

ROBOTIC SEALING

AUTOMATED
ROBOTIC SEALING
CELL

COMPOSED TO COMPETE

- Reliable high quality sealing
- Applicable also for hard to access geometries
- Fully automated, from positioning over quality assurance to application



ROBOTIC SEALING CELL - TECHNICAL INFORMATION

Area of Application

The manual sealing process of aircraft structures is a time consuming task which requires absolute precision and quality. Broetje-Automation has successfully developed market-ready industrial technology to meet the high standards of the sealing process with a fully automated, robotic system.

The Robotic Sealing Cell increases productivity, quality and consistency. The application is executed by standard industrial robots, modified to a high precision manufacturing system by specially developed software of Broetje-Automation.

The flexible control system and variable applicator heads allow the sealing of diverse, even most inaccessible aircraft parts, while maintaining and monitoring the quality of the applications with our peripheral systems.

The newly designed end-effector capable to provide both, cartridge application and mixing of two-component sealings in process in order to replace expensive pre-mixed sealants.

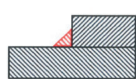
Sealing Types



Edge Sealing



Fillet Sealing



Fastener Sealing

Technical Data

Mixing on Demand

Functional Principle: Volumetric

Weight: 40 kg (88 lb)

Add-on: opt. rotatable nozzle

Packages: Mobile tanks (up to 3 liter capacity)

Application pressure: 0 - 20 bar

Size: 750 x 250 x 200 mm
30 x 10 x 8 in

Materials: Polysulfide Et Epoxy

Offline programmable with Broetje Soul

Cartridge Application

Functional Principle: Pneumatic

Weight: 12 kg (28 b)

Add-on: rotatable nozzle (7th Axis); Cartridge quick change system; Nozzle quick change system; Fill level measuring; Live view camera HD; Scale System; Collision prevention

Application pressure: 0 - 8 bar

Size: 450 x 250 x 230 mm
18 x 10 x 9 in

Materials: Polysulfide Et Epoxy

Offline programmable with Broetje Soul

Special Features

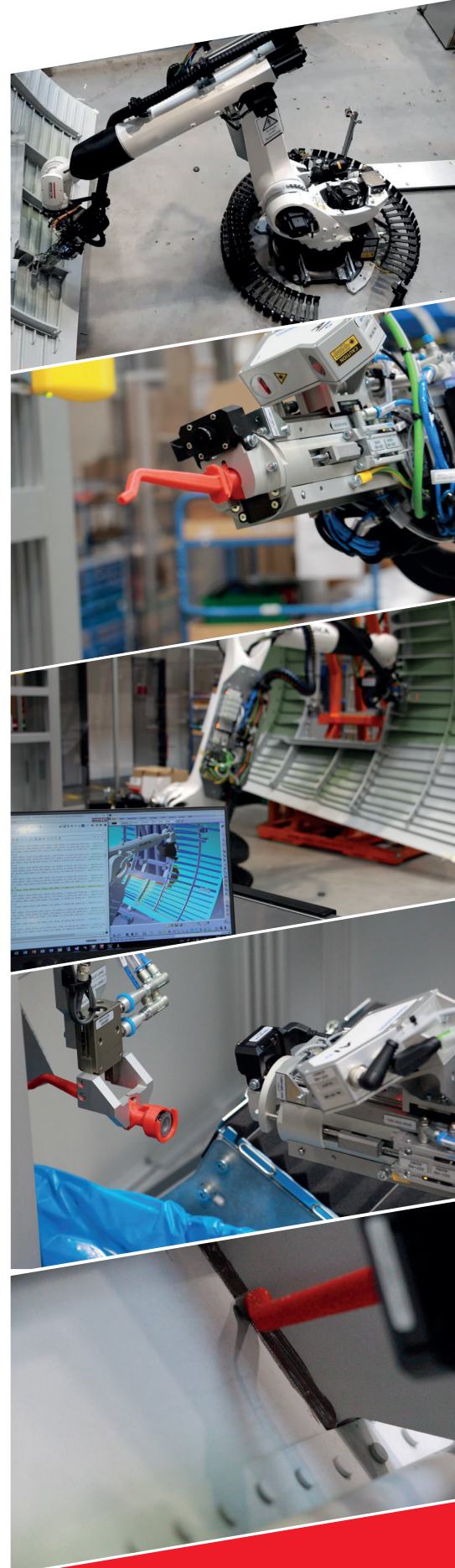
- Reduced number of process steps and labour hours
- Improved H&ES
- Reduced cost of material and demand on labour qualification
- Reduction of waste
- Reliable high quality sealing beads
- Solution for all requirements, in Assembly lines as a stationary robot as well as a mobile robot on a platform or a collaborative robot (Cobot).

Referencing:

- Global referencing with Laser Scanner
- Local tracking/ Path Correction

Sealing Areas:

- 3-D printed, customized Nozzles for application on various pin and collar sizes
- Fillet sealing on straight as well as curved material
- Edge Sealing on single as well as connected parts



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