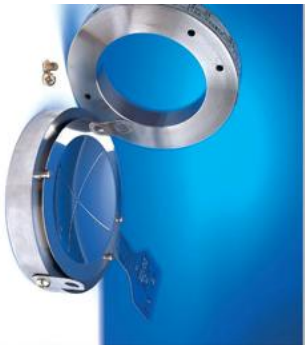


国·家·级·重·点·新·产·品 **TUTA® 特种爆破片装置** Special Rupture Disk Devices



TUTA®

大连理工安全装备有限公司

DALIAN LIGONG SAFETY EQUIPMENT CO., LTD.

地址：大连市高新技术产业园区双D港辽河东路26号

Address: No.26, Liaohe East Road, Double D Port, High-

tech Industrial Zone, Dalian, China

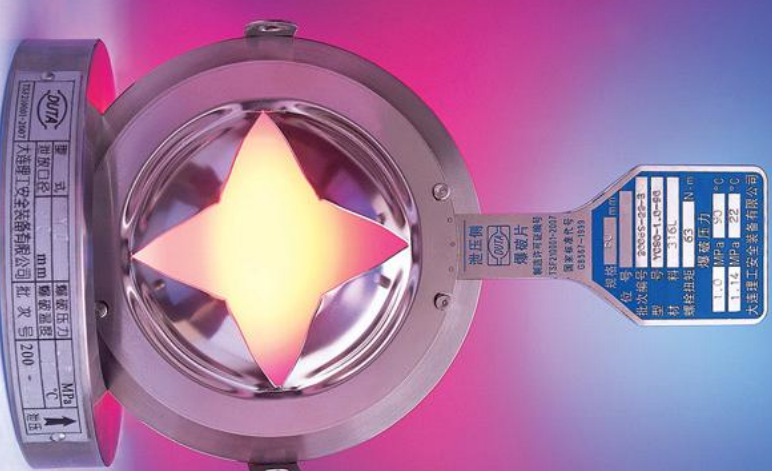
邮编(Post Code): 116620

电话(Tel): 0411-66778100 8105 8106 8107 8108 8109

传真(Fax): 0411-66778123

E-mail: dula@dula.com.cn

网址(Website): www.dula.com.cn



大连理工安全装备有限公司



Company Profile 公司简介

大连理工大学装备有限公司系大连市首批(1992年)认定的市属高新技术企业, 其产品所用技术具有完全自主知识产权, 并于1991、1992、1994、1996年度分别列为国家级新产品, 1997年被列入当年的国家级火炬计划项目。产品技术曾先后荣获1995年度国家级科技进步三等奖, 1997年获国家级科技进步一等奖, 科技进步三等奖二项等。

大连理工大学装备有限公司创建于1988年, 坐落在美丽的海滨城市——大连, 是一个教学、科学研究与生产紧密结合的经济实体, 是我国国防石油化工装置防介质超压而引发的爆炸灾害的主要基地, 是大连理工大学化工过程机械博士学科点的主要组成部分。

公司现有教授4人、副教授1人、高级工程师2人及数十名工程师和工人技师、助理工程师, 技术力量雄厚, 有很强的科技开发实力。相继为国家科技部委完成了一批有关化工装置安全泄压技术方面的重大科学研究与技术开发项目, 既致力于化工流体超压爆炸灾害防治理论及装备的应用基础研究, 又将研究技术成果及时转化为高新技术产品: 特种爆破片装置与新型双作用先导式安全阀装置。

公司现拥有发明专利4项, 实用新型专利4项、专有技术12项和3项软件技术, 完成了国家级“八五”科技攻关项目《压力容器防爆炸抑制技术研究》。我公司还是强制性国家标准《爆破片与爆破片装置》——GB567-1989、1999两个版本的主要起草、制订者, 也是现行的国家质检总局《压力容器安全技术监察规程》(2000版)的起草参与者。

我公司主要从事过程工业安全技术与产品的研发与制造, 是专业定点生产企业——具有《爆破片装置制造许可证》和《安全阀装置制造许可证》, 并通过ISO9001:2000质量管理体系认证。产品已广泛应用于石油、化工、能源、冶金、电力、消防及国防等行业约1000余家大中型企业。

Dalian Ligong Safety Equipment Co., Ltd. (DUTA) is the earliest (in 1992) recognized municipal high technology enterprise in Dalian, all technology of its products possess completely of creative intellectual property rights, and were ranked separately as national-ranking new products in 1991, 1992, 1994, and 1996, and was ranked in the project of national torch program in 1997. The product technology was awarded successively the third prize of state science and technology progress in 1995 and the first prize of state educational committee science and technology progress in 1997. Furthermore, it has been awarded one secondary prize of provincial science and technology progress and two third prizes etc.

Dalian Ligong Safety Equipment Co., Ltd. was built in 1988, seated in the beautiful coastal city——Dalian, China. DUTA is an economic entity with teaching, scientific research and production connected closely. It is a main base where China study the prevention of chemical equipments from causing the for media overpressure. It is also the main component of chemical process machinery doctor subject spots of Dalian University of Technology.

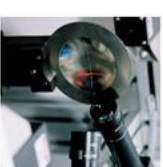
Now DUTA has four professors, one deputy professor, two senior engineers and numbers of engineers, worker technicians and engineer assistants, with powerful technology force and strong technology development strength. DUTA has finished successively a series of key scientific researches and technology development projects relevant with the safety pressure relief technology of chemical equipments for the nation and the departments; it not only specializes in the research of overpressure explosive disaster prevention theory and equipment application basis of chemical liquid, but also could transform the research technology fruits into high technology products: Special Rupture Disk Devices and Pilot Operated Safety Valves With Dual Actions.

DUTA has four invention patents, four utility model patents, twelve particular techniques and three software techniques. It has completed the national "8th Five-year Plan" technology project of "Explosion Prevention Technology Research of Pressure Vessel". It is also the main drafter and maker of compulsory national standard of "Rupture Disk and Rupture Disk Devices"——GB567-1989 and 1999 editions, as well as the draft participant of active ACSQ1 "Supervision Regulation on Safety Technical for Pressure Vessels" (2000 edition).

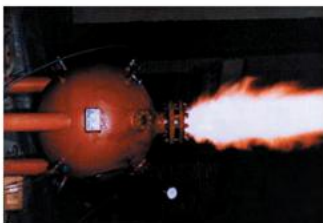
DUTA mainly engages in the development and manufacture of safety technology and product in process industry, and is the professionally appointed factory——possessing "Manufacture License of Rupture Disk Devices" and "Manufacture License of Safety Valve Devices", and has passed the ISO9001:2000 quality management system certification. Products were applied widely in more than one thousand large and medium-sized enterprises in petroleum, chemical industry, energy source, metallurgy, electric power, fire fighting and national defense fields.

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特种爆破片装置应用场合 Applied Situation of Special Rupture Disk Devices



化学爆炸环境爆炸片泄放试验现场
Venting experiment field of burning
nuclear disk chemistry



用于石化装置大型料仓上的爆破片产品 (PFR型)
Rupture disk used on large silo of some petrochemical
unit (PFR type)



用于某大型石化企业的1100mm气体通
路开关 (YD型)
1100mm gas path switch used on some large
petrochemical enterprise (YD type)

公司荣誉 Awards Gained

- ◀ 90年获国家教委科技进步二等奖——特种爆破片技术
 - ◀ 92年度国家级新产品——特种爆破片
 - ◀ 92年度国家级火炬计划——特种爆破片
 - ◀ 93年获大连市科技进步一等奖——槽、罐型特种爆破片
 - ◀ 94年获辽宁省科技进步三等奖
 - ◀ 94年度国家级新产品——特种安全装置 (爆破片、安全阀)
 - ◀ 95年获国家科技进步三等奖
 - ◀ 96年度国家级新产品——气瓶泄放装置 (爆破片、泄压阀)
 - ◀ 96年获辽宁省专利优秀奖
 - ◀ 97年度国家级火炬计划项目——紧急泄放安全装置 (爆破片、安全阀)
 - ◀ 97年获国家教委科技进步一等奖
 - ◀ 2001年通过ISO9001质量管理体系认证
- ◀ In 1980, the Secondary Prize of State Educational Committee Science And Technology Progress --- Technology of Special Rupture Disk
 - ◀ In 1992, the National-ranking New Products --- Special Rupture Disk
 - ◀ In 1992, the National Torch Program --- Special Rupture Disk
 - ◀ In 1993, the First Prize of Dalian Science And Technology Progress --- Special Rupture Disk in Scored And Sorted Type
 - ◀ In 1994, the Third Prize of Liaoning Province Science And Technology Progress
 - ◀ In 1994, the National-ranking New Products --- Special Safety Devices (Rupture Disk And Safety Valves)
 - ◀ In 1995, the Third Prize of State Science And Technology Progress
 - ◀ In 1996, the National-ranking New Products --- Gas Cylinder Relief Devices (Rupture Disk And Venting Valves)
 - ◀ In 1996, Liaoning Province Patent Excellence Award
 - ◀ In 1997, the National-ranking Torch Program --- Emergency Relief Safety Devices (Rupture Disk And Safety Valves)
 - ◀ In 1997, the First Prize of State Educational Committee Science And Technology Progress
 - ◀ In 2001, Passed the ISO9001 Quality Management System Certification



国家科技进步奖



国家级新产品



国家教委专利奖

DUTA 的安全技术——卓越的紧急泄爆系统 DUTA Safety Technology --- Advanced Emergency Explosion Relief System

防治工业密闭系统突然超压引起的恶性爆炸事故，最有效的措施之一是设置可靠的紧急泄爆系统。但是，当今在国内除缓慢的物理超压工况可遵循GB150-1998《钢制压力容器》标准进行设计外，对于急速相变超压工况、气相燃爆工况及粉尘爆炸工况等仍无公开发表的完整设计方法。

大连理工大学装备特种技术研究所与大连理工大学安全装备有限公司互为依托，经过多年潜心研究，已经掌握了设计此类工况下紧急泄爆系统所需的大量基础数据与设计工作指南，形成了一套适用于工业装置使用的试验方法与设计计算程序。公司已为许多工业系统成功地提供了多套紧急泄爆系统装置，经数年工业生产考核表明，虽曾屡次发生过化学爆炸，但由我公司提供的紧急泄爆系统装置均能可靠地动作并安全运行，而被保护的工业系统及其装置本身均完好无损。

To prevent urgent overpressure on industry closing system causing vicious explosion, one of the most effective measures is to set up reliable emergency explosion relief system. However, at present, in addition to the slow physical overpressure could follow the design of GB150-1998 "Steel Pressure Vessels" standard at home, there is still no publicly punished design method for abrupt phase change of overpressure, gas explosion and dust explosion overpressure conditions.

After years of concentrated study, DUTA has mastered large number of basic data and design guidelines used for emergency explosion system on designing such conditions. It forms a set of experiment methods and design procedures applicable to the industry devices. DUTA has provided successfully several sets of emergency explosion relief system devices for many industrial systems, after several years of industrial production assessment shows that despite the repeated occurrence of chemical explosion, the emergency explosion relief system provided by our company can move reliably and operate safely, and the protected industrial system and its own devices were intact.

我们愿为各界同仁竭诚提供相应的试验研究与
设计服务或技术咨询，并提供成套紧急泄爆系统的
装置或单台泄爆装置

紧急泄爆系统通常包括:

- ◀ 合理、可靠的安全泄压结构
- ◀ 动作灵敏、且可避免二次爆炸或火灾危险的紧急安全泄压装置——特种爆破片与阻火器
- ◀ 泄压介质的后处理或回收系统

DUTA would like to offer all the corresponding
experiment research and design services or
technology consultancy for colleagues in various
circles, and provide set of emergency explosion
relief system devices or single explosion relief
device.

Emergency Explosion Relief System Includes:

- ◀ Reasonable and credible safety pressure relief structure
- ◀ Special rupture disk and flame arresters --- sensitive action and could avoid secondary explosion or fire
- ◀ Post-processing or recovery system of pressure relief media



国家级新产品



国家教委科技进步一等奖



大连理工安全装备有限公司
DALIAN LIGONG SAFETY EQUIPMENT CO., LTD.

