

TORNOS



*Take your production
a step further*

Swiss DT Range

Swiss DT 26 and Swiss DT 13

The Swiss DT range of Swiss-type lathes is designed to meet the various requirements of typical long and short turned parts. Designed to machine bars of up to 13 and 25.4 mm in diameter, these simple and easy-to-use machines allow you to achieve measurable production improvements. Thanks to advanced technical features and its efficient five-axis kinematics, the DT range is perfect for all your turning and milling tasks.

The machine interface and TISIS NC editor ensure the machine is easy to program and use.

The machine offers a high level of autonomy. Increase your productivity with our available chip conveyors, oil mist extractor, part receiving devices and bar feeders.

Simultaneous machining is possible in both main and counter operations.



5 Linear axes
2 C axes
Maximum number of tools 21
13_{mm} Maximum diameter
7 Maximum number of rotating tools
SWISS DT 13

Measureable production improvements

Proven kinematics featuring five linear axes and two C axes

Identical spindle power, torque and clamping force in main and counter operations enable processes to be optimized.

Works with or without a guide bush, as required

Up to seven rotating tools on the Swiss DT 13 and eight on the Swiss DT 26

Liquid-cooled guide bushing with built-in motor

Modular machining area



5 Linear axes
2 C axes
25.4 mm Maximum diameter
22 Maximum number of tools
8 Maximum number of rotating tools
Swiss DT 26

Minimize your cycle time while producing components with close tolerances and defined surface quality. By investing in the Swiss DT range, you gain a trustworthy and efficient partner positioned to raise your competitiveness.

Efficiently balance any type of operation, thanks to the system of two independent tool groups and spindles with the same power.

Get efficient insert cooling for highly demanding operations with the Swiss DT 26's integrated 20-bar pump.



Finish even complex parts, thanks to the machine's versatility and the vast number of available tools.

 13 mm

 33 mm

 35 sec.

 Structural steel (C 45 Pb K)

Ramp up your flexibility

15-minute machine conversion

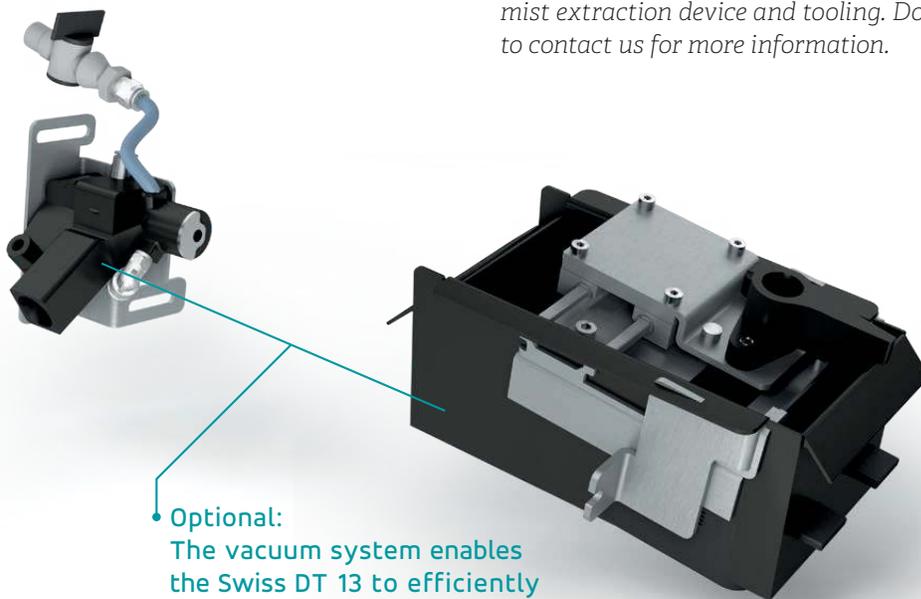
The more flexible your production tool, the more responsive your business can be both to existing customer demands and to any new opportunities which may arise. The kinematics of Swiss DT machines provides the perfect basis for this challenge, with a simple, tried and tested design. Exemplary reliability is a given with these machines, and their renowned kinematics reduces the learning curve for your operators and ensures good tool accessibility for easy adjustments.

The design of the kinematics paves the way to highly precise machining. While each machine features rotating tools for main operations, flexibility can be boosted by adding four extra rotating tools for back operations, taking the machine to a whole new level of performance.

To adapt the machine to your production needs, the guide bush can be removed to give a maximum workpiece length of 29 mm on the Swiss DT 13 and 45 mm on the Swiss DT 26. This function which takes just 15 minutes to convert in either direction, makes it possible to reduce bar waste, a significant benefit when machining high quality or exotic materials.

There is no other machine on the market that can boast such as quick turnaround.

Tornos is renowned for offering machines fine-tuned to your needs, and the Swiss DT range is no exception. This machine can be equipped with high-frequency spindles featuring rotational speeds of up to 60,000 rpm, enabling the machine to perform very fine drilling or milling tasks in main and counter operations, for example. Many others options are available, such as a bar loader, chip conveyors, oil mist extraction device and tooling. Do not hesitate to contact us for more information.



• **Optional:**
The vacuum system enables the Swiss DT 13 to efficiently extract very small parts.

