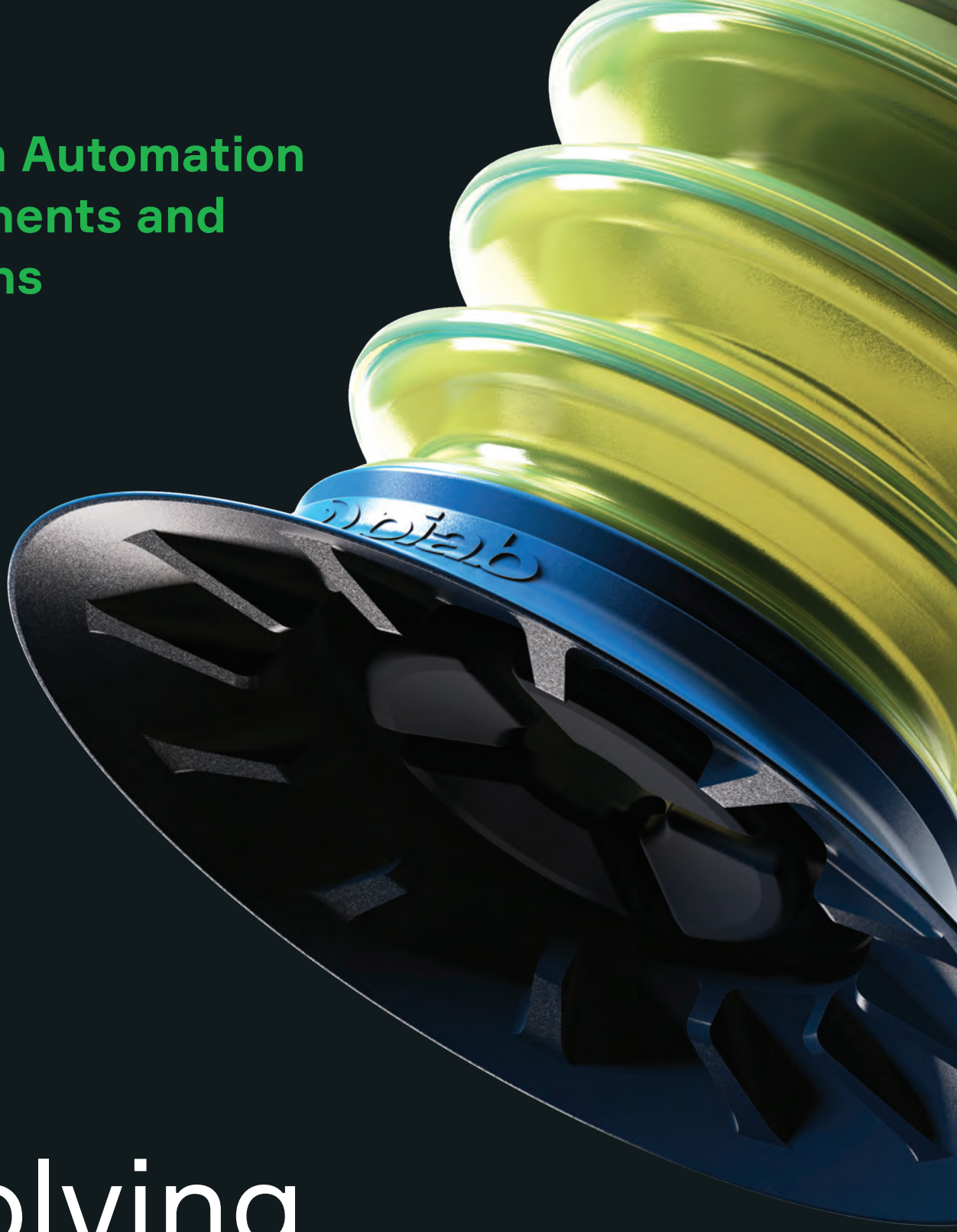
Vacuum Automation Components and Solutions



Evolving automation

piab Evolving automation

Evolving ourselves. Evolving you. Evolving automation.

Piab is evolving automation through progressive gripping, lifting, and moving solutions. Having done so since 1951, we believe in an automated world where no resources are wasted, and no humans are injured.

Our customers are in just about every sector, including the food & beverage, automotive, packaging, logistics & warehousing, e-commerce, electronics, chemicals, pharmaceutical industries, and general manufacturing.

With annual sales of ~1.7 billion SEK, 650 employees and a global presence in more than 100 countries, we help our customers improve their operations for the better on a daily basis. Since 2018, Piab is owned by Patricia Industries, part of Investor AB.

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Piab’s four divisions

Vacuum Automation

We give skills to robots and machines

We have a reputation for providing state-of-the-art vacuum automation products and solutions. Now, the Vacuum Automation Division is contributing to the shift to Industry 4.0 by increasing the degree of full automation in the manufacturing industry as well as in logistics, warehouses, and other sectors.

Lifting Automation

We give lifting power to humans

We are the global leader in lifting solutions, with the most advanced products in the world. Through our smart lifting solutions, we are taking the strain off workers' backs - and their employers' bottom-line.

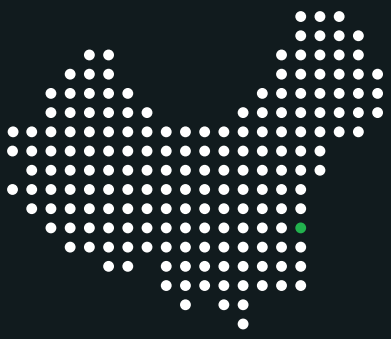
Vacuum Conveying

We provide intelligent flow of materials

Ensuring a hygienic working environment is essential for companies with sensitive or fragile products. With our high-tech conveying systems, both goods and people are well protected. And that's not all - the conveying systems help reduce waste and improve productivity.

China

We automate China



Emerging industries in electronics and lithium battery production and a growing demand for products and solutions adapted for mid-end market segments makes China a market with huge potential. Piab China Division is focusing on meeting local demand with fast response and high-quality products and solutions within Vacuum Automation, Vacuum Conveying, and Lifting Automation.

Piab's unique piCOMPACT family with integrated controls provides maximum speed and efficiency.

Keep your operations running with Piab's Vacuum Automation – components and solutions.

Helping you stay ahead

No matter which industry you work in, products need to be moved through different process steps. Machines need to be fed, parts removed or delivered for assembly from intralogistics warehouses, final products must be packaged and palletised for shipment, and then in e-commerce logistics de-palletised and repacked into individually commissioned parcels.

Automation is the most important factor for staying competitive as the world moves away from globalisation to increase supply chain safety while keeping production costs level with those in low wage countries.

Vacuum automation handling solutions offer an optimum price-performance-ratio and a broad variety of possibilities from basic to complex answers to any handling requirement. Piab offers a wide variety of systems, solutions, and components, as well as unparalleled expertise and know-how in vacuum technology and robotic gripping.

From components, such as suction cups, soft-grippers and vacuum ejector pumps, to industrial and collaborative robot **End-of-Arm Tool (EOAT)** solutions such as large layer and palletising grippers, we support you with standard and custom line state of the art technology.

Tell us about your challenges and production objectives and together we can find the right solution and products. Piab's specialists are waiting for your call!

