

# TORNOS



TORNOS  
Swiss GT 32

*Your advanced  
machining solution*

Swiss GT range

## Swiss GT

*The Swiss GT range of Swiss-type lathes is designed for the production of conventional parts of all types. In fact, thanks to the B-axis technology available on the Swiss GT 26 and Swiss GT 32, it is possible to produce complex parts. Available in three diameters — 32 mm for the Swiss GT 32, 25.4 mm for the Swiss GT 26 and 13 mm for the Swiss GT 13 — the line is specifically designed to ensure successful production of long and short turned parts.*

Spindle and counter spindle offering the same power, torque and clamping force, to facilitate distribution of operations and programming.

The machine offers a high level of autonomy. Different options are available to increase this autonomy when needed (chip conveyors, oil mist extractor, part reception devices and bar feeders)

Modular machining area enabling rotating tools to be fitted according to the requirements of the workpiece.



6 Linear axes  
2 C axes  
30 Maximum number of tools  
13 mm Maximum diameter  
12 Maximum number of rotating tools

Swiss GT 13

# Efficient, versatile and easy to use

Up to 40 tools, including 14 rotating tools, on the Swiss GT 26 and Swiss GT 32; and up to 30 tools, including 12 rotating tools, on the Swiss GT 13.

The combination of the Tornos machine interface (TMI) and the TISIS programming system ensures easy machine programming in ISO language and minimises idle time.

Oil-cooled rotating guide bush with built-in synchronous motor.

Able to work with or without guide bush, as required.

Large machining area giving good access to tooling and efficient chip flow.

Main machining and counter machining operations can be carried out simultaneously.



\* B axis 1 6 Linear axes  
 C axes 2 25,4 mm Maximum diameter  
 Maximum number of tools 40 14 Maximum number of rotating tools  
 Swiss GT 26

\* B axis 1 6 Linear axes  
 C axes 2 32 mm Maximum diameter  
 Maximum number of tools 40 14 Maximum number of rotating tools  
 Swiss GT 32

\* Positioning B axis: option/Continuous B axis (5 simultaneous axes): option

The Swiss GT range is your dream partner, able to provide you with the solution you need, precisely when you need it, year in, year out. Minimise your cycle times whilst machining within narrow tolerances and benefiting from an excellent standard of surface finish.

The generous provision of tools enables highly complex parts to be finished on this machine with ease.



With its continuous or positioning B axis, suitable for both main and counter operations, the Swiss GT 26B is able to produce awkwardly shaped parts with ease, without the need for mechanical adjustment. It is also possible to install a mechanical inclined drilling/milling device on a machine without B axis.

When machining dental parts from titanium, chip control and the service life of the tool can be problematic. The rigidity and the large machining area of the Swiss GT make it the perfect partner for this type of work. It is also possible to extend the machine's capacity by adding various Tornos peripherals (high-pressure pumps, chip conveyors, oil mist extractor, etc.)

 4.58 mm

 10.8 mm

 Titanium

# Versatility to meet any challenge

## Machine conversion in just 15 minutes

*Reliable, flexible and easy to use, the Swiss GT range helps you to substantially increase your productivity. The advanced technical features and six-axis kinematics of the Swiss GT make it ideal for all your manufacturing challenges. With their very dense tooling capacity, these machines enable you to produce the most complex parts on the market. The various machines feature a modular tooling position that puts you on the fast track to advanced operations, including thread whirling (except Swiss GT 32), polygonal milling and angular milling. The Swiss GT 26 and Swiss GT 32 share the same kinematics and the same tool holders. However, they are very different machines: for example, the Swiss GT 32 boasts more powerful spindles, developing a much greater torque to allow the toughest of materials to be machined with ease. The ballscrews and guides, already larger on the Swiss GT 26, have all been reinforced and optimised to ensure exceptional performance when machining large diameters. The Swiss GT 32 is an efficient and powerful solution, even at its limits.*

*Extending an already impressive flexibility, both the Swiss GT 26 and the Swiss GT 32 can be equipped with a B axis, featuring a patented modular position which enables a fourth rotating spindle or thread whirler to be installed. B axis machines can also be configured for machining on 5 simultaneous axes. The rotating tools mounted on the B axis of the machine in coordination with the C axis, enable precise angles and sculpted contours to be machined. This feature transforms this Swiss-type lathe into a high-performance, multitasking turning centre that can easily be programmed through our TISIS CAM solution. Both spindles feature the same power in main and counter operations. That means you can program your parts with greater freedom: heavy jobs no longer have to be machined in main operations.*

## Machining with 5 simultaneous axes

# Built for speed

## Ceramic roller bearings



*Taking your turning operation to the next level. Versatility, high performance in value-added operations, and the ability to work with or without a guide bush make Swiss GT machines comprehensive bar turning solutions. Your result: easy production of complex parts at a competitive price.*

*Everything goes fast. The Swiss GT's guide bush, driven by a synchronous motor, and the liquid-cooled spindles running at 15,000 rpm\*, not only ensure the highest precision, they allow you to save precious seconds. The spindles and guide bush are equipped with ceramic roller*

*bearings to guarantee thermal stability, precision and durability, even at high loads. The direct drive guide bush provides high-speed, accurate machining, thereby reducing cycle times and improving surface finishes.*

*The Swiss GT line is a comprehensive bar turning solution. For instance, each machine features a 20-bar pump with two independent filters. To boost your efficiency on short parts, Swiss GT machines can be converted to run without a guide bush in less than 15 minutes.*

*A handy support for your guide bush can be found right next to the spindle—with no cable disconnection required.*

# Liquid-cooled spindles

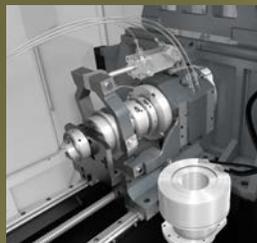
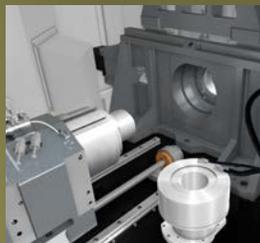
*The Swiss GT family is able to offer you a high level of autonomy, thanks to our strong focus on ergonomics. The chip container can be emptied while the machine is running, and the well-lit, accessible machining area allows for very fast changeovers.*

*The numerical control on a pivoting arm and the highly practical tool box are other major advantages offered by this range.*

## Maximum speed of 8000 and 15,000 rpm



Conquer new markets and new materials thanks to the flexibility and performance offered by the Swiss GT range. Take advantage of the quickest guide bush conversion on the market!



