

Customised Products (OEM)

Elfab's extensive standard range of rupture discs (bursting discs) serves a diverse array of industries and applications. However, many customers are looking for unique solutions to meet their ever demanding needs. This is where Elfab's design for manufacture approach allows for tailored products to meet the needs of distinct projects. Our engineers have comprehensive knowledge and experience of providing innovative solutions to each individual customer requirement.

Utilising the latest in house CAD design capabilities Elfab is able to produce a vast range of designs to meet customers' exact requirements. Our sophisticated processes are flexible enough to provide customers with optional value add-ons whilst maximising the use of automation to manage the entire process, from raw materials through to the packaging of finished goods. This enables Elfab to more efficiently meet customer's requirements allowing us to offer cost effective solutions with a high degree of flexibility, responsiveness and shorter lead times.



To enable us to continually lead the field in the innovation of customised rupture discs and original equipment products Elfab has invested substantially in exclusive automation processes. These sophisticated manufacturing techniques allow for technically advanced products that are able to satisfy the stringent needs of safety critical applications, including; automotive, fire suppression, gas transportation and refrigeration. The fully automated equipment is capable of rapidly producing large volumes of rupture discs in a wide variety of designs, sizes, materials and burst pressures. Our industry leading in house electron beam welding processes produce the highest integrity joint possible reducing the risk of leakage problems and premature failure. This enables Elfab to produce assemblies with advanced tolerances of +/-3% and a leak tightness of up to 10^{-8} cc/sec.

Elfab's in house sample preparation, inspection and testing laboratory ensures that even the most delicate OEM rupture discs can be analysed without the risk of inducing defects. High end computerised micro section capabilities and a complete range of state of the art pressure testing rigs allow for detailed examination of assemblies to ensure the highest possible quality standards are met, reducing test schedules for our customers and ensuring long term reliability. We have the resources and capability to manufacture products of the highest possible standard and technical specifications.



Elfab's Approvals and Accreditations

Elfab is a global organisation with world wide approvals and accreditations.

Approval/Accreditation	Country
ISO9001:2000 Lloyds Register Quality Assurance	International
ATEX <ul style="list-style-type: none"> • Quality Assurance • For integral Flo-Tel™+ • For Vac-Gard/Posi-Gard integral Flo-Tel • For explosion vent and detector • For Bio-Tel burst detector • For Burst-Tel disc detector 	Europe
Safety Quality Licence Certificate	China
SVDB603 Switzerland SVTI	Switzerland
AD2000 Merkblatt HPO/EN729-3 TUV	Germany
ASME VIII	United States
GOST R	Russia
Lloyds EC Certificate of Conformity	Europe

OE1 Rupture Discs (Busting Discs)



OE1 products are disc only and based on Elfab's score technology rupture discs. Elfab's fully automated production lines are capable of producing rupture discs in large quantities, offering an ideal solution for high volume, price sensitive OEM applications. OE1 rupture discs (bursting discs) provide a cost effective solution for customers requiring high volumes of rupture discs to install between

existing holders.

Typical Applications

OE1 rupture discs (bursting discs) can be found in various industries including aerospace & defence and gas handling. Within these industries OE1 rupture discs (bursting discs) serve many applications including preventing over pressurisation of deep sea diver's compressed air cylinders due to over filling or fire engulfment. OE1 rupture discs (bursting discs) can also be found in igniters for rocket engines that are used in the European Space programme.

Scope of Design

- Conventional Domed/Safe-Gard rupture discs (bursting discs)
- Burst pressures from 0.5-100,000 psi (0.03-6895 bar g)*
- Capable of withstanding back pressure*
- Operating temperatures from -195-538 °C (-320-1000 °F)*
- Burst tolerance from +/-10% down to +/-2%*
- Non fragmenting design
- Rupture Disc Materials: Aluminium, Nickel, Stainless Steel, Monel, Inconel, Silver, Gold, Platinum, Tantalum, Titanium (Body only)
- Typical 2-4 week lead time*
- Testing systems that meet all known quality standards

*Dependant on Design

OE2 Rupture Discs (Bursting Discs)



OE2 is a capped disc and plug design using conventional rupture discs (bursting discs), either flat or domed. The plug is typically made from brass although other materials are available. Elfab's fully automated production lines are capable of rapidly producing large volumes of capped rupture disc (bursting disc) assemblies in a wide variety of sizes, designs and burst pressures.

