JAG PROCESS PLANTS AUTOMATION ROBOTICS

Automation Solutions

JAG MoMa Family

One common mobile platform, tailored to your mission

ANT driven by BLUEBOTICS

JAG MoMa Family
Typical applications

JAG MoMa 4

» Equipped with a 4-axis collaborative robot, closed rotative storage (customizable with filter, cooling or heating air conditioning).
» Perform sample handling between workbenches and different laboratories within the facility.
» By linking small and large cold storage units, MoMa 4 enables a connected, flexible sample logistics network across the laboratory.
» Designed for flexibility and adaptability, MoMa 4 can autonomously transport a wide variety of items. Up to 130×70×150 mm, across multiple environments.

JAG MoMa 6

» Featuring a 6-axis cobot equipped with interchangeable, customizable grippers and an adaptable top module with modular tools and fixtures.
» Empower your lab by bringing legacy, manual instruments into the automation era. Enhancing workflow efficiency without replacing existing assets.
» E.g., Agilent HPLCs require intricate lid and plate handling, fully automated to streamline lab workflows.
» Seamlessly automates complex workflows and interactions with multiple instruments and machines across a wide range of industries.

JAG MoMa LOG

» Handles logistics flows between labs, production areas, and any point of need with full flexibility.
» From wherever it's requested to wherever it's needed, moves trolleys, mobile cabinets, and boxes with ease.
» Delivers equipment, reactants, ingredients, and consumables or simply collects waste.
» Highly flexible and suitable for any industry, with custom-made trolleys tailored to your specific needs.

Integration Level 3

Integrating JAG's mobile robotics solutions into your management layer enables **seamless mission creation**, **comprehensive data traceability**, and **intelligent supervision** across all operational processes.

Data Recording and traceability

- **ERP** — Enterprise Ressource Planning
- **LIMS** — Laboratory Information Management System
- **MRP** — Material Requirements Planning

Orders/Missions

- **WMS** — Warehouse Management System
- **WSS** — Workflow Scheduling Software
- **PVI+** — JAG Process Visualization

Integration Level 2

JAG Middleware enables a **seamless transition** between your existing systems and the interpretation required by our robotics solutions and physical equipment.

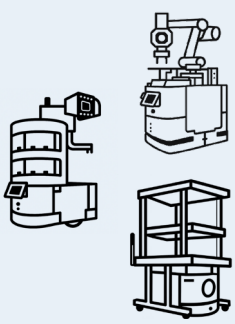
JAG RES (**R**obotics **E**xecution **S**ystem)

- **RES**
- Database
- **RO API** — JAG Robotics Order API
- ANT Fleet Manager
- **CIS** — JAG Custom Interface Script
- **BMS** — Building Management System

Integration Level 1

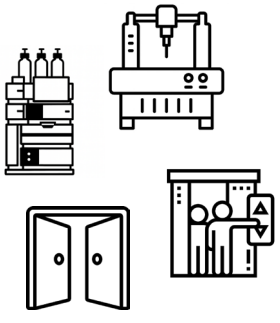
Operational execution is achieved through our mobile robotics solutions working in harmony with the connected physical infrastructure.

Field System



JAG MoMa Family

Other AGVs / AMRs (Automated Guided Vehicles / Autonomous Mobile Robots)



Doors, Elevators, Fire Systems, Machines and Equipments

JAG MoMa Family datasheet

	JAG MoMa 4	JAG MoMa 6	JAG MoMa LOG
Dimensions	680 x 455 x 1700mm	750 x 579 x 1800mm	680 x 455 x 700mm
Certifications	2006/42/EC | ISO 3691-4 | ISO 13849 | 2014/30/EU | 2014/35/EU | IP10		
Vehicle	**JAG MoMa Base**		
Fleet Management	BlueBotics ANT Server		
Speed	Min. 0.1 m/s | Max. 1.5 m/s		
Position accuracy	+/-10mm & +/-1°		
Navigation type	Virtual line following (AGV), Obstacle avoidance (AMR)		
Min. turning radius	0 m (the vehicle turns on the spot)		
Safety	360° LiDAR safety scanner		
Communication	WiFi - WLAN 802.11 a/b/g/n - 2.4/5GHz		
Charger	1 kW inductive (100-240VAC 50/60Hz | max. 11.25A)		
Battery type	Lithium-ion with integrated BMS (Battery Management System)		
Battery energy / capacity	3 kWh / 116 Ah		
Autonomy	Up to 8h depending on application		
Charging time	From 20 to 80% in less than 2h		

Top Modules			
Manipulator	Brooks PF3400	ABB, Stäubli, Fanuc	Lift, conveyor
Degree of Freedom	4 axis	6 axis	1 axis or 2 axis
Payload capacity	3 kg	5kg / 10kg up to 20kg	200 kg
Dynamic positioning correction	Vision-based	Vision-based	Dynamic trolley alignment
Operating range	X, Y 600 mm | Z 750 mm	800, 1200 and up to 1620 mm	-
Operating accuracy	+/- 0.5mm	+/- 0.3mm	-
Gripper / Tools Top Module	SBS box gripper (130x70x150mm)	Tool changer with up to 4 grippers	-
On-board storage	Enclosed rotary storage	Modular tools and fixtures positions	Trolley, box, bag, equipment
Storage capacity	20 positions	Up to 6 positions	1 position
Obstacle detection at height	3D camera	3D camera	3D camera

[1] Maximum transit speed, conditionally possible on JAG MoMa's being equipped with the JAG AMR Safety Bubble option.
[2] Environment-adaptive, standard maximum transit speed for mixed human & AMR operational environments.
[3] The Mission Point accuracy is the ensured precision of the Cobot/Manipulator for interacting with or delivering Sample Plates / Labware to/from the Instrument or storage. As this accuracy is mainly dependent on the Lab bench Instrument's intrinsic positioning precision, it can be improved by customized 3D-sensing options.
[4] The load capacity is the maximum overall, summed weight of the Gripper's weight and the Load's weight.
[5] The maximum robotic arm reach must be assessed on a per-case basis, as it is dependent of the payload weight and on the presence of anti-tilting feet.

«Revolutionizing lab automation – not just at the bench, but across your entire laboratories and buildings.»

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