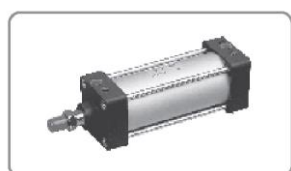


AL2 Interchange Type Linear Tie-rod JIS Cylinder

JUFAN® PNEUMATIC PRODUCTS

ACTUATORS

Specifications, Theoretical force & Cylinder selection guide	108
Cylinder type & Accessory weight table	109
Accessory Dimensions	110
Internal structure & Parts names	111
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How to order	113



AL2A

*Standard type, Single rod,
Double acting, JIS Cylinder, with
end-of-stroke cushioning*

Ø32-Ø100

113

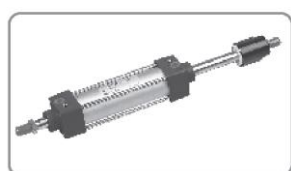


AL2C

*Standard type, Double rod,
Double acting, JIS Cylinder,
with end-of-stroke cushioning*

Ø32-Ø100

12

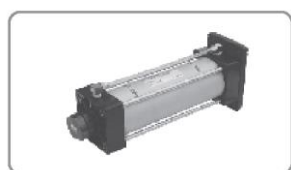


AL2D

*Standard type, Double rod,
Double acting, JIS Cylinder,
with end-of-stroke cushioning
& adjustable stroke*

Ø32-Ø100

12



AL2TK *Air-Hydro Unit*

13



AL2R

*Non-rotating, JIS Cylinder,
with end-of-stroke cushioning*

Ø40-Ø80

(See "Non-rotary air cylinder series" on P. 471 for details and dimensions)

Specifications

Bore (mm)	32, 40, 50, 63, 80, 100	
Fluid	Filtered compressed air (requires ISO-VG32 equivalent lubricant)	
Operating pressure (kgf/cm ²)	0.5-9.9	
Operating temperature (°C)	0 ~ +60	
Piston speed (m/s)	Maximum1	
Stroke	(1) S≤500: +2.0-0 (2) 501≤S≤1250: +3.2-0	
Cushion length (mm)	Ø32	22
	Ø40	24
	Ø50, Ø63	26
	Ø80, Ø100	30
Cushion length (mm)	External adjustable cushion (cushion screw can be adjusted to its optimum status)	



Note

1. Actual cylinder output = standard output – air cylinder friction – external friction when actuating
2. Actual force = Theoretical force × (50~60)%

Theoretical force table

Unit: kg

Bore (mm)	Rod (mm)	Action	Area (cm ²)	Operating pressure (kgf/cm ²)					
				3	4	5	6	7	8
32	12	Push	8.04	24	32	40	48	56	64
		Pull	6.91	21	27	34	41	48	55
40	16	Push	12.56	38	50	63	75	88	100
		Pull	10.56	32	42	53	63	74	84
50	20	Push	19.63	59	79	98	118	137	157
		Pull	16.49	49	66	82	99	115	132
63	20	Push	31.16	93	125	156	187	218	249
		Pull	28.02	84	112	140	168	196	224
80	25	Push	50.24	151	201	251	301	352	402
		Pull	45.34	136	181	227	272	317	363
100	25	Push	78.5	236	314	393	471	550	628
		Pull	73.6	221	294	368	442	515	589

Cylinder selection guide

Determine the amount of force required for the application at both the push side (air injected via rear cover) or pull side (air injected via front cover).

On the Theoretical force table above:

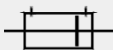
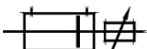
- Select correct operating pressure (kgf/cm²)
- Select actual output (kg)
- Select correct cylinder bore according to area.

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connectorsMagnetic
switchesPressure
sensors

Accessories

Cylinder type

Cylinder type	Standard mark	Drawing	Cylinder with magnetic switch	Cylinder with Viton seal	Cylinder with bellows	Bore (mm)					
						32	40	50	63	80	100
Standard type, Single rod, Double acting, JIS Cylinder, with end-of-stroke cushioning	AL2-A		AL2-AG	AL2-AJ	AL2-AH	●	●	●	●	●	●
Standard type, Double rod, Double acting, JIS Cylinder, with end-of-stroke cushioning	AL2-C		AL2-CG	AL2-CJ	AL2-CH	●	●	●	●	●	●
Standard type, Double rod, Double acting, JIS Cylinder, with end-of-stroke cushioning & adjustable stroke	AL2-D		AL2-DG	AL2-DJ	AL2-DH	●	●	●	●	●	●
Hydro-air cylinder	AL2-TK		-	AL2-LJ	-	-	-	-	●	●	●
Non-rotating JIS Cylinder	AL2-R		See "Non-rotating cylinder series" on P. 471 for details and dimensions								

Accessory weight table

Unit: g

Accessory Bore	FA/FB	LB	LA	CA	CB	CC	TC	CB-BK	TC-BK	Y	1	P	KGT	PHS
32	160	80	-	-	-	-	395	-	-	350	280	70	142	114
40	220	120	200	320	230	170	540	470	1120	390	280	70	142	114
50	340	160	280	420	380	250	660	740	1120	400	280	80	552	200
63	480	220	400	540	480	400	740	740	1120	400	280	80	552	200
80	1260	360	780	1400	992	900	1240	2210	1580	892	720	192	808	372
100	1840	480	1220	1820	1520	1600	1580	2210	1580	892	720	192	808	372

⚠ CB, Y, and CB-BK accessories come with pin and plug

E.g.: AL2-FA-50-100ST-Y

Product weight (ST=0) ----- 930 g

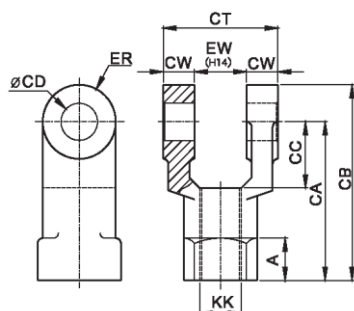
Weight of added stroke----- (200/50)×100ST=400 g

Accessory weight ----- FA=340g Y=400g

Total weight =930+400+340+400=2070 g

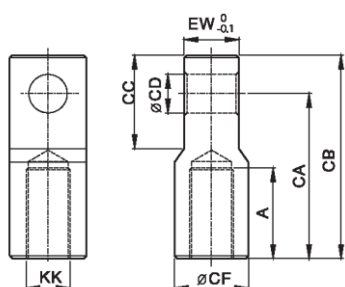
Accessory dimensions

● Y connector



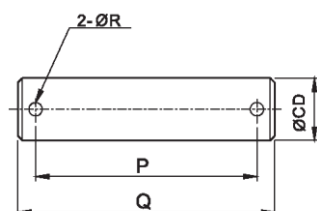
Bore	Mark	KK	A	CA	CB	CC	CD	CT	CW	EW	ER
32	M10×1.25	16	55	67	20	12	32	8	16	12	
40	M12×1.25	16	60	74	25	14	44	12	20	14	
50	M16×1.5	16	60	74	25	14	44	12	20	14	
63											
80	M20×1.5	20	85	103	35	20	62	15	32	18	
100											

● I connector



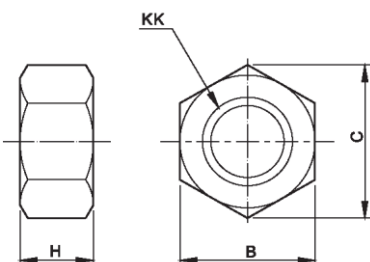
Bore	Mark	KK	A	CA	CB	CC	CD	CF	EW
32	M10×1.25	23	55	67	32	12	25	16	
40	M12×1.25	25	60	72	34	14	28	20	
50	M16×1.5	33	60	74	34	14	28	20	
63									
80	M20×1.5	41	85	104	49	20	38	32	
100									

● Pin



Bore	Mark	CD	P	Q	R
32		12	38	46	3
40		14	50	58	3
50	Y pin	14	50	58	3
63	CB	14	58	66	3
	CBBK				
80		20	70	78	3
100					

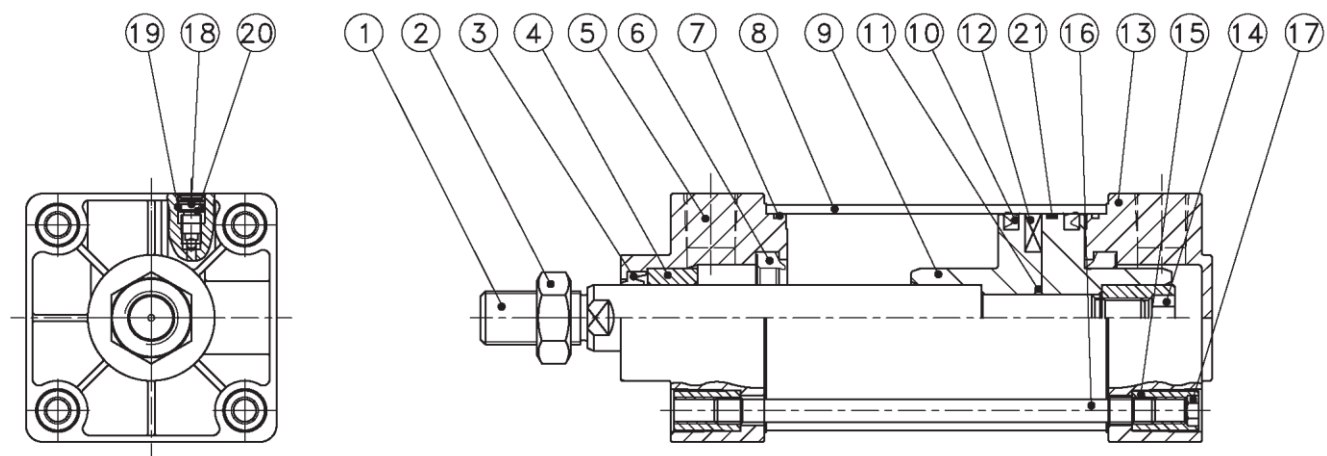
● Nut



Bore	Mark	KK	B	C	H
32	M10×1.25	17	19	6	
40	M12×1.25	19	22	7	
50	M16×1.5	24	27	8	
63					
80	M20×1.5	30	34	9	
100					

