

Fully automatic palletising and truck-loading system — Project principles



A silent conversion to a new, fully automatic palletising and truck-loading system was completed at the successful concern, The Absolut Company in Åhus, where many thousands of bottles of Absolut Vodka, Absolut Citron, Absolut Peppar and Absolut Kurant leave the building every day. CSi set their hand to this extensive turnkey operation.



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Extensive engineering studies carried out by the CSi and The Absolut Company project team showed that the weakest link in both production lines was actually in the final packing phase. A simple increase in production capacity would inevitably have led to problems in the subsequent phases of palletising and truck loading, and so it was decided to completely renew the final packing sections of the two older lines first of all, and to make them suitable right away for the prognosticated further increase in capacity

The full cases from the two filling lines are transported simultaneously to a C5002 palletiser by means of an ingenious logistics system. The palletiser starts as soon as enough cases for a complete pallet load have been accumulated on the two feeder conveyors, and the correct palletising pattern is set automatically. The fully-stacked pallet is transported to the accumulator section automatically after a load has been formed. The integration of a strapping device in the palletiser means that the stability of unstable stacking patterns, like column stacks, can also be improved.

Twenty pallets are collected automatically in the accumulator section to form a complete truckload. The full pallets are slid fully automatically into the waiting truck, with only a few centimeters between, so that the loading space is utilized to the maximum.

Stacking patterns which have been put in can easily be altered or new patterns created, partly through the application of Eagle, CSi's revolutionary software programme. Incidentally, the required stacking pattern is communicated to the palletising system by the warehouse at the harbour, and the system then adjusts automatically.

In addition, Eagle immediately localises any breakdowns as they occur, so that fast and efficient action can be taken.



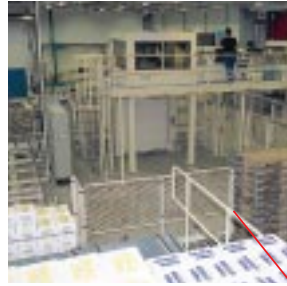
CSi • Lissenveld 41 • 4941 VL Raamsdonksveer • P.O. Box 70 • 4940 AB Raamsdonksveer, the Netherlands
Tel: +31 162 575 000 • Fax: +31 162 575 111 • e-mail: info@csiweb.nl • www.csiweb.nl

CSi, UK Office • Telephone: +44 1276 686 862 • Telefax: +44 1276 682 397

CSi GmbH Germany • Telephone: +49 2852 509 990 • Telefax: +49 2852 5099 91

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Compact and surveyable layout

The layout of the internal conveyor system, the palletiser and the pallet accumulator section is surveyable and easily accessible. Around 70 pallet loads per hour are created on a mere 120 m², while space has also been reserved for a second palletiser within the compact layout.



