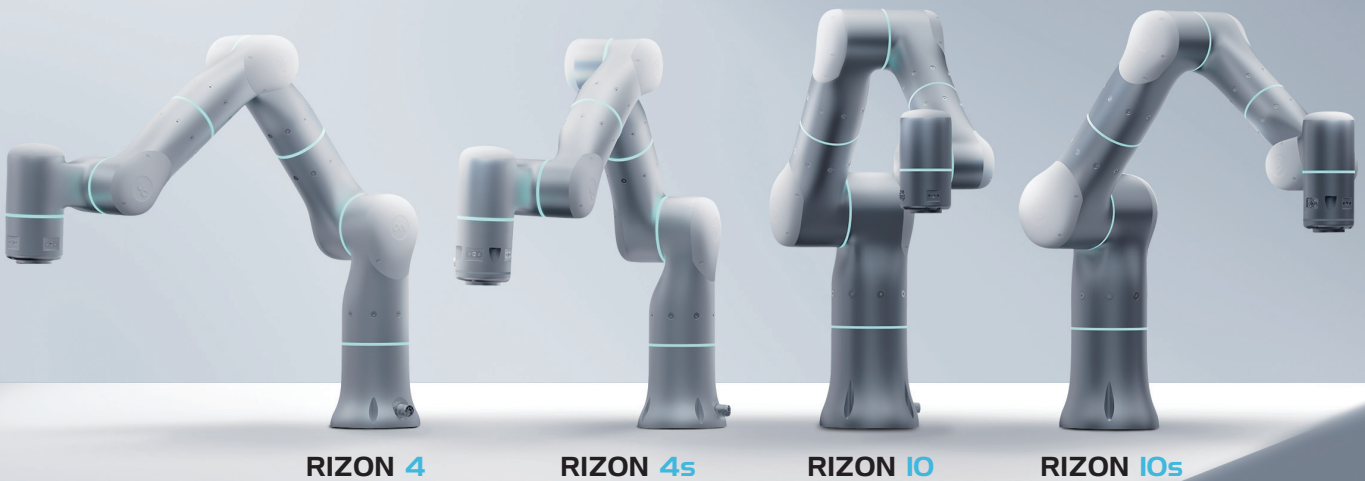


RIZON



As the world's first adaptive robot series, Rizon robots feature seven degrees of freedom and force control, enabling them to operate with the same versatility as a human arm. With deeply integrated industrial-grade force control, machine vision, and AI technology, Rizon robots boast high tolerance for position variance, great disturbance rejection, and transferable intelligence, and can therefore operate largely without interference. They can adapt to changing environments while providing outstanding intrinsic safety and powerful versatility.

With an excellent all-around capability, the multi-purpose Rizon robots can be widely used in a myriad of applications that require precise motion and force control, and are perfectly designed to meet the needs of Flexiv's customers in various industries.

Superior Industrial-Grade Force Control

- Real-time force control planning, hybrid motion/force control, disturbance rejection, and advanced whole-body force control
- Fast response speed

Intrinsic Safety

- CE and ETL certified
- ISO 13849-1 PL d Cat. 3 compliant
- Adjustable stop categories
- Customizable virtual safety zones

Excellent Adaptability

- High tolerance for position variance
- Precise curved surface following
- Automatic position error compensation

Powerful Versatility

- Versatile in multiple industries and scenarios
- Advanced hierarchical intelligence
- Supports multiple communication protocols
- Proprietary force/torque sensing technology

Great Usability

- Drag-and-drop visual programming interface
- Zero-drag teaching mode
- Embedded advanced semi-autonomous programming modules

