CTX 2500

2-AXIS UNIVERSAL TURNING

CTX 2500
The new CTX 2500 – best in class universal turning

HIGHLIGHTS

+ Highly rigid machine bed for powerful machining
+ Highly stable box guideways in all main axes for highest requirements
+ High-performance turnMASTER main spindle with precise C-axis (0.001°)
+ Optimized 12-station turret with 6,000 rpm and VDI interface as standard
  – Disc turret for all MC and Y machines as standard
  – Star turret with Direct Drive and up to 85 Nm or 12,000 rpm for all SY machines
+ Y-axis and powerful counter spindle optional
+ New packages for bar machining up to ø102 mm
+ CELLOS with SIEMENS 840 D sl
**VDI QUICK-CHANGE SYSTEM**
- Extremely short tool mounting times
- Mounting repeatability 6 μm / 200 mm
- No tool adjustment

**HIGH LEVEL OF MACHINE RIGIDITY**
- Box guideways on the X/Y/Z-axes and a high-rigidity bed for heavy-duty cutting
- High surface quality when machining hard-to-cut materials and during interrupted cuts
- FEM-Optimised machine design

**BOX GUIDEWAYS IN X/Y/Z-AXES**
- 80 mm wide for higher vibration damping performance and dynamic rigidity
- Rapid traverse speed:
  - X-axis 30 m/min
  - Y-axis 10 m/min
  - Z-axis 30 m/min

**LINEAR MEASURING SYSTEM (STANDARD IN THE X-AXIS)**
- Outstanding precision with the Magnescale absolute linear measuring system with a standard resolution of 0.01 μm
- High resolution, magnetic measuring system
- Protective structure, resistance to oil and condensation
- Impact resistance of up to 450 m/s²
- Vibration resistance of up to 250 m/s²

**CELOS FROM DMG MORI**
- Exclusive technology expertise
- Dialogue-based programming of complex machining operations directly on the machine
- Program creation by the machine operator, no DIN programming required
- Maximum productivity thanks to CELOS and exclusive DMG MORI Technology Cycles
CTX 2500

Outstanding robustness and extraordinary machine rigidity
COOLANT CIRCULATION FOR THE CASTING PARTS

- Uniform thermal displacement
- Resistance to changes in ambient temperature
- High-accuracy long-term machining

1. Highly stable bed
   Box guideways on the main axis and a high-rigidity bed for heavy-duty cutting
   High surface quality when machining hard-to-cut materials and during interrupted cuts

2. Box guideways
   Box guideways with a width of 80 mm for highest vibration damping performance and dynamic rigidity

3. Functional work area
   Travel range
   - X-axis: 260 mm
   - Y-axis: 100 mm (+50) - Y-axes specification
   - Z-axis: 795 mm
             1,345 mm
   - Tailstock: 734 mm
             1,284 mm
   - Z3-axis: 795 mm
             1,345 mm

MILLING + Y-AXIS + COUNTER SPINDLE SPECIFICATION

- 2 μm (actual result)
- Spindle speed 3,200 rpm
- Constant ambient temperature

The test results indicated are provided as examples. The results may not be obtained due to differences in ambient conditions.
Maximum cutting performance with up to 1,200 Nm

+ Top dynamics thanks to integrated spindle drive as standard with 4,000 rpm, 26 kW and 525 Nm (40 % DC)
+ The highest precision and temperature stability through water-cooled drive of the main and counter spindle
+ 6-sided complete machining with optional counter spindle

<table>
<thead>
<tr>
<th>Type</th>
<th>Main spindle</th>
<th>Counter spindle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive speed rpm</td>
<td>4,000</td>
<td>3,000</td>
</tr>
<tr>
<td>Power (40 % / 100 % DC) kW</td>
<td>26 / 22</td>
<td>30 / 25</td>
</tr>
<tr>
<td>Torque (40 % / 100 % DC) Nm</td>
<td>525 / 410</td>
<td>1,200 / 925</td>
</tr>
<tr>
<td>Bar capacity mm</td>
<td>76</td>
<td>102</td>
</tr>
</tbody>
</table>
INTEGRATED SPINDLE MOTOR

- 4-way bearing
- 33% larger ball diameter (ø 20 mm) for maximum carrying capacity (445 kN)
- 15% longer bearing service life compared to the predecessor
- Two times more rigid compared to an ISM 102 (2,300 N/µm)
- CC-axis accuracy < 5 arc seconds
- Rotary encoder from Magnecale

Main spindle

**10" turnMASTER**
4,000 rpm / 26 kW / 525 Nm

**12" turnMASTER** *
3,000 rpm / 30 kW / 1,200 Nm

![Graphs showing Speed, Torque, Power for 10" and 12" turnMASTER](image)

