MAiRA® Pro

Multi-Sensing Intelligent Robotic Assistant

Data sheet

MAiRA® is the first cognitive robot.

With fully integrated novel sensors and an unprecedented integration of artificial intelligence in control systems and applications MAiRA® is leading a new era of robots. The robust and rigid design combines the performance of a high-end machine with easy programming and infinite possibilities for interaction – both for beginners and experts. MAiRA® tears down the boundaries between humans and machines and brings them closer together for good.

General Specs	MAiRA Pro S	MAiRA Pro M	MAiRA Pro L
Payload	15-18 kg	12-15 kg	9-12 kg
Reach	1.100 mm	1.400 mm	1.600 mm
Degrees of Freedom	6 or 7 rotating joints	6 or 7 rotating joints	6 or 7 rotating joints
Weight	49.5 or 53 kg	48 or 51.5 kg	52.5 or 56 kg
Robot Mounting	Any orientation	Any Orientation	Any Orientation
IP classification	IP65	IP65	IP65
Data & Power Cables	Complete inner harness and ducts	Complete inner harness	Complete inner harness
Footprint Base	Ø 240mm	Ø 240mm	Ø 240mm
Status Illumination	RGB LED on each axis	RGB LED on each axis	RGB LED on each axis
Tgt. Performance Level	Pld Cat.3 / SIL3	Pld Cat.3 / SIL3	Pld Cat.3 / SIL3
Tgt. Repeatability	Up to ± 0.01 mm	Up to ± 0.01 mm	Up to ± 0.01 mm

TCP Connector Flange

Hole pattern	DIN ISO 9409-1-50-7-M6
Compressed Air (*opt.)	3 x Push-Pull-Plug – 3mm OD
I/O power supply	24V 600mA
Interfaces	EtherCAT, GPIO, Modbus via M8 8-pin-A-M | IEC 61076-2-104

Sensors

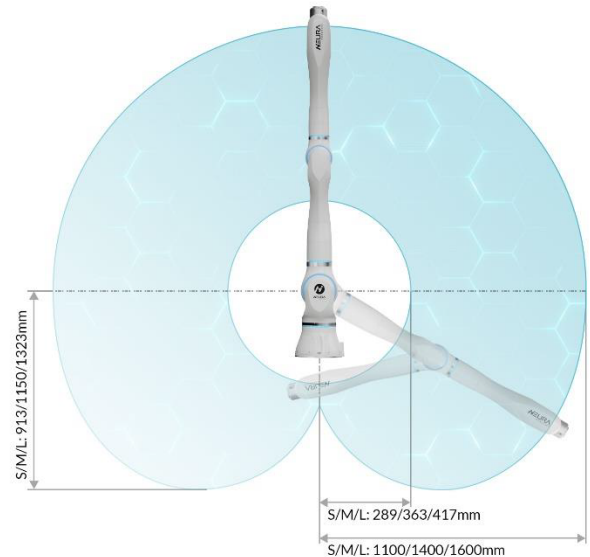|	
Vision	3D RGB-D Camera
Force/Torque (*opt.)	6-DOF F/T-Sensor in Flange
Guidance by Touch	Zero gravity
Safety (*opt.)	Touchless Safe Human Detection
Sound	3D Voice Recognition Sensor

* optional features are available at additional cost

Movement

	Working Range	Working Range
A1	±360°	120 °/Sec.
A2	±120°	120 °/Sec.
A3	±270°	150 °/Sec.
A4	±150°	150 °/Sec.
A5	±270°	200 °/Sec.
A6	±160°	200 °/Sec.
A7	±360° / endless optional	360 °/Sec.

S/M/L: 913/1150/1323mm
S/M/L: 289/363/417mm
S/M/L: 1100/1400/1600mm

Software & Controller

Motion Controller	Real-Time NR-Motion Master
Machine Learning (ML) Kernel	Smart Applications, Performance Enhancement
Open Architecture	3rd Party Apps, Access to Low Level Controllers & Sensor Data
Software Interfaces	Robot, Sensor & AI SDKs
Safety Architecture	Safe Master & FSoE Communication
Safety Features	STO, SS1, SS2, SBC, SLS

Programming Features

Smart GUI	NR Easy Programming InterfaceNR-Motion Master
Fast Programming	Shortcut Buttons, Voice Control, Gesture Control (*opt.), Dynamic Path and Force Recording
Human-Robot-Interaction	Visual-, Audio- and Force-Feed- back, Face Recognition, Motion Tracking
Environment Visualization	3D CAD Data & Sensor Data

Control Cabinet

Dimensions	598mmx540mmx236mm 23.5inx21.3inx9.3in
Weight	25kg/55.1lbs
Power Supply	100-240 VAC, 50/60 Hz, 3,2 kW
Interfaces	EtherCAT, TCP/IP, Modbus TCP, GPIO, UDP, OPCUA
IOs	20 configurable safe IOs 14 digital in 8 digital out 10 digital in/out 8 analog in 8 analog out

Teach Pendant

Dimensions	285mmx228mmx95mm
Resolution	1280 x 800
Display	10.1" touchscreen
Cable Length	5m

Note:

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