

**Trusted for Over 50 Years: Safe, Reliable
Pressure Control Systems for Aerospace**



TESCOM™ Regulators, Valves and Systems

Pressure control solutions and local expertise to help you overcome your toughest challenges.





When the sky's the limit, it's important to use products you trust.

Mission-critical applications demand the highest levels of safety and reliability.

From ground support to critical life support equipment, pressure control solutions and systems play a vital role in successful rocket design, testing and launch. Faulty regulators and valves can delay project timelines, mislead engineers on critical decisions and even put launch crews in harm's way. Mission critical applications like these require technology that is on the forefront of technical design and field-testing, cleaned to industry standards and manufactured by experienced, knowledgeable teams.

For solutions in oxygen-rich environments, cleanliness is paramount. That being said, most cleaning processes lengthen timelines and increase costs.



Automated pressure control solutions are necessary for maintaining precise system operation and keeping personnel out of harm's way.



Many pressure control suppliers lack the expertise to provide their customers with the right solutions—let alone the necessary application support.



The Sky's the Limit

Since the birth of the space program over 50 years, Emerson has met the pressure control needs of our aerospace customers. To this day, our TESCO brand continues to deliver regulators, valves and manifolds according to strict industry standards. We also routinely design integrated systems, complete with software, dome and air-loaded regulators and electronic pressure controllers to automate pressure routines. Whether you need 316 stainless steel, brass, Monel or Hastelloy®, we work with a wide range of materials and have experience selecting ones with a high oxygen index, ensuring safe operation in oxygen-rich environments.



Improve your lead times with ISO-compliant clean products.

- Meet 100A cleanliness standards—and enjoy greater peace of mind.
- Avoid having to involve a third-party cleaning service, which drives up lead times.
- Eliminate uncertainty with in-house assembly and testing.

“Making sure pressure control components are properly cleaned is a major headache. We don’t have the in-house capabilities, and so our uptime depends on outside parties.”
– Astronaut training facility manager



Enjoy the additional safety benefits of automation.

- Eliminate fluctuating pressures and on-the-fly adjustments.
- Eliminate the human errors that come with making manual system adjustments.
- Control your system remotely, limiting operator exposure to hazardous conditions.

“It’s hard to find suppliers that understand the market requirements, especially regarding industry standards and material selection.”
– Rocket test engineer



Partner with an innovative systems provider.

- Work with an experienced manufacturer that delivers quality solutions.
- Best-in-class technical and engineering support.
- Receive systems as compact blocks that reduce leak paths and footprint.

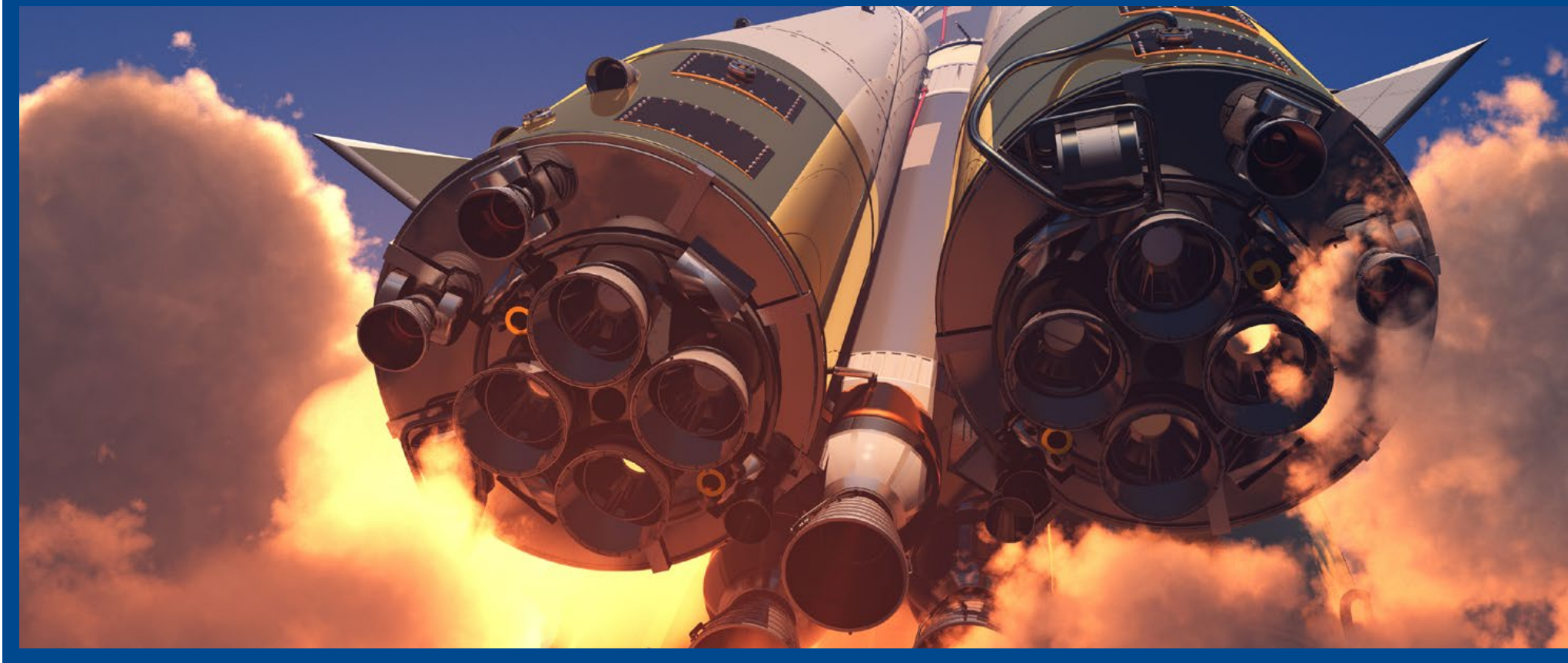
“It’s a gamechanger to find a supplier that can provide quality technical support, from product selection to troubleshooting.”
– Launch engineer

