to tighten

Please tighten when the output is 0.05 to 0.1 Nm (0.51 to 1.02 kgf/cm) then turn round 90° before feeling tight.



COMPACT GUIDED CYLINDER

Series A91SL

Cat No A91SL - 01 - 01 - B

How to order

A91 — S — L — 020 — 100 — Optional: H

Cushioning type	
S	Fixed cushioning

Bearing type	
L	Bushing

Bore dia (mm)	
012	- Ø12
016	- Ø16
020	- Ø20
025	- Ø25
032	- Ø32
040	- Ø40
050	- Ø50
063	- Ø63

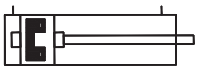
Stroke (mm)
010 to 100
020 to 200
025 to 200

Special Cylinders	
H	- High temp

Ordering Example:

Compact guided cylinder, bore Ø20, stroke 100 mm, bushing type : **A91SL020100**

Compact guided cylinder, bore Ø20, stroke 100 mm, bushing type with High temp : **A91SL020100-H**



ROTARY CLAMP CYLINDER

Series A01R2

Cat No A01R2 - 01 - 01 - B

ROTARY CLAMP CYLINDER - Double Acting (Ø12, 16, 20, 25, 32, 40, 50, 63mm)

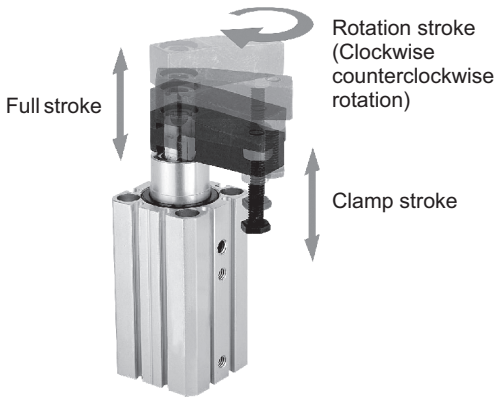
Features

- ❑ For ease of loading & unloading workpiece at restriction
- ❑ High speed operation : 0.2 sec/stroke
- ❑ Compact cylinders with strong clamping force, Ø12 to 63mm
- ❑ Reed switches can be mounted on cylinder surfaces as input signals to controllers
- ❑ Improved mounting accuracy. Guide bush and positioning pin hole ensure high-precision mounting
- ❑ Body machined from extruded aluminium that mounts directly to equipment for rigid, secure mounting in small space
- ❑ Compact equipment design is possible. Suited for electronic parts inspection clamps. Ideal for use in small mounting space
- ❑ A built-in magnet is standard, sensor can be directly mounted. Mounting from 3 surfaces (Ø12 to 16mm) (4 surfaces for Ø20 to 63mm)

Technical Specifications

Bore size Ø	mm	12	16	20	25	32	40	50	63
Angle of swing		90° ±5°							
Direction of swing (From piston rod end during clamping)		R: Clockwise; L: Anti-clockwise							
Swing stroke	mm	8.5		11		13		18	
Clamp stroke	mm	10 / 20						20 / 50	
Overall stroke (Swing + Clamp)	mm	18.5 / 28.5		21 / 31		23 / 33		38 / 68	
Allowable torque	Nm	1	3.8	7	13	27	47	107	182
Theoretical clamping force	N *	40	75	100	185	300	525	852	1400
Medium		Compressed air - Filtered - Lubricated							
Working pressure	bar (kgf/cm^2)	1 to 10							
Piston speed #	mm/sec	50 - 200							
Ambient temperature	°C	-10 to +60							
Medium temperature	°C	+5 to +50							
Materials of construction		Aluminium, Brass, Nitrile, Steel, Polyurethane							
Mountings		Rear flange							

* Where the operating pressure is 5 bar (5.1 kgf/cm^2)
\# Control the piston speed with flow control valve



Standard Stroke

Bore / Stroke	12	16	20	25	32	40	50	63
10	●	●	●	●	●	●		
20	●	●	●	●	●	●	●	●
50							●	●

ROTARY CLAMP CYLINDER

Series A01R2

Theoretical Output Table

Model	Piston rod (mm)	Swing Direction	Effective area (cm^2)	Operating pressure kgf / cm^2			
				3	5	7	10
A01R2-12	6	R	0.8	2.4	4	5.6	8
		L	1.1	3.3	5.5	7.7	11
A01R2-16	8	R	1.5	4.5	7.5	10.5	15
		L	2	6	10	14	20
A01R2-20	12	R	2	6	10	14	20
		L	3	9	15	21	30
A01R2-25	12	R	3.7	11.1	18.5	25.7	37
		L	4.9	14.7	24.5	34.3	49
A01R2-32	16	R	6	18	30	42	60
		L	8	24	40	56	80
A01R2-40	16	R	10.5	31.5	52.5	73.5	105
		L	12.5	37.5	62.5	87.5	125
A01R2-50	20	R	16.5	49.5	82.5	115.5	165
		L	19.6	58.8	98	137.2	196
A01R2-63	20	R	28	84	140	196	280
		L	31.2	93.6	156	218.4	312

Weight Table

Unit : (g)

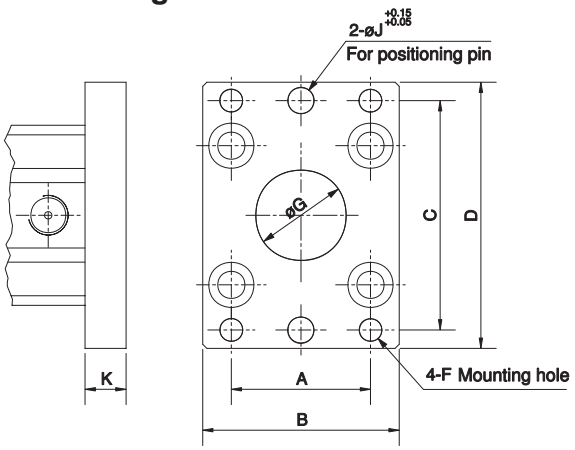
Stroke \ Bore	12	16	20	25	32	40	50	63
10	70	100	250	280	500	595	-	-
20	87	123	290	320	525	640	1100	1520
50	-	-	-	-	-	-	1350	1805

Table of Extra Weight

Unit : (g)

Accessories \ Bore	12	16	20	25	32	40	50	63
Arm	13	32	100	100	200	200	350	350
Rear flange	-	-	133	153	166	198	345	531

Rear Flange



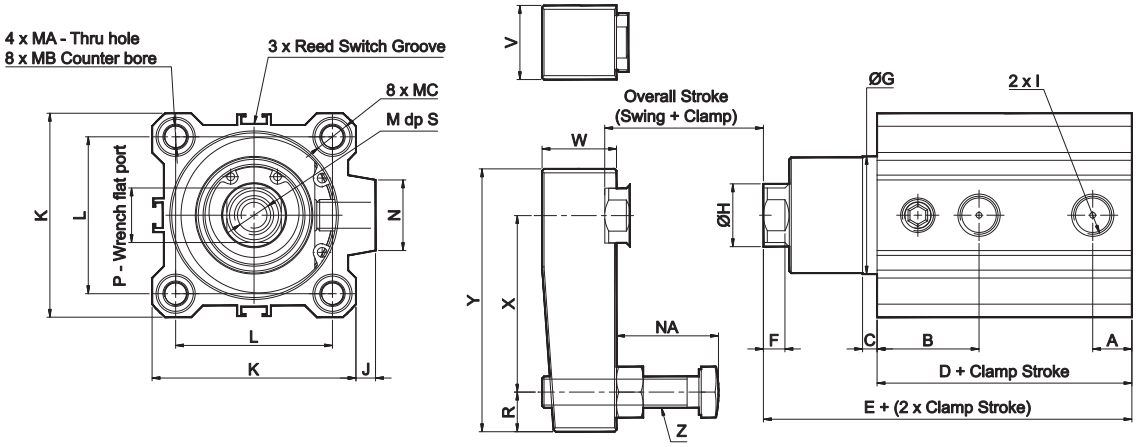
Ordering No.	A	B	C	D	F	G	J	K
MR6020	25.5	38	48	60	6.3	13	6.6	8
MR6025	28	42	52	64	6.3	15	6.6	8
MR6032	34	48	56	65	5.5	21	6.3	10
MR6040	40	56	62	72	5.5	28	6.3	10
MR6050	50	67	76	89	6.6	35	6.3	10
MR6063	60	80	92	108	9	35	6.3	10

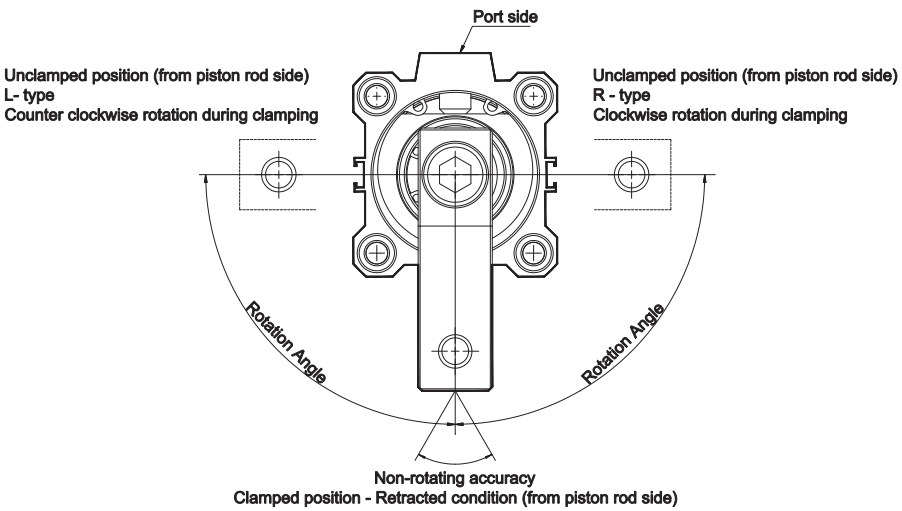
ROTARY CLAMP CYLINDER

Series A01R2

Cat No A01R2 - 01 - 01 - B

External Dimensions





Model	A	B	C	D	E	F	G	H	I	J	K	L	M	S
A01R2-12	5	14	2	43.2	64.2	2.5	-	6	M5 x 0.8	-	25	15.5	M3 x 0.5	8.5
A01R2-16	5	14	2	45.8	67.4	2.5	-	8	M5 x 0.8	-	29	20	M5 x 0.8	10
A01R2-20	7.5	27	3	62	72.5	3	20	12	M5 x 0.8	-	36	25.5	M8 x 1.25	12
A01R2-25	8	28	3	63	73.5	3	23	12	M5 x 0.8	-	40	28	M8 x 1.25	12
A01R2-32	9	33	4	72	94	5.5	30	16	G1/8	4.5	45	34	M10 x 1.5	15
A01R2-40	10	26	4	65	94	5.5	30	16	G1/8	5	52	40	M10 x 1.5	15
A01R2-50	10	30	4	77	112	5.5	37	20	G1/8	7	64	50	M12 x 1.75	20
A01R2-63	12	31	4	80	114	5.5	48	20	G1/8	7	77	60	M12 x 1.75	20

Model	MA	MB	MC	N	NA	P	R	V	W	X	Y	Z
A01R2-12	Ø3.5	Ø6 dp 5.5	M4 x 0.7 Thread dp 10	-	18	5	4	8	8	20	29	M4 x 0.7
A01R2-16	Ø3.5	Ø6 dp 5.5	M4 x 0.7 Thread dp 10	-	18	7	5	11	11	25	36	M4 x 0.7
A01R2-20	Ø5.5	Ø9 dp 7	M6 x 1 Thread dp 10	-	9 to 22	9.9	7.5	16	16	35	51	M6 x 1
A01R2-25	Ø5.5	Ø9 dp 7	M6 x 1 Thread dp 10	-	9 to 22	9.9	7.5	16	16	35	51	M6 x 1
A01R2-32	Ø5.5	Ø9 dp 7	M6 x 1 Thread dp 10	18	12 to 25	13.9	10	19	19	45	67	M8 x 1.25
A01R2-40	Ø5.5	Ø9 dp 7	M6 x 1 Thread dp 10	18	12 to 25	13.9	10	19	19	45	67	M8 x 1.25
A01R2-50	Ø6.6	Ø10.5 dp 8	M8 x 1.25 Thread dp 15	22	15 to 40	16.9	10	22	22	65	88	M10 x 1.5
A01R2-63	Ø9	Ø13.5 dp 10	M10 x 1.5 Thread dp 18	22	15 to 40	16.9	10	22	22	65	88	M10 x 1.5

ROTARY CLAMP CYLINDER

Series A01R2

Cat No A01R2 - 01 - 01 - B

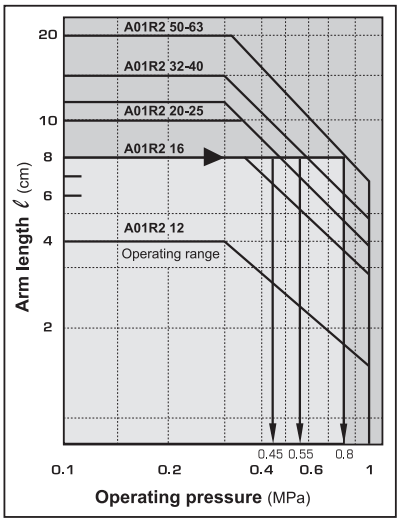
Precautions for designing and mounting arms

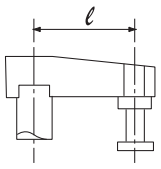
When arms are to be made separately, their length and weight should be within the following range.

1. Allowable bent moment

Use the arm length and operating pressure within graph 1 due to allowable bent moment loaded piston rod.

Graph 1





Example:

When arm length is 8cm, pressure should be less than.

A01R2 20 - 25 : 0.45MPa

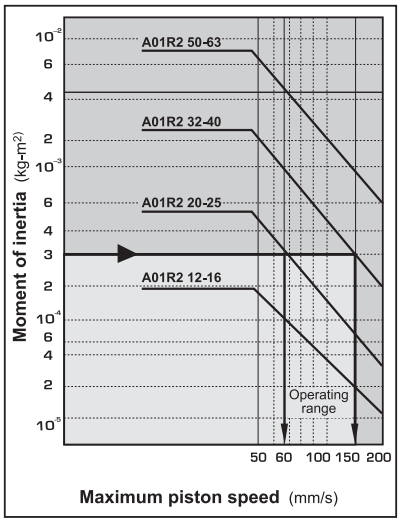
A01R2 32 - 40 : 0.55MPa

A01R2 50 - 63 : 0.8MPa

2. Inertia moment

When the arm is long and heavy, damage of internal parts may be caused due to inertia. Use the inertia moment and cylinder speed within graph 2 based on arm requirements.

Graph 2



Example:

When arm inertia moment is $3x10^{-4}$ kg-m^2, cylinder speed be less than.

A01R2 20 - 25 : 65 mm/s

A01R2 32 - 40 : 150 mm/s

To attach and detach the arm to and from the piston rod, fix the arm with a wrench or vise and then tighten the bolt. (Excessive force in the direction of rotation applied to the piston rod may damage the internal mechanism). Refer to the following table for the tightening torque for mounting.

Bore size (mm)	Standard tightening torque (Nm)
12	0.4 - 0.6
16	2 - 2.4
20, 25	4 - 6
32, 40	8 - 10
50, 63	14 - 16

Precautions

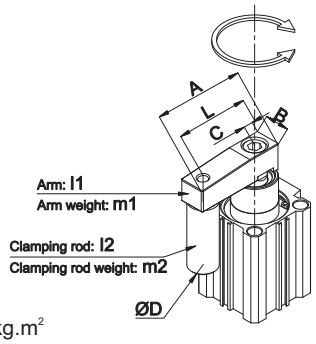
- ❑ Flush piping thoroughly before the connection in order to prevent dust or chips from entering the cylinder
- ❑ Make sure that no scratches or dents are made on the slide part of the piston rod. Otherwise, seals may be damaged, resulting in leaks
- ❑ Mount the cylinder so that the clamping piston will be approximately in the center of the clamp stroke
- ❑ Do not apply clamping and other loads when the piston rod is turning

ROTARY CLAMP CYLINDER

Series A01R2

Moment of Inertia

Calculation example:



Cylinder bore size = Ø40

A	=	0.067 m	D	=	0.02 m
B	=	0.019 m	m1	=	0.15 kg
C	=	0.012 m	m2	=	0.12 kg
L	=	0.045 m			

Moment of Inertia of the arm:

$$I_1 = m_1 * \left[\frac{A^2 + B^2}{12}\right] + m_1 * \left[\frac{A}{2} - C\right]^2 \qquad I_1 = 0.15 \times \left[\frac{0.067^2 + 0.019^2}{12}\right] + 0.15 \times \left[\frac{0.067}{2} - 0.012\right]^2 = 1.29 \times 10^{-4}\ kg.m^2$$

Moment of Inertia of the clamping rod:

$$I_2 = m_2 * \left[\frac{D^2}{8}\right] + m_2 * L^2 \qquad I_2 = 0.12 \times \left[\frac{0.02^2}{8}\right] + 0.12 \times 0.045^2 = 2.49 \times 10^{-4}\ kg.m^2$$

Total Moment of Inertia:

$$I = I_1 + I_2 = (1.29 + 2.49) \times 10^{2-4} = 3.78 \times 10^{-4}\ kg.m^2$$

Model	Maximum allowable piston speed #1	Average piston speed #2	Total stroke #3	Stroke time #4
A01R2	170 mm/s	106 mm/s	20 mm	0.18 sec

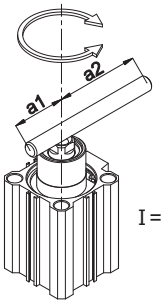
#1 - Maximum allowable piston speed selected from chart
#2 - Average piston speed = Maximum piston speed ÷ 1.6
#3 - Total stroke = Clamp stroke + Swing stroke
#4 - Stroke time = Total stroke ÷ Average piston speed

Calculation equation list for Moment of Inertia:

If arms other than standard are used, be sure to calculate the Moment of Inertia of the arm before selecting it.

Thin shaft

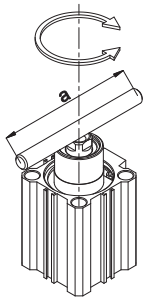
Position of rotational axis:
Perpendicular to the shaft and attached near one end.



$$I = m_1 * \frac{a_1^2}{3} + m_2 * \frac{a_2^2}{3}$$

Thin shaft

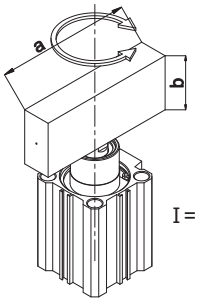
Position of rotational axis:
Perpendicular to the shaft and attached at the center of gravity.



$$I = m * \frac{a^2}{12}$$

Thin rectangular plate

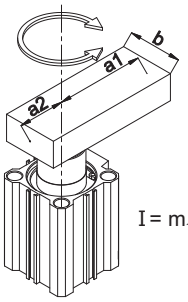
Position of rotational axis:
Parallel to side “b” and attached at the center of gravity.



$$I = m * \frac{a^2}{12}$$

Thin rectangular plate

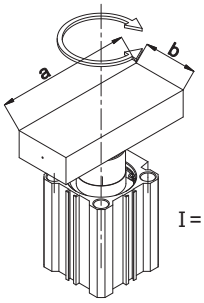
Position of rotational axis:
Perpendicular to the plate and attached near one end.



$$I = m_1 * \left[\frac{4a_1^2 + b^2}{12}\right] + m_2 * \left[\frac{4a_2^2 + b^2}{12}\right]$$

Thin rectangular plate

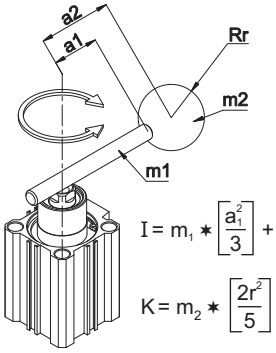
Position of rotational axis:
Perpendicular to the plate and attached at the center of gravity.



$$I = m * \left[\frac{a^2 + b^2}{12}\right]$$

Load at the end of lever arm

Position of rotational axis:
Perpendicular to the plate and attached at the center of gravity.



$$I = m_1 * \left[\frac{a_1^2}{3}\right] + m_2 * a_2^2 + K$$

$$K = m_2 * \left[\frac{2r^2}{5}\right]$$

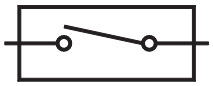
ROTARY CLAMP CYLINDER

Series A01R2

Cat No A01R2 - 01 - 01 - B

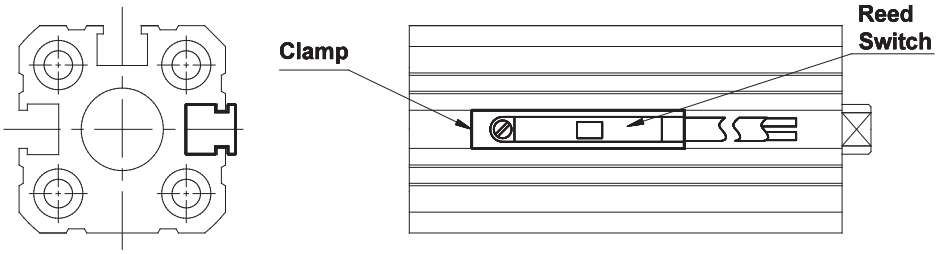
ACCESSORIES FOR ROTARY CLAMP CYLINDER

REED SWITCH



Function

The reed switch and clamp assembly is mounted on the Air cylinder (Series A01R2), 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.

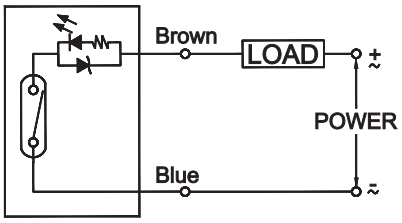


Technical Specifications - Reed Switch

Model	**AM2012 / AM2032**
Suitable cylinder	A01R2 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, Ø25	AM2012
Ø32, Ø40, Ø50, Ø63	AM2032

Circuit and connect diagram



ROTARY CLAMP CYLINDER

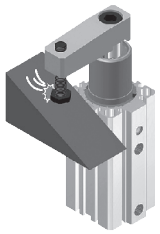
Series A01R2

Warning

The cylinder could malfunction or the non-rotating accuracy could be affected if a rotational force is applied to the piston rod. Therefore, read the particulars given below before operating the cylinder.

