

MANUFACTURING

R+D

TECHNOLOGY

STOCKS ON LINE

Quality ball valves. When you need them, the way you need them.

派克斯阀门公司



> 派克斯阀门集团组织结构/Pekos Valves group structure



集团总部和销售部门位于西班牙巴塞罗那市的Montmeló, 这里是所有销售, 市场营销和物流活动的所在地, 还有一个最先进的全自动化智能仓储中心。

Montmeló - Barcelona (Spain), sales and headquarters with a state of the art warehouse, location of all sales, marketing and logistic activities.

西班牙毕尔巴鄂市 (Bilbao) 是集团的生产与发展中心, 包括制造与机加工, 设计与装配, 研究与发展, 以及检测与质量控制。

Bilbao (Spain), where we develop our production: machining, assembling, testing and R+D.

派克斯阀门集团公司自1988年起开始用Pekos® 这个商标来专门设计与制造球阀, 经多年发展已向造船, 石油与天然气, 石油化工, 能源, 电力, 冶金, 化工等不同工业部门提供了高品质的产品。PEKOS赢得市场的关键因素还括他的快速交货能力。在巴塞罗那和毕尔巴鄂 (Bilbo) 的全自动化智能仓储系统缩短了交货时间, 保证了按时准确地满足客户需求。

Pekos valves, S.A. has been designing and manufacturing ball valves under Pekos® brand name since 1988, catering for a wide range of different industries such as shipbuilding, petrochemical, oil and gas, energy, power plants, chemical etc. Our logistics, refined throughout all these years in the market, allows us to supply our products with short delivery times. The fully automatic warehouses in Barcelona and Bilbao reduce the preparation time of our customers' orders and guarantee their accuracy.

> 公司宗旨/Pekos Valves company philosophy

为市场带来交货时间短, 价格有竞争力, 最重要是高品质长寿命的标准及特殊球阀, 同时由一个完全国际化的团队提供专业化销售和售后服务。

To bring to the market standard and special execution ball valves with short lead times, at competitive price and most importantly long service life. This is combined with dedicated sale and after-sale service by a truly international team.

> 实时库存在线查询/Pekos Valves stocks on line

在我们的网站www. pekos. es, 所有经销商可以在线查询到超过30, 000种不同材质与结构阀门的实时库存情况, 超过1000万欧元的备用库存方便用户选择合适的和能够及时交货的产品。

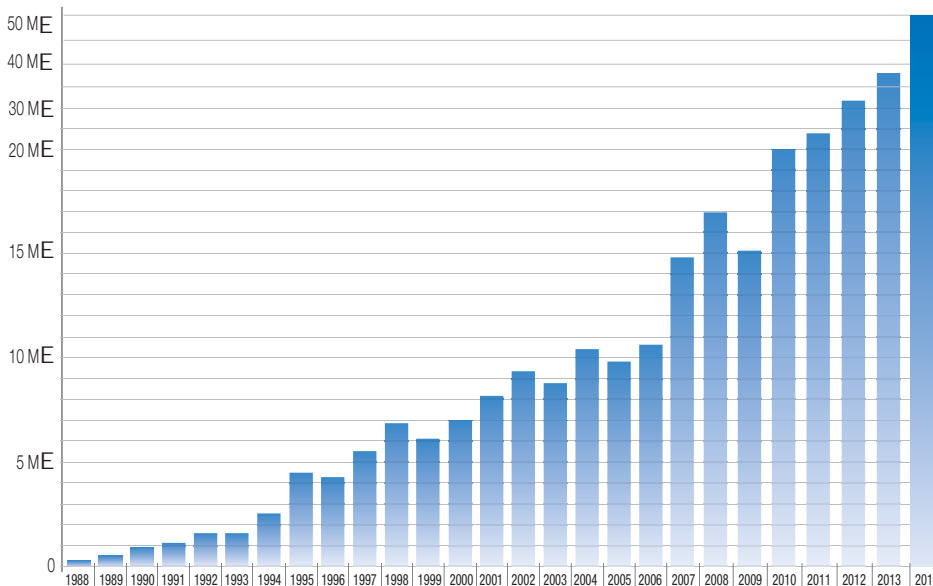
At www.pekos.es all our distributors can check, on line, stock availability, more than 30.000 valves in different materials and configurations, more than 10 million € stock at your service.



> 公司基本信息 /Company basic

公司成立于:1988年
 注册资本+固定资产: 2.900.000 欧元
 公司销售总部和生产区域总面积: 85.000 平方米
 员工人数: 130
 制造能力: 15000 台球阀/月

Group founded in 1988
 Capital + reserves: 2.900.000 €
 Sales headquarters and production facilities: 85.000 m2
 Staff: 130
 Production capacity: 15.000 valves per month



Pekos集团业务的稳定增长源于积极的销售,合格的员工,种类齐全的产品和对硬件,软件 and 研发的有效投入保障了公司顺应工业市场发展的趋势.

The regular growth of the Pekos group from the financial point of view, is the result of a stable increase in sales, qualified staff, range of product and qualified investments in hardware, software and R+D. Always following the industrial market development.

> 主要客户 /Main endusers



- | | |
|--------------------------|------------------------|
| 法国液化空气公司 (AIR LIQUID) | 科威特石油公司 (KUWAIT OIL) |
| 阿克苏诺贝尔公司 (AKZO NOBEL) | 俄罗斯卢克石油公司 (LUKOIL) |
| 沙特阿美公司 (AROMCO) | 伊朗国家石油公司 (NIOC) |
| 巴斯夫公司 (BASF) | 伊朗国家天然气公司 (NIGC) |
| 碧辟公司 (BP) | 奥地利石油天然气集团 (OMV) |
| 汽巴精化公司 (CIBA GEIGY) | 巴西石油公司 (PETROBRAS) |
| 科莱恩化工公司 (CLARIANT) | 马来西亚国家石油公司 (PETRONAS) |
| 中国海洋石油公司 (CNOOC) | 阿曼原油开发公司 (PDO) |
| 中国石油工程建设公司 (CPECC) | 宝洁公司 (P & G) |
| 中国石油天然气管道工程公司 (CPPE) | 卡塔尔石油公司 (QATAR PETRO) |
| 法国克雷威利公司 (CRAY VALLEY) | 西班牙国家石油公司 (REPSOL) |
| 德国萨公司 (DEGUSSA) | 南非沙索公司 (SASOL) |
| 帝斯曼树脂公司 (DSM RESINS) | 壳牌公司 (SHELL) |
| 埃及天然气公司 (EGYPT GAS) | 阿尔及利亚油气公司 (SONATRACH) |
| 埃尔夫石油公司 (ELF) | 阿尔及利亚电力煤气公司 (SONALGAZ) |
| 英国帝国化学工业集团 (ICI) | 比利时苏威集团 (SOLVAY) |
| 日本花王公司 (KAO) | 挪威国家石油公司 (STATOIL) |
| 哈中管道公司 (KAZ-CH PIPELINE) | 法国道达尔石油公司 (TOTAL) |

> 证书与质量控制 /Certificates and quality control

派克斯所有阀门的设计与制造都是按世界上最权威并被广泛接受的国际标准来完成的. 公司全面质量控制系统保证了从原料采购, 机械加工到产品装配, 检测和包装完全符合我们的目标-总是提供超出用户期望值的产品.

All Pekos valves are designed, produced and certified by the most widely accepted international standards. Our total quality control system is designed to assure that every step from material procurement through machining, assembly, testing and packaging meet our main goal - Always exceeding the expectations of our customers.



