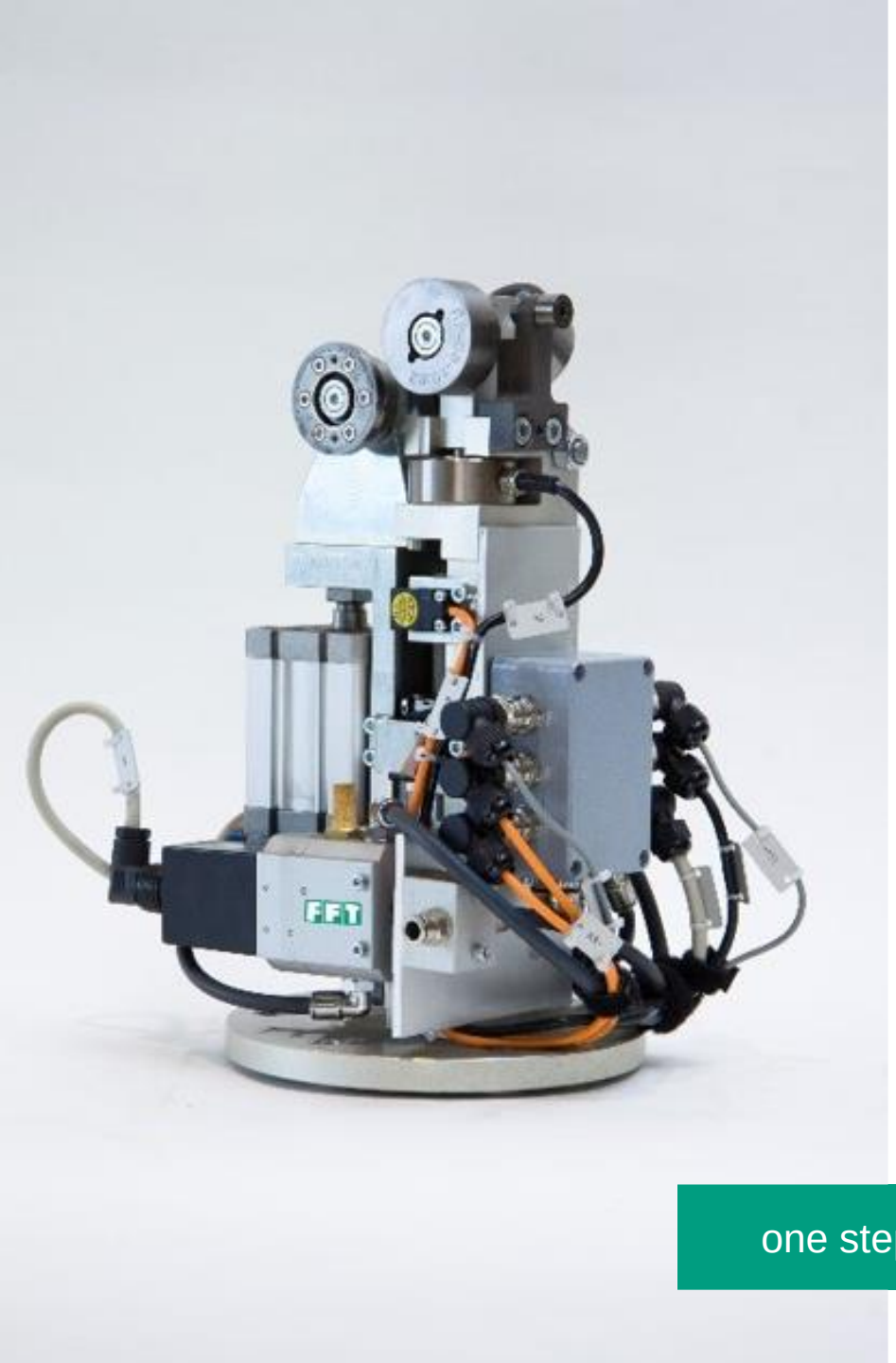


FFT hemtec

Twinstep

one step ahead in **INTELLIGENT** production systems

FFT*hemtec* Twinstep

Robot-guided roller hemming tool for add-on parts

1

HEMMING TOOL

application, operation, hemming geometries
FFT*hemtec* Twinstep 100 and **200**

2

SYSTEM COMPONENTS

mechanical, pneumatic and electrical components

3

APPLICATION

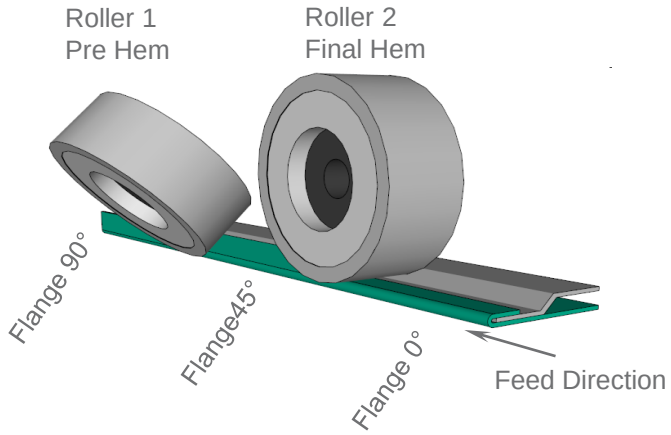
short cycle times for simple part geometries

1 HEMMING TOOL

application, operation, hemming geometries **FFT***hemtec* **Twinstep 100** and **200**

one step ahead in **INTELLIGENT** production systems

ROLLER HEMMING TOOL

