



Industrial Automation

Our product brands:

IMI Norgren

IMI Bimba

IMI Bahr

Innovative Solutions
for the Food Processing,
Beverage & Packaging Industry



Breakthrough
engineering for
a better world

CONTENTS

Introduction	03
Our market leading product brands	04
Our global reach	05
Delivering expertise, solutions and value to the food and beverage industry	06
Process Automation	08
Sorting Machines	10
Dairy Production	12
Meat Processing	14
Non-Food Area	16
Beverage Dispense	18
PET Bottling	20
Continuous Inkjet Printing	22
Functional Safety Solutions for Safety Technology	24
Lean Manufacturing	26
Online Tools and Technical Support	27


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 optimize 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 and IMI Bahr.



Breakthrough engineering
you can count on.

Our market leading product brands

The combination of our product brands' trusted reputation and long history underpins our position as a leading global supplier of motion and fluid control technologies.

IMI Norgren

Pneumatic and electric motion control products, known worldwide for their quality and precision. IMI Norgren products include pneumatic actuators, air preparation equipment, valve islands, control valves, pressure switches, and fittings. Whether you're designing a new machine, upgrading an automated process, or looking for spare parts, we'll help you overcome any pneumatic or motion control challenge.



IMI Bimba

With solutions that are reliable and easy to use, IMI Bimba products include a range of industry-leading pneumatic, hydraulic, electric and vacuum motion engineering. You'll find breakthrough IMI Bimba innovations in agricultural equipment, automotive production lines, food and packaging applications and in medical equipment systems.



IMI Bahr

The IMI Bahr product range specializes in modular positioning and multi-axis systems that are increasingly indispensable in the modern industrial world. From design through to delivery, IMI Bahr technology offers quality electric cylinders, linear axes, and custom-built cartesian and gantry systems for applications such as pharmacy and warehouse automation, and robotics.



IMI Buschjost

Successful in the market for over 80 years, IMI Buschjost is a market leading range of process and multimedia solenoid valve technology and system solutions.



IMI FAS

The IMI FAS range offers a comprehensive portfolio of globally acclaimed miniature fluid control solutions which provide successful, consistent performance at the heart of demanding applications. Specializing in miniature solenoid valve technology for 10 mm and 15 mm valve applications.



IMI Herion

For over 50 years the IMI Herion brand has specialized in solenoid valves, NAMUR valves and hydraulic solutions for mechanical and pneumatic press and press safety technology.



IMI Maxseal

Proven in the field for over 50 years, the IMI Maxseal brand offers extremely high quality stainless steel solenoid valves, for harsh environments such as offshore oil & gas and coastal applications.



Our Global Reach

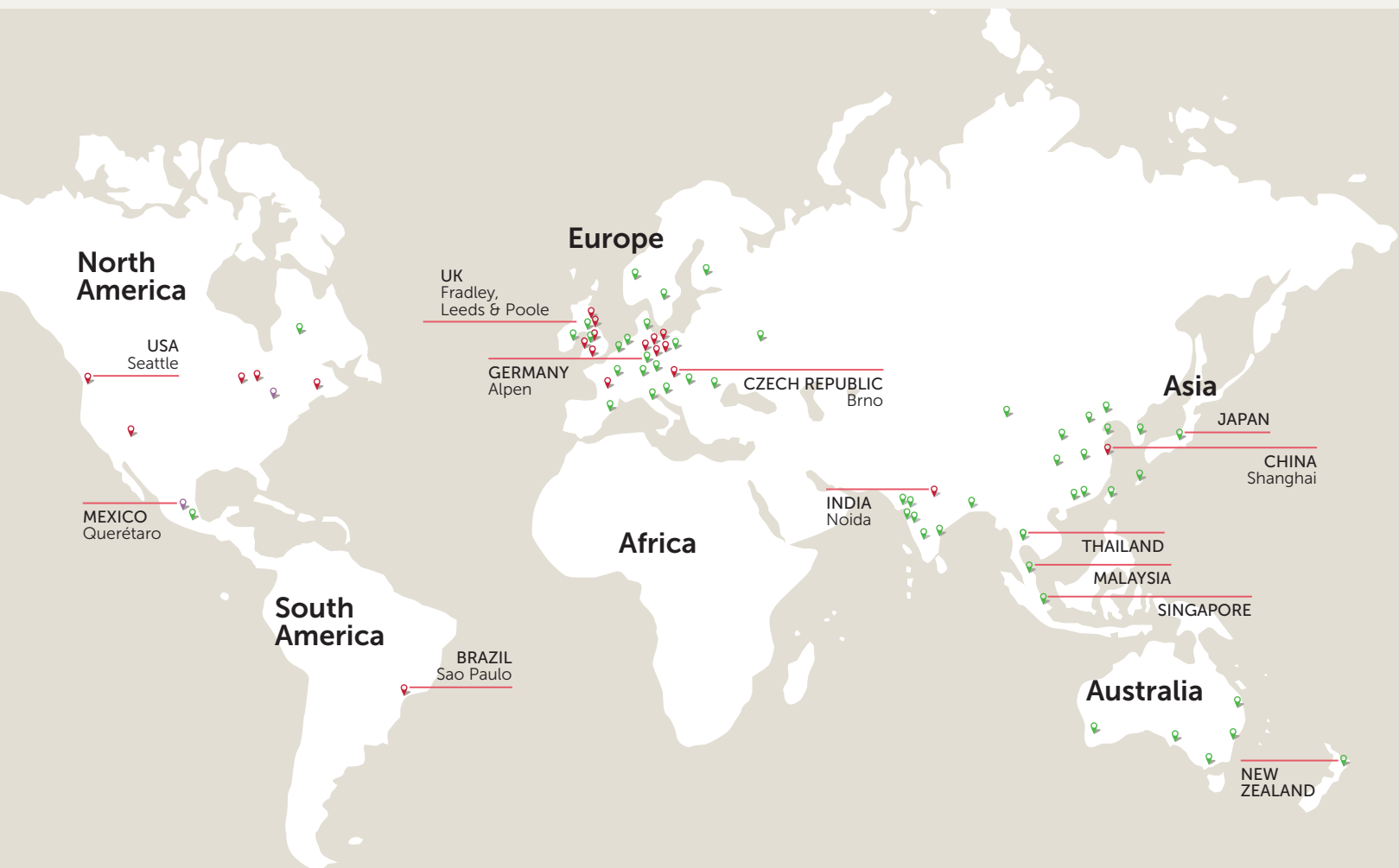
With established manufacturing facilities globally, we have the capability to tackle the most demanding of international projects. With a sales and service network in 50 countries, we have the reach and capability to ensure continuity of supply and local support where it is needed.

