rotork®

Keeping the World Flowing
for Future Generations



Mission-critical Flow Control for Data Centres

Reliable cooling and automation solutions

rotork®

3,500+
Employees

140+
Countries Served

60+
Years of Innovation

64
Offices

17
Manufacturing Sites

Delivering Intelligent Flow Control Solutions for Data Centres

Efficiency
Enhance cooling performance and reduce energy costs

Innovation
Compact actuators and sensors for next-gen cooling systems

Integration
Seamless compatibility with BMS and DCIM systems

Safety
Intelligent flow control enhances operational safety

Reliability
Mission-critical flow control for Tier 3 & 4 data centres

Leaders in Flow Control Technology and Innovation

Rotork is a global provider of intelligent flow control and instrumentation solutions, supporting industries worldwide to maintain safe and efficient operations. We help customers around the world to improve efficiency, reduce emissions, minimise their environmental impact and assure safety.

Partnering with us provides the following:

- Assured safety and reliability
- Industry leading accuracy and efficiency
- Proven technology that works with all network control systems
- Product range with solutions to suit every application
- Global reach with local support for planning, development and maintenance

We are committed to continuous innovation, with a focus on quality and engineering excellence.

Our products and operations are designed to support the global shift to net-zero. We help our customers reduce emissions and operate sustainably by enabling greater efficiency and control.

Delivering Innovation for a Changing World

Data centres are critical infrastructure, supporting cloud computing, AI and global communications. Increasing demand for processing power is driving higher energy use and greater cooling requirements.

Efficient heat management and sustainable cooling are key challenges, alongside the need to maximise uptime and performance.

Reliable flow control plays a vital role in addressing these challenges. Our electric, pneumatic and hydraulic actuators, combined with advanced control systems, enable precise and responsive operation across critical systems.

As data centre demands evolve, our solutions support efficient, reliable and sustainable performance.

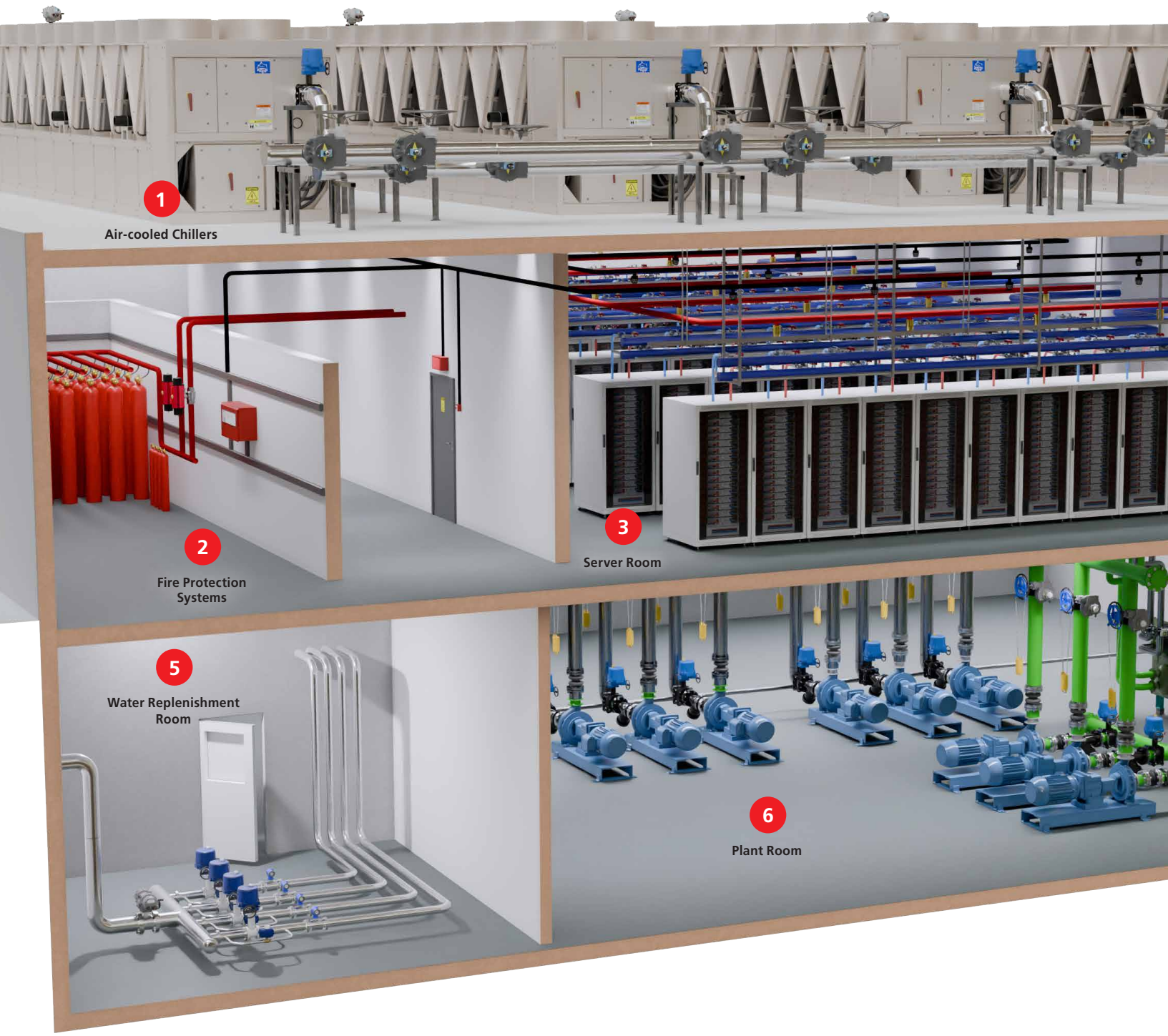
In a changing world, standing still isn't an option.

