

THE FACTORY AUTOMATION COMPANY

**FANUC**

# Experience more

Collaborative robots for a  
wide range of applications



**MORE** choices  
**MORE** payload  
**MORE** reach  
**MORE** control

# Why settle for less when you can get **MORE?**



FANUC's collaborative robots offers **more** choices, **more** payload, **more** reach and **more** speed than any other cobot series on the market.

Safety-certified, FANUC cobots work hand in hand with humans to add value to your processes. Covering the needs of medium- and small-sized businesses as well as automation beginners and large corporations, the range contains exactly the right solution for your business.

## More choices for more businesses

Do you run a small- or medium-sized company and have never thought about automation? If so, FANUC cobots provide you with just the opportunity you are looking for. Quick to install, easy to use and offering unrivalled reliability, they represent a lasting solution that boosts your productivity and provides you with new growth opportunities. They also offer a safe return on investment. Let our experts advise you on exactly the right automation solution for your needs!

### Easy to work with

Either break from traditional programming with the FANUC Hand Guidance function or do your programming with FANUC's new *iHMI* guides.

FANUC Hand Guidance allows you to teach your collaborative robot by leading it through paths as well as to lift heavy objects manually. FANUC's new *iHMI*, on the other hand, provides you with a step-by-step guide to setting up CR series cobots and creating programs, not to mention other wizards and tutorials to help new users.



### Hand Guidance function

The CR series of FANUC Cobots can be easily taught by using Hand Guidance. Hand Guidance allows you to teach your collaborative robot by leading it through paths as well as to lift heavy objects manually. FANUC's new *iHMI*, on the other hand, provides you with a step-by-step guide to setting up CR series cobots and creating programs, not to mention other wizards and tutorials to help new users.



### Manual Guided Teaching function

The CRX can easily learn from you. How? Just use the manual guided teaching function to teach the Cobot. Just lead your robot to the desired position and save it on the tablet using the drag & drop functionality.

# MORE performance and MORE capability

Offering payloads of 4 kg, 7 kg, 10 kg, 14 kg, 15 kg and 35 kg and unrivalled reach, the CR series is ideally suited to handling processes that expose human workers to the risk of repetitive strain and other work-related injuries. Since FANUC cobots control force with much more precision than humans, they also offer you huge benefits in terms of quality and repeatability.



## CR-4iA

Payload: 4 kg  
Reach: 550 mm



## CR-7iA

Payload: 7 kg  
Reach: 717 mm



## CR-7iA/L

Payload: 7 kg  
Reach: 911 mm



## CRX-10iA

Payload: 10 kg  
Reach: 1249 mm



## CRX-10iA/L

Payload: 10 kg  
Reach: 1418 mm



## CR-14iA/L

Payload: 14 kg  
Reach: 911mm



## CR-15iA

Payload: 15 kg  
Reach: 1441 mm



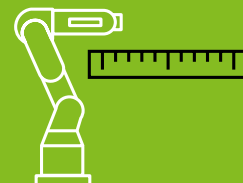
## CR-35iA

Payload: 35 kg  
Reach: 1813 mm



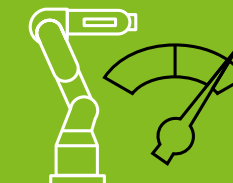
### More payloads – up to 35 kg

With just the right payload for your application in its range, only FANUC offers 8 models with payloads from 4 kg up to a world-beating 35 kg. Plus, the FANUC CR-35iA is still the strongest cobot on the market.



### More reach – up to 1831 mm

FANUC's cobots are available with reaches of 550, 717, 911, 1249, 1418, 1441 and 1813 mm – all with a 360° work envelope.



### More speed – up to 1500 mm/sec

To ensure safety, cobots limit force and momentum by operating at lower speeds than other types of robots. However, thanks to safety monitoring, FANUC CR models reach speeds of up to 1500 mm per second.

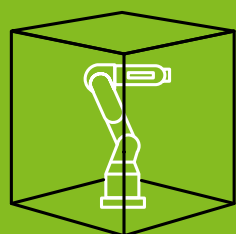


# MORE freedom

The FANUC cobots can work side by side with humans or collaborate with them without the need for external safety devices. As a result, you enjoy better versatility and work ergonomics, benefit from flexible mounting options and save valuable production space.

