

Technical Data

Aero Q-Line



03/2025

Technical Data

Machine Specifications

Developed for demanding cutting requirements.



Specifications

Cutting beam	Single beam: Carbon fiber-reinforced beam
Floor load	500 kg/m ² / 103 psf point load 800 kg / 1,764 lbs
Operating temperature	18-24°C 64.4-75.2°F
Relative humidity	10-80% non-condensing
Cutting accuracy ¹⁾	± 0.1 mm/m
Repeatability ²⁾	± 0.1 mm ± 0.0039 in
Beam clearance	55 mm / 2.17 in
Max. material weight	30 kg/m ² 6.15 psf
A-weighted sound power level/noise emission LpA at area of activity ³⁾	< 75 dB(A)
Electrical requirements ⁵⁾	AC 3ph+N+GND, 400 V, 50/60Hz, 32A (without vacuum pumps)
Interface	Ethernet 1Gbit

Speed, acceleration ⁴⁾

Max. diagonal speed	2.8 m/s 110 in/s
Max. speed X/Y axis	2 m/s 80 in/s
Max. acceleration X axis	5 m/s ² 196 in/s ² (depending on load)
Max. acceleration Y axis	15 m/s ² 590 in/s ² (depending on load)
Max. speed Z axis	AUTOMO E, 500 mm/s 20 in/s AUTOMO L, 300 mm/s 12 in/s
Max. acceleration Z axis	AUTOMO E and L, 10 m/s ² 32.8 ft/s ²

- 1) X/Y drive system, static, at constant operating temperature (may vary depending on cutting technology)
- 2) X/Y drive system, static, at constant operating temperature (without processing)
- 3) Noise level may vary between <75 dB(A) and ~85 dB(A) depending on ambient conditions and type of cutting technology, materials, vacuum generator being used.
- 4) Depending on module configuration
- 5) Important electrical requirement: Cutter requires 400V – if a 400V power supply is not available, a transformer is required

Technical data subject to change without notice.

Product Information

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Product Features

A proven solution for processing prepreg, dry-fabrics, UD fabric, engineered films and non-woven material for very large structures.



Features

Single beam for a continuous cut: Perfect for cutting long parts for large structures

Machine-to-Machine (M2M) automation interface

Displacement linear motors with maximum speed of 2.8 m/s and acceleration up to 15 m/s²

Lightweight, carbon fiber-reinforced beam for ultimate speed and precision

Multizone tandem operation (if required), allowing pick and cut operations to take place simultaneously

8 automatic tool change slots, incl. blade life notifications

Roll-material carousel for optimal material feed available: 4 rolls >240 kg, with up to 360 mm diameter; incl. automatic roll load/unload (third party product)

Optional belt cleaning unit

Optional waste bin



Benefits

Reduce manufacturing costs and delivery times

Fast, highly-automated, cost-efficient production cell with low labor involvement (compared to traditional carbon fiber manufacturing methods)

Cut pieces up to 21.4 meters (70 ft) long in one operation, ensuring that no fibers are left uncut.

Remote control from the main manufacturing cell, with a fully integrated M2M interface

Fully automated «lights out operation», including belt cleaning and waste material removal

Extends uninterrupted production time through automatic identification of blade wear/breakage and automatic tool change



Length & Sizes

Q 18-XX S – Working area width: 1800 mm | 5.9 ft

Q 22-XX S – Working area width: 2270 mm | 7.4 ft

Q 32-XX S – Working area width: 3210 mm | 10.5 ft

Q XX-55 S | Q XX-214 S – Adjustable length of cutting area: from 5.5 m up to 21.4 m
The modular construction allows to extend or reduce the length from 5566 mm (2 panels) up to 21406 mm (7 panels), as the application demands.



Ready for future challenges

The perfect solution to enable fully automated preforming of large structures, required for future developments of aerodynamic structures – in aircraft, public transportation, wind energy/turbines, aerospace, EV delivery trucks, EVTOL and more

Zünd is your partner for mastering the complex requirements of future manufacturing processes

Facilitates fully digital workflows from job management to kits or preforms

Interfaces are configurable to overcome the challenges of AI based defect inspection and in-line handling