本产品造型手册为我公司部分产品，更多详细资料敬请垂询，因产品技术不断创新，请以实物或说明书为准，届时恕不另行通知。
If the models and specifications in this product catalogue is changed dud to the dhange of products, we will not inform This product catalogue is checded by several times to be correct, but it is only for referrence, All is according to products and user instruction .

JISP®
基世气动

2010
产品选型手册
PRODUCTS GUIDE CATALOGUE

JISP®
基世气动

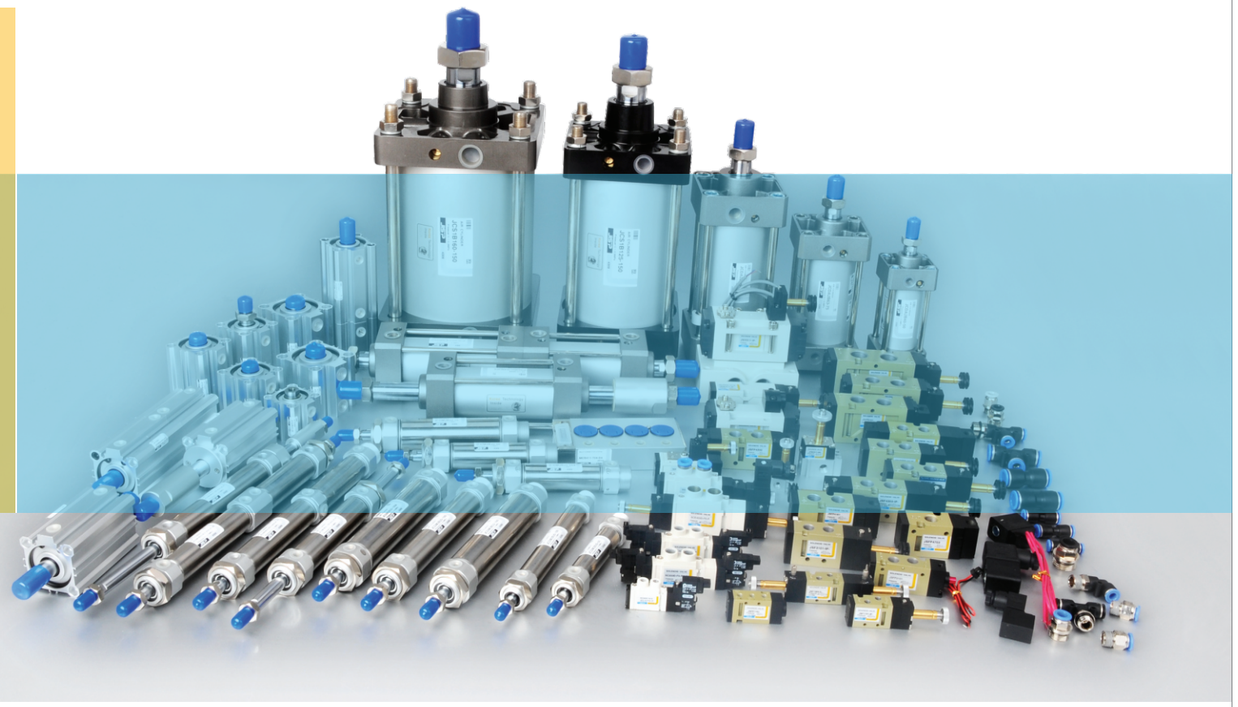
2010
产品选型手册
PRODUCTS GUIDE CATALOGUE

JISP®

2010 产品选型手册
PRODUCTS GUIDE CATALOGUE

JIS PNEUMATIC

基世气动



www.jisp.asia

JISP

2010

Products Guide Catalogue

产品选型手册

JISP

THEORETICAL OUTPUT 理论输出力

And usually the coefficient of load pressure will be different from the humidity resistance of the cylinder packing and the friction resistance of the rod metal.Generally the load factor of theoretical output will be set up under 0.7,but when it is required high speed, the load factor of theoretical out-put will be set up under 0.5.And the formula of theoretical output is as below.

负载压力系数往往因为气缸包装防潮性能及金属棒耐磨性的差异而有所不同。理论上的输出负载系数通常设在0.7以下，但如要求快速度，理论上的输出负载系数则设在0.5以下。 理论输出公式如下所示。

$$F_1 = \frac{\pi}{4} \times D^2 \times P$$

$$F_2 = \frac{\pi}{4} \times (D^2 - d^2) \times P$$

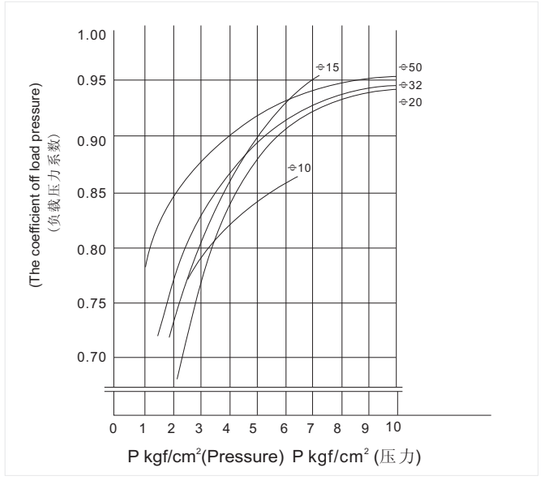
$$W_1 = \mu_1 \times F_1$$

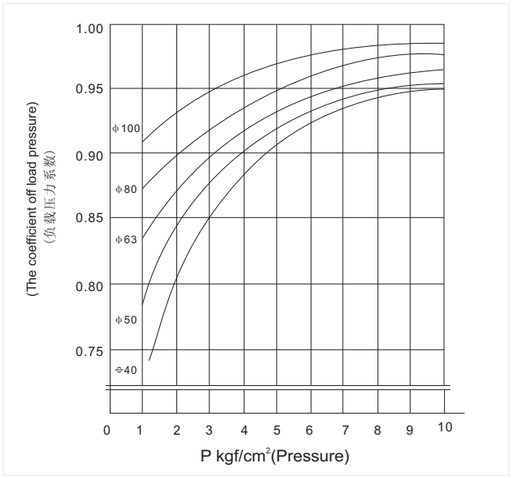
$$W_2 = \mu^2 \times F_2$$

F_1:Theoretical output in forward movement
F_2:Theoretical output in backward movement
P:Used Pressure
D:Inside diameter of tube
d:Piston Rod diameter
μ_1:Load pressure coefficient of cylinder in forward movement
μ_2:Load pressure coefficient of cylinder in backward movement
W_1:Output of cylinder in forward movement
W_2:Output of cylinder in backward movement

F_1：理论伸出时输出
F_2：理论缩回时输出
P：已用压力
D：缸筒内径
d：活塞杆直径
μ_1:伸出时气缸负载压力系数
μ_2：缩回时气缸负载压力系数
W_1：伸出时气缸输出
W_2：缩回时气缸输出

