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汉姆森阀门
HANMUSEN VALVE



HZQ-直行程气动执行器

HZQ - straight travel pneumatic actuators



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附件图形 Attachment graphic



电气定位器
Electrical positioner



电磁阀
electromagnetic valve



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气源处理三联件
Gas source treatment triple piece



行程接近开关
Travel proximity switch

直行程执行器
Straight travel actuators

◆产品概述 (Product overview)

HZQ系列直行程气动执行机构，是本公司以高可靠性、易操作性和快捷安装等设计理念前提下开发实现的，它可在现有的手动闸阀、截止阀、放料阀、调节阀上进行方便、快捷的安装。

HZQ系列阀门气动执行器，它是以压缩空气为工作介质，利用压缩气体的膨胀作用，把压力能转换为机械能的动力装置，其气缸为活塞推动升降型，直行程气动执行机构。它由气缸、活塞、上、中、下连接端盖以及活塞轴组成。当气座中充入空气时，活塞所产生的推力，通过活塞杆连接下面阀门阀杆，驱动闸阀、截止阀、放料阀、调节阀的阀杆，并使阀杆作升降直线运动，开启或关闭阀门。用于操纵闸阀、截止阀、放料阀、调节阀等阀门的开度调节，亦可用于将手动操作阀门改装成气动操作。

本产品可以为阀门制造商提供配套生产，也适用于将原有工艺管线上手动闸阀、截止阀、放料阀、调节阀进行改造成自动控制工程。

它适用于防爆和有形体要求的场合，可以实现远程、多台集中控制（现场也可以手动调节），便于远距离遥控操作与减少劳动强度。同时可用于矿山机械、油田、化工、造纸、炼钢、船舶、航空、工程机械制造等设备传动使用。

HZQ straight travel series pneumatic actuators, it is our company with high reliability, operability and fast installation design concepts such as premise to achieve development, and it can be in the existing manual gate valve, globe valve, emptying valve, regulating valve on the convenient and quick installation.

HZQ series valve pneumatic actuator, it is compressed air as working medium, the use of compressed gas expansion effect, the pressure can be converted into mechanical energy power plant, the cylinder to drive piston type, straight travel pneumatic actuators. It consists of cylinder, piston, connect, which end cover and the composition of the piston shaft. When filling the air in the gas holder, thrust produced by the piston, through the piston rod connecting the valve stem, drive gate valve, globe valve, emptying valve, regulating valve, the valve stem, and made the stem lifting linear motion, open or close the valve. For manipulating gate valve, globe valve, emptying valve, regulating valve and other valve opening adjustment, can also be used to manually converted into pneumatic valve operation.

This product can offer valve manufacturers supporting production, can also be applied to the original process pipeline on the manual gate valve, globe valve, emptying valve, regulating valve are converted into automatic control engineering.

It is suitable for the occasion of explosion-proof and form requirement, can realize the remote, more centralized control (site) can also be manual adjustment, is advantageous for the long-distance remote control operation and reduce the labor intensity. At the same time can be used in mining machinery, oil field, chemical industry, papermaking, steel, shipbuilding, aviation, engineering machinery manufacturing equipment transmission is used.

◆工作参数(Working parameters)

基本设计 Basic design	直行程气动执行器 Straight travel pneumatic actuators
工作范围 Scope of work	DN + (20 ~ 1000)
工作环境温度 Working environment temperature	- 20℃ ~ + 90℃
气源压力 Air pressure	0.3~0.8MPa(最大1.Mpa) 0.3 ~ 0.8 MPa (the biggest 1.0 MPa)



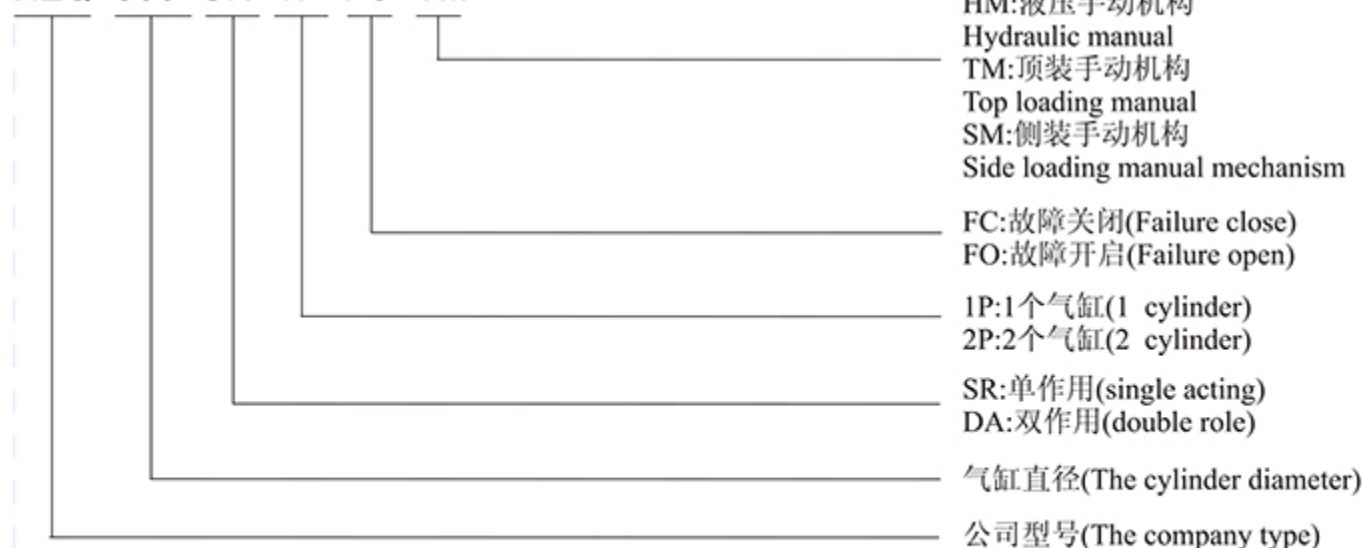
◆产品主要特点(Product main features)

- 1.动力来源广泛,炼油装置的 0.3~0.6 MPa 的压缩空气或氮气都可使用做为驱动力,适于在各种易燃易爆的工况环境中使用,是一种防爆安全型产品。
- 2.它只需很少的耗气量(0.1~0.55 m³/min)便可输出很大推力 12000~250000N,且推力强大稳定,从而达到节省能量及减少噪声污染的目的。
- 3.将所有工作机构封闭于内镀硬铬钢管制成的外壳内,可较长时间承受高温和火焰。在火灾的初期阶段,这一特性非常有用,操作人员处于安全地带就可以及时切断阀门,控制事故。
- 4.在中断供气的情况下,无需额外锁定,仍能保持阀位不变,气动系统配置简单,操作方便,控制可靠。
- 5.装置模块化,它由密封活塞驱动做功,手操机构,控制附件三大部份组成且各有一套中部或者顶部安装手轮机构,可简单使手动-气动进行切换,可立即采用手动操作,操作灵巧轻便。
- 6.可在 0~100%之间调节阀门的任意开度。
- 7.结构牢固,无过多的保护装置,从而减低了故障率,有很长的使用寿命。
- 8.同轴安装,结构紧凑、体积小,适于高压阀门,重质油的旧阀门,背压操作较大的阀门及大口径阀门,具有优越的性价比。
- 9.该机构符合人体工程学,手气切换机构安装在侧方,便于操作,且操作简单,灵活。
- 10.全部下法兰与阀门连接接口符合GB/T 12222.GB/T12223标准要求,且可以按用户要求,进行驱动连接安装。
- 11.活塞机械驱动,长时间连续使用,故障率低,使用寿命长,节能经济。
- 12.结构简单:主要有现场操控指示、气动结构、手动结构、气/手动切换机构、安装支架等部件组成。
- 13.操作简便:配有控制箱的执行器可实现远程控制,也可以气动或手动进行操作。

1. The power supply sources, refining unit of 0.3 ~ 0.6 MPa compressed air or nitrogen gas can be used as a driving force, is suitable for use in the working condition of all kinds of inflammable and explosive environment, is a kind of explosion-proof safe products.
2. It requires little gas consumption (0.1 to 0.55 m³ / min) can output great thrust 12000 ~ 250000 n, and thrust strong stability, so as to achieve the purpose of saving energy and reducing noise pollution.
3. Close all job agencies in the plating hard chromium steel tube shell, can be a long time under high temperature and flame. In the early stages of the fire, this feature is very useful, operators in safety can cut off the valve in time, control the accident.
4. In the case of a disruption risks, no additional locking, can still keep the valve position unchanged, pneumatic system configuration is simple, easy to operate, reliable control.
5. Device is modular, it driven by piston seal work, hand operation, control the attachment of three most and assemble a middle or top mounted handwheel, can be simple to make manual - pneumatic switch, can immediately adopt manual operation, operation nimble light.
6. Can be between 0 ~ 100% any opening of the regulating valve.
7. Firm structure, without too much protection, so as to reduce the failure rate, has a long service life.
8. The coaxial installation, compact structure, small size, suitable for high pressure valves, heavy oil of the old valve, back pressure operation large and large diameter valves, valve has superior performance.
9. The accord with human body engineering, luck switching mechanism is installed in the side, easy to operation, and simple operation, flexible.
10. All of the flange and valve connection interface in line with the GB/T 12222. GB/T12223 standard requirement, and can according to user requirements, to drive installed.
11. The piston mechanical drive, long time continuous use, low fault rate and long service life, energy saving the economy.
12. Simple structure: the main is controlled by the site structure, pneumatic, manual, gas/manual switching mechanism, mounting bracket and other parts.
13. Easy to operate, equipped with a control box actuator can realize remote control, can also be operated pneumatic or manual.

