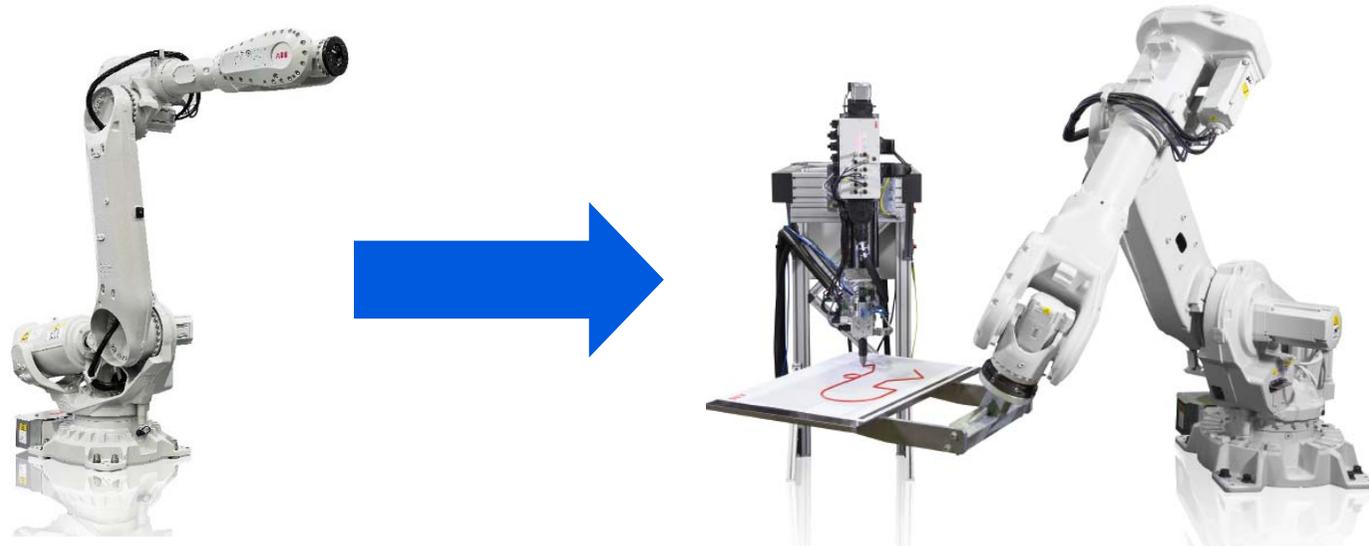


DMRO-D, June 2015

# 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:



Conventional  
dispensing equipment

Robot Commissioning Engineer

Robot Supplier

Process Commissioning Engineer

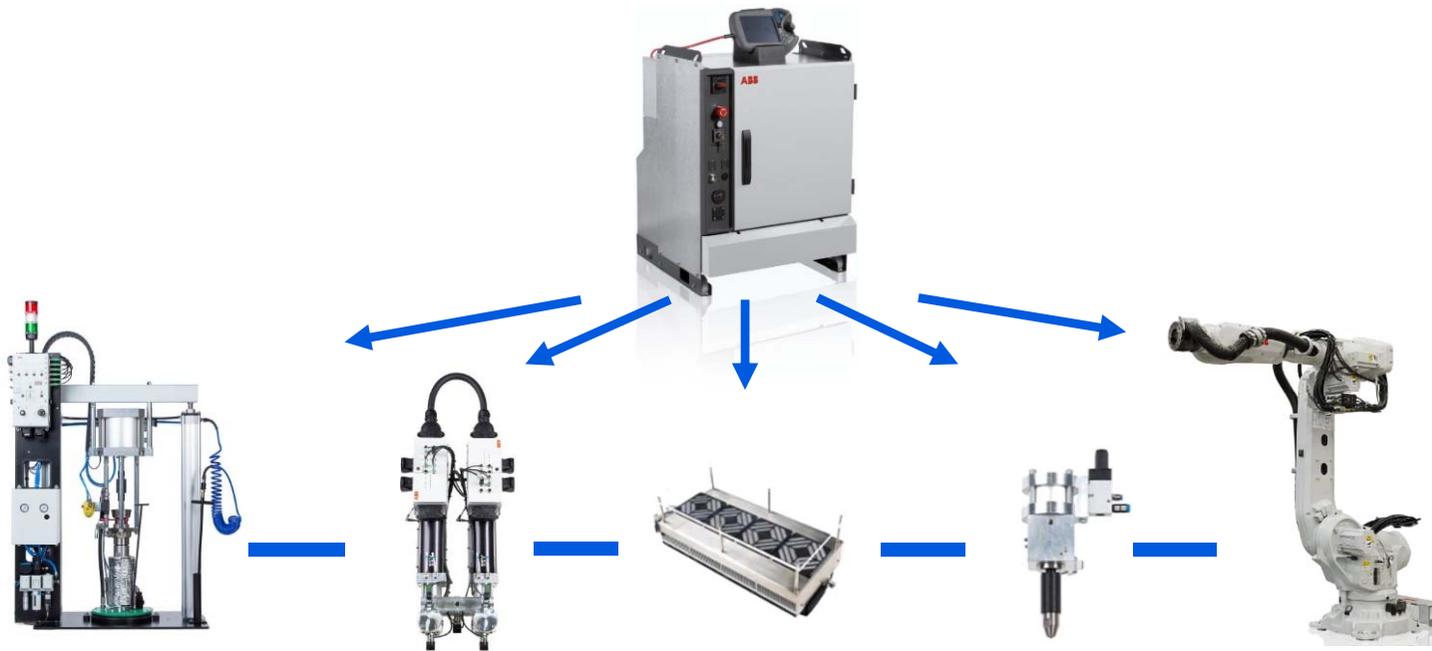
Equipment Supplier

# 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

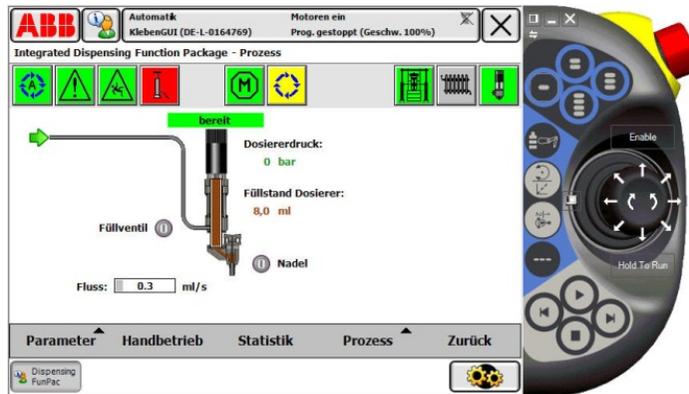
- High speed
- High path accuracy

## **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...

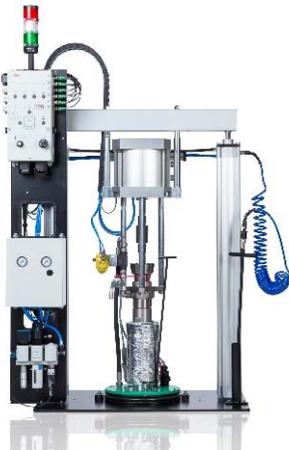
- is a dispensing solution for robot application of high viscose liquids
- comprises all components to turn an ABB robot into a “dispensing machine”: doser, control, material supply and temperature conditioning as well as applicators
- Applications:
  - Sealing: Underbody coating, seam sealing, sound 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 cm<sup>3</sup>, 155 cm<sup>3</sup> or 560 cm<sup>3</sup>
- 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