Your vacuum handling system is only as good as your vacuum generation technology. Piab's COAX® technology offers you better performance and energy efficiency with less downtime. Up to twice as fast as conventional vacuum ejector pumps, COAX® multistage ejectors deliver three times more flow with identical air consumption.

Be inspired by our piCOMPACT® 23 SMART

Vacuum Ejector Pumps

From standard to SMART

- piCLASSIC vacuum ejector pumps are up to 40 percent more energy efficient than competing brands.
- piCOMPACT® SMART with IO-Link enables Industry 4.0 applications, including predictive maintenance.
- All ejector pumps are available with a large capacity range and upgradeable if more capacity is needed.
- Piab's vacuum ejector pumps are low-weight, modular in design, and configurable to your needs.

"piCOMPACT® vacuum ejector pumps are much less sensitive to fluctuations in compressed air, which is particularly important in a high speed production."

Daniel Schmitt, Project & Plant Engineer, NiproPharma Packaging, Germany

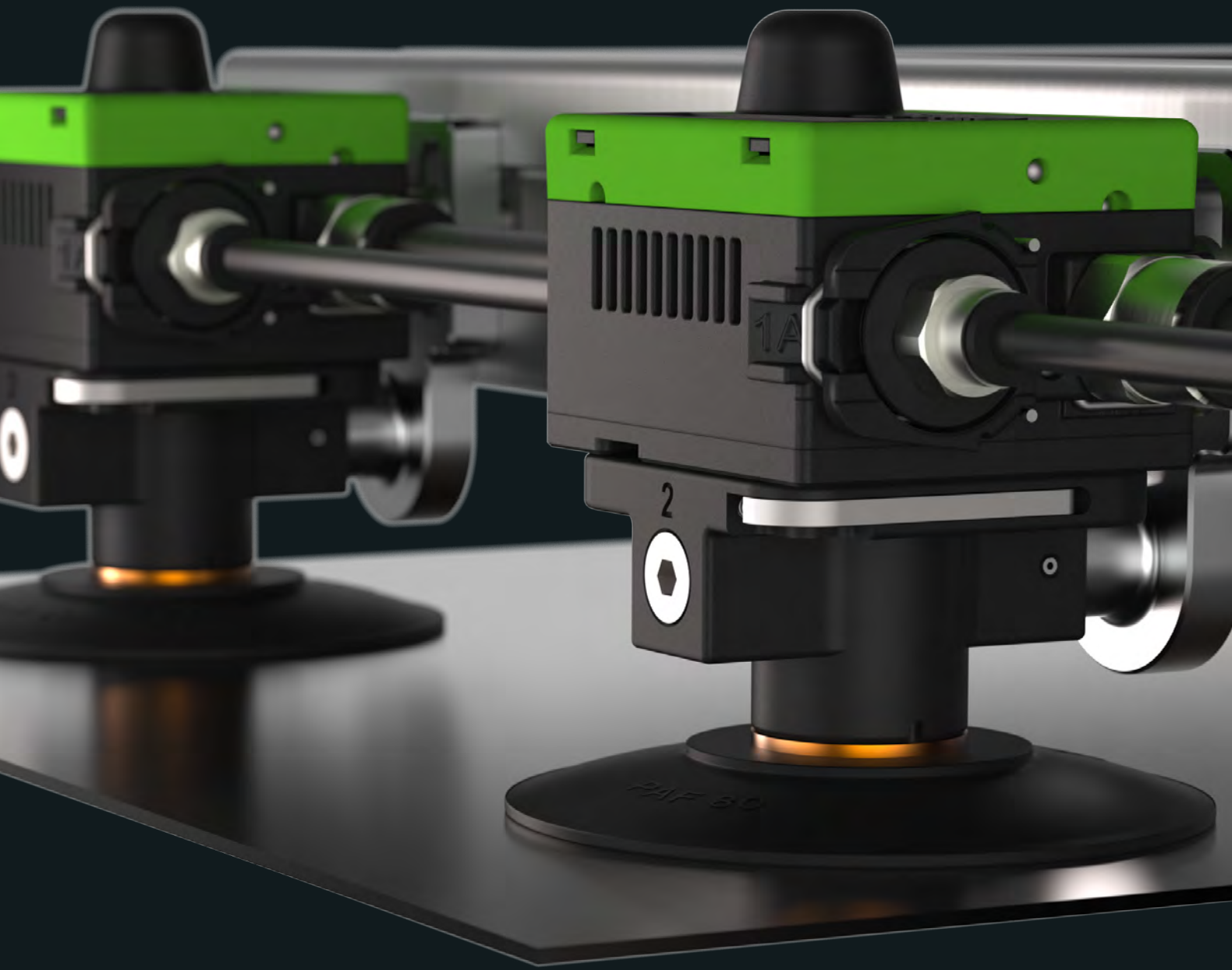
piab

piSAFE® is a state-of-the-art product and the world's most energy efficient concept for vacuum handling of sealed parts, such as glass and metal sheets. A large variety of mounting options including standard interfaces for EOAT helps to ensure that piSAFE® can easily fit your systems. The modular design with quick connect function enables fast maintenance.

Vacuum Ejectors

Strong, Secure, and Energy Efficient

- Vacuum ejectors for decentralised and customised applications.
- Ejectors with integrated check valves such as piSAFE® offer additional security and are the most energy-efficient solution for sealed materials, holding the vacuum in the event of system or power failure.
- Providing high performance even when the supply pressure is low or fluctuating.
- Piab's vacuum ejectors comply with lifting norms such as (DIN/SS) – EN 13155, ASME Standard B30.20, etc.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Vacuum Ejector Pumps and Vacuum Ejectors
Overview

Decentralised Vacuum Ejectors

Integrating – the COAX® cartridge
Piab's COAX® cartridge is the original vacuum cartridge and the heart and engine of our compressed air-driven ejector pumps. Years of fine-tuning and further development have sharpened its energy-efficiency, performance, and reliability.

Available in numerous sizes and models to suit any vacuum application, COAX® cartridges are easy to integrate directly into machine or robot EOATs, creating optimal vacuum solutions.

Decentralised Ejectors
Lightweight ejectors for mounting close to the point-of-use, e.g. a suction cup, and some directly on the hose. Available options include integrated quick-release functions and mounting elements for easy attachment to EOATs.

Decentralised Ejectors with Safety Valves
Recommended for handling materials such as sheets of metal or glass, and where safety is crucial, Piab's piSAFE® program of lightweight near point-of-use mounted ejectors have integrated vacuum check/safety valves and energy-saving features.

Suction Cup and Ejector in one
The VGS™ family offers vacuum ejectors combined with suction cups, eliminating the risk of system design mistakes. Provides fully decentralised and ultra-efficient solutions suitable for leaking objects such as corrugated cardboard, high speed, and dusty environments.

Centralised Vacuum Pumps and Ejectors

Compact and Stackable Pump design
Ejector-pumps with integrated controls for on/off, quick release, energy saving, and monitoring/supervision. Suitable for robot applications and advanced machines, they are available in manifolds with up to 8 units for easy installation. A broad program offering units with standard functions and connections as well as those with smart features and a high degree of connectivity.

Classic Ejector Pump design
Offering state-of-the-art vacuum performance and high reliability, these ejector-pumps are suitable to replace heavy and expensive electro-mechanical vane-pumps and blowers where large vacuum flow capacity is needed. Popular in packaging machines, PCB manufacturing and testing equipment, and processing applications.