Sales & Service in 50 countries

- 📍 IMI Norgren sales, manufacturing and technical centers
- 📍 IMI Norgren sales locations
- 📍 IMI Norgren manufacturing locations



Find out more
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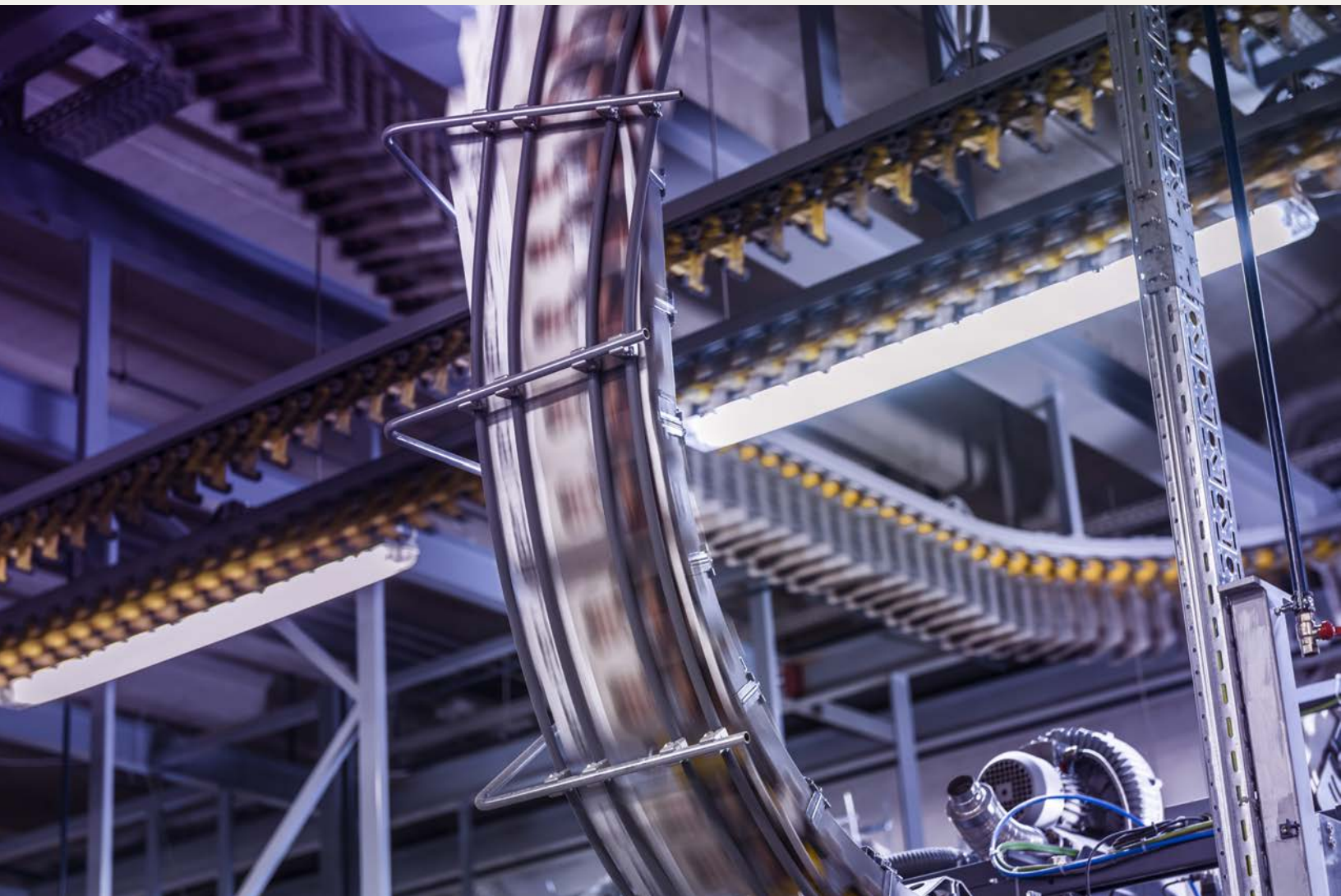
Delivering expertise, solutions and value to the food and beverage industry

Reliability through expertise and experience

IMI Norgren has dedicated over 25 years to meeting the unique needs of the global food and beverage industry, delivering pioneering products and bespoke solutions. Close collaboration with customers, and a search for innovation that offers real Breakthrough Engineering, has resulted in millions of hours of reliable service from our PET bottling, ink jet, processing & packaging, dispense and food service equipment. From handling 40 bar air for PET bottle blowing, to aggressive solvents in ink jet printing; from wash-down chemicals to lime scale-free coffee machines, we have an impressive track record of helping the world's largest food companies improve efficiency, save energy and optimize performance.

Setting the standard

Whether it is FDA-compliant materials or solutions for ATEX environments, our intimate knowledge of supplying components and solutions for applications in the food, splash and non-food zones, helps ensure your system meets relevant regional and international standards, and codes of practice.