# Exceptional machining performance



Adapted to the Swiss GT 13,  
Swiss GT 26 and Swiss GT 32

1

Your cutting-edge tooling solutions for main operations

Thread-whirling unit,  
5700 rpm max. Angle  $\pm 25^\circ$   
 $\varnothing 10$  mm max.

Rotating spindle for milling

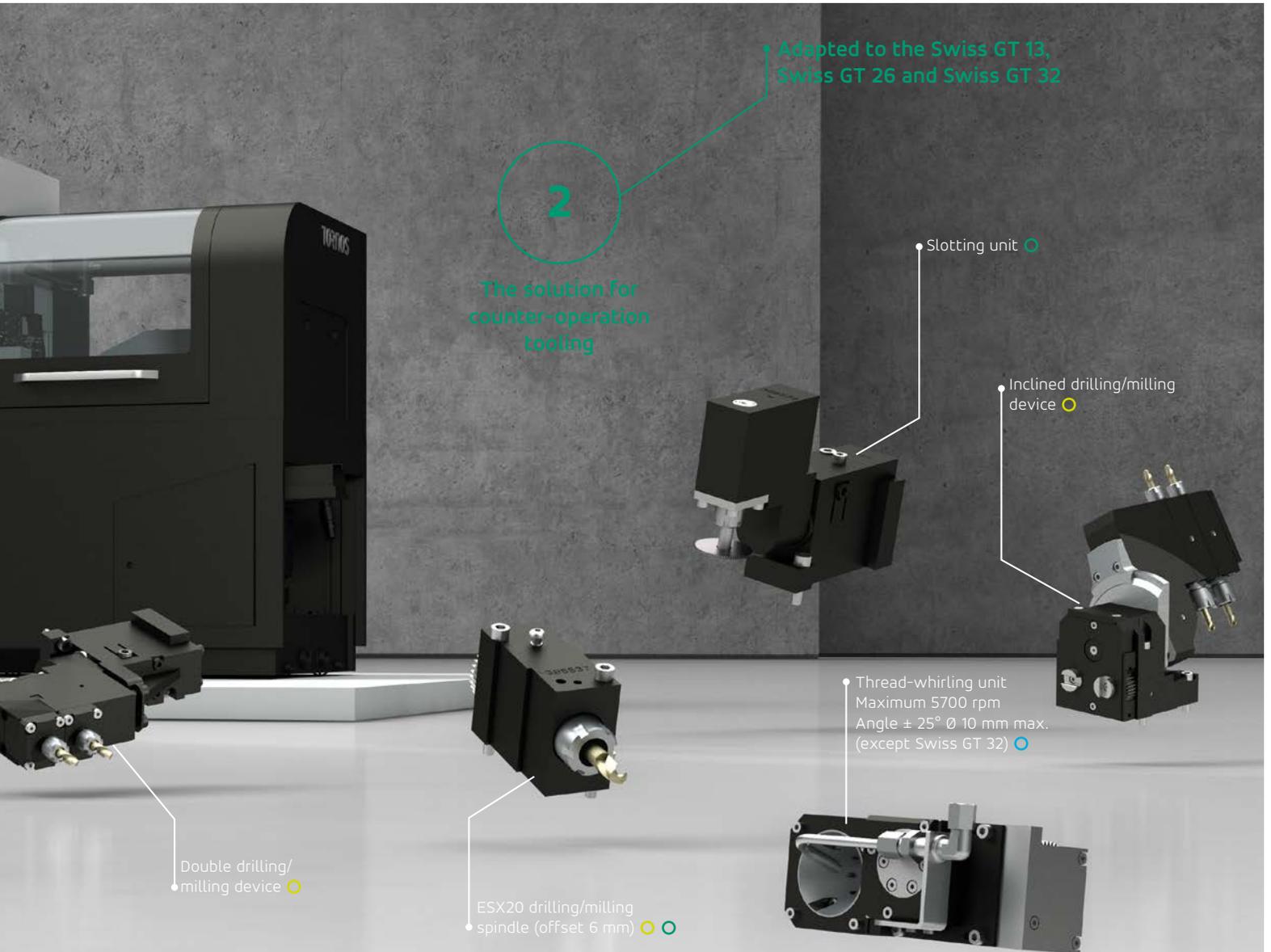
Polygon unit with maximum of 6000 rpm  
Polygon tool,  $\varnothing 80$  mm

Drilling/milling spindle  
ESX20 (offset 15 mm)

Double drilling/  
milling spindle  
for B axis

*The custom developments made by Tornos engineers allow users to improve the performance and flexibility of their machines, ensuring that they are able to meet the needs of their customers.*

*The machines in the Swiss ST, Swiss GT and Swiss DT ranges share the same tool base, guaranteeing perfect interchangeability within the machine*



**2**  
The solution for counter-operation tooling

Adapted to the Swiss GT 13, Swiss GT 26 and Swiss GT 32

Double drilling/milling device

ESX20 drilling/milling spindle (offset 6 mm)

Slotting unit

Inclined drilling/milling device

Thread-whirling unit  
Maximum 5700 rpm  
Angle  $\pm 25^\circ$   $\varnothing$  10 mm max.  
(except Swiss GT 32)

inventory. For example, a polygon unit can be fitted on either a Swiss DT 26 machine, or a Swiss GT 26, with no adaptation needed, and no issues whatsoever. This significant advantage allows for greater flexibility, whilst limiting the need for capital investment. Thanks to the TISIS software, it is also easy to identify the various options offered by the range of machines for each user.