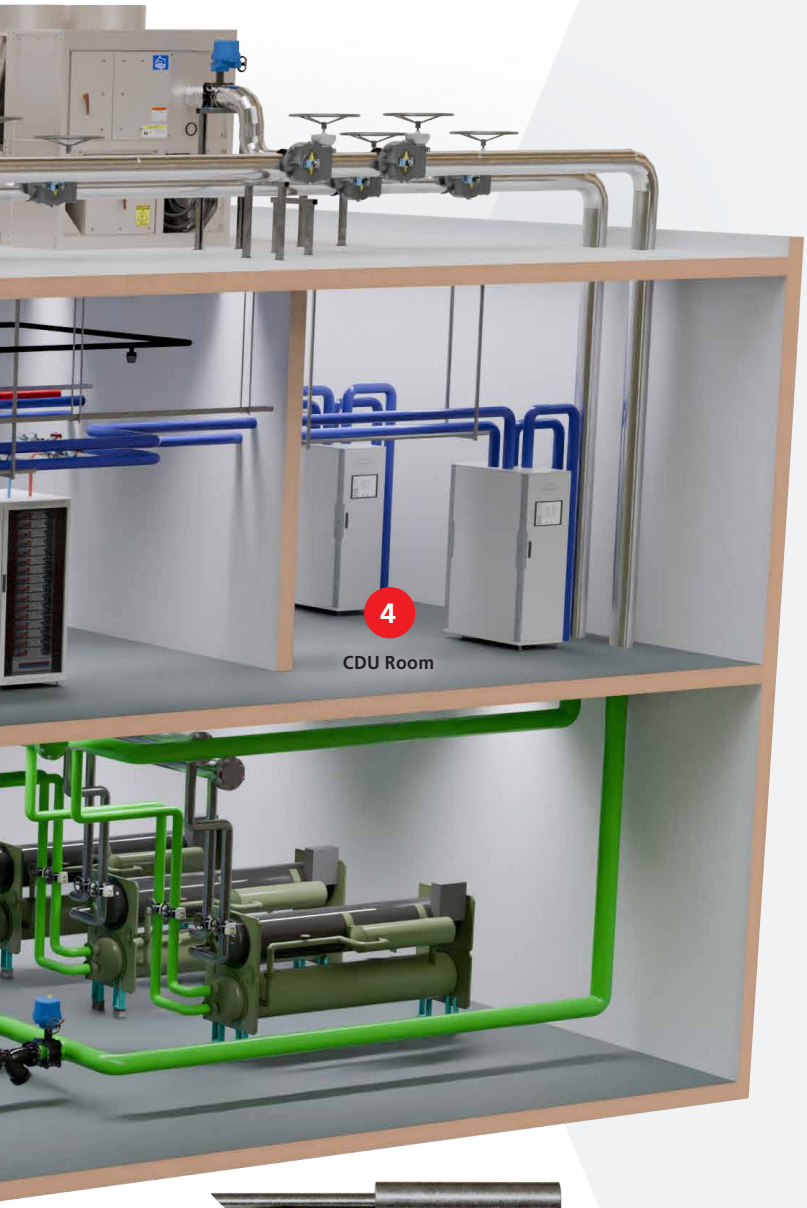
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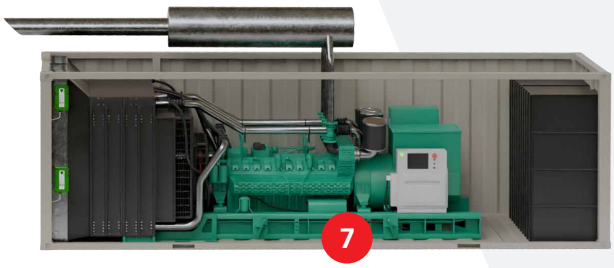
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Specialist Flow Control Solutions for Data Centres

Data centre challenges are heating up, quite literally. As demand grows, so does the need for smarter infrastructure. Our flow control solutions operate behind the scenes, ensuring critical cooling systems run efficiently, reliably, and sustainably in the world's most advanced data centres.







Backup Generators

Hanbay M



Precise cooling control and rapid isolation to protect critical IT equipment 2 3 4

Fast-acting, high-resolution actuators help maintain cooling performance, respond quickly to changing loads and provide rapid isolation when needed.

Noah NA



Reliable valve automation for efficient cooling system operation 1 5 6

Network-enabled actuators reduce manual intervention while supporting dependable control of chillers and plant room infrastructure.

Noah SA



Reliable automation where space is limited 3 4 5

Ultra-compact actuators provide dependable valve control for cooling applications where installation space is at a premium.

InMax



Ensure ventilation systems respond when backup power is needed 7

Fast, reliable actuator operation helps maintain airflow and safe operating temperatures for critical generator systems.

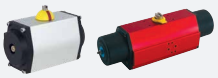
IQT3 Pro



Gain greater visibility and control of critical cooling assets 1 5

Intelligent valve automation with performance monitoring and analytics helps optimise operation and support maintenance planning.

GT/RC200



Fast, dependable actuation for critical fire protection systems 2

Small single- and double-acting rack and pinion pneumatic actuators

AB Gearboxes



Dependable manual operation when automation is not required 1 6

Rugged gearboxes provide reliable valve control and long service life in demanding plant room environments.

Chainwheels



Safer access to elevated and difficult-to-reach valves 6

Enable efficient manual valve operation while reducing access challenges and improving operator safety.

Solenoid Valves



Maintain reliable fuel delivery for backup power systems 7

Accurate flow control helps ensure generators receive fuel when needed during power loss events.

Limit Switch Boxes



Improve operational visibility and valve status monitoring 1 6

Provide clear valve position indication and feedback to support safe and efficient operation.

Primary Applications

Reliable Flow Control for CDUs

Coolant Distribution Units (CDUs) manage the circulation, temperature, pressure and filtration of liquid coolant to server cabinets. They serve as a "bridge" between the primary water system to/from the plant room and the secondary isolated coolant loop that runs directly to the server cabinets.

Compact electric actuators are used to regulate coolant temperature, control flow rates and operate bypass valves. They operate rotary v-port ball and linear globe valves within CDUs, delivering repeatable precision set points to maintain operating conditions within tight tolerances.

They accurately control returning coolant temperate with the ability to close valves 90° in ~4.5 seconds and are capable of high resolution linear valve modulation of 12 mm movement in ~20 seconds.

These fast-acting actuators deliver immediate response to Building Management System (BMS) signals and can achieve fast isolation in emergency situations.



Primary Flow Control Valve
Hanbay M Range actuator on a V-port ball valve

Bypass Loop Control Valve
Noah SA or Hanbay M Range actuator on a ball valve

Precision CDU valve control helps reduce chiller load and improve PUE





Hanbay M Range Compact Electric Actuators

Lightweight and compact UL certified electric valve actuators with high resolution accuracy, fast-acting operation, long-term reliability and network control.

Part-turn actuators deliver fast open/close operation for ball, diverter, multi-port, shut-off, internal and butterfly valves.

Multi-turn actuators provide precision modulating control for needle, metering, globe and control valves, as well as pressure regulators.

Performance

- Torque range: 0.5 to 118 Nm (4 to 1,050 lbf.in)
- 1-15 sec / 90° part-turn operation
- 1-186 sec / 360° multi-turn operation



Noah SA Range Compact Electric Actuators

SA005/009L lightweight and compact electric valve actuators for general industrial applications with network control and supercapacitor failsafe (Fail-to-Position) options.

Part-turn actuators deliver simple, reliable operation for ball, multi-port, shut-off, internal and butterfly valves.

