IRB 1660ID – EXTERNAL presentation

High performance ID robot for Arc Welding and Machine Tending

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IRB 1660ID introduction movie

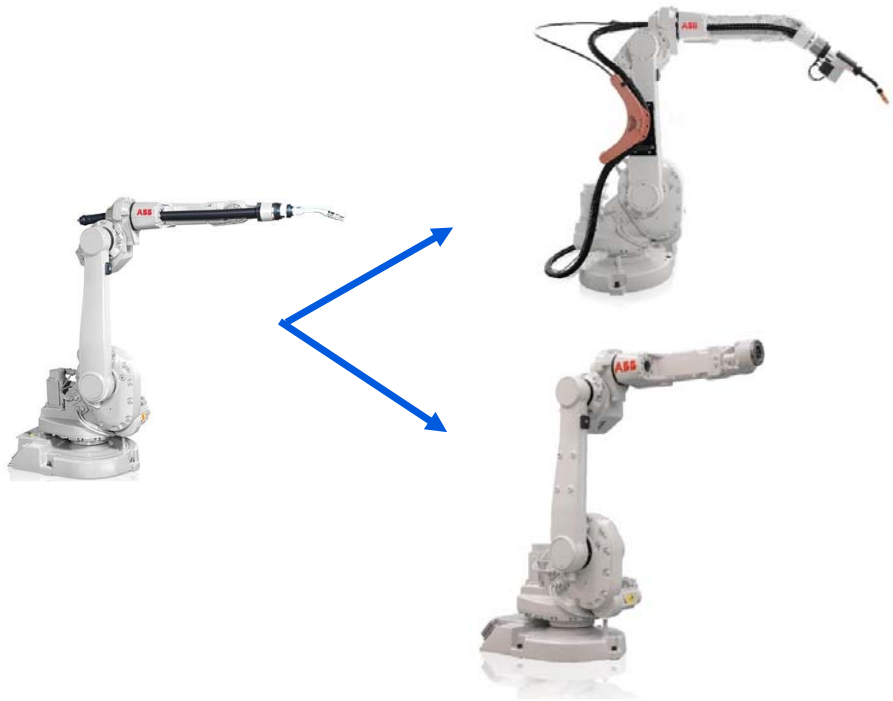
High performance ID robot for Arc Welding and Machine Tending

IRB 1600ID succeeded by IRB 1660ID

IRB 1660ID is a new robot setting a new standard for it´s class

IRB 1600ID	->	IRB 1660ID
Arc welding	->	Arc welding & Machine tending
4 kg payload	->	4 and 6 kg
1.50 m reach	->	1.55 m
200 mm wrist	->	135 mm
No IP wrist	->	IP 67
Axis 4-6 range 1080°	->	1390°
Floor, tilt, inverted	->	Floor, tilt, **wall**, inverted

From dedicated arc welder to general purpose



Overview
Comparison with IRB 2600ID

IRB 1660ID	IRB 2600ID
Arc welding & Machine tending	Arc welding & Machine tending
4 - 6 kg payload	8 - 15 kg
1.55 m reach	1.85 -2.00 m
135 mm wrist	135 & 200 mm
IP 67 wrist	IP 67
Path repeatability: 0.05 mm	0.27-0.30 mm

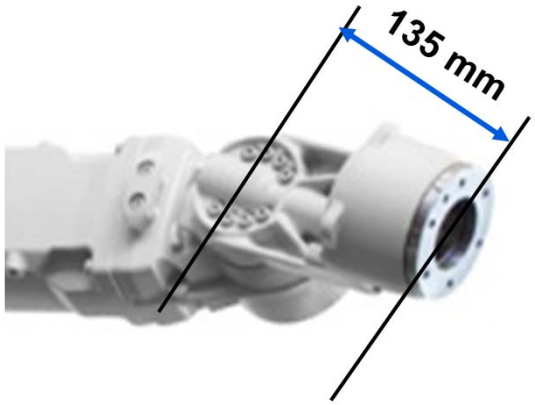
Smaller than IRB 2600ID but even more accurate

