

Smart & compact.

SAM robots

Automation für standard production solutions.



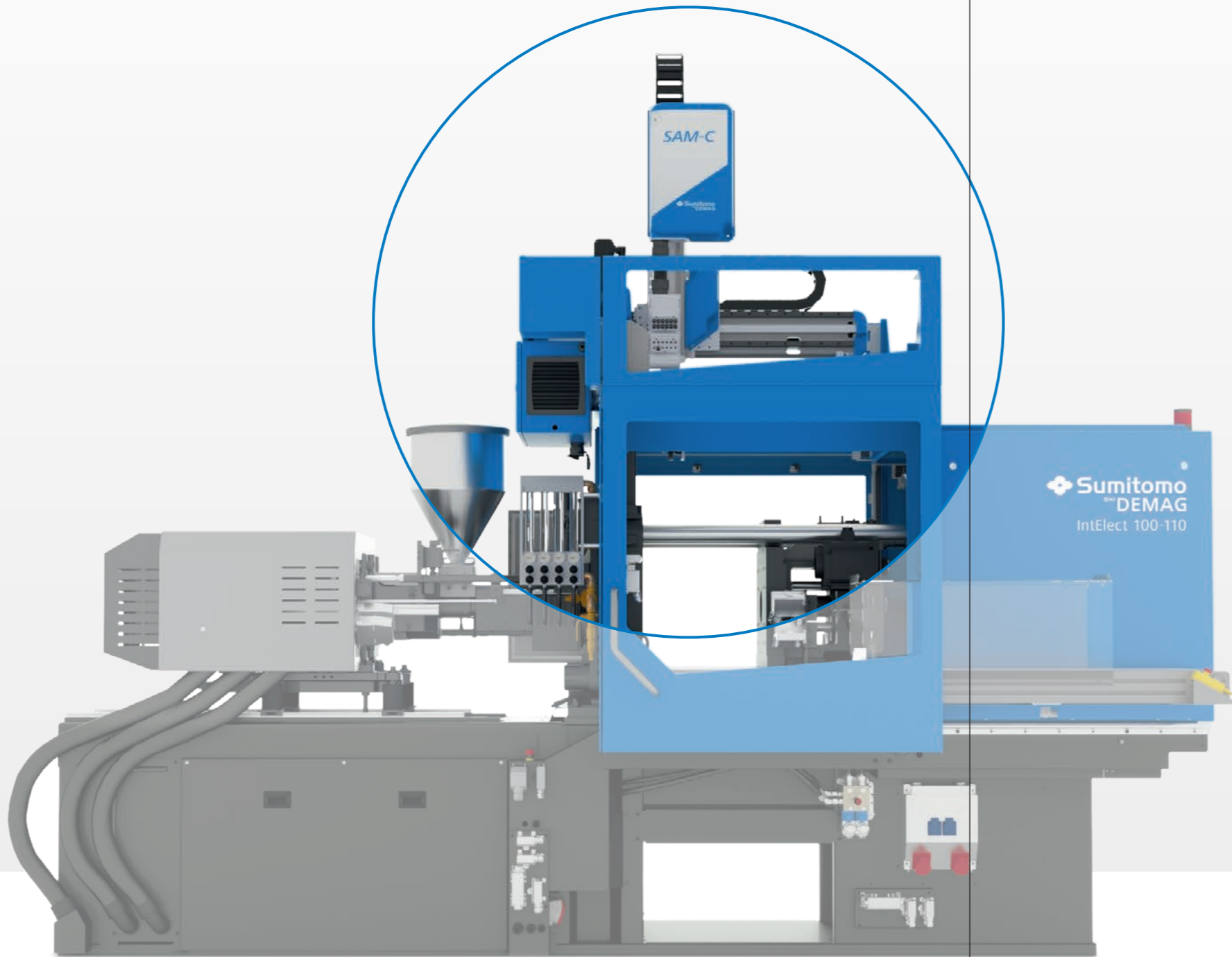
**RELIABLE &
EFFICIENT.**

SAM

Optimised for production efficiency.