With Emerson, you can overcome your aerospace application's toughest challenges.

Aerospace Applications

- Rocket engine testing
- Pre-launch fueling
- Life support equipment
- Astronaut training facilities — e.g. zero gravity, weightless or underwater neutral buoyancy training sites
- High-pressure oxygen equipment
- Flight hardware
- Ground support equipment
- Equipment calibration testing
- Burst testing
- Launch pad pressure control





To the Moon and Beyond

For over 50 years, TESCOM innovative pressure control solutions have supported humanity's journey into space, making many NASA projects possible. ▶ p5

High-Quality Products That Meet Your Needs

Our products can safely handle high pressures and oxygen-rich environments, as well as a variety of media — whether helium, methane or hypergolic fuels. ▶ p7

Renowned Technical Support

Our Applications Engineering group, located at our Minnesota facility, has over 100 years of experience. The group joins our highly experienced network of technical field sales personnel around the world. ▶ p6

Unique Applications, Custom Systems

Combining components, electronics and software, we design custom systems like oxygen manifolds, charging carts, leak testers, portable calibration equipment and other solutions to meet specific customer requests. ▶ p9

To the Moon and Beyond

For over five decades, we've supplied our high-quality pressure regulators, valves, manifolds and other pressure control solutions to the National Aeronautics and Space Administration (NASA) in support of the following technologies and programs:

- NASA's Saturn V rocket, which was essential to sending people to the moon as part of the agency's Project Apollo.
- NASA's Space Launch System (SLS) rocket, which will support the agency's Artemis lunar exploration program.
- The International Space Station, a large spacecraft and science laboratory in orbit around the Earth.
- Numerous NASA training, research and testing facilities.



What's your opportunity?

- Collaborate with an experienced pressure control product supplier.
- Deploy products that have proven performance in mission-critical applications.
- Partner with a global supplier that offers local technical and sales support.



Work with a supplier whose components and expertise take us to the stars.

For over 50 years, we've supplied high-quality pressure control components and systems to all major industries — including aerospace. Take advantage of our rich history today.