THE COEFFICIENT OF LOAD PRESSURE 负载压力系数





REFERENCE MATERIALS
参考资料

DOUBLE-ACTING TYPE CYLINDER 双动式气缸

Out:Forward Out：伸出 In:Backward In：缩回

Tube in-dia(mm) 管内径(mm)	Rod diameter(mm) 杆直径(mm)	Working direction 工作方向	Hydraulic pressure size(cm) 液压尺寸(cm)	Working pressure(kgf/cm²) 工作压力 (kgf/cm²)								
				2	3	4	5	6	7	8	9	10
20	10	OUT	3.14	6.28	9.42	12.57	15.71	18.85	22.0	15.1	28.3	31.4
		IN	2.36	4.71	7.07	9.42	11.78	14.14	16.49	18.85	21.2	23.4
25	12	OUT	4.91	9.82	14.73	19.63	24.5	29.4	34.4	39.3	44.2	49.1
		IN	3.78	7.56	11.33	15.11	18.89	22.7	26.4	30.2	34.0	37.8
32	12	OUT	7.07	14.14	21.2	28.3	35.3	42.4	49.5	56.5	63.6	70.7
		IN	5.94	11.88	17.81	23.8	29.7	35.6	41.6	47.5	53.4	59.4
40	16	OUT	12.57	25.1	37.7	50.3	62.8	75.4	88.0	101	113.1	125.7
		IN	10.56	21.2	31.7	42.2	52.8	63.3	73.9	84.4	95.0	105.6
50	20	OUT	19.63	38.3	58.9	78.5	98.2	117.8	137.4	157.1	176.7	196.3
		IN	19.49	33.0	49.5	66.0	82.5	99.0	115.5	131.9	147.4	146.9
63	20	OUT	31.2	62.3	93.5	124.7	155.9	187.0	218	249	281	312
		IN	28	56.1	84.1	112.1	140.2	168.2	196.2	224	252	280
80	25	OUT	50.3	100.5	150.8	201	251	302	352	402	452	503
		IN	48.5	90.7	136.1	181.4	227	272	317	363	408	454
100	30	OUT	78.5	157.1	236	314	393	471	550	628	707	785
		IN	71.5	142.9	214	286	357	429	500	572	643	715
125	35	OUT	122.7	245	368	491	615	736	859	982	1104	1227
		IN	122.5	225	338	450	563	675	788	900	1013	1125
140	35	OUT	153.9	308	462	616	770	924	1078	1232	1385	1539
		IN	143.8	288	431	575	719	863	1006	1150	1294	1438
150	40	OUT	176.7	353	530	706	883	1060	1236	1413	1590	1767
		IN	167.1	334	501	668	835	1002	1169	1336	1503	1671
160	40	OUT	201	402	603	804	1005	1206	1407	1608	1810	2011
		IN	188.5	377	465	754	942	1131	1319	1506	1696	1885
180	45	OUT	254	509	736	1018	1272	1527	1781	2036	2290	2545
		IN	239	477	716	954	1193	1431	1670	1909	2147	2396
200	50	OUT	314	628	942	1257	1571	1885	2199	2513	2827	3142
		IN	295	589	884	1178	1473	1767	2062	2356	2651	2945
250	60	OUT	491	982	1473	1963	2454	2945	3436	3927	4418	4909
		IN	463	925	1388	1850	2313	2776	3238	3701	4163	4626
300	70	OUT	707	1414	2121	2827	3534	4261	4948	5655	6362	7069
		IN	668	1337	2005	2673	3342	4040	4679	5347	6015	6684

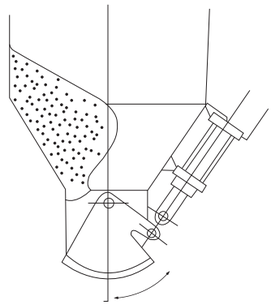
SINGLE-ACTING CYLINDER 单动式气缸

Out:Forward Out：伸出 In:Backward In：缩回

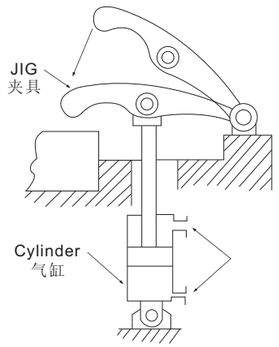
Tube in-dia(mm) 管内径(mm)	Rod diameter(mm) 杆直径(mm)	Working direction 工作方向	Hydraulic pressure size(cm) 液压尺寸(cm)	Working pressure(kgf/cm²) 工作压力 (kgf/cm²)								
				2	3	4	5	6	7	8	9	10
20	10	OUT	3.14	6.28	9.42	12.57	15.71	18.85	22.0	15.1	28.3	31.4
		IN	2.36	4.71	7.07	9.42	11.78	14.14	16.49	18.85	21.2	23.4
25	12	OUT	4.91	9.82	14.73	19.63	24.5	29.4	34.4	39.3	44.2	49.1
		IN	3.78	7.56	11.33	15.11	18.89	22.7	26.4	30.2	34.0	37.8
32	12	OUT	7.07	14.14	21.2	28.3	35.3	42.4	49.5	56.5	63.6	70.7
		IN	5.94	11.88	17.81	23.8	29.7	35.6	41.6	47.5	53.4	59.4
40	16	OUT	12.57	25.1	37.7	50.3	62.8	75.4	88.0	101	113.1	125.7
		IN	10.56	21.2	31.7	42.2	52.8	63.3	73.9	84.4	95.0	105.6
50	20	OUT	19.63	38.3	58.9	78.5	98.2	117.8	137.4	157.1	176.7	196.3
		IN	19.49	33.0	49.5	66.0	82.5	99.0	115.5	131.9	147.4	146.9
63	20	OUT	31.2	62.3	93.5	124.7	155.9	187.0	218	249	281	312
		IN	28	56.1	84.1	112.1	140.2	168.2	196.2	224	252	280
80	25	OUT	50.3	100.5	150.8	201	251	302	352	402	452	503
		IN	48.5	90.7	136.1	181.4	227	272	317	363	408	454
100	30	OUT	78.5	157.1	236	314	393	471	550	628	707	785
		IN	71.5	142.9	214	286	357	429	500	572	643	715
125	35	OUT	122.7	245	368	491	615	736	859	982	1104	1227
		IN	122.5	225	338	450	563	675	788	900	1013	1125

1.In case of forward moiwemeng,the theoreticl output of singl e-acting is the figure of subtract the tension sprign form theOretical output of doble acign cyucase of backward movement,it is the temnsuon of sprig.
2.In case of bvacdward movemeng of post should mnot carrying a load.

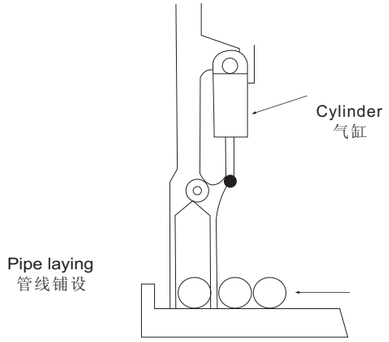
1、伸出时，单动式气缸的理论输出值为双动式气缸的理论输出值减去弹簧张力的数值；缩回时，其数值为弹簧自身值。
2、活塞杆后退时不能施加负载。



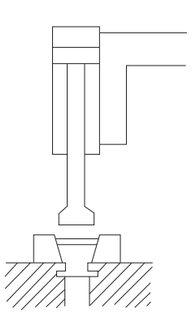
Gate operating 闸门操作



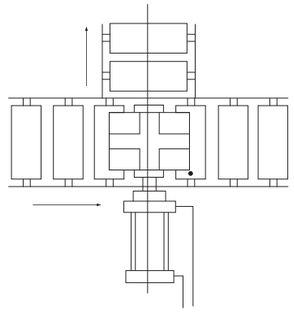
Combine of stuffs 材料组合



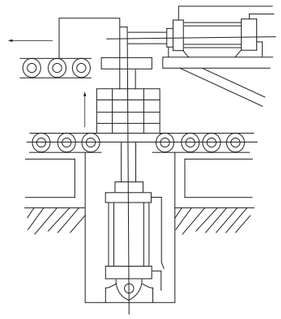
Movement of stuffs 材料动作



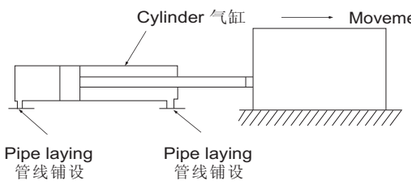
Assembling work(Insert of snap ring)
装配工作（嵌入扣环）



