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SERIES BROCHURE
2026 edition

FAIRINO · COLLABORATIVE ROBOTS · ROBOTIX MARKET

FAIRINO

FR3 & FR5

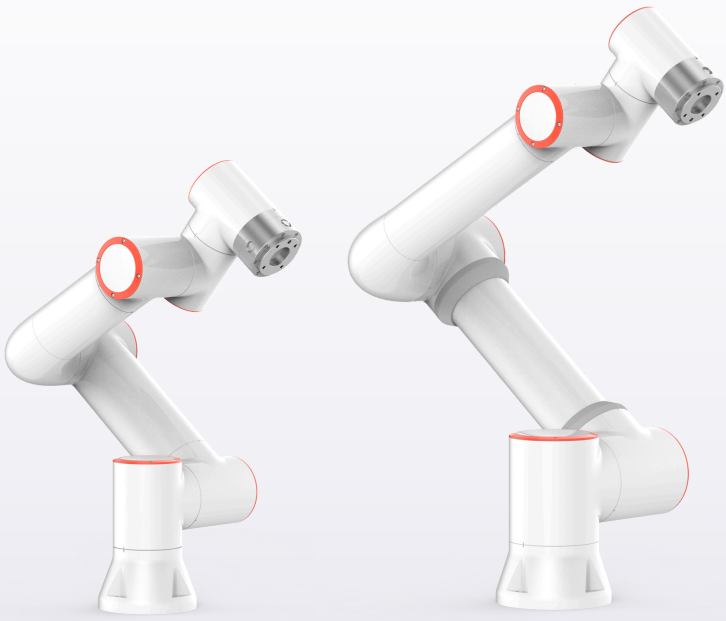
Collaborative robot series

Six-axis collaborative robot arms: 3 to 5 kg rated payload, 622 to 1,900 mm reach

Seven models on one platform: the FR3 and FR5, the C versions with the controller built into the base, the light FR3-WMS and FR3-WML welding arms and the long-reach FR5-WML.

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MANUFACTURER
FAIRINO



FR3 3 kg · 622 mm

FR5 5 kg · 922 mm

OVERVIEW

Seven arms, one collaborative platform

FAIRINO's FR3 and FR5 series are six-axis collaborative robot arms for factories, workshops, labs, shops and classrooms. All seven models share six rotating joints, mounting in any orientation, tool I/O at the wrist and programming in FAIRINO's Web App; they differ in payload, reach, where the controller sits and what they are built for.

Six axes, any orientation

Every model has six rotating joints and mounts in any orientation. FAIRINO's optional lightweight mobile mounting kit fits all seven.

Programmed in a browser

FAIRINO's Web App runs on the optional 10.1 inch teach pendant or on a computer, tablet or phone. The C versions use the Web App only.

Precise and quick

±0.02 mm pose repeatability (ISO 9283) on the FR3, FR3-WMS and FR5, ±0.05 mm or ±0.1 mm on the others. Typical TCP speed 1 m/s, 2 m/s on the FR5-WML.

Tools plug in at the wrist

2 digital inputs, 2 digital outputs, 1 analogue input and 1 analogue output with a 24 V / 1.5 A supply at the tool, on every model.

Sealed for the shop floor

IP54 on every model, IP65 as an option on the FR3, FR3-WMS, FR3-WML, FR5 and FR5-WML. Noise below 65 dB.

Safety on paper

SGS assessed the FR3 and FR5 safety functions to PL d, Category 3 (ISO 13849-1) and their collision forces to ISO/TS 15066.

3 to 5 kg	622 to 1,900 mm	±0.02 mm	6	≈ 10.5 kg
RATED PAYLOAD	REACH	BEST REPEATABILITY	ROTATING JOINTS	LIGHTEST ARM, FR3-WMS

Which model?

