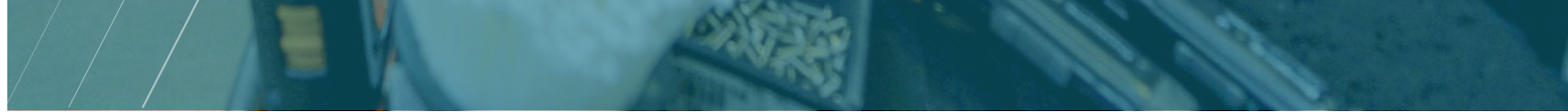




# Medical Solutions

YOUR ONE SOURCE FOR STRATEGIC MEDICAL PARTS PROCUREMENT



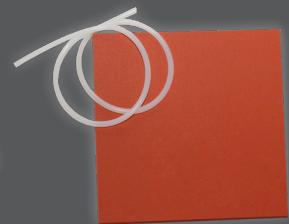




# 40 years of serving the medical device industry just got better.

For more than four decades, we've helped power critical medical devices. Now, we're bringing that experience to market with energy and focus as Marsh Medical.

Marsh Medical is a modern company with state-of-the-art manufacturing facilities. Our fully staffed engineering department develops innovative answers to complex medical device dilemmas. On-staff chemists create custom material formulations tailored to your equipment's unique functions. Parts customization is second nature to our team, in a realm where off-the-rack solutions are rare. Our global reach expands sourcing opportunities and minimizes supply chain issues that plague others.



 **MARSHMEDICAL™**

# Marsh Medical.

## Experience by a different name.

### Battle-tested in a pandemic

During the COVID-19 pandemic, ventilators and other critical medical equipment were in short supply. We quickly mobilized to respond. Far from shutting down like some companies did, we added a second production shift, running six days each week, to meet demand.



Our employees supported the missional nature of the undertaking and elected to come into work rather than stay home and shelter in place. What we learned during this time, and the strategic connections we forged, prompted us to streamline the manner in which we brought medical parts to market. It's how Marsh Medical developed the better way of supplying medical device manufacturers.

### The origin of Marsh Medical

We're part of Marsh Bellofram, a U.S. manufacturer with a history reaching back more than 125 years. Business specializes in engineering, manufacturing,



and customizing a multitude of critical parts that have been vital components to the medical device industry. Our more than 100,000 custom parts range from precision air regulators to diaphragms and silicone, electrical wiring to gauges, transducers to thermocouples. Open the casing on any number of ventilators, anesthesia infusion pumps, sterilization equipment, or others, and you'll find components manufactured by a Marsh Bellofram company. Now, via Marsh Medical, accessing this world of medical device solutions is more effective than ever.

### Contact Marsh Medical today

Marsh Medical synthesizes nearly a half-century of experience in the design and manufacturing of medical device components into a single access point. Gain greater convenience, faster service, and streamlined procurement, all from a trusted name that is built and mobilized to make medical device manufacturing better than before.





Healthcare Facilities



Device Manufacturers (OEM)



Medical Supplies

## Our Brands

Products from the Marsh Bellofram group of companies are integral component parts for medical devices used all over the world.

