



# QUANTUM FOR CLINIC-SIDE PROSTHESES

The first clinic-side milling unit  
Perfectly integrated into the digital dentistry workflow



# QUANTUM

Chairside milling machines for digital dental treatment



# Quantum. The door to digital

**The best way to enter the world of digital prosthetics is to do so with the best possible support.**

The world of dentistry is changing. Tools change and workflows change. Our commitment, as manufacturers of technology and solutions for the dental sector, is to ensure that our customers can play an active role in this change. Choosing Tecno-Gaz means choosing the experience and reliability of a company that has been working alongside dental professionals for forty years as part of a process of continuous improvement. For this reason we are delighted to introduce you to Quantum, the first clinic-side milling system.



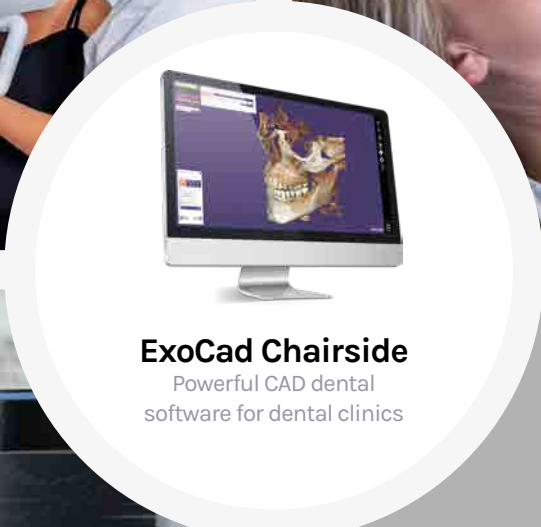
# Evolution.

The objective of companies nowadays is to respond as quickly and effectively as possible to the changes and demands of their market.



To do this you need a research and development department that is able to develop ideas, projects and products. With this logic Tecno-Gaz and Dental Machine have combined their resources to develop an innovative technology project that is able to meet the new needs of the dental market. After more than two years of research and development and the contribution of many professionals, we have created the Quantum line of milling machines, the ultimate expression of digital technology in the dental field. An Italian-made device designed, developed and produced entirely at the Dental Machine/Tecno-Gaz plants.

# Just one session.



Thanks to the Tecno-Gaz digital flow, dental practices can enter the world of single session treatment. This important step forward in terms of treatment has been made possible by Quantum. It is a revolutionary milling machine, designed to enable dental practices to respond to the most advanced requirements in the area of modern implant-prosthetics in a highly professional manner.

# Quantum, the best solution

Any advanced dental practice has digital systems that allow it to interact quickly and accurately with its dental laboratory. The use of Quantum represents the completion of this integrated digital process (practice/laboratory) which completes the digital flow and provides the highest level of therapeutic support, in parallel with an extraordinary quality experience for the patient.

Quantum was created to be a high-quality tool within the practice and this is why it incorporates unique features specifically designed for the digital development of the dental field.



## Quality and speed combined. Can it be done?

Quality and speed must be combined to offer both guaranteed clinical results and the possibility of making implant-prosthetic products at a rate that was previously inconceivable. Quantum is designed to be fast and extremely accurate.

### Rapidity



Next generation brushless motors ensure speed, quality and repeatability.

## But it also needs to be easy to use!

If you can use your smartphone you can use Quantum! Anyone can learn how to use it in a very short time and without any specific training.

## ...and easy to manage!

Dental practices are medical facilities where the focus must be on the patient. That's why we have designed Quantum with solutions that minimize the need for maintenance.

## Quantum, the digital system for everyone.



### Accessibility



The first milling system that is easy to integrate in the practice and immediately operational as it is easy for everyone to use.

### Reduced maintenance



Various expedients increase productivity and service life with minimum maintenance.

# The first clinic-side milling machine

With these features Quantum can be defined as the first clinic-side milling machine, designed to adapt to the life of the practice. This is not a machine that derives from the field of dentistry, but an innovative project, totally redesigned for the specific features and operating methods of modern dentistry.



