

Process know-how

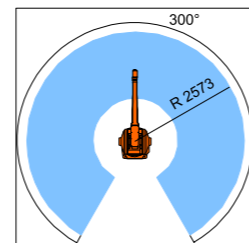
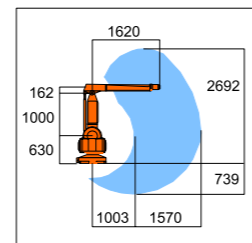
Achieving an even film build using manual spraying is difficult. Introducing an ABB coating robot solution into your metal fabrication process will help you produce parts with constant, high finish quality. You will also reduce overspray, thus reducing material consumption and waste. Based on our long experience and customer needs, we are developing packages designed for quality and consistency.

Tailored Solutions

ABB Flexible Automation provides flexible tailored solutions for surface treatment in the metal fabrication industry, be that cabinets, two-wheelers or components and parts. Our approaches are based on function packages and standardised components. Thanks to our high performance easy-to-use coating robots you may now have complete new lines or single stations, as well as upgrades of existing equipment.

Expertise and service always on your doorstep

No matter where in the world you operate, there will be an ABB Flexible Automation Centre near-by offering engineering expertise, service excellence and manufacturing know-how. Our range of standard and customized services are designed to increase uptime and improve productivity, enabling you to concentrate on your core activities. We aim to be a key resource.



IRB 540

TECHNICAL DATA

SPECIFICATION IRB 540

Handling capacity FW	5 kg	
Number of axes	6	
Robot unit	6	
Diskette drive	3.5" MS-DOS format	

Axis	Working range	Max. speed
1. Rotation	300°	120°/s
2. Arm	145°	120°/s
3. Arm	95°	120°/s
4. Wrist	176°	360°/s
5. Bend	176°	360°/s
6. Turn	640°	700°/s

ELECTRICAL CONNECTIONS

Supply voltage	3 ph, 200-600 V, 50/60 Hz	
Power consumption	max. 4kVA	
	with motors off 0.3 kVA	
Electrical safety	According to international standards	

PHYSICAL

Robot unit mounting	Floor	
Dimensions	Robot base W 780, D 800	
	Cabinet H 1280, W 800, D 550	
Weight	Robot unit 570 kg	
	Robot controller 240 kg	

ENVIRONMENT

Explosion protected	North America: Class 1, Div. 1, Group C&D Japan: IIGT4, Europe: IIBT4 - pending	
EMC	Electro Magnetic Compatibility certificate	
Ambient temperature	Robot unit 5-45°C	
	Robot controller 5-52°C	
Relative humidity	Max. 95%	
Degree of protection	Robot Unit IP 67	
	Controller IP 54	

USER INTERFACES

Operator panel	In cabinet or external
Programming unit	Portable, Joystick and Keypad
	Display 16 lines x 40 characters
	Graphical 240 x 320 pixels
	Distributed intelligence
	Configurable «On screen menus»
Safety	Enable device, general mode stop, Auto mode stop, Test mode stop, Cabin interlock

MACHINE INTERFACES

Digital inputs/outputs	512 / 512
Analogue inputs/outputs	16 / 12
Remote I/O	InterBus-S 64 / 64, Allen Bradley RIO 128 / 128, Profibus 128 / 128
Serial channels	RS-232, RS-422, RS-485
Network (Ethernet)	Robot Application Protocol (RAP) DDE Server

BASEWARE

BaseWare OS	Robot Operating System with multitasking capability.
RAPID	Application programming language, powerful with more than a hundred different instructions.
Conveyor Tracking	Accurate synchronising of moving objects during paint process. Linear or circular tracking in any direction.

PROCESSWARE

APR	Analog Paint Regulating of spray gun. Fluid, Air and Electrostatic control.
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DESKWARE

ProgramMaker	Off-line program editing in Windows.
ConfigEdit	Easy configuration of robots.
IPS ConfigEdit	Easy-to-use Windows editor for the IPS system.

FACTORYWARE

RobView	Robot status, control, and file transfer on a PC.
RobLog/Trend	Logging and display of robot processing data.
DDE-Server	Robot DDE communication for InTouch, etc.
RobComm	Communication Toolkit for VB, VC++, etc.