DUTA 的安全技术——卓越的紧急泄爆系统

DUTA Safety Technology—Excellent Emergency Explosion Relief System

DUTA 系列特种爆破片装置具有一系列的优异性能

- ▶ 动态响应特性优异，适应急速相变超压、气相化学燃爆超压及粉尘燃爆超压工况。
- ▶ 抗压力破坏能力强，反拱形特种爆破片疲劳寿命高达十万次以上，且爆破压力无变化。
- ▶ 爆破时无碎片，不会引起撞击火花而导致二次爆炸。

DUTA special rupture disk devices possess of a series of excellent performance

- ▶ Excellent dynamic response, and suitable for overpressure conditions caused by abrupt phase change, gas chemical explosion or dust explosion.
- ▶ Superior fatigue resistance in pressure pulsating conditions, and the cycle life of reverse domed rupture disk is up to 100,000 times or more, with burst pressure does not change.

DUTA 系列特种爆破片装置适用标准

- | | |
|-----------|----------------|
| ISO4126-2 | 《爆破片安全装置》 |
| GB567 | 《爆破片与爆破片装置》 |
| GB150 | 《钢制压力容器》 |
| 质检总局 | 《压力容器安全技术监察规程》 |

DUTA Applied standard

- | | |
|-----------|---|
| ISO4126-2 | "Bursting Disc Safety Devices" |
| GB567 | "Bursting Disc and Bursting Disc Devices" |
| GB150 | "Steel Pressure Vessels" |
| ASQ/Q | "Supervision Regulation On Safety Technical For Pressure Vessels" |



正拱普通型爆破片的爆破压力主要由爆破片材料的抗拉强度决定。工作时，系统压力作用在爆破片拱壳的内面，当被保护系统超压时，爆破元件双向被拉伸，发生塑性变形，壁厚减薄，最终破裂，泄放压力，从而起到保护系统的作用。

The burst pressure of Conventional Simple Domed Rupture Disk is determined by the tensile strength of the material employed. System pressure is subjected to the concave side of rupture disk on normal operating condition. When excessive pressure occurs on the protected system, the dome begins to thin out and the disk bursts, providing a full relief opening.

正拱普通型爆破片 (LP)

CONVENTIONAL SIMPLE DOMED RUPTURE DISK (LP TYPE)



正拱普通型爆破片 (LP)
Conventional Simple Domed Rupture Disk

主要型式

- ▶ **普通型爆破片 (LP)**：与夹持器配合使用，适用于自身可承受背压或无背压、真空的场合。
- ▶ **整体型爆破片 (LPZ)**：适用于超高压的场合。
- ▶ **焊接型爆破片 (LPH)**：适用于高压、超高压的场合。
- ▶ **带托架的爆破片 (LPT)**：适用于需承受真空或背压的场合。

Types

- ▶ Simple Rupture Disk (LP): withstand backpressure, non-backpressure or vacuum conditions with disk holders.
- ▶ Integrated Rupture Disk (LPZ): suitable for super-high pressure conditions.
- ▶ Welded Rupture Disk (LPH): suitable for high and super-high pressure conditions.
- ▶ Rupture Disk with Vacuum Support (LPT): suitable for vacuum or backpressure conditions.

技术特性

- ▶ 适用范围广，可根据不同的爆破压力和泄放口径选用相应的装配结构。
- ▶ 压力加工范围受材料强度限制较大。
- ▶ 适用于气、液两种介质。
- ▶ 适用于高温高压环境。
- ▶ 最大工作压力不宜超过最小爆破压力的70%，不适用于压力脉动的场合。
- ▶ 爆破后有碎片。
- ▶ 使用寿命较短，工作时爆破片应力水平较高，易发生蠕变变形和疲劳破坏。
- ▶ 温度效应明显。温度升高，爆破压力会明显下降，温度波动，爆破压力随之波动。

Features

- ▶ Broad range of application, and can choose the corresponding assembly according to different burst pressure and vent area.
- ▶ Manufacturing ranges depend much on material strength.
- ▶ Designed for gas, liquid service.
- ▶ Suitable for high temperature and pressure conditions.
- ▶ Maximum operating pressure equal to or less than 70% of the minimum burst pressure, and not suitable for pressure pulsating conditions.
- ▶ Fragments on burst.
- ▶ Short service life and easily cause creep deformation and fatigue damage.
- ▶ Obvious temperature effect may cause burst pressure fluctuation. The temperature goes up while burst pressure declines.

正拱普通型爆破片 (LP)
CONVENTIONAL SIMPLE DOMED RUPTURE DISK (LP TYPE)

技术特性表 Specifications

产品类型 TYPE	正拱普通型爆破片 LP
结构与受载示意 BURST DIRECTION	
受力状态 LOAD TYPE	拉伸 TENSION
泄放口径范围 SIZE	5~900
常温爆破压力范围 BURST PRESSURE RANGES	0.01~500
背压托架 BACKPRESSURE (VACUUM) SUPPORT	可加 AVAILABLE
配用夹持器类型 DISK HOLDER TYPE	LJ、LJB
动态响应特性 秒 DYNAMIC RESPONSE (sec)	> 1/1000
是否适用易燃易爆介质 INFAMMABLE MEDIA USAGE	不适用 NOT SUITABLE
疲劳寿命 次 CYCLE LIFE	> 12,000 [操作压力比≤70%] > 12,000 [OPERATING RATIOS≤70%]
抗压力疲劳能力 CYCLE RESISTANCE CAPABILITY	一般 ORDINARY
可否引起撞击火花 SPARK POSSIBILITY	可能 POSSIBLE
可否与安全阀串联使用 SAFETY VALVE ISOLATION	否 NOT AVAILABLE
选用时应注意 NOTE	对有真空工况需特别提出 VACUUM CONDITION SHOULD BE SPECIFIED



正拱普通型金属爆破片 (LPH)
Welded Conventional Domed Rupture Disk



整体型爆破片 (LPZ)
Integrated Rupture Disk

正拱普通型爆破片 (LP)
CONVENTIONAL SIMPLE DOMED RUPTURE DISK (LP TYPE)

制造压力范围 Manufacturing Pressure Ranges

常用LP型爆破片的爆破压力范围 (22℃)
Standard LP Type Burst Pressure Ranges (22 °C)

单位: MPa
Unit:

泄放口径 SIZE		爆破片材料 MATERIAL					
mm	in	不锈钢 STAINLESS STEEL		镍 NICKEL		铝 ALUMINUM	
		minPa	maxPa	minPa	maxPa	minPa	maxPa
5	3/16	15.0	400.0	7.0	350.0	4.0	50.0
10	3/8	10.0	380.0	3.5	300.0	2.0	30.0
15	1/2	6.0	350.0	2.5	200.0	1.5	20.0
20	3/4	5.0	350.0	2.0	200.0	1.0	20.0
25	1	4.0	300.0	1.5	150.0	1.0	15.0
32	1¼	3.0	250.0	1.0	150.0	0.7	15.0
40	1½	2.5	250.0	1.0	100.0	0.5	15.0
50	2	2.0	200.0	0.6	80.0	0.4	12.0
65	2½	1.5	50.0	0.5	50.0	0.3	12.0
80	3	1.0	50.0	0.5	50.0	0.25	10.0
100	4	0.9	50.0	0.4	50.0	0.2	6.0
125	5	0.8	50.0	0.35	45.0	0.15	6.0
150	6	0.7	40.0	0.3	40.0	0.15	6.0
200	8	0.5	25.0	0.25	25.0	0.1	5.0
250	10	0.4	10.0	0.2	10.0	0.08	4.5
300	12	0.35	10.0	0.15	10.0	0.06	4.0
350	14	0.3	10.0	0.13	10.0	0.05	3.5
400	16	0.25	10.0	0.12	10.0	0.045	3.0
450	18	0.2	8.0	0.1	8.0	0.04	2.5
500	20	0.2	8.0	0.08	8.0	0.035	2.0

注意事项

◀ 上述数据仅供参考，由于受材料的限制，实际加工值可能与表中有差异，请与我们公司联系。
▶ 用于制造LP型爆破片的材料为不锈钢、镍、铝。若为其它材质，可参考该参数表。需用特殊材质的客户须与本公司提前协商，以保证产品交货期。

Notice

◀ Data above are only for reference, and due to the material constraints, the actual processing value may differ, please contact us.
▶ Standard materials for LP type rupture disk are stainless steel, nickel and aluminum. Please contact us for special requirements.

正拱带槽型爆破片 (LC)
CONVENTIONAL SCORED SIMPLE DOMED RUPTURE DISK (LC TYPE)

在爆破片的拱面（通常在凹面侧）上，加工有“十”字形或环形减弱槽，当压力达到爆破压力时，爆破片沿减弱槽破裂，将压力泄放出去。

Conventional Scored Simple Domed Rupture Disk is designed with a cross or circular scored line build-up on the concave side of the disk. At its burst pressure, the disk opens along pre-weakened scored lines to provide a full relief.



十字槽型爆破片 (LC)
Cross-scored Rupture Disk

技术特性

- 适用于气、液、粉尘三种介质。
- 爆破时无碎片，可串联安全阀使用。
- 疲劳强度高，疲劳寿命比正拱普通型爆破片高。
- 最大工作压力可达最小爆破压力的80%。

Features

- Designed for Gas, liquid, dust service.
- Non-fragmenting design, and suitable for safety valve isolation.
- Superior fatigue resistance with a longer cycle life than LP Type.
- Maximum operating pressure up to 80% of the minimum burst pressure.

主要型式


- 十字槽型爆破片 (LC)
- 环槽型爆破片 (LHC)

Types

- Cross-scored Rupture Disk (LC)
- Circular-scored Rupture Disk (LHC)

技术特性表

Specifications

产品名称 TYPE	正拱带槽型爆破片 LC
结构与受载示意图 BURST DIRECTION	
受力状态 LOAD TYPE	拉伸 TENSION
泄放口径范围 SIZE	10~800
常压爆破压力范围 BURST PRESSURE RANGES	0.01~100
背压托架 BACKPRESSURE (VACUUM) SUPPORT	可加 AVAILABLE
配用夹持器类型 DISK HOLDER TYPE	LJC
动态响应特性 秒 DYNAMIC RESPONSE (sec)	> 1/1000
是否适用易燃易爆介质 INFAMMABLE MEDIA USAGE	适用 SUITABLE
疲劳寿命 次 CYCLE LIFE	> 25,000
可否引起撞击火花 SPARK POSSIBILITY	否 NO
选用时应注意 NOTE	对有真空工况需特别提出 VACUUM CONDITION SHOULD BE SPECIFIED

正拱带槽型爆破片 (LC)
CONVENTIONAL SCORED SIMPLE DOMED RUPTURE DISK (LC TYPE)

制造压力范围 Manufacturing Pressure Ranges

常用正拱带槽型 (LC) 爆破片的爆破压力范围 (22℃)

Standard LC Type Burst Pressure Ranges (22℃)

单位: MPa
Unit: MPa

泄放口径 SIZE	爆破片材料 MATERIAL							
	不锈钢 STAINLESS STEEL				镍 NICKEL		铝 ALUMINUM	
	mm	in	minPa	maxPa	minPa	maxPa	minPa	maxPa
10	3/8	3.5	100.0	0.8	80.0	0.4	15.0	
15	1/2	3.0	100.0	0.7	80.0	0.3	15.0	
20	3/4	3.0	100.0	0.6	80.0	0.25	15.0	
25	1	2.5	80.0	0.5	70.0	0.2	12.0	
32	1¼	2.5	70.0	0.45	65.0	0.2	12.0	
40	1½	2.0	60.0	0.4	60.0	0.15	10.0	
50	2	1.5	50.0	0.3	50.0	0.1	10.0	
65	2½	1.5	50.0	0.3	40.0	0.1	10.0	
80	3	1.0	40.0	0.25	30.0	0.08	8.0	
100	4	0.5	30.0	0.2	25.0	0.05	5.0	
125	5	0.5	25.0	0.2	20.0	0.05	5.0	
150	6	0.4	20.0	0.15	15.0	0.04	4.0	
200	8	0.3	15.0	0.1	10.0	0.03	3.0	
250	10	0.25	10.0	0.1	8.0	0.025	2.5	
300	12	0.2	8.0	0.1	7.0	0.02	2.0	
350	14	0.15	8.0	0.1	7.0	0.015	1.5	
400	16	-	-	-	-	0.01	1.0	
450	18	-	-	-	-	0.01	0.8	
500	20	-	-	-	-	0.01	0.7	
600	24	-	-	-	-	0.01	0.6	
700	28	-	-	-	-	0.01	0.5	
800	32	-	-	-	-	0.01	0.4	

注意事项

上述数据仅供参考，由于受材料的限制，实际加工值可能与表中存在差异，请与我们联系。

用于制造LC型爆破片的材料为不锈钢、镍、铝。若为其它材质，可参考该参数表。特殊材质可与我们公司协商，以保证交货期。

Notice

Data above are for reference only, and due to the material constraints, the actual processing value may differ, please contact us.