Sumitomo (SHI) Demag is your one-stop automation-shop. With our interdisciplinary, industry-experienced teams, comprising a network of over 500 dedicated automation experts, we cover the entire spectrum of injection moulding automation, from machine technology, robotics and conveyor technology to networked control and information technology.

Our standardised and compact **SAM** robot portfolio offers solutions to suit any application, provides precise and efficient handling and integrates into any production cell. Thanks to its space-saving and standardised design, our **SAM** automation solutions support every production scenario to address labour shortages, deliver higher productivity and be more economically efficient.



SAM-C robots

Your benefits at a glance.

1 – Optimised installation area

The main purpose for developing our SAM robot series was to streamline processes, focusing on space optimisation and reducing operator effort and interventions. Combined with a Sumitomo (SHI) Demag injection moulding machine, a SAM-C robot can significantly reduce the overall footprint of a self-contained cell, while simultaneously improving user-friendliness of machine controls.

2 – Fully-integrated robot control

The SAM-C series can be fully-integrated into our injection moulding machine software. This enables the robot to be controlled directly through one single interface, which in turn helps to ensure optimal interactions and synergy between both technologies. The result is better management of inefficiencies, and faster troubleshooting of errors to minimise operational downtime.



3 – Increased productivity

Any automation solution needs to solve process inefficiencies, be scalable and offer a good return on investment. The SAM-C robot series can reduce energy costs and promote faster cycle times, leading to a considerable increase in profitability and productivity.

Combined with myConnect, users have direct access to an extensive range of fully networked support services through a centralised platform to maintain system availability.

4 – Energy efficiency

Our SAM-C robots are durable, reliable and robust. They utilise ECO vacuum technology to significantly reduce energy consumption, resulting in significant cost savings. This is achieved by delivering more consistent, targeted and faster airflow.

As compressed air is a costly source of energy, our ECO technology continuously checks the vacuum pressure inside the robot and automatically adjusts when necessary to reduce compressed air consumption.

5 – Flexible and precise

Our SAM-C robots are used for IntElect injection moulding machines with clamping forces from 50 t to 500 t for applications with cycle times greater than 9 seconds. They are designed to handle 3, 5, 10 and 20 kg payload classes.

The robot axis designations are flexible and can be adapted to each production environment. By simplifying operations, processors report significant reductions in training costs.