**BELLOFRAM**<sup>®</sup>  
Precision Controls

Bellofram Precision Controls

ISO9001:2015



**Bellofram**<sup>®</sup>  
DIAPHRAGM DIVISION

Bellofram Diaphragm Division

ISO9001:2015  
AS9100D



**Bellofram**<sup>™</sup>  
Silicones

Bellofram Silicones

ISO9001:2015

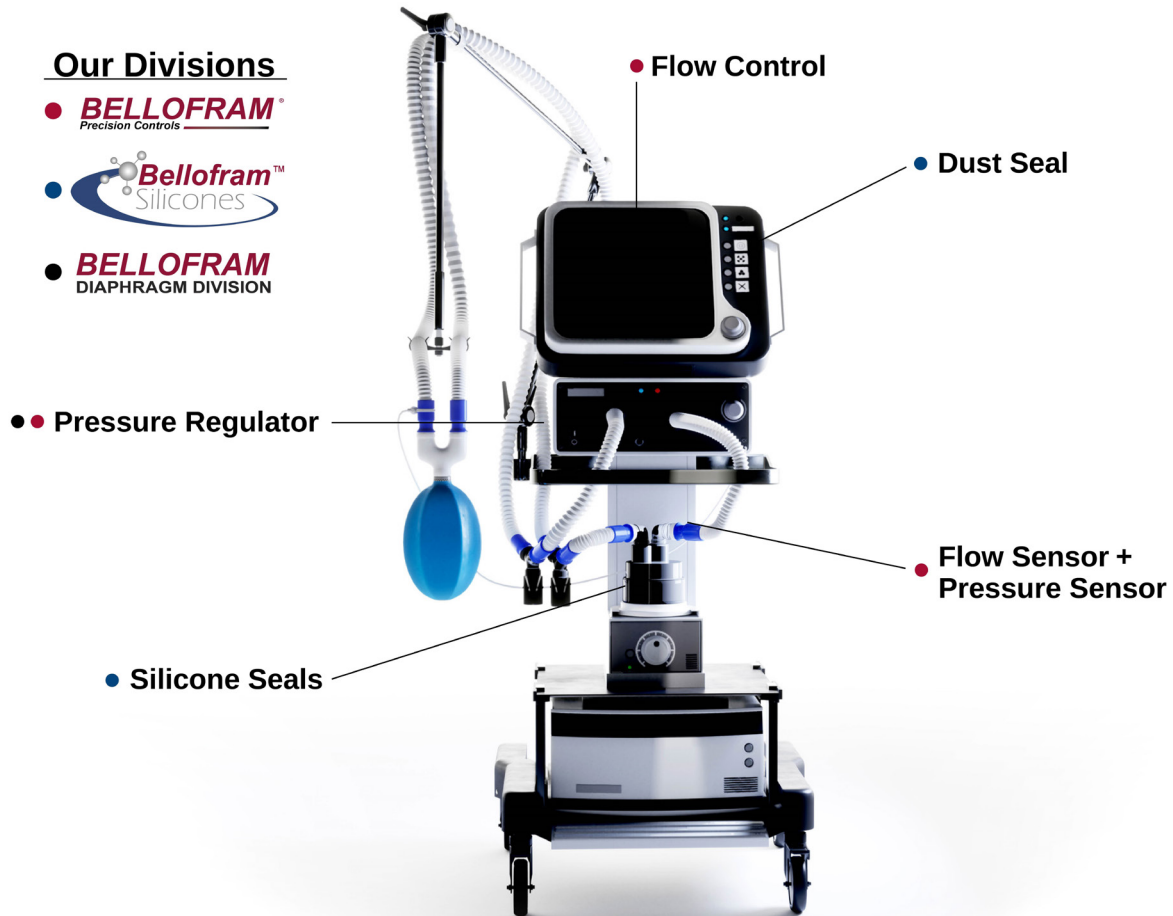


### Our Divisions

● **BELLOFRAM**<sup>®</sup>  
Precision Controls

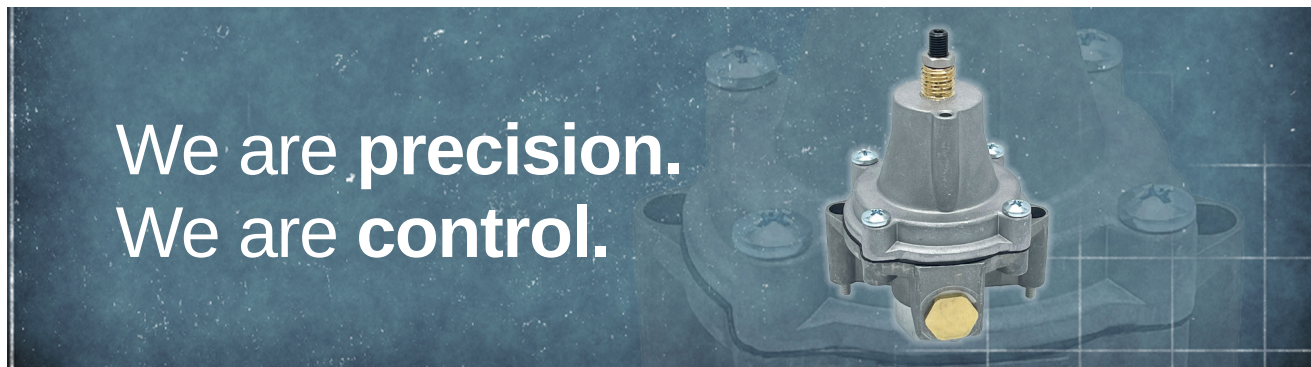
● **Bellofram**<sup>™</sup>  
Silicones

● **BELLOFRAM**  
DIAPHRAGM DIVISION



# BELLOFRAM<sup>®</sup>

Precision Controls

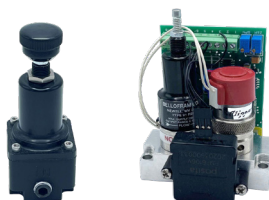


We are precision.  
We are control.

