

TORNOS



*Combining power
and productivity*

CT 20

*Easy to use, productive
and powerful*

CT 20

As your gateway to the world of Tornos, the CT 20 is designed to meet specific needs related to the manufacture of all types of components. Its intuitive setup and operation, ergonomics, productivity and power guarantee quick return on investment.



5 Linear axes
20 mm Maximum diameter
11 Maximum number of rotating tools
27 Maximum number of tools
2 C axes

CT 20

You gateway to the world of Tornos

Efficient and economical

The CT 20 offers a range of options and adapts to your needs. Capable of operating with or without a guide bush, this solution's performance is maximized by its proven versatility.

Powerful

- Modular machining area
- 2 completely independent tool systems
- 4 radial rotating tools
- 2 front rotating tools next to the counter spindle
- Up to 5 rotating tools for counter operation
- Powerful spindle and counter spindle, 2 C axes
- Thread-whirling and polygon operation devices available as options

Simple to use

- Simple, proven kinematics
- Good tool accessibility for easy adjustments
- Numerous G900 type macros for simplifying programming operations such as bar loading, workpiece pickup, initial cutting, etc
- Machine can be programmed through Tornos TISIS software or directly at the control

Precise

- Powerful spindle and counter spindle, two C axes
- Rigid cast iron frame
- High-precision machining

Economical

- Maximum autonomy thanks to the large swarf tray which can be emptied while the machine is in use
- Capable of operating with or without guide bush, as required
- Complete, efficient standard equipment

- 5 mm
- 185 mm
- 90 sec.
- Stainless steel

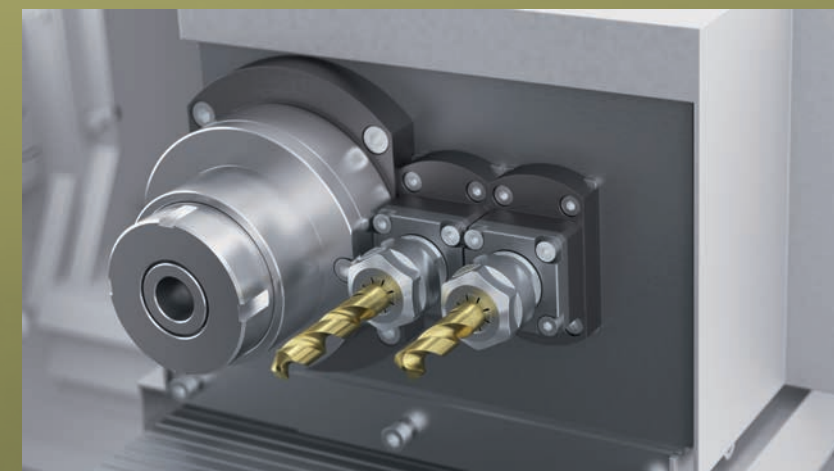
Medical applications

Machine conversion in just 30 minutes

standard equipment. The cast iron frame gives the machine excellent rigidity and unrivaled thermal capabilities. The CT 20 can be programmed via Tornos' TISIS programming software, which makes it even easier and more intuitive to use. It can be equipped as an option with two rotating tools next to the counter spindle that can be used for frontal machining. Like all Tornos machines, the CT 20 also benefits from a modular machining area. It can be equipped with a thread-whirling or polygon operation device for primary operation. A drilling or slotting device can also be fitted for counter operation. The counter operation module can be equipped with five tools, all of which are motorized. A total of 27 tools, 11 of which are rotating, can be fitted to the machine.

Capable of operating with or without a guide bush, conversion takes around 30 minutes. As with the Swiss DT and Swiss GT machines, it is extremely easy to switch to work mode without a guide bush, thanks, in particular, to the Tornos TMI human/machine interface, which makes management of this type of operation much simpler. Finally, the spindle and counter spindle can now rotate at 10,000 rpm.