◆型号编制(Model establishment)

HZQ-500-SR-1P-FC-TM

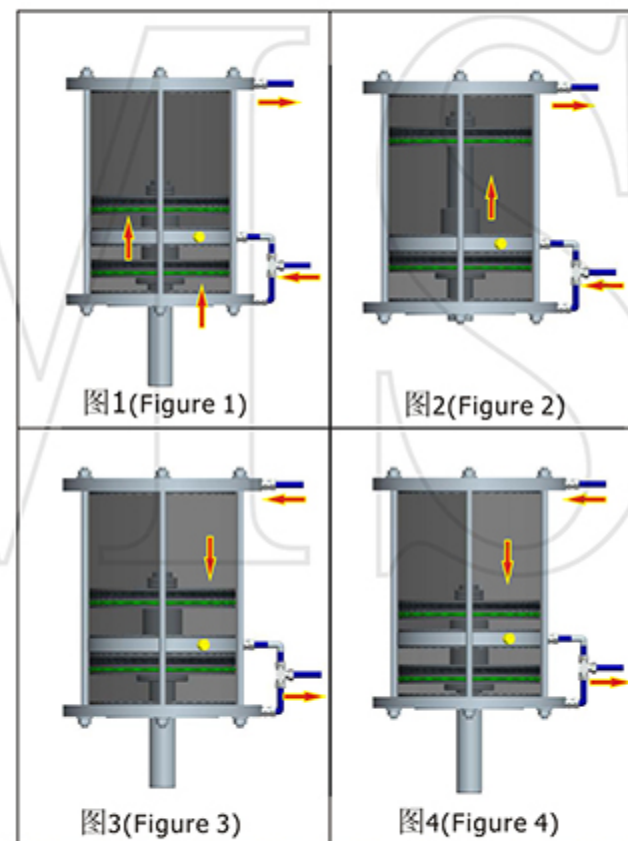


◆工作原理(The working principle of)

双作用式(double-acting):

根据直行程阀门工作的特点,本产品采用气缸推杆输出开启力,特殊设计的双气缸活塞缓冲结构。

- 1.阀门开启前阶段:电磁阀切换到开启阀门位置,气缸底部进气。阀杆在上下活塞同时进气下,以2倍的上升推力,开始工作。能够很好的克服闸板密封面与阀体密封面之间的最大静摩擦力,带动闸板平稳上升。当闸板继续上升时,所受阻力减小,所需开启力也相应减小(见图1)。
- 2.阀门开启后阶段:当下活塞到达上死点后,下活塞停止运动,由上气缸的上活塞带动闸板继续上升至全开位置。(见图2)
- 3.阀门关闭前阶段:电磁阀切换到关闭位置,气缸顶部进气。主活塞带动闸板离开全开位置,开始下降。(见图3)
- 4.当主活塞下降接触到下活塞杆上凸面,下气缸的空气,缓慢排出,下气缸起到缓冲关闭过程,它能够有效阻止,主活塞和阀杆、闸板的惯性冲击。既能平稳的关严阀门,防止闸板楔的过紧,又能保护密封面免受猛烈冲击而损坏。(见图4)



Double-Acting

According to the characteristics of the straight trip valve work, this product USES the cylinder push rod output opening force, the special design of double cylinder piston cushion structure.

1. Open valve before stage: electromagnetic switch valve to open valve position, the inlet at the bottom of the cylinder. Stem under the upper and lower piston air intake at the same time, 2 times to the rise of the thrust, begin to work. Can overcome damper seal face and a good body sealing surface, the maximum static friction force between the drive disc rising steadily. When ram continues to rise, the resistance decreases, the opening force also decrease accordingly (see figure 1).

2. After the open valve: after the piston reaches the top dead center, the piston stop motion, driven by the cylinder on the piston ram continues to rise to the full open position (see figure 2).

3. The valve is closed before stage: solenoid valve switch to the closed position, the cylinder at the top of the inlet. The main piston driven disc leaving the full open position, began to decline (see chart 3).

4. When the piston down under exposure to convex on the piston rod, cylinder under air, slowly, the cylinder cushion close process, it can effectively prevent, the main piston and the valve stem, valve plate of inertial impact. Locked valves can be smooth to prevent disc wedge tight, and can protect the sealing surface from violent impact and damage (see figure 4).

◆单作用弹簧式(Single acting spring loaded)

故障阀门关闭型(Faultvalveclosed)

1. 当下端盖气口进气, 压缩空气克服弹簧力, 推动活塞向上运动, 活塞带动阀门的阀杆也向上运动, 使阀门开启, 上端盖进口排气。

2. 当下端盖气口失气或者停电时, 在弹簧作用下, 活塞向下运动, 活塞带动阀门的阀杆也向下运动, 使阀门关闭, 下端盖进口排气。

3. 失气或者停电时, 也可使用手动机构, 转动上面的手操机构, 手操机构中的手动杆, 克服弹簧力, 推动活塞向上运动, 活塞带动阀门的阀杆也向上运动, 使阀门开启, 上端盖进口排气。

1. The end cover port intake, compressed air to overcome the spring force, promote the upward movement of piston, piston driven

Valve stem upward movement, also make open valve, exhaust end cover on imports.

2. The end cover port loss of air pressure or power failure, under the spring force, the piston moves downward, piston belt

Valve stem is downward movement, to close the valve, exhaust lower cover imports.

3. The loss of air pressure or power failure, also can use the manual institutions, rotating the hand operation, the hand operation

Manual lever, overcome the spring force, promote the piston upward movement, piston drives the valve stem and upward movement,

Import exhaust valve opens, the end cover.

故障阀门开启型(The fault valve opens)

1. 当上端盖气口进气, 压缩空气克服弹簧力推动活塞向下运动, 活塞带动阀门的阀杆也向下运动, 使阀门关闭, 下端盖进口排气。

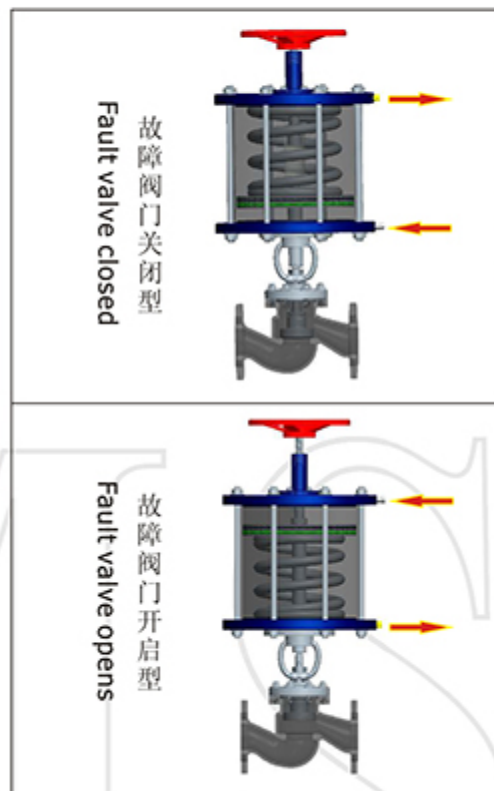
2. 当上端盖气口失气或者停电时, 在弹簧作用下, 活塞向上运动, 活塞带动阀门的阀杆也向上运动, 使阀门开启, 上端盖进口排气。

3. 失气或者停电时, 也可使用手动机构, 转动上面的手操机构, 手操机构中的手动杆, 克服弹簧力, 推动活塞向下运动, 活塞带动阀门的阀杆也向下运动, 使阀门关闭, 下端盖进口排气。

1. When the end cover on the air inlet, compressed air to overcome the spring force, pushing the piston movement, the piston driven Valve stem and downward movement, to close the valve, the exhaust end cover imports.

2. When the end cover port loss of air pressure or power failure, the spring force, the upward movement of piston, piston belt Valve stem is upward movement, the valve opens, the end cover on the import of exhaust.

3. The loss of air pressure or power failure, also can use the manual institutions, rotating the hand operation, the hand operation Manual lever, overcome the spring force, pushing the piston movement, the piston drives the valve stem and downward movement, To close the valve, the exhaust end cover imports.



◆单作用储能式(Single-acting energy storage)

由于开启推力太大, 所要弹簧和气缸体积太大故产品设计时, 采用单控电磁阀以及气控阀储气罐蓄能式, 来满足特殊工况要求

Due to open the thrust is too big, want to spring and cylinder volume is too big, so the product design, adopted by a single control solenoid valve and pneumatic valve air tank storage, to meet the special working condition requirements.

故障阀门关闭型(Failure valve close)

1. 当阀门开启时, 气源由减压阀调到0.3~0.7Mpa, 通过三通进入单控电磁阀到气控阀, 阀芯下移, 储气罐中气体通过B口向执行器下进气, 使阀门开启。

2. 当阀门关闭时, 储气罐中压缩空气, 由于前面的单向阀阻止, 气控阀由于单控电磁阀失气, 气控阀中阀芯回位, 储气罐中气体进入气控阀A口, 再到执行器上盖使阀门关闭。

3. 失气或者停电时, 也可使用手动机构, 转动手操机构, 手操机构中的手动杆, 推动活塞向下运动, 活塞带动阀门的阀杆也向下运动, 使阀门关闭, 下端盖进口排气。

1. When the valve opens, the gas source by the pressure reducing valve is set to 0.3 ~ 0.7 Mpa, through tee into the single control to the pneumatic solenoid valve, valve core down, air tank of gas through the actuator to the inlet port B, make the open valve.

2. When the valve is closed, compressed air in the gasholder, due to the front of the check valve to prevent, pneumatic valve due to the single control solenoid valve loss of air pressure, air control valve in the return valve core, air tank of gas in the gas control valve port A, on to the actuator to close the valve.

3. The loss of air pressure or power failure, also can use the manual institutions, hands-on operation and hand operation of manual lever, pushing the piston movement, piston driven valve stem downward movement, also led to the closing of the valve, the exhaust end cover imports.

故障阀门开启型(Failure valve open)

1. 当阀门关闭时, 气源由减压阀调到0.3~0.7Mpa, 通过三通进入单控电磁阀到气控阀, 阀芯下移, 储气罐中气体通过B口向执行器上进气口, 使阀门关闭。

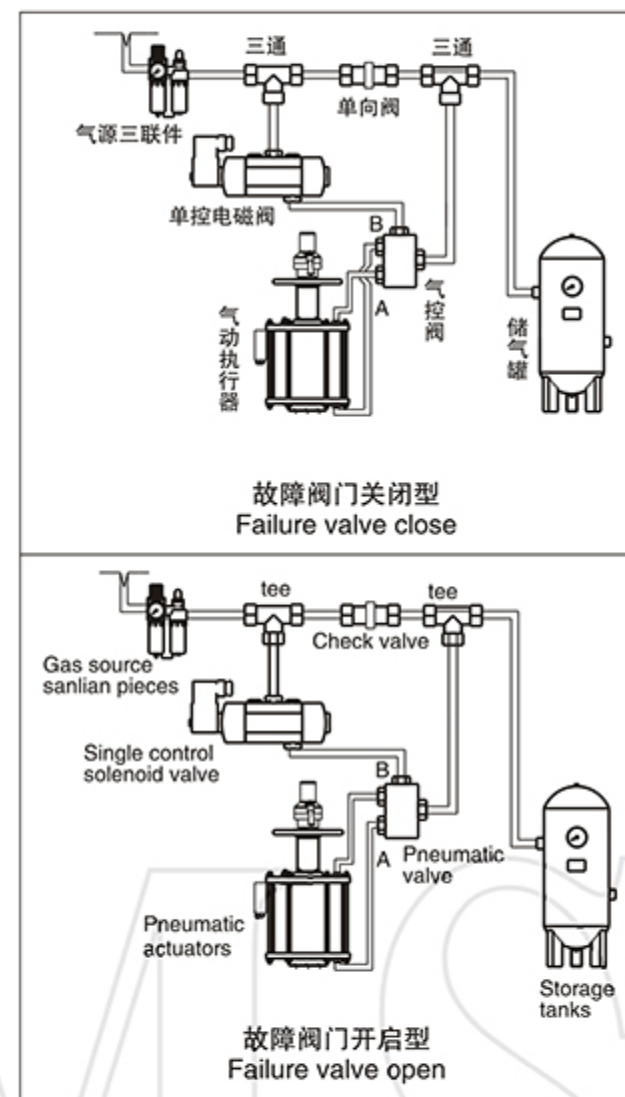
2. 当阀门开启时, 储气罐中压缩空气, 由于前面的单向阀阻止, 气控阀由于电磁阀失气, 气控阀中阀芯回位, 储气罐中气体进入气控阀A口, 再到执行器下盖使阀门开启。

3. 失气或者停电时, 也可使用手动机构, 转动手操机构, 手操机构中的手动杆, 推动活塞向上运动, 活塞带动阀门的阀杆也向上运动, 使阀门开启, 上端盖进口排气。

1. When the valve is closed, the air by the pressure reducing valve is set to 0.3 ~ 0.7 Mpa, through tee into the single control to the pneumatic solenoid valve, valve core down, air tank of gas through progresses to the actuator port, port B to close the valve.