“Comparative tests conducted by machine tool experts at Fraunhofer Institute in Germany show that Piab’s ejectors require significantly less air to achieve the same performance as other ejectors.”

Researchers, Fraunhofer Institute Germany

“With Piab’s SX12 ejectors and B75.20 suction cups on the EOAT, we gained additional holding force and a solution that picks any case, even the wet or damaged ones.”

Nathan Baker, Mechanical Engineer, MCRI, USA

Go to piab.com for the full assortment.

Centralised or decentralised vacuum systems

Vacuum systems for material handling can be decentralised or centralised.

Systems with ejector pumps can easily be designed to optimise the application based on needs and preferences. Simplified, with ejector pumps you can choose a centralised system where an ejector pump provides vacuum to several suction cups. Or, you go for a decentralised system where light and small ejector pumps are placed on each suction cup. It is also possible to design the vacuum system in a semi-centralised way with several vacuum zones to combine the benefits of the extremes.

The need that govern the choice of a vacuum system can vary. It can be cycle speed, safety of the system, weight of the EOAT, etc. In general, it can be said that centralised ejector pumps have a lower investment cost, especially if several EOATs are to be used for the same handling/robot station. Below are more advantages described for the two extremes, a fully centralised and decentralised system.

Centralised Vacuum System

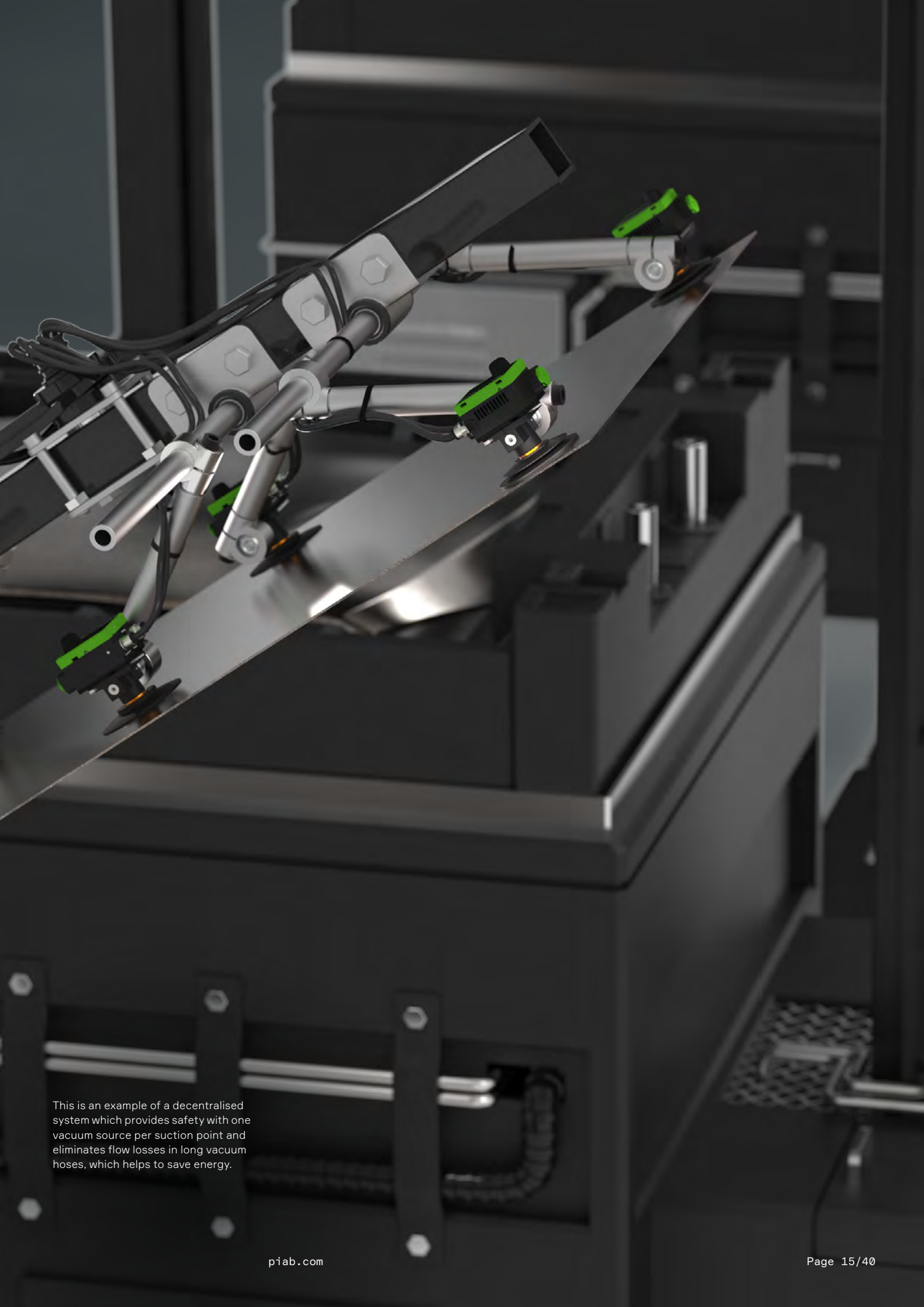
A centralised vacuum system is designed to have one vacuum source for multiple suction cups.

- Easy installation
- Easy vacuum sensing and controls
- Light end-of-arm tooling
- Simple filtration options

Decentralised Vacuum System

A decentralised vacuum system is designed so that each suction cup has a dedicated, independent vacuum source.

- Lowest energy usage
- Fastest cycle time
- Safest product handling
- Most flexible design for zoning
- Easiest troubleshooting
- Most consistent/even performance
- No vacuum flow restrictions
- No false vacuum signals



This is an example of a decentralised system which provides safety with one vacuum source per suction point and eliminates flow losses in long vacuum hoses, which helps to save energy.

Whether you want to lift a flimsy plastic bag or an oily metal sheet, we have the suction cup you need. Piab's modularised suction cups are easily configured into more than 200,000 combinations to choose from, keeping your processes running. A simple click on our website will offer you the right solution for both basic and advanced applications.

Suction Cups

Small but Mighty

Suction cups and soft grippers offer endless possibilities for your lifting and gripping needs. You can, for example, handle board materials or food, open bags, pick electronic components, label and hold objects. However, in different applications you need to fulfil different needs and requirements.

Piab offers one of the market's widest ranges of suction cups so that each application will have its own solution. Tell us what your needs are, and we will together with you find the right solution and products

- We offer the right suction cup for any application within sectors such as Fast-Moving Consumer Goods, Packaging, Pharmaceuticals, Logistics, E-Commerce & Warehousing, Automotive and Electronics.
- From our low-cost Value Line® to highly versatile suction cups such as our MX family – our experts help you choose the right suction cup for your specific application.
- Keep your machine time up and warranty periods down with our detailed know-how on materials, applications, and interplay of components.
- With our strong focus on innovation and R&D, we do not copy others. We lead.

Suction Cups
Overview

Find out more about our latest addition to Piab's portfolio – the MX suction cup.

Cups for Bags & Pouches
Piab's Bag Cup program offers a comprehensive assortment for handling any kind of bag and pouch. Unique and tailor-made models for different bag/pouch materials and contents ensure maximum grip and the fastest possible cycle speeds. Constantly pushing technology forward, we aim to make bag/pouch cups that can handle new and more sustainable materials.