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ABB Flexible Automation

IRB 540

IRB 540 - Solutions for metal industries

Based on proven technology



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ABB Flexible Automation



Gain an edge on the competition

Our standardised and dedicated solutions draw on thirty years of paint process know-how and experience to address your requirements for lower costs, higher finish quality and reduced emissions.



State-of-the-art motor, motor drive and transmission technology gives the IRB 540 high speed and acceleration.

The resolvers are integrated in the motors and no commutation is needed, resulting in a slim design and reduced need for access.

More user-friendly robots

Paint technology is a fast growing segment throughout the world. In the paint application field we offer solutions to a wide spectre of customers in sanitary ware, furniture, two-wheelers, electronics, agricultural and heavy construction equipment. Our total paintshop solutions include robots and atomizers, spray booths, paint handling equipment etc. ABB Flexible Automation's proven standardised technology provides high-quality finish for all powder, solvent and waterborne paint processes, however complex the product shape. Our standardised solutions also include dedicated processes for difficult materials, such as glaze, enamel, shield material and adhesives.

Leading edge technology

Based on our paint process know-how and leading edge technology, we are able to offer low per unit production costs, full service and standard system solutions worldwide.

using the same technology as the other ABB robots, the IRB 540 will require less training, engineering, programming, spare parts and maintenance.

“After the initial setup and training, the flexible S4P controller simplifies programming and provides great adaptability to my specific needs. It's a superior and reliable performer, and combined with the high quality of the ABB robots I have endless possibilities.”

This is John Bjerrum Nielsen's impression of our S4P controller. He is the president of the family-owned company Bjerrum Nielsen, which among other things delivers plastic parts to Bang & Olufsen. Bjerrum Nielsen has over 15 years' experience of programming robots, now he is a S4P user.



S4P Controller - Features & Benefits

The S4P Industrial Robot Controller is a highly configurable modular system that will deliver superior performance in your applications. Plain language communication reduces the risk of misunderstanding and errors.

RobotWare software products

RobotWare is a family of software products designed to increase your productivity and lower your total cost of owning and operating robots. These products represent the most powerful set of robot tools available - tools you can depend on to help you, no matter what job you are doing and regardless of your level of experience.

A fully adaptable system for different needs

The system is easy to use for the operator, powerful for the programmer and accessible for maintenance personnel thanks to the powerful RAPID™ robot language and the extensive functionality available in the PaintWare™ software.

Extensive communication capability for integration and control

The controller contains fieldbus and serial channels for PLC and PC connection. Using the distributed I/O system, I/O devices can be placed separately, e.g. in a pneumatic cabinet. Robot control from a PC is possible using Ethernet, and a number of alternative fieldbuses are available for distributed devices.

Superior reliability

The S4P is designed to the highest level of operational reliability. The electronics and drives are mounted in a shielded ventilated cabinet with the drives fully protected against dust and dirt. Error recovery procedures and low energy consumption secure a high reliability.

User safety

User safety is designed into the S4P with multiple safety interlocks, easily accessible emergency stop, circuit status signals, 3-position enable device and plain language text messages on the programming unit. The operator can also be directed about appropriate recovery actions. ABB intends to maintain its strong focus on personnel safety, which has a high priority in our development work.

Total Support

As with all ABB Flexible Automation products the S4P is supported by a worldwide organisation, round the clock. Never more than a phone call away, the local team is your guarantee that you get maximum availability from your robot systems.



Reduced Maintenance

The renowned ABB S4P controller is the global standard platform that is used throughout our robot systems. It provides common spare parts and reduced engineering and commissioning time, simplifies training and reduces maintenance. The S4P controller integrates the motion and paint systems, offering optimized paint results with less waste.



ROBOTWARE™

ROBOTWARE is a family of software products from ABB Flexible Automation designed to increase your productivity and lower your total cost of owning and operating robots. From the basic operating system software of the robot controller, to PC-based software tools, ROBOTWARE is the most powerful set of robot tools available. With advanced functions and specialised application packages, ROBOTWARE provides you with an open and flexible system, including communication, networking and Windows connectivity. Our line of PC-based software products combines the power of PCs with the power of robots, increasing your productivity and helping you manage your production more effectively. Based on Windows technology, they are easy to learn and use.