FANUC

THE FACTORY AUTOMATION COMPANY



ROBOTS

Product Overview



100% **FANUC**

FANUC is a leading global manufacturer of factory automation, with almost 40 years of experience in the development of robot technology, more than 600.000 installed worldwide, and satisfied customers in every corner of the globe.

more than

600,000

robot installations worldwide

up to

7,000 robot production capacity per month



From the smallest to the strongest

FANUC offers the widest range of robots in the world to cover the needs of diverse applications and industries. They are a key standard component – totally flexible with application-specific options, straightforward integration, and the colour of choice for demanding automation solutions.



Your advantages:

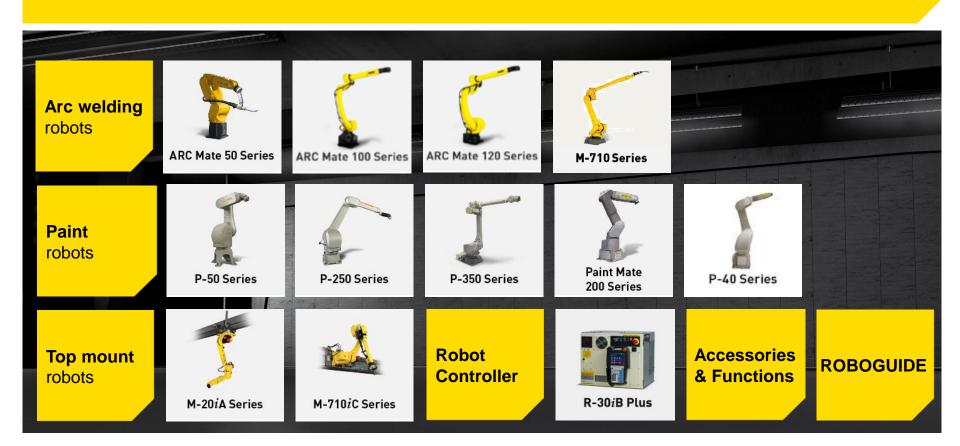
- more than 100 different robot models
- load capacity up to 2,300 kg
- reach up to 4,680 mm
- easy operation
- optimised energy consumption
- life time spare parts availability



Table of contents



Table of contents



Articulated Robots

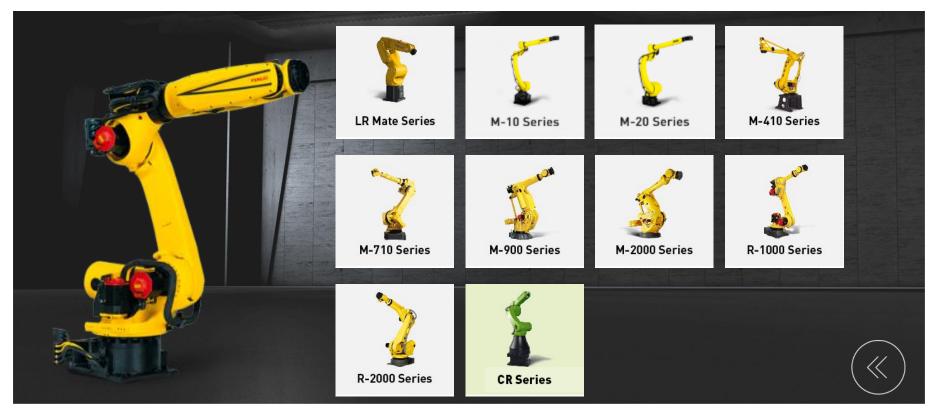


Max. load capacity at wrist: 2.300 kg



Max. reach: 4.683 mm





LR Mate Series



Max. load capacity at wrist: **14 kg**





Mounting position*:
Floor – Angle –
Upside down

Integrated Service

Three double-acting solenoid valves, air and input/output connections directly available near the wrist.

Lightweight

Weighing only up to 27 kg enables easy and flexible installation, a cost effective alternative to hard automation.

Compact

The space saving slim design and small footprint, provide an ideal solution for compact robot cells, production lines, and installation directly into or onto machines.

Protected

IP67 protection is provided as standard, enabling operation in areas with stringent cleaning requirements. Saves the costs of additional expensive protection equipment. IP69K available as option.

Payload/Reach

A large working envelope with a reach of 911 mm, and a payload of 14 kg, combine to provide solutions for high productivity handling and assembly applications.

Fast

Powerful servo motors giving high acceleration and short cycle times, providing users with improved productivity rates.

User-friendly

All the cabling is encased completely inside the robot housing, all surfaces are smooth and extremely easy to clean – for minimal maintenance, without down times.

Easy integration

Quick, easy, and economical installation for all mounting positions (floor, ceiling, and wall). Robot connections provided on the underside of axis1 ensure minimal interference with peripheral devices.

LR Mate Series



Max. load capacity at wrist: **14 kg**



Max. reach: 911 mm



Mounting position*:
Floor – Angle –
Upside down



Available robot versions:

LR Mate 200iD/4SH

LR Mate 200iD/4S

LR Mate 200iD/4SC

LR Mate 200iD/7H

LR Mate 200iD/7C

LR Mate 200iD/7WP

LR Mate 200iD

LR Mate 200iD/7L

LR Mate 200iD/7LC

LR Mate 200iD/14L

Short arm, 5-axis, (2 integrated solenoid valves)

Short arm, (2 integrated solenoid valves)

Short arm, clean room, food grade grease (2 integrated

solenoid valves)

5-axis, (3 integrated solenoid valves)

Clean room, food grade grease (3 integrated solenoid

valves)

Wash proof

Standard model, (3 integrated solenoid valves)

Long arm, (3 integrated solenoid valves)

Long arm, clean room, food grade grease (3 integrated

solenoid valves)

Long arm, (3 integrated solenoid valves)

Back to Table of Contents



Back to Articulated Robots Menu



M-10 Series



Max. load capacity at wrist: 12 kg





Mounting position*:
Floor – Angle –
Upside down

Compact

The slim wrist and the small footprint permit an easy integration and operation into tight work spaces

More space for equipmen

An additional mounting facility/area on the J3 arm enables close mounting of end effector control equipment.

Fast

The series has the highest axis speed and the best repeatability in its class.
High rigidity arm and advanced servo technology maximize speed and acceleration keeping cycle times short

Payload/Reach

With a reach up to 2032 mm it is the pick and pace specialist for payloads up to 12 kg. The enhanced wrist load capacity supports heavier tools, additional sensors and larger work pieces

Hollow Arm

Hollow and in-line wrist available. Built-in solution arm to prevent the risk of cable interference.

Flexible

Floor, ceiling or wall mounting possibilities. Wire and pipes through hollow arm 4

M-10 Series



Max. load capacity at wrist: **12 kg**







M-20 Series



Max. load capacity at wrist: **35 kg**







M-20 Series



Max. load capacity at wrist: 35 kg





Mounting position*:
Floor – Angle –
Upside down



Integrated services

User interface is integrated in the arm. (2 integrated solenoid valves). Connectors doesn't protrude, and the cables can be simply formed on the arm. Complete interface is protected with a cover

Fully enclosed design

Cables and motors are not exposed. Standard IP67 construction can adapt variable environment.

Slim and compact

Ideally suited to work in narrow spaces thanks to its slim arm.



Strong wrist

35kg payload support high inertia and moments.

Clean and food

Suitable for clean and food environment Cleanroom type (ISO 4) available. Food grade grease (NSF H1 grade) and resistant against cleaning agents. Dipping test on customer-specific cleaners possible

Fast

High rigidity arm and advanced servo technology enable to increase acceleration performances. This decreases cycle time for higher productivity

M-20 Series



Max. load capacity at wrist: **35 kg**





Mounting position*:
Floor – Angle –
Upside down



M-20*i*A/12L M-20*i*A/20T

M 2017 (20

M-20*i*A

M-20*i*B/25

M-20*i*B/25C

M-20*i*B/35S M-20*i*A/20M, /35M

M-20*i*D/12L

M-20*i*D/25

Long arm, hollow wrist

Top mount, hollow wrist

Standard model, hollow wrist

Standard model, (2 integrated solenoid valves)

Clean Room, (2 integrated solenoid valves)

High inertia

High inertia
Hollow wrist

Hollow wrist

Back to Table of Contents



Back to Articulated Robots Menu



M-410 Series



Max. load capacity at wrist: **700 kg**





Mounting position: Floor

Payload/Reach

The heavy-duty palletising specialists for loads weighing up to 700 kg, specifically designed to stack pallets up to a height of 2 metres reaching up to 3143 mm

Fast

High wrist moments and inertia permit to handle large grippers and heavy payloads at maximum speed

Compact

The integrated base and controller in the pedestal saves floor space and makes installation easier. (non-pedestal version also available)

Integrated Service

Integrated pneumatic and electrical services consisting of 8 inputs and 8 outputs plus PROFIBUS as standard are available on axis 3 for simple integration of end-of-arm tooling

Hollow wrist

Internal cable routing through the wrist prevents cable interference and increases cable life

M-410 Series



Max. load capacity at wrist: **700 kg**





Mounting position: Floor



M-710 Series



Max. load capacity at wrist: **70 kg**





Mounting position*:
Floor – Angle –
Upside down

Payload/Reach

Lightweight robots designed for handling applications involving medium payloads from 12 to 70 kg and to reach up to 3123mm

Protected

Entirely IP67 protected, making the series ideal for harsh and sever environmental conditions. Washing adaption option available

