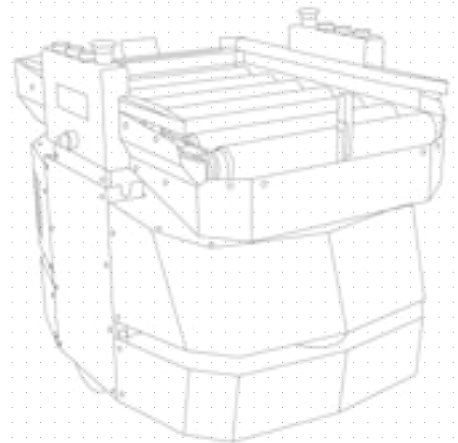




Open Shuttle

The new flexibility for the electronics sector

Autonomous mobile robots as part of the ASM robot batch unit.



Open Shuttles provide new opportunities for designing goods flows flexibly. Our autonomous mobile robots carry out internal transport of the cassettes used in the electronics manufacturing sector. Pick-and-place machines are used in electronics manufacturing to place very small electronic parts onto circuit boards in a highly efficient and automated process. These parts are located on reels, which are stored in special storage systems such as the ASM Material Tower. The reels must be supplied to the pick-and-place machines just-in-time. Before they're transported to these machines, they're automatically placed into cassettes – which serve as load carriers – in the ASM Material Tower. Our Open Shuttles with their special load-handling device can dock directly at the Material Tower and load up the cassettes. The robots then securely carry the cassettes to a work station or machine, dropping them off precisely. They are agile helpers with special features: The Open Shuttles move around freely – „off the beaten track“ and without any optical aids, which means that their routes can be adapted flexibly at any time. This flexibility allows the Open Shuttles to fit right in with the existing conditions and offer maximum safety for people and inventory. The freely navigating Open Shuttles draw on their swarm intelligence to distribute orders among the entire fleet in a clever and adaptive way. The vehicles communicate constantly with one another and distribute orders flexibly. This opens up new opportunities to optimize routes and transit times. Thanks to the intelligent fleet management system, it's possible to apply the right amount of transport capacity in a smart and agile way, at exactly the right time and in exactly the right place.

Open Shuttle

Facts and figures



	Open Shuttle (50b)	
Max. speed in m/s (ft/s)	1,6 (5.25)	
Load-handling device	Telescopic unit for ASM Material Tower	
Transport objects	Cassette for ASM Material Tower	
Max. dimensions of transport object in mm (in)	Dimensions of cassette L x W x H: 405 x 456 x 609 (15.94 x 17.95 x 23.98)	
Max. working load in kg (lb.)	50 (110.23) (incl. weight of cassette)	
Integrated lifter (extras)	Yes	No
Loading and unloading height in mm (in)	Adjustable between 550 and 1,500 (21.65 and 59.06)	650 (25.59) (ASM Material Tower)
Battery life	> 6 h under continuous operation (depends on routes and distances)	
Charging time	Approx. 60 min	
Communication	WLAN b/g/n standard	
Configuration	Server laptop, charging station, positioning triangle, remote control	
Software	Fleet manager, user interface, Factory Automation host interface, VDA 5050	
Installation	Carried out by KNAPP, price on request	
Extras	Storage location sensor, integrated lifter, blue light	
Accessories	Transfer locations	

Advantages

- Supports VDA 5050 interface
- Certified Open Shuttle exclusively designed to supply the ASM Material Tower
- Intelligent route planning
- Intelligent management of orders and transport resources
- Simple control and adaptation of the layout, processes and fleet
- Free floors
- Automatic navigation and autonomous avoidance maneuvering
- Flexible linking of different areas in the electronics manufacturing sector
- Safe interaction between human and machine
- Easy integration into an existing system without any structural modifications
- Fast amortization of the investment costs through low startup costs
- Low maintenance and servicing costs
- Communication with the ASM Factory Automation host system
- Efficient and autonomous energy management



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