

Reciprocating double stack packaging and in-line flipping system for AAC panels

This article is based on the three years of development by UKeyer Intelligent Equipment (Zhejiang) Co., Ltd. and describes the characteristics of the reciprocating double stack packaging and in-line flipping system for autoclaved aerated concrete (AAC) panel products. It highlights the system's role in promoting technological advancement, improving production efficiency and reducing production costs.

UKeyer Intelligent Equipment (Zhejiang) Co., Ltd. (hereinafter referred to as "UKeyer") is a subsidiary of the Ublok Group. It specializes in the research and development of intelligent equipment for AAC products, drawing on the group's over 20 years of technological experience. UKeyer offers a variety of services such as the "Three 30" one-stop aeration solution, AAC factory technological upgrades (including AAC product packaging systems, AAC steam-saving systems, AAC factory intelligent security systems, and AAC waste recycling systems), as well as project consulting and operational services for AAC factories. This article takes the reciprocating double stack packaging and in-line flipping system as an example to illustrate the application of the AAC product packaging system in the production of autoclaved aerated concrete panels.

Background

There are two common methods of off-line conveying of AAC panels: chain and square pipe conveyor systems, and roller conveyors.

Chain and square pipe conveyor system

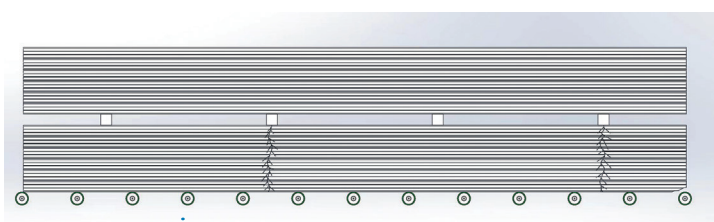
This system uses square pipe components mounted on a conveyor chain to transport finished panels, which can be automatically packaged and then flipped for forklift transport. While efficient and simple, it has certain drawbacks. For example, the segmented conveyor chains can cause panel damage during transitions, affecting quality, and the inconsistent alignment of the support points can lead to cracks in the lower stack of panels.

Roller conveyors

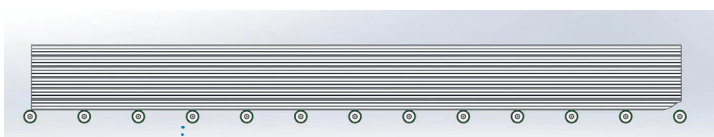
In this method, the panels are conveyed by rollers, and while it is simple and cost-effective, this method, too, has its drawbacks. Firstly, it is difficult to maintain consistent support points, which may cause cracks during transportation, and secondly, rollers tend to wear, leading to misalignment and corner damage.

Solution

UKeyer's solution involves using a reciprocating panel conveyor car with a flat surface to increase contact with the panel, resolving issues with cracks caused by inconsistent support points. Fixed packing stations and mobile packing machines are used for automatic packaging. Two reciprocating conveyor cars ensure efficiency, while two robotic arms equipped with grippers handle the automatic collection and placement of support blocks, enhancing safety and automation.

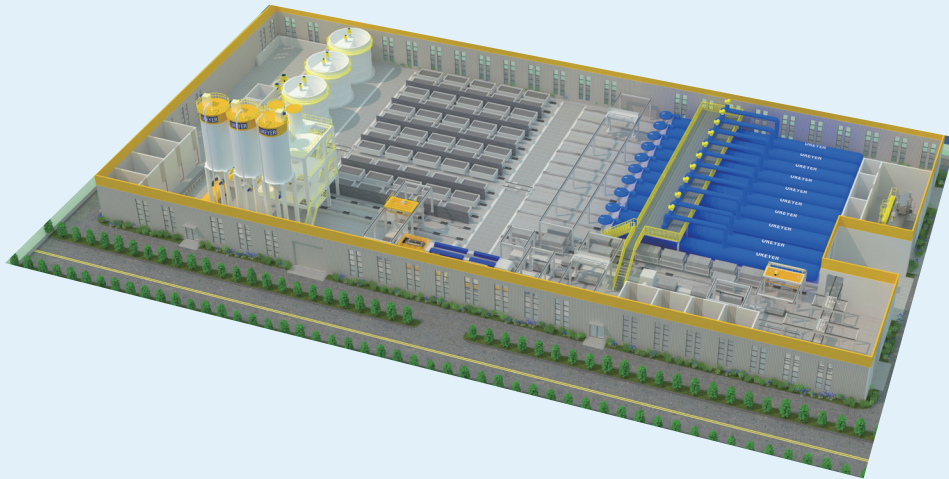


The segmented conveyor chains can cause panel damage during transitions, affecting quality.



Sketch of a roller conveyor.

Extensible “3-30” One-Stop AAC Plant Total Solution



Extensible—Starting from 50,000 cubic meters, it can gradually expand to 400,000 cubic meters

“1-30”——Save 30% Investment

“2-30”——Save 30% Space

“3-30”——Save 30% Operation Cost



■ High Efficiency AAC Block Packaging Systems



■ High Efficiency AAC Panel Packaging Systems



■ High Efficiency Steam Systems



**We offer turnkey projects——Feasibility Study,
Layout, Equipment Installation,Commissioning**

UKeyer AAC Plant Engineering Co., Ltd
——A member of UBlok Group



WhatsApp

Address: No. 4, Puchong Road, XiaoPu Town, ChangXing County,
Huzhou City, Zhejiang, China
Postcode : 313116