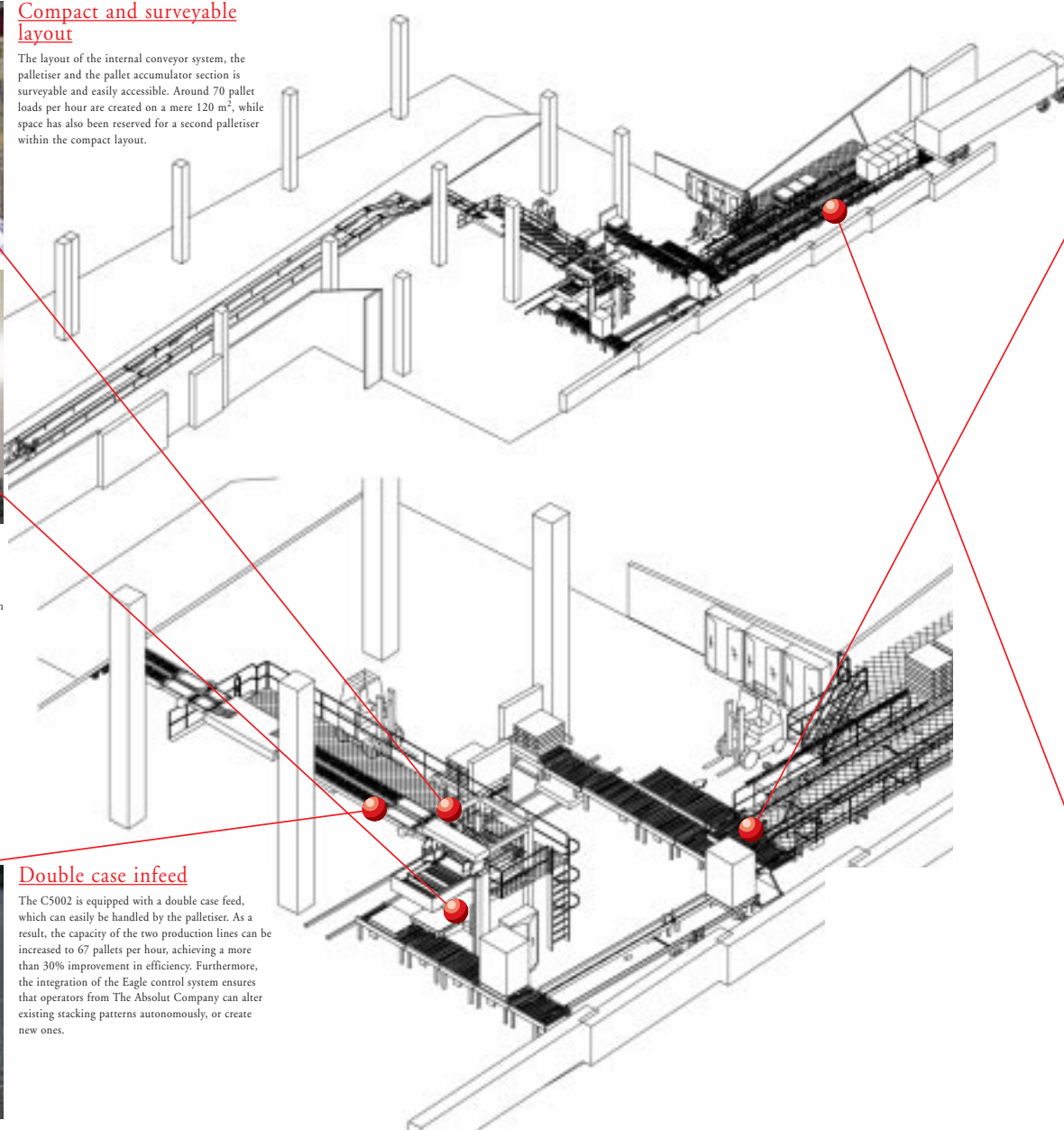
Integrated strapping unit

The C5002 is equipped with a strapping unit in the machine. This means that, besides using glue between layers, column-stacked pallet loads are given extra stability by strapping the top two layers. All the layers can be strapped if required.



Double case feed

The C5002 is equipped with a double case feed, which can easily be handled by the palletiser. As a result, the capacity of the two production lines can be increased to 67 pallets per hour, achieving a more than 30% improvement in efficiency. Furthermore, the integration of the Eagle control system ensures that operators from The Absolut Company can alter existing stacking patterns autonomously, or create new ones.



Combined roller conveyor / lifting table

The difference in height between the discharge conveyor from the C5002 and the pallet accumulator section has been inventively bridged by a lifting table. The pallets are positioned side-by-side on the lifting table with a few centimeters between.

Fully automatic accumulator section and truck loading

The full pallets which are ready for further transport to the warehouse are moved to a completely automatic accumulator section, where two truckloads can be stored temporarily if no truck is ready for further transport for some reason. A truckload of 20 pallets, divided between two tracks, is transferred fully automatically to the truck. Stacks of empty pallets from the warehouse are carried automatically to the de-stacker for the palletiser from the truck.