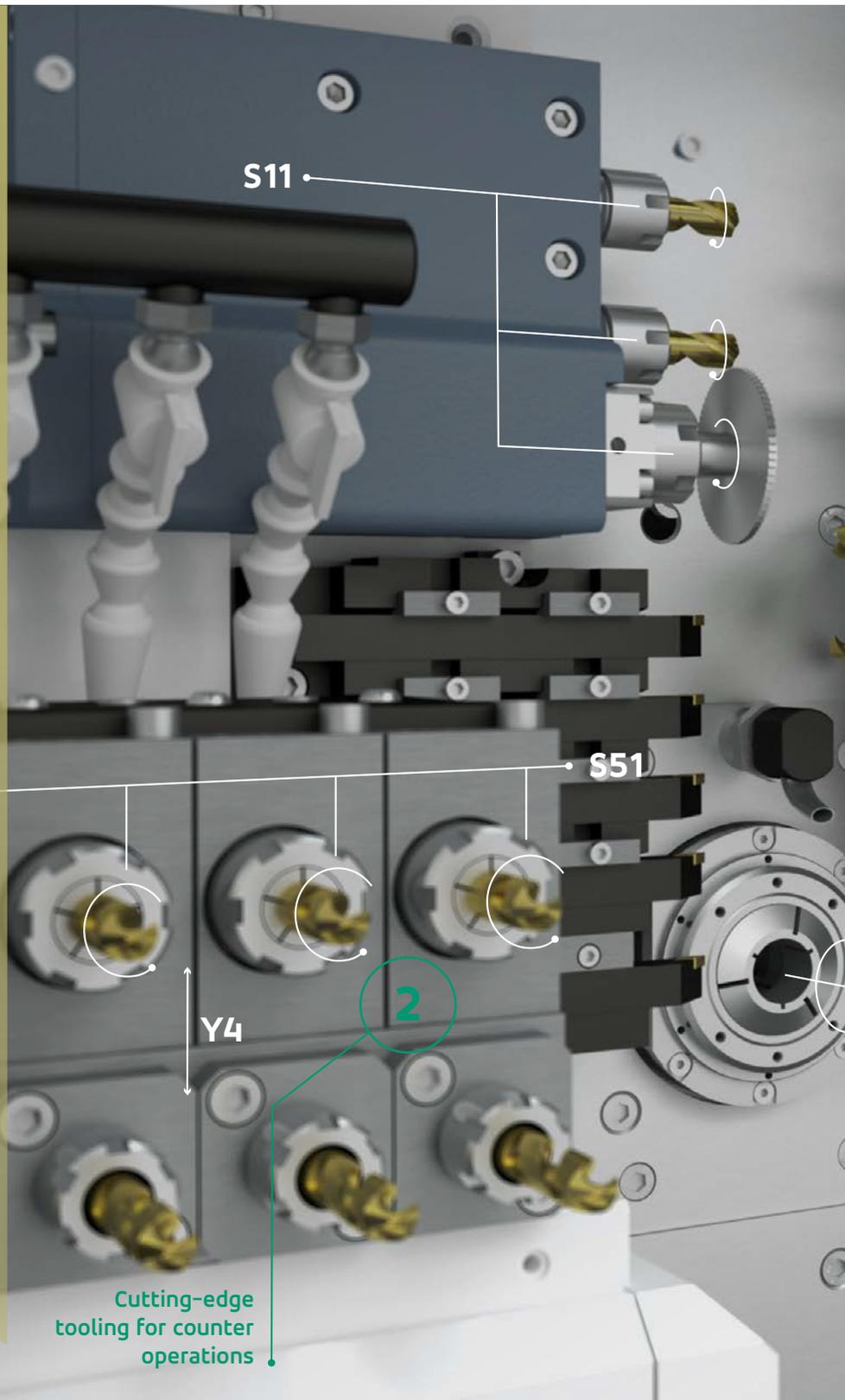
**3**  
Your advanced tooling solutions for the B axis

Adapted to the Swiss GT 26B and Swiss GT 32B

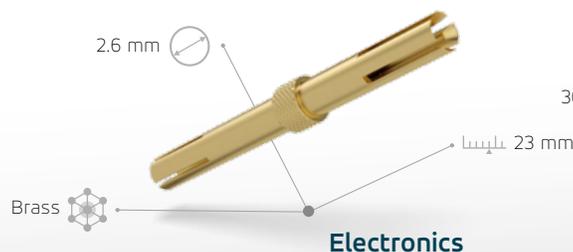
## Swiss GT 13

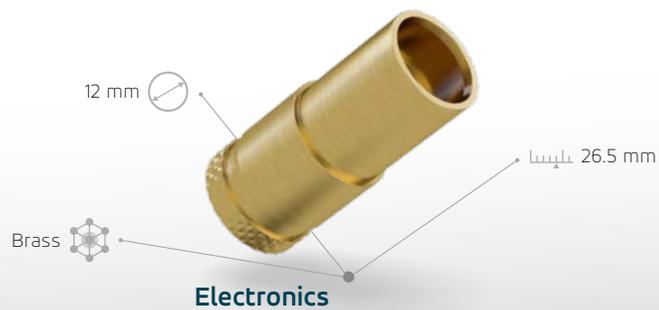
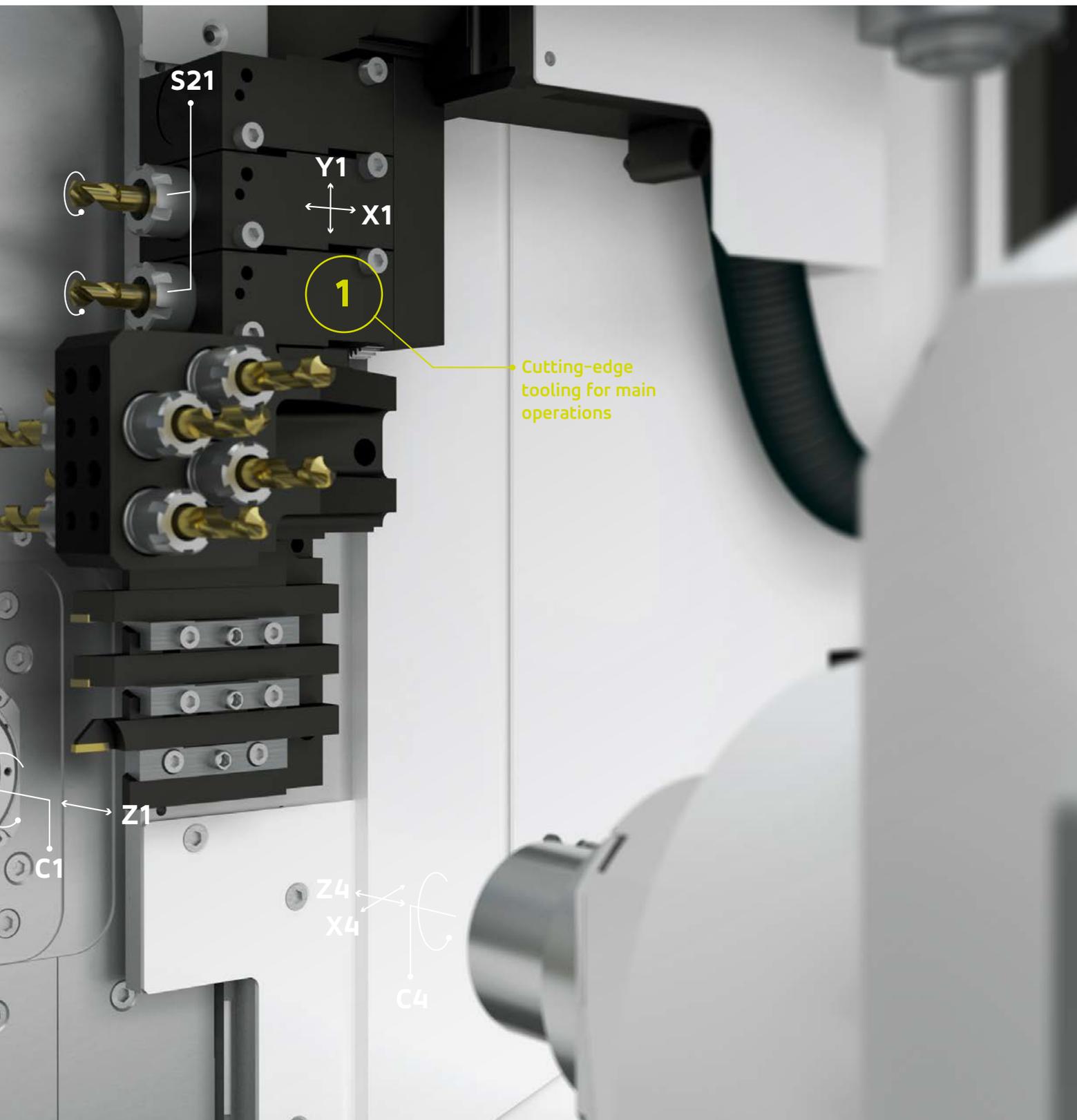
Up to 30 tools, including 12 rotating tools

