

AA-S

The All on Automatic Series, also known as AA-S from Movexx, consists of autonomous smart electric tugs. This is the next step in automating the movement of rolling objects for high-frequency internal logistics. These machines transport goods fully automatically, without human intervention. By delivering goods on wheels, your processes maintain their flexibility. The AA-S ensures that objects are delivered just in time and also returns empty containers to the logistics center. This increases employee safety and reduces environmental damage compared to traditional human-operated vehicles. Regular deliveries by the AA-S automatically transfer stock from the logistics center to the work floor, ensuring a more organized and structured workplace.



Navigation Methods

The AA-S offers two different navigation methods:

1. Flexible SLAM Navigation
2. Guided Line Navigation

1. AA-S-Flexible

The AA-S-Flexible features a high-quality navigation system with proven market technology. Movexx has partnered with BlueBotics to offer the perfect combination of a high-quality machine and the best navigation technology available. The AA-S-Flexible utilizes Simultaneous Localization and Mapping (SLAM). The advantage of this system is that multiple autonomous suppliers use the same navigation technology, allowing different autonomous vehicles with various functions to connect to the network. The AA-S-Flexible maps its surroundings, determines optimal routes, and navigates freely. Multiple AMRs can operate simultaneously with automated inductive charging by Wiferion, as well as parking and loading/unloading functions.



2. AA-S-Guided

The AA-S-Guided follows a specific physical line on the floor. It tracks this line using a camera and, with the help of NFC tags, performs various actions. Line-guided AGVs are easy to implement and ideal for environments where the route does not need to change frequently. However, they are less flexible than the AA-S-Flexible, which can navigate freely without predefined paths. The AA-S-Guided is commonly used in warehouses, laundries, factories, and clean production lines, where a fixed route enhances efficiency.

Performance & Modularity

As expected from Movexx, the AA-S features a modular design, enabling customization for specific transport needs. Its powered traction system and large wheels manage slight floor irregularities with ease. A brushless DC motor ensures cost-effective operation, and the compact design enhances maneuverability. The modular concept allows the machine to be tailored to any indoor situation, accommodating various industrial carts and trolleys.

Efficiency

In addition to the previously mentioned benefits, battery performance plays a crucial role in selecting the right machine. Thanks to its modularity, the AA-S offers multiple battery options to best suit operational needs. It comes standard with a high-quality Lithium LiFePO₄ battery. As with many Movexx vehicles, the modular design provides flexibility in choosing the ideal battery setup.

The 40Ah version features a quick-swap LiFePO₄ battery system. The 105Ah and 120Ah versions can be recharged via an external power outlet or, even better, through the optional Wiferion inductive charging system, eliminating the need for manual charging.

The future

The AA-S represents the next step in automation. With advanced navigation, ANT-driven intelligence, and efficient energy management, it offers a reliable, cost-effective solution for heavy-load transport.



STANDARD / OPTIONAL EQUIPMENT

STANDARD

- 4.5 km/h travel speed
- Automatic parking brake
- Full rubber drive wheels
- LiFePO₄ battery 24V, modular unit in 40, 105 or 120Ah
- LCD touch screen
- Safety ISO 3691-4

OPTIONAL

- Pole interface with strobe light
- Pin lift coupling module
- Electric clamping hook module
- Inductive Wiferion charging system

Features

Frame

- Metal components are made from double coated steel;
- Robust metal cover protects drive system and components.

Braking system

- Smooth braking in operation;
- STO-braking (Safe Torque Off).