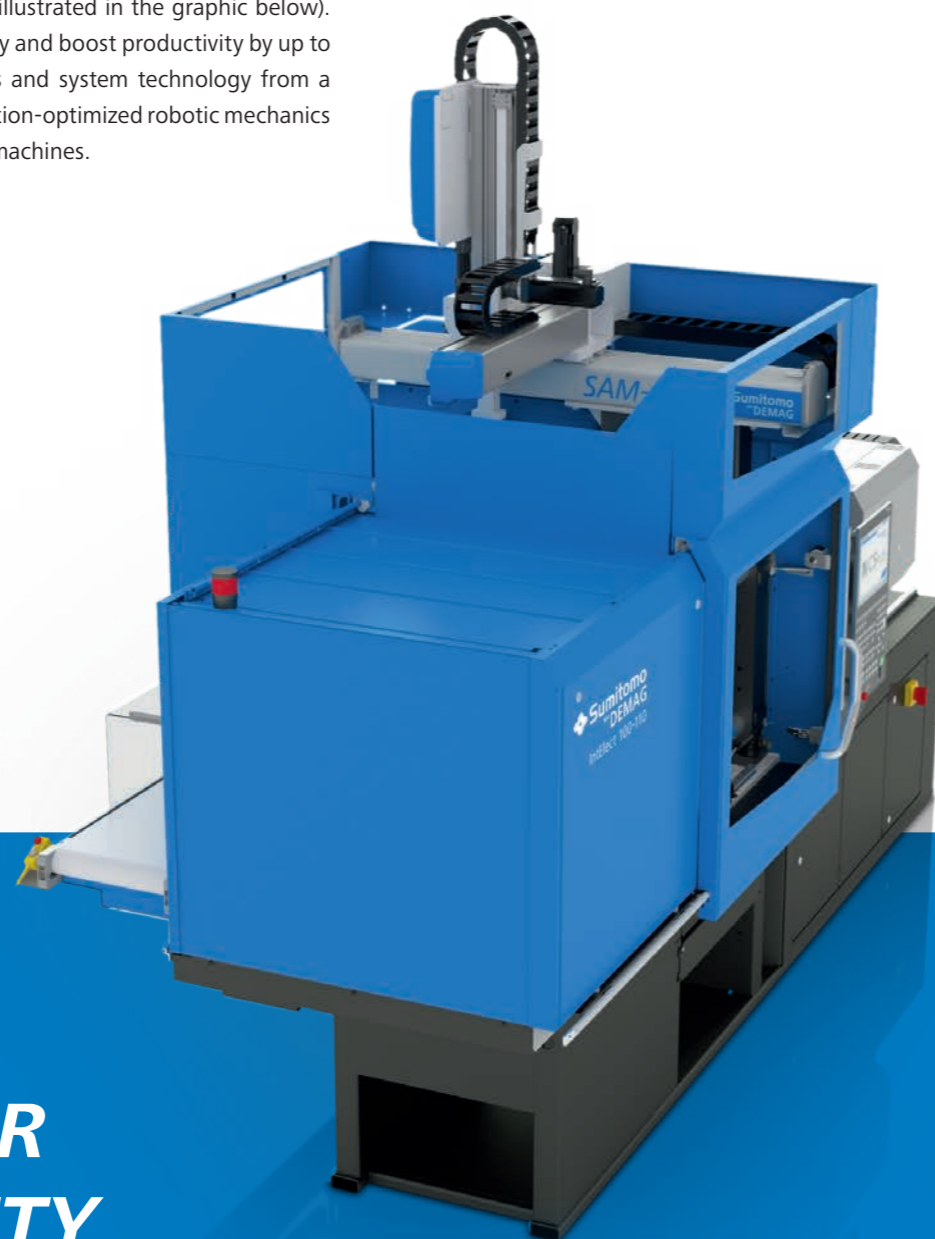
As our servo motors and precision gearboxes are developed in-house by our team of motion specialists, users are assured maximum dynamics, precision and efficiency.

1. Optimized installation area

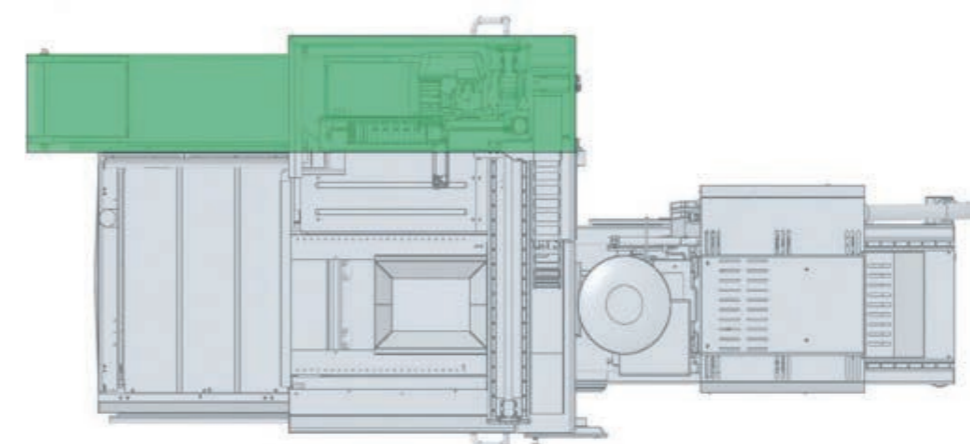
Generating more revenue in a smaller footprint.