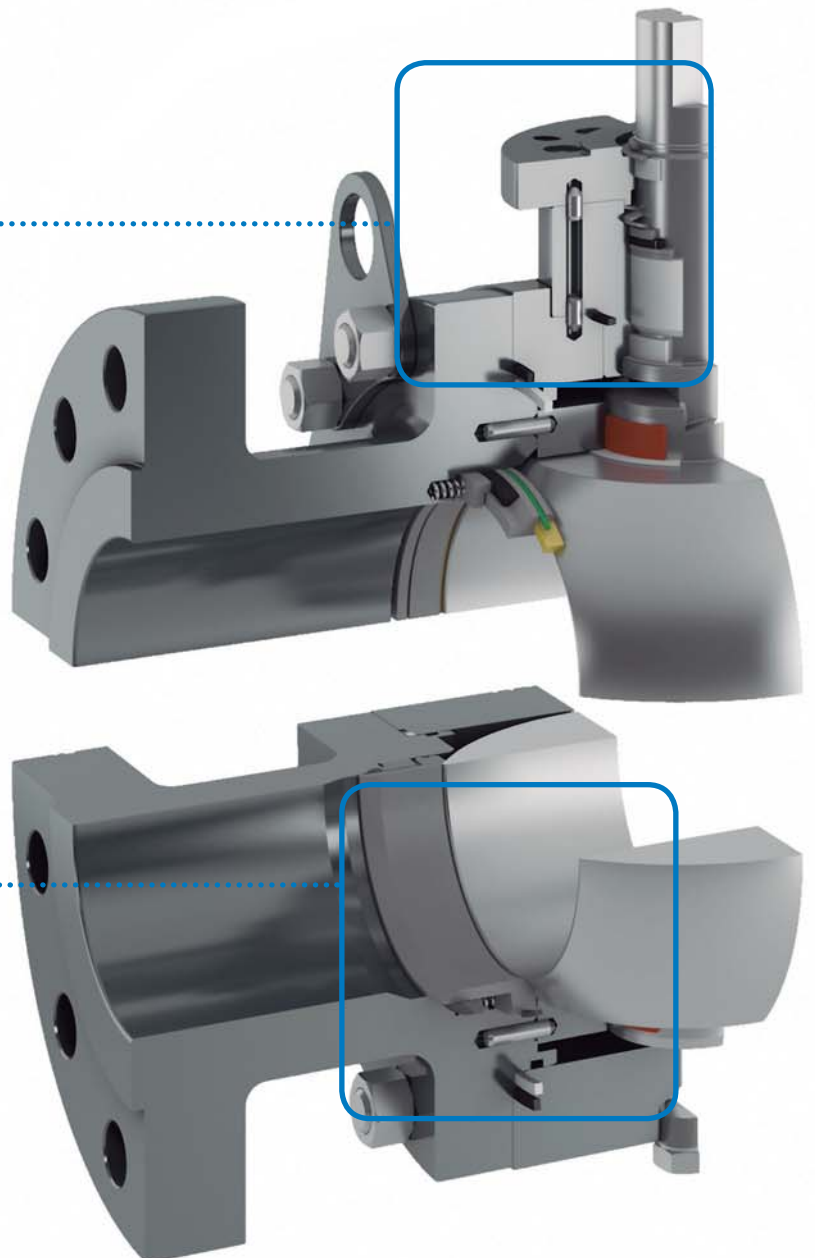
派克斯的产品已经销往全球90多个国家和地区并受到用户的认可, 这表明派克斯公司有实力理解并把握住当前全球市场的需求.

Pekos is supplying to more than 90 countries around the globe since 1988. This wide acceptance is testimony to the company's ability to understand and efficiently respond to the requirements of current global market.

通用设计/General design	官方认证/Official approvals
浮动球/Floating	防火/FIRE SAFE
导向式固定球/Guided	防爆/ATEX
全固定球/Trunnion	清洁空气/TA-Luft & ISO 15848
	压力容器/CE mark (PED/97/23/EC)
阀体结构/Body construction	API 6D
两片式/Split body	SIL 3 安全认证 / IEC 61508 SIL 3
三片式/Three pieces	城市燃气管道/DVGW-13774
一体式/Entry side	紧急切断/EN161 & 23553 (EN264)

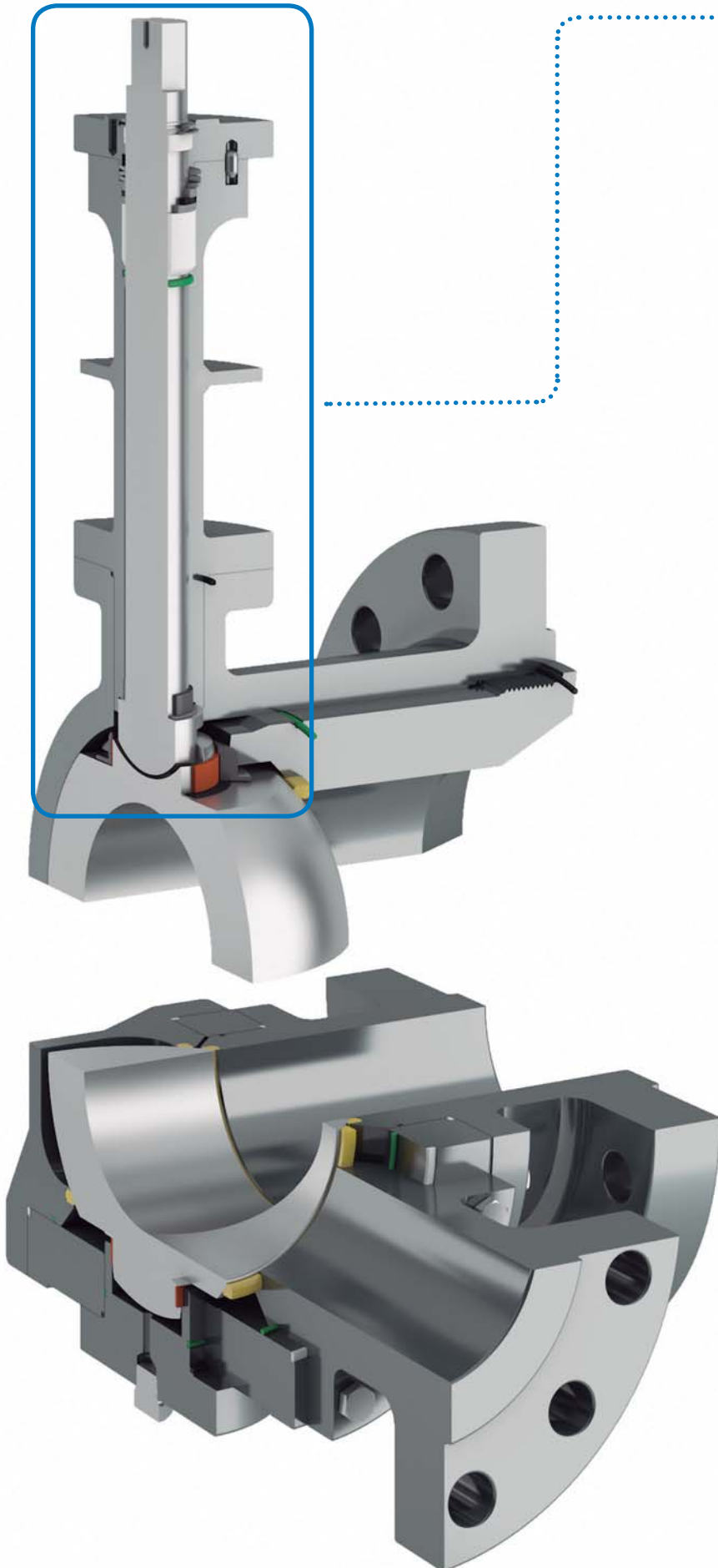
阀杆结构/Stem structure
顶部法兰/ISO 5211
免维护设计/Maintenance free
防火结构/Fire safe device
防吹出/Anti blow out
防静电/Antistatic
锁定装置/Lock device

阀座设计/Seat design
标准型软阀座/Standard soft seat
弹簧加载阀座 (软密封阀座&金属阀座) Spring loaded seat (Soft & Metal seat)
单活塞效应/Simple Piston Effect [SPE]
双活塞效应/Double Piston Effect [DPE]
保护性阀座/Protected seat
刮刀式阀座/Scrapper seat
O型圈金属阀座/Metal seat with O-ring [PMSS]
阀腔泄压/Cavity relief



Pekos 阀门概览和选项

Valve structure & Options



加长阀杆/Stem extension

阀杆类型/Different types

简易型/Simple

标准型/Standard

安全性/Security

深冷型/Cryogenic

阀杆加选项/Available option

双填料系统/Double packing system

逸散探测/Fugitive emission detector

焊接式/Welded

产品范围/Product range

2通,3通和4通(全径/缩径)/2,3 & 4 ways (FB/RB)

口径/Size DN750/30", 压力/Rate PN420/2500#

软密封/Soft seat

硬密封/Metal seat

深冷球阀/Cryogenic -196°C

高温球阀/High temperature +700°C

釜(罐)底阀/Tank bottom

保温夹套球阀/Heating jacket

V型切口控制阀/V-Port for control

对夹式球阀/Wafer

DBB球阀/Double block and bleed(DBB)