Cups for Metal Sheets (automotive)
High tech designs and materials give Piab's Friction Cups maximum shear force and traction on slippery sheets in high-speed metal forming applications. An impressive assortment of round, oval, flat cups, and bellows geometries in smaller to larger sizes offers wide-ranging choice. The cups are oil resistant and extra-long lasting with maintained grip performance over time. Their exceptional elastic memory makes them an excellent choice.

"Piab's suction cups are just unbeatable. And although suction cups look so inconspicuous at first glance, we know and value the innovative strength and expertise behind their development at Piab."

Christian Fenk, CSO, Robominds, Germany

Cardboard and Special Packages
Piab's very successful DURAFLEX® program is constantly evolving and expanding, and has become an industry standard in, for example, corrugated cardboard handling. Originally manufactured by Piab, DURAFLEX® is an extremely durable and resilient material that can be made and combined in different levels of hardness to optimise grip properties on traditional and new packaging materials that are challenging to handle with vacuum.

Food Contact
Meeting the highest degree of hygiene and health requirements, the Food cup family has been developed to directly pick foodstuff. Easy to clean, the cups are made in food grade and detectable materials, and in designs that avoid dirt pockets. The family includes cups specifically designed for picking food items such as bread and other bakery products, raw meat and fish, pralines, fruit, and eggs.

Warehouse Automation
The number 1 item picker – MX cups are the outstanding choice for multipurpose use in Logistics, Warehousing, E-Commerce, and Recycling applications. Extreme gripping capability on any surface enables the cups to pick many different items, including difficult bags, pouches, cardboard boxes, recycled objects and much more.

And Build Your Own!
The piGRIP® platform enables you to customise your own suction cup and fitting. The easy-to-use configurator can generate over 200,000 different suction cup models and allows users to combine a plethora of different lips, fittings, bellows, filter, flow-control functions, and even materials (e.g. food approved) for optimal grip and durability performance.

Materials used for suction cups, soft grippers and foam grippers

A variety of different high-performance materials for Piab's huge range of suction cups, foam grippers and soft grippers. This means that unique material properties can be selected to best meet the requirements of the application and provide the solution with optimal performance and service life.

	Silicone	Chloroprene (CR)	Nitrile-PVC (NPV)	Therban (HNBR)	DURAFLEX (PU)	EPDM	Natural Rubber (NR)	Thermo-plastic Urethane (TPU)	Thermo-plastic Elastomer (TPE)
Suction Cups	x	x	x	x	x	x		x	x
Foam Grippers	x					x	x		
Soft Grippers	x								
Temp range	-40 to 200°C -40 to 392°F	-40 to 110°C -40 to 230°F	0 to 90°C 32 to 194°F	-30 to 140°C -22 to 284°F	10 to 50°C 50 to 122°F	-40 to 120°C -40 to 248°F	0 to 60°C -32 to 140°F	-20 to 80°C -4 to 176°F	-40 to 60°C -40 to 248°F
Hardness range	40 - 70° Shore A	50° Shore A	50° Shore A	75° Shore A	30 - 70° Shore A	50° Shore A	–	60 - 81° Shore A	18 - 50° Shore A
Food grade (FDA & EU)	x								x
Metal detectable	x								
Semi-conductive to avoid Electro Static Discharges (ESD)	x					x			
Extra Oil resistance			x	x	x			x	
Extra wear resistance			x	x	x			x	
Mark free*				x	x			x	
Free from substances that impair painting (PWIS free)			x	x	x	x		x	

* No visual marks left on the object. On a molecular level traces can be found.

piSOFTGRIP®

Gripping it Softly

Nearly as delicate as the touch of a human hand at a cost level meeting the requirements of mass production – Piab's unique lightweight vacuum-driven soft gripper for sensitive objects with odd geometries and/or unusual surfaces.

Piab's piSOFTGRIP® family is as easy to use and control as suction cups. The gripping force is controlled by the vacuum level and virtually no energy is needed to grip and release objects.

Fingers are optimised for a stable, yet mark-free, grip on delicate and sensitive objects.

Unpackaged food is handled safely and hygienically as piSOFTGRIP® is made in food approved and detectable silicone.

- Simple and robust with finger gripping and vacuum cavity.
- Designed specifically for applications within industries such as Food, Bin-Picking, Machinery, and MedTech.
- Made in a food approved, FDA and EU compliant, and detectable silicone material.

piSOFTGRIP®
Overview

Visit the piSOFTGRIP® product page to find out more about its features.

Keeping a Soft Grip on your Chocolates...

piSOFTGRIP® 30-3 is the smallest of Piab's specially developed soft grippers. It lifts objects measuring 10-30 mm in diameter. Perfect for filling the chocolate box.

piSOFTGRIP® 30-3.

... Ice cream cones

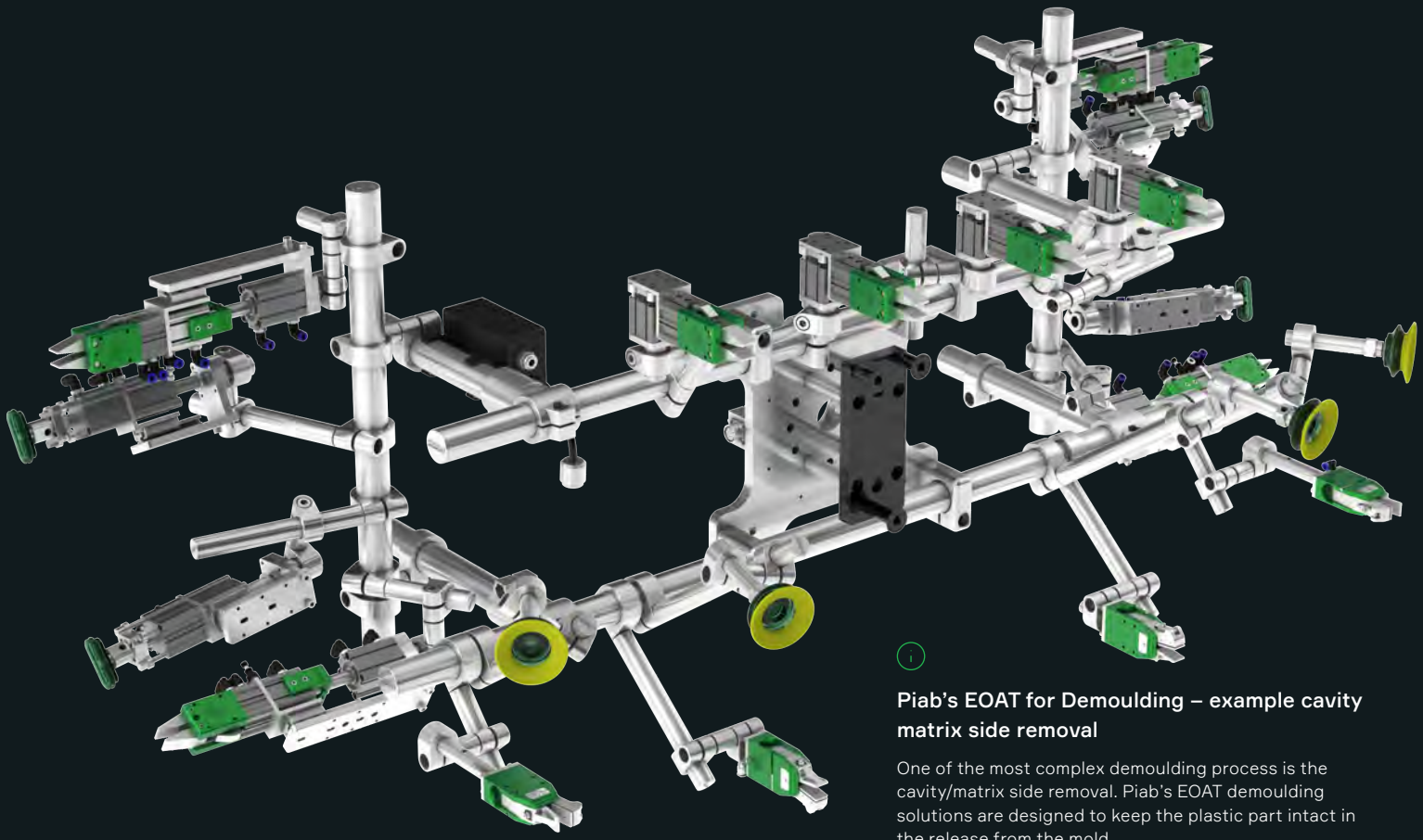
The two-finger gripper will lift oblong objects with ease - not just ice cream cones, but sausages, chocolate bars, vegetables, and bread rolls too.