In order to reduce the physical space taken up by production units and generate higher profits by optimising every centimetre of production space, Sumitomo (SHI) Demag intentionally designed the SAM-C robots to work seamlessly with the IntElect machines. Fully integrated into the production cell, customers now benefit from a smaller injection moulding footprint comprising the robot and material handling technology. Another notable feature is the production cell's low height, accommodating factories where vertical clearance space is often limited.

The SAM-C robot can generate more value-add space in a factory by reducing the footprint of a production cell by 25 % (illustrated in the graphic below). This, in turn, can increase production capacity and boost productivity by up to 15 %. Customers also benefit from process and system technology from a single supplier source, complete with production-optimized robotic mechanics fully customised to Sumitomo (SHI) Demag machines.



**15 % HIGHER
PRODUCTIVITY**



1,05 m², IntElect 50 + SAM-C3



2. Fully-integrated robot control

User-friendly interface and intuitive machine controls.

Pairing our IntElect machines with our automation solutions delivers complete synergy between machine, robot and your workforce. Features of the SAM-C robots include:

- A user-interface that is compatible with the SGM server software used in the IntElect machine, allowing the machine and robot to be controlled through one single interface.
- Fully-integrated 'Site Controller' allowing for visualisation of production data at any time, from anywhere. Operators can define and access easy to read dashboards and KPIs.
- Graphics displaying the single axis control to assist with accurate manoeuvring.
- All robot movements controlled using directional buttons, accessed from one side of the unit.
- Switch between machine and robot control with a single click.
- Access all modes of the robot at any time.
- User friendly symbols and graphics, enabling users to operate with minimal training.
- Easy, low-code programming with flow chart generator. Rather than inputting text, users simply point and click their instructions.



3. Increased productivity

Robust, reliable and requires minimal maintenance.

At Sumitomo (SHI) Demag, we use high-quality, durable and robust components to construct our SAM-C robots. These features include our in-house servo motor technology, low-maintenance drives, and advanced linear guides, which require minimal lubrication to maintain performance. An FDA-approved lubricant can also be supplied on request. These components, in turn, result in a robot that requires minimal repair and maintenance work, guaranteeing a long service life and high machine availability.



Digital solutions for linear robots

Additionally, the SAM-C robots all incorporate our company's "myConnect" web-based software solution, allowing for direct communication between the CPU of the robot and the HMI of the injection moulding machine's user interface. The modular, centralised platform offers a real-time overview of all data and provides direct access to an extensive network of support services, helping to better manage inefficiencies, reduce costs, optimise total cost of ownership, troubleshoot errors and minimise downtime.

MyConnect connects to the central server via a secure VPN tunnel and transmits requests to the service detection system. The TÜV certification of the IT connection ensures the highest security standards for data exchange, which takes place only when an operator issues.