加选项/Available options

阀腔填充/Cavity filler

除油脂/Cleaned and Degrease

清管阀/Pigging

单流向/Unidirectional

阀座注脂/Seat sealant injection

阀杆注脂/Stem sealant injection

取样阀/Sampling

浮动球结构球阀 / Floating ball



- From DN 15 - 1/2" to DN 300 - 12" (DIN, ANSI & JIS)
- Full & reduced bore, soft or metal seated, spring loaded seats
- Ratings: PN 10, 16, 25, 40 & 63 or Class 150, 300 & 600
- Material: stainless steels, carbon steels, monel, hastelloy, titanium, incoloy, inconel & others

- 口径: DN 15 - 1/2" 到 DN 300 - 12" (DIN, ANSI 和 JIS)
- 全径和缩径, 软密封或硬密封, 弹簧加载阀座结构
- 压力等级可按PN 10, 16, 25 & 40 或 Class 150, 300 & 600
- 材质可选不锈钢, 碳钢, 蒙乃尔合金, 哈氏合金, 钛材, 英科罗伊和英科内尔等其他特殊合金材料

固定球导向结构球阀 / Guided ball



- From DN 150 - 6" to DN 400 - 16" (DIN, ANSI & JIS)
- Full & reduced bore, soft or metal seated
- Ratings: PN 25 & 40 or Class 150 & 300
- Material: stainless steels, carbon steels, monel, hastelloy, titanium, incoloy, inconel & others

- 口径: DN 150 - 6" 到 DN 400 - 16" (DIN, ANSI 和 JIS)
- 全径和缩径, 软密封或硬密封
- 压力等级可按PN 25 & 40 或 Class 150 & 300
- 材质可选不锈钢, 碳钢, 蒙乃尔合金, 哈氏合金, 钛材, 英科罗伊和英科内尔等其他特殊合金材料



全固定球结构球阀 / Full trunnion

- From DN 50 - 2" to DN 750 - 30" (DIN, ANSI & JIS)
- Full & reduced bore, soft or metal seated, spring loaded seats
- Ratings: PN 10 to PN 420 or Class 150 to 2500
- Material: stainless steels, carbon steels, monel, hastelloy, titanium, incoloy, inconel & others

- 口径: DN 50 - 2" 到 DN 750 - 30" (DIN, ANSI 和 JIS)
- 全径和缩径, 软密封或硬密封, 弹簧加载阀座结构
- 压力等级可从PN 10 到 PN 420 或 Class 150 到 2500
- 材质可选不锈钢, 碳钢, 蒙乃尔合金, 哈氏合金, 钛材, 英科罗伊和英科内尔等其他特殊合金材料



三通和四通球阀 / Three and four way

- From DN 25 - 1" to DN 600 - 24" (DIN, ANSI & JIS)
- L-port, T-port & X-port, soft or metal seated
- Ratings: PN 10 to PN 420 or Class 150 to 2500
- Material: stainless steels, carbon steels, monel, hastelloy, titanium, incoloy, inconel & others

- 口径: DN 25 - 1" 到 DN 600 - 24" (DIN, ANSI 和 JIS)
- T型, L型 和 X型, 软密封或硬密封
- 压力等级可从PN 10 到 PN 420 或 Class 150 到 2500
- 材质可选铸铁, 不锈钢, 碳钢, 蒙乃尔合金, 哈氏合金, 钛材, 英科罗伊和英科内尔等其他特殊合金材料



金属密封球阀 / Metal seated

- From DN 15 - 1/2" to DN 600 - 24" (DIN, ANSI & JIS)
- Ratings: PN 10 to PN 420 or Class 150 to 2500
- 2, 3 & 4 ways, floating, guided & trunnion ball
- Material: stainless steels, carbon steels, monel, hastelloy, titanium, incoloy, inconel & others

- 口径: DN 15 - 1/2" 到 DN 600 - 24" (DIN, ANSI & JIS)
- 压力等级可从PN 10 到 PN 420 或 Class 150 到 2500
- 两通, 三通和四通球阀; 浮动球, 导向球或固定球结构的金属硬密封球阀
- 材质可选铸铁, 不锈钢, 碳钢, 蒙乃尔合金, 哈氏合金, 钛材, 英科罗伊和英科内尔等其他特殊合金材料





高温球阀 / Ball valve for HTF service up to 700°C

- DN 15 -1/2" to DN 600 - 24"
- DIN & ANSI metal seated
- Ratings: PN 10 to PN 420 or Class 150 to Class 2500
- 口径: DN 15 -1/2" 到 DN 600 - 24"
- DIN & ANSI, 金属硬密封阀座
- 压力等级: PN 10 到 PN420 或 Class 150 到 Class 2500



深冷球阀 / Cryogenic -196 °C

- From DN 15 - 1/2" to DN 600 - 24"
- DIN, ANSI & JIS, soft seated or metal seated
- Ratings: PN 16 to PN420 or Class 150 to Class 2500
- 口径: DN 15 -1/2" 到 DN 600 - 24"
- DIN, ANSI & JIS, 软密封或金属硬密封
- 压力等级: PN 16 到 PN 420 或 Class 150 到 Class 2500



罐底阀 / Tank bottom valve

- From DN 40 - 1 1/2" to DN 200 - 8"
- DIN & ANSI, soft seated or metal seated
- Ratings: PN 10 & 16 or Class 150
- Material: stainless steels, carbon steels, monel, hastelloy, incoloy, inconel & special alloys
- 口径: DN 40 -1 1/2" 到 DN 200 - 8"
- DIN & ANSI 软密封或硬密封
- 压力等级: PN 10 & 16 或 Class 150
- 材质可选不锈钢, 碳钢, 蒙乃尔合金, 哈氏合金, 英科罗伊和英科内尔等其他特殊合金材料



对夹式球阀 / Wafer type

- From DN 15 - 1/2" to DN 100 - 4"
- DIN & ANSI, soft seated
- Ratings: PN 16, 25 & 40 & class 150 & 300
- 口径: DN 15 -1/2" 到 DN 100 - 4"
- DIN & ANSI 软密封阀座
- 压力等级: PN 16, 25 & 40 或 Class 150 & 300



保温夹套 / Heating jacket

- All PEKOS valves can be partly or fully jacketed. Jacket connections screwed or flanged
- DN 15 -1/2" to DN750 - 30"
- Material: stainless steel, carbon steel and special alloys
- 所有PEKOS 阀门都可以配半夹式或全夹式保温夹套, 保温夹套连接为螺纹或法兰
- 口径: DN 15 -1/2" 到 DN 750 - 30"
- 材质可选不锈钢, 碳钢或特殊合金



三片式锻造球阀 / Three pieces forged

- From DN 8 - 1/4" to DN 100 - 4"
- 2 & 3 ways, carbon steel and stainless steel, NACE MR 0175
- DIN & ANSI, full and reduced bore; Ends: NPT, BSPP/BSPT, BW, SW, RF
- Ratings: PN 64, 100, 138, 250 & 420 & Class 400, 600, 800, 1500 & 2500
- 口径: DN 15 -1/2" 到 DN 100 - 4"
- 2通和3通, 碳钢和不锈钢, 材质符合NACE MR0175
- DIN & ANSI, 全径或缩径, 连接方式: NPT, BSPP/BSPT, BW, SW, RF等
- 压力等级: PN 64, 100, 138, 250 & 420 或 Class 400, 600, 800, 1500 & 2500

