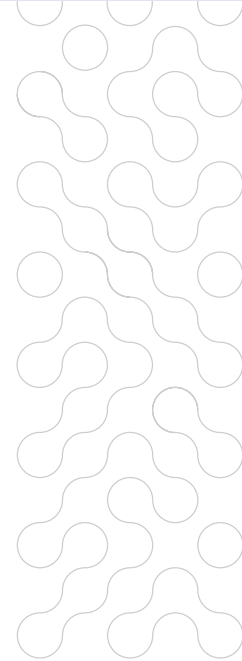




New Generation Aircraft Vacuum Toilets



Orbital™ 2 Vacuum Toilets

The latest advancement of aircraft vacuum toilet technology, Monogram Systems' Orbital™ 2 Vacuum Toilets combine service-proven components with innovative design concepts to provide the highest level of performance and reliability in the industry. The heart of the unit is the Orbital™ Flush Valve - the only vacuum toilet flush valve to successfully complete a 6,000,000 life-cycle test.

Performance Proven

A combination of highly reliable components assures that Monograms' vacuum toilets offer superior performance and reliability. Utilizing proven design concepts such as the Orbital™ Flush Valve and the unique pie-shaped self-cleaning disc valve, the potential of any mineral buildup is eliminated. In addition, Monograms' seal design ensures a complete enclosure to inhibit the risk of migrating odors.

Optimization

Monograms' rinse valve utilizes only two moving parts to ensure maximum reliability. In addition, unique low-friction magnetic-steel armature wear bands cleanses the valve bore to prevent any potential mineral buildup with every flush cycle. The rinse valve is designed to operate even under low pressure and low flow conditions - down to zero (0) psi.

System Efficient

The toilet rinse and flush valves are controlled by the waterproof Flush Control Unit (FCU). In addition to operating toilet functions, the FCU send signals to the other aircraft components securing a proper flush cycle. The FCU also features a high current handling capability for increased safety margins.





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Benefits

- Light-weight construction
- Optimum performance
- High reliability
- Low cost of ownership
- Easy to install and remove from aircraft
- Modular components for serviceability ease
- Robust design

Specs

- **WEIGHT**
12.5 lbs. (5.7 kg)
- **ELECTRICAL POWER REQUIREMENTS**
28 VDC, 2.5 amp. nominal
- **WATER SUPPLY REQUIREMENTS**
25-45 psig.
- **OUTLET**
Standard 2.00" O.D. drain outlet
- **INLET**
Standard 0.5" O.D. rinse water inlet

Standard Features

- Stainless steel bowl and pedestal for strength and durability
- Composite flush valve and non-structural components for weight-savings
- Teflon®-coated bowl and lip-mounted rinse ring with multiple spray nozzles combine for optimum bowl cleaning
- "Wear-Bands" on rinse valve armature ensure reliable performance
- No-adjustment rinse valve design operates reliably at low water pressure and low flow conditions down to zero (0) PSI
- Floating-poppet anti-siphon valve protects the potable water supply
- Waterproof flush control unit with maintenance switch for easy drain line access
- High torque flush valve motor for maximum performance, resistance to contamination, and reliability
- Air-tight flush valve seals for cabin odor control
- Precision oversized flush valve gearing to ensure proper valve opening and long valve life

Optional Features

- SMART rinse water dispensing system for minimized water consumption (A380 Standard Feature)
- VORTEX air-assisted rinsing system for minimized water consumption (B787 Standard Feature)
- Water level sensor for overflow prevention (A380 Standard Feature)
- EnviroClean™ for toilet drain line cleaning
- Manual shut-off valve

Current Applications

- A300/A310
A320
A380
- B737-NG
B747-400
B757-300
B767
B777
B787
- ERJ-170/190



Stainless Steel Bowl
Teflon® Coated

"Wear Bands" Armature
Ensure Maximum
Rinse Valve Performance

Orbital™2 Flush Valve
Precision-Engineered
Composite Flush Valve

Orbital™ 2

New Generation Aircraft Toilets

Additional Information

For more information, please e-mail orbital2@monogram.zodiac.com.

