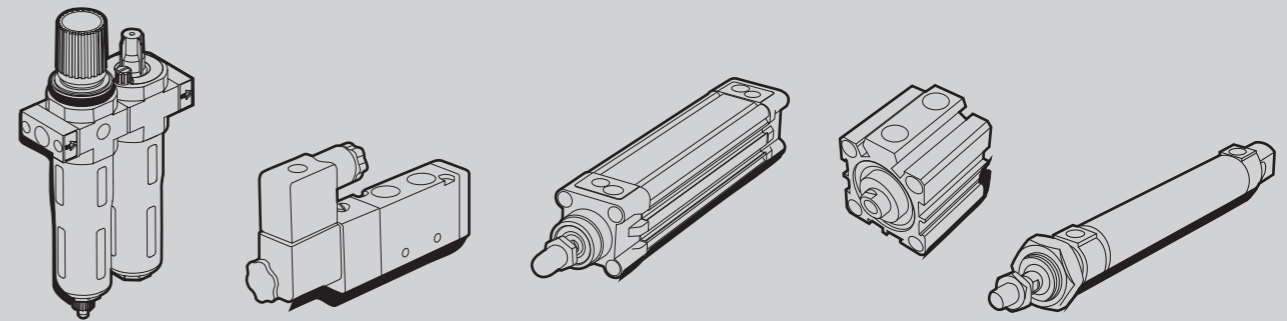


Thanks to browse

Welcome to FORWARD



FORWARD Machinery Co., Ltd.

Pneumatic Component
Hydraulic Component

3 YongHe Road, Industry Zone XiKou, FengHua, ZheJiang, China 315502

Telephone +86 574 8856 6988
+86 574 8884 8789
Fax +86 574 8856 6899
E-mail sales@forwardmachinery.com

宁波 孚沃得机械有限公司

气动元件
液压元件

中国 浙江 奉化市 溪口镇工业园区永和路3号 315502

电话 +86 574 8856 6988
+86 574 8884 8789
传真 +86 574 8856 6899
E-mail sales@forwardmachinery.com

Product Content 产品目录

Company instructions 公司介绍	2
Pneumatic component	
Airpreparation 气源处理装置	
OU	3
OFR	7
OR	11
OF	15
OL	19
ORB	23
Accessories 辅件	27
Solenoid valve 控制元件	
FVSC	29
4V	37
4M	45
4H	47
3L,4L	49
4F210,FV	51
4HV	55
FMV	57
GR	59
Cylinder 执行元件	
ODNC/ISO6431	61
SU	67
DSNU/ISO6432	71
MAL	75
SDA	83
Fittings 接头	91
Hydraulic component	
Boosting cylinder 增压缸	
HPN,HPNS	99
Booster pump 增压泵	
FHBA	105
FHBD	107
Hydraulic cylinder 油缸	
MOB,HOB	111

Company introductions 公司简介

In **FORWARD**, Driving force has always been our vision and prospect: We own the courage to challenge mediocrity to create surprising products. Depend on our great perseverance, we promote the development of Chinese fluid industry.

Welcome to **FORWARD!**

在 **FORWARD**，我们的推动力一直是我们的愿景：我们具备挑战平庸的勇气，以求创造令人惊喜的产品。凭借对产品、客户坚持不懈和永不放弃的精神，致力于推动中国流体行业的卓越发展。

FORWARD 欢迎您!





终端带可调缓冲装置，并可安装行程开关进行位置感测。
气缸活塞上可带或不带永久磁环，位置感测需否可供选择。
缸筒上的沟槽可直接安装行程开关，不需安装支架。

Attached with adjustable buffer at both ends, and mounted stroke switch for detecting the conversion position.
Piston rod with/without magnetic ring, sensor-position is optional if necessary or unnecessary.
Stroke switch could mount on the cylinder, parallel directly, no need mounting bracket.

ODNC - 32 - 100 - PPV - A -

基本功能 Basic function

ODNC | 标准气缸 Standard Cylinder ISO6431

缸径 Bore

行程 Stroke

缓冲形式 Cushioning

P | 任意一端具有不可调缓冲器 Flexible cushioning rings/pads at both ends
PPV | 双端具有可调缓冲器 Pneumatic cushioning, adjustable at both ends

位置感测 Position sensing

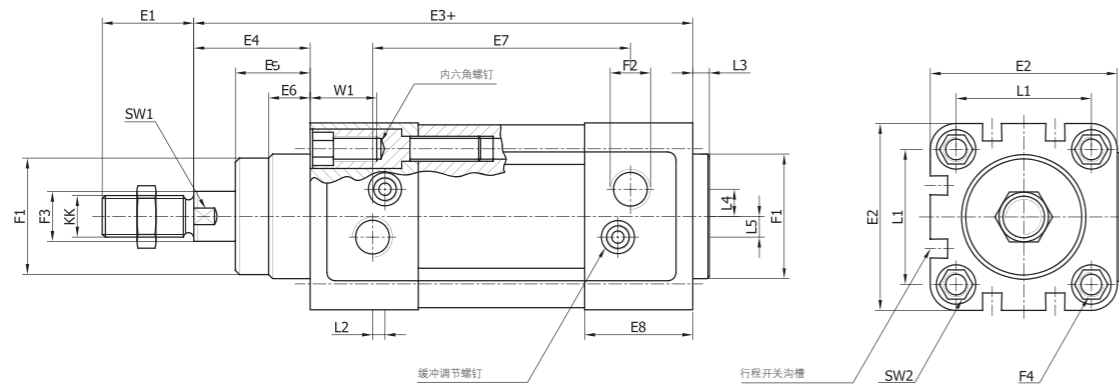
| 不带位置感测 Without position sensing
A | 带位置感测 Via proximity sensor

