

Powering aerospace and defence through quality and innovation

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When you're operating in the high-stakes world of aerospace and defence, every part must earn its place. From the first drawing to the final flight, there is no margin for error – reliability isn't optional, but essential. This overwhelming need for not just high-quality solutions, but the evidence and credentials needed to reassure OEMs and meet strict regulations, can pose a challenge. However, it's one that Portescap, part of Regal Rexnord's family of brands, is committed to not only meet, but overcome.

With decades of experience in miniature motor design and a rigorous internal approach to quality, Portescap is stepping forward not just as a supplier, but as a trusted partner that delivers precision-engineered motion solutions when performance matters most. But rather than simply relying on its reputation, the business is committed to ensuring that not only its products but also its internal processes meet the sector's highest standards – especially in terms of design assurance, quality, traceability, and customer-specific requirements.

With a dedicated focus on transparency, repeatability, and long-term value, Portescap is committed to ensuring that its motion solutions can be counted on in the world's most critical environments.

Reaching for the skies: from the ground-up

The focus on quality and reliability starts the very moment a new product begins development. Every aerospace solution is built through a phase-gated product development system inspired by Advanced Product Quality Planning (APQP).

This is part of the Regal Rexnord Business System and includes tools such as Failure Mode and Effects Analysis (FMEA), Design FMEA, and Design Verification Plan and Report (DVPR). These tools help identify and mitigate risk, validate performance metrics, and ensure that all functional and compliance requirements are met.

The aim is to manage risk and validate performance from the outset, ensuring that reliability is built into every design decision. For aerospace and defence projects in particular, this approach is vital: equipment must function flawlessly in extreme environments and often under high-stakes conditions, where even minor failures can compromise safety, reduce operational efficiency, or jeopardize high-value equipment. Alongside this, Portescap also manages custom development through a parallel structure known as the Customer-Led Opportunity (CLO) process. This gives customers the flexibility to define unique requirements, without compromising the discipline of development. These projects often involve more collaboration, and Portescap ensures that its processes are sufficiently flexible to accommodate creative solutions while still meeting stringent quality benchmarks. The result is a development system that is both structured and agile, built to balance innovation and assurance.

Manufacturing is handled with the same attention to detail. Portescap operates two AS9100-certified production facilities dedicated to aerospace products – one in Mumbai, India, and one in West Chester, Pennsylvania. These sites are equipped with the tools, supply chains, and processes tailored for the specific challenges of aerospace and defence applications. Each production line has been designed to balance efficiency with control, ensuring that products can be manufactured at scale without compromising the traceability and precision that aerospace demands.

Portescap's commitment to documentation and accountability ensures that no step in the process is invisible, and that any issues can be quickly identified, addressed, and prevented from recurring. This commitment underpins the trust customers place in Portescap's motors, especially when failure could have serious consequences.

Disciplined execution at every stage

Vitally, process control is also embedded in the day-to-day running of production lines. Every manufacturing step is documented and verified, from initial routing sheets to final Quality Plans (QPLs). These QPLs detail the measurements and checks needed to confirm that each unit meets all defined Critical to Quality (CTQ) parameters – something that is especially essential for aerospace and defence products, where a single out-of-tolerance part could impact safety, mission success, or regulatory compliance.

Production teams use visual management tools to track safety, quality, and delivery metrics, promoting real-time awareness and team-wide accountability. Layered audits and targeted inspections reinforce these systems, ensuring consistency even under tight production schedules or complex, multi-specification builds typical of A&D contracts.

PFMEA reviews, statistical process control, and measurement system analysis are all used to validate repeatability and capability in key operations. These tools aren't just one-off checks either – they form part of a continuous improvement approach that allows Portescap to respond to feedback, optimise performance, and stay ahead of changing industry expectations.

For prototype or pre-series production, additional firewall protocols are in place to provide another layer of oversight before motors are released to customers. This multi-tiered structure ensures that if any issues do occur, they're caught early, and that new designs are validated rigorously before they appear on an aircraft or defence project.

One of the most important aspects of aerospace manufacturing is the ability to trace every element of a product's history. Portescap assigns a unique part number to each customized product, along with a serialized motor identifier that links the unit to every process step, material input, and inspection result. Records are retained according to strict internal standards and aerospace documentation retention guidelines, ensuring full traceability throughout the product lifecycle.

Any changes to design, components, or production methods are tightly controlled through an automated Engineering Change Request/Order (ECR/ECO) workflow, requiring cross-functional approval and – when applicable – customer authorisation. This level of oversight is especially important for aerospace and defence contracts, where even small modifications must be transparent and fully traceable.