Tel: +8618305072075

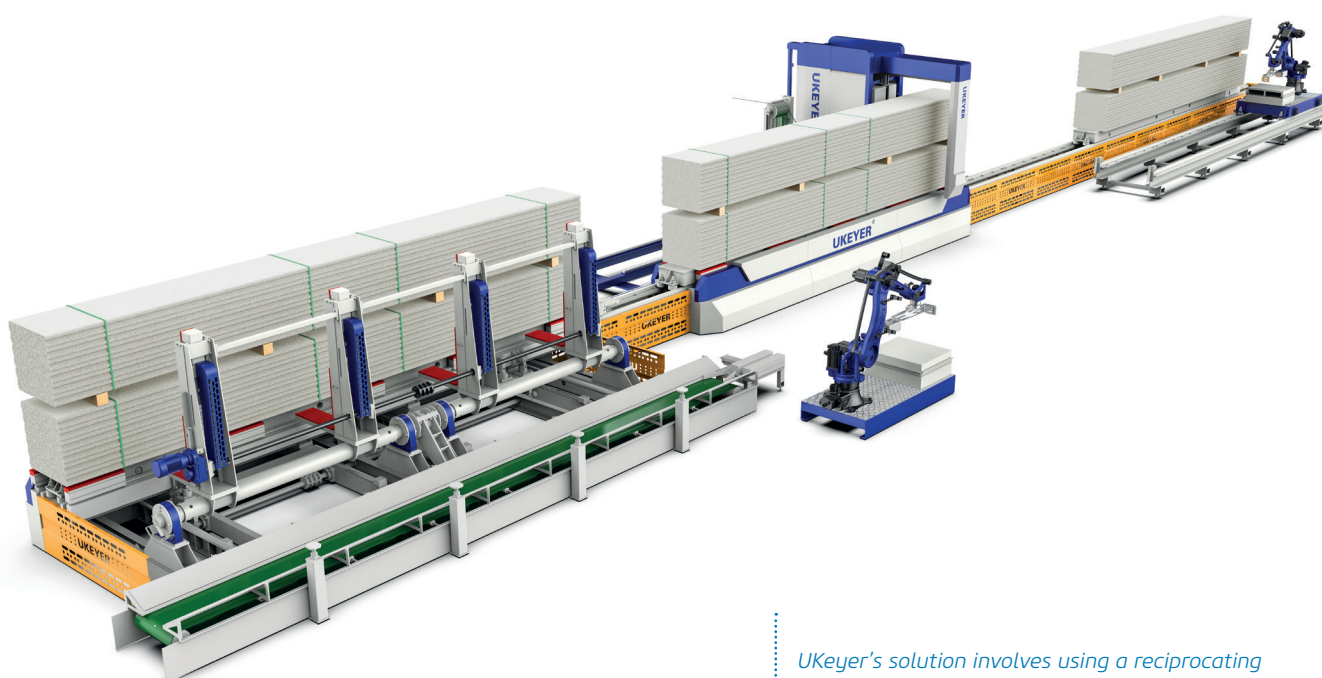
E-Mail: yangchun.zhang@ublok.net



By introducing robots and mobile packing machines, the system ensures higher efficiency and better safety.

Innovation and advantages of the reciprocating double stack packaging and in-line flipping system

1. Damage prevention: The panels remain static during transportation, preventing damage from sliding friction.
2. Servo-controlled automation: The system allows for rapid transport, automatic length detection, and packaging.
3. Efficiency: The system supports simultaneous packaging, flipping, and forklift transport of two half-stacks of panels.
4. Flexible operation: Both vertical and horizontal stacking and packaging requirements can be handled.
5. High packaging efficiency: The mobile double-layer packaging machine increases efficiency by packaging two half-stacks simultaneously.
6. Capacity: The system is designed for high-capacity production, reducing investment and space requirements.



UKeyer's solution involves using a reciprocating panel conveyor car with a flat surface.

7. Robotic handling: Intelligent robots automatically handle the support blocks, enhancing safety and automation.

Results

The innovative system, now implemented at the Ublok New Materials (Changxing) factory, significantly improved panel transportation and packaging processes. By introducing robots and mobile packing machines, the system ensures higher efficiency and better safety.

Conclusion

Continuous upgrades to the AAC panel on-line flipping system have demonstrated that smart technologies like sensors, digital programming, and robotics greatly enhance operational efficiency, product quality, and safety while reducing labor intensity and operational costs for businesses.



Ukeyer Intelligent Equipment sponsors the free download possibility of this article for all readers of AAC Worldwide. Simply scan the QR code with your smartphone to get direct access to the Ukeyer Intelligent Equipment Company Channel.



UKEYER®

Ukeyer Intelligent Equipment (Zhejiang) Co., Ltd.
Huzhou City, Changxing.
PuChang Road NO.4
313000 Huzhou
China
T +86 400 179 9086
www.ukeyer.com



www.aac-worldwide.com

4 issues per year



AAC WORLDWIDE – Trade journal for the autoclaved aerated concrete industry

The five sections featured in each issue of AAC WORLDWIDE cover the entire spectrum of the industry – from trends and news from the world's individual markets to the latest developments in research and science, state-of-the-art in the production of AAC, building material applications and construction solutions and, last but not least, interesting buildings from all over the world – naturally made of AAC.

Receive the latest information about the AAC industry for only € 115,- per year (e-paper € 59,-). Take this unique opportunity and register for your subscription of AAC WORLDWIDE right now to make sure that you will not miss a single issue from now!

Subscribe now

online through QR-Code or by email:
subscription@ad-media.de



Register online at
www.aac-worldwide.com
for the email newsletter
that is available
free-of-charge.



AAC WORLDWIDE