2. When the valve opens, propane tanks of compressed air, due to the front of the check valve to prevent, due to the loss of air pressure solenoid pneumatic valve, pneumatic valve core return valve, air tank of gas in the gas control valve port A, then to build make open valve actuators.

3. Loss of air pressure or power failure, also can use the manual institutions, hands-on operation and hand operation of manual lever, push the piston upward movement, piston driven valve stem upward movement, also make the valve opens, the exhaust end cover imports.



◆ 技术参数表(Technical parameter table)

双作用单活塞执行器:Double-acting piston actuator(单位-unit:N)

型号规格 specifications	行程位置 Stroke position	气源压力 Air pressure(Mpa)					
		0.3	0.4	0.5	0.6	0.7	0.8
HZQ-180-DA-1P	开启/关闭 Open/close	7630	10173	12717	15260	17803	20347
HZQ-200-DA-1P	开启/关闭 Open/close	9420	12560	15700	18840	21980	25120
HZQ-250-DA-1P	开启/关闭 Open/close	14718	19625	24531	29437	34343	39250
HZQ-300-DA-1P	开启/关闭 Open/close	21195	28260	35325	42390	49455	56520
HZQ-350-DA-1P	开启/关闭 Open/close	28848	38465	48081	57697	67313	76930
HZQ-400-DA-1P	开启/关闭 Open/close	37680	50240	62800	75360	87920	100480
HZQ-450-DA-1P	开启/关闭 Open/close	47688	63585	79481	95377	111273	127170
HZQ-500-DA-1P	开启/关闭 Open/close	58875	78500	98125	117750	137375	157000
HZQ-600-DA-1P	开启/关闭 Open/close	84780	113040	141300	169560	197820	226080
HZQ-700-DA-1P	开启/关闭 Open/close	115395	153860	192325	230790	269255	307720
HZQ-800-DA-1P	开启/关闭 Open/close	150720	200960	251200	301440	351680	401920
HZQ-900-DA-1P	开启/关闭 Open/close	190755	254340	317925	381510	445095	508680
HZQ-1000-DA-1P	开启/关闭 Open/close	235500	314000	392500	471000	549500	628000

双作用双活塞执行器:Double role double piston actuator(单位-unit:N)

型号规格 specifications	行程位置 Stroke position	气源压力 Air pressure(Mpa)					
		0.3	0.4	0.5	0.6	0.7	0.8
HZQ-180-DA-2P	开启/关闭 Open/close	15260	20346	25434	30520	35606	40694
HZQ-200-DA-2P	开启/关闭 Open/close	18840	25120	31400	37680	43960	50240
HZQ-250-DA-2P	开启/关闭 Open/close	29436	39250	49062	58874	68686	78500
HZQ-300-DA-2P	开启/关闭 Open/close	42390	56520	70650	84780	98910	113040
HZQ-350-DA-2P	开启/关闭 Open/close	57696	76930	96162	115394	134626	153860
HZQ-400-DA-2P	开启/关闭 Open/close	75360	100480	125600	150720	175840	200960
HZQ-450-DA-2P	开启/关闭 Open/close	95376	127170	158962	190754	222546	254340
HZQ-500-DA-2P	开启/关闭 Open/close	117750	157000	196250	235500	274750	314000
HZQ-600-DA-2P	开启/关闭 Open/close	169560	226080	282600	339120	395640	452160
HZQ-700-DA-2P	开启/关闭 Open/close	230790	307720	384650	461580	538510	615440
HZQ-800-DA-2P	开启/关闭 Open/close	301440	401920	502400	602880	703360	803840
HZQ-900-DA-2P	开启/关闭 Open/close	381510	508680	635850	763020	890190	1017360
HZQ-1000-DA-2P	开启/关闭 Open/close	471000	628000	785000	942000	1099000	1256000

双作用双活塞: 关闭力=开启力/2, 下表中所显示为开启力。

Double-acting double piston: closing force / 2 = open force, shown in the table below to open.

单作用单活塞执行器 Single-acting piston actuator (单位-unit:N)

型号规格 specifications	行程位置 Stroke position	气源压力 Air pressure(Mpa)					弹簧力:N Spring force
		0.4	0.5	0.6	0.7	0.8	
HZQ-180-SR-1P	开始 A ruler	4832	7376	9919	12462	15006	5341
	结束 The end of the	509	3053	5596	8139	10683	9664
HZQ-200-SR-1P	开始 A ruler	5966	9106	12246	15386	18526	6594
	结束 The end of the	628	3768	6908	10048	13188	11932
HZQ-250-SR-1P	开始 A ruler	9322	14228	19134	24040	28947	10303
	结束 The end of the	982	5888	10794	15700	20607	18643
HZQ-300-SR-1P	开始 A ruler	13424	20489	27554	34619	41684	14836
	结束 The end of the	1413	8478	15543	22608	29673	26847
HZQ-350-SR-1P	开始 A ruler	18271	27887	37503	47119	56736	20194
	结束 The end of the	1924	11540	21156	30772	40389	36541
HZQ-400-SR-1P	开始 A ruler	23864	36424	48984	61544	74104	26376
	结束 The end of the	2512	15072	27632	40192	52752	47728
HZQ-450-SR-1P	开始 A ruler	30203	46099	61995	77891	93788	33382
	结束 The end of the	3180	19076	34972	50868	66765	60405
HZQ-500-SR-1P	开始 A ruler	37288	56913	76538	96163	115788	41212
	结束 The end of the	3925	23550	43175	62800	82425	74575
HZQ-600-SR-1P	开始 A ruler	53694	81954	110214	138474	166734	59346
	结束 The end of the	5652	33912	62172	90432	118692	107388
HZQ-700-SR-1P	开始 A ruler	73084	111549	150014	188479	226944	80776
	结束 The end of the	7693	46158	84623	123088	161553	146167
HZQ-800-SR-1P	开始 A ruler	95456	145696	195936	246176	296416	105504
	结束 The end of the	10048	60288	110528	160768	211008	190912
HZQ-900-SR-1P	开始 A ruler	120812	184397	247982	311567	375152	133528
	结束 The end of the	12717	76302	139887	203472	267057	241623
HZQ-1000-SR-1P	开始 A ruler	149150	227650	306150	384650	463150	164850
	结束 The end of the	15700	94200	172700	251200	329700	298300

备注:

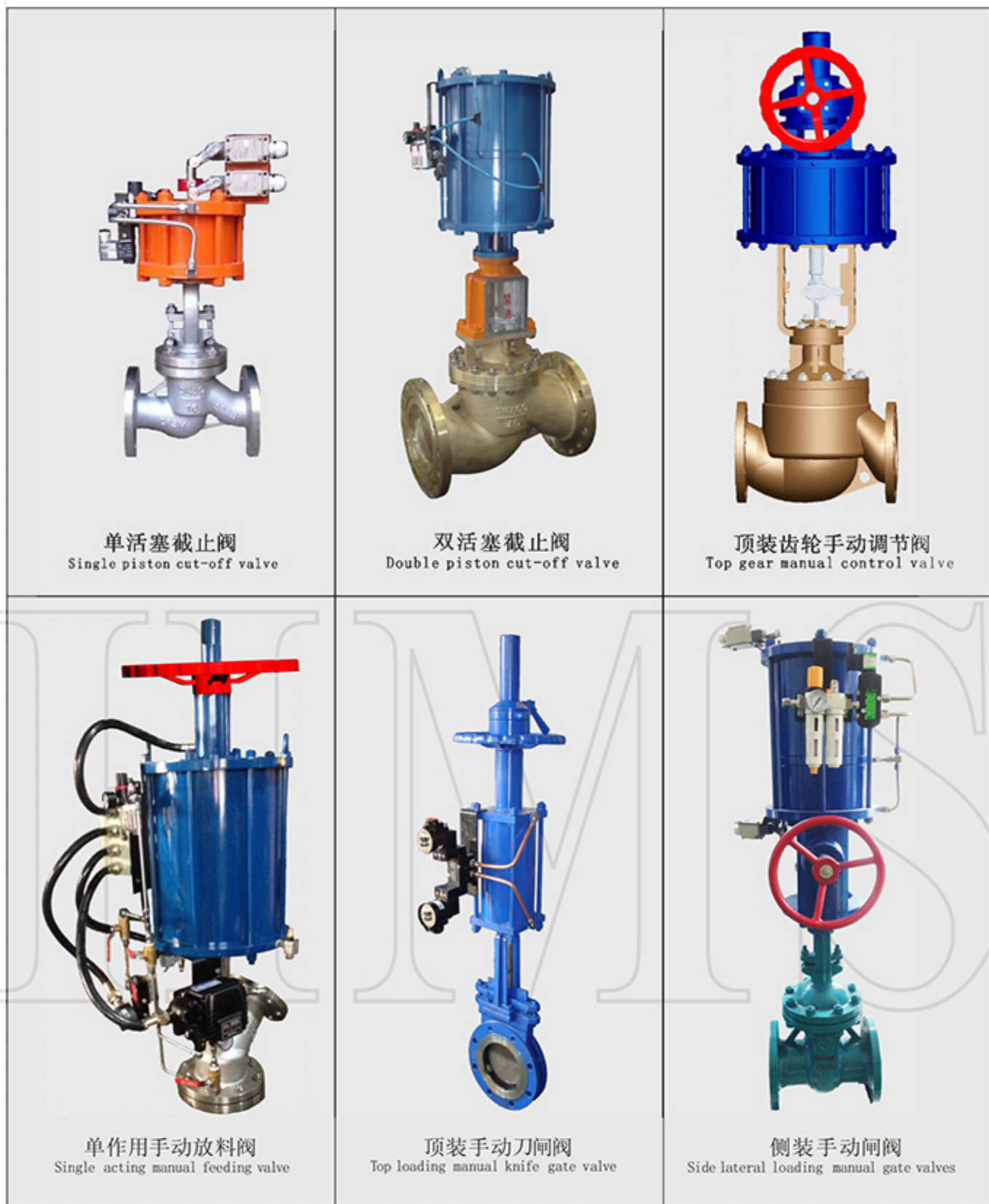
- 表中力为单活塞切断型。
- 客户要求阀门直径压力太大时, 建议用储能型。
- 如不清楚时, 请与我公司技术部联系。

Note: 1. Force in the table for a single piston type cut off.