Typical Applications

OE2 assemblies can be used in a variety of industries and in many different applications. OE2 rupture disc (bursting disc) devices are present in fire extinguishers and other gas handling applications. Most types of fire extinguisher contain either compressed nitrogen, water or pressurised liquid CO₂. The OE2 rupture disc (bursting disc) device is placed near to the valve where it prevents pressure explosions due to overfilling or fire suppression. The advantage of OE2 rupture disc assemblies is the high operational performance and superior leak tightness coupled with the zero maintenance design.

Scope of Design

- Flat/Conventional Domed rupture discs (bursting discs)
- Burst pressures from 37-2900 psi (2.5-200 bar g)
- Capable of withstanding back pressure
- Operating temperatures from -40-200 °C (-40-752 °F)
- Burst tolerance from +/-10% to +/-5%*
- Tamperproof*
- Rupture Disc Materials: Nickel/Stainless Steel/Copper/Aluminium
- 2-6 week lead times*
- Testing systems that meet all known quality standards
- Inlet: Threaded
- Outlet: Baffle/Straight through
- Leak Tightness: 10⁻⁴ cc/sec

*Dependant on Design



OE3 Rupture Discs (Bursting Discs)



OE3 is a crimped disc and plug design using conventional rupture discs (bursting discs), either flat or domed. The rupture disc (bursting disc) is held in place by a washer in a recess at the end of the plug body and crimped to secure it into place. The plug is typically constructed of brass however other materials are available. Elfab's highly skilled workforce is capable of rapidly producing large volumes of capped rupture disc assemblies in a wide variety of sizes, designs and burst pressures.

Typical Applications

OE3 rupture discs (bursting discs) are suitable for many industries including aerospace and defence, general manufacturing and gas handling. A typical application of the OE3 rupture disc (bursting disc) is in breathing systems for military and defence purposes. The brass crimped plugs prevent pressure explosions due to over filling or fire engulfment of the pilot's oxygen supply bottles in fighter jets. The high integrity design of OE3 rupture disc (bursting disc) assemblies also makes them suitable for preventing over pressurisation of compressors inside cryogenic coolers.

Scope of Design

- Flat/Conventional Domed rupture disc (bursting disc)
- Burst pressures from 37-2900 psi (2.5-200 bar g)
- Capable of withstanding back pressure
- Operating temperatures from -40-400°C (-40-752 °F)
- Burst tolerance from +/-10% to +/-5%*
- Tamperproof
- Rupture Disc Materials: Nickel/Stainless Steel/Copper/Aluminium
- 2-6 week lead times*
- Testing systems that meet all known quality standards
- Inlet: Threaded
- Outlet: Threaded/Baffle/Straight through
- Leak Tightness: 10^{-4} cc/sec

*Dependant on Design



OE4 Rupture Discs (Bursting Discs)



OE4 is a screwed and bonded rupture disc (bursting disc) and plug assembly based on conventional rupture discs (bursting discs). The rupture disc (bursting disc) is clamped between an inlet and an outlet which are screwed together. Thread-lock material is used to prevent tampering and the whole assembly is discarded after burst. The plug is typically constructed from brass however other materials are available.

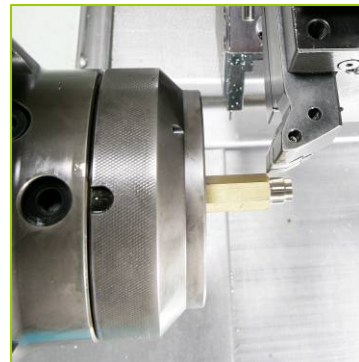
Typical applications

Typical applications for OE4 rupture disc (bursting disc) assemblies include preventing over pressurisation of gas cylinders and compressed air systems. The device is installed on bottle valves to correspond to the bottle type and relieves over pressure due to fire or catastrophic failure. OE4 rupture disc (bursting disc) assemblies are also widely used in cryogenic applications where the device prevents over pressurisation of liquefied gas vessels. The OE4 design offers superior operational performance in a wide range of inlets and outlets. The flexible, zero maintenance design offers a high degree of leak tightness.