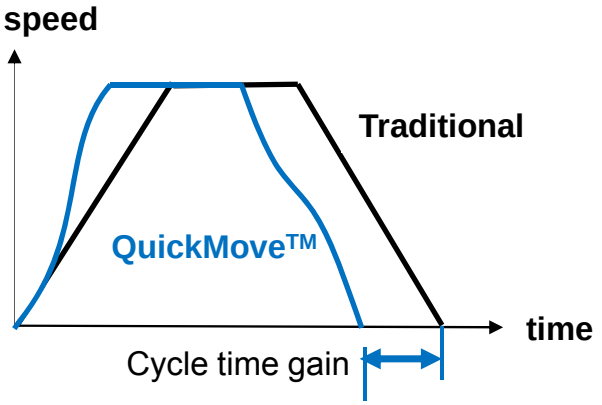
Differentiated value proposition

When shorter cycle times, unmatched versatility, and a smaller more powerful wrist matter – ABB's new IRB 1660ID is the robot of choice.

Key differentiators
Up to 10% shorter cycle times

- Faster re-orientations
  - New high-torque wrist with higher accelerations
  - More agile, compact 135 mm wrist
- QuickMove™ motion control
  - Unique variable acceleration provides cycle time gain
  - Max possible acceleration at all times





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Key differentiators

Up to 10% shorter cycle times in Arc Welding

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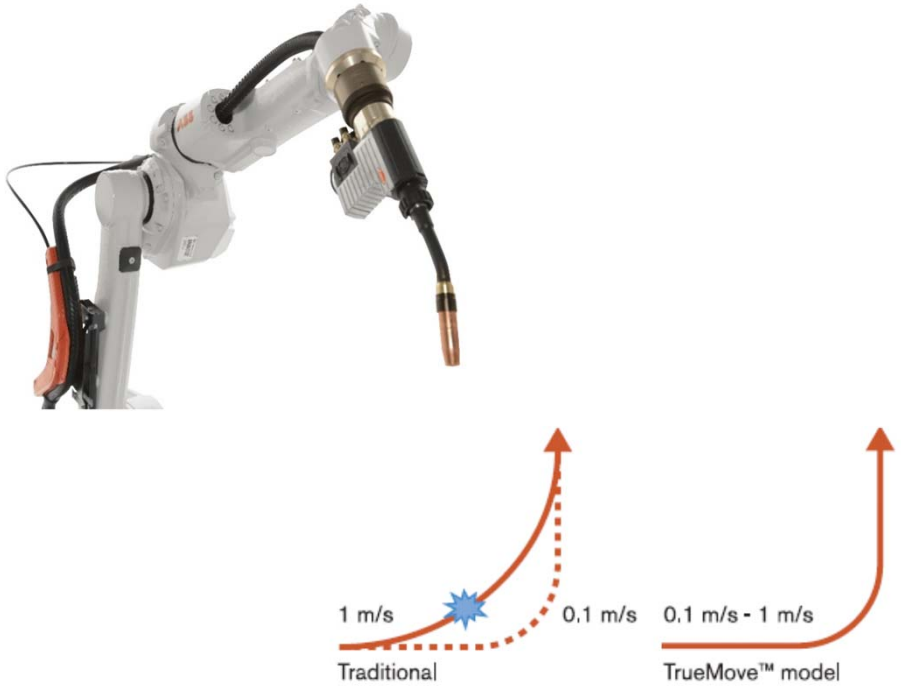
Key differentiators
Outstanding weld quality

- Can handle heavier torches with integrated wire feeder for enhanced wire feed control
  - Superior and even weld quality in high volume prod.
- New motion process “Accuracy mode“ can provide 0.05 mm path repeatability in ISO test.
- TrueMove technology makes the path independent of the speed. “What you program is what you get”
  - Easy to get a correct and speed-independent path

High performance torches and motion control provide perfect welds.