Compact

The small footprint, slim J3 arm and wrist help to design very compact robot systems and access into machines and tight spaces

Slim Arm

Slim arm and wrist assemblies minimise the interference with system peripherals allowing operation in tight spaces

Fast

High axis speeds make this series extremely fast

Integrated Service

Integrated pneumatic and electrical services consisting of 8 inputs and 8 outputs as standard are available on axis 3 for simple integration of end-of-arm tooling

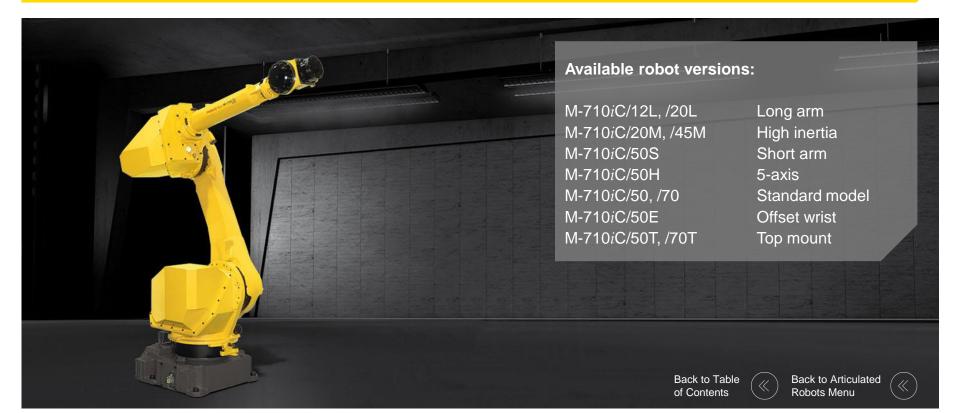
M-710 Series



Max. load capacity at wrist: **70 kg**







M-900 Series



Max. load capacity at wrist: **700 kg**





Mounting position*:
Floor – Angle –
Upside down

Payload/Reach

Heavy payload 6 axis robots (up to 700 kg) with very high structural rigidity and a wide envelope reaching 3704 mm for large part handling

Integrated Service

Integrated pneumatic and electrical services consisting of 8 inputs and 8 outputs as standard

Rigid Construction

The rigid construction along with its supporting parallel link arm, ensures accurate handling of heavy workpieces, fast palletising and precise heavy-duty drilling

Protected

The IP67 protected wrist and J3 arm provide long service life and top reliability even in severe environments. Motors are mounted on the shoulder to protect them from heat and harsh operating conditions

Higher throughput

Higher throughput thanks to improved carrying capability, wrist moments and inertia.

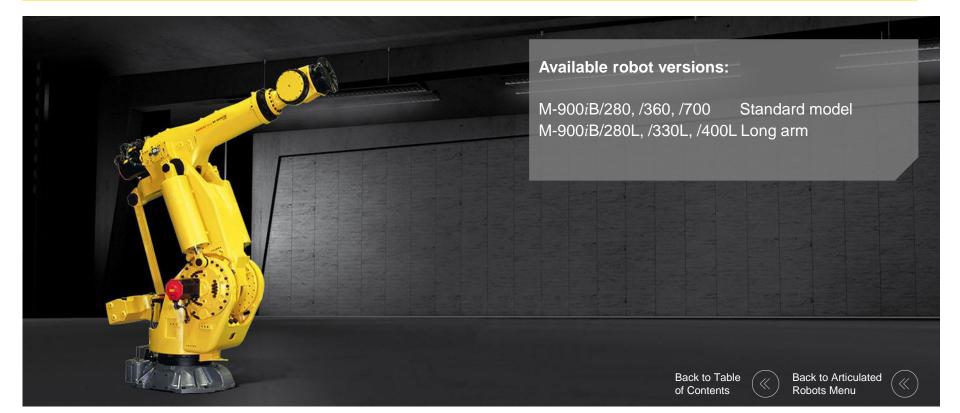
M-900 Series



Max. load capacity at wrist: **700 kg**







M-2000 Series



Max. load capacity at wrist: 2.300 kg





Mounting position: Floor

Payload/Reach

With an handling capacity up to 2.3 t and a reach up to 4.7 m, this is the strongest family of industrial robots on the market

Rigid Construction

Its rigid construction provides stable transfer of super-heavy parts making it perfect to replace fixed hard automations (cranes, hoists, etc.), increasing the output and the accuracy and eliminating dangerous manual work

Protected

IP67 protected wrist (water and dustproof) and shoulder-mounted motors make it ideal to harsh environmental conditions

Flexible

Despite its enormous payload, accessing narrow spaces is not a problem thanks to the slim design of its arm

Reliability

Purpose made heavy-duty components guarantee that its capability of thousands of hours of continuous heavy operation

M-2000 Series



Max. load capacity at wrist: 2.300 kg





Mounting position: Floor



R-1000 Series



Max. load capacity at wrist: **130 kg**





Mounting position*: Floor – Upside down

Payload/Reach

Compact and high-speed robots with a wrist capacity up to 120 kg and a reach of 2230 mm, ideal for handling applications involving medium payloads

Versatile

Compact mechanical unit and outstanding motion performance are suitable for handling, spot welding and palletising in dense layout work cells

Fast

The compact robot achieves faster cycle times than conventional spot welding and handling robots



IP67 protection and wrist motors at the rear of J3 keep sensitive parts away from hot, wet or dirty environments

Compact

A narrow footprint and a slim design allow more robots to fit into a work cell, helping in saving precious floor space

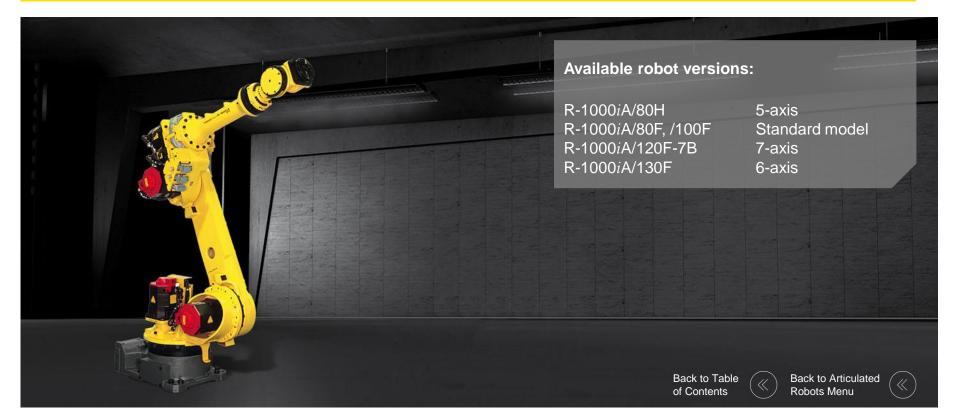
R-1000 Series



Max. load capacity at wrist: **120 kg**







R-2000 Series



Max. load capacity at wrist: **270 kg**







R-2000 Series



Max. load capacity at wrist: **270 kg**





Mounting position*:
Floor – Angle –
Upside down



Available robot versions:

R-2000iC/100P

R-2000iC/125L, /210L

R-2000*i*C/165F, /210F, /250F, /270F

R-2000iC/165R, /210R, /270R

R-2000iC/210WE

R-2000iC/220U

R-2000iD/165FH, /210

Pedestal mount

Long arm

Standard model

Rack mount

Wash environment

Upside down mount

Standard model

Back to Table of Contents



Back to Articulated Robots Menu



Collaborative Robots Series



Max. load capacity at wrist: **35 kg**





Mounting position*: Floor – Upside down

Payload/Reach

With a wide payload range (4, 7, 14, 15 and 35 kg) and a reach up to 1813 m, it is the strongest collaborative family on the market. Compatible with FANUC options and accessories

Safe Collaboration

CRs and humans can safely work side-by-side without the need of safety fences thanks to a proven sensor technology that permits the robots to immediately stop in case of contact

Proven Technology

Even though green outside it is Yellow at heart meaning high reliability, known and proven technology, global service, spare parts availability

Certified

Safety certified ISO 12018-1:2011 and ISO 13849-1:2008 (Cat.3 PLd=) ISO/TS15066 compliance can be achieved by third party safety body

Versatile

Designed to collaborate with operators to reduce strenuous repetitive and even dangerous jobs in industries such as automotive, packaging, distribution and metalworking and in a wide range of applications