myCONNECT

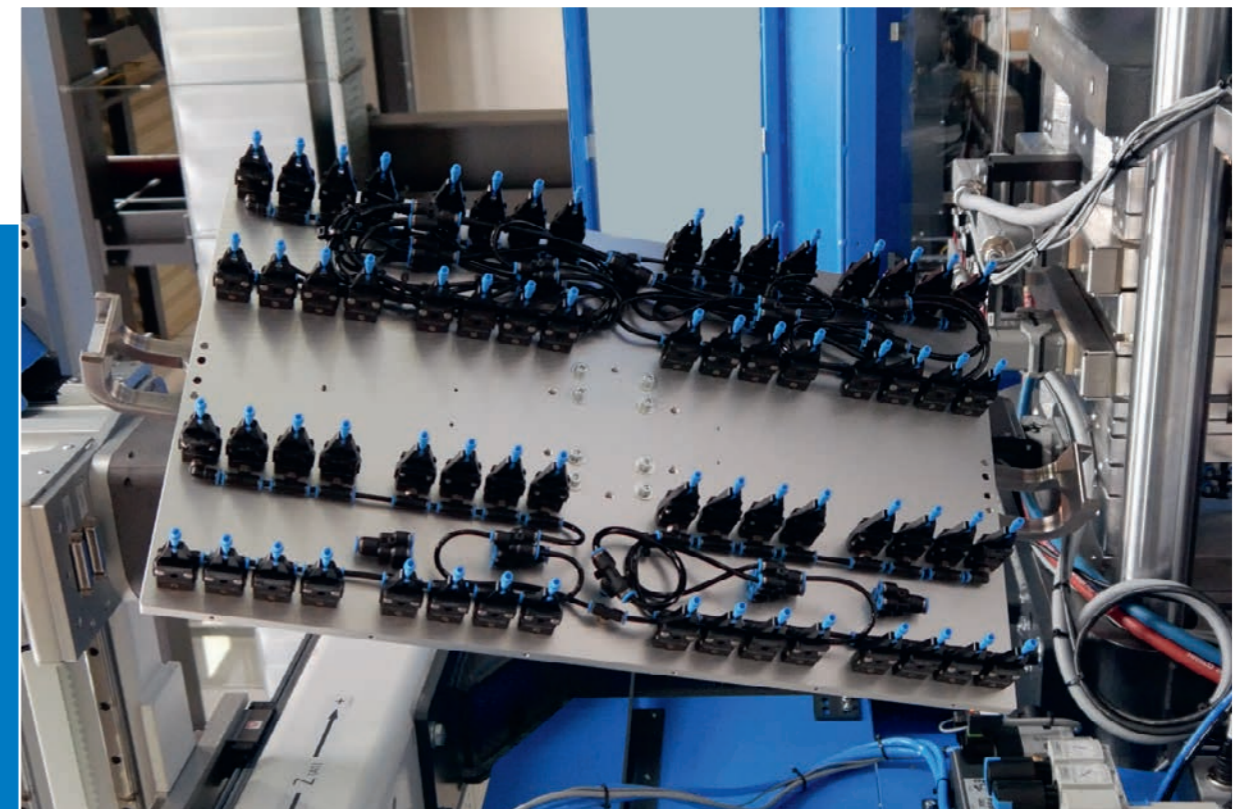
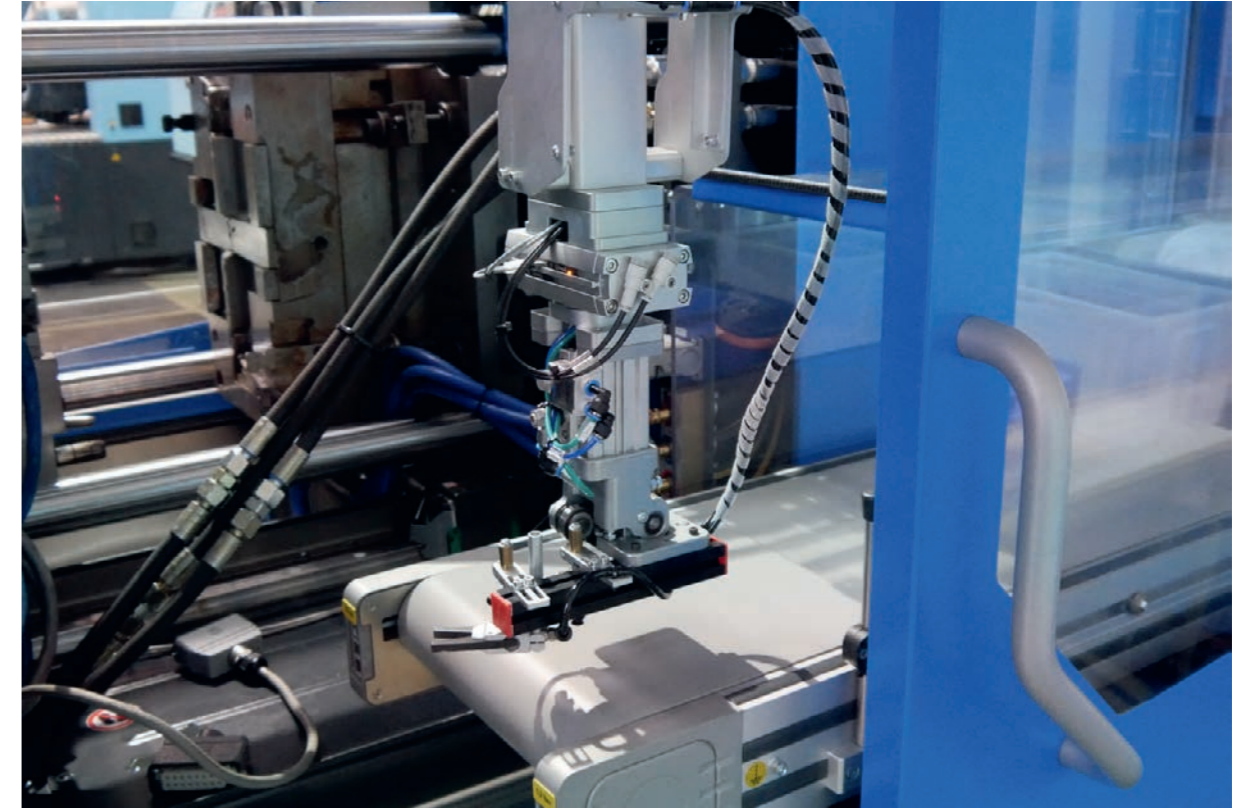