Standard materials for LC type rupture disk are stainless steel, nickel and aluminum. Please contact us for special requirements.

正拱开缝型爆破片 (LF) CONVENTIONAL SLOTTED DOMED RUPTURE DISK (LF TYPE)

由拱形开缝的金属膜片和密封膜构成的组合件。
爆破压力由膜片拱面上的缝与孔构成的减弱结构控制。当被保护系统超压时，爆破片沿薄弱环节拉伸破坏，泄放压力，从而起到保护作用。

Conventional Slotted Dome Rupture Disk consists of a slotted metal top section and a seal membrane. Burst pressure is controlled by the slotted and perforated top section. When excessive pressure occurs on the protected system, the disk bursts along the pre-slotted lines to provide a full relief opening.

主要型式

- ◀ 圆形正拱开缝型爆破片 (LF)
- ◀ 方形正拱开缝型爆破片 (LFF)

Types

- ◀ Round Conventional Slotted Dome Rupture Disk (LF)
- ◀ Rectangular Conventional Slotted Dome Rupture Disk (LFF)



圆形正拱开缝型爆破片 (LF)
Round Conventional Slotted Dome Rupture Disk

技术特性

- ◀ 适用于气、液、粉尘三种介质。
- ◀ 最大工作压力可达最小爆破压力的80%。
- ◀ 爆破后可能有极少的碎片。
- ◀ 带托架承受真空、背压。
- ◀ 结构复杂。
- ◀ 适用于爆破压力较低的情况。
- ◀ 耐压力疲劳能力差。

Features

- ◀ Designed for gas, liquid, dust service.
- ◀ Maximum operating pressure up to 80% of the minimum burst pressure.
- ◀ Few fragments on burst.
- ◀ Withstand vacuum and backpressure with vacuum support.
- ◀ Complex structure.
- ◀ Suitable for low burst pressure conditions.
- ◀ Poor fatigue resistance in pressure cycling conditions.

正拱开缝型爆破片 (LF) CONVENTIONAL SLOTTED DOMED RUPTURE DISK (LF TYPE)

技术特性表 Specifications

产品名称 TYPE	正拱开缝型爆破片 LF
结构与受载示意 BURST DIRECTION	
受力状态 LOAD TYPE	拉伸 TENSION
泄放口径范围 SIZE	25-900
常温爆破压力范围 BURST PRESSURE RANGES	0.005-20.0 MPa
背压托架 BACKPRESSURE (VACUUM) SUPPORT	可加 AVAILABLE
配用夹持器类型 DISK HOLDER TYPE	LJC
动态响应特性 DYNAMIC RESPONSE (sec)	> 1/1000
是否适用易燃易爆介质 INFLAMMABLE MEDIA USAGE	适用 SUITABLE
疲劳寿命 CYCLE LIFE	> 500
可否引起撞击火花 SPARK POSSIBILITY	可能性很小 NO
可否与安全阀串联使用 RELIEF VALVE ISOLATION	可以 AVAILABLE
选用时应注意 NOTE	主要适用于低压工况 SUITABLE FOR LOW PRESSURE CONDITIONS



方形正拱开缝型爆破片 (LFF)
Rectangular Conventional Slotted Dome Rupture Disk

正拱开缝型爆破片 (LF)
CONVENTIONAL SLOTTED DOMED RUPTURE DISK (LF TYPE)

制造压力范围 Manufacturing Pressure Ranges

常用LF型爆破片的爆破压力范围 (22℃)

Standard LF Type Burst Pressure Ranges (22℃)

单位: MPa
Unit: MPa

泄放口径 SIZE		爆破片材料 MATERIAL					
		非金属材料(F4, F46) NON-METAL SEAL MEMBRANE		铝膜 ALUMINUM		其他金属材料(值或3倍) OTHER METAL SEAL MEMBRANE	
mm	in	minPa	maxPa	minPa	maxPa	minPa	maxPa
25	1	0.1	8.0	1.2	12.0	2.4	20.0
32	1¼	0.1	7.0	1.0	12.0	2.0	18.0
40	1½	0.1	6.0	0.8	10.0	1.6	15.0
50	2	0.05	5.0	0.6	8.0	1.2	12.0
65	2½	0.05	4.0	0.5	6.0	1.0	10.0
80	3	0.04	3.0	0.4	5.0	0.8	10.0
100	4	0.03	2.5	0.3	4.0	0.6	8.0
125	5	0.025	2.5	0.25	3.5	0.5	6.0
150	6	0.02	2.0	0.2	3.5	0.4	5.5
200	8	0.015	1.5	0.15	3.0	0.3	5.0
250	10	0.015	1.0	0.15	2.5	0.3	4.5
300	12	0.015	0.8	0.1	2.0	0.25	4.0
350	14	0.015	0.6	0.1	1.5	0.2	3.5
400	16	0.015	0.4	0.08	1.0	0.2	3.0
450	18	0.01	0.3	0.08	0.8	0.2	2.5
500	20	0.01	0.3	0.06	0.8	0.4	2.0
600	24	0.01	0.3	0.05	0.6	0.3	1.5
700	28	0.01	0.2	0.04	0.6	0.25	1.5
800	32	0.01	0.2	0.04	0.6	0.25	1.5

注意事项

上述参数爆破片材质是奥氏体不锈钢时的数据, 仅供参考, 若实际设计与表中数据有异, 可与我们公司联系。

若为其它材质、口径可参考该参数表。特殊材质可与我们公司协商, 以保证交货期。

方形正拱开缝型爆破片 (LFF) 的制造参数及结构尺寸请与我们公司协商。

爆破片的使用温度由密封膜材料的使用温度决定。常用密封膜材料为F4、F46、铝、镍或不锈钢, 其最高使用温度如下:

Notice

Data above are from that of Austenitic stainless material as top slotted rupture disk and for reference only, if the actual processing value differs from the table, please contact us.

The data above can be reference for other material and diameter. Please contact us for special requirements.

For manufacturing reference data and dimension of LFF type, consult us.

The disk operating temperature is determined by that of the seal membrane material. Standard seal materials for LF type rupture disk are F4, F46, aluminum, nickel or stainless steel. The maximum operating temperature is listed as follow:

分类 TYPE	非金属密封膜 NON-METAL SEAL MEMBRANE		金属密封膜 METAL SEAL MEMBRANE	
名称 NAME	聚四氟乙烯 PTFE	聚全氟乙丙烯 FEP	铝 ALUMINUM	镍 奥氏体不锈钢 NICKEL AUSTENIC STAINLESS STEEL
代号 SYMBOLS	F4	F46	Al	Ni 316L
最高使用温度 MAX OPERING TEMPERATURE	260℃	204℃	450℃	500℃ 500℃

平板带槽型爆破片 (PC) FLAT SCORED RUPTURE DISK (PC TYPE)

平板带槽型爆破片在圆形金属膜片的一侧加工“十字”形成环形减弱槽。当达到爆破压力时，爆破片沿该减弱槽破裂。当PC型爆破片直接夹在法兰之间时，爆破片两面应粘接密封垫。

Flat Scored Rupture Disk is designed with a cross or circular pre-weakened scored line precisely fabricated on one surface of the disk. The disk bursts along the pre-weakened scored line at its burst pressure. Gaskets should be attached on both sides of the disk when PC type disk is directly installed between the companion flanges.

技术特性

- 一般用于压力很低的大直径管道中或高压无碎片场合。
- 适用于气、液、粉尘三种介质。
- 耐疲劳性能一般，不适用于压力波动较大的场合。
- 最大工作压力可达最小爆破压力的80%。

Features

- Suitable for low pressure, large diameter pipeline or high backpressure, non-fragmenting conditions.
- Designed for gas, liquid, dust service.
- Poor fatigue resistance and not suitable for pressure pulsating conditions.
- Maximum operating pressure up to 80% of the minimum burst pressure.

技术特性表 Specifications

产品名称 TYPE	平板带槽型爆破片 PC
结构与受载示意 BURST DIRECTION	
受力状态 LOAD TYPE	弯曲或拉伸 BEND OR TENSION
泄放口径范围 SIZE	10-800
常温爆破压力范围 BURST PRESSURE RANGES	0.005-1.0
背压托架 BACKPRESSURE (VACUUM) SUPPORT	可加 AVAILABLE
配用夹持器类型 DISK HOLDER TYPE	PJ或特殊设计 PJ OR SPECIAL DESIGN
动态响应特性 秒 DYNAMIC RESPONSE (sec)	$\geq 1/1000$
是否适用易燃易爆介质 INFAMMABLE MEDIA USAGE	适用 SUITABLE
抗压力疲劳能力 CYCLE RESISTANCE CAPABILITY	一般 ORDINARY
爆破时有无碎片 FRAGMENTATION ON BURST	无 NO
可否引起撞击火花 SPARK POSSIBILITY	否 NO
可否与安全阀串联使用 RELIEF VALVE ISOLATION	可 AVAILABLE
选用时应注意 NOTE	适用压力较低或无安装空间场合 SUITABLE FOR LOW PRESSURE OR UNUSUAL SPACE CONDITIONS

平板带槽型爆破片 (PC) FLAT SCORED RUPTURE DISK (PC TYPE)

制造压力范围

平板带槽型爆破片的制造压力范围与正拱带槽型爆破片 (LC) 相同，详见正拱带槽型爆破片 (LC) 的爆破压力范围表。

Manufacturing Pressure Ranges

The manufacturing pressure ranges of PC type is the same as that of LC type, please check the table of LC type for details.



平板带槽型爆破片 (PC)
Flat Scored Rupture Disk

注意事项

- 上述数据仅供参考，由于受材料的限制，实际加工值可能与表中有差异，请与我们联系。
- 表中未列出的规格可由供需双方商定。
- 常用材质为奥氏体不锈钢、铝、镍。
- 爆破片为平板形，耐疲劳较差，一般常用于特殊场合，请谨慎选用。

Notice

- Data above are for reference only, and due to the material constraints, the actual processing value may differ, please contact us.
- Any unlisted specifications can consult us.
- Standard materials for PC type include austenitic stainless steel, aluminum and nickel.
- The disk is commonly used in special occasion, so choose it carefully.

平板开缝型爆破片 (PF) FLAT SLOTTED LINED RUPTURE DISK (PF TYPE)

平板开缝型爆破片为不预拱的开缝型爆破片。爆破压力由周边透缝（或中心处）及相邻终止孔间构成的减弱结构控制，爆破沿透缝断裂形成泄放通道。

在生产中，当空气中含有一定量的有机粉尘时，由于机械的摩擦过热、静电、火源等因素，将引起粉尘爆燃、爆炸。该爆破片广泛应用于：煤炭、矿粉、医药、化肥、塑料、粮食、颜料、纤维等有机粉尘的加工行业。

Burst pressure is accurately controlled by the pre-slotted lines and holes connected on the disk, and at its burst pressure, disk opens by tearing along the slots to provide a relief opening.

In production, when the air contains a certain amount of organic dust, it will cause dust explosion, due to mechanical friction overheated, static electricity, fire, and other factors. The disk is widely used in coal, slag, medicine, chemical fertilizer, plastics, food, paint, fiber and other organic dust processing industries.