piSOFTGRIP® 50-2.

...and fruit

The medium-sized gripper will lift objects measuring 20-50 mm, while the large gripper is able to handle 50-100 mm objects.

piSOFTGRIP® 50-3 and piSOFTGRIP® 100-4.



Piab's EOAT for Demoulding – example cavity matrix side removal

One of the most complex demoulding process is the cavity/matrix side removal. Piab's EOAT demoulding solutions are designed to keep the plastic part intact in the release from the mold.

The EOATs are custom made by experienced designers using Piab's own high quality, standard and modular framing profiles, mounting elements, grippers and suction cups.

Robot EOAT components

Holding on Safely

Automated solutions are increasingly complex, connected, robot-controlled and collaborative. They are also becoming faster, more precise and more energy efficient.

Piab offers a modular system for easy combination of different components, including low-maintenance and durable high-end gripper systems, customised robot hands, pneumatic cutting tongs, and complete cutting systems.

- Made of hard coated anodised aluminum, components provide a lightweight and rigid system for on-site assembly without welding or special tooling.
- Integrated COAX® technology allows efficient vacuum generation and energy saving, enabling outstanding performance in, for instance, automotive industry press shop, body shop and assembly processes.

Robot EOAT components
Overview

Get an overview of all our solutions provided to the automotive industry

Flexible Suction Cup Mounts for metal forming

Tailored for vacuum-based end-of-arm tools (EOATs) and fixtures found in automotive body-assembly and final assembly, Piab's Flexible Suction Cup Mount (FSCM) parts enable easy and precise suction cup positioning for perfect vacuum grip. With their durable, yet lightweight and compact design, FSCM parts satisfy the tough requirements of heavy industries.

Modular EOAT for plastic injection moulding

For a durable and lightweight EOAT to handle de-moulding and de-gating applications, Piab offers a range of components, based on round or square profiles. Although the components are easy to assemble, Piab can help to customise the EOAT for more advanced plastic parts.

Sprue/part Grippers for plastic EOAT

To enable handling of various sprues and plastic parts, grippers are offered with a variety of jaws (saw tooth, knurled, or padded) and with or without sensors. All are fully compatible with Piab's modular plastic EOAT gripper system.

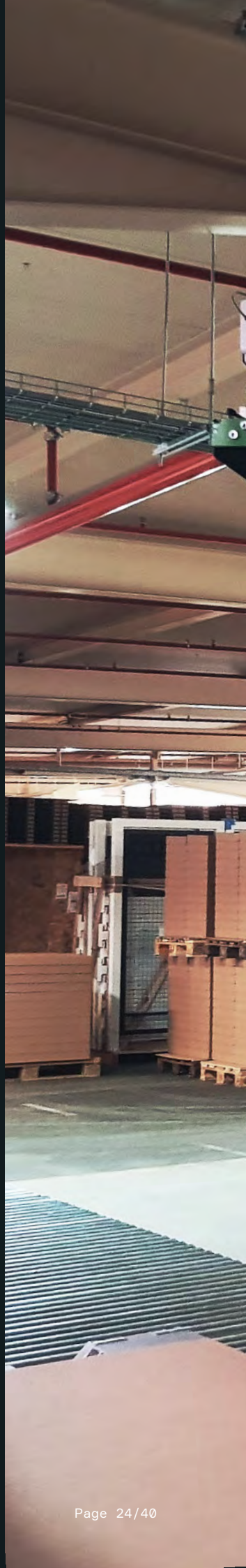
Gripper Fingers for plastic EOAT

Securing difficult parts, Piab's Gripper Fingers are designed to reach around parts, with some versions even flipping and securing thin edges. All are fully compatible with Piab's modular plastic EOAT gripper system.

Looking for a complete solution for palletising small or large items, demoulding plastic components, or handling automotive industry metal sheets? Covering everything from standard grippers to highly customised systems, Piab's robot and cobot gripping solutions are flexible and easy to integrate. Combining expertise in vacuum technology with mechanical/pneumatic components, Piab will help you find the right solution.

Robot and Cobot Gripping Solutions

Easy to integrate



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piCOBOT® & Co

For maximised Grip

The ultimate cobot gripper is small, light, and flexible enough to be deployed in a broad range of applications, making the investment a viable option even for small or medium-sized businesses.

Piab offers three different gripping solutions for collaborative robots or cobots - piCOBOT®, Kenos® KCS, and Mini Cobot Gripper.

- All are equipped with COAX® based vacuum ejectors and ISO 9409-1 mounting plate options. To each of them, a variety of standard and customised gripping units can be seamlessly attached.
- With adjustable cup, foam or bag grippers, these lightweight vacuum ejector units are easy to program and set-up with industry standard interfaces. Plug-and-play software modules are available for brands such as Universal Robots (UR+ and ActiNav) and Fanuc.
- Outstanding vacuum flow capacity for their size facilitates the handling of leaking objects such as bags/pouches and cardboard boxes.

piCOBOT® & Co
Overview

Learn more about our cobot grippers on our webpage.

piCOBOT®

piCOBOT® - Piab's flagship cobot gripper – comes with integrated controls, visual status indicators, and a generic electrical interface. piCOBOT® is available with software plug-in modules for brands such as Fanuc and UR (UR Cap).

Kenos® KCS

Kenos® KCS gripper – based on Kenos® flexible foam gripper technology – is also available with software plug-in for UR cobots (UR Cap).

"piCOBOT® with COAX® technology proved to be much more efficient compared with other solutions when handling porous and highly variable products. Thanks to its small size and low weight, it enables maximum use of the cobot carrying capacity."

Federico Nardone, CEO, Effedi Automation, Italy

Mini Cobot Gripper

The Mini Cobot Gripper (MCG) – Piab's Custom-Line and featherweight (270 g/9 ounces) solution – provides what is probably the lightest cobot in the world and the essence of modular, flexible, lightweight design.