Scope of Design

- Conventional Flat/Domed/Safe-Gard/Uni-Gard (for gas applications) rupture discs (bursting discs)
- Burst pressures from 37-2900 psi (2.5-200 bar g)
- Capable of withstanding back pressure
- Operating temperatures from -40-400 °C (-40-752 °F)
- Burst tolerance from +/-10% to +/-5%*
- Tamperproof*
- Rupture Disc Materials: Nickel/Stainless Steel/Copper
- 2-6 week lead times*
- Testing systems that meet all known quality standards
- Inlet: Threaded
- Outlet: Threaded/Baffle/Straight through
- Leak Tightness: 10^{-4} cc/sec

*Dependent on design



OE5 Rupture Discs (Bursting Discs)



The OE5 rupture disc (bursting disc) is a scored forward, scored reverse or Uni-Gard rupture disc (bursting disc) that is Electron Beam Welded directly onto the end of a plug assembly. The use of Electron Beam Welding ensures that leak tightness is not an issue for applications where it is essential that process medium is not vented to atmosphere. To ensure safety in these

industries rupture discs (bursting discs) are specified to provide a high integrity, fail-safe, pressure relief device. Elfab leads the industry in providing Electron Beam welding capabilities that produce the highest integrity joint possible, reducing the risk of such problems and preventing premature failure.

Typical Applications

OE5 rupture disc (bursting discs) assemblies are used in industries such as aerospace and defence and manufacturing and engineering. Typical applications of the OE5 rupture disc (bursting disc) assemblies include preventing over pressurisation of torpedo cases and fuel ignition pressure switches for missiles. OE5 rupture discs (bursting discs) also provide pressure relief in case of a blockage in PVC extrusion systems where plastic is melted by being forced along a barrel at high pressure. The OE5 rupture disc (bursting disc) assemblies provide exceptional 10^{-9} cc/sec leak tightness, excellent operational performance and are simple to install with zero maintenance required.

Scope of Design

- Flat/Domed/Forward Scored or Reverse Scored rupture discs (bursting discs)
- Burst pressures from 0.5-100,000 psi (0.03-6895 bar g)*
- Capable of withstanding back pressure*
- Operating temperatures from -195-538 °C (-320-1000 °F)*
- Burst tolerance from +/-10% down to +/-2%*
- Non fragmentation designs available*
- Rupture Disc Materials: Aluminium, Nickel, Stainless Steel, Monel, Inconel, Silver, Gold, Platinum, Tantalum, Titanium (body only)
- 2-6 week lead time*
- Testing systems that meet all known quality standards
- Inlet: Threaded
- Outlet: Baffle/Straight through
- Leak Tightness: 10^{-8} cc/sec

*Dependent on design



OE6 Rupture Discs (Bursting Discs)



The OE6 rupture disc (bursting disc) is a scored forward, scored reverse or Uni-Gard rupture disc that is Electron Beam Welded in between the inlet and outlet sections of the plug. The use of Electron Beam Welding ensures that leak tightness is not an issue for applications where it is essential that process medium is not vented to atmosphere. To ensure safety in these industries rupture discs are specified to provide a high integrity, fail-safe, pressure relief device. Elfab leads the industry in providing Electron Beam welding capabilities that produce the highest integrity joint possible, reducing the risk of such problems and preventing premature failure.

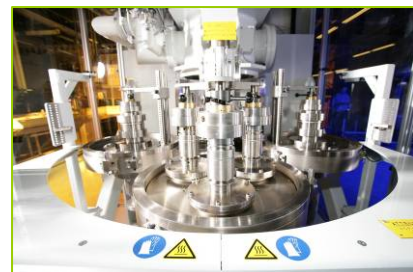
Typical Applications

The high integrity OE6 rupture disc (bursting disc) design is able to cope with extremely low temperatures and high pressures which ensures that liquefied hydrogen is stored in a safe manner. OE6 rupture discs (bursting discs) are also used as pressure switches in missiles for defence purposes and prevent pressure explosions in compressors inside air conditioning units. The OE6 rupture disc (bursting disc) design gives exceptional leak tightness up to 10^{-8} cc/sec and outstanding operational performance the baffle outlet provides controlled venting. Suitable for many environments OE6 rupture disc (bursting disc) assemblies require zero maintenance once installed.