平板开缝型爆破片 (PF)
Flat Slotted Lined Rupture Disk

主要型式

- 圆板开缝型爆破片 (PF)
- 方板开缝型爆破片 (PFF, 又称爆破窗)

Types

- Round Flat Slotted Lined Rupture Disk (PF)
- Rectangular Flat Slotted Lined Rupture Disk (PFF, another named rupture panel)

技术特性

- 适用于低压、无背压或真空场合。
- 适用于气、液、粉尘三种介质。
- 最大工作压力可达最小爆破压力的60%。

Features

- Suitable for low pressure, non-backpressure, or vacuum conditions.
- Designed for gas, liquid, dust service.
- Maximum operating pressure up to 60% of the minimum burst pressure.

平板开缝型爆破片 (PF) FLAT SLOTTED LINED RUPTURE DISK (PF TYPE)

技术特性表 Specifications

产品名称 TYPE	圆板开缝型爆破片 PF	方板开缝型爆破片 PFF
结构与受载示 BURST DIRECTION	↑↑↑	↑↑↑
受力状态 LOAD TYPE	拉伸 TENSION	拉伸 TENSION
泄放口径范围 SIZE	25~1000	方形, 300~1600
常温爆破压力范围 MPa BURST PRESSURE RANGES	0.002~1.0	0.002~1.0
背压托架 BACKPRESSURE (VACUUM) SUPPORT	可加 AVAILABLE	可加 AVAILABLE
配用支持圈类型 DISK HOLDER TYPE	PJ或特殊设计 PIJ OR SPECIAL DESIGN	特殊设计 SPECIAL DESIGN
动态响应特性 秒 DYNAMIC RESPONSE (sec)	≥ 1/1000	≥ 1/1000
是否适用易燃易爆介质 INFLAMMABLE MEDIA USAGE	适用 SUITABLE	适用 SUITABLE
抗压力疲劳能力 CYCLE RESISTANCE CAPABILITY	一般 ORDINARY	一般 ORDINARY
爆破时有无碎片 FRAGMENTATION ON BURST	有, 但很少 FEW FRAGMENTS	有, 但很少 FEW FRAGMENTS
可否引起撞击火花 SPARK POSSIBILITY	可能性很小 NO	可能性很小 NO
可否与安全阀串联使用 RELIEF VALVE ISOLATION	难 HARD	否 NO
选用时应注意 NOTE	一般适用于低压与中低压工况 SUITABLE FOR LOW OR SUPER- LOW PRESSURE CONDITIONS	一般适用于低压与中低压工况 SUITABLE FOR LOW OR SUPER- LOW PRESSURE CONDITIONS

制造压力范围

平板开缝型爆破片 (PF) 的制造压力范围与正拱开缝型爆破片 (LF) 相同，详见正拱开缝型爆破片 (LF) 的爆破压力范围图表。

Manufacturing Pressure Ranges

The manufacturing pressure ranges of PF type is the same as that of LF type, please check the table of LF type for details.

注意事项

- 表中的数值仅供参考，若实际值与其有差异，请与我们公司联系。
- 爆破片的主要材料为奥氏体不锈钢和镍，密封膜的材料为聚四氟乙烯 (F4)、聚四氟乙烯 (F46)、不锈钢 (316L)、镍等。

Notice

- Data above are for reference only, if the actual processing value differs, please contacts us.
- The main materials for PF type disk are austenitic stainless steel and nickel, and standard seal materials are F4, F46, 316L, nickel, etc.

反拱带槽型爆破片 (YC) REVERSE DOMED SCORED RUPTURE DISK (YC TYPE)

爆破片凸面接触介质，凹面处于泄放侧。在爆破片的拱面（通常在凹面侧）上，加工有“十”字形或环形或弱槽，爆破时爆破片向凹面侧翻转的同时沿槽破裂，爆破机理为失稳破坏。

Reverse Domed Scored Rupture Disk is designed with a cross or circular scored line build-up on the concave side of the disk. The disk reverses and opens along pre-weakened cross-scored lines to provide a full relief opening at its burst pressure.



焊接式反拱带槽型爆破片 (YCH)
Welded Reverse Domed Scored Rupture Disk

主要型式

◀ 焊接式爆破片 (YCH)：密封性能好，适用于密封要求较高的场合。

◀ 十字槽型爆破片和环槽型爆破片：

Types

◀ Welded Rupture Disk (YCH): good seal performance, suitable for high seal requirement.

◀ Cross-scored and Circular-scored Rupture Disk

名称 TYPE	十字槽 (YC) YC	环槽在拱面 (YHCY) YHCY	环槽在拱面或根部 (YHC) YHC
产品简介 DESCRIPTION	爆破片拱面上加工有“十”字槽。爆破片失稳翻转后，沿薄弱的槽自行破裂。	爆破片拱面上刻有环形槽，与托架组合构成组合件。超压时，爆破片失稳翻转，在特制的托架作用下，沿减弱槽剪切破坏。	在爆破片拱面或根部刻有环形槽。超压时，拱面失稳翻转，沿薄弱的环槽剪切破坏。
	Cross-scored lines on concave side. At burst pressure, the disk reverses and opens along cross-scored lines.	Circular-scored lines on concave side with vacuum support. At burst pressure, the disk reverses and opens by shearing around the circular-scored line.	Circular-scored line on concave side or root. At burst pressure, dome reverses and opens by shearing around the circular-scored line.
产品照片 PICTURE			

技术特性

- ◀ 无碎片，可串联安全阀使用。
- ◀ 抗疲劳，可用于有脉动压力场合。
- ◀ 不需真空托架，即可承受完全真空状态。
- ◀ 最大工作压力可达最小爆破压力的90%。

Features

- ◀ Non-fragmenting design, suitable for safety valve isolation.
- ◀ Optimum fatigue resistance in pressure pulsating or cycling conditions.
- ◀ Withstand full vacuum without vacuum support.
- ◀ Maximum operating pressure up to 90% of minimum burst pressure.



焊接式反拱带槽型爆破片 (YCH)
Welded Reverse Domed Scored Rupture Disk

反拱带槽型爆破片 (YC) REVERSE DOMED SCORED RUPTURE DISK (YC TYPE)

技术特性表 Specifications

产品名称 TYPE	十字槽型 (YC) 爆破片 YC	环槽型 (YHCY) 爆破片 YHCY	环槽型 (YHC) 爆破片 YHC
结构与受载示意 BURST DIRECTION			
适用介质相态 MEDIA APPLICATION PHASE	必须有足够的气相空间。 ENOUGH GAS SPACE	适用于气相或液相。 GAS OR LIQUID	适用于气相或气液混合。 GAS OR GAS LIQUID MIXTURE
泄放口径范围 SIZE	20~350	20~200	10~600
常温爆破压力范围 BURST PRESSURE RANGES	0.15~13.0	0.1~25.0	0.05~25.0
配用夹持器类型 DISK HOLDER TYPE	YJC	YJC	YJC
动态响应特性 DYNAMIC RESPONSE (sec)	≥1/1000	≥1/1000	≥1/1000
是否适用易燃易爆介质 INFLAMMABLE MEDIA USAGE	适用 SUITABLE	适用 SUITABLE	适用 SUITABLE
疲劳寿命 CYCLE LIFE	> 100,000	> 100,000	> 100,000
可否引起撞击火花 SPARK POSSIBILITY	否 NO	否 NO	否 NO
使用时应注意 NOTE	凹面不允许积存液体、冰霜、粉尘及胶状物质 NO LIQUID, SNOW, DUST OR STICKINESS SUBSTANCE SHOULD BE ACCUMULATED ON CONCAVE SIDE		

反拱带槽型爆破片 (YC)
REVERSE DOMED SCORED RUPTURE DISK (YC TYPE)

制造压力范围 Manufacturing Pressure Ranges

常用反拱十字槽型(YC)爆破片的爆破压力范围 (22℃)

Standard YC Type Burst Pressure Ranges (22 °C)

单位: MPa
Unit: MPa

泄放口径 SIZE	mm in	不锈钢 STAINLESS STEEL		爆破片材料 MATERIAL		铝 ALUMINIUM	
		minPa	maxPa	镍 NICKEL	maxPa	minPa	maxPa
20	3/4	2.0	13.0	0.8	13.0	0.5	2.0
25	1	1.5	13.0	0.6	13.0	0.4	2.0
32	1¼	1.5	13.0	0.5	13.0	0.35	1.5
40	1½	1.0	13.0	0.4	12.0	0.3	1.5
50	2	0.8	13.0	0.3	10.0	0.25	1.2
65	2½	0.6	12.0	0.3	9.0	0.2	1.0
80	3	0.5	12.0	0.25	8.0	0.15	0.8
100	4	0.4	10.0	0.2	7.0	0.15	0.6
125	5	0.3	8.0	0.2	6.0	0.1	0.5
150	6	0.25	6.0	0.15	5.0	0.1	0.4
200	8	0.2	5.0	0.15	4.0	0.1	0.3
250	10	0.2	4.0	0.1	3.0	0.1	0.3
300	12	0.15	3.0	0.1	2.0	0.1	0.2
350	14	0.15	2.5	0.1	1.0	0.1	0.2

常用反拱环槽型(YHCY)爆破片的爆破压力范围 (22℃)

Standard YHCY Type Burst Pressure Ranges (22 °C)

单位: MPa
Unit: MPa

泄放口径 SIZE	mm in	不锈钢 STAINLESS STEEL		爆破片材料 MATERIAL		镍* NICKEL*	
		minPa	maxPa	因康镍 INCONEL	maxPa	minPa	maxPa
20	3/4	0.8	25.0	0.8	25.0	0.6	20.0
25	1	0.6	25.0	0.6	25.0	0.6	20.0
32	1¼	0.5	20.0	0.5	20.0	0.4	18.0
40	1½	0.4	20.0	0.4	20.0	0.3	15.0
50	2	0.3	20.0	0.3	20.0	0.25	12.0
65	2½	0.3	15.0	0.3	15.0	0.2	10.0
80	3	0.25	12.0	0.25	12.0	0.2	8.0
100	4	0.2	10.0	0.2	10.0	0.15	6.0
125	5	0.2	8.0	0.2	8.0	0.15	5.0
150	6	0.2	6.0	0.2	6.0	0.15	4.0
200	8	0.2	4.0	0.2	4.0	0.15	3.0

※在全液相条件下, 不推荐选用镍材。

※Nickel is not recommended for full liquid conditions.

反拱带槽型爆破片 (YC)
REVERSE DOMED SCORED RUPTURE DISK (YC TYPE)

常用环槽型(YHC)爆破片的爆破压力范围 (22℃)

Standard YHC Type Burst Pressure Ranges (22 °C)

单位: MPa
Unit: MPa

泄放口径 SIZE	mm in	不锈钢 STAINLESS STEEL		爆破片材料 MATERIAL		镍* NICKEL*	
		minPa	maxPa	因康镍 INCONEL	maxPa	minPa	maxPa
10	3/8	1.0	25.0	1.0	25.0	0.8	20.0
15	1/2	1.0	25.0	1.0	25.0	0.8	20.0
20	3/4	0.8	25.0	0.8	25.0	0.6	20.0
25	1	0.6	25.0	0.6	25.0	0.6	20.0
32	1¼	0.5	20.0	0.5	20.0	0.4	18.0
40	1½	0.4	20.0	0.4	20.0	0.3	15.0
50	2	0.3	20.0	0.3	20.0	0.25	12.0
65	2½	0.3	15.0	0.3	15.0	0.2	10.0
80	3	0.25	12.0	0.25	12.0	0.2	8.0
100	4	0.2	10.0	0.2	10.0	0.15	6.0
125	5	0.2	8.0	0.2	8.0	0.15	5.0
150	6	0.2	6.0	0.2	6.0	0.15	4.0
200	8	0.2	4.0	0.2	4.0	0.15	3.0
250	10	0.15	3.5	0.15	3.5	0.1	2.5
300	12	0.1	3.0	0.1	3.0	0.1	2.0
350	14	0.09	2.5	0.09	2.5	-	-
400	16	0.08	2.0	0.08	2.0	-	-
450	18	0.07	2.0	0.07	2.0	-	-
500	20	0.06	1.5	0.06	1.5	-	-

※在全液相条件下, 不推荐选用镍材。

※Nickel is not recommended for full liquid conditions.

