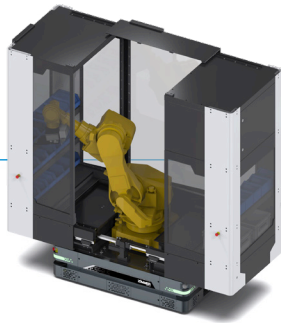


AUTONOMOUS MOBILE ROBOT MILES 2000 WITH ROBOT MODULE

▶ PRODUCT ADVANTAGES



- ▶ 1.6 m/s driving speed
- ▶ With omnidirectional drive
- ▶ Long-lasting battery with 48 V on-board voltage
- ▶ User-friendly user interface
- ▶ Complete integration into the entire production process
- ▶ Planning the hall and the AMR fleet using simulation
- ▶ Integrated service and commissioning

▶ SERIES CHARACTERISTICS



IP54



Inductive charging



VDA 5050-compliant and
natural navigation



approx. 500 kg transport
load



Integration into the ERP
system



Safety based on SICK
technology

▶ CHALLENGE AND SOLUTION

- ▶ AMRs support up to 80% of the in-house transport processes for semi-finished and finished goods
- ▶ 24/7 application options for AMRs, very high availability of AMRs
- ▶ Material reaches the right place at the right time, employees receive optimal onsite support
- ▶ Only the stock actually required for work is on the shop floor. This results in an increase in the shop floor area by up to 20%
- ▶ AMRs can be integrated into the existing factory layout without major structural adaptations
- ▶ Our AMRs can navigate the tightest of spaces, which results in an additional increase in the shop floor area depending on the layout
- ▶ Fluctuations in demand and orders are compensated via the AMRs
- ▶ Complex supply and disposal of Kanban cycles can be automated

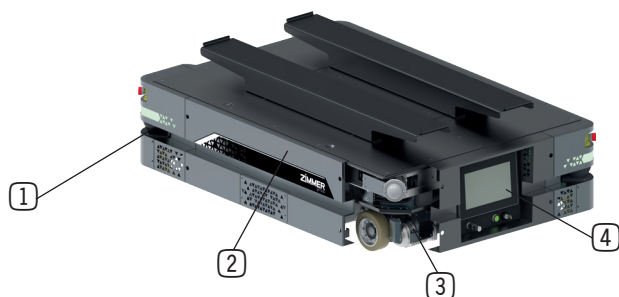
▶ WORKPIECE PARAMETERS

- ▶ Transport load of approx. 500 kg
- ▶ Range of approx. 1,400 mm
- ▶ Robots with up to 50 kg handling weight
- ▶ Customer-specific tool
- ▶ Small SLCs and customer-specific transport boxes

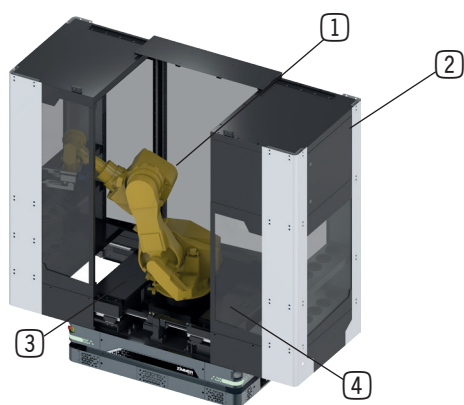
▶ APPLICATION EXAMPLES

- ▶ As AMR with robot module for handling and transporting Kanban containers

► BENEFITS IN DETAIL



- ① Safety scanner PL d, SICK Technology, Human-machine safety
- ② Batteries, 48 V on-board voltage, up to 10 h of runtime, inductive charging
- ③ Omnidirectional drive: smallest space requirement, turning radius of 0 m
- ④ HMI and software: Navigation, fleet management, ERP interface



- ① Industrial robot: up to 50 kg handling weight, versatile
- ② Protective cabin and material storage unit: low interference contour, intervention protection, intake of goods / SLCs
- ③ Optional batteries: increased runtime, coupled with AMR
- ④ Inverter: Voltage supply 400 V