The Swiss GT 13 is equipped with three motors (two on the platen and one for counter operation) to drive numerous rotating tools. A modular position is available to accommodate the addition of advanced tooling. The rotating tool holders on the rear platen and the counter operation station are easily exchangeable and compatible with the Swiss GT 26 and the Swiss GT 32.



*Productive and flexible, the Swiss GT 13 brings every type of machining within your range.*

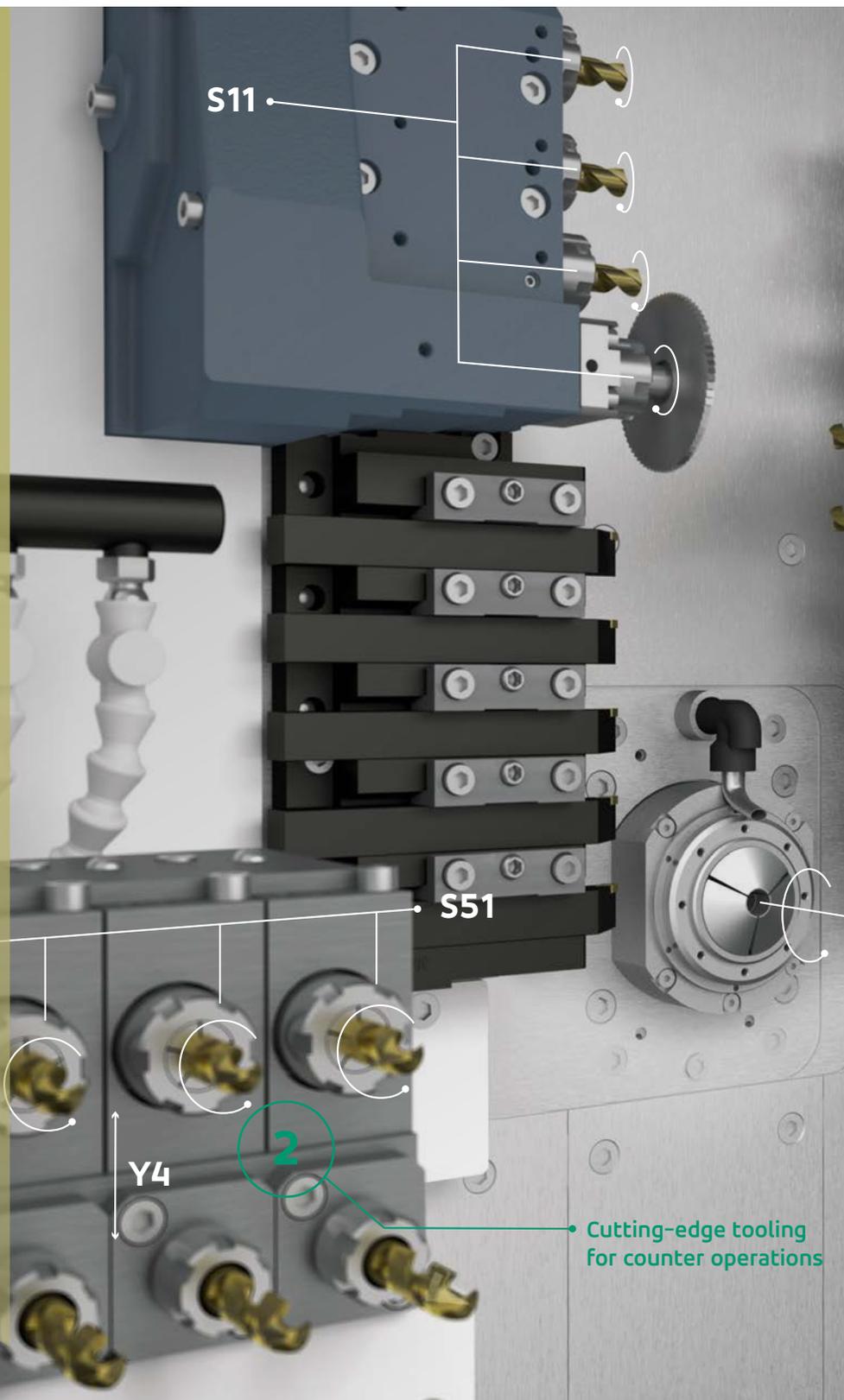




## Swiss GT 26 and Swiss GT 32

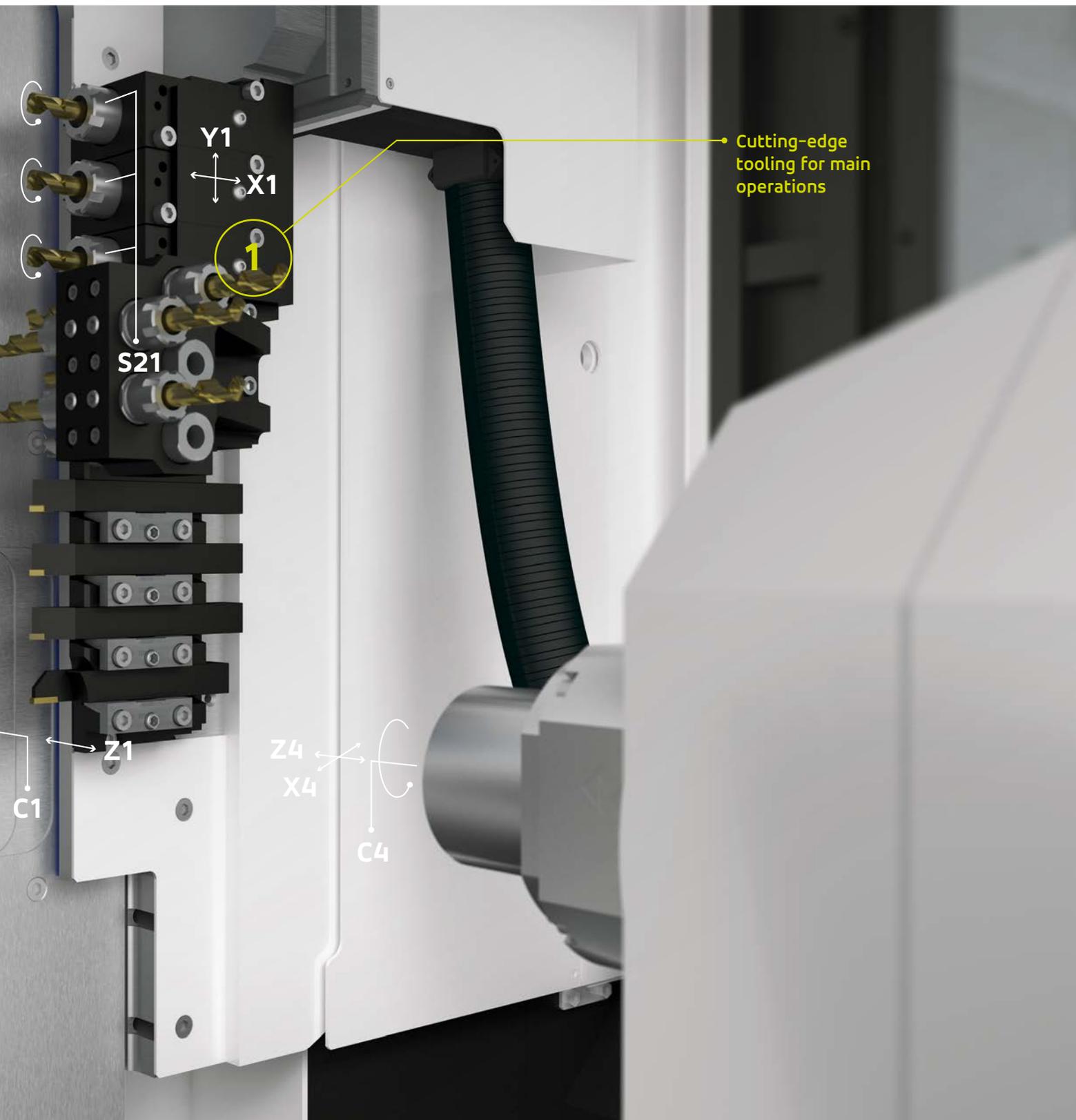
Up to 40 tools, including 14 rotating tools

*Just like the Swiss GT 13, these are equipped with three motors which drive a large number of rotating tools. The rotating tool holders on the rear platten and the counter operation station are easily exchangeable and compatible with the Swiss GT 13.*



*To meet market expectations, the Swiss GT 26 and Swiss GT 32 offer you exceptional versatility.*