**ABB** Manual Motors On  
VW\_1Dd560\_1Pex.. (DE-L-02..) Stopped (Speed 100%)

**Integrated Dispensing Function Package - Process**

**Material supply**  
 28 Setpoint [°C]  
 30 Actual [°C]  
 130 Pressure [bar]

**Peltier B**  
 20  
 22

**Circulation**  
 Circulation: 5 ml/s

**Needle** 1 0 2 0 3 0

**Gun**  
 28 Setpoint [°C]  
 28,9 Actual [°C]  
 0 Flow [ml/s]  
 0 Pressure [bar]

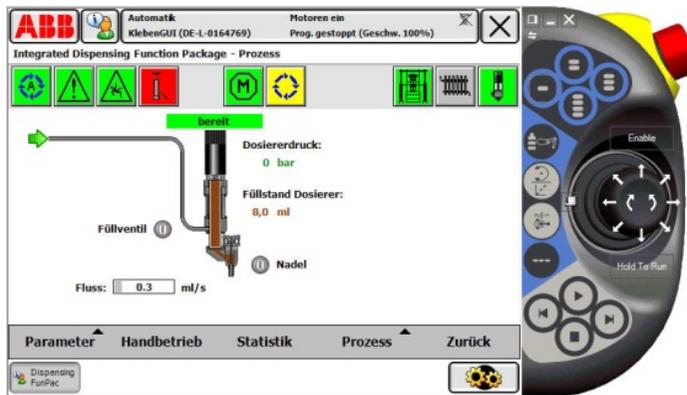
**Peltier A**  
 35 Setpoint [°C]  
 38 Actual [°C]

**Emptying** **Filling**

**Process** **Configuration** **Manual mode** **System**

Dispensing FunPac ROB\_1

# Integrated Dispensing Function Package Technical Advantages

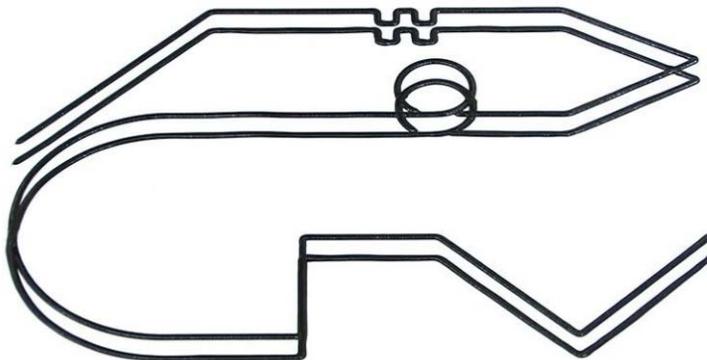


## Integrated dispensing...

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

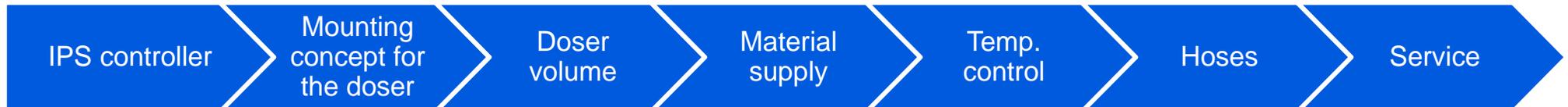
## Example:

- Speed change of 1000 mm/s to 500 mm/s and back to 1000 mm/s without influencing process quality