Collaborative Robots Series



Max. load capacity at wrist: **35 kg**







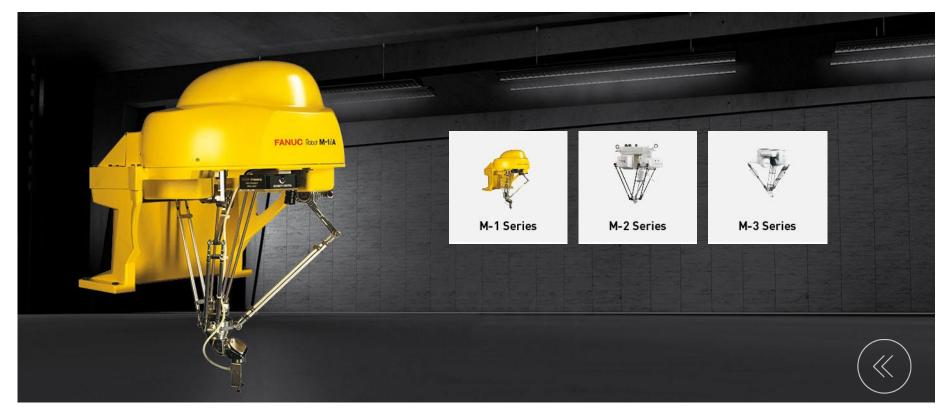
Delta Robots



Max. load capacity at wrist: **12 kg**







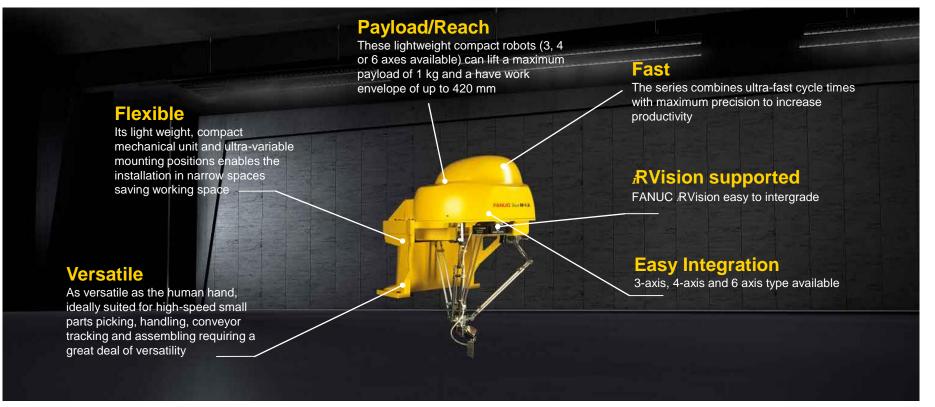
M-1 Series



Max. load capacity at wrist: 1 kg







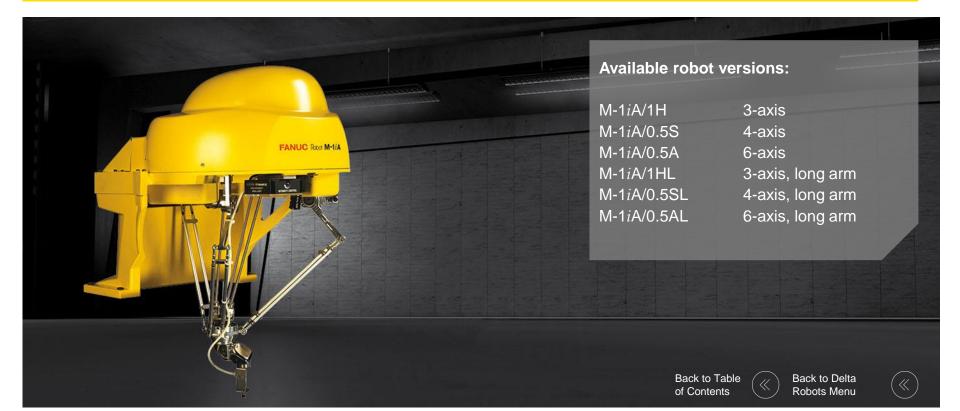
M-1 Series



Max. load capacity at wrist: 1 kg







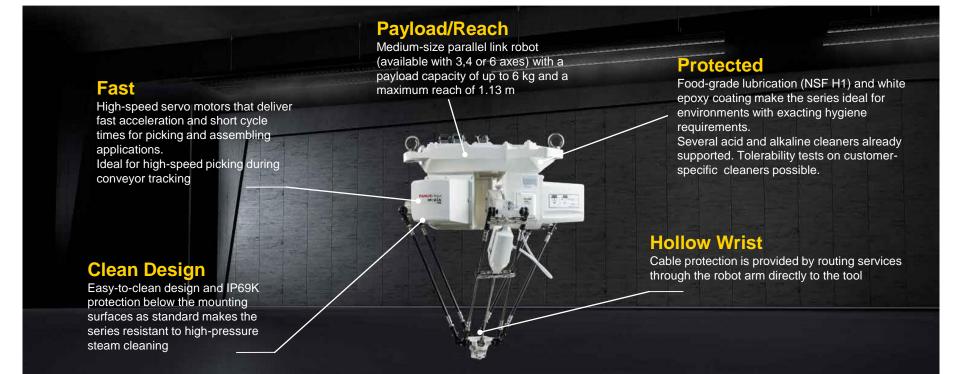
M-2 Series



Max. load capacity at wrist: **6 kg**







M-2 Series

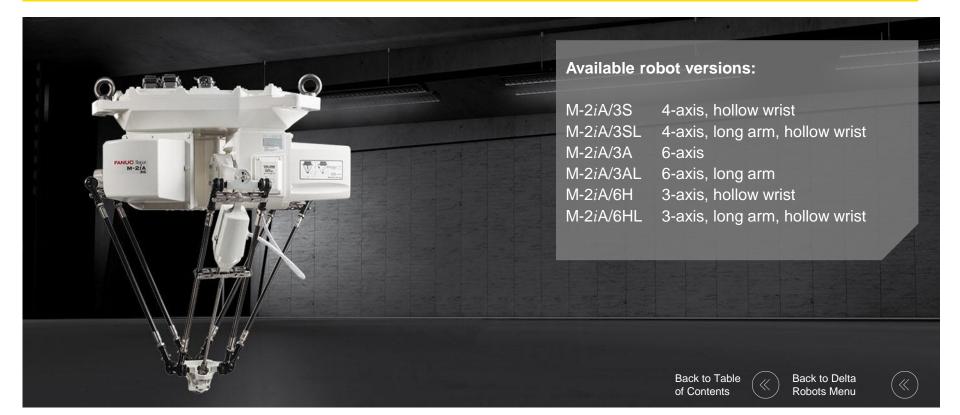


Max. load capacity at wrist: **6 kg**





Mounting position: Upside down



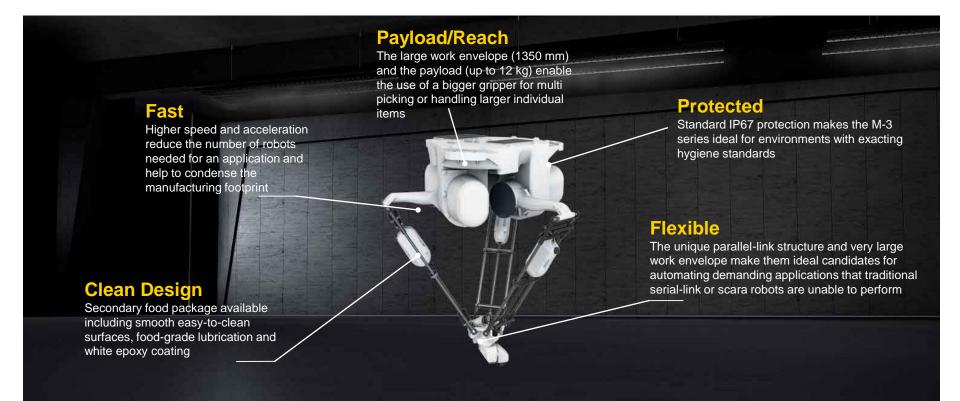
M-3 Series



Max. load capacity at wrist: **12 kg**







M-3 Series



Max. load capacity at wrist: **12 kg**





Mounting position: Upside down



SCARA Series

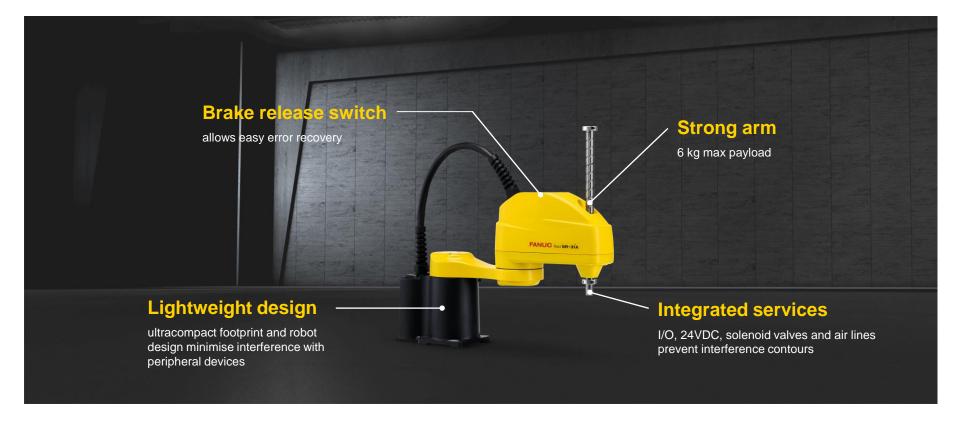


Max. load capacity at wrist: **6 kg**





Mounting position: floor, wall (optional)



SCARA Series

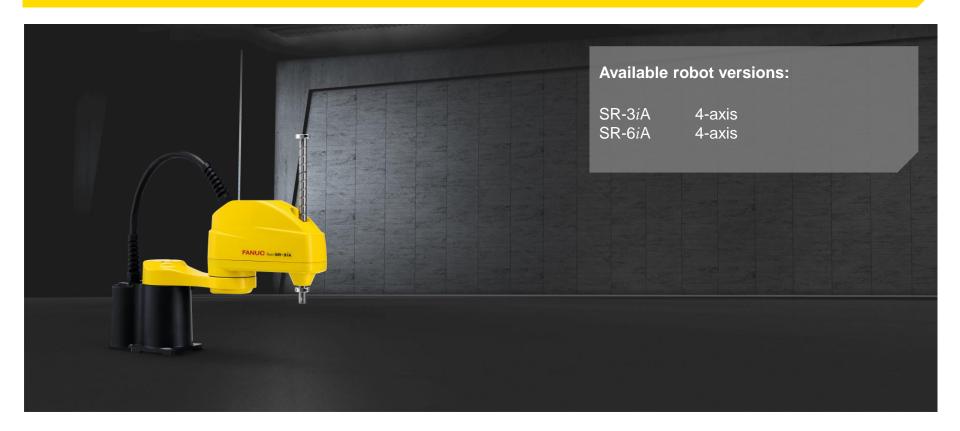


Max. load capacity at wrist: **6 kg**





Mounting position: floor, wall (optional)