Push safety lock

**Colour code with led**

Blue ready Green in use Red alarm

Integrated chamber filter to prevent the recycling of particles that could damage the internal systems

Specially treated chamber to ensure easy, quick cleaning

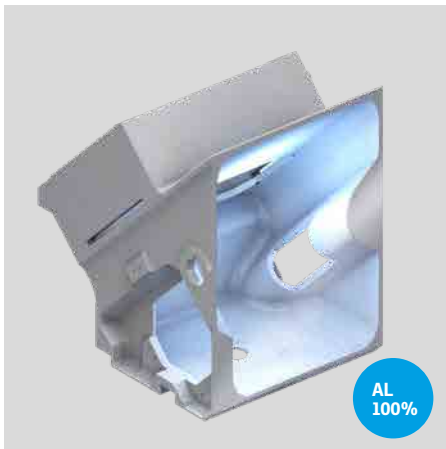
Integrated lubrication system with pump, 3 filters and overflow system

**Visual signalling system**

Quantum indicates usage status and any intervention requests using a LED system.

# Quantum line. Construction logic.

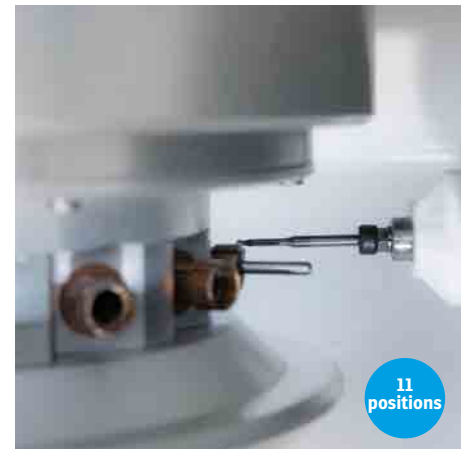
**Rigid structure to improve product quality and machine, tool and cutter life.**



**High performance electrospindle for complex milling**



**Uninterrupted workflow**



**The milling chamber is a monobloc made from cast aluminium**

The load-bearing structure of the entire system is an aluminium monobloc made in a single casting, which guarantees extreme rigidity, the interconnection of all elements and maximum precision of movement to ensure longer tool life and reduced production times.

**Jäger electrospindle to grant high performances**

Another exclusive and crucially important feature is the possibility of milling premilled blocks, enabling the dentist to produce custom abutments in total autonomy. This is all thanks to the high-performance electrospindle.

**Automatic cutter changeover system**

Quantum has 11 positions, with mechanical slipping system, to ensure protection against dirt. Cutter integrity checking system.





Designed to work,  
built to last.

**Open system**  
Simplified use

**Absolute Encoders**  
Long-lasting precision

**5 milling  
axes**

the only one  
of its kind on  
the market



**Jäger electrospindle**  
550 W - 60,000 rpm

**11 cutters**  
with automatic changeover  
depending on the material

**Brushless motors**  
with encoder for the maximum  
surface quality of the prosthesis

**Block milling**  
up to 65mm in length

### Why 5 milling axes?

Thanks to the 5-axis inclination the tool can reach all areas of the tooth, even the undercuts, for a perfect reproduction of the tooth morphology.

# Quantum. Excellence at your fingertips.

Quantum was created to offer extraordinary levels of reliability and quality. The result of specific experience in the world of high quality milling, Quantum embodies unique user-friendly, intuitive features, essential in the delicate workflow of a modern dental clinic. Quantum is the ideal platform for building a solid, digital workflow, crucial for opening up new opportunities and new markets.



## T-Base machining

Using the 5 axes, a crown with an inclined hole can be made from any standard block. Implant Prosthetics (Multi Unit), making a bridge on implants has never been so easy, the 5 axes plays a key role in milling crowns that have different types of inclination (as happens 99% of the time).



### Extreme speed

- Simple, clear and guided workflow.



### Clinic Friendly

- Plug & Play
- Management via Dental Machine App
- Nesting simplified
- Automatic tool change
- Always ready: (automatic cleaning cycle)
- Refrigeration liquid recirculation system with 5 filters.
- Automatic control system: dirty liquid filters, insufficient water flow, wrong block length inserted.



