

innovatiQ

MEMBER OF THE ARBURG FAMILY

# TiQ 5 Pro

THE ALL-ROUNDER FOR ADDITIVE MANUFACTURING.



## EXTENSIVE STANDARD FEATURES.

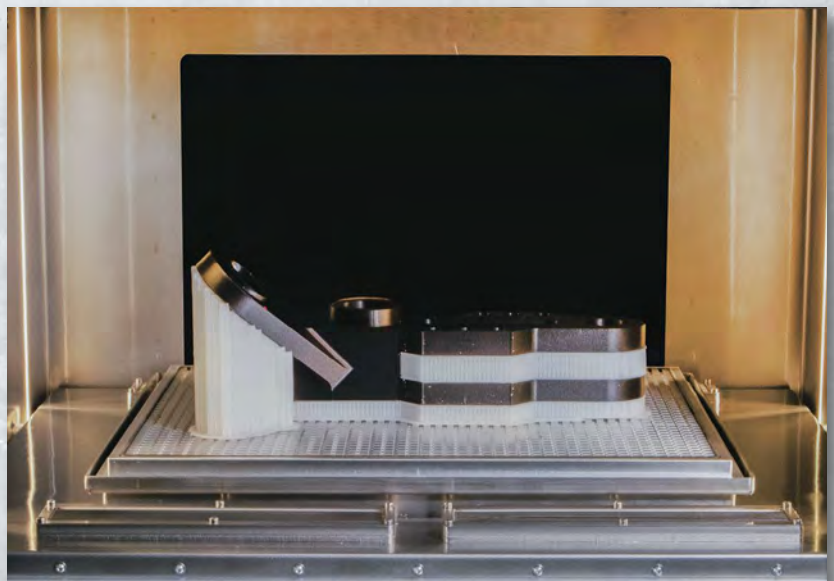
The TiQ 5 Pro comes with all necessary functions for successful additive manufacturing.

### Standard features include:

- GestiQ-Pro: intuitive CNC control with integrated Smart-Functions.
- CoreLine: innovatiQ's new print head sets the standard for preciseness and collision-free operation
- 400 °C twin extruder for flexibility in polymer cross-linking
- Vacuum printing plate
- SmartStart, the automatic levelling and nozzle calibration
- Integrated material drying unit

## HIGH TEMPERATURE.

The TiQ 5 Pro is a 3D production machine for XL components. With its open material platform, it is versatile. Whether hard or soft material, fibre-reinforced or high-temperature plastics – an all-round talent with vacuum pressure bed and active heating chamber for reliability - even with long print jobs.



## MULTIPLE COMBINATIONS.

At innovatiQ we offer you a large pre-selection of filaments. You prefer to process your own filament? No problem! The TiQ 5 Pro is equipped with the „Simplify3D“ slicer as standard, so you can combine as many material, print or geometry techniques as you like.



The large variety of materials: from fibre-reinforced to high temperature possible.

## INTEGRATED MATERIAL DRYING.

### Quality is our top priority!

With the integrated drying unit, we ensure that the filament is in an optimal condition before extrusion. This increases process reliability in 3D printing and prevents the so-called „oozing effect“ on the surface. The drying unit is also used for the storage of high-performance polymers and increases the usage time of the material. Always perfect starting conditions for your daily print jobs.

## EFFICIENT SERVICE CONCEPT.

**We are here for you.** With our service promise, we will help you quickly if the worst comes to the worst. Whether remote diagnosis for problem solving or maintenance checklist for your team.

We adapt our service concept to your needs. In case of repair, we take over request-related print jobs – so that you don't miss a opportunity.

## HIGHLIGHT FEATURES TiQ 5 PRO.

Motion drive technology from milled metal

Own-developed CoreLine extruders with tungsten-copper nozzles

Compact Industrial design

Integrated Material dryer & Material storage



Powerful & precise industrial motors

CNC control GestiQ-Pro – with SmartFunctions

Large build chamber for components up to 500 x 400 x 450 mm

Active controlled build temperature for stable & homogeneous printing conditions up to 155 °C

## GESTIQ-PRO: THE HMI FROM INNOVATIQ.

The TiQ 5 Pro is operated intuitively via the proprietary „GestiQ-Pro“ control and a 12-inch touch display. GestiQ-Pro supports the operator with integrated SmartFunctions. These make daily operation more intuitive and faster.

### SAFETY FIRST.

GestiQ-Pro has the additional safety features of a modern production machine. The role-based access system protects the TiQ 5 Pro from unauthorised users. By assigning defined authorisations (department, user, expert or admin mode), the 3D printing system can be accessed across the board without any security risk. In addition to the sharp split of the security areas from the application areas, GestiQ-Pro thus also expands the functional possibilities.