注意事项

表中的数值仅供参考, 若实际值与其有差异, 请与我们公司联系。

若需包裹聚四氟乙烯(F4)或全氟乙丙烯(F46), 请注意其使用温度不可超过260℃或204℃。

YHCY型爆破片中特制托架的材质一般为奥氏体不锈钢。

Notice

Data above are for reference only, and due to the material constraints, the actual processing value may differ, please contact us.

Operating temperature should be not more than 260°C or 204°C if F4 or F46 coating is required.

Material of YHCY support is austenitic stainless steel.

反拱锯齿型爆破片 (YE) REVERSE DOMED RUPTURE DISK WITH A TEETH RING (YE TYPE)

由反拱形爆破片和环形锯齿构成的组合式爆破片。爆破时，拱形膜片失稳翻转，被锯齿沿周边处剪开，打开泄放通道。

Reverse Domed Rupture Disk With A Teeth Ring consists of a reverse domed disk and a teeth ring. At the burst pressure, the disk reverses and opens by cutting along the teeth ring attached to the atmospheric side of the disk.



反拱锯齿型爆破片 (YE)
Reverse Domed Rupture Disk With A Teeth Ring

技术特性

- ◀ 抗疲劳，可用于脉动压力场合。
- ◀ 最大工作压力可达最小爆破压力的90%。
- ◀ 无需增设背压托架，即可承受全真空状态。
- ◀ 无碎片产生，可与安全阀串联使用。
- ◀ 适用于气体、粉尘介质，不可用在无气相空间设备上。
- ◀ 适用于爆破压力较低的情况。

Features

- ◀ Optimum fatigue resistance in pressure pulsating or cycling conditions.
- ◀ Maximum operating pressure up to 90% of the minimum burst pressure.
- ◀ Withstand full vacuum condition without vacuum support.
- ◀ Non-fragmenting design, suitable for safety valve isolation.
- ◀ Designed for gas, dust service, and not suitable for no gas space equipment.
- ◀ Suitable for low burst pressure conditions.

技术特性表 Specifications

产品名称 TYPE	反拱锯齿型爆破片 YE
结构与受载示意图 BURST DIRECTION	
受力状态 LOAD TYPE	压缩 COMPRESSION
泄放口径范围 SIZE	25~200
常温爆破压力范围 BURST PRESSURE RANGES	0.08~3.5
配用夹持器类型 DISK HOLDER TYPE	YJE
动态响应特性 秒 DYNAMIC RESPONSE (sec)	≥1/1000
是否适用易燃易爆介质 INFAMMABLE MEDIA USAGE	适用 SUITABLE
疲劳寿命 次 CYCLE LIFE	> 100,000
可否引起撞击火花 SPARK POSSIBILITY	可能性很小 NO
使用时应注意 NOTE	凹面不允许积存液体、冰雪、粉尘及胶粘状物质 NO LIQUID, SNOW, DUST OR STICKNESS SUBSTANCE SHOULD BE ACCUMULATED ON CONCAVE SIDE

反拱锯齿型爆破片 (YE) REVERSE DOMED RUPTURE DISK WITH A TEETH RING (YE TYPE)

制造压力范围 Manufacturing Pressure Ranges

常用YE型爆破片的爆破压力范围 (22℃)
Standard YE Type Burst Pressure Ranges (22℃)

单位: MPa
Unit: MPa

泄放口径 SIZE	爆破片材料 MATERIAL					
	不锈钢 STAINLESS STEEL		镍 NICKEL			
mm	in	minPa	maxPa	minPa	maxPa	
25	1	0.4	3.5	0.2	3.5	
32	1¼	0.3	3.0	0.18	3.0	
40	1½	0.2	2.5	0.14	2.5	
50	2	0.1	2.0	0.08	2.0	
65	2½	0.08	1.5	0.05	1.2	
80	3	0.08	1.0	0.05	0.8	
100	4	0.08	0.6	0.05	0.6	
125	5	0.08	0.5	0.05	0.5	
150	6	0.08	0.4	0.05	0.4	
200	8	0.08	0.3	0.05	0.3	



爆破后的反拱锯齿型爆破片 (YE)
Reverse Domed Rupture Disk With A Teeth Ring After Burst

注意事项

- ◀ 锯齿的材质一般为奥氏体不锈钢。
- ◀ 上表中的数据仅供参考，若有差异可与我们联系。
- ◀ 若需包裹聚四氟乙烯(F4)或聚全氟乙烯(F46)，请注意其使用温度不可超过280℃(F4)或204℃(F46)。

Notice

- ◀ Material of teeth ring is austenitic stainless steel.
- ◀ Data above are for reference only, and if any differences, please contact us.
- ◀ Operating temperature should be not more than 204℃(F46) or 280℃(F4) if F4 or F46 coating is required.

反拱带刀型爆破片 (YD)
REVERSE DOMED WITH KNIFE BLADES RUPTURE DISK (YD TYPE)

爆破片安装时凸面受压, 当所受压力达到产品的爆破压力时, 迅速翻转, 被设置在上夹持器内的刀刃割破泄压。

Pressure acts on the convex side of rupture disk. At its burst pressure, the disk reverses with the knife blades on the upper holder cutting it.



普通反拱带刀型爆破片 (YD)
Reverse Domed With Knife Blades Rupture Disk

主要型式

普通反拱带刀型爆破片 (YD) : 爆破片由完整的半球形金属壳体构成。爆破压力为0.05-12.0MPa。

反拱叉型带刀爆破片 (YDV) : 由三瓣叉型支架外罩耐蚀密封膜构成。爆破压力为0.001-0.1MPa, 适用于超低压容器或真空容器。

Types

Reverse Domed With Knife Blades Rupture Disk (YD). The disk is made up of sphere solid metal with burst pressure ranging from 0.05MPa to 12.0MPa.

Reverse Domed Rupture Disk With Knife Blades (YDV). The disk consists of brackets and corrosion-resistant seal membrane with burst pressure ranging from 0.001MPa to 0.1MPa, and suitable for super-low or vacuum vessels.



反拱叉型带刀爆破片 (YDV)
Reverse Domed Rupture Disk With Knife Blades

反拱带刀型爆破片 (YD)
REVERSE DOMED WITH KNIFE BLADES RUPTURE DISK (YD TYPE)

技术特性

- 抗疲劳, 可用于有脉动压力场合。
- 最大工作压力可达最小爆破压力的90%。
- 无需增设背压托架, 即可承受全真空状态 (YD型)。
- 无碎片产生, 可与安全阀串联使用。
- 适用于气体、粉尘介质, 不可用在无气相空间设备上。
- 不适用于爆破压力较高的场合。

Features

- Optimum fatigue resistance for pressure pulsating or cycling conditions.
- Maximum operating pressure up to 90% of the minimum burst pressure.
- Withstand full vacuum condition without vacuum support (YD type)
- Non-fragmenting design, suitable for safety valve isolation.
- Designed for gas, dust service, and not suitable for no gas space equipment.
- Not suitable for high burst pressure conditions.

技术特性表 Specifications

产品名称 TYPE	反拱带刀型爆破片 YD
结构与受载示意 BURST DIRECTION	
受力状态 LOAD TYPE	压缩 COMPRESSION
适用介质相态 MEDIA APPLICATION PHASE	气、粉尘 GAS OR DUST
泄放口径范围 SIZE	25~1200
常温爆破压力范围 BURST PRESSURE RANGES	0.001~12
制造范围 MANUFACTURING RANGES	0.~5%, -10%
配用夹持器类型 DISK HOLDER TYPE	YJ
动态响应特性 秒 DYNAMIC RESPONSE (sec)	≥1/1000
是否适用易燃易爆介质 INFLAMMABLE MEDIA USAGE	适用 SUITABLE
疲劳寿命 次 CYCLE LIFE	> 100,000
可否引起撞击火花 SPARK POSSIBILITY	可能性很小 NO
使用时应注意 NOTE	凹面不允许积存液体、冰雪、粉尘及胶粘状物质 NO LIQUID, SNOW, DUST OR STICKINESS SUBSTANCE SHOULD BE ACCUMULATED ON CONCAVE SIDE

反拱带刀型爆破片 (YD)
REVERSE DOMED WITH KNIFE BLADES RUPTURE DISK (YD TYPE)

制造压力范围 Manufacturing Pressure Ranges

常用YD型爆破片的爆破压力范围 (22℃)

Standard YD Type Burst Pressure Ranges (22 ℃)

单位:
Unit: MPa

泄放口径 mm	SIZE In	不锈钢 STAINLESS		镍 NICKEL		铝 ALUMINUM	
		minPa	maxPa	minPa	maxPa	minPa	maxPa
25	1	0.4	12.0	0.3	10.0	0.2	4.0
32	1¼	0.3	12.0	0.2	10.0	0.15	3.0
40	1½	0.2	12.0	0.15	10.0	0.12	2.5
50	2	0.1	12.0	0.08	10.0	0.08	2.0
65	2½	0.08	10.0	0.05	8.0	0.05	2.0
80	3	0.07	10.0	0.05	8.0	0.03	1.5
100	4	0.05	10.0	0.04	6.0	0.03	1.5
125	5	0.05	10.0	0.04	6.0	0.03	1.0
150	6	0.05	8.0	0.04	6.0	0.03	1.0
200	8	0.05	7.0	0.04	5.0	0.03	0.8
250	10	0.05	6.0	0.04	5.0	0.03	0.6
300	12	0.05	5.0	0.04	4.0	0.03	0.5
350	14	0.05	4.0	0.04	4.0	0.03	0.5
400	16	0.05	4.0	0.04	3.0	0.03	0.4
450	18	0.05	3.0	0.04	3.0	0.03	0.4
500	20	0.05	3.0	0.04	2.5	0.03	0.4
600	24	0.05	3.0	0.04	2.5	0.03	0.4
700	28	0.05	3.0	0.04	2.5	0.03	0.4
800	32	0.05	3.0	0.04	2.0	0.03	0.4
900	36	0.05	3.0	0.04	2.0	0.03	0.4

注意事项

◀ 上表中的数据仅为参考，若实际值与其中有差异，请与我们联系。

◀ 若需包裹聚四氟乙烯(F4)或聚全氟乙丙烯(F46)，请注意其使用温度不可超过260℃或204℃。

Notice

◀ Data above are for reference only, if the actual processing value differs from the table, please contact us.

◀ Operating temperature should be not more than 260℃ or 204℃ if F4 or F46 coating is required.

非金属类爆破片
NONMETAL RUPTURE DISK

主要以石墨材料为基体的爆破片装置。膜片爆破后能提供较大的泄放面积。

The rupture disks are made of a pure block of graphite, which will provide enough vent area after burst.

主要型式

◀ 平板石墨型爆破片 PM
◀ Graphite Monobloc (PM)

Types

技术特性

- ◀ 耐腐蚀性能好，适用于各种腐蚀性较强的介质。
- ◀ 爆破后有碎片，不能与安全阀串联。
- ◀ 全开式设计。
- ◀ 热稳定性好，石墨浸渍树脂以后，最高使用温度可达240℃。
- ◀ 可单独安装在法兰之间，也可与夹持器配套使用。
- ◀ 最大工作压力可达最小爆破压力的75%。

Features

- ◀ Superior corrosion resistance.
- ◀ Fragments on burst and not suitable for safety valve isolation.
- ◀ Full bore opening.
- ◀ Superior thermal stability, maximum operating temperature up to 240℃ after impregnated resinsene.
- ◀ Directly installed between flanges or used with holders.
- ◀ Maximum operating pressure up to 75% of the minimum burst pressure.