2. The customer request valve diameter pressure is too great, suggest using energy storage type.

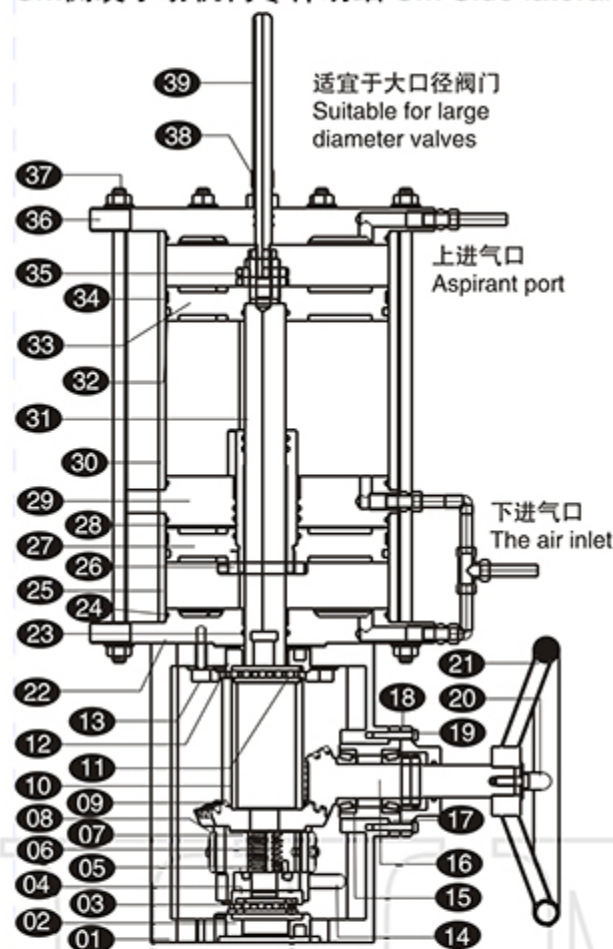
3. If not clear, please contact our company technology department.

◆直行程气动执行器阀门安装图
Straight travel pneumatic actuator valve installation drawing



◆零件明细 The parts subsidiary

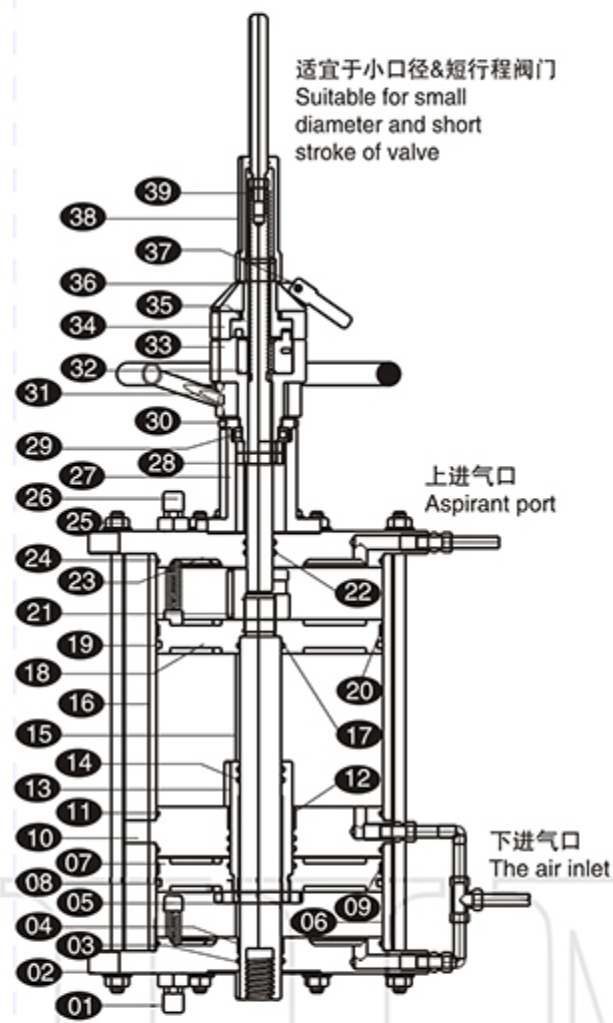
SM侧装手动机构零件明细 SM Side lateral loading manual mechanism parts subsidiary



序号 No	名称 Name	材料 Materials
01	手操支架 Hand stents	Q235碳钢 Q235 carbon steel
02	下支架螺母 The screw nut	Q235碳钢 Q235 carbon steel
03	下推力球轴承 The thrust ball bearings	轴承钢 Bearing steel
04	轴承隔板 Bearing plate	Q235碳钢 Q235 carbon steel
05	换向盘 The reversing plate	45#碳钢 45 # carbon steel
06	离合螺母 Clutch nut	耐磨铜 Wear resistance of copper
07	齿轮支座 The gear bearing	45#碳钢 45 # carbon steel
08	支座档板 Bearing baffles	45#碳钢 45 # carbon steel
09	大园弧锥齿轮 Big garden arc bevel gear	45#碳钢 45 # carbon steel
10	限位管 Limit tube	Q235碳钢 Q235 carbon steel
11	上推力球轴承 The thrust ball bearings	轴承钢 Bearing steel

序号 No	名称 Name	材料 Materials
12	上支架螺母 On the bracket nut	Q235碳钢 Q235 carbon steel
13	支架连接螺丝 Bracket connecting screws	45#碳钢 45 # carbon steel
14	换向手柄 The reversing handle	镀铬碳钢 Chrome-plated carbon steel
15	圆锥滚子轴承 Cone roller bearings	轴承钢 Bearing steel
16	小弧锥齿轮轴 Small arc bevel gear shaft	45#碳钢 45 # carbon steel
17	轴承座 bearing	45#碳钢 45 # carbon steel
18	轴承盖 Bearing cover	45#碳钢 45 # carbon steel
19	弧锥轴连接螺丝 cone axis connecting screws	45#碳钢 45 # carbon steel
20	手轮连接螺丝 handwheel connection screws	45#碳钢 45 # carbon steel
21	手轮 The handwheel	Q235碳钢 Q235 carbon steel
22	下端盖 Lower cover	Q235碳钢 Q235 carbon steel
23	端盖内O形圈 In the end cover o-ring	丁晴橡胶 Nitrile butadiene rubber
24	端盖外O形圈 Outside the end cover o-ring	丁晴橡胶 Nitrile butadiene rubber
25	下气缸 Lower cylinder	镀铬碳钢 Chrome-plated carbon steel
26	下活塞杆螺母 The piston rod nut	45#碳钢 45 # carbon steel
27	下活塞 The piston	球墨铸铁 Nodular cast iron
28	下活塞杆 The piston rod	镀铬碳钢 Chrome-plated carbon steel
29	中隔板 The partition	Q235碳钢 Q235 carbon steel
30	上气缸 On the cylinder	镀铬碳钢 Chrome-plated carbon steel
31	上活塞杆 On the piston rod	镀铬碳钢 Chrome-plated carbon steel
32	活塞O形圈 The piston o-rings	丁晴橡胶 Nitrile butadiene rubber
33	上活塞 On the piston	球墨铸铁 Nodular cast iron
34	活塞轴承 The piston bearing	复合材料 Composite materials
35	上活塞杆螺母 On the piston rod nut	45#碳钢 45 # carbon steel
36	上端盖 On the end cover	Q235碳钢 Q235 carbon steel
37	气缸连接螺丝 Cylinder connecting screws	45#碳钢 45 # carbon steel
38	行程控制开关 Stroke control switch	复合材料 Composite materials
39	指示杆 Indication rod	镀铬碳钢 Chrome-plated carbon steel

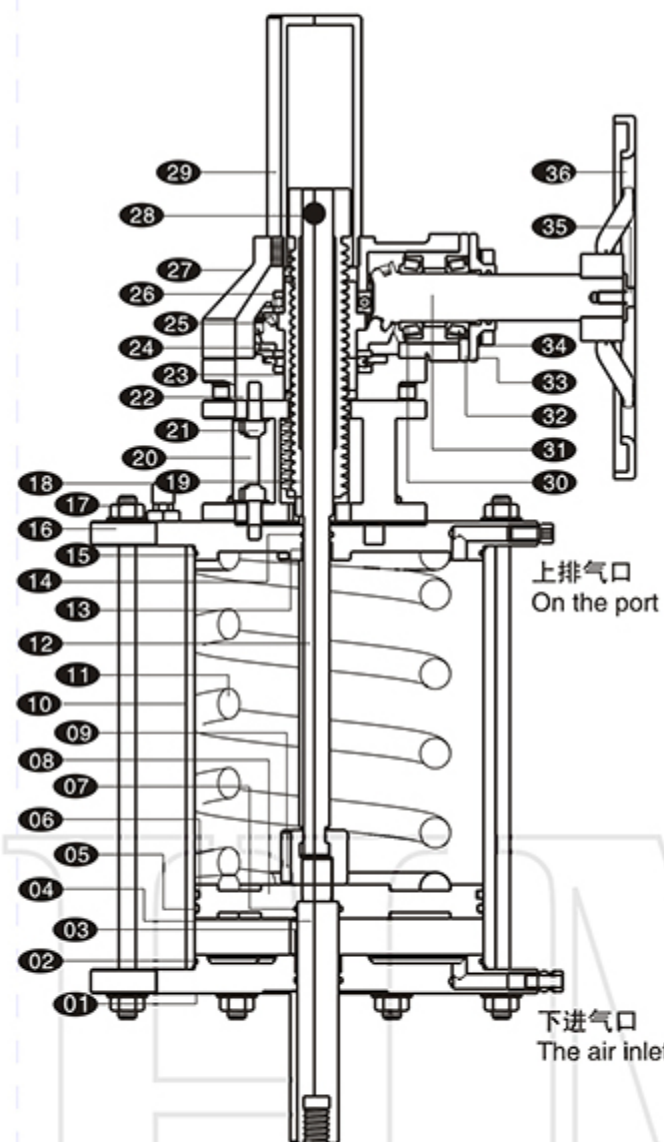
TM 顶装手动机构零件明细 TM The top loading manual mechanism parts subsidiary



序号 No	名称 Name	材料 Materials
01	下行程控制开关 The stroke control switch	复合材料 Composite materials
02	下端盖 Lower cover	Q235碳钢 Q235 carbon steel
03	下端盖O形圈 Lower cover o-ring	丁腈橡胶 Nitrile butadiene rubber
04	下端盖轴承 The bearing	复合材料 Composite materials
05	下活塞杆螺母 The piston rod nut	45#碳钢 45 # carbon steel
06	下气缸 The cylinder	镀铬碳钢 Chrome-plated carbon steel
07	下活塞 The piston	球墨铸铁 Nodular cast iron
08	下活塞O形圈 The piston o-rings	丁腈橡胶 Nitrile butadiene rubber
09	下活塞轴承 The piston bearing	复合材料 Composite materials
10	中隔板 Baffle	Q235碳钢 Q235 carbon steel