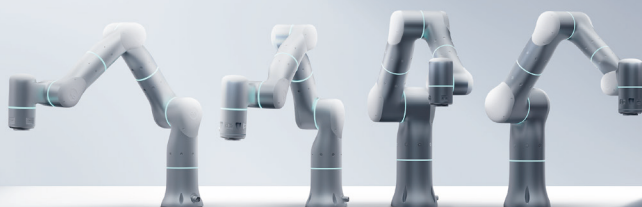


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DEXTEROUS AND INTELLIGENT

RIZON

Force-controlled adaptive robot



Robot

Rizon 4/4R

Rizon 4s

Rizon IO

Rizon IOs

Specification	Degrees of freedom	7	7	7	7
	Payload	4 kg	4 kg*	10 kg	10 kg*
	Reach	876 mm	919 mm	941 mm	984 mm
	Weight	20 kg	21 kg	38 kg	39 kg
	Protection rating	IP65	IP65	IP65	IP65
	Installation position	Any	Any	Any	Any
	Operating temperature	0 to 45°C	0 to 45°C	0 to 45°C	0 to 45°C
	Robot base	Ø165 mm	Ø165 mm	Ø206 mm	Ø206 mm
	Mounting flange	ISO 9409-1-50-4-M6	ISO 9409-1-50-4-M6	ISO 9409-1-50-4-M6	ISO 9409-1-50-4-M6
	Noise	<70 dB	<70 dB	<70 dB	<70 dB

Motion performance	Pose repeatability (ISO9283)	±0.05 mm	±0.05 mm	±0.05 mm	±0.05 mm
	Typical TCP linear speed	1.0 m/s	1.0 m/s	1.0 m/s	1.0 m/s

Force control performance	TCP force/torque range	5 N to 200 N	Fxyz 1 N to 150 N Txy 3 Nm Tz 5 Nm	5 N to 350 N	Fxyz 1 N to 350 N Txy 9 Nm Tz 15 Nm
	Force sensing accuracy	0.1 N	0.03 N	0.2 N	0.1 N
	Force sensing resolution	0.05 N	0.005 N	0.1 N	0.03 N
	Force control tracking accuracy (full payload)**	0.5 N	0.5 N	0.5 N	0.5 N

Joint	Joint working range	A1: -160° to 160°	A1: -160° to 160°	A1: -160° to 160°	A1: -160° to 160°
		A2: -130° to 130°	A2: -130° to 130°	A2: -153° to 153°	A2: -153° to 153°
		A3: -170° to 170°	A3: -170° to 170°	A3: -160° to 160°	A3: -160° to 160°
		A4: -107° to 154°	A4: -107° to 154°	A4: -155° to 155°	A4: -155° to 155°
		A5: -170° to 170°	A5: -170° to 170°	A5: -170° to 170°	A5: -170° to 170°
		A6: -80° to 260°	A6: -80° to 260°	A6: -80° to 260°	A6: -80° to 260°
		A7: -170° to 170°	A7: -170° to 170°	A7: -170° to 170°	A7: -170° to 170°
	Maximum joint speeds	A1 to A2: 120°/s	A1 to A2: 120°/s	A1 to A2: 100°/s	A1 to A2: 100°/s
		A3 to A4: 140°/s	A3 to A4: 140°/s	A3 to A4: 120°/s	A3 to A4: 120°/s
		A5 to A7: 280°/s	A5 to A7: 280°/s	A5 to A7: 220°/s	A5 to A7: 220°/s

**The result is generated via standard test procedure using the built-in project.

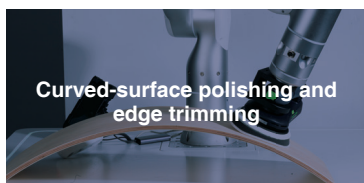
*Including the weight of force/torque sensor, which is 0.5 kg.

Control Box

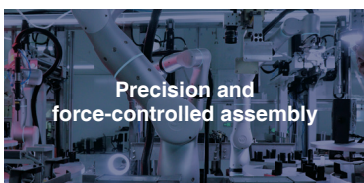
Hesper

Weight	12 kg
Dimensions	423 mm x 230 mm x 230 mm
Power source	100-240 VAC 50-60 Hz, 42-62 VDC (optional)
Power consumption	500 W (Rizon 4/4R/4s) 600 W (Rizon 10/10s)
I/O ports	16 digital inputs 16 digital outputs
Safety system	All 18 safety functions certified according to EN ISO 13849-1 to Cat. 3, PL d
I/O power supply	24 V, 2 A (control box) 24 V, 1 A (tool)
Communication	Master: Modbus TCP, Ethernet TCP/IP Slave: Modbus TCP, Profinet/EtherNet/IP/CC-link (optional)
Air humidity	20% to 80% non-condensing
Protection rating	IP20
Operating temperature	0 to 45 °C
Cabling	Between manipulator and control box: 3 m Between motion bar and control box: 7 m