Accelerate your efficiency

Ceramic roller bearings



The liquid-cooled spindles on the Swiss DT 13 and Swiss DT 26 ensure exemplary stability during machining and bring you exceptional precision. At the same time, our spindles allow you to gain precious seconds. The spindle performance is supported by a direct drive guide bush, which allows the top speeds of the spindles to be exploited (15,000 rpm for the Swiss DT 13, and 10,000 rpm for the Swiss DT 26) for excellent surface finishes and a optimized productivity. The spindles and guide bush are equipped with ceramic roller bearings to guarantee thermal stability, precision and durability, even with high loads.

The main spindle and counter spindle offer the same power, so you don't have to worry about balancing main and counter operations. Large amounts of swarf can be removed whenever—and wherever—you want. The kinematics of the Swiss DT 13 is geared towards dynamic performance, requiring minimal movement of tools and rapid traverse speeds of up to 35 m/min. The Swiss DT 26, however, adopts completely different kinematics: while speed remains at the heart of the design, it is rigidity and swarf removal which are the key features on a machine of this diameter.

Liquid-cooled spindles

In parallel, you experience lower maintenance costs. For example, the swarf container allows the machine to run for long periods.

The visual checks are easy to conduct and the numerical control reminds you when the fluid levels are too low. The CNC's location on a swivel arm means the operator has a great view of the machine and its interior during setup. This makes tasks quicker and safer. Another element designed to increase your efficiency is the conveyor belt that transports your machined parts. These benefits are further increased by the machine's central lubrication system and the integrated toolbox under the CNC.

10000 and
15000 rpm
top speed



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

The versatility to face any challenge



Thread-whirling unit
Maximum 5,000 rpm.
Angle $\pm 15^\circ$ \varnothing max. 10 mm

Suitable for
Swiss DT 26

1

Your
leading-edge
tooling answers
for main
operations

Rotating
spindle for
milling

ESX20 drilling/milling spindle
(offset 15 mm)

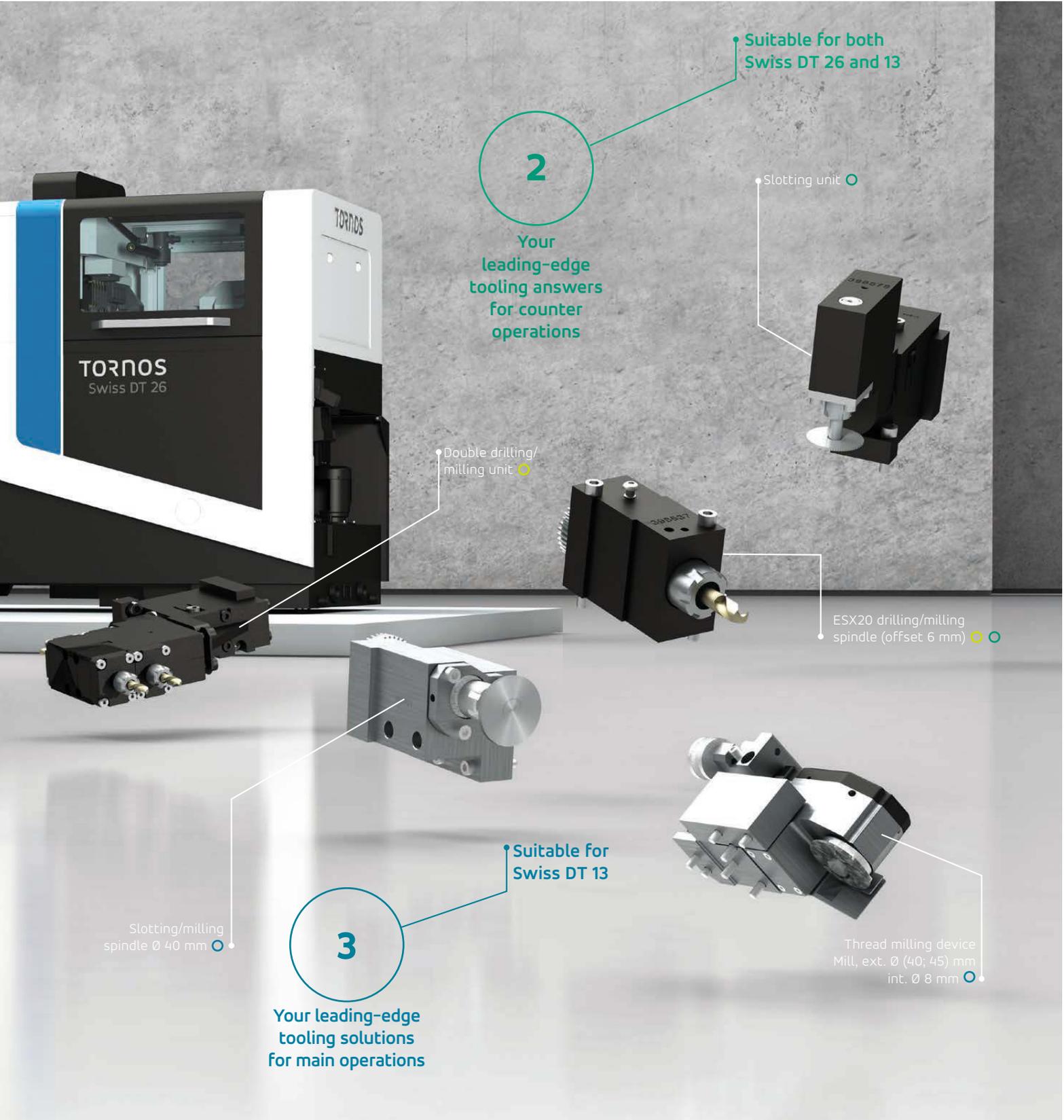
Gear hobbing device

Gear hobbing device.
Angle $\pm 2^\circ$ Milling width 6 mm.