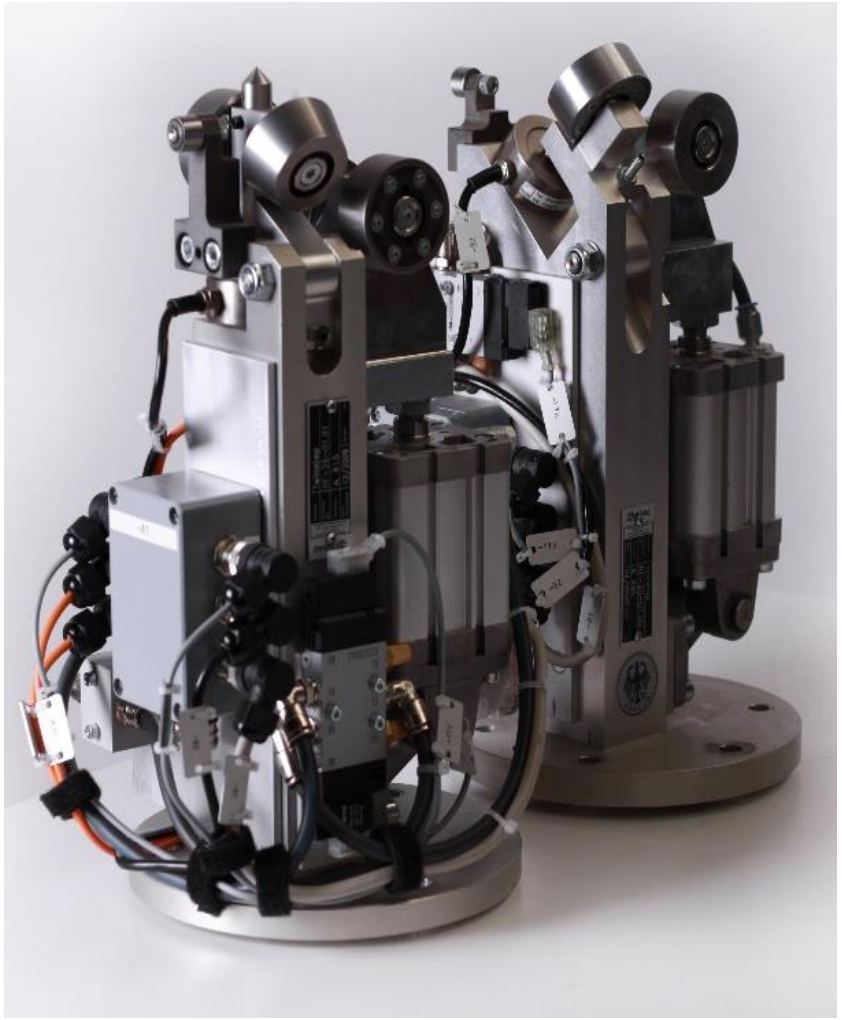


Working Principle

- Roller Hemming Head with two rollers running one behind the other
  Roller 1 bends the flange to a defined angle – pre hem
  Roller 2 closes flange completely - final hem
- two hemming steps in one robot movement

Hemming geometries

- different hemming geometries at steel and aluminum parts



ROLLER HEMMING TOOL

FFT*hemtec* TwinStep 100

- creates a flat hem
- one roller hem head with two rollers running one behind the other
  two hemming steps in one robot movement
- hemming force at roller 1 (fixed) by robot program
- hemming force at roller 2 (pneumatically adjustable) by proportional valve