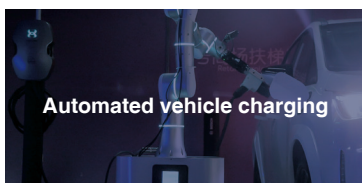
Typical Applications



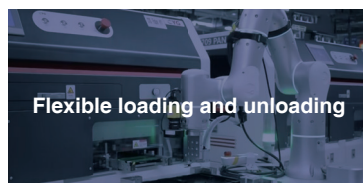
Curved-surface polishing and edge trimming



Precision and force-controlled assembly

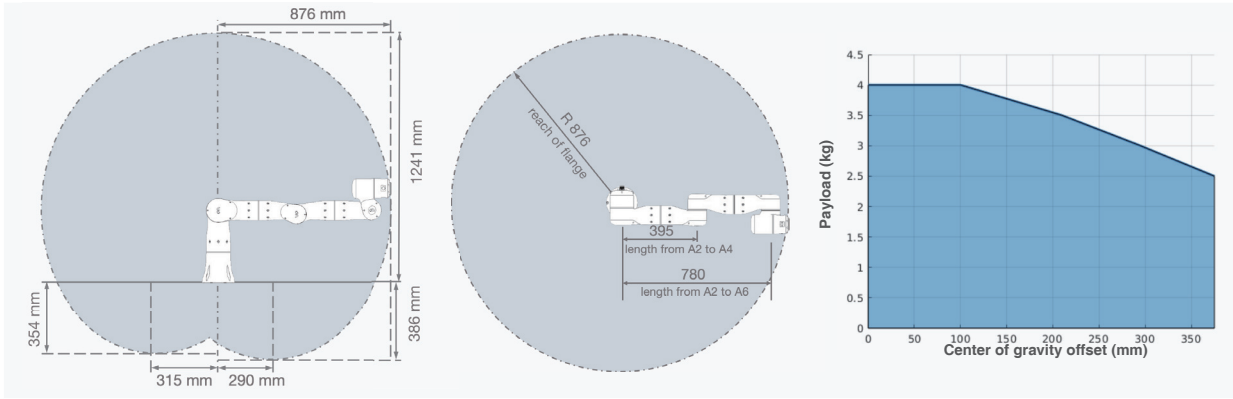