探测与检测设备

DETECTION / TEST DEVICES

限位开关-感应式 / Limit switch - sensor types

SIL安全功能认证

ATEX 认证

局部行程测试 / Partial Stroke Test

定位器 / Positioners

执行机构 / ACTUATORS

气动 / 液动 / 电动

Pneumatic / Hydraulic / Electric

SIL安全功能认证

ATEX认证

行程时间 / Stroking times

控制板类型与要求

CONTROL PANEL TYPES & REQUERIMENTS

SIL安全功能认证

ATEX认证

行程时间 / Stroking times

提供各种控制设计方案

Different control configuration available

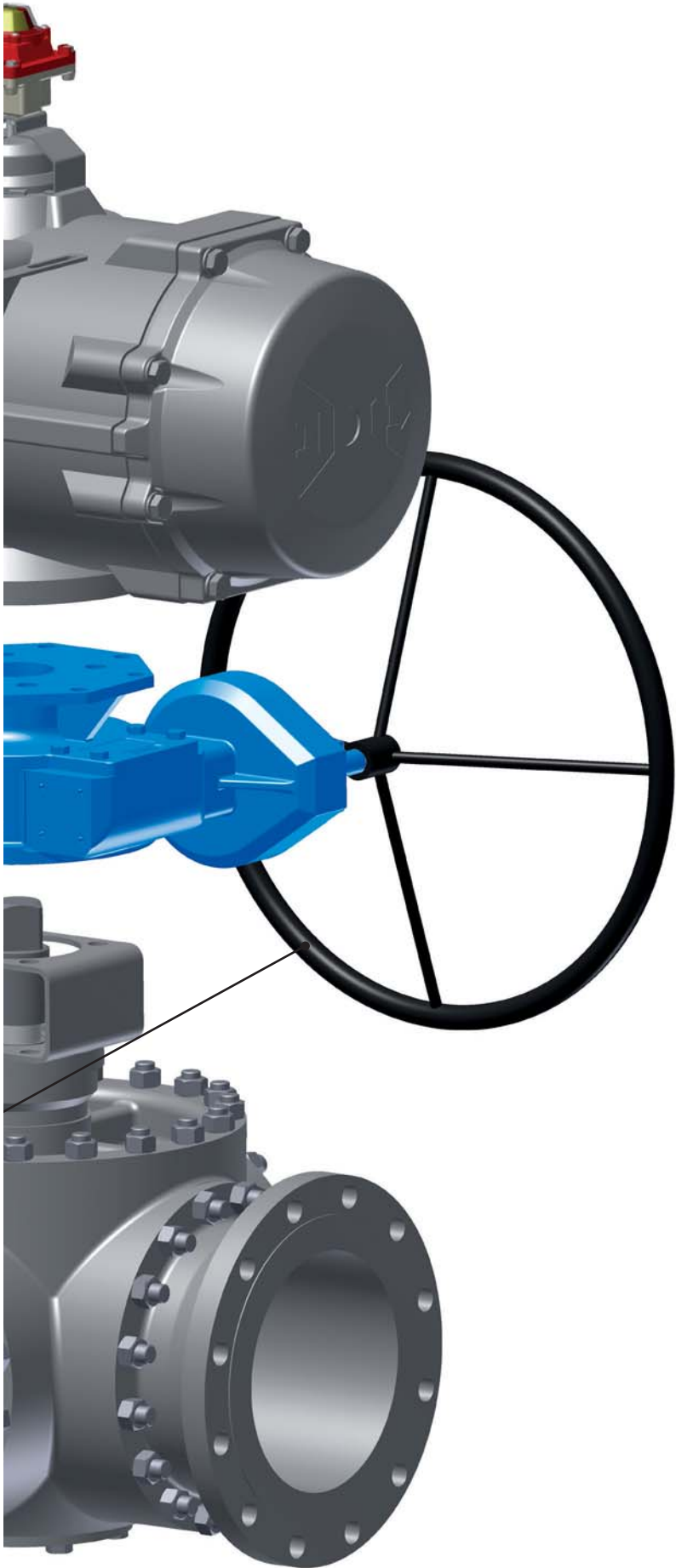
手轮控制箱

MANUAL OVERRIDE



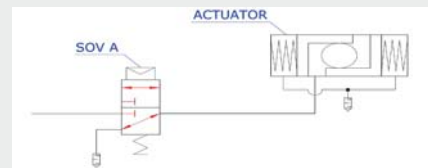
电磁阀配置方案

SOLENOID CONFIGURATION



1001 配置方案/ Configuration

1台电磁阀 / Only 1 solenoid
 3/2 ways-单作用/ Single acting
 5/2 ways, 单稳态/Monostable –双作用/Double acting



电磁阀/ SOV A	执行机构 / ACTUATOR
单作用 / SINGLE ACTING	
ON	OPEN
OFF	CLOSE
双作用 / DOUBLE ACTING	
ON	OPEN
OFF	CLOSE

1002 冗余配置/Redundant configuration

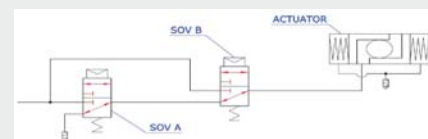
2台电磁阀串联-单作用
 2 solenoids connected in series - single acting
 安全/ SAFETY
 单气路通执行机构/ One air way to reach actuator



电磁阀/SOV A	电磁阀/SOV B	执行机构/ACTUATOR
ON	ON	OPEN
ON	OFF	CLOSE
OFF	ON	CLOSE
OFF	OFF	CLOSE

2002 冗余配置/Redundant configuration

2台电磁阀串联-单作用
 2 solenoids connected in series - single
 有效性/ AVAILABILITY
 双气路通执行机构/ Two air ways to reach actuator



电磁阀/SOV A	电磁阀/SOV B	执行机构/ACTUATOR
ON	ON	OPEN
ON	OFF	OPEN
OFF	ON	OPEN
OFF	OFF	CLOSE

Pekos的阀门自动化部门可以在球阀上集成各种角行程的执行机构,如气动式、液压式、电动式、电液联动式、气液联动式、直接气、旋转叶片式等。

Pekos Valves automation division offers all types of ball valves assembly with varitery rotative actuators like pneumatic, hydraulic, electric, electric hydraulic, gas over oil, direct gas and vane etc..



1. 阀门控制单元-执行机构 / Valves control elements-Actuators

1.1 齿轮齿条式气动执行机构 / Rack & Pinion

- 单作用扭矩到6000 Nm, 双作用扭矩到13000Nm / Single acting up to 6000 Nm. Double acting to 13000Nm
- 0-90° 部分回转和0-180°行程回转 / Part turn in 0-90° and 0-180° rotative
- 结构设计紧凑, 壳体材质为铝合金或不锈钢 / Compact design, aluminum and stainless steel housing
- 装配面标准ISO 5211, 设可配手轮, 齿轮箱 / ISO 5211 valve assembly, override & gear box available
- 相关认证有PED, ATEX, SIL 3, IP67, DNV, GOST and others upon request



1.2 拨叉式气动执行机构 / Scotch Yoke

- 单作用扭矩到30000 Nm, 双作用扭矩到60000Nm / Single act. up to 30000 Nm. Double act. to 60000Nm
- 0-90° 部分回转, 紧凑设计, 碳钢壳体 / Part turn in 0-90°, Compact design, carbon steel housing
- 装配标准ISO5211, 可配手轮, 手泵, 螺旋顶及齿轮箱
- Assembly SO5211, override, hand pump, jack screw & gear box available
- 相关认证有PED, ATEX, SIL 3, DNV and others upon request
- 行程数是EN15714-3 规定最少行程的两倍 / Double of the min num. of the cycle specified in EN15714-3



1.3 电动执行机构 / Electric Actuator

- 控制方式: 就地或远程指令 / Control: local or remote commands.
- 动力单元: 电机 / Power unit: electric motor. 24Vdc/230Vac/400Vac.
- 0°-90°角行程, 0° - 180°元多回转 / Quarter turn 0°-90°. Others: 0° - 180°, multiturn.
- 装配面标准ISO 5211, 可配手轮 / ISO 5211 valve assembly, override available
- 相关认证有ATEX, SIL 3, HART and others upon request
- 相扭矩值范围与气动执行机构相同 / Torque values like pneumatic actuators



1.4 液压执行机构 / Hydraulic Actuator

- 弹簧复位式和双作用式, 操作压力可到250bar / Spring return & double acting, Operating pressure up to 250 bar.
- 0°-90°角行程, 铸铁壳体 / Quarter turn 0°-90°, housing in nodular ductile iron.
- 装配标准 ISO5211 & DIN3337, 可配手轮 / ISO5211 & DIN3337 valve assemb., override available
- 相关认证有ATEX, SIL 3, PED, IP67M and others upon request
- 扭矩值范围与气动执行机构相同 / Torque values like pneumatic actuators

1.5 气液联动执行机构 / Gas Over Oil

- 拨叉式和齿轮齿条双作用执行机构 / Scotch yoke and rack & pinion double-acting actuators
- 0°-90°角行程, 操作压力可到105bar / Quarter turn 0°-90°, operating pressure up 105bar,
- 一体化的气动和液动管路控制 / Integrating manifold for gas and hydraulic control
- 配有PED或ASME 认证的气液罐以及供气储罐
- PED or ASME approved gas-over-oil tanks, power gas storage tanks
- 相关认证有CE, ATEX, IP66/67M, 可配手动泵用于紧急工况或就地操作
- Manual hand pump for emergency or local operation
- 扭矩值范围与气动执行机构相同 / Torque values like pneumatic actuators