Polygon unit with maximum speed
of 5,000 rpm Polygon tool \varnothing 80 mm

Both machines feature modular tooling positions that put you on the fast track to advanced operations.

The Swiss DT 13 and Swiss DT 26 both have a modular four-position counter operation station. The Swiss DT 26 takes this even further with four modular positions also available for main operations, enabling you to take on advanced tasks such as polygon turning or thread-whirling processes.

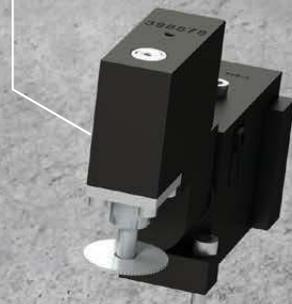


Suitable for both Swiss DT 26 and 13

2

Your leading-edge tooling answers for counter operations

Slotting unit

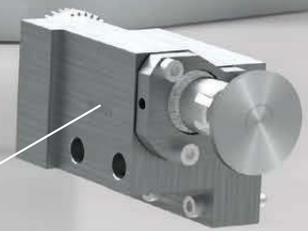


Double drilling/milling unit



ESX20 drilling/milling spindle (offset 6 mm)

TORNOS
Swiss DT 26

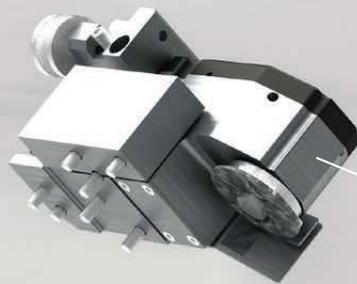


Slotting/milling spindle Ø 40 mm

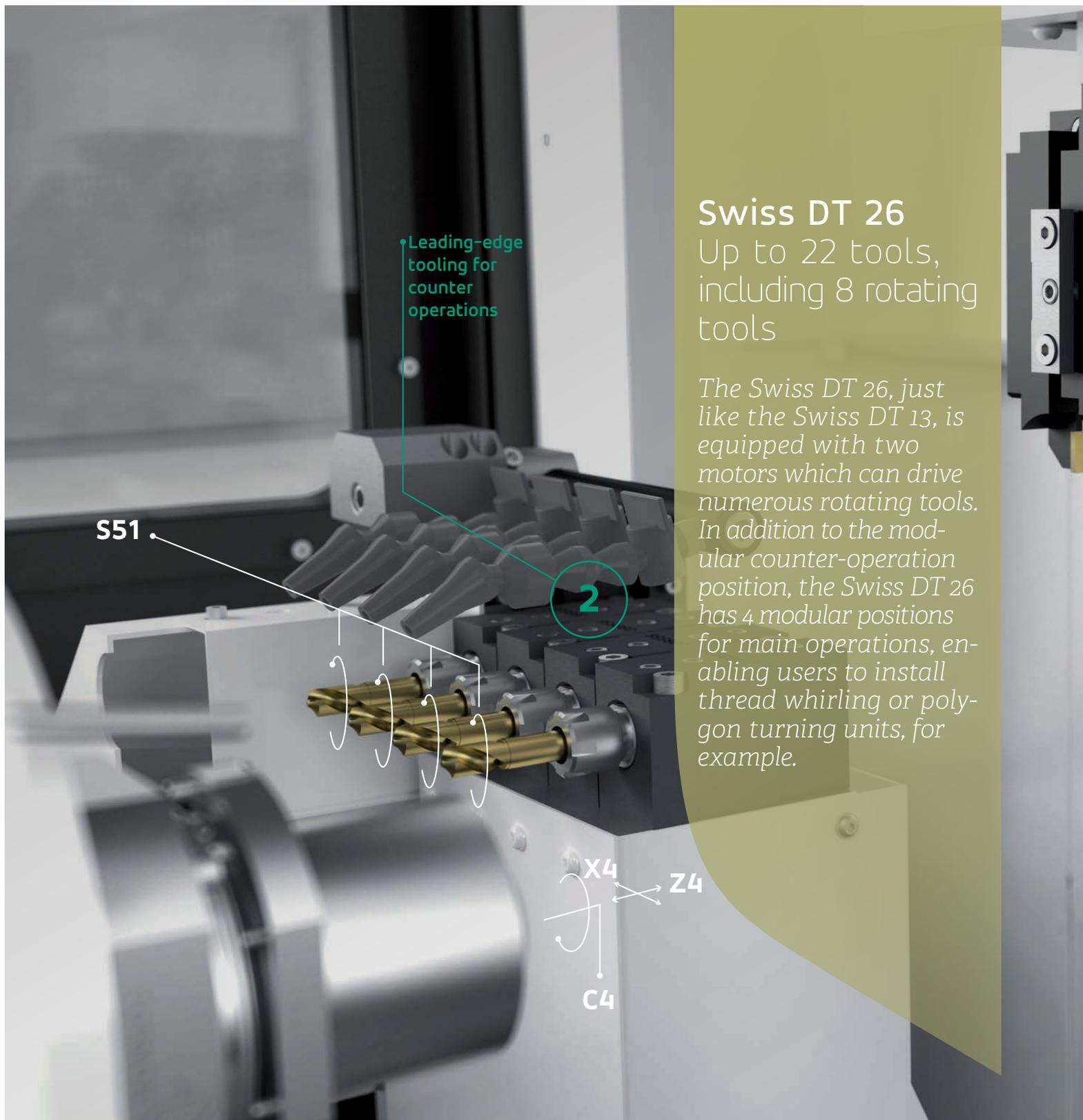
Suitable for Swiss DT 13

3

Your leading-edge tooling solutions for main operations



Thread milling device
Mill, ext. Ø (40; 45) mm
int. Ø 8 mm



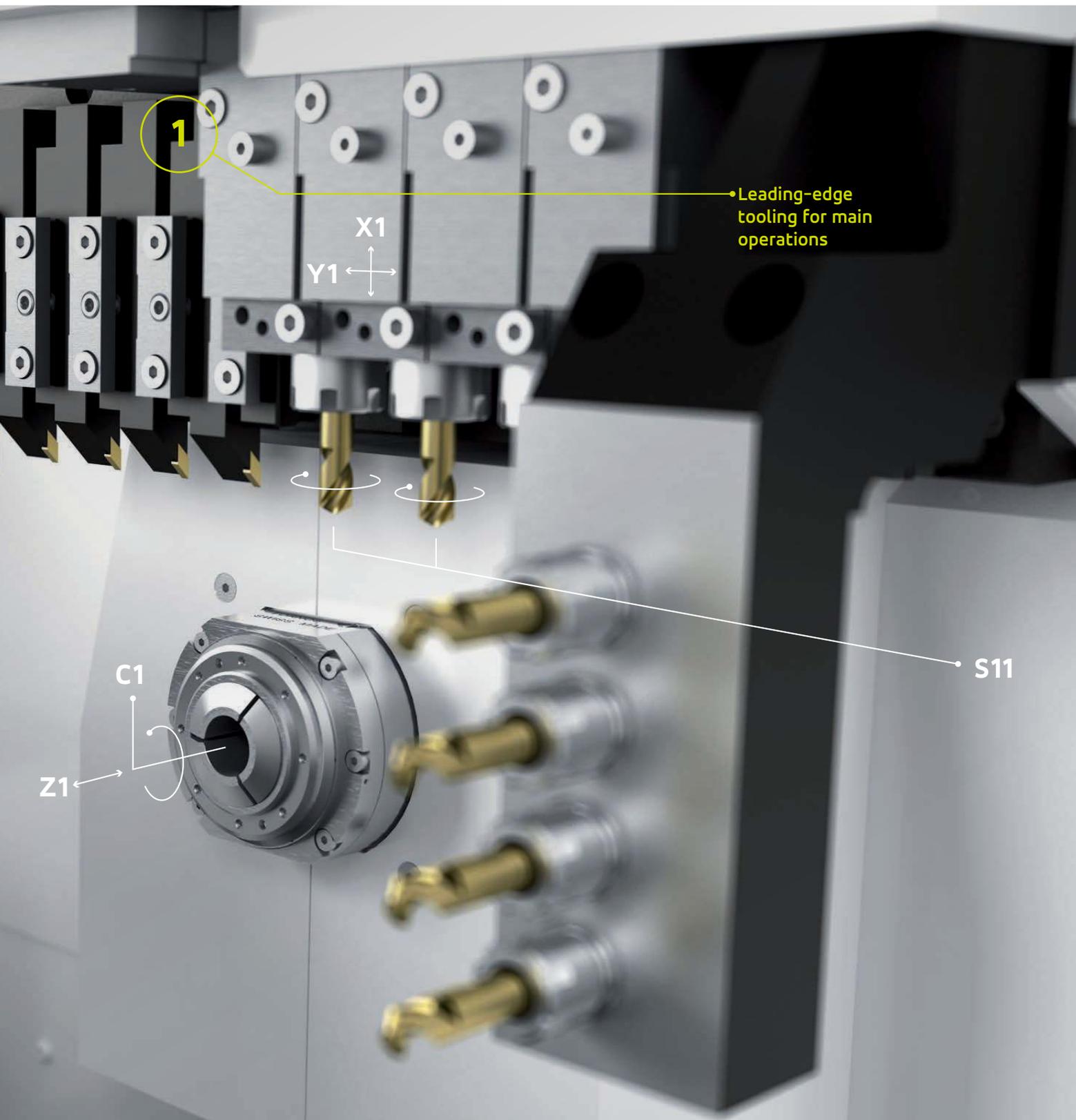
Swiss DT 26

Up to 22 tools, including 8 rotating tools

The Swiss DT 26, just like the Swiss DT 13, is equipped with two motors which can drive numerous rotating tools. In addition to the modular counter-operation position, the Swiss DT 26 has 4 modular positions for main operations, enabling users to install thread whirling or polygon turning units, for example.

Pave the way to efficiency across a vast variety of applications, thanks to the rigidity and flexibility of the Swiss DT 26.