"The MCG is the essence of modular, flexible, light weight design, with a strong yet efficient grip on any product."

Bernd Gries, Manager Global Strategic Accounts & Head of Custom-Line-Products Vacuum Automation

Kenos® Area Vacuum Grippers

Handling it All

Lifting large and heavy objects or full layers of cans of food or drink for palletising are challenging tasks. To solve them, in 2016, Piab acquired Kenos®, a leading brand of large area vacuum grippers.

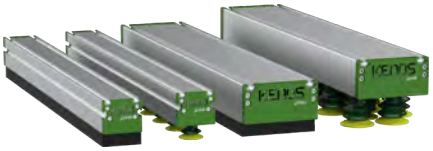
Kenos® products are designed and optimised for use in applications such as end-of-line automation or load/unload machines and offers a flexible solution for the handling manipulation of several products of different shapes, dimensions, and density.

- The mat of the KVG gripping system is made of a technical foam with a variety of pitch holes and thicknesses. An FDA approved mat is available for direct food handling.
- KVG and KVGL grippers can also be equipped with suction cups for handling of, for instance, layers of foil packed food.

Kenos® Area Vacuum Grippers
Overview

"The Kenos® KVG gripper from Piab was the only gripper we could find that was able to reliably and continuously pick up sheets individually."

Manuel Duebeler, System Designer, Heinrich Kuper GmbH, Germany



Kenos® KVG
Offering a strong and weight-optimised vacuum gripper system, Kenos® KVG has been designed for use in a variety of applications and industries, including packaging and wood. Vacuum flow control options and the ability to select an integrated or external vacuum source ensures that user needs are met.

Customers can configure their own systems, but full support is also available for customised solutions.

Kenos® KVGL-S
KVGL-S grippers are designed for robot end-of-line packaging/palletising. Its adjustable check valve technology and the engineered foam ensures superior gripping on different types of cardboard boxes and wrap-around packaging. The modular design and the multiple options of standard dimensions available in the online configurator make this a highly effective series.

Custom solutions are available and can include slip sheet handling and hooks for lifting pallets.

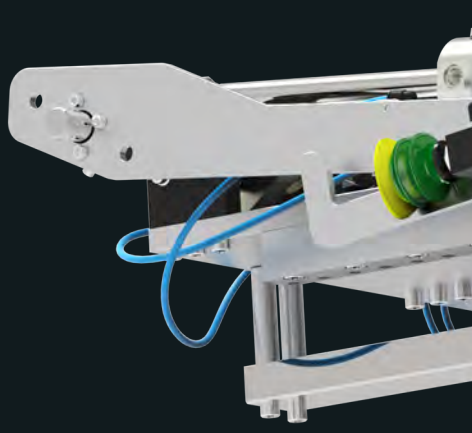
Find out more about Kenos® Area Vacuum Gripper applications.

Kenos® KSG
KSG series is suitable to handle sacks with different shapes, weights and materials. The integrated and modular vacuum generation and sturdy design makes the KSG flexible, reliable with a worry-free operation. Options for external vacuum generator is available.

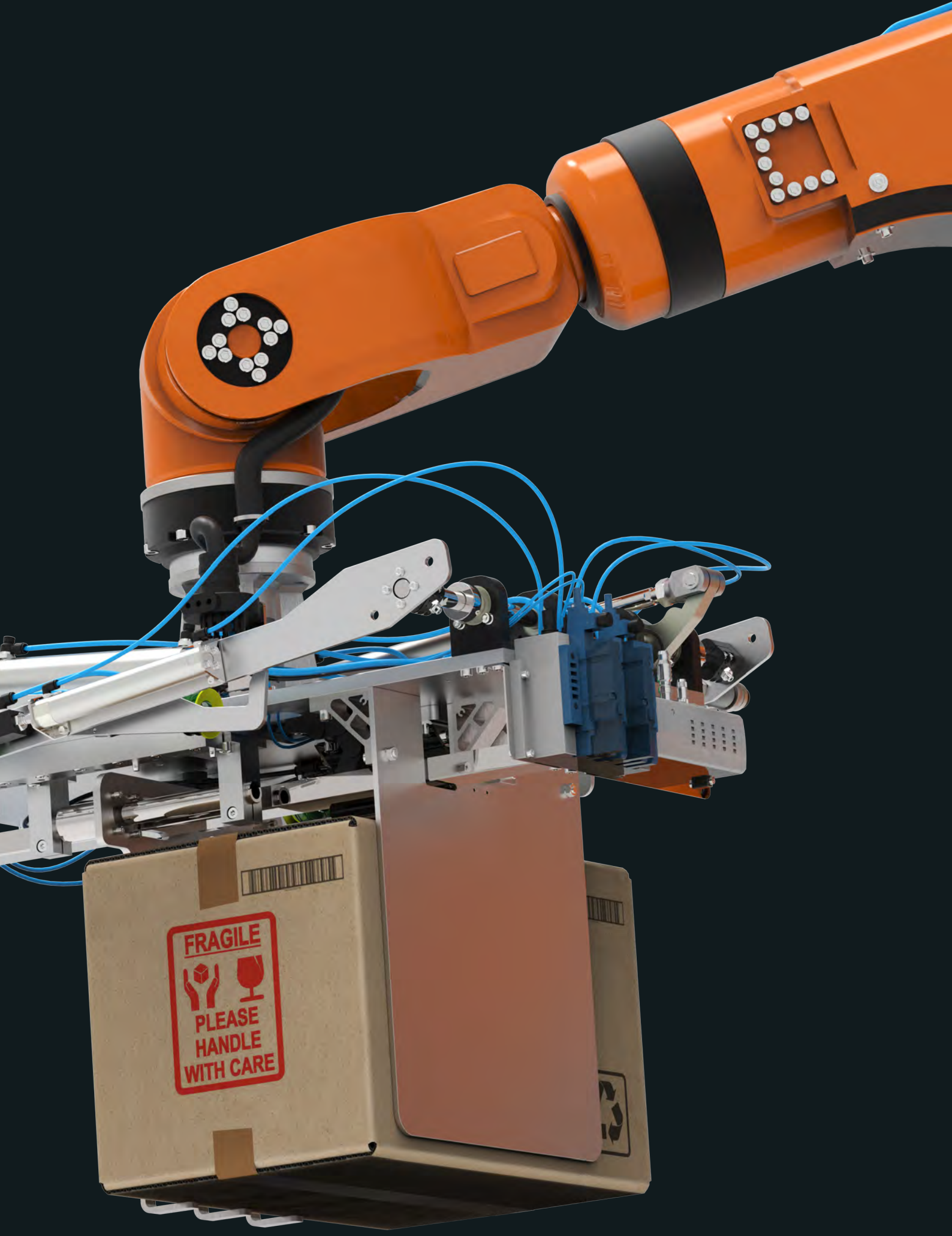
Kenos® full layer gripper for cans and jars
KVGL-CJ is a large area gripper platform developed to handle complete pallet layers of cans or jars that can be lifted from either an open or closed end. Solutions are custom-built and unique, ensuring optimal cost-effectiveness and reliability

Piab's Complete Gripping Systems enable you to simplify or even eliminate engineering time for grippers.

Save time!