Palletising Robots (%)

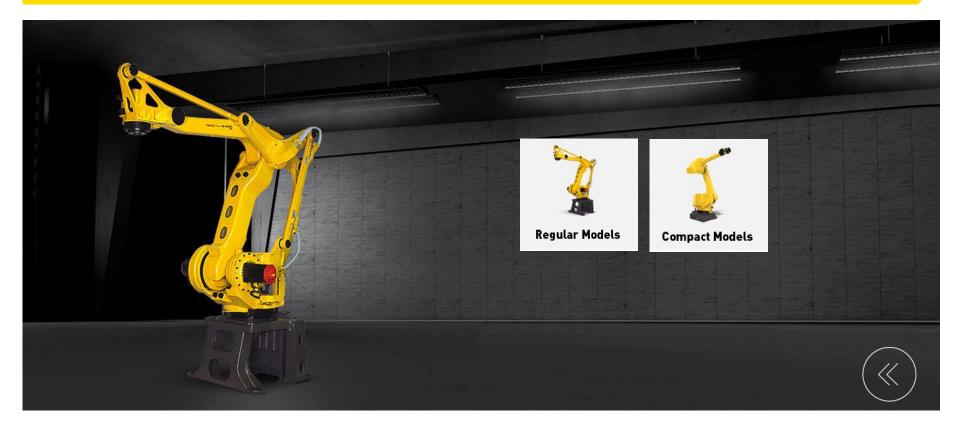


Max. load capacity at wrist: 700 kg





Mounting position: Floor



Palletising Robots



Max. load capacity at wrist: **700 kg**





Mounting position*: Floor

Reach

Optimized large work envelope

- max. horizontal reach 3143 mm
- max. vertical reach 2958 mm to fit best to palletizing applications.

Integrated Service

Integrated pneumatic and electrical services consisting of 8 inputs and 8 outputs plus PROFIBUS as standard are available on axis 3 for simple integration of end-of-arm tooling

Compact base

The integrated base and controller in the pedestal saves floor space and makes installation easier. (non-pedestal version also available).



Strong hollow wrist

Internal cable routing through the wrist prevents cable interference and increases cable life.

Payload

Huge payload range:

- 185 kg
- 315 kg
- 500 kg
- 700kg

to perfectly fit to your application needs.

