CondorFlex®

I-Scan's new generation of the well proven Condor Multi Purpose Robotic Stacker is a highly versatile and comprehensive robotic workcell.

▸ Automatic handling of all glass plates up to jumbo size
▸ Unloading directly off the main line
▸ On-the-fly unloading
▸ Integrated cut-glass vision inspection system
▸ On-line implementation

I-ScanRobotics
Automated Systems for the Glass Industry

Until now, flat glass manufacturers have settled for inflexible stacking systems able to handle one size / quality at the time, using different mechanisms for stopping and aligning the glass plates.
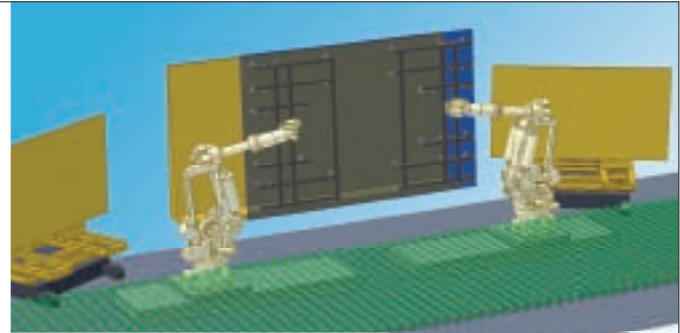
The Condor Flex presents the ideal solution for a flexible production mix of split, LES & Jumbo size plates.

The system is composed of two heavy payload synchronized industrial 6-axis robots, with an additional 7th axis enabling the robots to travel on linear slides in parallel to the float-line. The robots are capable of picking different plates sizes or qualities on-the-fly, and palletize them fully automatically.

It is possible to handle at the same time one Jumbo plate or two different LES/Split size plates.

Multiple destinations for LES/SSS and Jumbo size plates.

Advantages of the CondorFlex:

▶ **Increased Flexibility**
- Simultaneous handling of various sheets sizes and qualities
- Reduced set-up time
- Multiple destinations
- Landscape/Portrait unloading and stacking with no need for mechanical rotation
- Stacking onto wide range of racks and boxes

▶ **Reduced Capital Investment**
- Installed next to an existing and running float line
- Directly on the main line, no need for a side-leg/ transfer
- On-The-Fly handling eliminates the need to stop and align the glass plates
- Reduced floor space
- No need for civil work preparation such as cullet system or indexing platform
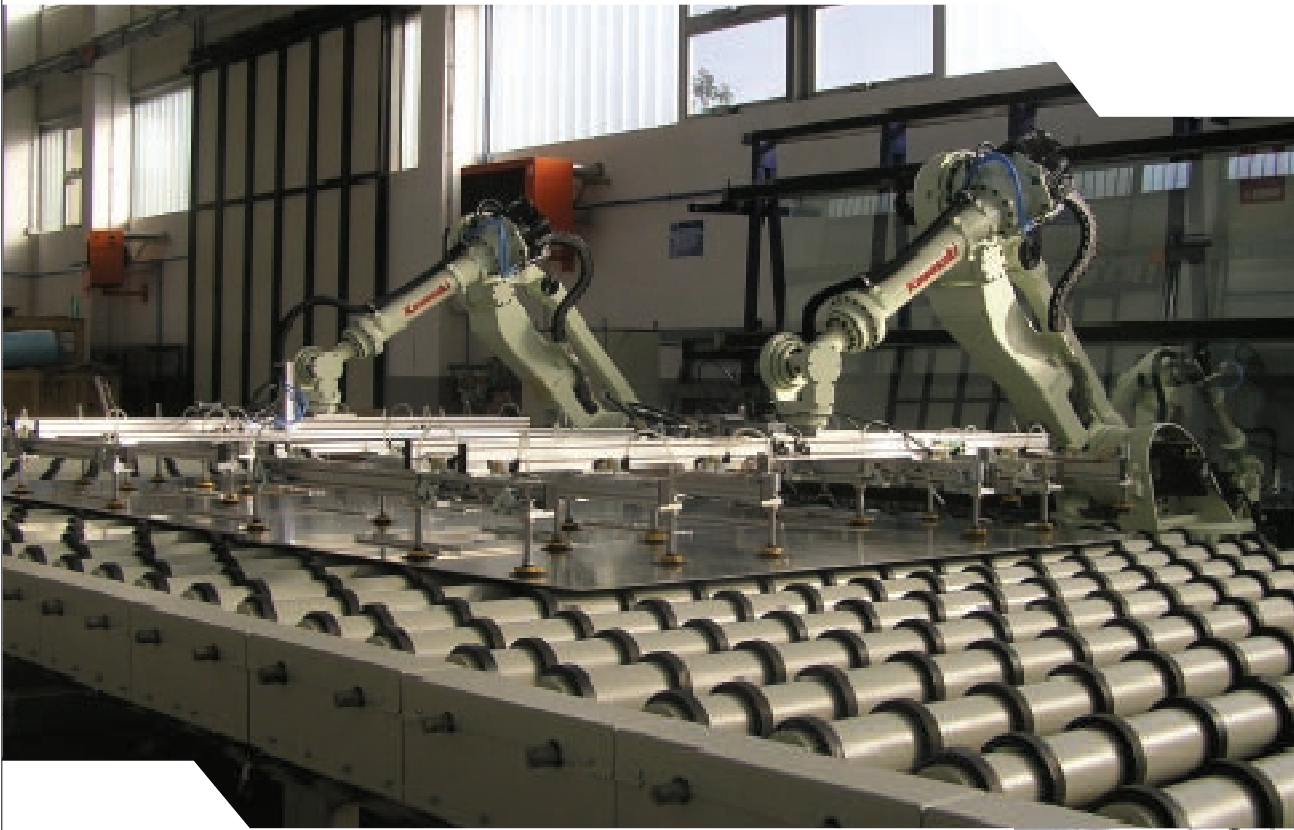
▶ **On-Line Implementation**
- Perfect solution for running lines, and cold repairs