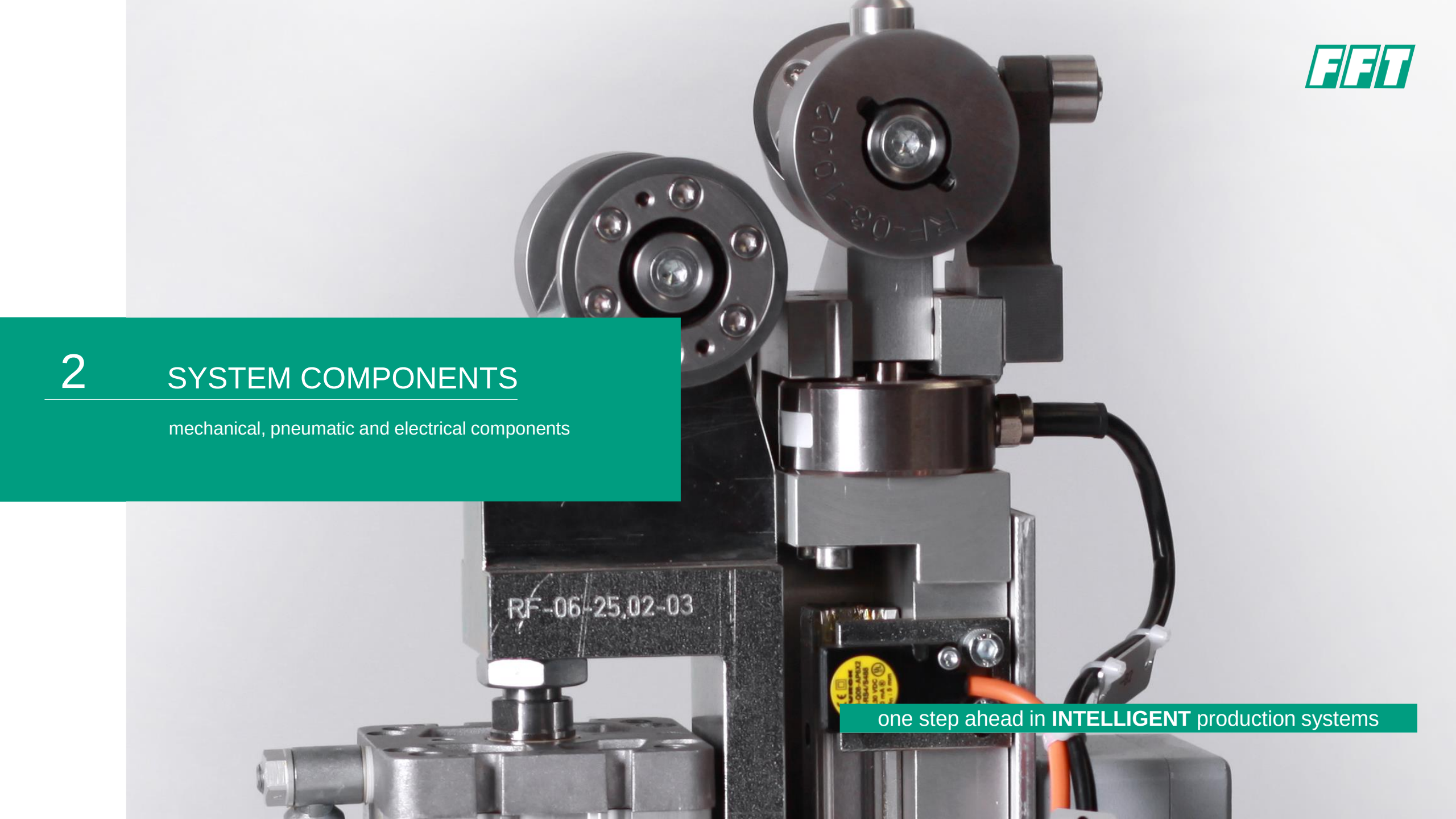
ROLL HEMMING TOOL

FFT*hemtec* TwinStep 200

- for producing a flat, rope or special hem
- one roller hem head with two pairs of rollers running one behind the other
  roller 1, 2 and 3 partially close the flange → pre hem
  roller 4 closes flange completely (flat or drop hem) → final hem
- two hemming steps each in one robot step
- hemming force in step 1 / roller 1 via robot program
- hemming force in step 2 / roller 2 via proportional valve
- hemming force in step 3 / roller 3 via robot program
- hemming force in step 4 / roller 4 via proportional valve