1

Leading-edge tooling for main operations

X1

Y1

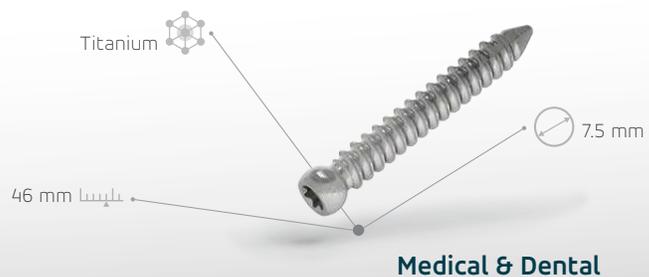
S11

C1

Z1



Automotive



Medical & Dental

• Leading-edge tooling for counter operations

Swiss DT 13

Up to 21 tools, including 7 rotating tools

The Swiss DT 13 is equipped with two motors which can drive numerous rotating tools. The 4 positions on the counter-operation block are modular, enabling advanced tooling to be added.

S51

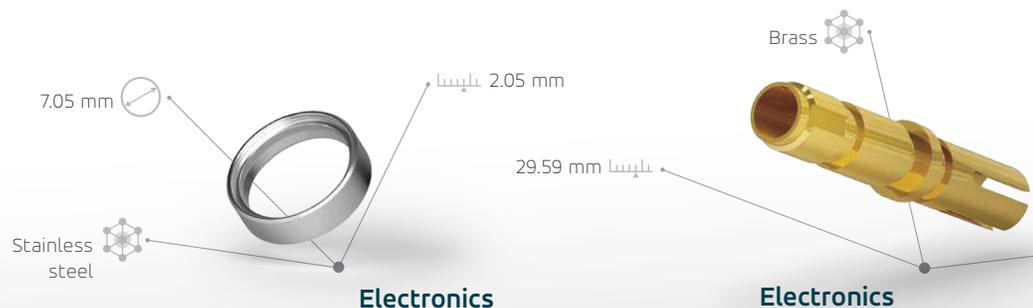
2

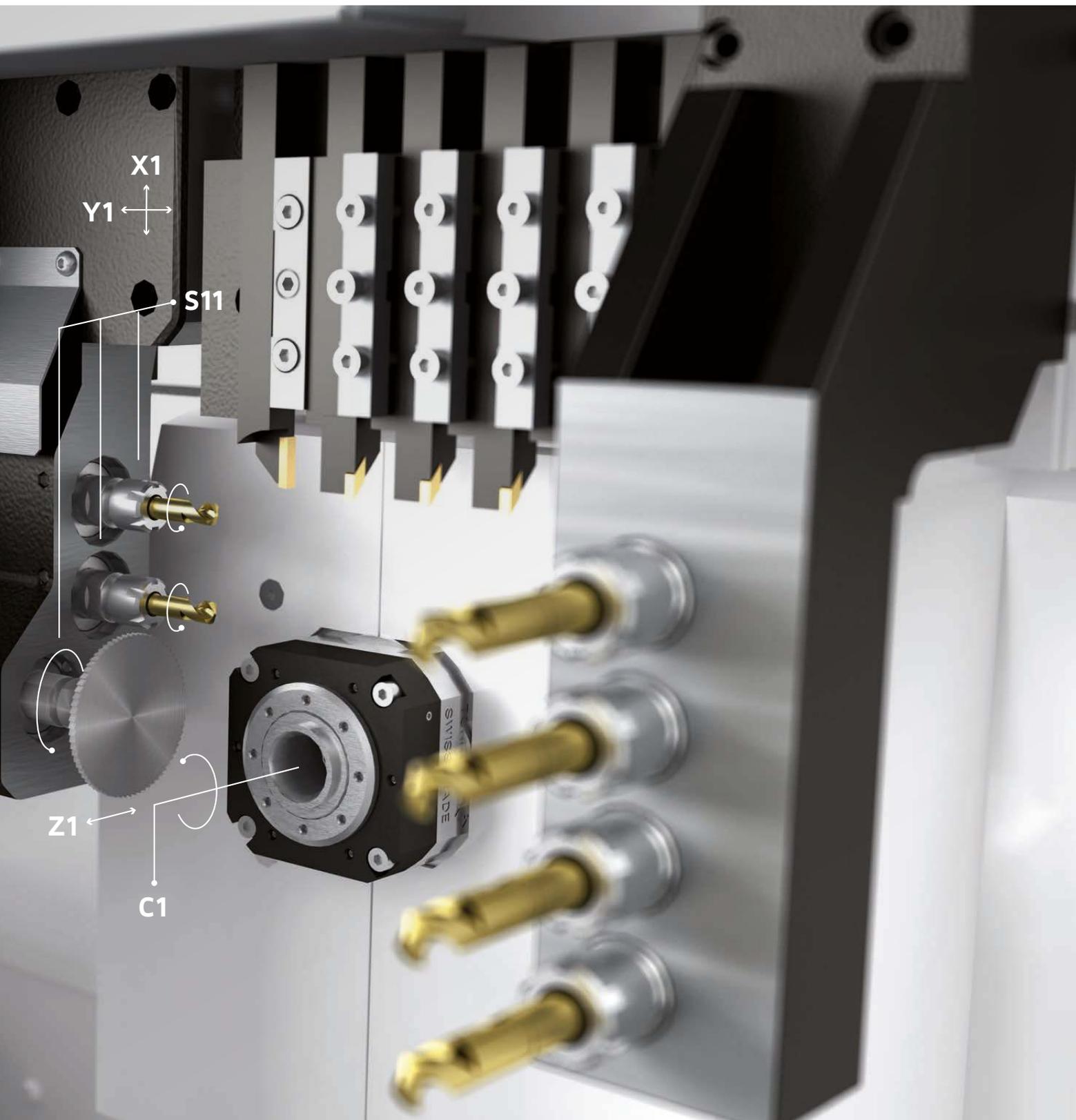
X4

Z4

C4

Win precious seconds in your process with the fast and precise Swiss DT 13's kinematics minimizing tool displacement.