Performance

- Torque range: 50 to 90 Nm (37 to 66 lbf.in)
- 8-32 sec / 90° part-turn operation

Primary Applications

Coolant Control for Server Cabinets

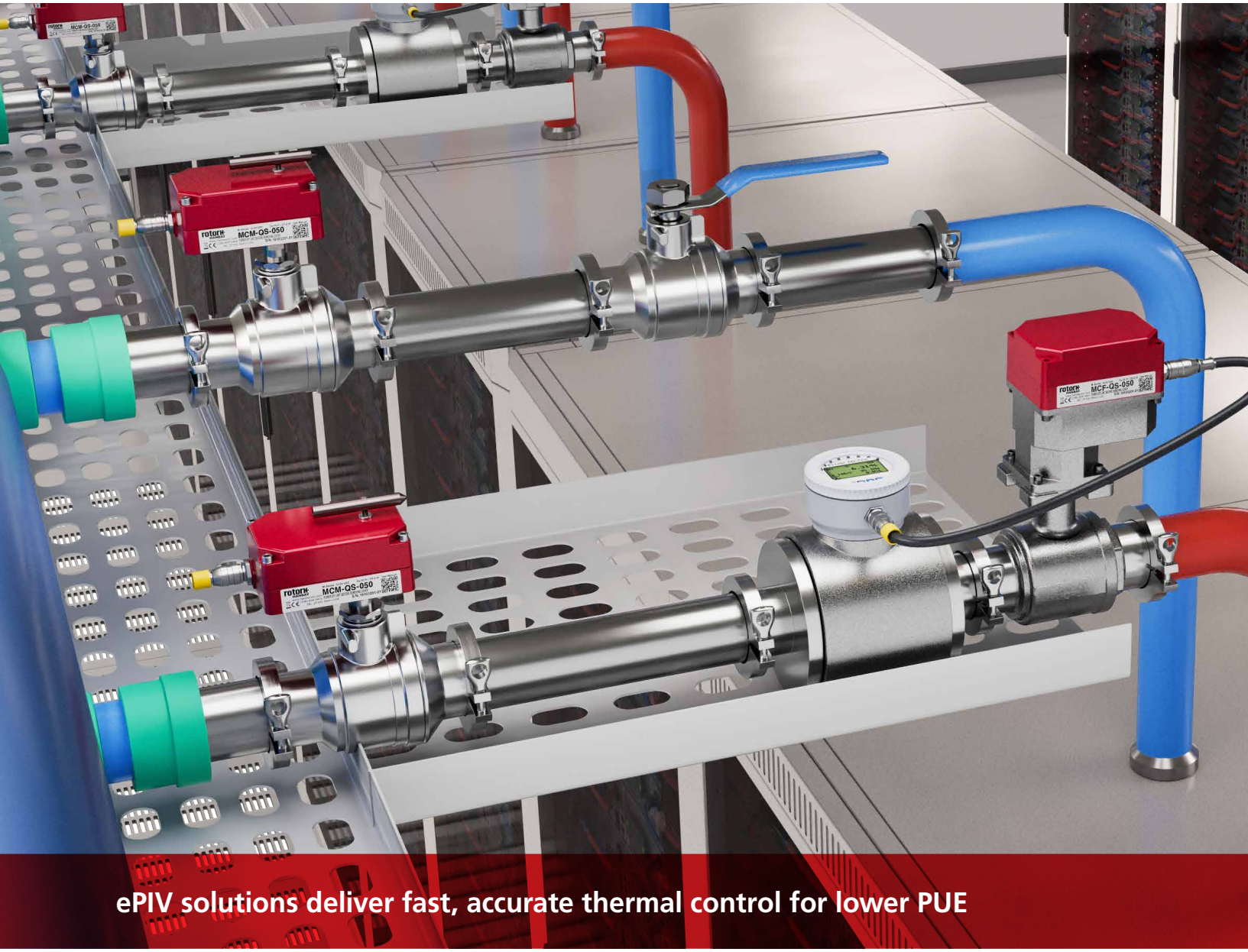
Whether coolant control is overhead or underfloor, our electric actuators allow remote setting of temperature flow rate, meaning no need to access valves for setting. Individual cabinet cooling and isolation control is achieved through compact isolation and intelligent ePIV solutions or PICV valves integrated into the secondary fluid network.

Compact, fast-acting electric actuators, able to achieve rapid 90° valve isolation in ~1 second, are used on coolant inlet pipes in case of a leak, delivering controlled isolation without water hammer effect and minimising damage to equipment.

ePIV electronically actuated control valves with integrated ultrasonic flow sensing are used in hydronic heating/cooling loops, glycol systems and energy management applications where fast response and high repeatability are required.

Compact, high resolution, modulating electric actuators combined with a PICV on the coolant outlet pipe accurately maintain a temperature set point throughout the cabinet as computing loads vary.

Immediate response to Building Management System (BMS) signals means rapid isolation and temperature control.



ePIV solutions deliver fast, accurate thermal control for lower PUE





ePIV Control Valve

Electronically actuated control valve with integrated ultrasonic flow sensing provides fast and accurate control of flow setpoint independent of pressure.

Using ultrasonic flow measurement with glycol compensation delivers up to 30x faster response time to changes in process demand compared to other brands.



Hanbay M Range Compact Electric Actuators

Lightweight and compact UL certified electric valve actuators with high resolution accuracy, fast-acting operation, long-term reliability and network control.

Part-turn actuators for fast open/close operation of isolation ball valves with speed variation to stop water hammer effect.

Multi-turn actuators provide fast, precision modulation of PICV valves to regulate cabinet coolant temperature setpoint.

Performance

- Torque range: 0.5 to 118 Nm (4 to 1,050 lbf.in)
- 1-15 sec / 90° part-turn operation
- 1-186 sec / 360° multi-turn operation



Noah SA Range Compact Electric Actuators

SA003 lightweight and compact electric valve actuators for general industrial applications.

Part-turn actuators deliver simple, reliable operation for ball, multi-port, shut-off, internal and butterfly valves.

Performance

- Torque range: 20 to 30 Nm (15 to 22 lbf.in)
- 9-17 sec / 90° part-turn operation