### The best technology at the service of the clinic

- Monobloc aluminium structure
- 550 W - 60,000 rpm electrospindle with automatic tool change.
- High resolution brushless motors
- Movement on steel screws



Rigidity

Reduced tool consumption

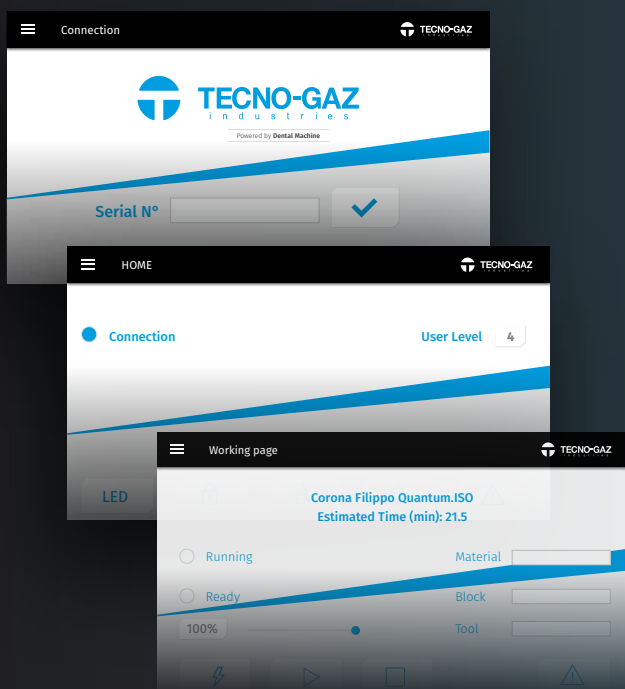
Speed

Productivity

# The best technology at the service of the clinic.

## Userfriendly

### User interface



Simple and inductive, the product can be made using just two commands, avoiding complex training activities.

### Operational control



Thanks to a 3D sensor inserted inside the milling chamber, the correct sizing of the blank is verified, avoiding any operator error.

## Studied for dentistry, born from experience

The Quantum line was created as a system for dental use, but with an industrial type design to ensure precision, stability, high production levels, maximum durability. For this reason, unconventional technical solutions have been adopted on systems for high production levels.



## Solid and professional

The technology is also applied for the remote control of the equipment, thanks to the new app designed for remote control of the milling machine, all of which via smartphone



# Quantum. Exclusive and unique.

## High quality standards and maximum reliability

With Quantum you can enter the world of digital dentistry with all the quality and reliability needed to ensure a high return on investment. But don't call it entry-level! The structure of Quantum, together with its mechanical and electronic components, have been designed to last and to work for a long time at the highest quality levels and with minimum maintenance.

### Plus

3-position bracket  
for milling up to 3  
blocks in sequence

**User friendly** interface via Smartphone, Tablet or Computer

High quality **brushless motors** with absolute encoders

True "**open system**": no constraints on materials for milling

**Always up-to-date:** milling strategies always up to date with the latest materials

Custom abutment milling from **Premilled**

OPTIONAL



Photo of Dental Style Laboratory - Erbusco (Bs)

## Optimised for milling pre-milled material

### Enter the world of metal with Quantum and pre-milled

In the dental CAD/CAM sector a pre-milled refers to a titanium or chromium-cobalt block with a pre-machined engagement, from which a personalised abutment is obtained by milling. It allows you to combine industrial precision engagement with the versatility of digital dental technology when realizing the shape of the abutment.

The Pre-milled material makes it possible to produce a personalised abutment with certified connection in less than 20 minutes.



# Materials and machining

Quantum offers the chance to perform the main machining needed to ensure excellent therapeutic support for modern digital dentistry. Accuracy, speed of execution and adherence to the anatomical model make Quantum the ideal instrument for extending the practice's potential to the primary materials used in prosthetic products.

