

Industrial Automation

Mobile Pneumatics
Solutions for Trailers, Body Builders,
Buses & Specialist Vehicles

Breakthrough
engineering for
a better world



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Breakthrough engineering for a better world

We create solutions for our customers which enable smarter, safer, more productive and sustainable factories, production lines and warehouse operations. Our pneumatic and electric motion systems help machine builders and end users around the world automate and optimise manufacturing and warehousing processes.

We have partnered with customers in industrial automation for over a century, applying our experience and innovation to create lasting value for their businesses. Our solutions support critical industries such as automotive, food and beverage, pharmaceuticals and even the space industry. We support the automation of precision manufacturing, product assembly, testing and packaging.

We use the latest digital technologies in our automation products and constantly innovate in close partnership with our customers. By applying our deep expertise, we can solve their toughest automation challenges, today and tomorrow. Through increased productivity, efficiency and safety, our customers can serve their own customers better, creating sustainable competitive advantage and delivering growth.

Our world-class product portfolio includes IMI Norgren, IMI Bimba, IMI Bahr and IMI Buschjost.



Experience and Expertise in Mobile Pneumatics

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

Our range of cab, chassis and powertrain solutions deliver fuel efficiency, emissions reduction and faster assembly times for the world's leading commercial vehicle manufacturers. Acknowledged for their safe and reliable operation, our products are proven over millions of miles of reliable service. We understand the market trends, environmental challenges, emissions standards and specifications that matter to truck manufacturers and Tier 1 suppliers.



Solutions for Mobile Pneumatics

Our experience and expertise in the global Commercial Vehicle and Rail industries has enabled us to work closely with a wide variety of vehicle builders who also need robust, reliable and proven solutions for pneumatic systems in their vehicles. We have been able to work with these customers to resolve challenging and critical applications across a range of industries, including:

- Trailers & Tankers
- Body builders & Special Vehicles
- Bus & Coach
- Agriculture
- Mining
- Defence, Marine & Off-road utility vehicles

Reliable, durable and proven products

Companies who operate across global markets need systems which will work reliably through extremes of temperature and environment. Our products are specially designed to perform in these conditions, with a particular focus on climate, temperature, thermal shock, corrosion, vibration, and mechanical shock. We manufacture special filters and regulators to ensure optimum air quality to our range of valves, actuators and fittings.

Precise proportional control

For applications which require precise variable control of pressure or flow in a system we have a complete range of industry-ready solutions which offer a range of low power and high accuracy options.

Smaller, lighter systems

With space and weight at a premium, we continue to develop products which maximise performance and resilience while minimising weight and space-claim. Our range of cartridge valves, valve arrays and fittings manifolds are specifically designed to meet these industry needs.

Industry certifications

We continue to develop products to meet and exceed industry regulations where they apply – our range of DOT FMVSS fittings for air brakes are used throughout the world. We also have secured DNVGL and BV marine certification for our proportional I/P – meaning it can be used across the world.

Protocols and interconnectivity

Our solutions are compatible with multiple Protocols (eg. CANopen) and compliant to connectivity requirements (eg. Multipole, I/O link).

●● To these customers we provide ●●



Improved performance & efficiency

- Our proportional fluid flow control products have delivered benefits to the agricultural industry by enabling more precise and responsive dispense systems.
- Working with trailer manufacturers to develop pneumatic systems to extend the length of trailers which provide haulage companies with greater fleet flexibility.
- Our proportional pressure control products have helped to extend the life of cleaning brushes and high pressure jets in a range of specialist municipal vehicles across the world.



Improved safety

- We provide bulk liquid trailer manufacturers with pneumatic systems to control safety handrails on top of tankers to ensure operator safety.
- Our range of in-cab pneumatic control switches and control cabinets enable operators to remain at a safe distance during tipper unloading.
- We work with bus and coach manufacturers to supply a range of passenger door systems which include manual overrides and automatic reverse functions to ensure passenger safety.
- We also manufacture electro-hydraulic control units to compensate for over-steering on municipal vehicles.

Reduced emissions

- Our marine-certified proportional pressure controllers have enabled shipbuilders and operators to reduce their emissions in line with new industry regulations.
- Our valve arrays have been adopted by leading off-highway manufacturers due to their resilience and performance in the most demanding conditions.

Improved comfort and ergonomics

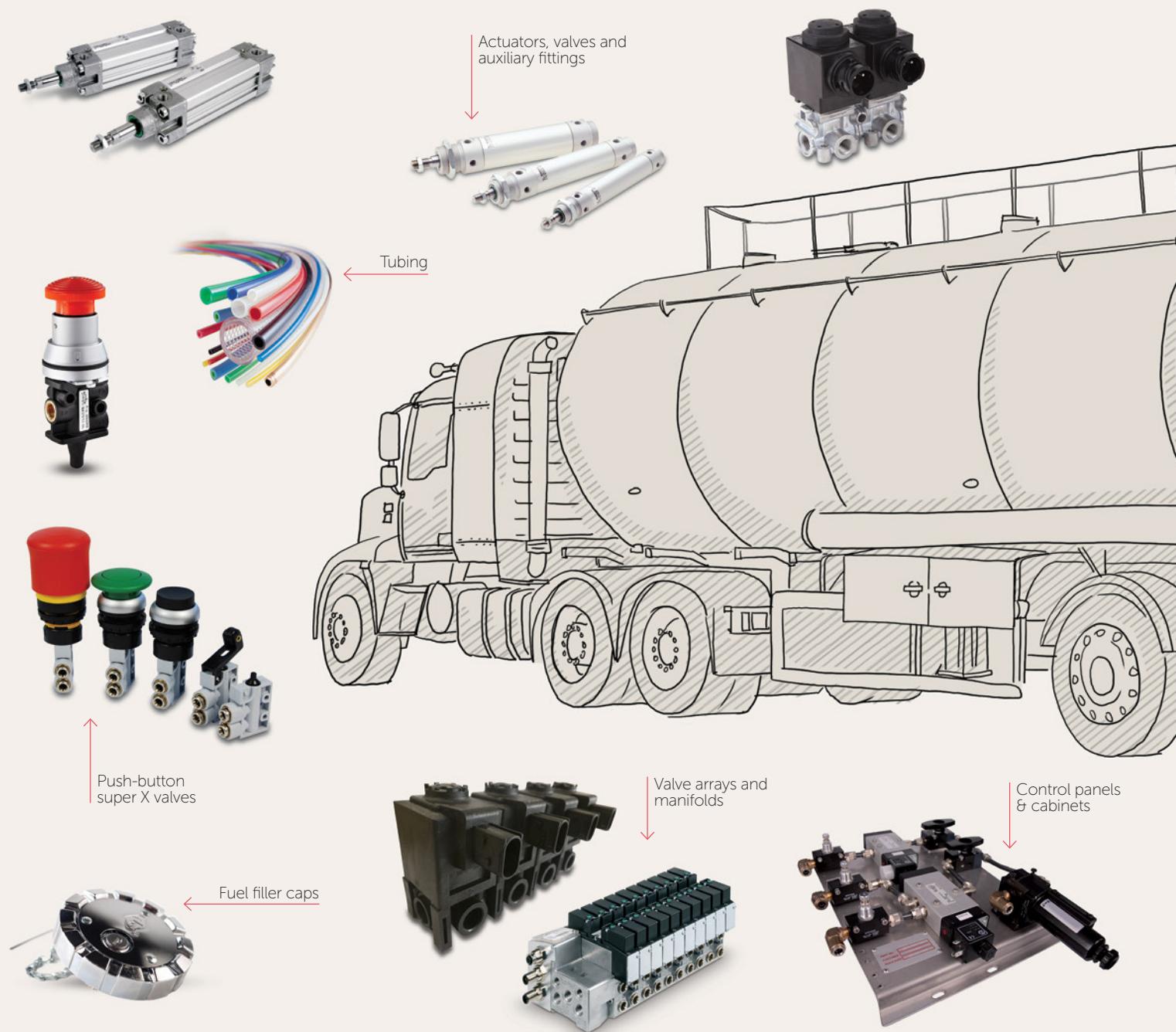
- We have developed a standard range of in-cab pneumatic seat-height, lumbar and suspension products to enhance operator comfort.
- We have developed an industry-leading motorized climate control system for coaches which delivers precise and quiet operation for passengers, while also delivering operational efficiencies to coach operators.