- Designed to be installed directly on most robot arms or tool changers, Piab's gripping systems use state-of-the-art components, correctly dimensioned to achieve maximum performance and productivity.
- For manufacturers of injection molded parts, Piab also provides systems for demoulding and de-gating applications with modular and custom-made parts as well as components from well-known brands.
- For palletising and de/palletising operations, Piab offers an extensive range of products including everything from ergonomic handling equipment, components, and sub-systems for customised end-of-arm tools to ready-to-use palletising tools for robots or cobots.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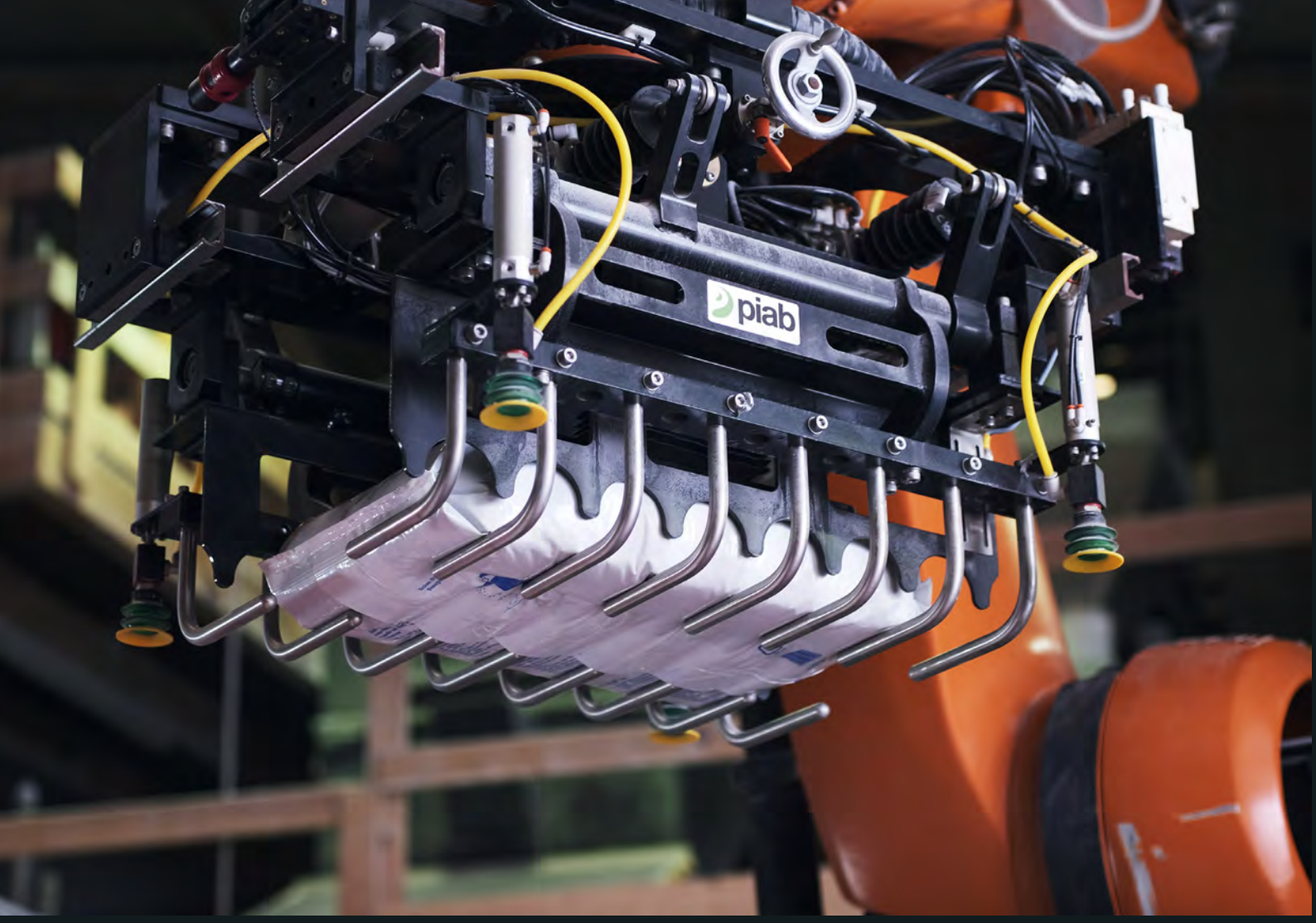


Palletising Solutions

Lifting made Easy

For the typical industrial robot palletising and de-palletising operations, Piab offers a wide range of end-of-arm tools (EOATs), available both as custom-made and standard configurations.

All tools are designed to ensure the safety of goods and, more importantly, of humans. Due to their robust and smart design, operational efficiency is streamlined, and maintenance is simple and kept to a minimum.

Optional accessories are available for pallet handling, slip sheet systems, sensors, etc. Gripper fingers are made of durable and solid stainless steel. High-speed traversing enables faster load times.

Palletising Solutions
Overview

Learn more about our palletising solutions.

Custom Palletising Tools*

As an alternative to vacuum-based grippers, Piab offers palletising robot tools based on clamping and gripper fingers for boxes and sacks/bags. The tools are durable, adjustable and include all functions needed for a reliable and high-speed operation.

Based on standard modules, the gripper tools are efficiently custom-made to fulfil the needs of specific applications. The tool platforms offer great flexibility around robot interfaces as well as controls and communication.

* Available for selected markets

Custom Line 3D Grippers

Piab offers customised gripper solutions optimised as far as weight and design using state-of-the-art 3D print technology. High-end materials and design ensure minimum weight and maximum handling performance for challenging applications in industries such as logistics, e-commerce, and warehouse automation, but also for packaging within the manufacturing industry.

"Piab's new hybrid bag gripper enables us to palletize 9 bags of road salt per minute instead of 6 bags with our old system. The process runs smoothly and without damaging the bags."