2 SYSTEM COMPONENTS

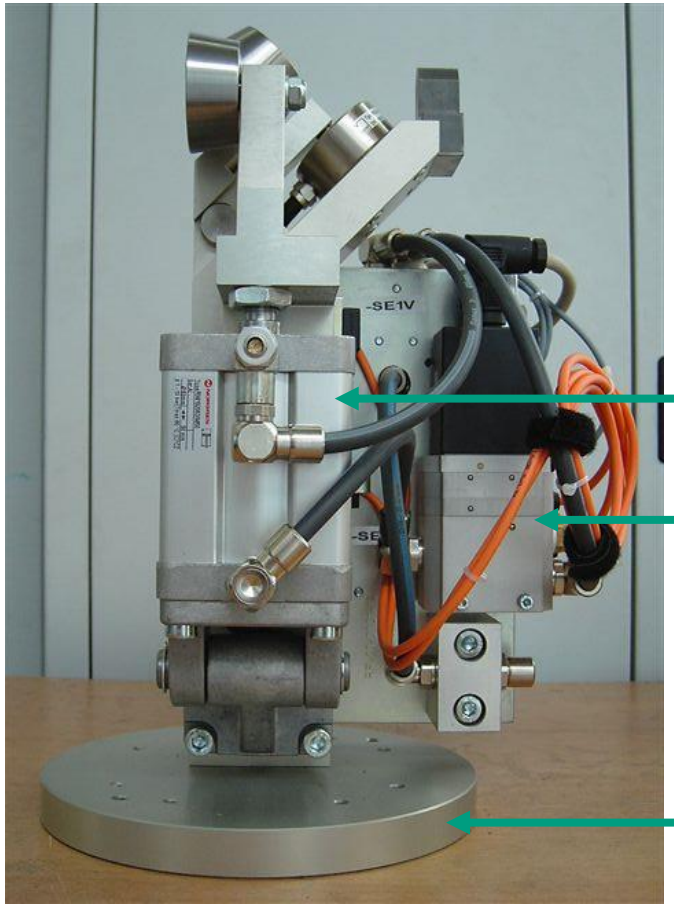
mechanical, pneumatic and electrical components