派生型 Variants

主要技术参数 General technical data						
缸径 Bore (mm) Ø	32	40	50	63	80	100
工作介质 Medium	经过滤的空气 Filtered Air					
动作形式 Action Form	双动 Double Action					
耐压实验压力 Compression Pressure	15 bar					
最高工作压力 Max. Working Pressure	10 bar					
最低工作压力 Min. Working Pressure	1 bar					
缓冲 Buffer	气缓冲 (标准) Air Buffer (Standard)					
环境温度 Condition Temperature	5-60° C					
使用速度 Operation Speed	50-500mm/s					
润滑 Lubricate	不需要 Not Necessary +1.0					
连接尺寸 Connection	1/8"	1/4"		3/8"		1/2"
标准行程 Standard Stroke	25 40 50 80 100 125 160 200 250 320 400 500					
缓冲行程 Buffer Stroke	20		22		32	

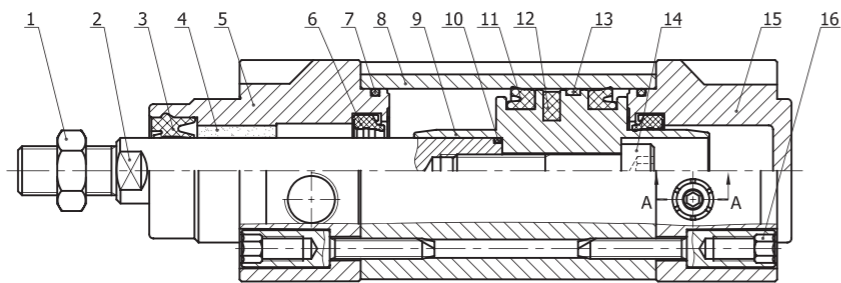
尺寸图 Dimensions

基本尺寸图 Basic version



缸径 Bore(mm) Ø	E1	E2	E3+	E4	E5	E6	E7	E8	F1 Ø	F2	F3 Ø	F4	L1	L2	L3	L4	L5	KK	W1	SW1	SW2
32	22	45	120	26	18	10	63	25	30	G1/8	12	M6	32.5	3	4	6	5	M10*1.25	16	10	6
40	24	54	135	30	22	11	77	30	35	G1/4	16	M6	38	4	4	8	6	M12*1.25	16	14	6
50	32	64	143	37	28	12	78	30	40	G1/4	20	M8	46.5	5	4	10	9	M16*1.5	17	17	8
63	32	75	158	37	29	15	87	36	45	G3/8	20	M8	56.5	7	4	12.5	10	M16*1.5	17	17	8
80	40	93	174	46	35	16	95	36	45	G3/8	25	M10	72	11	4	12.5	8	M20*1.5	17	22	6
100	40	110	189	51	38	19	100	40	55	G1/2	25	M10	89	12	4	12	10	M20*1.5	17	22	6

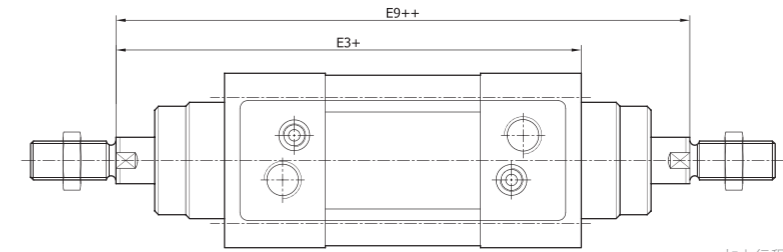
内部结构图 Inner structure



序号 NO.	名称 Item	序号 NO.	名称 Item	序号 NO.	名称 Item
1	螺母 Rod nut	8	铝管 Barrel	15	后盖 Back cover
2	活塞杆 Piston rod	9	活塞 Pilot body	16	连接螺栓 Connecting bolt
3	防尘 Rod packing	10	活塞杆O型圈 Rod O-ring		
4	滑动衬套 Bushing	11	活塞密封圈 Piston seal		
5	前盖 Front cover	12	磁铁 Magnet		
6	缓冲圈 Cushion	13	耐磨环 Wearing		
7	管壁O型圈 O-ring	14	内六角螺栓 Screw		

尺寸图-派生型 Dimensions-Variou

S2 两端活塞杆 Through piston rod

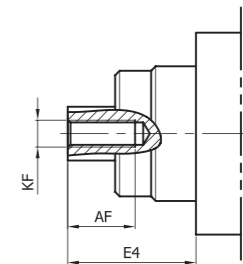
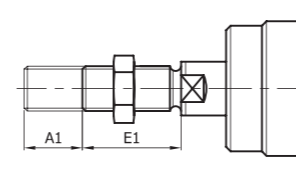


+ = 加上行程长度 Plus stroke length
++ = 加上2倍行程长度 Plus 2x stroke length

缸径 Bore(mm) Ø	E3	E9
32	120	146
40	135	165
50	143	180
63	158	195
80	174	220
100	189	240