▶ **Maximum Safety**
- The CondorFlex provides an impressive safety system incorporating a closed zone with safety fences and switches.
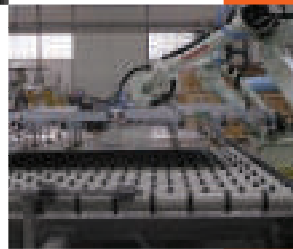
▶ **Improved Quality**
- Integrated Hawkeye real-time cut-glass vision inspection system
- Gentle vacuum gripping
- No mechanical glass squaring

Simple roller conveyor without a need for transfer belts, alignment or any mechanical modifications to the existing line.
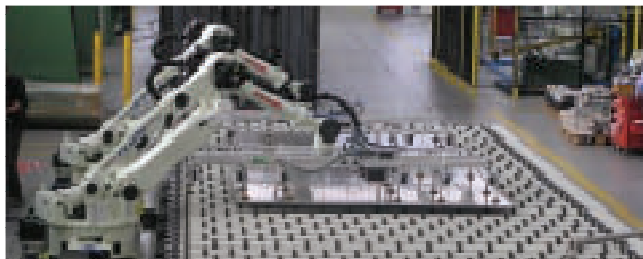
Two smart flexible vacuum grippers designed for extra gentle handling and damage prevention.

Two synchronized seven axis industrial heavy payload robots.

Two heavy duty traverse units located along one side of the existing conveyor.

Condor *Flex*™

Technical Data:

Jumbo size handling:
- Glass plate sizes range:
  From 3300 x 2400 to 6100 x 3660 mm.
- Glass plate thickness: 1.6- 19 mm.
- Max. glass plate weight: 680 Kg.
- Cycle time: 17 to 19.5 sec.
- Rejected types of glass defects: dimensions, cracks, breaks, edge-defects, ink marks.

LES size handling:
- Glass plate sizes range:
  From 1000 x 2400 to 2700 x 3660 mm.
- Glass plate thickness: 1.6-19mm.
- Glass plate weight: 340 Kg.
- Cycle time: 8.5 to 12.5 sec.
- Rejected types of glass defects: dimensions, cracks, breaks, edge-defects, ink marks.

SSS size handling:
- Glass plate sizes range:
  from 700 x 1400 to 2700 x 1830 mm.
- Glass plate thickness: 1.6-19mm.
- Glass plate weight: 340 Kg.
- Cycle time: 8.0 to 10.0 sec.
- Rejected types of glass defects: dimensions, cracks, breaks, edge-defects, ink marks.

Conveyor speed:
- Up to 85 meters per minute.

Robots:
- Vendor: Kawasaki or other.
- Payload: up to 500 kg.

Grippers:
- Gripping method: Vacuum.
- Computerized control: up to 11 vacuum groups.
- Sensing: glass presence, vacuum.

Linear traversing units:
- Control: 7th axis, controlled by the robot.
- Travel range: 2500 mm.
- Payload: 3000 Kg.

Rotating Tables:
- Maximum load: 3,000kg per side (6,000kg total)
- Rotating time: 11 seconds.

Racks:
- Rack type: L frame or A frame.
- Maximum glass weight: 30 tons for Jumbo, 3 tons for LES/Split.

MMI:
- Hardware platform: Industrial PC workstation.
- Software platform: GUI on Win 2000 workstation.
- Interface: communication or host computer (line manager computer).

Safety System
- Closed safety zone : Fences and safety switches.

Automation In Motion.
Go for the shortest, simplest, most flexible line.

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