平板石墨型爆破片(PM)
Graphite Monobloc

技术特性表 Specifications

产品名称 TYPE	平板石墨型爆破片 PM
结构与受载示意 BURST DIRECTION	
受力状态 LOAD TYPE	剪切 SHEARING
适用介质相态 MEDIA APPLICATION PHASE	气、液 GAS, LIQUID
泄放口径范围 SIZE	10~500
常温爆破压力范围 MPa BURST PRESSURE RANGES	0.01~2.0
背压托架 BACKPRESSURE (VACUUM) SUPPORT	可加 AVAILABLE
配用夹持器类型 DISK HOLDER TYPE	无特殊设计 NO OR SPECIAL DESIGN
是否适用易燃易爆介质 INFLAMMABLE MEDIA USAGE	适用 SUITABLE
抗压力疲劳能力 CYCLE RESISTANCE CAPABILITY	差 POOR
可否引起撞击火花 SPARK POSSIBILITY	否 NO
使用时应注意 NOTE	为脆性材料，强度低，易碎 FRANGIBLE

非金属类爆破片
NONMETAL RUPTURE DISK

制造压力范围 Manufacturing Pressure Ranges
非金属类爆破片的爆破压力范围 (22℃)
Standard Non-metal Rupture Disk Burst Pressure Ranges (22 °C)

单位: MPa
Unit: MPa

泄放口径 SIZE	mm	in	平板石墨型爆破片 (PM) Flat Graphite Rupture Disk (PM)	
			minPa	maxPa
25	1		0.15	1.8
32	1 1/4		0.12	1.8
40	1 1/2		0.1	1.8
50	2		0.08	1.8
65	2 1/2		0.05	1.6
80	3		0.05	1.4
100	4		0.04	1.2
125	5		0.04	1.0
150	6		0.03	0.8
200	8		0.03	0.8
250	10		0.03	0.8
300	12		0.02	0.8
350	14		0.02	0.8
400	16		0.015	0.8
450	18		0.015	0.8
500	20		0.015	0.8

注意事项

- 当尺寸超出该范围时，可向我们公司咨询。
- 可衬聚四氟乙烯 (F4) 或聚全氟乙丙烯 (F46)。
- 浸渍石墨的最高使用温度为240℃。

Notice

- When the size required exceeds the ranges above, please consult us for details.
- F4 or F46 liner is available.
- The maximum operating temperature of impregnated graphite is 240℃.

自夹持组合式爆破片
SEALED RUPTURE DISK DEVICES

采用螺纹或其它夹持结构与爆破片构成自密封组合件。通过自带的螺纹方便与设备相连。

Sealed Rupture Disk Devices, consisting of rupture disk and screw threaded or other clamping structures, can be connected to equipment by its own outer or inner screw thread.

技术特性

- 爆破压力范围广，压力控制精确。
- 适用场合多，可用于低温设备、气瓶、高压灭菌器以及便携式压缩空气系统。
- 提供各种标准系列（可按用户要求）连接形式。
- 兼容气体和蒸汽、液体。
- 安装简便，无泄漏，密封性能优异，防干扰。

Features

- Wide range of burst pressure, precise pressure control.
- Suitable for various conditions, such as low temperature equipment, gas cylinder, high pressure sterilizer and portable air-compressing system.
- All kinds of standard connecting forms offered (according to customer requirements).
- Gas, vapor and liquid compatible.
- Easy installation, no leakage, excellent seal performance, and disturbance proof.



技术特性表 Specifications

产品名称 TYPE	自夹持组合式爆破片 SEALED RUPTURE DISK DEVICES
适用介质 MEDIA APPLICATION	气体、蒸汽或液体 GAS, VAPOR OR LIQUID
螺纹连接尺寸 SCREW THREAD SIZE	1/4" ~ 3/4"或6mm ~ 20mm
螺纹类型 SCREW THREAD TYPE	按用户要求 ACCORDING TO CUSTOMER REQUIREMENTS
常温爆破压力范围 BURST PRESSURE RANGES MPa	0.5 ~ 50.0
温度范围 TEMPERATURE RANGES ℃	-196 ~ 400
操作压力与最小爆破压力比 % MAXIMUM OPERATING RATIOS TO MINIMUM BURST PRESSURE	由爆破片类型决定 DETERMINED BY THE TYPE OF DISK
爆破片类型 DISK TYPE	正拱形: LP, LC, LHC 反拱形: YQ, YHC FORWARD LP, LC, LHC REVERSE: YQ, YHC
主体材料 MATERIAL	爆破片 镍或不锈钢 DISK NICKEL OR STAINLESS STEEL 螺栓 不锈钢、黄铜等 (一般要求抛光或电镀) SCREW STAINLESS STEEL, BRASS, ETC
爆破时有无碎片 FRAGMENTATION ON BURST	LP型有碎片, 其他类型无碎片 NO EXCEPT LP TYPE

注意事项

- 连接尺寸及结构根据用户要求确定。
- 如果您的设计规格超出标准范围, 公司可以设计和开发定制工程泄压解决方案, 以满足您的独立系统要求。
- 若需包裹聚四氟乙烯 (F4) 或聚全氟乙丙烯 (F46), 请注意其使用温度, 不能超过204℃ (F46) 或280℃ (F4)。

Notice

- Connecting size and structure should be required by customers.
- Any specification out of the standard can be designed and developed by our company additionally to meet your special needs.
- Operating temperature should be not more than 204℃(F46) or 280℃ (F4) if F4 or F46 coating is required.

压杆式爆破片 (YG) RUPTURE DISK OF COMPRESSIVE BAR (YG TYPE)

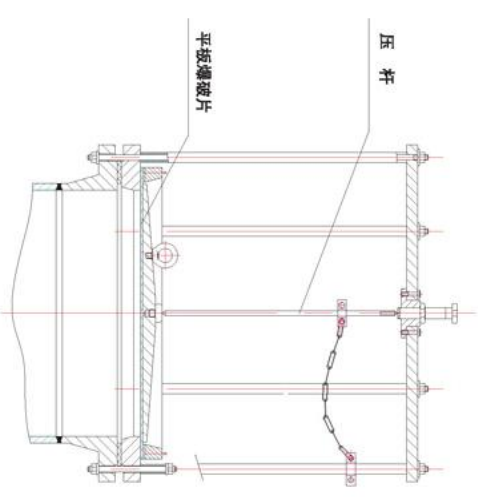
依靠压杆的失稳压力控制爆破装置的爆破压力。
Burst pressure is accurately controlled by the buckling pressure of the compressive bar.

技术特性

- 泄放口径大, 爆破压力较低。
- 可用于高温、介质腐蚀性强的工况。
- 爆破时可能有碎片产生。
- 结构复杂, 费用高。

Features

- Large vent area, low burst pressure.
- Suitable for high temperature, corrosive conditions.
- Few fragments on burst.
- Complex structure and high cost.



技术特性表 Specifications

产品名称 TYPE	压杆式爆破片 YG TYPE RUPTURE DISK
受力状态 LOAD TYPE	压缩 COMPRESSION
适用介质相态 MEDIA APPLICATION PHASE	气、液 GAS, LIQUID
泄放口径范围 SIZE	400 ~ 1000
常温爆破压力范围 BURST PRESSURE RANGES MPa	0.03 ~ 0.2
爆破片材料 (压杆) MATERIAL (COMPRESSIVE BAR)	石棉、铝 (不锈钢)
配用夹持器类型 DISK HOLDER TYPE	特殊设计 SPECIAL DESIGN
可否与安全阀串联使用 RELIEF VALVE ISOLATION	否 NO

注意事项

上述数据仅供参考, 若需其它材质、口径可与我们联系。

Notice

Data above are for reference only. Please contact us for special requirements.

双向爆破片 TWO-WAY ACTING RUPTURE DISK

双向动作的爆破片，可以实现两个方向泄放，保护容器不受真空、超压或双向压差作用的破坏。常在设备中起着调节压力的作用。

技术特性

- 适用于需要对正向超压、反向超压及双向压差均进行保护的系統。
- 形式多样，爆破压力和泄放口径范围广。
- 结构复杂，制造费用较高。

The rupture disks offer two-way relief to protect vessels against damage by vacuum, overpressure or two-way pressure difference.

Features

- Suitable for protection of system against positive overpressure, negative overpressure, and two-way pressure difference.
- Wide ranges of burst pressure and vent diameter.
- Complex structure and high cost.

技术特性表 Specifications

产品名称 TYPE	双向爆破片 TWO-WAY ACTING RUPTURE DISK
适用介质相态 MEDIA APPLICATION PHASE	气、液 GAS, LIQUID
泄放口径范围 SIZE	30-800
常温爆破压力范围 MPa BURST PRESSURE RANGES	0.001-10
操作压力与最小爆破压力比 % MAXIMUM OPERATING RATIOS TO MINIMUM BURST PRESSURE	80
爆破片材料 MATERIAL	不锈钢、镍等 STAINLESS STEEL, NICKEL, ETC
抗压力疲劳能力 CYCLE RESISTANCE CAPABILITY	较好 GOOD
可否引起爆炸火花 SPARK POSSIBILITY	无 NO

注意事项

- 制造压力范围与单向泄放产品类型相同。
- 公司针对实际的生产条件和设计要求，选取合适的基本爆破片类型组合，设计、制造出满足使用条件的双向爆破片。

Notice

- Manufacturing pressure ranges are the same as that of LF type
- Two-way acting rupture disk is designed and manufactured according to practical operating conditions and design requirements.

非重复充气瓶用爆破片 GAS CYLINDER RUPTURE DISK

爆破片组焊在气瓶上。爆破压力由膜片上减薄弱环节控制，超压时沿槽破裂。

The rupture disk is welded on gas cylinder. Burst pressure is determined by the pre-weakened scored line on the surface, and the disk opens along the scored line at its burst pressure.



非重复充气瓶用爆破片
Gas Cylinder Rupture Disk

技术特性

- 广泛用于各种移动式气瓶上。
- 工艺简单，制作方便，可大批量供应。

Features

- Widely applied to all kinds of movable gas cylinder.
- Simple process, convenient production, and abundant supply.

技术特性表 Specifications

产品名称 TYPE	非重复充气瓶用爆破片 GAS CYLINDER RUPTURE DISK
适用介质 MEDIA APPLICATION	气体或蒸气 GAS, VAPOR
泄放口径范围 SIZE	15-25
常温爆破压力范围 MPa BURST PRESSURE RANGES	1.0-5.0
爆破公差 BURST TOLERANCE	±10%
操作压力与最小爆破压力比 % MAXIMUM OPERATING RATIOS TO MINIMUM BURST PRESSURE	≤80
爆破片类型 DISK TYPE	正拱形：LC
爆破片材料 DISK MATERIAL	不锈钢 (316L, 304) STAINLESS STEEL (316L, 304)
爆破时有无碎片 FRAGMENTATION ON BURST	无 NO
抗压力疲劳能力 CYCLE RESISTANCE CAPABILITY	一般 ORDINARY

注意事项

- 上述数据仅供参考，若需其它材质、口径可向我们公司咨询。
- 爆破片与气瓶焊接的精度要求高，达不到要求可能影响爆破压力。

Notice

- Data above are for reference only. Any special requirements, please contact us.
- Poor welding precision may possibly affect burst pressure.