序号 No	名称 Name	材料 Materials
11	中隔板O形圈 The clapboard o-ring	丁腈橡胶 Nitrile butadiene rubber
12	中隔板轴承 The baffle plate bearing	复合材料 Composite materials
13	下活塞杆 The piston rod	镀铬碳钢 Chrome-plated carbon steel
14	下活塞杆O形圈 The piston rod o-ring	丁腈橡胶 Nitrile butadiene rubber
15	上活塞杆 On the piston rod	镀铬碳钢 Chrome-plated carbon steel
16	上气缸 On the cylinder	镀铬碳钢 Chrome-plated carbon steel
17	活塞内O形圈 In the piston o-rings	丁腈橡胶 Nitrile butadiene rubber
18	上活塞 On the piston	球墨铸铁 Nodular cast iron
19	上活塞外O形圈 Live on the Great Wall o-ring	丁腈橡胶 Nitrile butadiene rubber
20	上活塞轴承 On the piston bearing	复合材料 Composite materials
21	上活塞杆螺母 On the piston rod nut	45#碳钢 45 # carbon steel
22	上端盖内O形圈 On the end cover o-ring	丁腈橡胶 Nitrile butadiene rubber
23	上端盖 On the end cover	Q235碳钢 Q235 carbon steel
24	上端盖外O形圈 On the end cover o-ring	丁腈橡胶 Nitrile butadiene rubber
25	气缸连接螺丝 Cylinder connecting screws	45#碳钢 45 # carbon steel
26	上行程控制开关 On the stroke control switch	复合材料 Composite materials
27	上手动支架 Manually on stents	Q235碳钢 Q235 carbon steel
28	支座螺母 Bearing nut	45#碳钢 45 # carbon steel
29	推力球轴承 Thrust ball bearings	轴承钢 Bearing steel
30	支座定位螺母 Bearing positioning nut	45#碳钢 45 # carbon steel
31	手轮 The handwheel	Q235碳钢 Q235 carbon steel
32	离合螺母 Clutch nut	耐磨铜 Wear resistance of copper
33	支座 bearing	45#碳钢 45 # carbon steel
34	静盘 stator	45#碳钢 45 # carbon steel
35	换向盘 The reversing plate	45#碳钢 45 # carbon steel
36	手动盘 Manually set	45#碳钢 45 # carbon steel
37	手柄 The handle	45#碳钢 45 # carbon steel
38	上封盖 On the block	Q235碳钢 Q235 carbon steel
39	指示杆 Indication rod	镀铬碳钢 Chrome-plated carbon steel

TGM 顶装齿轮手动机构零件明细 TGM top gear manual parts subsidiary

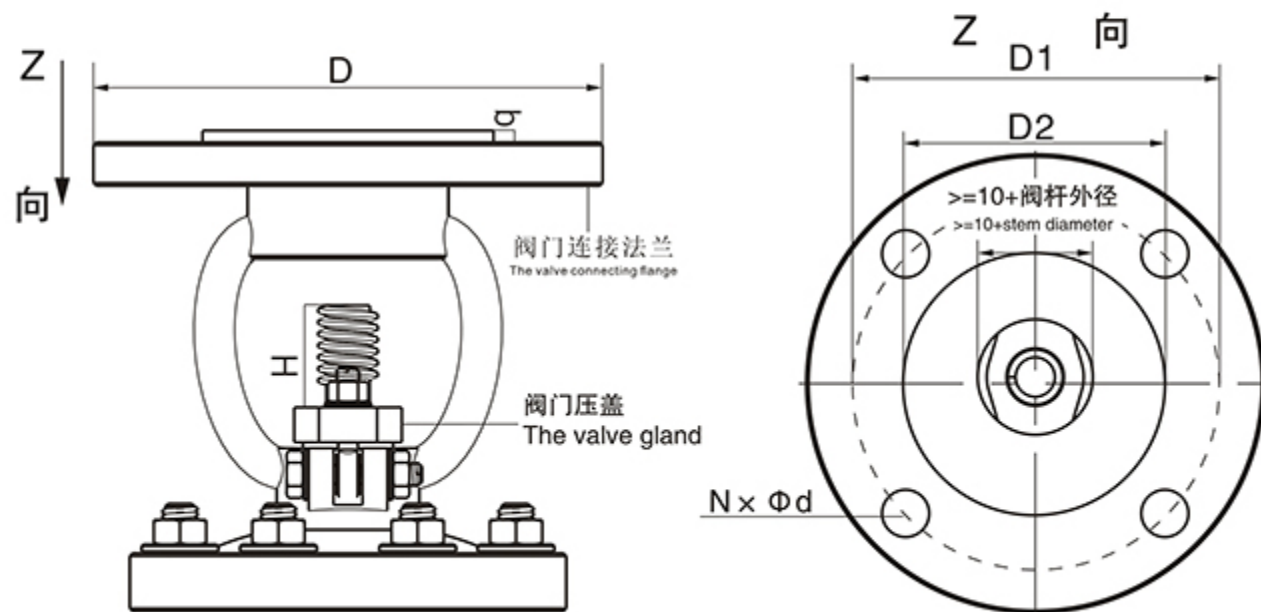


序号 No	名称 Name	材料 Materials
01	下端盖 Lower cover	Q235碳钢 Q235 carbon steel
02	下端盖外O形圈 Outside the lower cover o-ring	丁腈橡胶 Nitrile butadiene rubber
03	下端盖轴承 The bearing	复合材料 Composite materials
04	活塞杆 The piston rod	镀铬碳钢 Chrome-plated carbon steel
05	活塞O形圈 The piston o-rings	丁腈橡胶 Nitrile butadiene rubber
06	活塞轴承 The piston bearing	复合材料 Composite materials
07	活塞杆O形圈 The piston rod o-ring	丁腈橡胶 Nitrile butadiene rubber

序号 No	名称 Name	材料 Materials
08	活塞 The piston	球墨铸铁 Nodular cast iron
09	活塞杆螺母 The piston rod nut	45#碳钢 45 # carbon steel
10	气缸 Cylinder	镀铬碳钢 Chrome-plated carbon steel
11	弹簧 spring	弹簧钢-60Si2Mn Spring steel-60Si2Mn
12	导向杆 Guide bar	镀铬碳钢 Chrome-plated carbon steel
13	上端盖轴承 On the end cover bearing	复合材料 Composite materials
14	上端盖内O形圈 On the end cover o-ring	丁腈橡胶 Nitrile butadiene rubber
15	上端盖外O形圈 On the end cover o-ring	丁腈橡胶 Nitrile butadiene rubber
16	上端盖 On the end cover	Q235碳钢 Q235 carbon steel
17	气缸连接螺丝 Cylinder connecting screws	45#碳钢 45 # carbon steel
18	上行程开关 The switch on	复合材料 Composite materials
19	手动螺纹杆 Manual threaded rod	镀铬碳钢 Chrome-plated carbon steel
20	上支架 On the bracket	Q235碳钢 Q235 carbon steel
21	齿轮箱连接螺丝 Gear box connecting screws	45#碳钢 45 # carbon steel
22	齿轮箱下盖 Gear box under the cover	球墨铸铁 Nodular cast iron
23	手动杆螺母 Manual screw nut	耐磨铜 Wear resistance of copper
24	下推力球轴承 The thrust ball bearings	轴承钢 Bearing steel
25	大园弧锥齿轮 Big garden arc bevel gear	45#碳钢 45 # carbon steel
26	上推力球轴承 The thrust ball bearings	轴承钢 Bearing steel
27	齿轮箱体 Gear box body	球墨铸铁 Nodular cast iron
28	分离销 The separation of pin	镀铬碳钢 Chrome-plated carbon steel
29	上封盖 On the block	Q235碳钢 Q235 carbon steel
30	园锥滚子轴承 Cone roller bearing	轴承钢 Bearing steel
31	小园弧锥齿轮轴 Small garden arc bevel gear shaft	45#碳钢 45 # carbon steel
32	轴承座 bearing	45#碳钢 45 # carbon steel
33	轴承盖 Bearing cover	45#碳钢 45 # carbon steel
34	弧锥轴连接螺丝 Arc cone axis connecting screws	45#碳钢 45 # carbon steel
35	手轮连接螺丝 The handwheel connection screws	45#碳钢 45 # carbon steel
36	手轮 The handwheel	Q235碳钢 Q235 carbon steel

◆ 阀门连接尺寸 The valve connection size

TM顶装手动&无手动连接尺寸 Top loading manual & no manual connection size



阀门法兰连接尺寸 Valve flange connection size

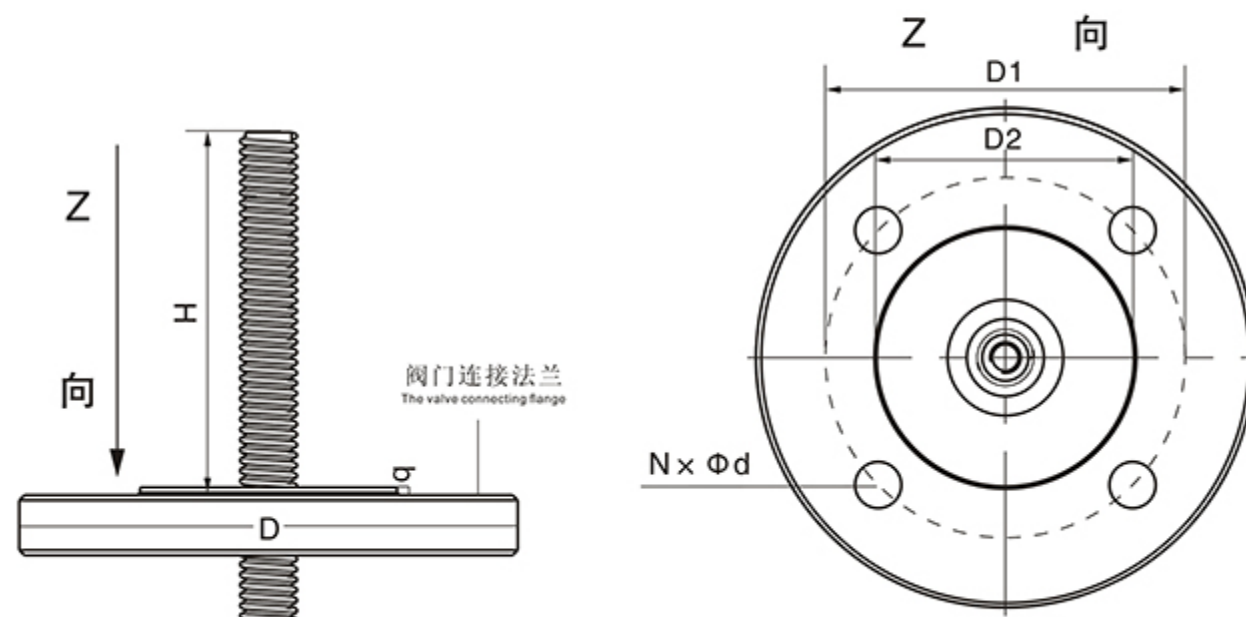
法兰代号 Flange code	D	D1	D2	b	H	N × Φd
F07	90	70	55	3	40	4 × Φ10
F10	125	102	70	3	40	4 × Φ12
F12	150	125	85	3	50	4 × Φ14
F14	175	140	100	4	50	4 × Φ18
F16	210	165	130	5	65	4 × Φ22
F25	300	254	200	5	65	8 × Φ18
F30	350	298	230	5	75	8 × Φ22
F35	415	356	260	5	75	8 × Φ32
F40	475	406	300	8	90	8 × Φ38

备注:

1. 本产品连接尺寸设计符合ISO5211标准。
2. 本产品只适用顶装机构和不带手动机构的气动直行程执行器。
3. 阀杆高度H为伸出阀门压盖高度尺寸。
4. 如与我司连接不符, 请联系我公司技术部。

Note: 1. This product connect with ISO5211 standard size design.
2. This product is only for top loading mechanism and pneumatic straight travel actuators without manual institutions.
3. The stem height H is higher than that of the valve gland height size.
4. If not in conformity with our connection, please contact our technical department.

