

1. Area of Application

- Automated Fiber Placement of dry carbon or glass fiber tows (binder yarn)
- Fabrication of dry fiber preforms (non crimp fabric for resin infusion process)

2. Operation

1. Lay-up single dry fiber tow
2. Material storage on fiber placement head
3. Heating system with hot gas (oxygen and hydrogen)
4. Rotating cutting unit
5. Compaction force variable by pneumatic proportional control
6. Cooled compaction roller
7. In-process measurement of compaction force and temperature
8. Process parameter analysis

3. Technical Data

- Manufacturing material: Tow width 6.35 mm (1/4 inch), Tow thickness 0.15 mm
- Lay-up speed 20 m/min
- Accuracy of ADFP head ± 0.1 mm
- Positioning accuracy of robot system ± 0.3 mm
- Minimum lay-up length 90 mm
- Consolidation force 10 - 500 N (continuously variable)
- System control by Cell-Control[®]

4. Cycle Time

- Different material width and thickness processable
- Capable for Multi-Tow application
- Offline-programming
- Dust exhaust

PROTOTYPE: AUTOMATED- DRY-FIBER- PLACEMENT- ROBOT-CELL

