



NSF Controls

The UK's leading solenoid and
electro-mechanical specialists

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Solenoids



Rotary Solenoid

Rotary solenoids offer up to 95 degrees rotation in both clockwise and anti-clockwise movements. Rigorously tested up to 25 million actuations, these solenoids deliver impressive torque outputs, reaching up to 13.8N.

Features:

- Endurance engineered for long life
- Coils to suit any DC voltage
- Load take off options
- Lead wire / terminations
- Armature covers
- Tapped holes
- Return springs



Tubular Solenoid

Our versatile tubular solenoids are designed for both push and pull operations, providing impressive strokes of up to 25mm. With a single-hole fixing, these solenoids are ideal for applications with limited space. Designed for longer stroke and extended lifespan requirements, our tubular solenoids deliver optimal application performance.

Features:

- DC voltage and duty cycle
- Plunger end configurations
- Application specific return springs
- Lead wire / terminations



Stepping Solenoid

Stepping solenoids are equipped with a distinctive tooth clutch drive and a minimum life expectancy of 10 million steps. These solenoids offer high starting torque from a simple pulse driven operation.

Features:

- 12,18,24 or 36 position
- Foot, flange or stud mountings
- Bi-directional operation
- Uni-directional operation

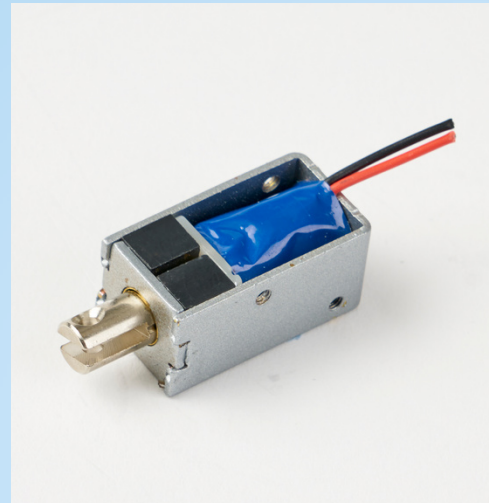


Push-Pull (Low Profile) Solenoid

Push-pull solenoids are very efficient with a rugged compact design for high-force, short-stroke applications. They have a rapid response time, offering strokes of up to 18mm with high holding forces from 7.5N to 133N. When selecting a push-pull solenoid, take into consideration heat, side load, stroke, and the operating environment, to get the maximum lifecycle from the solenoid.

Features:

- Push & pull configurations
- Plunger retention



Magnetic Latching Solenoid

Magnetic latching solenoids are power saving actuation devices combining the magnetic circuit of a conventional solenoid with a permanent magnet. Typically, the solenoid will be energised using a short pulse of energy and held in position by the permanent magnet with no additional power. A reverse polarity pulse is applied returning the solenoid to its de-energised position.

Features:

- Plunger end type
- Return springs *



Open Frame Solenoid

Open frame solenoids are available in push or pull operation. We have an extensive range of sizes, starting with dimensions of 8x10x15mm. Manufactured by our partners in the Far East, these offer a cost effective solution for high volume applications.

Features:

- Plunger end types
- Customised terminations
- Return springs*

*Available if required for specific applications

Industries



Security

We offer a wide range of solenoids for the security industry. From premium, robust tubular solenoids to open frame solenoids, which are cost effective solutions for high volume applications. Applications include:

- Inventory storage lockers
- High security locks
- Industrial gates
- ATM security locks
- Security electronic access control
- Turnstiles
- Pharmaceutical lockers
- Parcel collection points



Automation

Our solenoids offer simplified control and can be used to lock, divert, kick, position and pinch. This makes them incredible versatile across industrial automation industries. Applications include:

- Industrial sewing machines
- Food/drink processing machinery
- Packaging machinery
- Automated mail machinery
- Filing/sorting machinery
- Cash dispensers
- Coin and currency management
- Automated sampling and treatment
- Automated test equipment
- Conveyor systems



Medical

In this safety conscious industry our solenoids offer reliable locking solenoids for doors, secure cabinets, and instrumentation. Automation within the medical industry has expanded and we offer a variety of solenoids for laboratory automation. Applications include:

- Centrifuge locks
- Lasers
- Dosage Management
- Diagnostic/analysis equipment
- Monitoring equipment
- Disabled access
- Medical furniture
- Life science sample management



Defence

Most defence application have customised high specification requirements, with a focus on exceptionally reliable products, which can operate in demanding conditions. Applications include:

- Drones
- Missile deployment/guidance
- Cargo hooks/payload
- Communications
- Lighting for airstrips
- Instrumentation
- Aerial refueling
- Ground support



Transport

This industry requires precise yet sturdy solenoids with and able to withstand harsh conditions. Applications include:

- Smart parking
- EV charging lock
- Gearshift interlocks
- Vehicle door locks
- Ventilation controls
- Seat controls
- Public transport ticketing machines
- Cash & valuables in transit

Electro-Mechanical Assembly

At NSF, our expertise goes beyond crafting high-quality solenoids, we excel in assembly work. If you're grappling with in-house sub-assembly challenges, whether it's a combination of NSF and your products or exclusively yours we can help streamline your processes. Our integrated machine shop and multi-skilled workforce ensure reliable and high-quality products everytime.

Case Study - Landis & Gyr

NSF Controls produced over 15 million solenoid valve assemblies, over 13 years of the product life cycle with no failures in the field. We improved performance, and reduced the size and weight of the original valve.

Our mechanical workshop includes:

- 3D printing
- CNC machining
- Injection moulding
- Tool making
- Coil winding
- Power pressing
- Refinement machinery
- Wire erosion
- Build to print



Testimonials

“ProTubeVR and NSF Controls have been working together for 5 years now.

NSF Controls has been part of our story since the very beginning, when we were still prototyping our haptic technology. Today we use their reliable solenoids in our haptic modules dedicated to training simulation and virtual reality gaming.

We’re delighted to be working together, and hope this is just the beginning!”

Gauthier Carnat - COO, ProTubeVR

“When I started developing this system it soon became obvious that nobody’s standard solenoids would be good enough. To my surprise and delight, NSF Controls was willing to create almost anything I wanted. So, we set to work creating a design that suited my needs yet was not awkward for NSF Controls to manufacture. It was a joint effort, and it absolutely achieves the design objectives.”

Richard Shepherd - R Shepherd Consulting

“We are very proud that all our parts are manufactured in the UK, particularly local to us, one such product is the solenoid we use. We worked very closely with NSF as they helped us to develop a solenoid that can work within the constraints of our system. NSF has supported us at every stage and continue to do so, always looking to improve and provide us with the best possible product.”

Jonathan Bond - Managing Director, Base-Flow

“We’ve always had a very pleasant relationship with NSF, with them being incredibly efficient when identifying parts and quoting. They even delivered before the quoted lead time. With everything delivered safe and sound we were able to forward the parts to Turkey to enable our ride to continue providing fun and thrills to park guests.”

Tracy Challis - Service Coordinator, Simworx

“Working with a UK based manufacturer for our solenoid supply has allowed us to have a consultative relationship with a supplier to ensure that we can obtain the ideal parts for our equipment and to help fill gaps in our knowledge with NSF’s expertise.”

Neil Benn - Managing Director, Customer Since 2018

NSF Controls

Established in 1997 NSF Controls is the UK's specialist in the design and manufacturing of solenoids, switches, and electro-mechanical assemblies.

We produce over a million components annually, our capabilities extend to bespoke piece parts and sub-assemblies to meet your unique requirements.

Benefiting from 26 years of experience in manufacturing, we offer an extensive standard product range. However, our speciality is the ability to offer optimised solutions to suit your exact application needs.

Our expert engineers, procurement team, and integrated mechanical workshop operate seamlessly from one location, accompanied by our exceptional customer service to ensure a streamlined process from design inception to despatch of your product.

Delivering high-quality products, NSF Controls serves multiple industries globally. Upholding core principles of reliability and superior quality throughout production processes has positioned us as a world-class manufacturer.

NSF Controls holds ISO 9001 and ISO 14001 accreditation emphasising our commitment to manufacturing superior products and reducing any environmental impact.



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