SM侧装手动机构连接尺寸 SM side manual connection mechanism



阀门法兰连接尺寸 Valve flange connection size

法兰代号 Flange code	D	D1	D2	b	H	N × Φd
F07	90	70	55	3	165	4 × Φ10
F10	125	102	70	3	165	4 × Φ12
F12	150	125	85	3	180	4 × Φ14
F14	175	140	100	4	180	4 × Φ18
F16	210	165	130	5	215	4 × Φ22
F25	300	254	200	5	230	8 × Φ18
F30	350	298	230	5	230	8 × Φ22
F35	415	356	260	5	250	8 × Φ32
F40	475	406	300	8	250	8 × Φ38

备注:

1. 本产品连接尺寸设计符合ISO5211标准。
2. 本产品只适用侧装手动机构的气动直行程执行器。
3. 阀杆高度H为伸出阀门连接法兰高度尺寸。
4. 如与我司连接不符, 请联系我公司技术部。

Note: 1. This product connect with ISO5211 standard size design.
2. This product is only for straight side loading manual mechanism of pneumatic actuators.
3. The stem height H is out of the valve connecting flange height size.
4. If not in conformity with our connection, please contact our technical department.

◆安装与使用 Install and use

1. 打开包装箱后要检查产品是否有意外损坏，所配零件是否齐全，特别是经过长时间存放后的产品要全面维护后才可以安装。

2. 在接气管前，应先将将有压气体打开，利用气体的压力清除管内的灰尘及杂物，确保气管的洁净。必须及时地向油雾器中添加润滑油（20#机械油），以保证执行器的润滑。

3. 执行器与阀门安装前应对型号规格，是否与阀门所需的推力要求相符合。要保证执行器输出轴与驱动物（阀门）的输入轴的同轴度。主机的设计人员应根据执行器的特性制订安全操作规程，以保证整个机器的安全运行。在方便的位置安装紧急停车装置，以防万一。

4. 检查与阀门连接的支架法兰相关尺寸是否相符，安装空间是否充足。

5. 在供气管路和气动元件的接口处，不允许有漏气现象，以保证执行器的供气质量。执行器的排气口可安装与其匹配的消音器，但不能完全堵死，否则影响执行器的运转。

6. 使用的压缩空气必须经过过滤，保持清洁、干燥。应经常保持油雾器内有润滑油（L-AN22），并在使用时观察滴油速度是否正常，约3~10滴/min。

7. 安装后要手动操作，核对切换机构工作状态是否与实际相符，防止误操作。切换机构应该很轻松的操作，否则应仔细检查，排除问题。手轮操作时不得用力过大，更不许使用另外的加力工具作用在手动机构上。

8. 手动操作确认无误后再进行气动试用检查。

9. 当器执行运行一年后，应拆开清洗一次，并更换已损零件。检修时，打开执行器添加润滑脂，以保证执行器运转正常。

10. 执行器内部更换密封件，应由专业人员进行。

11. 气动时应搬动手柄，切换成气动状态，使梯形螺母分离，否则内部螺纹锁死，损坏执行器。（见右图）

12. 安装维修、保养时一定要关闭气阀，切断气源，方可进行工作！！！！

1. after open the packing cases to check products for accidental damage, the original parts is complete, especially after long time storage products to comprehensive maintenance after can be installed.

2. before after trachea, should first will have the open pressure gas, use gas pressure pipe of dust and debris, ensure clean the trachea. Add lubricating oil must be in a timely manner to the oil mist detector (20 # machine oil), to ensure the lubrication of actuators.

3. actuators and valve before installation should check specifications, is consistent with valve required thrust requirements to ensure that the actuator output shaft to drive (valves) of the input shaft alignment. Host designers should according to the characteristics of the actuator to make safety operation procedures, to ensure the safe operation of the whole machine ?

4. check whether associated with valve connected bracket flange size, installation space is enough.

5. in the gas supply line and the pneumatic components of outlet, there is no leakage phenomenon, to ensure the quality of actuators of gas supply. Actuators can be installed in the vent matching muffler, but can't completely closed, otherwise affect the turning of the actuator.

6. the use of compressed air must be filtered, keep clean and dry. Should often keep oil mist detector with lubricating oil (L - AN22), and observed when using drip speed is normal, about 3 ~ 10 drops/min.

7. to manual operation after installation, check the switching mechanism is consistent with the actual working status, to prevent wrong operation. Switching mechanism should be very easy operation, otherwise should be carefully check, troubleshooting problems. The handwheel operation shall not be too hard, does not use additional torque tool on the manual institutions.

8. manual operation for pneumatic test check again after confirmed.

9. when execution runs a year later, clean should be open, and changing the spare parts has been damaged. Maintenance, open the actuators add grease to ensure normal actuator.

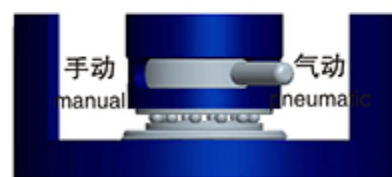
10. actuator internal replacement seals, shall be conducted by professionals.

11. pneumatic should carry handle, pneumatic state, switch to separate the trapezoidal nut, otherwise the internal thread lock, damage the actuator.

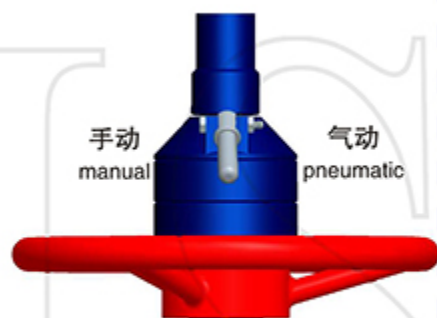
12. installation and maintenance, maintenance must close the valve, to cut off the gas source, may work!!!!



TGM顶装齿轮手动机构
TGM top gear manually



Sm侧装手动机构
SM side loading manual mechanism



Tm顶装手动机构
TM top loading manual

◆维护与保养 Maintenance and maintenance

1. 气动执行器为现场仪表，在运转中的产品应定期进行维护和保养，保证气动阀门处于常年整洁、润滑良好、附件齐全，并正常运转。

2. 气源应保持干燥、清洁、定期对与执行器相应配合使用的空气过滤器进行放水、排污，以免污物进入电磁阀和执行器，影响正常工作。

3. 执行器外部保持清洁无粉尘堆积，执行器应不受水蒸气、水、油污的沾染。气动执行器的密封应良好，各密封面、点应完整牢靠，严密无损。气缸进、排气口接头不允许有损伤，气缸和气源管线的各部位应仔细检查，保证气源压力正常。气源管线不允许有凹陷，保持气源畅通，不得有影响使用性能的泄漏。

4. 电磁阀、气源三联件的气源管路各连接处应完好无损，电器部分的电源信号应无缺相、短路、断路故障，外壳防护接头连接应紧密、严密，防止进水、受潮与灰尘侵蚀，保证电磁阀、阀位回讯器的正常工作。手动操作机构应润滑良好，传动灵活。

5. 对于阀门的各运动部位应定期清洁并加润滑油脂，以免产生磨损和腐蚀。法兰和连接支架上的紧固螺栓不可缺少，螺纹无损伤、松动现象。

6. 阀门填料压盖松紧适当，保证阀杆处无介质泄漏，避免造成阀杆处受填料摩擦力过大、擦伤阀杆密封面等。

7. 气动执行器维护与保养很重要，在正常工作情况下每月检验不少于一次，每年检修一次，只有做到正常维护才能保证气动仪表控制系统处于良好的工作状态。

1. Pneumatic actuators for the field instruments, products should be regular maintenance and maintenance in operation, ensure the neatness of pneumatic valve is in all the year round, good lubrication, the attachment is complete, and the normal operation.

2. The air should be kept dry, clean, regular with actuators with the use of air filter corresponding to water, sewage, lest dirt into the solenoid valve and actuator, affect the normal work.

3. The actuator external clean without dust accumulation, actuators shall not affected by water vapor, water, oil contamination. Pneumatic actuator seal should be good, the sealing surface and point shall be complete, rigorous condition. Cylinder is not permitted in the inlet and outlet joint injury, each part of the cylinder and air pipes should be carefully check, ensure the normal order of the air pressure. Air tube ?

4. The solenoid valve, air source sanlian pieces of air pipe joints shall be intact, the power of the electric appliance part, short circuit, open circuit fault signal should be complete, enclosure protection joint connection should be tight, tight, prevent the erosion of water, be affected with damp be affected with damp and dust, guarantee of solenoid valve, valve position to dispatch work properly. Manual operating mechanism should be good lubrication, flexible transmission.

5. For the movement parts of the valve should be clean and regularly add grease, lest produce wear and corrosion. The bolt flange and bracket on the indispensable, no damage, loose thread.

6. The valve packing gland elastic properly to ensure that the valve stem without medium leakage, avoid to cause stem excessive packing friction, abrasion, valve stem seal face, etc.

7. Maintenance of pneumatic actuator is very important, in the case of normal work inspection of not less than once a month, maintenance once a year, only do normal maintenance to ensure that the pneumatic instrument control system are in good working .