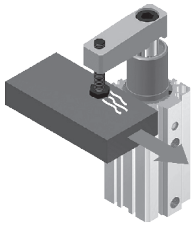
- ❑ Make sure to mount the cylinder vertically (Fig 4)
- ❑ Do not absolutely perform any work in the rotary direction (Fig 5)
- ❑ To clamp, make sure to do within the clamp stroke (straight-line stroke) range (Fig 3)
- ❑ Make sure that the clamping surface of the workpiece is vertical to the cylinder's axial line (Fig 1)
- ❑ While being clamped, do not operate the cylinder in such a way that an external force causes the work piece to move (Fig 2)
- ❑ Furthermore, do not operate the cylinder when a rotational force is applied to the piston rod

(Fig 1)



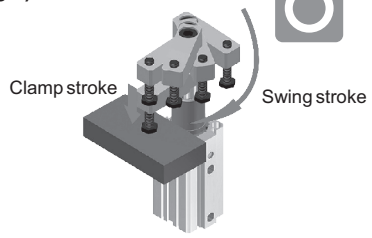
❑ Do not clamp on a slanted surface

(Fig 2)



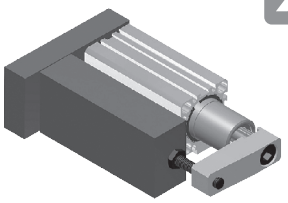
❑ Make sure that the workpiece dosen't move during clamping

(Fig 3)



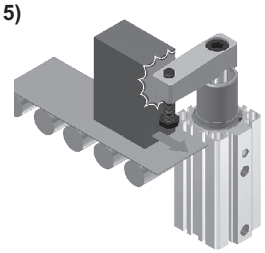
❑ Do not clamp during the rotary stroke

(Fig 4)



❑ Do not operate the cylinder horizontally

(Fig 5)



❑ Do not perform any work in the rotary direction

How to order

A01R2 — 040 — 20 — R — F

Bore (mm)	
012	- Ø12
016	- Ø16
020	- Ø20
025	- Ø25
032	- Ø32
040	- Ø40
050	- Ø50
063	- Ø63

Stroke (mm)	
Ø12 - 40	10 & 20mm
Ø50 - 63	20 & 50mm

Direction of swing	
R	- Clockwise
L	- Anti-clockwise

Mountings	
B	- Basic
F	- Rear Flange

Example:

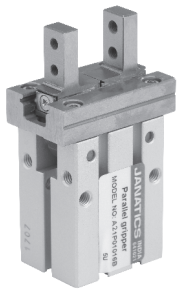
Ordering no. for cylinder with 40 dia bore, 20 mm stroke, Clockwise direction of swing with flange mounting :
A01R2 040 20 R F

PARALLEL GRIPPERS

Series AG1P

Cat No AG1P - 01 - 01 - A

PARALLEL GRIPPERS - Ø10, 16, 20, 25, 32, 40 mm



Features

- ❑ Hard anodised body
- ❑ Either internal or external holding possible
- ❑ Compact design
- ❑ Magnetic sensing as standard

Technical Specifications

Model	AG1P-10	AG1P-16	AG1P-20	AG1P-25	AG1P-32	AG1P-40
Cylinder bore (mm)	Ø10	Ø16	Ø20	Ø25	Ø32	Ø40
Medium	Compressed Air - Filtered					
Type of operation	Double acting					
Working pressure (bar)	2 to 7	1 to 7				
Ambient temperature (°C)	-10° to +60° C					
Medium temperature (°C)	+5° to +50° C					
Maximum operation frequency (Cycles/min)	100				60	
Repeatability (mm)	±0.01				±0.02	
Lever open / close stroke (mm)	4	6	10	14	22	30
Lubrication	Non-lubricated (without moisture), If lubricated provide continuously					

Type

Operating type	Model	Bore dia (mm)	Gripping Force (N)		Close stroke (mm)	Weight (kg)
			Outer gripping force	Inner gripping force		
Double Acting	AG1P-10	10	11	17	4	0.06
	AG1P-16	16	34	45	6	0.14
	AG1P-20	20	42	66	10	0.27
	AG1P-25	25	65	104	14	0.49
	AG1P-32	32	158	193	22	0.81
	AG1P-40	40	254	318	30	1.37

Operating type and Data

Operating Type	Model	Bore dia (mm)	Minimum operating pressure (bar)	Thread port (mm)	Effective gripping force Kgf (N)	
Double Acting	AG1P-10	10	2.2	M2.5x0.45 - 4nos	Open	1.7 (17)
					Close	1.1 (11)
	AG1P-16	16	1	M3x0.5 - 4nos	Open	4.5 (45)
					Close	3.4 (34)
	AG1P-20	20	1	M4x0.7 - 4nos	Open	6.7 (66)
					Close	4.2 (42)
	AG1P-25	25	1	M5x0.8 - 4nos	Open	10.6 (104)
					Close	6.6 (65)
	AG1P-32	32	1	M6x1.0 - 4nos	Open	19.6 (193)
					Close	16.1 (158)
	AG1P-40	40	1	M8x1.25 - 4nos	Open	32.4 (318)
					Close	25.9 (254)

Note: The gripping force is the force of open and close gripper which is in the length of gripping point is 30mm and acting pressure is 5 bar

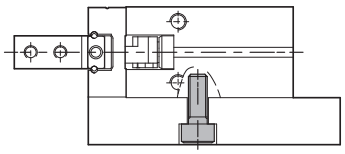
PARALLEL GRIPPERS

Series AG1P

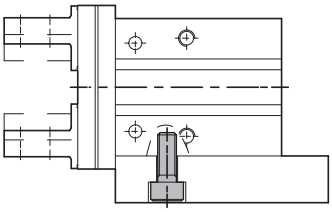
Cat No AG1P - 01 - 01 - A

Mounting type

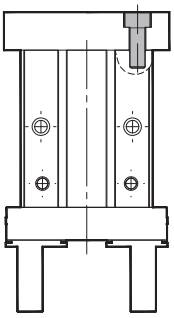
1. Use the thread in the front



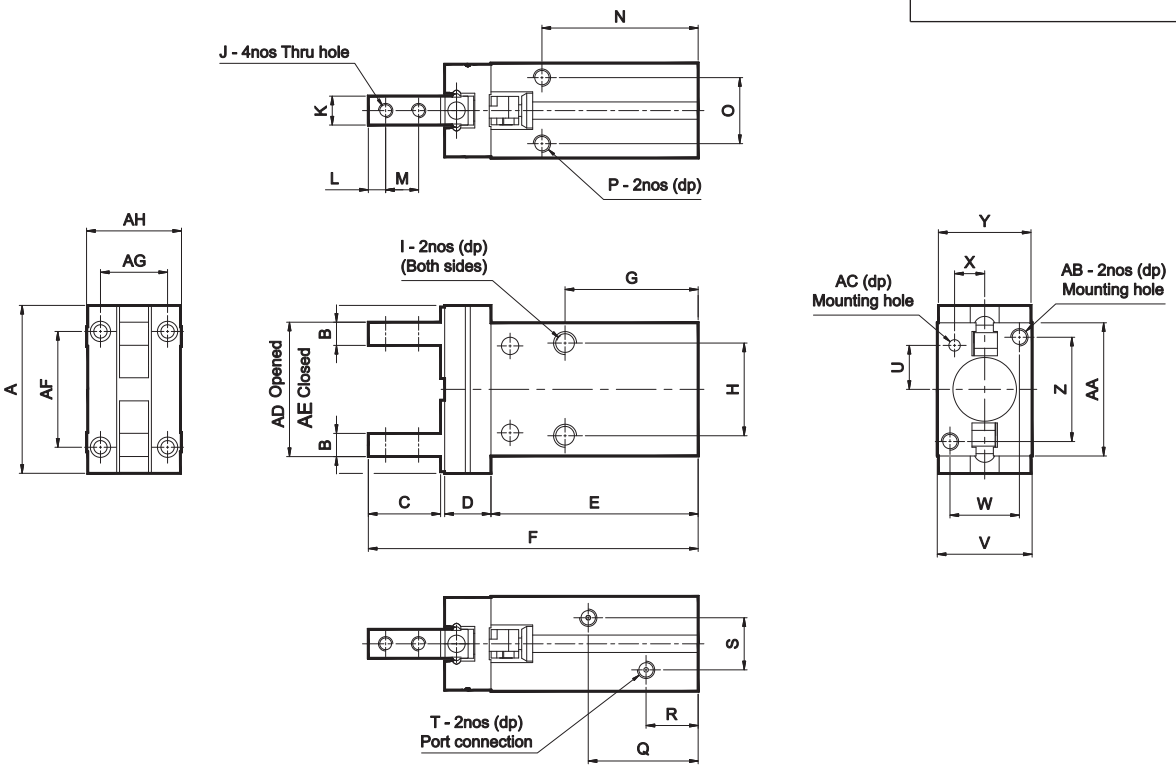
2. Use the thread in the side of body



3. Top side of body



Basic Dimensions



Bore dia (mm)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
AG1P- 10	29	4	12	8	35.8	57	23	16	M3x0.5Px5.5dp	M2.5x0.45P	5	3	5.7	27	11.4	M3x0.5Px6dp	19
AG1P- 16	38	5	15	9.5	40.5	67.3	24.5	24	M4x0.7Px8dp	M3x0.5P	8	4	7	30	16	M4x0.7Px4.5dp	19
AG1P- 20	50	8	20	11.5	50.8	84.8	29	30	M5x0.8Px10dp	M4x0.7P	10	5	9	35	18.6	M5x0.8Px8dp	23
AG1P- 25	63	10	25	13	61.6	102.7	30	36	M6x1Px12dp	M5x0.8P	12	6	12	36.5	22	M6x1Px10dp	23.5
AG1P- 32	97	12	29	13	66	113	40	46	M6x1Px13dp	M6x1P	15	7	14	48	26	M6x1Px10dp	31
AG1P- 40	119	14	36	16	82	139	49	56	M8x1.25Px13dp	M8x1.25P	18	9	17	58	32	M8x1.25Px13dp	38

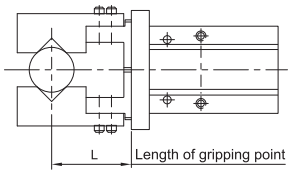
Bore dia (mm)	R	S	T	U	V	W	X	Y	Z	AA	AB	$AC^{+0.03}_{+0.01}$	AD	AE	AF	AG	AH
AG1P- 10	9	11	M3x0.5Px5.5dp	7.6	16.4	12	5.2	16	18	23	M3x0.5Px6dp	Ø2x3dp	$23.2^{+2.2}_{0}$	$19.2^{0}_{-0.7}$	20	16	11.6
AG1P- 16	7.5	13	M5x0.8Px8dp	11	23.6	15	6.5	23.2	22	30.6	M4x0.7Px8dp	Ø3x3dp	$30.9^{+2.2}_{-0.2}$	$24.9^{0}_{-0.7}$	26.6	23.2	17
AG1P- 20	10	15	M5x0.8Px8dp	16.8	27.6	18	7.5	27.2	32	42	M5x0.8Px10dp	Ø4x4dp	$42.3^{+2.2}_{-0.2}$	$32.3^{0}_{-0.7}$	36	20	27.2
AG1P- 25	10.7	20	M5x0.8Px8dp	21.8	33.6	22	10	33.2	40	52	M6x1Px12dp	Ø4x4dp	$53.3^{+2.5}_{-0.2}$	$39.3^{0}_{-0.8}$	44	24.8	33.2
AG1P- 32	11	24	M5x0.8Px8dp	23	40	26	12	39.6	46	60	M6x1Px13dp	Ø5x5dp	$72^{+2.5}_{0}$	$50^{0}_{-0.5}$	50.5	28.5	39.6
AG1P- 40	12	28	M5x0.8Px8dp	29	48	32	14	47.6	56	72	M8x1.25Px15dp	Ø5x5dp	$88^{+2.7}_{0}$	$58^{0}_{-0.5}$	61	34	47.6

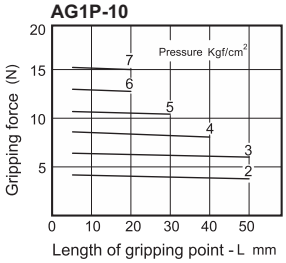
PARALLEL GRIPPERS

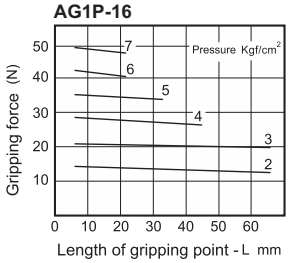
Series AG1P

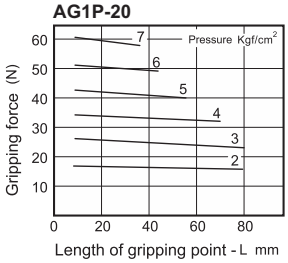
Cat No AG1P - 01 - 01 - A

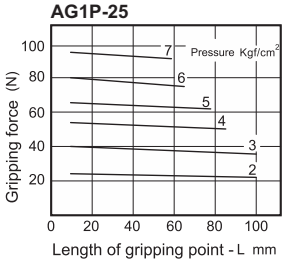
Outside diameter - Gripping force characteristic

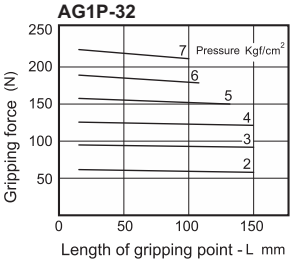


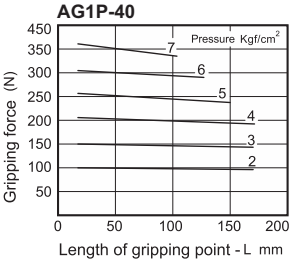




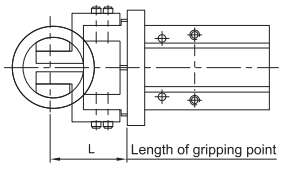


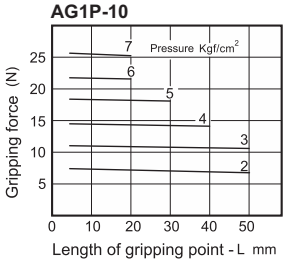


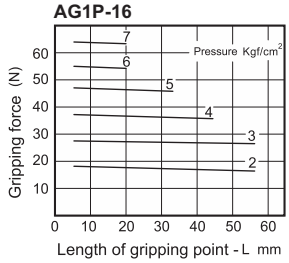


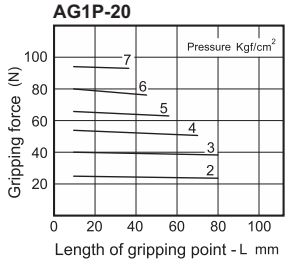


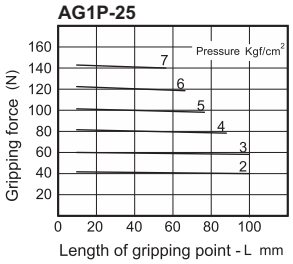
Inside diameter - Gripping force characteristic

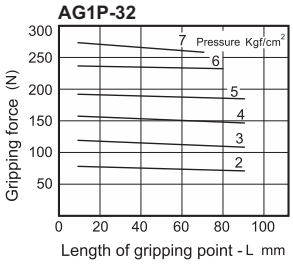


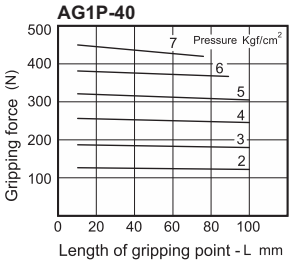












Note1: L : Gripping point length = 20 mm, P : Pressure = 5 Kgf/cm²

How to order

AG1P01 **040** **B**

Bore (mm)	
010	- Ø10
016	- Ø16
020	- Ø20
025	- Ø25
032	- Ø32
040	- Ø40

Mountings	
B	- Basic

Ordering Example:

Ordering no. for parallel gripper with 40 dia bore basic : **AG1P01040B**

Subject to change

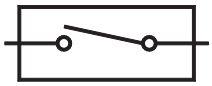
PARALLEL GRIPPERS

Series AG1P

Cat No AG1P - 01 - 01 - A

ACCESSORIES FOR PARALLEL GRIPPERS

MAGNETIC SENSOR - AM080, AM090



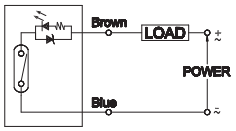
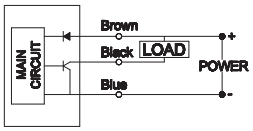
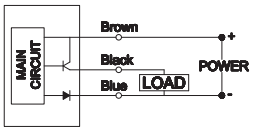
Features

- ❑ Integrated LED
- ❑ Moulded cable with flying lead and Quick Disconnect (QD) connector versions
- ❑ Direct mounting, simple installation
- ❑ Reed contact type & Solid state type versions

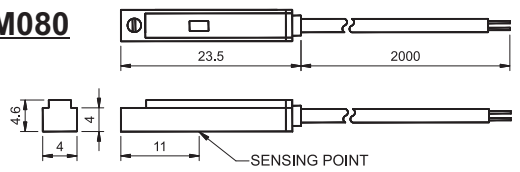
Function

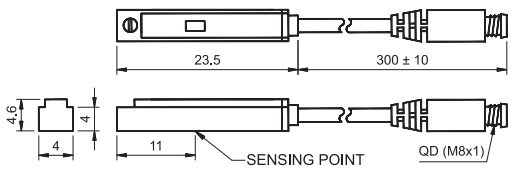
The pistons of these cylinders are equipped with a permanent magnet, which activates the cylinder switches when it approaches these. The switch in question then outputs an electrical or pneumatic signal.

Technical Specifications

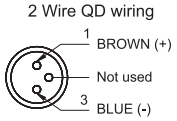
Circuit and connection diagram						
Model	**AM080**	**AM090**	**AM080**	**AM090**	**AM080**	**AM090**
Bore dia mm	16, 20, 25, 32, 40	10, 16, 20, 25, 32, 40	16, 20, 25, 32, 40	10, 16, 20, 25, 32, 40	16, 20, 25, 32, 40	10, 16, 20, 25, 32, 40
Wiring system	Two lead wire type		Three lead wire type			
Switching voltage	DC: 5 ~ 120V AC: 5 ~ 120V		DC: 5 ~ 30V			
Switching current	100mA max.		200mA max.			
Contact capacity	6W max.		6W max.			
Delay time	< 2ms (500Hz)		< 1ms (500Hz)			
Contact	Normally open		NPN. Current sinking		PNP. Current sourcing	
Production grade	IP-67					
Colour of LED	Red		Red		Green	
Cable	Ø 2.8 wire cable, 2M		Ø 3.3, 3 single wire, 2M			
Voltage drop	3.5 V max.		1 V max.			
Voltage consumption	---		OFF: 7mA (24V) ON: 8mA (24V) max			
Contact protective circuit	Non.		Yes			
Operating temperature	-10° to 70° C					

AM080

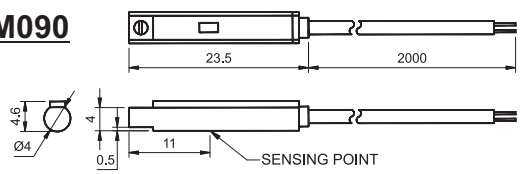


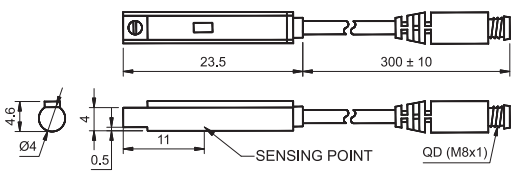


2 Wire QD wiring

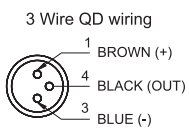


AM090





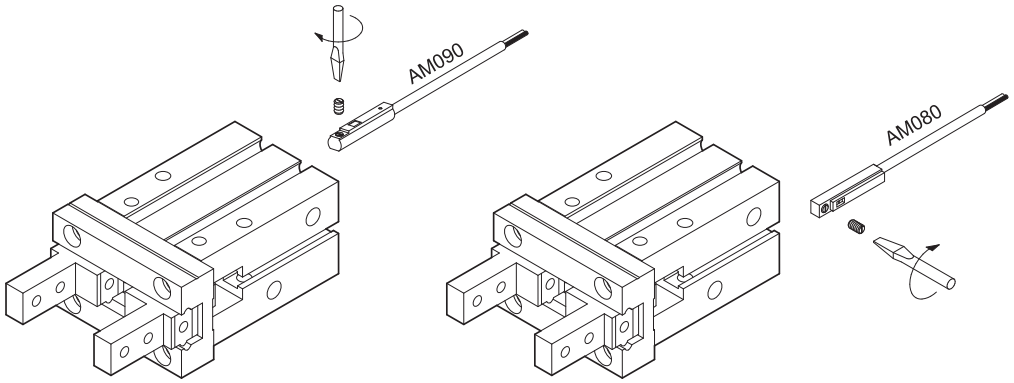
3 Wire QD wiring



PARALLEL GRIPPERS

Series AG1P

Sensing setting and Installation



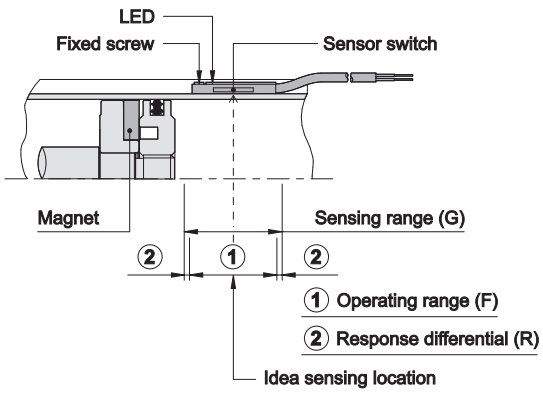
Sensing range

Sensor switch is fixed on the cylinder body. The magnetic piston head will activate the sensor switch when it enters the operating range. It has 0.5mm differential.