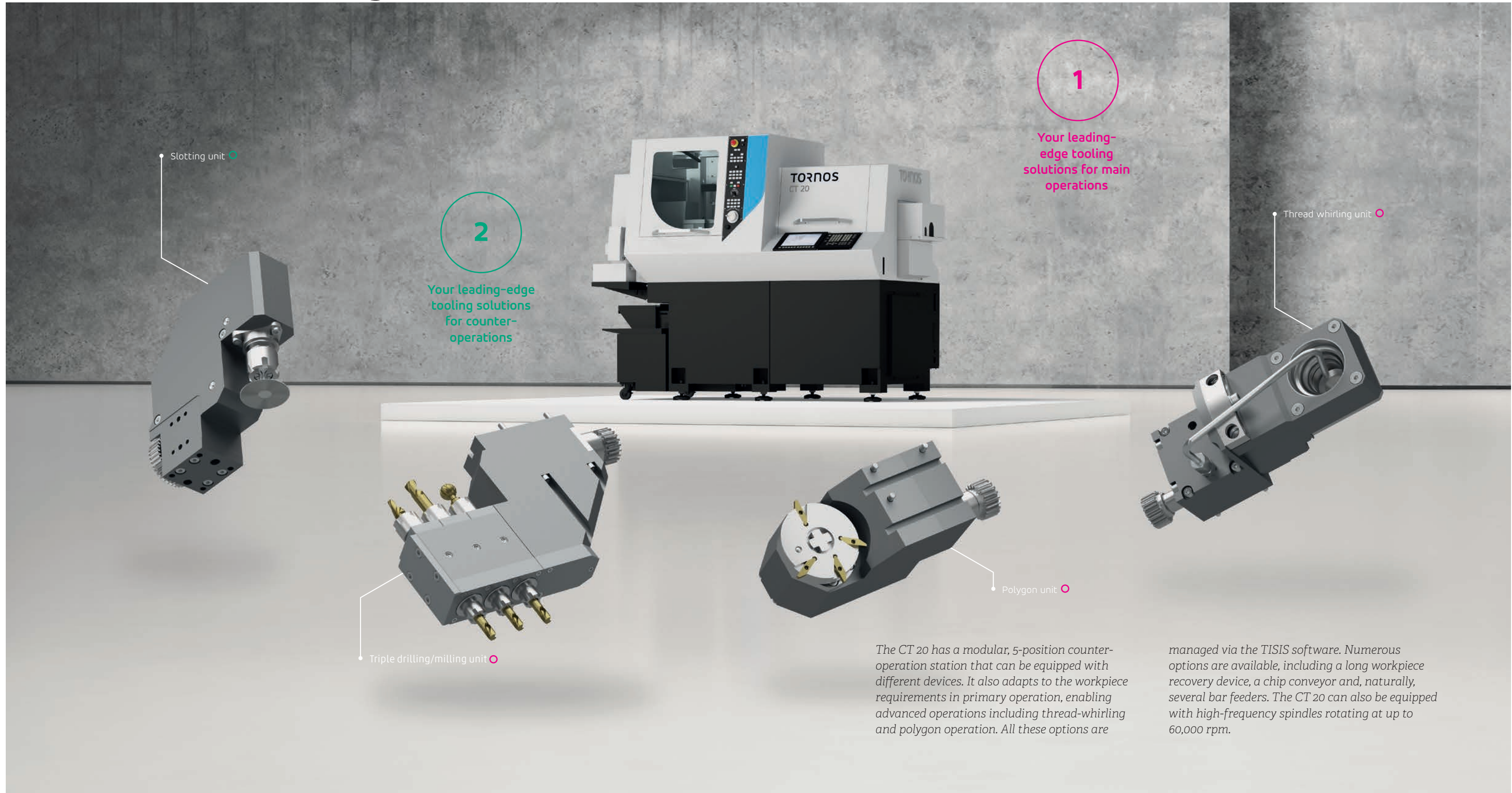
The CT 20 is a complete, efficient machining solution. It comes with a large range of equipment, most of which is part of the standard offering. For example, the machine is fitted as standard with a driven guidebush, two C axes, a range of tool holders allowing the machine to be operated from day one, a parts conveyor and a 20-bar pump. A centralized lubrication cycle is also included in the



The CT 20 benefits from a unique option: Two front tools can be added next to the counter spindle to increase its machining capacity.