- See "Pneumatic accessories" on P.825~P.826 for details about KGT, PHS accessory dimensions

Internal structure and part names



Mark	Part Name	Quantity	Mark	Part Name	Quantity
①	Rod	1	⑫	Induction magnet	1
②	Piston rod nut	1	⑬	Rear/Head cover	1
③	Piston rod seal	1	⑭	Piston lock nut	1
④	Powder bronze bushing	1	⑮	Cover securing nut	4
⑤	Front/Rod cover	1	⑯	Tie rod	4
⑥	Cushion seal	2	⑰	Cover securing nut	4
⑦	Cover O-ring	2	⑱	Cushion screw	2
⑧	Aluminum Tube	1	⑲	Cushion screw O-ring	2
⑨	Piston	2	⑳	Washer	2
⑩	Piston seal	2	㉑	Piston wear ring	2
⑪	Piston O-ring	1			

Product weight table

Unit: g

Bore	32	40	50	63	80	100
Standard type with stroke ST=0	515	800	930	1400	2300	2930
Additional weight per every 50mm	100	100	200	200	300	300

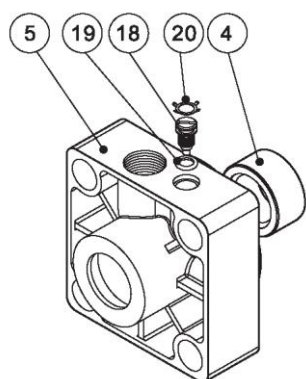
Parts weight table

Unit: g

Bore		32	40	50	63	80	100
Part name	★ Without seal						
Front cover kit		125	158	232	318	485	655
Rear cover kit		102	125	178	260	402	545
Piston kit		29	59	90	107	184	223

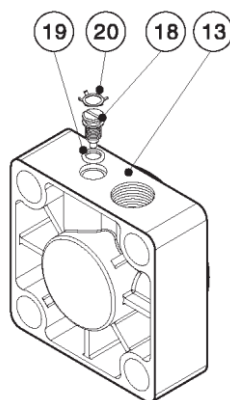
Front cover kit

Mark	Part Name	Quantity
④	Bushing	1
⑤	Front cover	1
⑱	Cushion screw	1
⑲	Cushion screw O-ring	1
⑳	Washer	1



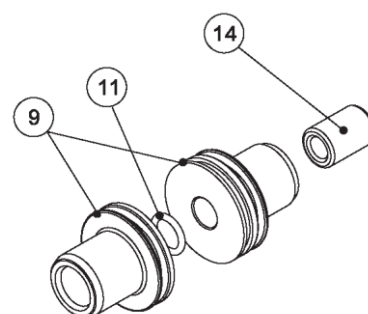
Rear cover kit

Mark	Part Name	Quantity
⑬	Rear cover	1
⑱	Cushion screw	1
⑲	Cushion screw O-ring	1
⑳	Washer	1

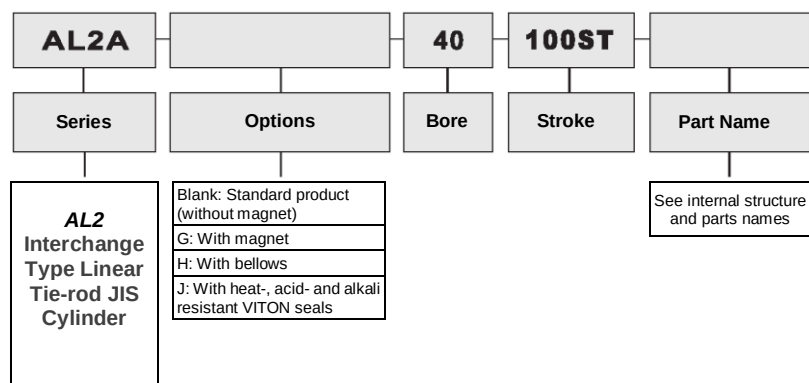


Piston kit

Mark	Part Name	Quantity
⑨	Piston	2
⑨	Piston O-ring	1
⑭	Piston lock nut	1



How to order



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Pneumatic
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sensors

Accessories

AL2A Standard type, Single rod, Double acting cylinder w/cushion

- Aluminum front and rear cover
- Standard model comes with end of stroke cushioning
- Optional sensing magnet and magnetic switch
- Robust structure for higher shock resistance
- External dimensions compatible with Taiyo model 10A-6.

Product standard stroke

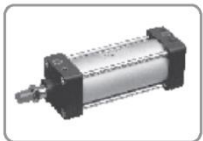
Bore (mm)	Standard stroke (mm)
32	50, 75, 100, 125, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900, 950, 1000
40	
50	
63	
80	
100	

How to order

AL2A		SD	40	100ST			T × n
Series	Options	Mounting	Bore	Stroke	Seat	Rod end connector	Magnetic switch
AL2A Interchange Type Linear Tie-rod JIS Cylinder	Blank: Standard product (without magnet) G: With magnet H: With bellows J: With heat-, acid- and alkali resistant VITON seals	SD: Standard FA: Front rod end flange FB: Rear rod end flange LA: Foot type LB: Rod end angle flange CA: Male head end clevis CB: Female head end clevis CC: Short clevis TC: Center trunnion	32 : 32 mm 40 : 40 mm 50 : 50 mm 63 : 63 mm 80 : 80 mm 100 : 100 mm	See product standard stroke	CBBK: Angled head end clevis TCBK: Center trunnion	Y: Y connector I: I connector PIN: Pin KGT: Floating joint PHS: Bearing	Specification: JFS01 T: 2x standard 2m wires P: PNP, 3 x standard 2m wires N: NPN, 3 x standard 2m wires n: quantity Note: orders with "G" mark rather than "Txn"= cylinder with sensing magnet instead of magnetic switch

⚠ Blank: Standard product: special remarks not required when placing orders

Parts order codes

Options	G: With magnet		H: With bellows		
					
Mounting	SD: Standard	FA/FB: Front/Rear rod end flange	LA: Foot type	LB: Rod end angle flange	CA: Male head end clevis
					
	CB: Female head end clevis	CC: Short clevis	TC: Center trunnion		
					
Connection seat	CB-BK: Angled head end clevis	TC-BK: Center trunnion			
					
Rod end connector	Y: Y connector	I: I connector	PIN: Pin	KGT: Floating joint	PHS: Vertical Bearing
					
Magnetic switch	JFS-01	JFS-01 (mounting bracket)			
					

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Pneumatic valves

Pneumatic actuators

Pneumatic connectors

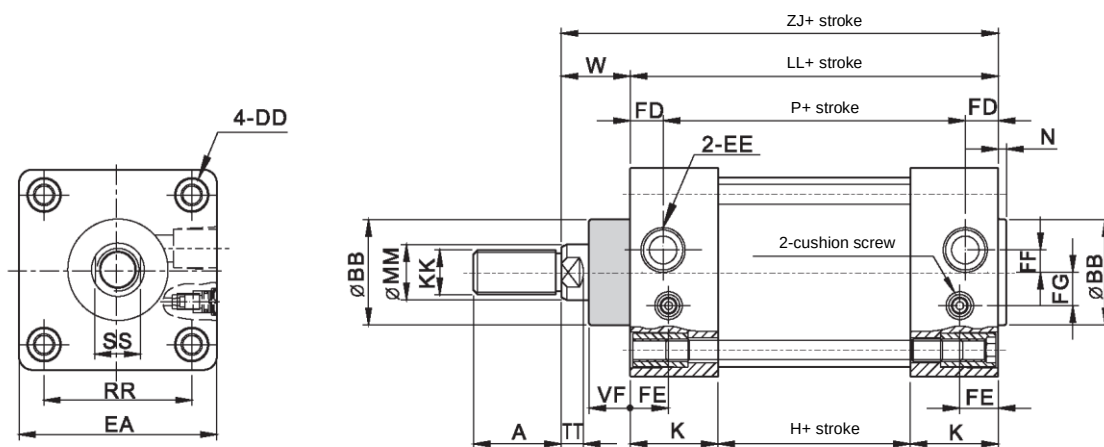
Magnetic switches

Pressure sensors

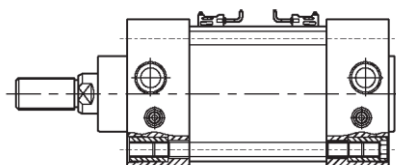
Accessories

External dimensions

● AL2A-SD Standard



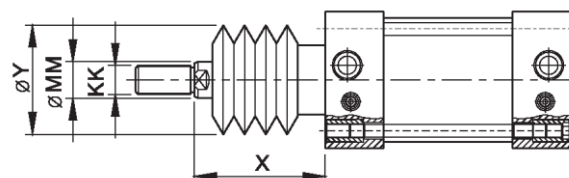
● With magnetic switch (AL2A-G)