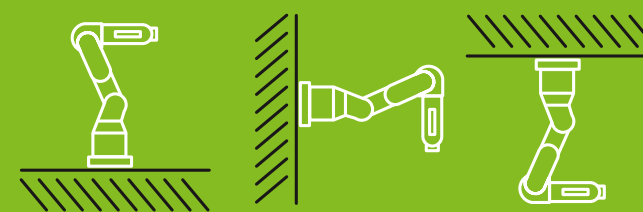
## ISO-certified safe to work with people

The ISO 10218 and ISO 13849 Cat. 3 Pld. certified CR series is equipped with ultra-safe FANUC contact stop protection based on proven sensor technology. All robots restart easily and quickly after a contact stop. In addition to contact stop, the collaborative robots comes with push back and anti-trap functions for additional protection. To prevent the risk of pinching, the larger CR-35iA model comes wrapped in a passive soft cover. What is more, customisable speed and safety settings help you adapt each collaborative robot exactly to your specific application.



### Dual Check Safety (DCS)

DCS is a safety system that monitors position and speed. It is a proven technology used on many standard FANUC robots. On the CR series, third-party safety equipment can be connected to DCS to provide an additional level of safety and increase productivity.



### Flexible mounting options

For more flexible layouts, all models except the CR-35iA can be upside-down mounted, wall mounted or fixed to a mobile platform or a rail.



# MORE control

Break away from traditional programming! The FANUC Hand Guidance function is available for all FANUC collaborative robots. Depending on the model, it allows you to teach your collaborative robot by leading it through paths or to use it to lift heavy objects weighing up to 35 kg.

## Easy teaching without programming

Teach your FANUC collaborative robot easily by leading it through paths and points. Hand guidance is easy and intuitive and eliminates the need for a pendant to teach positions. It also keeps your training costs low and saves you valuable time.

## Hand guidance for easy manual handling

Using hand guidance, FANUC cobots can be used to pick up and carry heavy objects. Taking the strain off human operators on one-off operations, this is easily done by guiding the robot arm and tooling by hand to the right point, picking up and carrying the workpiece using hand guidance.



### Hand Guidance model for all CR series models

- plug and play functionality with easy-to-attach joystick
- compact lightweight design
- wireless communication via iPendant



### Hand Guidance model for CR-35iA

- collaborative handling during robot operation
- ISO-10218-compliant with enabling switch and emergency button
- equipped with FS-15iA sensor
- user-friendly handle mounted on robot wrist
- handle ensures easy control of robot and reduces training time



### Easy programming with iHMI

FANUC's iHMI user interface offers ample processing power and clear high-resolution screen displays. To make operating your cobots as easy as possible, it can display setup, programming guides and tutorials on the main home page. By using the programming guide, even first-time robot users can create a program for simple handling tasks and execute it in just 30 minutes. Easier usage also facilitates system setup and maintenance to improve efficiency.





# EASY programming EASY teaching

## Direct and intuitive robot operation

- Easily move your robot to a position by manually guiding it there
- Intuitive programming with drag & drop on the new Tablet Teach Pendant with large touch screen

