

Thermal Management Solutions

For Alternative Powertrain Vehicles



Breakthrough
engineering for
a better world

Breakthrough Engineering for a Better World

We're at the forefront of delivering the solutions we need in a changing world and is focused on solving key industry problems and employing the very best people.

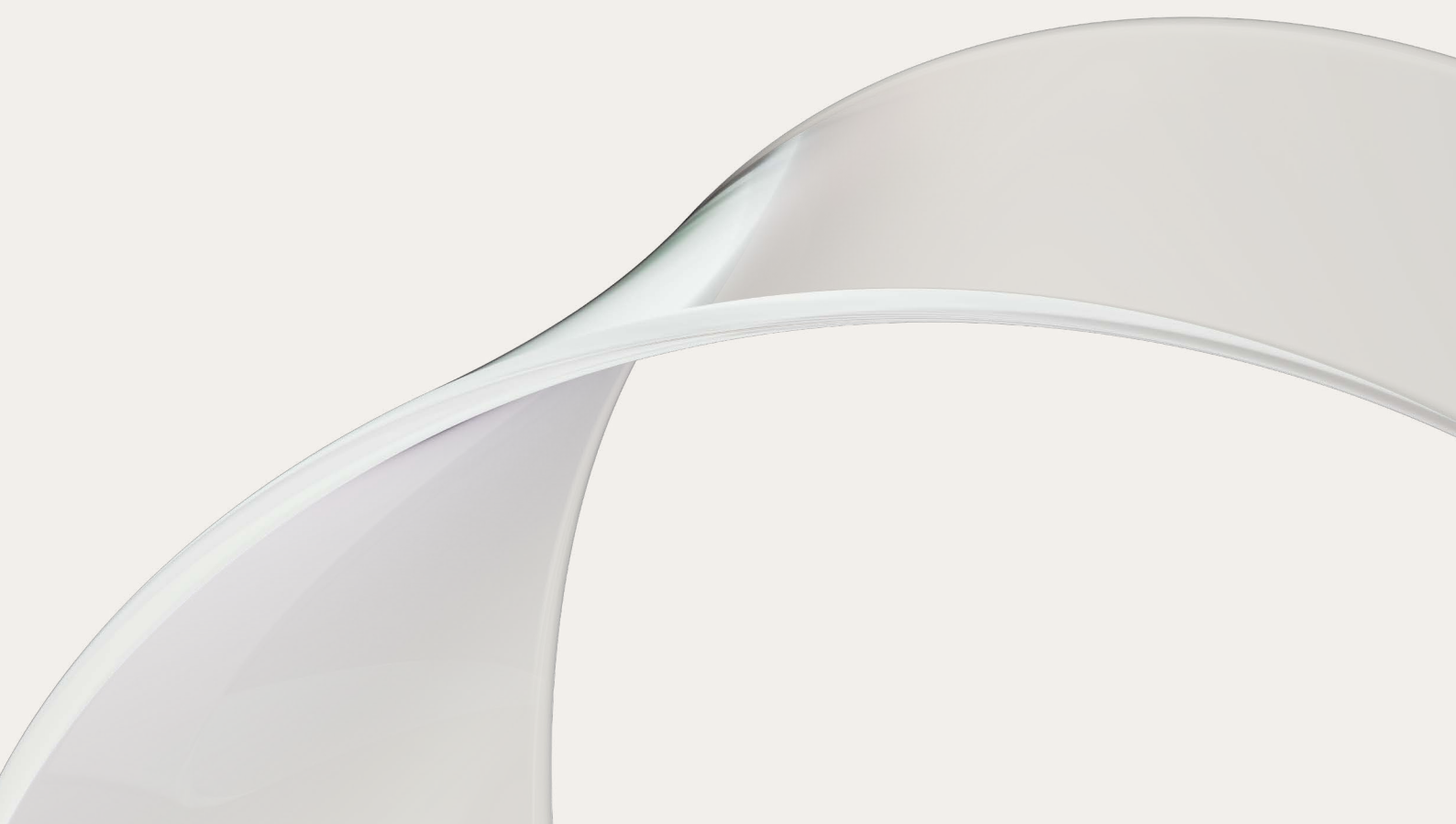
Our market-leading industry expertise means we offer the capability, resources, engineering intelligence and global support infrastructure to tackle even the most challenging project demands.

We're committed to helping customers achieve their goals by working with them as a partner, not just a supplier. We create unique, high-performance products based on proven automotive technology.

Our customised solutions, specific to each customer, can help to reduce emissions, provide more responsive control, reduce pressure leakage, provide greater durability and offer many other benefits, while our world-class quality maximises vehicle uptime.

With over 40 years of experience working directly with global commercial vehicle manufacturers, we offer a comprehensive range of Norgren pneumatic, hydraulic, electronic and vacuum solutions covering every major vehicle system, from the front bumper to the rear.

Breakthrough engineering you can count on.



Norgren Valves For Thermal Management Applications

Fuel economy improvements and the reduction of emissions are at the top of our global customers' agenda.

With the recent technological advances, thermal management solutions play an increasingly important role in improving the overall efficiency of both conventional and alternative powertrain vehicles.

While the impact on fuel consumption is the key metric for thermal management concepts in conventional powertrains, alternative powertrains have a different set of requirements.

These include improvements in range, charging times as well as reduction in overall system size, mass and subsequently cost.

Whether all-electric, hybrid or fuel cell, thermal control for the subsystems of the powertrain is critical.

Based on our experience in conventional and alternative powertrain technology, our range of motorised valves has been designed to help you improve the performance, reliability and efficiency of such thermal management systems.