Trailers & Tankers

We have supplied push-in fittings for brake systems into the truck and trailer market for over 35 years. As haulage requirements have become more sophisticated we have developed our pneumatic capabilities to include plug and play control system solutions

Typical applications that we support today include:

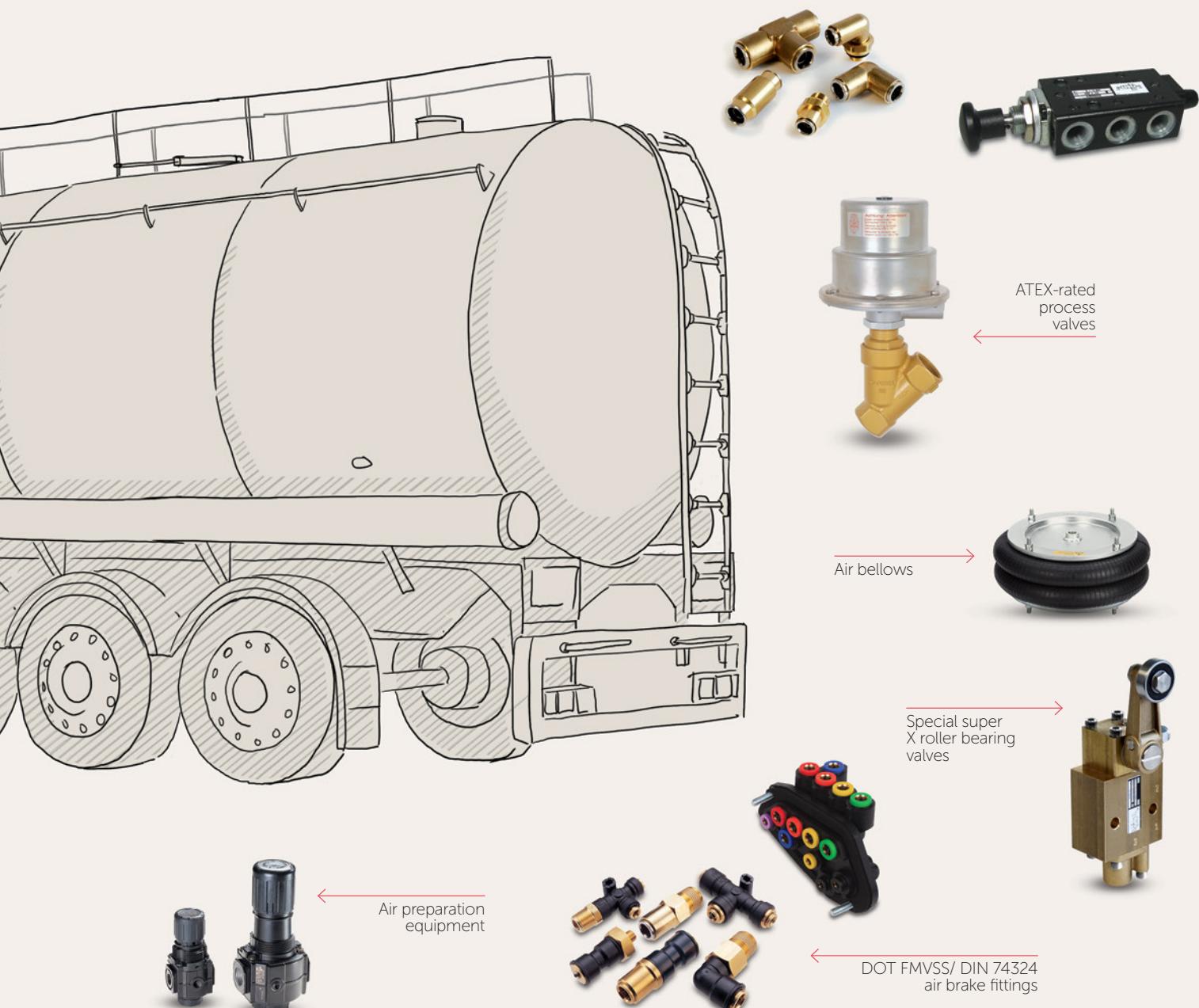
- DOT FMVSS/ DIN 74324 brake fittings
- Fifth wheel applications
- Control panels and cabinets
- Pneumatic interlocks for safety critical applications
- Extendable trailer applications
- Safety handrail control
- ATEX-rated process valves for tankers
- Air preparation equipment
- Lubrication manifold
- Pneumatic pilot system for hydraulics
- Load cover/ automatic sheeting control
- Tipper and tailgate control
- Variable tank volume and evacuation control
- Suction control





Specialist bulk and tipper trailers often need pneumatic control of tailgates and specialist systems.

Our valves and actuators are used as pneumatic interlocks in a variety of applications - from car transporters to safety rails on bulk liquid tankers.



Trailer Applications

Bulk liquid tankers

Bulk liquid tankers have multiple applications and requirements for both pneumatic and fluid control.

Access to the top of the tanker is typically required for a variety of reasons: valve operation, measuring levels, checking and inspection.

We have a range of valves, cylinders and accessory components used in the raising and lowering of safety rails on top of bulk liquid tankers to ensure that the driver/operator is protected when working on top of the vehicle.

ATEX certified valves

Operation of top and bottom filling valves also require Electric & Pneumatic control, for which we have a variety of applicable products. In many situations, these valves must conform to exacting ATEX safety standards.



Trailer length variation

Operators have developed their fleet to accommodate ever-changing demands on the loads and containers which they are hauling on our roads today. To ensure maximum efficiencies gained when operating a large fleet of trailers, extendable trailers have been developed to meet these demands.

The trailer length can be adjusted using a pneumatic system comprising cylinders and valves. Dependent on customer requirements, once the new trailer length has been achieved, it is locked into position either mechanically or pneumatically.

DOT FMVSS Brake Fittings

We have manufactured and supplied Push-to-connect fittings to the commercial vehicle, trailer and OEM Tier 1 suppliers for over 35 years. Our customers around the world have achieved significant production efficiencies as these fittings save huge amount of time during assembly, both providing ease of access in tight spaces as no assembly tools are required and a substantial reduction in potential air leaks associated with traditional compression fitting systems. Our fittings are available in both inch and metric tube sizes with a broad range of different threads. All conform to industry requirements of DOT FMVSS 106 for inch tube and DIN 74323 for metric.

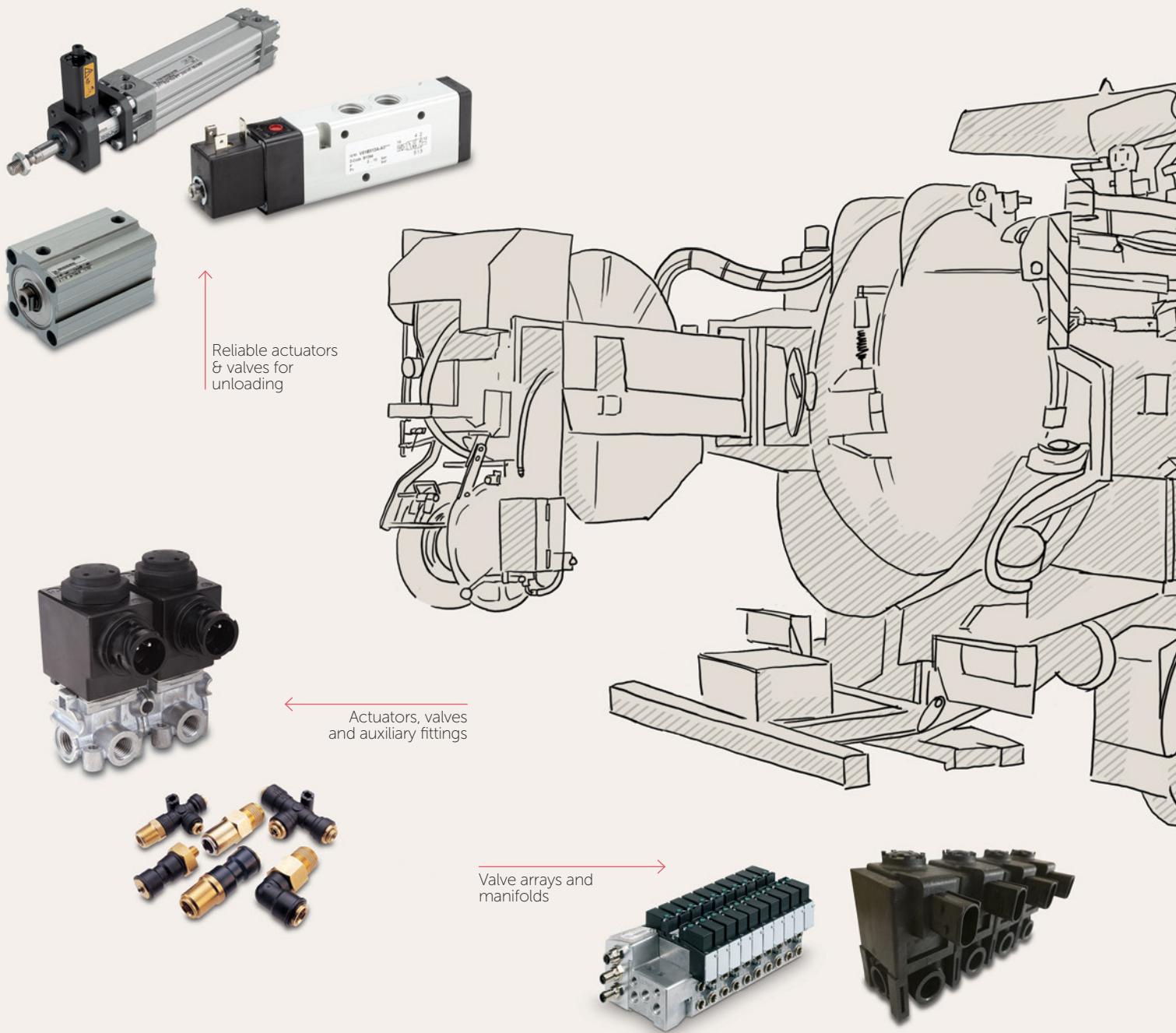


Body Builders

We provide solutions for a wide variety of applications for industry OEMs and specialist body builders. We have a long history of supplying reliable, high-performance products designed to meet the challenging environments and problem-solving needs of the industry.