Note: external dimensions same as above diagram

- Magnet is attached on piston
- Switch is attached on tube

● With dust bellows (AL2A-H)



x = piston rod retracted length

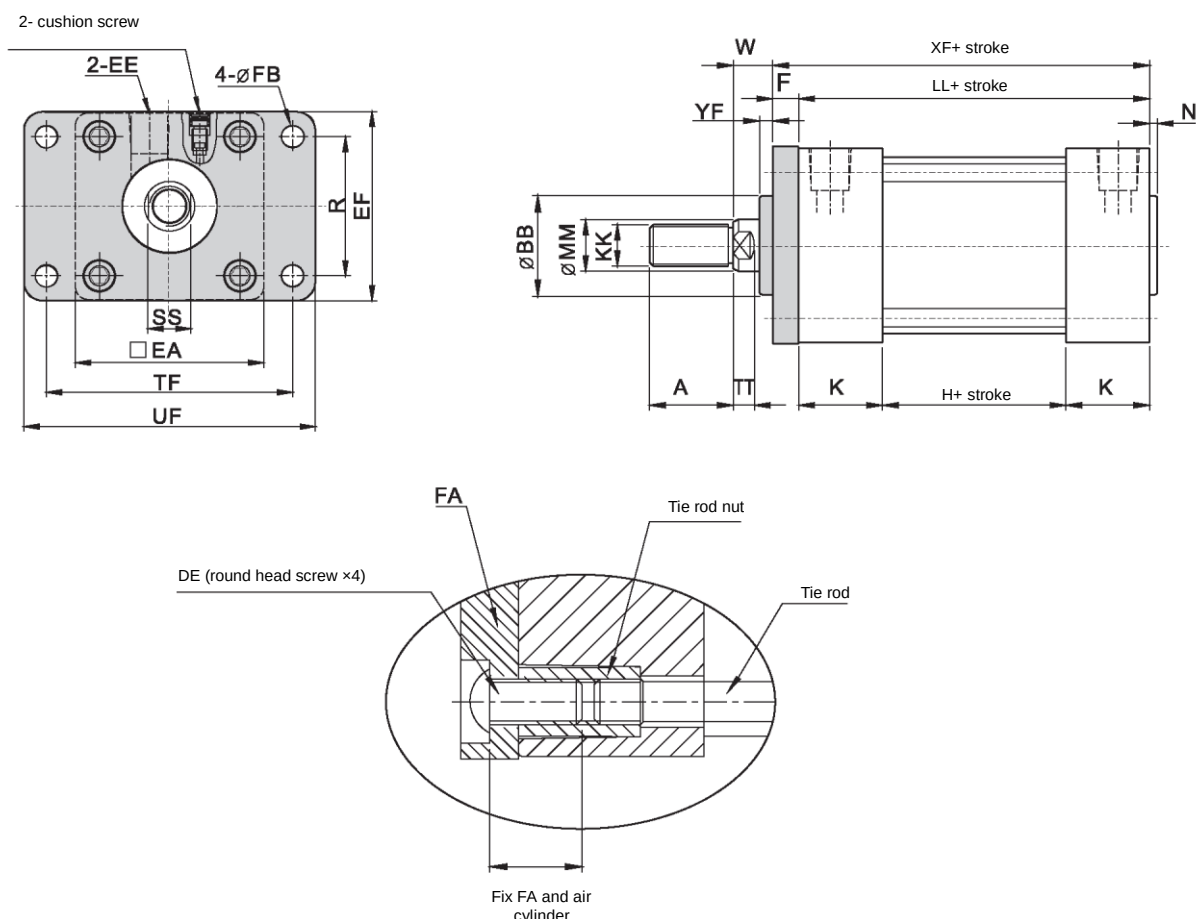
- Specify dust bellow material in your order
- (1) N: NBR
- (2) V: VITON $\leq 200^{\circ}\text{C}$

Mark	MM	KK	A	BB	VF	DD	W	EA	RR	EE	LL	P	ZJ	H	K
Bore 32	12	M10×1.25	22	26	15	M6×1.0	25	44	33	RC1/8	93	77	118	38	27.5
40	16	M12×1.25	24	32	15	M6×1.0	25	50	37	RC1/4	93	73	118	38	27.5
50	20	M16×1.5	32	38	15	M6×1.0	25	62	47	RC1/4	93	73	118	38	27.5
63	20	M16×1.5	32	38	15	M8×1.25	25	75	56	RC3/8	96	72	121	39	28.5
80	25	M20×1.5	40	44	21	M10×1.5	35	94	70	RC3/8	108	84	143	43	32.5
100	25	M20×1.5	40	50	21	M10×1.5	35	112	84	RC1/2	108	78	143	43	32.5

Mark	SS	TT	FD	FE	FF	FG	N	X	Y
Bore 32	10	8	8	14	3	7	3	1/3 stroke + 45	60
40	14	9	10	14	4	10	3		
50	17	9	10	14	7	12	3	1/3 stroke + 50	60
63	17	9	12	14	8	12	3		
80	21	13	12	14	11	16	3	1/3 stroke + 55	70
100	21	13	15	17	12	18	3		

External dimensions

● AL2A-FA Front rod end flange



Bore	Mark	MM	KK	A	BB	YF	W	EE	EF	R	UF	TF	FB	F
32		12	M10×1.25	22	26	5	15	RC1/8	47	33	72	58	7	10
40		16	M12×1.25	24	32	5	15	RC1/4	52	36	84	70	7	10
50		20	M16×1.5	32	38	5	15	RC1/4	65	47	104	86	9	10
63		20	M16×1.5	32	38	5	15	RC3/8	76	56	116	98	9	10
80		25	M20×1.5	40	44	5	19	RC3/8	95	70	143	119	12	16
100		25	M20×1.5	40	50	5	19	RC1/2	115	84	162	138	12	16

Bore	Mark	EA	DE	XF	LL	H	K	SS	TT	N
32		44	M6×1.0	103	93	38	27.5	10	8	3
40		50	M6×1.0	103	93	38	27.5	14	9	3
50		62	M6×1.0	103	93	38	27.5	17	9	3
63		75	M8×1.25	106	96	39	28.5	17	9	3
80		94	M10×1.5	124	108	43	32.5	21	13	3
100		112	M10×1.5	124	108	43	32.5	21	13	3

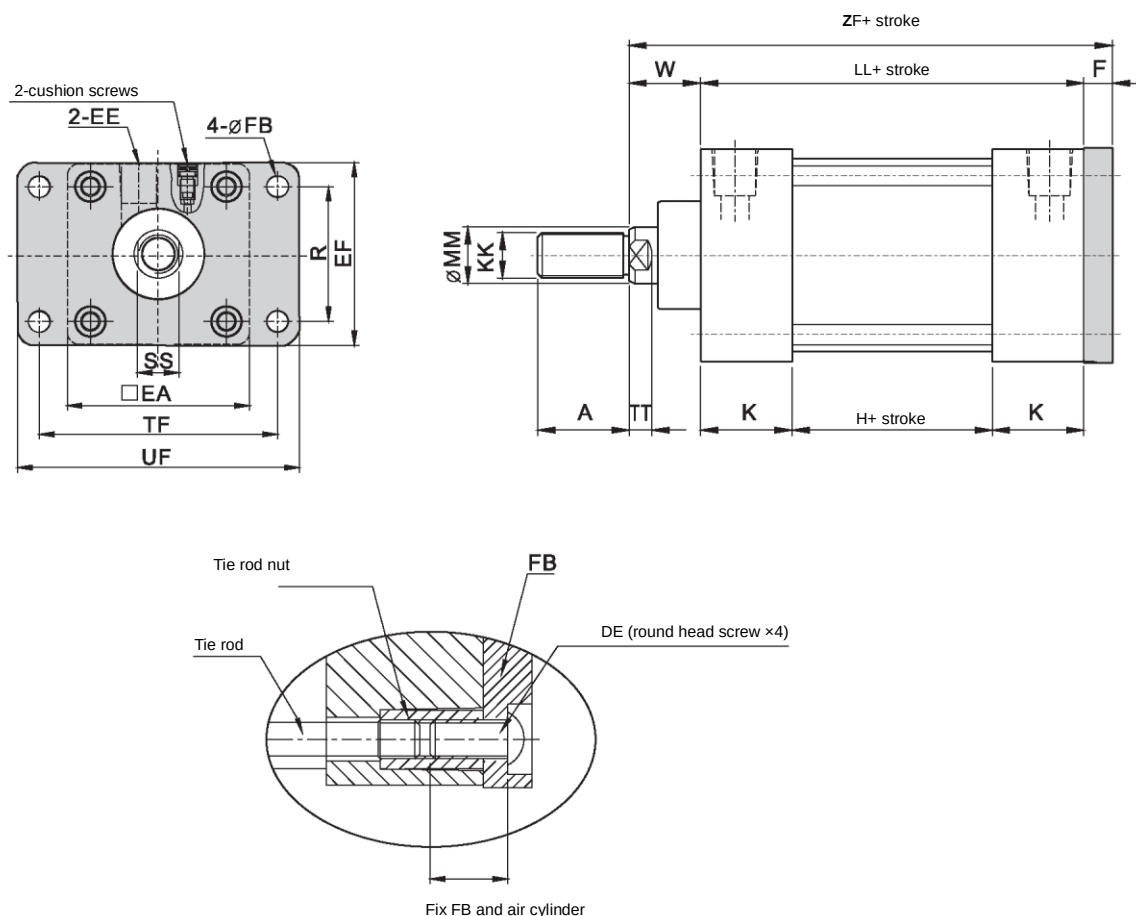
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valvesPneumatic
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connectorsMagnetic
switchesPressure
sensors

