

Laboratory Automation Solutions

**JAG MoMa Family**

One common AGV (Automated Guided Vehicle) for multiple mission-specific MoMa (Mobile Manipulator) configurations.



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One common AGV (Automated Guided Vehicle), multiple mission-specific MoMa (Mobile Manipulator) configurations



### JAG MoMa-4

- » A 4-axis manipulator and its large, on-board, protected storage (customizable with filtered, cooled or heated air conditioning).
- » Carry out sample management tasks in the laboratory between the benches and other laboratories.
- » The local cold storage units or the massive  $-80^{\circ}\text{C}$  /  $-40^{\circ}\text{C}$  large sample storage are turned into lab building shared resources.
- » MoMa-4 also takes care of micro-logistic tasks, such as the automated delivery of pipettes, labware or reactants.



### JAG MoMa-6

- » Featuring a 6-axis cobot with multiple, customizable grippers.
- » Customizable onboard deck and tools.
- » Typically enabling the integration of legacy, non-automation-ready instruments into your lab automation workflow.
- » One example among many: Agilent's HPLCs, which require a series of complex lid opening and plate clipping/unclipping gestures.



### JAG MoMa-LOG

- » Realisation of logistic missions in different environments (laboratory, manufacturing, etc.).
- » Delivery of equipment, reactants, ingredients and consumables or waste collection.
- » Collection and delivery of benches, cabinets, containers or boxes.
- » Customizable for specific missions (mobile instruments, stations, etc.).

## JAG MoMa Family main features

PARAMETER	JAG MoMa-4	JAG MoMa-6	JAG MoMa-LOG
<b>AGV (Automated Guided Vehicle)</b>	<b>JAG MoMa Base</b>	<b>JAG MoMa Base</b>	<b>JAG MoMa Base</b>
Fleet Management	BlueBotics ANT Server	BlueBotics ANT Server	BlueBotics ANT Server
AGV max. speed <sup>1</sup>	1.5 meter/s	1.5 meter/s	1.5 meter/s
AGV standard speed <sup>2</sup>	0.3 – 1.2 meter/s	0.3 – 1.2 meter/s	0.3 – 1.2 meter/s
AGV position accuracy	±10 mm/±1° on X,Y	±10 mm/±1° on X,Y	±10 mm/±1° on X,Y
Mission Point accuracy <sup>3</sup>	±0.5 mm on X,Y,Z	±0.5 mm on X,Y,Z	±0.5 mm on X,Y,Z
AGV pathway accuracy	BlueBotics navigation technology is conceptually ultra-repetitive, displays no drifting over time	BlueBotics navigation technology is conceptually ultra-repetitive, displays no drifting over time	BlueBotics navigation technology is conceptually ultra-repetitive, displays no drifting over time
<b>Cobot/ Manipulator</b>	Brooks PF3400	ABB, Stäubli, Fanuc	Rolling table docking & lifter
Axes	Scara 4 axes	Cobot 6 axes	Up-down lifter
Load capacity <sup>4</sup>	3 kg	5kg/ 10kg up to 20kg	200 kg
Reach <sup>5</sup>	600 mm	800/ 1'200 mm up to 1620 mm	-
Gripper/Tools	Std: SBS plates Std: Petri dishes Option: custom	Exchangeable Gripper/Tool	Up-lifter Customized cart
Charger	1kW inductive	1kW inductive	1kW inductive
<b>On-board Storage</b>	Rotary, protected, enclosed storage	Temporary, open parking slots	Rolling tables, cupboards, etc.
Storage capacity	20 SBS plates OR 100+ petri dishes Option: custom	10 SBS plates Option: custom	-
<b>Safety</b>	Safety laser scanner, 1x front, 1x back, h=150mm over ground floor (according to ISO 3691-4)		
Safety option	JAG AGV Safety Bubble: Collision-free movement (environment and people) over the entire height		

<sup>1</sup> Maximum transit speed, conditionally possible on JAG MoMa's being equipped with the JAG AMR Safety Bubble option.

<sup>2</sup> Environment-adaptive, standard maximum transit speed for mixed human & AMR operational environments.

<sup>3</sup> 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.

<sup>4</sup> The load capacity is the maximum overall, summed weight of the Gripper's weight and the Load's weight.

<sup>5</sup> 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.





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

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