Uwe Grundstein, Technical Director, Sapho, Germany

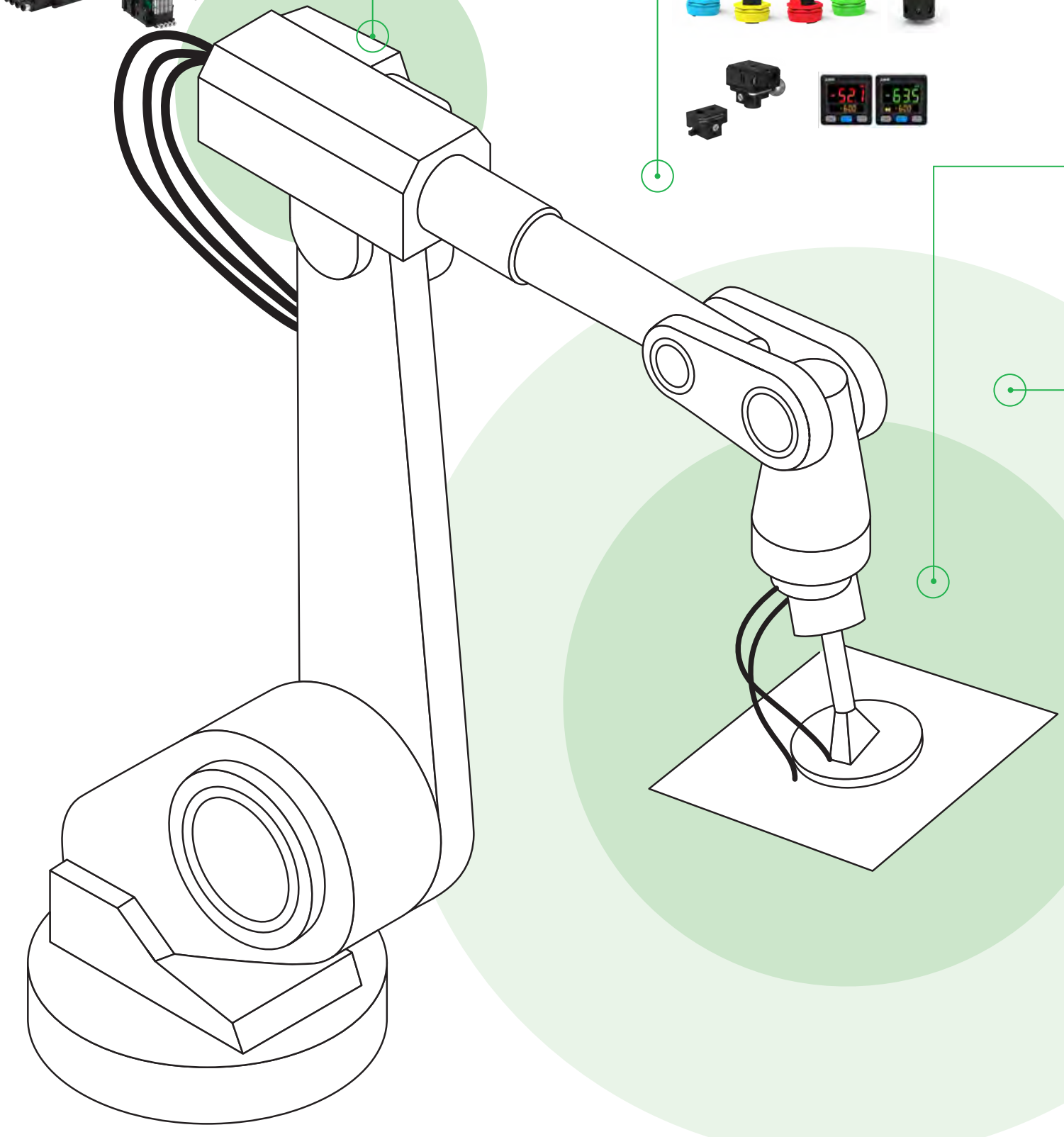
Vacuum Ejectors (page 10)

Superior vacuum technology in a wide range of vacuum ejectors suitable for a large number of applications.

System Accessories (page 36-37)

Variety of spare parts and accessories for ejectors and suction cups.

Integral to monitor and control vacuum systems and for fitting of the suction cups.



Vacuum Automation Components and Solutions

Summary

Piab is your partner whether you like to design your own gripper tool based on Piab's high performance components or if you prefer to buy the complete gripping solution from Piab. You can always count on Piab's professional support for every gripping challenge your robot arm will have.

End-of-arm-tooling (page 32)

A wide variety of tools for different applications as well as related components.

Suction Cups (page 16)

Broad range of suction cups for different applications across industries.

Modularised concept allowing large variations.

Mechanical Grippers (page 23)

Used as an alternative or complement to suction cups for gripping, holding and lifting.

Foam Grippers (page 28)

Specially developed pads to enable for flexible and efficient packaging/palletising.

Advanced Gripping Solutions (page 33)

New customizable product category.

Special focus on light weight grippers for logistics and warehouse automation and collaborative robots

System Accessories
Overview

A selection of accessories. Go to piab.com for the full assortment.

Vacuum Flow Control Valves

Unique on the market, Piab's patented vacuum flow control valves, piSAVE® sense valves, work in any orientation, independently of gravity unlike other control valves. This makes them perfect for use in flexible robot tools. They are available as integrated solutions on the piGRIP® and Kenos® platforms as well as integration products for customers.

Vacuum Check Valves

Trapping vacuum for a very long time, piSAFE® mini is a small vacuum check valve intended to replace expensive solutions based on vacuum tanks. It is suitable for use with sealed materials such as glass and metal in applications requiring the highest degree of protection against objects being dropped when systems fail.

Level Compensators and Ball Joints

To make a vacuum handling system compliant and to compensate for height differences or the radius of objects and sometimes inaccuracies from robots and machines, level compensators and ball joints are simple accessories to add. Piab offers an extensive program with many different sizes, tread interfaces, materials, and spring resistance options to cover application requirements in different industries.

Blow-off Check Valves

Tailor-made blow-off check valves that use compressed air can be used in vacuum systems for quick parts release and pipe/cup filter cleaning. The valves have a unique low opening pressure yet are still fully vacuum sealed. The low opening pressure makes it possible to use several check valves in the same system and to safely open all of them simultaneously, ensuring a well-functioning vacuum system.

Vacuum Filter & Silencers

An efficient and silent ejector pump should be equipped with a flow-through vacuum silencer rather than resistance silencers. Piab has a broad program of efficient silencers that do not adversely affect the vacuum performance when lowering the noise to comfortable levels. To further increase the reliability of vacuum systems, it is recommended to add a vacuum filter. Piab invites you to choose from one of the market's broadest offerings.

Atmospheric Release Valves

piSAVE® release is an efficient release function for parts that uses the atmosphere to speed up the release. No additional compressed air is needed for the release function, reducing the energy consumption in every cycle. A single feeding hose also simplifies installation.

Vacuum Switches

Piab's line of Vacuum Switches includes switches with pneumatic, digital, and analogue signals, and all kinds of features. The program comprises everything from miniature vacuum switches for fully decentralised systems and switches with 3-colour displays to extra durable switches for tough environments.

Learn more about
how we can evolve your
business at piab.com

Evolving around the world

EUROPE

France
Lagny sur Marne
+33 (0)16-430 82 67
info-france@piab.com

Germany
Butzbach
+49 (0)6033 7960 0
info-germany@piab.com

Italy
Torino
+39 (0)11-226 36 66
info-italy@piab.com

Poland
Gdansk
+48 58 785 08 50
info-poland@piab.com

Spain
Barcelona
+34 (0)93-633 38 76
info-spain@piab.com

Sweden
Täby (HQ)
+46 (0)8-630 25 00
info-sweden@piab.com

Kungsbacka
Lifting Automation
+46 (0)300-185 00
eh.info@piab.com

United Kingdom
Loughborough
+44 (0)15-098 570 10
info-uk@piab.com

AMERICAS

Brazil
Sao Paulo
+55 (0)11-449 290 50
info-brasil@piab.com

Canada
Toronto (ON)
Lifting Automation
+1 (0)905-881 16 33
eh.ca.info@piab.com

Hingham (MA, US)
+1 800 321 7422
info-usa@piab.com

Mexico
Hingham MA (US)
+1 781 337 7309
info-mxca@piab.com

USA
Hingham (MA)
+1 800 321 7422
info-usa@piab.com

Xenia (OH)
Robotic Gripping
+1 888 727 3628
info-usa@piab.com

ASIA

China
Shanghai
+86 21 5237 6545
info-china@piab.com

India
Pune
+91 8939 15 11 69
info-india@piab.com

Japan
Tokyo
+81 3 6662 8118
info-japan@piab.com

Singapore
Singapore
+65 6455 7006
info-singapore@piab.com

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