<b>PMMA resins</b> Medium long term temporaries	●
<b>Feldspathic Porcelain</b> Aesthetic veneers	●
<b>Reinforced glass porcelain</b> Posterior crowns and inlays	●
<b>Feldspathic Porcelain</b> Anterior crowns	●
<b>Hybrid Porcelain</b> reconstructions of reduced thickness or in situations of limited space	●
<b>Precoloured, multi layer, monolithic Zirconium</b> Bridges or crowns (anterior or posterior)	●
<b>Custom abutments</b> by milling Premilled blocks (manufacturer certified)	●
<b>Surgical templates</b> (max. 5 elements)	●

● Recommended/ideal    ● Feasible



# exoplan

## Maximum flexibility

**Maximum flexibility for dental laboratories, dentists, implant specialists and surgeons.**

exoplan guides dental professionals through implant planning and surgical guide design in one, intuitive digital workflow. The software architecture, open and neutral, allows the use of 3D scanners, 3D printers or open milling machines. Our integrated software solutions guarantee perfect digital workflow functionality - from virtual prosthetic implant planning with exoplan to the design of surgical guides with our Guide Creator. In addition, exoplan users can take advantage of the seamless integration with DentalCAD, exocad's dental CAD software, to facilitate the planning and production of implant-supported temporary and final prostheses.

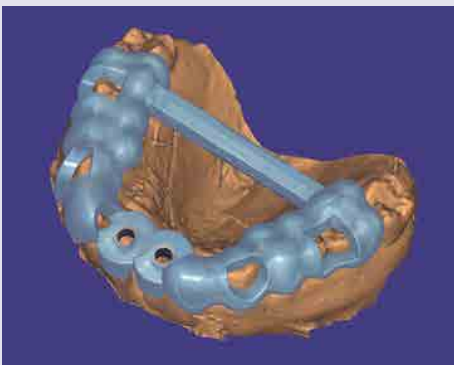


### Free choice

Complete library of implants and components

### Maximum precision

Alignment of scanned data



### In house surgical guides

with the Guide Creator module



### Ultra fast

Exoplan DICOM viewer

# exocad

## ChairsideCAD

### Powerful CAD dental software for dental clinics

ChairsideCAD is the first complete, open-architecture, CAD software platform for dentistry in a single appointment. The chair workflow is simplified, easy to learn and optimised for use in the practice, and includes step-by-step guidance through the design process. It is based on the same technology tested by the best exocad laboratory software, renowned for its reliability and robust functions. In a few steps, exocad ChairsideCAD creates beautiful designs with minimal post-processing.

#### Compatible

Supports a large number of intraoral scanners



#### Intuitive

Step by step workflows with the wizard

#### Complete

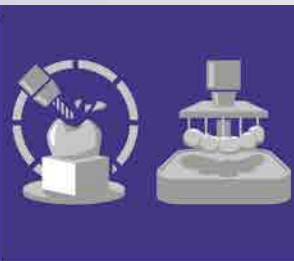
Open library of production materials

#### Versatile

Wide range of indications for treatment in a single appointment



Wizard



#### Freedom to choose

Perfect integration with equipment produced by third parties



#### Expandable

Additional modules for additional functions and indications





Quantum

The door to the digital revolution

# QUANTUM

## FOR CLINIC-SIDE PROSTHESES

EN   
1<sup>st</sup> Edition

The first clinic-side milling unit  
Perfectly integrated into the digital dentistry workflow

### Number of Axes

5 continuous

### Dimensions - mm - WxHxD

580 x 710 x 610

### Weight

150 Kg

### Tool Change

Automatic

### Number of tool positions

11

### Electrospindle

Jäger 550 W - 60,000 rpm

### Spindle torque

8 Ncm

### Axis angle

A 15° + -(tot 30°)

### Tool shaft diameter

3

### Tool breakage detection

Automatic

### Power supply (single-phase)

230 ± 10% V - 50+60 Hz

### Compressed Air

Always integrated

### Linear axis resolution

± 0.003 mm (3μ)

### Duplicated tool management

En option

### Dry processing

Yes

### Wet processing

Yes



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