Primary Applications

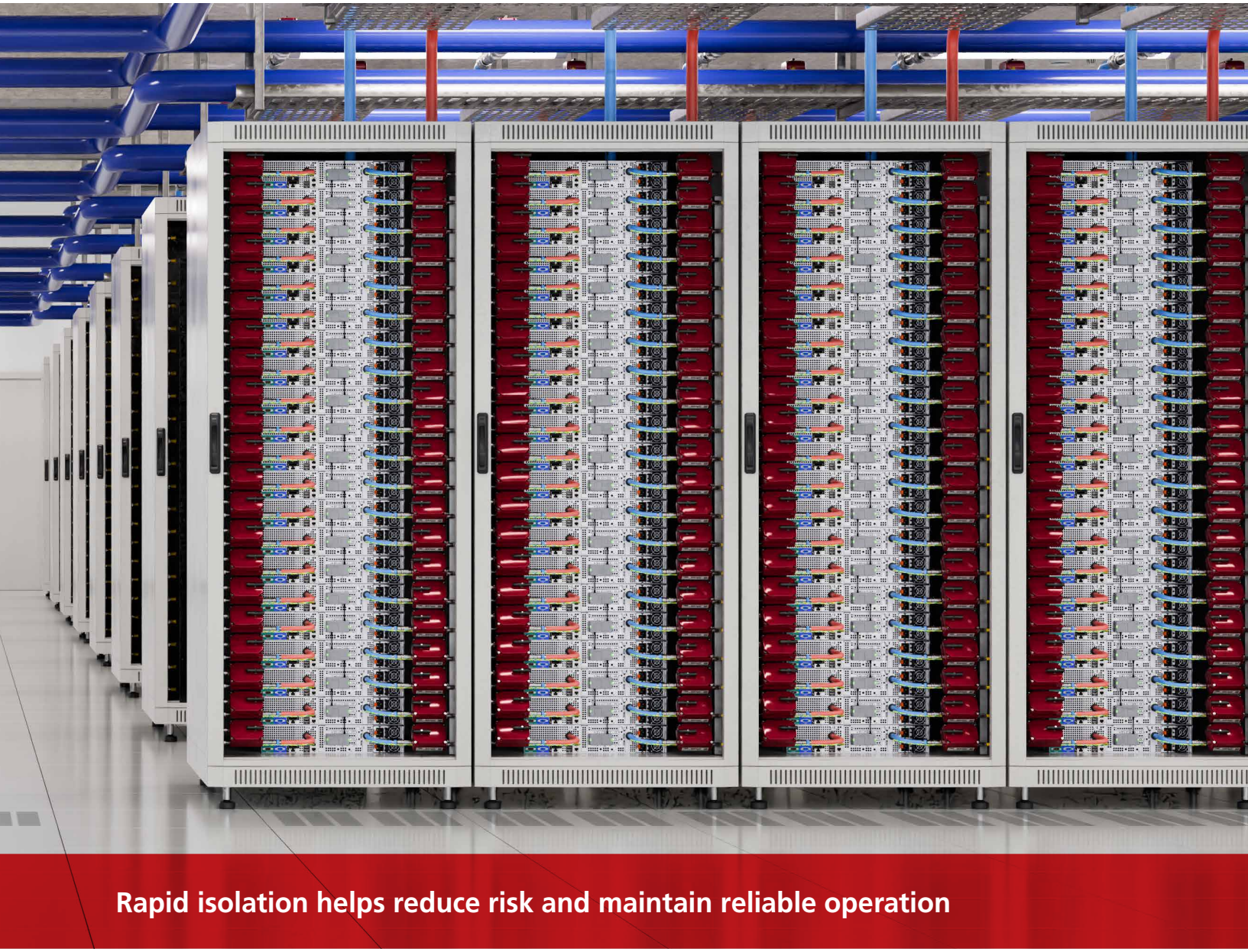
Server Level: Fast Response Leak Isolation

Compact electric actuators designed for rapid valve closure are used to isolate liquid coolant flow within individual server trays in the event of a coolant leak. Upon leak detection, an immediate signal is sent via the Building Management System (BMS), triggering targeted rapid valve closure without delay.

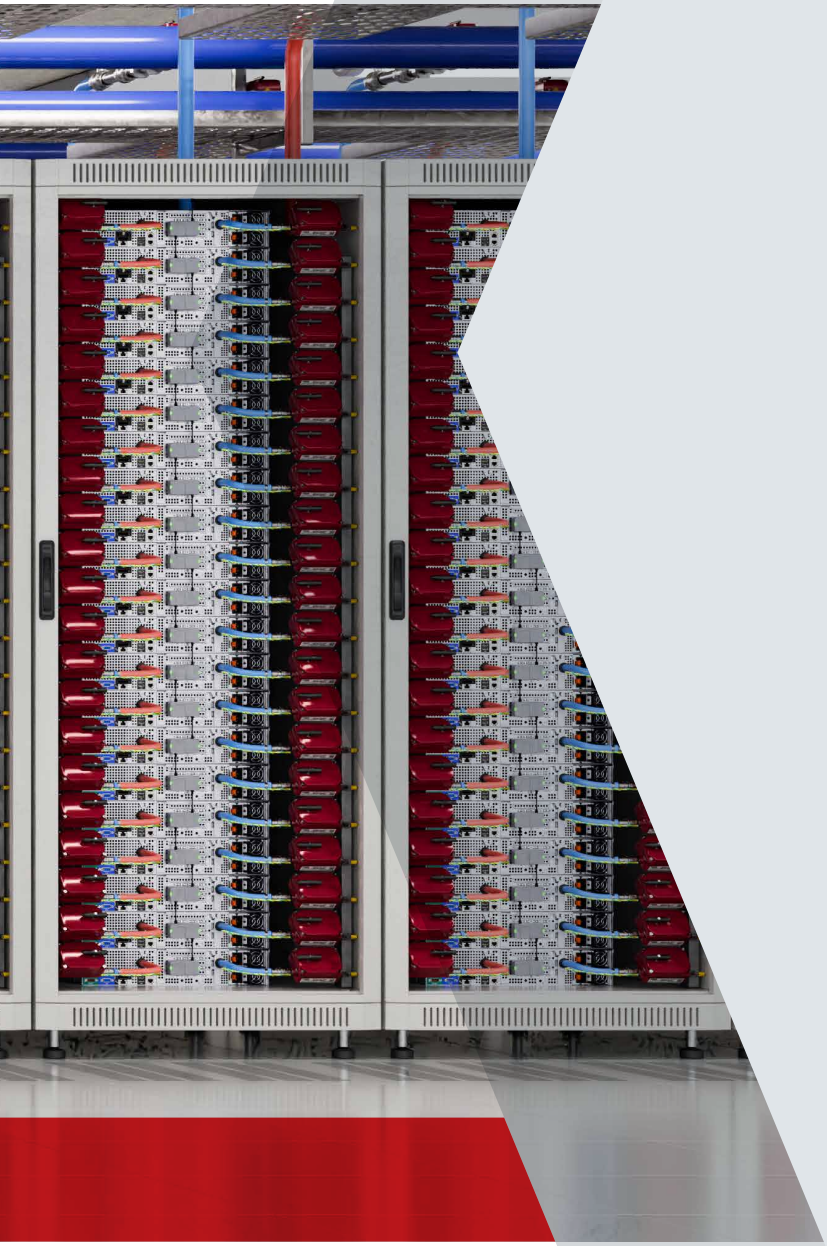
Fast isolation directly translates to damage limitation, significantly reducing risk to adjacent equipment and minimising downtime, allowing surrounding servers to continue operating while the affected unit is repaired.

Each server tray is equipped with dedicated inlet and outlet valves. Fast-acting valve isolation achieves a 90° closure in ~1 second, stopping coolant leaks safely while remaining servers in the rack continue operating normally.

The result is a resilient, high-availability cooling architecture designed to protect critical IT infrastructure within densely populated server cabinets.



Rapid isolation helps reduce risk and maintain reliable operation





Hanbay M Range Compact Electric Actuators

Lightweight and compact UL certified electric valve actuators with high resolution accuracy, fast-acting operation, long-term reliability and network control.

Part-turn actuators, combined with leak detection sensors, deliver fast isolation of ball valves on coolant inlet and outlet pipes.