Typical applications that we support today include:

- Tailgate and tipper control
- Side-wall locking
- Pneumatic hand rail actuation
- Pneumatic pilot system for hydraulics
- Load cover/ automatic sheeting control
- Pneumatic interlocks
- Boom control/ counter balance
- High pressure jetting control
- Wide sweep brush positioning
- Proportional brush pressure control
- Variable tank volume and evacuation control
- Suction control
- Spreading/ gritting control
- Pneumatic trailer coupling





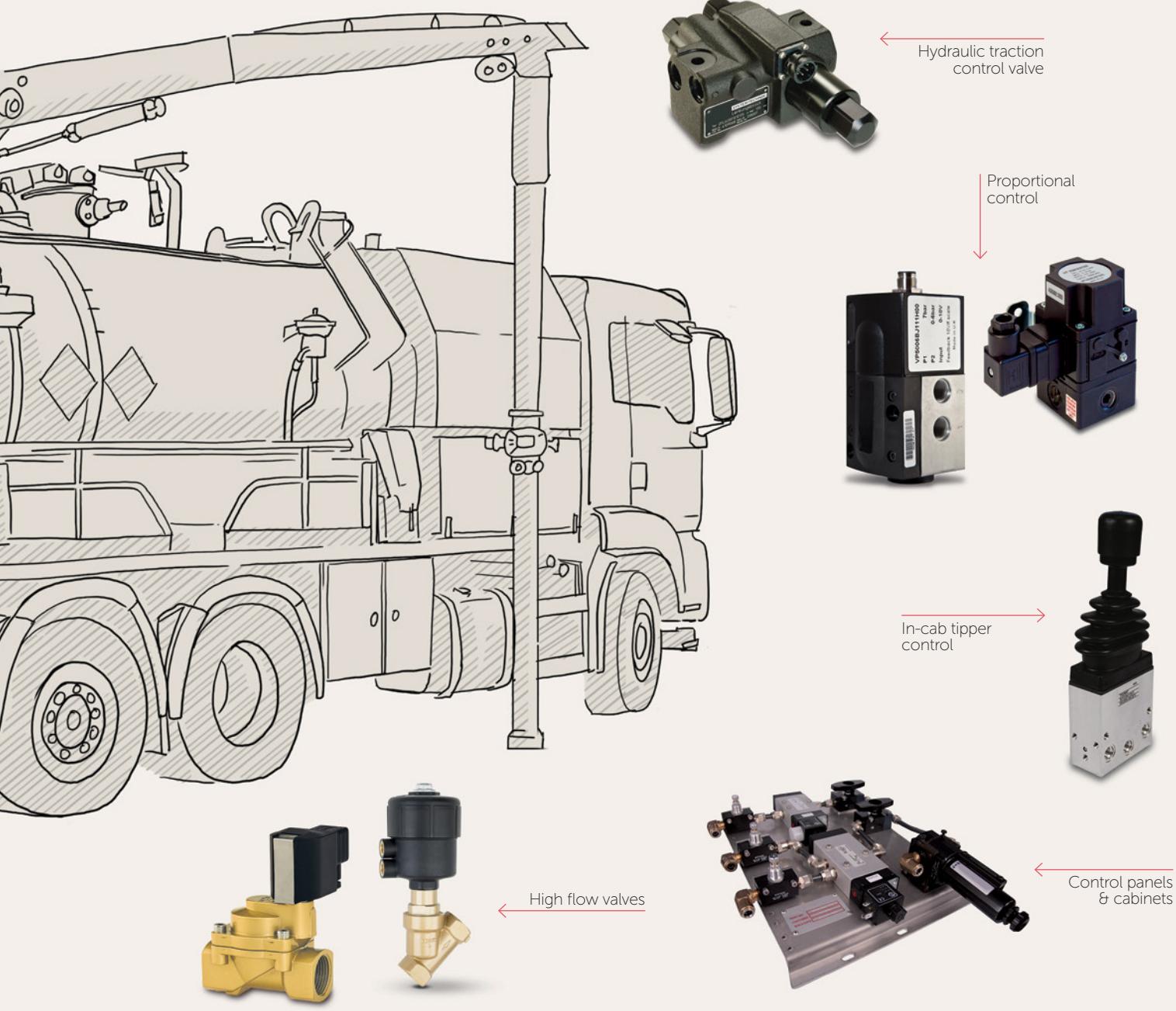
Our special air suspension valve manifolds enable chassis height adjustment according to load and conditions for a variety of specialist bodybuilder applications, including ambulances.



Other examples of specialist applications include pneumatic control of hydraulic systems as well as suction, boom counterbalance and tank filling/emptying.



Municipal vehicles all have requirements for pneumatic customized solutions to ensure driver/operator safety at all times.



Body Builder Applications

Sweeper brush positioning

Municipal vehicles place extreme demands on the pneumatic components in their systems due to the harsh environments in which they operate.

Proportional control is used to ensure the most consistent positioning of the pneumatic cylinders to achieve optimum cleaning performance.

Other benefits of this proportional control are fast and accurate obstacle avoidance, needed when navigating a variety of road and pavement conditions.

Centralised pneumatic control cabinet

Due to the tough operating conditions in and around waste-removal vehicles it is beneficial to centralise the pneumatic control in the safe, clean and protected environment of a pneumatic control cabinet.

The benefit of this solution is that it prevents potential damage from both the manual/mechanical operation of the system and the external environment.



Tipper Control

With the ever-increasing need to improve driver safety, tipper controls are now often located away from the areas of danger where the load is being emptied. This frequently results in pneumatic control being located in and around the cab environment, ensuring that the driver is out of harm's way. Our valve ranges have been proven in such applications over many years operation.

Valve Islands

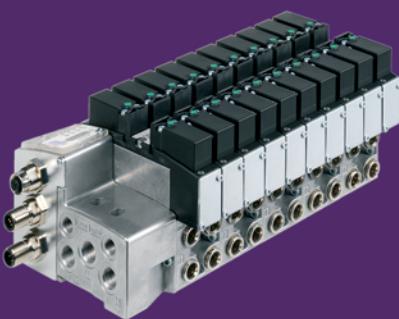
Valve islands to control multiple functions in complex systems often found in fire-engines, road sweepers and other municipal vehicles.

Air Preparation

A consistent quality air supply is critical to successful operation in mobile pneumatic applications. Our robust, high performance air sets get the job done in even the most challenging operating conditions.

Cylinders

Consistent and reliable actuation is key to smooth system performance in challenging conditions. Our rugged, high-quality cylinders deliver consistent power and precision, even under the toughest operating conditions. Built for durability and engineered for versatility, they ensure smooth operation and long service life.