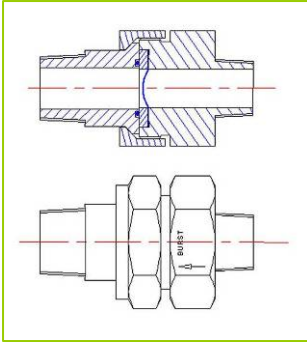
Scope of Design

- Flat/Domed/Forward Scored or Reverse Scored rupture discs (bursting discs)
- Burst pressures from 0.5-100,000 psi (0.03-6895 bar g)*
- Capable of withstanding back pressure*
- Operating temperatures from -195-538 °C (-320-1000 °F)*
- Burst tolerance from +/-10% down to +/-2%*
- Non fragmenting designs available*
- Rupture Disc Materials: Aluminium, Nickel, Stainless Steel, Monel, Inconel, Silver, Gold, Platinum, Tantalum, Titanium (Body only)
- 2-6 week lead times*
- Testing systems that meet all known quality standards
- Inlet: Threaded
- Outlet: Threaded/Baffle/Straight through
- Leak Tightness: 10^{-8} cc/sec

*Dependant on Design



OE7 Rupture Discs (Bursting Disc)



OE7 is a forward or reverse scored rupture disc (bursting disc) inside a union holder. This type of design means that only the rupture disc (bursting disc) is replaceable after burst. The holder is constructed of three parts; the inlet, the outlet and a connecting ring. The plug is typically constructed of brass, however other materials are available.

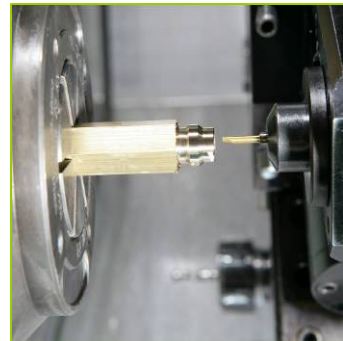
Typical Applications

OE7 rupture disc (bursting disc) assemblies are used in a number of applications including scientific and medical where the OE7 is used within high end measuring and laboratory instruments. OE7 rupture disc (bursting disc) devices are also used in sub-sea oil and gas exploration and gas handling applications where they prevent overpressure explosions due to fire engulfment or over filling where the device is fitted to the bottle valve. The OE7 rupture disc (bursting disc) design offers excellent operational performance with a wide range of inlets and outlets. The OE7 gives customers the benefit of having to replace only the rupture disc (bursting disc).

Scope of Design

- Capable of withstanding back pressure*
- Operating temperatures from -195-538°C (-320-1000 °F)*
- Burst tolerance +/-10%*
- Non fragmentation designs available*
- Rupture Disc Materials: Aluminium, Nickel, Stainless Steel, Monel, Inconel, Silver, Gold, Platinum, Tantalum, Titanium (Body only)
- 2-6 week lead times*
- Testing systems that meet all known quality standards
- Inlet: Threaded
- Outlet: Threaded
- Leak Tightness: 10^{-4} cc/sec

*Dependent on design



OE9 Rupture Discs (Bursting Discs)



OE9 are rupture discs (bursting discs) designed for applications in high voltage switchgear, circuit breakers and instrument transformers. Where SF6 gas is used as an insulating medium OE9 rupture discs (bursting discs) provide high integrity pressure relief solutions. The insulating strength of SF6 increases with pressure making rupture discs essential. OE9

rupture discs (bursting discs) can be either forward or reverse acting in design and are designed to high tolerances to ensure minimal leakage of SF6 gas. The rupture discs (bursting discs) mount directly onto the equipment with customer specific flanges eliminating the need for separate holders.

Typical Applications

The OE9 rupture disc (bursting disc) removes the risk of a pressure explosion in the case of an internal short circuit or an external fire. Elfab produce OE9 rupture discs (bursting discs) for many of the leading manufacturers of SF6 insulated equipment.

Scope of Design

- Burst pressures from 0.5 to 100,000 psi (0.03-6895 bar g)*
- Capable of withstanding back pressure*
- Operating temperatures from -195-538 °C (-320-1000 °F)*
- Burst tolerance +/-10%*
- Non fragmenting design
- No holder required
- Rupture Disc (bursting disc) Materials: Aluminium, Nickel, Stainless Steel, Monel, Inconel, Silver, Gold, Platinum, Tantalum
- 2-6 week lead times*
- Testing systems that meet all known quality standards

*Dependent on design



Elfab Pressure Intelligence

As well as our extensive range of rupture discs (bursting discs) designed for OEM applications Elfab also manufacture a comprehensive range of forward and reverse acting rupture discs (bursting discs), rupture disc holders (bursting disc holders), explosion vents (explosion panels), rupture disc sensors (bursting disc sensors) and detection and rupture disc (bursting disc) accessories.

Elfab offer unique design, testing and consultancy for pressure management. If you would like more information on any of Elfab's customised rupture disc (bursting disc) products or you would like to discuss your product requirements further please do not hesitate to contact us.

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