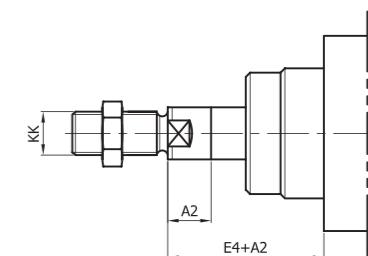
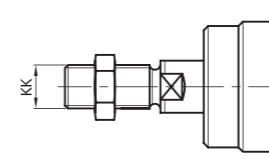
K2 活塞杆上加长外螺纹 Extended male piston rod thread

K3 活塞杆上内螺纹 Female piston rod thread



K5 活塞杆上特殊螺纹 Special piston rod thread

K8 加长活塞杆 Extended piston rod



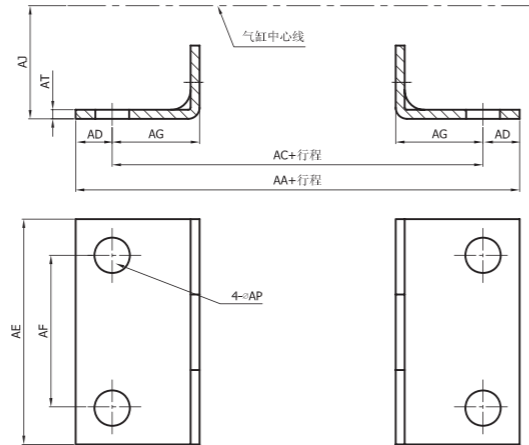
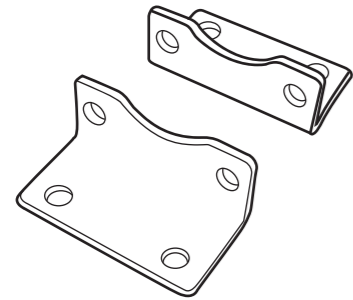
缸径 Bore(mm) Ø	A1 最大 Max.	A2 最大 Max.	E1	E4	KK		AF	KF
					基本螺纹 Basic thread	特殊螺纹 Special thread		
32	35	500	22	26	M10 x 1.25	M10	12	M6
40	35	500	24	30	M12 x 1.25	M12	12	M8
50	70	500	32	37	M16 x 1.5	M16	16	M10
63	70	500	32	37	M16 x 1.5	M16	16	M10
80	70	500	40	46	M20 x 1.5	M20	20	M12
100	70	500	40	51	M20 x 1.5	M20	20	M12

标准气缸 Standard cylinder ISO6431 / ODN

附件 Accessories

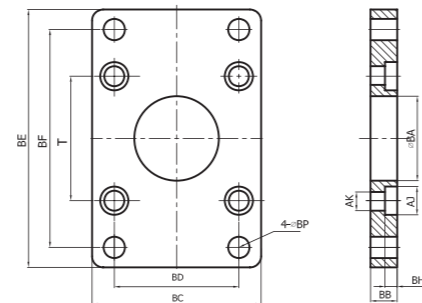
FORWARD

脚架安装件 LB



Dimensions and ordering data									
Bore(mm) Ø	AA	AC	AD	AE	AF	AG	AJ	AP	Type
32	158	142	8	48	32	24	32	7	LB-32
40	179	161	9	53	36	28	36	9	LB-40
50	190	170	10	63	45	32	45	9	LB-50
63	209	185	12	73	50	32	50	9	LB-63
80	248	210	19	98	63	41	63	12	LB-80
100	258	220	19	115	75	41	71	14	LB-100
125	290	250	20	140	90	45	90	16	LB-125

法兰安装件 FA/FB



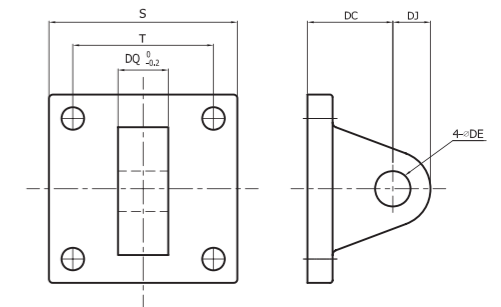
尺寸和订货数据 Dimensions and ordering data												
缸径 Bore(mm) Ø	BA	BB	BC	BD	BE	BF	BH	AJ	AK	BP	T	型号 Type
32	30.3	10	45	32	80	64	6.5	10.5	6.5	7	32.5	FA/FB-32
40	35.3	10	52	36	90	72	6.5	10.5	6.5	9	38	FA/FB-40
50	40.3	12	65	45	110	90	8.5	13.5	8.5	9	46.5	FA/FB-50
63	45.3	12	76	50	120	100	8.5	13.5	8.5	9	56.5	FA/FB-63
80	45.3	16	94	63	150	126	10.5	16.5	10.5	12	72	FA/FB-80
100	55.3	16	112	75	175	150	10.5	16.5	10.5	14	89	FA/FB-100
125	60.3	20	140	90	224	180	15	19	12.5	16	110	FA/FB-125