Swiss DT 13 with modular position

Even greater flexibility

As an option, the Swiss DT 13 can be equipped with the new modular position for main operation; this can house either a milling spindle or a thread-whirling device, which can also house a polygon tool head. It is also possible to install a gear hobbing device. This option with 4 modular positions on the counter-operation block opens up new possibilities.

S51

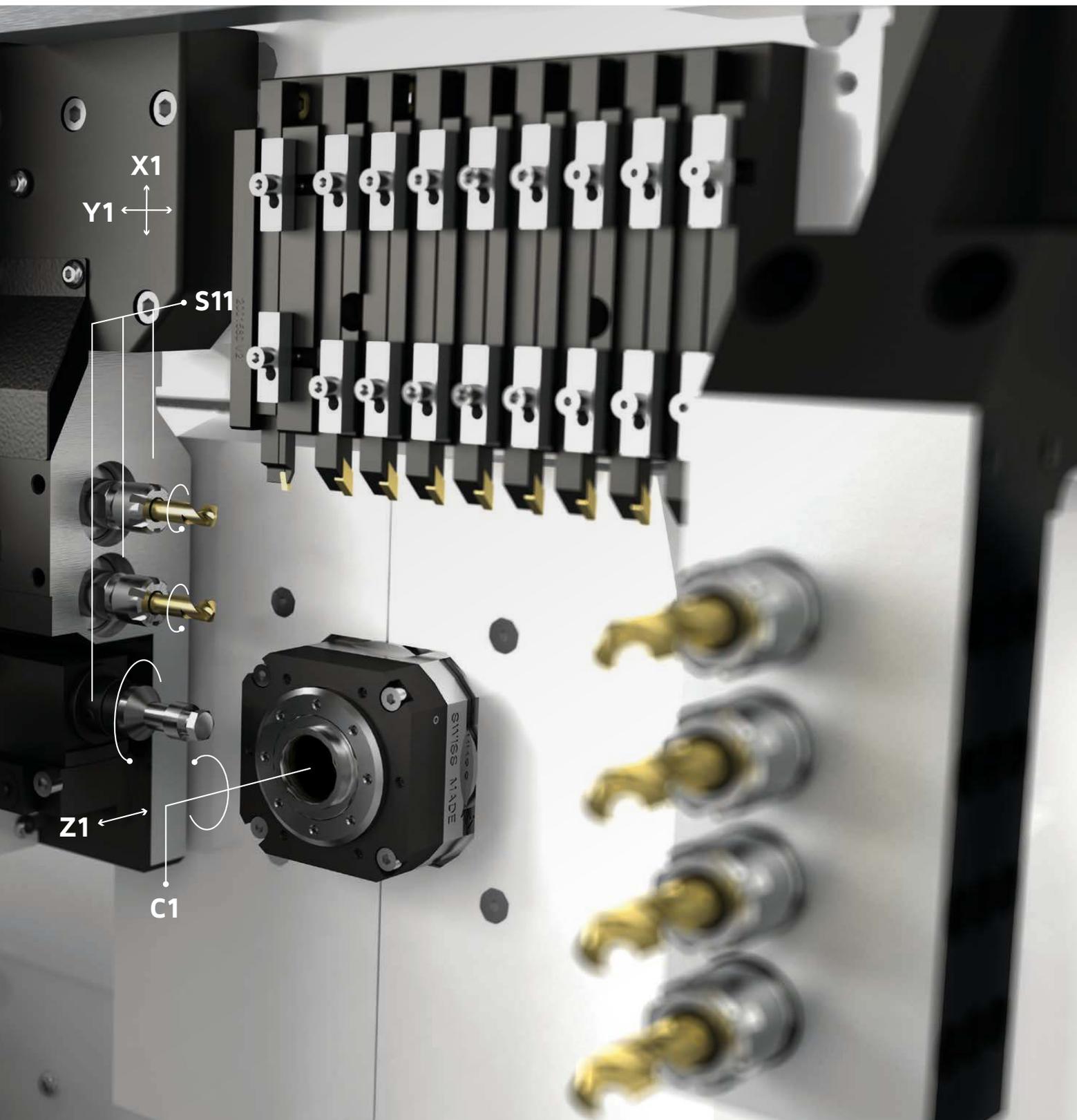
X4

Z4

C4

Giving you the peace of mind to consider producing a huge range of parts.