夹持器型号及类型
Specification and Type of Disk Holders

代号 Code	配套的爆 破片类型 Type	特 点 Features	示意图 Sketch Drawing	注意事项 Notice
LJ	LP	上下夹持器的凸凹面 装配, 保证了爆破片 夹紧密封。 The fitting of male and female ensures reliable seal available		1、可选用的常规 材料为 不锈 钢 (316L、304、 0Cr18Ni9)、碳 钢 (16Mn、 Q235-A、45 等)。 2、夹持器必须与 爆破片配套设计、 制造, 以保证正确 配合。 3、夹持器一般应 高出爆破片的拱 顶, 或应采用其他 措施防止爆破片产 生意外的损坏。 4、夹持器只能与 原设计爆破片配合 使用, 未经本公司 同意不得随意修改 和替换。
LJB	LP	夹持器的密封面为锥 面, 密封性能较好。 与爆破片连接时, 所 需的预紧力小。 Good seal performance and little bolted force due to the angle-shaped seal face.		1、可选用的常规 材料为 不锈 钢 (316L、304、 0Cr18Ni9) and carbon steel (16Mn, Q235-A, 45, etc) 2、Disk holders must be designed and manufactured in accordance with corresponding rupture disk to ensure accurate fitting. 3、Disk holders should be higher than the top of domed disk, or adopt other measures to prevent disk damage. 4、Disk holders must be used only with their corresponding rupture disk.
LJC	LF、LC	上下夹持器的凸凹面 装配, 保证了爆破片 夹紧密封。 The fitting of male and female ensures reliable seal available		1、可选用的常规 材料为 不锈 钢 (316L、304、 0Cr18Ni9) and carbon steel (16Mn, Q235-A, 45, etc) 2、Disk holders must be designed and manufactured in accordance with corresponding rupture disk to ensure accurate fitting. 3、Disk holders should be higher than the top of domed disk, or adopt other measures to prevent disk damage. 4、Disk holders must be used only with their corresponding rupture disk.
LJD	LF、LF (双 向开缝型 爆破片) L F L F (T W O - W A Y S L O T T E D R U P T U R E D I S K)	上下夹持器的凸凹面 装配, 保证了爆破片 夹紧密封。 The fitting of male and female ensures reliable seal available		1、可选用的常规 材料为 不锈 钢 (316L、304、 0Cr18Ni9)、碳 钢 (16Mn、 Q235-A、45 等)。 2、夹持器必须与 爆破片配套设计、 制造, 以保证正确 配合。 3、夹持器一般应 高出爆破片的拱 顶, 或应采用其他 措施防止爆破片产 生意外的损坏。 4、夹持器只能与 原设计爆破片配合 使用, 未经本公司 同意不得随意修改 和替换。

夹持器型号及类型
Specification and Type of Disk Holders

代号 Code	配套的爆 破片类型 Type	特 点 Features	示意图 Sketch Drawing	注意事项 Notice
YJ	YD	上下夹持器的凸凹面 装配, 保证了爆破片 夹紧密封。 The fitting of male and female ensures reliable seal available		1、可选用的常规 材料为 不锈 钢 (316L、304、 0Cr18Ni9)、碳 钢 (16Mn、 Q235-A、45 等)。 2、夹持器必须与 爆破片配套设计、 制造, 以保证正确 配合。 3、夹持器一般应 高出爆破片的拱 顶, 或应采用其他 措施防止爆破片产 生意外的损坏。 4、夹持器只能与 原设计爆破片配合 使用, 未经本公司 同意不得随意修改 和替换。
YJC	YC	以销钉定位, 保证了 与爆破片准确装配。 Positive locating pins to ensure accurate fitting of rupture disk.		1、可选用的常规 材料为 不锈 钢 (316L、304、 0Cr18Ni9) and carbon steel (16Mn, Q235-A, 45, etc) 2、Disk holders must be designed and manufactured in accordance with corresponding rupture disk to ensure accurate fitting. 3、Disk holders should be higher than the top of domed disk, or adopt other measures to prevent disk damage. 4、Disk holders must be used only with their corresponding rupture disk.
YJE	YE	以销钉定位, 保证了 与爆破片准确装配。 Positive locating pins to ensure accurate fitting of rupture disk.		1、可选用的常规 材料为 不锈 钢 (316L、304、 0Cr18Ni9) and carbon steel (16Mn, Q235-A, 45, etc) 2、Disk holders must be designed and manufactured in accordance with corresponding rupture disk to ensure accurate fitting. 3、Disk holders should be higher than the top of domed disk, or adopt other measures to prevent disk damage. 4、Disk holders must be used only with their corresponding rupture disk.
PJ	PF、PC	上下夹持器的凸凹面 装配, 保证了爆破片 夹紧密封。 The fitting of male and female ensures reliable seal available		1、可选用的常规 材料为 不锈 钢 (316L、304、 0Cr18Ni9)、碳 钢 (16Mn、 Q235-A、45 等)。 2、夹持器必须与 爆破片配套设计、 制造, 以保证正确 配合。 3、夹持器一般应 高出爆破片的拱 顶, 或应采用其他 措施防止爆破片产 生意外的损坏。 4、夹持器只能与 原设计爆破片配合 使用, 未经本公司 同意不得随意修改 和替换。

夹持器外形尺寸表
Rupture disk outline dimension and shape

DN/mm (注1)	D/mm PNMPa				H/mm		
	0.6	1.0	1.6	≥4.0	Ha	Hb	He
25	58	65	65	65	≤50	≤50	≤50
(32)	69	76	76	76	≤50	≤50	≤50
40	78	84	84	84	≤50	≤50	≤50
50	88	99	99	99	≤50	≤50	≤50
(65)	108	118	118	118	≤50	≤50	≤50
80	124	132	132	132	≤50	≤50	≤50
100	144	156	156	156	≤55	≤50	≤50
(125)	174	184	184	184	≤60	≤50	≤50
150	199	211	211	211	≤70	≤60	≤50
200	254	266	266	284	≤85	≤65	≤50
250	309	319	319	345	≤100	≤75	≤50
300	363	370	370	409	≤120	≤85	≤50
350	413	429	429	485	≤140	≤95	≤60
400	463	480	480	535	≤150	≤110	≤60
450	518	530	548	560	≤165	≤120	≤65
500	568	582	609	615	≤180	≤125	≤65
600	667	682	720	735	≤200	≤150	≤70
700	772	794	794		≤230	≤160	≤80
800	878	901	901		≤250	≤170	≤90
900	978	1001	1001		≤280	≤180	≤90

1. 表中所列夹持器外径D为HG20592标准法兰相配，法兰密封面为RF型。
2. 若与其他标准法兰相配则按相应法兰标准设计。
1. Outer diameter D of the disk holders listed in the table should be installed with HG20592 standard flange, and the seal face of the flange is RF type.
2. If installed with other standard flange, it should be designed according to corresponding standard.

常用数据
Common Data

爆破压力允差 (摘自GB567-1999《爆破片与爆破片装置》)
Burst Pressure Tolerance (from GB567-1999 "Bursting disc and bursting disc devices")

标定爆破压力范围MPa Marked burst pressure ranges MPa	相对标定爆破压力的允差 Marked burst pressure tolerance
≥0.001~0.01	±50%
>0.01~0.1	±25%
>0.1~0.3	±15%
>0.3~100	±5%
>100~500	±4%

注：当标定爆破压力小于0.1MPa或大于100MPa时，爆破片的爆破压力允差允许供需双方在表规定的基准上进一步协商确定，作为校核、交货依据。
Note: When marked burst pressure is less than 0.1MPa or more than 100MPa, burst pressure tolerance need to be negotiated by both buyer and supplier.

爆破试验抽样数量 (摘自GB567-1999《爆破片与爆破片装置》)
Burst Testing Sampled Quantity (from GB567-1999 "Bursting disc and bursting disc devices")

同批次爆破片成品总数 (片) Total quantity in each batch	爆破试验抽样数量 (片) Quantity to be sampled
<10	2
10~15	3
16~30	4
31~100	6
101~250	4%, 但不少于6 but not less than 6
251~1000	3%, 但不少于10 but not less than 10

注：1、剔除的和抽样试验用的爆破片均不计入该批次爆破片成品总数之内
2、同批次爆破片成品总数超过1000片时，爆破试验抽样数量由供需双方协商确定。
Note: 1. The samples of rupture disk to be tested or eliminated are not counted in total quantity of such batch rupture disk.
2. If total quantity of the same batch rupture disk are more than 1000 pieces, the quantity of sampled can be negotiated by both buyer and supplier.

正拱形爆破片制造范围 (摘自GB567-1999《爆破片与爆破片装置》)
Conventional Domed Rupture Disk Manufacturing Ranges (from GB567-1999 "Bursting disc and bursting disc devices")

Classification: Standard Manufacturing Ranges, 1/2 Standard Manufacturing Ranges, 1/4 Standard Manufacturing Ranges

设计爆破压力 Design burst pressure	1		1/2		1/4	
	上限(正) Max.(positive)	下限(负) Min.(negative)	上限(正) Max.(positive)	下限(负) Min.(negative)	上限(正) Max.(positive)	下限(负) Min.(negative)
0.03~0.40	0.045	0.025	0.025	0.015	0.010	0.010
0.41~0.70	0.065	0.035	0.030	0.020	0.020	0.010
0.71~1.0	0.085	0.045	0.040	0.020	0.020	0.010
1.1~1.4	0.110	0.065	0.060	0.040	0.040	0.020
1.5~2.5	0.160	0.085	0.080	0.040	0.040	0.020
2.6~3.5	0.210	0.105	0.100	0.060	0.040	0.020
3.6以上	6%	3%	3%	1.5%	1.5%	0.8%

反拱形爆破片制造范围 (摘自GB567-1999《爆破片与爆破片装置》)

按设计爆破压力的百分数计算，分为0%、-5%、-10%。

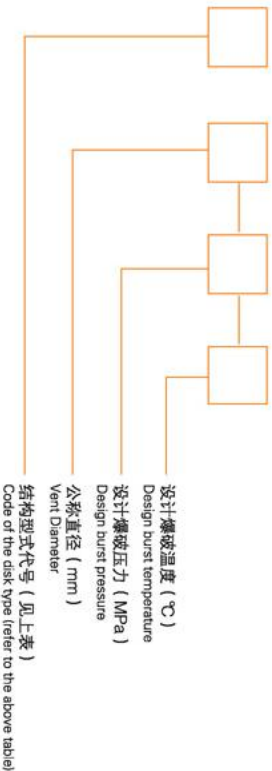
爆破片型号标记方法
Marking Methods of Rupture Disk Type

爆破片结构型式代号 Code Of Rupture Disk

LP	LPZ	PF	PFF	LF	LFF	PC	LC	LHC	YC	YHC	YD	YE	PM
正拱普通	正拱整体	圆板开缝	方板开缝	圆形正拱开缝	方形正拱开缝	平板带槽	正拱带槽	正拱环槽	反拱带槽	反拱环槽	反拱带刀	反拱锯齿	平板石墨
conventional simple domed rupture disk	conventional domed integrated rupture disk	round flat slotted lined rupture disk	rectangular flat slotted lined rupture disk	round conventional slotted domed rupture disk	rectangular conventional slotted domed rupture disk	flat scored rupture disk	conventional scored simple domed rupture disk	conventional domed circular-scored rupture disk	reverse domed scored rupture disk	reverse domed circular-scored rupture disk	reverse domed with knife blades rupture disk	reverse domed rupture disk with a teeth ring	graphite monobloc

1. 如果爆破片与夹持器焊接连接，则在结构型式代号后加字母“H”，如LPH、LCH、YCH。
2. 除开缝型爆破片外，其他爆破片加托架，则在结构型式代号后加字母“T”，如PMT、LPT。
3. 除开缝型爆破片外，其他爆破片加防腐膜，则在结构型式代号后加字母“M”，如YCM、LPM。

1. If rupture disk is welded with holders, it should be plus “H” after the code, such as LPH, LCH, YCH.
2. Except the slotted rupture disk, if the disk is with vacuum support, it should be plus “T” after the code, such as PMT, LPT.
3. Except the slotted rupture disk, if the disk is with corrosion-resistant membrane, it should be plus “M” after the code, such as YCM, LPM.



例如：对于泄放口径为100mm，设计爆破压力为12.5MPa，设计爆破温度为325℃的正拱普通型爆破片，标记为：LP100-12.5-325。若爆破片与夹持器焊接连接，则标记为LPH100-12.5-325。

Example: the simple domed rupture disk with vent diameter 100mm, design burst pressure 12.5MPa, design burst temperature 325℃, marked as: LP100-12.5-325. If the rupture disk is welded with holders, marked as: LPH100-12.5-325.