Cutting-edge tooling for main operations

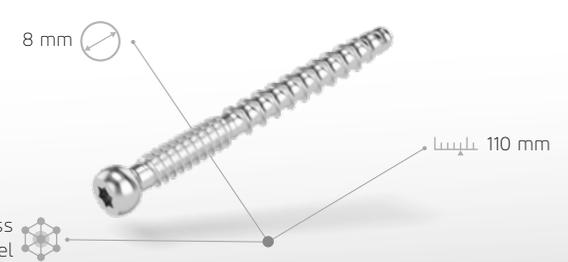
Y1  
X1

S21

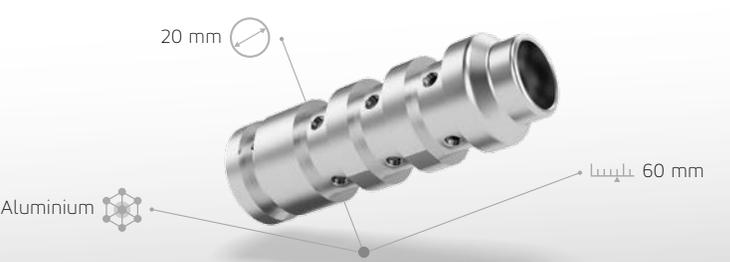
Z1

C1

Z4  
X4  
C4



Medical and dental

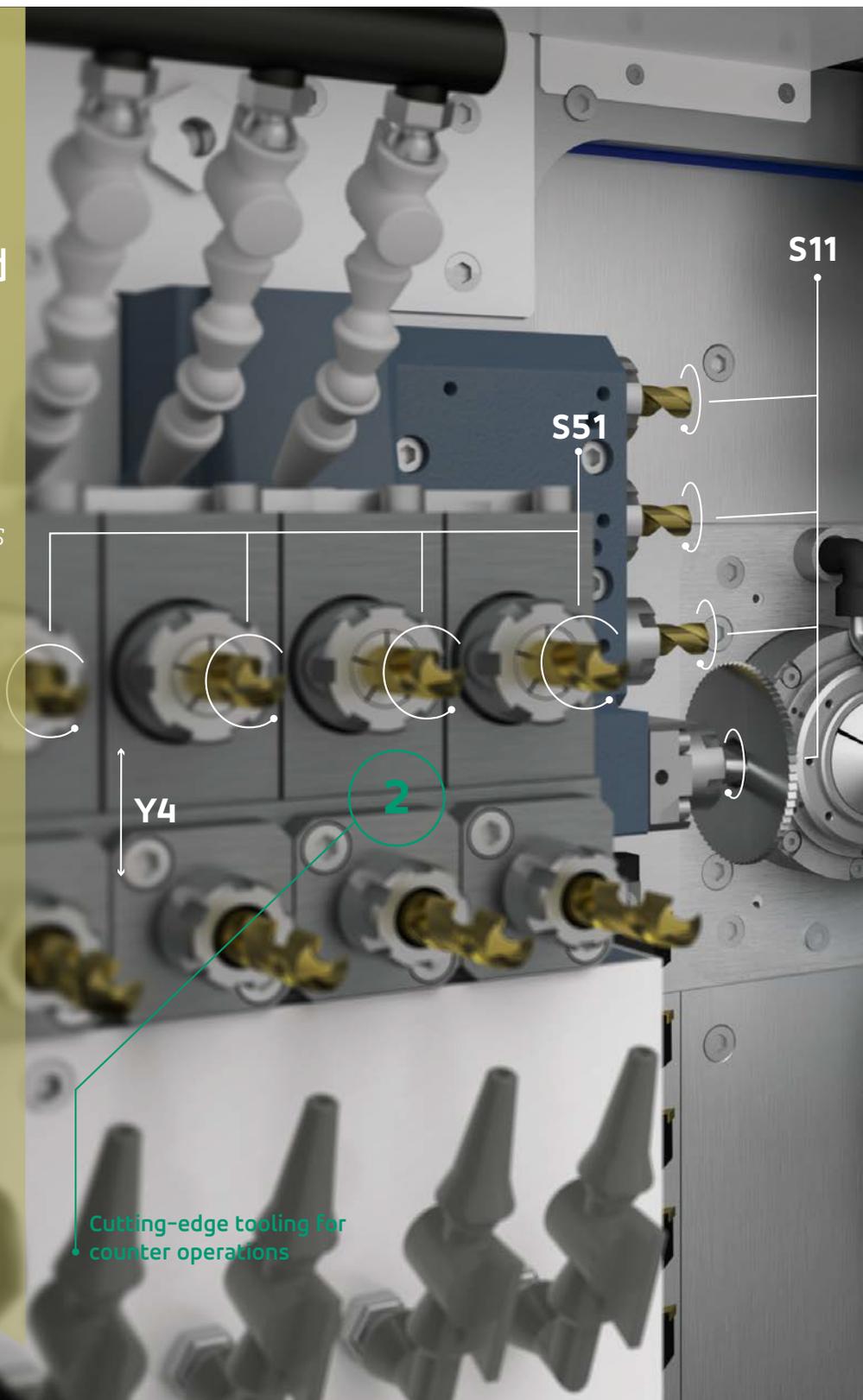


Automotive

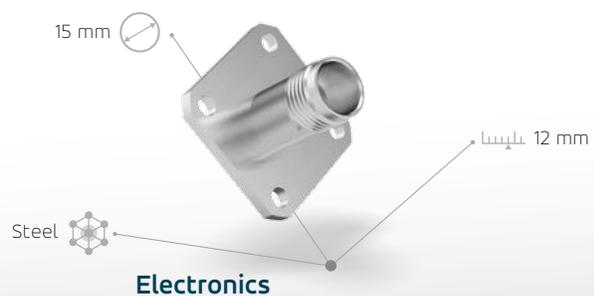
## Swiss GT 26B and Swiss GT 32B

Up to 36 tools, including 16 rotating tools