1.6. 阀门控制单元-电液联动执行机构 / Valves control elements -Electric hydraulic



- 单作用和双作用执行机构 / Single acting & double acting actuators
- 可选齿轮齿条式或拨叉式结构 / Rack & pinion and Scotch yoke available
- 控制方式:就地或远程,有自保功能/ Control: local or remote commands,with self-shielded function
- 0°-90°角行程,可开关和连续位置输出 / Quarter turn 0°-90°, open/close and regulating function.
- 认证有ATEX, SIL3 and others upon request
- 相扭矩值范围与气动执行机构相同 / Torque values like pneumatic actuators

2. 阀门控制单元-定位器 / Valves control elements -Positioner



- 派克斯阀门提供各种定位器用于流量调节和控制压力降避免管道压力在阀门关闭时过大
Pekos valves supplies universal positioners that are for flow regulation or controlling the drop pressure to avoid over pressure inside the pipe line when the valve close.
- 气动控制信号3-15 psi, 低压 / Pneumatic Control signals 3-15 psi range, low pressure
- 电气控制信号4-20 mA / Electro control signals 4-20 mA
- 认证有ATEX, SIL3, HART and others upon request

3. 阀门控制单元-电磁阀 / Valves control elements -Solenoid valve



- 派克斯提供种类齐全的电磁阀可以直接或接管安装在单作用和双作用的执行机构上
包括三位两通和五位两通可相互转换的电磁阀
Pekos offers a complete range of solenoid valves which mount directly or piped onto single acting and double acting actuators, including 3/2 - 5/2 combination.
- 阀体有不锈钢, 黄铜或铝合金, 有不同尺寸的接口口径和密封材料可选
Alumin., brass and stainless steel body, different orifice sizes and seal materials
- 电气参数直流 ζ -24VDC, 交流12 ζ -2 ζ OVAC, 可选低功耗型
Electric supply for 6-24VDC and 125-250VAC, optional for Low power consumption
- 相关认证CE, ATEX, FM, UL, SIL3, IP67 and others upon request

4. 阀门控制单元-回讯器 / Valves control elements -Position indicator

- 阀门位置回讯器安装在执行机构上反馈0° - 90°开关位置信号, 位置在0° - 360°间可调
Positon indicator assembling on the actuator top reports valve position Open/Close signal 0° - 90°, rotary position adjustable from 0° to 360°.
- 壳体材质有尼龙类和聚碳酸酯类的工程塑料, 铝合金和不锈钢材质可选
Verstamid, Makrolan, aluminum & stainless steel body
- 内置传感器类型有机械式, 磁力式, 电感式和气动式可选
Sensor types: mechanical / magnetic / inductive / pneumatic
- 相关认证CE, ATEX, NEPSI, IP67 and others upon request

5. 阀门控制单元-过滤减压阀器及其他附件 / Valves control elements -Filter regulator



- 过滤调压阀用于气路清洁和压力的调节, 根据工况要求可选不锈钢, 铝合金或锌合金壳体
流量表也可一体化安装. 按流量要求选用不同大小的接口. 可选自排和手排形式.
Filter regulator supports air filtering and pressure regulating for in & outlet of actuator;
Stainless steel, aluminum and zinc body, integrated gauge, different port sizes according to flow requirument, auto drain or manual drain.
- 其他附件: 气动阀, 放大阀, 快排阀, 压力开关, 泄放阀, 热熔丝, 止回阀, 锁定阀等.
Other parts: pneumatic valves, booster, quick exhaust, press. switch, relief valve, thermal fuse, check valve & look up valve etc..

6. 阀门控制单元-紧急手轮 / Valves control elements -Emergency override

- 手动操作轮是为在紧急工况下通过手动操作来实现控制阀门的目的而安装的, 齿轮齿条式执行机构的手轮安装在阀门和执行机构之间, 拨叉式执行机构则由生产厂将手轮一体化设计在执行机构上
The purpose is providing a manual valve control for critical operating situation. For rack & pinion actuator, it is assembled between the actuator and the valve; for Scotch Yoke actuator are integrated inside the actuator by the manufacturer.

■ K-MASS® 被动防火罩/ Passive fire protection

K-Mass® 防火保护罩直接安装在有防火要求的部件, 可长期固定, 可满足内部部件的任何维护要求

K-Mass® is applied directly over all external surfaces of the parts which are going to be protected against the fire. The coating is fixed to the surfaces permanently. This protection systems allows to perform any kind of maintenance operations.



K-Cab 阀门控制单元防火箱
K-Cabhousing control set protection



■ K-GUARD® 防火模块系统 / Modular system

K-Guard® 模块系统有两部分, 由100%的K-Mass按设备外形制成并尽量减少被保护件之间隙, 满足维护要求
The modular system K-GUARD® consists of two parts which cover and protect the equipment. Both parts are made 100% of K-MASS® and are adapted to the external shape of the equipment, reducing all the possible gaps between protected parts and K-MASS®. K-GUARD allows to perform any kind of maintenance.

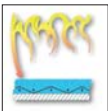


■ 通用标准要求 / General standard requirement

防火保护罩按UL-1709提供, 标准要求1093°C/2000°F 的火焰中耐受30分钟后能够保持工作运行状态
Passive fire protection according to UL-1709, protect parts at 1093°C/2000°F during 30 minutes.

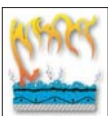
Result: after the test, the protected parts must be operative and will keep its operational features

起火状态时 / As the fire starts:



防护罩涂层在85.6°C时开始起化学膨胀反应并蒸发引发表面冷却效应, 外层面开始烧焦。
K-Mass® starts to react at 85.6°C. A chemical process causes the coating to expand (intumesce). Evaporation on the surface then takes place which also has a cooling effect. The outside surface then starts to char

燃烧状态中 / During the fire:



外层烧焦面进一步深化并回馈80-90% 的热量给火焰, 更多的膨胀反应形成隔断绝缘层和冷却效应
The surface char deepens reflecting 80-90% of the heat back into the fire. More intumescing takes place which forms a barrier which both insulates and has a cooling effect

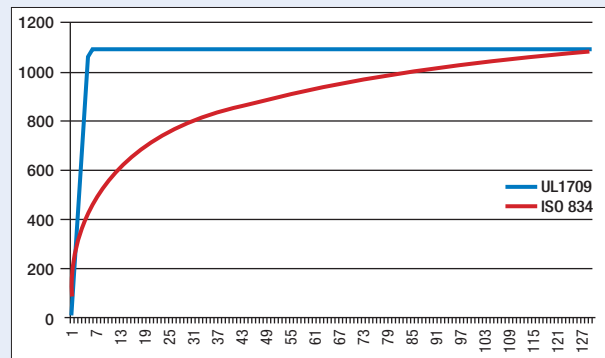
长时间燃烧状态 / Long term exposure:



在1093°C热量会穿透第一层, 底层开始发生反应并重复前面的过程。底层反应一直发生到火被熄灭或材料烧尽
The 1093°C heat will penetrate the first layer so that the K-Mass® below will start to react. The next layer reacts as before. The layers react until the fire is extinguished or the material is consumed

为什么是UL-1709 / WHY UL-1709

UL-1709是真实的石油化工大火模拟, 在极短时间内达到极高温
UL-1709 shows the real behaviour of a petrochemical fire
The fire reaches extremely high temperatures in a very short period of time

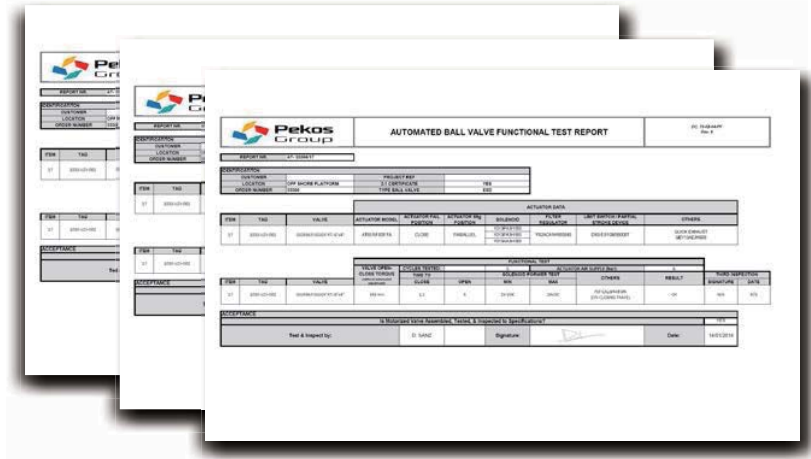


石油化工大火(UL-1709) 对比纤维素大火(ISO 834)
Petrochemical fire behavior (UL-1709) vs. cellulose fire behavior (ISO 834)

按客户要求对阀门选型与自动化装配
Valve sizing and automation, based on customer's requirements according to:

- 冗余方式控制
Redundant configuration control
- ATEX 和SIL分级认证
ATEX/SIL/ Classification
- 符合相关应用的国际标准
International standards for specific applications
- 被动防火保护
Passive Fire Protection
- 局部行程测试
Partial Stroke Test devices
- 紧急备用储罐选型
Air tank sizing for emergency operating
- 功能检测报告
Functional test report

我们为在工厂检测的所有阀门出具证书
We certify that all valves are factory tested

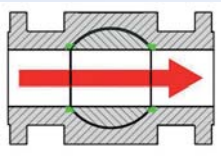


功能检测报告表 / Functional Test Report Sheet

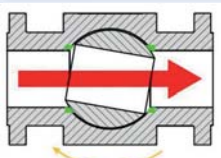


局部行程测试 / PST Partial Stroke Test

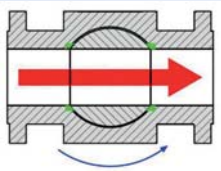
安全防护的非介入式检测 / Non-intrusive test for safety prevention



1° stage
阀门在工作位置
Valve in working position



2° stage
局部行程测试转动10%
PST operation (PST set point achieved) 10% rotation.



