

ABB Robotics, June 2014

# IRB 1200 Overview

# Overview

## Differentiated value proposition



Have you ever wanted to  
make your machines 15%  
smaller and 10% faster?

ABB's new IRB 1200 allows  
you to do exactly that.

# Overview and vision

## Target growth markets



### Small Parts Assembly

- Perfect complement, or alternative, to IRB 120
- Increases offering in Material Handling & Assembly applications

### Food & Beverage

- Long reach while providing compactness
- Food grade option will be offered in the second release

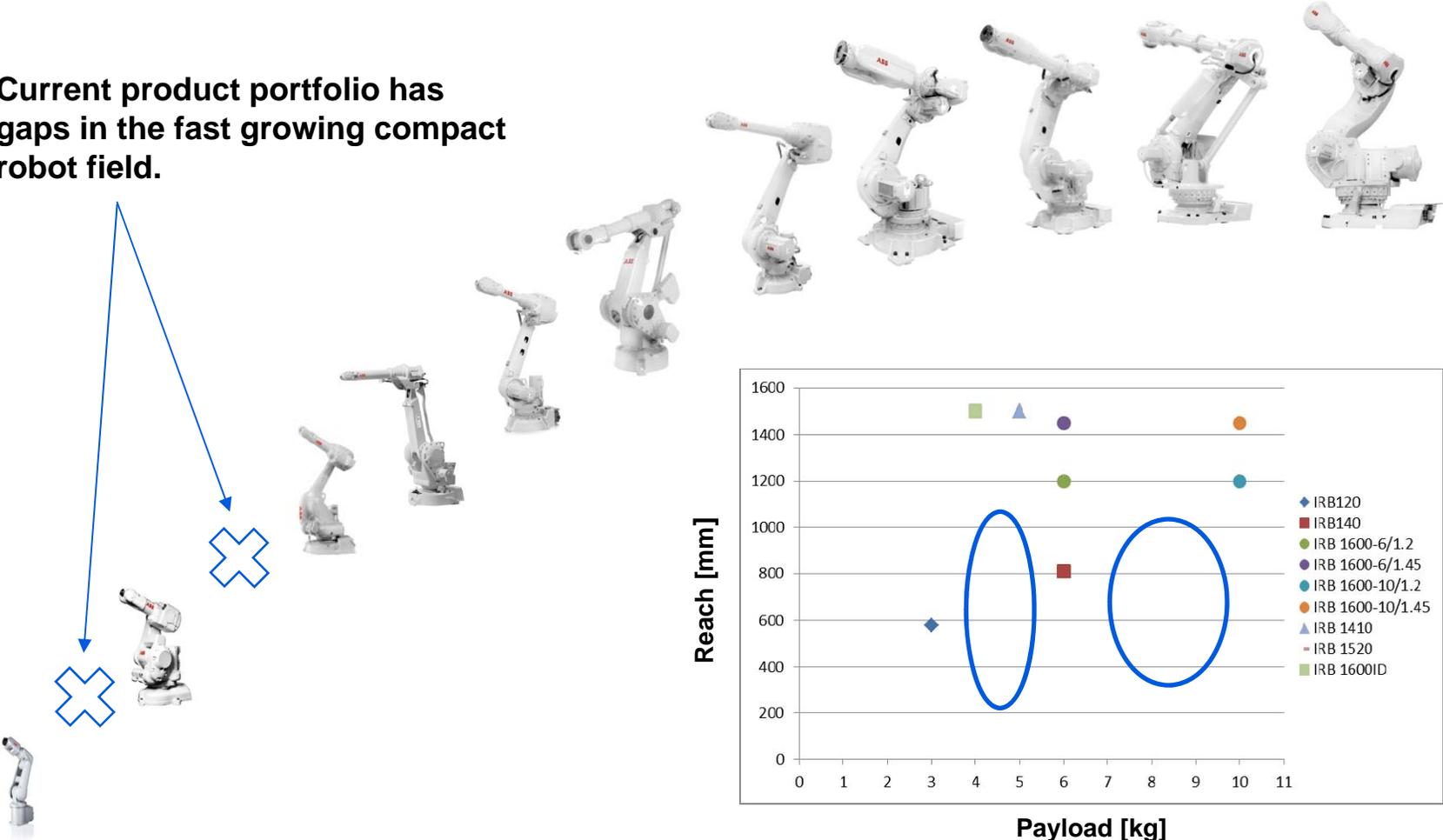
### Machine Tending & Material Handling

- IP 67 protection
- Compact design including compact wrist and ceiling mounting position

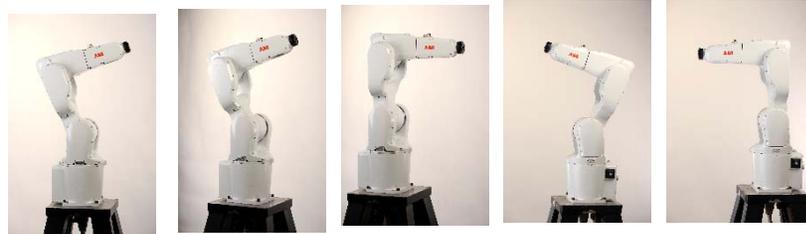
# Overview

## White spots in portfolio

Current product portfolio has gaps in the fast growing compact robot field.



