

TUSKROBOTS

TUSK ES

POWERFUL, SAFE &
FUTURE-READY



TUSK ES

Tusk ES is a CE-certified pallet AGV built for safe and efficient intralogistics. It handles payloads up to 1,000 kg and reaches speeds up to 1.5 m/s, while supporting Euro and national pallet standards for easy integration into existing flows.

Flexible navigation via SLAM or DM-code guidance, 360° laser safety sensing, and precise ± 5 mm docking ensure reliable operation in dynamic environments. A long-life LiFePO₄ battery delivers **up to 8 hours runtime with fast 2-hour charging for dependable, continuous material flow.**

Multi-dimensional protection

- Safety bumper
- Emergency stop button
- Status indicator lights
- Sound alarm
- Real-time monitoring of AGV operation status

Visual obstacle avoidance

- Forward - facing stereo camera
- Stereoscopic space protection

Hybrid navigation

- Hybrid switching between DM Code and SLAM navigation

Lifting mechanism

- Invisible fork system
- Direct pallet pickup
- Body-backed operation

360° safety

- 4 laser configuration
- 360° laser protection



Lifting mechanism

INVISIBLE FORK ARM
LIFTING HEIGHT UP TO 330 MM

Manipulation

FROM THE GROUND

VDA 5050

SEAMLESS FLEET INTEGRATION

Max speed

1.5 M/S

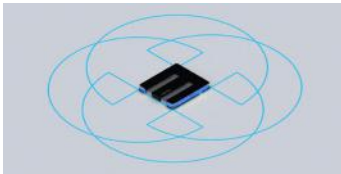
Rated load

1,000 KG

Safety

360°, OBSTACLE AVOIDANCE DETECTION





Safety



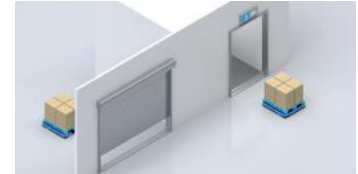
Ground roller



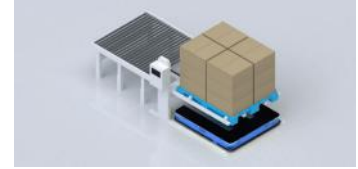
Charging



Dense storage

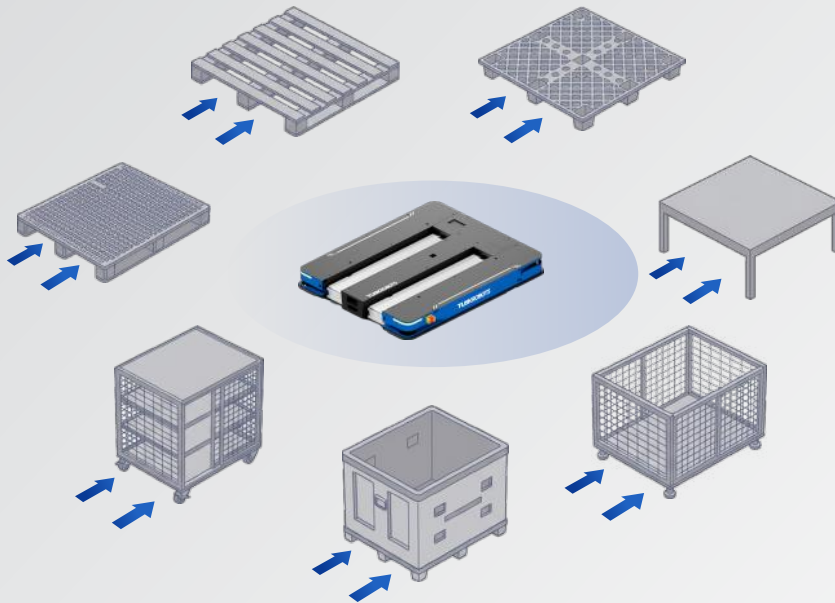


Elevator



Lift conveyor line

Designed for diverse pallet formats



Ground Adaptability

SURFACE ROUGHNESS

Variation $\leq 5\text{mm}$
within 1m^2



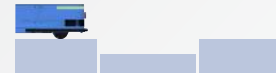
SLOPE

$\alpha \leq 4^\circ$



GAP

$L \leq 40\text{mm}$



STEP

$H \leq 15\text{mm}$ within a range
of 100mm length



HONORS



red dot

Red Dot Design Award



2023 RBR50 Robotics Innovation Awards



The iF Design Award

TUSK ES

SPECIFICATION

Type	Straddle low lift
Navigation	Hybrid navigation (switching between DM Code and SLAM Navigation), obstacle avoidance detection
Direction of drive	Forward, backward, on the spot rotation
Minimal turning radius (m)	1.9
Max speed (m/s)	1.5
Load capacity (kg)	1,000
Lift	Electric
Max lift (mm)	330
Dimensions (L, W, H in mm)	1,312x1,060x170
Forks	Welded
Pallet length	≤1,400
Pallet width (W1 and W2 in mm)	$W1 \leq 160, 600 \leq W2 \leq 900$
Manipulation	From the ground
Batteries	LFP (lithium iron phosphate)
Charging	Automatic - contact
Control	URC (Universal remote control)
Safety scanners	Double Front & Rear laser sensors, 360° Obstacle avoidance



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