Maximum speed 10,000 rpm

An ideal partner for almost all types of machining



Slotting unit

2

Your leading-edge tooling solutions for counter-operations

1

Your leading-edge tooling solutions for main operations

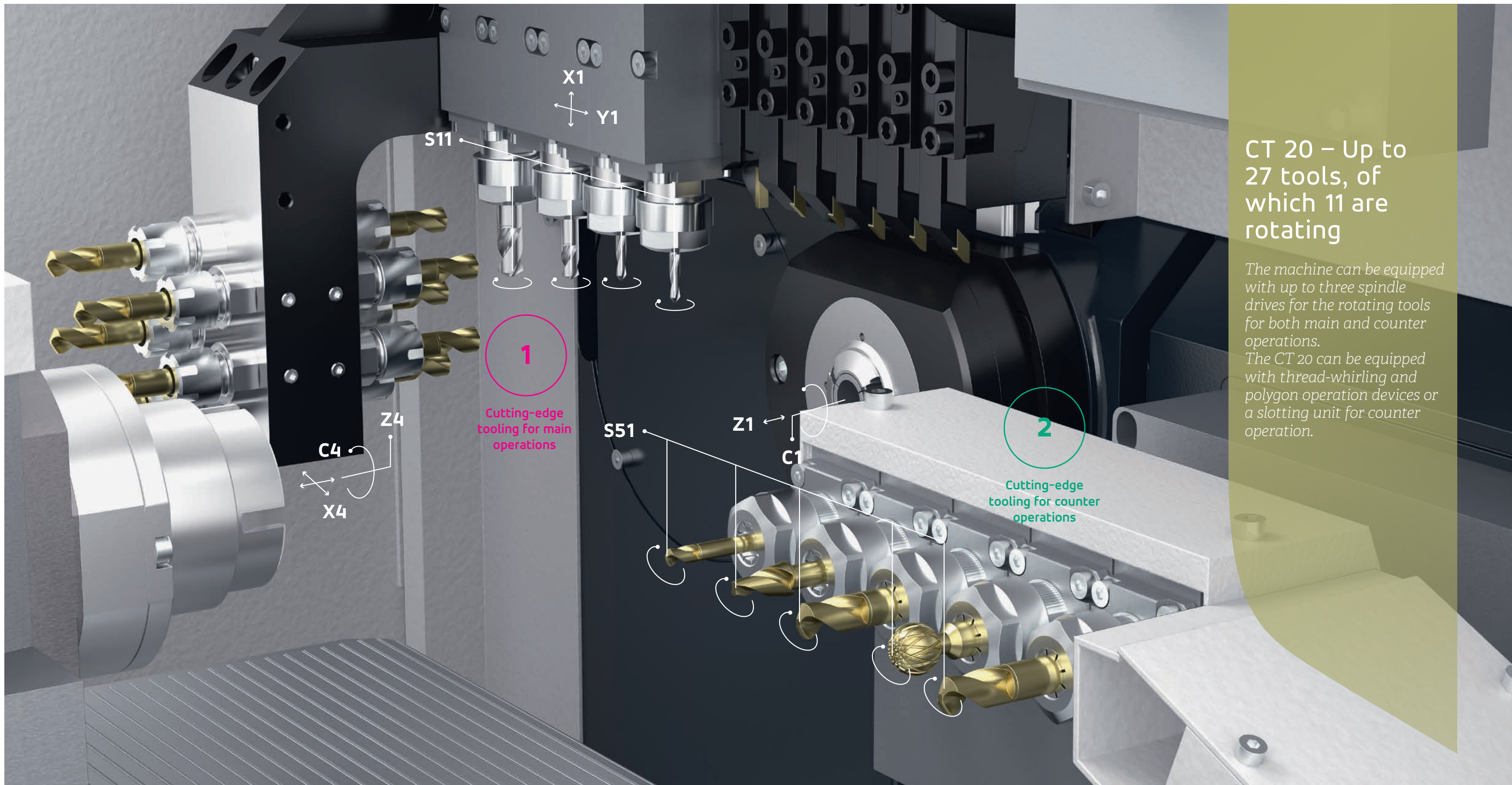
Thread whirling unit

Triple drilling/milling unit

Polygon unit

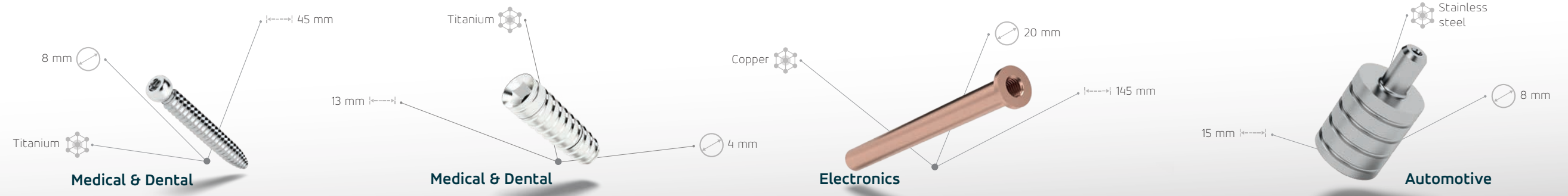
The CT 20 has a modular, 5-position counter-operation station that can be equipped with different devices. It also adapts to the workpiece requirements in primary operation, enabling advanced operations including thread-whirling and polygon operation. All these options are

managed via the TISIS software. Numerous options are available, including a long workpiece recovery device, a chip conveyor and, naturally, several bar feeders. The CT 20 can also be equipped with high-frequency spindles rotating at up to 60,000 rpm.



CT 20 – Up to 27 tools, of which 11 are rotating

The machine can be equipped with up to three spindle drives for the rotating tools for both main and counter operations. The CT 20 can be equipped with thread-whirling and polygon operation devices or a slotting unit for counter operation.



A vast range of applications

Medical & Dental

Medical & Dental

Electronics

Automotive

TISIS: your CT 20 communication and programming software



Experience programming intelligence

In today's competitive global marketplace, there's not a moment to waste in meeting customers' demands. Our TISIS communication and programming software puts you on the fast track to truly effortless programming and real-time process monitoring. TISIS knows your Tornos machine fleet and can help you decide which machine to use for a specific part. But that's not all: TISIS enables you to assess each machine's options, reduces the risk of collisions and the resulting stoppages, and improves your production efficiency. TISIS is a smart and advanced ISO code editor that does the thinking for you. It helps you write your code and informs you of any coding errors. It puts the code in color and can display your program in an easy-to-read Gantt diagram, making it easy for you to see the critical path and react quickly to optimise the process. As an option it is also possible to use our smart TISIS CAM solution, designed to help you master your Tornos machine when it comes to complex and very complex parts. The TISIS CAM solution significantly reduces setup times and, coupled with TISIS, is the perfect solution for efficiently programming and optimising parts.