4. Energy efficiency

Energy-saving vacuum technology.

One of the major fluctuating operating expenses for plastics manufacturers today is energy consumption. Sumitomo (SHI) Demag's SAM robot series directly address this issue by utilising ECO vacuum technology.

This energy-optimising technology checks the actual amount of compressed air required to move the robot gripper during the entire process cycle, adjusting when necessary. This results in significant energy savings, attributed to a significant reduction in compressed air consumption by the robot.



5. Flexible and precise

IntElect and SAM-C: the perfect productivity duo.

Due to our standardised approach to production solutions, the linear robots that make up the SAM-C series work in complete synergy to enhance the benefits of our all-electric IntElect injection moulding machines. Used in IntElect production cells with a closing force of 50 t to 500 t, for applications with cycle times greater than 9 seconds, the SAM-C robots are revered for their dynamics, precision and efficiency.

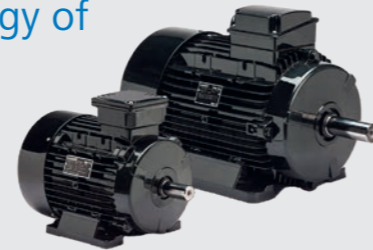
Boosting productivity with their in-house servo motors and precision gearboxes, these automation solutions cover a wide range of applications, from standardised to complex projects and are available in payloads of 3, 5, 10 and 20 kg.

If tooling is not required to automate the removal of components, Sumitomo (SHI) Demag can also supply conveyor, buffer, boxing and counting systems to save labour and optimise production efficiency.

Sumitomo
Drive Technologies

Use of the drive technology of the Sumitomo Group:

Our SAM-C robot features drive systems developed in-house specifically for injection moulding machines by the Sumitomo Group.