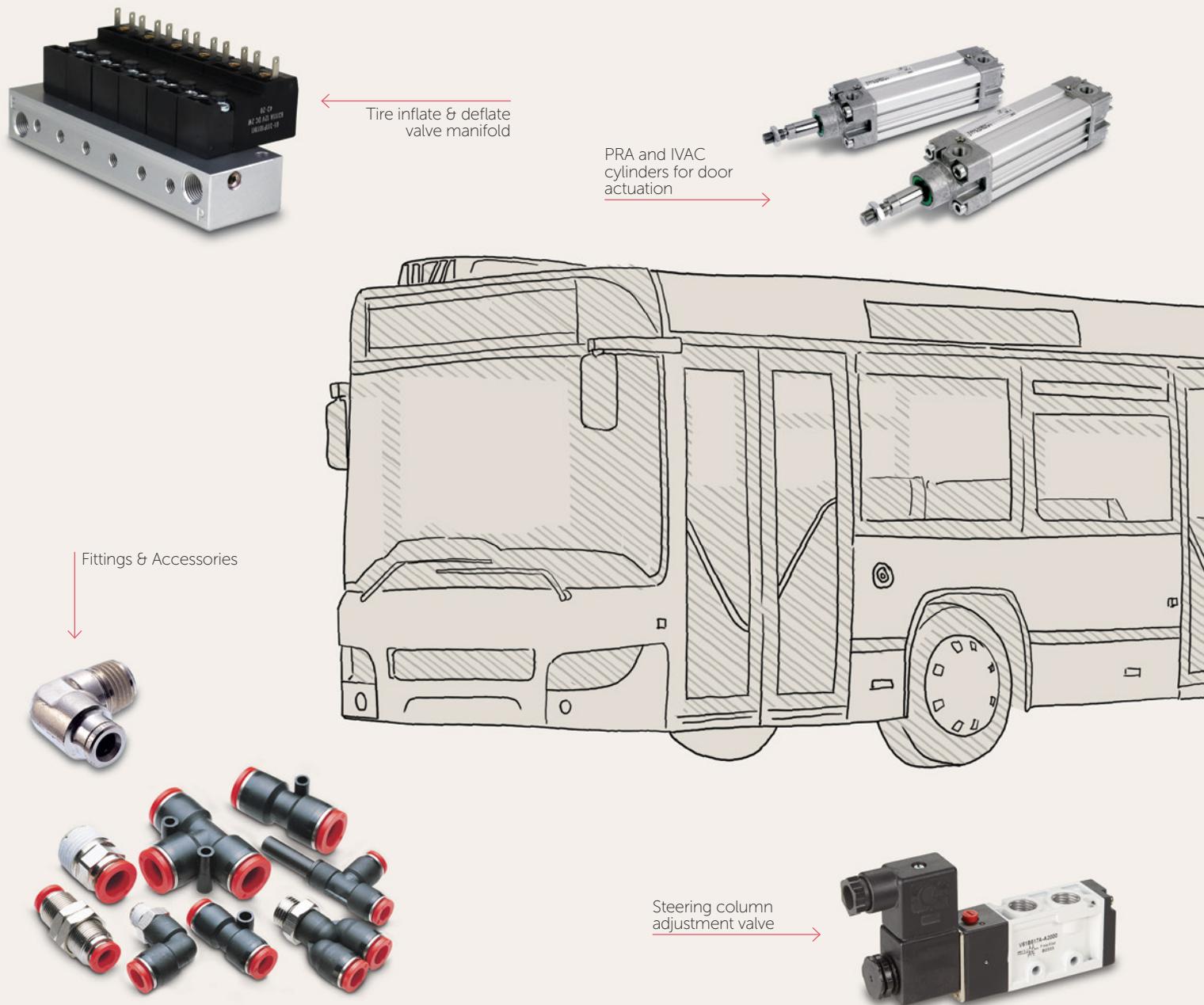


Buses & Coaches

Passenger comfort and safety on today's modern buses and coaches remains a high priority. We supply a range of reliable and robust control valves for climate control and door-opening systems designed to operate in extreme temperatures.

Typical applications that we support today include:

- Climate control
- Door open/ close system
- Emergency door control
- Disabled access systems
- Articulated bus safety and damping systems
- Battery cooling for hybrid buses
- Urea tank heater
- DOT FMVSS DIN 74324 brake fittings
- Fuel filler caps (vented/ non-vented)
- Safety systems





Our high flow precision regulators control the response of the pantograph system according to height variations in electric overhead lines.



We have supplied door control systems for city buses and climate control systems for luxury coaches for many years.

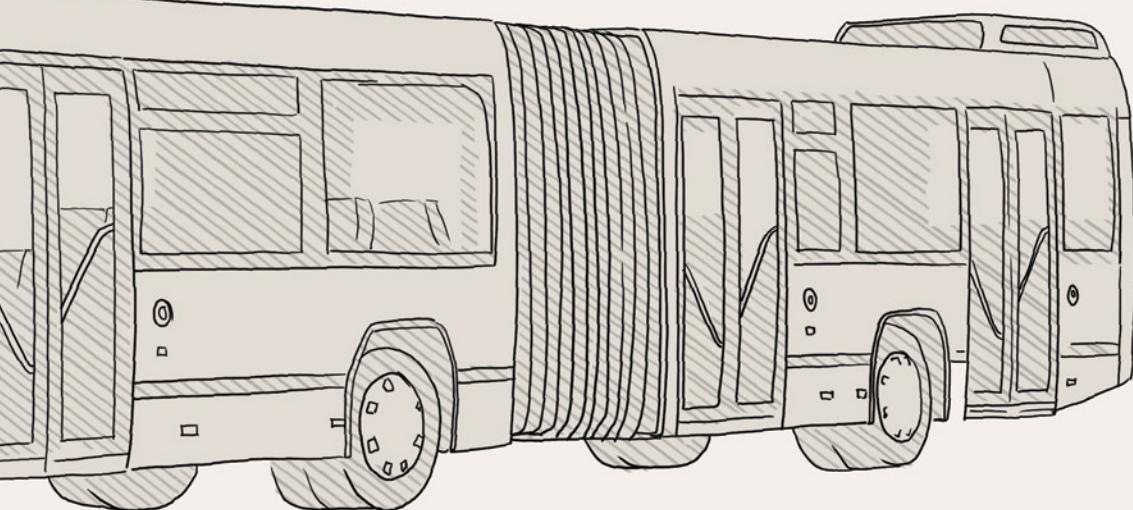


Special actuators are used to maintain constant tensioning on main and auxiliary fan belts, delivering efficiency and ease of servicing.

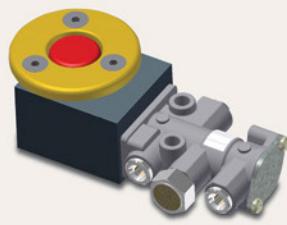


Climate control valves

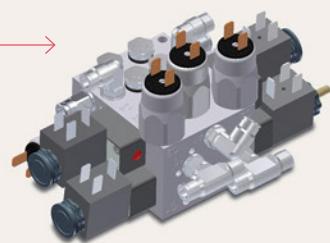
Glycol filters



Emergency door valves



Door control systems



Bus & Coach Applications

Climate control

Our high performance range of 2 and 3-way motorized valves offer proportional and digital control of engine coolant (water/glycol), enabling precise temperature control for passengers in buses and coaches.

Features & Benefits include:

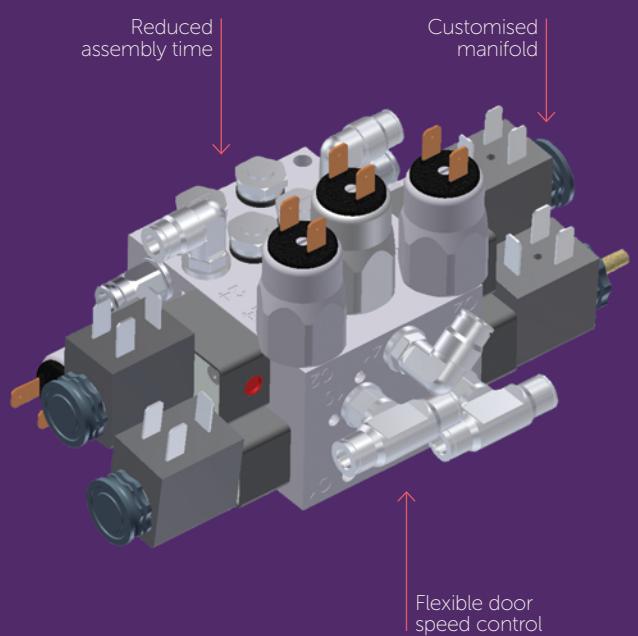
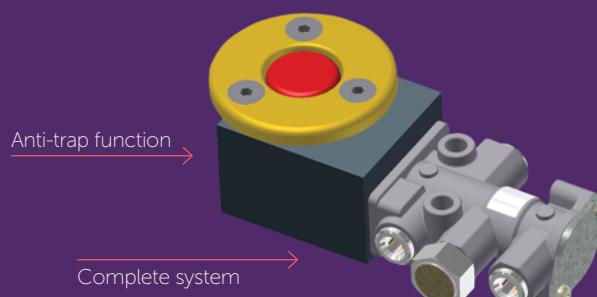
- Digital control-damping closing reduces pressure shock
- Motorised proportional valve delivers constant flow and reduces pressure shock on the radiator, while power consumption closes off when a set point is reached.
- Ceramic discs are resistant to dirt and variation of temperature, ensuring a more reliable performance.
- Motor drive for flap control- EMV resistant and built to high IP classification (IP-6K9K), it includes a gold plated pin contact to deliver high torque with minimal back lash
- Coolant control valves for the temperature control of hybrid battery packs.



Door opening systems

Our pioneering pneumatic control door-opening system for buses and coaches offers:

- A complete, customised system built from two components: door opening block and pneumatic cylinders
- Integrated safety functions, including a manual override option and an automatic reverse function for obstacle detection
- Emergency valves



Specialist vehicles

Agriculture

We work with specialist off-highway manufacturers to deliver improvements in efficiency, safety and performance for a range of agricultural vehicles.

Typical applications that we support today include:

- Emission control
- Power Take Off Equipment
- Tyre inflation systems
- Proportional spray control
- In-cab seat controls
- In-cab climate control
- Crop spraying
- Harvesting
- Processing equipment



Crop spraying

Efficient and accurate crop spraying is achieved with our precise proportional control valves which vary dispense according to the changing terrain.



Our proportional pneumatic control systems enable accurate and efficient harvesting depending on the terrain and application.



