



STRATUS

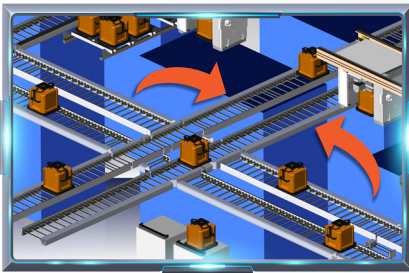
Automation

“Twice the throughput
for half the cost”

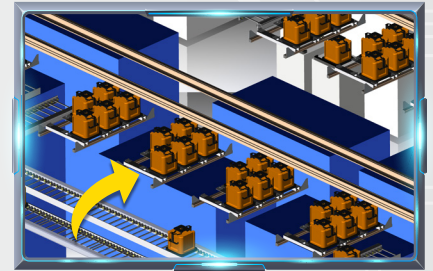
2025

HYBRID AUTOMATED MATERIAL HANDLING SYSTEM (AMHS)

i A combination of multiple material handling technologies designed to optimize the transportation of wafers, components or products in high-tech manufacturing environments such as semiconductor fabs.

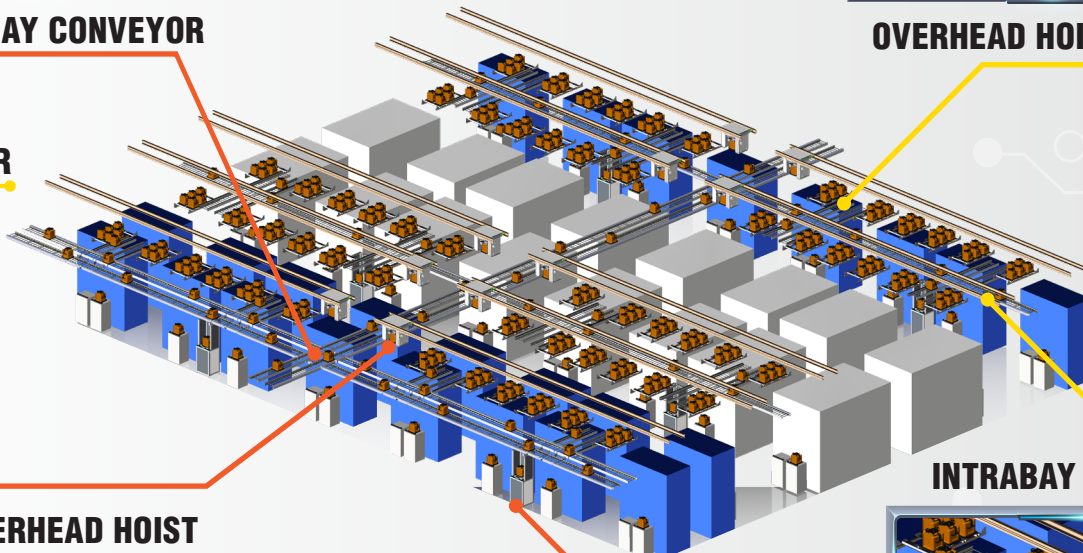


INTERBAY CONVEYOR



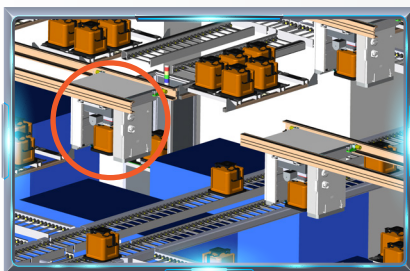
OVERHEAD HOIST BUFFER

STOCKER

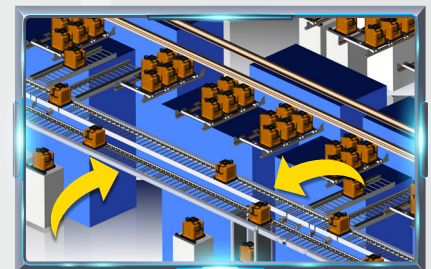
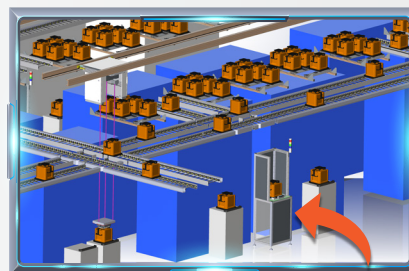