Accessories

External dimensions

● AL2A-FB Rear rod end flange

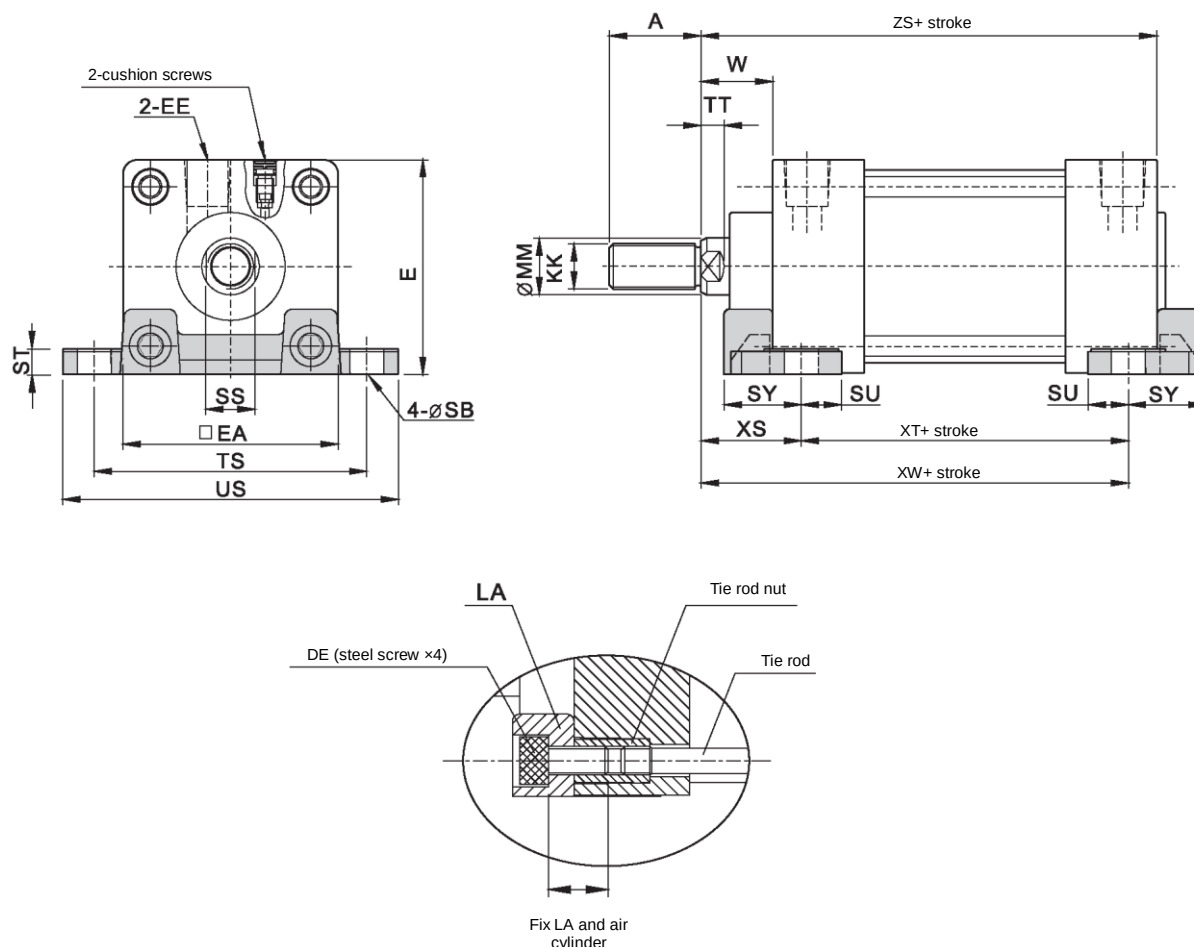


Mark	MM	KK	A	ZF	EF	R	UF	TF	FB	EE	F	LL	K
Bore 32	12	M10×1.25	22	128	47	33	72	58	7	RC1/8	10	93	27.5
40	16	M12×1.25	24	128	52	36	84	70	7	RC1/4	10	93	27.5
50	20	M16×1.5	32	128	65	47	104	86	9	RC1/4	10	93	27.5
63	20	M16×1.5	32	131	76	56	116	98	9	RC3/8	10	96	28.5
80	25	M20×1.5	40	159	95	70	143	119	12	RC3/8	16	108	32.5
100	25	M20×1.5	40	159	115	84	162	138	12	RC1/2	16	108	32.5

Mark	H	W	EA	DE	SS	TT
Bore 32	38	25	44	M6×1.0	10	8
40	38	25	50	M6×1.0	14	9
50	38	25	62	M6×1.0	17	9
63	39	25	75	M8×1.25	17	9
80	43	35	94	M10×1.5	21	13
100	43	35	112	M10×1.5	21	13

External dimensions

● AL2A-LA Foot type



Bore	Mark	MM	KK	A	EE	XT	XS	TS	US	SB	E	EA	DE	ZS
40		16	M12×1.25	24	RC1/4	73	35	70	92	12	50	50	M6×1.0	118
50		20	M16×1.5	32	RC1/4	73	35	83	105	12	62	62	M6×1.0	118
63		20	M16×1.5	32	RC3/8	76	35	95	117	12	75.5	75	M8×1.25	121
80		25	M20×1.5	40	RC3/8	82	48	121	147	14	94	94	M10×1.5	143
100		25	M20×1.5	40	RC1/2	82	48	140	168	14	113	112	M10×1.5	143

Bore	Mark	W	XW	ST	SY	SU	SS	TT
40		25	108	8	23	14	14	9
50		25	108	9	25	14	17	9
63		25	111	9	27	14	17	9
80		35	130	12	34	18	21	13
100		35	130	14	38	18	21	13