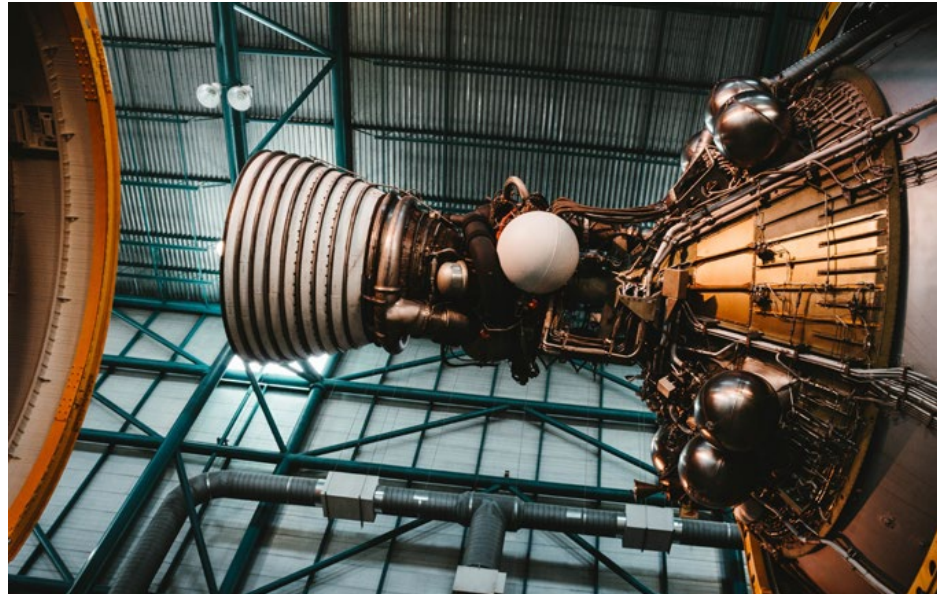
Services offered...

- Technical expertise from a supplier with a rich aerospace history.

Renowned Technical Support

In oxygen-rich environments, even the smallest contaminant can ignite. We provide in-house cleaning processes that eliminate all sources of contamination and use only the best oxygen-compatible materials, ensuring your system remains safe in high-pressure oxygen equipment, rocket engine tests, pre-launch fuel loading, flight hardware pressure tests and many other applications.

Our facility meets MIL-STD-1330 standards, and we clean all standard products per CGA 4.1 and ASTM G93. We also offer enhanced, in-house cleaning that meets IEST-STD-CC1246E Level 100R1 certifications for critical applications. And best of all, we assemble, clean and test all parts, mitigating the risk of operational failure.



What's your opportunity?

- Benefit from a one-stop shop with the widest range of products and solutions.
- Save time, costs and lead time with our in-house cleaning capabilities.
- Avoid having to clean components yourself or involving a third-party service.
- Eliminate the risk of post-cleaning product failure due to incorrect re-assembly.
- Have the peace of mind your system will remain safe in oxygen-rich environments.



Enjoy greater convenience, reliability and peace of mind.

Thanks to our in-house cleaning, testing and assembly capabilities, you can be certain your pressure control components and systems will operate reliably in demanding, oxygen-rich environments.



Services offered...

- In-house cleaning (IEST-STD-CC1246E Level 100R1).
- Parts assembly and testing.
- Support from Applications Engineering group.

High-Quality Products That Meet Your Needs

We design and deliver a wide range of standard pressure control regulators and valve solutions for the aerospace industry including PID controllers, high-pressure and high-flow valves, backpressure regulators, valve manifolds and more. These products, which meet strict military and international standards, offer high reliability and cycle life in demanding environments, making them an ideal choice for critical applications like rocket engine testing, flight hardware, life support equipment and calibration testing.



What's your opportunity?

- Choose from our expansive portfolio of standard pressure control products.
- Deploy our popular high-pressure, high-flow components with proven reliability.
- Select products with pressure ratings that range from vacuum to 30,000 PSI.
- Meet product approvals for hazardous locations.
- Partner with a supplier that employs a rigorous QA program (ISO 9001).
- Customize our standard products to meet unique application requirements.



Choosing the right pressure regulators and valves has never been easier.

As part of Emerson, we enable our aerospace customers to manage and control their operations safely and efficiently. A global leader in superior pressure control, our experts can help you unlock these benefits and more.



Services offered...

- Direct engineering support.
- Distributor support centers in major cities worldwide.
- Ongoing technical and sales assistance, from prototyping to assembly.

Featured TESCO Products For Aerospace Applications

TESCOM ER5000 Series Electro-Pneumatic Controller



This microprocessor-based proportional-integral-derivative (PID) controller brings precise algorithmic pressure control to aerospace equipment. As a standalone unit, it controls the pressure of clean, dry inert gases from 0 to 100 PSI. You can also connect it to any pneumatically actuated regulator or valve.