SEVEN MODELS IN TWO PAYLOAD CLASSES

FR3 SERIES · 3 KG RATED PAYLOAD



FR3

3 kg (max. 5 kg) · 622 mm

±0.02 mm · ≈ 15 kg · IP54

- Teach pendant optional
- IP65 optional
- Mirror version for dual arms



FR3-C

3 kg · 622 mm

±0.05 mm · ≈ 14 kg · IP54

- Controller in the base
- Web App only, no pendant
- For desktop and mobile use



FR3-WMS

3 kg · 622 mm

±0.02 mm · ≈ 10.5 kg · IP54

- Light arm for welding
- Wrist 3 turns ±360°
- IP65 optional



FR3-WML

3 kg · 922 mm

±0.05 mm · ≈ 11.25 kg · IP54

- Ultra-light arm for welding
- Wrist 3 turns ±360°
- IP65 optional

FR5 SERIES · 4 TO 5 KG RATED PAYLOAD



FR5

5 kg (max. 7 kg) · 922 mm

±0.02 mm · ≈ 22 kg · IP54

- Teach pendant optional
- IP65 optional
- Black finish available



FR5-C

4 kg (max. 5 kg) · 922 mm

±0.05 mm · ≈ 11.8 kg · IP54

- Controller in the base
- Web App only, no pendant
- For new retail and service



FR5-WML

5 kg · 1,900 mm

±0.1 mm · ≤ 45 kg · IP54

- The longest reach of the seven
- 2 m/s TCP, from −20 °C
- IP65 optional

How to choose

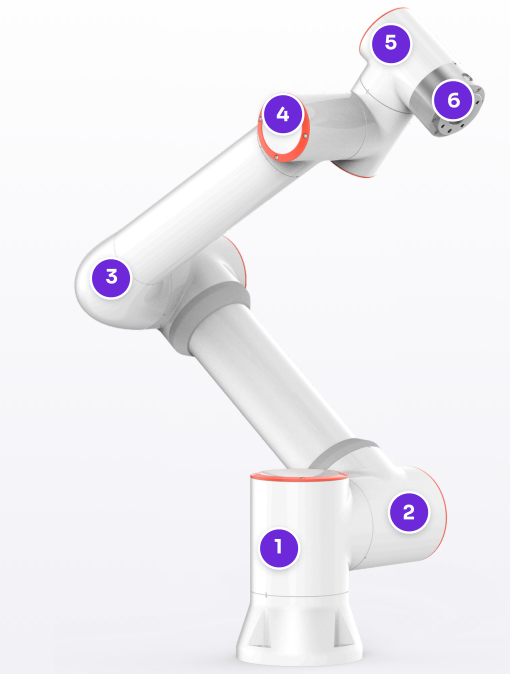
Start with **payload and reach**, then choose how you program the arm: **with or without a teach pendant** (pendant optional on all but the C versions).

Every figure for all seven models is on page 6.

THE SYSTEM

An arm, its controller and the way you teach it

FAIRINO's manual shows the FR system as the arm, the control box, the safety box and the teach pendant, joined by the robot cable, with a power cord to the control box. The teach pendant is optional. On the FR3-C and FR5-C the controller is built into the robot base and the arm is programmed in the Web App, without a teach pendant.



FR5 shown. Joint ranges and speeds of every model are on page 6.

1 Base · J1
±175° on every model. Base footprint Ø 128 mm (FR3, FR3-WMS, FR3-WML), Ø 125 mm (C versions), Ø 149 mm (FR5), Ø 190 mm (FR5-WML).

2 Shoulder · J2
+85°/–265° on every model, at up to 180°/s on the FR3, FR3-C and FR5.

3 Elbow · J3
±150° (FR3, FR3-WMS, FR3-WML) to ±170° (FR5-WML); ±160° on the FR3-C, FR5 and FR5-C.

4 Wrist 1 · J4
+85°/–265° at up to 180°/s on every model.

5 Wrist 2 · J5
±175° at up to 180°/s on every model.

6 Wrist 3 · J6 and tool flange
±360° on the FR3-WMS, FR3-WML, FR5-C and FR5-WML; ±175° on the FR3, FR3-C and FR5, with ±360° as an option on the FR3 and FR5. Tool I/O and a 24 V / 1.5 A supply at the flange on every model.



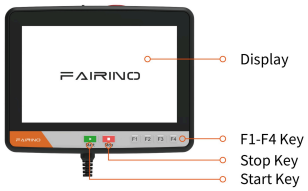
Control box

The arm's controller (DC MINI or AC MINI, 245 × 180 × 44.5 mm, IP54, 0 to 45 °C) for the FR3, FR3-WMS, FR3-WML, FR5 and FR5-WML. 16 digital inputs, 16 digital outputs, 2 analogue in, 2 analogue out, 2 high-speed pulse inputs. I/O, TCP/IP and Modbus TCP/RTU as standard; CC-Link IE Field Basic, PROFINET, EtherNet/IP and EtherCAT as options. SDK for C#, C++, Python, ROS and ROS 2.



Safety box

IP54, 136 × 60 × 66 mm, 490 g with its 5 m cable. Buttons for manual or automatic mode, drag teaching, point recording, start/stop and shutdown. It connects over RJ45 (TCP/IP, PoE), so a computer or tablet can log in to the Web App.