Operating range

When piston head moves the switch setting and adjustment will be based on the responding range generated by the magnetic field and the switch. (Please refer to the table)

Sensor switch setting and Operating range



Model	AM080 *	
Bore size	Operating range (F)	Response differential (R)
Ø10	5	1
Ø16	11.5	1
Ø20	10	1
Ø25	12	1
Ø32	10	1.2
Ø40	12	1.2

* AM080 mounting type is in the side

Model	AM090 *	
Bore size	Operating range (F)	Response differential (R)
Ø10	---	---
Ø16	5	1
Ø20	8	1
Ø25	8	1
Ø32	10	1
Ø40	13	1.2

* AM090 mounting type is in the front

How to order

AM080 OR **AM090** — **0** **FL-04** **S**

Switch type	End connection	Connection type
0 - Reed switch 2 wire type 2 - Solid state type, current sourcing (PNP) 3 - Solid state type, current sinking (NPN)	FL - 04 (Flying lead with 2 meter cable length) QD - 02 (Quick disconnector with 300 mm cable length)	S - Straight type L - Angle type

Ordering example :- Reed switch 2 wire type with Flying lead of 2 meter cable length, straight type connection : **AM080-0FL-04S**

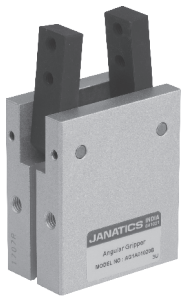
Subject to change

ANGULAR GRIPPERS

Series AG1A

Cat No AG1A - 01 - 01 - A

ANGULAR GRIPPERS - Ø10, 16, 20, 25, 32 mm



Features

- ❑ Suitable for handling small parts
- ❑ Hard anodised aluminium body
- ❑ Compact design
- ❑ Magnetic sensing as standard

Technical Specifications

Model		AG1A-10	AG1A-16	AG1A-20	AG1A-25	AG1A-32
Bore size		Ø10	Ø16	Ø20	Ø25	Ø32
Port size		M3 x 0.5	M5 x 0.8			
Fluid		Air				
Type of operation		Double acting				
Pressure range		1.5 - 7 bar				
Range of service temperature		0 to 60° C				
Max. operation frequency		80 min				
Lubrication	Cylinder	Lubrication free				
	Lever section	Required (Apply lubricating oil)				
Theoretical holding force (M) bar	Closed side	0.16 x P	0.8 x P	1.7 x P	3.4 x P	6.1 x P
	Opened side	0.26 x P	1.1 x P	2.3 x P	4.3 x P	8.1 x P
Length of maximum gripping point (L) mm		30	40	60	70	85
Effective gripping force (F) * bar		F = M / L x 0.85				
Lever open/close angles		-10° ~ +30°				
Magnet		With magnet				

* F: Effective gripping force, L: Gripping point length, M: Theoretical holding force, P: Pressure bar

Operating type and Data

Operating Type	Model	Bore dia (mm)	Minimum operating pressure (bar)	Thread port (mm)	Effective gripping force Kgf (N)	
Double Acting	AG1A-10	10	2.2	M3x0.5 - 4nos	Open	0.3 (3.6)
					Close	0.2 (2.2)
	AG1A-16	16	1	M3x0.5 - 4nos	Open	1.5 (15.2)
					Close	1.1 (11.1)
	AG1A-20	20	1	M4x0.7 - 4nos	Open	3.2 (31.9)
					Close	2.4 (23.6)
	AG1A-25	25	1	M5x0.8 - 4nos	Open	6 (59.6)
					Close	4.8 (47.2)
	AG1A-32	32	1	M6x1.0 - 4nos	Open	11.4 (112.4)
					Close	8.6 (84.6)

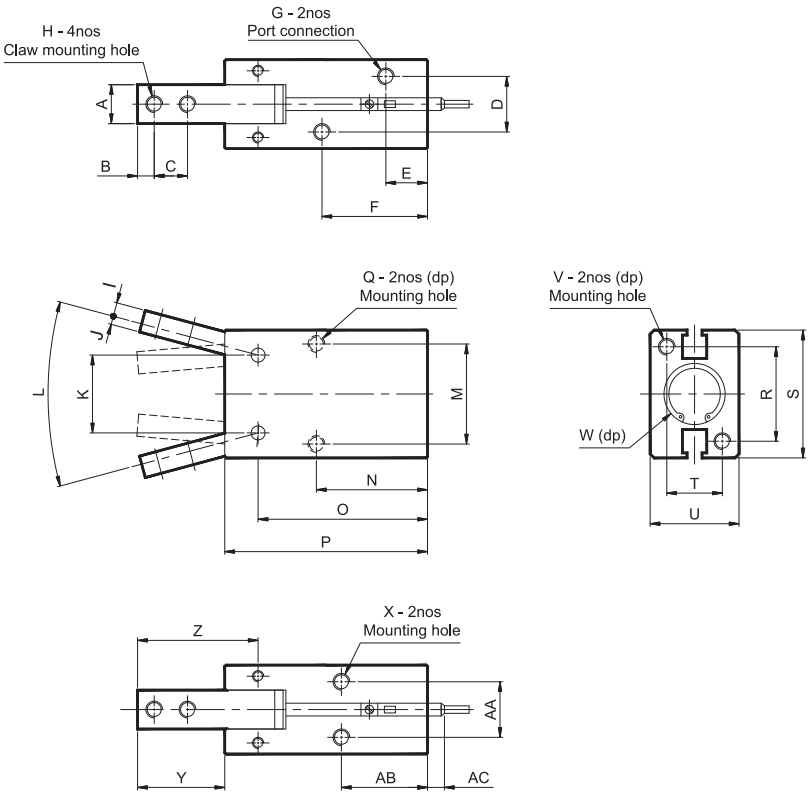
Note: The gripping force is the force of open and close gripper which is in the length of gripping point is 30mm and acting pressure is 5 bar

ANGULAR GRIPPERS

Series AG1A

Cat No AG1A - 01 - 01 - A

Basic Dimensions

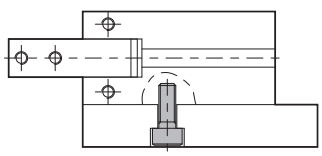


Bore dia (mm)	A $^{-0.01}_{-0.03}$	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
AG1A- 10	7	3	6	10	7.5	19	M3x0.5P	M3x0.5P	2.2	1.8	14	-10 ~ +30	18	20	30.5	36.5
AG1A- 16	9	3	8	12	7.5	25.5	M5x0.8P	M3x0.5P	3	3	24	-10 ~ +30	24	25.5	38	45.5
AG1A- 20	12	4	10	13	8	28	M5x0.8P	M4x0.7P	3.5	3.5	30	-10 ~ +30	30	28	42.5	53
AG1A- 25	14	5	12	18	9	31	M5x0.8P	M5x0.8P	5	4	36	-10 ~ +30	36	31.5	48.5	61
AG1A- 32	18	6	14	24	10	33.5	M5x0.8P	M6x1.0P	5	5	42	-10 ~ +30	44	37.5	54	68

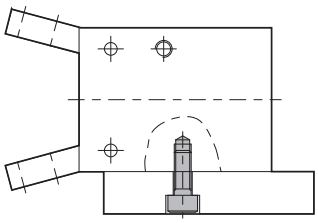
Bore dia (mm)	Q	R	S	T	U	V	ØW	X	Y	Z	AA	AB	AC max
AG1A- 10	M3x0.5Px7dp	17	23	10	16	M3x0.5Px5dp	11x1.3dp	M3x0.5P	15.7	21.7	10	15.5	2.5
AG1A- 16	M4x0.7Px11dp	26	34	14	22	M4x0.7Px7dp	17x1.5dp	M4x0.7P	17.5	25	14	21	2.5
AG1A- 20	M5x0.8Px13dp	35	45	16	26	M5x0.8Px8dp	21x1.5dP	M5x0.8P	22	32.5	16	22	2.5
AG1A- 25	M6x1.0Px16dp	40	52	20	32	M6x1.0Px10dp	26x1.5dP	M6x1.0P	26	38.5	20	24.5	2.5
AG1A- 32	M6x1.0Px16dp	46	60	26	40	M6x1.0Px10dp	34x2.0dp	M6x1.0P	30	44	26	30	2.5

Mounting type

1. Use the thread in the bottom



2. Use the thread in the side of body

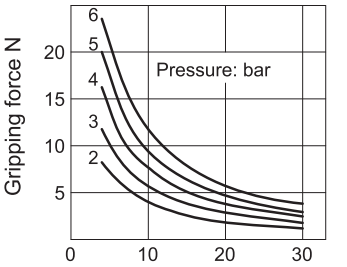


ANGULAR GRIPPERS

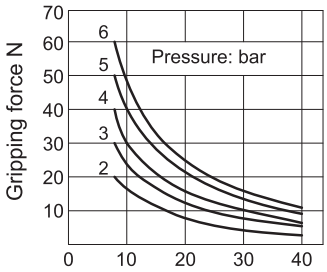
Series AG1A

Gripping force characteristic

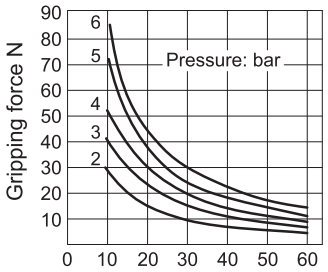
AG1A-10



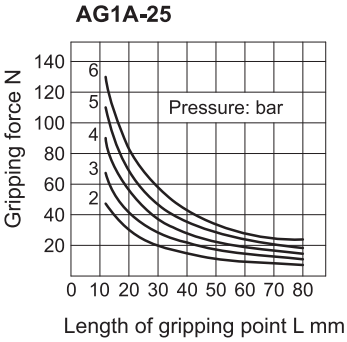
AG1A-16



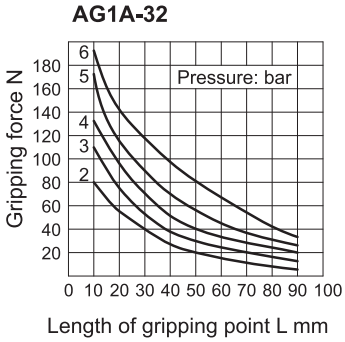
AG1A-20

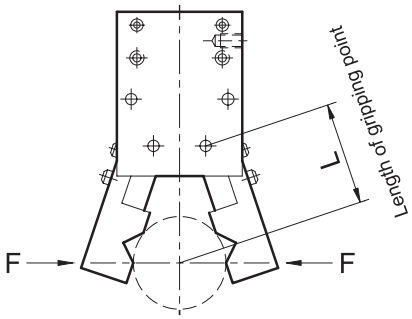


AG1A-25



AG1A-32





How to order

AG1A01 **040** **B**

Bore (mm)	
010	- Ø10
016	- Ø16
020	- Ø20
025	- Ø25
032	- Ø32

Mountings	
B	- Basic

Ordering Example:

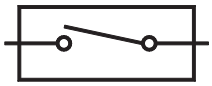
Ordering no. for angular gripper with 32 dia bore : **AG1A01032B**

ANGULAR GRIPPERS

Series AG1A

ACCESSORIES FOR ANGULAR GRIPPERS

MAGNETIC SENSOR - AM080



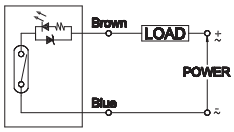
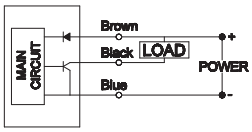
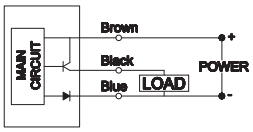
Features

- ❑ Integrated LED
- ❑ Moulded cable with flying lead and Quick Disconnect (QD) connector versions
- ❑ Direct mounting, simple installation
- ❑ Reed contact type & Solid state type versions

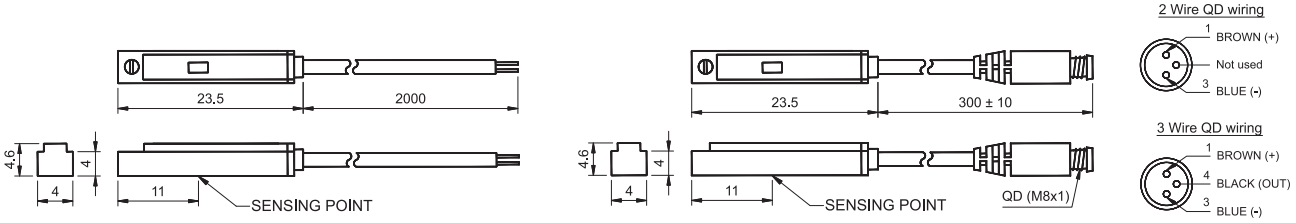
Function

The pistons of these cylinders are equipped with a permanent magnet, which activates the cylinder switches when it approaches these. The switch in question then outputs an electrical or pneumatic signal.

Technical Specifications

Circuit and connection diagram			
Model	**AM080**		
Bore dia mm	10, 16, 20, 25, 32		
Wiring system	Two lead wire type	Three lead wire type	
Switching voltage	DC: 5 ~ 120V AC: 5 ~ 120V	DC: 5 ~ 30V	
Switching current	100mA max.	200mA max.	
Contact capacity	6W max.	6W max.	
Delay time	< 2ms (500Hz)	< 1ms (500Hz)	
Contact	Normally open	NPN. Current sinking	PNP. Current sourcing
Production grade	IP-67		
Colour of LED	Red	Red	Green
Cable	Ø 2.8 wire cable, 2M	Ø 3.3, 3 single wire, 2M	
Voltage drop	3.5 V max.	1 V max.	
Voltage consumption	---	OFF: 7mA (24V) ON: 8mA (24V) max	
Contact protective circuit	Non.	Yes	
Operating temperature	-10° to 70° C		

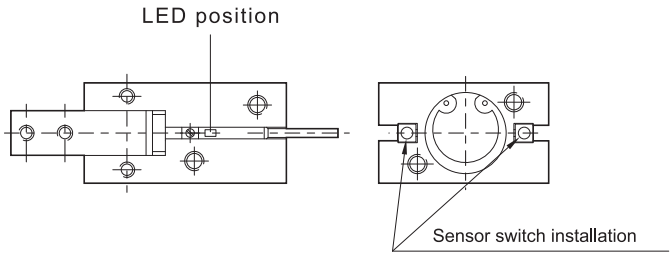
AM080

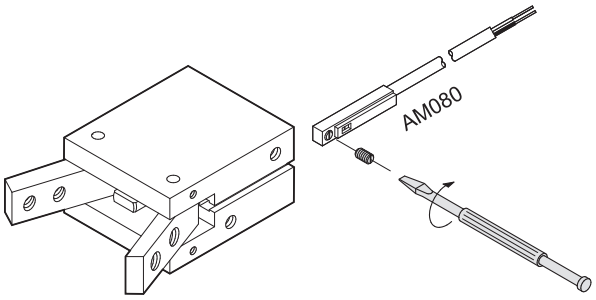


ANGULAR GRIPPERS

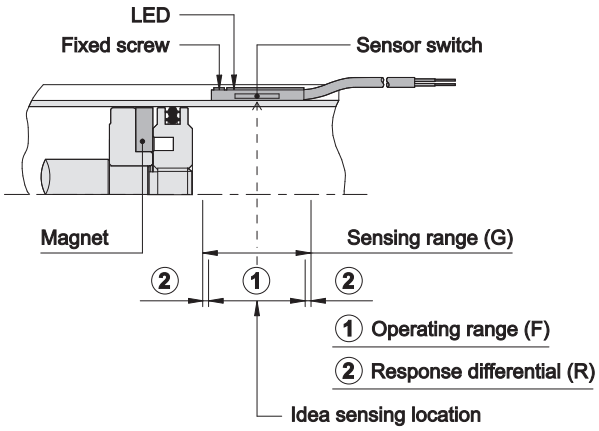
Series AG1A

Sensor switch installing and Position

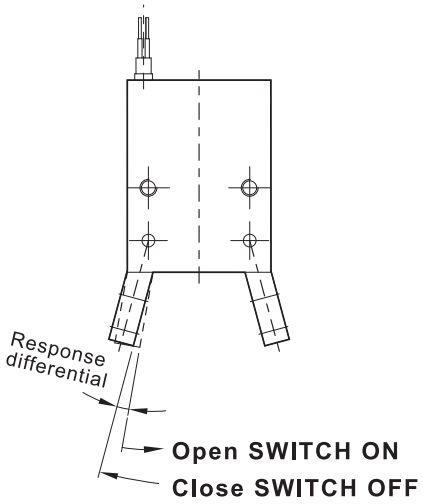




Sensor switch setting and Operating range



Response differential and Position adjustable



Sensing range

Sensor switch is fixed on the cylinder body. The magnetic piston head will activate the sensor switch when it enters the operating range. It has 0.5mm differential.

Operating range

When piston head moves the switch setting and adjustment will be based on the responding range generated by the magnetic field and the switch. (Please refer to the table)

Model	AM080	
Bore size	Operating range (F)	Response differential (R)
Ø10	3	1
Ø16	5	1
Ø20	8.5	1
Ø25	10	1.8
Ø32	10	2

How to order

AM080 — **0** **FL-04** **S**

Switch type
0 - Reed switch 2 wire type
2 - Solid state type, current sourcing (PNP)
3 - Solid state type, current sinking (NPN)

End connection
FL - 04 (Flying lead with 2 meter cable length)
QD - 02 (Quick disconnector with 300 mm cable length)

Connection type
S - Straight type
L - Angle type

Ordering example :- Reed switch 2 wire type with Flying lead of 2 meter cable length, Straight type connection : **AM080-0FL-04S**

Subject to change

THREE POINT CHUCK

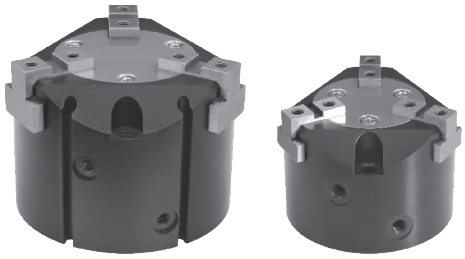
Series AG3J

Cat No AG3J - 01 - 01 - B

THREE POINT CHUCK - Ø16, 20, 25, 32, 40, 50, 63, 80, 100 mm

Features

- ❑ Constant center of gripping
- ❑ Hard anodised body
- ❑ Suitable for internal or external holding
- ❑ Compact design
- ❑ Magnetic sensing as standard

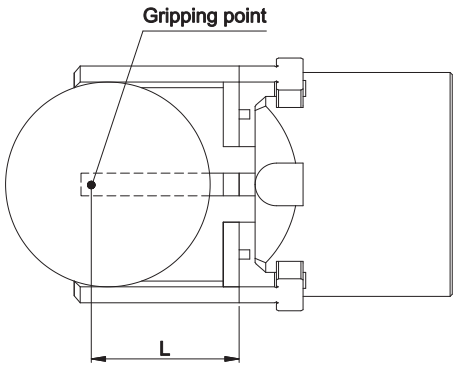


Technical Specifications

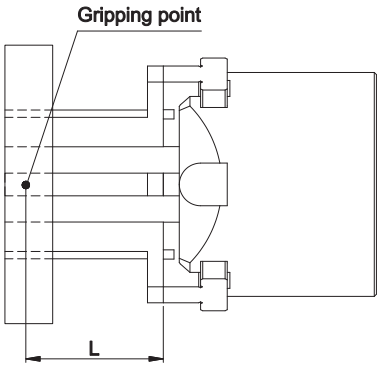
Model			AG3J-16	AG3J-20	AG3J-25	AG3J-32	AG3J-40	AG3J-50	AG3J-63	AG3J-80	AG3J-100
Bore size			Ø16	Ø20	Ø25	Ø32	Ø40	Ø50	Ø63	Ø80	Ø100
Port size	Side		M3		M5					1/8	1/4
	Bottom		-			M5					1/8
Fluid			Air								
Type of operation			Double acting								
Pressure range		bar	3 to 7								
Range of service temperature		C	0° to 60°								
Repetition accuracy		mm	± 0.01								
Maximum operation frequency		min	120			60				30	
Lubrication	Cylinder		Lubrication free								
	Lever section		Required (Apply to grease to sliding section)								
Gripping force	Internal diameter	N	14	25	30	70	131	282	446	578	946
	Outer diameter	N	16	28	35	82	149	314	496	641	1009
Lever open/close stroke		mm	4	4	6	8	8	12	16	20	24
Magnet device			With magnet								

Note: The gripping force for the pressure is 5 bar, gripping point L=20mm, please refer flow graph.

Length of gripping point



Out-side clamp



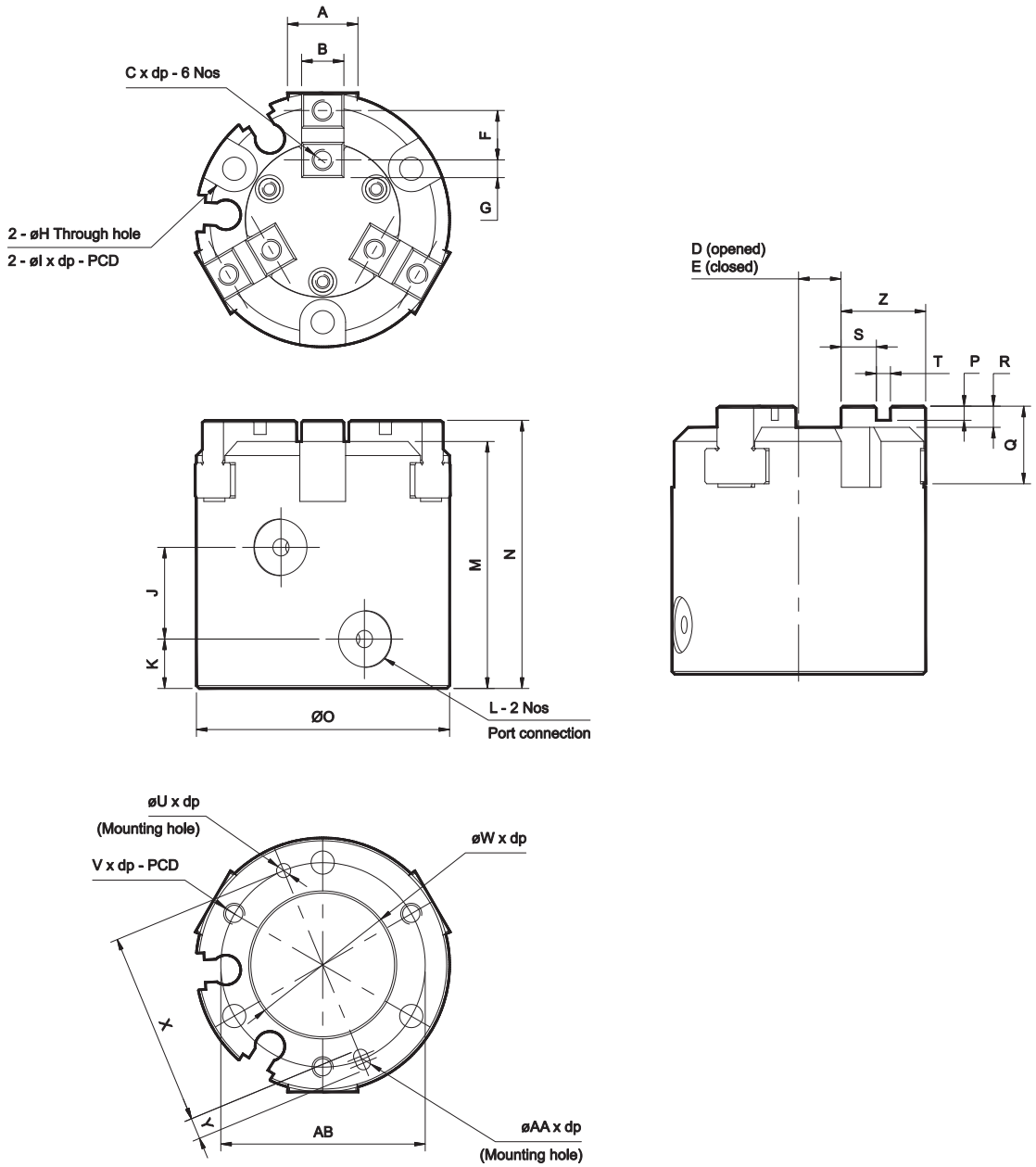
In-side clamp

THREE POINT CHUCK

Series AG3J

Cat No AG3J - 01 - 01 - B

AG3J-16, AG3J-20



Bore dia (mm)	A	B	C	D +1.0 -0.0	E +0.0 -0.5	F	G	H	I	J	K	L	M	N	O	P	Q	R
AG3J-16	8	5	M3x0.5Px4dp	7	5	6	2	Ø3.3	Ø6.5x7dp - PCD 25	9	8	M3x0.5P	32	35	Ø30	2	10	3
AG3J-20	10	6	M3x0.5Px6dp	8	6	7	2.5	Ø3.3	Ø6.5x8.5dp - PCD 29	13	7	M3x0.5P	35	38	Ø36	2	11	3