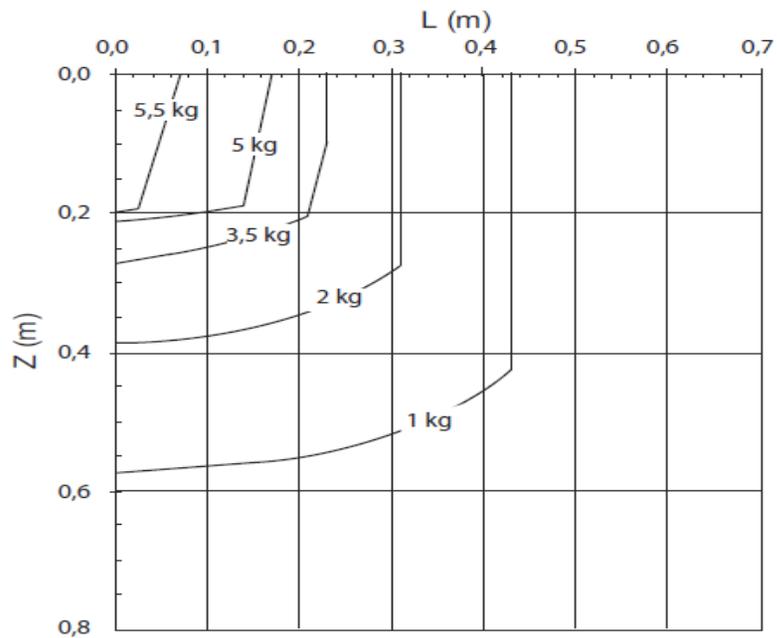
# Main features



	IRB 1200 – 5/.09	IRB 1200 7/.07
<b>Payload</b>	5 kg	7 kg
<b>Reach</b>	901 mm	703 mm
<b>Accuracy</b>	.02 mm	.02 mm
<b>Footprint</b>	210mm*210 mm	210mm*210 mm
<b>Customer interface</b>	Underlying connection as option	Underlying connection as option
<b>Weight</b>	52 kg	54 kg
<b>Mounting position</b>	Floor, wall, ceiling	Floor, wall, ceiling
<b>Temperature</b>	5 C – 45 C deg	5 C – 45 C deg
<b>IP Protection</b>	IP 40 as standard, IP 67 as option	IP 40 as standard, IP 67 as option
<b>Cleanroom/food grade</b>	Available 2015	Available 2015

# Payload Wrist down

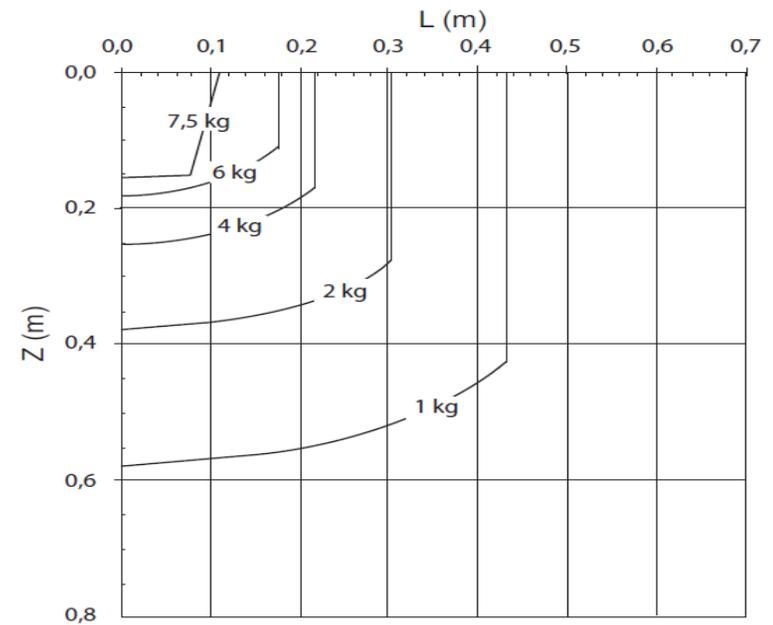
IRB 1200-5/0.9 "Wrist down" ( $\pm 10^\circ$ )



For wrist down ( $0^\circ$  deviation from the vertical line).

Max load	<b>5.5kg</b>
Z max	0.199m
L max	0.069m

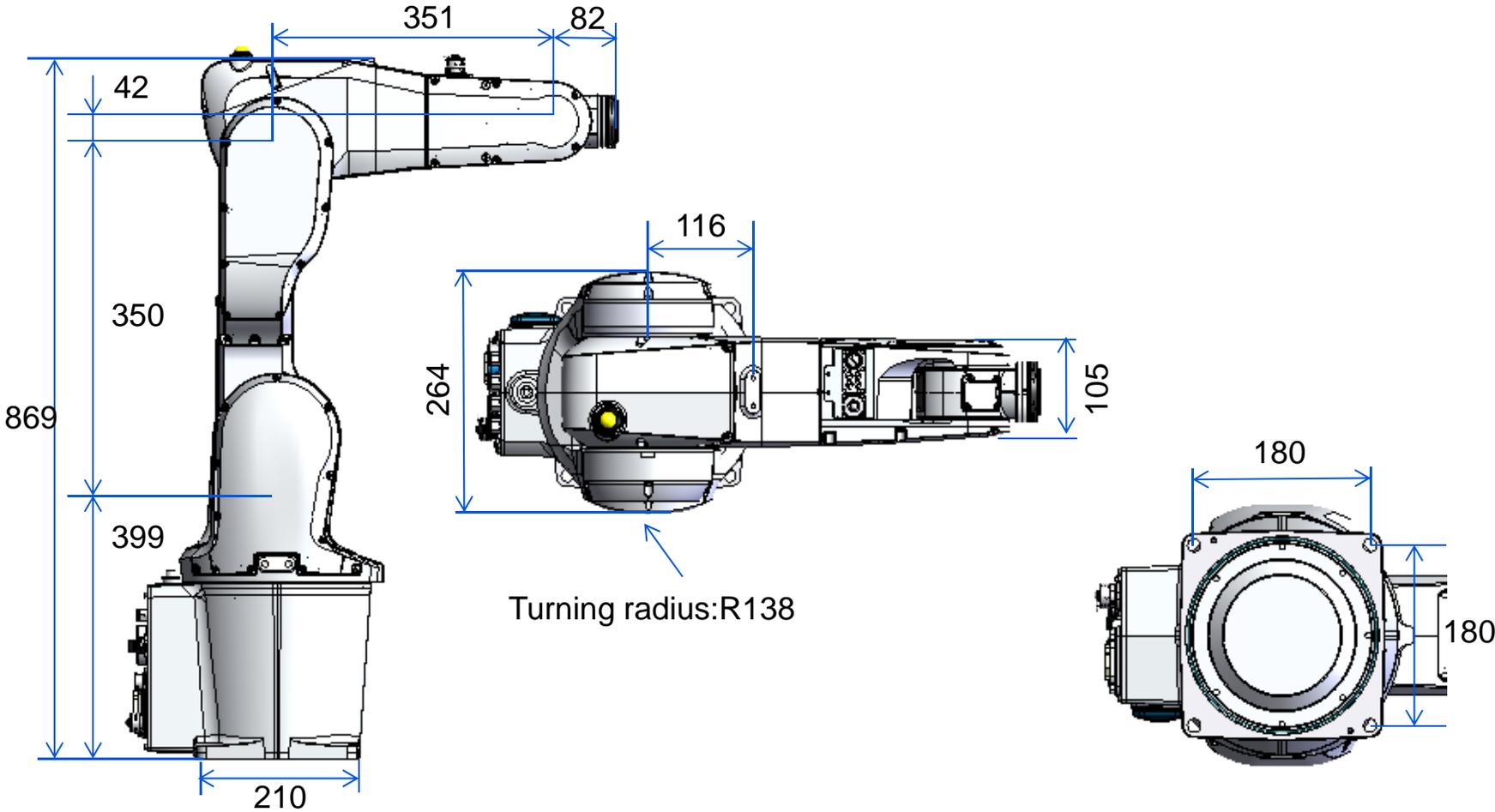
IRB 1200-7/0.7 "Wrist down" ( $\pm 10^\circ$ )