Processing & Packaging



Sorting



Dairy



Meat Processing



Packaging



Beverage Dispense



Coffee Machines



PET Bottling



PET



Inkjet printing



Control Ink

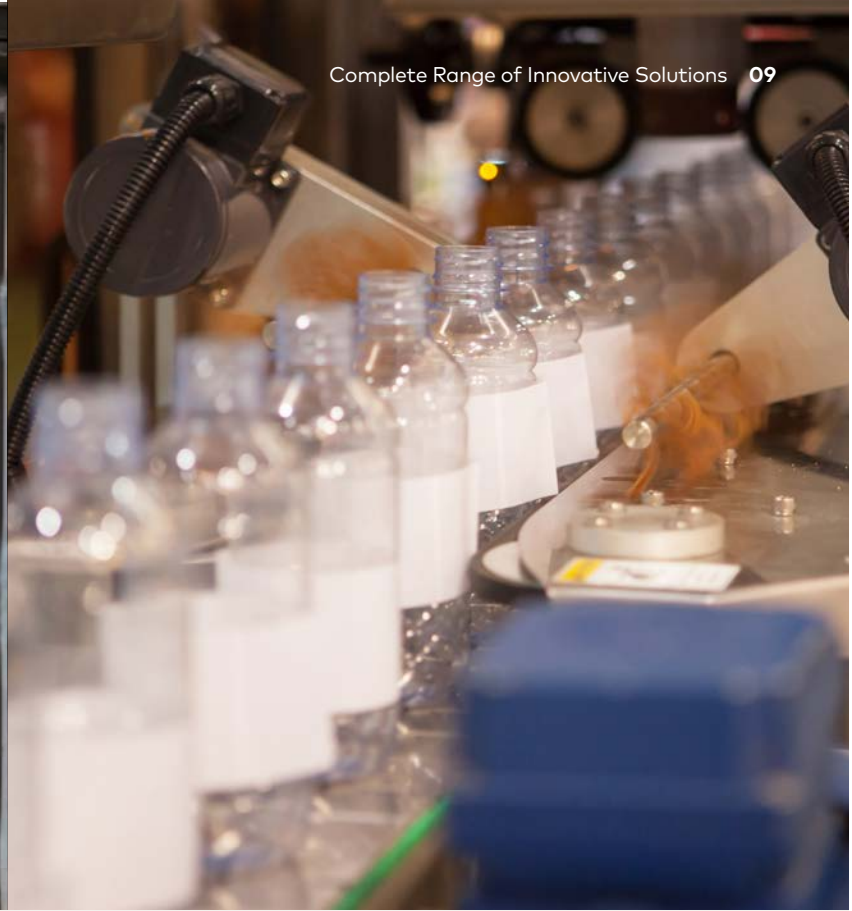
Breakthrough
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a better world












Process Automation

Through our global technical centers, and local support, IMI Norgren uses the latest materials and technologies to offer a range of standard and hygienic solutions for process automation applications. These include:

- Flexible, compact valve manifolds with Devicenet, Profibus and Ethernet protocols for all your process control needs
- A range of corrosion-resistant stainless steel products
- High flow angle seat valves to handle steam and aggressive fluids
- High quality diaphragm valves that are resistant to corrosion
- Proportional control valves that offer an accurate and stable response, with lower air consumption
- A comprehensive selection of pressure switches and sensors
- Air preparation equipment available in modular units to deliver a continuous supply of clean, dry and CO2 free (<1 ppm) gas