FR-HMI teach pendant (optional)

10.1 inch, 1280 × 800 display, IP54, 268 × 210 × 88 mm, 1.6 kg, 5 m cable. Start, stop and F1 to F4 keys at the front; an emergency stop switch, a three-position enabling switch, joint keys and a manual, automatic or customised mode key on the back. Not supported on the C versions.

Power

CONTROLLER

DC MINI controller: 30 to 60 V DC. AC MINI controller 2 kW: 100 to 240 V AC, single phase, 50 to 60 Hz. Typical power of each arm is on page 6.

Mobile mounting kit (optional)

ACCESSORY · ALL SEVEN MODELS

A mobile base on swivel casters with adjustable feet, a fixed column 610 to 1,220 mm high, a robot base adapter and brackets for the teach pendant and the control box. The lightweight kit fits all seven models.

HIGHLIGHTS

Built to share the workspace



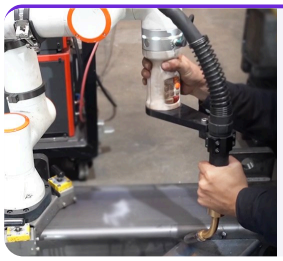
People and arms on the same floor

Collaborative arms work next to people without a fence where the risk assessment of the cell allows it. For the FR3 and FR5, FAIRINO has the safety functions and the collision forces assessed by SGS.



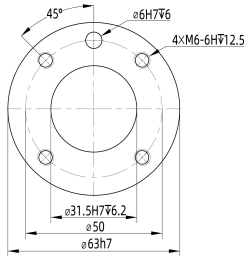
Program in a browser

Teach, edit and run programs in FAIRINO's Web App: on the optional teach pendant, a computer, a tablet or a phone. The C versions are programmed this way, without a pendant.



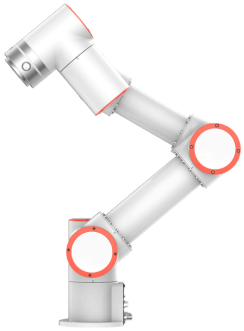
Teach by hand

Switch the safety box to drag mode, guide the arm to each position and record the points; here, a welding path.



A standard tool flange

On the FR5: Ø 63 mm, 4 × M6 on a Ø 50 mm circle and a Ø 6 mm locating hole, made for industrial robot end-effector connections. Tool I/O on every model.



Controller in the base

On the FR3-C and FR5-C the control cabinet is built into the robot base: no separate control box to place, programming in the Web App.

Certificates

ISSUED FOR THE FR3 AND FR5 (WITH FAIRINO'S LARGER ARMS)

CE, Machinery Directive
SGS verification against EN ISO 10218-1, EN 60204-1, EN ISO 12100 and ISO/TS 15066 Annex A.

Functional safety
PL d, Category 3 to ISO 13849-1:2023, technical report by SGS.

Collision forces
Tested to Annex A of ISO/TS 15066, verification by SGS.

NRTL, North America
UL 1740 and CAN/CSA Z434, certificates of compliance by SGS North America.

EMC and RoHS
EN IEC 61000-6-2 and 61000-6-4 test report; RoHS verification to IEC 62321.

Quality management
ISO 9001:2015 certificate for FAIRINO's production of collaborative robots.

The certificates name the FR3 and FR5. For the C, WMS and WML versions, the certificates that apply are confirmed with your quotation.

Safety functions in the assessment

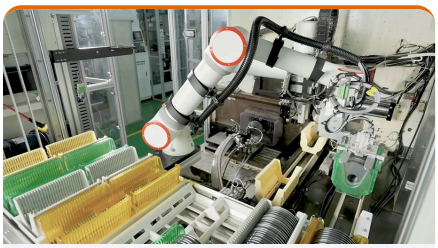
FR3 AND FR5 · PL D, CATEGORY 3

Emergency stop · Protective stop · Joint position limit · Joint speed limit · Joint torque limit · TCP pose limit · TCP speed limit · TCP force limit · Power limit · Momentum limit · Emergency stop output · System status output · Three-position enabling · Monitored standstill · Stopping time limit · Stopping distance limit

WHERE IT WORKS

From machine cells to coffee counters

These are the jobs FAIRINO names for the FR3 and FR5 series. Each card says which models FAIRINO puts forward for it; we confirm the right model for your task with your quotation.



