

# IRB 5400-04 Slim arm

## FlexPainter, In-Booth Rail



### Built to Fit Your Needs

The IRB 5400-04 In-Booth rail is a reliable, fast and efficient painting robot. The In-Booth configuration yields an amazingly large and very useful working envelope. Together with ABB's unique Hollow Wrist it provides unsurpassed flexibility making the robot ideal for applying high quality "class A" finishes to automotive bodies and large parts. The wrist design minimizes contamination and permits a straight through hose path for long paint hose life.

ABB's superior robot and process control technology helps providing uniform film build, world-class appearance and high throughput.

### In-Booth Rail Design

The In-Booth rail system is designed to fit easily within your existing manual spray booth zones, or to replace existing automation with minimal booth modifications.

Where space outside the booth is at a premium this is the natural choice. The In-Booth rail also provides a very reliable design for hose and cable containment.

### High Finish Quality

ABB's In-Booth rail system is available with ABB's exclusive Integrated Process System (IPS). IPS provides closed loop regulation, high speed and control of paint and air flow adjustments. This minimizes over spray, secures uniform film build, maximizes finish quality as well as paint and solvent savings. The robot enables high quality while reducing cost and protecting the environment.

### Powerful Software Tools

ABB's powerful software package CAP (Computer Aided Painting), including the ShopFloor Editor allows easy programming and process tuning without interrupting production. Flexible communication interfaces make it easy to adapt to any environment.

### 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 5400-04 SLIM ARM

#### SPECIFICATIONS

Handling capacity	15 kg	
Number of axes	7	
Axis movements:		
Axis	Working range	Max. speed
Rotation	300°	137°/s
Vertical arm	160°	137°/s
Horizontal arm	150°	137°/s
Inner wrist	Unlimited	440°/s
Wrist bend	Unlimited	430°/s
Outer wrist	920°	600°/s
Pose accuracy	0.15 mm (Repeatability)	
Path accuracy	Ø 6 mm (+/- 3 mm)	
Rail system		
Pose accuracy	Length 2m, 3m, 3.5m, 4m, 4.5m, ...	
Velocity	0.1 mm (Repeatability)	
	1.5 m/s	

#### ELECTRICAL CONNECTION

Supply voltage	3 ph., 200-600V, 50/60 Hz
Power consumption	Stand by < 300 W
	Production ~1500 W
	Peak 5000 W

#### PHYSICAL

Dimensions:		
Robot main axes		
Base	H 660, Ø1130 mm	
Vertical arm	L 1200 mm	
Horizontal arm	L 1620 mm	
Robot Controller	H 1280, W 800, D 550 mm	
Weight:		
Standard robot excl. rail unit		790 kg
In Booth rail trolley		340 kg
In Booth rail element (2m)		700 kg
Robot Controller		240 kg

#### ENVIRONMENT

Explosion protection		
North America	Class 1, Division 1, Group C&D	
Japan	IIGT4	
Europe	II B T4 (Zone 1)	
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 128/128
Serial Channels	RS-232, RS-422, RS-485
Network	Ethernet NFS/FTP
	RAP Robot Application protocol
	FactoryWare interface
	High speed IPS link
	Real Time Data Logger
	DDE Server
Diskette drive	3.5" MS-DOS format

#### BASEWARE

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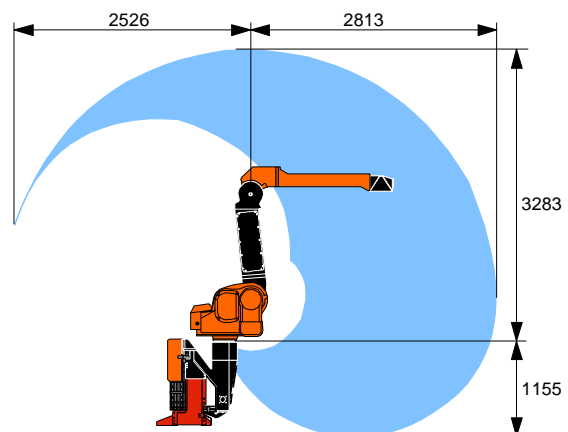
#### PROCESSWARE

IPS	Integrated Process System. Unique system for closed loop regulation and high speed control for paint and air flow adjustments. Based on open, flexible and adjustable architecture philosophy.
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#### 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. Graphical programming and tuning of color change sequences.
RobView	Monitoring of robots and processes while in production. Easy design of user screens.
FlexUI	Custom built GUI application for system supervision and control.

#### WORKING AREA



Data and dimensions may be changed without notice.