one step ahead in **INTELLIGENT** production systems

SYSTEM COMPONENTS

mechanical, pneumatic and electrical components



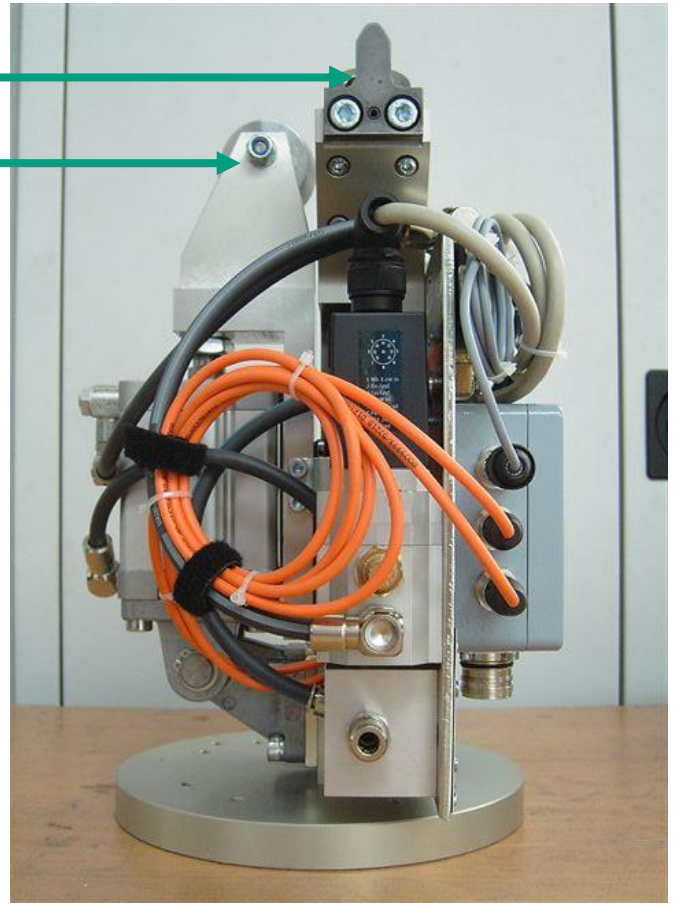
pre hemming roller

final hemm roller

pneumatic cylinder

proportional valve

robot adaptor plate



SYSTEM COMPONENTS

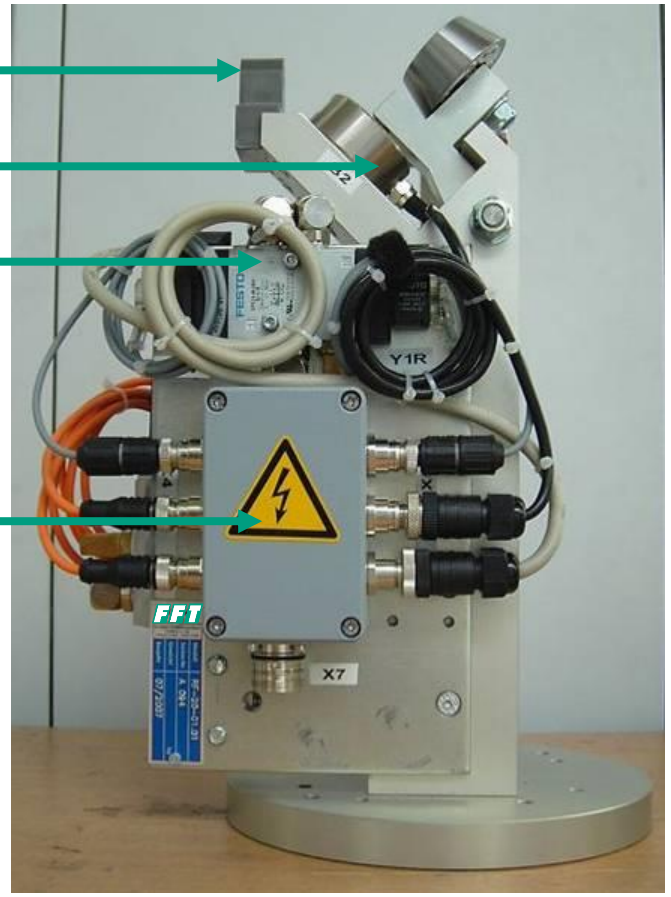
mechanical, pneumatic and electrical components

