

4000
wfr/hr

R2D-AUTOMATION.COM



CLAPIER FRANCE

RIPLY

Stand-alone High Throughput
Diffusion Automation

Introduction

R2D Automation has over 20 years of experience in wafer handling automation. In 1992 the company created the Comet, a new type of first class stand alone batch wafer transfer system for Semiconductor industry. Early 2000 R2D Automation designed the first single wafer transfer system and developed a new line of 300mm batch transfer systems using a fully automated homemade Scara lift robot. In parallel to the semiconductor activities R2D started designing batch wafer transfer systems for the Solar Industry.

In 2006 R2D Automation successfully delivered the first automation systems to be combined with Tempres diffusion furnace (Alix automation). One year later R2D was acquired by Tempres to create an unique integrated solution to its customer base. Since then R2D has provided over 400 diffusion automation systems to the solar industry, making it market leader in this segment. In 2014 a new generation of batch wafer transfer systems was introduced to be integrated with the Tempres 5 tube furnace platform. In this new automation wafers can be transferred from cassette to longboat in single slot and back to back positioning, at full and half pitch spacing. R2D's current product offering consists of;

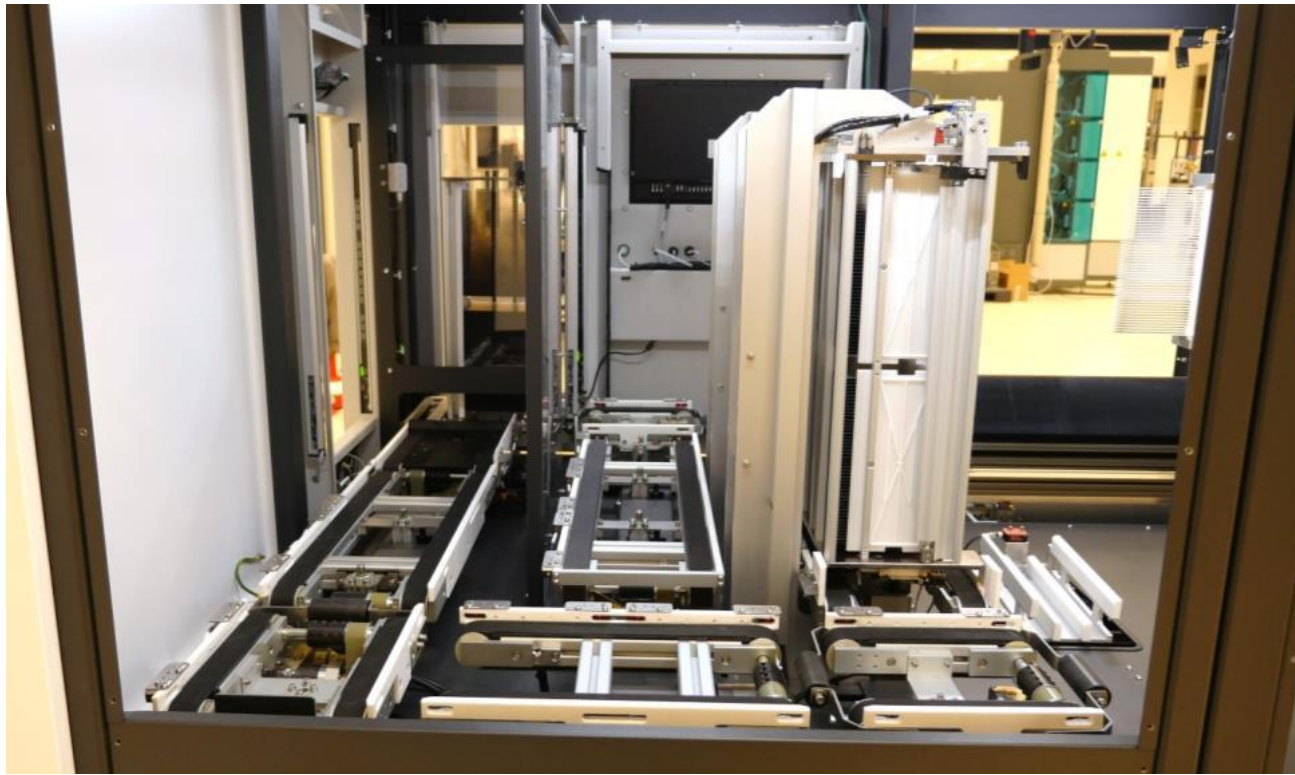
- Stand-alone automation for Solar diffusion systems
- Integrated automation for Tempres Solar diffusion furnaces
- Batch transfer tools
- Sorter with Optical Character Recognition
- Stand alone Optical Character Recognition
- Sorter with Visual Inspection
- Customized solutions upon request

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R2D

High Throughput Diffusion Automation



Robust conveyor system



SiC boat 1000 wafers loading and unloading within 15 minutes

Key system features

- >4,000 wfr/hr loading and unloading
- Solid sheet metal frame
- Single wafer and back to back loading
- Standard pitch and half pitch loading
- Wafer thickness from 160 to 220 microns
- Configurable to various carrier types
- **Xxx** cassette buffer capacity