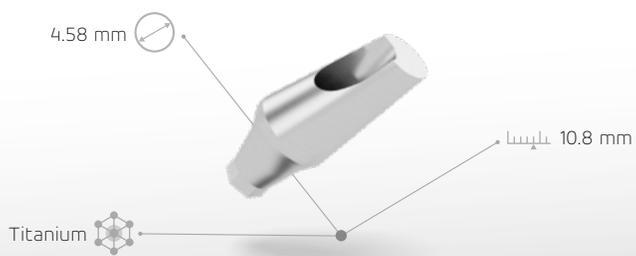
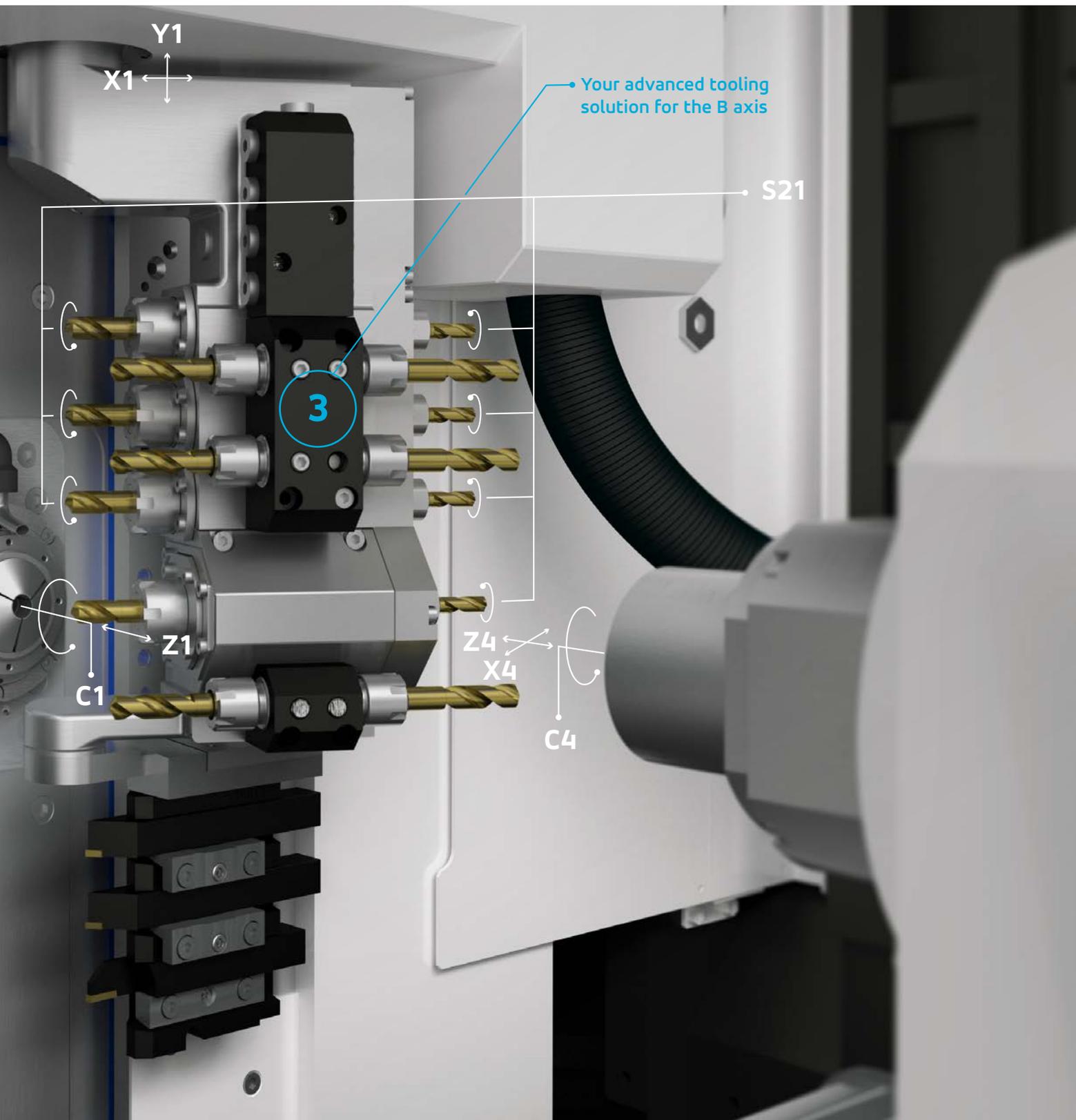
*These machines possess unique characteristics. The innovative design of the B-axis accommodates 2 X 4 rotating spindles with a spindle speed of up to 9000 rpm. The last rotating position is modular and can accommodate a thread whirler (Swiss GT 26B). It is also possible to install a fixed tool station.*