In-cab controls

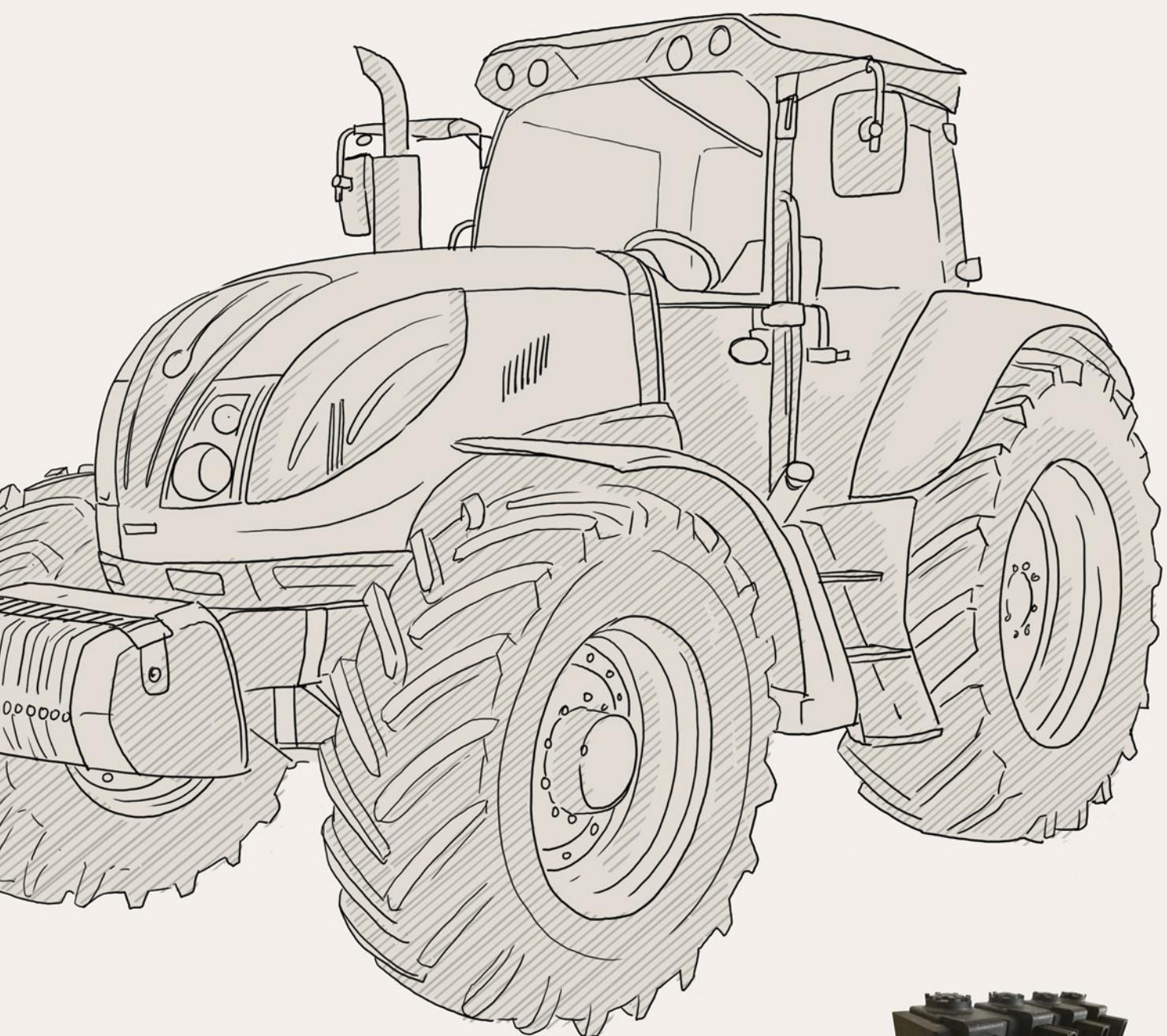
Urea tank heating valves



Solenoid valves & pressure regulators for CNG/LNG



Proportional turbo wastegate control



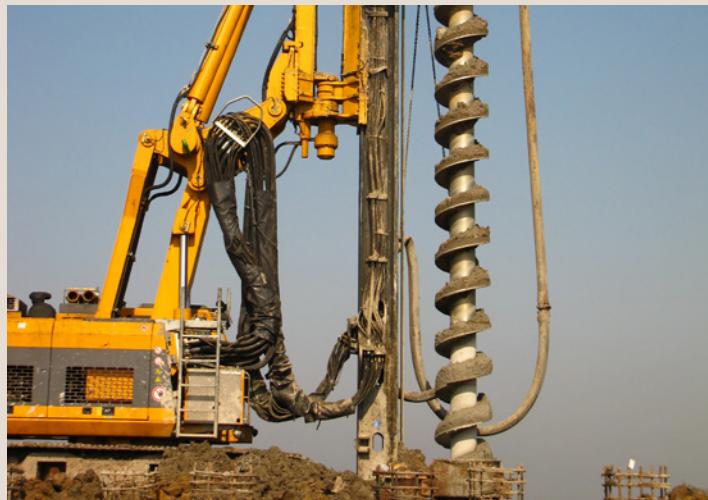
Specialist vehicles

Mining & Construction

We work closely with mining and construction vehicle manufacturers to deliver outstanding performance in the most demanding of applications.

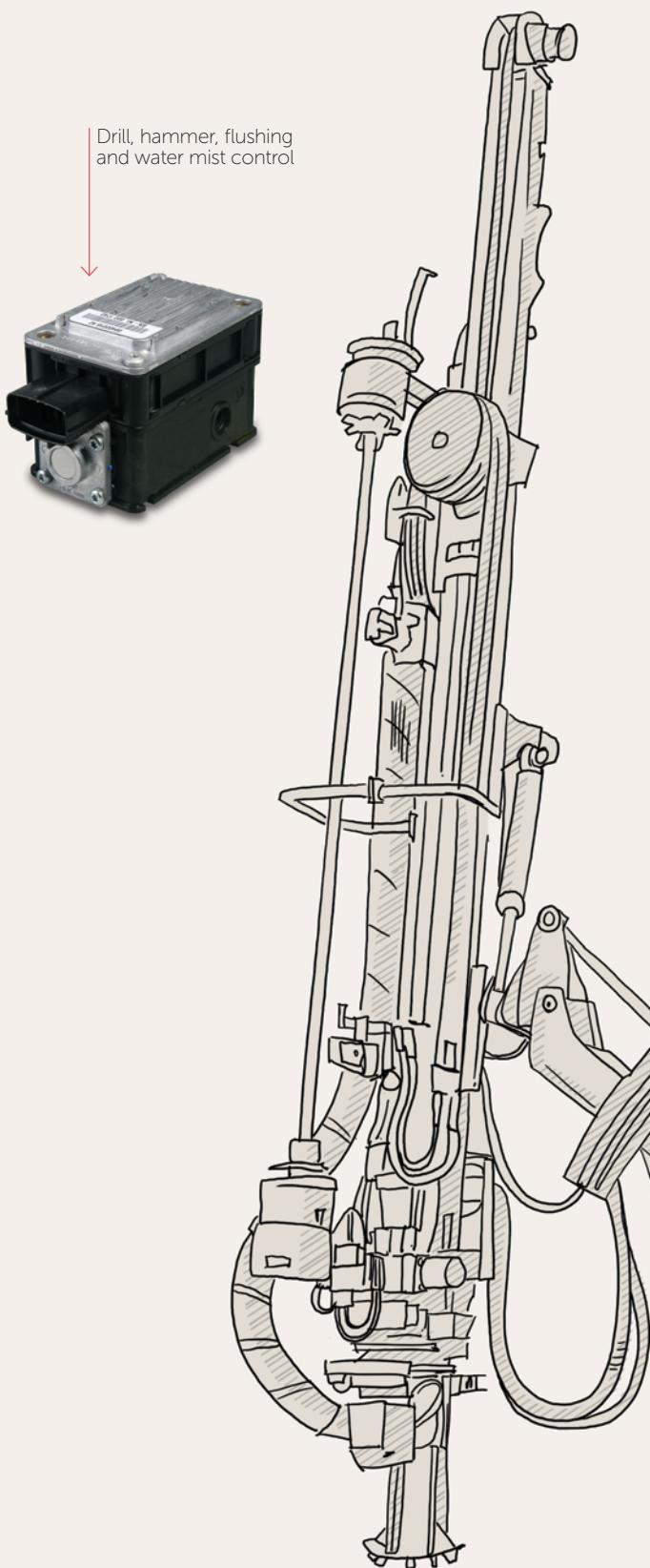
Typical applications that we support today include:

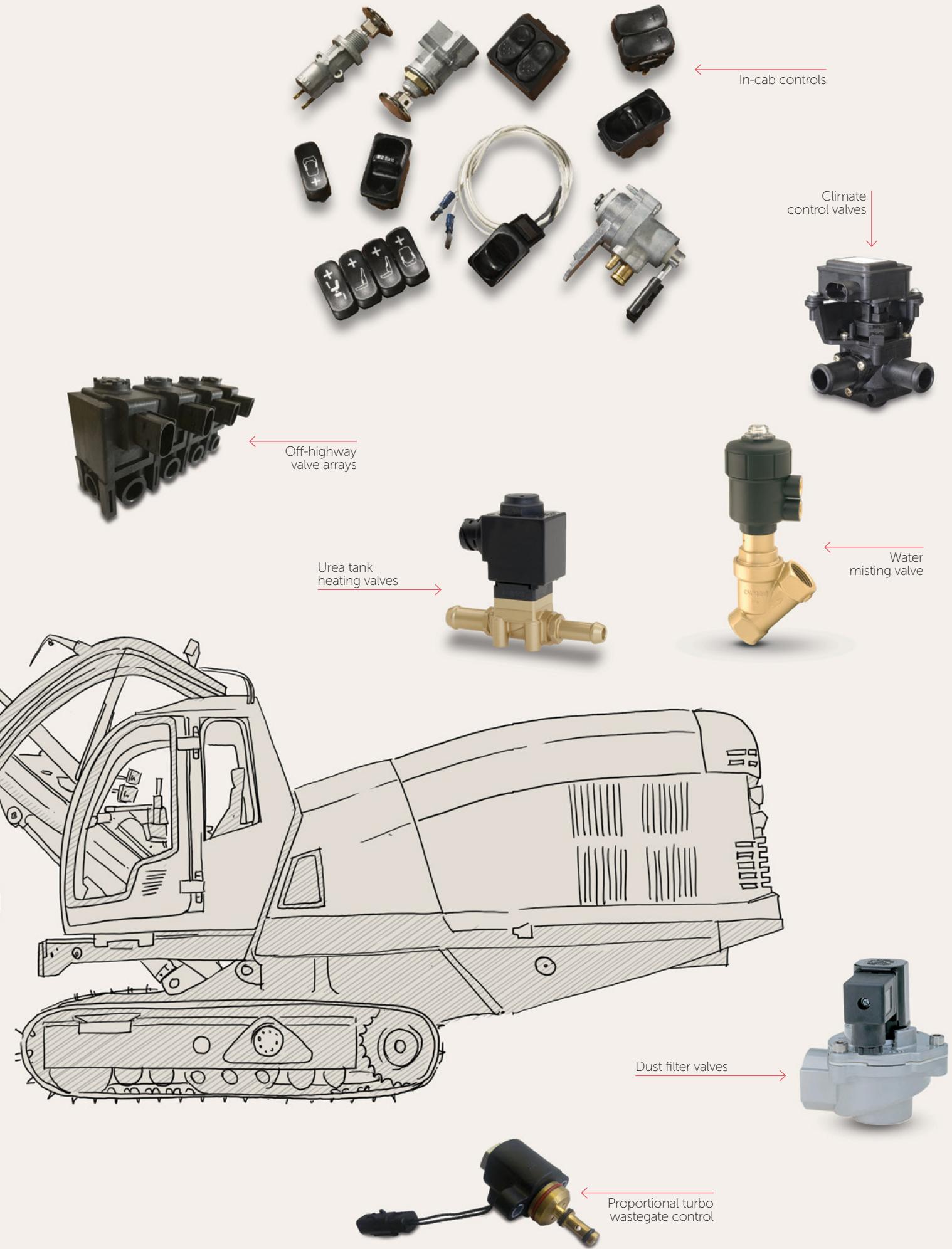
- Dust filtration systems
- Drill flushing and cooling systems
- In-cab seat controls
- In-cab climate control
- Brake interlocks
- Emergency engine shut-off
- Traction control
- Water mist dust suppression
- Mining air system control



Our valves help mining vehicle manufacturers keep their dust collectors operating at peak efficiency. Our valves also reduce energy consumption, are explosion-proof up to hazardous area 1/21, and performing consistently across a temperature range from -40°F to 284°F.

We supply pneumatic systems for a variety of road construction vehicles including asphalt spreaders, road rollers and road marking equipment





Specialist vehicles

Marine and Defence

We work with marine engine manufacturers and shipbuilders to help them respond to the global industry drivers around emissions reduction and ballast water quality as well as developing bespoke solutions for logistic vehicle builders in the Defence sector.

Typical marine applications that we support today include:

- Proportional turbo wastegate control
- High pressure air ignition systems
- Air preparation equipment
- Pneumatic pilots for hydraulic systems
- ATEX rated process valves

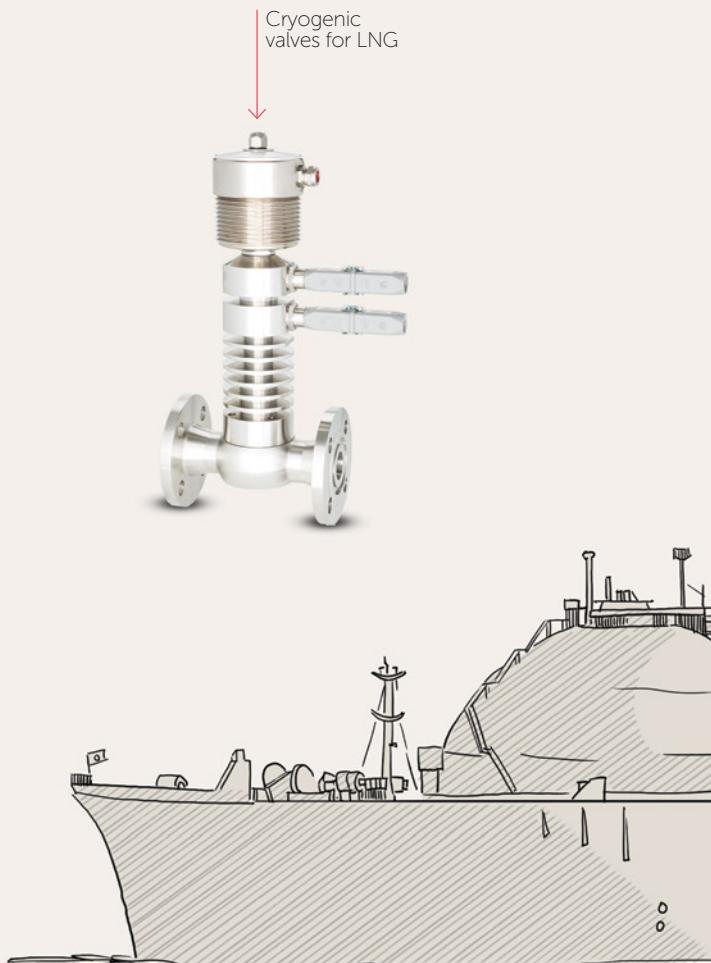


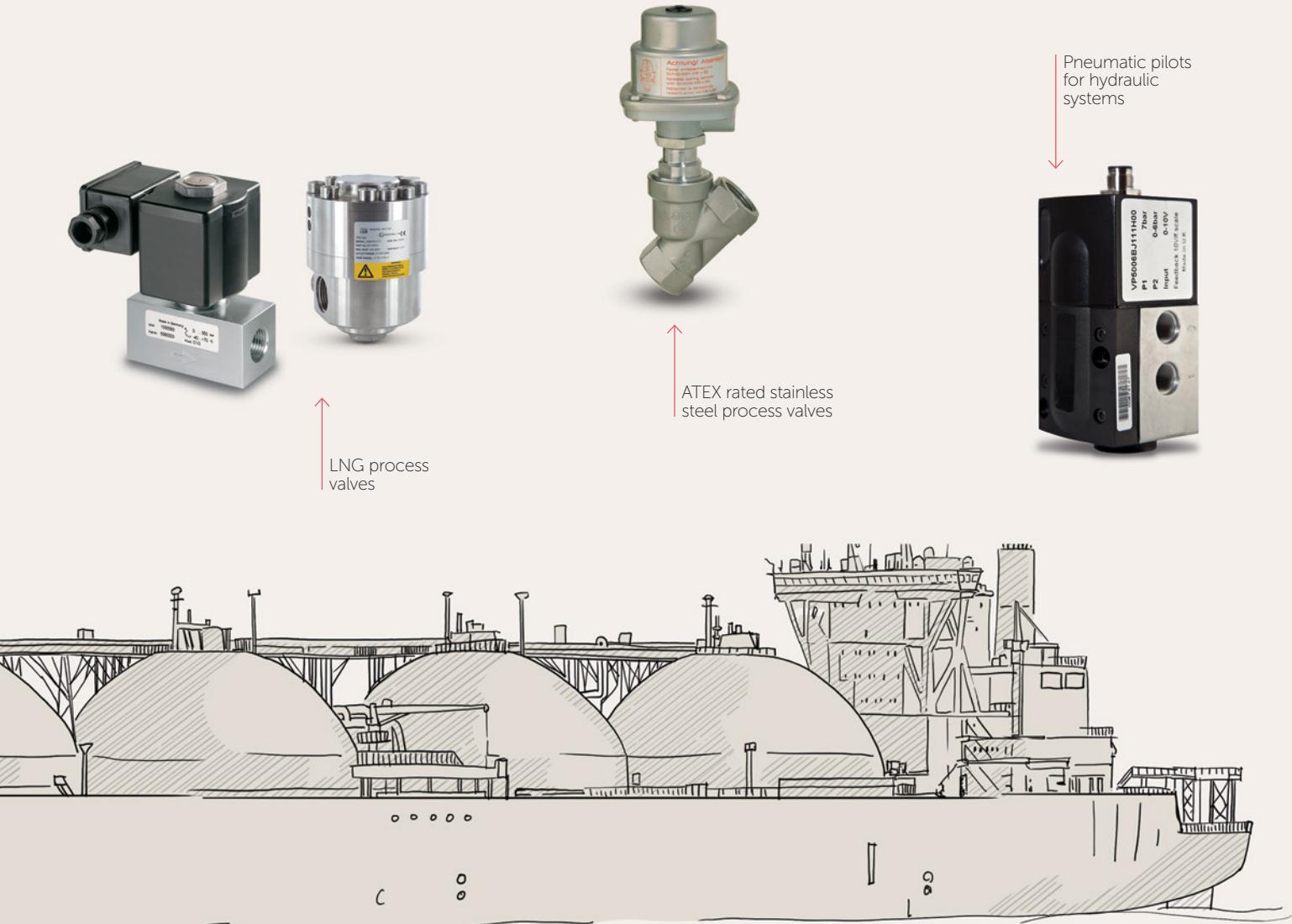
Typical defence applications that we support today include:

- Control panel, cabinet design & manufacturing
- Electric & pneumatic actuators
- Integrated valve blocks with sensors
- Air preparation (low temperature)
- Manual & mechanical valves (low temperatures)
- Electrical valves (low temperatures)
- Compact valve islands

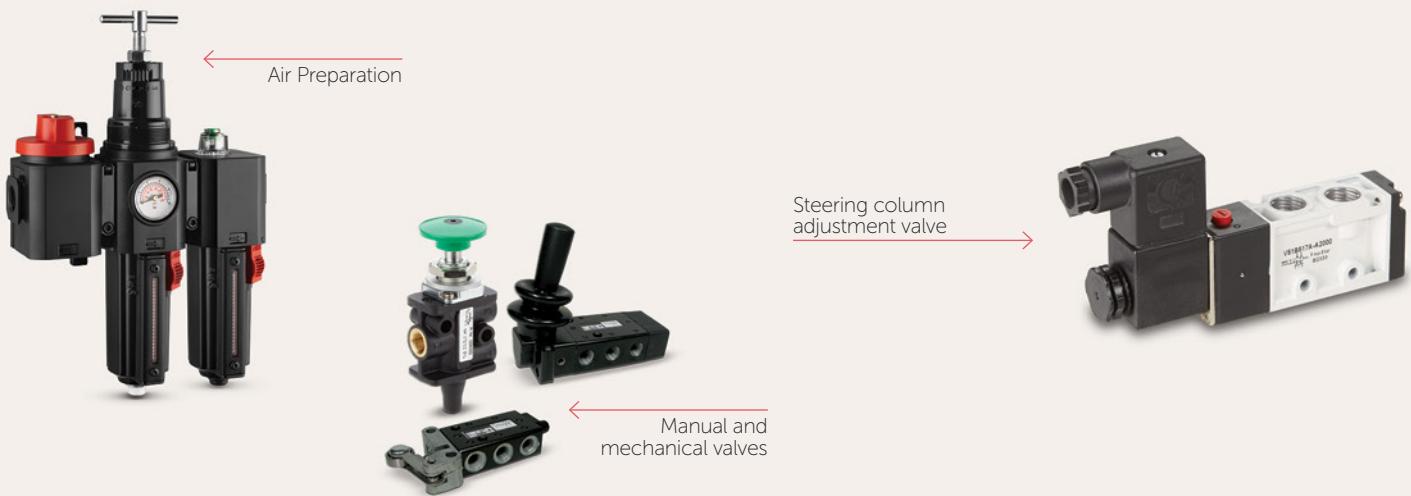
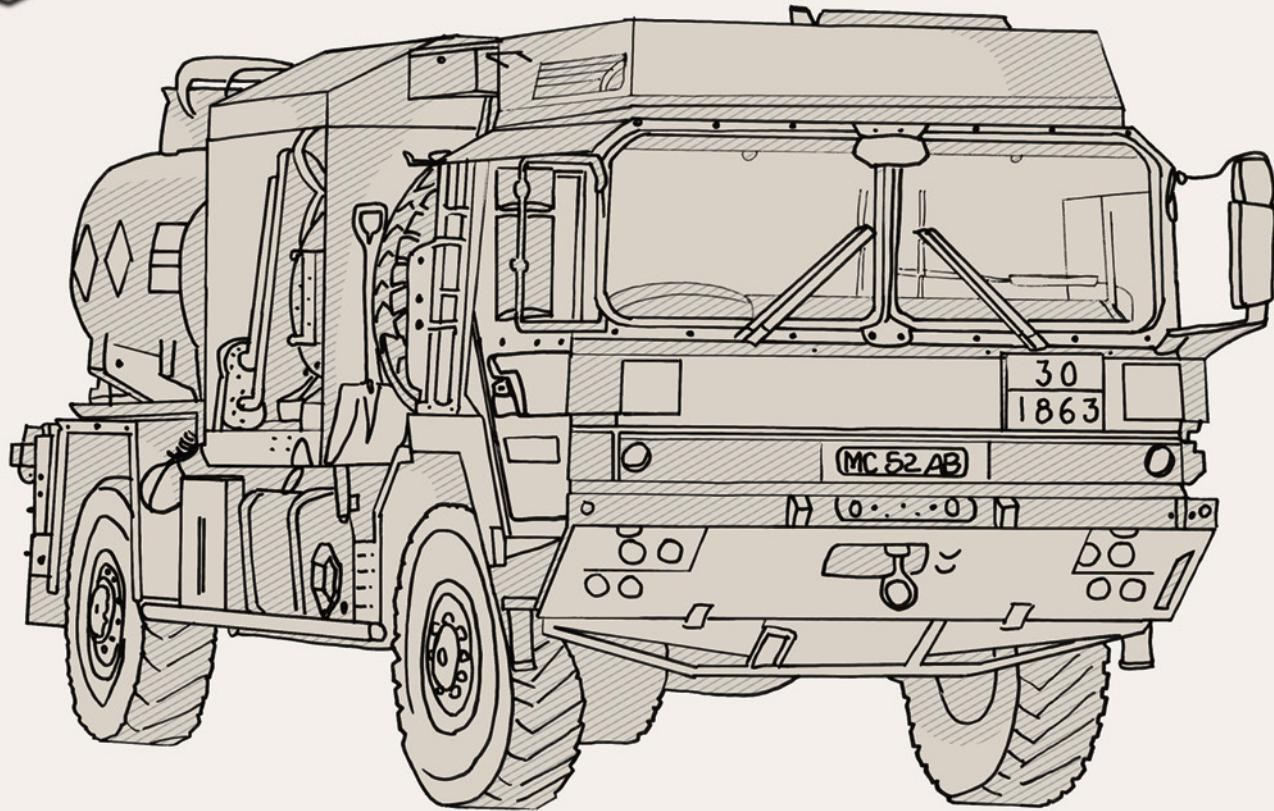
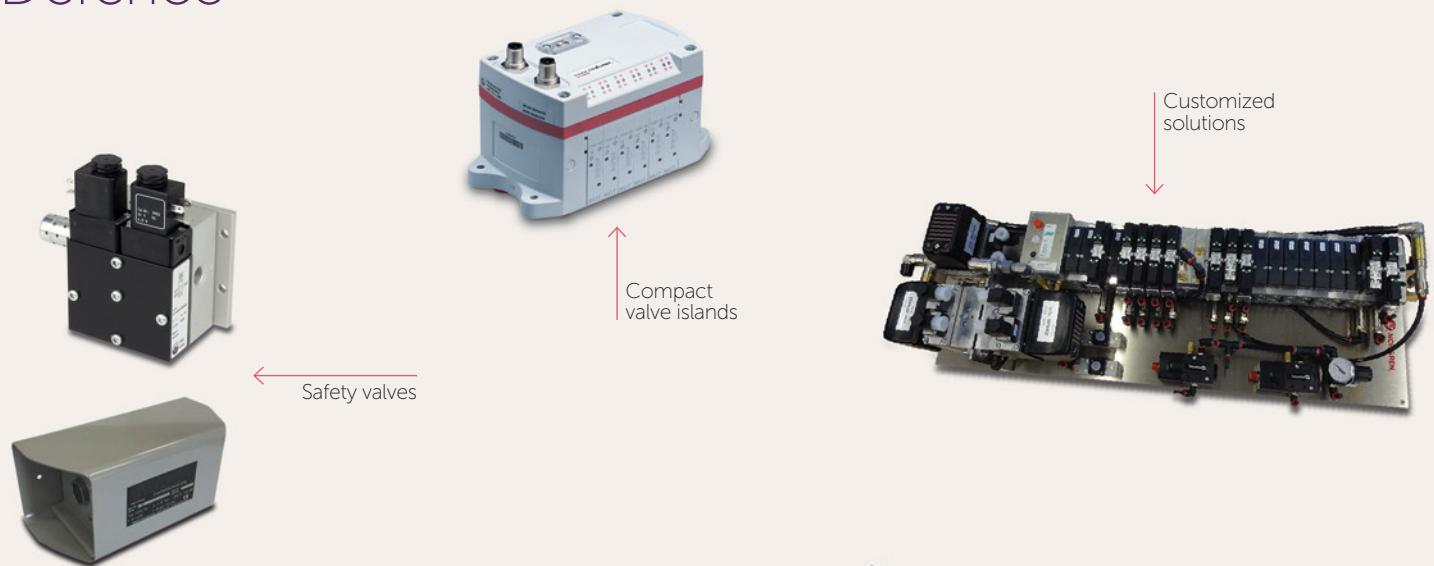


Marine





Defence



Application Engineering & Custom Solutions

From design concept to commissioning support, benefit from our expertise. Thanks to our many years of experience in various industrial sectors, we are able to meet almost any requirement, from simple pneumatic and electropneumatic controls to complex systems.