## Bellofram Precision Controls

Trusted by the largest names in medical manufacturing, Bellofram Precision Controls has delivered consistent, repeatable quality for more than 50 years where tolerances are tight, and the pressure must be absolute. Commonly used in respirators, ventilators, and circulatory cuffs, Bellofram products such as the Type 70, 41, and Type 92 have been at the core of many designs both past and present.

### Custom Pressure and Flow Controllers



Our custom pressure and flow controllers have been in the industry-leading brands of ventilators for decades.

### Pressure, Temperature, and Humidity Sensors



We manufacture a wide variety of pressure, temperature, and humidity sensors for special applications. Whether standard or custom, these industry-specific products are designed and engineered with the application in mind.

### Applications

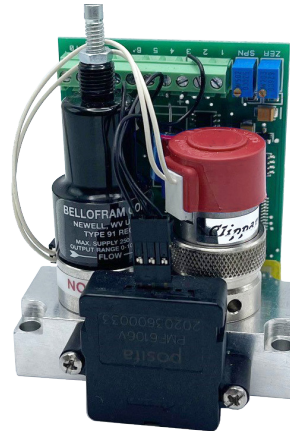
- Anesthesia and Ventilation Machines
- Biomedical Sampling Equipment
- Steam for Sterilization Processes and Equipment
- Personal Oxygen Systems

# Our Products



## T3100 Electronic Pressure Control

- Second Loop Feedback
- On/Off Operation
- Analog or Logic Output
- 0.5% Accuracy Full Scale



## T4200 Proportional Electronic Flow Control and Pressure Control

- Second Loop Feedback
- Proportional Operation
- Analog or Logic Output
- 0.2% Accuracy Full Scale

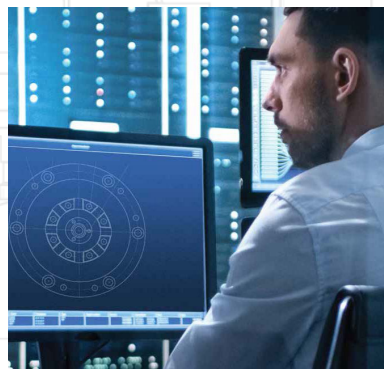
## Custom Solutions

Marsh Medical directs engineers who will work closely with your team to develop custom solutions for your specific needs. We continuously reinvest in our in-house, U.S.-made fabrication and production capabilities to create your custom products with industry-leading speed, while never sacrificing quality.

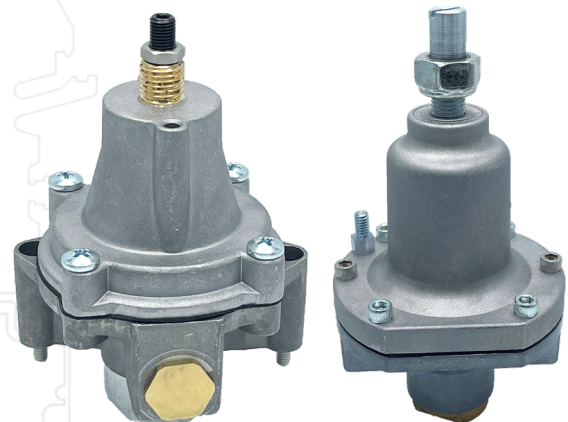


## T42 Concept: Future Pressure Regulator

- .009 psi Sensitivity
- 250 psi Supply Pressure Max
- 150 to 300 L/min Flow Rates



*We can also recreate just about any rare product your application requires. Once a replacement has been created, it can be manufactured again, often at significant savings over the original part.*



## Client-Specific Designs and Production

- .009 psi Sensitivity
- 250 psi Supply Pressure Max
- 700 to 2,000 L/min Flow Rates



## APPLICATION STUDY: MARSH MEDICAL REDEFINES PRESSURE REGULATION WITH THE T42 COMPACT PRESSURE REGULATOR



### BACKGROUND:

In the realm of precision process control and medical technology, the need for enhanced efficiency and adaptability has spurred a quest for innovative solutions. Fueled by the aspiration to create a more streamlined, compact pressure regulator, we collaborated to form the T42 Compact Pressure Regulator.