## Tablet TP

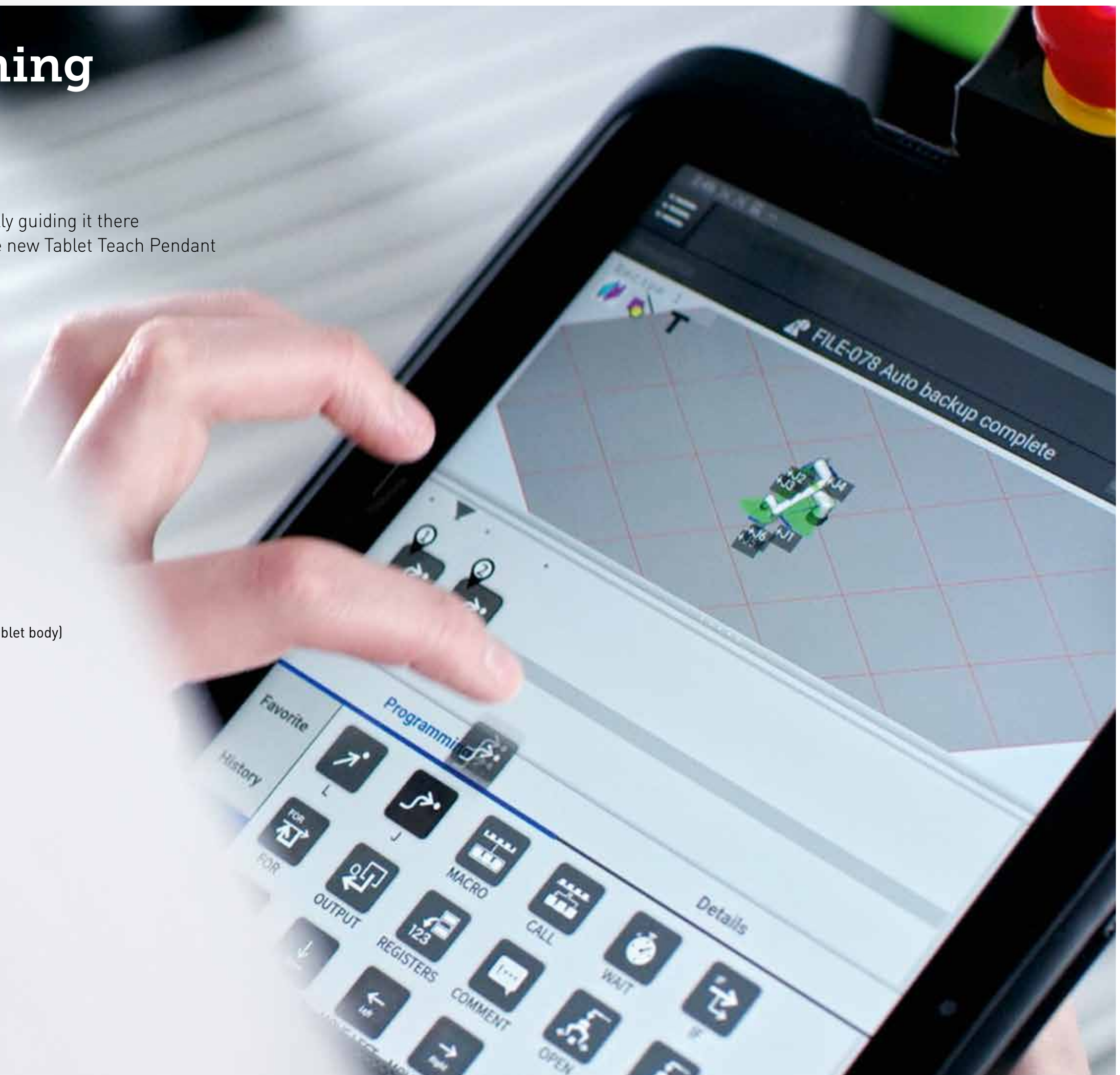
- Three base elements from the Tablet Teach Pendant:
  - Teach Pendant base
  - Tablet with 10 inch screen
  - App
- Industrial safety standards
  - Emergency stop button
  - Three-position enabling switch
- Industrial standards
  - Shock resistance
  - Dust and water protected (IP54 for tablet TP / IP68 for tablet body)
- Optional holder and hocker for tablet
- Attachable on a plate with built-in-magnet



New user interface



iPendant user interface



# MORE reliability

All FANUC's cobots use proven FANUC technology and a familiar interface. As a result, the CR series operates like any other FANUC robot with exactly the same high degree of reliability, uptime, dexterity and world class +/- 0.01-0.03 mm repeatability.

## More features

With more than 250 software features, FANUC's latest R-30iB Plus controller guarantees the best processing speed and robot performance for every FANUC cobot. Designed for increased user-friendliness and minimal energy consumption, the R-30iB Plus comes in five different cabinets to help you make the most of your floor space and production cell layouts.

## Proven technology

For more reliability, all FANUC cobots are based on proven LR Mate and M-20 technology. They offer good repeatability and come with the standard FANUC interface for easy learning, programming and setup. As a result, no extensive retraining is necessary. Application scenarios can be modelled easily using ROBOGUIDE simulation software. FANUC cobots are customisable and include a large number of options. They are also backed by full spare parts availability, global service and support.



ROBOGUIDE simulation software



FANUC R-30iB Plus controller



FANUC R-30iB Mini Plus controller





# Discover the wide range of collaborative opportunities

If you want to combine the strength, precision and repeatability of a robot with human know-how and manual dexterity, collaborative robots make the best choice – by working hand in hand, humans and robots can add real value to your processes. No need for safety fences – FANUC collaborative robots allow easy integration into human workspaces for even more efficiency and improved health and safety.