标准气缸 Standard cylinder ISO6431 / ODN

附件 Accessories

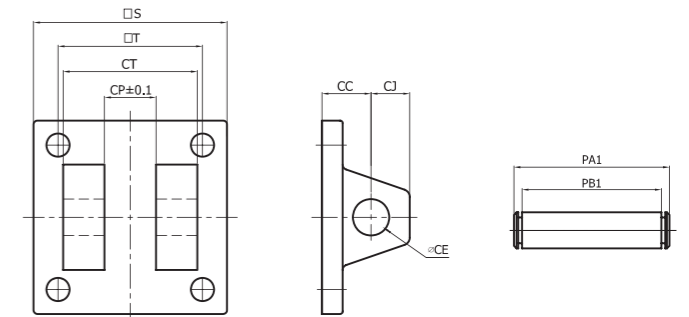
FORWARD

单耳环安装件 CA



尺寸和订货数据 Dimensions and ordering data							
缸径 Bore(mm) Ø	S	T	DC	DJ	DE	DQ	型号 Type
32	45	32.5	22	10	10	26	CA-32
40	52	38	25	11	12	28	CA-40
50	65	46.5	27	13	12	32	CA-50
63	76	56.5	32	16	16	40	CA-63
80	94	72	36	16	16	50	CA-80
100	112	89	41	20	20	60	CA-100
125	140	110	50	25	25	70	CA-125

双耳环安装件 CB



尺寸和订货数据 Dimensions and ordering data										
缸径 Bore(mm) Ø	S	T	CT	CP	CC	CJ	CE	PA1	PB1	型号 Type
32	45	32.5	45	26	22	10	10	53	46.5	CB-32
40	52	38	52	28	25	11	12	60	53.5	CB-40
50	65	46.5	60	32	27	13	12	68	61.5	CB-50
63	76	56.5	70	40	32	16	16	78	71.5	CB-63
80	94	72	90	50	36	16	16	100	91.5	CB-80
100	112	89	110	60	41	20	20	120	111.5	CB-100
125	114	110	120	70	50	25	25	130	121.5	CB-125

www.famcocorp.com

E-mail: info@famcocorp.com

@famco_group

Tel: 021-4800049

Fax: 021-44994642

تهران، کیلومتر ۲۱ بزرگراه لشگری (جاده مخصوص کرج)

روبروی پالایشگاه نفت پارس، پلاک ۱۲

Pneumatic component

83-84 Standard cylinder



主要技术参数 General technical data						
缸径 Bore (mm) Ø	32	40	50	63	80	100
工作介质 Medium	经过滤的空气 Filtered Air					
动作形式 Action Form	复动型 Double acting type					
使用压力范围 Pressure range	1~9 bar					
保证耐压力 Proof pressure	15 bar					
环境温度 Condition Temperature	-5~70° C					
缓冲型式 Cushion type	可调缓冲 Variable cushion					
使用速度 Operation Speed	50~800mm/s					
连接尺寸 Connection	1/8"	1/4"		3/8"		1/2"

SU - 32 - 100 - S - 20 - LB

基本功能 Basic function

SU	标准气缸 Standard Cylinder
SUD	双轴复动型 Double rod type
SUJ	双轴复动行程可调型 Adjustable stroke type

缸径 Bore

行程 Stroke

位置感测 Position sensing

	不带位置感测 Without magnet
S	带位置感测 With magnet

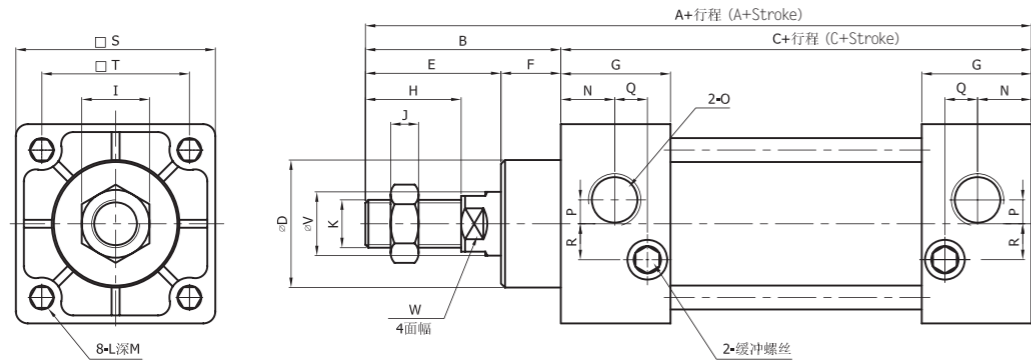
调整行程 Adjustable stroke

固定型式 Mounting type

LB	脚架 Foot base
FA/FB	前/后法兰 Front / Rear flange
CA	单耳环 Single earring
CB	双耳环 Double earring

