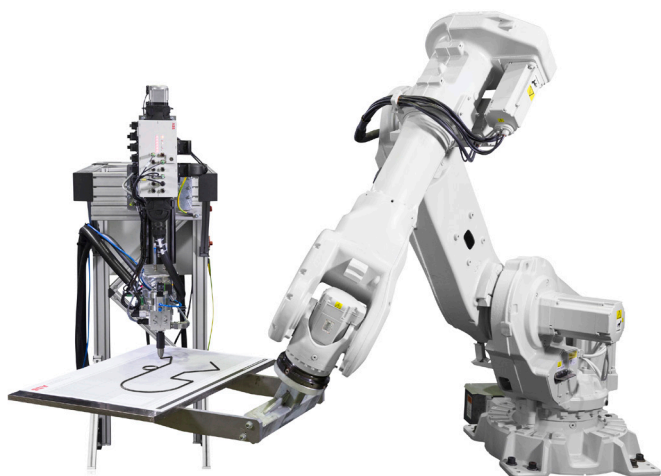


Integrated Dispensing Function Package

Robot gluing and sealing system



Gluing and sealing technologies are steadily gaining importance as more and more complex components, made from a variety of materials, need to be combined. This new design trend is accompanied by a growing demand for quality, flexibility and productivity in the manufacturing process.

Automated robot stations can meet these requirements with the correct dispensing equipment and control structure. To do so, the robot and dispensing control system must be synchronized to ensure high performance and consistent quality. ABB's Integrated Dispensing Function Package integrates the entire dosing control system with the IRC5 robot controller. Utilizing the IRC5's internal trajectory motion planning, precise dispensing – up to 96 ml/s at robot speeds of up to 1000 mm/s – is now possible. Using a double doser, it is possible to apply materials as long as desired.

Completely integrated solution

The ABB Integrated Dispensing Function Package includes a complete set of dispensing components such as electrically driven dosers, applicators, hoses, material temperature conditioning units and, when necessary, pumps for material supply. All control logic is integrated into the IRC5. The system automatically takes the available information into account and can control as many as four dosers. These dosers can run individually, in tandem for continuous application, or in collaboration for 2k application. A vision system can be incorporated for positioning and quality control.

Time and cost savings

ABB's Integrated Dispensing Function Package enables the robot to operate up to three times faster than existing solutions. This higher processing speed allows for much shorter cycle times and increased productivity.

Reliable quality

The Integrated Dispensing Function Package's precision accuracy ensures bead quality independent of the robot's speed. The control structure automatically takes the robot's motion into account to precisely switch the applicator at the beginning and end of each bead. In addition the flow is adjusted according to the robot speed. For process supervision the dispensed volume is monitored.

Ease-of-use

The Integrated Dispensing Function Package from ABB reduces complexity by eliminating third party interfaces. Bead related parameters are set directly in the robot's motion program so that adjusting and optimizing them becomes easier and more economical. An important feature to facilitate easy commissioning and maintenance is the overview of all relevant process data on the Flex Pendant GUI. It is simple and easy to operate and can be customised from the day it is commissioned.

General technical specifications

Application pressure:	up to 300 bar	Dosing accuracy:	< ± 1 %
Material flow:	up to 96 ml/s	Repeatability of doser:	< ± 0.3 %
Material temperature:	20 °C – 80 °C*	Temperature accuracy:	± 1 °C
Air pressure:	Min. 5.5 bar	Supply Voltage:	200V**, 400V or 480V 3~/N/PE
Materials:	PVC, Silicone, Epoxy, PUR, Rubber based materials, Waterborne acrylates, 2-Components Adhesives	Electrical power:	2 – 43 kW*

* depending on application and heating power ** with reduced heating power

Doser (single or double, heated or not heated)

Gross volume	Nominal flow	Peak flow	Weight
11 cm ³	0.06 – 2.3 ml/s	2.8 ml/s	5.9 kg
80 cm ³	0.6 – 24 ml/s	28 ml/s	30 kg
155 cm ³	0.7 – 29 ml/s	34 ml/s	38 kg
560 cm ³	1.9 – 80 ml/s	96 ml/s	94 kg



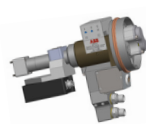
Gluing applicator

Gluing applicator*

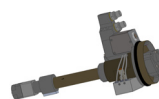


Swivel applicators

SPA 475 Sealing,
1 Nozzle**



SPA 480 Sealing,
2 Nozzles**



SPA 415 Sealing,
3 Nozzles in 3D configuration*

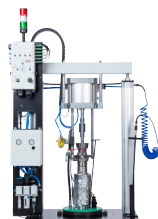


*optionally heated **optional with nozzle changer

Material supply

Pump

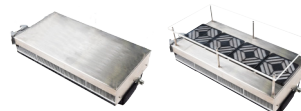
- Single or double barrel
- Barrel sizes: 30 l, 50 l, 200 l
- Heatable
- Pneumatic or hydraulic RAMs



Material temperature conditioning

Peltier

- Air or water cooled
- Heatable



Supply hose

- Heatable



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