Machine tending

FR5

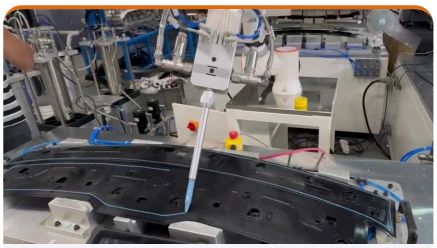
Loading and unloading CNC machines and other equipment with a gripper. FAIRINO puts the FR5 forward for CNC pick and place for automotive parts, 3C, precision manufacturing, medical devices, hardware and injection moulding.



Pick and place, sorting

FR3 · FR5

Moving parts between trays, fixtures and conveyors with a gripper or suction cup, with a camera when parts arrive unsorted. For e-commerce and logistics, automotive parts, 3C, food and consumer goods.



Assembly and dispensing

FR3 · FR5

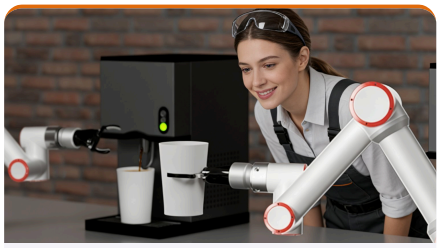
Screw fastening, glue application, grinding, deburring and parts inspection: the jobs FAIRINO lists for 3C and automotive lines, where products change often.



Welding

FR3-WMS · FR3-WML

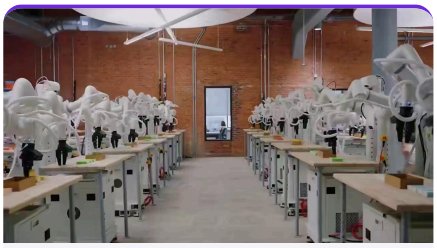
The two light welding arms; FAIRINO's welding line-up also includes the FR3, FR5 and FR5-WML. For shipbuilding, bridge building, petrochemical plant, hardware and heavy machinery.



Coffee, food and new retail

FR3 · FR3-C · FR5 · FR5-C

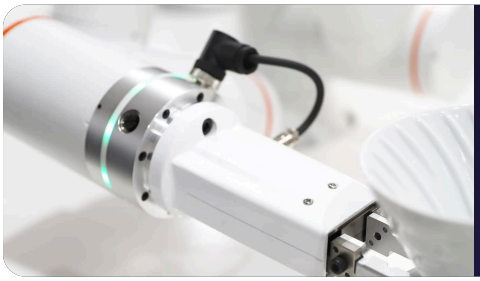
Coffee, milk tea and ice cream stations, kiosks and pop-up stores. The C versions, with the controller in the base, suit desktop and mobile set-ups.



Education and research

MODELS WITH THE CONTROL BOX

An open SDK for C#, C++, Python, ROS and ROS 2, with Modbus and TCP/IP. FAIRINO's Spark education platform adds a gripper, a camera and a sensor to the arm.



Tools for the job

FAIRINO'S ACCESSORY RANGE

Electric grippers, 3D and depth cameras, force sensors, welding torches and walking axes, and mobile mounting kits come from FAIRINO's own range.

Tell us the task, and we quote the arm with the tools it needs; compatibility with your model is confirmed with the quotation.

From task to quotation

HOW WE PUT A FAIRINO ARM TOGETHER FOR YOU

1

The task

What the arm handles, the weight of the part and the tool, and the reach.

2

The model

We match the FR3 or FR5 version to payload, reach and programming.

3

The options

Teach pendant, IP65, a mounting kit and the tools for the job.

4

The quotation

Configuration, a delivery estimate to your address and a formal quotation.