Palletising Robots M-410 Series



Max. load capacity at wrist: **700 kg**





Mounting position: Floor



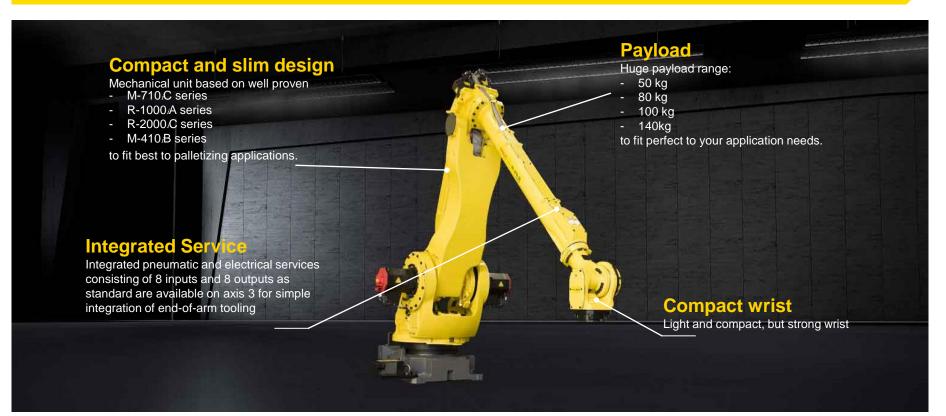
Palletising Robots Compact palletizers



Max. load capacity at wrist: **50-140 kg**







Palletising Robots M-710*i*C/50H



Max. load capacity at wrist: **50 kg**







Palletising Robots R-1000*i*A/80H



Max. load capacity at wrist: **80 kg**







Palletising Robots M-410*i*B/140H

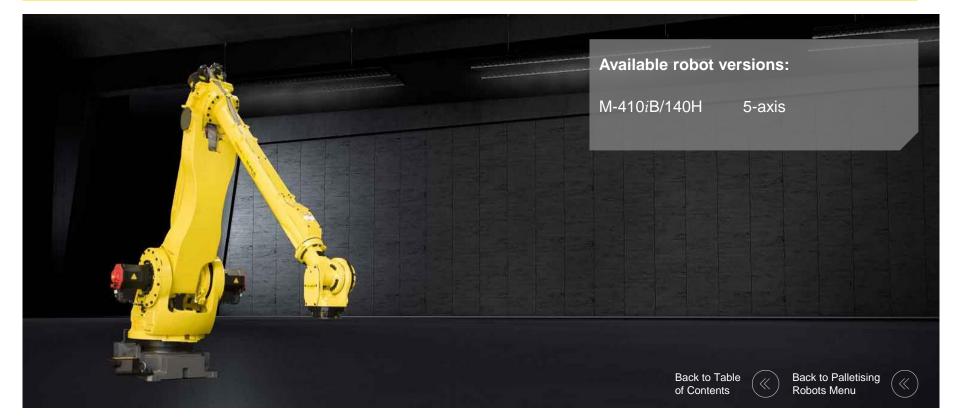


Max. load capacity at wrist: **140 kg**





Mounting position: Floor



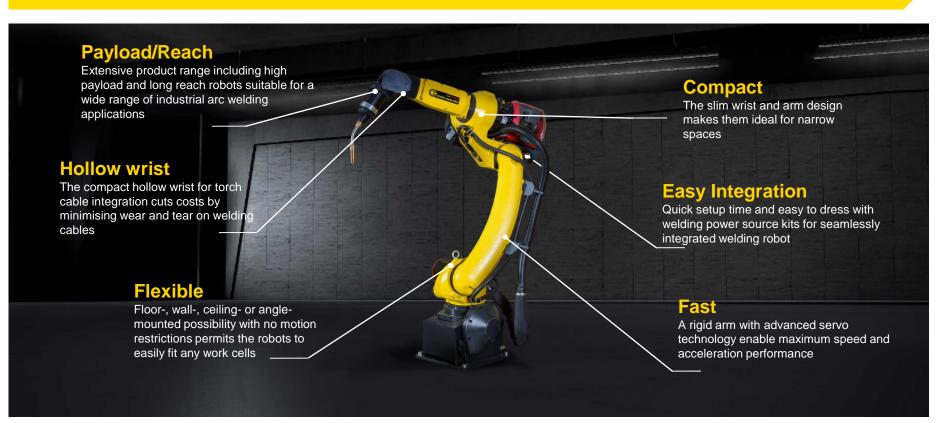
Arc Welding Robots



Max. load capacity at wrist: 25 kg







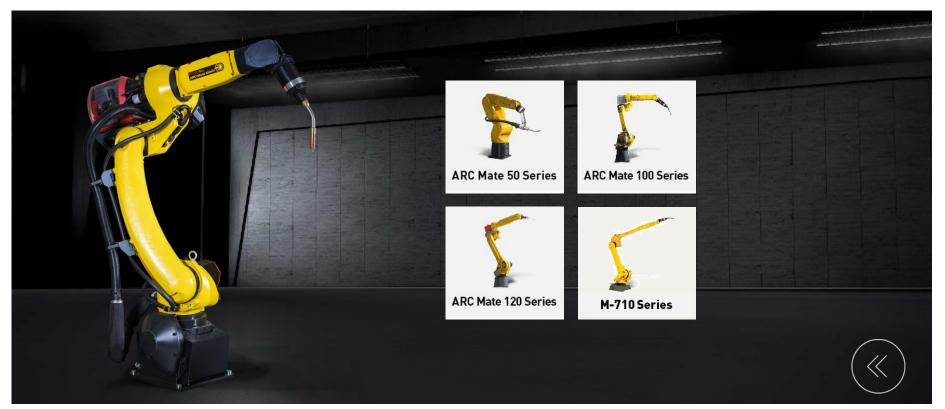
Arc Welding Robots



Max. load capacity at wrist: 25 kg







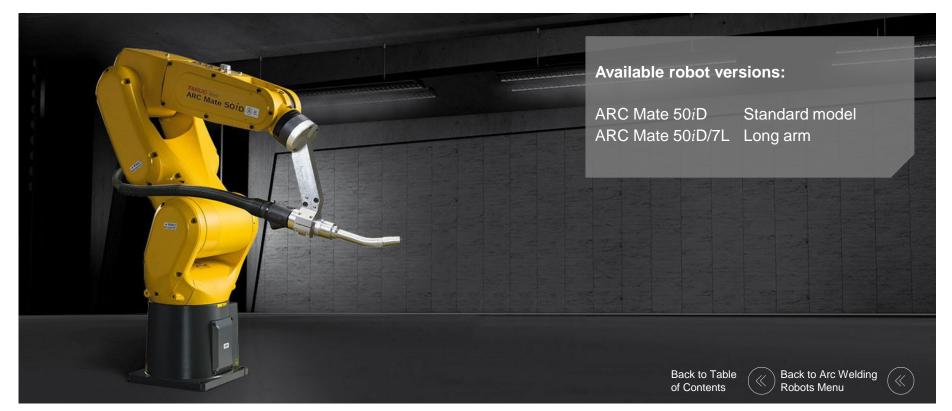
Arc Welding Robots ARC Mate 50 Series



Max. load capacity at wrist: **7 kg**







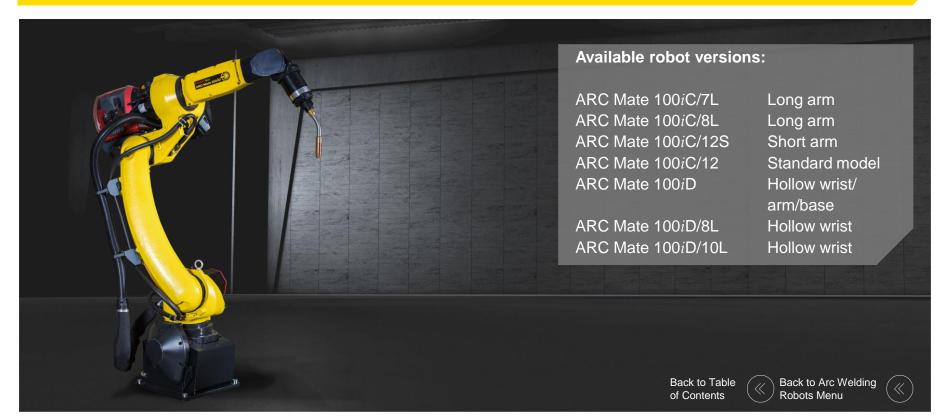
Arc Welding Robots ARC Mate 100 Series



Max. load capacity at wrist: **3-12 kg**







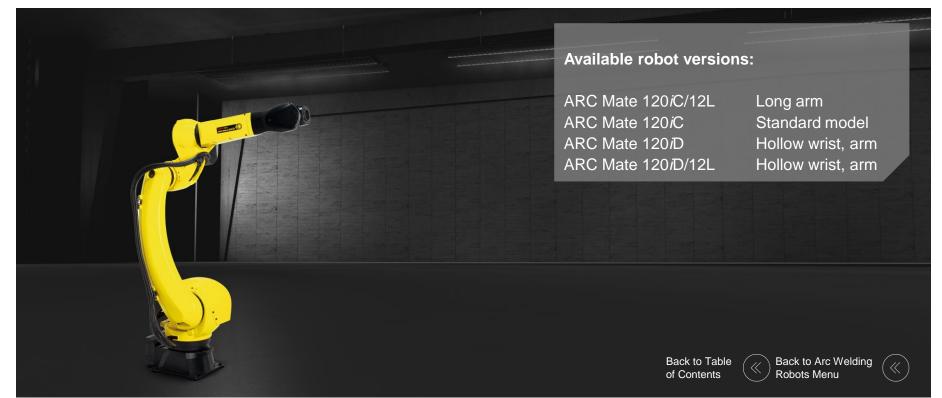
Arc Welding Robots ARC Mate 120 Series



Max. load capacity at wrist: **3-25 kg**







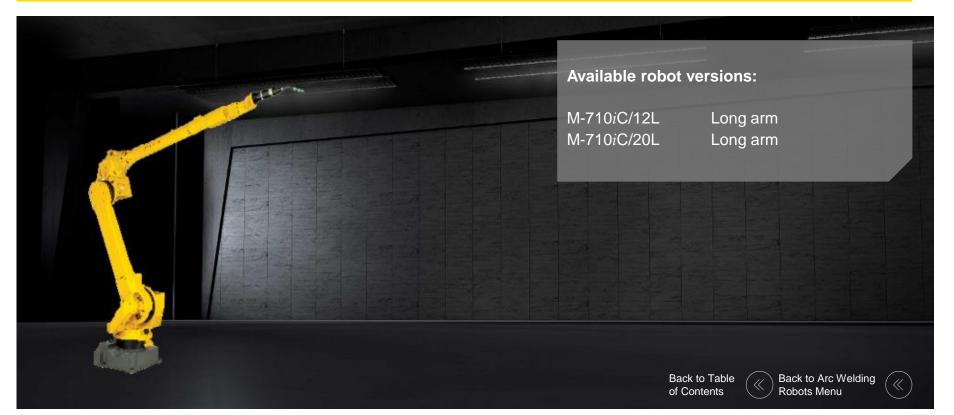
Arc Welding RobotsM-710 Series



Max. load capacity at wrist: **20 kg**







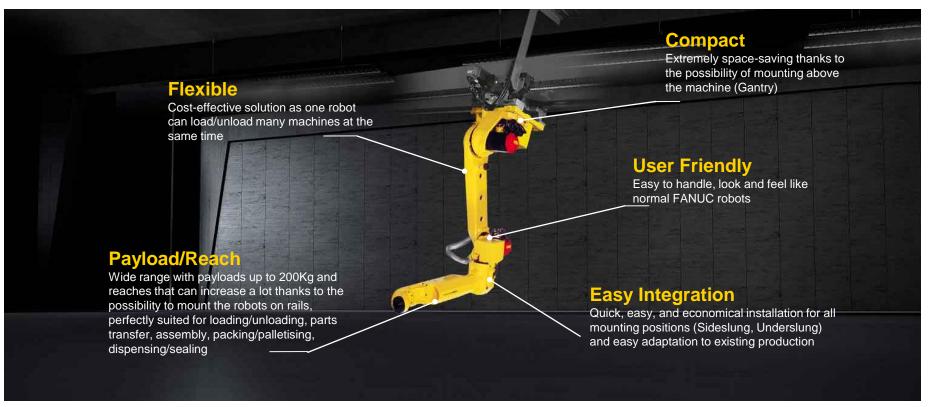
Top Mount Robots



Max. load capacity at wrist: **200 kg**







Top Mount Robots (Sa)



Max. load capacity at wrist: 200 kg







Top Mount Robots M-20*i*A/20T



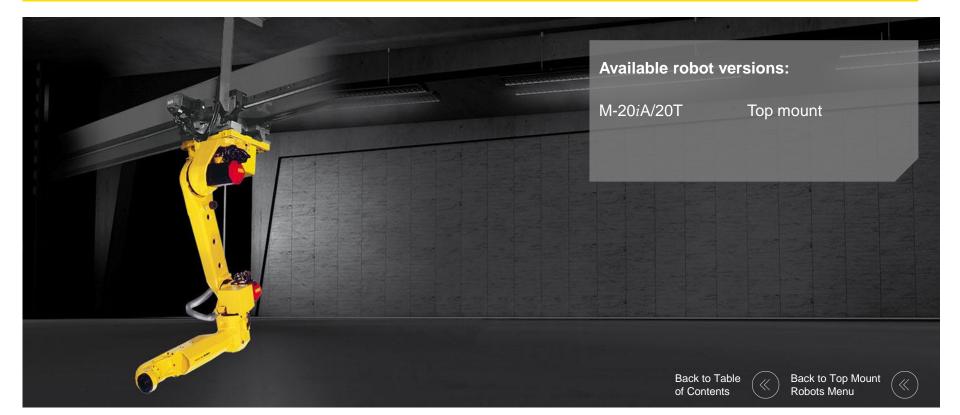
Max. load capacity at wrist: 20-35 kg





Mounting position*:

Angle – Upside
down



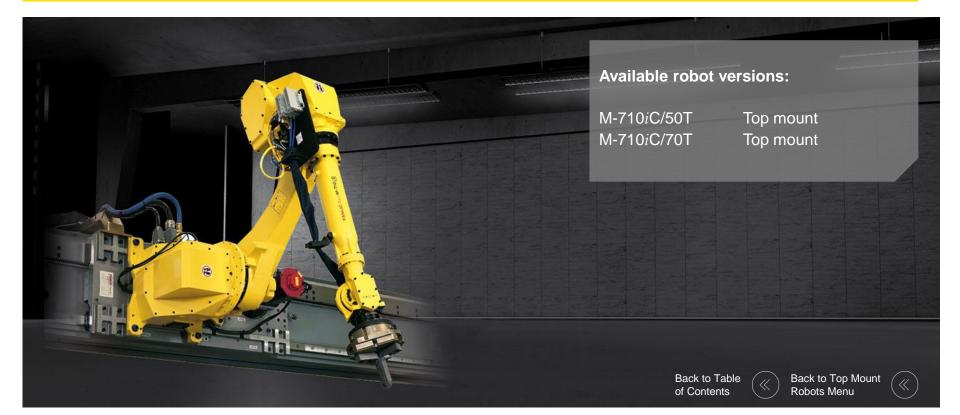
Top Mount Robots M-710*i*C/50T/70T



Max. load capacity at wrist: **50-70 kg**







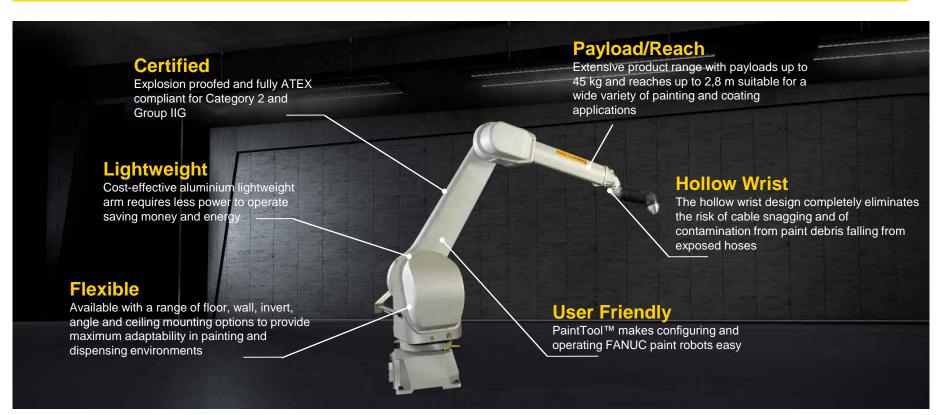
Paint Robots



Max. load capacity at wrist: **45 kg**







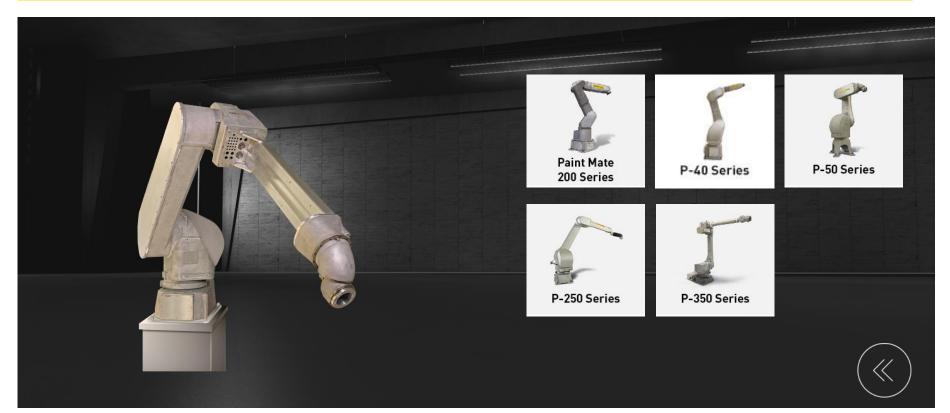
Paint Robots



Max. load capacity at wrist: **45 kg**







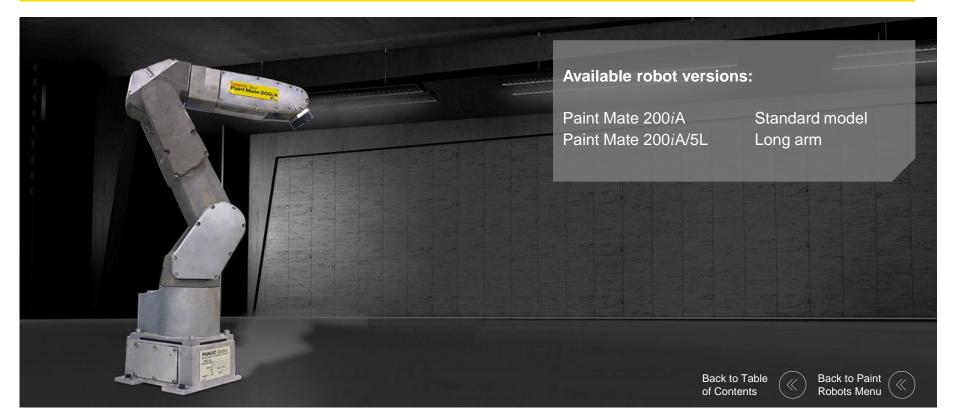
Paint Robots Paint Mate 200 Series



Max. load capacity at wrist: **5 kg**





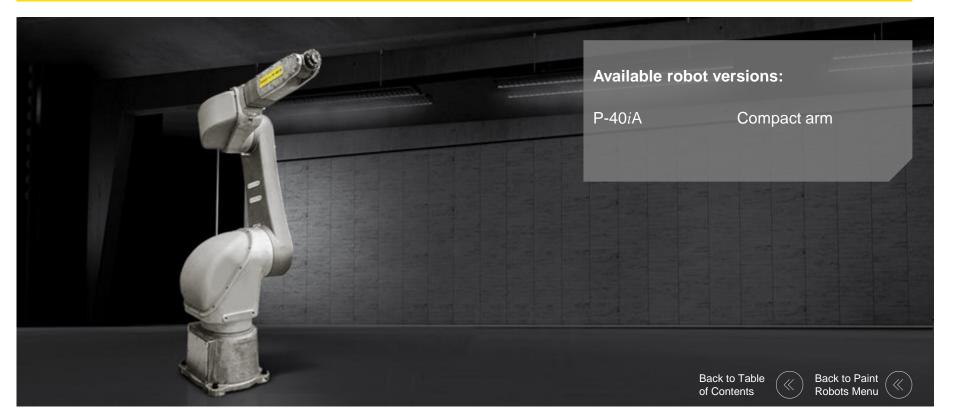


Paint Robots P-40 Series









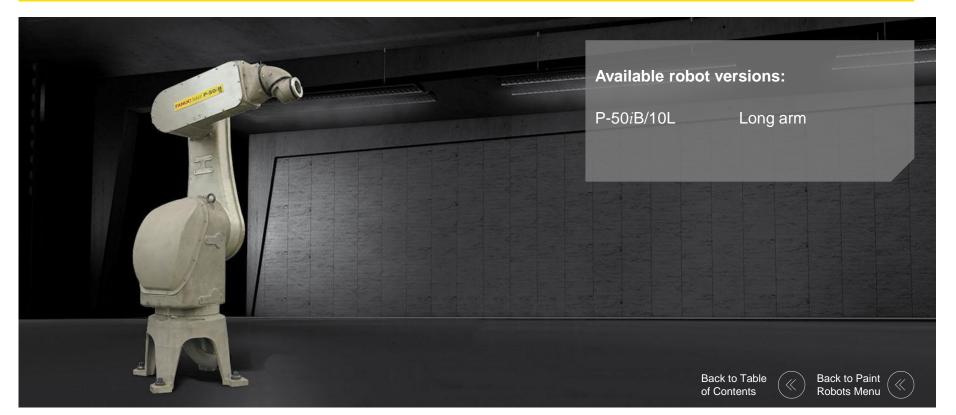
Paint Robots P-50 Series



Max. load capacity at wrist: 10-15 kg







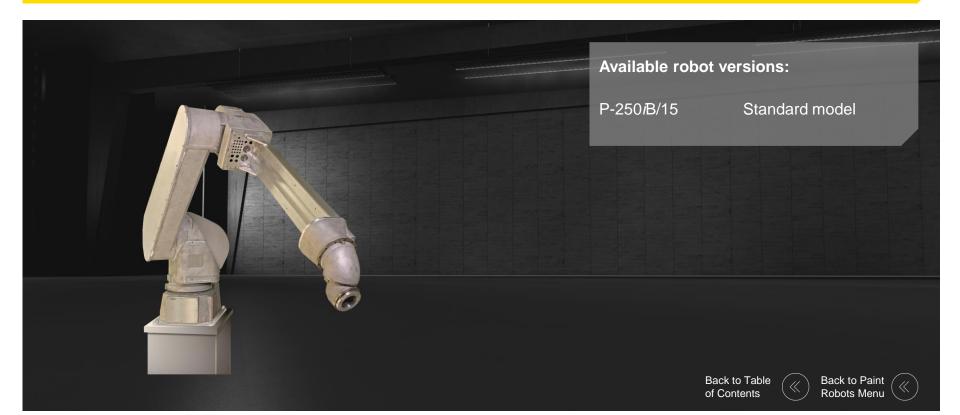
Paint Robots P-250 Series



Max. load capacity at wrist: **15 kg**







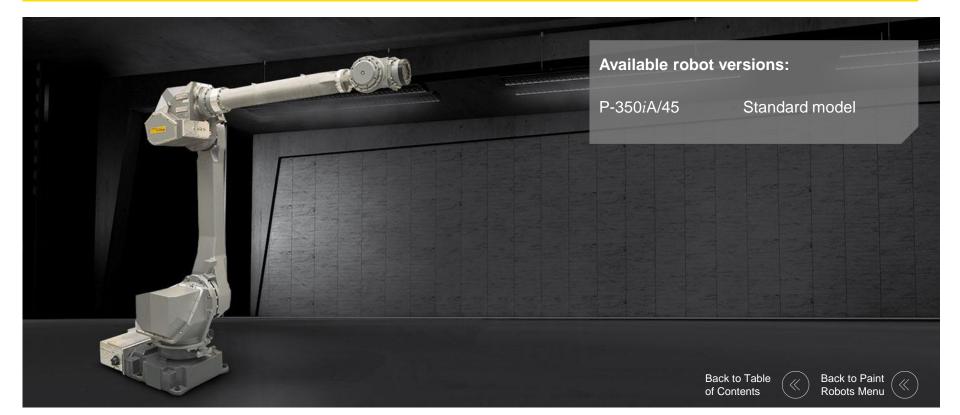
Paint Robots P-350 Series



Max. load capacity at wrist: **45 kg**

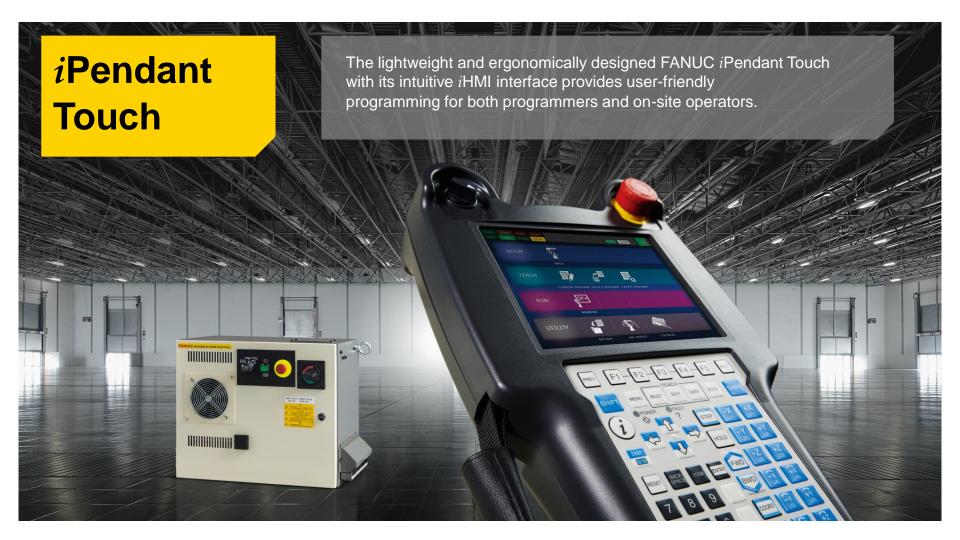


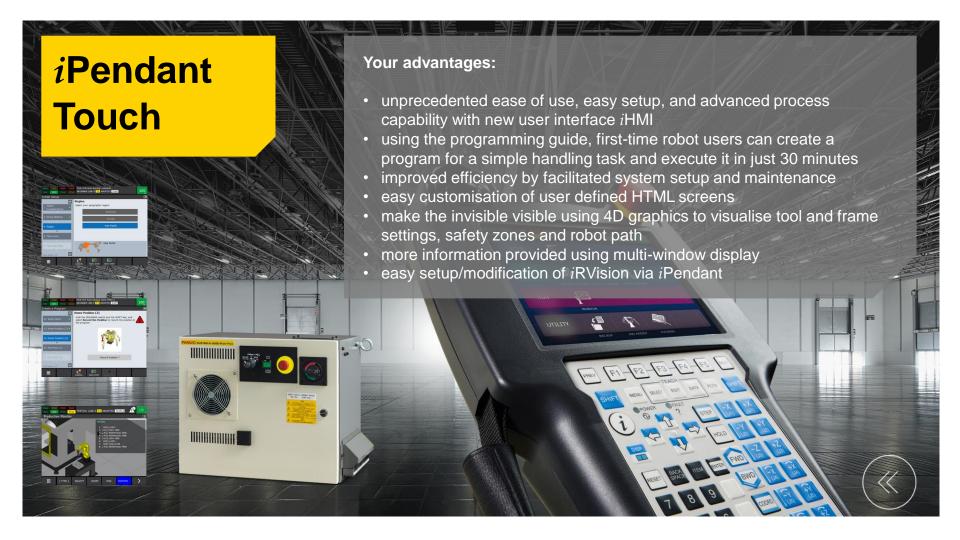












Original FANUC accessories and functions for intelligence



*i*RVision

Unique integrated FANUC "plug & play" visual detection system(2D,2½D, 3D, 3D-Laser, 3D-Map) – improved flexibility for picking random stationary products. Supported in ROBOGUIDE

Force Sensors

Integrated FANUC force sensor provides "touch sense" for highly sensitive force control to realize assembly, deburring, polishing and many other applications

*i*RPickTool

Part queue management, completely integrated in robot controller to support line tracking on moving conveyors. Combination of integrated FANUC *i*RVision with *i*RPickTool, for higher flexibility when picking random products on a moving conveyor

3D Vision Sensor

Unique integrated 3D high speed detection system for bin picking of random products and depalletising

iRCalibration suite

*i*RCalibration provide different service functions, by using of *i*RVision functionality, to simplify robot mastering, remastering, UFrame and UTool setting, Frame shifting and coordinated pair setting (precise and easy setup of coordinated robots and/or positioners)

Intelligence functions

dedicated functions with keen instructions, interfaces, screens and exclusive features to simplify and standardise the programming, setup and operation of your robot

Original FANUC accessories and functions for motion



Integrated external axis

Fully integrated standardised and comprehensive external axis packages – up to 82 axes, for easy usage in external axis solutions (robot rail unit, custom-made manipulator, ...)

Multi-arm

For complex or coordinated multiple robot movements controlled by a single controller

Positioners

A wide range of FANUC integrated positioners – the ideal solution for coordinated motion and manipulating work piece

Learning Vibration Control

Cycle time improvement by the optimisation of path motion using a dedicated accelerometer sensor to suppress tool vibrations

Motion functions

dedicated functions with keen instructions, interfaces, screens and exclusive features to simplify and standardise the programming, setup and operation of your robot

Hand Guidance

The hand guidance accessory enables the robot to be positioned by pushing the handle mounted on the robot wrist. It can be used to pick up and carry a workpiece and teach robot programs easily

Original FANUC accessories and functions for safety



Motion safety

Dual Check Safety (DCS) for reliable checking of position and robot speed in predefined three-dimensional zones – higher safety for operators, machines and periphery

Collision guard

High Sensitive Collision Detection (HSCD) for minimal damages in the event of a collision and optimised cycle time and energy consumption after using payload identification

Safety functions