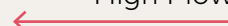


Motorised Valves – Key Features

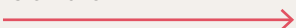
3-Way Motorised Valves



High Flow



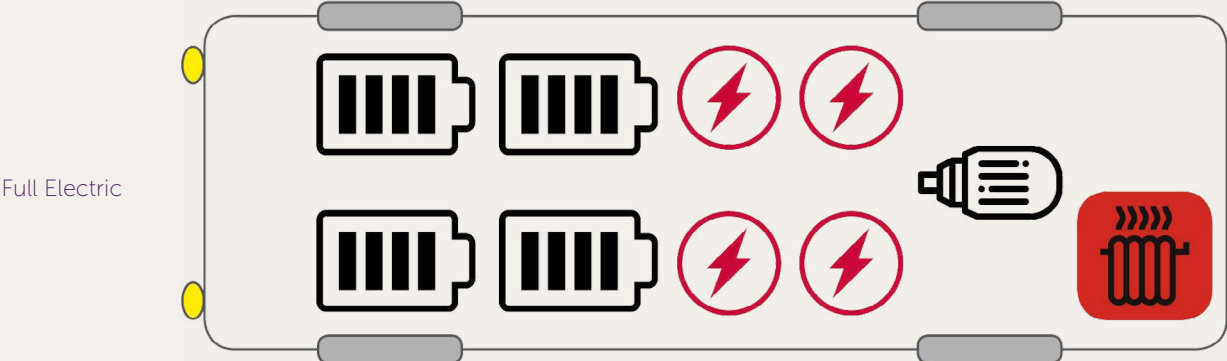
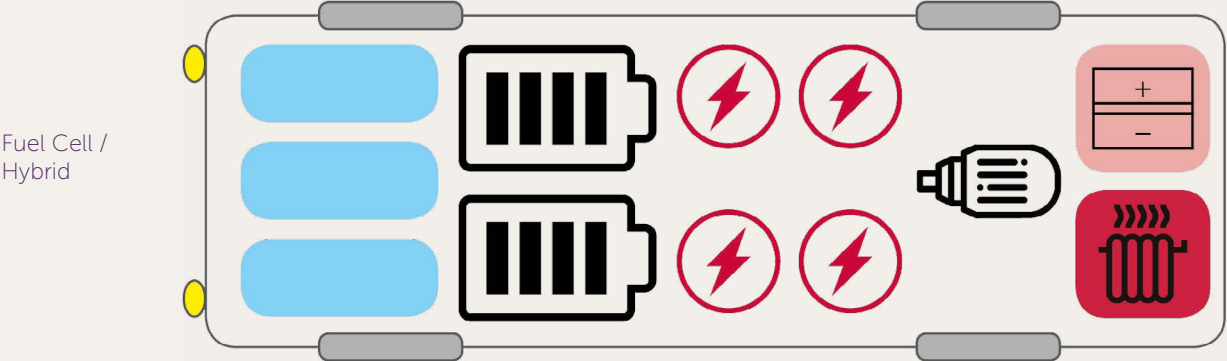
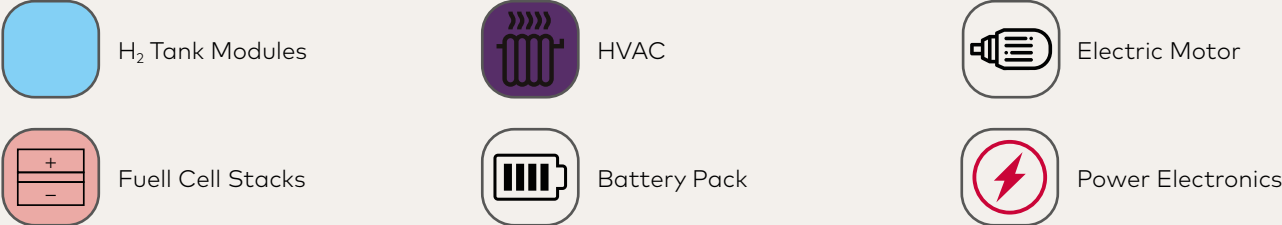
Precise Proportional Control



Product Highlights

- Minimum hysteresis proportional control
- Low power consumption
- Ultra-low friction ball valve technology
- Debris tolerant
- Compact design
- Large temperature range
- High volume flow capabilities
- IP6K9K
- Light-weight and robust
- Chemically compatible with numerous coolants
- Electrochemically neutral
- Oil and grease free options
- High resolution potentiometer
- ECE R10 approved actuator
- Can withstand high pressure peaks

Alternative Powertrain Applications



A Broad Portfolio For On and Off-Highway Vehicles

Norgren Motorised Valve

- 12 & 24 V d.c. versions available
- 22, 28 and 38 mm port sizes
- 2- and 3-way configurations
- Flow rates from 1.4m³/h to 28 m³/h
- -30°C to 110°C temperature range
- 0 – 2.5 bar (~36 psi) MOPD
- Withstands pressure peaks up to 4 bar (58 psi)
- Oil & grease free options
- Optional manual override



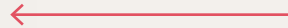
Norgren Valve Actuator

- 12 & 24 V d.c. versions available
- ECE R10 approved
- 2.5W power consumption
- Does not consume power to hold
- High-resolution potentiometer
- Gold-plated pins for minimum resistance

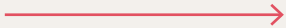




3-Way Motorised Valves With Manual Override



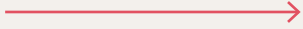
3-Way Motorised Ball Valves



2-Way Motorised Valves With Manual Override



2-Way Motorised Valves



Buses and Coaches



Medium Duty Trucks



Heavy Duty Trucks



Thermal Management Solutions

Due to our policy of continuous development, IMI reserves the right to change specifications without prior notice.

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