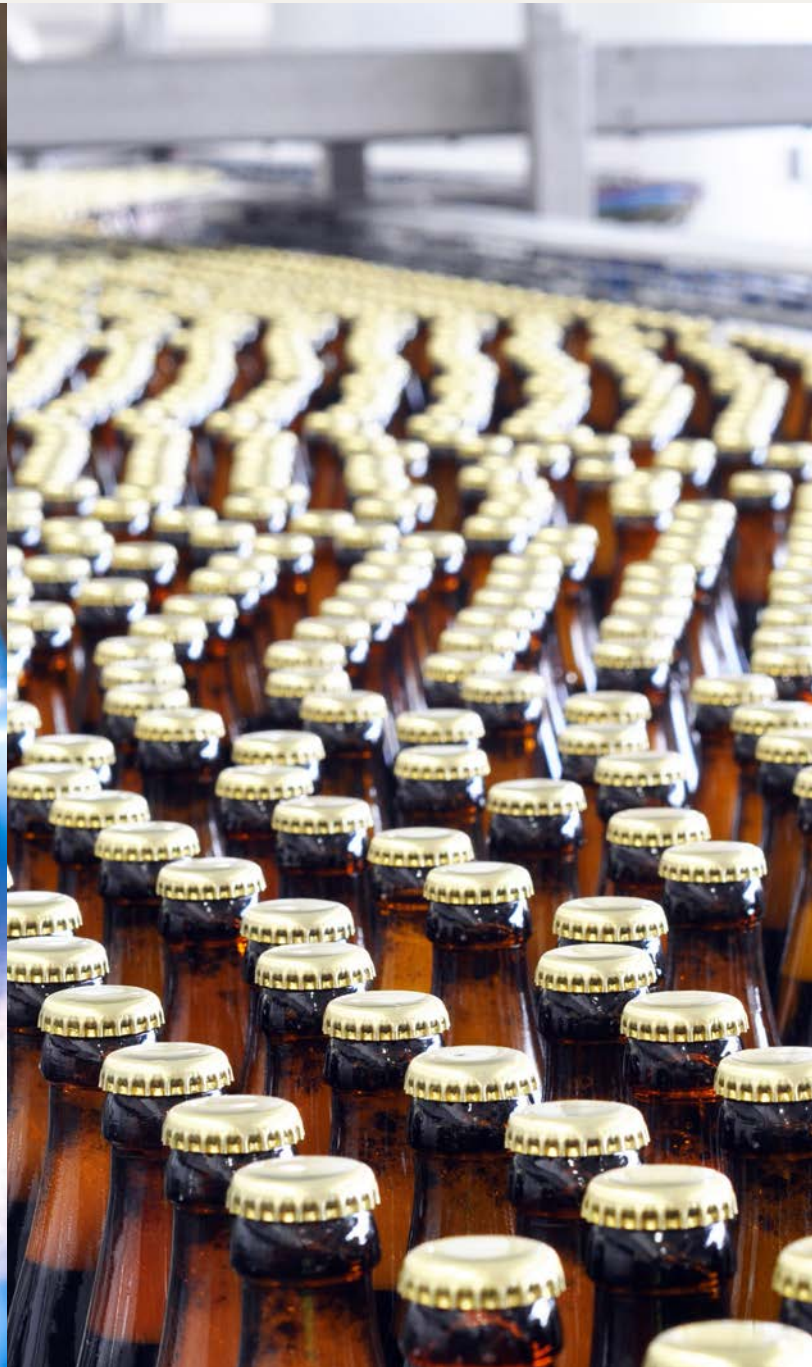
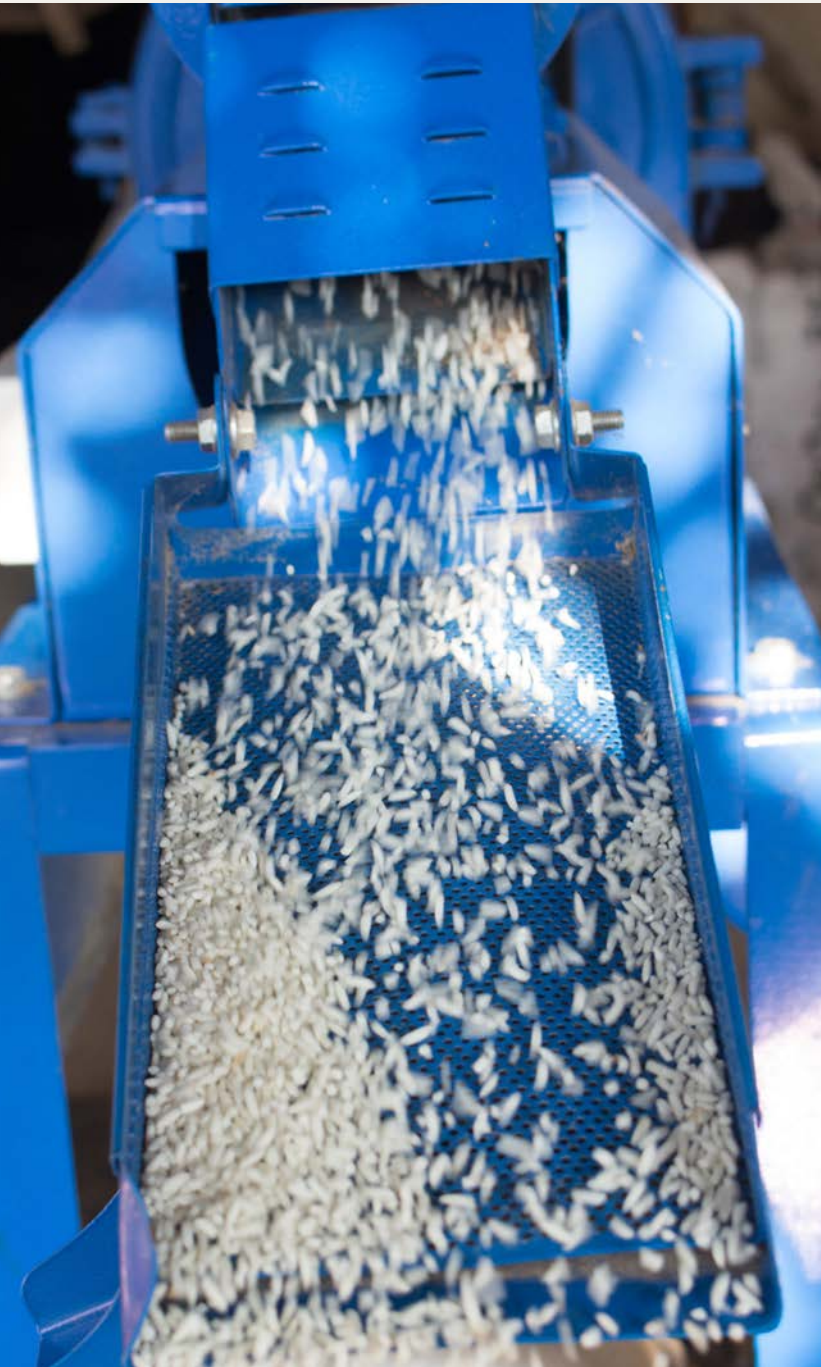
Products for Process Automation

Valve Manifolds 	Stainless steel solutions 	Proportional control 
Air Preparation Equipment 	Angle Seat Valves 	Ball valves 
Diaphragm valves 	Sterile air for food & beverage 	Pressure switches & sensors 