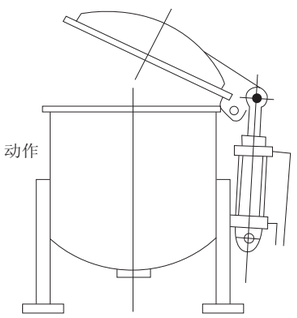
A change of direction 方向改变



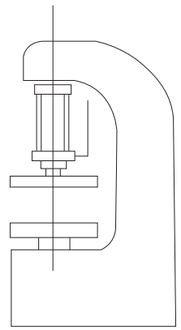
Send back 送回



The movement of the stuffs 材料动作



Automatic open and shut 自动打开关闭



Press 冲压

REFERENCE MATERIALS
参考资料

FORMULA TO CALCULATER AIR CONSUMPTION 耗气量计算公式

Air consumption which is necessary to operate cylinder can calculate between cylinder capacity and pipe laying capacity of cylinder valve.
运转气缸所必需的耗气量可以通过气缸容量和 气缸阀管线铺设容量计算。

$$Q=\frac{(A_1+A_2)L\times(P+1.033)N}{1000}$$

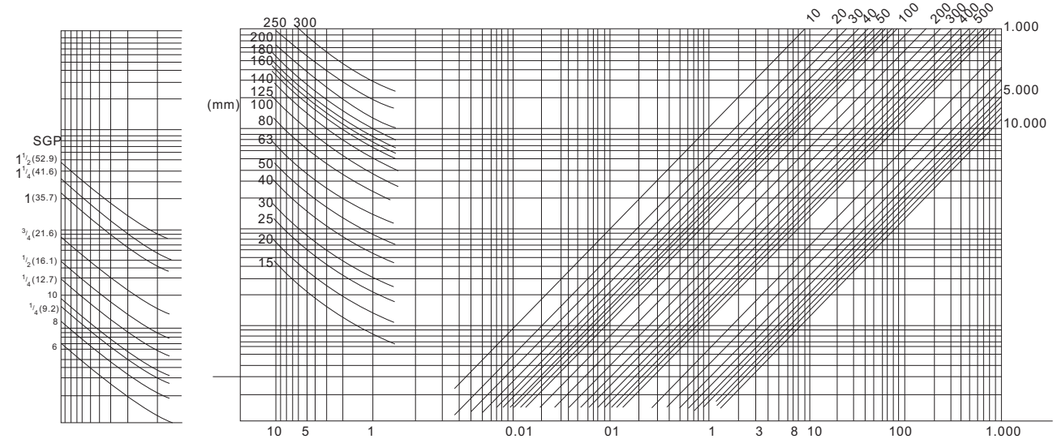
Q:Air consumption(L/min) Q：耗气量(L/min)
P:Working Pressure(kgf/cm^2) P:工作压力 (kgf/cm^2)
A_1:Piston size of Head-side A_1:活塞缸盖端尺寸
$A_1=\frac{\pi}{4}\times D^2$
D=Tube diameter(cm) D=管道直径(cm)

L:Stroke(cm) L: 行程(cm)
N:Reciprocal time per min N: 每分钟往复次数
A_2:Piston size of Rod-side A_2:活塞杆端尺寸
$A_1=\frac{\pi}{4}\times(D2-d2)$
d=Rod diameter(cm) d=杆直径(cm)

But,Pipe laying capacity is different as pipe laying method.So,it calculates the Air consumption capacity.
然而，管线铺设容量随着管线铺设方法的差异而有所不同。因此用来计算耗气量。

FORMULA TO CALCULATE BY TABLE 表格计算公式

Cylinder and Air consumption of pipe laying 气缸与管线铺设耗气量



Working Pressure Working Pressure Air consumption

ex)①The air consumption,when inside diameter of tube is 40mm,stroke 100mm,pressure 5kgf/cm^{2}and 5 double per min, is that cylinder stroke x double number per min is 100×5=500mm/min.8Nℓ/mm.
ex)②In case of above condition,if inside diameter is 6mm,nylon tube is 2mm,length of pipe laying x cylinder double number is 200×5=1000mm/min:3Nℓ/min.

例）① 当管线内径为40mm，行程为100mm, 压力为5kgf/cm2, 每分钟往复次数为5，耗气量则为气缸行程×每分钟往复次数，即 100×5=500mm/min.8Nl/mm。
例）② 在上述情况中，当内直径为6mm，尼龙管为2mm， 则管线铺设长度×气缸往复次数，即200×5=1000mm/min:3Nl/min.

SELECTION METHOD-A 选择方法-A

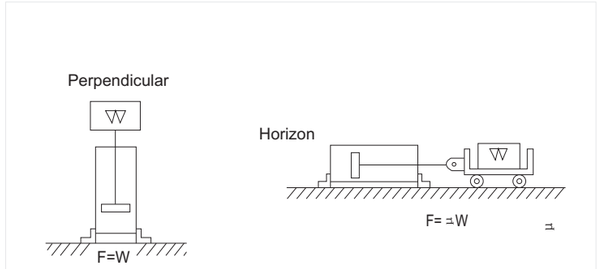
Selection of equipment (Selection Method-A) is used to choose best proper equipment, in case the load value and the target value of the working time of the cylinder is concretely indicated.
Choose as the left steps
设备选择(选择方法A)，通常选用最适合的设备，如果对气缸工作时间的负载值与目标值有明确要求。则按右边步骤进行选择。

Confirmation of condition 情况确认 → Selection inside diameter of cylinder 气缸内径选择 → Selection theoretical standard speed 理论标准速度选择 → Selection proper system 选择合适系统

① Confirmation of condition 情况确认

(1) load F=[ ](kgf)
(2) of working time t=[ ](sec)
(3) stroke L=[ ](mm)
(4) pressure P=[ ](kgf/cm²)
W: Weight(kgf)
u: frction coefficient(u=0.3)
F: Load(kgf)

(1) 负载F
(2) 工作时间 t
(3) 行程 L
(4) 压力 P
W: 重量
u: 摩擦系数
F: 负载

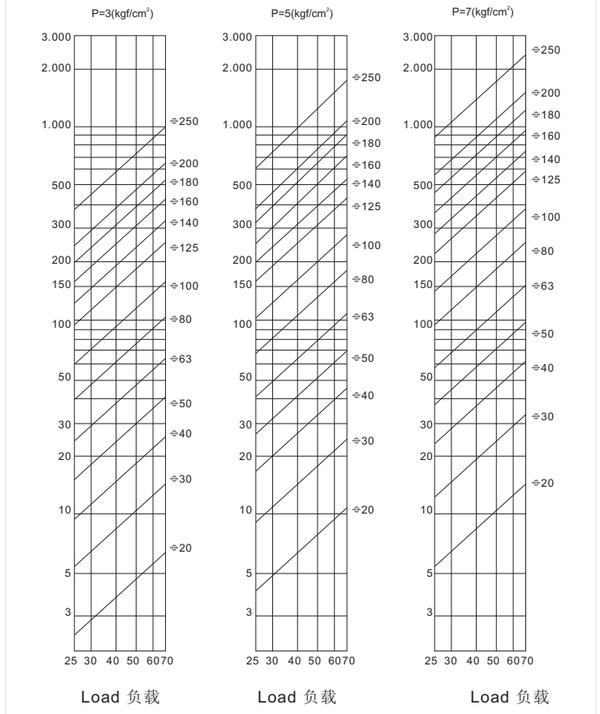


Inside diameter of cylinder in the monogram

② Selection inside diameter of cylinder
气缸内径选择

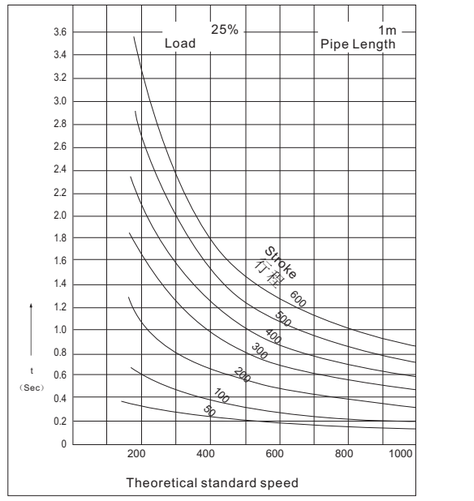
Choose the inside diameter of cylinder in the monogram which calculates the inside diameter of cylinder.
At the same time,read the load ratio.
(Usually the inside diameter of cylinder Dreached nearly 50% of load ratio about F
value of ①is Φ[ ])
(ex)In case F is 80kgf.P is 5kgf/cm²,load ratio is 50%, the inside diameter of cylinder is Φ63.