forming block

force measurement gauge

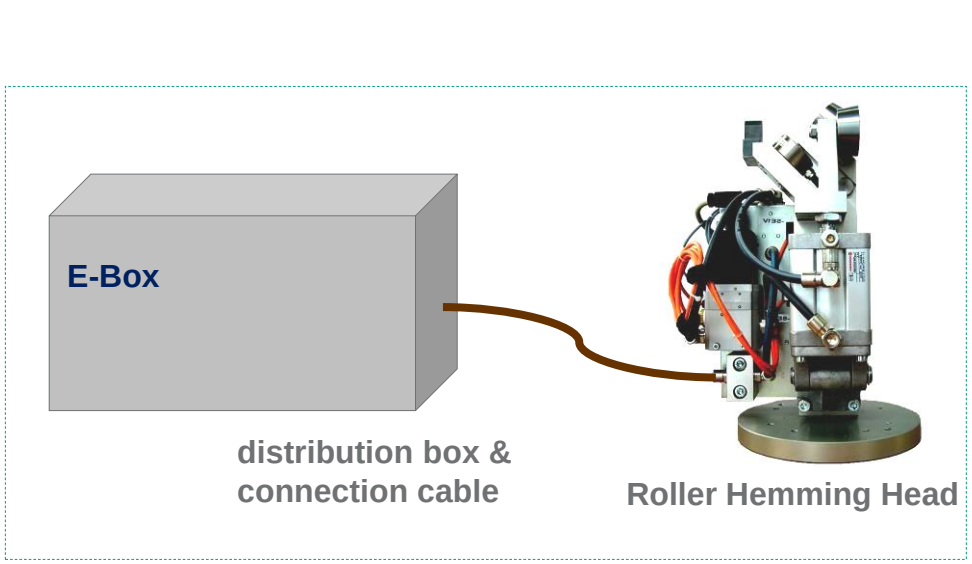
pneumatic valve

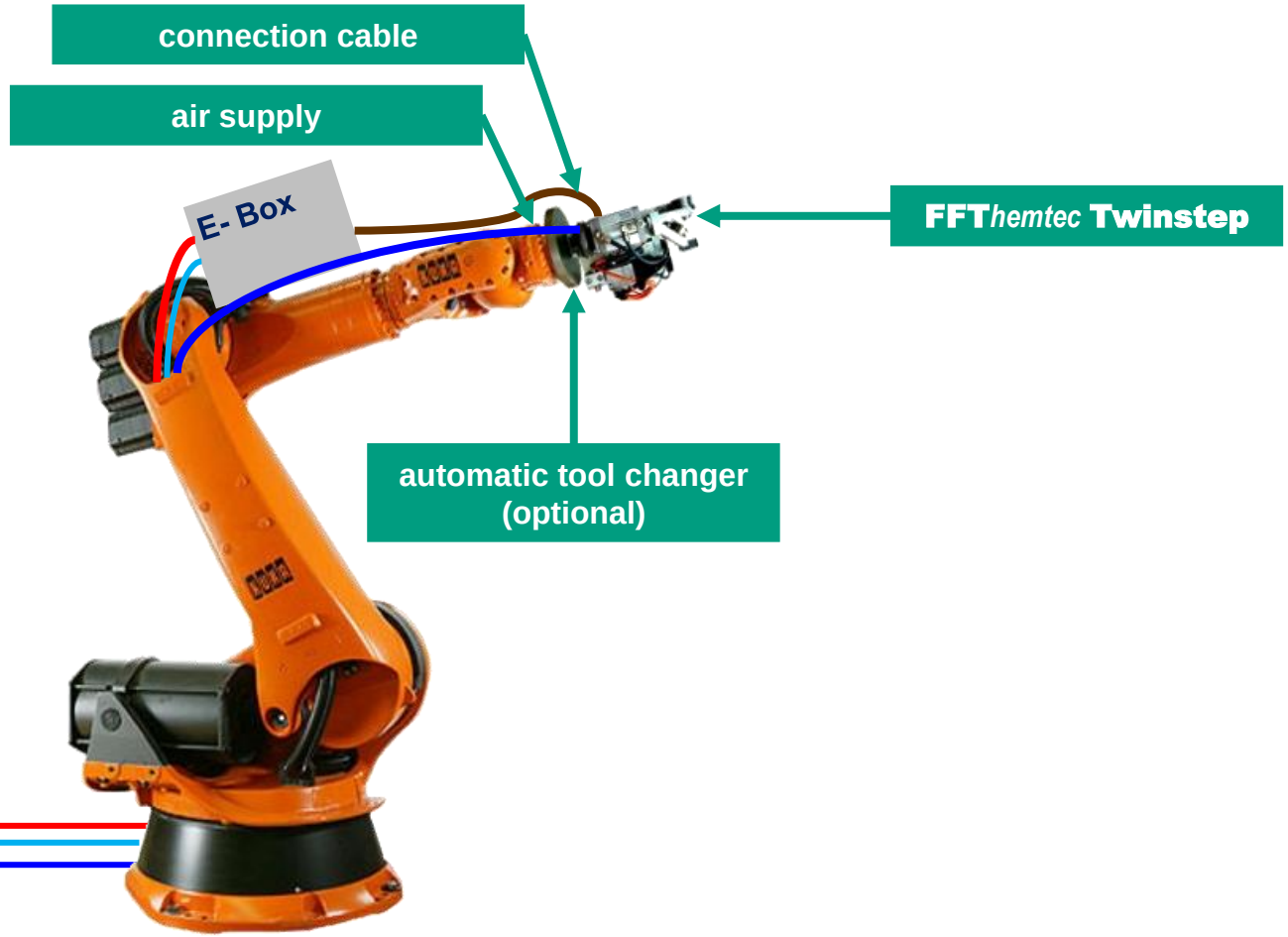
distribution box

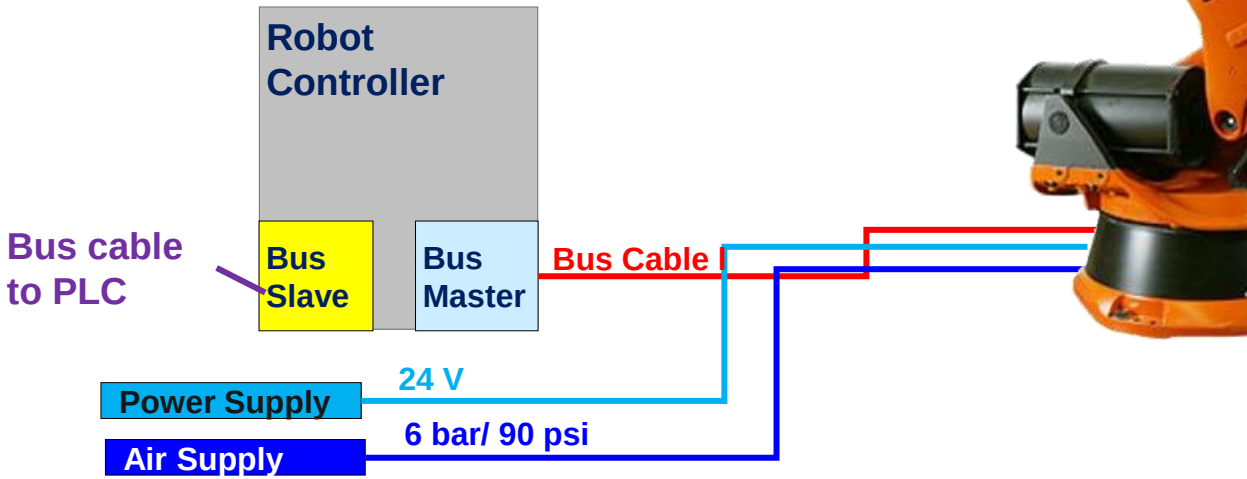


SYSTEM COMPONENTS

Installation Overview







3 APPLICATION

Short cycle times for simple part geometries