For wrist down ( $0^\circ$  deviation from the vertical line).

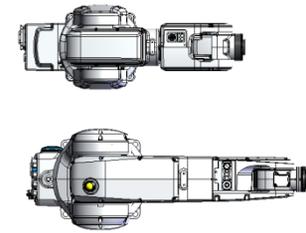
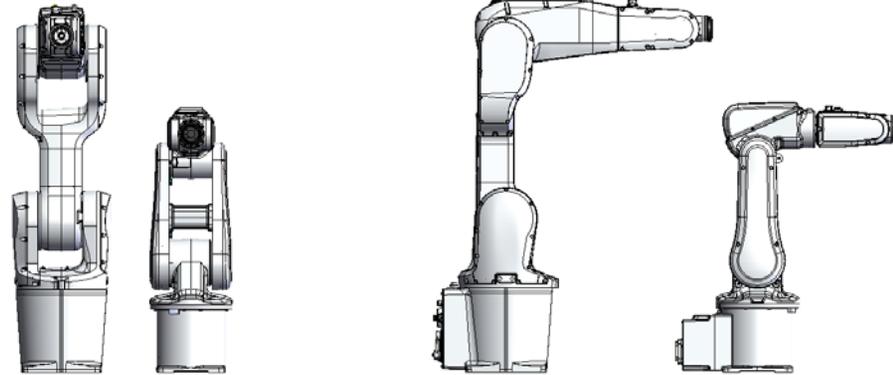
Max load	<b>7.5kg</b>
Z max	0.159m
L max	0.109m

# Main dimensions IRB 1200-7/0.7

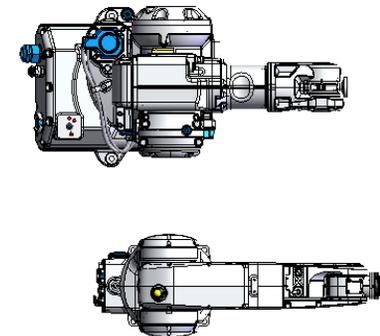
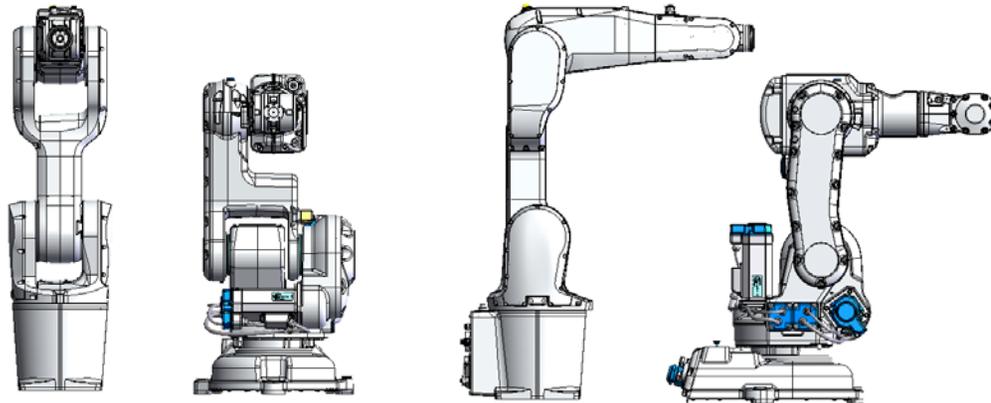


# Outline manipulator IRB 1200-5/0.9 vs IRB 120 & IRB 140

IRB 1200-5/0.9  
VS  
IRB 120

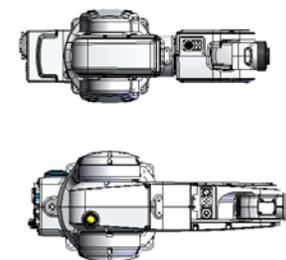
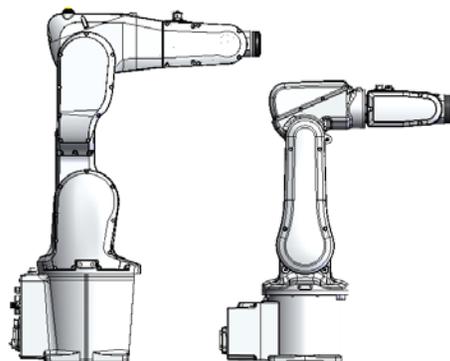
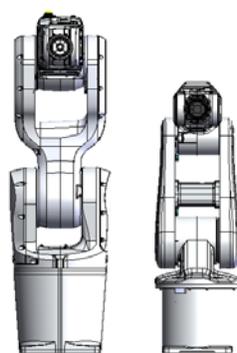


