

# Small 540

Small and Compact for Narrow Sites



## Compact Design

The Small 540 is a compact six-axes robot with FlexiWrist, 1000 mm horizontal arm and 700 mm vertical arm. As a modified version of the standard IRB 540 robot, it offers the same economical benefits and powerful software. It delivers constant high finish quality and reduced overspray, thus reducing material consumption and waste.

### For narrow areas

With a shorter vertical arm and a narrow base the size makes it an effective paint robot for applications in limited and narrow areas. The robot is not counterbalanced and can be mounted upside down.

Please note that CP programming and manual PTP programming are not available on this robot.

### State-of-the-art Technology

State-of-the-art motor, motor drive and transmission technology gives the IRB 540S high speed and acceleration. The resolvers are integrated in the motors and no communication is needed, resulting in a slim design and reduced need for access.

## Process Know-how

Achieving an even film build using manual spraying is difficult. Introducing an ABB coating robot solution into your plastics fabrication process will help you produce parts with constant high finish quality.

ABB's proven standardized technology provides high finish quality for all powder, solvent and waterborne paint processes, however complex the product shape. Based on our long experience and customer needs, we develop packages designed for quality and consistency.

### ABB's Brush concept

Save paint by using the right brush for the different areas to be painted. Brushes can be modified while spraying, in order to save cycle time.

### Global Controller platform

The S4P+ Controller is modular and designed to the highest level of operational reliability. Because of ABB's Global Controller Platform training, service and engineering costs can be significantly reduced.



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### TECHNICAL DATA, IRB 540S

#### SPECIFICATIONS

Handling capacity FW 5 kg  
Number of axes 6

#### Axis movements:

Axis	Working range	Max. speed
1. Rotation	300°	112°/s
2. Vertical arm	145°	112°/s
3. Horizontal arm	95°	112°/s
4. Wrist	176°	360°/s
5. Bend	176°	360°/s
6. Turn	640°	700°/s

#### ELECTRICAL CONNECTION

Supply voltage 3 ph, 200-600 V, 50/60 Hz  
Power consumption Stand by <300W  
During production ~1000W  
Electrical Safety According to international standards

#### PHYSICAL

Robot unit mounting Floor, roof  
Dimensions:  
Robot Footprint 660 X 750 mm  
Vertical arm L 700 mm  
Horizontal arm L 1000 mm  
Robot Controller H 1280, W 800, D 550 mm  
Weight:  
Robot Unit 530 kg  
Robot Controller 240 kg

#### ENVIRONMENT

Explosion protection:  
North America Class 1, Division 1, Group C&D  
Japan IIGT4  
Europe IIBT4  
EMC Electro Magnetic Compatibility certificate  
Ambient temperature Robot Unit 5-45°C  
Robot Controller 5-52°C  
Relative humidity Non condensing max. 95%  
Degree of protection Protection Standards IEC 529  
Robot Unit IP 67  
Wrist IP 54  
Robot Controller IP 54

#### USER INTERFACES

Operator panel In cabinet or external  
Programming unit EExi protected. Portable, joystick and keyboard  
Display 16 lines x 40 characters  
Graphical 240 x 320 pixels  
Distributed intelligence  
Configurable on screen menus  
Safety EMY stop, Enable device, General mode stop, Auto mode stop, Test mode stop, Cabin interlock

#### MACHINE INTERFACES

Digital inputs/outputs 512/512  
Analog inputs/outputs 16/12  
Remote I/O Interbus-S 64/64  
Allen Bradley RIO 128/128  
Profibus DP 128/128  
CC Link  
Serial Channels RS-232, RS-422, RS-485  
Network Ethernet NFS/FTP  
FactoryWare interface  
DDE server  
Diskette drive 3.5" MS-DOS format

#### BASEWARE

BaseWare OS Robot Operating System, multitasking capability  
RAPID Powerful application programming language  
Conveyor Tracking Accurate synchronization of robotic motion, paint process regulation and the moving part for both linear and circular tracking in any direction

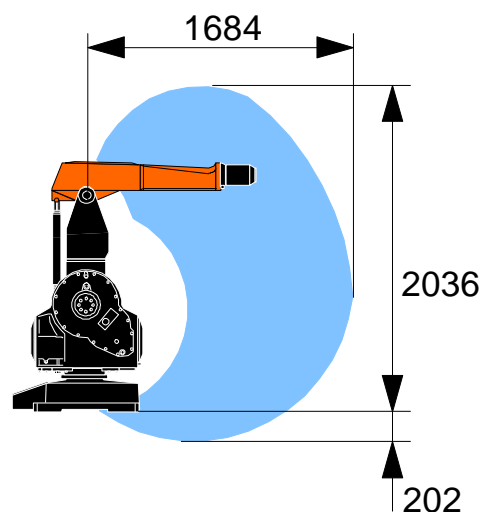
#### PROCESSWARE

APR Analog Paint Regulation to atomizer, fluid and air. High speed control for paint and air flow adjustments with unique Brush concept.

#### PC TOOLS

CAP A Computer Aided Painting package containing ShopFloor Editor and RobView.  
ShopFloor Editor Off-Line editing of programs using 3D graphics for path and process tuning.  
RobView Monitoring of robots and process in production. Easy design of user screens.

#### WORKING AREA



Data and dimensions may be changed without notice.