Sorting Machines

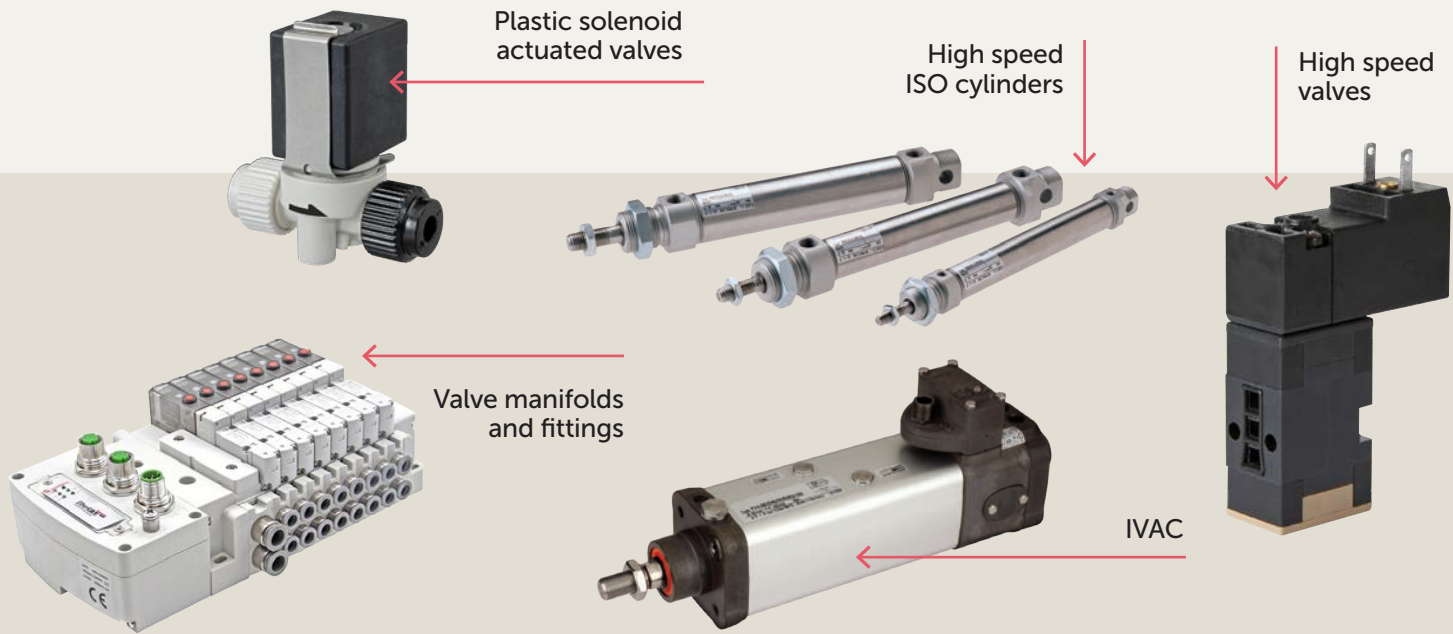
Sorting machines use a combination of mechanical and optical sorting technologies to separate or sort similar items. Different ejection systems are required depending on the items being sorted, with safety, speed and reliability being a priority for end users. We provide a broad range of solutions for sorting applications including food, beverage, and grain sorting.

- Pusher systems for bottles and boxes
- Air ejection systems for small goods e.g. grains, rice
- Mechanical ejection systems (flaps) for bigger products e.g. potatoes
- Inspection camera cleaning
- Water flow control



Products for Sorting Applications

- **Valve manifolds and fittings**
- **Plastic solenoid actuated valves** for water splashing
- **High speed ISO cylinders** to drive flaps and let the food flow
- **IVAC** for fast response time (5 cycles per second)
- **High speed valves** for ejectors



Dairy Production

Our range of robust, rugged, and reliable pneumatic products, offer a solution for applications in the dairy industry:

- Herd management including drafting systems and parlor gates for cow segregation
- Automated milking systems
- Animal feed
- Cluster cleaning
- Scraper systems
- Milk processing (pasteurizing, filling and packaging)
- Cheese making



Products for Dairy Applications

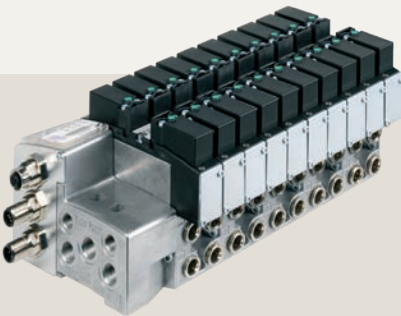
Cylinders

- **Norgren ELION Electric Actuators** to provide accurate and repeatable positioning.
- **ISOLine cylinders** with heavy duty wiper seal and adjustable cushioning system for changing loads. Stainless steel versions also available.
- **IVAC Integrated valve and actuator** to reduce energy consumption, weight, and installation time.
- **Cleanline cylinders** hygienically designed according to EN1672-2 with an IP67 protection class for washdown applications.



Valves

- **VS18** for process control
- **83150 2/2-way valve** for milking system cleaning and sterilizing.
- **82400 2/2-way diaphragm valve** for cleaning and sterilizing
- **84520 2/2-way angle seat valve** for cleaning steam valves.



Air Preparation

- **Excelon® Plus air preparation** with best in class water extraction (98% at 100% flow)
- **Stainless steel air preparation** for corrosive and washdown applications.



Meat Processing

From air preparation to valves and actuators, our robust and reliable products offer a solution for any application in the meat processing industry:

- Knocking pen
- Meat tensioning
- Transfer chain
- Gates
- Sorting
- Blood processing
- Hand wash basin
- Cleaning and sterilization
- Multistage hide puller
- Door controls

Products for Meat Processing Applications

Cylinders

- **Norgren ELION Electric Actuators** to provide accurate and repeatable positioning.
- **ISOLine cylinders** with heavy duty wiper seal and adjustable cushioning system for changing loads. Stainless steel versions also available.
- **IVAC Integrated valve and actuator** to reduce energy consumption, weight, and installation time.



- **Cleanline cylinders** hygienically designed according to EN1672- 2 with an IP67 protection class for washdown applications.
- **Special cylinders** to tenderize meat. Designed to eliminate bug traps with customized hooks to carry out the tensioning operation.





Valves

- **Valves kits** available to replace the common knee wand found in most abattoirs - Stainless steel pilot valve with a Super X valve, fittings, and silencers designed to avoid wastage of water.
- **Valves** for use in the cleaning and sterilization unit and vertical water scalding process for cleaning equipment like hooks and tongs.



Air Preparation

- **Excelon® Plus air preparation** with best in class water extraction (98% at 100% flow).
- **Stainless steel air preparation** for corrosive and washdown applications.



→ Find out more
www.imiplc.com



Non-Food Area

IMI Norgren aims for design excellence in all areas. Even though this stage of the process involves no contact with food, our engineers look to meet and set quality standards using materials that are easy to clean and resistant to corrosion. Our products and solutions include air preparation for pneumatic components; stepper, rodless and guided cylinders, vacuum products; angle seat valves; valve manifolds with common industry protocols and IVAC for optimized energy savings of up to 50%.