IRB 1200-5/0.9  
VS  
IRB 140

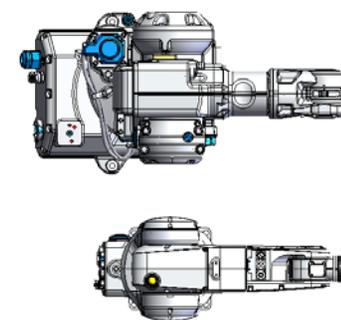
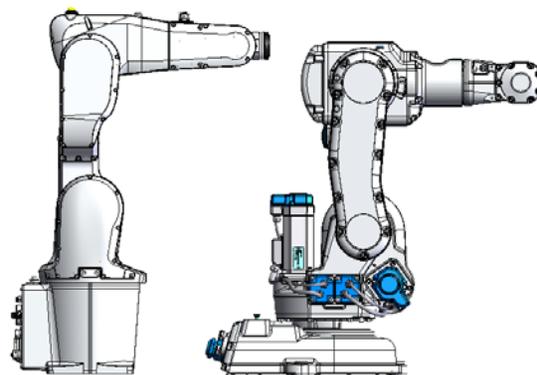
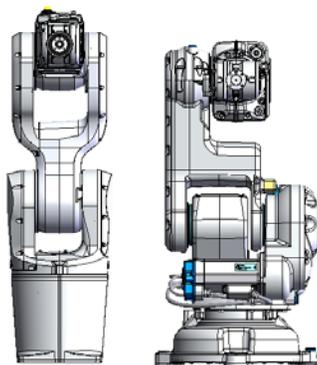


# Outline manipulator IRB 1200-7/0.7 vs IRB 120 & IRB 140

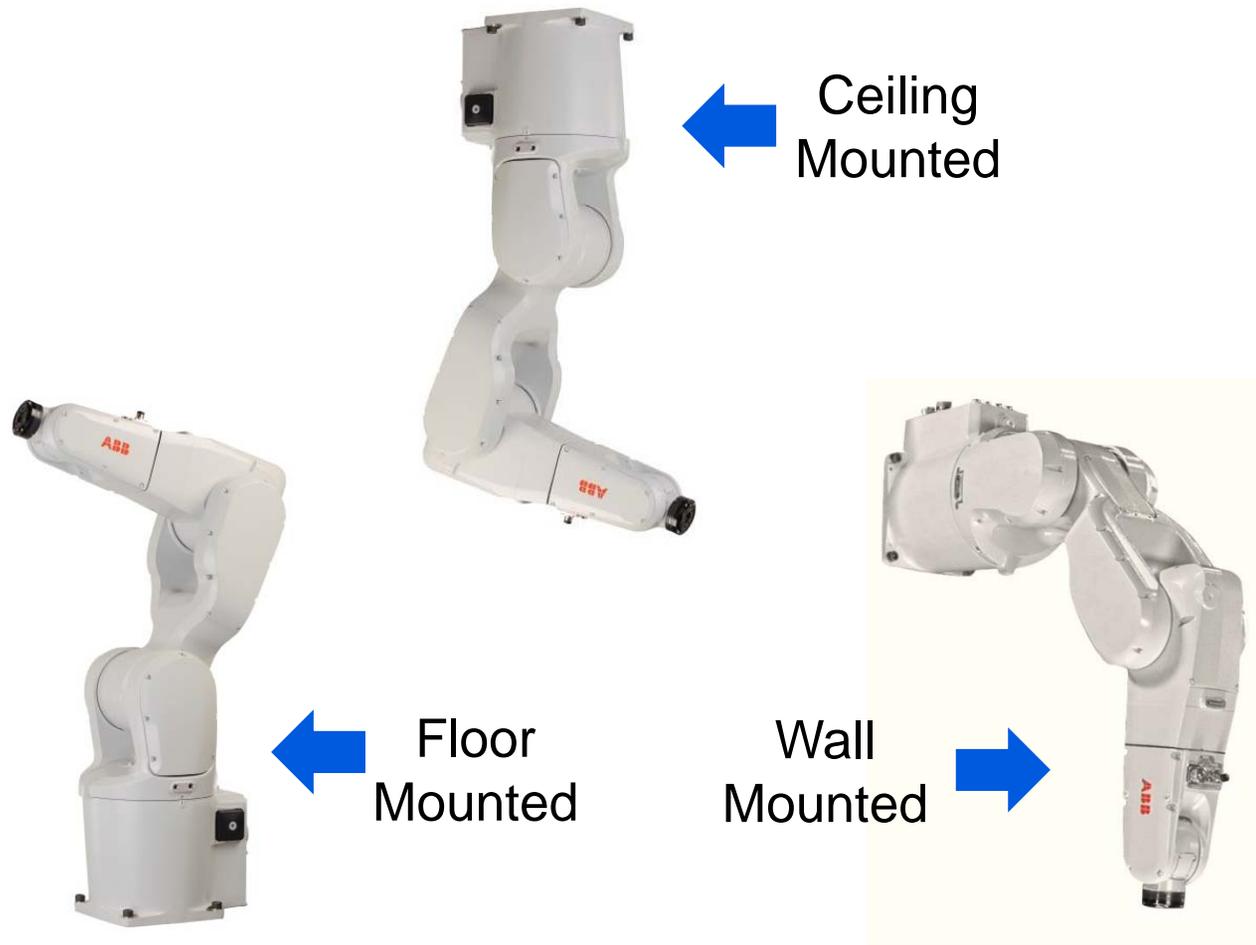
IRB 1200-7/0.7  
VS  
IRB 120



IRB 1200-7/0.7  
VS  
IRB 140



# Flexible mounting All angles



# IP protection



## IP 40 (standard)

- Cost Saving
- Less and lower cost parts
- Less Testing
- Good enough for most applications