Performance

- Torque range: 0.5 to 118 Nm (4 to 1,050 lbf.in)
- 1-15 sec / 90° part-turn operation

Leak Detection System

Collaborating with industry-leading specialists, we can deliver integrated leak detection and automated fluid isolation. Early detection and fast response can help minimise risk and downtime in liquid-cooled environments.

The system provides highly accurate liquid sensing, analytics and precision actuation for rapid flow control and isolation within seconds, containing potential leaks before they impact uptime or equipment integrity.

Primary Applications

Plant Room Flow Control

Automated Flow Control

The Chilled Water Return (CHWR) brings warm water from the server room to be cooled, while the Chilled Water Supply (CHWS) sends cooled water back to the servers. Our electric actuators adjust to system demands and ensure efficient cooling, pressure control, and reliable operation.

Centrifugal chillers transfer CHWR heat into a condensed water loop, which is cooled by rooftop chillers. An optional bypass system allows the rooftop chillers to cool the warm water directly. Electric actuators manage this process based on real-time conditions.

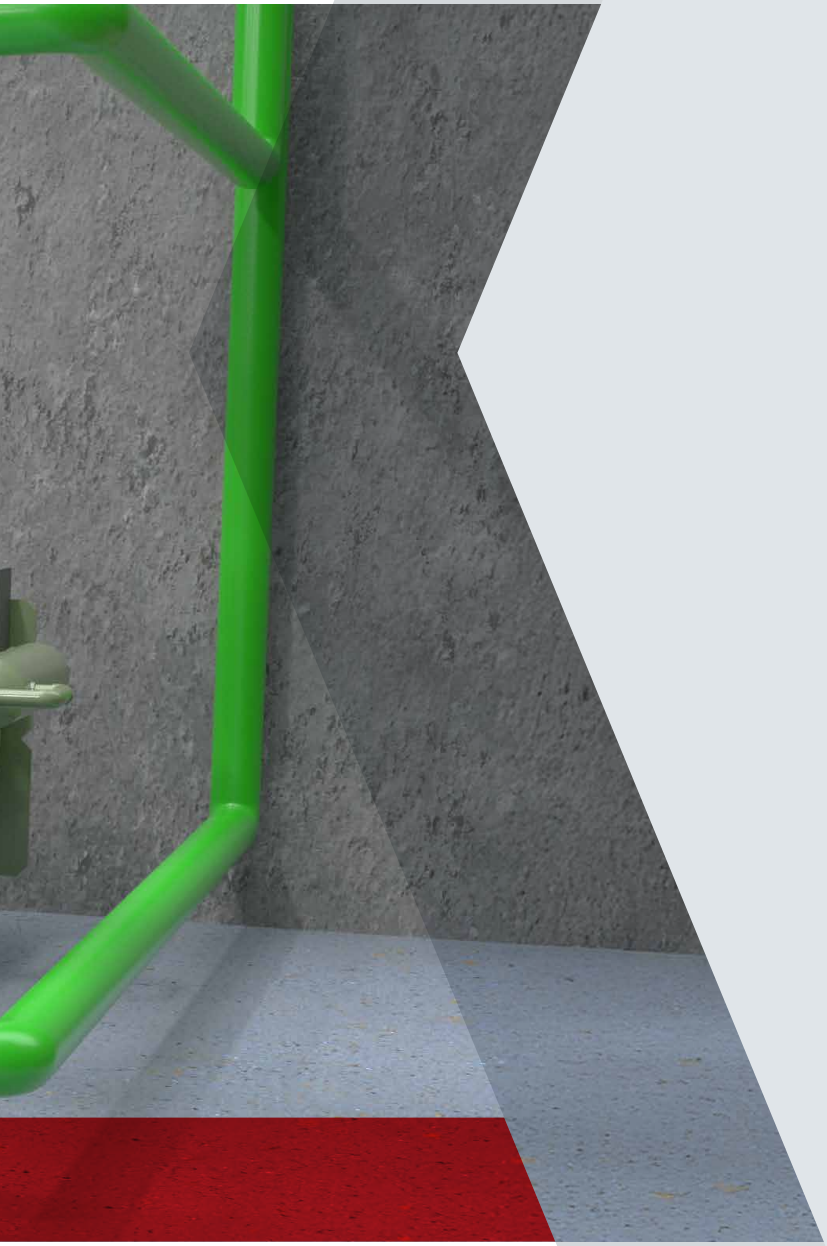
Elevated Chainwheel Gearbox Valve Control

Our chainwheel and gearbox solution for high or hard-to-reach manual valves in chilled and condensed water circuits reduces labour requirements. It is suitable for retrofit and new-build applications, with anti-slip features and a secure lock/tag-out mechanism.

The solution simplifies pipeline design, requiring less space and setup and delivers a safer, more efficient, and HSE-compliant way to operate manual valves.



Effective flow control improves efficiency while simplifying pipeline design







Gearboxes and Chainwheels

Designed to provide reliable performance and safe operating environments, our gearboxes and chainwheels are engineered to provide maintenance-free operation in harsh conditions.





Noah NA Part-turn Electric Actuators

Highly reliable, simple, compact and lightweight electric valve actuators with network control, delivering a high maximum torque output with a robust compact enclosure that is certified waterproof to IP67 and explosionproof as standard.

Performance

- Torque range: 30 to 3,500 Nm (22 to 2,581 lbf.ft)
- 14-144 sec / 90° part-turn operation†





Limit Switch Boxes

Our extensive range of limit switches offer visual indication with a variety of feedback options. The robust designs are corrosion-resistant and suitable for a wide range of environments in hazardous and safe areas.

† model dependent

Primary Applications

Water Replenishment System

The building's main water inlet is controlled by intelligent actuators that precisely control water volume and pressure to meet the varying demands of the data centre.

One area is a water blowdown manifold where our bespoke and efficient designs use electric actuators to manage the separate water circuits. To prevent water hammer, our electric actuators can be slowly opened, or smaller actuator-controlled bypass pipes can be used to allow gradual pressure balancing.

Open circuits with cooling towers require constant water replenishment and treatment to prevent scaling, corrosion, and microbial growth. Closed adiabatic circuits reduce water use but still require water replenishment to remove mineral build-up.



Advanced valve control improves efficiency while reducing water use





IQT3 Pro Intelligent Part-turn Electric Actuators

High performance valve actuators with proven reliability in demanding environments, offering intelligent control and monitoring for a wide range of valve applications and access to iAM advanced analytics system.

Performance

- Torque range: 50 to 3,000 Nm (37 to 2,214 lbf.ft)†
- 5-120 sec / 90° part-turn operation†



Noah NA Part-turn Electric Actuators

Highly reliable, simple, compact and lightweight electric valve actuators with network control, delivering a high maximum torque output with a robust compact enclosure that is certified waterproof to IP67 and explosionproof as standard.

Performance

- Torque range: 30 to 3,500 Nm (22 to 2,581 lbf.ft)
- 14-144 sec / 90° part-turn operation†



Noah SA Compact Part-turn Electric Actuators

Highly reliable, simple, ultra-compact and lightweight actuators designed to provide valve control in limited space applications with network control options and certified watertight to IP67 as standard.