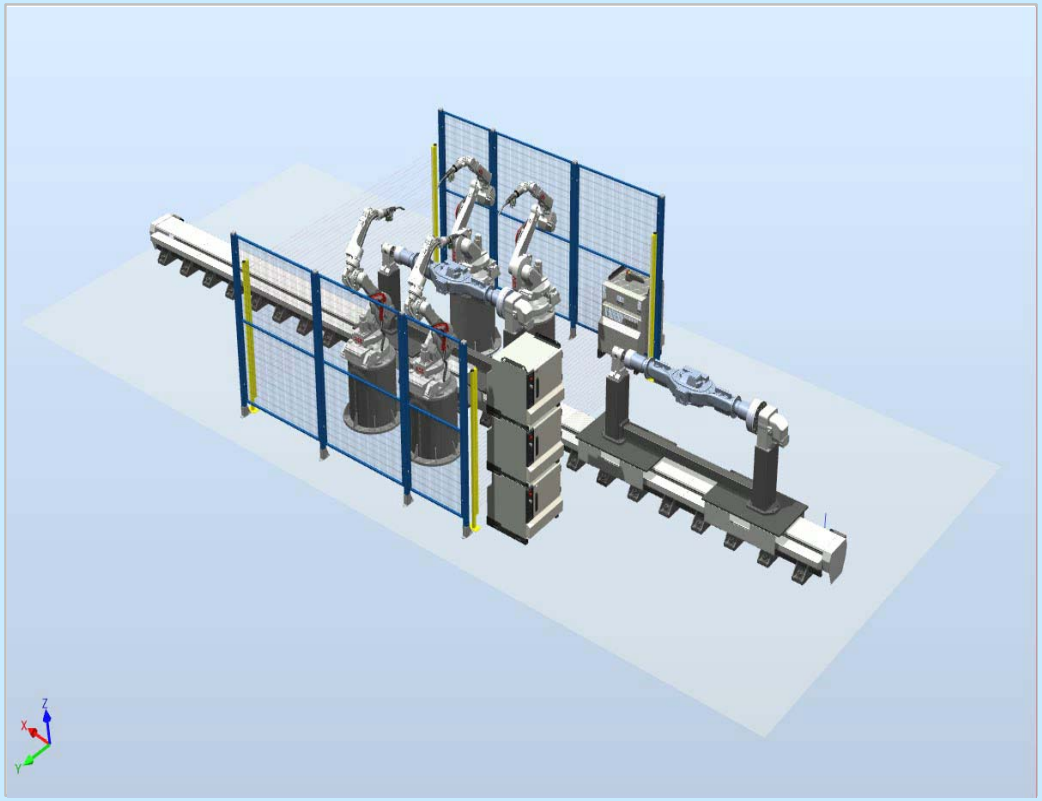


Key differentiators

Safe robot movements enable super-productive high density cells

RobotStudio-simulated cell with 4 x IRB 1660ID

- Full control over hose package movements
  - Max speed and acceleration at all times
  - Shortest possible and predictable cycle times
  - Maximized output
- Four torches weld close to each other, reducing the heat distortions, providing top quality parts.
- Safe robot movements and collision detection secures unmatched reliability.



Maximized output, top quality parts, unmatched reliability.