Automated vehicle charging

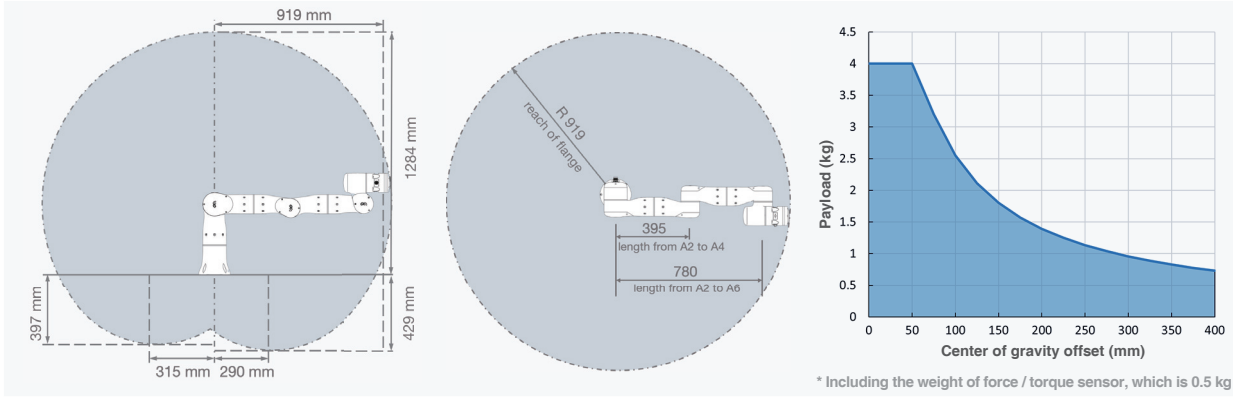


Flexible loading and unloading

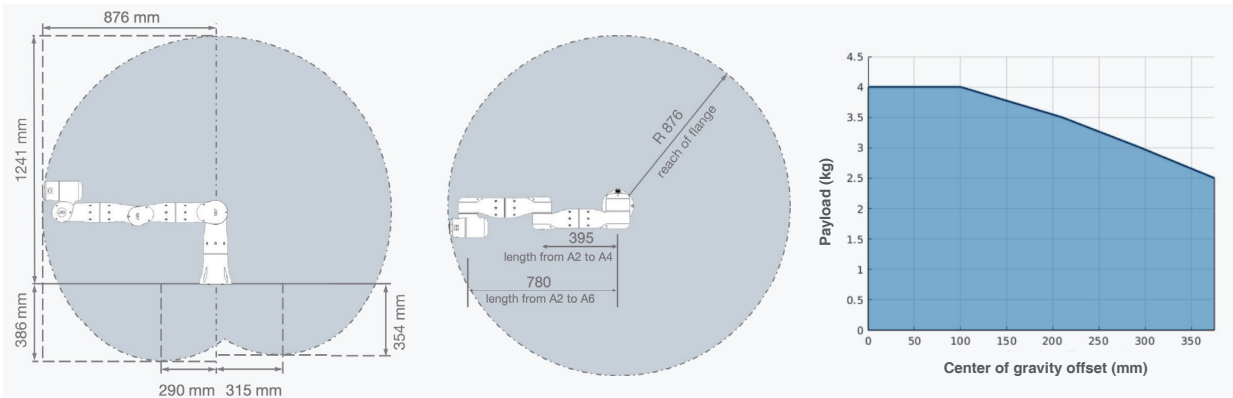
Rizon 4



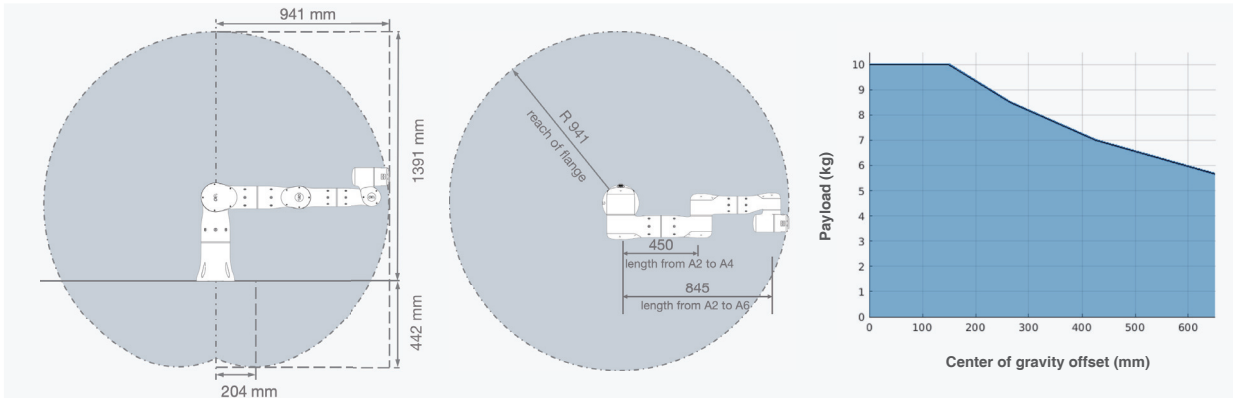
Rizon 4s



Rizon 4R



Rizon IO



Rizon IOs