Performance

- Torque range: 20 to 90 Nm (15 to 66 lbf.ft)†
- 9-32 sec / 90° part-turn operation†

† model dependent

Primary Applications

Air-cooled Chillers

Our intelligent, network-controlled actuators significantly reduce the need for manual valve adjustments. However, when manual operation is necessary, our manual gearboxes offer a reliable and cost-effective solution. Engineered for durability, they operate smoothly and effortlessly, even after extended periods of inactivity. These valves are typically used to isolate equipment for maintenance or replacement, ensuring operational flexibility without compromising performance.

Whether using cooling towers, dry/hybrid systems, or adiabatic cooling, all rooftop configurations require valve actuation on the pipelines to maintain system efficiency and reliability.



Advanced flow control for continuous operation and reliable isolation





Noah NA Part-turn Electric Actuators

Highly reliable, simple, compact and lightweight electric valve actuators with network control, delivering a high maximum torque output with a robust compact enclosure that is certified waterproof to IP67 and explosionproof as standard.

Performance

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Performance

- Torque range: 50 to 3,000 Nm (37 to 2,214 lbf.ft)†
- 5-120 sec / 90° part-turn operation†



Gearboxes

Designed to provide reliable performance and safe operating environments, our gearboxes are engineered to provide maintenance-free operation in harsh conditions.



Limit Switch Boxes

Our extensive range of limit switches offer visual indication with a variety of feedback options. The robust designs are corrosion-resistant and suitable for a wide range of environments in hazardous and safe areas.

† model dependent

Secondary Applications

Precision Control for Backup Generators

Ventilation louver control

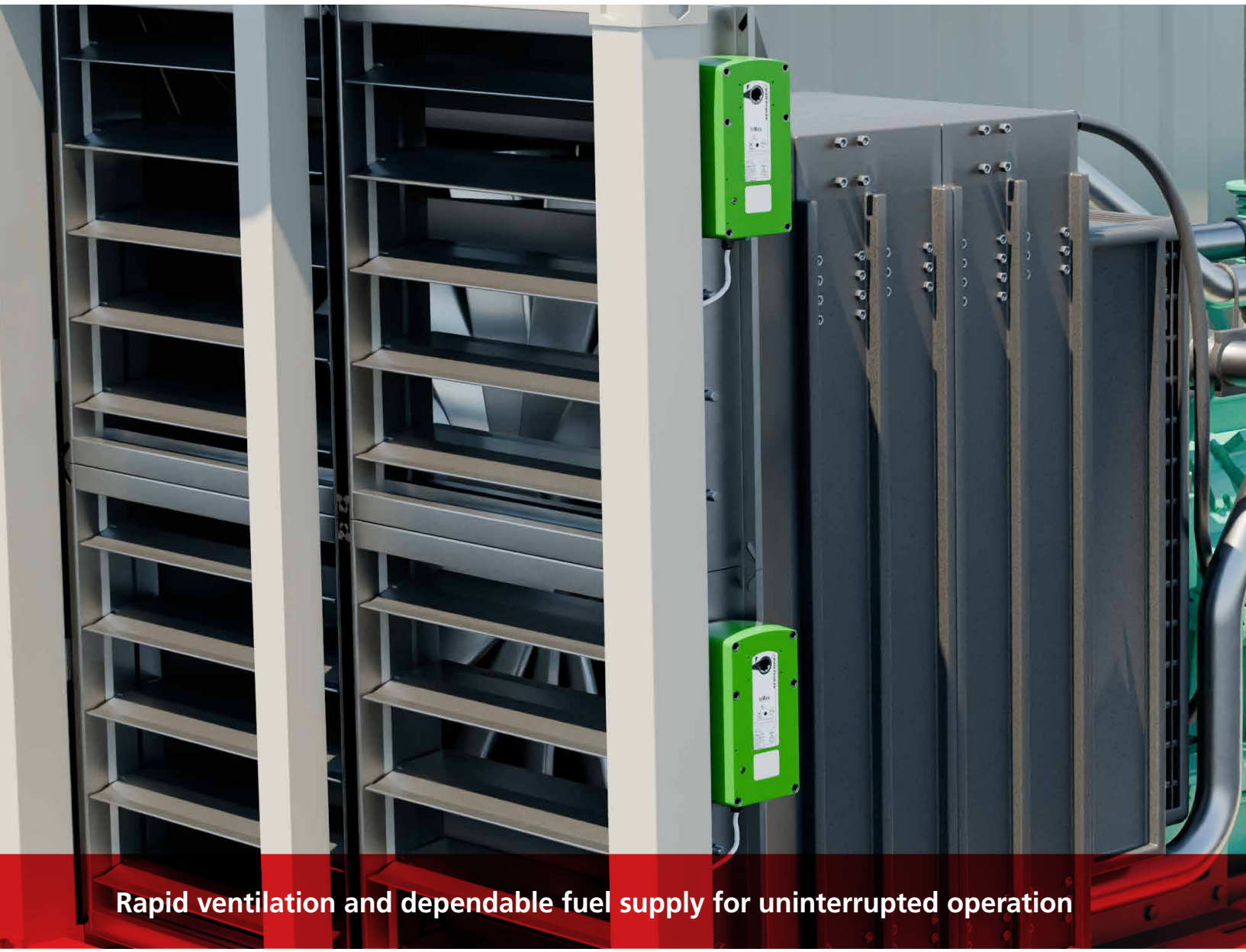
Fast-response electric actuators that open ventilation louvers in ~3 seconds are vital for containerised backup generators. Engineered for high torque and reliability, they ensure airflow pathways open almost instantly at start-up.

Efficient ventilation is essential to prevent heat buildup and maintain safe operating temperatures within the container, stabilising conditions before thermal stress affects performance or causes shutdowns. Data centres depend on seamless power continuity, and any delay or failure in ventilation can compromise operations.

