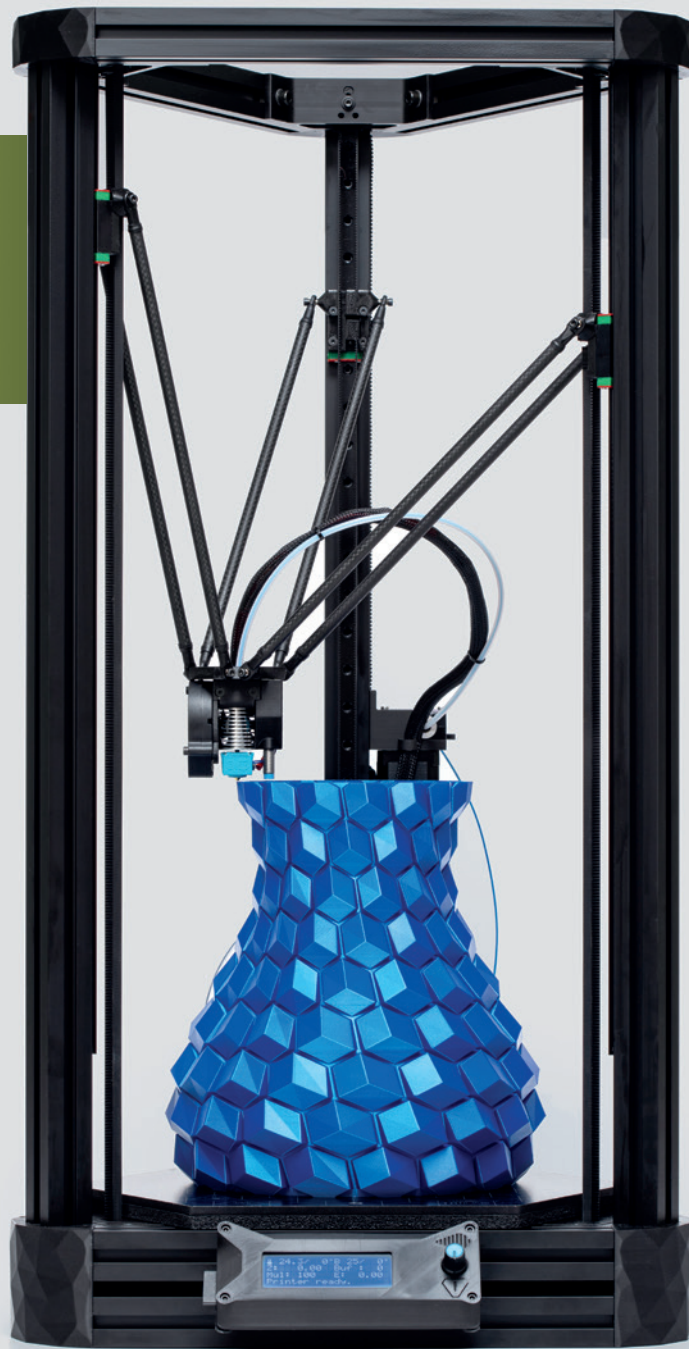


TRILAB DeltiQ



Winner of the 3D
Printer Challenge
at 3D Expo 2017



WHY IS A 3D PRINTER WITH DELTA KINEMATICS THE OPTIMAL CHOICE?



Delta Kinematics

The 3D motion of the print head in the print volume is carried out using precise movements of the linear rail carriages and transferred using carbon fiber rods, which results in very precise print head positioning with excellent repeatability.



Light Print Head

The print head includes just the hotend and cooling fans to keep the assembly as light as possible, which minimizes adverse inertia-induced effects on print quality. In practice, this results in a very fast 3D printer with maximized components lifespan.



Static Print Bed

The sturdy aluminum print bed is firmly fixed to the printer frame and does not move during print. It's also heated and covered with PEI print surface, which gives you freedom in the choice of the right material for a given model.

**Czech producer of high quality 3D printers
and original solutions based on delta kinematics**



Why is TRILAB DeltiQ the optimal choice?

1.

PRINT QUALITY

We optimized the movement of the mechanical rods and completely redesigned the print head. Along with the upgrade of electronics and software, we pushed the benefits of 3D printers with delta kinematics even further. **DeltiQ can now print incredibly long bridging details as well as 60 degree overhangs without any support structures. It is only up to you how you use these benefits.**

2.

RELIABILITY

We added a filament sensor for unattended printing, print head crash detection as well as a power failure sensor. This means that **DeltiQ can now work unattended for days as you concentrate on more important things.**

3.