TECHNICAL DATA

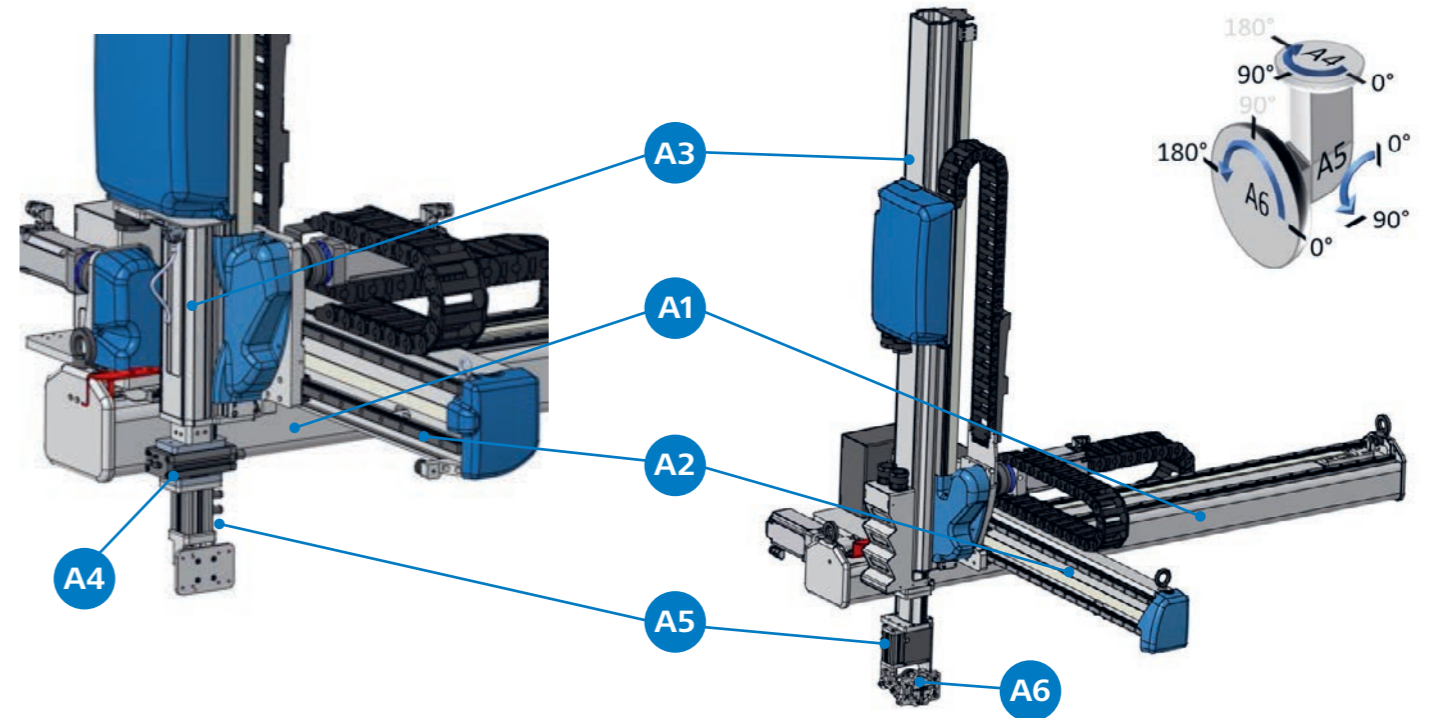
SAM-C

Robot type	Load capacity	A1-Hub (mm)	A2-Hub (mm)	A3-Hub (mm)	A4- Rotation axle (pneum.)	A4- Rotation axle (servomot.)	A5- Rotation axle (pneum.)	A5- Rotation axle (servomot.)	A6- Rotation axle (pneum.)
SAM-C3	3 kg	1100 / 1300	450	1000	0°/90° oder 0°/180°		0°/90°		
SAM-C5	5 kg	1300 - 2500	450 / 620	1000 / 1200	0°/90° oder 0°/180°		0°/90°		
SAM-C10	10 kg	1500 - 3000	620 / 820	1200 / 1400		-90° ... +180°	0°/90°	-90° ... +90°	0°/90° oder 0°/180°
SAM-C20	15 kg	1500 - 3500	820 / 1020	1400 - 1800		-90° ... +180°	0°/90°	-90° ... +90°	
SAM-C20	20 kg	1500 - 3500	820 / 1020	1400 - 1800			0°/90°		0°/90° oder 0°/180°

		Machine type: IntElect									
		75 t	100 t	130 t	180 t	220 t	280 t	350 t	450 t	500 t	
Robot type	SAM-C3	Load capacity 3 kg	x	x	x						
	SAM-C5	5 kg	x	x	x	x					
	SAM-C10	10 kg		x	x	x	x	x	x	x	x
	SAM-C20	15 / 20 kg			x	x	x	x	x	x	x

SAM-C3/5

SAM-C10/20



A3 (TE)

A3 (DI)



TE: Telescopic axle
DI: Single axle

Handle & place automation solutions

Standardised CE-compliant production solution.

