When it comes to reliable, high-performance controls for space applications, manufacturers around the world rely on Marotta Controls. We offer products with 50 years flight-proven heritage for human-rated and unmanned applications.
Fluid Controls for Space Technologies

Our customized motion and flow control components and sub-systems play a vital role in pressurization systems, thruster controls and propulsion systems for commercial and military space applications.

Marotta Controls is the only small business to have earned the George M. Low Award for Quality and Excellence, TWICE.
The Marotta Controls’ originated balanced poppet design sets the standard for reliability and performance. The balanced poppet requires a relatively small actuator, which conserves power and minimizes the space required for installation.

**FLUIDS**
Air, CO₂, DI Water, GCH₄, GH₂, GHe, GN₂, GOX, H₂O, H₂O₂ (90%), Hydraulic Oil, Hydrazine, Inert Gas, LNG, MMH, N₂O₄, LOX, RP-1, TEA-TEB, Xenon

**LINE SIZES***
Line Size: 1/4” to 1”
Tube Stub: 1/8” to 1/4”

*Ask about our
**MINIATURE SOLENOID VALVES**
Solenoid Valves
Pilot Operated and Direct Acting

FEATURES / BENEFITS
- Balanced poppet design
- Quick response
- Compact, lightweight
- High performance to weight ratio

APPLICATIONS
- Pneumatic systems
- Hydraulic systems
- Fuel pressurization systems
- Reaction control systems
- Oxygen vent valves
- Fill and drain valves
- Umbilical retract systems

OPTIONS
- Position indicator
- Latching mechanism
- Proportional control
- Internally or externally piloted
- Manual override
- Special cleaning

PRESSURE RANGES
0 to 10,000 psig

PROGRAM EXPERIENCE
AEOLUS, Apollo, Atlas, Delta II, IV, Dragon, Falcon 1,9 & Heavy, GX, H2A, H2B, ISS, RL-10, Saturn, Space Shuttle, SRB, ST-5, Taurus, X-33
Our check valves incorporate a poppet with internal flow passages for minimal pressure drop. These rapid response, low pressure-drop designs are ideal for applications that require a compact, lightweight package.

**FLUIDS**
GCH₄, GHe, GN₂, H₂O, Inert Gas, IPA, LN₂, LNG

**LINE SIZES**
Line Size: 1/4” to 2”
The poppet features a large L/D ratio which maximizes poppet guide and minimizes chatter, resulting in a very smooth operation.

APPLIED RANGES
0 to 6,000 psig

APPLICATIONS
- High-pressure pneumatic and hydraulic systems
- Cryogenic and non-cryogenic fluids
- Fuel oxidizer and purge line

FEATURES
- Straight, smooth flow path
- Male and female ports
- Corrosion resistant materials

BENEFITS
- Manifold applications
- Low cracking pressure
- Minimal pressure drop
- Rapid response
- Bubble tight seal

PRESSURE RANGES
Apollo, Delta II, IV, Falcon 1, 9, GX, Saturn
Our compact regulators with integrated filters precisely control the pressure to propellant feed systems. These regulators are designed to handle high operating pressures and are qualified for use in dynamic spacecraft and missile environments.

**FLUIDS**
- Air, CO$_2$, GH$_2$, GHe, GN$_2$
- GOX, Helium, Xenon

**LINE SIZES**
- Inlet Range: 1/4” to 1”
- Outlet Range: 1/4” to 2”
- Tube Stub: 1/4” to 1/2”
These regulators are designed for high operating pressures to meet a wide range of potential applications.

OPTIONS
- Downstream pressure relief valve
- Separate inlet filter
- Variety of materials

APPLICATIONS
- Fuel pressurization
- Cold and warm gas propulsion
- Reaction control systems
- Attitude control systems
- Missile pressurization systems

FEATURES / BENEFITS
- High operating pressure
- High turn-down ratio

PRESSURE RANGES
Inlet: up to 10,000 psig
Outlet: designed to requirements

PROGRAM EXPERIENCE
Antares, Apollo, ARC, ARGOS, DMSP, Gemini, GX, LandSat, Pegasus, Saturn, Taurus, TIROS, Titan, TRMM, X-33
Marotta Controls’ special purpose valves feature more complexity in design and manufacturing methods, use a wider variety of materials, and are used to control the more difficult, mission critical applications.

**FLUIDS**
Ammonia, GHe, GN₂, Inert Gas, LH₂, LOX, MMH, N₂H₄, N₂O₄

**LINE SIZES**
Line Size: 1/2” to 2.5”
Tube Stub: 1/2” to 1.5”
These valves are often hybrid combinations of other valves and can be engineered to meet any requirements or operating conditions.