Dedicated functions with keen instructions, interfaces, screens and exclusive features to simplify and standardise the programming, setup and operation of your robot. Easy to connect via safety bus function (DeviceNet Safety, EtherNet/IP Safety, PROFINET Safety)





Original FANUC accessories and functions for interfaces



Digital I/O

Easy handshake setup using digital input and output interface communication between robot and other periphery

Field bus

Faster handshake setup using a wide variety of fieldbus standards (Profibus, Modbus, Devicenet, Profinet, Ethernet ...)

Interface functions

Dedicated functions with keen instructions, interfaces, screens and exclusive features to simplify and standardise the programming, setup and operation of your robot



Original FANUC accessories and functions for comfort



iPendant Touch

A color, internet-ready *i*Pendant Touch with intuitive *i*HMI interface for even easier and faster programming using pictogram functions plus cost savings by using the touchscreen for custom HMI applications

ROBOGUIDE

Simulation software for offline programming, easy setup of robot cell's and feasibility studies with huge library of simulation tools



Application functions

Dedicated functions with keen instructions, interfaces, screens and exclusive features to simplify and standardise the programming, setup and operation of your robot











Highly accurate interface & specific tools

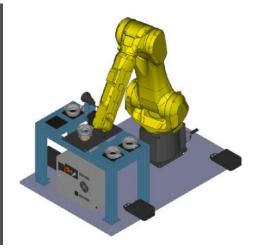
With the on board CAD library you have complete access to all FANUC Robots, Machines and simple tooling. The robot simulation and profiler function contains a full package of process verification details including motion, cycle time validation as well as collision detection and avoidance. It is also available with dedicated tools for specific applications.

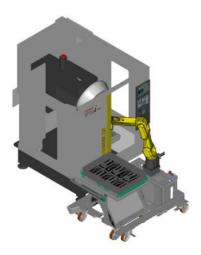
HandlingPRO

Simulate and test material handling processes and conduct feasibility studies for robotic applications without the physical need and expense of a prototype work cell setup thanks to HandlingPRO.

ChamferingPRO

FANUC ChamferingPRO is a step-by-step navigator lets you generate and simulate deburring programs automatically. To generate the deburring paths, just click the lines to be deburred on the 3D CAD data.





Highly accurate interface & specific tools

With the on board CAD library you have complete access to all FANUC Robots, Machines and simple tooling. The robot simulation and profiler function contains a full package of process verification details including motion, cycle time validation as well as collision detection and avoidance. It is also available with dedicated tools for specific applications.

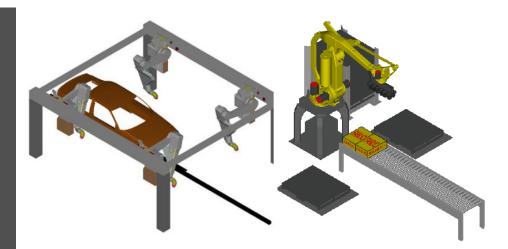
PalletPRO

FANUC PalletPRO can be used to completely build, debug and test a palletising application offline. The data created in PalletPRO can then be downloaded to a real robot controller containing the PalletTool software.

PaintPRO

FANUC PaintPRO is a graphical offline programming solution that simplifies robotic path teach and paint process development.

It contains special functionality for setting up paint gun displacement, spray size, overlap, paint pattern, paint speed and gun trigger timing.



Highly accurate interface & specific tools

With the on board CAD library you have complete access to all FANUC Robots, Machines and simple tooling. The robot simulation and profiler function contains a full package of process verification details including motion, cycle time validation as well as collision detection and avoidance. It is also available with dedicated tools for specific applications.

WeldPRO

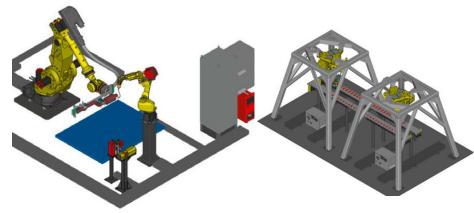
Simulate a robotic arc welding process in the 3-D world. Driven exclusively by a FANUC Virtual Robot Controller, WeldPRO is empowered with the most accurate programme teaching tools and cycle time information available in any simulation package.