OVERHEAD HOIST TRANSPORT (OHT)

INTRABAY CONVEYORS



MANUAL LOAD PORT



 Automated Storage & Retrieval System (ASRS)

 Automated Material Handling System (AMHS)

**AMHS
SOFTWARE CONTROL**

IntelliControl (MCS)

IntelliMove (TCS)

**IntelliStock
(Stocker Control)**

AMHS PRODUCT OVERVIEW

Transport System



**Overhead Hoist
Transport (OHT)**



Conveyor



Turn Table

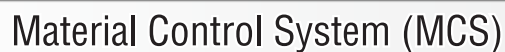


IO Lifter



Long Lifter

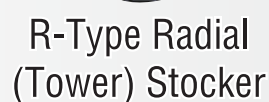
Fab Simulation



Transport Control System (TCS)



Automated Storage & Retrieval System (ASRS)



CONVEYOR



OVERALL WEIGHT (kg)
Approx. 4.5kg/Segment



MAXIMUM TRAVEL SPEED
 0.3ms^{-1} to 0.5ms^{-1}
(Depending On
The Carrier Type)



THROUGHPUT
600 Box/Hour



ACCELERATION
 1ms^{-2}



**OPERATING TEMPERATURE
& AMBIENT HUMIDITY**
 $22^{\circ}\text{C} \pm 2^{\circ}\text{C}$
 $45\% \pm 5\% \text{ RH}$



**STRUCTURAL DESIGN
LOAD LIMIT**
Zone 4 Seismic
Load (0.4G)



**MAXIMUM LOAD
PER SEGMENT**
<12kg



**CARRIER INTERFACE
MATERIAL**
Polyurethane



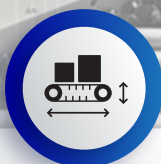
CLEANLINESS
Class 10/100 Std.
(Fed Std 209E)



NOISE LEVEL
<80dB



OVERALL VIBRATION
<1.0G



PRODUCT

Type of Cassette / Carrier
SMIF POD, HA200, FOUP

Dimension & Unit Weight
Subject to Carrier Type



DRIVING SYSTEM

DRIVE SYSTEM
Belt Driven Stepper Motor

BELT TYPE
Polyurethane Flat Belt



ELECTRICAL

OPERATING VOLTAGE
DC 36V

POWER CONSUMPTION (W)
Running - 15W / 500mm
Idling - 2.1W

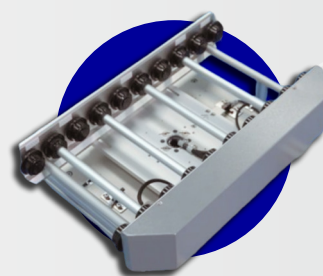


CONTROLLER & COMMUNICATION

CONTROLLER CARD
Stratus CVD Card

SOFTWARE
Stratus IntelliMove

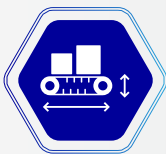
TURN TABLE



GENERAL SPECIFICATIONS



**CASSETTE/
CARRIER TYPE**
SMIF



DIMENSION
Subject to carrier type



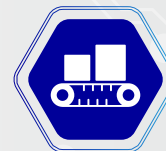
WEIGHT
Subject to carrier



**CASSETTE
INTERFACE MATERIAL**
Polyurethane



TURNING ANGLE
0° to 270°



THROUGHPUT
300 Box/Hour



MAX TURNING SPEED
1.5 rads⁻¹

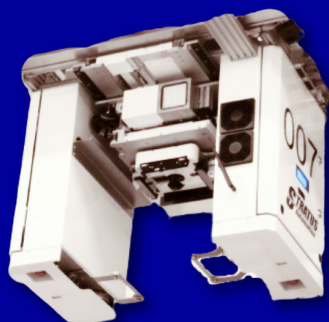


VIBRATION
<1.0G



CLEANLINESS
Class 100 Std.
(Fed Std. 209E)

OHT



FOUP



FOUP



MEDIA HANDLED TYPE
FOUP



DIMENSION
W: 985mm
L: 1030mm
H: 745mm



RATED LOAD
15kg



GRIPPER GRIPPING INTERFACE
SEMI E-47 top flange



WEIGHT
Approx. 110kg



VIBRATION
<1.0G



SPEED
X-axis: 2000mms⁻¹
Y-axis: 500mms⁻¹
Z-axis: 1200mms⁻¹
Orbitron: 800mms⁻¹



ROTATION ANGLE
Standard: $\pm 10^\circ$
Orbitron: $270^\circ (\pm 10^\circ)$



CLEANLINESS
Class 100
(Fed Std. 209E)