### THE CHALLENGE:

The team started with an existing regulator, the T70, and looked to reduce overall size and weight, but maintain the flow of 200 liters per minute. The result was the T42 Compact Pressure Regulator, an innovation that brings forth a host of beneficial features:

- **Space-Efficient Design:** The T42's compact size, reduced weight and future cartridge style design set it apart from its predecessors, making it an ideal fit for environments where space is at a premium.
- **Enhanced Control:** Built on a foundation of precision, the T42 maintains the level of control that the industry demands while introducing modern enhancements.
- **Easy Integration:** The T42's design ensures easy installation and integration, offering a user-friendly experience and minimizing downtime during setup.
- **Dependable Performance:** Taking the best elements of its predecessor, the T70, the T42 retains its reliability, continuing the legacy of accurate pressure regulation.



### THE SOLUTION:

The T42 became a solution that aligned with the vision and integrated into the existing medical device, bolstering efficiency and performance. Its compact nature allowed for more versatile placement within the equipment, optimizing space utilization.

### IMPLEMENTATION:

The introduction of the T42 Compact Pressure Regulator sparked transformative outcomes in product and process:

- **Streamlined Efficiency:** The T42's compact dimensions opened doors for creative device design and placement, maximizing spatial efficiency within medical equipment.
- **Simplified Integration:** The T42's intuitive design facilitated seamless integration into existing systems, reducing complexities and paving the way for future advancements.

### FINAL RESULTS:

The T42 Compact Pressure Regulator stands as a testament to the synergy of innovation and collaboration. By merging industry expertise with modern engineering, the team successfully tackled the evolving challenges in precision process control and medical applications. The T42 not only fulfilled requisites but also positioned itself at the forefront of the industry, heralding a new era of compact and efficient pressure regulation. As industries continue to embrace progress, the T42 serves as a guiding example of how innovation can drive tangible enhancements in product performance and the overall process.





## APPLICATION STUDY: TRANSFORMATIVE INNOVATION IN STERILIZATION TECHNOLOGY – THE MARSH MEDICAL T95 REGULATOR



### BACKGROUND:

In the ever-evolving fields of precision process control and medical technology, the pursuit of efficiency and adaptability fuels the search for innovative solutions. Responding to this demand, Marsh Medical embarked on a collaborative journey to address the challenges posed by traditional pressure regulators in sterilization processes. This endeavor led to the creation of the T95 Regulator, a remarkable innovation that not only streamlined sterilization systems but also redefined industry standards.

### THE CHALLENGE:

The T95 Regulator's story began in the steam industry, where its heavy, bulky, and outdated design hindered its utility in modern sterilization processes. Marsh Medical recognized the need to transform this obsolete regulator into a cutting-edge solution that could accommodate the flow and placement requirements of various sterilizers. The challenge was to redesign the T95 Regulator while retaining its accuracy, performance, and safety features.

### THE SOLUTION:

Marsh Medical's dedicated team embarked on a redesign process to develop the T95 Regulator, a solution that shattered the limitations of the past with a new lightweight design, improved performance, unmatched adaptability, and assembled using innovative materials.

### IMPLEMENTATION:

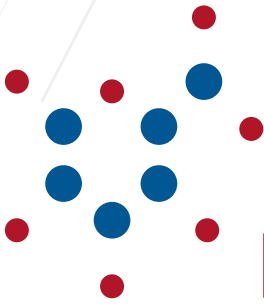
The introduction of the T95 Regulator ignited a series of transformative changes that reverberated throughout product and process realms:

- **Streamlined Efficiency:** Leveraging its lightweight and compact design, the T95 Regulator enabled creative sterilization device design and placement, enhancing spatial efficiency and optimizing equipment layout.
- **Seamless Integration:** The intuitive design of the T95 Regulator facilitated its smooth integration into existing sterilization systems, alleviating complexities and paving the path for future enhancements.

### FINAL RESULTS:

The T95 Regulator by Marsh Medical stands as a testament to the power of innovation and collaborative synergy. By reimagining an industry staple, Marsh Medical not only addressed challenges but also positioned the T95 Regulator at the forefront of sterilization technology. Through its lightweight design, unwavering performance, and adaptability, the T95 Regulator exceeded expectations, providing an efficient and reliable solution for sterilizer applications.