## CORELINE - THE PRECISE ENDURANCE RUNNER.

The TiQ 5 Pro has a specially developed print head that is not affected by abrasive materials, even in continuous use.



CoreLine from innovatiQ is a function in the TiQ 5 Pro's self-developed print head. CoreLine increases both: precision and process reliability. In principle, CoreLine and the Quad drives of the TiQ 5 Pro allow the processing of materials with different degrees of hardness and temperature.

This range of possibilities is unrivaled in additive manufacturing. CoreLine needs low-maintenance and its selected components ensure high process reliability for time-intensive, large print jobs.

**A cost advantage for you!**

# OPTIMAL PERFORMANCE THROUGH SMARTFUNCTIONS IN TiQ 5 Pro.

The SmartFunctions available in GestiQ-Pro support the TiQ 5 Pro throughout the printing process. They operate as programmed Apps that link different functional steps together to increase effective use.



## MAXI-OPTI PRINCIPLE.

**SmartSpeed** is the unique adaptive adjustment of the printing speed without compromising the quality of the print result. SmartSpeed automatically adjusts the print speed ( $V_{max}$ ) depending on how optimal the extrusion is. This is done by an algorithm which processes the previously collected data of the filament feeder and the extrusion-head. The printing process can thus be dynamically controlled. The result of the Maxi-Opti principle: In maximum printing speed with optimal feeding.

## REDUCED SETUP TIME.

**SmartStart** enables fully automatic mesh bed levelling utilizing a laser measuring system. Additionally nozzle leveling is as easy as pushing a button. The best combination for a quick set-up time and reliable 3D printing.

## PROCESS-SAFE MATERIAL FEED.

**SmartTrack** measures the filament feed rate with the help of sensors. The material demand is continuously tracked and the feed rate data is sent to the controller.

## PROGRAMMABLE PAUSE.

**SmartInsert** puts the TiQ 5 Pro into a programmed pause mode after a defined layer height. This allows fasteners to be added to the part. The TiQ 5 Pro waits and, for example, a threaded nut can be inserted into the 3D component. After the programmed insertion, the TiQ 5 Pro completes the print job.

## THE „EVERYTHING IN VIEW“ OPTION.

**SmartMonitoring** is used at the workstation to keep track of all your innovatiQ printing systems. All operating states are recorded and reported to the monitoring workstation in real time. SmartMonitoring is also available as an additional option for connection to the Arburg ALS system.



## SMOOTH MATERIAL CHANGEOVER.

**SmartChange** plans the material change on an infill structure, thus avoiding any surface blemishes. The result is high-quality, consistent surfaces.

SmartFunctions are the solution for process-safe 3D prints.



## TECHNICAL DATA OVERVIEW.

Build chamber (X/Y/Z):	500 x 400 x 450 mm
HMI:	GestiQ-Pro with 12 inch Touchdisplay
Print speed*:	10 – 180 mm/s
Traversing speed*:	10 – 400 mm/s
Positioning accuracy* (X/Y):	+/- 0,1 mm
Layer thickness* (min.):	0,07 mm
Filament- / Nozzle diameter:	1,75 mm
Nozzle options:	0,40 mm / 0,60 mm / 0,80 mm
Extruder:	CoreLine Technology up to 400 °C (+/- 2 %)
Bulid chamber temperature:	actively heated up to 155 °C
Printing plate:	Vacuum printing bed heatable up to 160 °C
Nozzle calibration:	yes, automaticlly
Mesh-Bed Leveling:	yes, automaticlly
Data connection:	Stand-alone printing or network capable
Software-Slicer:	Simplify3D®
Power consumption (max.):	2,5 kW, approx. 30 % in continuous operation
Power supply:	230 V, 16 A (EU); 110 V, 20 A (US)
Status lamp:	integrated light bar with message status
Dimensions (B/T/H):	1680 x 1110 x 1970 mm
Weight:	approx. 900 kg
Technology:	FFF (Fused Filament Fabrication)
Drying unit:	5 storage places + 2 processing places
Material:	Open material platform, e.g. PEKK, PC, PACF, ABS, PPGF, PPS
Optional:	SmartMonitoring-System and connection to Arburg ALS System



The TiQ 5 Pro is a flexible 3D production machine for XL components. With its open material platform, it is versatile. Whether hard or soft material, fibre-reinforced or high-temperature plastics – it can produces all your orders, even from a lot size 1.

\* Deviations depending on geometry/material/process