## ASSEMBLING

Preventing the risk of repetitive strain injuries amongst assembly line workers, the CR series will lift and position heavy components on machining and assembly lines. The repeatability offered by using a collaborative robot for these processes also improves quality and reduces cycle times. **Benefits: Higher output, more speed and improved quality**

## MACHINE TENDING

The CR series is ideally suited to those machine tending applications that frequently require an operator's presence. **Benefits: Maximised efficiency, better quality, more throughput and improved performance**

## MACHINE TENDING WITH LIGHTWEIGHT ROBOT

The CRX-10iA and CRX-10iA/L are lightweight collaborative robots. Both models are highly protected against dust or oil leakages common in industrial environments. The long arm version with a reach of up to 1418 mm is capable of an underflip motion and thus can work in extremely compact spaces. **Benefits: Quick and easy programming with a Tablet**

## MOBILE PLATFORM

Automated guided vehicles (AGVs) work effectively with CR series robots and humans and provide an effective means of enhancing applications such as workpiece transfer on your CR production line. **Benefits: Enhanced flexibility thanks to the mobility of the cobot**

## HAND GUIDANCE

Available on the CR series robot, FANUC Hand Guidance allows you to forgo traditional programming and teach your collaborative robot by leading it along motion paths. It also enables you to use your robot to lift heavy objects weighing up to 35 kg. **Benefits: Reduced training costs and saving of valuable time**

## PART INSPECTION & TESTING

During part inspection, robots take over dull tasks where high-precision is required. Equipped with smart vision accessories, the CR series is ideally suited to perform a quality control (here microwaves) and, thanks to flexible mounting options, a CR cell can be designed to meet your requirements exactly. **Benefits: Better repeatability and consistently high levels of product quality**

## SEALING & DISPENSING

Whether they are used to apply sealants, adhesives, paints or other fluids, CR series robots work safely next to humans across a range of industries. **Benefits: Reduce waste and increase accuracy**

## PICKING, PACKAGING, PALLETISING

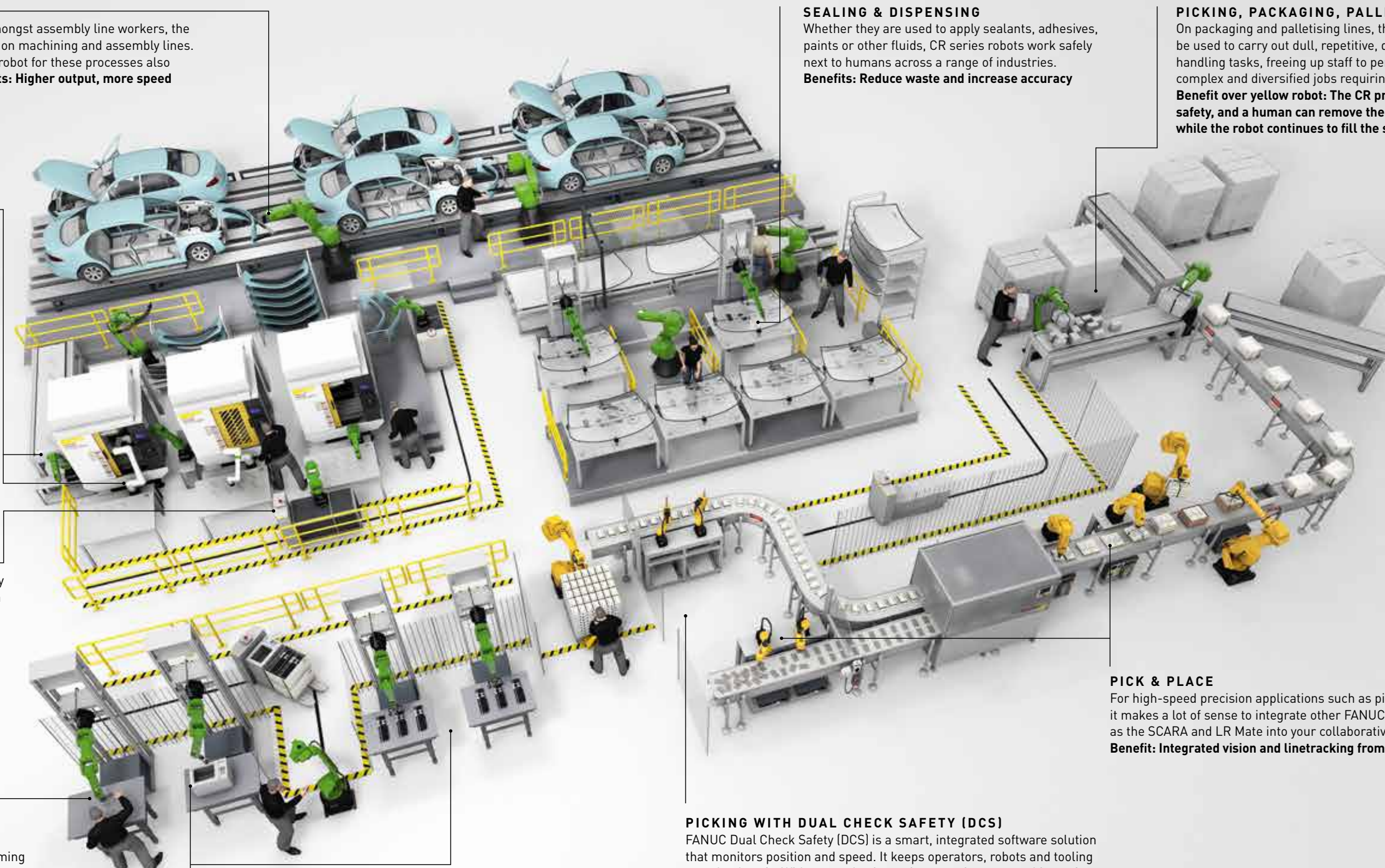
On packaging and palletising lines, the CR series can be used to carry out dull, repetitive, dirty and dangerous handling tasks, freeing up staff to perform more complex and diversified jobs requiring human skills. **Benefit over yellow robot: The CR provides operator safety, and a human can remove the first full pallet while the robot continues to fill the second**