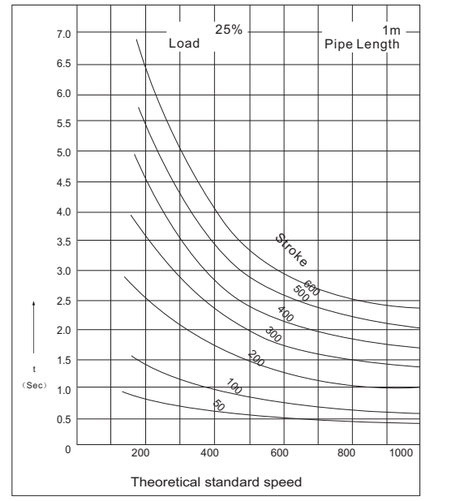
在可求得气缸内径的数字图表中，选择气缸内径，同时读取当前负载率。（通常,对于①F值，负荷率接近50%的气缸内径D=Φ　　）
（例）当F180=kgf，P=5kgf/cm²,负荷率为50%时，
气缸内径为Φ63。同时读取负载率。



③ Selection the theoretical standard speed
In the graph of t-v。Read the figure of which is necessary to get the target oruce't(sec)' of working time.
(Ex)Cylinder with load factor 50%,stroke 200mm,when it operate1,Osec,the theoretical base speed become 450mm/sec.
③理论标准速度选择
在t-v。曲线图中，读取计算工作时间目标值所必需的数字。
(例)对于负载系数为50%，行程为200mm.的气缸，当运转1秒时，理论基本速度则为450mm/秒。

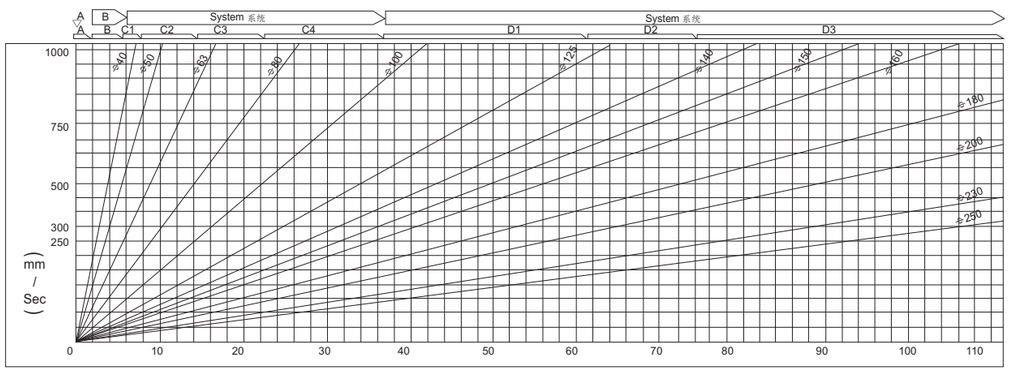
Graph 曲线图





④ Selection of proper system
By the optimal system selecting chart,reading the character of the system over the contact point of the value of v。from ③ and the value of ΦD from②.
System Data[ ]ex) In order to operate-63 cylinder with theoretical base speed 450mm/sec,C,system will be optimum.
④合适系统的选择
通过最佳系统选择图表，读取系统中③v。与②直径Φ结合点的数字。
系统数据　例）为使启动-63气缸速度达到理论基本速度450毫米/秒，C系统为最佳选择。

Selection table of proper system 理论标准速度



SELECTION METHOD-B 选择方法-B

Selection Method-B is used for the selection of the suitable cylinder
选择方法-B用于适合气缸的选择

Selection of control equipment
控制设备选择

For using cylinder tube inside diameter and cylinder,it must be decided whether it operate with high speed or with low speed relatively. Based on the chart below, select the theoretical base speed of the cylinder.
对于气缸管内径与气缸的使用，必须明确是否以高速或慢速运行。在以下图表基础上，选出气缸的理论基本速度。

Speed of cylinder 超高速	Theoreitical base speed(mm/sec) 理论基本速度(㎜/秒)
Low speed 气缸速度	250
Middle speed 慢速	500
High speed 中速	750
Super high speed 高速	1.000

Based on the selection method-B chart,select proper control tool (electrical valve,speed controller,muffler,pipe laying) which is suitable for the cylinder tube inside diameter and the orectical base speed.
在选择方法-B图表的基础上，选择适合气缸管内径及理论基本速度的控制工具（电阀门、速度控制装置、消声器、管线）。

THE EXPLANATION OF TECHNICAL WORDS 技术词汇注释

Theroretical bass speed
理论基本速度

It shows cylinder speed and formulas as follows. (This value is almost same as non-loaded speed. If load carries on, the speed fairly become slow)
气缸速度及其公式如下所示。（该阀门几乎等同于无载速度。当其负载时，速度相应变慢）

theoretical base speed(mm/sec) 理论基本速度(mm/秒)
sectional area of cylinder(cm^2) 气缸截面面积(cm^2)
composite effective sectional area in circuit 线路中组合有效截面面积
(exhaust side)(cm^2) 排气侧(cm^2)
inside diameter of cylinder(cm) 气缸内径(cm)

It shows in graph, suppose theoretical base speed will work in the range of constantvelocity at speed.
如曲线图所示，假设理论基本速度在等速度范围内正常工作。

The time until motion is started
运动时开始计时。

First retardation time
最初延迟时间

The time when it moves with constant velocity 3
以等速度3运行时的时间

Remakrk：t_1,t_2 will be vary as load carrying,Non-load is not considered.
备注：t1、t2 将随承载量的变化而变化，不考虑零负载。

Required Flux
必需通量

When the cylinder operates at speed of ,it is instantaneous flow amount. The formula is as follows.The value of the formula is the value of P=5kgf/cm^2. Required flux is necessary value to select clean air system tool.
当气缸启动时为瞬时流量。公式如下。公式的数值为P值=5kgf/cm^2。必需通量是选择洁气系统工具的必需值。

Required flux(l/min)(ANR)
Supply pressure(kgf/cm^2)
必需通量 (l/min)(ANR)
提供压力(kgf/cm^2)

Required effcetive sectional area
要求有效截面面积

It is composite effective sectional area in the ventilation circuit which is necessary to operate cylinder at the speed of .(Electrical valve, speed controller,muffler,composite effective sectional in the ventilation circuit)
通风线路中的组合有效截面面积是启动气缸运行的必需因素(电阀门、速度控制装置、消声器、通风线路中组合有效截面）。

Proper standard system
适合的标准系统

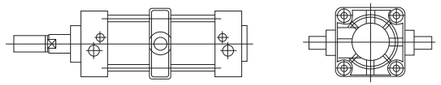
It is most suitable combination of the electrical valve,speed controller, muffler and pipe layer diameter which will be operating the cylinder at the speed of .The combinat-ion the chart is the combination data when the length of pipe layer is 1 meter.
气缸运行时，电阀门、速度控制器、消声器及管线直径的最佳组合。图表所示为管线为1米长时的组合数据。