Applications include:

- Conveying
- Secondary packaging
- Palletizing
- Dispensing equipment for consumer and industrial adhesives, sealants, and coatings
- Thermoforming packaging
- Modified atmosphere packaging
- Gas sterilization flow control



Products for Non-Food Areas

Air preparation



IVAC for optimized energy consumption saving up to 50%



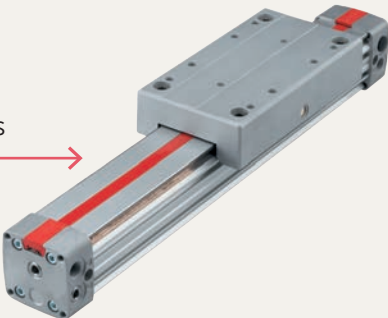
Valve manifolds



Stepper cylinders



Rodless cylinders



Solenoid valve



Guided cylinders



Angle seat valve



Vacuum products

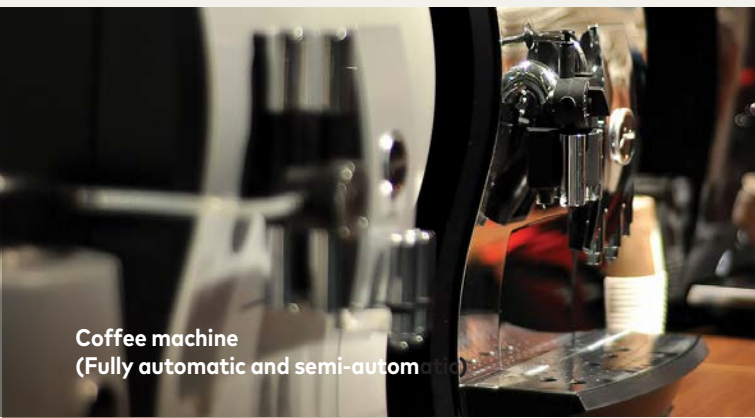


Beverage Dispense

To effectively dispense beverages, it is essential to have systems that are high quality, reliable, and provide low maintenance costs. These systems should feature components that are hygienically designed and approved for washdown purposes.

Our high performance solenoid actuated plastic valves are permitted according to NSF and FDA, reliably control cold water, hot water, steam and the necessary cleaning processes. These are suitable for a number of beverage dispense applications including:

- Coffee machines (Fully automatic & semi-automatic)
- Drinking water dispenser
- Vending machines
- Cold and hot water devices
- Soft drink machines
- Ice cream machines



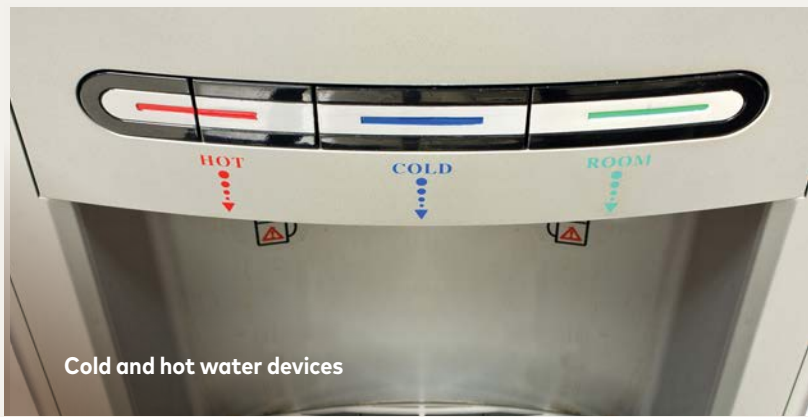
Coffee machine
(Fully automatic and semi-automatic)



Drinking water dispenser



Vending machines



Cold and hot water devices



Soft drink machines



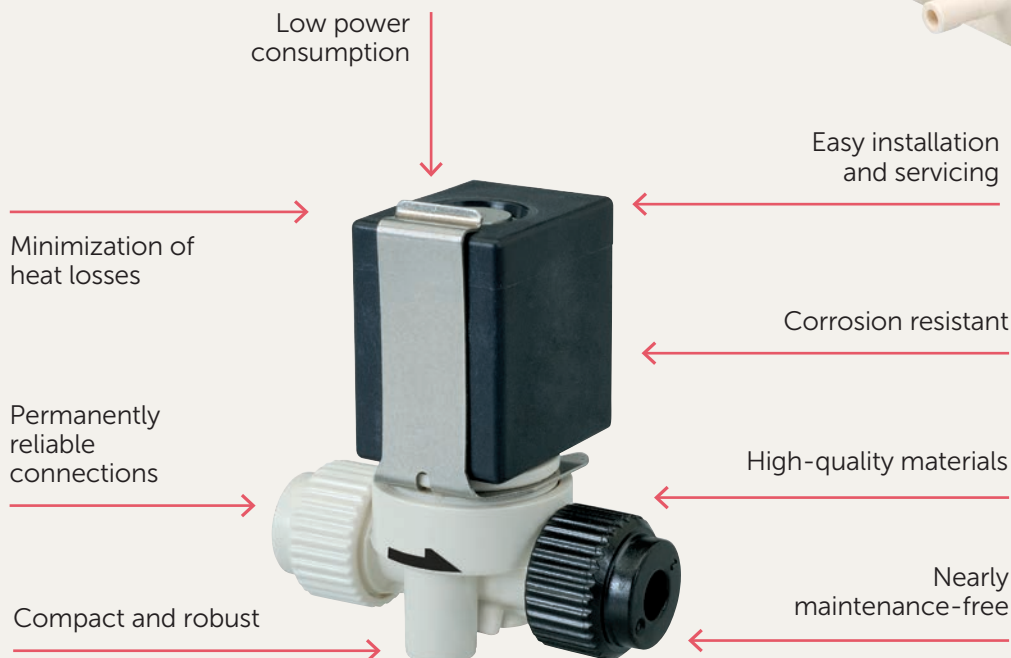
Ice cream machines

Valves for Beverage Dispense Applications

Beverage Dispense Valves

Robustly designed, these solenoid valves are resistant to all media, specifically water. Water quality can vary globally, with various degrees of hardness and calcification. The solenoid valve materials are perfectly designed to meet the various requirements and deliver the required corrosion resistance, high reliability and long service life.