EFFICIENCY

With the new software, you can now pause printing at any time and continue as soon as it suits you. **DeltiQ knows exactly where the print was stopped and is able to continue smoothly. Now you do not have to worry about printing even of the most technically and time-consuming models.**

We have complete solutions for ...

INDUSTRIAL PRODUCTION AND DEVELOPMENT



Large print volume and effective print height are essential for the production of high-quality products, prototypes, jigs and fixtures, holders, gauges or calibration tools for manufacturing operations, with no significant need for shape or size adaptation prior printing.

SCIENCE AND RESEARCH



Our personal knowledge of the science and research environment along with the detailed knowledge of the technical capabilities of our DeltiQ 3D printer allow us to propose specific solutions to scientists for everyday use in the laboratory and for specific research purposes.

COMPOSITES AND PLASTICS PRODUCTION



The high print quality within large print volume allows users of our delta printers to create high quality product positives or entire negative moulds for composite or plastics production.

INDUSTRIAL PRODUCTION AND DEVELOPMENT

SAFT FERAk, Raškovice, Czech Republic
Manufacturer of industrial batteries

The DeltiX 3D printer is used for fast and flexible production, optimization and customization of tools, jigs and fixtures, clamps, gauges or calibration tools used directly in the production process.

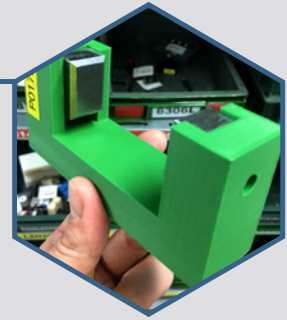
Advantages:

- **>90% cost saving** on tools production,
- **time savings in the range of weeks** for outsourced tools production,
- the possibility of immediate **iterative optimization of shape** or functioning of any tool,
- **customization of tools** to the requirements of a specific machine or employee.

Mgr. Tomáš Godula | chief maintenance manager



"We have been using the TRILAB DeltiX since the first day of installation and right during the first weeks we have realized what we have been lacking for so long. The return of investment was just 2 months and today we can hardly imagine our production operations without this tool."



SCIENCE AND RESEARCH

NenoVision, Brno, Czech Republic
Start-up company in CEITEC / JIC INMEC
Manufacturer of the patented LiteScope - Atomic Force Microscope

3D printing is used to produce LiteScope prototypes within all phases of research and development as well as for production of models for marketing purposes.

Advantages:

- **time savings in the range of weeks** for external prototype production,
- immediate **iterative optimization of geometry** to ensure compatibility and proper fit,
- **savings up to 99% of prototype and marketing model costs.**

Ing. Jan Neuman, Ph.D. | CEO NenoVision



"By using 3D printing using the DeltiX 3D printer with high quality print output, we have been able to create a very accurate and mechanically functional mock-up of our otherwise very expensive LiteScope optical device for presentation to our customers and business partners. Making such a mock-up in metal would be very complicated, time-consuming, and the price of one piece would be in the order of thousands of Euros. With the DeltiX we now have a perfect mock-up for less than 1% of this price."



COMPOSITES AND PLASTICS PRODUCTION

NIRVANA SYSTEMS, Přerov, Czech Republic
Manufacturer of paramotors and autogyro supplier

3D Printing is used in composite production for fast and flexible production of prototype positives, to be used for a subsequent production of composite moulds.

Advantages:

- **cost savings for the production of moulds** otherwise made of metal,
- **time savings in weeks** for external outsourced production,
- the possibility to **create and modify the form by the next day.**

Mgr. Jan Kovalovský | designer and developer



*"I have been surprised that the use of 3D printing is actually possible in all stages of composite production. Whether for **quick production of complex positives** or for the **production of actual negative**. We are currently considering the use of special printing materials as well as the production of more sophisticated moulds for injection moulding."*





Size for All Applications

Will you be using the DeltiQ to print compact and detailed models or rather to print real-size prototypes? Are considering using 3D printing as a technology for small-scale production? We have the right size for each application - you can choose **DeltiQ M** for most general models, **DeltiQ L** for models up to 30 cm or **DeltiQ XL** for models up to 50 cm high.