In side dia (mm) 内径(mm)	Theoretical standard speed(mm/sec) 理论基本速度(mm/秒)	Necessary flow(L/min) 必需流量(L/分)	Effective section size(mm) 有效截面大小(mm)
⌀6	(500)	-	(0.1)
⌀10	(500)	-	(0.2)
⌀20	250	29	0.5
	400	46	1.6
⌀32	250	73	1.3
	400	120	3.1
⌀40	250	110	2.0
	400	180	4.9
⌀40	250	110	1.7
	500	230	3.3
	750	340	5.0
	1.000	450	6.6
⌀50	250	180	2.6
	500	350	5.2
	750	530	7.7
	1.000	710	10.4
⌀63	250	280	4.1
	500	560	8.2
	750	840	12.3
	1.000	1.100	16.4
⌀80	250	450	6.6
	500	910	13.2
	750	1.400	29.8
	1.000	1.800	26.4
⌀100	250	710	10.3
	500	1.400	20.6
	750	2.100	30.9
	1.000	2.800	41.2
⌀125	250	1.100	16.1
	500	2.200	32.2
	750	3.300	48.2
	1.000	4.400	64.4
⌀140	250	1.400	20.2
	500	2.800	40.4
	750	4.200	60.5
	1.000	5.500	80.8
⌀150	250	1.600	23.1
	500	3.200	46.2
	750	4.800	69.4
	1.000	6.400	92.4
⌀160	250	1.800	26.3
	500	3.600	52.6
	750	5.400	79.0
⌀180	250	2.300	33.3
	500	4.600	66.6
	750	6.900	100.0
⌀200	250	2.800	41.2
	500	5.600	82.4
⌀250	250	4.400	64.3
	400	7.000	103.0

REFERENCE MATERIALS
参考资料

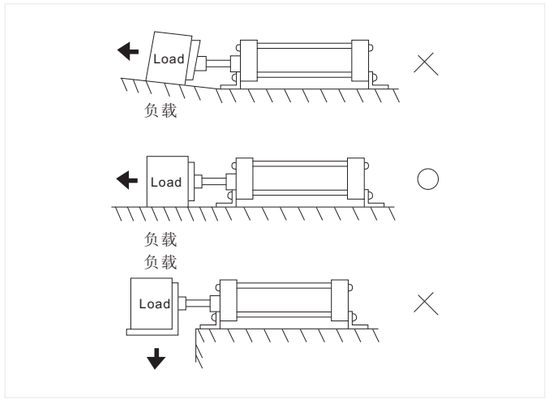
CLASSIFICATION AS PER SUPPORT STYLE 按配件类型分类

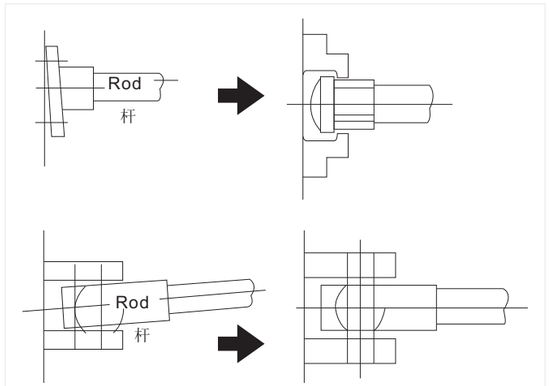
（Remark）:Inside signal of ( )is classification of KS 备注：（）内信号为KS类

Classification 类别	Support Style 配件类型	Characteristics 特点
Standard type 标准型		Do not have supporting structure. Connection will be done by using screw which will connect the supporting structure. 无配件结构,使用螺丝钉连接配件结构。
Foot type (LB type) 脚座型（LB型）		Attached with supporting structure (FOOT) cylinder,It is used when the load carry is moving in horizontal motion. 附配件结构(脚座)气缸，当承受负载水平运行时使用。
Flange type (FA,FB type) 法兰型（FA，FB型）	Rod side flange(FA) 杆端法兰（FA） Head side flange(FB) 缸盖端法兰（FB）	Cylinder which is attached with Flange. it is used when the load carry is moving in vertical motion. 带法兰气缸，当承受负载垂直运行时使用。
Clevis type (CA,CB type) 耳环型（CA，CB型）	1 san clevis(CA style) 单耳环 (CA 型) 2 san clevis(CA style) 双耳环 (CA 型)	Cylinder which hs right angle pin hole for the center line of Rood.It has supprtin structure of I style(1 clevis) or Y style (2 clevis).It is used when the load carry is trembling. 十字架中线带直角针孔的气缸，具有I型（单耳环）或Y型（双耳环）配件，当承受负载颤动时使用
Trunion type 耳轴型	 Middle Trunion style(TC style) 中间耳轴型（TC型）	Cylinder which has right angle pin. Middle trunion style has pin in the middle. Shaft Trunion style has pin in the rod. It is used in the same case of clevis style. 带直角针孔的气缸，中间耳轴型中间带针，杆侧耳轴型为杆中带针，使用条件与耳环型相同。

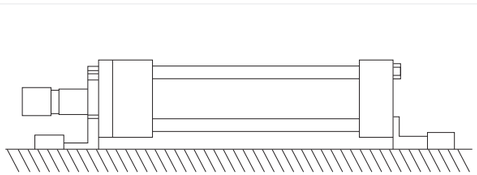
(LB,FA,FB)In case of fixed style(LB,FA,FB) 对于固定型（LB、FA、FB）

When fix cylinder,spring washer shoule be used to prevent loosing
When fix the cylinder cover,it should be avoid to give unnec-essary stress or excess power.
It should be carerul not to give one side load carry.
当固定气缸时，应使用弹簧挡圈防松。
当固定气缸盖时，应避免施加不必要的压力或用力过猛。
注意避免单边承受负载。



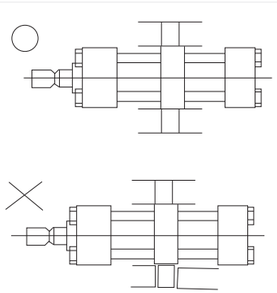


In case LB
In addition to self-fix,stopper is installed,it can be fixed perfectly.
对于LB
除自动固定之外，安装制动器，可牢固固定。



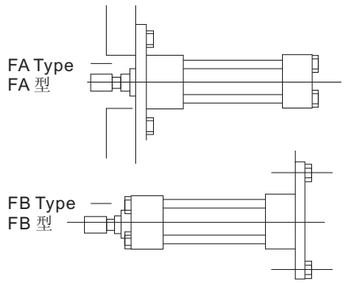
(CA,CB,TC)In case of trembling style(CA,CB,TC) 对于颤动型（CA、CB、TC）

(CA,CB) Style （CA、CB）型
If the stroke is over 1,000mm,it is no good if installed horizontally.
当行程高于1000毫米，不适宜水平安装。
TC Style TC型

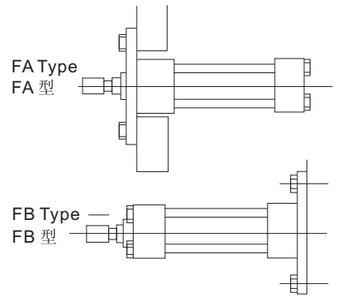


In case of FA,FB 对于FA，FB型

The load carry is on when moving in backwards.
当向后运行时，承受负载进行中。



The load carry is on when moving in forwards.
当向前运行时，承受负载进行中。



REFERENCE MATERIALS
参考资料

BASIC UNITS 基本单位

Unit 单位	Sign 符号	Eng. unit 英国单位	SI unit 国际单位
Length 长度	l	m	m
Mass 质量	m	$\frac{Kp.s^2}{m}$	kg
Time 时间	t	Sec. 秒	Sec. 秒
Temp. 温度	T	Degress Celsius(℃) 摄氏度 (℃)	Kelvin(k) 开氏温标 k()
Elertric current 电流	I	Ampere(A) 安培 (A)	Ampere(A) 安培 (A)