Battery

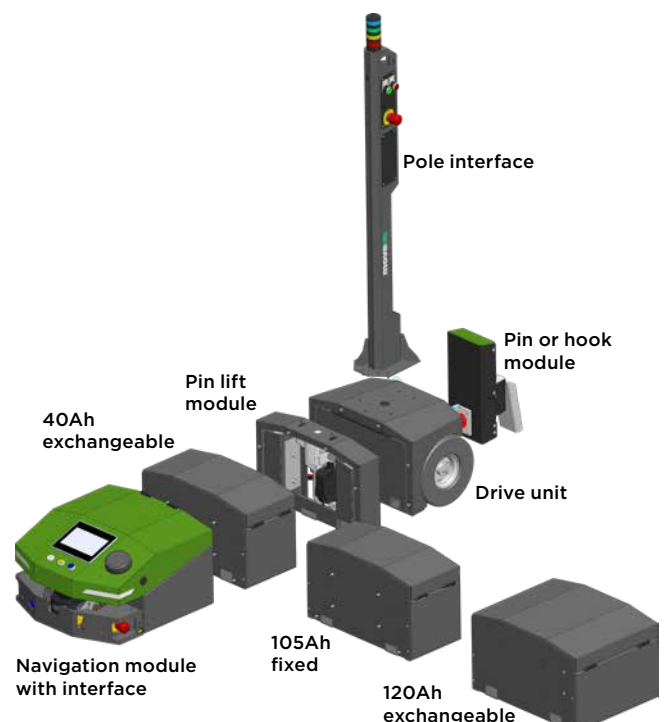
- Lithium LiFePO₄ battery with integrated battery management system in 3 capacities;
- Precise battery indication and optimal running time;
- Exchangeable battery (An extra battery can ensure 24/7 operation).

External charger

- Optimized charging process for maximum energy efficiency and lower energy costs;
- High performance: optimal use of battery capacity;
- Easy plug connection and fast charging. Input: 100-240Vac. Output: 25.6Vdc, 10/20/40A;
- Optional inductive charging for full autonomy.

Controls & Display

- Start/pause/reset buttons on the front of the tug;
- LCD touch screen;
- Emergency switch on front for optimal safety.



TECHNICAL DATA AA-S M040

According to VDI 2198 in Metric units.

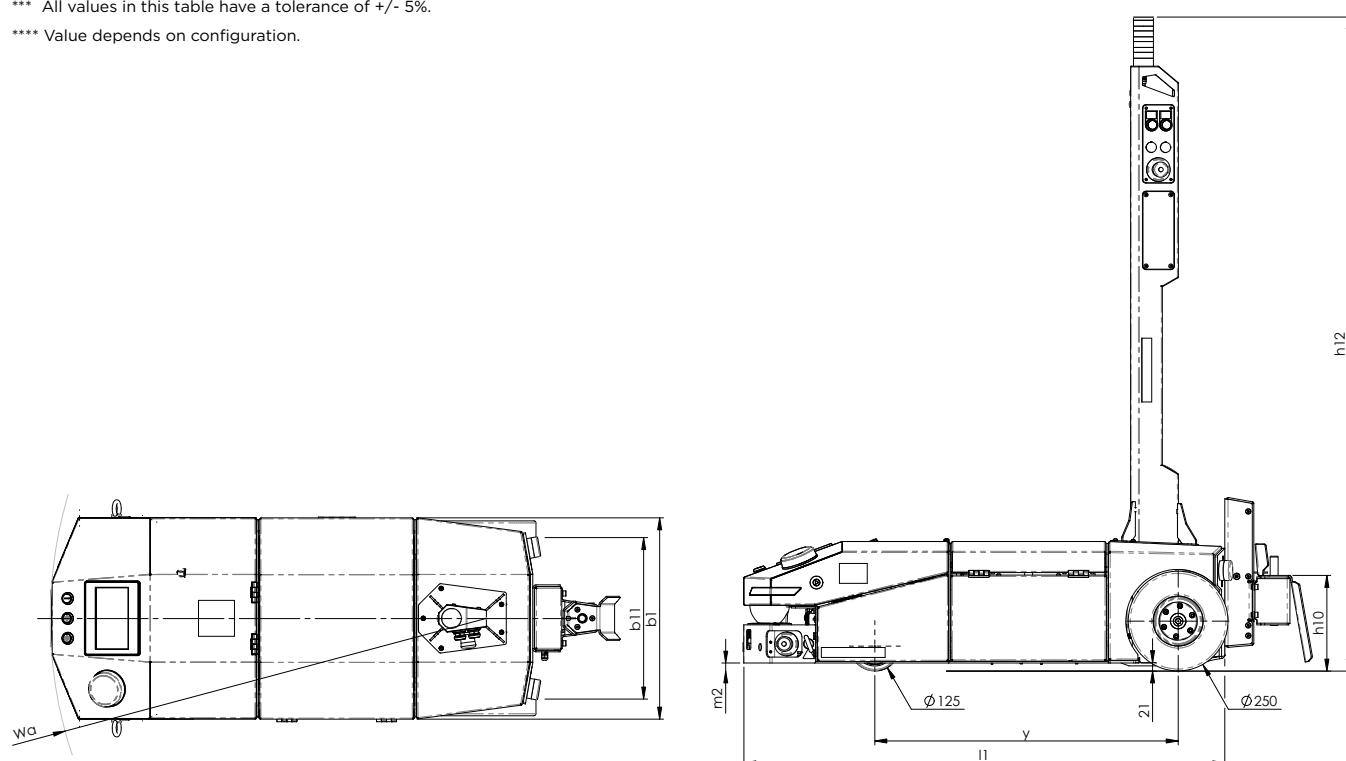
Character	1.1	Manufacturer			Movexx International B.V.
	1.2	Manufacturer's type designation			AA-S-M040
	1.3	Drive			Electric with LiFePO ₄ battery
	1.4	Operator type			Automatic
	1.5*	Rated capacity/rated load	Q [t]	≤2	
	1.7**	Rated drawbar pull	F [N]	630	