尺寸图 Dimensions

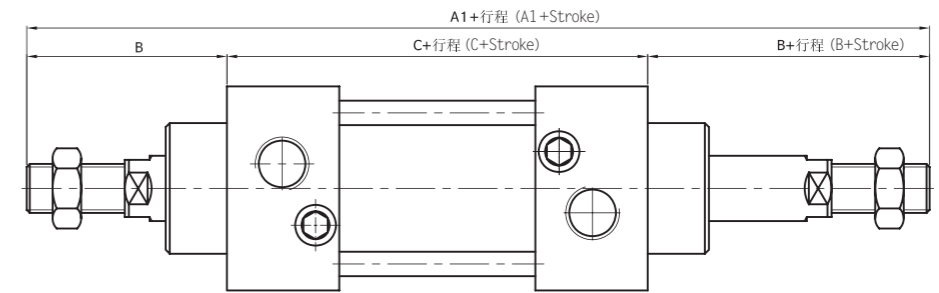
基本尺寸图 Basic version



缸径 Bore(mm) Ø	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	V	W
32	140	47	93	28	32	15	27.5	22	17	6	M10×1.25	M6×1.0	9.5	13.7	1/8	3.5	7.5	7	45	33	12	10
40	142	49	93	32	34	15	27.5	24	17	7	M12×1.25	M6×1.0	9.5	13.5	1/4	6	8.2	9	50	37	16	14
50	150	57	93	38	42	15	27.5	32	23	8	M16×1.5	M6×1.0	9.5	13.5	1/4	8.5	8.2	9	62	47	20	17
63	153	57	96	38	42	15	27.5	32	23	8	M16×1.5	M8×1.25	9.5	13.5	3/8	7	8.2	8.5	75	56	20	17
80	182	75	107	47	54	21	33	40	26	10	M20×1.5	M10×1.5	11.5	16.5	3/8	10	9.5	14	94	70	25	22
100	188	75	113	47	54	21	33	40	26	10	M20×1.5	M10×1.5	11.5	16.5	1/2	11	9.5	14	112	84	25	22

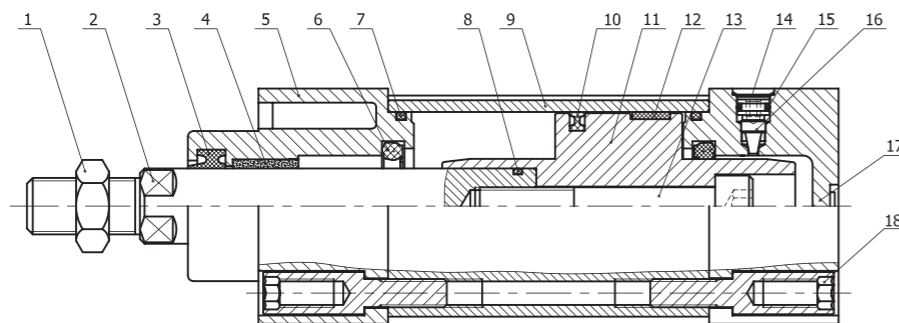
尺寸图-派生型 Dimensions-Variou

SUD 双端活塞杆 Through piston rod



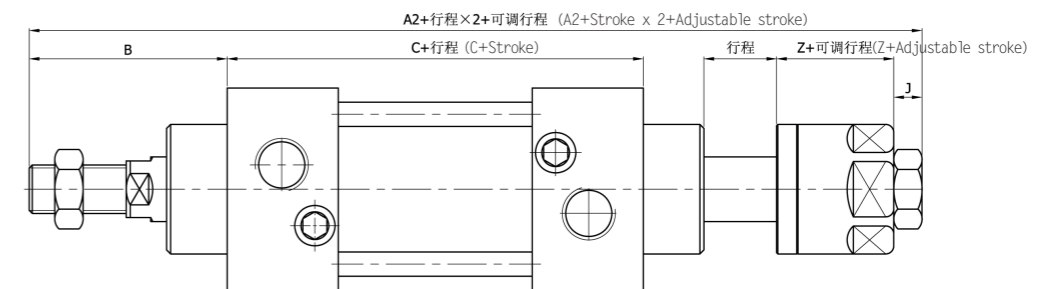
缸径 Bore(mm) Ø	A1	B	C
32	187	47	93
40	191	49	93
50	207	57	93
63	210	57	96
80	257	75	107
100	263	75	113

内部结构图 Inner structure



序号 NO.	名称 Item	序号 NO.	名称 Item	序号 NO.	名称 Item
1	螺母 Rod nut	8	活塞杆O型圈 Rod O-ring	15	缓冲防漏O型圈 O-ring
2	活塞杆 Piston rod	9	铝管 Barrel	16	缓冲调整螺丝 Cushion needle
3	防尘 Rod packing	10	活塞密封圈 Piston seal	17	后盖 Back cover
4	含油轴承 Bushing	11	活塞 Pilot body	18	连接螺栓 Connecting bolt
5	前盖 Front cover	12	耐磨环 Wearing		
6	缓冲圈 Cushion	13	内六角螺栓 Screw		
7	管壁O型圈 O-ring	14	内齿挡圈 Locker sheet		

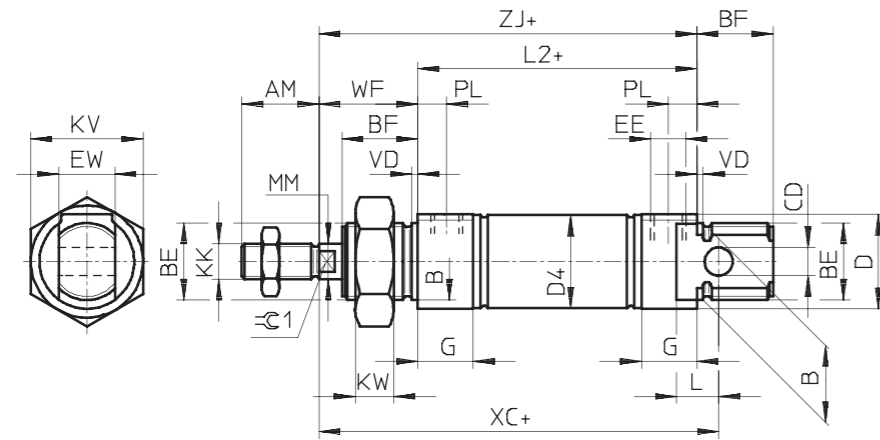
SUJ 双端行程可调型 Adjustable stroke type



缸径 Bore(mm) Ø	A2	B	C	J	Z
32	182	47	93	6	21
40	185	49	93	7	21
50	196	57	93	8	23
63	199	57	96	8	23
80	242	75	107	10	29
100	248	75	113	10	29