Integrated automation solutions for machine sizes: 50 t – 280 t

Target application:

Removal / handling of parts and sprues.

Suitable markets:

- Automotive
- Consumer
- Electronics

Customer benefits:

- Ready-to-install production solutions.
- Easy onsite installation.
- Ready-to-use, plug and play.
- CE compliance.

Machine type	Robot type	Load capacity	A1-Hub (mm)	A1-Hub (OP 242: 2200mm)	A2-Hub (mm)	A3-Hub (mm)
IntElect 50	SAM-C3	3 kg	1100	1300	450	1000
IntElect 75	SAM-C3	3 kg	1100	1300	450	1000
IntElect 100	SAM-C3	3 kg	1100	1300	450	1000
	SAM-C5	5 kg	1300	1500	620	
IntElect 130	SAM-C3	3 kg	1100	1300	450	1000
	SAM-C5	5 kg	1300	1500	620	
IntElect 180	SAM-C5	5 kg	1300	1500	620	1200
	SAM-C10	10 kg	1500	1750	820	1400
IntElect 220 IntElect 280	SAM-C10	10 kg	1500	1750	820	1400
	SAM-C20	20 kg	1500	1750	1020	1400

Complete solution

CE-certified & Optimal storage area.

IntElect 50 t – 280 t

IntElect



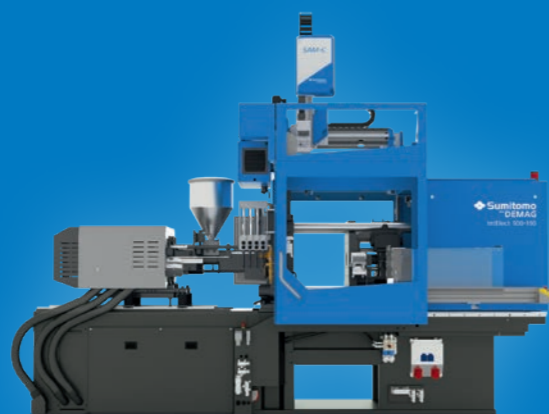
SAM

Fully-integrated SAM-C



All-in

- Integrated personal protection
- Material transport



Handle & box automation solutions

Reduced reliance on reduce human labour.

Integrated automation solutions for machine sizes: 75 t – 180 t

Production advantages:

- Buffer system for standard containers.
- Components drop into standard containers.
- Fully integrated conveyor, to increase manufacturing flexibility.

Suitable markets:

- Automotive
- Consumer
- Electronics

Customer benefits:

- Modular solution ready to install for standard containers.
- Maximum flexibility.
- Variable use for different production environments.
- Easy to operate.

Complete Solution

CE-certified & Optimal storage area.

IntElect 50 t – 280 t

IntElect



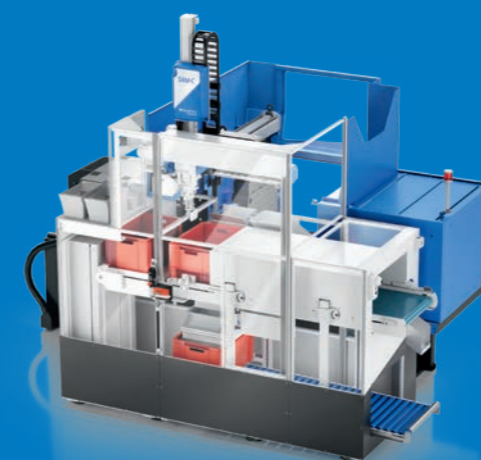
SAM

Fully-integrated SAM-C



Integrated buffer solution

- Standardised, 3 modes
- High autonomy





www.sumitomo-shi-demag.eu

All of the information in this prospectus has been provided by us and collated with the greatest care. However, we cannot guarantee its accuracy. Furthermore, we must highlight that individual representations and information with regard to the actual delivery status may vary. 09.2024