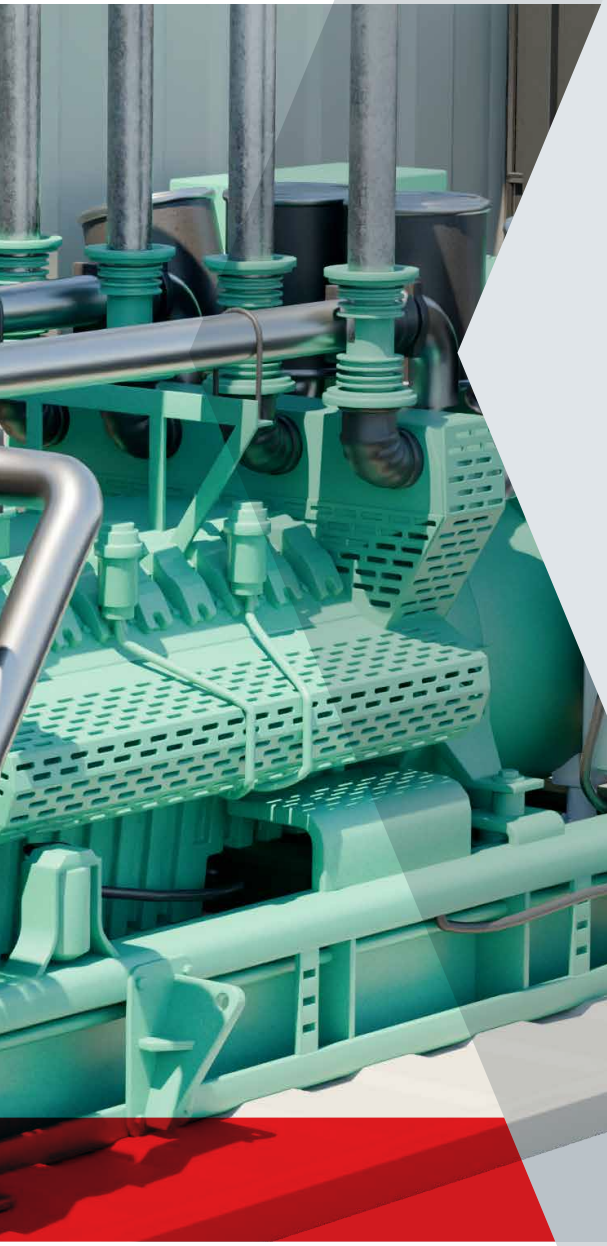
Fuel flow control

Solenoid valves are used in fuel supply systems for backup generators to precisely control fuel flow during start-up, operation and shutdown. They provide rapid, reliable isolation and delivery of fuel, ensuring engines receive the correct supply instantly during data centre power loss events.

In mission-critical environments, these solenoid valves help prevent fuel leakage and accurately control flow to maintain efficient generator operation.



Rapid ventilation and dependable fuel supply for uninterrupted operation





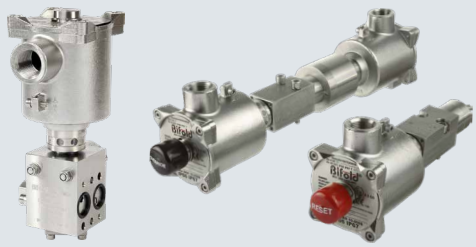
Schischek InMax Part-turn Electric Actuators

Robust, compact and highly reliable electric actuators for fast-acting quarter-turn valve and damper automation in safe areas.

User-friendly features include up to 5 different running times adjustable on-site as standard, a 24-240 VAC/VDC self-adaptable power supply, and stainless steel or painted options. Available with failsafe spring-return and fast operating options.

Performance

- Torque range: 5 to 150 Nm (44 to 1,300 lbf.in)
- ~1 sec / 90° part-turn operation



Bifold Solenoid Valves

Manufactured from 316L stainless steel as standard with aluminium options available, our range of pneumatic solenoid valves are ideally suited for demanding applications and corrosive atmospheres.

Performance

- Ultra low power consumption <1.0 W
- High flow rate up to 11.2 Cv
- High pressure versions up to 725 psi / 50 bar working pressure

Secondary Applications

Building Fire Protection Systems

Fire protection for critical data infrastructure

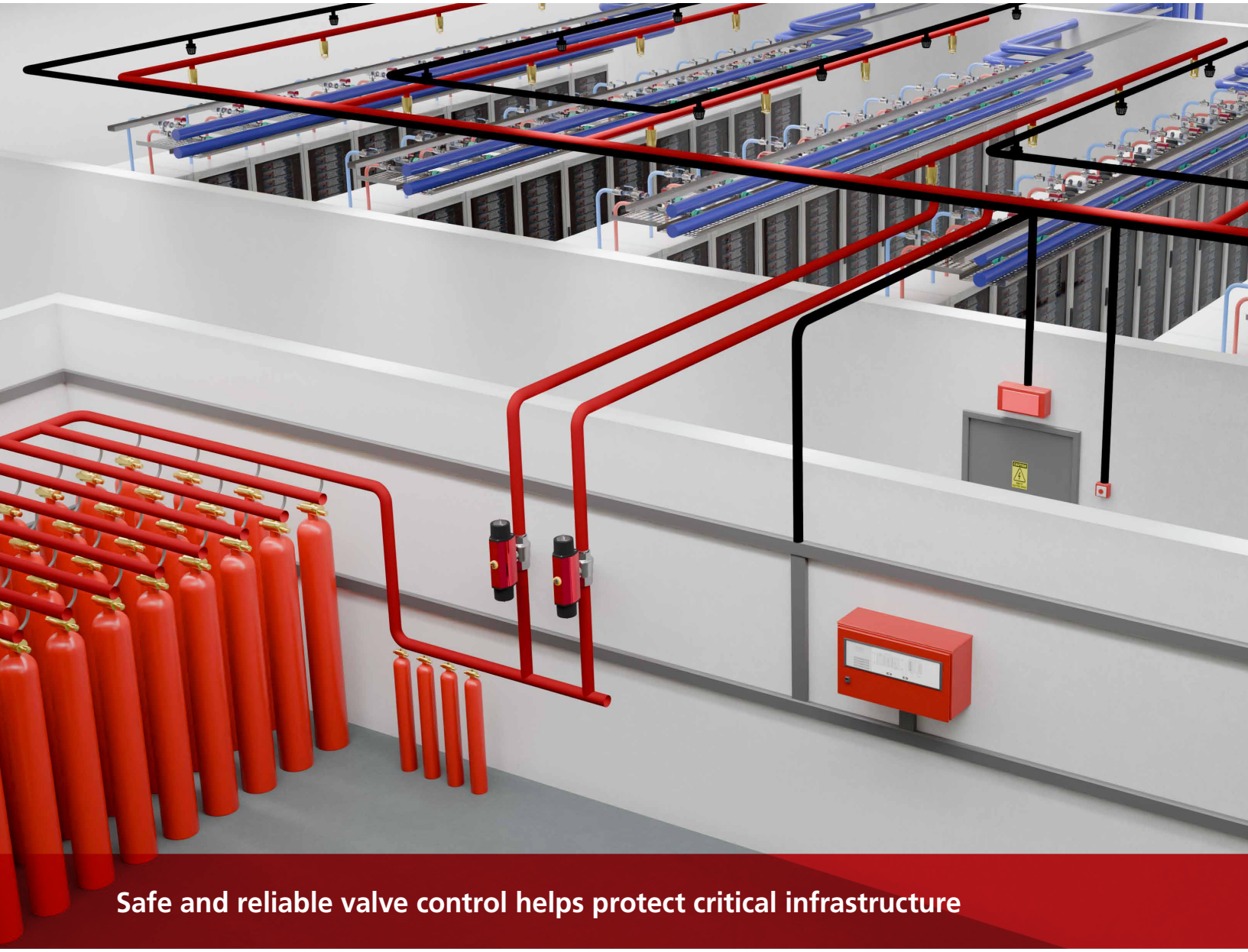
To ensure the highest level of safety and continuity, our advanced actuation solutions ensure rapid, reliable response in emergencies:

Inert gas systems for server rooms

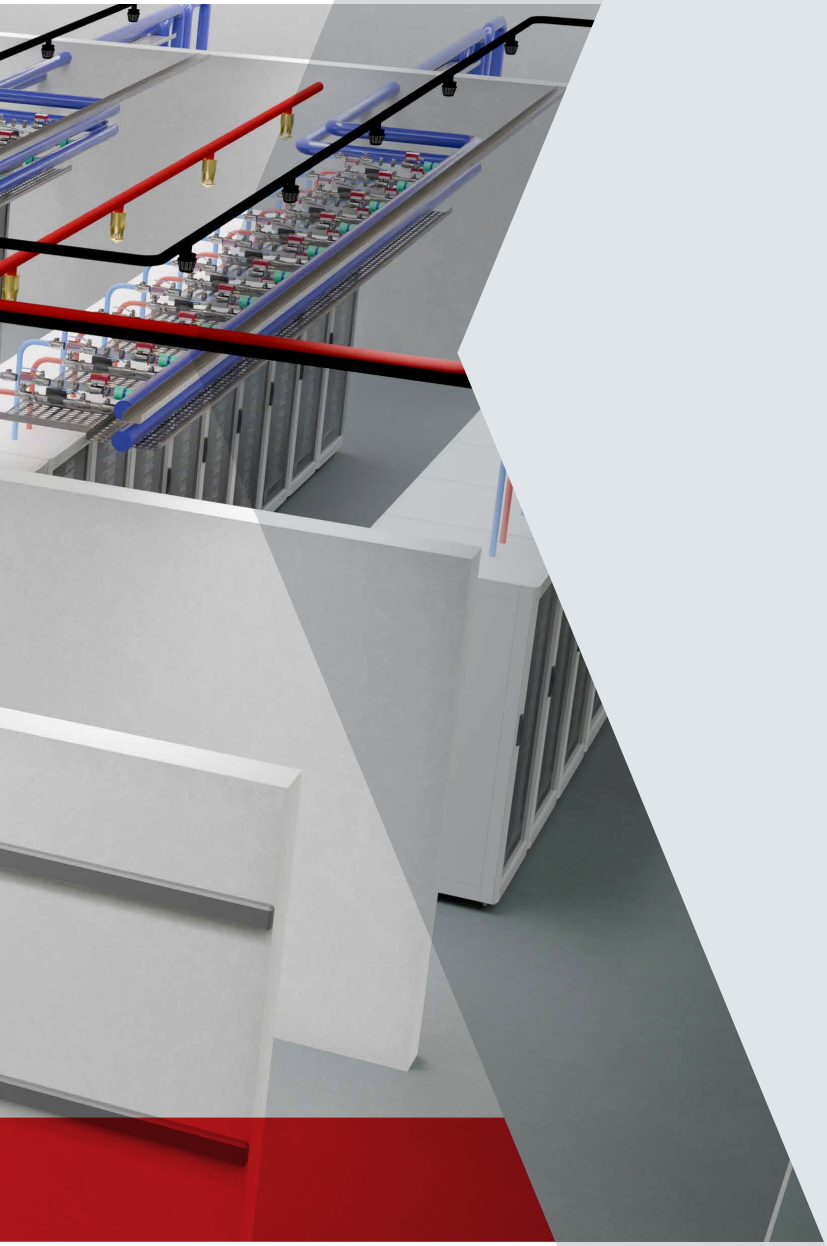
GT and RC Range pneumatic actuators are used in data halls, computer rooms, backup generator rooms, and other high-priority areas with electrical equipment to control nitrogen-based gas suppression systems. They deliver swift and safe deployment without the risk of water damage.

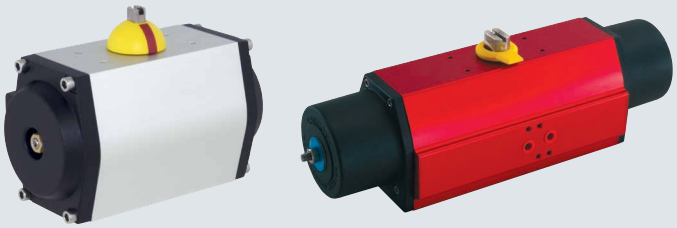
Water vapour systems

Hanbay M Range electric actuators are used throughout general building infrastructure. They provide precise and dependable control of critical valves, ensuring fast activation.



Safe and reliable valve control helps protect critical infrastructure





GT Range and RC Range Pneumatic Actuators

High torque output, small size, explosionproof actuators available in single- and double-acting, rack and pinion (GT) and scotch-yoke (RC) variants.

Performance

- GT torque range: 2.4 to 5,800 Nm (21 to 51,300 lbf.in)
- RC torque output up to: 4,400 Nm (38,900 lbf.in)



Hanbay M Range Compact Electric Actuators

Lightweight and compact UL certified electric valve actuators with high resolution accuracy, fast-acting operation, long-term reliability and network control.

Part-turn actuators deliver fast open/close operation for ball, diverter, multi-port, shut-off, internal and butterfly valves.

Multi-turn actuators provide precision modulating control for needle, metering, globe and control valves, as well as pressure regulators

Performance

- Torque range: 0.5 to 118 Nm (4 to 1,050 lbf.in)
- 1-15 sec / 90° part-turn operation
- 1-186 sec / 360° multi-turn operation

Comprehensive Service Delivered Through Strategic Partnership

We deliver comprehensive, end-to-end customer support, from the initial site survey and bespoke design to expert installation and ongoing maintenance. Our dedicated service teams ensure seamless project execution and long-term reliability, giving you peace of mind and a partner you can trust every step of the way.



Site Surveys

Conduct detailed site surveys to assess infrastructure, power, and cooling, laying the groundwork for efficient, compliant, and future-ready data centre solutions.



Qualified Installation

Our qualified engineers handle every aspect of installation with precision and care, ensuring compliance, minimising downtime, and delivering a fully operational data centre solution.



Bespoke Design

Deliver tailored data centre designs, aligning infrastructure with your unique operational needs, ensuring efficiency, scalability, and resilience from concept to completion.



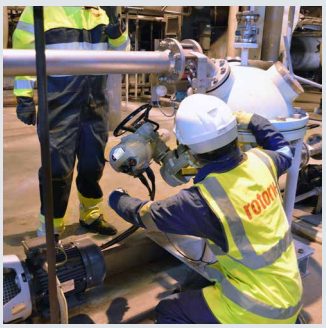
System Calibration

Expert calibration ensures optimal system performance, accuracy, and reliability, fine-tuning your infrastructure to meet operational demands, reduce PUE and maintain peak efficiency.



Upgrade Solutions

Tailored to enhance performance, extend lifespan, and future-proof your data centre infrastructure, minimising disruption and maximising return on investment.



Preventative Maintenance

Keep your data centre running smoothly by reducing downtime, extending equipment life, and ensuring consistent performance through proactive maintenance programmes.





rotork®

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mail@rotork.com
www.rotork.com

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