Confidence through collaboration

When an aircraft takes to the skies or a defence system is deployed in the field, absolutely everyone involved must be confident in the integrity of the entire supply chain that supported its production. That's why Portescap applies rigorous supply chain controls tailored specifically for aerospace and defence applications.

The company works exclusively with suppliers from an Approved Supplier List (ASL), verifying all incoming goods with detailed inspection reports and certificates of conformance. In alignment with AS9100 quality standards, any specific requirements received from customers are flowed down to the relevant suppliers. These suppliers are held to strict terms and conditions specific to the sector, which include requirements for foreign object debris (FOD) prevention, thorough documentation, long-term record retention, and active counterfeit risk management.

Training and audits are regularly carried out to ensure that suppliers remain in alignment with Portescap's expectations, while awareness programmes reinforce the importance of shared responsibility across the full chain. Every shipment of raw materials and components is inspected against defined criteria, and employees across all departments receive training on identifying and reporting suspect parts. This commitment helps prevent the entry of counterfeit or substandard items into production, which is a key concern in aerospace programmes.

Auditing practices also go beyond paperwork. Portescap performs onsite evaluations and remote supplier assessments to ensure that quality controls are being applied not just in theory, but in practice. These activities aren't about merely satisfying customer or regulatory demands; they are about fostering lasting,

traceable confidence. When aerospace and defence customers receive a Portescap product, they know that every part has been verified, validated, and built within a transparent, accountable framework.

As extensive as these measures are, Portescap's processes remain agile enough to adapt to unique application needs. From bespoke inspection protocols and defence-specific material specifications to ultra-precise tolerances, Portescap has established pathways for capturing and delivering on individual customer requirements.

From the early stages of development to the delivery of finished parts, collaboration is central to how the company works. Dedicated project teams, regular review checkpoints, and responsive technical support all help maintain alignment with customer goals throughout the product lifecycle.

Quality you can trust

In the high-stakes, high-pressure world of aerospace and defence, Portescap delivers more than precision motors. It provides a level of confidence that's earned through certified systems, disciplined processes, and a genuine commitment to quality.

As the company continues to grow its presence in this critical field, its goal remains simple: to support customers with motion solutions that perform exactly as required, when they're needed most.

Image captions:

Image 1: When aerospace and defence customers receive a Portescap product, they know that every part has been verified, validated, and built within a transparent, accountable framework.

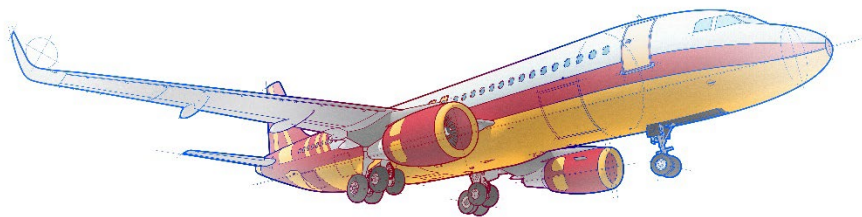


Image 2: This is part of the Regal Rexnord Business System and includes tools such as Failure Mode and Effects Analysis (FMEA), Design FMEA, and Design Verification Plan and Report (DVPR).



Image 3: For aerospace and defence projects in particular, this approach is vital: equipment must function flawlessly in extreme environments and often under high-stakes conditions.

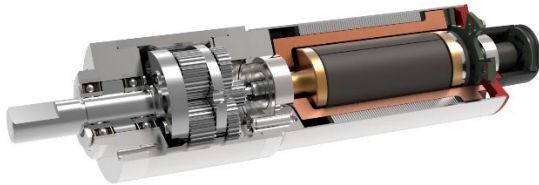


Image 4: With decades of experience in miniature motor design and a rigorous internal approach to quality, Portescap is stepping forward not just as a supplier, but as a trusted partner.

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About Portescap

Portescap, a proud member of Regal Rexnord, excels in addressing critical motion challenges with premium miniature electronic motors and components. For over 70 years, our extensive product range – including coreless brush DC, brushless DC, stepper, gearhead, encoder, and controller technologies – has powered applications across the aerospace and defense, automation, industrial power tools, medical, robotics, and surgical hand tool industries. Expert engineers collaborate with you from prototype to production, ensuring exceptional performance tailored to your specific needs.

As part of Regal Rexnord, customers benefit from seamless access to a vast brand portfolio and a robust global manufacturing and sourcing network. Dedication to innovation and sustainability drives us to design products that significantly impact daily life. Leveraging Regal Rexnord's broader expertise and resources, we aim to deliver sustainable solutions that power, transmit, and control motion, helping to create a better tomorrow.

For more information, visit www.portescap.com

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