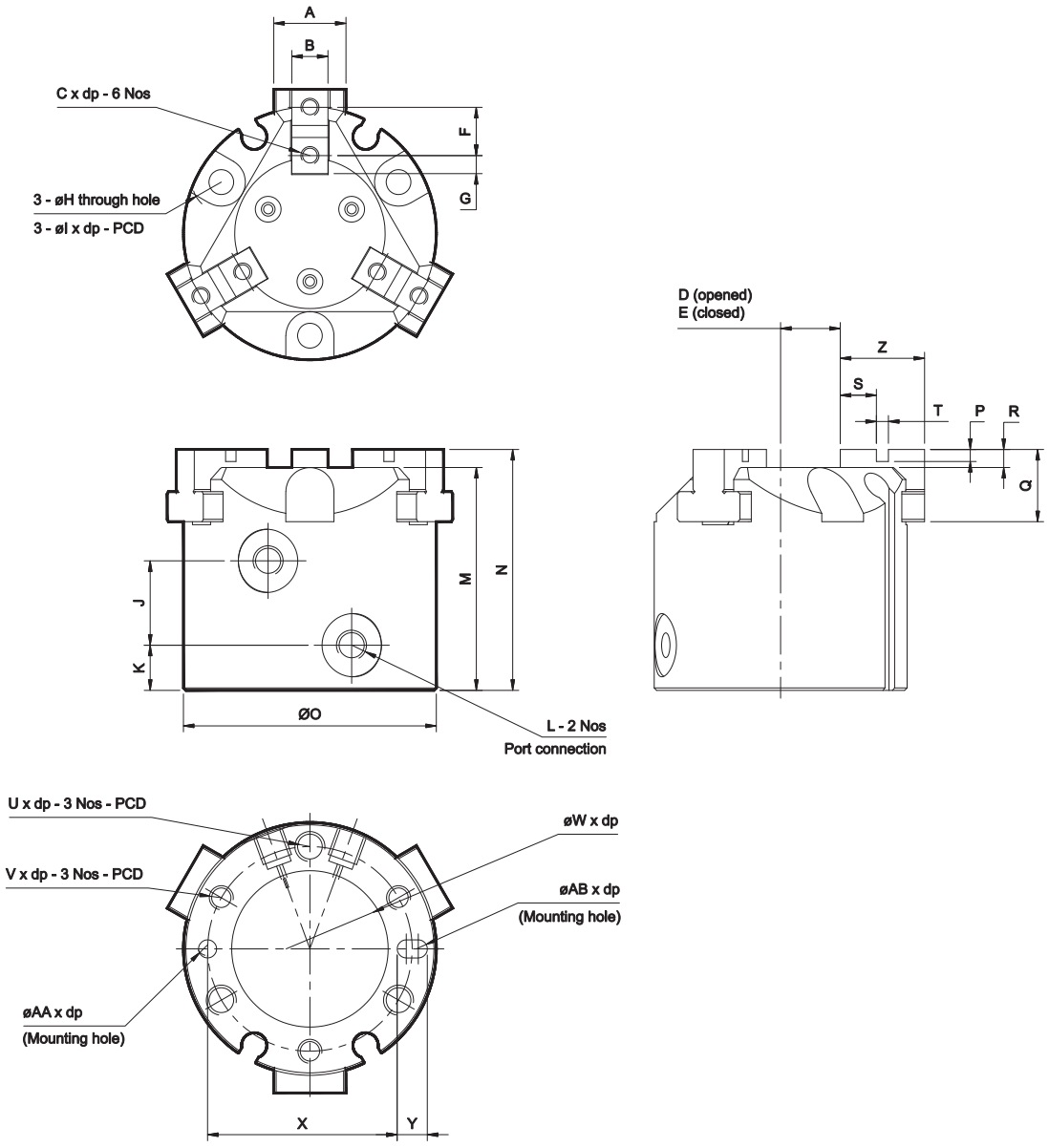
Bore dia (mm)	S	T +0.02 -0	U +0.02 -0	V	W +0.05 +0.02	X	Y	Z	AA +0.02 -0	AB
AG3J-16	4	2	Ø2x2.2dp	M3x0.5Px4.5dp - PCD 25	Ø17x3dp	23.5	3	10	Ø2x2.2dp	25
AG3J-20	5	2	Ø2x2.2dp	M3x0.5Px8dp - PCD 29	Ø21x2.8dp	27.5	3	12	Ø2x2.2dp	29

THREE POINT CHUCK

Series AG3J

Cat No AG3J - 01 - 01 - B

AG3J-25



Bore dia (mm)	A	B	C	D +1.0 -0.0	E +0.0 -0.5	F	G	H	I	J	K	L	M	N	O	P	Q	R
AG3J-25	12	6	M3x0.5Px6dp	13	10	8	3	Ø4.2	Ø8x9dp - PCD 34	14	7.5	M5x0.8P	37	40	Ø42	2	12	3

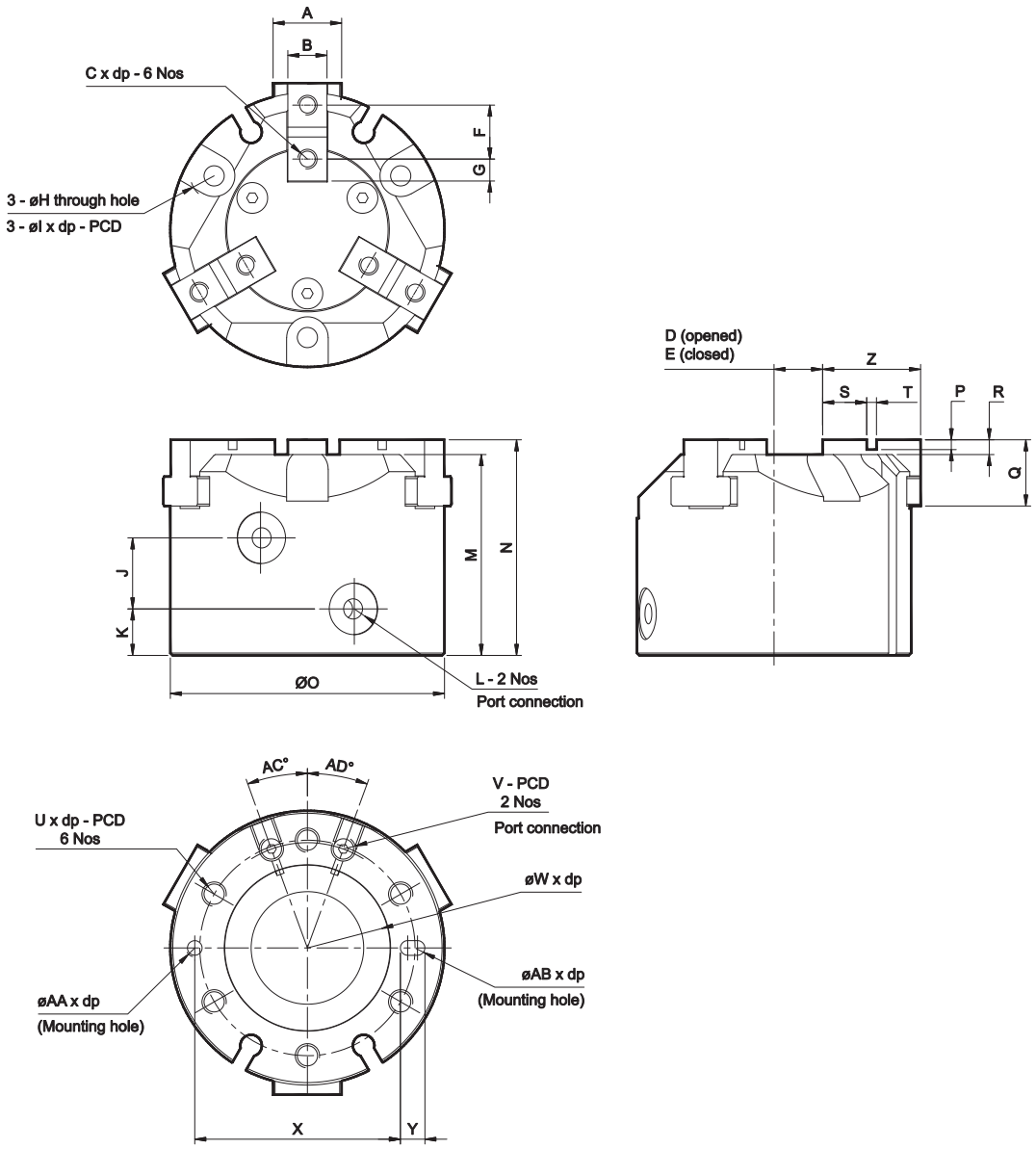
Bore dia (mm)	S	T +0.02 -0	U	V	W +0.05 +0.02	X	Y	Z	AA +0.02 -0	AB +0.02 -0
AG3J-25	6	2	M5x0.8Px10dp - PCD 34	M4x0.7Px10dp - PCD 34	Ø26x1.5dp	31.5	5	14	Ø3x3dp	Ø3x3dp

THREE POINT CHUCK

Series AG3J

Cat No AG3J - 01 - 01 - B

AG3J-32, AG3J-40, AG3J-50, AG3J-63



Bore dia (mm)	A	B	C	D +1.0 -0.0	E +0.0 -0.5	F	G	H	I	J	K	L	M	N	O	P	Q	R
AG3J-32	14	8	M4x0.7Px9dp	14	10	11	4.5	Ø4.2	Ø8x9.5dp - PCD 44	14.5	9.5	M5x0.8P	41	44	Ø56	2	13.5	3
AG3J-40	16	8	M4x0.7Px9dp	16	12	12	4.5	Ø5.1	Ø9.5x12dp - PCD 53	14	10	M5x0.8P	44	47	Ø62	2	15	3
AG3J-50	18	10	M5x0.8Px10dp	19	13	14	5	Ø5.1	Ø9.5x11.5dp - PCD 62	18	10	M5x0.8P	52	55	Ø70	2	17.5	3
AG3J-63	24	12	M5x0.8Px10dp	25.5	17.5	17	5.5	Ø6.5	Ø11x15dp - PCD 76	22	12	M5x0.8P	62	66	Ø86	3	22	4

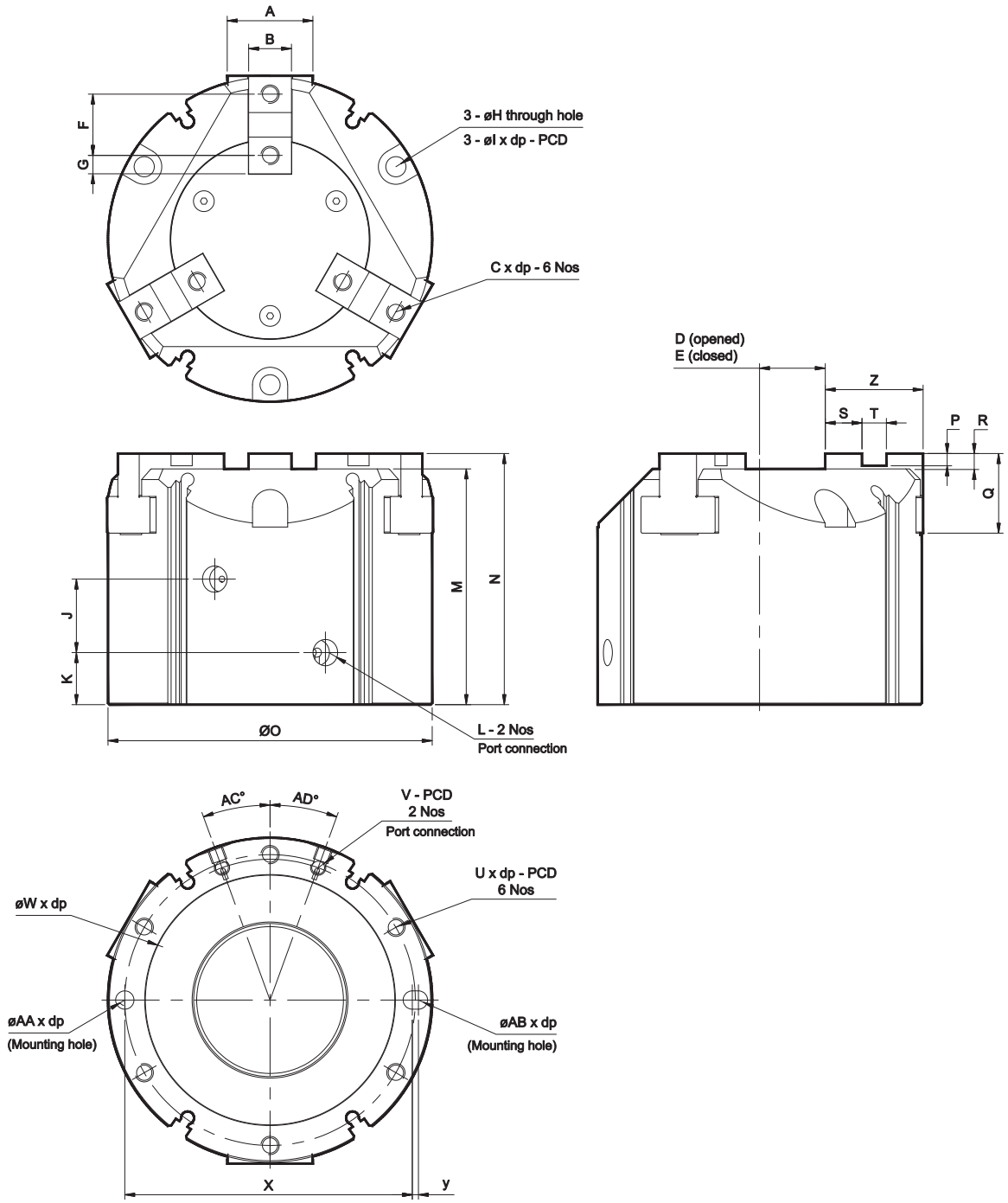
Bore dia (mm)	S	T +0.02 -0	U	V	W +0.02 +0.05	X	Y	Z	AA +0.02 -0	AB +0.02 -0	AC°	AD°
AG3J-32	9	2	M5x0.8Px10dp - PCD 44	M5x0.8P - PCD 43	Ø34x0.75dp	42	5	20	Ø3x3dp	Ø3x3dp	20	20
AG3J-40	9	3	M6x1.0Px14dp - PCD 53	M5x0.8P - PCD 51	Ø42x0.9dp	50	6	21	Ø4x4dp	Ø4x4dp	20	20
AG3J-50	10	4	M6x1.0Px14dp - PCD 62	M5x0.8P - PCD 61	Ø52x1.5dp	59	6	24	Ø4x4dp	Ø4x4dp	20	20
AG3J-63	11	6	M6x1.0Px14dp - PCD 76	M5x0.8P - PCD 76	Ø65x2dp	72.5	7	28	Ø5x5dp	Ø5x5dp	20	20

THREE POINT CHUCK

Series AG3J

Cat No AG3J - 01 - 01 - B

AG3J-80



Bore dia (mm)	A	B	C	D +1.0 -0.0	E +0.0 -0.5	F	G	H	I	J	K	L	M	N	O	P	Q	R
AG3J-80	28	14	M6x1.0Px12dp	31.5	21.5	20	6	Ø6.8	Ø11.5x19dp - PCD 95	24	17	G1/8	77	82	Ø106	4	26	5

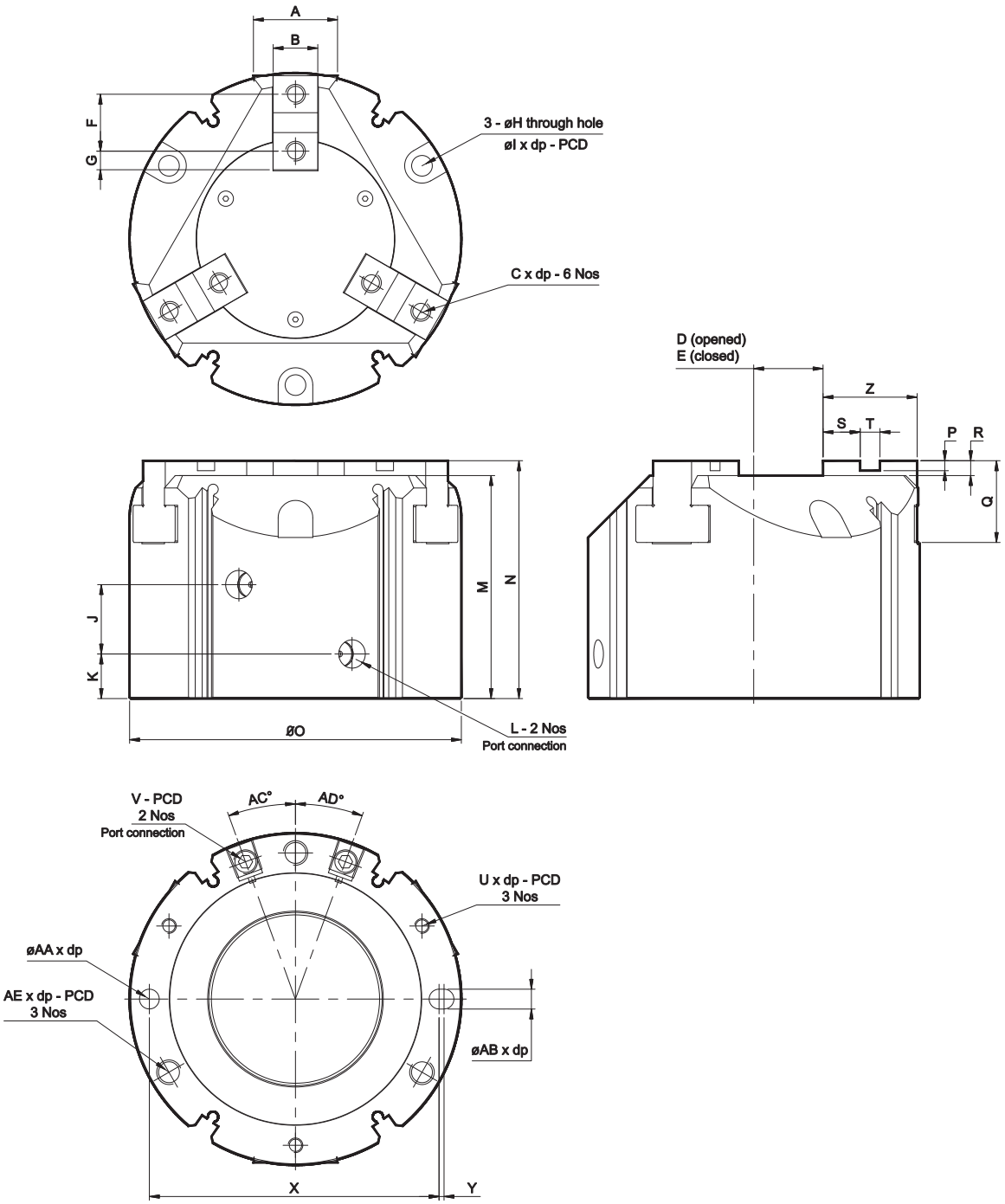
Bore dia (mm)	S	T +0.03 -0	U	V	W +0.05 +0.02	X	Y	Z	AA +0.03 -0	AB +0.03 -0	AC°	AD°
AG3J-80	12	8	M6x1.0Px12dp - PCD 95	M5x0.8P - PCD 92	Ø82x2dp	94	2	32	Ø6x6dp	Ø6x6dp	20	20

THREE POINT CHUCK

Series AG3J

Cat No AG3J - 01 - 01 - B

AG3J-100



Bore dia (mm)	A	B	C	D +1.0 -0.0	E +0.0 -0.5	F	G	H	I	J	K	L	M	N	O	P	Q	R
AG3J-100	34	18	M8x1.25Px16dp	40	28	23	7.5	Ø8.5	Ø14x25dp - PCD 118	28	18	G1/4	90	96	Ø134	4	33	6

Bore dia (mm)	S	T +0.03 -0	U	V	X	Y	Z	AA +0.03 -0	AB +0.03 -0	AC°	AD°	AE
AG3J-100	15	8	M8x1.25Px16dp - PCD 118	G1/8 - PCD 118	117	2	38	Ø8x6dp	Ø8x6dp	20	20	M10x1.5Px20dp - PCD 118