- Reduction in the number of fittings when using valve chains
- Reduction of potential leakage points
- Corrosion resistant and increased service life
- "Plug and use" concept – quick installation of modules (up to 7 valves can be linked)
- Glow wire resistant acc. to IEC/EN 60695
- Use of approved wetted materials in accordance with NSF, FDA, and BfR
- VO (EG) 1935/2004
- UL recognized coils available on request
- For milk, flavors and syrup, water, steam
- Single or stackable valves
- Resistant to limescale
- Up to 15 bar
- Up to 257°F
- 100% Lead free
- 100% Nickel free





PET Bottling

Building on three decades of PET engineering excellence, we remain a pioneering force in this sector, constantly driving performance and reliability improvements. Our patented plastic piston technology and experience in valve positioning allows us to reduce dead space volume and increase productivity.

Filling

Food safety is a vital consideration in filling applications. To avoid the possibility of contamination, we provide all system components directly or indirectly in contact with the main food/drink product – such as cylinders for filling valves, for example – are engineered from corrosion resistant, non-toxic and non-absorbent material.

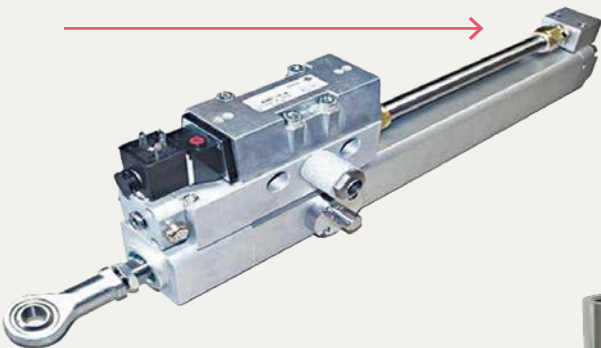
Rotary Stretch Blow Molding

IMI Norgren is a complete "air" solution supplier to the PET industry. Our expertise covers 7 bar standard pneumatics to 20 bar P1 and 40 bar P2 solutions, including 11 functions on the blowing wheel for valving, as well as 24 functions for air recovery and management. Our range offers 40 bar blowing blocks, cooling valves, air recovery products and solutions, pneumatic stretch actuators, and capping cylinders for hot and cold fill processes.



Products for PET Bottling Applications

Pneumatic stretch actuators

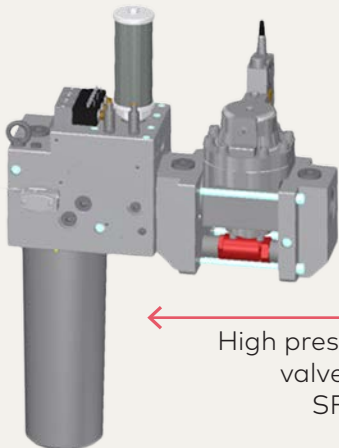


Cooling valves

Capping cylinders for hot fill and cold fill processes



40 bar blowing blocks



High pressure filter with safety valve ISO 13849 Pld, KAT 3 SF and Dome regulator

Cylinders for filling valves



Continuous Inkjet Printing



We are the world's leading supplier of miniature solenoid valves for Continuous Inkjet (CIJ) printing. Many of the world's leading CIJ printer brands use IMI Norgren technology within their fluid circuits, due to their high durability and suitability for aggressive solvents and inks. Our range is adaptable for many types of printer and labeling machines and includes cylinders, inline valves and precision solenoid valves.

Thanks to close collaboration with key global customers, IMI Norgren has developed miniaturized and robust valves for highly integrated solutions to ensure key functions in the customers' devices.

- Precision miniature design to fit maximum fluidic functions into a minimum footprint
- Superior material compatibility
- Designed to avoid clogging
- Durable in extreme environments e.g. temperature, vibration, humidity, etc.
- Long life expectancy to reduce maintenance costs

→ Find out more
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Valves for Inkjet Printing Applications

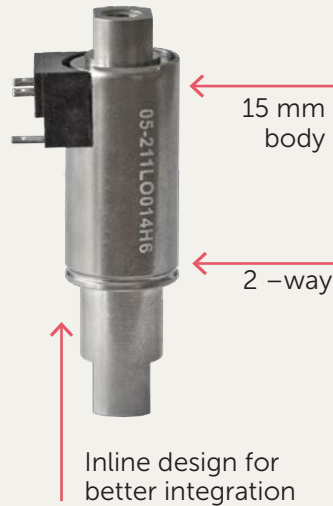
Valves to allow precision control of ink into printing stations

- Control ink/solvent mixing
- Control liquid distribution within the printer
- Transfer ink and make-up from cartridges to main tank
- Transfer to print head
- Collection of return path from print head to printing station
- Specific wetted material coating for opaque inks (high viscosity inks)

Valves to allow accurate control of the ink beam and washing/flushing functions

- Ink or make-up supply to print head
- Specific precision designs to maximize reliability
- For dye, food grade, or opaque inks