BERIVED UNITS 改进单位

Unit 单位	Sign 符号	Eng. unit 英国单位	SI unit 国际单位
Force 力	F	kP	Newton(N) 牛顿 (N) $1N=\frac{1Kg.m}{S^2}$
Area 面积	A	m^2	m^2
Volume 容积	V	m^2	m^2
Flux 通量	V(Q)	m^2/S	m^2/S
Pressure 压力	P	(Kp/cm^2)	Pascal(pa) 帕斯卡（帕） Bar(bar)巴 (bar) $1Pa=\frac{1N}{m^2}$ 1bar = 10^5 Pa = 100KPa(10^2 KPa) = 14.5psi

CONVERSION TABLE OF PRESURE UNITS 压力单位换算表

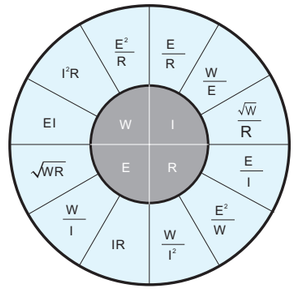
No. 编号	Pa 帕	bar 巴	kgf/cm^2 千克力/厘米²	atm 物理大气压	mmH_2O 毫米水柱	mmHg Torr 毫米托	psi 帕
1	1	1×10^{-5}	1.01972×10^{-5}	9.86923×10^{-6}	1.01972×10^{-4}	7.50062×10^{-3}	1.45038×10^{-4}
2	1×10^5	1	1.01972	9.86923×10^{-4}	1.01972×10^{-4}	7.50062×10^{-2}	1.45038×10
3	9.80665×10^4	9.80665×10^{-4}	1	9.67841×10^{-4}	1×10^{-4}	7.3559×10^{-2}	1.42234×10
4	1.01325×10^5	1.01325	1.03323	1	1.03323×10^{-4}	7.60×10^{-2}	1.46960×10
5	9.80665	9.80665×10^{-5}	1×10^{-4}	9.67841×10^{-5}	1	7.35559×10^{-2}	1.42234×10^{-3}
6	1.33322×10^2	1.33322×10^{-3}	1.35951×10^{-3}	1.31579×10^{-3}	1.35951×10	1	1.93368×10^{-2}
7	6.89473×10^3	6.89473×10^{-2}	7.03065×10^{-2}	6.80457×10^{-2}	7.03067×10^{-2}	5.17147×10	1

ALLOWABLE TEMPERATURE ACCORDING TO THE TYPE OF INSULATOR 绝缘体允许温度

Insulation Type 绝缘体类型	Temperature rising value (°c) 温度上升值（℃）	Max, allowable temperature(°c) 最高允许温度（℃）
Y Type *	below 50 50 取	above 90 50 以
A Type	below 65 65 取	above 105 105 以
E Type	below 80 80 取	above 120 120 以
B Type	below 90 90 取	above 130 130 以
F Type	below 115 115 取	above 155 155 以
H Type	below 140 140 下以	above 180 180 以
C Type *	below 140 140 下以	above 180 180 以

* Theoretical Specifications * 理论规格

DIAGRAM FOR THE LAW OF Ω Ω法则示意图



- I = Electric Current (A)
- E = Voltage (V)
- R = Resistance (Ω)
- W = Power consumption (w)
- I = 电流 A()
- E = 电压 V()
- R = 电阻 (Ω)
- W = 功耗 W()

CONSUMPTION ELECTRIC POWER 功耗

AC Solenoid 交流螺线管

electric power(VA) =Voltage(V)×electric current(A)
功率 V(A)= 电压 (V) x电流 (A)
Consumption electric power(w) =
Voltage(V)× electric current(A)×COSθ
消耗功率 (w)= 电压 (V) x电流 (A) × OS θ

DC Solenoid 直流螺线管

Consumption electric power(W) = Voltage(V)×electric current (A)
消耗功率 (w)= 电压 (V) x电流 (A)

GUIDELINES FOR SAFELY USING SOLENOID VALVES 电磁阀安全使用说明书

※Please carefully read prior to using the Valves ※ 请在使用前仔细阅读该说明书。

DANGER 危险	Failure to follow may result in death or serious personal injury. 操作不当可能导致死亡或严重人身伤害事故。
WARNING 警告	Failure to follow may result in personal injury. 操作不当可能导致人身伤害事故。
CAUTION 注意	Failure to follow may result in personal injury or machinery equipment damage. 操作不当可能导致人身伤害或机器损坏事故。

⚠ WARNING

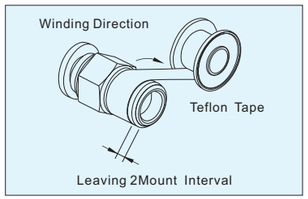
Design, specification, and usage of the compressed air system

- Only the qualified personnel should design, specify, and handle the compressed air system.
- Recommended working condition for each and every product shown in the catalog varies. Implement only the most suitable working condition prior to specifying the system for each product.
- Proper safety features should be installed and secured prior to operating any machinery equipment. The source of disassembing any machinery to avoid any personal injury.

⚠ CAUTION

Preparatory factors to consider prior to using the valves

- Verify the accuracy of the specifications of the valves prior to the usage.
- Verify and check that the specifications of the valves are consistent with the requested or ordered specifications.
- Use compress air to clean any metallic residues, cutting oil, or dust inside of the piping system.
- Distance between the actuator and the valve should be as minimal as possible. The piping distance longer than the minimal leads to inefficiency, waste of compressed air, and slower resposive time of the valve.
- Use zinc~ plated steel tube when steel tubing is required.
- Select and connect the proper ports for accurate piping.
  P(1) : Compressed air input connection ports
  B(2), A(4) : Actuator connection ports
  R2(3), R1(5) : Residual air exhaust ports
- Any and all foreign materials of impurity must be removed at the points of connection or from the inside of valve prior to piping.
- When connecting fittings to the ports, apply Teflon tape to the fitting threads. The first 2 threads of fitting should be free of any Teflon tape. Any fragment or portion of Teflon tape entering the inside of valve will result in the improper operations of the valve.



⚠ WARNING

Installation environment for the valves

- Avoid and location where explosive, vibration, and impact factors are present.
- Maintain a sufficient space for a proper ventilation and for any needed repair work when installing valves.
- Use the valves within the allowable range of 5℃~60℃ of the ambient temperature and of the fluid material. in the valves when used under the low temperature working conditions.

⚠ CAUTION

Usage conditions for valves

- Installing air filter and oiler prior to piping of valves leads to the extension of the product life.
- Use the purified and dried air only. The source of the compressed air that contains any chemicals, organic raw materials, salt, corrosive materials will render the valves defective and non-operational.
- Excessive air leakage from the compressed air system may reduce the product life of valve.

