Hawk®

ON-THE-FLY GLASS HANDLING SYSTEM

The Hawk is a highly versatile and comprehensive "state-of-the-art" robotic workcell for optimal unloading of flat-glass plates directly off a running float line. By using this amazingly flexible and modular glass handling system, flat-glass manufacturers achieve higher quality levels, increase throughput, minimize damage and reduce operating costs.

I-Scan Robotics

Automated Systems for the Glass Industry

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ADVANTAGES OF THE HAWK

REDUCES LABOR COSTS

by eliminating human operation and automating the handling tasks on the line.

UPGRADES QUALITY CONTROL

to completely new levels via the automated Hawkeye inspection and flaw detection system.

MINIMIZES DAMAGE

and expensive wastage by means of its gentle gripping method and special handling capabilities that eliminate breakages and scratches during the stacking process.

FLEXIBILITY INCREASES PRODUCTION YIELD

by enabling:
- simultaneous handling of various sheet sizes
- rapid reconfiguration of product modifications
- reduced lead-times

ENHANCES SAFETY

hazardous work conditions will no longer prevail and work related injuries become past history.

AUTOMATION ON-THE-FLY

There is a better way...

I-Scan's Robotic Systems are becoming renowned as the world's leading and most reliable solution for flat-glass handling. They represent the long awaited alternative to traditional, conventional unloading and handling systems that are commonly characterized by high operational costs, undesirable wastage due to defects and damage, worker safety concerns and inflexibility.

I-Scan's solid systems are engineered to deliver significant operational and financial benefits to the float-glass manufacturer.

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THE HAWK COMPONENTS

The heavy-duty industrial Robots implemented in the system are manufactured by leading robot manufacturers, and their counterparts are commonly used in the automotive industry.

The gentle Vacuum Gripping System automatically handles various sizes of glass plates.

The Hawkeye Inspection System instantly detects and identifies a variety of quality flaws and defects both on the surface and at the cutting edges.

The Rotating Table assures continuous action without interruption to the float line: unloading full racks from one side, while stacking on the other. It accommodates a wide range of rack sizes and types, as well as various wooden boxes, trolleys and L-frames.

The Cell Manager enables the manufacturer both to define the Robots' tasks and to receive real-time information on production status. The Cell Manager has a multi-lingual, user-friendly, point-and-click graphical interface.

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TECHNICAL SPECIFICATIONS

GLASS SPECIFICATIONS
- Range of glass dimensions: 400x600 to 3660x2700mm (16x20" to 144x108")
- Range of glass thickness: 1.6 to 12 mm
- Superb stacking accuracy: +/-3.0 mm
- Rejected types of glass defects: dimensions, cracks, breaks, edge defects, ink marks

CONVEYOR
- Conveyor speed: up to 90 meters per minute

ROBOT
- Vendor: Kuka Robots or other
- Payload: from 125 to 500 kg

ROBOTIC CELL
- Number of rotary unloading stations: 1 to 2
- Number of robots: 2 to 16
- Operating modes: manual (for setup and maintenance), single step (for testing) and auto (for normal operation)
- Cycle time: 8-12 seconds for single plate gripping and 12-16 seconds for double plate gripping.

GRIPPER
- Gripping configurations: single plate gripping and double plate gripping
- Gripping Method: vacuum
- Computerized controls: up to 11 vacuum groups
- Sensing: length, glass presence, vacuum

ROTATING TABLE
- Maximum load: 3,000 kg per side (6,000kg total)
- Rotating time: 10 seconds

CELL MANAGER SYSTEM
- Platform: Windows
- Hardware: industrial control cabinet; industrial PC workstation; backup PC
- Features: user friendly GUI
- Monitoring: remote monitoring station; Tele-service (optional)

SAFETY SYSTEM
- Primary safety zone (inside robotic work envelope): fences and safety switches
- Secondary safety zone: laser scanner

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