## PICK & PLACE

For high-speed precision applications such as pick and place, it makes a lot of sense to integrate other FANUC robots such as the SCARA and LR Mate into your collaborative workforce. **Benefit: Integrated vision and linetracking from one supplier**

## PICKING WITH DUAL CHECK SAFETY (DCS)

FANUC Dual Check Safety (DCS) is a smart, integrated software solution that monitors position and speed. It keeps operators, robots and tooling completely safe. With no need to invest in expensive space-taking safety equipment, it also helps keep the space required for robot cells to a minimum. **Benefits: Space-saving and cost-effective**





# MORE possibilities

As with all FANUC robots, FANUC's collaborative robot series can be equipped with any of FANUC's intelligence functions - made by FANUC, developed specifically for FANUC robots, to give you more possibility for automating with cobots. Intelligence-ready functions include FANUC *i*RVision, 3D vision with FANUC 3D Vision Sensor, FANUC Force Sensors and much more.



## 3D bin picking

Opening up a wealth of possibilities, the 3D Vision Sensor even enables robots to detect randomly piled parts including shiny, multi-coloured or semi-transparent items. Attached to the robot arm or a gantry, the FANUC 3D Vision Sensor is easy to set-up using the *i*Pendant handheld controller or PC.



## Recognition, reading and sorting

Using the Vision Sensor, the CR series is capable of locating workpieces, reading bar codes and sorting by colour.

## A sense of touch

FANUC Force Sensor detects force and torque applied to the end effector, allowing the robot to carry out collaborative assembly, fitting and weighing operations for example.