	1.9	Wheelbase	y [mm]	610-860****	
Wt	2.1	Weight incl. battery	kg	165-240****	
	2.3	Axle load with load	front/rear	kg	104/136
Tyres/Chassis	3.1	Tyres			PU/Solid Rubber
	3.2	Tyres size	front	mm	125x40
	3.3	Tyres size	rear	mm	250x84
	3.5	Wheels, number (x = driven)	front/rear	1/x2	
	3.6	Tread	front/rear	b ₁₀ /b ₁₁ [mm]	-/405
Dimensions	4.2.1	Overall height	min./max.	h ₁₂ [mm]	332
	4.12	Tow coupling height		h ₁₀ [mm]	325-375
	4.19	Total length		l ₁ [mm]	1056-1306****
	4.21	Total width		b ₁ [mm]	505
	4.32	Ground clearance, center of wheel base		m ₂ [mm]	20
	4.35	Turning radius		w _a [mm]	950-1200****
Performance	5.1	Travel speeds	with/without load	km/h	3.5/4.5
	5.1.1	Travel speed backwards	with/without load	km/h	0/0.3
	5.8*	Maximum slope (5 min)	with/without load	%	0/0
	5.10	Service brake			Electromagnetic
Drive	6.1	Drive motor output (S2 = 120 min)	kW	0.7	
	6.4	Battery voltage/rated capacity	V/Ah	25.6/40-105-120	
	6.5	Battery weight (+/- 5%)	kg	13-18.4-33.5	
Other	8.1	Drive control			DC
	10.7	Sound level at operator's ear			<65