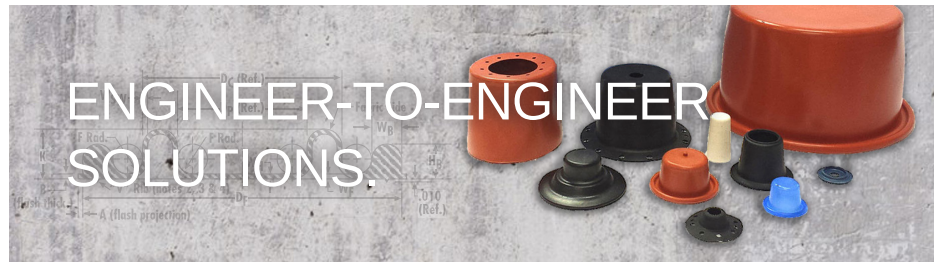




# BELLOFRAM ELASTOMERS

Bellofram Elastomers: Diaphragms, closed -c

**Bellofram**<sup>®</sup>  
DIAPHRAGM DIVISION  
A HIGHER SEALING



## Bellofram Diaphragm Division

The medical equipment where you'll find Bellofram diaphragms interfaces with people at an intimate level far exceeding that of most other machines. In medicator pumps, for example, our diaphragms make surface contact with liquid that flows directly into the bloodstream. This illustrates the need for a highly technical, precise, and ethical supplier. The Bellofram name is trusted all over the world.

### Diaphragms



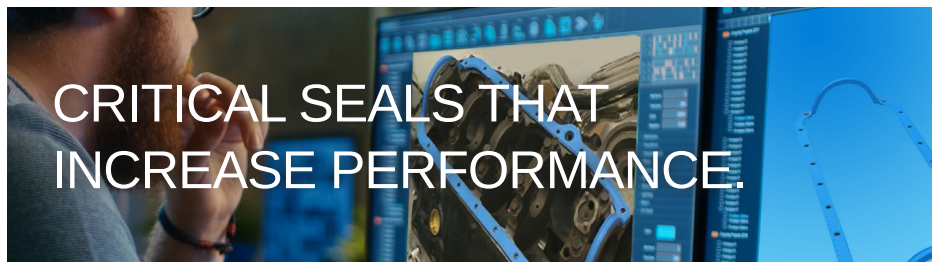
Our understanding of exotic materials and precise tolerances allows us to produce solutions for the most challenging applications. Examples include ultra-thin diaphragms with the strength to reliably perform for 10 million cycles or more, and mixed-material product that combines silicone and metal inserts.

### Applications

- Medication Vial Filling
- Ventilators
- Portable Oxygen Regulators for Oxygen Tanks
- Medical Regulators



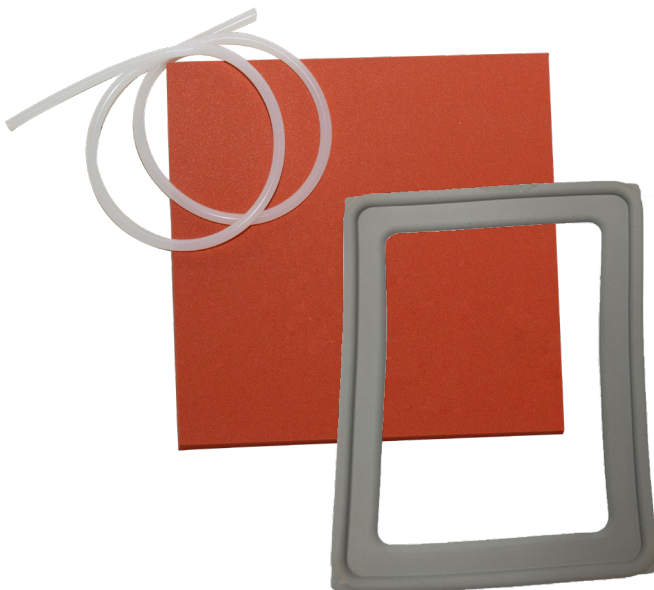
ed -cell silicone sponge, and solid silicone in application-specific formulations and precise tolerances.



## Bellofram Silicones

Silicone is at the heart of performance. This industry leader manufactures sponge and solid rubber in a variety of shapes and sizes, partnering with product designers to transform silicone into custom engineering solutions.

### Silicones



Silicone inhibits the growth of microbes, making it ideal for medical use. Bellofram silicones are frequently found in sterilization units that must withstand temperatures of 500° F or more, as well as providing vibration protection for highly calibrated testing and monitoring equipment.

### Applications

- Seals/Gaskets for Medical Instrument Sterilization
- Medical-Grade Tubing

# Marsh Medical. Experience by a different name.

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For more than four decades, we've helped power critical medical devices. What we learned during the COVID-19 pandemic, and the strategic connections we forged, prompted us to develop a better way of supplying medical device manufacturers. Now, we're bringing that experience to market with energy and focus as Marsh Medical. Backed by Marsh Bellofram, a U.S. manufacturer with a history reaching back more than 125 years, Marsh Medical is a modern company with state-of-the-art manufacturing facilities, a fully staffed engineering department, on-staff chemists, and global reach.



## Contact Us



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