# MORE information

# Technical data cobots

Specifications	CR-4iA	CR-7iA	CR-7iA/L	CR-14iA/L	CR-15iA	CR-35iA
Type: articulated	•	•	•	•	•	•
Controlled axes	6	6	6	6	6	6
Max. load capacity at wrist [kg]	4	7	7	14	15	35
Reach [mm]	550	717	911	911*1)	1441	1813
Repeatability [mm] *2)	±0.01	±0.01	±0.01	±0.01	±0.02	±0.03
Mass [kg]	48	53	55	55	255	990
Installation: floor   upside down   wall *3)	•   •   •	•   •   •	•   •   •	•   •   •	•   •   •	•   -   -
Motion range						
J1 axis rotation [°]	340 360 (option)	340 360 (option)	340 360 (option)	340 360 (option)	340 370 (option)	370
J2 axis rotation [°]	150	166	166	166	180	165
J3 axis rotation [°]	354	373	383	383	312	258
J4 axis wrist rotation [°]	380	380	380	380	380	400
J5 axis wrist swing [°]	200	240	240	240	280	220
J6 axis wrist rotation [°]	720	720	720	720	900	900
Max. speed [mm / s] *4) *5)	1000	1000	1000	500	800 / 1500 *6)	750
Allowable load moment at wrist						
J4 axis [Nm]	8.86	16.6	16.6	31.0	26.0	110
J5 axis [Nm]	8.86	16.6	16.6	31.0	26.0	110
J6 axis [Nm]	4.9	9.4	9.4	13.4	11.0	60
Allowable load inertia at wrist						
J4 axis [kgm <sup>2</sup> ]	0.2	0.47	0.47	0.66	0.90	4
J5 axis [kgm <sup>2</sup> ]	0.2	0.47	0.47	0.66	0.90	4
J6 axis [kgm <sup>2</sup> ]	0.067	0.15	0.15	0.30	0.30	1.5
Installation environment						
Acoustic noise level [dB]	64.7	64.7	64.7	64.7	< 70	< 70
Ambient operating temperature [°C]	0-45	0-45	0-45	0-45	0-45	0-45
Protection						
Body standard/optional	IP67	IP67	IP67	IP67	IP54	IP54
Wrist & J3 arm standard/optional	IP67	IP67	IP67	IP67	IP67	IP67

• standard

\*1) 911mm (load capacity < 12 kg) - 820 mm (load capacity ≥12 kg)