- Approved for hazardous locations
- Includes remote control capabilities
- Eliminates pressure droop, hysteresis and deadband
- Useful as a standalone unit or connected to a pneumatic regulator or valve
- For gases and liquids from vacuum to 30,000 PSI (with TESCO regulators)

TESCOM V Series Valves



VA and VG Series air-operated valves provide normally open/ normally closed capabilities, as well as operating pressures up to 20,000 PSI. Units feature a high cycle life and optional integrated solenoid valve and are suitable for liquid and gas applications.

- Balanced poppet design for high reliability
- High flow capacity: 0.75 or 2.0 Cv
- Features brass or stainless steel machined bar stock
- Oxygen model available (ISO 10524)
- Optional pneumatic assist solenoid valve actuation
- Three-way versions: VT and VU Series

TESCOM 26-2000 Series Venting Pressure Regulator



This high-pressure, low-flow regulator is available in dome, spring and air load versions. Units feature inlet pressure ratings of 6,000 to 15,000 PSI and are ideal for R&D labs, calibration tests, burst testers and other high-pressure hydraulic or pneumatic applications.

- Standard segregated captured vent
- Available with soft and metal-to-metal seating
- Standard 40-micron internal filter
- High flow version: 0.30 Cv
- Operating temperature: -15° to +165°F

TESCOM 26-1000 Series Sensor Pressure Regulator



This pressure-reducing regulator controls pressures up to 10,000 PSI and offers standard venting for decreased outlet pressure. Units have an interchangeable spring and sensor for product versatility.

- Numerous port options
- Optional inlet pressures to 20,000 PSI
- Field-changeable outlet pressure ranges
- Body materials: brass and 316 stainless steel
- Large hand knob provides fast, low-torque pressure settings

TESCOM 26-1200 Series Pressure Regulator Valve



This dome-loaded, high-flow pressure regulator is externally loaded with 6,000 PSI maximum inlet and outlet pressures. The series offers four orifice sizes and flow ratings, as well as a balanced main valve and external sensing options.

- Cv options: 3.3, 6.0, 12.0 and 20.0
- Diaphragm-sensed and highly sensitive
- Modular construction for easy service
- External sensing available for improved accuracy
- Balanced main valve increases seat life
- Ideal for rocket engine tests and fueling applications

TESCOM 44-1300 Series Pressure Regulator Valve



This high-pressure, high-flow regulator features a venting and balanced valve design. It provides flow rates of 0.8 and 2.0 Cv, and dome and air load options are available for air and gas mix regulation.

Additional products

- TESCO 30 Series Manual Shutoff Valve
- TESCO VK Series Block and Bleed Manifold Valves
- TESCO 26-1600 Series Venting Pressure Regulator
- TESCO 44-4000 Series Spring Based Regulator



For more information, visit Emerson.com/TESCOM

Unique Applications, Custom Systems

At TESCO, we have the technical know-how and experience to integrate components, electronics and software — made by our team or others — to create unique manifolds and custom-engineered systems. Examples include valve manifolds, manual or air-actuated regulators with pressure transducers and isolation valves, breathing gas distribution manifolds, ground support equipment and more. These designs integrate our standard valves, which range from vacuum to 30,000 PSI, as well as our dome and air-loaded regulators, which we can combine with electronic pressure controllers to automate pressure routines. Choose from a variety of materials including 316 Stainless Steel, brass, Monel and Hastelloy®.



What's your opportunity?

- Simplify your pressure, flow or measurement application.
- Work with engineering experts in pneumatic and hydraulic applications.
- Minimize your footprint and reduce connection and leak paths with custom manifolds.
- Enjoy time and cost savings with solutions that streamline your processes.



Custom-designed pressure control solutions and customer service are our forte.

From oxygen manifolds to large-scale test equipment, our experienced design and engineering teams are prepared to assist you in the creation of a custom assembly. We can simplify your existing system — or create a completely new one to meet your needs.

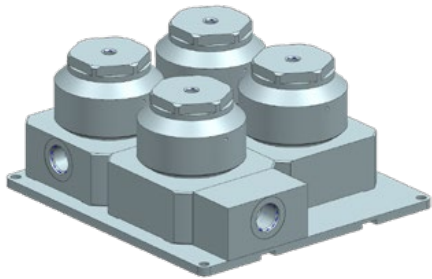


Services offered...

- Custom design support for unique manifolds and systems.