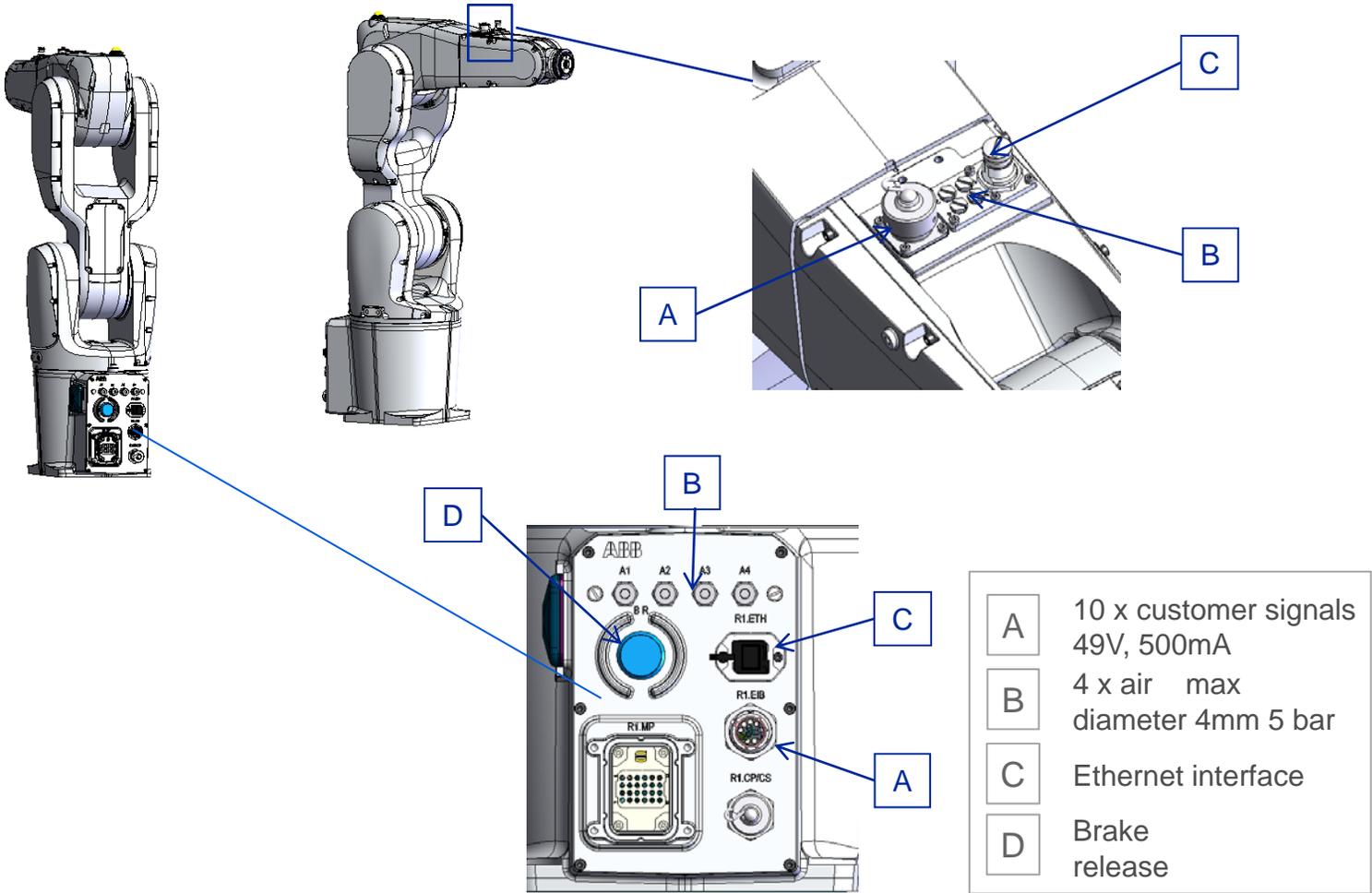
## IP 67 (optional)

- For harsher application needs
- Machine tending
- Material handling for foundry

## Clean room and food grade variant

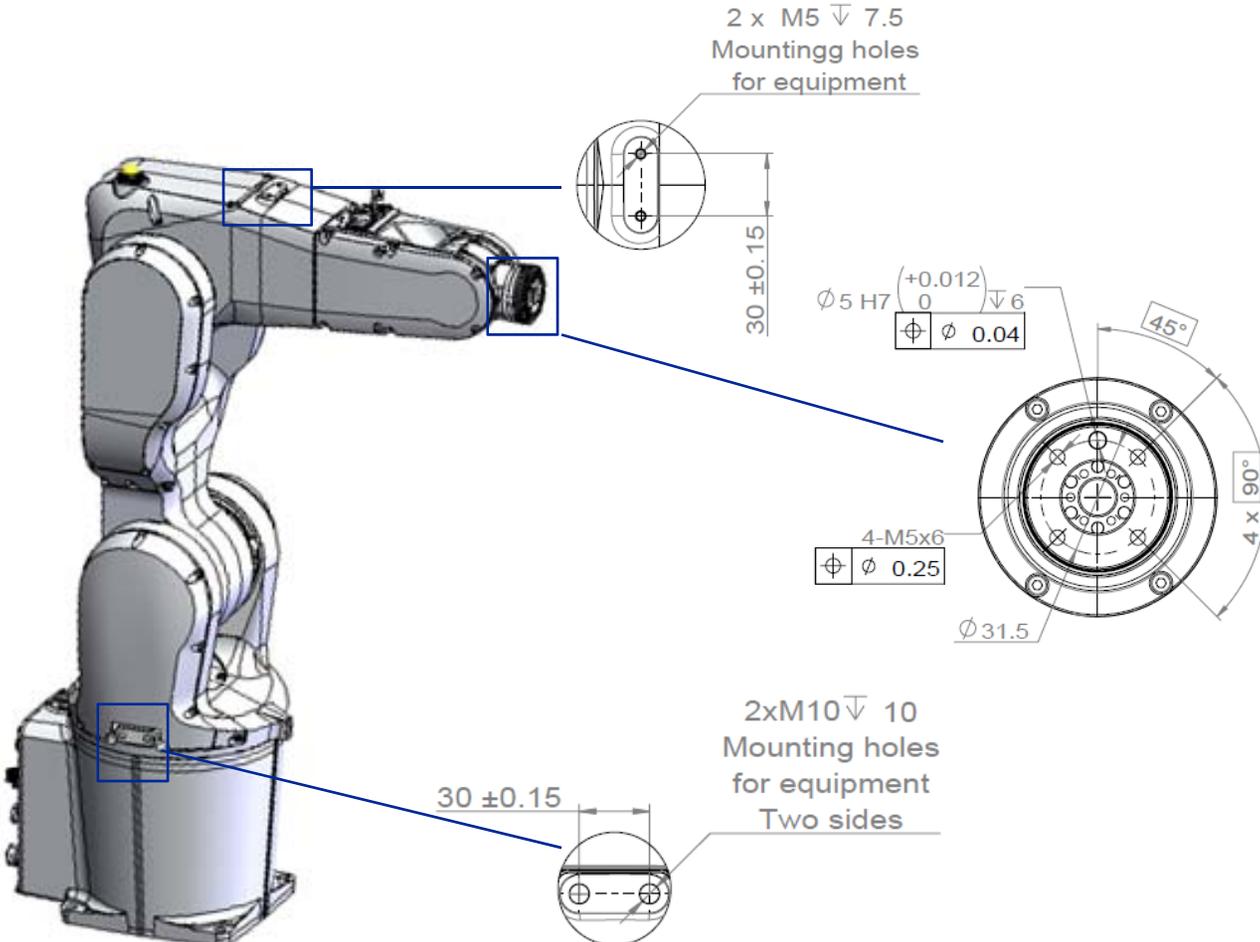
- Target ISO 4 clean room
- Available 2015