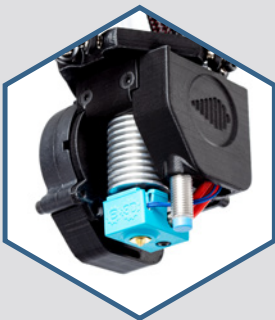
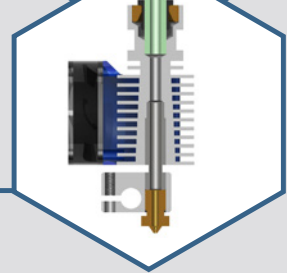
Solid and Rigid Frame

A frame constructed of high-quality structural extrusions and custom designed corner components ensures excellent printer stability under all conditions.

Genuine Brand Components

E3D Titan extruder from E3D, the industry leader, enables very fast printing and brings high torque for printing even the most demanding materials.

E3D v6 hotend is the most versatile all-metal hotend for maximum user freedom in material choice, ranging from versatile PLA to high-end nylons.



Cool Print Head

The print head smartly integrates powerful and precisely focused print cooling with an automatic calibration probe. At the same time, it is lightweight and compact.

Top Quality Linear Motion Components

The carbon fiber rods carrying the print head are very stiff and extremely light. Along with industrial linear guide rails, these ensure precise and repeatable print head positioning. This is in turn clearly reflected in the high quality print output.

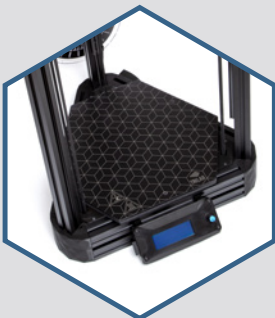


Smart Sensors

The DeltiQ is equipped with a battery of smart sensors for maximum reliability. Filament sensor pauses printing when material runs out, while power failure sensor and print head crash detection serve to automatically park the head for a safe stop and trouble-free print restart.

Complete Silence

DeltiQ is designed to run in every office. With a very quiet operation, the cooling fans are virtually the only audible components during printing. The printer automatically shuts down after the print is finished and remains completely silent. The only thing left to disturb you is the smoothness of delta kinematics motion during printing.



Heated Print Bed

The 5mm thick, sturdy aluminum print bed is smooth and mirror flat. The versatile PEI print surface enables printing of virtually any commonly used material, is maintenance-free and very durable.

Printer Specifications

3D printing technology	Fused deposition modelling (FDM), plastic filament melting
Print area	DeltiQ M: Ø 180mm (X, Y) x 200mm (Z) DeltiQ L: Ø 250mm (X, Y) x 300mm (Z) DeltiQ XL: Ø 250mm (X, Y) x 500mm (Z)
Heated bed	5mm heated aluminum plate, PEI printing surface
Controls and interfaces	LCD with SD card reader, USB interface, optional WiFi and Ethernet
Supported print formats	STL, gcode; any standard slicer (Simplify3D, Cura, Slic3r, Kisslicer)
Dimensions / weight	DeltiQ M: 35x35x65 cm / 13 kg DeltiQ L: 40x40x80 cm / 15 kg DeltiQ XL: 40x40x100 cm / 18 kg
Power the printer	Input 100-240V, output 24V, 250W

Print Output

X/Y resolution	According to the used nozzle in the range 0.25-1.2 mm, standard 0.4mm
Resolution Z	A layer height of down to 50 microns, the maximum layer height depends on the nozzle used
Hotend and extruder	E3D v6 all-metal hotend, E3D Titan extruder, Zesty Nimble extruder
Maximum nozzle temperature	Standard up to 300°C, with upgraded temperature sensor up to 400°C
Maximum bed temperature	105°C

Materials

Filament diameter	1.75mm, optional 2.85mm / 3.00mm
Compatible materials	PLA, ABS, HIPS, ASA, PET, nylon, polycarbonate, flexible materials, filled or abrasive filaments
Purchase of materials	Print materials and accessories can be purchased at store.trilab.cz

“Our initial joint dream was to produce top-quality 3D printers with delta kinematics and make them accessible to the Czech market. This we have achieved during last year, but thanks to our customers, the real users of our printers, we realized how many other improvements and development is still to be done. Thanks to great feedback from our industry, research and art partners we have been able to rework the printer and introduce DeltiQ, the next generation of our delta printer, which we believe will become a standard in its class.

We are already working on new 3D printing solutions that will cover other creative areas of additive manufacturing. Follow us on the web and social networks, where we will post all the news!

Also, thank you for your present favour. We believe that soon, you will also become a satisfied user of DeltiQ, the top-quality Czech delta 3D printer.“

Vojtěch Tambor and Michal Boháč, **TRILAB**



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DeltiQ Video:
<https://youtu.be/QkR7RGaevi8>