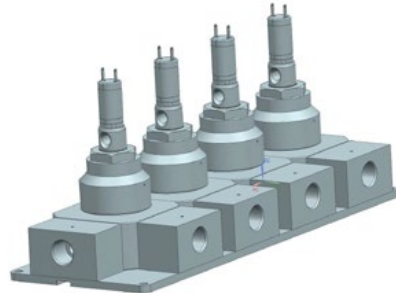
Featured Emerson Systems For Aerospace Applications

TESCOM MB-105 Assembly



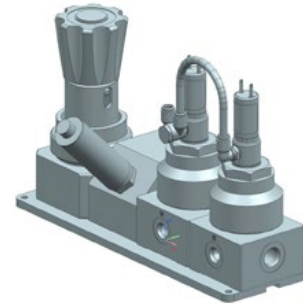
The MB-105 is a four-valve quad assembly consisting of air-operated VA or VG Series valves, which feature operating pressures of 6,000, 10,000 or 15,000 PSI, as well as very high cycle life. This system's redundant design ensures a single point of failure does not compromise system operation.

TESCOM MB-111 Assembly



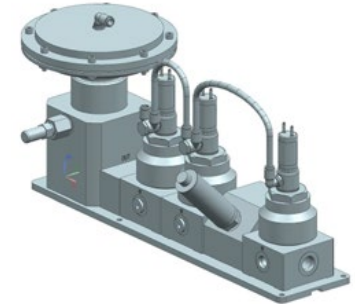
The MB-111 is a four-valve manifold consisting of air-operated VA or VG Series valves, offering one inlet and four discrete outlets. VA and VG Series valves feature operating pressures of 6,000, 10,000 or 15,000 PSI, as well as very high cycle life.

TESCOM MB-116 Assembly



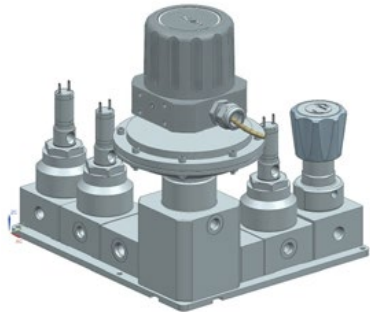
This assembly, which consists of a manual regulator with a pressure transducer and isolation valves, reduces the installation footprint and leak paths in critical aerospace applications.

TESCOM MB-124



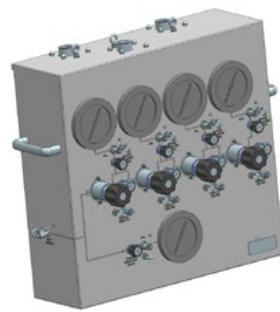
This assembly, which consists of an air-actuated regulator with a pressure transducer and isolation valves, provides automated pressure regulation while reducing the installation footprint and leak paths for critical aerospace applications.

TESCOM MB-167



This system combines the ER5000 PID controller for precise, automated pressure control with multiple VA Series valves to control fluid delivery to multiple points of use.

TESCOM NA Box (NA-222)



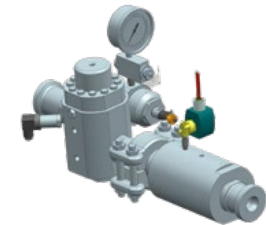
The NA-222 portable box provides versatile pressure control for testing and calibration. It delivers both high and low pressure capability with isolation valves and independently controlled lines in a compact portable package.

TESCOM NA Portable Box (NA-211)



This lightweight and easy-to-carry portable system features pressure and leak testing calibration capabilities, complete with a safety relief valve.

TESCOM VL+26-1200 Assembly



This assembly combines a dome-loaded, 6,000-PSI 26-1200 Series regulator with a flow of 12 Cv, along with an air-operated, 6,000-PSI VL Series valve with a flow of Cv 10.

Additional products

- TESCOM Breathing Gas Distribution Manifolds
- TESCOM Large-Scale Custom Engineered Systems
- TESCOM Ground Support Equipment



For more information, visit Emerson.com/TESCOM

Get started



Emerson delivers time-tested and innovative process automation and precision fluid control solutions for the aerospace industry. With TESCOM standard and custom engineered pressure control solutions, we can help you optimize your mission-critical application by improving system precision, reliability, and safety — even in harsh or oxygen-rich environments. Contact us now for world-class technologies and services that can maximize your operation. Getting started is easy.

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