3° stage
阀门复位到工作位置
valve back to working position (non-emergency situation)

通过局部行程测试达到或维持系统所要求的SIL安全等级
The PST allow us to reach and maintain the required system's SIL level



本地控制模式
由电磁阀做手动局部行程测试
Local Control Mode
Manual PST via Solenoid



远程控制模式
智能定位器,通讯协议 (HART, PROFIBUS等)
Remote Control Mode
Smart positioner
Communication Protocol (HART, PROFIBUS, etc.)

紧急切断阀-阀门自控典型案例

TYPICAL VALVES AUTOMATION - ESD VALVE

紧急切断阀, 又称 *ESV, ESD* 或 *ESDV* 阀是一种控制阀, 在探测到危险事件时用来阻断危险介质流出或烃类气体的外泄, 是处置错误反应的最后防御。紧急切断阀是安全设备功能的一部分, 由过程控制系统控制。紧急切断阀要求具有更加可靠的安全性能, 被标识为安全设备的安全完整性等级认证 SIL。派克斯公司的整个阀门产品体系都有 SIL 3 安全功能等级认证, 保障了所要求的高品质安全性能。

Emergency shutdown valve, ESV, ESD, or ESDV, is an actuated valve designed to stop the flow of a hazardous fluid or external hydrocarbons gases upon the detection of a dangerous event. ESD valve is a part of safety instrument function and controlled by the PCS. ESD valves require much more reliable safety performance which is dictated by the Safety Integrity Level (SIL), Pekos all series valve are approved with SIL 3 and capable of providing the required level of safety performance.



除了标准控制单元之外, 储气罐被用于紧急切断阀以防止现场气源失气的紧急事件, 另外执行机构选型要严格要求安全余量, 考虑到快速的切断时间, 其他仪表如放大阀, 快排阀, 气控阀也一定会被用到, 所有自动化元件都需要考虑流量, 包括配管和接头。

Beside the standard control elements, volume tanks are specified for emergency function in cause of supply air failure; strict safety margin in actuator sizing is also requested; because of faster operating time, additional elements like booster valve quick-exhaust valve, air operated valve must be used, all automation components must be considered to have enough capacity for air flow, includ. tubing an fitting.

部分行程测试 PST 是对紧急切断阀工作状态的诊断性测试, 能够协助确定其安全功能在需要时能够实现, 这种在线进行的自动化测试能够确定紧急切断阀部分故障类型。

The PST is a diagnostic test intended for ESD valves and assist in determining hat the safety function will operate on demand. An automated online test that will detect a percentage of the possible failure modes of the ESD.

PEKOS 紧急切断阀设计案例 10o2

PEKOS ESD SAMPLE CONFIGURATION 10o2

派克斯金属硬密封球阀 6" 2500# / Pekos ZGKMS254 CGGG 2500# 6" ball valve

执行机构与故障位置 / Actuator & air fail: Air Torque 1001US10 & FC

执行机构扭矩 / Actuator torques (Nm): BTO=4949; ETO=3389; BTC=4949; ETC=3390

阀门关闭时间 / Closing time: 2.5 sec (air supply 5bar, valve with 0 bar shut off press.)

放大阀流量值 / Booster Cv: 7.5 (Inlet air), 8.8 (outlet air)

环境温度 / Ambient temperature limitation: -30°C up to +60°C (-50°C capable)

设备防爆区域 / Equipment hazardous location: II2GD

防爆认证 / Electrical devices ATEX: II2GD, Ex d IIC T6, Ex tb IIIC T130°C Db, IP66

10o2 设计是紧急切断的典型应用, 它保障当一个电磁阀失效时保留原位, 阀门则退回到安全位置。这是一个安全仪表系统的最终控制单元并与部分行程测试设备兼容

The 10o2 configuration is the typical for ESD valves and guaranties if one solenoid has a functional fail, it keeps the position, the valve returns at its safety position. It is a final control element of SIS, and also compatible with a PST* device*

PEKOS 紧急切断阀设计案例 20o2

PEKOS ESD SAMPLE CONFIGURATION 20o2

派克斯3通固定球阀 10" 150# / PEKOS 3 way ball valve: GS86 SGSGV 10", Class 150

执行机构及故障位置 / Actuator: Air Torque actuator AT801U S12. Air fail: close

执行机构扭矩 / Actuator Torques (Nm): BTC=3198; ETO=2434; BTO=2971; ETC=2207

放大阀流量值 / Booster Cv: 5.2 气源压力 / Air Supply: 6 bar

手轮机构 / Declutchable: Rotork Gears ILG/S 1950/SP4

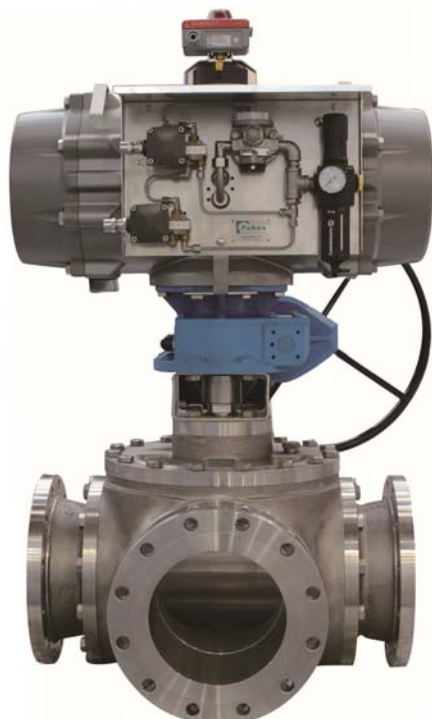
设备所在危险区域 / Equipment hazardous location: II2G

电气设备防爆类型 / Electrical devices ATEX: II2G Ex d IIB T6, II2G Ex d mb IIC T4/T6

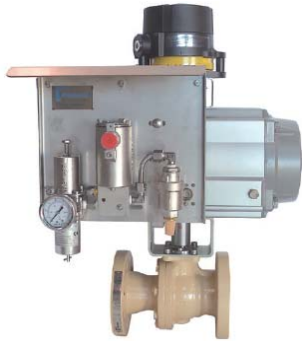
环境温度值 / Ambient temperature limitation: -10°C up to +60°C.