one step ahead in **INTELLIGENT** production systems

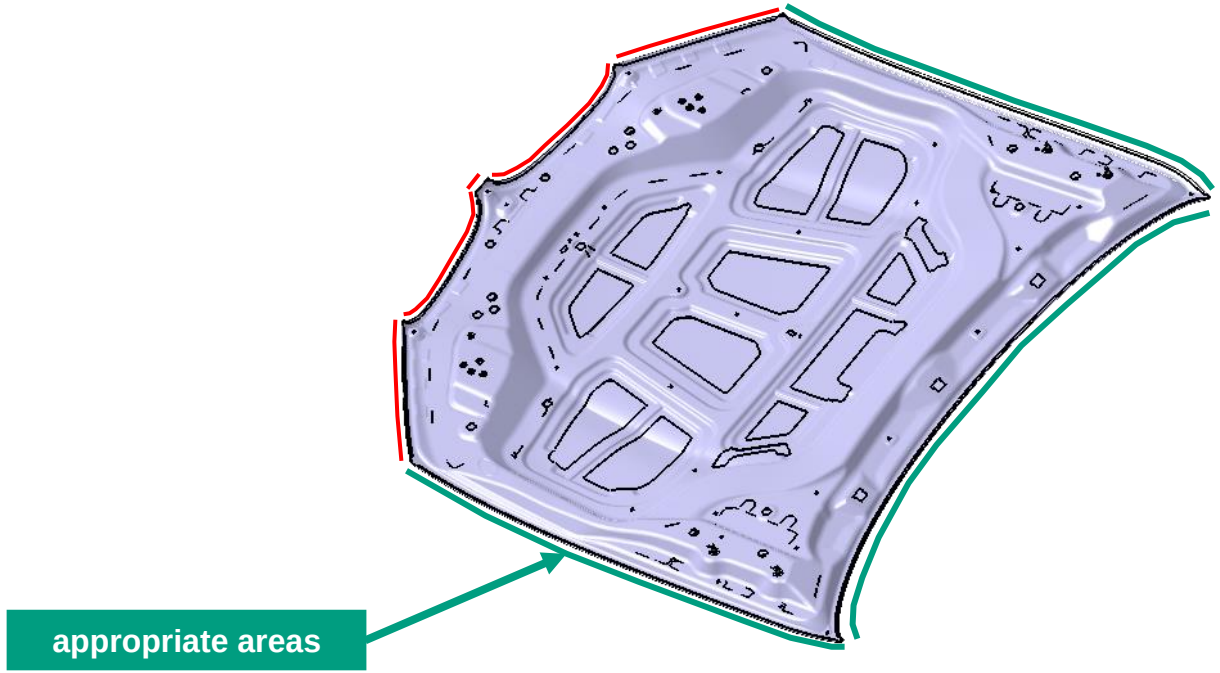
OPERATION AREAS

Requirements for the Part Geometry

The **FFT***hemtec* **Twinstep** sets requirements for the component properties in order to be able to exploit its advantage in process time compared to the **FFT***hemtec* **Single**.

