



YOUR INNOVATIONS: OUR SOLUTIONS

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# Inside the world's most critical and demanding applications, you'll find innovative solutions from Technetics Group.

In the clean-room environment, seal integrity is critical when mitigating concerns such as air leaks, ingredient accumulation, gasket fragmentation and the development of microorganisms that can lead to significant downtime and large-scale safety concerns.

Technetics is a trusted technology partner that works with you to create a custom solution that tackles the toughest of sealing and component problems within the industry and can be machined or engineered for your exact equipment or application needs. Our diverse sealing and component solutions range from metal seals for imaging and scanning systems and PTFE films for stent crimping tools to inflatable seals for anti-contamination applications and edge-welded metal bellows for drug delivery devices.

#### SEALING SOLUTIONS THAT REDUCE LEAKAGE AND CONTAMINATION

Technetics solutions, such as CEFIL'AIR® and BIO-GUARDIAN® inflatable seals, are developed with anti-contamination sealing materials. Our seals prevent outside air from passing through a closed door, while also deterring the development of microorganisms on the surface of seals in applications such as isolators, sterilizers, dryers, washers, and autoclaves.

Our seals also ensure the reduction of downtime caused by cleaning and replacing seals, prevent seal and valve contamination as well as minimize waste of high-value pharmaceutical ingredients by impeding costly leakages.









## From initial design to prototypes to clinical trials to approval to production.

Technetics, home to BELFAB® products, is your responsive partner in the life sciences industry. We custom-design and manufacture high-precision, edge-welded metal bellows assemblies for numerous market sectors within the industry, with the utmost attention to detail.

The components designed by the professional engineers at Technetics are used in a wide range of cutting-edge products in the medical industry, including cochlear implants, insulin dispersion, vacuum dryers and implantable pain pumps, to name just a few.

Our innovative products are designed for the highest cycle life possible (one million + standard), leak tight to 1 x  $10^{-10}$  standard cc/sec Helium, cleaned to the highest industry standards, able to withstand extreme temperature limits, corrosion resistant, available with electropolishing and have low magnetic permeability.

#### **QA SYSTEM ASSESSMENT**

Certified Class 100/1000 Clean Room FDA Compliant Materials ISO9001 – AS9100 Certified NADCAP Approved for Welding and Heat Treat IQ-QA-PQ Qual Verification System Over 3,000 Square Feet Clean Room Space



#### **PROVIDING CLOSE CUSTOMER RELATIONSHIPS & SUPERIOR SERVICE**

Your relationship with Technetics does not simply end with the sale of a product. Our sales and engineering teams work closely with our customers from design, development, prototyping and production in determining not only what solution will best suit their needs but also ways to improve current solutions already in place. With leading in-house testing and design capabilities, we are able to tackle the most complex of sealing problems with attention to detail and provide peace-of-mind to our customers in ensuring the integrity of their systems and ultimately the prevention of catastrophic events that can affect human lives.

# High-precision bellows assemblies from your responsive partner in the medical industry.

With over 50 years of experience in developing custom-engineered BELFAB® edge-welded metal bellows for a wide range of medical applications, Technetics is a trusted partner that work closely with our customers in the manufacturing of sophisticated bellows solutions that meet stringent leakage requirements and reduce operational safety risks.

#### **BELFAB® CUSTOM EDGE-WELDED BELLOWS**

BELFAB® bellows were the first edge-welded metal bellows in the world, and we continue to be the forerunner in the development of edge-welded metal bellows in the industry. Technetics continually works to advance the state of the art by engineering unique design solutions that solve critical needs within complex mechanical systems.

As an ISO 9001-certified organization noted for world-class cellular manufacturing, Technetics has built its reputation on a foundation of total quality achievement.



#### **APPLICATIONS INCLUDE:**

Chemotherapy

Cochlear Implants

Drug Delivery

Infusion Pumps

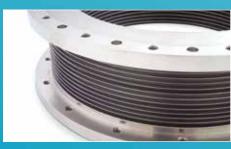
Insulin Dispersion

Pain Management

Spasticity Control

Vacuum Dryers





BELFAB® EDGE-WELDED METAL BELLOWS

Our bellows and assemblies come in a large range of materials and have features that include low magnetic permeability, low outgassing rate, and corrosion resistance.



BIO-GUARDIAN® & CEFIL'AIR® INFLATABLE SEALS

Our inflatable seals prevent outside air from passing through a closed door, while also deterring the development of microorganisms on the surface of seals.



HELICOFLEX® SPRING ENERGIZED SEALS

HELICOFLEX® spring-energized seals are high-performance, flexible metal seals that have exceptional compression and elastic recovery properties.



PTFE TAPES AND FILMS

Our proprietary blending technologies allow for the creation of the most homogenous PTFE blends in the industry. A wide range of lengths, widths, thicknesses and colors are available.



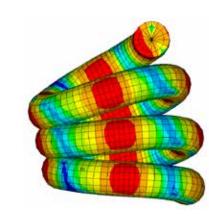
PTFE SHAPES & COMPONENTS

All of our PTFE products are available in a variety of PTFE formulations including customized fillers and reinforcements to suit individual applications. High purity PTFE shapes are molded and packaged in a clean environment.

# Providing superior testing and analysis support.

Our engineering and service teams work with you to install and test your sealing solutions to ensure our products meet your highest performance standards. Design issues are solved through finite element analysis as well as through test-bed simulation of your application, hardware and operating parameters.

With our in-house engineering department, calculation tools and numerical modelization, Technetics adapts and designs seals that respond to your most specific demands: high-viscosity products, abrasive materials, high temperatures, high speed, and high pressure.



#### APPRAISAL AND FAILURE ANALYSIS

With its next-generation characterization resources, our maestral® sealing laboratory can analyze your seals comprehensively and rapidly. Damaged seals can be appraised by determining the degradation modes and identifying the probable causes. Your existing seals can also be analyzed and improved to optimize their operation and lifetime with unique solutions relating to the key parameters of the seal.

#### **TEST RESOURCES**

Technetics owns a number of instrumented test benches to develop and characterize our seals under extreme operating conditions (abrasion, speed, etc.), by reproducing all the principal working conditions. These test benches help assess the leakage rates of the seals as well as their tribological properties.





## For more information on how Technetics Group supports the life sciences industry, visit technetics.com/markets/life-sciences.

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