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Pneumatic
valves

Pneumatic
actuators

Pneumatic
connectors

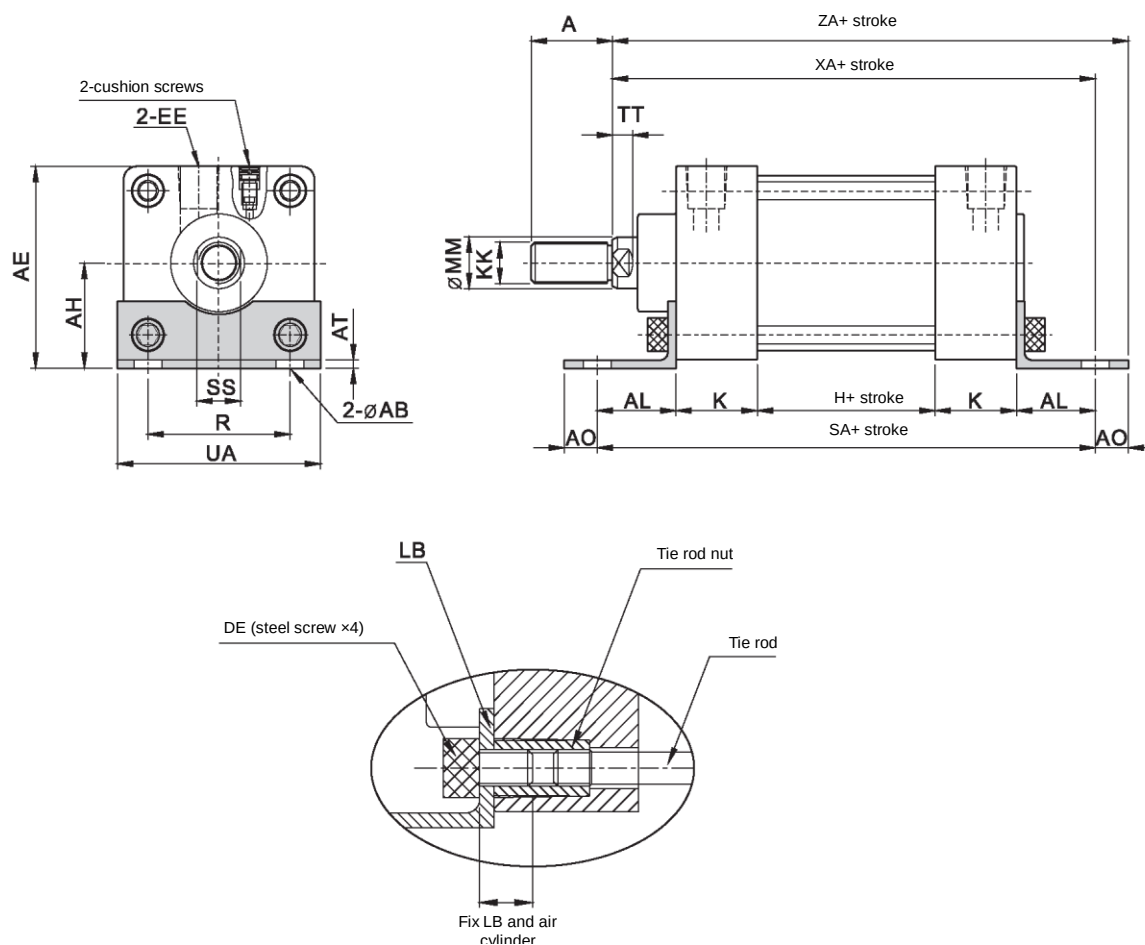
Magnetic
switches

Pressure
sensors

Accessories

External dimensions

● **AL2A-LB Rod end angle**

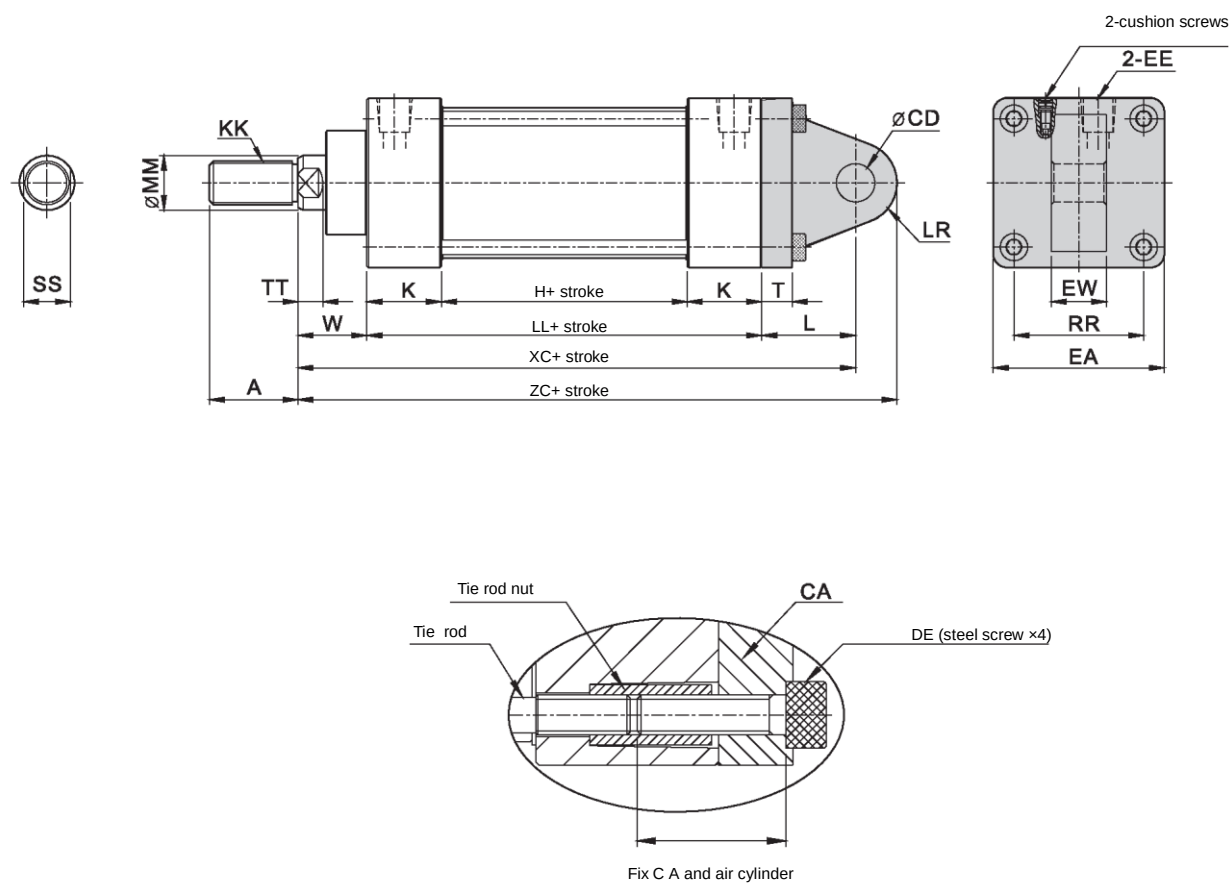


Bore \ Mark	MM	KK	A	EE	SA	AL	AO	AH	AT	R	UA	AB	AE
32	12	M10×1.25	22	RC1/8	134	20.5	9.5	28	3.2	33	50	9	50
40	16	M12×1.25	24	RC1/4	140	23.5	12.5	30	3.2	36	57	12	55
50	20	M16×1.5	32	RC1/4	149	28	12	37	3.2	47	68	12	68
63	20	M16×1.5	32	RC3/8	158	31	13	41	3.2	56	80	12	78.5
80	25	M20×1.5	40	RC3/8	168	30	16	49	4	70	97	14	96
100	25	M20×1.5	40	RC1/2	168	30	16	57	4	84	112	14	113

Bore \ Mark	XA	ZA	H	K	DE	SS	TT
32	138.5	148	38	27.5	M6×1.0	10	8
40	141.5	154	38	27.5	M6×1.0	14	9
50	146	158	38	27.5	M6×1.0	17	9
63	152	165	39	28.5	M8×1.25	17	9
80	173	189	43	32.5	M10×1.5	21	13
100	173	189	43	32.5	M10×1.5	21	13

External dimensions

● AL2A-CA Male head end clevis

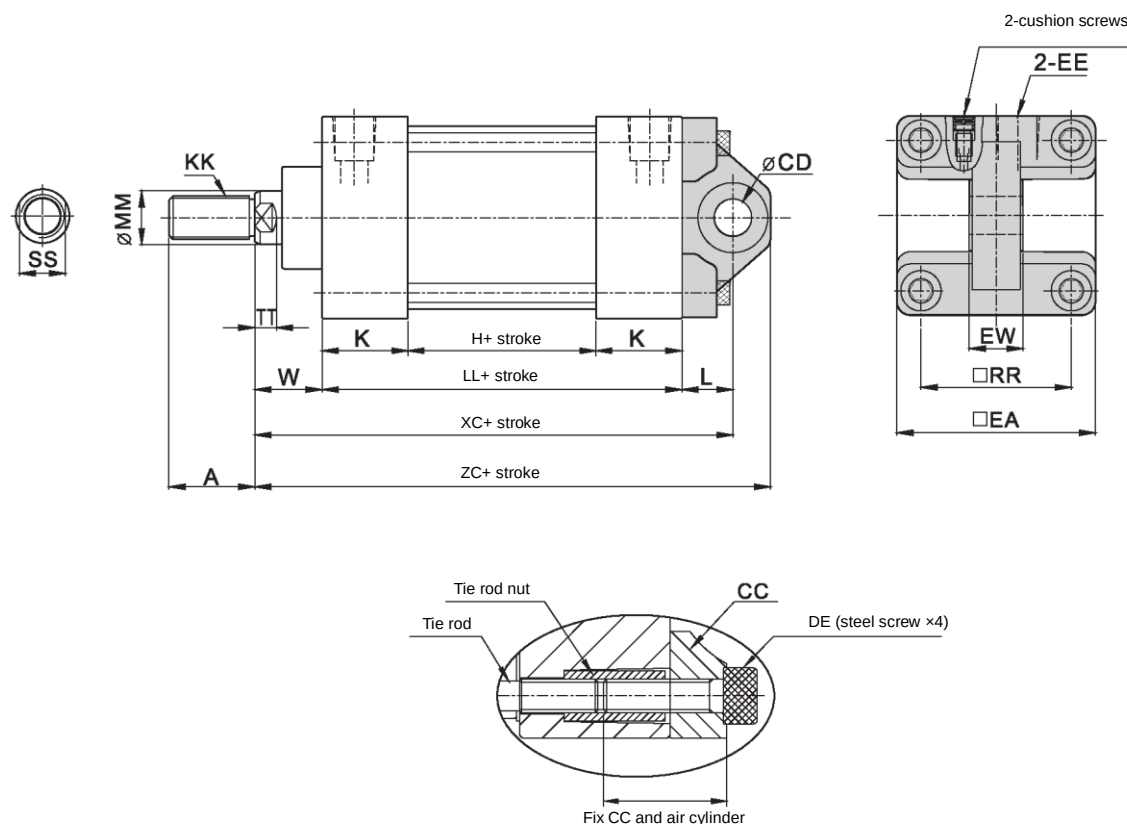


Bore	Mark	MM	KK	A	EE	XC	ZC	EW	CD	LR	L	T	LL	W
40		16	M12×1.25	24	RC1/4	152	166	20	14	R14	34	11	93	25
50		20	M16×1.5	32	RC1/4	152	167	20	14	R15	34	11	93	25
63		20	M16×1.5	32	RC3/8	155	170	20	14	R15	34	11	96	25
80		25	M20×1.5	40	RC3/8	191	211	32	20	R20	48	15	108	35
100		25	M20×1.5	40	RC1/2	191	211	32	20	R20	48	15	108	35

Bore	Mark	K	H	EA	RR	DE	SS	TT
40		27.5	38	50	37	M6×1.0	14	9
50		27.5	38	62	47	M6×1.0	17	9
63		28.5	39	75	56	M8×1.25	17	9
80		32.5	43	94	70	M10×1.5	21	13
100		32.5	43	112	84	M10×1.5	21	13

External dimensions

● AL2A-CC Short clevis



Mark	MM	KK	A	EE	XC	L	W	CD	LL	EW	K	H	EA
40	16	M12×1.25	24	RC1/4	137	19	25	14	93	20	27.5	38	50
50	20	M16×1.5	32	RC1/4	137	19	25	14	93	20	27.5	38	62
63	20	M16×1.5	32	RC3/8	140	19	25	14	96	20	28.5	39	75
80	25	M20×1.5	40	RC3/8	175	32	35	20	108	32	32.5	43	94
100	25	M20×1.5	40	RC1/2	175	32	35	20	108	32	32.5	43	112

Mark	RR	DE	ZC	SS	TT
40	37	M6×1.0	151	14	9
50	47	M6×1.0	151	17	9
63	56	M8×1.25	154	17	9
80	70	M10×1.5	195	21	13
100	84	M10×1.5	195	21	13