SMIF



MEDIA HANDLED TYPE
SMIF



DIMENSION
W: 985mm
L: 1030mm
H: Standard: 700mm
Orbitron: 715mm



RATED LOAD
10kg



GRIPPER GRIPPING INTERFACE
SEMI E-47 top flange
SMIF E-47 pod handle



WEIGHT
Approx. 100kg



VIBRATION
<1.0G



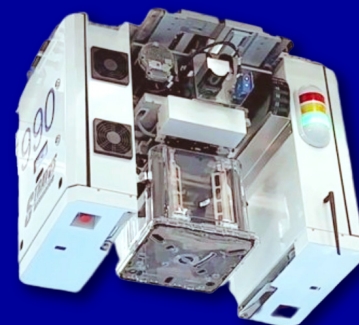
SPEED
X-axis: 2000mms⁻¹
Y-axis: 500mms⁻¹
Z-axis: 1500mms⁻¹



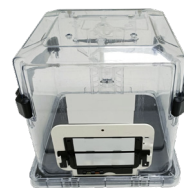
ROTATION ANGLE
Standard: $\pm 10^\circ$
Orbitron: $280^\circ (\pm 10^\circ)$



CLEANLINESS
Class 100
(Fed Std. 209E)



SMIF



LEAD FRAME MAGAZINE



LEAD FRAME MAGAZINE



MEDIA HANDLED TYPE
Lead Frame Magazine



DIMENSION
W: 985mm
L: 1030mm
H: Standard: 700mm
Orbitron: 715mm



RATED LOAD
10kg



GRIPPER GRIPPING INTERFACE
SEMI E-47 top flange
AMR Hook Type
Hole Type



WEIGHT
Approx. 100kg



VIBRATION
<1.0G



SPEED
X-axis: 2000mms⁻¹
Y-axis: 500mms⁻¹
Z-axis: 1500mms⁻¹



ROTATION ANGLE
Standard: $\pm 10^\circ$
Orbitron: $280^\circ (\pm 10^\circ)$



CLEANLINESS
Class 100
(Fed Std. 209E)

LONG LIFTER



01. CASSETTE / CARRIER TYPE

- SMIF POD
- HA200
- FOUP

02. WEIGHT

1200kg - 1205kg



03. DIMENSION

Subject to carrier type

04. PAYLOAD

60kg



05. VIBRATION

<1.0G



06. CLEANLINESS

Class 100 Std.
(Fed Std 209E)



07. CASSETTE INTERFACE MATERIAL

Polyurethane



08. LIFTING STROKE

6980mm



09. NOISE LEVEL

65dB - 68dB



10. CYCLE / HOUR

Average move
time <20s

IO LIFTER

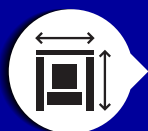


01. CASSETTE / CARRIER TYPE

- SMIF POD
- HA200
- FOUP

02. WEIGHT

300kg - 350kg



03. DIMENSION

Subject to carrier type

04. PAYLOAD

15kg



05. VIBRATION

<1.0G



06. CLEANLINESS

Class 100 Std.
(Fed Std 209E)



