

REINFORCE 

impac
SYSTEMS
ENGINEERING

DELTA

FIRST EVER CFIP MACHINE

The first ever machine able to perform the Continuous Fibre Injection Process (CFIP) automatically, enabling the additive manufacturing with ultra-high performance materials at industrial scale. With the patented CFIP technology at the core of its creation, the machine is a dedicated solution for part reinforcement down to the last detail.

CFIP is the first post-process technology able to drastically improve the mechanical and lightweighting performance of 3D printed parts by reinforcing them with continuous fibres such as carbon fibres. It is based on injecting the continuous fibres simultaneously with liquid resin inside tubular cavities within the part. When the part is cured, the solidified resin works as a mechanical interface between the fibres and the rest of the part.

Compact yet powerful

Designed to suit even in small rooms, the modest footprint ensures that any lab or shopfloor can accommodate it. Create an inline CFIP solution with even the most limited space and benefit from the power of Industry 4.0 processes.

Total control

Set your parameters with absolute freedom and monitor the CFIP process for the most accurate, reliable, and high-quality outcomes.

Flexible, adaptable

Utilise different resins and fibres for reinforcing a wide range of materials including plastics, metals and ceramics, and with all kinds of part sizes and geometries. Tailor your reinforcement exactly as needed for your parts.



REINFORCE 



1 HMI

- 17" full HD capacitive touch screen
- Intuitive and user-friendly interface
- Real-time monitoring of process parameters
- Recipes management

2 Control and power electronics

- Industrial-grade components
- Integrated safety circuit
- Ethernet connection for remote assistance
- Maximum reliability

3 Resin impulsion system

- Accurate flow and pressure control
- Automatic cleaning mode
- Compatible with thermoset, thermoplastic and bio-sourced resins

4 Fibre storage

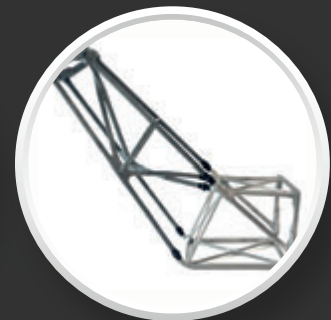
- Clean environment
- Up to 3 fibre bobbins
- Fibre types: carbon, aramid, glass, others

5 Injector arm

- Total positioning freedom
- Self-supported arm for maximum ergonomics
- Suitable for a robot arm to maximize automation
- Easy coupling to different parts' geometry, size, and materials

6 Injector

- Aerospace-grade fibre fraction in the cavity, up to 60%
- Flexible system for different cavity diameters
- Engineered to minimize porosity
- Automated fibre cutting system



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