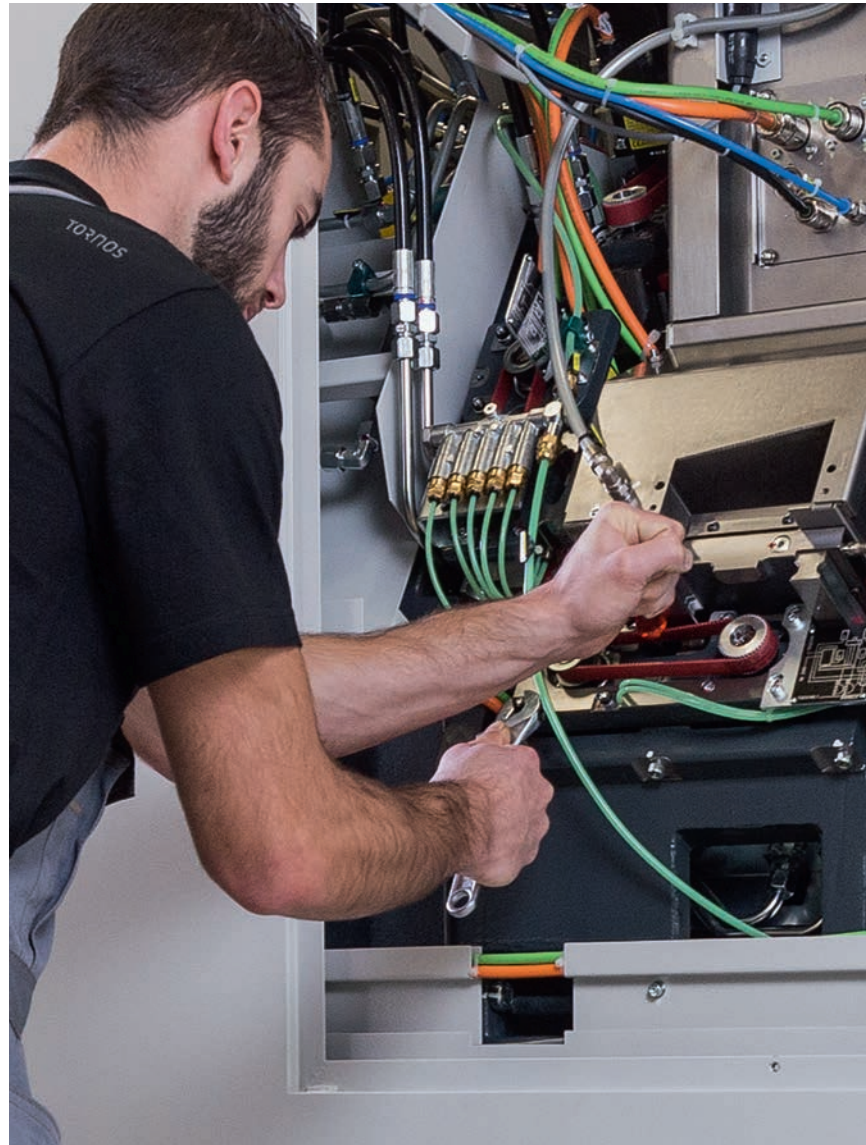
Industry 4.0-level

At the same time, TISIS takes the complexity out of process monitoring, enabling you to take your first steps into the Industry 4.0 universe. Even from a remote location, you can keep an eye on the details of the machining process from your smartphone or tablet. The software also enables you to quickly transfer your programs, either by USB key, or directly onto the machine via your company network. Your parts designs in various stages of completion can be stored with your program. These can then be easily found in the database using a search function.



Discover the TISIS video

Tornos Service



Buying a Tornos machine is much more than a business transaction. It is your investment in the future. Tornos Service thrives worldwide by guaranteeing the superior production capabilities of products carrying the Tornos name.

Situated close to its customers, as demonstrated by the 14 Tornos Service Centers strategically located across Europe, Asia, and the Americas, Tornos Service offers a comprehensive range of leading support services for Tornos machines, and encompasses the innovation, reliability and attention to detail expected of a premier Swiss brand. And it is all backed by a 100-year legacy of expertise and in-depth understanding of customers' processes, applications and challenges across a wide range of industrial segments, including automotive, medical, electronics and connectivity, and micromechanics.

Start-up assistance

From the first feasibility tests prior to purchase, you are in good hands with Tornos Service. In our state-of-the-art Techno Centers, expert application engineers support you with tests to gauge the feasibility of machining processes and applications. With start-up assistance, you are secure in the knowledge that you will never be left alone to deal with a brand new machine.

Expert training and coaching

Engineered for intuitive and easy use, Tornos machines offer a vast range of options and enable myriad processes. Expert training and coaching help your employees become specialists proficient in programming, handling and maintenance, adding more value to your processes, applications and products.

Free Hotline support

Wherever you are in the world, highly qualified specialists who speak your language and understand your processes are just a phone call away to quickly support you with handling and programming solutions.

