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Press release

Star of the show: Swisslog introduces new CarryStar fully automated solution to CeMAT 2018



Swisslog's CarryStar solution is modular and scalable, which means it can adapt to businesses as they grow and expand, or as needs change in dynamic markets

July 2018 - Swisslog is introducing to Australasia its new CarryStar fully automated order fulfilment system, which combines KUKA automated vehicles KMP600 or KMP1200, KUKA robots and the latest Swisslog SynQ software for optimum efficiency, flexibility, reliability and sustainability.

CarryStar (patent pending) will be displayed for the first time at CeMAT 2018 at the Melbourne Exhibition Centre from July 24-26 (Stand F12), along with live demonstrations of Swisslog's new KMP600 Automatic Guided Vehicle (AGV), Augmented Reality (AR), Virtual Reality (VR) technologies, and the latest collaborative robots from their parent company, KUKA.

Swisslog and KUKA's highly advanced technologies and automation solutions are designed to improve efficiency and return on investment for industries such as e-commerce, retail, food and beverage, pharmaceuticals, manufacturing, logistics, and fast-moving consumer goods (FMCG).

The scalable and modular CarryStar fully-automated solution is suitable for small, mid-size and large layer and stack picking operations. With minimal fixed infrastructure required and the ability to grow as a business expands its operations, CarryStar is ideally suited to retail, FMCG and pharmaceutical companies looking for a hygienic and efficient warehouse automation solution.

The fully automated process starts with a pallet infeed station, where KMP600 or KMP1200 Mobile Platforms (Carry Bots) receive the pallets and transport them to buffer positions or the picking area around a Star Robot.

These KUKA high-performance Star Robots are the workhorses of the CarryStar solution, and can pick approximately 200-300 layers or stacks per hour to form mixed or rainbow pallets depending on the requirements to fulfil the order. Once complete, Swisslog's Carry AGVs then transport pallets to the pallet wrapper where it also will be labelled and finally to the dispatching area to be sent to the required destinations.

Productivity and sustainability can be enhanced by negative picking, which allows for the conversion of source pallets into order pallets to minimise wastage. The entire system is driven by Swisslog's intelligent SynQ software, which not only manages the system, but collects valuable data and uses this to recommend further efficiencies.

"Swisslog's CarryStar solution provides an insight into the factories of the future. It's an automated pallet-to-pallet transfer of goods that needs minimal fixed infrastructure to operate, making it ideally suited to companies looking for a hygienic and efficient warehouse automation solution," says Mr Paul Stringleman, Senior Consultant, Swisslog Australia.

"The highly customisable nature of Swisslog's CarryStar solution makes it ideally suited to dynamic businesses, where order fulfilment needs may be constantly changing. It also helps growing businesses, because modular units can be added on as the business expands," says Mr Stringleman, who will be on-hand at Swisslog's CeMAT stand this year.

Benefits

Scalable: The modular and scalable design allows for growth in line with business growth. In addition to needing only minimal fixed infrastructure, it does not require any conveyors, which adds flexibility when updating or expanding operations. CarryStar is ideally suited to small, mid-size and large layer and stack picking operations.

Flexibility and Sustainability: CarryStar's safe and energy-efficient design provides excellent traceability of expiry dates and batches, as pallets are scanned when they enter and leave the system. Source pallets are converted into order pallets to enhance productivity and minimise wastage. With minimal fixed infrastructure required (i.e. it does not use conveyors), CarryStar is flexible, hygienic and cost-efficient warehouse automation solution.

Efficiency: Both quality and quantity are increased with Swisslog's CarryStar solution, as one robot can palletise approximately 200-300 layers or stacks every hour, with error-free operation.

Reliability: Fully controlled by SynQ software, CarryStar reduces picking errors. The high redundancy of the Carry AGVs' performance allows the process to be managed effectively at any time.

Solution Components

1. KUKA Vehicles KMP600 and KMP1200

An innovative transport system based on KUKA's high quality KMP600 and KMP1200 vehicles designed to efficiently manage the movement of pallets on tables. The vehicles are controlled by Swisslog's intelligent fleet management software, communicating via WLAN and navigating themselves using QR codes or a laser scanner. Their task is to deliver pallets of goods in stacks or layers from the buffer to the KUKA robot picking area and position them around the robot. Once the picking process is complete the vehicles move the source pallets back to the buffer area and the order pallets to the outfeed station for wrapping, labelling and shipping. These vehicles are intuitive, safe and maintain high efficiencies.

2. KUKA Robot

Swisslog utilises a KUKA robot equipped with the appropriate gripper for the picking requirements. The gripper is chosen based on SKU, volume and the type of picking that will be completed (i.e. crate stack or carton/tray layer). The KUKA robot is selected based on payload and reach capacities. Strong, fast and efficient, a single robot can palletize up to 200 layers or stacks per hour.

3. Swisslog SynQ Software

CarryStar is fully managed by Swisslog's intelligent management software SynQ platform. SynQ offers all warehouse management functionality, vehicle fleet management and host interface with the option to include performance analytical tools. These tools help to better evaluate and make smart decisions in the warehouse. SynQ for CarryStar creates an intuitive, efficient and data-driven error-free operation. Furthermore, SynQ maintains the efficiency of the solution by sequencing order data to result in minimal pallet, layer and stack movements.

CarryStar Process

1. Goods (i.e. single SKU pallets) are received into the fully fenced CarryStar area and placed onto tables via an infeed station
2. KUKA automated vehicle KMP600 or KMP1200 picks up and transports the pallet tables to the buffer area or directly to the KUKA robot
3. If positioned in the buffer area they are held there until required for picking
4. When required for picking the vehicles transport the pallets to the correct location around a KUKA robot for picking
5. The StarRobot module picks layers or stacks in sequence to create mixed (rainbow or base) order pallets
6. In addition, CarryStar converts source pallets into order pallets to enhance productivity by negative picking
7. Once pallets are completed the vehicles move the pallets to the pallet wrapper, after which the order pallets are labelled before they leave the CarryStar area via the outfeed station

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About Swisslog Logistics Automation

We shape the future of intralogistics with robotic, data-driven and flexible automated solutions that achieve exceptional value for our customers. Swisslog helps forward-thinking companies optimize the performance of their warehouses and distribution centers with future-ready automation systems and software. Our integrated offering includes consulting, system design and implementation, and lifetime customer support in more than 50 countries. Swisslog is a member of the KUKA Group, a leading global supplier of intelligent automation solutions with more than 14,000 employees worldwide.

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