



HERO FAB 200

Mobile robot for 200mm wafer transportation and handling tasks

Our HERO FAB series combines an established, clean and safe 6-axis robot system with a free-moving vehicle. It is designed to fully automatically load and unload process machines and to transport wafer carriers between load ports, stockers and racks in the clean room. The HERO FAB runs completely free without rail or cable connection. This makes it the ideal and flexible alternative to permanently installed transport systems for automating even hard-to-reach areas of a semiconductor factory. The transport jobs are coordinated by the Fabmatics Fleet Manager (HSFM).

Key Features

- **Fully free-moving** platform and ultimate maneuverability with omni-directional drive technology
- **Vibration-free handling** with a powerful industrial 6-axis robot
- Vertical & horizontal laser scanners for a **safe collaboration of human and machine**
- **Autogripping** (camera-based gripping)
- Inductive charging on-the-fly during handling enables **24/7 operation**
- **High material safety** due to redundant sensors, active lock in an emergency case and occupancy check of load ports (special: earthquake protection)
- Versions for **SMIF pods, open cassettes and HA200 boxes** available
- HSFM fleet manager for **multi robot management**

Further versions of HERO FAB

- **HERO FAB 300** for handling of FOUPS
- **HERO FAB wet** equipped with a 60 liter water basin for un-/loading of polishing machines



HERO FAB 200 with 4 buffers for SMIF pods



Proven human-robot collaboration ensures the highest safety of material and operator.

Technical data

HERO FAB 200

Dimensions (length x width x height)	1,135 x 824 x 1,407 mm (incl. robot arm and laser scanners)
Reach of robot (shelf height)	Up to 240 – 1,500 mm
Weight	350 kg
Payload	Up to 7 kg
Speed	Up to 0.80 m/s
Min. aisle width	800 mm (w/o scanners)
Type of drive	Omni-directional drive
Positioning & gripping accuracy	Vehicle: ± 5 mm, robot: ± 1 mm (± 0.5 mm with autogripping)
Clean room class	Up to ISO 3
Charging voltage	56 V
Relation charging/operating time	1:12
Battery data	LiFePo4, Capacity 42Ah Certifications: UN38.3, IEC/UL 62133, IEC 62619, UL2271
Battery charging	Automatically via floor-mounted charging station or inductive on-the-fly during handling
Safety (driving & handling)	360° monitoring via 2 horizontal scanners, Virtual safety curtain via 4 vertical laser scanners
Navigation	Based on laser scanner data
Communication	
Command interface	E82/IBSEM via WiFi
Equipment interface	E23/E84 optical or WiFi
Un-/Loading times	
Single load or unload	≥ 25 s
Swap	≥ 40 s
Throughput example*	Up to 30 pods/hour (strongly depending on the fab layout)
*Please contact Fabmatics to calculate your throughput! We will evaluate your fab requirements.	



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