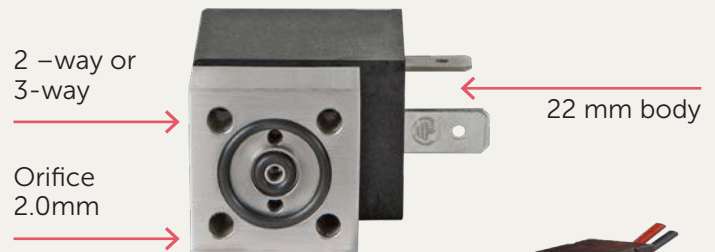
Inline MICROSOL



MICROSOL MS-E



MINISOL N



PICOSOL 2/2 MS



PICOSOL 3/4 MS





Functional Safety Solutions for Safety Technology

Machinery Directive 2006/42/EC and DIN EN ISO 13849 Part 1 and Part 2

With an effective date 29.12.2009 the Machinery Directive 2006/42/EC replaced the previous Machinery Directive 98/37/EC and defines fundamental standards of Machine Safety in the European domestic market. Only machines, that comply with the demands of the Machinery Directive, are allowed to be introduced on the European market. This includes new machines as well as existing machines that have experienced significant or considerable variations or modifications or have served a different use. In accordance with conditions of the Machinery Directive and the guideline, compliant machines must be furnished with CE-labelling, Declaration of Conformity and the required user information. The harmonized standard DIN EN ISO 13849 (Model B Standard) assists the Machinery Directive with the technical implementation of the safety demands and reliable control systems. It provides generally important principles in terms of the planning and evaluation of safety-related parts of a control system, control system architecture as well as the quality of risk mitigation and the validation procedures for the safety function, categories and Performance Levels of safety-related parts of controls.

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Safety and Risk Assessment

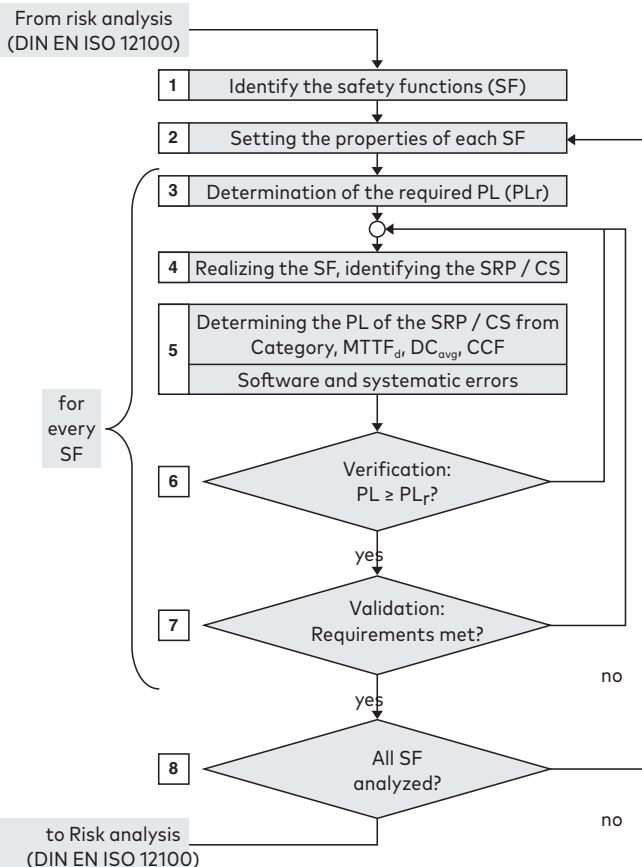
A machine should be constructed to guarantee safety as much as possible. Any potential danger must have its risk reduced/minimized by protections or measures e.g. a pneumatic safety control system. For unavoidable residual risk, the corresponding necessary documentation must be provided. A comprehensive and standardized risk assessment will take place at the beginning of the process for the evaluation of the machinery safety.

Identification of Safety Function

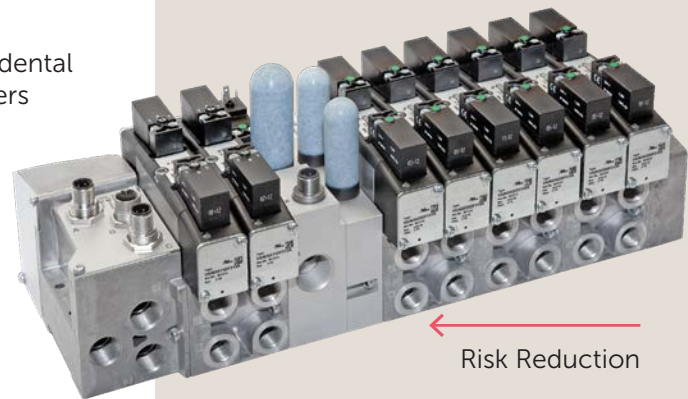
If hazardous movements are detected in the risk analysis, counteracting safety functions must be defined and provided. Once a more precise definition of the safety function has been implemented, the corresponding subsystems of the safety control system can be executed and interpreted..

- Safe exhausting of a system
- Stop of a hazardous movement
- Stop and obstructing of a hazardous movement
- Reversing a hazardous movement
- Protection against accidental start-up and many others

Iterative process for the design of the safety-related components of the control system



Monitoring Confidence



Risk Reduction

Professional Advice



SF = safety function
 PL = performance level
 SRP/CS = safety related parts of control systems
 MTTFd = mean time to dangerous failure
 DC avg = average diagnostic coverage
 CCF = control cause failure



Lean Manufacturing

IMI Norgren is dedicated to Lean Manufacturing and Continuous Improvement to improve the quality and delivery of our products and customer service by increasing value and reducing waste.

We follow key principles to ensure we focus on our customers needs and optimize our products, processes and services to provide the following benefits to our customers:

- Increased manufacturing efficiency
- Reduced unplanned downtime and shutdowns
- Reduced lead times and inventory
- Optimized new product development
- Agile engineering partnerships

Benefits for the Customer

- Increase of plant efficiency
- Cost reduction due to less unplanned downtime and shutdowns
- New, quality product designs implemented on-time
- Short lead times supporting on time availability of planned and unplanned orders
- Customized transport and packaging solutions that reduce stock receipt time and increase environmental protection
- Innovative solutions based on cooperative and agile engineering partnerships

Online Tools and Technical Support



Website

Visit www.imiplc.com for detailed product information, online ordering, and a range of tools to help you save time and work efficiently



Norgren Express App

Find products and availability fast with our mobile app available for iPhone and Android



Technical Support

Our dedicated technical team is available to help you specify the correct product for your application and provide full support throughout purchase and installation. Contact your local team today.



Our Industrial Automation sector operates four global centers 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

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IMI Bimba

IMI Bahr

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