爆破片与安全阀串联组合的基本特性
The characteristics of rupture disk combined with safety valve

- 该结构也称为隔离式安全阀。
- 集中了爆破片与安全阀各自的优点，克服了二者的缺点，提高了防超压安全泄放水平(详见下表)
- 可对安全阀进行现场校验。在此基础上，我公司开发了安全阀现场校验技术和装备，使安全阀现场校验变得非常简便。
- 与安全阀串联使用的爆破片装置必须配有压力指示装置。订货时只要说明该爆破片装置与安全阀串联使用，我公司即可提供与此相配套的爆破片装置。
- It is also known as isolated safety valve.
- Absorbing the advantages of both rupture disk and safety valve, it provides a better relief performance.
- Allowing the safety valve to be field checked.
- The rupture disk devices combined with safety valve must be equipped with pressure indicator. In this case, customer can only illustrate that the rupture disk should be combined with safety valve, our company can provide the corresponding rupture disk devices.

爆破片与安全阀串联组合的基本特性

安全阀 Safety Valve	爆破片 Rupture Disk	爆破片与安全阀串联组合 Rupture disk combined with safety valve
1 泄漏难免 Leakage	不泄漏 No Leakage	与爆破片同。因为安全阀的泄漏被它入口侧的爆破片截止。 The same as rupture disk. Leakage of the safety valve is prevented by rupture disk located at its inlet.
2 不彻底泄放 Not Complete Relief	彻底泄放 Complete Relief	与安全阀同。因为爆破片爆破后的泄放通道被它出口侧的安全阀自动关闭。 The same as safety valve. Exhaust port is automatically closed by safety valve located at the outlet.
3 中断生产 Continuous Processes	中断生产 Break Up Processes	与安全阀同。因为安全阀复位后生产恢复正常进行，夹持爆破片前端的截止阀，更换爆破片后，该组合体恢复正常工作状态。 The same as safety valve. When closed the cut-off valve and replaced the rupture disk, it is available to be normal working condition again.
4 造价高 High Cost	造价低 Low Cost	造价不高于单独使用的安全阀。因为在正常工作状态，安全阀不与工艺介质接触，对其材料无特殊要求(耐腐蚀等)，所节约材料费用足以抵偿配置爆破片所增加的费用。 The cost is not higher than a single safety valve. It has no special requirement for the material of safety valve (such as corrosion resistance, etc.), by saving the cost of valve materials sufficient to offset the increased cost of corresponding rupture disk.
5 寿命较短 Short Service Life	寿命较长 Long Service Life	与爆破片同。爆破片隔绝了工艺介质对安全阀的直接作用，从而延长了安全阀的使用寿命。 The same as rupture disk. Rupture disk isolates the direct effect of media acting on safety valve, and prolongs the service life of the safety valve.
6 维护复杂 Complex Maintenance	维护简单 Easy Maintenance	接近于爆破片。无需对安全阀进行特殊维护，可对使用中的安全阀进行现场校验，大大简化了校验程序。 Most close to rupture disk. It allows the safety valve to be field checked and simplifies its testing procedure.
7 不适用于粘性、易沉淀结晶的介质 Not Suitable For Viscous Media	可用于这些介质 Suitable For Such Media	与安全阀动作可能关不严，但不影响该组合体性能。 The same as rupture disk. The viscosity of the media does not affect the action of the disk.

订货须知

订货时需填写《爆破片装置设计制造原始条件》，其中各项按以下需求填写：

- 1、泄放口径DN——该尺寸与设备泄放口相符，尺寸的正确与否决定着设备超压时能否安全泄放，该尺寸由设备设计单位或使用单位确定。**必须正确填写。**
- 2、设计爆破压力 P_b ——指爆破片在设计爆破温度下对应的爆破压力，可根据设备最大允许工作压力或设备设计压力或操作压力确定，也可从在用的爆破片铭牌上查取，如果填写不正确可能导致设备不安全或操作无法进行。**必须正确填写。**
- 3、设计爆破温度 T_b ——指在设计爆破压力下，对应的爆破片的实际壁温。如果爆破温度填写不正确，则可能导致实际爆破压力高于或低于出厂标定爆破压力，或者爆破片材料选择不正确。**必须正确填写。**
- 4、爆破公差——指本批爆破片实际的试验爆破压力相对于标定爆破压力最大允许偏差，GB567-89标准规定了不同爆破压力等级的爆破公差。根据标准或双方协商确定。**必须填写。**
- 5、制造范围——指设计爆破压力在制造时允许变动的压力范围。GB567-89标准中推荐了三种制造范围，要求越高，制造越困难，制造成本越高。**双方协商后填写。**
- 6、设备位号——指安装爆破片的设备代号，**如果有则必须填写**，以便确定爆破片安装位置。
- 7、设备设计压力与设备设计温度——安装爆破片设备的设计压力和设计温度，通过该压力和温度可判断爆破片设计爆破压力与设计爆破温度确定是否正确，希望能准确填写，以便为爆破片制造提供参考。
- 8、设备工作压力——指在设备正常工作时，设备内可能达到的最大工作压力，该参数决定爆破片型式选择是否正确，不同型式爆破片其最大允许工作压力不同。如果爆破片型式选择不正确，可能导致爆破片提前爆破。有压力波动则填写“压力波动范围”。**必须填写。**
- 9、设备工作温度——设备正常工作时，设备内操作温度，希望填上。
- 10、容器总容积——希望填写。
- 11、容器气相容积——该项指爆破片安装部位的气相容积。如果爆破片安装在设备上，对处理气体的设备，该项填写“全部气相”；对处理液体设备，则该项填写为在各种工况

Please provide us the following information:

Notices for Order

1. Vent Diameter DN: this dimension should be in accordance with that of the equipment. This dimension is determined by both equipment design company and buyer. **Must be filled correctly.**
2. Design Burst Pressure PB: the burst pressure quoted with a coincident temperature. It either can be fixed on maximum allowable operating pressure of the equipment, equipment design pressure or operating pressure, or consult from the disk tag. **Must be filled correctly.**
3. Design Burst Temperature TB: the actual temperature of the disk wall associated with the design burst pressure. **Must be filled correctly.**
4. Burst Tolerance: the difference between the maximum and minimum specified burst pressure at a coincident temperature. Confirm by standard or negotiation. **Must be filled.**
5. Manufacture Ranges: the allowable fluctuant ranges of the design burst pressure when manufacturing. **Filled after negotiation.**
6. Tag Number of Equipment: Filled if necessary.
7. Equipment Design Pressure and Design Temperature: the design pressure and temperature of the equipment when rupture disk is installed. **Hope to be filled.**
8. Equipment Operating Pressure: the maximum operating pressure existing possibly at normal conditions within the system being protected. If the system exists fluctuation of pressure, please fill "pressure pulsating ranges". **Must be filled.**
9. Equipment Operating Temperature: the temperature existing at normal operating conditions within the system being protected. **Hope to be filled.**
10. Vessel Volume: Hope to be filled.
11. Vessel Gas Volume: If rupture is fixed on the equipment, for gas processing equipment, please fill

"full gas"; for liquid processing equipment, please fill the minimum gas space or liquid filling rate in various working condition. If rupture disk is fixed on pipeline, please fill "fix on gas pipeline" or "fix on liquid pipeline". **Must be filled.**

12. Vacuum Conditions: one refers to whether existing negative pressure (vacuum) in the equipment; another refers to whether having backpressure to act on the vent side of rupture disk. **Must be filled.**
13. Pressure Cycling Frequency: refers to whether having pressure fluctuation in the pipeline or equipment. If rupture disk is fixed on the pipeline connecting with pump or compressor, please fill in "at the outlet of pump or compressor", if no pressure pulsating, please fill in "No", if existing pressure pulsating, please fill in "pressure pulsating frequency". **Must be filled.**
14. Media Name: Must be filled.
15. Max and Min Specified Burst Pressure: it should be calculated according to burst tolerance and manufacturing ranges.
16. Materials of Rupture Disk and Holders: confirm by both buyer and supplier according to the media, burst pressure and burst temperature. **Must be filled.**
17. Flange Standard, Nominal Pressure, Nominal Diameter, Seal Face Type: Must be filled.
18. Pressure Indicator: if rupture disk is combined with safety valve, the pressure indicator should be installed.

The parameters above are necessary for manufacturer to conform the type, material and manufacturing process of rupture disk. Both equipment company and buyer should provide the parameters exactly, and if can not be identified, noted in "not clear".

订货须知

大连理工安全装备有限公司
爆破片装置设计制造原始条件

交货期	200 年
	月 日

《本表是我公司设计爆破片装置的原始依据，恳请用户按下列要求认真、逐项填写，无要求者可在某栏内填写“无”或划上“/”。对于用户不能提供的参数可认为与本次爆破片的设计无关。最后，请用户代表务必在本页左下角“需方”处签字确认。

《本表中的压力均系“表压力”，单位：MPa (1kgf/cm²≈0.1MPa=100KPa)。

合同号	200 -	批次号	200 -
用户名称			
原始设计条件			
泄放口径 DN	mm	允许最大爆破压力P _{Bmax}	MPa
设计爆破压力 P _B	MPa	允许最小爆破压力P _{Bmin}	MPa
设计爆破温度 T _B	℃	初选爆破片类型	
爆破压力允差 ΔP _B	MPa	%	材料 爆破片 数量 片
制造范围 %P _B	MPa	%	材料 支持器 数量 套
设备名称	法兰规格 DN	mm	PN MPa
设备位号	标准号	密封面型式	
设备设计压力 P	MPa	请在本栏内填写安全阀入口处需配置的泄零装置	
设备设计温度 T	℃	泄零装置材料	数量 套
设备工作压力 P _w	MPa	备注：	
设备工作温度 T _w	℃		
设备总容积 V	m ³		
设备气相容积 V _g	m ³		
系统有无真空工况	真空度 KPa		
压力循环次数 N	以下各栏由我公司主管销售工程师填报		
介质名称		项目	爆破片 夹持器 泄零装置
粘度	腐蚀 相态	需库存 片 套	套
用户联系电话/传真		单价 元/片	元/套 元/套

需方 (用户签章)： 供方合同号： 供方计划号：

地址：大连市高新技术产业园区双D港辽河东路26号 邮编：116620
电话：0411-66778100 8105 8106 8107 8108 8109 传真：0411-66778123
E-mail: data@data.com.cn 网址: www.data.com.cn

Notices for Order

DALIAN LIGONG SAFETY EQUIPMENT CO., LTD.
BASIC TECHNICAL PARAMETERS FOR
DESIGN & MANUFACTURE OF RUPTURE DISK DEVICES

Delivery	200 yy
	mm dd

《The rupture disk devices are designed and manufactured according to the technical parameters below. This data must be signed by the customer to confirm it is correct.

《All the pressure data are gauge pressure. The unit is MPa (1kgf / cm² ≈ 0.1MPa = 100KPa).

Contract No.	200 -	Lot No.	200 -
Customer			
Technical Parameters			
Vert Diameter DN	mm	Max Burst Pressure PBmax	MPa
Design Burst Pressure PB	MPa	Min Burst Pressure PBmin	MPa
Design Burst Temperature TB	℃	Rupture Disk Type	
Burst Tolerance ΔPB	MPa	%	Rupture Disk 数量 Piece(s)
Manufacturing Ranges %PB	MPa	%	Material Holder 数量 Set(s)
Equipment Name	Flange specifications	DN	mm PN MPa
Tag No	Flange Standard	Sealing Face type	
Equipment Design Pressure P	MPa	Pressure Indicator Devices	
Equipment Design Temperature T	℃	Pressure Indicator Material	Quantity set
Equipment Operating Pressure Pw	MPa	Remarks:	
Equipment Operating Temperature Tw	℃		
Total Volume of Equipment V	m ³		
Gas Phase Volume Vg	m ³		
Vacuum (yes or no)	Vacuum Degree KPa		
Pressure Cycling Frequency	Data Below Filled By The Sales Engineer Of Our Company		
Media Name	Type	Rupture Disk	Det. Holder Pressure Indicator
Viscosity	Corrosion	storage	piece set set
Customer's Tel/Fax	Unit Price	Yuan/piece	Yuan/set Yuan/set

Customer (signature) : Supplier (signature):

Address: (地址) No.26, Liaohu East Road, Double D Port, High-tech Industrial Zone, Dalian, China
Post Code: (邮编) 116620 Tel: 0411-66778100 8105 8106 8107 8108 8109 Fax: 0411-66778123
Website: www.data.com.cn E-Mail: data@data.com.cn