CompoTech

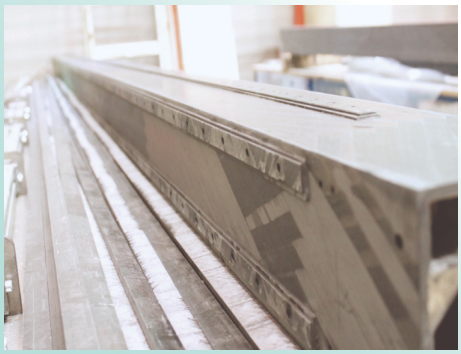
Carbon Composite Components

Carbon Composite Axis Beam Structures

Unrivalled Performance

Axis beams for high speed and precision cutting, placement and measurement require light-weight, high stiffness structures for optimum performance.

With increased natural frequency due to the carbon composite material's stiffness to weight ratio the whole machine design is influenced. Allowing longer y-axis carriage for a larger workable area with increased speed and precision.



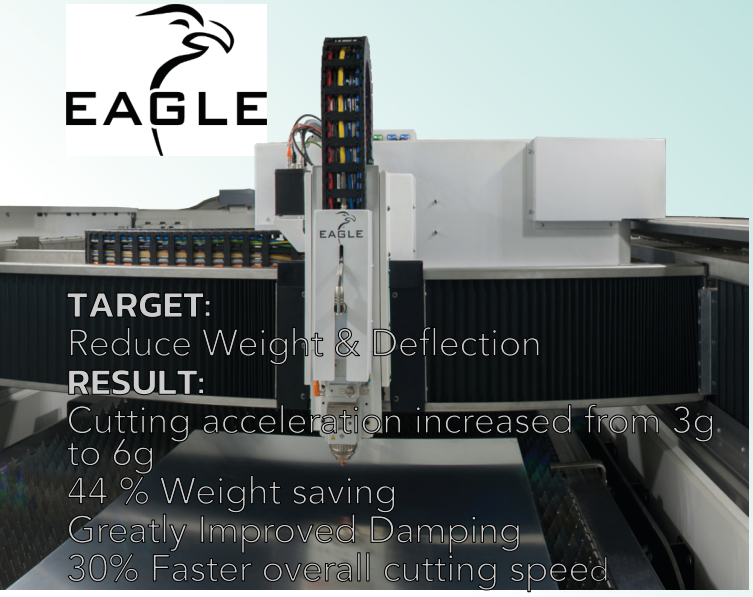
The addition of damping material in the composite structure will facilitate greater jerk and acceleration of the beam whilst keeping the stability and accuracy of the carriage head.

Carbon composite carriages have greatly increased laser cutting speeds and improved cutting accuracy compared to the aluminium and steel equivalent.

CompoTech optimise the section profile and composite design for the specified acceleration and deflection requirements.

High Acceleration Laser Cutting Beam

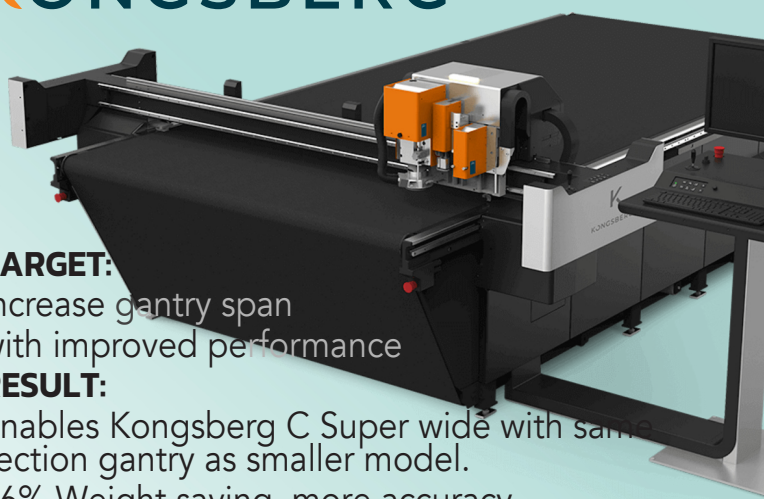
EAGLE



TARGET:
Reduce Weight & Deflection
RESULT:
Cutting acceleration increased from 3g to 6g
44 % Weight saving
Greatly Improved Damping
30% Faster overall cutting speed

Large Format Digital Print Finishing

KONGSBERG



TARGET:
Increase gantry span
with improved performance
RESULT:
Enables Kongsberg C Super wide with same section gantry as smaller model.
66% Weight saving, more accuracy
Less deflection, Higher Damping