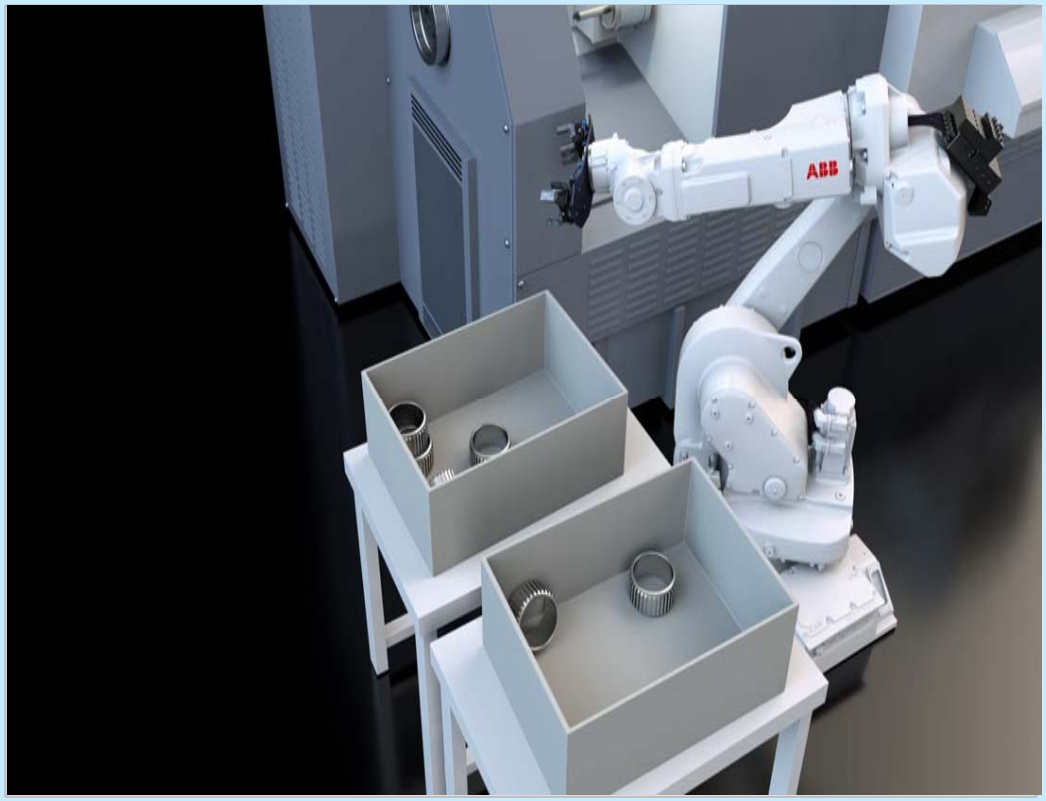
Key differentiators

Fast, agile and reliable in Machine Tending

IRB 1660ID tending inside a machine with confined space

- Fast and reliable movements
  - Max acceleration without interference from swinging cables.
  - Eliminated risk for cable collisions in confined spaces.
- Outstanding agility inside tight machines
  - 1,390° working range axes 4-6
  - Compact 135 mm wrist
- Maintenance costs cut by more than 50%
  - IP 67 wrist
  - Protection of the cablings from cutting fluids
  - Collision-free movements

Fast, reliable, accessible cost-saver



Key differentiators
Simplified online programming

- Full control of the hose packages thanks to the ID wrist
- Faster re-orientations with the compact 135 mm wrist
- Highly accurate cornering thanks to 0.30 mm TCP re-orientation accuracy (with absolute accuracy option)

Easy and precise jogging at your fingertips

Sustainability

Lowest power consumption and noise in class

Thanks to highly energy efficient drive trains with very low friction:

- Power consumption 0,62 kW in the ISO cube with max speed, acceleration and load – best in class!
- Noise < 70 dB (A) – best in class!