尺寸图 Dimensions

基本尺寸图 Basic version

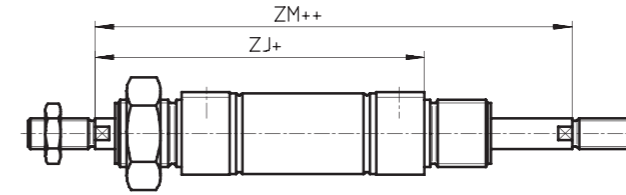


缸径 Bore(mm) Ø	AM	B	BE	BF	CD	D	D4	EE	EW	G	KK	KV
8	12	12	M12*1.25	12	4	15	9.3	M5	8	10	M4	19
10							11.3					
12	16	16	M16*1.5	17	6	20	13.3		12		M6	24
16							17.3					
20	20	22	M22*1.5	20	8	27	21.3	G1/8	16	16	M8	32
25	22			22			26.5				M10*1.25	

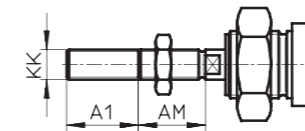
缸径 Bore(mm) Ø	KW	L	L2	MM	PL	TO	VD	WF	XC	ZJ
8	6	6	46	4	6	18	2	16	64	62
10										
12	8	9	50	6		23		22	75	72
16			56						82	78
20	11	12	68	8	8.2	31		24	95	92
25			69.5	10				28	104	97.2

尺寸图-派生型 Dimensions-Variou

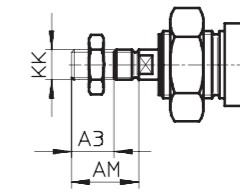
S2 双端活塞杆 Through piston rod



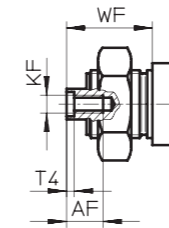
K2 活塞杆加长外螺纹 Extended male piston rod thread



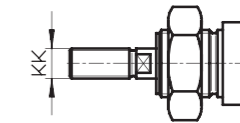
K6 活塞杆缩短外螺纹 Shortened male piston rod thread



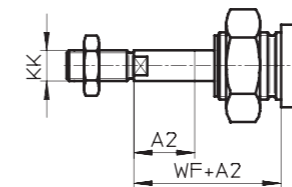
K3 活塞杆内螺纹 Female piston rod thread



K5 特殊活塞杆螺纹 Special piston rod thread



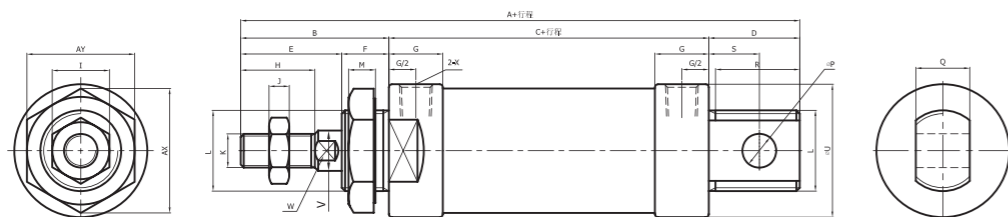
K8 加长活塞杆 Extended piston rod



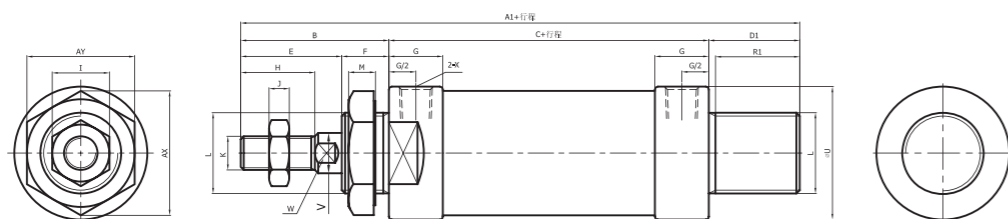
Ø [mm]	A1	A2	A3	AM	AF	KF	基本螺纹 Basic thread		T4	WF	特殊螺纹 Special thread			ZM
							基本螺纹 Basic thread	特殊螺纹 Special thread			MQ	MA	MH	
8	15	50	4	12	-	-	M4	-	-	16	62	59.6	61.5	78.4
10				-	-	-	-	59.1	61.8					
12	20	100	4	16	-	-	M6	-	-	22	72	69.7	72	94
16				-	-	-	-	78	75.7		77.8	100		
20	25		8	20	12	M4	M8	-	2	24	92	90.5	91.5	116
25	35			22		M6	M10*1.25	M10	2.6	28	97.5	96.5	97.2	125.5