20o2 设计用于即便一个电磁阀失效, 依然保障阀门正常工作的要求, 当一个电磁阀失电, 阀门依然保持原位介质不被分流到其他管道, 放大阀用于帮助缩短行程时间。

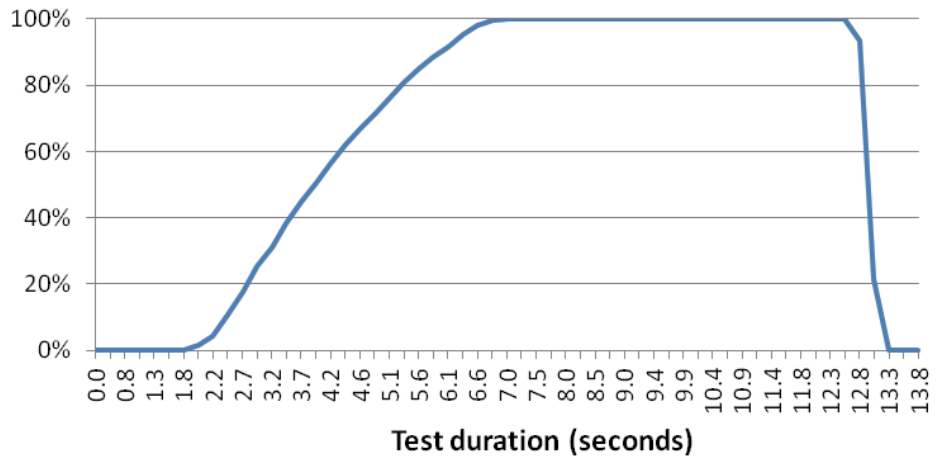
The 20o2 configuration guaranties the valve operability even if one of the solenoids fails. If one of solenoids has an electrical failure, the valve will keep the position and the flow will not be distributed to other pipe lines. The booster helps to reduce the valve stroking time movement. (PST: Partial Stroke Test; SIS: Safety Instrumented System)*



劳埃德机构认证-适用EN 161, EN 16678 和EN 23553 标准的自动切断阀
**LOYD'S CERTIFIED ASSEMBLY FOR AUTOMATIC SHUT OFF VALVE
 ACCORDING TO EN 161, EN 16678 & EN 23553 (FORMER EN 264)**



EN 161: 燃气炉及燃气器具用自动切断阀 / Automatic shut-off valves for gas burners & appliances
 EN 23553: 燃油炉及燃油器具用安全和控制设备 / Safety & control devices for oil burners & appliances
 检测设备符合EN161 & EN23553, 关闭 < 1秒 / Equipment test accord. EN161 & EN23553: Closing < 1sec



紧急切断阀检测描述 / Emergency equipment test description:

派克斯软密封球阀 2" 300# / Pekos ball valve Z34 SSSGV 2" 300#

执行机构及故障位置 AT501US10 & FC / Actuator & air fail: Air Torque AT501US10 & FC

电磁阀 Cv 值 / Solenoid Cv: 0.6

快排阀 Cv 值 / Quick exhaust Cv: 6.4

供气压力 / Air supply pressure: 5 bar

温度 / Ambient temperature: -30°C up to +80°C

测量设备和软件 / Measurement device: Samson 3738-20 (Software TROVIS-VIEW)



紧急排放阀-阀门自控典型案例
TYPICAL VALVES AUTOMATION - BDV VALVE

紧急排放阀用于管线介质的排放, 也是由紧急切断系统来控制, 服务于有危险的区域。

BDV Blow Down Valves is intended for venting the pipe line, a BDV valve is controlled by the Emergency Shut-Down system (ESD), and service for hazardous locations.

- 气动控制设计 1001, 2002 / Pneumatic control configuration: 1001, 2002.
- 单作用执行机构, 失气开 / Single acting actuators, fail open
- 配备储气罐保障在发生紧急状态时阀门的运转 / Assembled with an air tank to ensure valve operability during emergency situations.
- 对行程时间有要求 / Required stroking times

工艺开关阀-阀门自控典型案例
TYPICAL VALVES AUTOMATION - XV VALVE

工艺开关阀是由工艺控制系统来控制, 服务于有危险的区域。

XV is process ON-OFF valve controlled by the Process Control System (PCS) and service for hazardous locations.

- 单作用和双作用执行机构 / Single & double acting actuators
- 气动控制设计 1001, 1002, 2002 和其他
 Pneumatic control configuration: 1001, 1002, 2002, etc.
- 对行程时间有要求 / Required stroking times
- 对部分行程测试 PST 和安全功能认证 SIL 有要求 / Required PST & SIL



生产与仓储 / *Production and stocks*



CNC 数控加工中心 / *In house CNC Machining*



产品装配 / *Assembling*



质量控制 / *Quality control*



研发与测试 / *Development and test*



全自动化的智能仓储中心 / *Automatic smart warehouse*



分销与物流中心 / *Sales, distribution and logistic centre*



待运仓库 / *Warehouse*



销售部办公区域 / *Sales department*

证书与检测

Certifications and tests



深冷检测 / Cryogenic test

防火安全检测 / Firesafe test



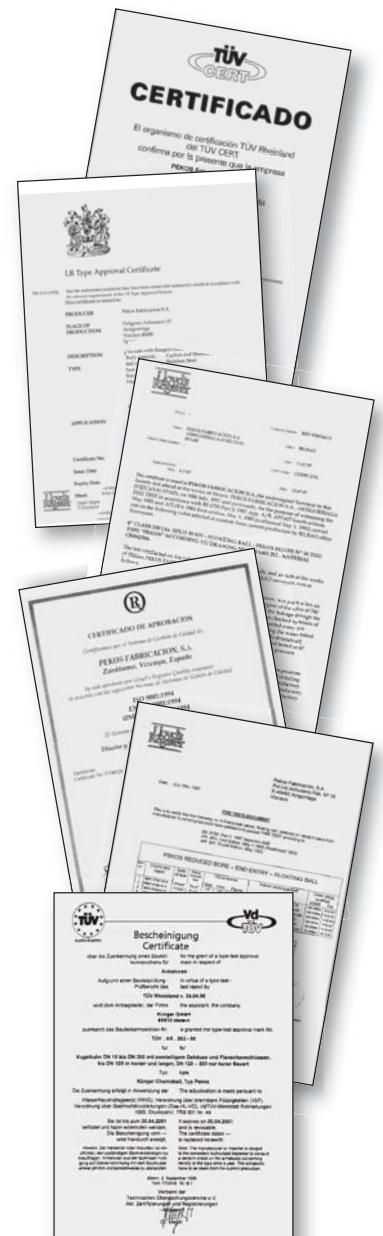
最终检测 / Final inspection

公司资质认证书 / Certificates of Company

ISO 9001	质量保证体系认证书 Quality Assurance System
AD-Merkblatt WO/TRD 100	制造工艺及质量体系认证 Manufacturing process and Quality System
API Monogram	API 6D认证, 证书号码: 6D-0363 Standard API 6D. certificate number: 6D-0363

产品认证书 / Certificates of Products

CE	欧盟承压设备指令 97/23/EC认证标识CE Pressure equipment CE marking (97/23/EC Directive)
ATEX 	欧盟防爆指令 (ATEX) 94/9/EC认证 - (II2GD) Conformity with Directive 94/9/EC - (II2GD)
SIL-3	按IEC 61508标准的SIL3安全认证 Safety Integral Level as per standard IEC 61508
API 607 - API 6FA ISO 10497 - API 6D	劳埃德机构认证防火安全证书 Lloyd's type approvals for fire safe
TUV AGG.268	危险流体输送阀门认证书 Hazardous liquids transportation
TUV A352.09	阀门设计资质认证书 Design of the valves
BS 6364	深冷阀门认证书 Cryogenic as per norm BS 6364
EN 161 / EN 264 EN 16678 / EN 23553	燃气和燃油应用设备的安全切断阀认证 For cut off gas/oil burners and gas/oil equipment
TA-Luft ISO 15848	清洁空气认证书 Stem tightness for gas emissions
DVGW-EN 13774	燃气输送阀门认证, 最大压力16 bar Valves for gas distribution max. operation pressure 16 bar
CSA	加拿大油田使用阀门认证 Valves for CSA standard B51 Clause 4.2 and safety codes act
GOST-R	俄罗斯联邦GOST-R认证 Russian Federation Certificate
UKR SEPRO	乌克兰联邦UKR认证 Ukraine Federation Certificate
Sanitary approval (Russian)	适用食品加工和制药工业的卫生认证(俄罗斯) Food processing and Pharmaceutical industry
Helium -40 °C	利兹大学氦质谱探漏实验资格认证书 Leeds University test





