



HERO®FAB 300

Mobile robot for 300mm FOUP 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 powerful, for 24/7 use proven industrial 6-axis robot
- Charging on-the-fly during handling enables **24/7 operation**
- Vertical & horizontal laser scanners for a **safe collaboration of human and machine**
- **High material safety** due to redundant sensors, active lock in an emergency case and occupancy check of load ports (special: earthquake protection)
- HSFM fleet manager for **multi robot management**

Further versions of HERO®FAB

- **HERO®FAB 200** for handling of SMIF pods, open cassettes
- **HERO®FAB wet** equipped with a 60 litre water basin for un-/loading of polishing machines



HERO®FAB 300 with 2 buffer positions for swapping



HERO®FAB 300 loading 3 rack levels

Technical data

HERO®FAB 300

Dimensions (length x width x height)	1,170 x 885 x 1,650 mm (incl. robot arm and laser scanners)
Reach of robot (shelf height)	Up to 200 – 1,500 mm
Weight	510 kg
Payload	Up to 12 kg
Speed	Up to 0.80 m/s
Min. aisle width	Approx. 1,200 mm
Type of drive	Omni-directional drive
Positioning & gripping accuracy	± 5 mm (vehicle), ± 0.5 mm (robot)
Clean room class	ISO 4-5
Loading Voltage	58 V
Relation charging/operating time	1:10
Battery data	Lithium ion technology (UL1642, UN38.3, UL 1973 el. items), Capacity 50 Ah
Battery charging	Automatically via floor-mounted charging station on-the-fly during handling
Safety (driving & handling)	360° monitoring via 2 horizontal laser scanners, Virtual safety curtain via 4 vertical laser scanners
Navigation	Based on laser scanner data
Communication	E82/IBSEM via WiFi E23/E84 optical or WiFi
Command interface	
Equipment interface	
Un-/Loading times	
With positioning of vehicle	30 s
W/o positioning	25 s
Swap with positioning	45 s
Throughput example	Up to 15-20 FOUPs/h with 10 m travelling



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