* The maximum payload is affected by the type of slope, operating time and floor type. See the graphic below for an indication of the allowable slope to load ratio (depending on slope surface/wheel type/machine weight).

** The maximum drawbar load on the hook [lbf] is determined by the engine power of the machine but is affected by the type of wheels of the machine and of the towed trolley/load, the type of surface and the drivable weight of the machine.

*** All values in this table have a tolerance of +/- 5%.

**** Value depends on configuration.



TECHNICAL DATA AA-S M040

According to VDI 2198 in Imperial units.

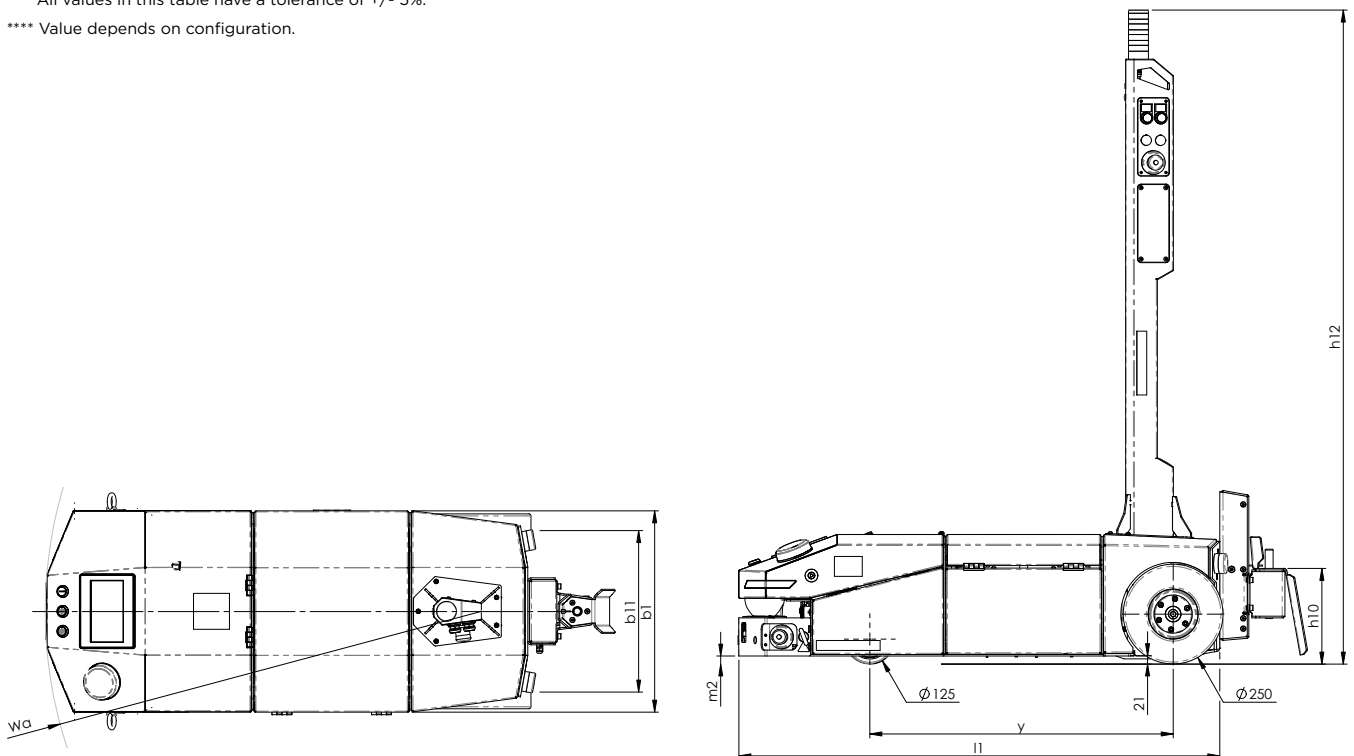
Character	1.1	Manufacturer			Movexx International B.V.
	1.2	Manufacturer's type designation			AA-S-M040
	1.3	Drive			Electric with LiFePO ₄ battery
	1.4	Operator type			Automatic
	1.5*	Rated capacity/rated load	Q [tn(US)]	≤2.2	
	1.7**	Rated drawbar pull	F [lbf]	142	
	1.9	Wheelbase	y [in]	24-34****	
Wt	2.1	Weight incl. battery		lb	364-529****
	2.3	Axle load with load	front/rear	lb	229/300
Tyres/Chassis	3.1	Tyres			PU/Solid Rubber
	3.2	Tyres size	front	in	4.9x1.6
	3.3	Tyres size	rear	in	9.8x3.3
	3.5	Wheels, number (x = driven)	front/rear	1/x2	
	3.6	Tread	front/rear	b ₁₀ / b ₁₁ [in]	-/16
Dimensions	4.2.1	Overall height	min./max.	h ₁₂ [in]	13
	4.12	Tow coupling height		h ₁₀ [in]	12.5-14.8
	4.19	Total length		l ₁ [in]	41.5-51.5****
	4.21	Total width		b ₁ [in]	19.88
	4.32	Ground clearance, center of wheel base		m ₂ [in]	0.79
	4.35	Turning radius		Wa [in]	37.5-48****
Performance	5.1	Travel speeds	with/without load	mph	2.17/2.80
	5.1.1	Travel speed backwards	with/without load	mph	0.0/0.19
	5.8*	Maximum slope (5 min)	with/without load	%	0/0
	5.10	Service brake			Electromagnetic
Drive	6.1	Drive motor output (S2 = 60 min)		hp	0.9
	6.4	Battery voltage/rated capacity		V/Ah	25.6/40-105-120
	6.5	Battery weight (+/- 5%)		lb	29-40.6-73.9
Other	8.1	Drive control			DC
	10.7	Sound level at operator's ear		dB(A)	<65

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