

Elevated Rail for the IRB 5500-25



The Elevated Rail for the IRB 5500 reduces cycle times by as much as 10% on Stop & Go automotive paint lines.

Description

The Elevated Rail for the IRB 5500 system is one of the most advanced paint solutions available on the market. Ideally suited for both interior and exterior automotive painting as well as other paint applications, the system expands the flexibility of the IRB 5500 FlexPainter, which is the most versatile working envelope of any paint robot.

Designed for Stop & Go automotive paint lines, the Elevated Rail for the IRB 5500 increases the flexibility on these types of lines and allows for easy repositioning of the robot, guaranteeing an effective backup solution. It is able to accommodate most car body sizes which has the added advantage of potentially reducing the number of robots on a paint line. This added flexibility and the ability to place the robot in an optimal position directly contributes to reducing cycle times by up to 10%.

Reliability

Based on more than 30 years of rail experience, the Elevated Rail for the IRB 5500 is the fifth generation of ABB rail systems for automotive paint shops.

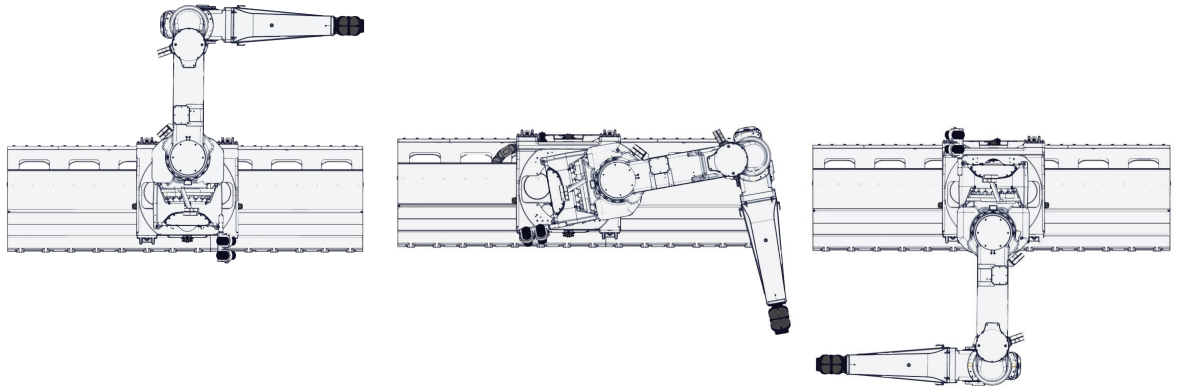
The Elevated Rail for the IRB 5500, eliminates the need for additional engineering and other costs associated with installing an IRB 5500 on a third party rail. The integrated ABB dynamic modelling for all axes lowers energy consumption, increases accuracy and provides a fully synchronized and balanced paint robot motion.

The elevated rail sections (rail elements) are designed to be a self-carrying structure without the need for a beam support under the rail.

To maintain accuracy and prevent deflection only two pillars with up to 4.7 meters (center-to-center) are employed with one or two robots on the rail.

RobotStudio®

The Elevated Rail for the IRB 5500 is fully supported for offline programming and 100% accurate cycle checks and path accuracy for all components (including the rail).



Features and benefits

- Extends unique features of IRB 5500, such as fully integrated process and motion- control and the special integration into the paint booth.
- Supports up to four robots on a single rail.
- Two pillar design accommodates most car body length configurations
- Maximum flexibility for use with a variety of applications.
- Total height (dog house) 1123 mm.
- Numerous manipulator mounting positions on a single trolley design – tilted, upright, inverted.
- Protected cable chain – 300 mm cable chain integrated into the rail elements.
- Centralized lubrication - track rails and gear rack, and trolley rollers.
- Automatic calibration sequence on axis 7 - sensor to detect the calibration position; no calibration tooling needed.

Technical data

Environment

Payload	13 kg (at 350 mm COG) - same as standard IRB 5500
Reach	2975 mm (at TCP 0) Same as IRB 5500 + from 2 m to 9 m as standard, up to 15m rail, or more, on request. Capable of supporting from 1-4 robots on the same rail (1 & 2 is covered as standard)
Accuracy	Robot: 0.15 mm (on TCP) Trolley: 0,3 mm. ABB dynamic modeling for all axes. Velocity axis 7 (rail axis): 1,4 m/sec
Deflection of rail	< 1 mm (with maximum speed and acceleration of manipulator in vertical direction)
Weight	Manipulator 600 kg. Trolley 370 kg, Rail element 380 kg/meter
Mounting position	Floor or Elevated. Robot: tilted, upright, inverted
Temperature	0°C - 40°C degree
IP Protection	IP 67 as standard (Ex zone 1, Class 1 Div 1)
Ex approval	Explosion protected Exi/Exp for installation in hazardous area Zone 1 & Zone 21 (Europe) and Division I, Class I & II.

Data and dimensions may be changed without notice.

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