Customer benefits

- High stability, reliability & accuracy
- Excellent breakage rate, less than 0.06%
- Low maintenance cost
- Small footprint
- Fast installation and easy operation
- Lowest cost of ownership
- Available as stand alone or integrated to Tempres diffusion furnaces

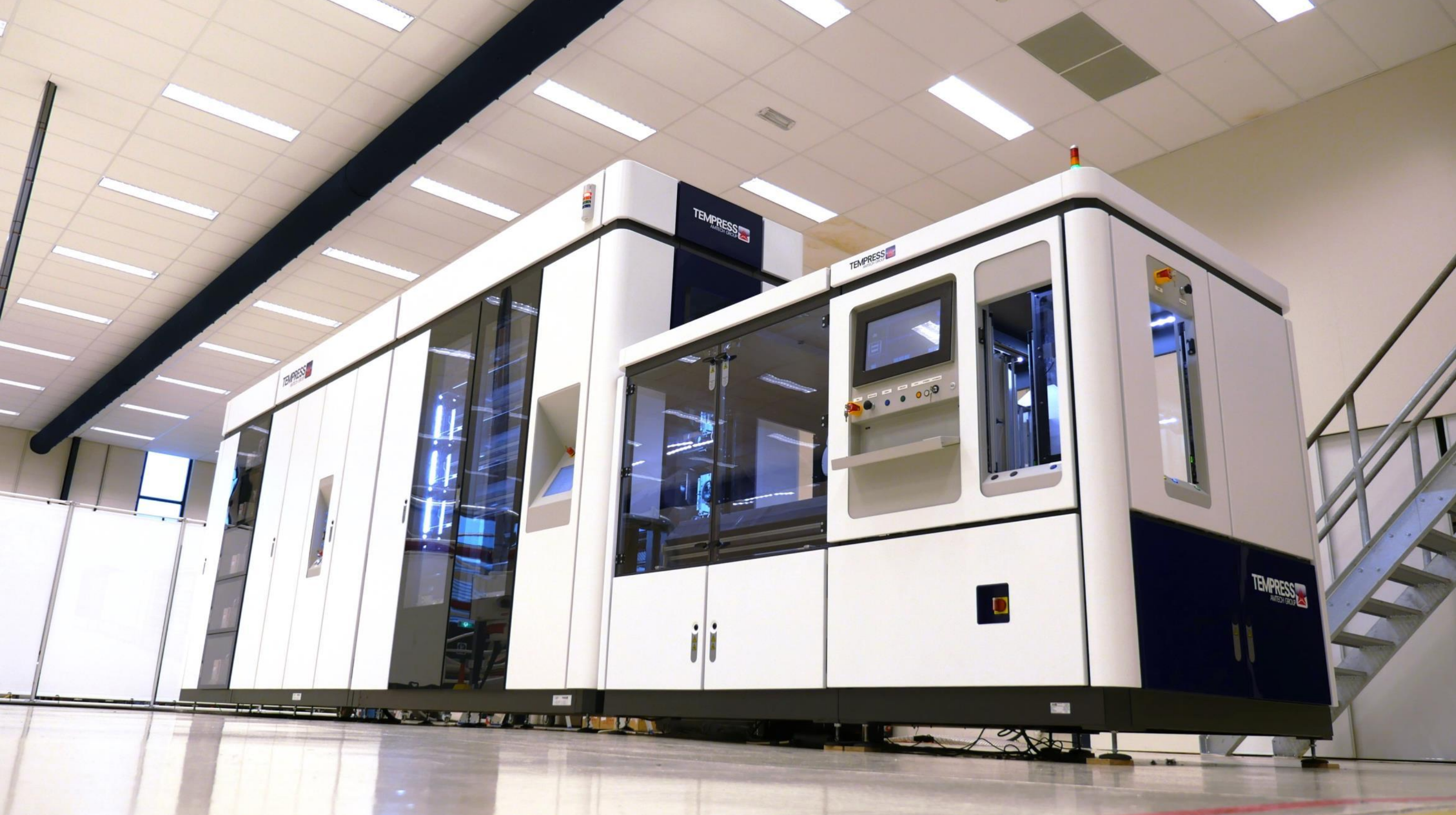
SYSTEM SPECIFICATIONS

System Characteristics

Size (L x W x H)	Length 2,00m x Width 2,24m x Height 1,96m
Loading type	Standard (4,76mm) or half pitch (2,38mm) Single slot or back to back
Wafer size	156mm
Wafer thickness	160 to 220 μm
Uptime	> 99%
Throughput	> 4,000 wafers/hr (loading and unloading)
Breakage rate	< 0.06% (Cassette and boat tolerance must be within spec)

Maintenance

MTBF	> 1500 hrs
MTBA	> 750 hrs
MTTR	< 1hr



Safety Features include:

- Safety light curtain for operator
- Safety door sensor
- Electrical safety module from B&R
- Historical data recording
- Comply to CE safety standards
- 2 Emergency stop buttons
- 1 Motion stop button
- Stand By/Resume button

Standard Features ready to operate includes:

- Cassette sensors
- Wafer detection in cassette
- Current limiters on all motors
- Electric safety device (current cut)
- Power "off" security
- Automatic home position
- 17" color LCD Touchscreen
- TCP/IP Host connection
- Clean concept documentation
- Light tower