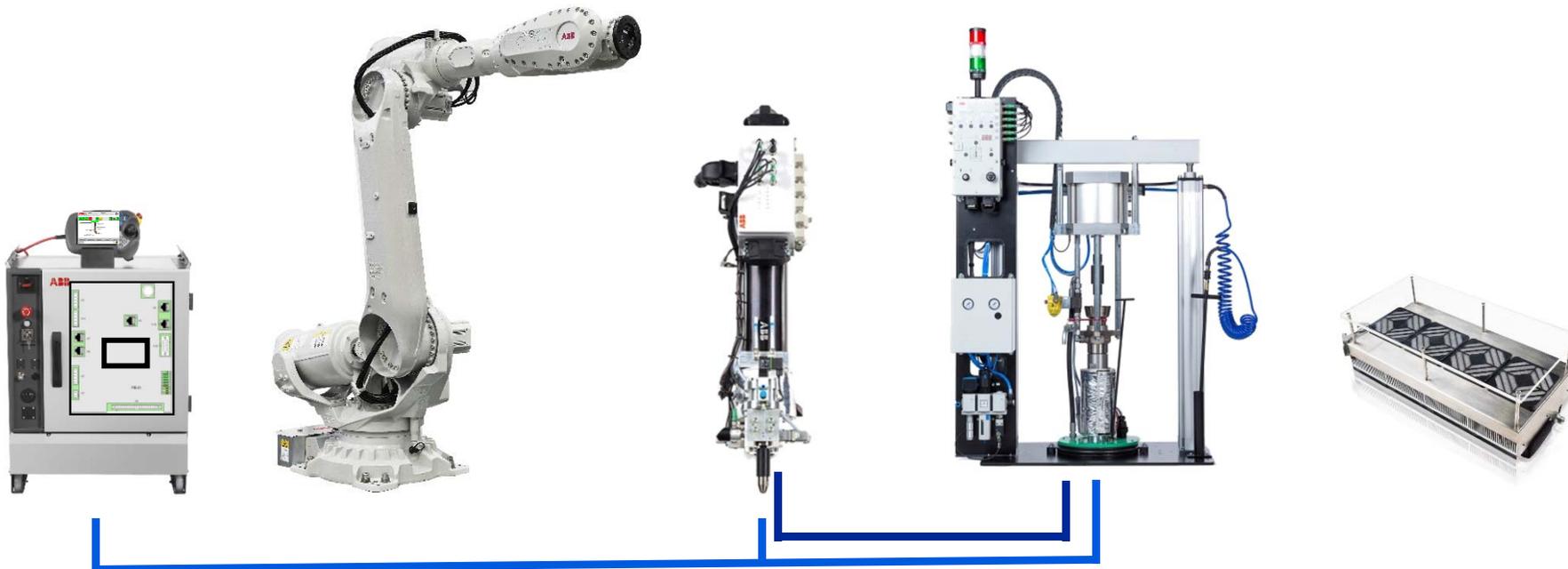


# Integrated Dispensing Function Package

## 7 Configuration Steps to a „Dispensing-Machine“



- Robot flange
- Stationary
- 80 cm<sup>3</sup>
- 150 cm<sup>3</sup>
- 560 cm<sup>3</sup>
- 30 L
- 50 L
- 200 L
- Cartridge
- None
- Air cooled
- Water cooled
- heated
- Not heated
- Setup
- Commissioning
- Optimization



# Integrated Dispensing Function Package Service Concept



## Integrated service of robot and process

- Look-ahead maintenance
- Standardized spare parts
- Remote Service

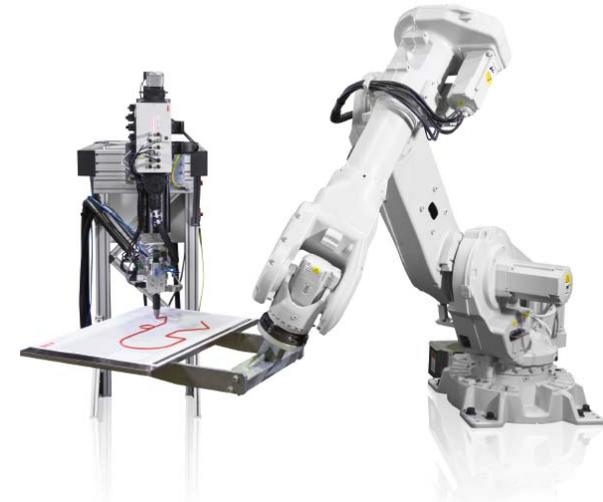
# Integrated Dispensing Function Package Selected References



# Integrated Dispensing Function Package Summary

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



**Power and productivity  
for a better world™**

**ABB**