◆故障排除 Troubleshooting

故障现象 The fault phenomenon	检查项目 Check the project	解决方法 The solution
气动执行器不动作 Pneumatic actuators is not action	1.电磁阀是否正常 线圈是否烧坏 阀芯是否被脏物卡死。 2.对执行器单独供气检验，是否正常工作，如气缸串气不正常，拆开执行器检查密封件是否已损坏，气缸内孔表面是否已损坏。 3.手动机构的手柄处于手动位置。 1. The solenoid valve is normal, whether the coil is burnt, valve core is dirt stuck. 2. The actuator gas inspection alone, whether to work properly, such as cylinder mixes up is not normal, apart of board Line check whether the seal is damaged, cylinder bore surface is damaged. 3. Manual institutions handle in the manual position.	1.检查电磁阀的接线、更换线圈、清除脏物。 2.更换已坏密封圈，更换气缸。 3.将手柄扳到气动位置。 1. Check the connection, replace the coil of solenoid valve, remove the dirt. 2. Replace damaged seal ring, replace the cylinder. 3. Pull the lever to pneumatic position.
气动执行器动作迟缓爬行 Pneumatic actuators slow crawling	1.气源压力不够，气源管路堵塞流量过小。 2.执行器推力过小。 3.阀门阀芯或其它阀件装配太紧不合理。 1. Air pressure is not enough, air supply pipe plug flow is too small. 2. The actuator force is too small. 3. The valve core or other valve assembly is too tight is not reasonable.	1.增加气源压力到0.4~0.7MPa范围内，排除堵塞。 2.增大执行器型号规格。 3.重新修理并装配，调整阀门的开启力。 1. Air pressure is increased to 0.4 ~ 0.7 MPa range, eliminate congestion. 2. Increase the perform shape specifications. 3. To repair and assembly and adjustment valve opening force.
回信器无信号 Reply, no signal	1.信号电源线路短路、断路、行程开关损坏。 2.开关位置不正确。 1. The short circuit, open circuit, signal power circuit trip switch is damaged. 2. The switch position is not correct.	1.维修电源线路，更换行程开关 2.重新调整到正确位置。 1. The maintenance of the power supply circuit, replace the travel switch. 2. To adjust to the correct position.

◆ 订货须知 Ordering instructions

1. 请按型号表示方法写明型号, 如特殊要求, 订货时必须说明, 如不说明则按本公司规定提供。
2. 请写明连接尺寸标准, 阀杆螺纹直径及伸出高度, 若连接尺寸与本公司说明书不符, 可与本公司协商解决。
3. 手轮顺时针旋转为关闭阀门, 如与此相反必须说明。
4. 推力型的阀杆螺母螺纹由本公司加工, 请务必提供螺纹的尺寸。
5. 本公司还可按用户要求, 提供其它的气动执行器。
6. 本公司保留对产品外形和尺寸的修改权。

1. Please according to the model representation model, such as special requirements, must show when you order it, if not instructions are provided by our company regulation.
2. Please specify connection size criteria, the valve stem threads diameter and height, if the connection size does not accord with the company specifications, can negotiate with the company.
3. The handwheel clockwise to close the valve, such as the opposite must be specified.
4. Type thrust of stem nut thread processing by this company, please provide the size of the thread.
5. The company also can according to user requirements, provide other pneumatic actuators.
6. The company reserves the right to make changes in the shape and size of product.

◆ 气动对夹式刀型闸阀 Pneumatic clamp type knife gate valve

主要外形连接尺寸 Z673(H.Y.W)-PN10, CLASS150 The main connection size shape

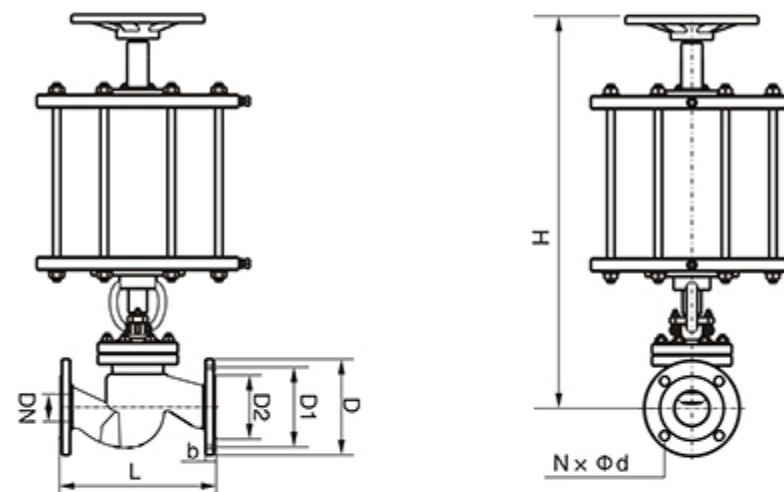


公称口径 Nominal diameter		GB标准外形连接尺寸(PN1.0Mpa) GB standard connection size shape						ANSI标准外形连接尺寸(CLASS150) The ANSI standard connection size shape					
DN	in	L	H	D	D1	D2	N × Φd	L	H	D	D1	D2	N × Φd
50	2	60	335	165	125	100	2 × Φ18 2 × M16	48	330	152	120.5	92	2 × Φ19 2 × M16
65	2 1/2	60	363	185	145	120	2 × Φ18 2 × M16	48	360	178	139.5	105	2 × Φ19 2 × M16
80	3	60	395	200	160	135	2 × Φ18 2 × M16	50	390	190	152.5	127	2 × Φ19 2 × M16
100	4	60	465	220	180	155	6 × Φ18 2 × M16	50	460	229	190.5	157	6 × Φ19 2 × M16
125	5	60	530	250	210	185	6 × Φ18 2 × M16	57	520	254	216	186	6 × Φ22 2 × M20
150	6	70	630	285	240	210	6 × Φ23 2 × M20	57	615	279	241.5	216	6 × Φ22 2 × M20
200	8	80	750	340	295	265	6 × Φ23 2 × M20	70	750	343	298.5	270	6 × Φ22 2 × M20
250	10	86	900	395	350	320	8 × Φ23 4 × M20	70	885	406	362	324	8 × Φ25 4 × M22
300	12	92	1120	445	400	368	8 × Φ23 4 × M20	76	1110	483	432	381	8 × Φ25 4 × M22
350	14	100	1260	505	480	428	10 × Φ23 6 × M20	76	1250	533	476	413	8 × Φ29 4 × M27
400	16	120	1450	565	515	482	10 × Φ25 6 × M22	89	1450	597	540	470	12 × Φ29 4 × M27
450	18	125	1600	615	565	532	14 × Φ25 6 × M22	89	1590	635	578	533	12 × Φ32 4 × M30
500	20	130	1800	670	620	585	14 × Φ25 6 × M22	114	1780	699	635	584	14 × Φ32 6 × M30
600	24	130	2300	780	725	685	14 × Φ30 6 × M27	114	2200	813	749.5	692	14 × Φ35 6 × M33

注: 以上H高度数据仅供参考, 以实物为准。Note: H height above data are for reference only, in kind prevail.

◆ 气动钢制国标截止阀 Pneumatic steel national standard globe valve

主要外形连接尺寸 The main connection size shape Z641~45(H.Y.W.F.N)-PN16~25



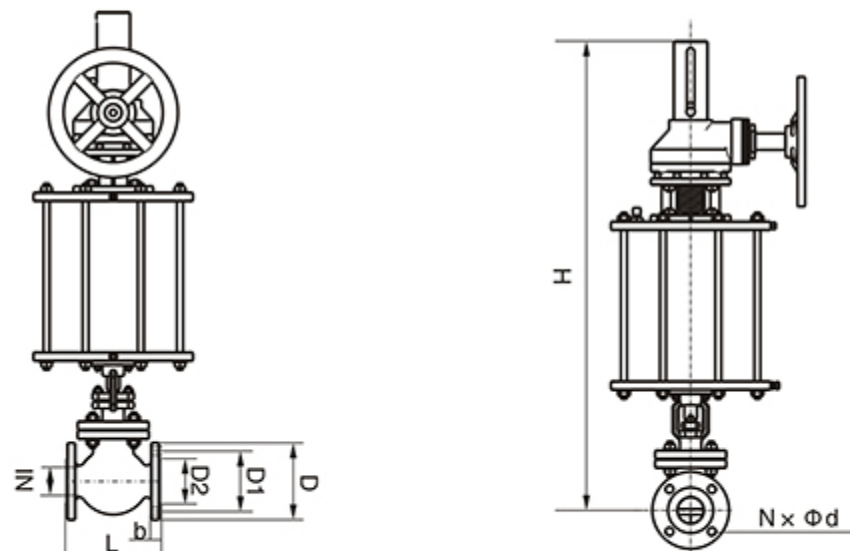
TM单作用顶装手动机构
 TM single-acting top hand institutions

公称口径 Nominal diameter		GB标准外形连接尺寸 GB standard connection size shape(PN16)						
DN	IN	L	D	D1	D2	b	H	N × Φd
15	1/2	130	95	65	45	14	445	4 × Φ14
20	3/4	150	105	75	55	14	503	4 × Φ14
25	1	160	115	85	65	14	525	4 × Φ14
32	1 1/4	180	135	100	78	15	560	4 × Φ18
40	1 1/2	200	145	110	85	16	600	4 × Φ18
50	2	230	160	125	100	16	620	4 × Φ18
65	2 1/2	290	180	145	120	18	680	4 × Φ18
80	3	310	195	160	135	20	760	8 × Φ18
100	4	350	215	180	155	20	830	8 × Φ18
125	5	400	245	210	185	22	890	8 × Φ18
150	6	480	280	240	210	24	915	8 × Φ23
200	8	600	335	295	265	26	1080	12 × Φ23

公称口径 Nominal diameter		GB标准外形连接尺寸 GB standard connection size shape(PN16)						
DN	IN	L	D	D1	D2	b	H	N × Φd
15	1/2	130	95	65	45	16	485	4 × Φ14
20	3/4	150	105	75	55	16	543	4 × Φ14
25	1	160	115	85	65	16	553	4 × Φ14
32	1 1/4	180	135	100	78	18	590	4 × Φ18
40	1 1/2	200	145	110	85	18	622	4 × Φ18
50	2	230	160	125	100	20	655	4 × Φ18
65	2 1/2	290	180	145	120	22	705	8 × Φ18
80	3	310	195	160	135	22	790	8 × Φ18
100	4	350	230	190	160	24	860	8 × Φ23
125	5	400	270	220	188	28	960	8 × Φ23
150	6	480	300	250	218	30	980	8 × Φ23
200	8	600	360	310	278	34	1140	12 × Φ25

注: 以上H高度数据仅供参考, 以实物为准。Note: H height above data are for reference only, in kind prevail.

