Integrated Dispensing Function Package
Robot gluing and sealing system
Integrated Dispensing Function Package
Process Solution Package

Best in class Robot ➔ Best in class Process
Integrated Dispensing Function Package
Process Solution Package

Traditional dispensing solutions:

Robot Commissioning Engineer
Robot Supplier

Process Commissioning Engineer
Equipment Supplier

Synchronization

Conventional dispensing equipment
Integrated Dispensing Function Package
Process Solution Package

The ABB approach: An integrated solution based on ABB paint technology
Integrated Dispensing Function Package Concept

IRC5 integrated control:

- 0 to 4 cold or heated pumps
- 0 to 2 peltiers
- 1 to 4 cold or heated dosers and applicators
- 1 to 4 robots
Integrated Dispensing Function Package Concept

**ABB Robot + IRC5**
- ABB motion planning for motion and dispensing
  - High speed
  - High path accuracy

**Standardized high quality process equipment**
- ABB process know-how
  - Predictable commissioning
  - Efficient maintenance
Integrated Dispensing Function Package Concept

Integration of dispensing control into IRC5

➤ Only few additional components

- Short response time
- High quality of control
- Easy programming and operation
Integrated Dispensing Function Package
Product Description

The Integrated Dispensing Function Package...

- is a dispensing solution for robot application of high viscose liquids
- comprises all components to turn an ABB robot into a “dispensing machine”: doser, control, material supply and temperature conditioning as well as applicators

- Applications:
  - Sealing: Underbody coating, seam sealing, sound deadener, rocker panel
  - Gluing: structural glue, anti-flutter, 2K, liquid gasket
Integrated Dispensing Function Package
The components

- Industrial robot with IRC5 controller
- Pump
  - Single or double barrel
  - Barrel sizes: 30 l, 50 l or 200 l
  - Heated or not heated
Integrated Dispensing Function Package

The components

- Doser
  - Single or double doser available
  - Heated or not heated
  - Gross volume: 80 cm³, 155 cm³ or 560 cm³

- Material Temperature conditioning (Peltier)
  - 600 W, 800 W or 1.000 W
  - Air or water cooled
Integrated Dispensing Function Package
The components

- Applicators
  - Gluing nozzle
  - SPA 470 Sealing Nozzle
    - 1 nozzle for cosmetic sealing
  - SPA 410 Sealing Nozzle
    - 3 nozzles for flatstream, airless, slot

- Heated supply hoses
Integrated Dispensing Function Package
FlexPendant Integrated Process-HMI
Integrated Dispensing Function Package

Technical Advantages

Integrated dispensing...

- enables a single robot commissioning engineer to optimize robot and process together
- enables high production quality independent of robot motion

Example:

- Speed change of 1000 mm/s to 500 mm/s and back to 1000 mm/s without influencing process quality
Integrated Dispensing Function Package
7 Configuration Steps to a „Dispensing-Machine“

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Integrated Dispensing Function Package
Service Concept

Integrated service of robot and process

- Look-ahead maintenance
- Standardized spare parts
- Remote Service
Integrated Dispensing Function Package
Selected References

- Magnetto Automotive
- Audi
- PSA PEUGEOT CITROËN
- Volkswagen
- Porsche
- ZF Lenksysteme
- FAW-VOLKSWAGEN
- VDL Nedcar
- Fiat
- VW
Integrated dispensing enables…

- **High Performance**
  reduce production costs

- **Standardized setup and service**
  no delays of SOP commissioning and little maintenance costs

- **Fewer components/suppliers**
  reduced system complexity
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