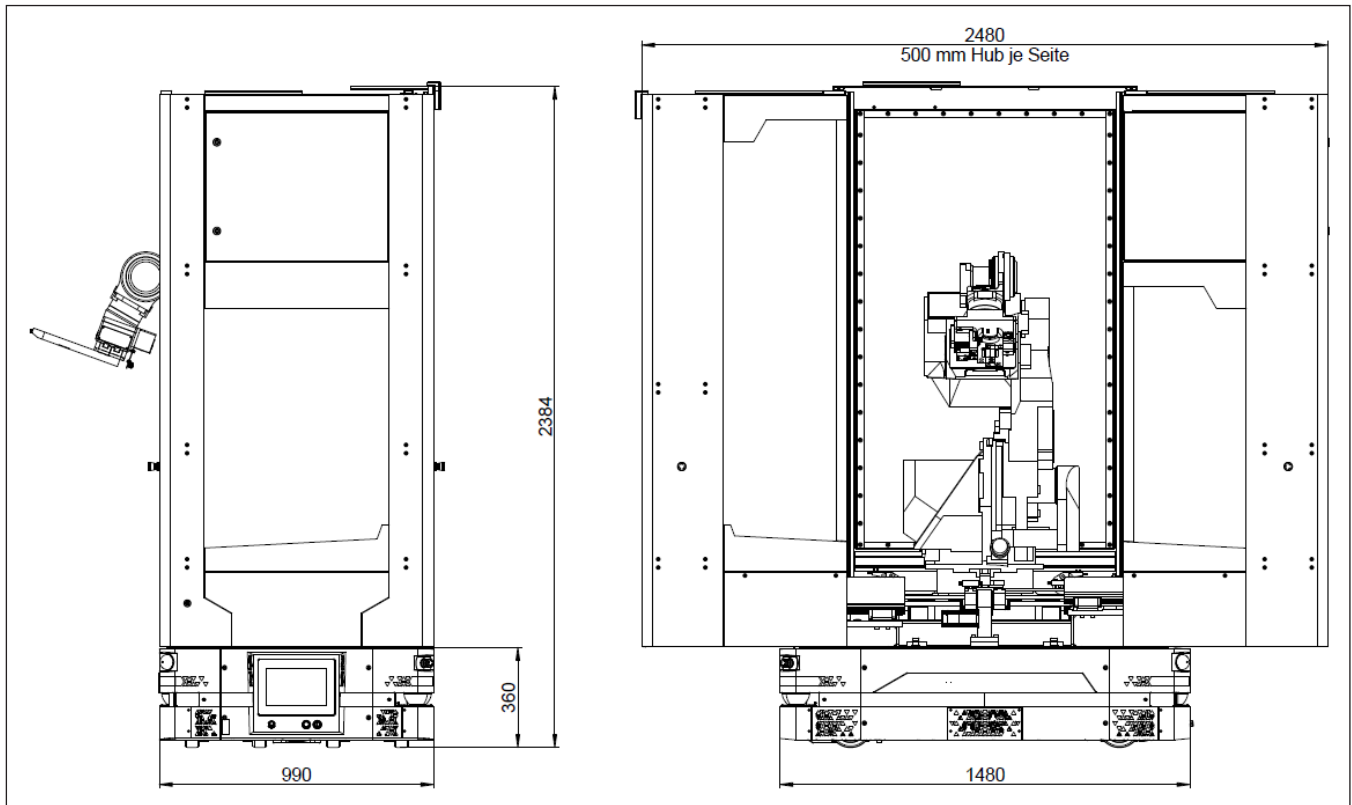
► TECHNICAL DATA

Order No.	Miles 2000
Base vehicle transport load [kg]	2000
Navigation	Via laser
Base vehicle length [mm]	1480
Base vehicle width [mm]	990
Base vehicle height [mm]	360
Speed max. [m/s]	1.6
Protection class	IP54
Vehicle weight [kg]	750
Runtime [h]	10
Charging time from 0 to 100% [h]	1.5
Chassis type	Pivot drive
Turning radius [m]	0
Charging process	Via induction
Communication interface	VDA 5050

	► Robot module setup
Order No.	Miles 2000
Dimensions (with vehicle, closed protective cabin) (LxWxH) [mm]	1,480 x 990 x 2390
Dimensions (with vehicle, open protective cabin) (LxWxH) [mm]	2480 x 990 x 2390
Robot transport load [kg]	50
Workpiece weight max. [kg]	30
Applications	Logistics, material transport, picking
Number of racks/rack positions	Modular
Reference calibration	Camera
Workpiece detection	Via camera system or RFID

► TECHNICAL DRAWING

Miles 2000 with robot module



► SOFTWARE ADVANTAGES

- Collaborative system – people and machines operate in a single system without limitations
- Interface for setting up different modules possible
- Complete integration into the entire production process with control architecture from a single source
- Seamless integration into existing structures
- The use of different fleet management systems in one system is possible
- Reprogramming of the AMR travel paths possible at any time
- Fast fleet expansion with additional vehicles when there is increased demand
- Easy troubleshooting via remote support

► SOFTWARE FUNCTIONS

- Performance level d (vehicle only)
- VDA 5050-compliant
- Navigation via LiDAR sensors
- Reliable navigation
- Protective field violations are detected by the SICK safety scanner, which stops the vehicle in a timely manner
- Integration into ERP systems and machine interfaces
- Additional AMRs can be integrated into the system later on
- Interface for remote access