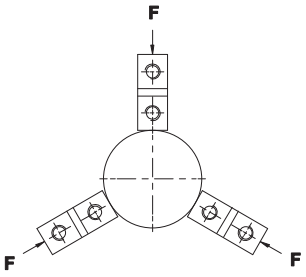
THREE POINT CHUCK

Series AG3J

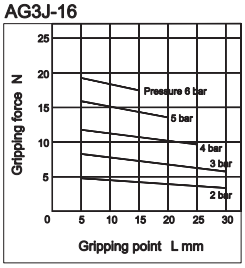
Cat No AG3J - 01 - 01 - B

Gripping force characteristic

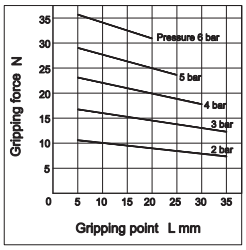
Out-side clamp



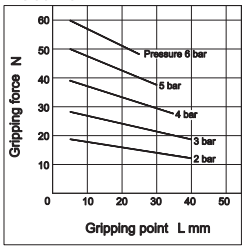
AG3J-16



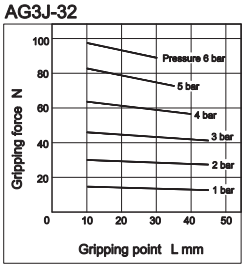
AG3J-20



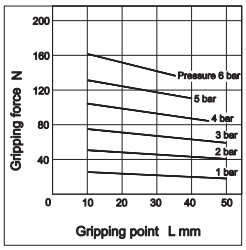
AG3J-25



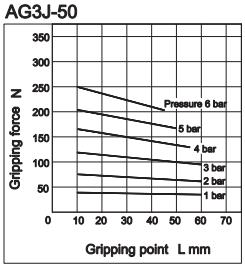
AG3J-32



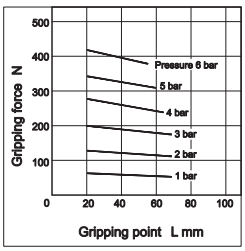
AG3J-40



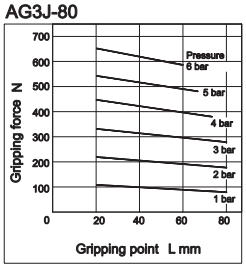
AG3J-50



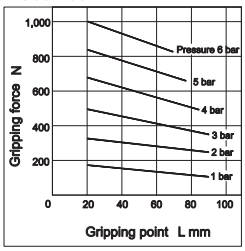
AG3J-63



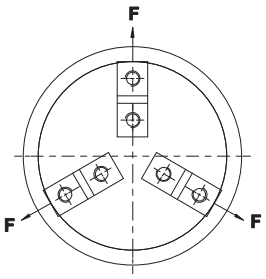
AG3J-80



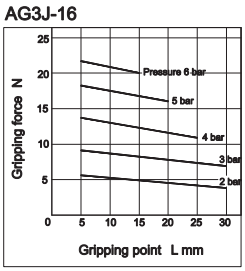
AG3J-100



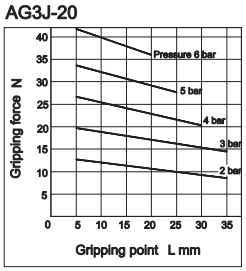
In-side clamp



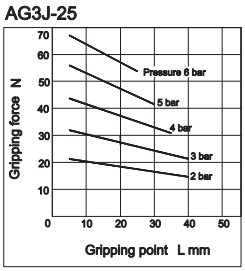
AG3J-16



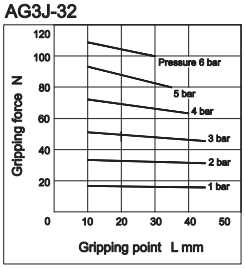
AG3J-20



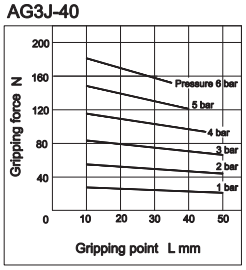
AG3J-25



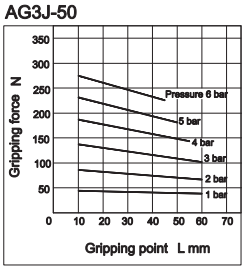
AG3J-32



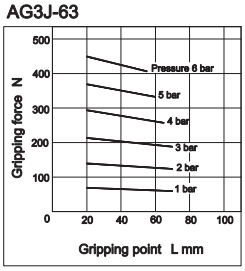
AG3J-40



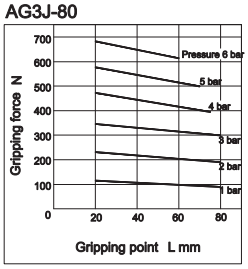
AG3J-50



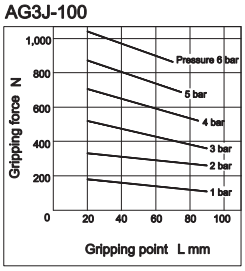
AG3J-63



AG3J-80



AG3J-100

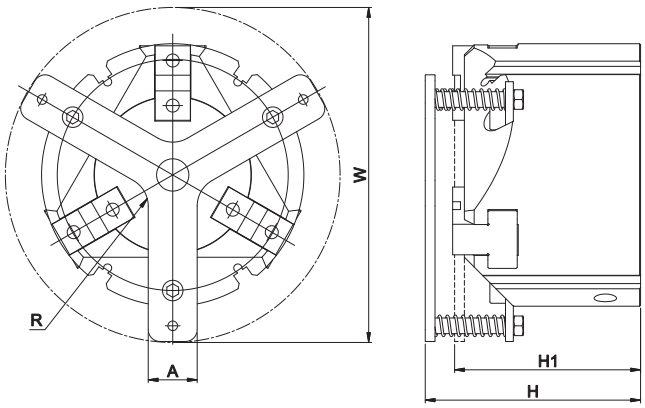


THREE POINT CHUCK

Series AG3J

Cat No AG3J - 01 - 01 - B

Three point chuck with push plate external dimensions



Item / Model		AG3J-25	AG3J-32	AG3J-40	AG3J-50	AG3J-63	AG3J-80	AG3J-100
Mechanical dimensions	Height (**H**)	46.5	50	56	64	77	92	110
	Width (**W**)	70	79	87	96	121	140	171
	A	9	10	13	14	16	20	25
	R	R6	R6	R8	R8	R8	R10	R15
	Push plate Position (**H1**)	40	44	48	56	67	82	95

How to order

AG3J01 **040** **B**

Bore (mm)	
016	- Ø16
020	- Ø20
025	- Ø25
032	- Ø32
040	- Ø40
050	- Ø50
063	- Ø63
080	- Ø80
100	- Ø100

Mountings	
B	- Basic
P	- Push plate

Note:
Push plate Ø25 to Ø100mm only available.

Ordering Example:

Ordering no. for three point chuck with 40 dia bore: **AG3J01040B**

Ordering no. for three point chuck with 40 dia bore with Push plate: **AG3J01040P**

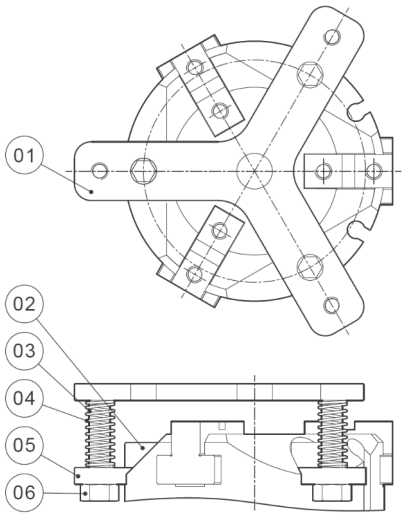
THREE POINT CHUCK

Series AG3J

ACCESSORIES FOR THREE POINT CHUCK

Push Plate

Components and material list



S. No.	Part name	Material
01	Push plate	Stainless steel
02	Screw	Stainless steel
03	Guide rod	Stainless steel
04	Spring	Stainless steel
05	Bracket	Stainless steel
06	Nut	Stainless steel

How to order

AGJP **040**

Bore (mm)	
025	- Ø25
032	- Ø32
040	- Ø40
050	- Ø50
063	- Ø63
080	- Ø80
100	- Ø100

Ordering Example:

Ordering no. for Three point chuck Push plate 100 dia bore : **AGJP100**

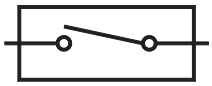
THREE POINT CHUCK

Series AG3J

Cat No AG3J - 01 - 01 - B

ACCESSORIES FOR THREE POINT CHUCK

MAGNETIC SENSOR - AM090



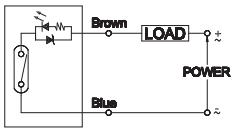
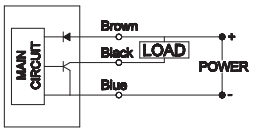
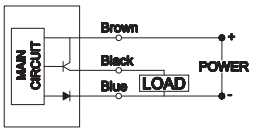
Features

- ❑ Integrated LED
- ❑ Moulded cable with flying lead and Quick Disconnect (QD) connector versions
- ❑ Direct mounting, simple installation
- ❑ Reed contact type & Solid state type versions

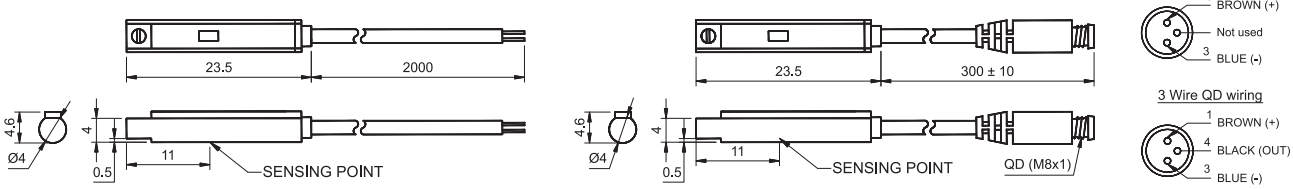
Function

The pistons of these cylinders are equipped with a permanent magnet, which activates the cylinder switches when it approaches these. The switch in question then outputs an electrical or pneumatic signal.

Technical Specifications

Circuit and connection diagram			
Model	**AM090**		
Bore dia	16, 20, 25, 32, 40, 50, 63, 80, 100 mm		
Wiring system	Two lead wire type	Three lead wire type	
Switching voltage	DC: 5 ~ 120V AC: 5 ~ 120V	DC: 5 ~ 30V	
Switching current	100mA max.	200mA max.	
Contact capacity	6W max.	6W max.	
Delay time	< 2ms (500Hz)	< 1ms (500Hz)	
Contact	Normally open	NPN. Current sinking	PNP. Current sourcing
Production grade	IP-67		
Colour of LED	Red	Red	Green
Cable	Ø 2.8 wire cable, 2M	Ø 3.3, 3 single wire, 2M	
Voltage drop	3.5 V max.	1 V max.	
Voltage consumption	---	OFF: 7mA (24V) ON: 8mA (24V) max	
Contact protective circuit	Non.	Yes	
Operating temperature	-10° to 70° C		

AM090

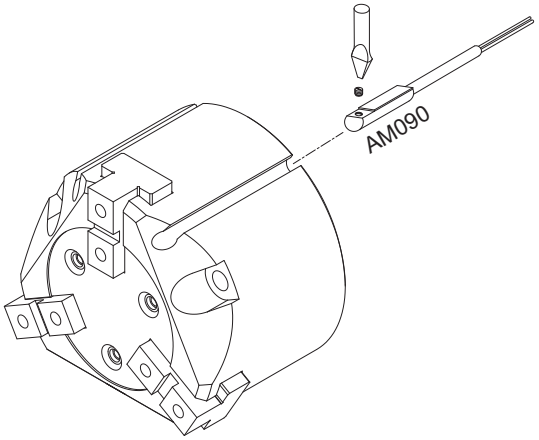


THREE POINT CHUCK

Series AG3J

Cat No AG3J - 01 - 01 - B

Sensor switch installing and Position



Sensing range

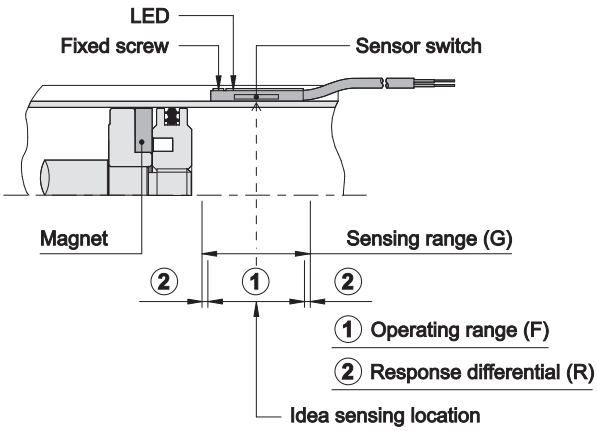
Sensor switch is fixed on the cylinder body. The magnetic piston head will activate the sensor switch when it enters the operating range. It has 0.5mm differential.

Operating range

When piston head moves the switch setting and adjustment will be based on the responding range generated by the magnetic field and the switch. (Please refer to the table)

Model	AM090	
Bore size	Operating range (F)	Response differential (R)
Ø25	07 (03)	1
Ø32	10 (07)	1
Ø40	12 (09)	1
Ø50	14 (12)	1
Ø63	17 (14)	1.2

Sensor switch setting and Operating range



How to order

AM090 — **0** **FL-04** **S**

Switch type
0 - Reed switch 2 wire type
2 - Solid state type, current sourcing (PNP)
3 - Solid state type, current sinking (NPN)

End connection
FL - 04 (Flying lead with 2 meter cable length)
QD - 02 (Quick disconnector with 300 mm cable length)

Connection type
S - Straight type
L - Angle type

Ordering example :- Reed switch 2 wire type with Flying lead of 2 meter cable length, straight type connection : **AM090-0FL-04S**

Subject to change

ROTARY ACTUATOR

Series A1R

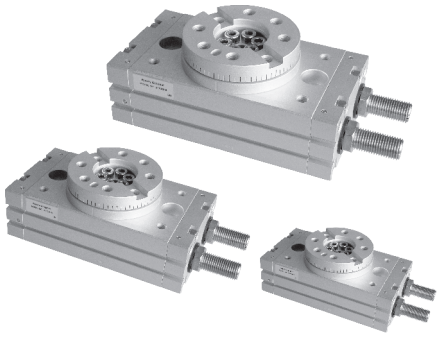
Cat No A1R - 01 - 01 - A

ROTARY ACTUATOR

A1R-10, A1R-12, A1R-15, A1R-18, A1R-20, A1R-25, A1R-28, A1R-32, A1R-40, A1R-50, A1R-63

Features

- ❑ Key slot type
- ❑ Sizes available - Ø10, 12, 15, 18, 20, 25, 28, 32, 40, 50, 63 mm
- ❑ Choice of 90° or 180° rotation options
- ❑ Angle of rotation adjustable by 45°
- ❑ Magnetic sensing as standard
- ❑ Compact design



Technical Specifications

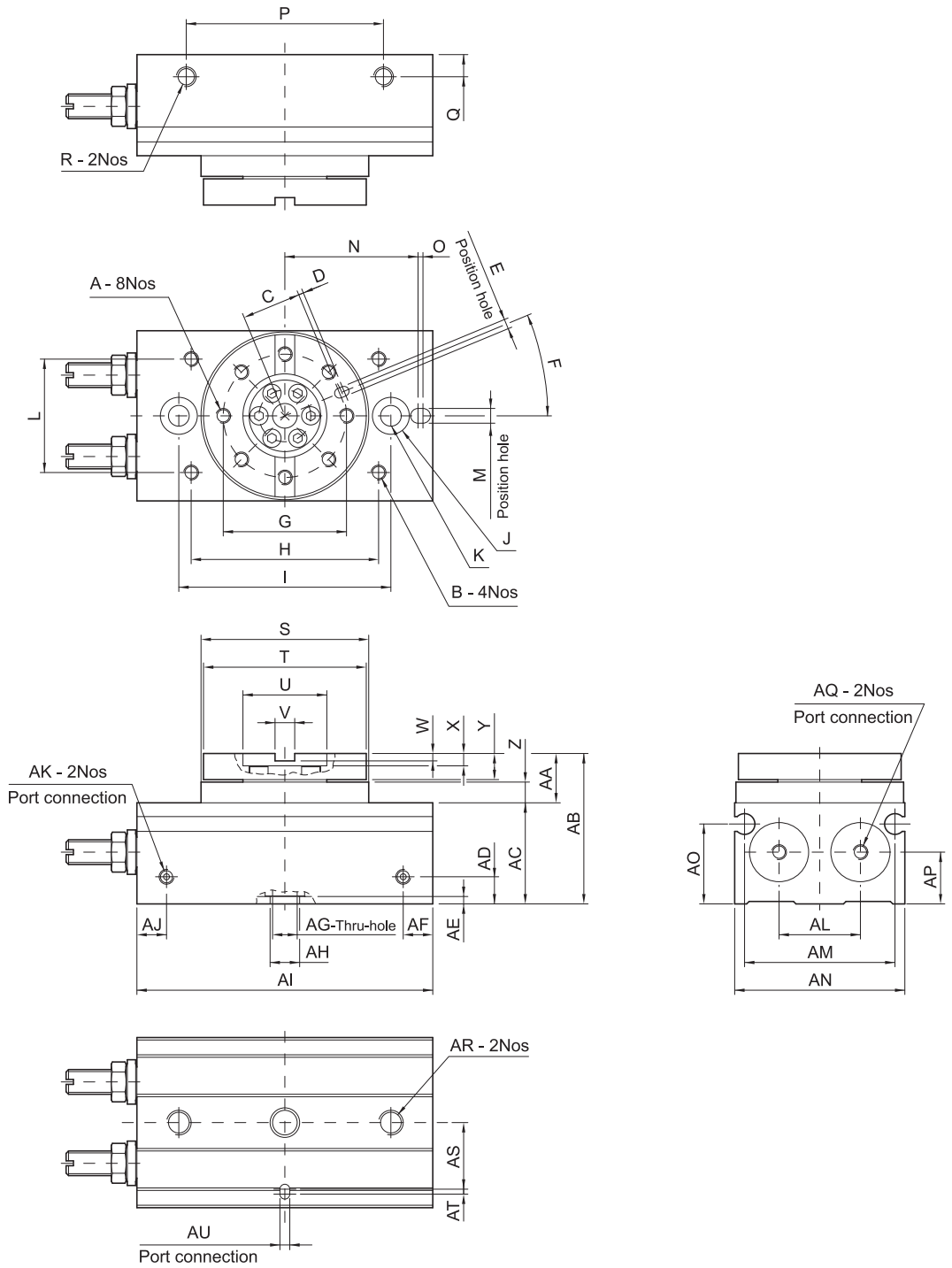
Model		A1R-10	A1R-12	A1R-15	A1R-18	A1R-20	A1R-25	A1R-28	A1R-32	A1R-40	A1R-50	A1R-63
Bore size Ø mm		10	12	15	18	20	25	28	32	40	50	63
Port size		M3x0.5P	M5x0.8P			1/8"						
Fluid		Air										
Type of operation		Double acting										
Range of pressure		1.5 - 7 bar										
Range of service temperature		-10° to +60° C										
Torque N.m		0.3	0.6	1.5	2.2	3.2	5.5	7.5	9.8	19	31	45
Rotation angle		180°										
Adjustable angle		0° to 190°										
Action capacity	Adjusting screw	0.002	0.006	0.007	0.025	0.048	0.81	0.24	0.32	0.56	1	1.5
	Shock absorber	---	---	0.039	0.116	0.116	0.294	1.1	1.6	2.9	3.5	5.2
Weight Kg		0.150	0.250	0.530	0.990	1.290	2.100	2.890	4.100	7.650	8.960	11.170

ROTARY ACTUATOR

Series A1R

Cat No A1R - 01 - 01 - A

Basic Dimensions - A1R-10, A1R-12



Model	A	B	C	D	E	F°	G	H	I	ØJ	ØK	L	M	N	O	P	Q	R	ØS	ØT	ØU	V	W
A1R- 10	M3x0.5P	M3x0.5Px3.5dp	12	1	2x2dp	22.5	25	38	43	4.2	7.5x4.5dp	23	2x2dp	27	1	40	4.5	M4x0.7Px4dp	34	33	17	4	1.5
A1R- 12	M4x0.7P	M4x0.7Px4.5dp	14	1	3x3dp	22.5	29	45	50	4.2	7.5x4.5dp	30	3x3dp	32.5	1	50	5	M5x0.8Px5dp	40	39	20	5	2

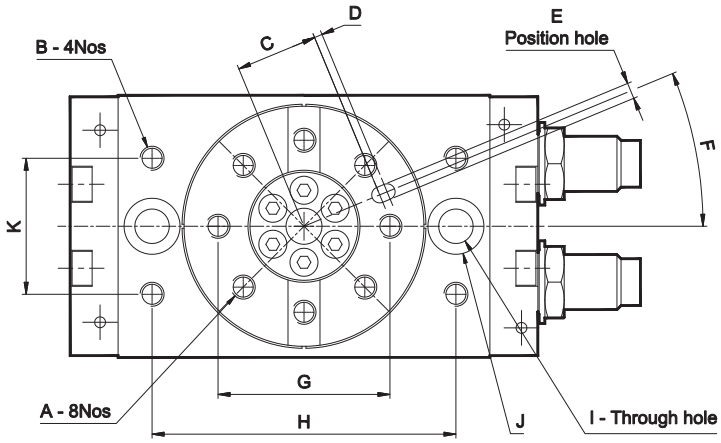
Model	X	Y	Z	AA	AB	AC	AD	AE	AF	ØAG	ØAH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU
A1R- 10	2.5	5.3	4.2	10	30.5	20.5	5.5	1.2	6	5	6	60	6	M3x0.5P	16.5	30.5	34.5	16.2	10.5	M3x0.5P	M5x0.8Px6dp	13.5	1	2x2dp
A1R- 12	2.5	6.5	4.5	11.5	34.5	23	5.5	1.2	9	6	7	73.5	9	M5x0.8P	19.2	37	41	17	12.5	M5x0.8P	M5x0.8Px6dp	15.5	1	3x3dp

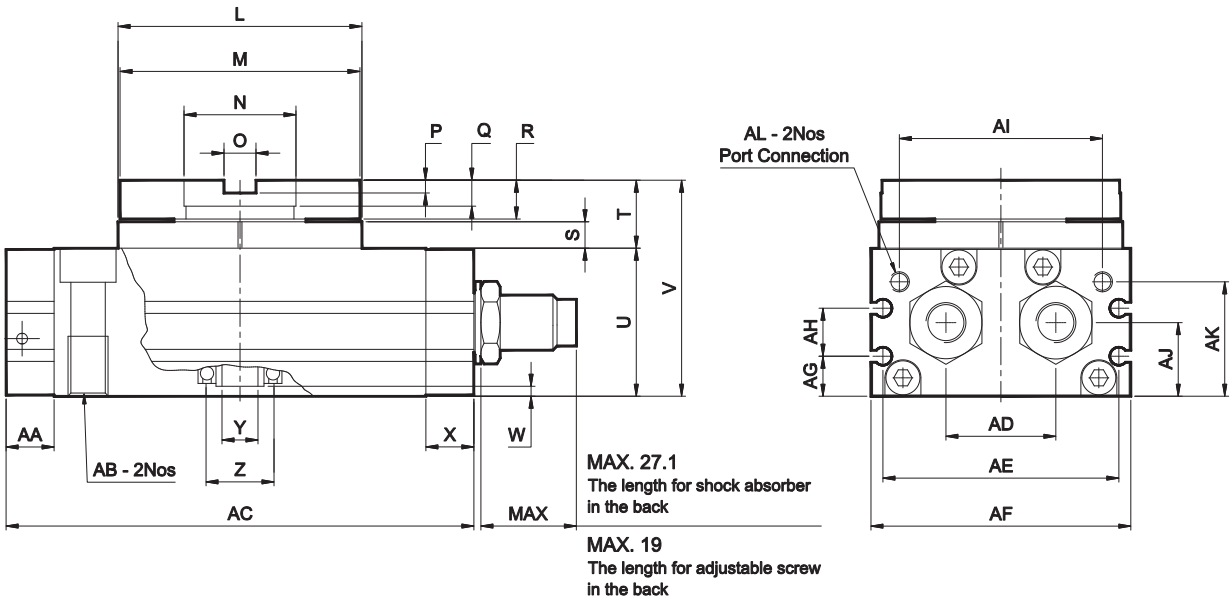
ROTARY ACTUATOR

Series A1R

Cat No A1R - 01 - 01 - A

Basic Dimensions - A1R-15, A1R-18, A1R-20, A1R-25mm





Model	A	B	C	D	E	F°	G	H	ØI	ØJ	K	ØL	ØM	ØN	ØO	P	Q	R	S
A1R- 15	M5x0.8P	M5x0.8Px8dp	15	2	3x3.5dp	22.5	32	60	6.8	11x6.5dp	27	46	45	20	6	2.7	4	8	4.5
A1R- 18	M6x1.0P	M6x1.0Px10dp	20.5	2	4x5dp	22.5	43	76	8.6	14x8.5dp	34	61	60	28	8	3.2	6.5	9.7	6.6
A1R- 20	M6x1.0P	M6x1.0Px10dp	23	2	4x4.5dp	22.5	48	84	8.6	14x8.5dp	37	67	65	32	8	3.7	4.5	10	6.5
A1R- 25	M8x1.25P	M8x1.25Px10dp	26.5	2	5x5.5dp	22.5	55	100	10.5	17x10.5dp	50	77	75	35	10	4.2	5	12	7.5