Connectivity pack
Option

ios

Android

Mobile
app

App TISIS tab

Monitoring
TISIS screen & TISIS tab

TISIS Vision Setup
Option

TISIS i4.0
Option

TISIS CAM
Option

3D simulation
of operations

Complex
operation

TISIS
Lite

Programming

TISIS

Programming

Virtual tool
setup

Compare
parts

Storing
datas

TISIS : Programming and communicating with your Swiss DT 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 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 optimize the process. As an option it is also possible to use our smart TISIS CAM solution is designed to help you master your Tornos machine when it comes to complex and very complex parts. TISIS CAM reduces startup time significantly and, coupled with TISIS, it is the perfect solution for efficiently programming and optimizing 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 component drawings 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

Technical specifications



TECHNICAL SPECIFICATIONS		Swiss DT 26	Swiss DT 13
		5 linear axes + 2 C axes	5 linear axes + 2 C axes
		2 independent tool systems	2 independent tool systems
Main spindle			
Max. bar capacity	mm	23 (25.4)	10 (13)
Standard workpiece length with guide bush	mm	195	180
Spindle rotation speed	rpm	0-10,000	0-15,000
Spindle power	kW	8.2 (10.5)	4.0 (5.0)
Torque	Nm	26	12
Main operation			
Max number of turning tools		6 / 5 (option)	6 / 9 (option)
Turning tool section		12 x 12 / 16 x 16 (option)	12 x 12 / 8 x 8 (option)
Number of frontal tools (op/cop)		4 / 4	4 / 4
Cross rotating tools (S11)		4 x ESX20	3 x ESX12
Max rotating tool speed	rpm	5,000	10,000 / 6,660
Rotating tool power (S11)	kW	1	1
Counter spindle			
Max. bar capacity	mm	25.4	13
Max. insertion length of workpiece into counter spindle	mm	100	80
Max standard length of workpiece	mm	110	90
Spindle rotation speed	rpm	0-10,000	0-15,000
Spindle power	kW	8.2 (10.5)	4.0 (5.0)
Torque	Nm	26	12
Counter operation			
Number of tool positions		4	4
Positions for rotating tools		max 4 (option)	max 4 (option)
Rotating tool speed	rpm	7,500	10,000
Rotating tool power	kW	0.75	0.75
Total number of tools			
		22	21
Operation / counter-operation tool distribution		14 / 8	13 / 8



BASIC MACHINE EQUIPMENT

	Swiss DT 26	Swiss DT 13
Rotating guide bush with integrated motor	●	●
Machining without guide bush	●	●
S11 cross rotating tool motor for main operation	●	●
S51 end rotating tool motor for counter operation	○	○
C1 + C4 axes	●	●
Interpolation in polar coordinates	○	○
Pneumatic workpiece ejector + air cleaning of collet	—	●
Pneumatic workpiece ejector + oil cleaning of collet	●	—
Automatic centralized lubrication cycle	●	●
Stack light (4 colours)	●	●
20-bar coolant pump	●	○
Bar feeder interface	●	●
Fire extinguisher interface	●	●
TISIS programming software	○	○
Long parts extraction	○	○

Numerical control

Control type	Fanuc 31i-B	Fanuc 31i-B
Axis motor encoders	Absolute	Absolute
Motor type (axes and guide bush)	Synchronous	Synchronous
Motor type (spindles)	Asynchronous	Asynchronous
Color screen 10.4" and mobile operator console		