On-site support

Fast, efficient on-site operations and preventive maintenance ensure the continuous high performance of your Tornos machines. Regular sched-

uled preventive maintenance can help you avoid 70 percent of machine breakdowns and keep you on the path to productivity.

Certified original spare parts

Rapid, reliable, worldwide delivery of certified original spare parts is a speciality of Tornos Service. Regardless of the age of your Tornos machine, we stock the essential certified spare parts to keep the machine running at peak performance.

Machine overhauls

Tornos machines inspire confidence. It's no surprise, therefore, that many customers turn to Tornos for a complete overhaul of their machines. The Tornos overhaul service returns the machines in good-as-new condition, significantly extending their service life.

Options, upgrades and X-change modules

To help you achieve your manufacturing, productivity and quality objectives, our experts collaborate with you to manage complex machining processes, develop software features for machining complex shapes, design special equipment, and tailor peripherals to your needs. Tornos' X-change modules expand your application capabilities and profitability.

Backed by both geographical proximity to customers and an in-depth understanding of their processes, applications and market challenges, Tornos Service delivers an unparalleled continuum of support: start-up assistance, expert training and coaching, free hotline, on-site operations support and preventive maintenance, original spare parts seamlessly delivered worldwide, complete overhauls to extend the service life of Tornos machines, and a range of operations and X-change modules to expand customers' application capabilities and profitability.



Discover Tornos Service

Technical specifications



TECHNICAL SPECIFICATIONS

CT 20/5

5 linear axes
2 independent tool systems

Main spindle

Max. bar diameter	mm	20
Maximum spindle speed	rpm	10,000
Spindle drive power	kW	2.2 (3.7)
C-axis		yes
Standard workpiece length with guide bush	mm	210

Main operation (base equipment)

Max number of turning tools		6
Turning tool section		12x12
Max. drilling diameter (front/rear cutting tool)		Ø 10 mm (ER 16)
Max. tapping diameter (front/rear cutting tool)		M8 (ER16)
Max. radial drilling diameter		Ø 7
Max. number of front tools (op/cop)		5/(5)
Cross-rotating tools		4 max. (in base)
Cross-rotating tool speed	rpm	8,000
Cross drive power capacity	kW	1

Counter spindle

Max. bar diameter	mm	20
Max. parts length (without rear discharge)	mm	80
Ejector stroke	mm	80
Maximum counter spindle speed	rpm	8,000
Spindle drive power	kW	1.5 (2.2)
C-axis		yes

Counter operation

Max. number of tools		5
Rotating tools		5
Rotating tool speed	rpm	4,000
Drive power capacity	kW	0.75

TECHNICAL SPECIFICATIONS

CT 20/5

Machining for main operation with back slide

Rotating tools (next to the counter spindle)		2 maximum (option)
Rotating tool speed	rpm	8,000
Drive power capacity		Counter spindle motor
Max. number of tools		27
Tooling breakdown in operation/counter operation (with options)		17/10

General specifications

Max. length	mm	2,050
Max. width	mm	1,270
Height	mm	1,670
Weight	kg	2,400
Electrical mains	HZ	50/60
Power supply	kVA	15
Coolant tank capacity	L	210
Standard coolant pump power	W	250
Colours: RAL 9006 grey, RAL 9011 black		

CNC and software main specifications

Fanuc Oi-TD, 2 channels	●
10.4" colour screen	●
Manual pulse generator (handwheel)	●
PCMCIA card reader and USB port	●
Interface via an Ethernet plug	●
4 input/output for specific functions	●
1 MB memory for part programs	●
Metric/Inch programming	●
Programming in ISO code C	●
Direct Drawing Dimension programming	●
Various threading and tapping cycles	●
Linear, circular and cylindrical interpolations	●
Polar interpolation - main spindle, counter spindle	●
Rigid tapping: main spindle, transverse tools, counter spindle and rotating tools in counter operation	●
Polygon operation programming	●
Macro variables for customer	●
Forward running of part program with MPG (by override)	●

● Standard ○ Optional — Not available

We keep you turning



tornos.com

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Tornos
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Complies with current **CE/EMC safety directives**

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