- straight flange areas
- flat component surfaces
- no strong feature lines

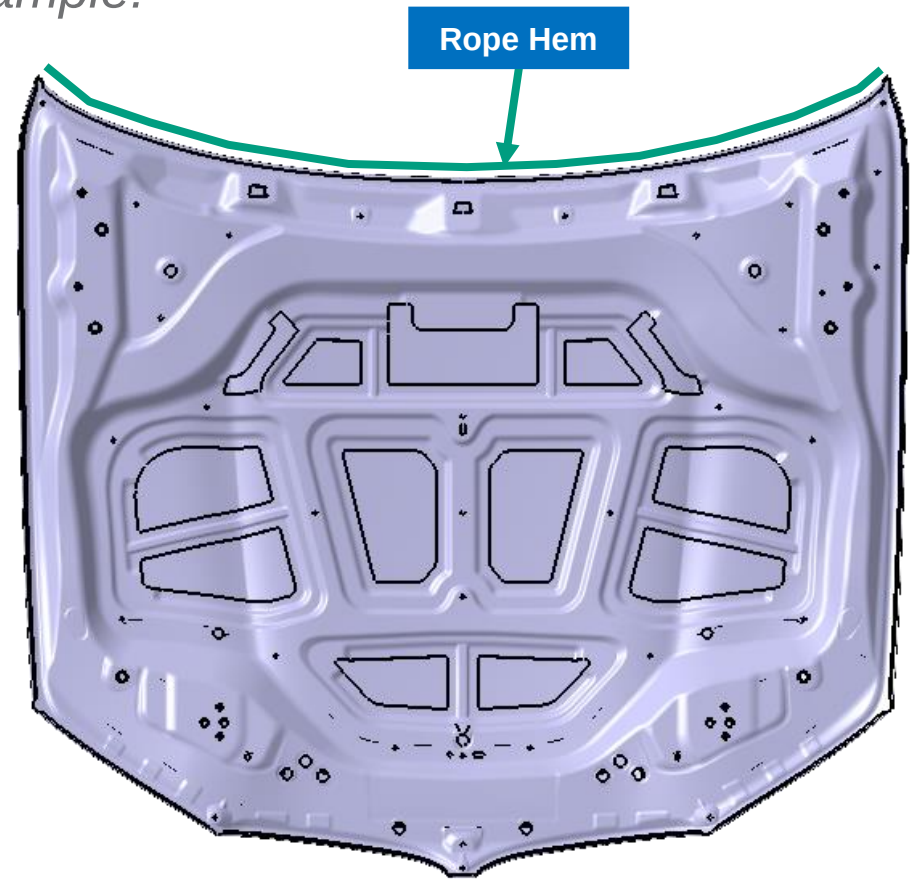
→ Feasibility Study required



OPERATIONAL AREAS

Process Time Reduction

Example:



FFT*hemtec* Single

4 hemming steps (Robot steps)
→ Process time 44 sec

FFT*hemtec* Twinstep 200

2 hemming steps (Robot steps)
→ Process time 28 sec

SERVICE OPTIONS

We support your project from the idea to the realization and gladly beyond.

We take into account quality and deadline requirements and we assume the responsibility for the project until turnkey handover.

Consulting

Use our experience for your tasks

Project Management

Support from the idea to the start of production

Risk Analysis

Identification of risks in the process

Custom design

Creation of individual solutions

Manufacturing

Successful manufacturing with modern technologies

Documentation

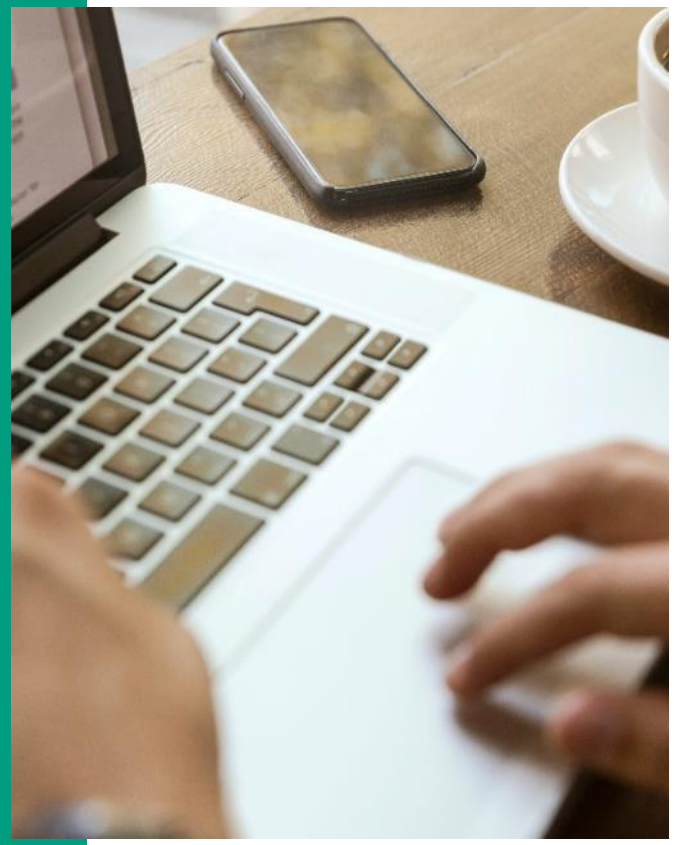
Clear and logical

Conformity

Compliance with standards and regulations

After Sales

Competent service through FFT



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THANK YOU

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