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Meidensha Corporation

To members of the media

Latest model of RocoMo-V put on sale

Automated Guided Vehicle (AGV) with a collaborative robot capable of handling loads up to 20kg

Meidensha Corporation (Meiden) has completed development of the latest model of the RocoMo-V, an Automated Guided Vehicle (AGV) equipped with a new model of a collaborative robot manufactured by FANUC Corporation. It went on sale in June 2023.

The product is an updated version of RocoMo-V, which went on sale in November 2019. It includes the “FANUC Robot CRX-20iA/L” collaborative robot with a load capacity of up to 20 kilograms, which FANUC introduced as part of its lineup expansion. The improved load capacity enables the product to handle tasks that are usually difficult for workers to deal with.



The robot's load capacity is 10 kilograms more than the previous model, but the exterior size of the AGV is the same. This allows the AGV, which is capable of traveling omnidirectionally, to travel in a stable manner on a path as narrow as 800 millimeters wide.

The new model includes an option of temporarily halting the AGV's motion when a worker is in close proximity, even before there is any contact between them. This function is activated regardless of the shape of the load/robot hand or the speed of robot operations. This makes it safer to use in close proximity to workers compared with the previous model.

The latest model of RocoMo-V

There are growing fears that Japan will face a labor shortage as the country's work force steadily shrinks. To address the issue, the product is designed to replace human workers in performing certain tasks, or to divide tasks with them at the same workplace, such as transporting loads. A greatly expanded market is projected for collaborative robots and other products designed to operate in tandem with workers, eliminating the need for safety fences to automate operations or reduce the number of workers involved in operations.

Meiden is committed to enhancing the productivity of manufacturing and other industries, reducing people's workloads, and pushing work-style reform by providing high-quality AGVs that can cater to the market's needs.

Specifications

Automated Guided Vehicle	Operation method	Route data method
	Guidance system	Multi-guidance system (magnet guidance, laser guidance, SLAM* ² guidance)
	Driving and steering system	Two-wheel differential drive unit x 2
	Direction of travel	Omnidirectional driving (forward, backward, sideways, diagonally, spin turn)
	Loading capacity	64 kilograms (44 kilograms for carrying capacity; 20 kilograms as weight capacity for the robot arm)
	Maximum speed	Forward and backward: 60 meters per minute Sideways: 30 meters per minute
	Stopping accuracy	Plus/minus 10 millimeters (magnet guidance, laser guidance) Plus/minus 50 millimeters (SLAM guidance under certain conditions)
	Gradeability	2 percent (in five consecutive meters)
	Route conditions	Height difference up to 2 millimeters, ditch width up to 10 millimeters, waviness up to 5 millimeters
	Charging system	Automatic charging Right side: contact charging (standard

		feature) Left side: non-contact charging (option)
	Battery	Lead shield battery 24V 100Ah (standard feature) Lead shield battery 24V 70Ah for fast charging (option)
	Safety devices	Bumpers, obstacle sensors, alarm system, lamps indicating travel direction, emergency stop button, self-examination system, human detection system while the robot is in operation (option)
	Communication features	2.4G WiFi* ³ (AGV-outside) 2.4G, 5G Wi-Fi (Robot-outside) Ethernet/IP (Robot-AGV)* ⁴
	Operating environment	Temperature range of 0-45C 20-80% relative humidity without dew formation
	Size	704 millimeters in width, 890 millimeters in height, 1,184 millimeters in depth
Robot	Collaborative robot	CRX-20iA/L manufactured by FANUC Corporation
	Controller	R-30iB Mini Plus manufactured by FANUC Corporation

*1: The new model of FANUC's collaborative robot, which can be connected to a gripper, camera and other peripheral devices.

*2: Simultaneous Localization and Mapping

*3: Registered trademark of Wi-Fi Alliance

*4: Registered trademark of Fuji Film Business Innovation Corp.