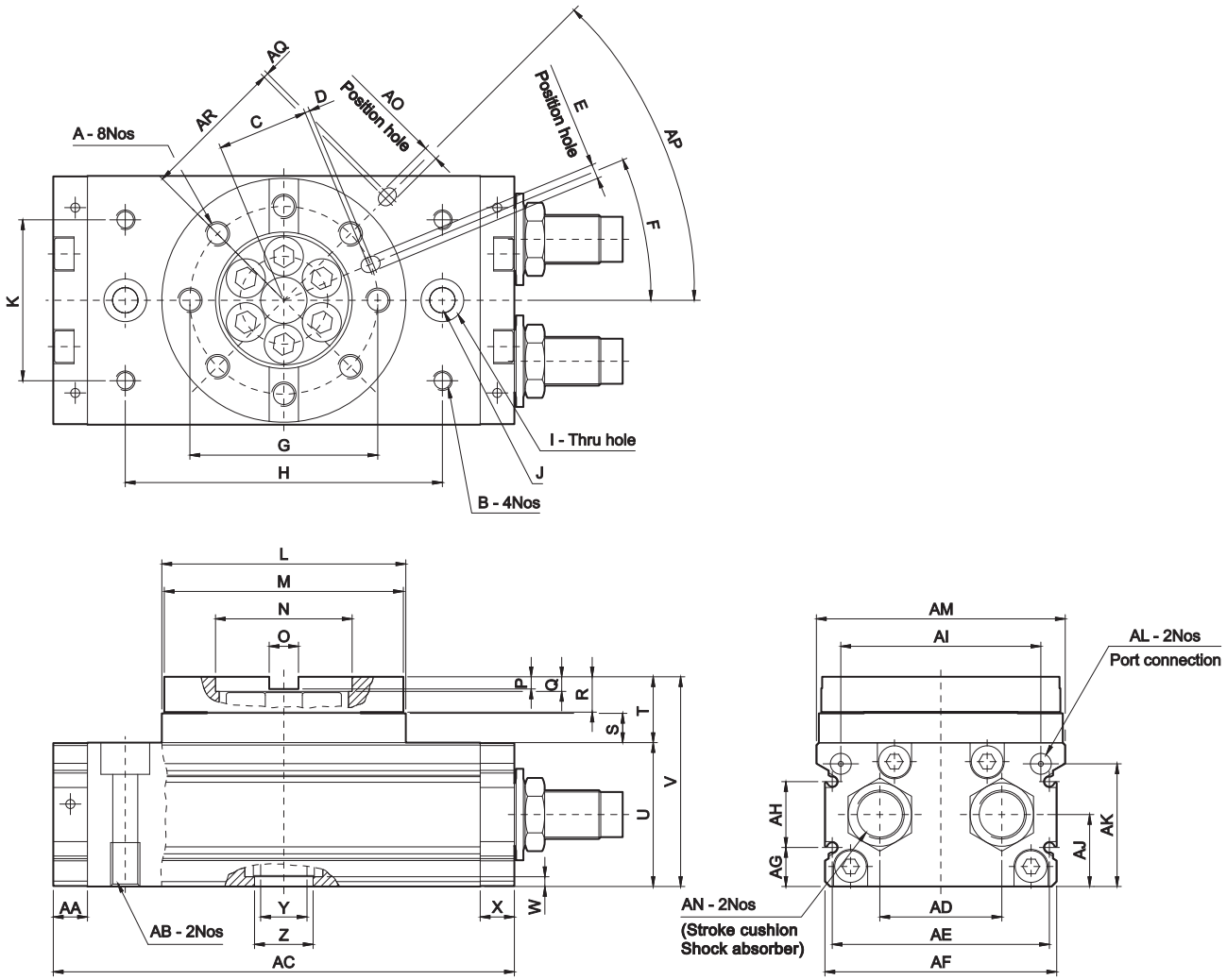
Model	T	U	V	W	X	ØY	ØZ	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL
A1R- 15	13	34	47	2.5	9.5	5	15	9.5	M8x1.25Px12dp	92	18	44	50	9	13	35	15.5	28.2	M5x0.8P
A1R- 18	17	37	54	2.5	12	9	17	12	M10x1.5Px15dp	117	27.5	59	65	10	12	50.8	16	28.6	M5x0.8P
A1R- 20	17	40	57	3	12	9	22	12	M10x1.5Px15dp	127	29	64	70	11.5	14	52	18.5	33	1/8"
A1R- 25	20	46	66	2	15.5	10	26	15.5	M12x1.75Px18dp	152	38	74	80	14.5	15	62	22	37.5	1/8"

ROTARY ACTUATOR

Series A1R

Cat No A1R - 01 - 01 - A

Basic Dimensions - A1R-28, A1R-32



Model	A	B	C	D	E	F°	G	H	ØI	ØJ	K	ØL	ØM	ØN	ØO	P	Q	R	S	T	U
A1R- 28	M8x1.25P	M8x1.25Px10dp	32.5	2	5x3.5dp	22.5	67	110	10.5	17x10.5dp	57	90	88	46	10	4.2	5	12.5	9	22	53
A1R- 32	M10x1.5P	M8x1.25Px10dp	37.5	2	6x4.5dp	22.5	77	130	10.5	17x10.5dp	66	100	98	56	12	5	6	14.5	12	27	59

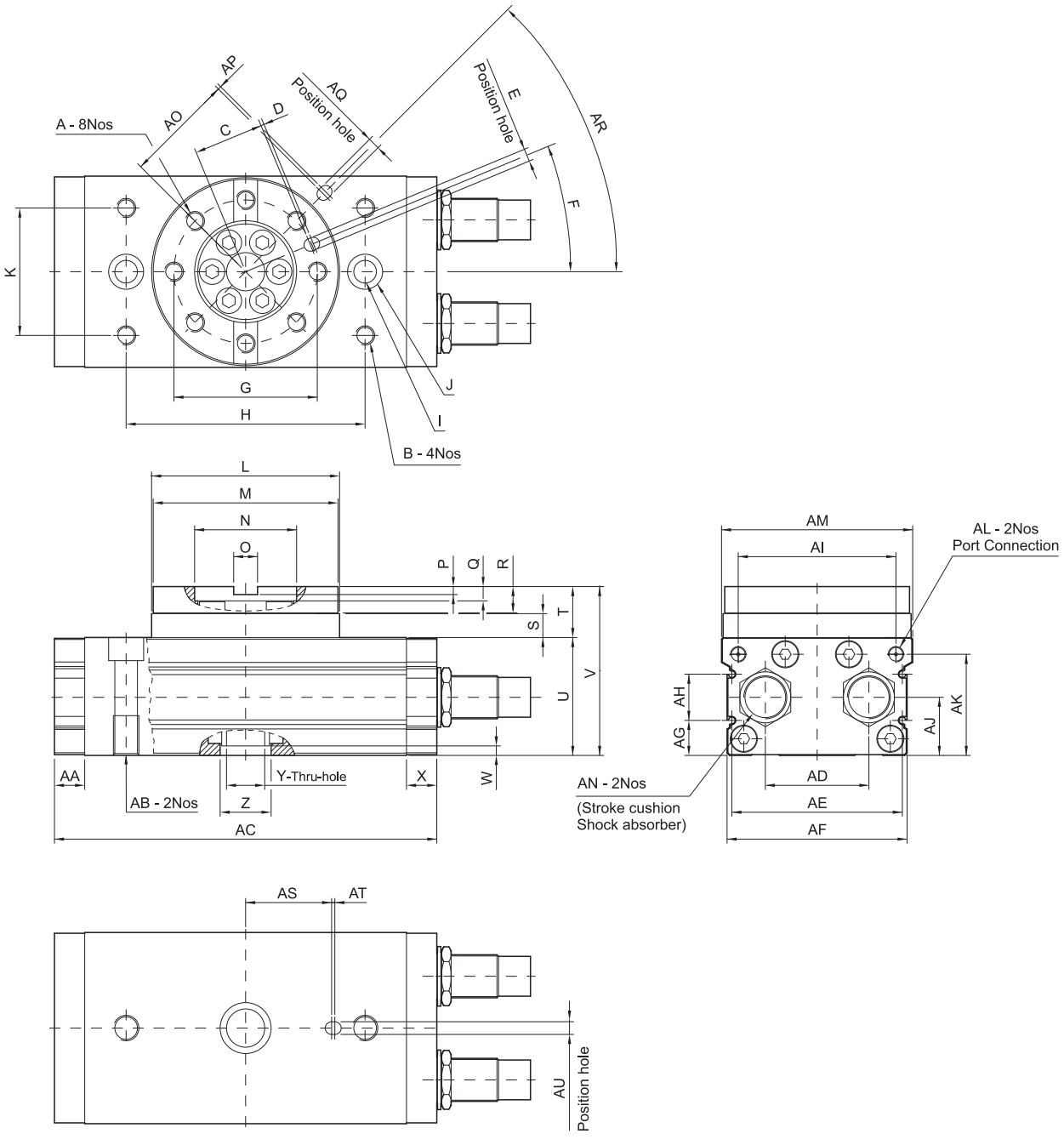
Model	V	W	X	ØY	ØZ	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP°	AQ	AR
A1R- 28	75	4	17	16	22	17	M12x1.75Px18dp	170	43	78	84	14.5	24	70	26.5	46.7	1/8"	92	M20x1.5P	5x3.5dp	45	2	54
A1R- 32	86	4	14	19	24	14	M12x1.75Px18dp	189	50	89	95	16	27	82	29.5	50.3	1/8"	102	M20x1.5P	6x4.5dp	45	2	59

ROTARY ACTUATOR

Series A1R

Cat No A1R - 01 - 01 - A

Basic Dimensions - A1R-40, A1R-50, A1R-63



Model	A	B	C	D	E	F°	G	H	ØI	ØJ	K	ØL	ØM	ØN	O	P	Q	R	S	T	U	V	W
A1R - 40	M12x1.75P	M12x1.75Px13dp	44	2	8x4.5dp	22.5	90	150	22X14.5dp	14.2	80	118	116	64	15	5	9	16.5	15	32	74	106	5.5
A1R - 50	M16x2P	M12x1.75Px13dp	49	2	8x4.5dp	22.5	100	180	26X16.5dp	17.5	88	133	132	70	18	8	10	19.5	16	36.5	83.5	120	5.5
A1R - 63	M16x2P	M12x1.75Px13dp	59	2	10x5.5dp	22.5	120	220	26X16.5dp	17.5	100	152	150	85	18	8	12	22	17	40	95	135	5.5

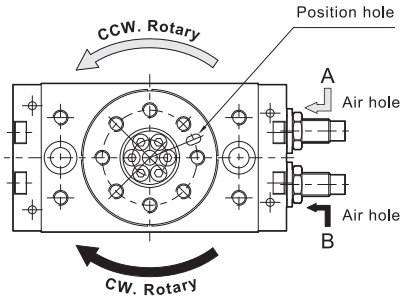
Model	X	ØY	ØZ	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR°	AS	AT	AU
A1R - 40	19	24	32	19	M16x2Px25dp	240	65	107	113	21.5	29	99	36.5	63.5	1/8"	120	M27x1.5P	69	2	8x4dp	45	54	2	8x6.5dp
A1R - 50	25	26	36	25	M20x2.5Px25dp	280	77	130	136	24.5	34	115	41.5	73.5	1/4"	---	M27x1.5P	75	2	8x4dp	45	69	2	8x6.5dp
A1R - 63	25	26	36	25	M20x2.5Px25dp	320	85	150	156	28	38	129	47	84	1/4"	---	M27x1.5P	88	2	10x4.5dp	45	80	2	10x6.5dp

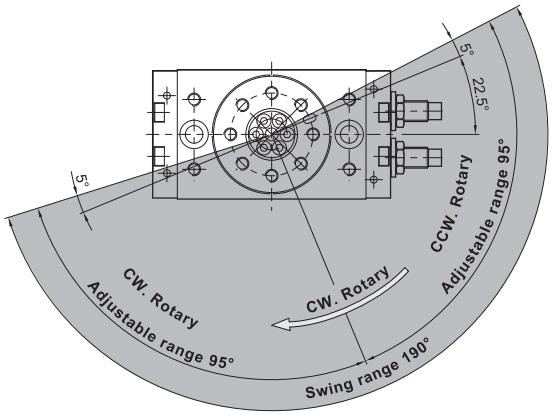
ROTARY ACTUATOR

Series A1R

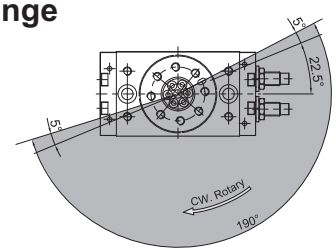
Cat No A1R - 01 - 01 - A

Rotary direction and Rotation angle

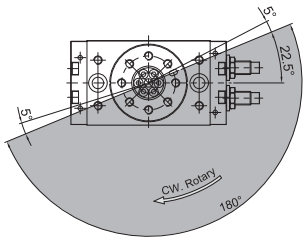




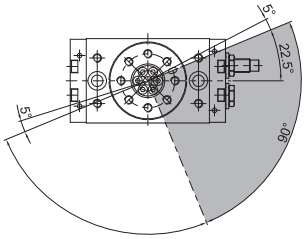
Set of Rotation range



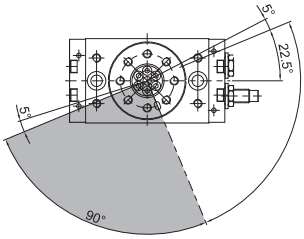
190° Swing Rotation



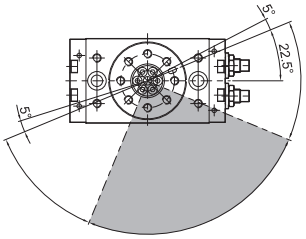
180° Swing Rotation



90° Swing Rotation

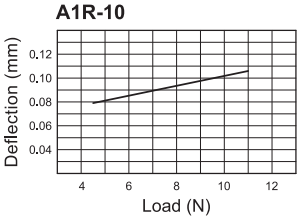


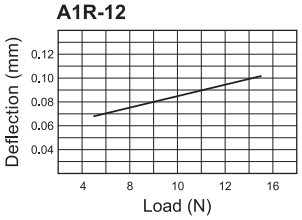
90° Swing Rotation

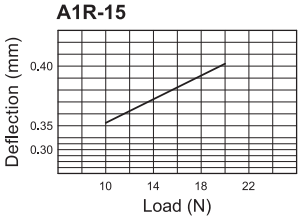


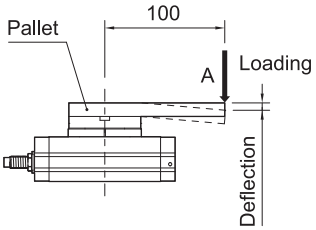
90° Swing Rotation

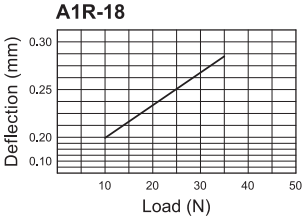
Transverse load and Deflection

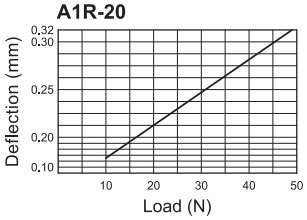


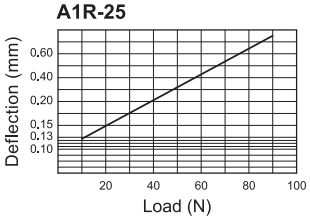


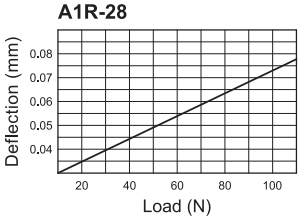


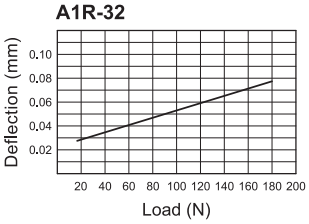


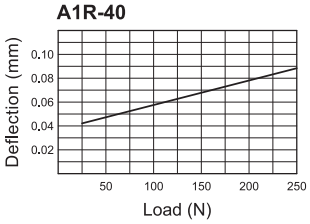


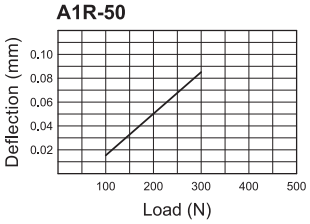


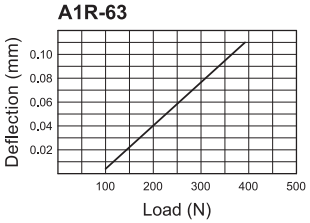








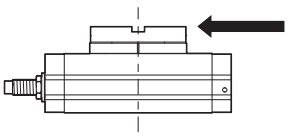
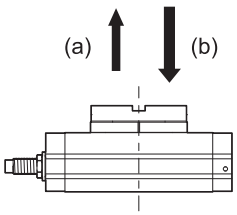
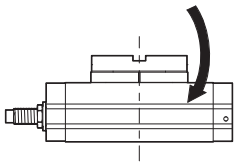




ROTARY ACTUATOR

Series A1R

Allow load

Loading way				
Load	**Slide load**	**Table load (N)**		**Allow torque (N.m)**
		(a)	**(b)**	
A1R-10	33	48	48	1.1
A1R-12	54	71	71	1.5
A1R-15	70	78	74	2
A1R-18	140	130	130	3.5
A1R-20	185	188	358	4.8
A1R-25	300	285	442	9
A1R-28	333	296	476	12
A1R-32	390	493	706	18
A1R-40	543	740	1009	25
A1R-50	850	950	1500	30
A1R-63	1200	1400	2100	38

How to order

A1R – **025** – **B**

Bore size (mm)	
010	- Ø10
012	- Ø12
015	- Ø15
018	- Ø18
020	- Ø20
025	- Ø25
028	- Ø28
032	- Ø32
040	- Ø40
050	- Ø50
063	- Ø63

Mountings	
B	- Basic

Ordering Example:

Ordering no. for Rotary cylinder with 25 dia bore basic : **A1R025B**

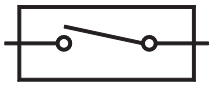
ROTARY ACTUATOR

Series A1R

Cat No A1R - 01 - 01 - A

ACCESSORIES FOR ROTARY ACTUATOR

MAGNETIC SENSOR - AM090



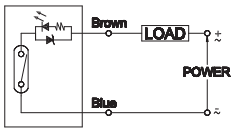
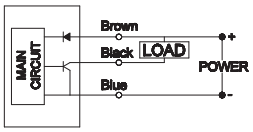
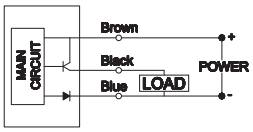
Features

- ❑ Integrated LED
- ❑ Moulded cable with flying lead and Quick Disconnect (QD) connector versions
- ❑ Direct mounting, simple installation
- ❑ Reed contact type & Solid state type versions

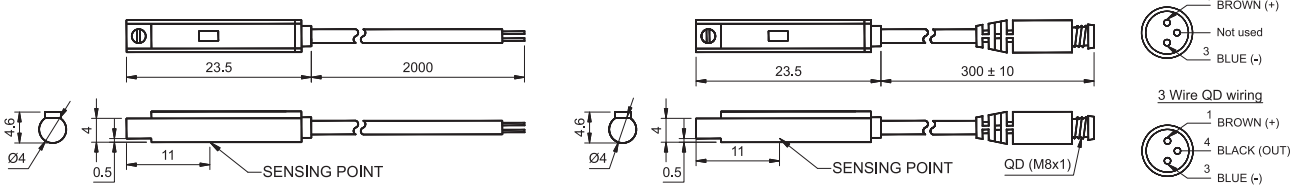
Function

The pistons of these cylinders are equipped with a permanent magnet, which activates the cylinder switches when it approaches these. The switch in question then outputs an electrical or pneumatic signal.

Technical Specifications

Circuit and connection diagram			
Model	**AM090**		
Bore dia	10, 12, 15, 18, 20, 25, 28, 32, 40, 50, 63 mm		
Wiring system	Two lead wire type	Three lead wire type	
Switching voltage	DC: 5 ~ 120V AC: 5 ~ 120V	DC: 5 ~ 30V	
Switching current	100mA max.	200mA max.	
Contact capacity	6W max.	6W max.	
Delay time	< 2ms (500Hz)	< 1ms (500Hz)	
Contact	Normally open	NPN. Current sinking	PNP. Current sourcing
Production grade	IP-67		
Colour of LED	Red	Red	Green
Cable	Ø 2.8 wire cable, 2M	Ø 3.3, 3 single wire, 2M	
Voltage drop	3.5 V max.	1 V max.	
Voltage consumption	---	OFF: 7mA (24V) ON: 8mA (24V) max	
Contact protective circuit	Non.	Yes	
Operating temperature	-10° to 70° C		

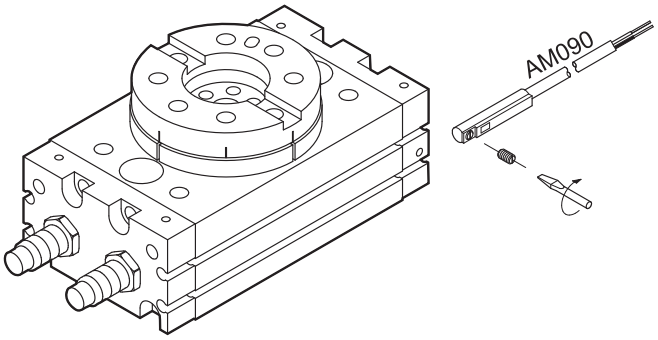
AM090



ROTARY ACTUATOR

Series A1R

Sensor switch installing and Position



Sensing range

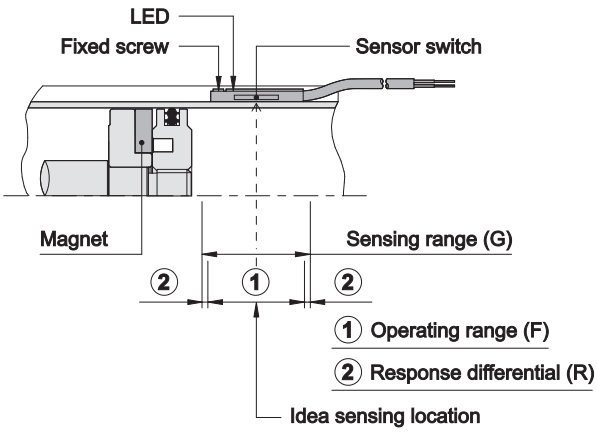
Sensor switch is fixed on the cylinder body. The magnetic piston head will activate the sensor switch when it enters the operating range. It has 0.5mm differential.