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Pneumatic
valves

Pneumatic
actuators

Pneumatic
connectors

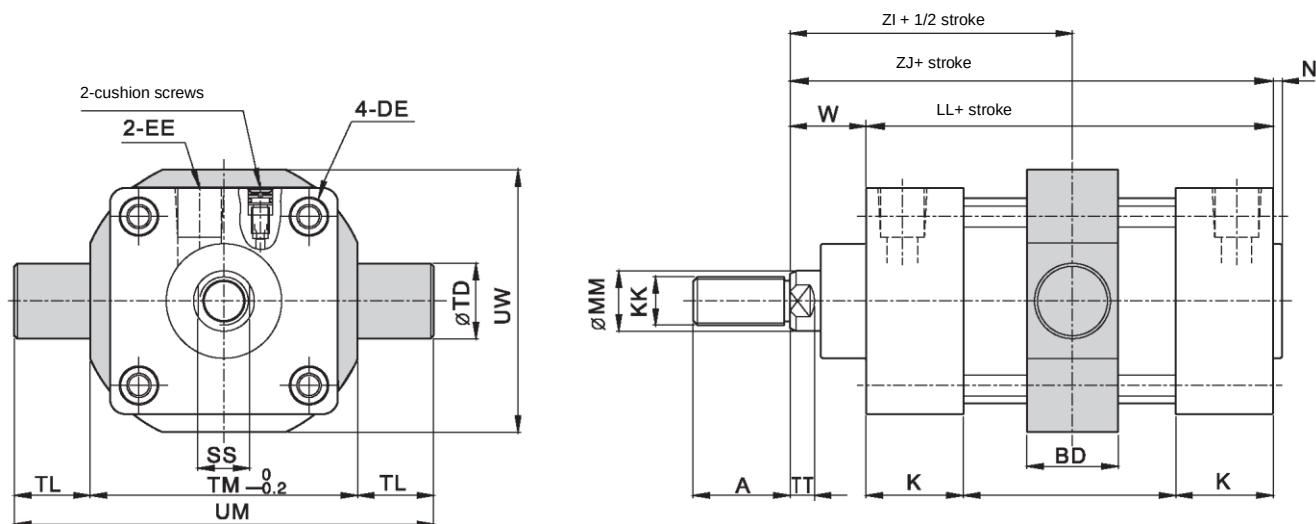
Magnetic
switches

Pressure
sensors

Accessories

External dimensions

● AL2A-TC Center trunnion

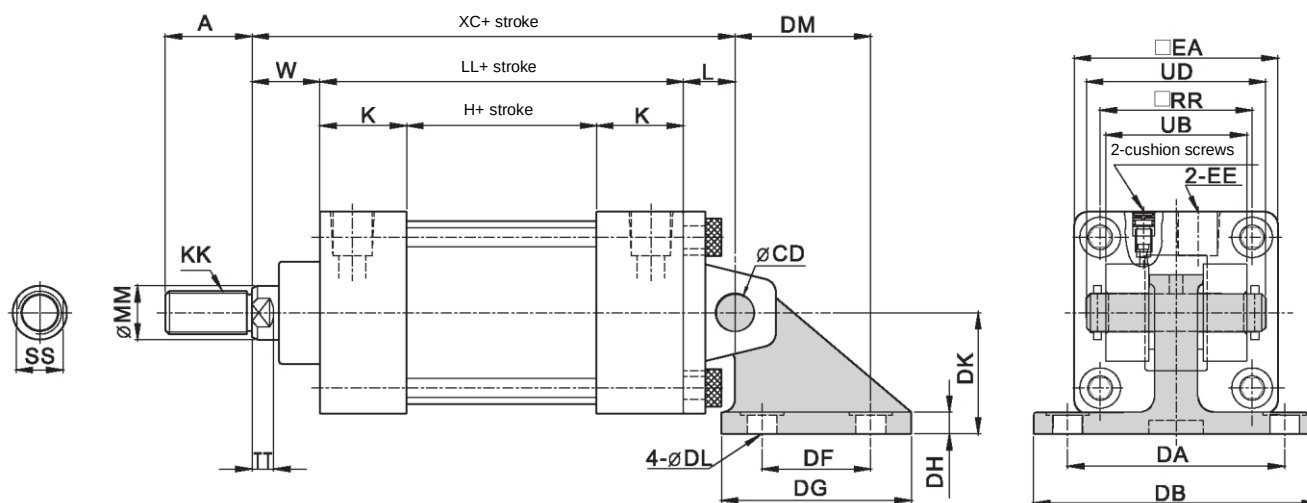


Bore	Mark	MM	KK	A	EE	ZI	TM	TL	UM	UW	TD	ZJ	LL	W
32		12	M10×1.25	22	RC1/8	71.5	55	16	87	53	16	118	93	25
40		16	M12×1.25	24	RC1/4	71.5	63	25	113	60	25	118	93	25
50		20	M16×1.5	32	RC1/4	71.5	76	25	126	72	25	118	93	25
63		20	M16×1.5	32	RC3/8	73	88	25	138	87	25	121	96	25
80		25	M20×1.5	40	RC3/8	89	114	25	164	105	25	143	108	35
100		25	M20×1.5	40	RC1/2	89	132	25	182	129	25	143	108	35

Bore	Mark	K	H	BD	DE	SS	TT	N
32		27.5	38	30	M6×1.0	10	8	3
40		27.5	38	30	M6×1.0	14	9	3
50		27.5	38	30	M6×1.0	17	9	3
63		28.5	39	30	M8×1.25	17	9	3
80		32.5	43	35	M10×1.5	21	13	3
100		32.5	43	40	M10×1.5	21	13	3

External dimensions

● AL2A-CBBK Angled head end clevis



Bore	Mark	MM	KK	A	EE	DM	DF	DG	DH	DL	DK	DA	DB	CD	XC	L	LL	W
40		16	M12×1.25	24	RC1/4	50	40	70	8	11	45	80	105	14	137	19	93	25
50		20	M16×1.5	32	RC1/4	50	40	70	8	11	45	80	105	14	137	19	93	25
63		20	M16×1.5	32	RC3/8	50	40	70	8	11	45	80	105	14	140	19	96	25
80		25	M20×1.5	40	RC3/8	70	65	95	12	14	60	105	135	20	175	32	108	35
100		25	M20×1.5	40	RC1/2	70	65	95	12	14	60	105	135	20	175	32	108	35

Bore	Mark	K	H	EA	UD	RR	UB	SS	TT
40		27.5	38	50	58	37	44	14	9
50		27.5	38	62	66	47	52	17	9
63		28.5	39	75	66	56	52	17	9
80		32.5	43	94	78	70	64	21	13
100		32.5	43	112	78	84	64	21	13

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Pneumatic
valves

Pneumatic
actuators

Pneumatic
connectors

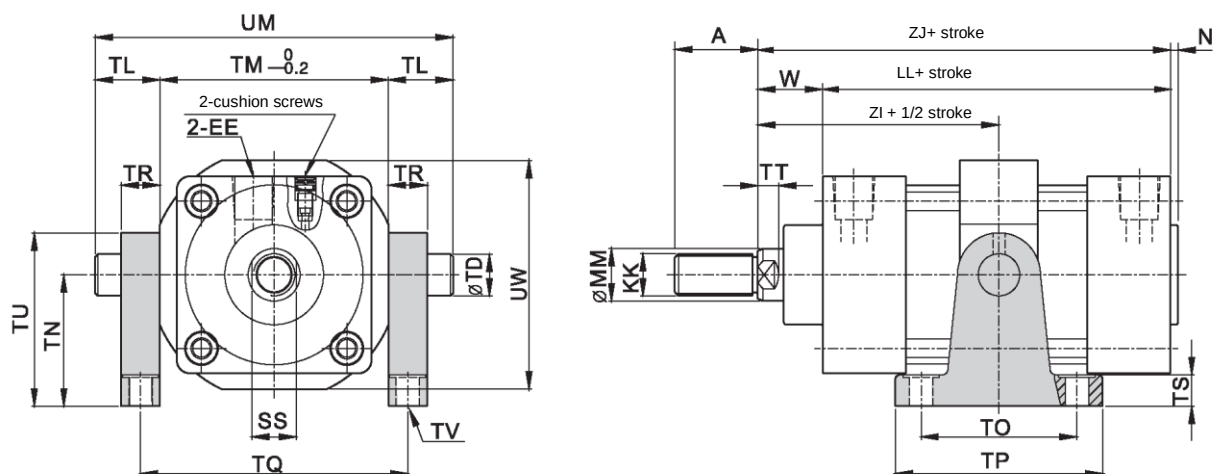
Magnetic
switches

Pressure
sensors

Accessories

External dimensions

● AL2A-TCBK Center trunnion



Mark	MM	KK	A	EE	TQ	TN	TU	TO	TP	TR	TM	TL	UM
40	16	M12×1.25	24	RC1/4	86	50	72	80	110	23	63	25	113
50	20	M16×1.5	32	RC1/4	99	50	72	80	110	23	76	25	126
63	20	M16×1.5	32	RC3/8	111	50	72	80	110	23	88	25	138
80	25	M20×1.5	40	RC3/8	137	70	92	85	120	23	114	25	164
100	25	M20×1.5	40	RC1/2	155	70	92	85	120	23	132	25	182

Mark	TS	UW	ZI	ZJ	LL	W	TD	SS	TT	N	TV
40	12	59	71.5	118	93	25	25	14	9	3	12
50	12	71	71.5	118	93	25	25	17	9	3	12
63	12	86	73	121	96	25	25	17	9	3	12
80	12	104	89	143	108	35	25	21	13	3	14
100	12	132	89	143	108	35	25	21	13	3	14

JUFAN

AL2 Interchange Type Linear Tie-rod JIS Cylinder

● **NOTES**

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Pneumatic valves

Pneumatic actuators

Pneumatic connectors

Magnetic switches

Pressure sensors

Accessories

AL2C Standard type, Double rods, Double acting cylinder w/cushion

- Aluminum front and rear cover
- Standard model comes with end of stroke cushioning
- Optional sensing magnet and magnetic switch
- Robust structure for higher shock resistance

External dimensions compatible with Taiyo model 10A-6.

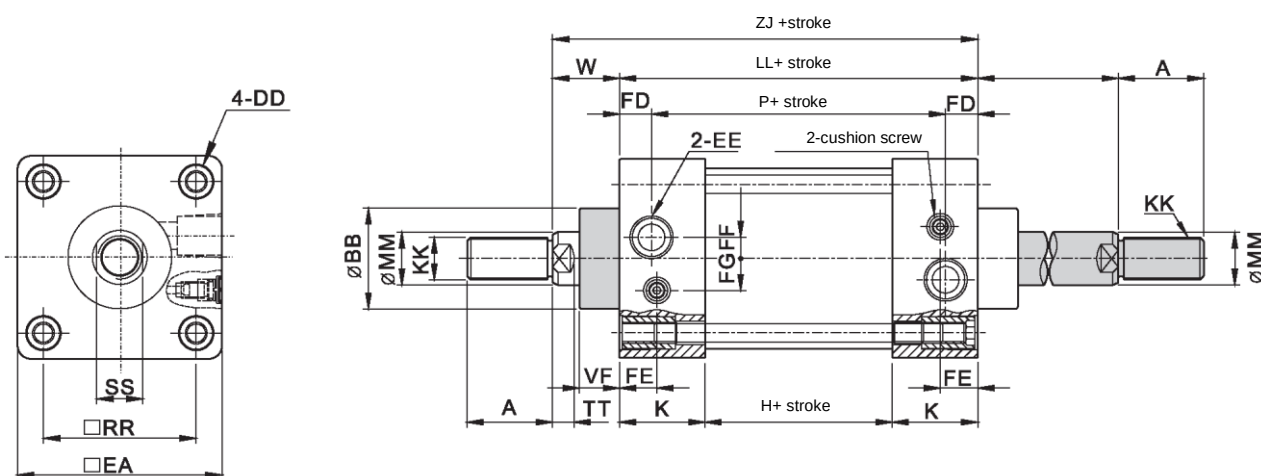
Check to order

AL2C		SD	40	100ST		T × n
Series	Options	Mounting	Bore	Stroke	Connector	Magnetic switch
AL2 Interchange Type Linear Tie-rod JIS Cylinder	Blank: Standard product (without magnet) G: With magnet H: With bellows J: With heat-, acid- and alkali resistant VITON seals	SD: Standard FA: Front rod end flange FB: Rear rod end flange LB: Rod end angle flange TC: Center trunnion	32 : 32 mm 40 : 40 mm 50 : 50 mm 63 : 63 mm 80 : 80 mm 100 : 100 mm	See product standard stroke	Y: Y connector I: I connector PIN: Pin KGT: Floating joint PHS: Bearing	Specification: JFS01 T: 2x standard 2m wires P: PNP, 3 x standard 2m wires N: NPN, 3 x standard 2m wires n: quantity Note: orders with "G" mark rather than "Txn"= cylinder with sensing magnet instead of magnetic switch JFS01 