⚠ 警告

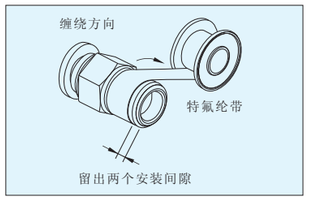
压缩空气系统的设计、规格及使用

- 压缩空气系统的设计、规定及操作必须由具备资格的人员执行。
- 于样本中各个产品的推荐工作条件，以实际最佳工作条件作为优先于系统规定条件的选择。
- 机器运行前应安装适当装置确保安全工作。避免因机器拆卸而带来的人身伤害。

⚠ 注意

电磁阀使用前的准备

- 使用前检验电磁阀规格的准确度。
- 检验并确认电磁阀规格是否与要求或订单规格一致。
- 使用压缩空气清理管线系统中的任何金属残留、切削油或灰尘。
- 执行元件与电磁阀之间的距离应尽量做到最小限度。管道距离长于最小值会导致低效率、压缩空气的浪费以及响应时间变得缓慢。
- 如要求钢管时使用镀锌钢管。
- 为确保精确的管线铺设，选择并连接适合的端口。
  P（1）：压缩空气输入连接端口
  B（2）、A（4）：动作连接端口
  R2（3）R 1（5）：残留空气排放端口
- 在管线铺设前，需清理电磁阀内及接点上的所有杂质异物。
- 当端口连接管件时，在管件螺纹上绕上特氟纶带。最前两道螺纹不需缠绕。如特氟纶带的碎片或部分进入阀内都将导致不当操作。



⚠ 警告

电磁阀安装环境

- 应避免安装在含爆炸性物质、震动和冲击的场所。
- 在安装时，可为适当的通风及任何要求的维修提供足够空间。
- 电磁阀应在允许的环境温度范围内（5℃-60℃）及流体中使用。

⚠ 注意

电磁阀使用条件

- 在管线铺设前，安装空气过滤器和油雾器来延长产品寿命。
- 只能使用纯净或干燥的空气。 压缩空气源如含有任何化学、有机物质、盐、腐蚀性物质将导致电磁阀损坏或无法工作。
- 压缩系统过多空气泄露可能降低电磁阀寿命。

GUIDELINES FOR SAFELY USING SOLENOID VALVES 电磁阀安全使用说明书

※Please carefully read prior to using the Valves ※ 请在使用前仔细阅读该说明书。

JISP

DANGER 危险	Failure to follow may result in death or serious personal injury. 操作不当可能导致死亡或严重人身伤害事故。
WARNING 警告	Failure to follow may result in personal injury. 操作不当可能导致人身伤害事故。
CAUTION 注意	Failure to follow may result in personal injury or machinery equipment damage. 操作不当可能导致人身伤害或机器损坏事故。

- Proper filtering system must be installed to prevent any substance of impurity from entering valves. periodical monitoring or replacement of filters is strongly suggested.
- Use turbine oil type or class 2 (ISO VG #32) oil in order to extend the product life, Non-graded oil may be used.
- Use only the recommended oil type. Using non-recommended oil type may reduce the product life of valves due to damage caused by the shrinkage or enlargement of the valve packing. (Do not use spindle oil, machine oil, hydraulic oil, cooking oil, or anti-corrosion oil)
- Do not use the valves in the dusty working condition. If the dusty working condition is unavoidable, place a protective cover over the control unit and place the noise muffler or silencer at the exhaust ports of R2(3) and R1(5).
- Do not allow the valves to be on the stand-by or pause mode for an extended period of time. The stand-by or pause mode of valves should be used briefly and momentarily.
- Solenoid valves are not designed to be suddenly interrupted, stopped, or shut off, Consider and prepare other safety measurements before using the solenoid valves.

⚠ WARNING

Electrical factors for the valves

- Allowable range of voltage variation should be within 10% of the recommended voltage for the proper operation of the valves. Any voltage exceeding more than 10% of the recommended voltage will result in the coil damage and the malfunctioning of the valves.
- Turning on or off of Alternate Current (AC) may result in surge current that may have problematic effect to the magnetic circuitry. It is recommended that an alternate plan is implemented to avoid such problematic effect.
- Continuous supply of electricity to the solenoid coil may result in increase of the surface temperature of the coil, in order to avoid the damage to the coil, please verify circuitry design before piping.
- Even if the source of electricity is completely disconnected the operation of the valves may not come a complete stop due to a residual current in the magnetic circuitry, Reduce the magnitude of the leakage current on both sides by 20% of the rated voltage for AC supply current and by 10% of the rated voltage for DC supply current.

⚠ CAUTION

Applicable torque force when piping valves

- Applying excessive torque force will damage the fitting threads when connection to the valves. Use the following guideline of torque force for each applicable port size.

Port size	Applicable Torque N.m(kgf/cm²)
M5	2(20)
PT1/8	15(150)
PT1/4	20(200)
PT3/8	25(250)
PT1/2	34(340)
PT3/4	51(510)
PT1	69(690)
PT1 1/4	80(800)
PT1 1/2	85(850)
PT2	120(1200)

- 需安装适当的过滤系统以防止电磁阀遭受杂质侵蚀。强烈建议定期检查或更换过滤器。
- 使用透平油或2类（ISO VG 32号 油以延长产品寿命，可使用无等级油。
- 只使用推荐的油类型。 如使用非推荐油，可因电磁阀包装的收缩或膨胀造成损坏而缩短产品寿命。 （不可使用锭子油、机油、液压油、烹饪油或耐腐蚀油）
- 不得在满是灰尘的工作条件下使用电磁阀，如无法避免，在控制装置上安放一个保护罩，并把消声器或消音器放在R2（3）和R1（5）排气端口。
- 不得使电磁阀备用或停用超过一段时间。 备用或停用状态应是暂时或一时的。
- 电磁阀的设计不允许其突然中断、停止或关闭，在使用前应考虑并准备其它安全措施。

⚠ 警告

电磁阀的电气参数

- 为确保合理操作，电压允许波动范围应小于推荐电压的10%。超出推荐电压10%的范围，线圈将损坏而电磁阀将出现故障。
- 开启或关闭交流（AC）可能导致浪涌电流而对电磁线路造成影响。建议实施备用方案以避免此类影响。
- 对电磁铁线圈进行连续的电流供应可能导致线圈表面温度的升高，为避免对线圈造成损坏，请在管线铺设前检验线路设计。
- 即使电源已经完全切断，电磁阀仍因电磁线路中残留的电流而未完全停止运行，对于交流电源电流，将两侧的泄露电流量减少额定电压的20%，而对于直流电源电流，则减少额定电压的10%。

⚠ 注意

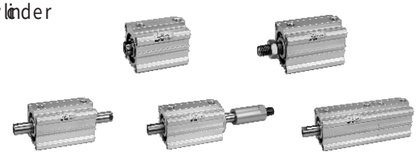
管线铺设时适用扭力

- 在连接电磁阀时，施加过大扭力会损坏管件螺纹。 根据端口大小参照使用以下对应的扭力。

端口大小	适用扭力 N.m(kgf/cm²)
M5	2(20)
PT1/8	15(150)
PT1/4	20(200)
PT3/8	25(250)
PT1/2	34(340)
PT3/4	51(510)
PT1	69(690)
PT1 1/4	80(800)
PT1 1/2	85(850)
PT2	120(1200)

CONTENTS
目录

CHAPTER 01 JCQ2 Series
Compact cylinder
薄型缸

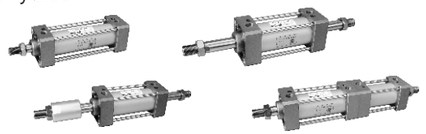


JC(D)Q2B 12~100	Double acting 双作用	1-003
JC(D)Q2B 12~63	Single acting 单作用	1-003

CHAPTER 02 JCM2 Series
Small size cylinder
迷你缸

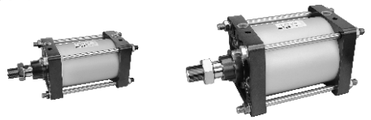
JC(D)M2B 20~40	Double acting 双作用	1-015
JC(D)M2B 20~40	Single acting 单作用	1-015