Operating range

When piston head moves the switch setting and adjustment will be based on the responding range generated by the magnetic field and the switch. (Please refer to the table)

Model	Bore size Ø (mm)	AM090	
		Operating range (F)	Response differential (R)
A1R-10	10	7 (4)	1
A1R-12	12	7 (4)	1
A1R-15	15	7 (3)	1
A1R-18	18	10 (7)	1
A1R-20	20	12 (9)	1
A1R-25	25	14 (12)	1
A1R-28	28	14 (12)	1
A1R-32	32	14 (12)	1
A1R-40	40	14 (12)	1
A1R-50	50	14 (12)	1
A1R-63	63	14 (12)	1

Sensor switch setting and Operating range



How to order

AM090 — **0** **FL-04** **S**

Switch type
0 - Reed switch 2 wire type
2 - Solid state type, current sourcing (PNP)
3 - Solid state type, current sinking (NPN)

End connection
FL - 04 (Flying lead with 2 meter cable length)
QD - 02 (Quick disconnector with 300 mm cable length)

Connection type
S - Straight type
L - Angle type

Ordering example :- Reed switch 2 wire type with Flying lead of 2 meter cable length, straight type connection : **AM090-0FL-04S**

Subject to change

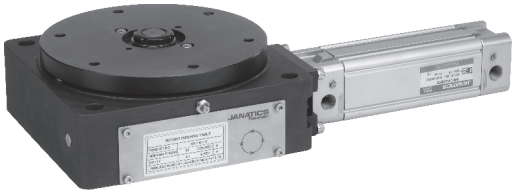
ROTARY INDEXING TABLE

Series RIT-180

Cat No RIT180 - 01 - 01 - B

ROTARY INDEXING TABLE

Features



- ❑ Elegant and compact design
- ❑ Smooth operation
- ❑ Angle accuracy ±0.1°
- ❑ VDMA standard cylinder mounted
- ❑ Indexing stages 4, 6, 8, 12, 24

Application

- ❑ Pick and place applications
- ❑ Assembly automation
- ❑ Printing and packaging
- ❑ Swiveling and separating tasks
- ❑ Labeling

Technical Specifications

Model	RIT-180
Port size	G1/4
Medium	Compressed air - filtered - lubricated
Maximum operating pressure	10 bar
Indexing plate Ø	180 mm
Direction of rotation	Clockwise
No. of. Indexing stages	4, 6 (Standard), 8, 12, 24
Actuated Torque	45Nm @ 8 bar
Accuracy	±0.1°
Lubrication	General purpose grease
Ambient temperature	-10° to +60° C
Medium temperature	+5° to +50° C
Materials of construction	Cast Iron, Steel, Stainless steel, PB

Caution

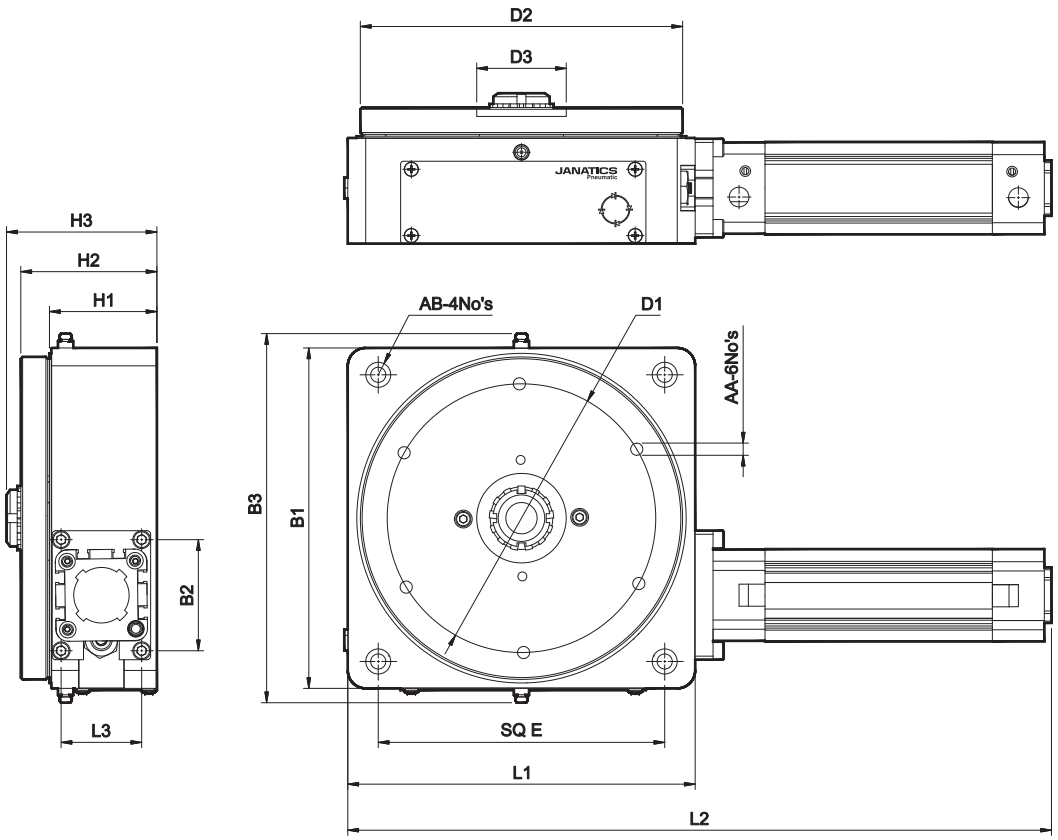
While using in machining / manufacturing automation, take necessary care to prevent ingress of machined chips, debris, coolant etc., into the product, to avoid malfunctioning or permanent damage.

ROTARY INDEXING TABLE

Series RIT-180

Cat No RIT180 - 01 - 01 - B

Basic Dimensions



L1	L2	L3	B1	B2	B3	H1	H2	H3	ØD1	ØD2	ØD3	SQ E	AA	AB
194	393	45	190	62	206	60	75	80	150	180	50	160	M8x1.25	M8 Counter bore

How to order

RIT-180 – **1** – **2**

Rotary Direction	
1	- Clockwise

Indexing Stages	
1	- 4
2	- 6 (Standard)
3	- 8
4	- 12
5	- 24

Ordering Example:

Ordering Rotary Indexing Table, Clockwise rotation with 6 Indexing stages: **RIT-180-1-2**

Subject to change

MAGNETIC SENSOR

Series AM4

Cat No Cyl Acc - 01 - 02

ACCESSORIES FOR MAGNETIC CYLINDERS

Series A23, A23-H, A27, A27-H, A25, A25-H, A20, A20-H, A63

MAGNETIC SENSOR

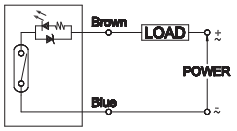
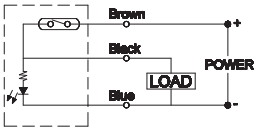
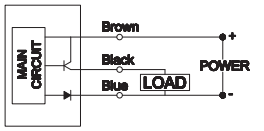
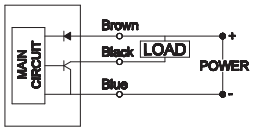
Features

- ❑ Integrated LED
- ❑ Moulded cable with flying lead and Quick Disconnect (QD) connector versions
- ❑ Direct mounting, simple installation
- ❑ Reed contact type & Solid state type versions

Function

The pistons of these cylinders are equipped with a permanent magnet, which activates the cylinder switches when it approaches these. The switch in question then outputs an electrical or pneumatic signal.

Technical Specifications

				
Switching logic	SPST Normally open		Solid State Output, Normally open	
Sensor type	2 Wire reed switch	3 Wire reed switch	PNP Current Sourcing	NPN Current Sinking
Operating voltage	5 - 220V AC / DC	10 - 30 V DC		
Switching current	100mA max			
Switching rating	10W max	3W max		
Current consumption	-	25 mA @ 24V max	14 mA @ 24V max	17 mA @ 24V max
Voltage drop	3.5V max	0.05V max	2V max	
Leakage current	-	0.01 mA max	0.01 mA max	
Colour of LED	Red	Yellow		Red
Cable	Ø3.3, 2C, PVC	Ø3.3, 3C, PVC		
Temperature range	- 10 ° to 70 ° C			
Shock	30 G		50 G	
Vibration	9 G			
Type of protection	IEC 529 IP 67			
Protection circuit	None		Power source reverse polarity; Surge suppression	

Caution

1. Follow above specifications to ensure trouble free operation of sensors
2. Keep sensors away from stray magnetic field to prevent malfunctions.
3. For usage / installation insrtuctions, please refer Instruction sheet **IS - AM4 - 01 - 01**

MAGNETIC SENSOR

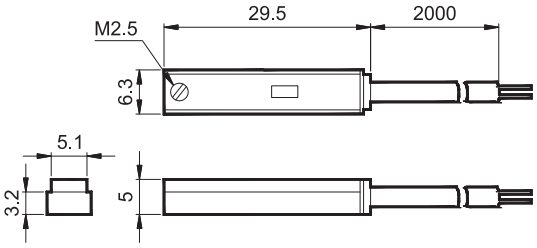
Series AM4

Cat No Cyl Acc - 01 - 02

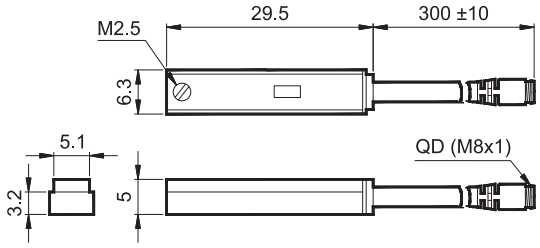
Series AM40 (Square type) - Ø40, 50, 63, 80 & 100 mm

Used for series A23, A23-H, A27, A27-H, A25, A25-H, A20, A20-H, A63

Magnetic sensor with flying lead



Magnetic sensor with QD connector



Sensing distance

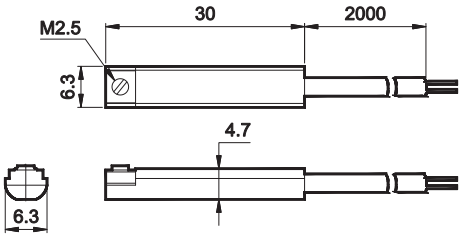
2 wire / 3 wire Reed switch

Solid state switch

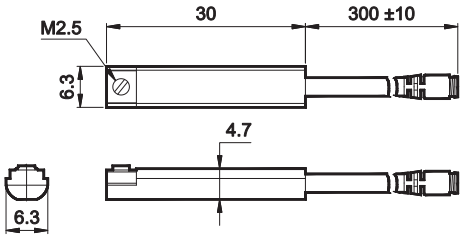
Series AM41 (Turnable type) - Ø32, 40, 50, 63, 80, 100 & 125 mm

Used for series A23, A23-H, A27, A27-H, A25, A25-H, A20, A20-H, A63

Magnetic sensor with flying lead

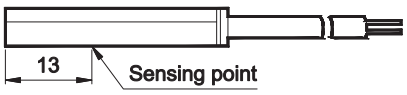


Magnetic sensor with QD connector

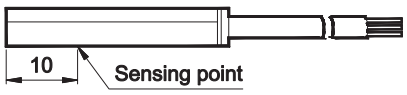


Sensing distance

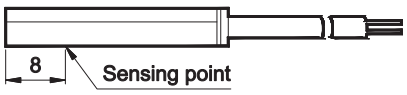
2 wire Reed switch



3 wire Reed switch

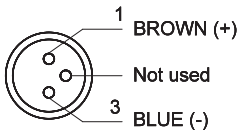


Solid state switch

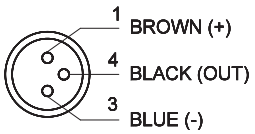


Wiring of the QD connector

2 wire QD wiring



3 wire QD wiring



How to order

AM4 — **0** — **0** — **FL-04**

Model	Switch type	End connection
0 - Square type 1 - Turnable type	0 - Reed switch 2 wire type 1 - Reed switch 3 wire type 2 - Solid state type, current sourcing (PNP) 3 - Solid state type, current sinking (NPN)	FL - 04 (Flying lead with 2 meter cable length) QD - 02 (Quick disconnecter with 300 mm cable length)

Ordering example :- AM40 - 0 - FL - 04 (2 wire Reed switch with Flying lead of 2 meter cable length)

Subject to change

MAGNETIC SENSOR

Series AM42

ACCESSORIES FOR MAGNETIC CYLINDERS

Series A20, A23, A60, A63

MAGNETIC SENSOR

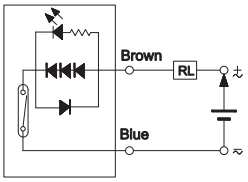
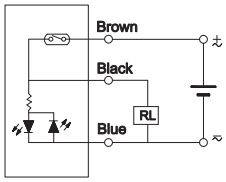
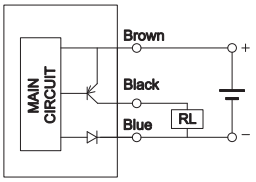
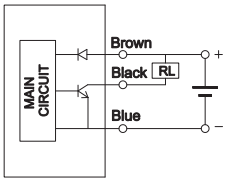
Features

- ❑ Integrated LED
- ❑ Moulded cable with flying lead and Quick Disconnect (QD) connector versions
- ❑ Direct mounting, simple installation
- ❑ Reed contact type & Solid state type versions

Function

The pistons of these cylinders are equipped with a permanent magnet, which activates the cylinder switches when it approaches these. The switch in question then outputs an electrical or pneumatic signal.

Technical Specifications

Connect diagram / Characteristics				
Type	2 Wire	3 Wire	PNP	NPN
Switching logic	SPST Normally open		Solid State Output, Normally open	
Operating voltage	5 - 240V DC/AC	10 - 30V DC/AC	10 - 28V DC	
Switching current	100mA max	500mA max	200mA max	
Contact rating	10W max		5.5W max	
Current consumption	-	10 mA @ 24V max		
Voltage drop	3.0V max	0.1V @ 100mA max	1.5V max	
Leakage current	-		0.05mA max	
Indicator	Red LED	Yellow LED		Red LED
Cable	Ø2.8 PUR - 26 AWG (0.15 mm²) - 2 Cores	Ø2.8 PUR - 26 AWG (0.15 mm²) - 3 Cores		
Operating frequency	200 Hz		1000 Hz max	
Magnet Requirement	75 Gauss	65 Gauss	50 Gauss	
Temperature range	- 10° to 70° C			
Shock	30 G		50 G	
Vibration	9 G			
Protection circuit	1 = None		2 = Short circuit, 3 = Power source reverse polarity, 4 = Surge suppression.	
Classification	IEC 60529 IP67			

Caution

1. Follow above specifications to ensure trouble free operation of sensors
2. Keep sensors away from stray magnetic field to prevent malfunctions.
3. For usage / installation insrtuctions, please refer Instruction sheet **.....**

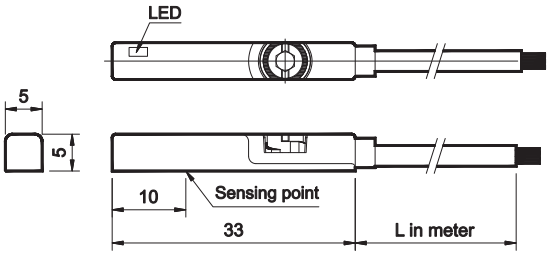
MAGNETIC SENSOR

Series AM42

Fitting Dimensions

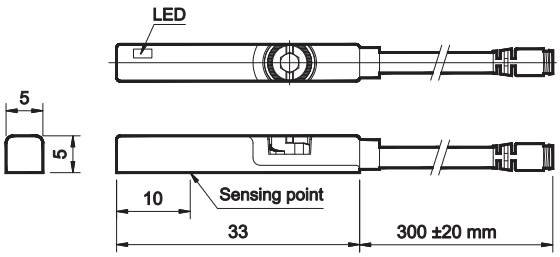
Magnetic sensor with flying lead

AM42-0-FL & AM42-1-FL - Series

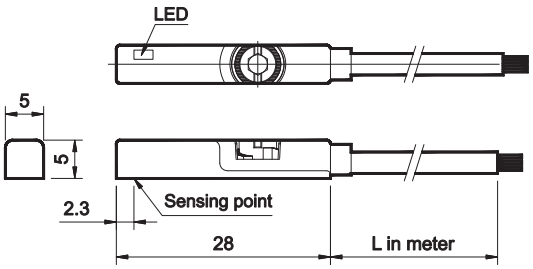


Magnetic sensor with QD connector

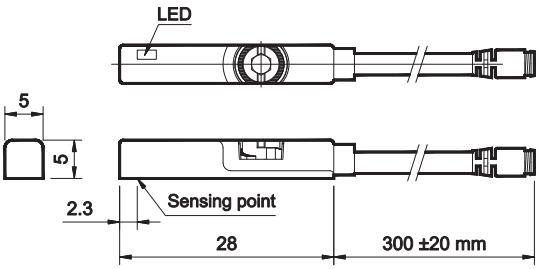
AM42-2-QD & AM42-3-QD - Series



AM42-2-FL & AM42-3-FL - Series

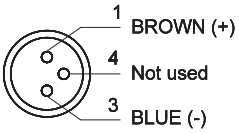


AM42-2-QD & AM42-3-QD - Series

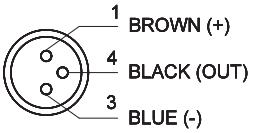


Wiring of the QD connector

2 wire QD wiring



3 wire QD wiring



How to order

AM42 — **0** — **FL-04**

Switch type
0 - Reed switch 2 wire type
1 - Reed switch 3 wire type
2 - Solid state type, current sourcing (PNP)
3 - Solid state type, current sinking (NPN)

End connection
FL - 04 (Flying lead with 2 meter cable length)
QD - 02 (Quick disconnecter with 300 mm cable length)

Ordering example :- AM42-0-FL-04 (2 wire Reed switch with Flying lead of 2 meter cable length)

CONNECTOR WITH CABLE

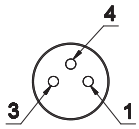
Series AC

CONNECTOR WITH CABLE

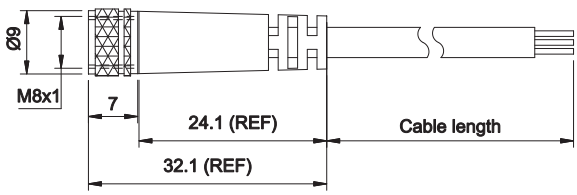
Application

Socket with cable is used for connecting magnetic sensors wih QD connector, for quick disconnection and connection of magnetic sensors

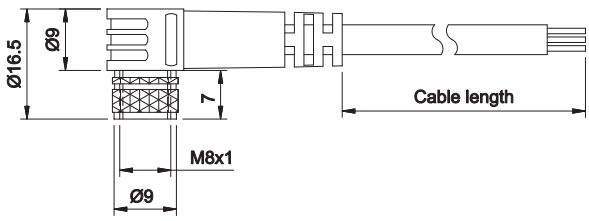
Technical Specifications

Female pinout	
Conductor colors	1 : Brown 3 : Blue 4 : Black
Cable type	PUR (Polyuretane)
Jacky color	Black
Characteristics	Oil and abrasion resistance, Robotic grade
Connector	Oil resistant polypropylene (PP) body, Nylon contact carrier
Contacts	Gold plated brass
Locking nut	Brass, Nickel plated
Electrical rating	120V AC / DC 3Amp. Max.
Conductors	3 x 24 AWG. / 0.22mm², high flex stranding, self-extinguishing PVC insulation, 300V
Temperature	-20°C to +80°C
Protection	IP67 / NEMA 6 (only in fully locked position)

Straight type



Angle type



How to order

AC100 — M8 — 3 — S — PUR — 2M

Connection Size	Pinout	Connection Type	Jacket material	Cable length
M8 – M8x1	3 - 3 pinout	S - Straight type L - Angle type	PUR - Polyurethane	2M - 2 meter 5M - 5 meter

Ordering example :- AC100-M83S-PUR-2M (Straight type connector with 2 meter cable length)

Subject to change

SHOCK ABSORBER

Series SA1E

Cat No SA1E - 01 - 01 - A

SHOCK ABSORBER - Stroke - 4, 6, 7, 10, 12, 15, 25 mm

Features

- ❑ Smooth and Quick deceleration characteristics
- ❑ Shock absorber resistance will be self-adjusted against the applied load
- ❑ Full threaded body design enhances heat dissipation & gives flexibility over fine adjustment
- ❑ High energy absorption characteristics & robust design gives longer life
- ❑ Higher usage frequency and smaller installation length

Applications

- ❑ Conveyor systems
- ❑ Factory automations
- ❑ Semi-Conductor Manufacturing
- ❑ Food processing equipment
- ❑ Metal Forming and Stamping equipment
- ❑ Medical Devices
- ❑ Automotive Manufacturing
- ❑ Glass forming equipment
- ❑ Pick & place robotics
- ❑ Material handling
- ❑ Packing machinery

Technical Specifications

Ambient Temperature	-10° to 80° C
Speed range	0.3 - 5.0 m/s
Reset time	≤ 0.3 Sec.
Material	Outer tube : Carbon Steel, Piston Rod : Carbon Steel (Hard Chrome plated), Seals : NBR

Performance Parameters

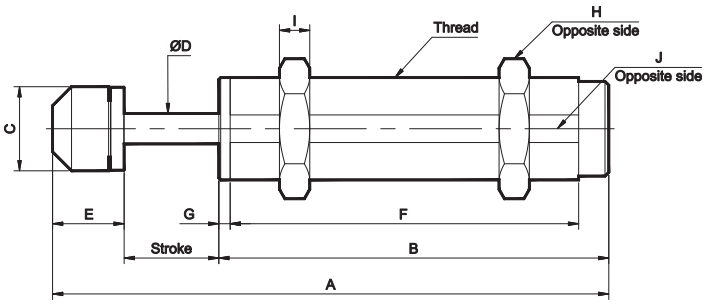
Stroke (mm)	Max. Nm/Cycle (Et)	Max. Nm/Hour (Etc)	Max. effective Mass Kg (Me)	Max. impact speed (v) m/s	Weight (g)	Ordering No (With Cap)	Ordering No (Without Cap)
4	0.5	720	3	0.3 - 1	4	SA1E004002XWC	SA1E004002YWC
6	3	7000	6	0.3 - 2.5	17	SA1E00603AXWC	SA1E00603AYWC
7	6	12400	12	0.3 - 3.5	28	SA1E007004XWC	SA1E007004YWC
10	12	22500	22	0.3 - 4	32	SA1E010005XWC	SA1E010005YWC
12	20	33000	40	0.3 - 5	70	SA1E01206AXWC	SA1E01206AYWC
15	59	38000	120	0.3 - 5	160	SA1E015008XWC	SA1E015008YWC
25	80	60000	180	0.3 - 5	295	SA1E025009XWC	SA1E025009YWC
25	147	72000	270	0.3 - 5	375	SA1E025010XWC	SA1E025010YWC

SHOCK ABSORBER

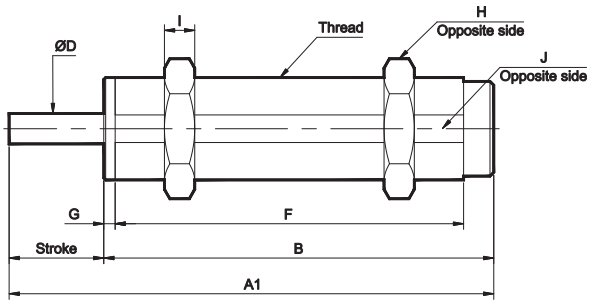
Series SA1E

Cat No SA1E - 01 - 01 - A

Shock Absorber - Stroke - 4, 6, 7, 10, 12, 15, 25 mm



Shock Absorber with Cap



Shock Absorber without Cap

Stroke	Thread	A	A1	B	C	D	E	F	G	H	I	J
4	M6 x 0.75	36.5	32.5	28.5	4.5	1.8	4	22.5	1	8	3	-
6	M8 x 1.0	55.2	46.6	40.6	6.6	2.9	8.6	33.6	2	11	3	-
7	M10 x 1.0	62.6	54	47	8.6	3	8.6	39	3	12.7	3	-
10	M12 x 1.0	71.3	62.5	52.5	10.3	3	8.8	44	3	14	4	-
12	M14 x 1.5	90.2	79	67	12	4	11.2	58	4	19	5	12.1
15	M20 x 1.5	103.3	88	73	17.8	6	15.3	62	4	26	7	18
25	M25 x 1.5	136	117	92	22	8	19	82	-	32	9	23
25	M27 x 1.5	143	124	99	22	8	19	86	5	32	6	25

Shock Absorber recommendation chart for Air Cylinders

Cylinder I.D.	6	10	12	16	20	25	32	40	50	63	80
5 bar Cylinder propulsive force Kgf	1.4	3.9	5.7	10	15.7	24.5	40	62.8	98	155	251
SA1E004002XWC	●	●	●								
SA1E004002YWC											
SA1E00603AXWC		●	●	●							
SA1E00603AYWC											
SA1E007004XWC			●	●	●						
SA1E007004YWC											
SA1E010005XWC			●	●	●						
SA1E010005YWC											
SA1E01206AXWC			●	●	●						
SA1E01206AYWC											
SA1E015008XWC				●	●	●	●	●			
SA1E015008YWC											
SA1E025009XWC						●	●	●	●	●	●
SA1E025009YWC											
SA1E025010XWC						●	●	●	●	●	●
SA1E025010YWC											

SHOCK ABSORBER

Series SA1E

Cat No SA1E - 01 - 01 - A

Shock Absorber Selection

E_K	Kinetic energy	EK = mv2 / 2	(Nm)
E_D	Propelling energy	ED = F × S	(Nm)
E_T	Total energy per cycle	ET = EK + ED	(Nm)
E_{TC}	Total energy per hour	ETC = ET x C	(Nm/hr)
Me	Max. Effective mass	Me = (2ET) / V2	(kg)
m	Mass to slow down		(kg)
*v	Velocity or moving mass		(m/s)
$*v_D$	Impact velocity of shock absorber		(m/s)
Fm	Maximal impact force		(N)
F	Propelling force		(N)
C	Number of shocks per hour		(/hr)
d	Cylinder inner diameter		(mm)
S	Stroke		(m)
A	Width		(m)
B	Thickness		(m)

T	Driving torque	(Nm)
I	Moment of inertia	(kgm^2)
g	Gravitational acceleration	(m/s^2)
H	Height	(m)
HM	Arresting torque factor for motors (normally 2.5)	
P	Electric motor power	(W)
μ	Friction coefficient	
t	Deceleration time	(s)
ω	Angular velocity	(rad/s)
α	Slope tilting angle	(rad)
θ	Impact contact forwarding	(rad)
P	Actuation pressure	(bar)
R	Radius	(m)
Rs	Distance between shock absorber & rotational center	(m)

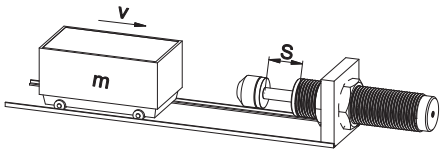
1. Horizontal Impact

Usage conditions

m = 2 Kg
v = 0.7 m/s
S = 0.004 m
C = 1000/hr

Formula and Calculation

$E_K = mv^2/2 = (2\times0.7^2)/2 = 0.5$ Nm
$E_T = E_K = 0.5$ Nm
$E_{TC} = E_T\times C = 0.5 \times 1000 = 500$ Nm/hr
$Me = (2E_T)/v^2 = (2\times0.5)/0.7^2 = 2$ Kg



From the calculation result based on formula, it is recommended that **SA1E004002XWC** can be used.