⚠ Blank: standard product: special remarks not required when placing orders

External dimensions

● AL2C-SD Standard



Mark	MM	KK	A	EE	ZJ	LL	W	K	H	RR	EA	DD
Bore. 32	12	M10×1.25	22	RC1/8	118	93	25	27.5	38	33	44	M6×1.0
40	16	M12×1.25	24	RC1/4	118	93	25	27.5	38	37	50	M6×1.0
50	20	M16×1.5	32	RC1/4	118	93	25	27.5	38	47	62	M6×1.0
63	20	M16×1.5	32	RC3/8	121	96	25	28.5	39	56	75	M8×1.25
80	25	M20×1.5	40	RC3/8	143	108	35	32.5	43	70	94	M10×1.5
100	25	M20×1.5	40	RC1/2	143	108	35	32.5	43	84	112	M10×1.5

Mark	BB	VF	FD	FE	FG	P	SS	TT
Bore. 32	26	15	8	14	7	77	10	8
40	32	15	10	14	10	73	14	9
50	38	15	10	14	12	73	17	9
63	38	15	12	14	12	72	17	9
80	44	21	12	14	16	84	21	13
100	50	21	15	17	18	78	21	13

⚠ Note: see AL2A Standard type, Single rod, Double acting cylinder w/cushion on P.115~P.125 for other accessory external dimensions

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Pneumatic
valvesPneumatic
actuatorsPneumatic
connectorsMagnetic
switchesPressure
sensors

Accessories

AL2D Double rods, Double acting cylinder with adjustable stroke



- Aluminum front and rear cover
- Standard model comes with end of stroke cushioning
- Optional sensing magnet and magnetic switch
- Robust structure for higher shock resistance
- External dimensions compatible with Taiyo model 10A-6.

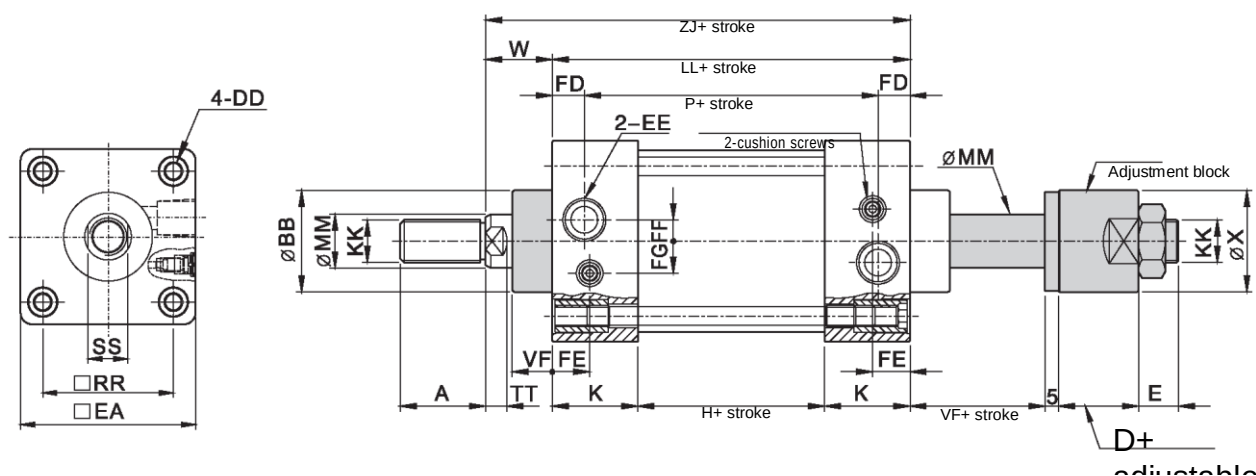
How to order

AL2D		SD	40	100ST		25mm	T × n
Series	Options	Mounting	Bore	Stroke	Connector	Adjustable stroke	Magnetic switch
AL2 Interchange Type Linear Tie-rod JIS Cylinder	Blank: Standard product (without magnet) G: With magnet H: With bellows J: With heat-, acid- and alkali resistant VITON seals	SD: Standard FA: Front rod end flange FB: Rear rod end flange LA: Foot type LB: Rod end angle flange TC: Center trunnion	32 : 32 mm 40 : 40 mm 50 : 50 mm 63 : 63 mm 80 : 80 mm 100 : 100 mm	See product standard stroke	Y: Y connector I: I connector PIN: Pin KGT: Floating joint PHS: Bearing Y: Y connector	Standard adjustment block for stroke adjustment: 25mm and 50mm	Specifications: JFS01 T: 2x standard 2m wires P: PNP, 3 x standard 2m wires N: NPN, 3 x standard 2m wires n: quantity Note: orders with "G" mark rather than "Txn"= cylinder with sensing magnet instead of magnetic switch JFS01

⚠ Blank: standard product, special remarks not required when placing orders

External dimensions

● AL2D-SD Standard



Bore	Mark	MM	KK	A	EE	RR	EA	DD	ZJ	LL	W	BB	VF	D	X
32		12	M10×1.25	22	RC1/8	33	44	M6×1.0	118	93	25	26	15	20	28
40		16	M12×1.25	24	RC1/4	37	50	M6×1.0	118	93	25	32	15	20	32
50		20	M16×1.5	32	RC1/4	47	62	M6×1.0	118	93	25	38	15	20	38
63		20	M16×1.5	32	RC3/8	56	75	M8×1.25	121	96	25	38	15	25	38
80		25	M20×1.5	40	RC3/8	70	94	M10×1.5	143	108	35	44	21	25	44
100		25	M20×1.5	40	RC1/2	84	112	M10×1.5	143	108	35	50	21	25	44

Bore	Mark	E	K	H	FD	FE	FF	FG	P	SS	TT
32		15	27.5	38	8	14	3	7	77	10	8
40		15	27.5	38	10	14	4	10	73	14	9
50		15	27.5	38	10	14	7	12	73	17	9
63		15	28.5	39	12	14	8	12	72	17	9
80		15	32.5	43	12	14	11	16	84	21	13
100		15	32.5	43	15	17	12	18	78	21	13

⚠ Note: see AL2A Standard type, Single rod, Double acting cylinder w/cushion on P.115~P.125 for other accessory external dimensions

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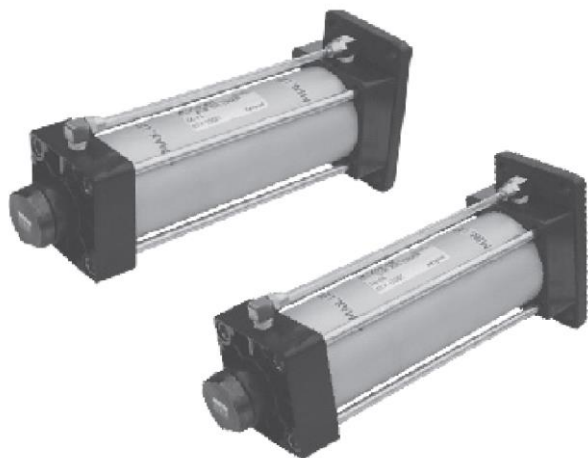
Pneumatic
valvesPneumatic
actuatorsPneumatic
connectorsMagnetic
switchesPressure
sensors

Accessories

JUFAN

AL2 Interchange Type Linear Tie-rod JIS Cylinder

AL2TK Air-Hydro unit



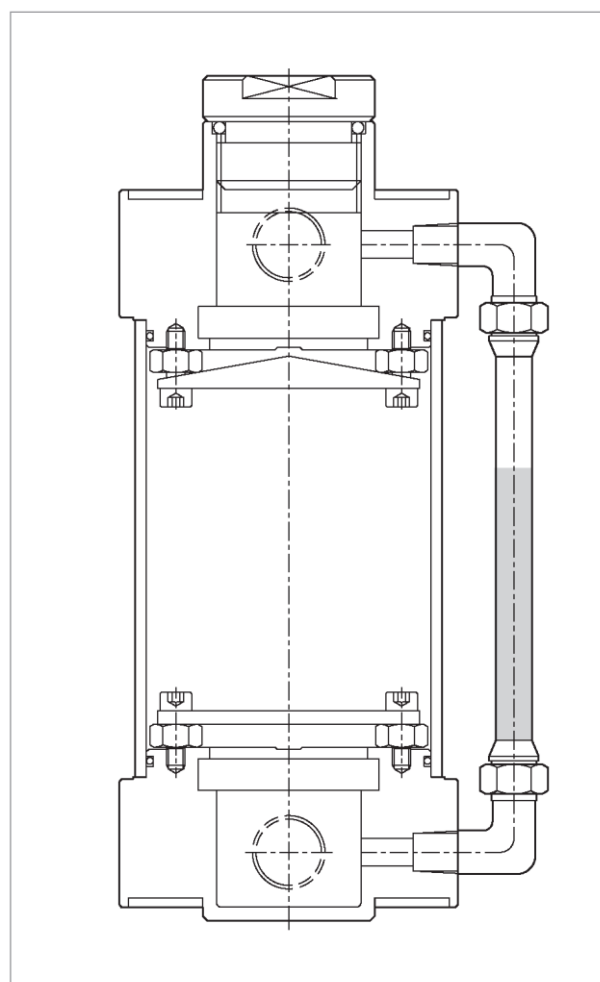
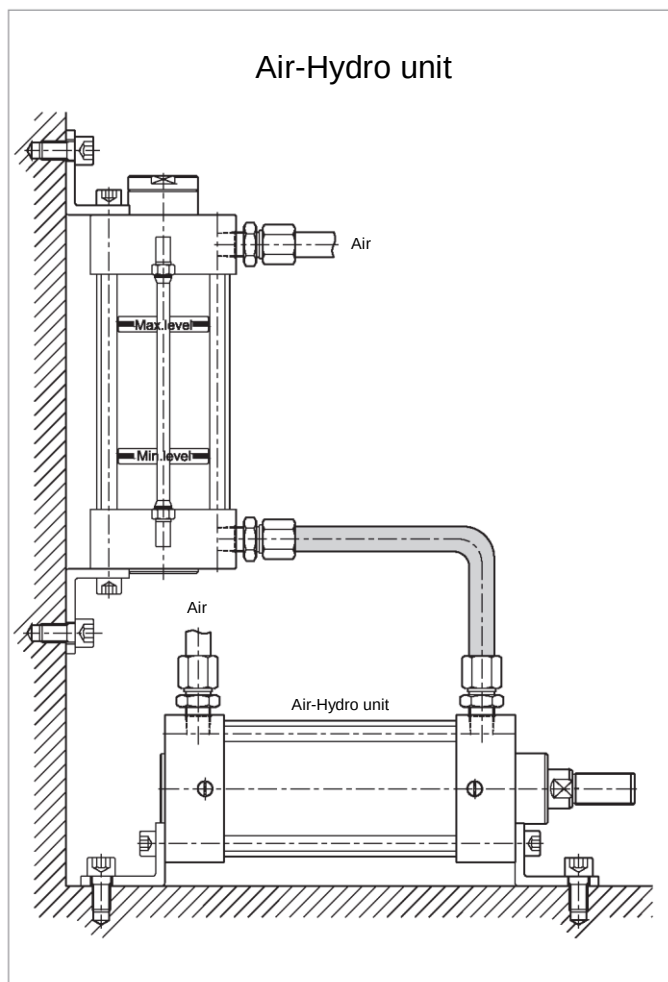
- Converts air pressure to an equivalent hydraulic pressure.
- The same functions of a hydraulic unit can be obtained while using pneumatic equipment.
- Slow, steady actuation.

