

1. Area of Application

- Automated system for handling and positioning of composite fiber reinforcements (e.g. carbon- or glass-fiber fabrics). The main focus lies on material protection and process stability during the composite part manufacturing.

2. Operation

1. Automated endeffector positioning
2. Choosing pick-up configuration
3. Lowering endeffector
4. Switching on vacuum system
5. Picking-up workpiece (from cutter or storage)
6. Handling and positioning workpiece at lay-up area
7. Switching off vacuum system
8. Lifting endeffector
9. Repeating upper steps

3. Technical Data

- Handling Endeffector
 - Complete PLC-control
 - Single vacuum gripper control feasible
 - Vacuum gripper:
 - special BRÖTJE-Automation development
 - Grid for vacuum gripper: 40 mm
 - Number of vacuum grippers: customers choice
 - Vacuum system: ejector technology
 - Target material of workpiece: porous textiles
 - Material of structure: aluminum
 - Material of covering/grid plate: plastic plates
- Positioner
 - Standard 6-axes robot
 - Type choice depends on endeffector weight
 - Alternative: Gantry or CNC-portal

4. Cycle Time

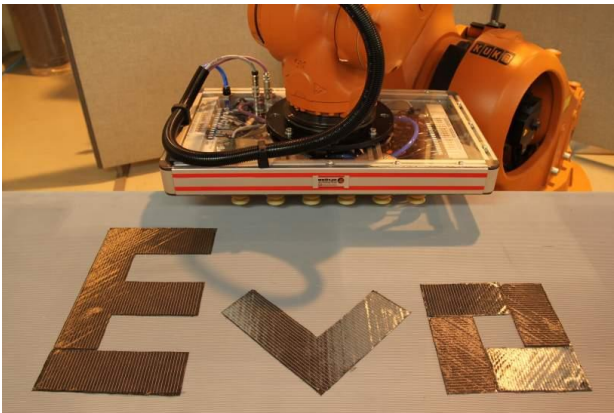
- Handling with maximum robot speed is possible
- Cycle time depends on manufacturing process and lay-up/stacking requirements

COMPOSITE HANDLING SYSTEM "CHS"



5. Special Features

- Complete PLC controlled handling system "EVO":
 - E: Efficient energy usage
 - V: Variable workpiece-geometries
 - O: Optimised light-weight design
- Possibility for contour variable handling of different workpiece-geometries
- BRÖTJE-Automation special vacuum grippers:
 - maximum material protection during handling process
 - maximum process safety during handling process
- Integration of endeffectors in robot cells
- Unlimited maximum size of endeffector
- Compact design for high endeffector mobility
- Low end effector weight: manual application possible
- High production accuracy
- Single vacuum gripper control feasible
- Vacuum generation by means of ejector pumps
 - direct vacuum generation at endeffector
 - high degree of efficiency
 - low-noise emission
 - low maintenance
- Optional positioning sensors



BRÖTJE-Automation GmbH

Stahlstraße 1-5

26215 Wiefelstede, Germany

www.broetje-automation.de

Phone +49 (0) 4402 966-0

Fax +49 (0) 4402 966-290

E-Mail info@broetje-automation.de