1 Enquiry

A reliable engineering source

2 Consultation

Where your needs will be heard

3 Concept

Designed to your specification

4 Production

Using high quality products

5 Logistic

Ready for plug-and-play

Key Features and Benefits

Enhanced Reliability and Protection



Plug-and-Play Installation



Simplified Supply Chain



Improved Safety and Compliance



Optimised Performance and Efficiency



Ease of Maintenance



Tailored Solutions for Logistical Support Vehicles

While the core benefits of integrated control panels are universal, their application is highly specific to the challenges of each industry. We work closely with our customers to understand their unique needs and develop truly customised solutions.

●● Ready to optimize your mobile pneumatic systems?
Contact us today to discuss your tailored solution ●●

Our market leading product brands

Our world-class portfolio includes IMI Norgren, IMI Bahr, IMI Bimba and IMI Buschjost.

Having proven their value over years, they stand amongst the most trusted names in fluid and motion control. Bringing added value benefits to all industries, our high performance products cover valves, valve islands, proportional and pressure monitoring controls, air preparation products and a comprehensive selection of pneumatic actuators – rodless, compact, roundline and rotary. We also have the specialist technical expertise for custom cabinet, panel or manifold solutions.

Cylinders

				
	RA/8000 ISO/VDMA Tie Rod Cylinder	PRA/182000 ISO/VDMA Profile Cylinder	RT/57000 Roundline Cylinder	RA/190000 ISO Compact Cylinder
Material	<ul style="list-style-type: none"> Aluminium barrel and end covers Stainless steel piston rod 	<ul style="list-style-type: none"> Aluminium barrel and end covers Stainless steel piston rod 	<ul style="list-style-type: none"> Aluminium end covers Stainless steel barrel and piston rod 	<ul style="list-style-type: none"> Aluminium barrel and end covers Stainless steel piston rod
Bore sizes	• Ø32mm ... 320mm	• Ø32mm ... 125mm	• Ø8mm ... 63mm	• Ø20mm ... 125mm
Function	• Double and single acting	• Double and single acting	• Double and single acting	• Double and single acting
Key Features	<ul style="list-style-type: none"> Conforms to ISO 15552 Heavy duty applications High temperature and hydraulic options 	<ul style="list-style-type: none"> Conforms to ISO 15552 Heavy duty applications High temperature and hydraulic options 	<ul style="list-style-type: none"> Shorter than tie-rod cylinders Crimped barrel design Medium duty applications 	<ul style="list-style-type: none"> Conforms to ISO21287 Medium duty applications High temperature option

Valves

				
	Super X Manually & mechanically operated Valves	V60..63 Solenoid operated Valves	VS18/26 Valve Islands	VM10/15 Valve Islands
Material	• Polymer or Metal bodies	• Aluminium	• Aluminium	• Engineered Polymer
Port sizes	• 1/8" ... 1/4"	• 1/8" ... 1/2"	• 1/8" ... 1/4"	• 1/8" ... 1/4"
Function	• 3/2, 5/2, 5/3	• 2x3/2, 3/2, 5/2, 5/3	• 2x2/2, 3/2, 5/2, 5/3	• 3/2, 5/2, 5/3
Key Features	<ul style="list-style-type: none"> Wide range of operators Lightweight & corrosion resistant High flow capacity 	<ul style="list-style-type: none"> High performance Reliable and maintenance free Low power consumption 	<ul style="list-style-type: none"> Glandless spool for long life Soft seal spool for high flow Field expandable with add-on stations 	<ul style="list-style-type: none"> Compact size Lightweight design High flow to size ratio

Air Preparation

				
	Excelon	Miniature 07 Series	VO5 Relief Valves	Stainless Steel Range
Material	• Aluminium	• Zinc	• Brass and Polymer	• Stainless Steel
Port sizes	• 3/8" ... 3/4"	• 1/8" ... 1/4"	• 1/4"	• 1/8" ... 1/2"
Function	• Filters, Regulators and Lubricators	• Filters, regulators and filter/regulators	• Protect from system over-pressure	• Filters, Regulators and Lubricators
Key Features	<ul style="list-style-type: none"> Robust and reliable Modular and flexible High efficiency filtration 	<ul style="list-style-type: none"> Versatile and customisable Compact design with high flow Many product options 	<ul style="list-style-type: none"> Simple effective design Very high flow Tamper resistant 	<ul style="list-style-type: none"> Corrosion Resistant Robust and reliable NACE approved



RM/92000
Compact Cylinder

M/146000
Rodless Cylinders

M/31000
Air Bellows

M/50
Switches

<ul style="list-style-type: none"> Aluminium barrel and end covers Stainless steel piston rod 	<ul style="list-style-type: none"> Aluminium barrel and end covers 	<ul style="list-style-type: none"> Steel, aluminium or polymer end plates Fabric reinforced rubber bellows 	<ul style="list-style-type: none"> Polymer body Polyurethane, PVC or silicon cable
• Ø12mm ... 100mm	• Ø16mm ... 80mm	• 2.75" ... 26"	• N/A
• Double and single acting	• Double acting	• N/A	• Normally open and changeover
• One third the length of tie-rod cylinders	• Stroke lengths of up to 8000mm	• Frictionless operation	• Reed and solid state versions
• Medium duty applications	• Internal, external and precision guide options	• Short stroke high force applications	• Cable and plug options
• High temperature option		• High vibration isolation	• Suitable for all cylinder models



KIP Series 2, 3 & 6
Direct acting
Solenoid Valves



Angle Seat Valves



**Solenoid Operated
Diaphragm Valves**



VP50/50S
Proportional Valves

<ul style="list-style-type: none"> Stainless Steel or Brass 	<ul style="list-style-type: none"> Polymer, Stainless, Brass or Aluminium 	<ul style="list-style-type: none"> Brass or Stainless Steel 	<ul style="list-style-type: none"> Aluminium and Polymer
• 1/8" ... 3/8"	• 1/4" ... 1"	• 1/8" ... 2"	• 1/4" or manifold
• 2/2 & 3/2	• 2/2	• 2/2	• 2/2 & 3/2
• In-line or manifold mount options	• For multi fluids, gases and liquids	• Interchangeable "Click-on" solenoids	• Closed loop pressure control
• For multi fluids, gases and liquids	• High fluid temp range (180°C)	• High flow capacity	• Excellent performance characteristics
• High reliability	• Contamination resistant	• Robust and reliable	• Low power consumption

Fittings & Accessories



Fleetfit



Pneufit



Tubing



Flow Controls



Silencers

<p>Material</p> <ul style="list-style-type: none"> Brass 	<p>Nickel plated brass or glass</p> <ul style="list-style-type: none"> filled nylon 	<p>Nylon type PA12 or polyurethane, hardness Shore D52</p>	<p>Brass, PBT</p>	<p>Brass & sintered bronze, UHMW PE porous plastic</p>
<p>Port sizes</p> <ul style="list-style-type: none"> Metric and imperial tube sizes, BSP and NPT thread options 	<p>Metric and imperial tube sizes, BSP and NPT thread options</p>	<p>3mm - 16mm</p>	<p>Metric and imperial tube sizes, BSP and NPT thread options</p>	<p>M5, 1/8" - 1 • 1/8" - 1" NPT</p>
<p>Function</p> <ul style="list-style-type: none"> Connector suitable for on board air brake systems 	<p>Connector</p>	<p>—</p>	<p>Flow control</p>	<p>Reduce noise levels of pneumatic equipment</p>
<p>Key Features</p> <ul style="list-style-type: none"> Push-in tube connection Robust and reliable Many product options Complies with DOT FMVSS 106, SAE J1131, DIN 74324 and TUV approval 	<ul style="list-style-type: none"> Compact design with retained collets Easy tube insertion Reliable and corrosion resistant Many product options 	<ul style="list-style-type: none"> Range of colours for ease of identification Nylon tubing conforms to DIN 74324 Polyurethanes offers excellent flexibility 	<ul style="list-style-type: none"> Variety of products including banjo, block form, in-line and heavy duty Robust and reliable High flow performance Lockable adjustment 	<ul style="list-style-type: none"> Variety of products Prevent dirt ingress Screw directly into exhaust port Shock and vibration resistant to EN 61373, Category 1, Class A and B

Our Industrial Automation sector operates four global centres of technical excellence and a sales and service network in 50 countries, as well as manufacturing capability in Europe, Americas and Asia Pacific.

Supported by distributors worldwide.

For further information, scan this QR code or visit

www.imiplc.com/industrial-automation



Industrial Automation

IMI Norgren

IMI Bimba

IMI Bahr

IMI Buschjost

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