How to order

AL2	TK	SD	63	200ST
Series	Options	Mounting	Bore	Stroke
AL2 Interchange Type Linear Tie-rod JIS Cylinder	Hydro-air Tank (oil barrel)	SD: Standard LB: Rod end angle flange FB: Rear rod end flange	63 : 63 mm 80 : 80 mm 100 : 100 mm	150mm } 500mm

Air-Hydro unit installation and description

- Install Air-Hydro unit above air cylinder and in vertical position.
- Air-Hydro unit internal structure



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Pneumatic
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Pneumatic
connectors

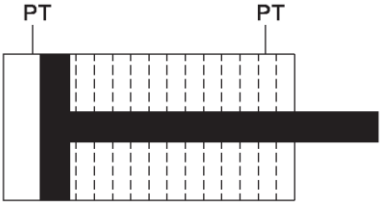
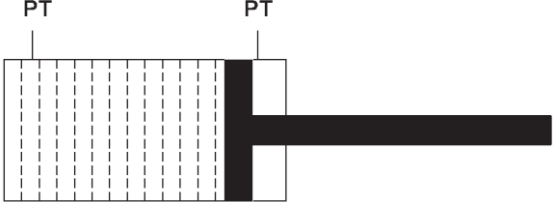
Magnetic
switches

Pressure
sensors

Accessories

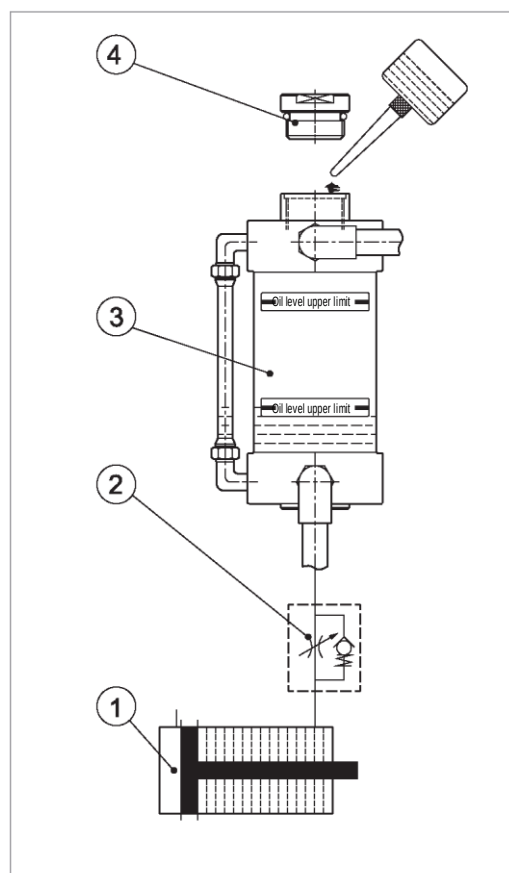
Air-Hydro unit specifications

- Select bore size and stroke of Air-Hydro unit according to cylinder required volume.
- Calculate Air-Hydro unit volume according to below description:

Forwarding at constant speed	Reversing at constant speed
	
$\text{Volume } V = \pi/4 \times (D^2 - d^2) \times L$ $= 0.785 \times (D^2 - d^2) \times L$	
Note: V: cm ³ (CC) D: Bore (cm) d: Rod (cm) L: Stroke (cm) $\pi/4=0.785$	

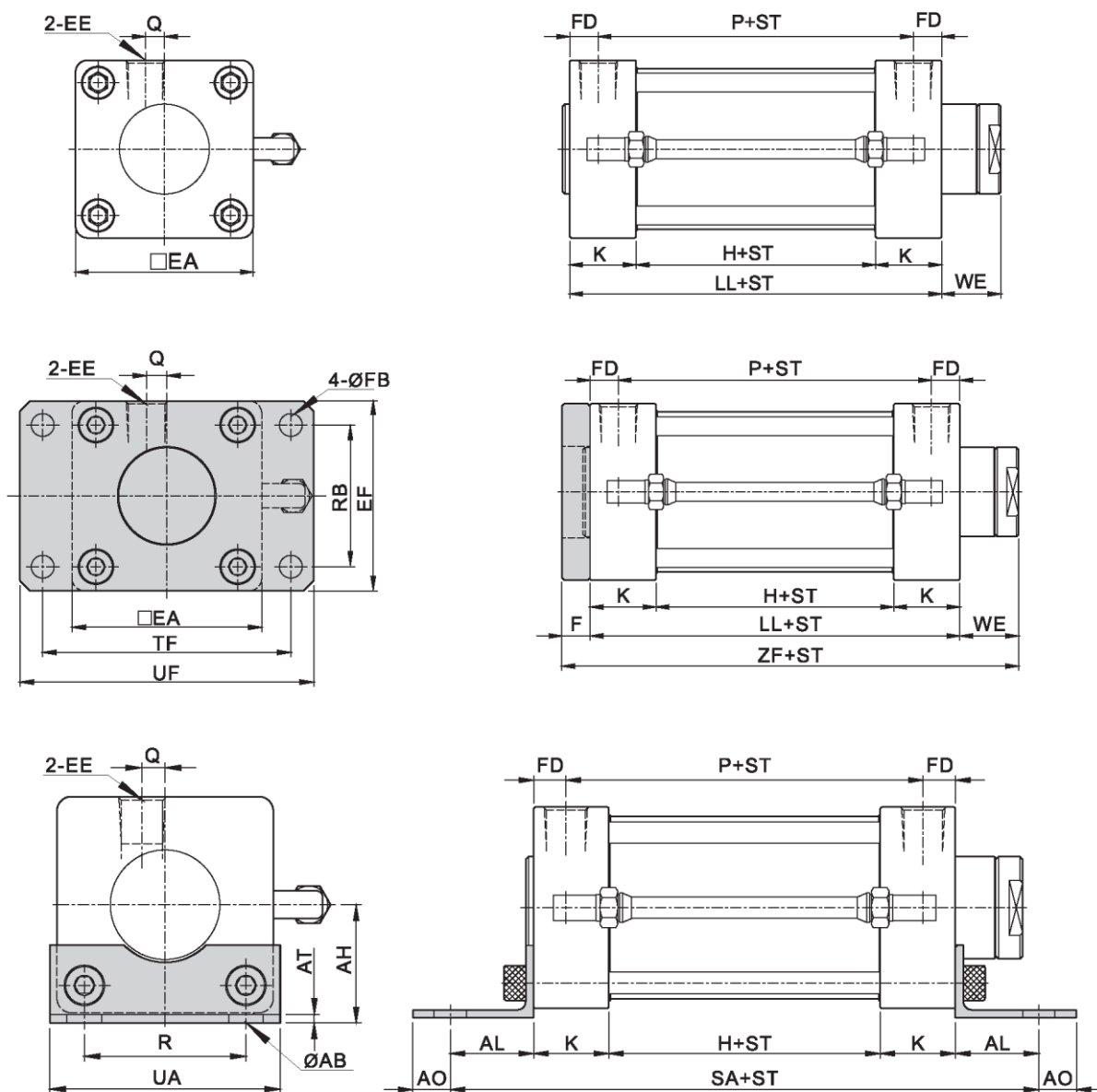
- Air-Hydro unit volume (V) ≥ 150% x Air-Hydro unit volume (v)

Air-Hydro unit operation guide



- Return Air-Hydro unit ① to start position.
- Turn the flow control valve ② to fully open position.
- Loosen and remove oil inlet screw ④ from Air-Hydro unit ③
- Inject hydraulic oil into Air-Hydro unit ③ top down until the lower oil level mark is reached.
- Tighten the oil inlet screw ④
- Apply operating pressure to Air-Hydro unit ①, operate the piston back and forth 3~5 times until the flow control valve ② and Air-Hydro unit ① is fully discharged.

External dimensions



Mark	H	K	P	Q	WE	LL	EE	FD	R	EA	AB	AH	AT	AI
63	30	28	62	8	25	86	RC3/8	12	56	75	12	41	3	31
80	30	32	70	11	31	94	RC3/8	12	70	94	14	49	4	30
100	30	32	64	12	31	94	RC1/2	15	84	112	14	57	4	30

Mark	AO	UA	SA	F	FB	RB	EF	TF	UF	ZF
63	14	80	148	10	9	56	76	98	116	121
80	15	97	154	16	12	70	95	119	146	141
100	15	112	154	16	12	84	115	138	165	141

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