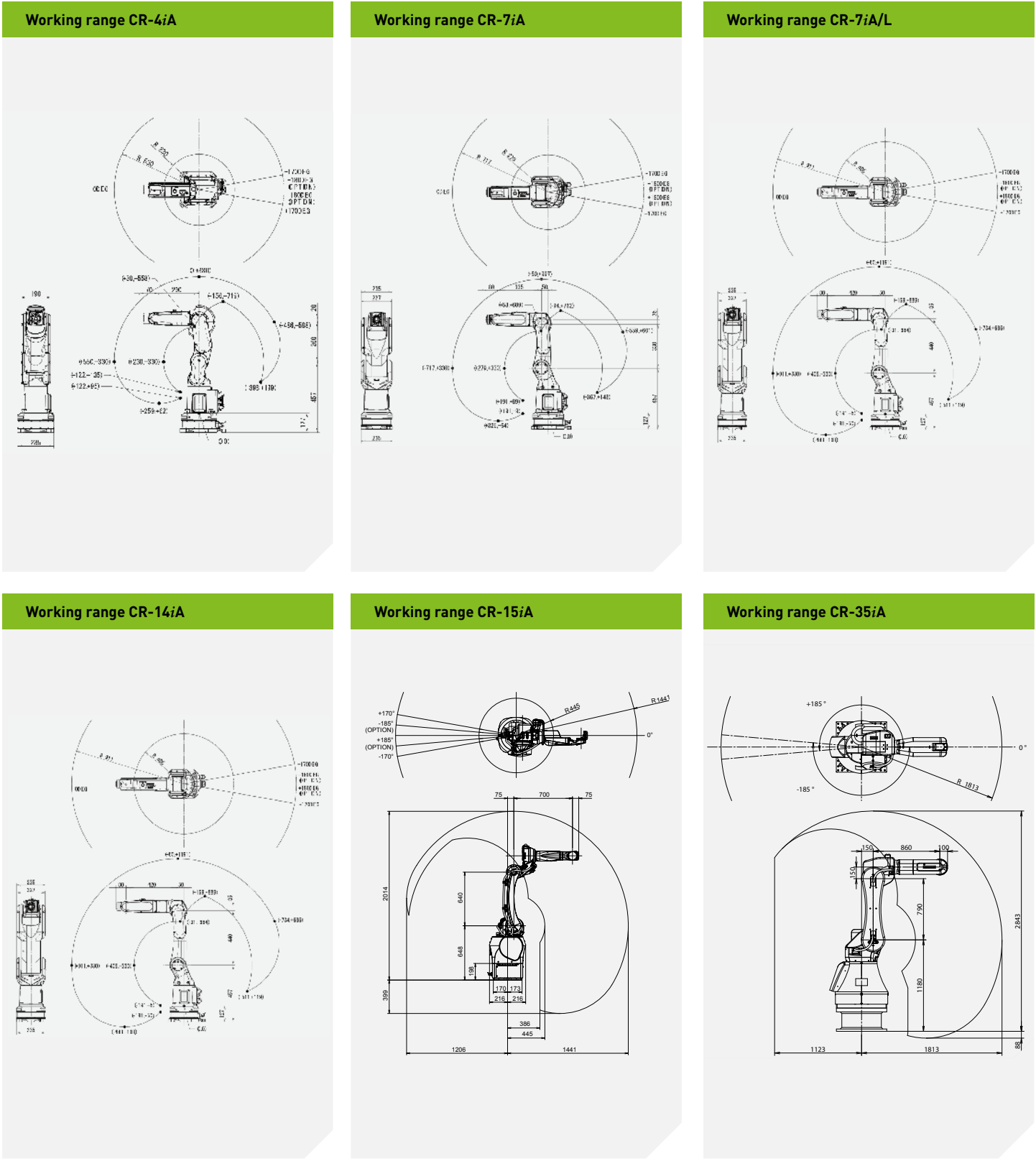
\*2) ISO 9283

\*3) In case of the wall mount, the operation space will be restricted according to the payload.

\*4) In case of short distance motion, the speed may not reach the maximum value stated.

\*5) It is necessary to set a motion speed according to risk assessment of system considering pinching with the surroundings.

\*6) If the area is monitored by a safety sensor (located separately).





