

# SAFE-SHEAR™ Burst Disc Technology

## PRECISION BURST DISC & PRESSURE RELIEF SOLUTIONS

Technetics offers high precision burst disc and pressure relief solutions for a wide variety of applications. Our products are designed to fit your exact standards and protect your system from high pressure and high vacuum. Our SAFE-SHEAR™ burst disc assemblies are currently protecting diverse systems, from ground-based vehicles to military and space applications such as the V-22 Osprey, numerous satellites such as the Hubble Telescope, Mars Global Surveyor, Gravity Probe B, WISE and International Space Station.

We have also produced burst disc relief valves for the Ares and Orion programs, the Space Shuttle, and a variety of current international space vehicles. Products are suited for extreme conditions such as hard vacuum, high pressure, cryogenic and high temperatures. Technetics also provides full analytical, design and test support.



### BENEFITS

- Not susceptible to performance degradation over time due to pressure cycles and vibe/shock exposure unlike frangible style rupture discs
- High level of accuracy with rupture pressures of  $\pm 1\%$  full scale
- Burst setting 100% verifiable & adjustable by non-destructive testing
- Achieves leak tightness  $< 1.0 \times 10^{-9}$  sccs, considerably better than pressure relief valves alone
- Allows continuous pressure cycling operation up to 95% of set burst pressure
- Able to withstand high shock & vibration levels; does not cause premature rupture or reduced life
- Suited for extreme conditions such as hard vacuum, high pressure, cryogenic & high temperature
- Offered with an integrated precision pressure relief valve for dual-redundancy
- No leakage to atmosphere
- Designed for non-fragmentation
- Low burst & very high burst pressure capability
- Can withstand the vacuum of space
- Life of platform capability
- Suitable for highly volatile media
- Launch/Abort/Random vibration resistance
- Weight savings of 50-80% compared to competing systems

### DESIGN FEATURES

- Materials
  - Aluminum
  - Steel
  - Nickel Alloy

### OPERATING PARAMETERS

- Burst pressure setting range from 1 psid to 10,000 psid with  $\pm 1\%$  accuracy [0.07 to 689 bar / 7 to 68,950 kpa]
- Operating temperatures from  $-452^\circ\text{F}$  to  $> +1000^\circ\text{F}$  [ $-271^\circ\text{C}$  to  $> +540^\circ\text{C}$ ]

### APPLICATIONS

- Transport aircraft
- Human & autonomous space vehicles
- Aircraft fuel systems
- Space launch vehicles
- Sensitive rail cargo
- Cryogenic
- Satellites



## WHO WE ARE

Technetics' products can be found on aircraft in virtually every segment of the aerospace market. We design and manufacture solutions for both fixed-wing and rotary-wing aircraft supporting a growing list of commercial and military platforms, as well as unmanned aerial vehicles and spacecraft. Our mission is to deliver engineered products that meet and exceed our customers' expectations for performance, quality, reliability and delivery.

## SUPERIOR ENGINEERING CAPABILITIES

- **3D MODELING & FEA:** Technetics uses CAD software to design and develop sealing concepts, and facilitate efficient communication with our customers and supply chain partners.
- **QUALIFICATION/TESTING:** Extensive on-site static sealing, dynamic sealing and fluid sealing test capabilities combined with external testing partners' expertise to ensure product integrity and full conformity with design criteria.

## STRONG SAFETY & QUALITY CULTURE

- **SAFETY:** The safety culture within Technetics places a relentless focus on creating a healthy work environment. Our safety framework is designed to eliminate all incidents associated with Technetics activities, products and services.
- **OPERATIONAL EXCELLENCE:** Our continuous improvement culture is focused on customer satisfaction and driving operational efficiencies across our businesses.
- **CERTIFICATIONS:** All our aerospace facilities hold AS9100 quality approval as well as a number of customer approvals.

## DIVERSE AEROSPACE OFFERINGS



**FELTMETAL™  
ACOUSTIC MEDIA**



**BRUSH SEALS**



**FELTMETAL™  
ABRADABLE SEALS**



**ELASTOMER  
SEALS**



**BURST DISCS**



**STATIC METAL  
SEALS**



**PTFE TAPES  
& FILMS**



**MECHANICAL  
SEALS**



**EDGE-WELDED  
METAL BELLOWS**

## ESTABLISHED GLOBAL FOOTPRINT

Technetics has facilities around the globe, strategically located near our customers. Our pursuit of customer satisfaction ensures we provide responsive, timely assistance and outstanding technical support as well as on-time delivery.