Innovation

| Structure
| Composite
| Process

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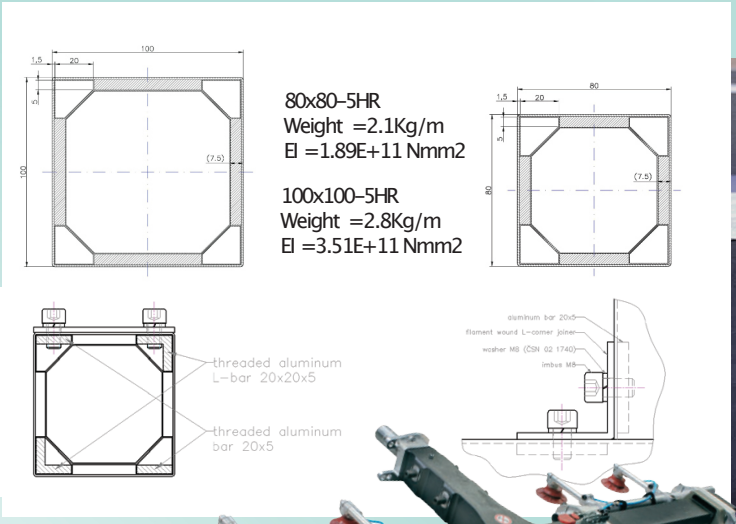
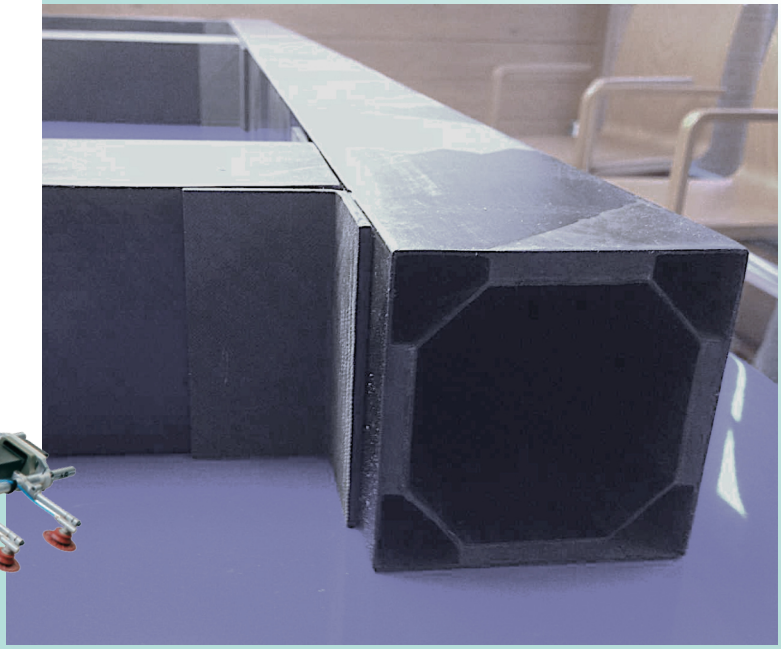
Square Beam Series

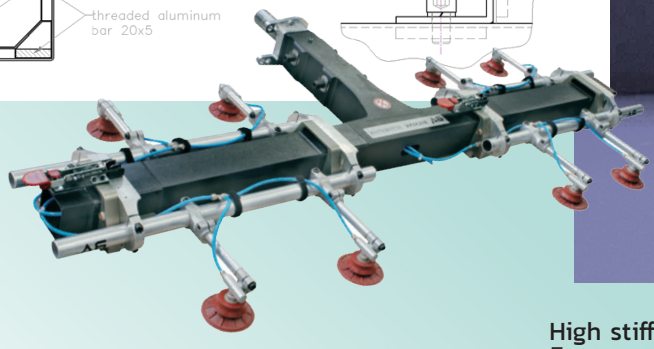
Profiles for Frame Assembly and Automation Applications

Increase production speeds.

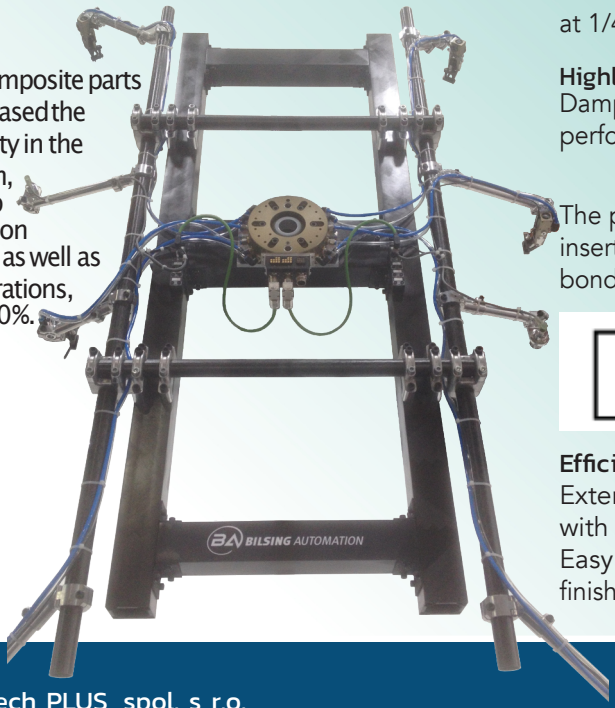
These beams were developed for the press line automation and end of arm robot application. Carbon beams give high stiffness and damping while reducing the frame weight which translates to an increased natural frequency. The end result is increased production speeds due to the dynamic performance of the Robot movement.







BILSING AUTOMATION®



Carbon composite parts have increased the productivity in the press room, body shop and injection moulding, as well as other operations, by up to 40%.

High stiffness – Light Weight
Frame components are manufactured from carbon and graphite fibre. This can produce a beam with E-modulus equivalent to steel at 1/4 of the weight.

Highly Damped
Damped composite sandwich sidewalls increase the damping performance of the beam up to 20 times that of steel.

The profile design, with braced corners, allow for aluminium threaded inserts permitting simple bolted connections to be made without bonding whilst adding stability to the whole section.

Efficient Assembly
External pressing enables precise dimension of outside shape with standard tolerances of +/- 0.2
Easy assembly can be made with a high quality surface and corner finish.

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