# MORE information

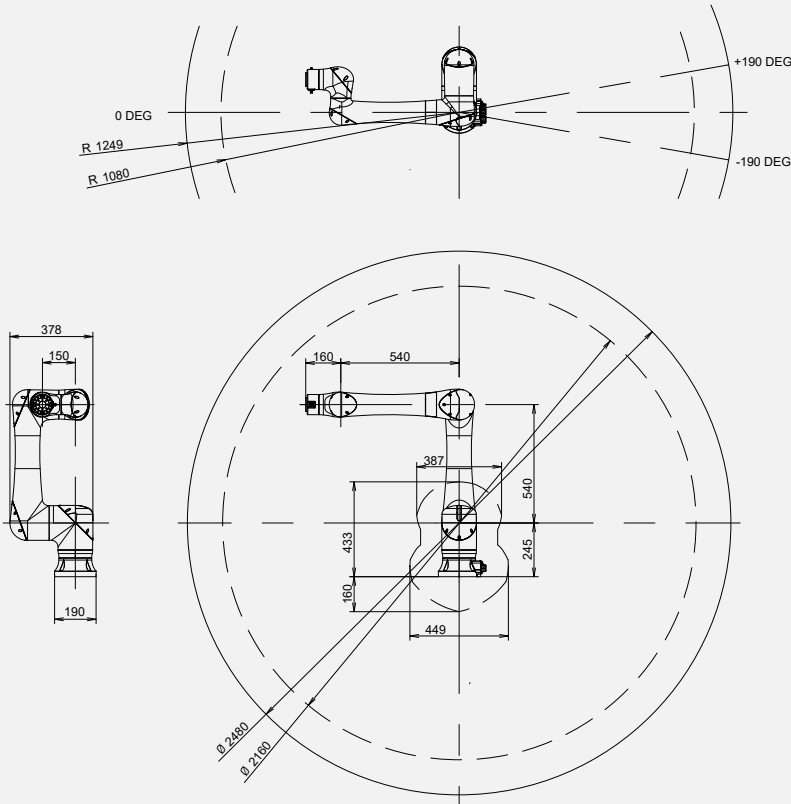
# Technical data cobots

Specifications	CRX-10iA	CRX-10iA/L
Type: articulated	•	•
Controlled axes	6	6
Max. load capacity at wrist [kg]	10	10
Reach [mm]	1249	1418
Repeatability [mm] *1)	±0.04	±0.04
Mass [kg]	40	40
Installation: floor   upside down   angle *2)	•   •   •	•   •   •
Motion range		
J1 axis rotation [°]	380	360
J2 axis rotation [°]	360	360
J3 axis rotation [°]	570	540
J4 axis wrist rotation [°]	380	380
J5 axis wrist swing [°]	360	360
J6 axis wrist rotation [°]	450	450
Max. linear speed [mm / s] *3)4)	1000/2000*5)	1000/2000 *5)
Allowable load moment at wrist		
J4 axis [Nm]	34.8	34.8
J5 axis [Nm]	26.0	26.0
J6 axis [Nm]	11.0	11.0
Allowable load inertia at wrist		
J4 axis [kgm <sup>2</sup> ]	1.28	1.28
J5 axis [kgm <sup>2</sup> ]	0.90	0.90
J6 axis [kgm <sup>2</sup> ]	0.30	0.30
Installation environment		
Acoustic noise level [dB]	<70	<70
Ambient operating temperature [°C]	0–45	0–45
Protection		
Body standard/optional	IP67	IP67
Wrist & J3 arm standard/optional	IP67	IP67

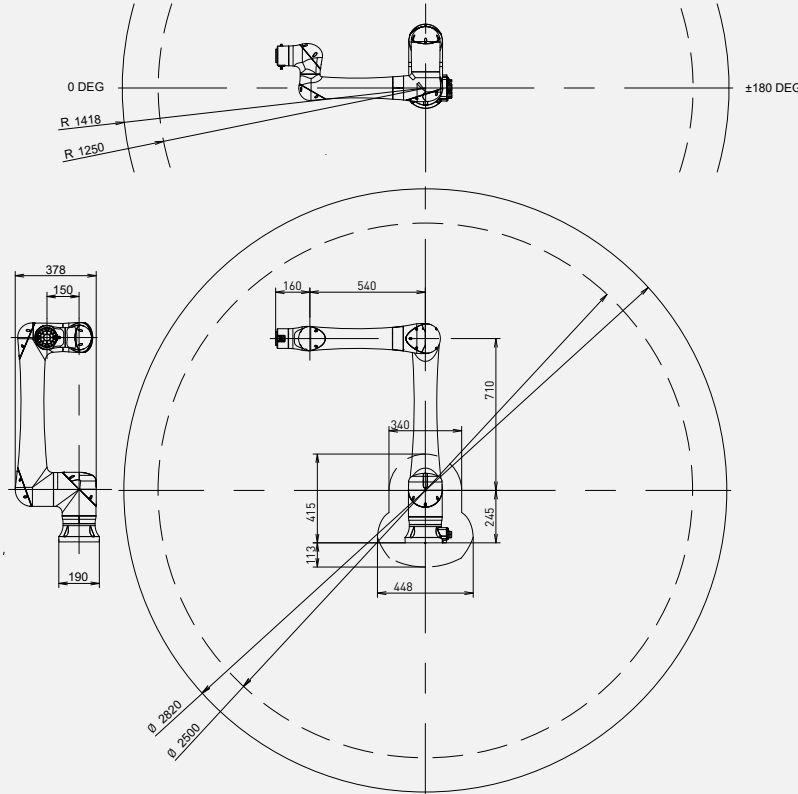
• standard

\*1) ISO 9283  
\*2) In case of the angle mount, the operation space will be restricted according to the payload.  
\*3) In case of short distance motion, the speed may not reach the maximum value stated.  
\*4) It is necessary to set a motion speed according to risk assessment of system considering pinching with the surroundings.  
\*5) If the area is monitored by a safety sensor (located separately).

Working range CRX-10iA



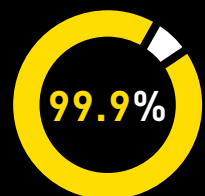
Working range CRX-10iA/L





# MORE confidence

With FANUC, you benefit from efficient FANUC service worldwide. Wherever you need us, our comprehensive FANUC network provides sales, support and customer service all around the world. That way, you can be sure you have always got a local contact that speaks your language.



spare parts availability

7/24

support



[WWW.FANUC.EU/SERVICE](http://WWW.FANUC.EU/SERVICE)

## Lifetime OEM spare parts

As long as your machine is in service we are able to provide you with original spare parts.

## Efficient training

The FANUC Academy offers everything you need to upskill your teams and increase productivity – from introductory programs for beginners to courses tailored to the needs of expert users and specific applications.

**Service First**

# One common servo and control platform – Infinite opportunities **THAT's FANUC!**



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Servo Motors  
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Electric Discharge  
Machines

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solutions