*i*RPickPRO

FANUC's latest plug-in to the ROBOGUIDE off-line programming tool, allows users to simulate high speed pick and place applications.

iRPickPRO can then be downloaded to a real robot controller containing the iRPickPRO software.



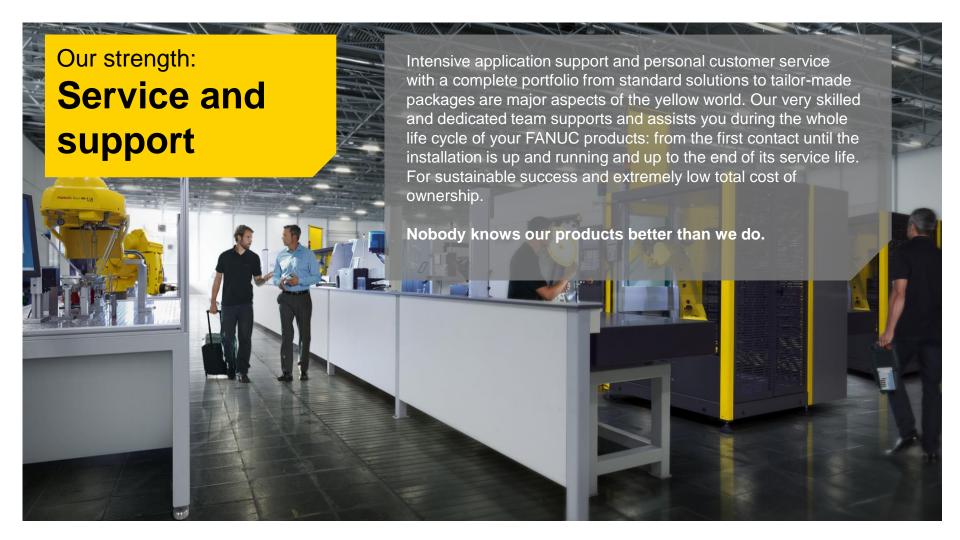


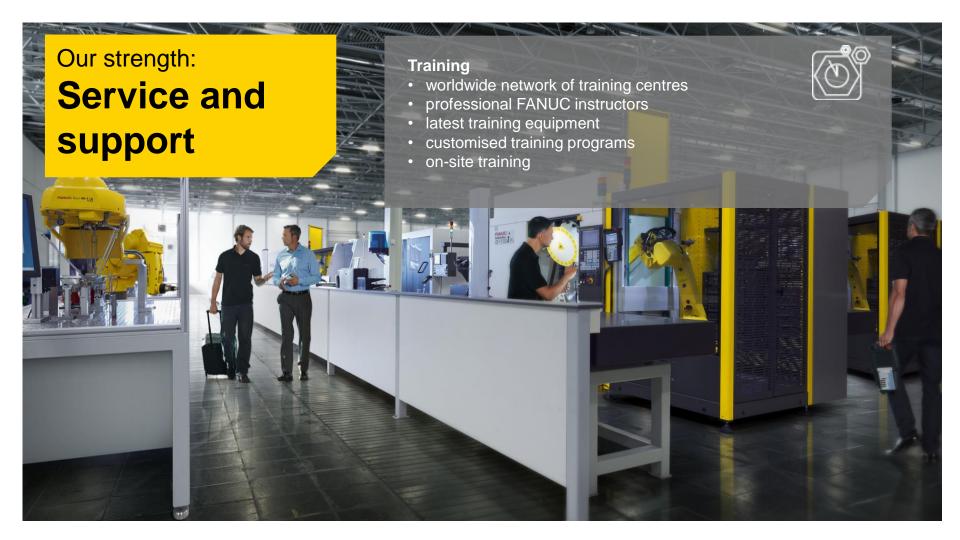


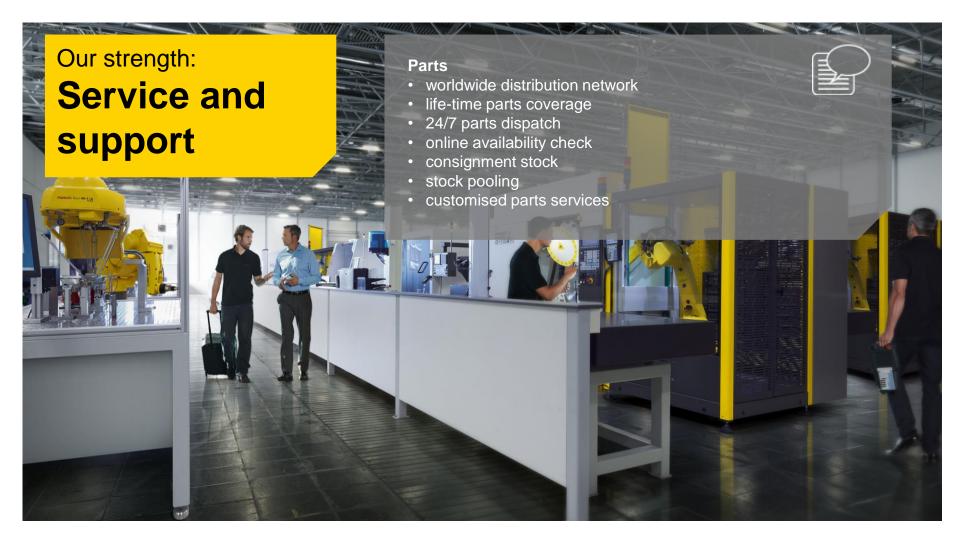
We make demanding full automation scenarios very simple: all of FANUC's robots, CNCs and machines share a common control platform. This means that robots used for loading and unloading can be integrated quickly and easily into your machine concepts. A machine and a robot can be connected to each other easily through a FANUC interface. Screens are provided in the CNC to monitor an control the robot and vice-versa.

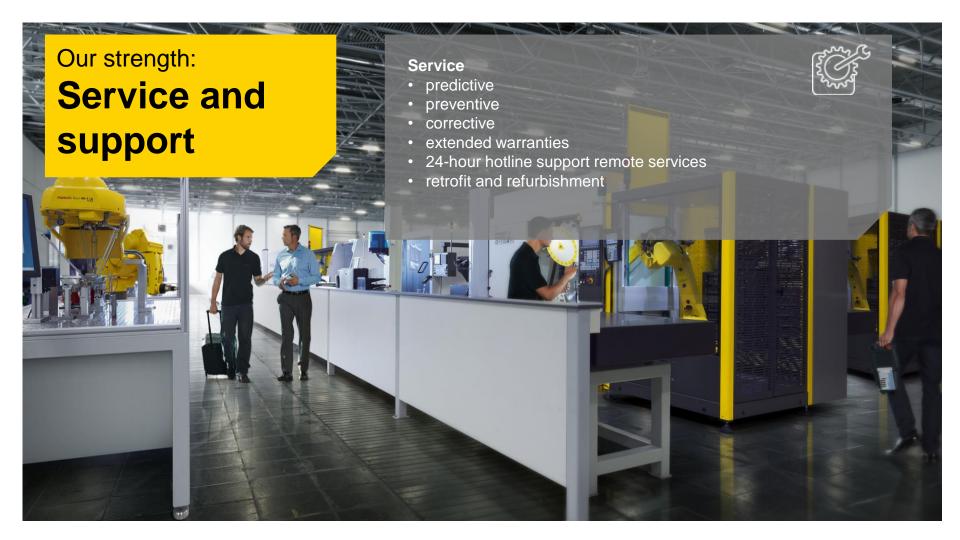
We also provide powerful networking solutions to allow connectivity of automated production lines and machining systems.

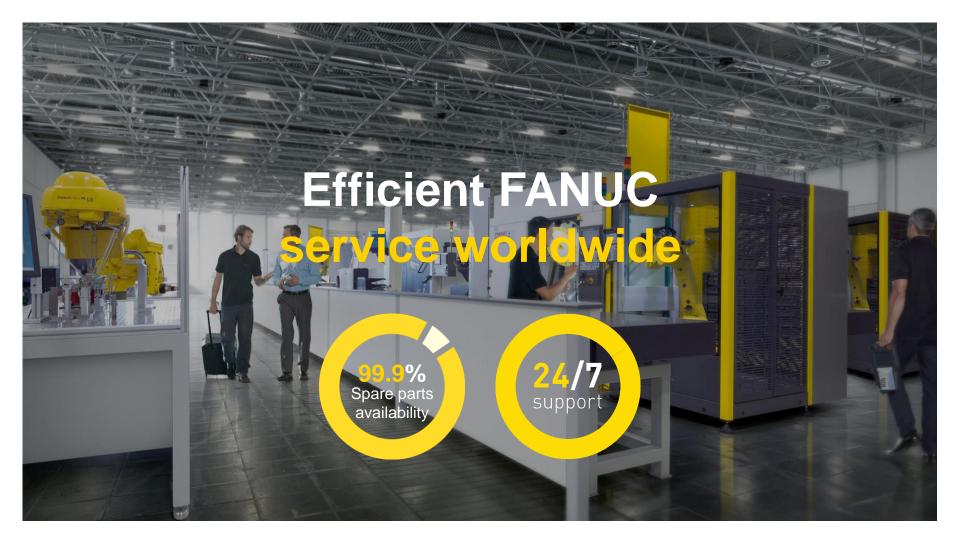












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