◆气动钢制美标截止阀 Pneumatic steel globe valve American standard
ANSI标准外形连接尺寸 The ANSI standard connection size shape Z641~45CLASS150~300Lb



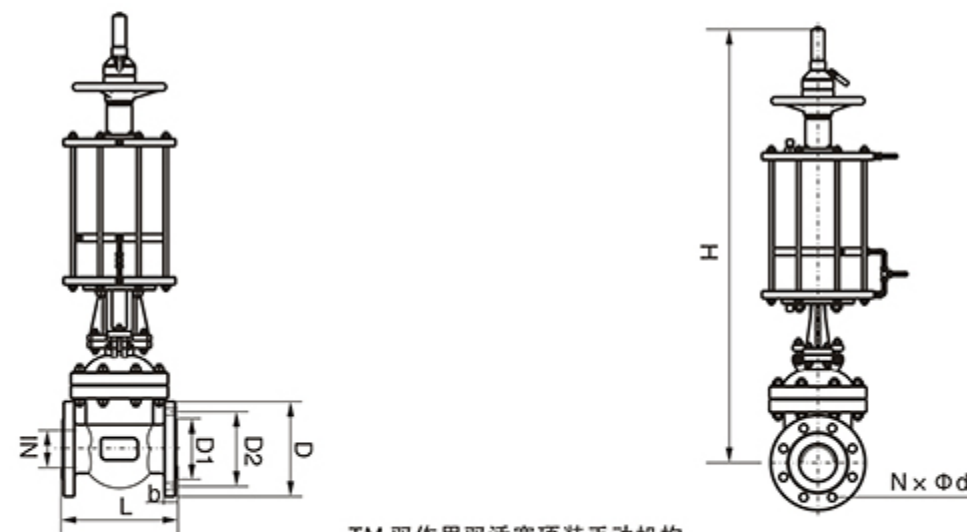
TGM 单作用顶装齿轮手动机构
TGM single-acting top gear hand

公称通径 Nominal diameter		ANSI标准外形连接尺寸 The ANSI standard connection size shape (CLASS150Lb)						
IN	DN	L	D	D1	D2	b	H	N × Φd
1 1/2	40	165	127	98.5	73	15	771	4 × Φ15
2	50	203	152	120.5	92	16	903	4 × Φ19
2 1/2	65	216	178	139.5	105	18	932	4 × Φ19
3	80	241	190	152.5	127	19	966	4 × Φ19
4	100	292	229	190.5	157	24	990	8 × Φ19
5	125	356	254	216	186	24	1075	8 × Φ22
6	150	406	279	241.5	216	26	1196	8 × Φ22
8	200	495	340	298.5	270	29	1361	8 × Φ22
10	250	622	406	362	324	31	1530	12 × Φ25
12	300	698	483	432	381	32	2051	12 × Φ25
14	350	737	533	476.5	413	35	2310	12 × Φ29
16	400	814	597	534.5	470	37	2525	16 × Φ29

公称通径 Nominal diameter		ANSI标准外形连接尺寸 The ANSI standard connection size shape (CLASS300Lb)						
IN	DN	L	D	D1	D2	b	H	N × Φd
1 1/2	40	229	156	114.3	73	21	827	4 × Φ22
2	50	267	165	127	92	23	954	8 × Φ19
2 1/2	65	292	190	149	105	26	1003	8 × Φ22
3	80	318	210	168.5	127	29	1039	8 × Φ22
4	100	356	254	200	157	32	1130	8 × Φ22
5	125	400	279	235	186	35	1254	8 × Φ22
6	150	444	318	270	216	37	1392	12 × Φ22
8	200	559	381	330	270	42	1660	12 × Φ25
10	250	622	444	387.5	324	47.7	1762	16 × Φ29
12	300	711	521	451	381	50.8	2071	16 × Φ32
14	350	762	584	514.5	413	54	2330	20 × Φ32
16	400	864	648	571.5	470	57.2	2545	20 × Φ35

注：以上H高度数据仅供参考，以实物为准。Note: H height above data are for reference only, in kind prevail.

◆气动钢制美标闸阀 Pneumatic steel gate valve American standard
主要外形连接尺寸 The main connection size shape Z640~44(H.Y.F.W)--CLASS150~300Lb



TM 双作用双活塞顶装手动机构
TM double-acting piston top with manual institutions

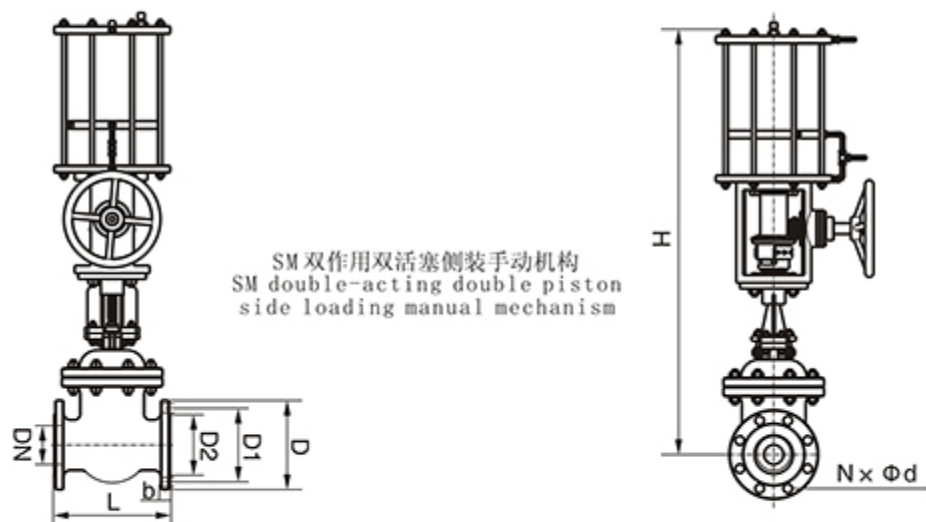
公称通径 Nominal diameter		ANSI标准外形连接尺寸 The ANSI standard connection size shape (CLASS150Lb)						
IN	DN	L	D	D1	D2	b	H	N × Φd
2	50	178	152	120.5	92	16	718	4 × Φ19
2 1/2	65	190	178	139.5	105	18	787	4 × Φ19
3	80	203	190	152.5	127	19	868	8 × Φ19
4	100	229	229	190.5	157	24	987	8 × Φ22
5	125	254	254	216	186	24	1152	8 × Φ22
6	150	267	279	241.5	216	26	1355	8 × Φ22
8	200	292	343	298.5	270	29	1632	12 × Φ25
10	250	330	406	362	324	31	1915	12 × Φ25
12	300	356	483	432	381	32	2260	12 × Φ29
14	350	381	533	476	413	35	2625	16 × Φ29
16	400	406	579	540	470	37	2925	20 × Φ32
20	500	457	698	635	584	43	3639	20 × Φ35
24	600	508	813	749.5	692	48	4325	20 × Φ35

公称通径 Nominal diameter		ANSI标准外形连接尺寸 The ANSI standard connection size shape (CLASS300Lb)						
IN	DN	L	D	D1	D2	b	H	N × Φd
2	50	216	165	127	92	22	718	8 × Φ19
2 1/2	65	241	190	149	105	25	787	8 × Φ22
3	80	283	210	168.5	127	29	868	8 × Φ22
4	100	305	254	200	157	32	987	8 × Φ22
5	125	381	279	235	186	35	1152	8 × Φ22
6	150	403	318	270	216	37	1355	12 × Φ22
8	200	419	381	330	270	41	1632	12 × Φ25
10	250	457	444	387.5	324	48	1915	16 × Φ29
12	300	502	521	451	381	51	2260	16 × Φ32
14	350	762	584	514.5	413	54	2625	20 × Φ32
16	400	838	648	571.5	470	57	2925	20 × Φ35
20	500	991	775	686	584	64	3639	24 × Φ35
24	600	1143	914	813	692	70	4325	24 × Φ41

注：以上H高度数据仅供参考，以实物为准。Note: H height above data are for reference only, in kind prevail.

◆气动钢制国标闸阀 Pneumatic steel gb gate valves

主要外形连接尺寸 The main connection size shape Z640~44(H.Y.F.W)--PN16~25



公称口径 Nominal diameter		GB标准外形连接尺寸 GB standard connection size shape(PN16)							
DN	IN	L	D	D1	D2	b	H	N×Φd	
50	2	250	160	125	100	16	803	4×Φ18	
65	2 1/2	265	180	145	120	18	835	4×Φ18	
80	3	280	195	160	135	20	908	8×Φ18	
100	4	300	215	180	155	20	1032	8×Φ18	
125	5	325	245	210	185	22	1182	8×Φ18	
150	6	350	280	240	210	24	1316	8×Φ23	
200	8	400	335	295	265	26	1510	12×Φ23	
250	10	450	405	355	320	30	1839	12×Φ25	
300	12	500	460	410	375	30	2072	12×Φ25	
350	14	550	520	470	435	34	2290	16×Φ25	
400	16	600	580	525	485	36	2522	16×Φ30	
500	20	700	705	650	608	44	2926	20×Φ34	
600	24	800	840	770	718	48	3414	20×Φ41	

公称口径 Nominal diameter		GB标准外形连接尺寸 GB standard connection size shape(PN25)							
DN	IN	L	D	D1	D2	b	H	N×Φd	
50	2	250	160	125	100	20	803	4×Φ18	
65	2 1/2	265	180	145	120	22	835	8×Φ18	
80	3	280	195	160	135	22	908	8×Φ18	
100	4	300	230	190	160	24	1032	8×Φ23	
125	5	325	270	220	188	28	1182	8×Φ25	
150	6	350	300	250	218	30	1316	8×Φ25	
200	8	400	360	310	278	34	1510	12×Φ25	
250	10	450	425	370	332	36	1839	12×Φ30	
300	12	500	485	430	390	40	2072	16×Φ30	
350	14	550	550	490	448	44	2290	16×Φ34	
400	16	600	610	550	505	48	2522	16×Φ34	
500	20	700	730	660	610	52	2926	20×Φ41	
600	24	800	840	770	718	56	3414	20×Φ41	

注：以上H高度数据仅供参考，以实物为准。Note: H height above data are for reference only, in kind prevail.

浙江汉姆森自控阀门有限公司经过二十多年的发展，它是以一家专业研究气动、液动、电动自动控制执行器以及各种成套阀门的专业厂家。集研究、开发、生产制造、销售、服务于一体的科技型公司，自成立以来已获得数项国家专利，并率先通过ISO9001国际质量体系认证。产品采用电脑CAD三维设计系统优化设计，不仅外形美观，并且质量可靠。产品大量采用精密加工中心机床CAM制造，确保各部件加工精度。

本公司一贯坚持以“科技创新，开拓进取”的企业宗旨，竭诚为广大用户提供优质满意的售前、售后服务。力求打造全球最大最强自动控制阀门专业企业

Zhejiang Hamusen Automation Instrument Co Ltd; after twenty years of development, it is a professional research pneumatic, hydraulic, electric automatic control valve actuators, and various sets of professional manufacturers. Set research. Development. Manufacturing Sales Service in one of the high-tech company, since its inception has received a number of national patents, and first through the ISO9001 international quality system certification. Products using three-dimensional computer CAD design system optimization design, not only beautiful

appearance and reliable quality. Product extensive use of CAM manufacturing precision machining centers to ensure that all parts machining accuracy.

The company has consistently adhered to the "scientific and technological innovation, pioneering" business purpose and dedication to provide customers with quality sales service. Strive to create the world's largest and most powerful professional enterprise automatic control valves.