# Easy integration Customer interfaces



# Easy integration

## Mounting interfaces



# Controller



## IRC single cabinet

- "The Standard"



## IRC 5 Compact

- Compact size
- Low cost
- Portable(27.5kg)
- External connectors
- Built-in 16 in /16 out

# Key applications and segments

## Assembly

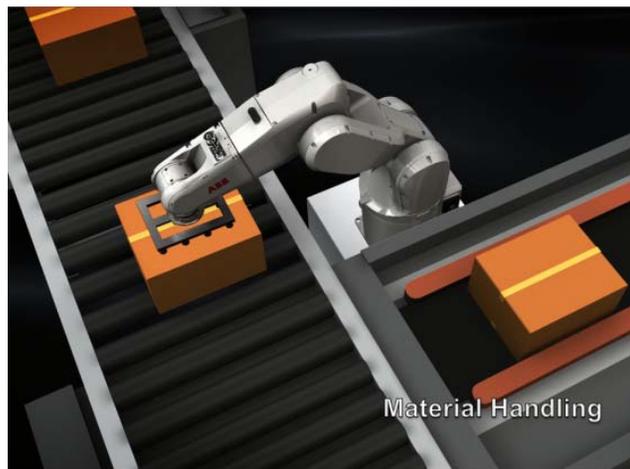
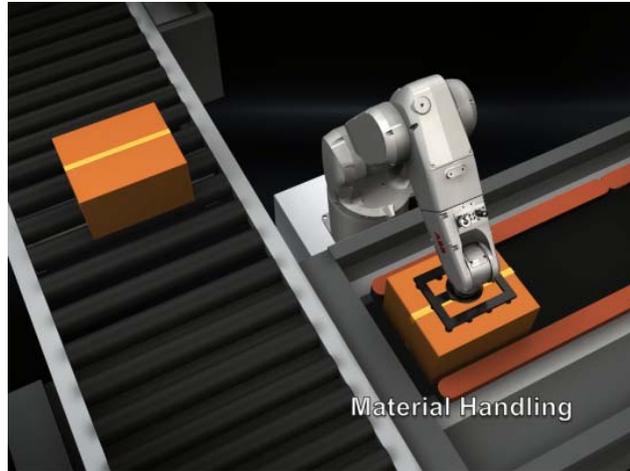


### Small Parts Assembly

- IRB 1200 is the perfect alternative/complementary for IRB 120 in small parts assembly
- Optimized payload and reach for small part handling and assembly
  - 5kg with 900mm
  - 7kg with 700mm
- Underline connection design to be easy to clean and save working space

# Key applications and segments

## Material handling



### Food & Beverage

- Short cycle time to increase production efficiency
- Large working envelop with shortest turning radius in its class
- Compact robot design enables compact cell design.

# Key applications and segments

## Machine tending



### CNC machine tending

- High IP protection - IP 67 (optional)
- Compact design to be easily integrated with CNC machine.
- Inverted mounting option to save the floor space and optimize the motion range

# Key applications and segments

## Polishing and dispensing



Polishing

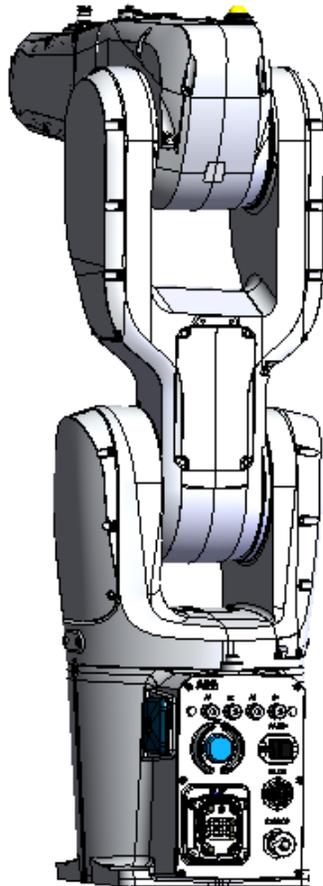


Dispensing

### Small parts assembly

- Vision systems and force control are easily integrated
- Smooth surface and internal cabling makes the robot easy to clean
- Speed and accuracy enable robot to do a better job