07. CASSETTE INTERFACE MATERIAL

Polyurethane



08. LIFTING STROKE

2800mm



09. NOISE LEVEL

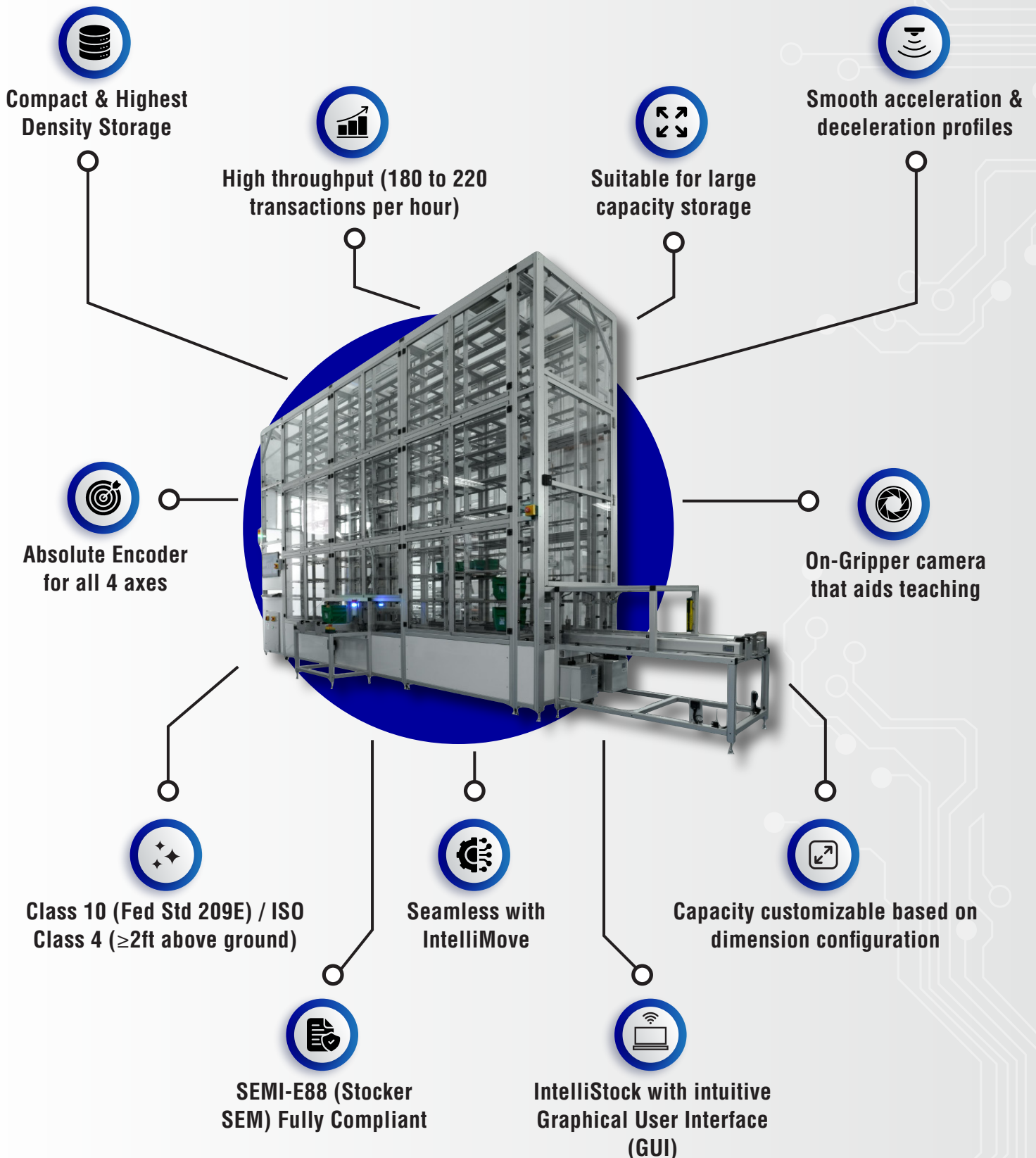
65dB - 68dB



10. CYCLE / HOUR

Average move
time <10s

T-TYPE STOCKER



ZERO FOOTPRINT STOCKER (ZFS)



Multi-Layer High Capacity – Up to 4 layers (for 200mm wafer box) and unlimited (Full Bay) length



Typical capacity of 200 to 300 boxes/bay (24M Bay length)



Light Weight suitable for hanging



Suitable as Intra-Bay Near-Tool Buffer



Easy interface with Conveyor, OHT or Lifter



Fast recovery from EMO due to Absolute Encoder on X-Axis



Uses Wireless Power Transmission (WPT) System



Suitable for overhead storage

SMART LOAD PORT



CARRIER TYPE

SMIF, HA200, FOUP



PAYLOAD

Approx. 10kg (SMIF Pod)/Time



CLEANLINESS

Class 100 Std. (Fed Std 209E)



VIBRATION

<1.0G



DIMENSION

Subject to carrier type



WEIGHT

Approx. 70kg



Throughput

1 Box/Time



CASSETTE INTERFACE

ESD Black Delrin
Loading Base and Divider



IO PORT DOCKING

Human or OHTV



| **SMIF**



| **FOUP**



| **HA200**





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