FLATSTOCKER
Fast random access to materials with Zero Footprint Storage
Due to the fact that clean room floor space in semiconductor factories is limited and expensive, Fabmatics developed an innovative stocker concept that saves the floor space for process machines by storing the WIP underneath the clean room ceiling. The FlatStock is installed directly above the process machines or the corridors of interbay and intrabay of the factory.

The system can be designed for different material carriers, e.g. HA-200 boxes, open cassettes or SMIF pods. The connection to a transport system (e.g. conveyor), combined with vertical lifts to the machine level, enables fast lot access at any time. Equipped with ID technology (e.g. RFID, barcode), the FlatStock reports the material ID information to the host system (MCS/MES). So the material can be located at any time.

The simple, scalable design, based on proven industrial components, offers great flexibility to best meet the customer’s storage and space requirements.
Features

**Design**
- Freely scalable and also expandable at a later date
- Flexible positioning of lifts (input/output stations) and conveyor connections
- Easy disassembly of the safety bottom shields to enable move-in/out of tall machines

**Efficient**
- Construction saves space of valuable clean room floor
- Easy installation during running production
- Random access to storage bins enables quick store and retrieval times

**Clean**
- Clean room class up to ISO 3/US FED class 1

**Technical**
- Inventory tracking via integrated ID technology (e.g. RFID, barcode)
- Non-contact inductive power supply

**Intelligent software**
- Software capabilities supporting flexible assignment of storage bins (e.g. zones)
- Lean and flexible control system with SECS GEM compliant host interface based on SEMI E88 (Stocker SEM)
- SEMI E84 interface for carrier transfer to other systems
- Access to material via GUI / host

Technical data

<table>
<thead>
<tr>
<th>FlatStocker</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Capacity</td>
<td>Unlimited</td>
</tr>
<tr>
<td>Drive technology</td>
<td>Linear motor</td>
</tr>
<tr>
<td>Clean room class</td>
<td>Up to ISO 3 / US FED class 1</td>
</tr>
<tr>
<td>Operating speed</td>
<td>1.5 m/s in ISO 4 clean rooms</td>
</tr>
<tr>
<td>Length / Scalability</td>
<td>Depends on required capacity</td>
</tr>
<tr>
<td>Height</td>
<td>Ca. 920 mm (600 mm fixed, 320 mm flexible)</td>
</tr>
<tr>
<td>Width</td>
<td>1,200 mm</td>
</tr>
<tr>
<td>Ceiling surface loading</td>
<td>&lt; 80 kg/sqm</td>
</tr>
<tr>
<td>Power supply</td>
<td>400 V / 50 Hz</td>
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<tr>
<td>Power consumption</td>
<td>3 A</td>
</tr>
<tr>
<td>Software</td>
<td>Controller software compliant SECS GEM / SEMI E88 / SEMI E84</td>
</tr>
<tr>
<td>Communication</td>
<td>Ethernet</td>
</tr>
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</table>
UNIQUE PRODUCT PORTFOLIO FOR THE COMPLETE MATERIAL HANDLING AUTOMATION

HANDLING
- MOBILE ROBOTS
- EFEMs
- ROBOTIC CELLS

IDENTIFICATION
- RFID SYSTEMS
- RFID RETROFITTING

SOFTWARE
- FLEET MANAGER FOR MOBILE ROBOTS
- SOFTWARE INTEGRATION

SERVICE
- TECHNICAL SERVICES
- FEASIBILITY STUDIES

TRANSPORT
- CONVEYOR SYSTEMS
- AGVs/RGVs
- PGVs

STORAGE
- ZERO FOOTPRINT STOCKER
- PURGE SYSTEMS
- RFID RACKS

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