MAL 尺寸图 Dimensions

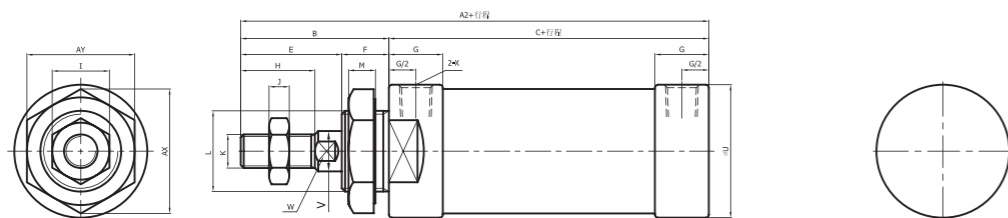
CA: Pivot type



CM: Round-end type

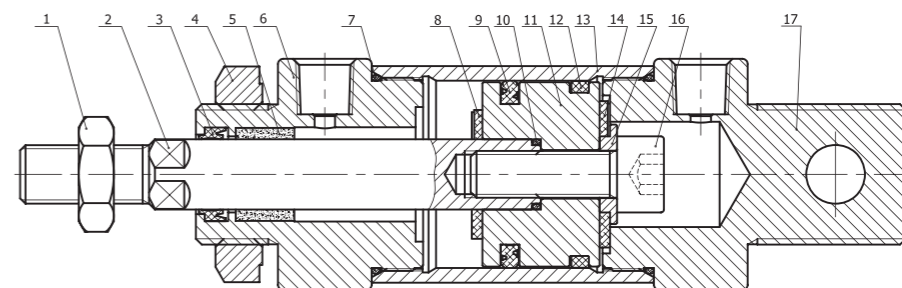


U: Flat-end type



缸径 Bore(mm) Ø	A	A1	A2	B	C	D	D1	E	F	G	H	I	J	K	L	M	P	Q	R	R1	S	U	V	W	X	AX	AY
20	131	122	110	40	70	21	12	28	12	16	20	12	6	M8×1.25	M22×1.5	7	8	16	19	10	12	29	8	6	1/8	33	29
25	135	128	114	44	70	21	14	30	14	16	22	17	6	M10×1.25	M22×1.5	7	8	16	19	12	12	34	10	8	1/8	33	29
32	141	128	114	44	70	27	14	30	14	16	22	17	6	M10×1.25	M24×2.0	8	10	16	25	12	15	39.5	12	10	1/8	37	32
40	165	152	138	46	92	27	14	32	14	22	24	17	7	M12×1.25	M30×2.0	9	12	20	25	12	15	49.5	16	14	1/4	47	41

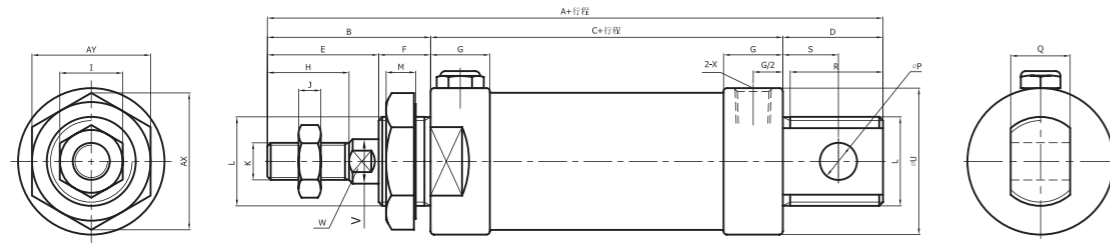
内部结构图 Inner structure



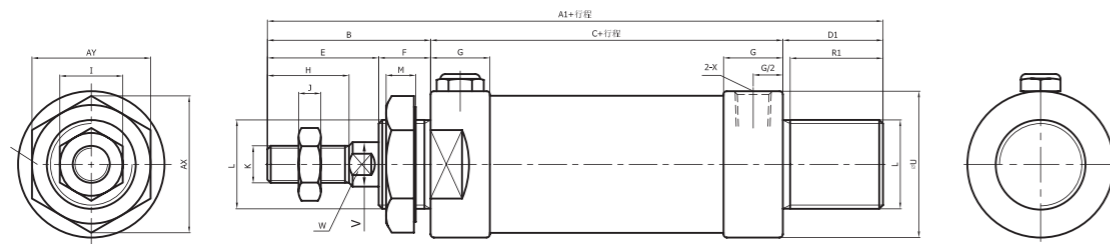
序号 NO.	名称 Item	序号 NO.	名称 Item	序号 NO.	名称 Item
1	螺母 Rod nut	7	管壁O型圈 O-ring	13	铝管 Barrel
2	活塞杆 Piston rod	8	防撞垫片 Bumper	14	防撞垫片 Bumper
3	前盖密封圈 Rod packing	9	活塞密封圈 Piston seal	15	后垫华司 Back washer
4	前盖螺母 Front cover nut	10	活塞杆O型圈 Rod O-ring	16	内六角螺栓 Screw
5	含油轴承 Bushing	11	活塞 Piston	17	后盖 Back cover
6	前盖 Front cover	12	耐磨环 Wearing		