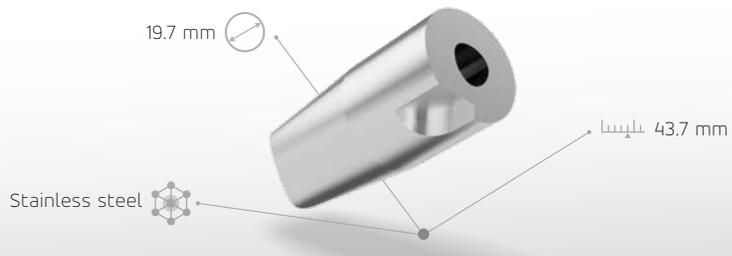
Cutting-edge tooling for counter operations



*Tornos' signature  
high performance*



**Medical and dental**



**Automotive**



# TISIS: Programming and communicating with your Swiss GT machine

## Experience programming intelligence

In today's competitive global marketplace, there's not a moment to waste in meeting customers' demands. Our available 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 knows your Tornos machine fleet, can help you write your code, and points out any coding errors. It puts the code in colour 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. TISIS CAM significantly reduces setup time and, coupled with TISIS, it is the perfect solution for efficiently programming and optimising parts.

## Industry 4.0

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

*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.*

*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 12 Tornos Service Centres 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 Centres, 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 scheduled preventive maintenance can help you avoid 70% 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

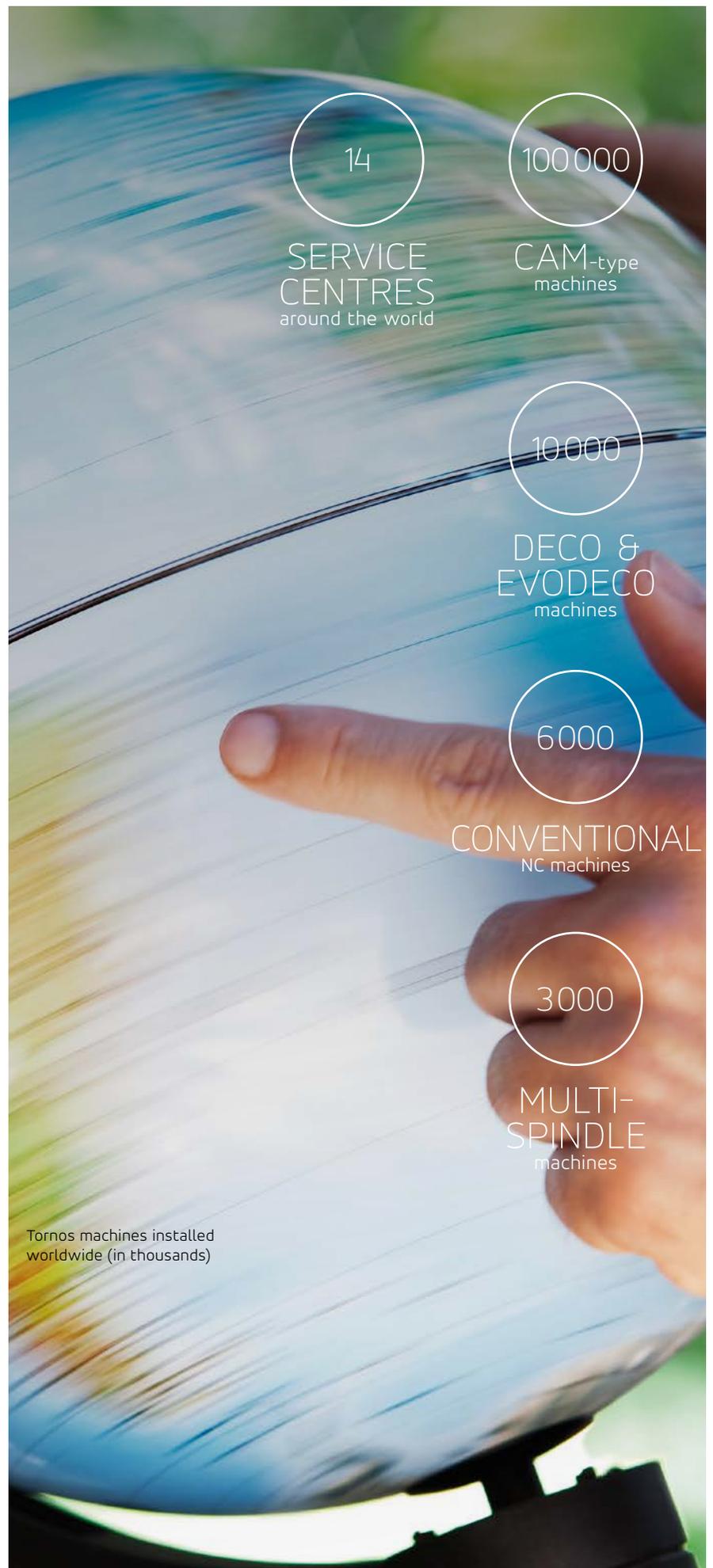
Tornos machines inspire confidence. It's no surprise, therefore, that many customers turn to Tornos for a complete overhaul of their machines. The Tornos overhaul service returns the machines in good-as-new condition, significantly extending their service life.