SIDE BY SIDE

FR3 and FR5 series compared

	FR3 SERIES				FR5 SERIES		
							
MODEL	FR3	FR3-C	FR3-WMS	FR3-WML	FR5	FR5-C	FR5-WML
GENERAL							
Rated payload	3 kg (max. 5 kg)	3 kg			5 kg (max. 7 kg)	4 kg (max. 5 kg)	5 kg
Reach	622 mm			922 mm			1,900 mm
Degrees of freedom	6 rotating joints						
Pose repeatability (ISO 9283)	±0.02 mm	±0.05 mm	±0.02 mm	±0.05 mm	±0.02 mm	±0.05 mm	±0.1 mm
Typical TCP speed	1 m/s						2 m/s
Programming interface	10.1″ teach pendant (optional) or Web App	Web App (no teach pendant)	10.1″ teach pendant (optional) or Web App			Web App (no teach pendant)	10.1″ teach pendant (optional) or Web App
Dual-arm builds	Mirror version available	n/a	n/a	n/a	n/a	n/a	n/a
JOINT RANGE · MAXIMUM SPEED							
Base (J1)	±175° ±180°/s		±175° ±150°/s		±175° ±180°/s	±175° ±150°/s	±175° ±120°/s
Shoulder (J2)	+85°/−265° ±180°/s		+85°/−265° ±150°/s		+85°/−265° ±180°/s	+85°/−265° ±150°/s	+85°/−265° ±120°/s
Elbow (J3)	±150° ±180°/s	±160° ±180°/s	±150° ±150°/s		±160° ±180°/s	±160° ±150°/s	±170° ±180°/s
Wrist 1 (J4)	+85°/−265° ±180°/s						
Wrist 2 (J5)	±175° ±180°/s						
Wrist 3 (J6)	±175° (opt. ±360°) ±180°/s	±175° ±180°/s	±360° ±180°/s		±175° (opt. ±360°) ±180°/s	±360° ±180°/s	
INTERFACES & ENVIRONMENT							
Protection class	IP54 (IP65 optional)	IP54	IP54 (IP65 optional)			IP54	IP54 (IP65 optional)
Tool I/O	2 DI · 2 DO · 1 AI · 1 AO						
Tool I/O power supply	24 V / 1.5 A						
Mounting	Any orientation						
Noise	< 65 dB						
Operating temperature	0 to 45 °C						−20 to 45 °C
Operating humidity	90% RH	20 to 90% RH	90% RH				
PHYSICAL & POWER							
Weight	≈ 15 kg	≈ 14 kg	≈ 10.5 kg	≈ 11.25 kg	≈ 22 kg	≈ 11.8 kg	≤ 45 kg
Base footprint	Ø 128 mm	Ø 125 mm	Ø 128 mm		Ø 149 mm	Ø 125 mm	Ø 190 mm
Materials	Aluminium, steel						
Black finish available	No				Yes	No	
Typical average power *	220 W	260 W	90 W	140 W	260 W	190 W	270 W
Typical peak power *	280 W	320 W	130 W	240 W	310 W	340 W	620 W
Power test payload *	3 kg, Z 18 mm				5 kg, Z 30 mm	4 kg, Z 30 mm	5 kg, Z 30 mm

* Typical power over a 24-hour run of the manufacturer's test program at global speed 100, with the payload setting shown.

n/a: not applicable to that model. Figures: FAIRINO product catalogue, 2026 edition. Specifications may change; the configuration supplied is confirmed with your quotation.

Lightest
FR3-WMS, ≈ 10.5 kg, and FR3-WML, ≈ 11.25 kg.

Most precise
±0.02 mm on the FR3, FR3-WMS and FR5.

Longest reach
FR5-WML, 1,900 mm, with 2 m/s typical TCP speed.

No teach pendant
FR3-C and FR5-C: Web App only, controller in the base.

NEXT STEP

Get a quotation for your FAIRINO arm

Tell us the task: what the arm will pick, place, weld or tend, how heavy the tool and the part are, how far it must reach and how you want to program it. We recommend the model, confirm the configuration and the tools, and come back with a delivery estimate to your address and a formal quotation.

Request a quotation

Model, options and delivery are confirmed with your quotation. Robotix Market ships worldwide.

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SCAN OR CLICK FOR EACH PRODUCT PAGE

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FR3-WML
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FR5
robotixmarket.com

The FR5-C and FR5-WML are not on our web store: ask us about them.

Sourced new

Supplied new through established distribution channels.

Manufacturer warranty

Ships with the FAIRINO manufacturer warranty; the term is confirmed with your quotation.

Support

Technical support is coordinated with the manufacturer's service network.

In the box

FAIRINO's manual shows the FR system as the arm, the control box, the safety box, the robot cable and the power cord; on the FR3-C and FR5-C the controller is built into the base. The teach pendant is optional, and not supported on the C versions. We confirm the full packing list for your model with your quotation.

Useful to have ready

- Heaviest part plus tool, and the reach you need
- The task: tending, picking, assembly, welding or other
- Teach pendant, or Web App only
- How the arm links to your machines or PLC

The FR3 and FR5 series

SEVEN MODELS · RENDERS NOT TO SCALE



FR3 · FR3-C · FR3-WMS · FR3-WML · FR5 · FR5-C · FR5-WML

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