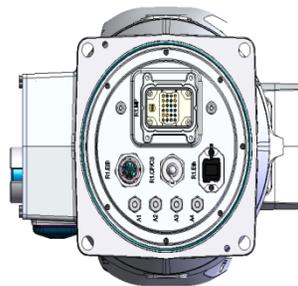
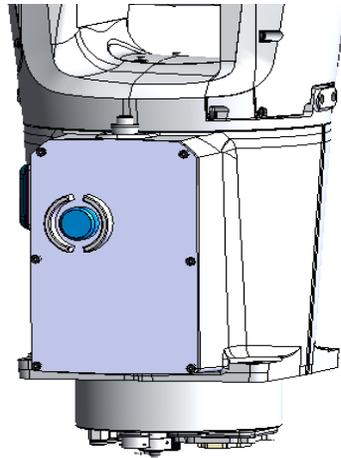
# Customer benefits



**Enclosed design, which allows all wiring and air to go through the inside of the robot**

- Reduced maintenance
- Less risk of cable and air hose damaged
- Can be used in confined spaces
- Easy to keep clean
  - No risk of dust collecting on cables

# Customer benefits

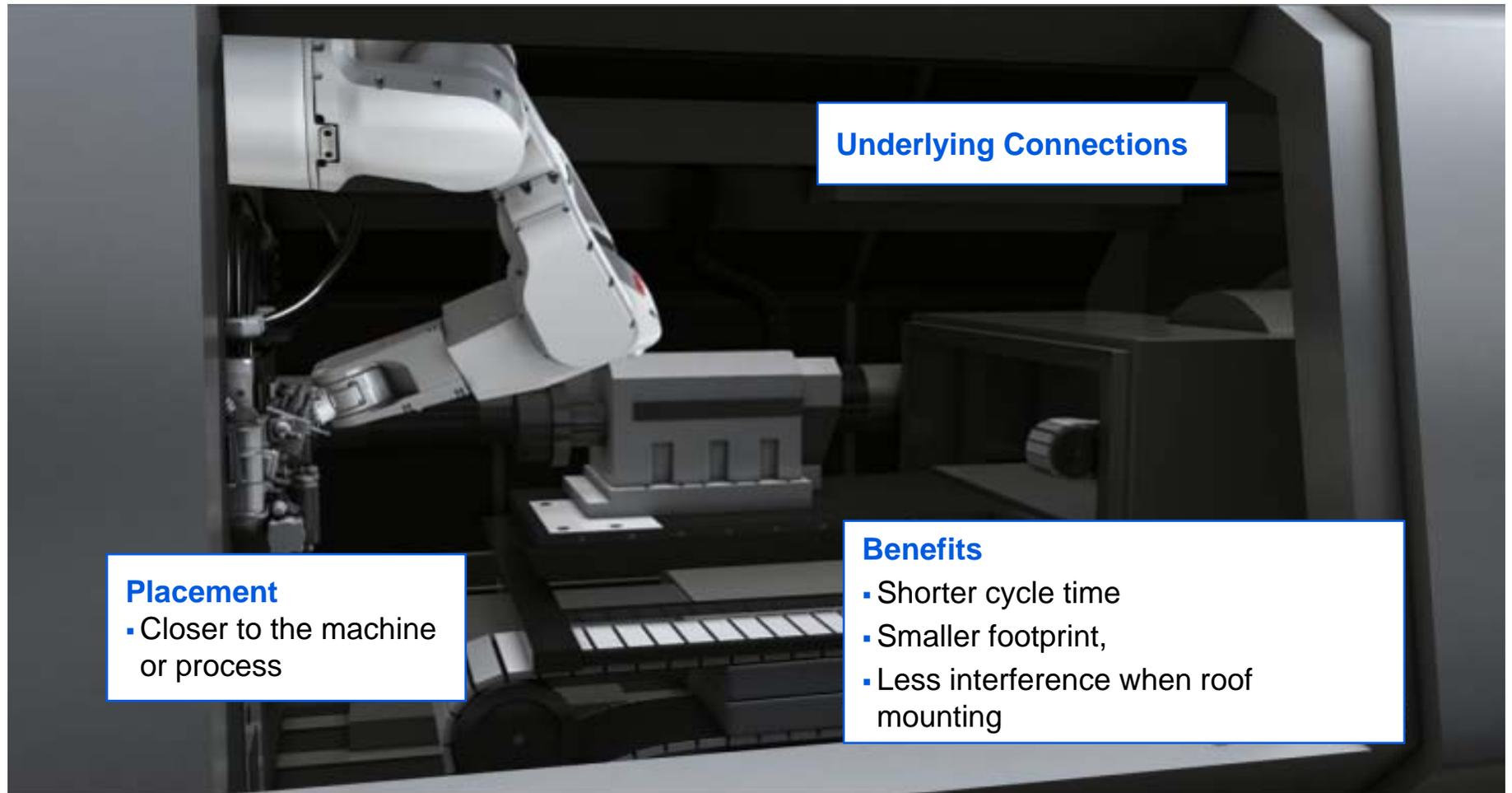


## Underlying connection

### New design in the ABB portfolio

- Saves working space
- Better cell layout
  - Equipment can be placed closer to, or around, robot without interference
- Robot is more streamlined, making it very easy to clean in food or CNC environments