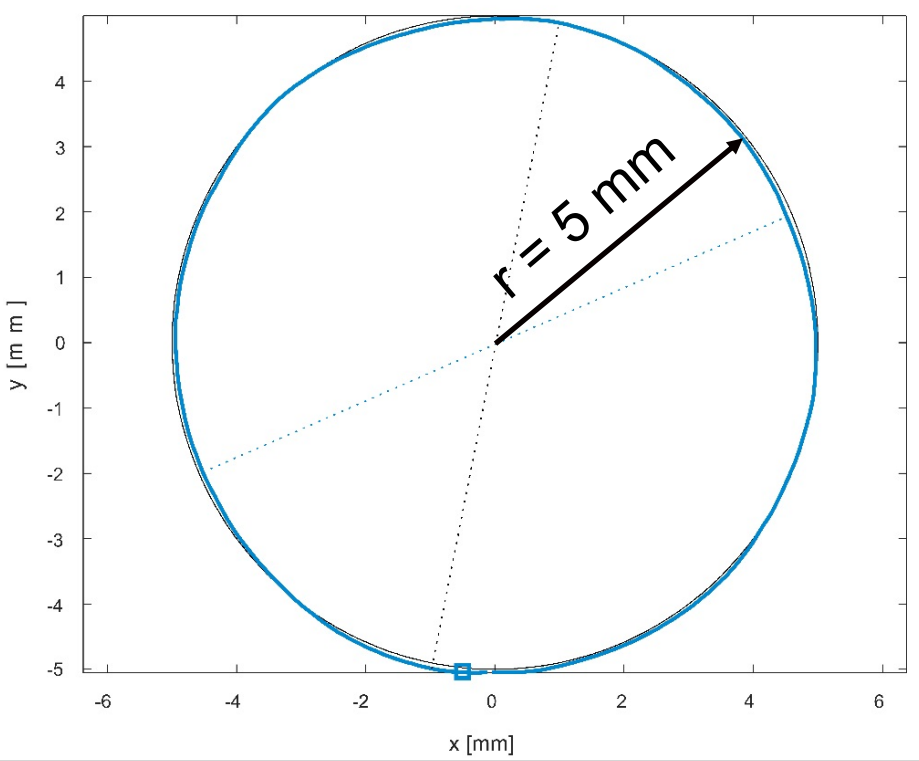
Technical data
The total load is 36 kg

Technical data

ISO test results

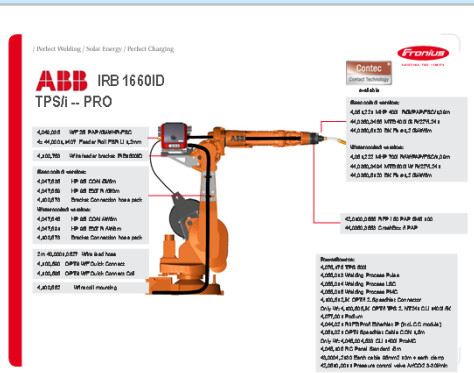
	IRB 1600ID-4/1.50	IRB 1660ID-6/1.55
Pose repeatability, RP	0,02 mm	0,02 mm
Pose accuracy, AP	0,08 mm	0,02 mm
Path repeatability, RT	0,13 mm (100 mm/s)	0,05 mm
Path accuracy, AT	0,88 mm	0,25 mm (250 mm/s)
TCP re-orientation accuracy, average	0,35 mm	0,30 mm

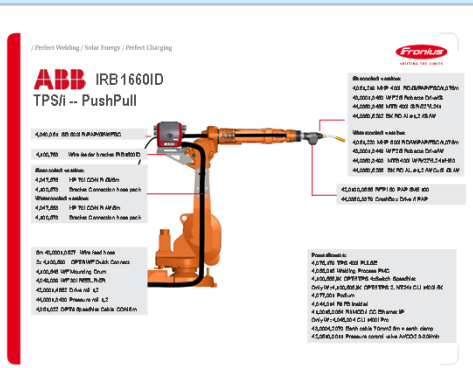
Application test: Max deviation 0.09 mm at 80 mm/s

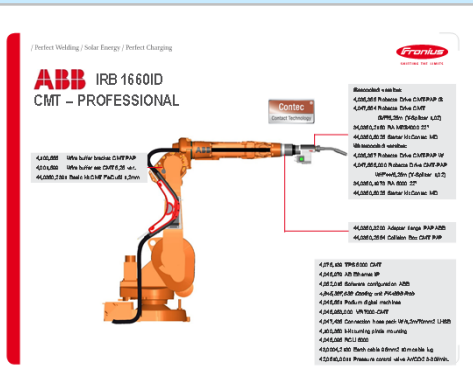


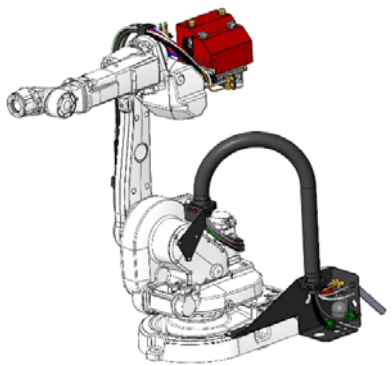
Arc welding process equipment packages

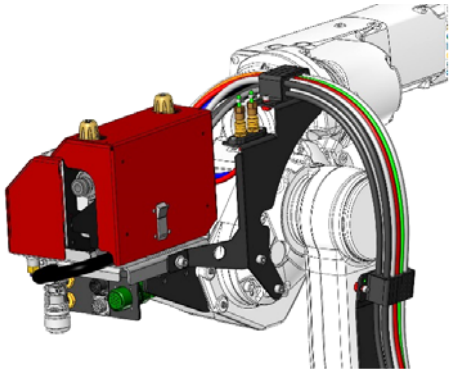
Fronius available, Lincoln soon, others following late 2016











Summary

IRB 1660ID

- Up to 10% shorter cycle times.
- Unrivalled welding quality.
- Highly productive for machine tending.

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