### Options, upgrades and X-change modules

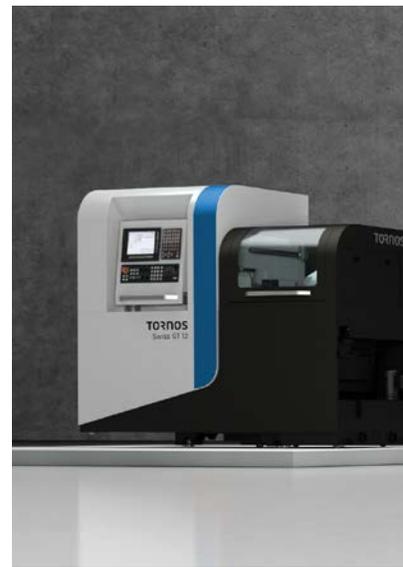
To help you achieve your manufacturing, productivity and quality objectives, our experts collaborate with you to manage complex machining processes, develop software features for machining complex shapes, design special equipment, and tailor peripherals to your needs. Tornos' X-change modules expand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



Discover  
Tornos Service



# Technical specifications



## TECHNICAL SPECIFICATIONS

### Main spindle

Max. bar capacity	mm
Standard workpiece length with rotating guide bush	mm
Spindle rotation speed	rpm
Spindle power	kW
Max. torque	Nm

### Platten

Max. number of turning tools	
Turning tool section	
Number of front tools (op/cop)	
Positions for rotating tools (S11)	
Positions for rotating tools (S21 modular positions)	
Rotating tool speed of rotation	rpm
Rotating tool power (S11/S21)	kW

### B-axis

Number of rotating tool positions S21 (op/cop)	
Number of fixed front tools (op/cop)	
High-frequency spindle	
Thread-whirling device	
Rotating tool speed of rotation	rpm
Rotating tool power (S11/S21)	kW

### Counter spindle

Max. bar capacity	mm
Insertion length of workpiece into spindle	mm
Max. standard length of workpiece	mm
Spindle rotation speed	rpm
Spindle power	kW
Max. torque	Nm
Number of tool positions next to the counter spindle	



<b>Swiss GT 13/6</b>	<b>Swiss GT 26/6</b>	<b>Swiss GT 26B</b>	<b>Swiss GT 32/6</b>	<b>Swiss GT 32B</b>
6 linear axes + 2 C axes	6 linear axes + 2 C axes	6 linear axes + 2 C axes + 1 B axis	6 linear axes + 2 C axes	6 linear axes + 2 C axes + 1 B axis
2 independent tool systems	2 independent tool systems	2 independent tool systems	2 independent tool systems	2 independent tool systems
10 (13)	23 (25.4)	23 (25.4)	32	32
190	220	220	200	200
0-15,000	0-10,000	0-10,000	0-8000	0-8000
4.0 (5.0)	8.2 (10.5)	8.2 (10.5)	8.2 (10.5)	8.2 (10.5)
12	26	26	26	26
8	9	8	9	8
12 x 12	16 x 16	16 x 16	16 x 16	16 x 16
4/4	5/(5)		5/(5)	
3	4	4	4	4
2	3		3	
6000 (10,000)	6000	6000	6000	6000
1	1	1	1	1
		4/4		4/4
		4		4
		Option		Option
		Option		
		9000		9000
		1		1
13	25.4	25.4	32	32
80	120	120	120	120
90	120	120	120	120
0-15,000	0-10,000	0-10,000	0-8000	0-8000
4.0 (5.0)	8.2 (10.5)	8.2 (10.5)	8.2 (10.5)	8.2 (10.5)
12	26	26	26	26
	2	2	2	2

## TECHNICAL SPECIFICATIONS

### Counter operation

Number of tool positions	
Positions for rotating tools	
Rotating tool speed of rotation	rpm
Rotating tool power	kW

### Total number of tools

Operation/counter-operation tool distribution

## BASIC MACHINE EQUIPMENT

Rotating guide bush with integrated motor  
Machining without guide bush  
S21 rear platten rotating tool motor  
S11 front platten rotating tool motor  
S51 rotating tool motor in counter-operation  
C1 + C4 axes  
Interpolation in polar coordinates  
Pneumatic workpiece ejector + oil cleaning of collet  
Automatic centralised lubrication cycle  
Stack light (4 colours)  
20-bar lubrication pump with manual selection of filters  
Bar feeder interface  
Fire extinguisher interface  
TISIS programming software  
Machining along 5 simultaneous axes

### Numerical control

Control type  
Encoder/axis motor technology  
Motor type (axes and guide bush)  
Motor type (spindles)  
Colour screen and mobile operator console

\* Fanuc 311B - 5 with machining option for 5 simultaneous axes

### Programming software

ISO language code C, TMI

### General specifications

Max. length	mm
Max. width	mm
Height	mm
Weight	kg
Cutting oil tray capacity	l
Coolant pump power	kW
Colours RAL 9006 grey, RAL 9011 black	
CE/EMC certified	

● Standard    ○ Optional    — Not available

Swiss GT 13/6	Swiss GT 26/6	Swiss GT 26B	Swiss GT 32/6	Swiss GT 32B
8	8	8	8	8
4	4	4	4	4
6000	6000	6000	6000	6000
0.75	0.75	0.75	0.75	0.75
30	40	36	40	36
18/12	27/13	23/13	27/13	23/13

●	●	●	●	●
●	●	●	●	●
●	●	●	●	●
●	●	●	●	●
●	●	●	●	●
●	●	●	●	●
○	○	○	○	○
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●	●	●	●	●
●	●	●	●	●
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—	—	○	—	○

Fanuc 31iB	Fanuc 31iB	Fanuc 31iB*	Fanuc 31iB	Fanuc 31iB*
Absolute serial				
Synchronous (AC)				
Asynchronous (AC)				

2170	2710	2710	2710	2710
1140	1270	1270	1270	1270
1890	1990	1990	1990	1990
2800	3550	3550	3550	3550
200	200	200	200	200
0.44	0.79	0.79	0.79	0.79

We keep you turning

TORNOS

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Tornos  
throughout  
the world



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