CHAPTER 03 JCA2 Series
Medium size cylinder
标准缸



JC(D)A2B 40~100	Double acting 双作用	1-029

CHAPTER 04 JCS1 Series
Large size cylinder
大型气缸



JC(D)S1B 125~160	Double acting 双作用	1-037

CHAPTER 05 Auto switch
磁性开关

	Auto switch 磁性开关	1-045

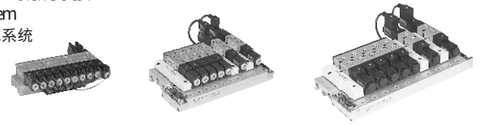
CHAPTER 06 JCT&JNBH Series
Air hydro Converter
气液转换器
Booster Cylinder
增压缸

JCT 63,100,160	Air hydro Converter 气液转换器	1-049
JNBH 40,60	Booster Cylinder 增压缸	1-051

CHAPTER 07 JSV Series
3/2-Direct Operation type
(3/2-直动型)

JSV10	Body Width(本体宽度)-10mm		2-003
JSV20	Body Width(本体宽度)-15mm		2-006
JSV200	Thread(螺纹接口)M5×0.8		2-009
JSV300	Thread(螺纹接口)1/8		2-012

CHAPTER 08 JMCS Series
Multi connector System
集装式系统

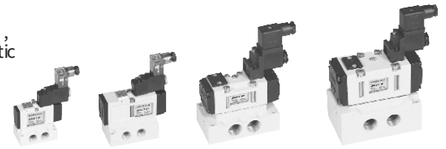


JMCS100	JSF1000,JSF2000 solenoid valve mounted 电磁阀安装	2-017
JMCS200	JSF2000 solenoid valve mounted 电磁阀安装	2-019
JMCS400	JSF4000 solenoid valve mounted 电磁阀安装	2-021

CHAPTER 09 JSF Series
5/2, /3 5 /23 Solenoid, Pneumatic Valve
电磁气动阀

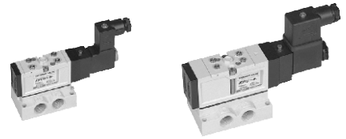
JSF1000	M5×0.8	Body Width(本体宽度)-15mm	2-025
JSF2000	1/8	Body Width(本体宽度)-18mm	2-028
JSF3000	1/8	Body Width(本体宽度)-23mm	2-031
JSF4000	1/4	Body Width(本体宽度)-26mm	2-034
JSF5000	3/8	Body Width(本体宽度)-32mm	2-037
JSF6000	1/2	Body Width(本体宽度)-36mm	2-040

CHAPTER 10 JSIV Series
5/2, /35 Solenoid, Pneumatic Valve
电磁气动阀



JSIV200	1/4	ISO-01 Width(本体宽度)-18mm	2-045
JSIV300	1/4	ISO-01 Width(本体宽度)-26mm	2-048
JSIV400	1/4,3/8,1/2	ISO-1 Width(本体宽度)-40mm	2-051
JSIV500	1/2,3/4	ISO-2 Width(本体宽度)-50mm	2-054

CHAPTER 10 JSIE Series
5/2, /35 Solenoid, Pneumatic Valve
电磁气动阀



JSIE200	1/4	ISO-01 Width(本体宽度)-18mm	2-057
JSIE300	1/4	ISO-01 Width(本体宽度)-26mm	2-060

CHAPTER 11 JMCS Series
Multi Connector System
集装式系统

JMCS100	JSC200,300,400 solenoid Valve mounted 电磁阀安装		2-065
	JSE300,400 solenoid valve mounted 电磁阀安装		2-067

CONTENTS
目录

CHAPTER 12 JCS Series
5/2, /3 5 /23 Solenoid, Pneumatic Valve
电磁气动阀

JSC200	M5,M3	Body Width(本体宽度)-10mm	2-071
JSC300	1/8,M5	Body Width(本体宽度)-15mm	2-074
JSC400	1/4,1/8	Body Width(本体宽度)-18mm	2-077

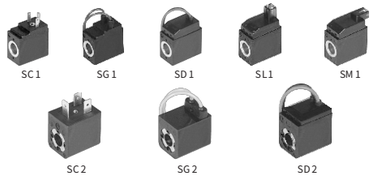
CHAPTER 12 JSCE Series
5/2, /3 5 /23 Solenoid, Pneumatic Valve
电磁气动阀

JSCE300	M5,1/8	Body Width(本体宽度)-15mm	2-080
JSCE400	1/8,1/4	Body Width(本体宽度)-18mm	2-083
JSCE500	3/8	Body Width(本体宽度)-26mm	2-086

CHAPTER 13 JSN Series
5/2, /35 Solenoid Pneumatic Valve
电磁气动阀

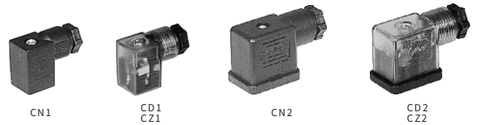
JSN3000	1/4	Body Width(本体宽度)-23mm	2-091
JSN4000	1/4	Body Width(本体宽度)-30mm	2-094

CHAPTER 14 Coil Series



SC1	SC1-A2,A1,D4 (AC220V,110V,DC24V)	Body Width(本体宽度)-15mm	2-097
SC2	SC2-A2,A1,D4 (AC220V,110V,DC24V)	Body Width(本体宽度)-22mm	2-097

CHAPTER 14 DIN Connector



SN1		Body Width(本体宽度)-15mm	2-099
SN2		Body Width(本体宽度)-22mm	2-099

CHAPTER 15 JMV Series
3/2 Mechanically Valve
机械阀

JMV310	1/8		2-103
JMV410	1/4		2-103

CONTENTS
目录

JISP

CHAPTER 15 JPMEV Series
5/2, /23 Panel Mounted Manually Valve
面板安装手动阀

JPMEV110 JPMEV160	M5×0.8	Body Width(本体宽度)-15mm	2-105
JPMEV210 JPMEV260	1/8	Body Width(本体宽度)-18mm	2-105
JPMEV410 JPMEV460	1/4	Body Width(本体宽度)-26mm	2-105

CHAPTER 15 JRLV Series
5/2, /23 Roller ever Mechanical Valve
滚轮杠杆机械阀

JRLV110 JRLV160	M5×0.8	Body Width(本体宽度)-15mm	2-107
JRLV210 JRLV260	1/8	Body Width(本体宽度)-18mm	2-107
JRLV410 JRLV460	1/4	Body Width(本体宽度)-26mm	2-107

CHAPTER 15 JHLV Series
5/2, /353/2 Hand ever Manually Valve
手扳阀

JHLV310/410/510/610-S	1/8,1/4,3/8,1/2	2-109
JHLV320/420/520/620-D	1/8,1/4,3/8,1/2	2-109
JHLV330/430/530/630-S,D	1/8,1/4,3/8,1/2	2-109
JHLV340/440/540/640-S,D	1/8,1/4,3/8,1/2	2-109
JHLV350/450/550/650-S,D	1/8,1/4,3/8,1/2	2-109

CHAPTER 15 JKMV Series
5/2, /23 Knob Push/Pull Manually Valve
手拉阀

JKMV310-S	1/8	2-111
JKMV310-D	1/8	2-111
JKMV310-DA	1/8	2-111
JKMV410-S,D,DA	1/4	2-111
JKMV460-S,D,DA	1/4	2-111

CHAPTER 15 JTMV,JHV,J4F Series
Toggle ever operated Mechanically Valves
肘节杠杆机械阀

JTMV210	1/8	2-113
JTMV260	1/8	2-113
JTMV410	1/4	2-113
JTMV460	1/4	2-113
JHV230,330,430		2-115
J4F210-08L		2-116

CHAPTER 16 ONE-TOUCH FITTINGS
快插接头

3-001~029

CHAPTER 16 COMPACT ONE-TOUCH FITTINGS
迷你型快插接头

3-030~042