MSAL 尺寸图 Dimensions

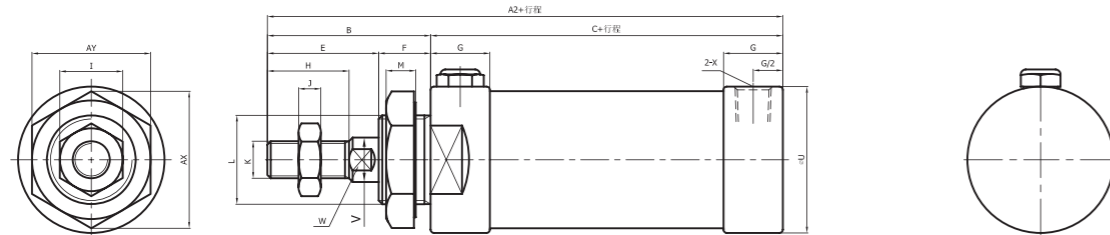
CA: Pivot type



CM: Round-end type



U: Flat-end type

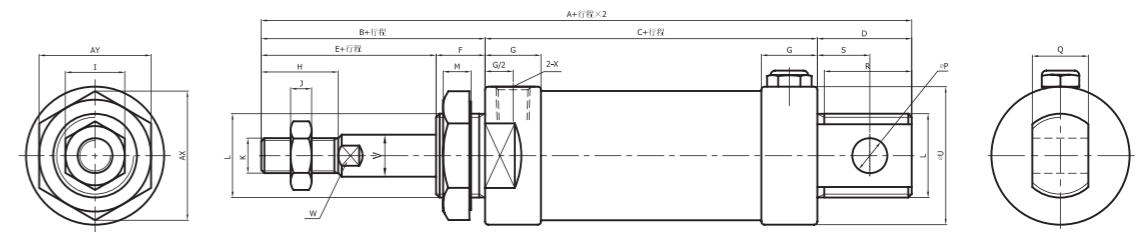


缸径 Bore(mm) Ø	A		A1		A2		B	C		D	D1	E	F	G	H
	0~50	51~100	0~50	51~100	0~50	51~100		0~50	51~100						
20	131	156	122	147	110	135	40	70	95	21	12	28	12	16	20
25	135	160	128	153	114	139	44	70	95	21	14	30	14	16	22
32	141	166	128	153	114	139	44	70	95	27	14	30	14	16	22
40	165	190	152	177	138	163	46	92	117	27	14	32	14	22	24

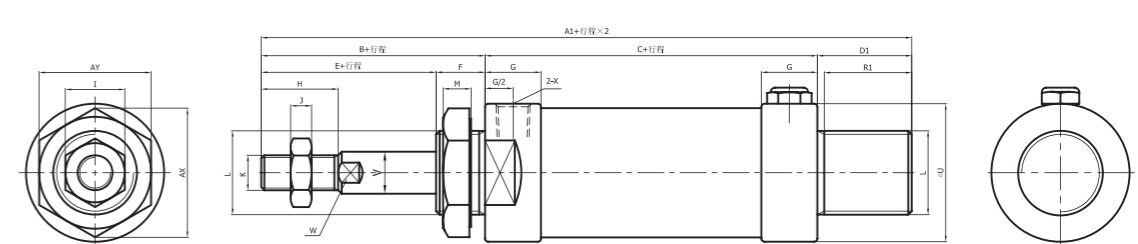
缸径 Bore(mm) Ø	I	J	K	L	M	P	Q	R	R1	S	U	V	W	X	AX	AY
20	12	6	M8×1.25	M22×1.5	7	8	16	19	10	12	29	8	6	1/8	33	29
25	17	6	M10×1.25	M22×1.5	7	8	16	19	12	12	34	10	8	1/8	33	29
32	17	6	M10×1.25	M24×2.0	8	10	16	25	12	15	39.5	12	10	1/8	37	32
40	17	7	M12×1.25	M30×2.0	9	12	20	25	12	15	49.5	16	14	1/4	47	41

MTAL 尺寸图 Dimensions

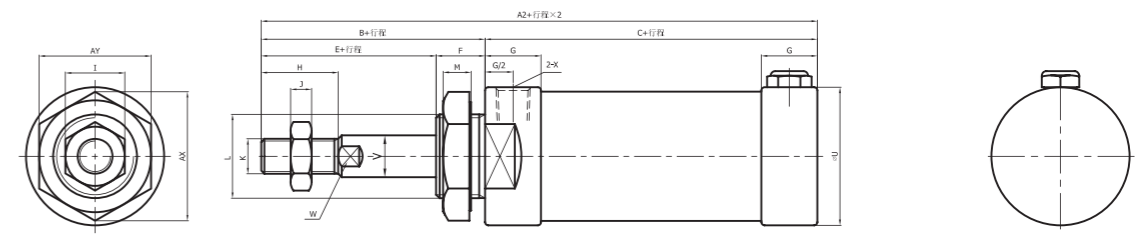
CA: Pivot type



CM: Round-end type



U: Flat-end type



缸径 Bore(mm) Ø	A				A1				A2				B	C			
	0~25	26~50	51~75	76~100	0~25	26~50	51~75	76~100	0~25	26~50	51~75	76~100		0~25	26~50	51~75	76~100
20	146	156	171	181	137	147	162	172	125	135	150	160	40	85	95	110	120
25	150	160	175	185	143	153	168	178	129	139	154	164	44	85	95	110	120
32	156	166	186	196	143	153	173	183	129	139	159	169	44	85	95	115	125
40	180	190	210	220	167	177	197	207	153	163	183	193	46	107	117	137	147

缸径 Bore(mm) Ø	D	D1	E	F	G	H	I	J	K	L	M	P	Q	R	R1	S	U	V	W	X	AX	AY
20	21	12	28	12	16	20	12	6	M8×1.25	M22×1.5	7	8	16	19	10	12	29	8	6	1/8	33	29
25	21	14	30	14	16	22	17	6	M10×1.25	M22×1.5	7	8	16	19	12	12	34	10	8	1/8	33	29
32	27	14	30	14	16	22	17	6	M10×1.25	M24×2.0	8	10	16	25	12	15	39.5	12	10	1/8	37	32
40	27	14	32	14	22	24	17	7	M12×1.25	M30×2.0	9	12	20	25	12	15	49.5	16	14	1/4	47	41