Programming software

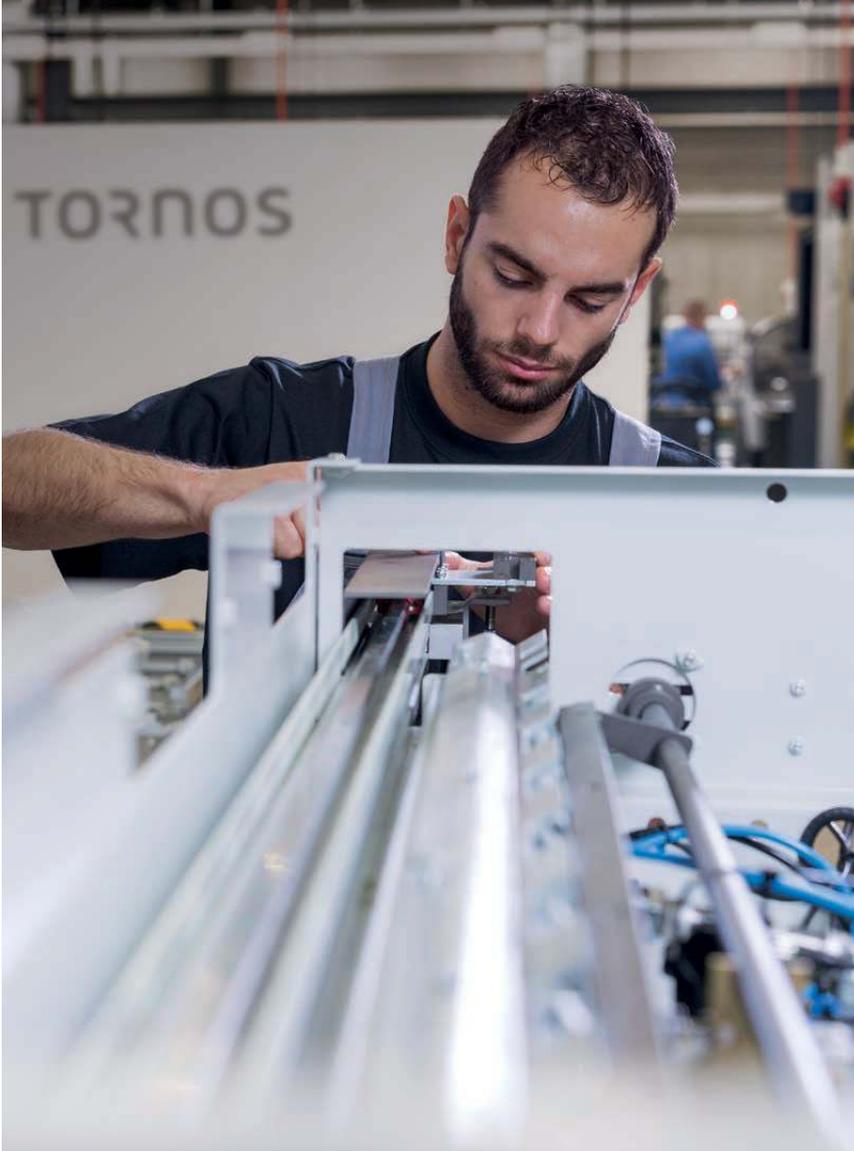
ISO code C language

General specifications

		Swiss DT 26	Swiss DT 13
Max. length	mm	2,166	2,122
Max. width	mm	1,300	870
Height	mm	1,720	1,720
Weight	kg	2,400	2,300
Cutting oil tank capacity	l	200	170
Coolant pump power	kW	0.44	0.44
Colors RAL 9006 grey, RAL 9011 black			
CE / CEM certified			

● Standard ○ Optional — Not available

Tornos Service



Backed by both geographical proximity to customers and a keen 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 on securing the predictably high production capability 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 full continuum of authoritative support 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 scheduled 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 specialty 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, appreciably 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



A global footprint

Rooted in Switzerland, Tornos' global footprint keeps us close to you. Economy, flexibility and efficiency are the most important premises of the Tornos Group's production and assembly network.

Lean assembly and careful use of resources are the guiding principles behind all Tornos production planning and an integral part of the entire production process.

The same consistent quality standards are enforced at all locations around the globe. Intelligent linking of knowledge between our plants, along the commitment and know-how of our employees—enable production to begin right on time.

Wherever you are in the world, we keep you turning.



Moutier

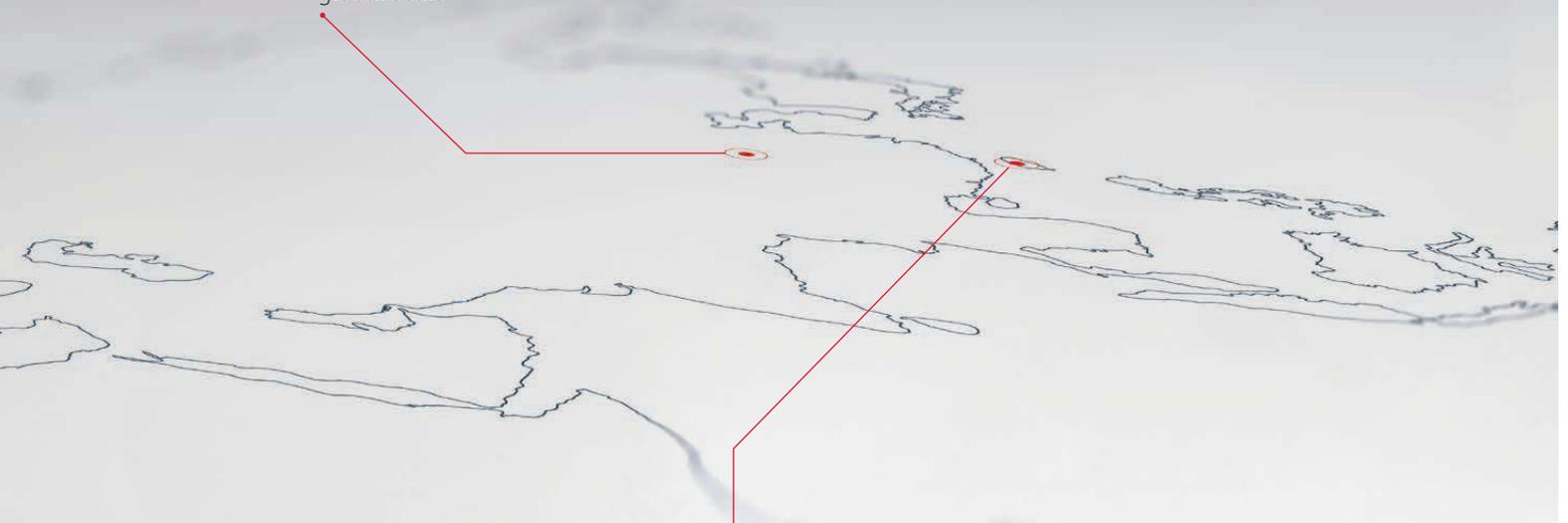
Our Moutier site—using the latest production technologies and equipment—produces the key components of our world-renowned machines and assembles our high-end automatic turning machines and other multispindle solutions. Key components stamped “made in Switzerland” are produced in Moutier for all of our production sites.





Xi'an

Our Xi'an, China site's special testing and development center allows it to fit out machines to customer specifications. In Xian, we produce standard products delivering great value for the money on a global scale.



Taichung

In Taichung, Taiwan—a city with a long machine tool-making tradition and broad network of suppliers—Tornos produces mid-range machines. Our Taichung facility's services include customization, setup, designing models, and on-site testing of machines produces. Key components of our machines produced in Taichung are sourced from our Moutier production site.



We keep you turning

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the world



Conforms to the European CE / CEM Safety Standards

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