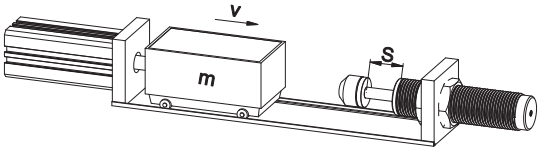
2. Horizontal Impact With Propulsive Force

Usage conditions

m = 2 Kg
v = 1.2 m/s
S = 0.006 m
P = 3 bar
D = 32 mm
C = 2000/hr

Formula and Calculation

$E_K = mv^2/2 = (2\times1.2^2)/2 = 1.44$ Nm
$E_D = F\times S = 0.0785Pd^2 \times S = 0.0785\times3\times32^2\times0.006 = 1.45$ Nm
$E_T = E_K+E_D = 1.44+1.45 = 2.89$ Nm
$E_{TC} = E_T\times C = 2.89\times2000 = 5780$ Nm/hr
$Me = 2E_T / v^2 = (2\times2.89)/1.2^2 = 4.01$ Kg



From the calculation result based on formula, it is recommended that **SA1E00603AXWC** can be used.

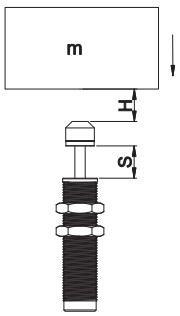
3. Free Fall Impact

Usage conditions

m = 10 Kg
H = 0.05 m
S = 0.007 m
C = 2000/hr

Formula and Calculation

$v = \sqrt{(2g.H)} = \sqrt{(2\times9.81\times0.05)} = 1$ m/s
$E_K = mv^2/2 = (10\times1^2)/2 = 5$ Nm
$E_D = F\times S = mg\times S = 10\times9.81\times0.007 = 0.7$ Nm
$E_T = E_K+E_D = 5+0.7 = 5.7$ Nm
$E_{TC} = E_T\times C = 5.7\times2000 = 11400$ Nm/hr
$Me = (2E_T)/v^2 = (2\times5.7)/1^2 = 11.4$ Kg



From the calculation result based on formula, it is recommended that **SA1E007004XWC** can be used.

SHOCK ABSORBER

Series SA1E

4. Free Fall With Propelling Force

Usage conditions

m = 8 Kg
S = 0.01 m
P = 4 bar
D = 40 mm
C = 1800/hr
v = 1.0 m/s

Formula and Calculation

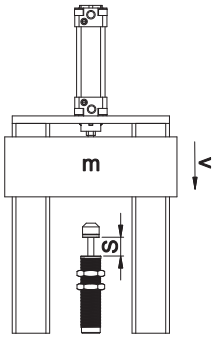
$E_K = mv^2 / 2 = (8 \times 1.0^2) / 2 = 4$ Nm

$E_D = F \times S = (mg + 0.0785Pd^2) \times S$
$= (8 \times 9.81 + 0.0785 \times 4 \times 40^2) \times 0.01 = 5.8$ Nm

$E_T = E_K + E_D = 4 + 5.8 = 9.8$ Nm

$E_{TC} = E_T \times C = 9.8 \times 1800 = 17640$ Nm/hr

$Me = (2E_T) / v^2 = (2 \times 9.8) / 1.0^2 = 19.6$ Kg



From the calculation result based on formula, it is recommended that **SA1E010005XWC** can be used.

5. Horizontal Impact With Motor Drive

Usage conditions

m = 5 Kg
v = 1.0 m/s
P = 0.5 kW
HM = 2.5
S = 0.012 m
C = 1500/hr

Formula and Calculation

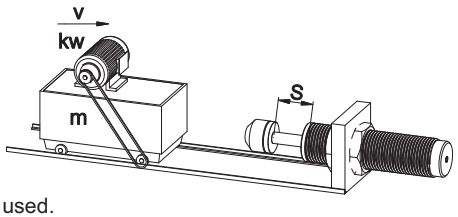
$E_K = mv^2 / 2 = (5 \times 1.0^2) / 2 = 2.5$ Nm

$E_D = F \times S = \{(P \times HM)/v\} \times S = \{(500 \times 2.5)/1.0\} \times 0.012 = 15$ Nm

$E_T = E_K + E_D = 2.5 + 15 = 17.5$ Nm

$E_{TC} = E_T \times C = 17.5 \times 1500 = 26250$ Nm/hr

$Me = (2E_T) / v^2 = (2 \times 17.5) / 1.0^2 = 35$ Kg



From the calculation result based on formula, it is recommended that **SA1E01206AXWC** can be used.

6. Tilted Impact

Usage conditions

m = 100 Kg
H = 0.1 m
S = 0.025 m
α = 30°
C = 600/hr

Formula and Calculation

$v = \sqrt{(2g.H)} = \sqrt{(2 \times 9.81 \times 0.1)} = 1.4$ m/s

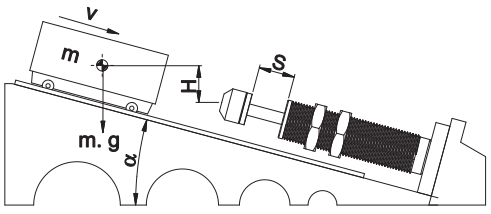
$E_K = mv^2 / 2 = (100 \times 1.4^2) / 2 = 98$ Nm

$E_D = F \times S = m \times g \times S \times \sin\alpha$
$= 100 \times 9.81 \times 0.025 \times \sin 30° = 12.26$ Nm

$E_T = E_K + E_D = 98 + 12.26 = 110.26$ Nm

$E_{TC} = E_T \times C = 110.26 \times 600 = 66156$ Nm/hr

$Me = (2E_T) / v^2 = (2 \times 110.26) / 1.4^2 = 112.5$ Kg



From the calculation result based on formula, it is recommended that **SA1E025010XWC** can be used.

7. Horizontal Rotational Door

Usage conditions

m = 100 Kg
ω = 2.0 rad/s
T = 20 Nm
R_S = 0.5 m
A = 1.0 m
B = 0.05 m
S = 0.025 m
C = 800/hr

Formula and Calculation

$I = (m(4A^2 + B^2)) / 12 = (100(4 \times 1.0^2 + 0.05^2)) / 12 = 33.35$ Kgm^2

$E_K = (I\omega^2) / 2 = (33.35 \times 2.0^2) / 2 = 66.7$ Nm

$\theta = S / R_S = 0.025 / 0.5 = 0.05$ rad

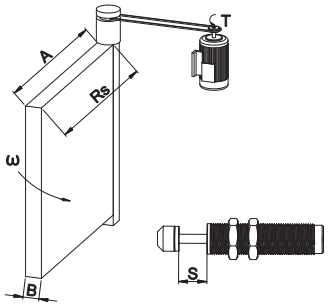
$E_D = T \times \theta = 20 \times 0.05 = 1$ Nm

$E_T = E_K + E_D = 66.7 + 1 = 67.7$ Nm

$E_{TC} = E_T \times C = 67.7 \times 800 = 54160$ Nm/hr

$v = \omega \times R_S = 2.0 \times 0.5 = 1$ m/s

$Me = (2E_T) / v^2 = (2 \times 67.7) / 1.0^2 = 135.4$ Kg



From the calculation result based on formula, it is recommended that **SA1E025009XWC** can be used.

SHOCK ABSORBER

Series SA1E

Cat No SA1E - 01 - 01 - A

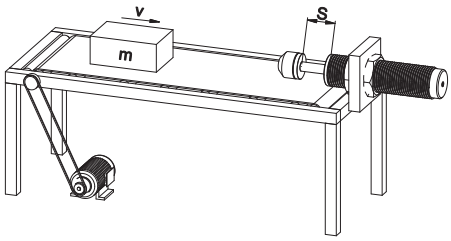
8. Horizontal Power Conveyor

Usage conditions

m = 200 Kg
v = 1.0 m/s
μ = 0.25
S = 0.025 m
C = 600/hr

Formula and Calculation

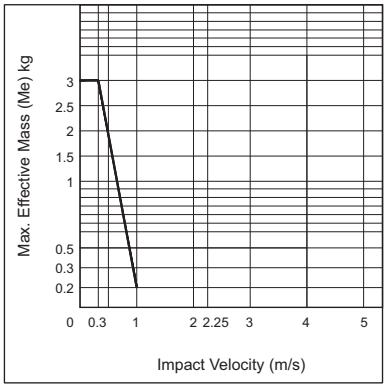
$E_K = mv^2 / 2 = (200 \times 1.0^2) / 2 = 100$ Nm
$E_D = F \times S = m \times g \times \mu \times S = 200 \times 9.81 \times 0.25 \times 0.025 = 12.26$ Nm
$E_T = E_K + E_D = 100 + 12.26 = 112.26$ Nm
$E_{TC} = E_T \times C = 112.26 \times 600 = 67356$ Nm/hr
$Me = (2E_T) / v^2 = (2 \times 112.26) / 1.0^2 = 224.52$ Kg



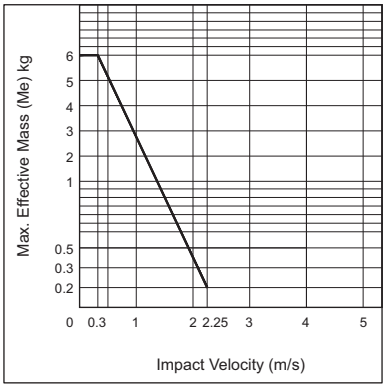
From the calculation result based on formula, it is recommended that **SA1E025010XWC** can be used

Flow Graph

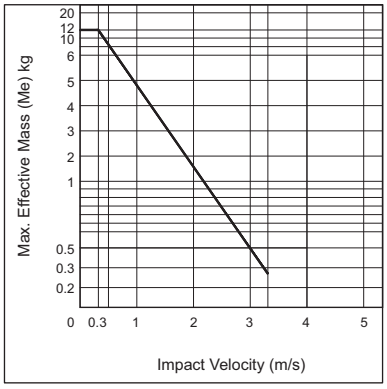
SA1E004002XWC



SA1E00603AXWC



SA1E007004XWC



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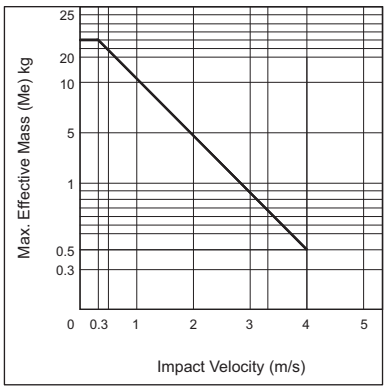

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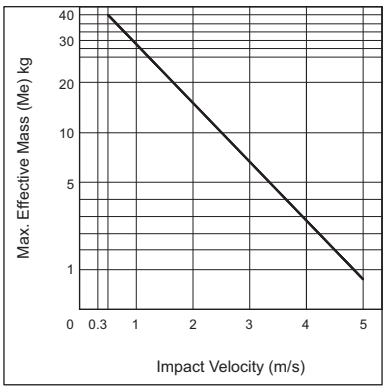
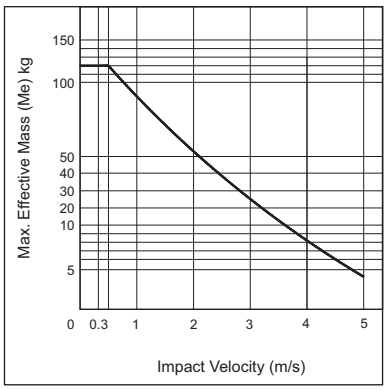


SA1E015008XWC



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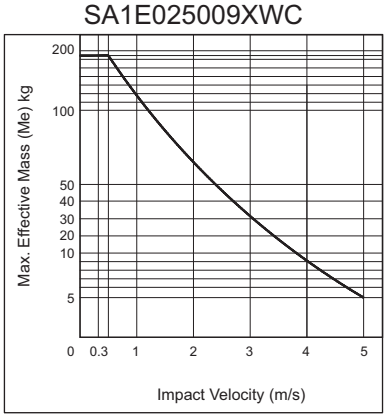
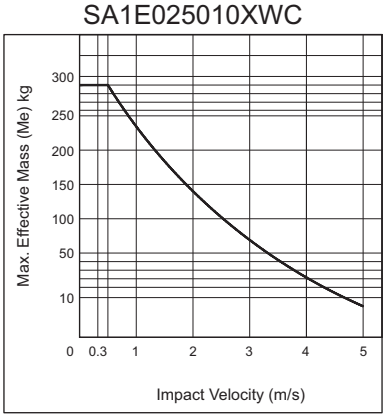


SA1E025010XWC



How to order

While ordering Shock Absorbers, mention the ordering number given in the corresponding table.

Subject to change

JANATICS
Pneumatic

Safety Instructions

Compressed Air Safety

Following Safety instructions should be strictly followed. Failure to do so may result in accidents, equipment malfunctioning, serious personal injury and / or loss of life.

Compressed air is a source of considerable energy. When handling products dealing with compressed air, the following precautions must be taken to prevent accidents.

1. Human hands or any parts of a human body should not block compressed air. Compressed air should not be allowed to impinge on any portion of the human body.
2. Before connecting any pneumatic equipment to the compressed air supply, all mounted fittings, piping assemblies and electrical connections should be checked for security. All plastic plugs in the equipment used for protection during shipping should be removed.
3. No piping alterations, removal of fittings, repairing of equipment etc. should be attempted with air supplies connected. Air and electrical supplies must be disconnected before beginning any adjustment, maintenance or dismantling of equipment.
4. The maximum allowable operating pressures, temperature, flows etc. must be strictly observed. Failure to do so might result in catastrophic failure of equipment, and result in serious personal injury and / or death. Refer to individual catalogs for this information, and any other operating or application limitations.

Compressed Air Safety for Pneumatic Equipment :

Warning

1. Compatibility of pneumatic equipment

Ensuring the compatibility of the procured FRL equipment is the responsibility of the person who designs the Pneumatic system and / or System specifications. This should be based on specifications or after analysis and / or tests to meet specific requirements.

2. Repair & Maintenance

Assembly, handling, or repair of pneumatic systems should be performed by only trained and experienced operators.

3. Safety First

Do not service machinery / equipment or attempt to remove any component until safety is confirmed.

- Inspection and maintenance of machinery / equipment should only be performed after confirmation that both compressed air and electrical supply have been positively disconnected and all residual compressed air in the system has been completely exhausted to the atmosphere.

4. Contact Janatics if equipment is to be used in any of the following conditions :

1. Equipment is to be used in conditions beyond the given specifications, or if equipment is to be used outdoors.
2. Equipment is to be used in conjunction with atomic energy, railroad, air navigation, automobiles or related vehicles, medical equipment or safety equipment.
3. In applications that adversely effect humans, animals, or property requiring special safety analysis.

Product Selection

Warning

Standard Filters, Regulators, Lubricators and Filter- Regulator Combination units should be used in accordance with the specifications mentioned in the catalogs / specification sheets. While installing and using this equipment, please also follow the respective specification & instruction manual available for each product.

Wherever this symbol  *is shown, it indicates* ***Caution!*** *and / or* ***Warning!***

It indicates that operator error can lead to damage and malfunctioning of the pneumatic equipment and can lead to serious personal injury or loss of life.

1. Air Filter and Lubricator

Standard Filters and Lubricators incorporate polycarbonate bowls and / or observation windows. Do not use filters & lubricators in an environment that will expose the above components to synthetic fluids, organic solvents, corrosive chemicals, cutting lubricants, thread sealant or similar materials.

Make sure that the condensate in periodically drained when using manual drain valves on Filters.

2. Regulator

a. Safety devices shall be placed to prevent secondary (output) pressure from rising past the set pressure. This will ensure that damage to the components on the secondary side will be minimized in the event of a malfunction.

b. In a standard regulator, when the supply pressure is removed or disconnected, either of the following may happen :

1. The residual pressure will remain on the secondary side of the regulator.
2. The pressure on the secondary side of the regulator will exhaust.

The designer should add components to the circuit to compensate for any of the above conditions.

c. Regulator operation may be affected when used in Balanced or Secondary sealed circuits. Please consult Janatics regarding these applications.

3. Lubricators

Ensure proper function of the Lubricator. Minimum airflow rate should be ensured for effective lubrication.

4. Automatic Drains - Normally Open

Ensure minimum working pressure for proper functioning of the Auto drain. The Filter unit must be periodically checked for condensate that would not be drained in case of any drain malfunction.

Compressed Air Safety - Valves

1. Check security of fittings, pipes, valve installation and electrical connections before use.
2. All electrical connections are to be completed be a person qualified to undertake electrical work.
3. Ensure that all air supplies and electrical connections are isolated before dismantling valves from sub plates, or removing fittings, cables or solenoids from valves
4. During prolonged or frequent energisation, valve solenoids can become hot. Ensure that this will not affect surrounding material and components, and that adequate ventilation is provided.
5. The spool and sleeve assemblies of metal seal valves incorporate sharp edges. Protective gloves should be worn for dismantling and maintenance operations.
6. When selecting valves for applications, the design method of actuation and fundamental operating principles of differing valve models and ranges must be considered.
7. Machinery designated as Annex 4 by the EC Directive of Machinery, Which includes pneumatically controlled power presses, have special requirements for control valves and preclude the use of other than specialized equipment.

Warranty

Janatics products are warranted to be free of defects in design, material or workmanship under proper use, installation, application & maintenance in accordance with Janatics written specifications and Safety Instructions for a period of 12 months from the date of shipment from the factory. Janatics warrants that all the Products are suitable for their intended purposes only. Janatics obligation under this warranty is limited to repair or replacement of the product at the discretion of Janatics and provided such product is returned to Janatics freight prepaid and upon examination by Janatics such is found to be defective.

This is the only authorised Janatics Warranty and is in Lieu of all other expressed or implied warranties or representation including any implied warranties of merchantability or fitness or any other obligations on the part of Janatics

In no event will Janatics be liable for business interruptions, loss of profits, personal injury, cost of delay or for any other special indirect, incidental or consequential losses, cost or damages.

Not covered under Janatics warranty :

- Normal wear or deterioration of components and product
- Product(s) not used or installed as designed or intended
- Product is not installed or maintained as described and directed in the product installation and operations manual
- Product contains non-original OEM parts, or was previously repaired or serviced by an unauthorised distributor or repair facility

General: Due to continuous product improvement, all specifications are subject to change.

JANATICS
Pneumatic

Instructions for
Product Disposal & End of Life treatment

Ordinary industrial waste (recyclable and non-recyclable) is generated by industrial or commercial activities, but is similar to household waste by its nature and composition. It is not toxic or hazardous and thus requires no special treatment. These non-hazardous wastes can be either recycled & reused or treated & disposed, safeguarding the environment, in compliance with the statutory and regulatory requirements for quality, environment and Occupational Health & Safety (OHS).

Internally every Janatics personal is well informed on disposal categorization of components through the Bill of materials.

Disposal method :

The main parts of the Janatics product are metals & can be recycled to preserve natural resources and energy.

1. Dismantle the product and detach each component separately and dispose according to the legislation of the country
2. Generally all metals such as Steel, Aluminum, Copper and its Alloys, and Precious metals can be recycled again as raw materials according to local regulations.
3. Also some plastics like PET, HDPE, PVC, PA, PoM, & packing materials like PU foam & PE film can be recycled with the aid of local regulations.
4. Other plastics like PP and LDPE are difficult to recycle which requires special processes to avoid adverse environmental impact.
5. Rubber parts can be disposed by land fill or incineration following international and national regulations
6. Electrical & Electronic components like Printed circuit boards and reed switches need selective treatment and IEC 62635 guidelines can be referred.
7. To aid recycling and disposal approach deposition either by own or through the authorized agency to sustain the environment.
8. Remove all organic coatings, paint, and lacquered scrap by thermal decoating treatment prior to melting so as to avoid gaseous emissions and decomposition.
9. Follow national & international regulations for End of Life treatment of all components and consumables.