# Customer benefits CNC Machine Tending



**Underlying Connections**

**Placement**

- Closer to the machine or process

**Benefits**

- Shorter cycle time
- Smaller footprint,
- Less interference when roof mounting

# Customer benefits CNC Machine Tending



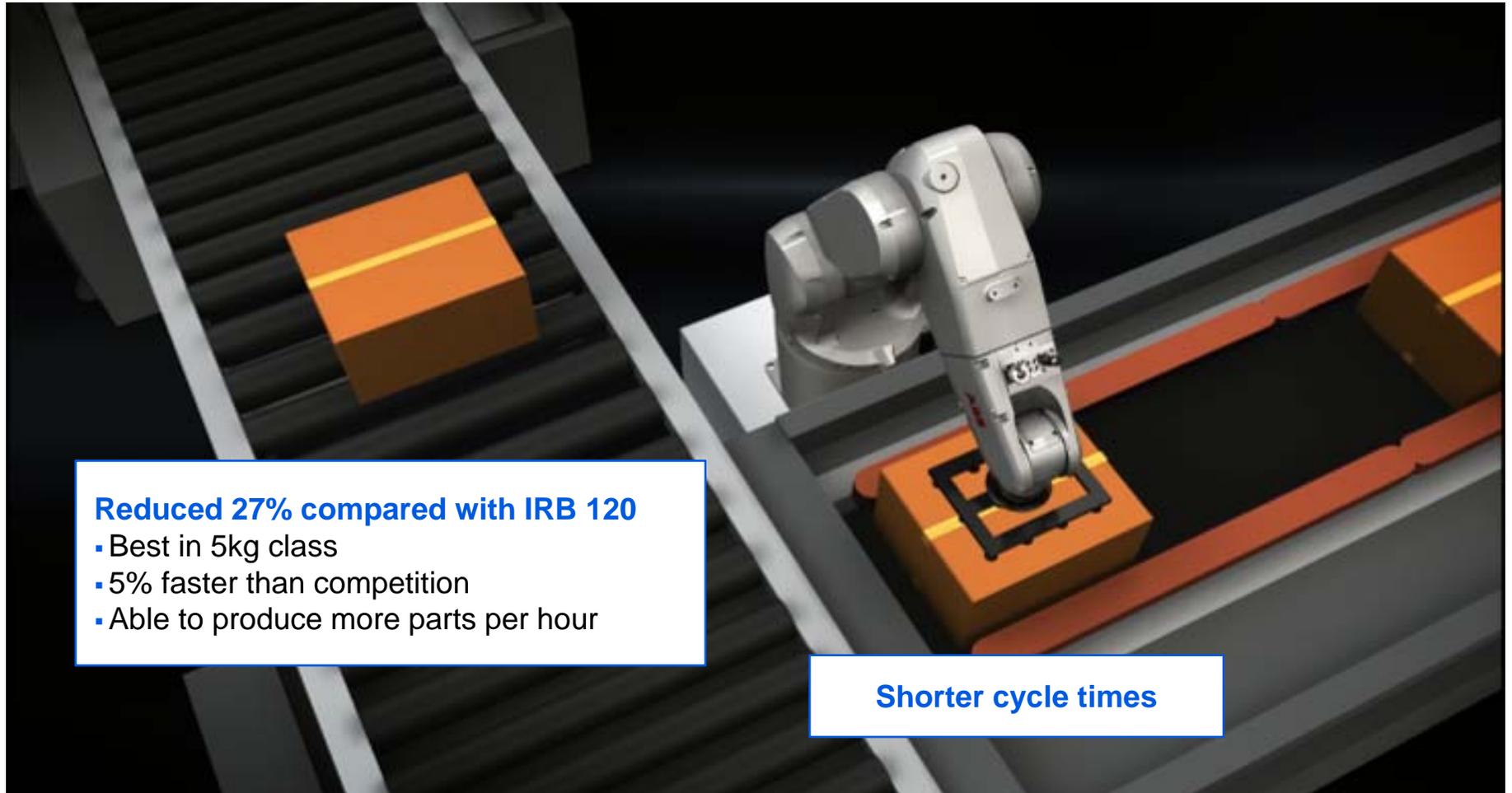
**IP 67 (option)**

**Mounting**  
▪ Inside machines without any external protection

**Reduced maintenance**  
▪ More durable  
▪ No need for jackets

# Customer benefits

## Materials Handling

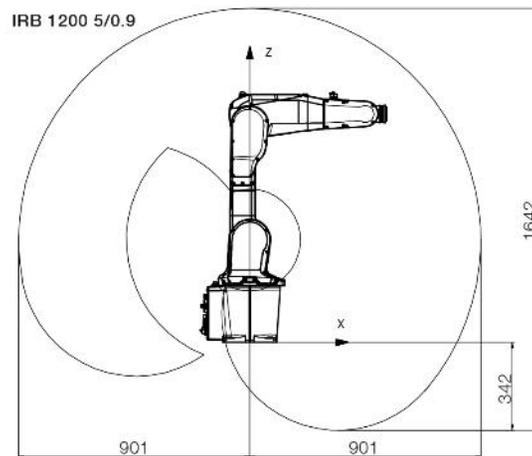
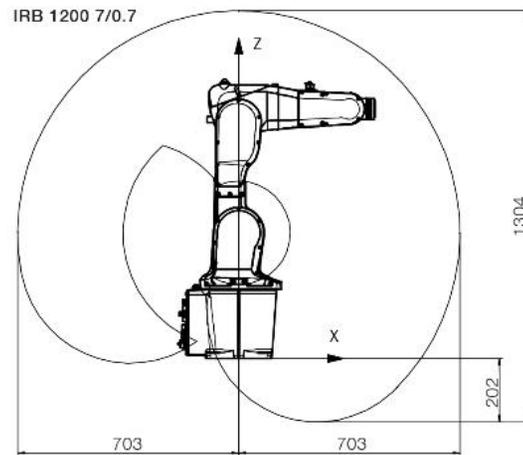


### Reduced 27% compared with IRB 120

- Best in 5kg class
- 5% faster than competition
- Able to produce more parts per hour

Shorter cycle times

# Customer benefits



**Larger work envelop**  
**No offset in axis two**  
Possible to have a large working envelop when inverted mounted

# Customer benefits



## **New small robot family Consisting of two variants**

- Require fewer spare parts
- 5kg and 7kg components interchangeable

# Summary



- New design: Loaded with features which allow for 15% smaller cells that have 10% shorter cycle times
- Compact: Large useable working area in a small package leads to shorter cycles and more compact machines
- Easy to integrate: Four air ducts, 10 customer signals and Ethernet, all routed inside the robot from flange to foot
- Flexible family: Two variants (700 mm reach/7 kg payload; 900 mm reach/5kg payload); Mountable at any angle
- Durable: IP 40 protection as standard with IP 67 protection as an option; ISO 4 version in next release

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