气动控制球阀
Pneumatic control valves



气动控制球阀
Pneumatic control valves



气动控制球阀
Pneumatic control valves



电动控制球阀
Electronic control valves



电动控制球阀
Electronic control valves



派克斯在阀门世界展会
Pekos in Valve World exhibition



三通控制球阀
3 ways control valves



电动控制球阀
Electronic control valves



气动控制球阀
Pneumatic control valves



特殊三通球阀
Special 3 ways with gear box

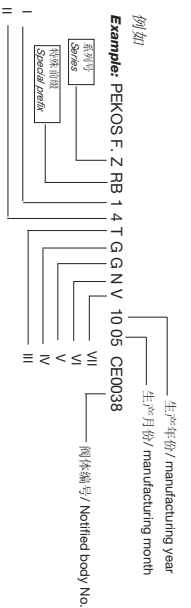


带防火罩的气动控制球阀
Pneumatic control valves with K-Mass



液动控制球阀
Hydraulic control valves

系列码 SERIES	特殊前缀 SPECIAL PREFIX	压力级别 Class	I 阀体材料 Body	II 球体材料 Ball	III 阀座材料 Seats	IV 阀杆填料 Stem packing	V 阀体密封 1 Body seal 1	VI 阀体密封 2 Body seal 2	VII 阀杆 O 形圈 Stem o-ring
- 标准系列 Standard	- 取样阀 Sampling valve	0 - F4/F5	0- 特殊材料 Special	特殊材料 Special	B - PFA 过氟烷基共聚物	B - PFA 过氟烷基共聚物	A - AFLAS® (FFEM)	A - AFLAS® (FFEM)	A - AFLAS® (FFEM)
Z - 填料升级系列 Updated packing	C - 阀腔填充 Cavity filler	1 - CL-150	1- 铸铁 Cast iron	CF8M 特殊材料 Special	C - S. steel + Cr Carbide 不锈钢 + 碳化铬	G - GRAPHITE 石墨	B - PFA 过氟烷基共聚物	B - PFA 过氟烷基共聚物	E - EPDM 三元乙丙橡胶
	D - 阀座和阀杆密封圈 Seat & Stem Sealant fitting	2 - F1 / F2		CF8M 14408	D - DELRIN® 聚乙缩醛	M - TFM 改性聚四氟乙烯	C - METAL SEAL 金属密封圈	C - METAL SEAL 金属密封圈	F - FLURO SILICON 氟硅橡胶
	D4 - 阀座密封圈 Seat Sealant fitting	3 - CL-300		CF8 14027	E - PTFE/EKONOL 聚四氟乙烯+二氧化钼	R - PTFE + 25% FV 聚四氟乙烯+石墨	E - EPDM 三元乙丙橡胶	E - EPDM 三元乙丙橡胶	H - HNBR 氢化丁腈橡胶
	D5 - 阀杆密封圈 Stem Sealant fitting	4 - CL-400		CA15 AIS1410	G - GRAPHITE 石墨	S - PTFE+25% CG 聚四氟乙烯+石墨	F - FLURO SILICONE(FVMO) 氟硅橡胶	F - FLURO SILICONE 氟硅橡胶	I - SILICONE 硅橡胶
	DBB - 3片式, 双球 3 pieces, 2 balls	5 - 罐底阀 Tank bottom		A105/LF2+ENP A105/LF2+ENP	H - 科莱诺尔合金 COLMONOY	T - PTFE 聚四氟乙烯	G - GRAPHITE 石墨	G - GRAPHITE 石墨	K - KALREZ® (FFKM) 全氟醚橡胶
	E - 标准加长阀杆 Standard stem	6 - CL-600		1,0619 1,0352 1,4027	K - KEL-F® (PCTFE) 聚三氟氯乙烯	U - UHMWPE® 超高分子量聚乙烯	H - HNBR 氢化丁腈橡胶	H - HNBR 氢化丁腈橡胶	L - CHLOROPRENE 氯丁橡胶
	F - 安全加长阀杆 Security stem extension	7 - 四通 4 ways		A105/LF2+ENP AIS1410	L - S. steel + Stellite 不锈钢 + 司太立	Y - TE1750 德国3M聚四氟乙烯	I - SILICONE 硅橡胶	I - SILICONE 硅橡胶	N - NBR 丁腈橡胶
	G - 固定球结构 Guided ball	8 - 三通 3 ways		WCC CA15	M - 改性尼龙 TFM		M - TFM 改性聚四氟乙烯	M - TFM 改性聚四氟乙烯	O - NEOPRENE 复合氯丁橡胶
	H - 保温夹套球阀 (半夹) Heating jacket (semi)	9 - 对夹式 Wafer		1,0619 1,0352 1,4462	N - 改性尼龙 TFM		L - CHLOROPRENE 氯丁橡胶	L - CHLOROPRENE 氯丁橡胶	V - VITON® (FKM) 氟素橡胶
	I - 侧斜式阀杆 Inclined stem	15 - CL-1500 *		LCC LF2	O - PEEK+PTFE+PV 聚醚醚酮		M - TFM 改性聚四氟乙烯	M - TFM 改性聚四氟乙烯	
	J - 保温夹套球阀 (全夹) Heating jacket (full)	25 - CL-2500 *		1,0619QT 1,6220	P - PEEK 聚醚醚酮		N - NBR 丁腈橡胶	N - NBR 丁腈橡胶	
	K - 三片式 3 Pieces	80 - CL-800		1,0352 CF8M	Q - 聚醚醚酮+聚四氟乙烯 PEEK + 12% PTFE		R - PTFE + 25% FV 聚四氟乙烯+石墨	R - PTFE + 25% FV 聚四氟乙烯+石墨	
	L - 锁定装置 Locking device	90 - CL-900		CF8M F51 1,4408 1,4401	R - PTFE + 25% FV 聚四氟乙烯+石墨		S - PTFE+25% CG 聚四氟乙烯+石墨	S - PTFE+25% CG 聚四氟乙烯+石墨	
	M - 金属阀座 Metallic seat			1,4539 1,4539 904L	S - PTFE+25% CG 聚四氟乙烯+石墨		T - PTFE 聚四氟乙烯	T - PTFE 聚四氟乙烯	
	N - PMSS 降油脂			CF3M F316L F51 1,4409 1,4404	T - PTFE 聚四氟乙烯		U - UHMWPE® 超高分子量聚乙烯	U - UHMWPE® 超高分子量聚乙烯	
	O - Degressed 保护型阀座			CF8M F51 1,4408 1,4462	U - 超高分子量聚乙烯 UHMWPE®		V - VITON® (FKM) 氟素橡胶	V - VITON® (FKM) 氟素橡胶	
	P - Protected seat 刮刀型阀座			LCC CF8M F51 1,0619QT 1,6220 1,4462	V - VITON® (FKM) 氟素橡胶		Y - TF1750® 德国3M聚四氟乙烯	Y - TF1750® 德国3M聚四氟乙烯	
	R - Scraper seat 弹性球阀				W - 不锈钢 + 碳化钨 S. steel+Tu Carbide				
	RB - Reduced bore 弹簧负荷加载型阀座				X - 聚四氟乙烯+不锈钢 PTFE + 50% SS				
	S - Spring seat 简单型加长阀杆				Y - TF1750® 德国3M聚四氟乙烯				
	T - Simple stem extension 螺纹阀体				Z - PEEK+PTFE+CG 聚醚醚酮+聚四氟乙烯+石墨				
	TH - Threaded body 单向								
	U - Unidirectional 侧座O型圈结构								
	V - O-ring seat 焊接阀体								
	W - Welded body 双活塞效应								
	X - Double piston effect								



备注 1: 碳钢球阀1.00磅级及以上压力级别的球阀阀体材质为A105球体材质为F51
 NOTE 1: Carbon steel valves class 1500 and above will be assembled with bodies in A105 and ball in F51 material.
 备注 2: 若两边阀座材质不一样的, 则标记为fig. XTGGNN, 其中X为阀体一侧的阀座材料, T为另一侧的阀座材料
 NOTE 2: When both seats of a valve are not assembled with the same material, marking will be as follows: fig. XTGGNN where X- Body 2 (adaptor) seat material, T- Body 1 seat material
 备注 3: 夹套球阀的连接法兰将被标记为DN, PN, 夹套数和材质
 NOTE 3: Heating jacket connection flanges will be marked as follows: DN, PN, heat number and material.
 备注 4: 特殊前缀的同一球阀的排列顺序为依次从下, 例如安全加长阀杆夹套球阀应标记为 fig. FHGB
 NOTE 4: In case various special prefixes have to be used in the same valve configuration, this order will be follow: special prefix column from top to bottom.
 备注 5: 口径为DN32或NPS 1 1/2"及以上球阀, 将按欧盟91/23/EEC指令打上CE标志, 所有口径的球阀按欧盟94/9/CE指令打上ATEX防爆标识
 NOTE 5: Valves size DN32 or NPS 1 1/2" and above will be CE marked according to 91/23/EEC. // According to 94/9/CE Directive ATEX marking will be stamped in all sizes.
 备注 6: 固定球结构的球阀相应的特殊前缀为fig. GS 或 GKS, 其阀杆标准材质为F51 或 1.4462, 其他金属密封球阀的阀杆标准材质为KM-19
 NOTE 6: Full Trunnion mounting will correspond to fig GS or GKS, and stem with material F51 or 1.4462, other metal to metal with stem KM-19.