Counter spindle

**6" turnMASTER** *
7,000 rpm / 11 kW / 70 Nm

**8" turnMASTER** *
5,000 rpm / 22 kW / 360 Nm

![Graphs showing Speed, Torque, Power for 6" and 8" turnMASTER](image)

* Optional

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+ 4-way bearing
+ 33% larger ball diameter (ø 20 mm) for maximum carrying capacity (445 kN)
+ 15% longer bearing service life compared to the predecessor
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+ CC-axis accuracy < 5 arc seconds
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**8" turnMASTER** *
5,000 rpm / 22 kW / 360 Nm

![Graphs showing Speed, Torque, Power for 6" and 8" turnMASTER](image)

* Optional
State-of-the-art turret for any application

HIGHLIGHTS

+ **High-precision turret** for maximum precision and 6,000 rpm
+ **DirectDrive turret** with up to 85 Nm max. torque or 12,000 rpm (star turret)
+ All tool stations are **driven and continuous loadable** with 100 % drive speed
+ **VDI** Tool holder for extremely short tool mounting times

<table>
<thead>
<tr>
<th>Version</th>
<th>CTX 2500</th>
<th>CTX 2500</th>
<th>CTX 2500</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>700</td>
<td>1250</td>
<td>700</td>
</tr>
<tr>
<td>turnMASTER spindle</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>HPT turret</td>
<td>●</td>
<td>●</td>
<td>–</td>
</tr>
<tr>
<td>Tailstock</td>
<td>●</td>
<td>●</td>
<td>–</td>
</tr>
<tr>
<td>torqueDRIVE turret</td>
<td>–</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>speedDRIVE turret</td>
<td>–</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Counter spindle</td>
<td>–</td>
<td>–</td>
<td>●</td>
</tr>
<tr>
<td>Y-axis</td>
<td>–</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>

**HIGH-PRECISION TURRET**

+ **VDI 40 interface // VDI 30 optional**
+ 12 tool stations // 16 optional
+ All tool stations are driven and continuous loadable with 6,000 rpm
+ Up to 70 kg tool weight in total

<table>
<thead>
<tr>
<th>Speed (rpm)</th>
<th>Torque (Nm)</th>
<th>Power (kW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>16</td>
<td>10</td>
<td>5.5</td>
</tr>
<tr>
<td>8</td>
<td>5</td>
<td>2</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Speed (rpm)</th>
<th>Torque (Nm)</th>
<th>Power (kW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>14,5</td>
<td>5.5</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
<td>1</td>
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<table>
<thead>
<tr>
<th>Speed (rpm)</th>
<th>Torque (Nm)</th>
<th>Power (kW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>34</td>
<td>10</td>
<td>5.5</td>
</tr>
<tr>
<td>10</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>2.5</td>
<td>1</td>
</tr>
</tbody>
</table>

--- 40% ED  100% ED
torqueDRIVE with 85 Nm torque / speedDRIVE with 12,000 rpm

**torqueDRIVE TURRET**
- 85 Nm maximum torque
- 6,000 rpm max. speed
- Standard for all SY machines
- Optional for Y-machines
- Up to 200 kg tool weight

**speedDRIVE TURRET**
- 56 Nm maximum torque
- 12,000 rpm max. speed
- Optional for Y- and SY-machines available
- Up to 200 kg tool weight

**TRIFIX®: FAST, PRECISE AND VDI COMPATIBLE SETUP**
- Standard for all star turrets
- < 30 sec. tool setup time through VDI with TRIFIX®
- Maximum stability and long-term accuracy: free from play and spring-loaded double centring with increased rigidity thanks to large interface with bolt-hole pattern
- < 6 μm repeatability (same tool, same position)
- < 10 μm positioning accuracy from one station to the next
- Fully aligned driven tools, able to be used with VDI holder
- Use of large tools with a gear reduction of up to 4:1 thanks to the compact design of the turret
CTX 2500

Demand-based expansion stages for universal requirements
STAR TURRET
+ 85 Nm maximum torque and 6,000 rpm
+ 12,000 rpm drive speed and 56 Nm torque optional
+ VDI with TRIFIX® for fastest setup
+ Optional with BMT-Interface for maximum stability

MAIN SPINDLE
UP TO CHUCK SIZE 400 mm
+ Max. 4,000 rpm and 26 kW with 525 Nm
+ Or max. 3,000 rpm and 30 kW with 1,200 Nm
+ Water-cooled and 4-way bearing

COUNTER SPINDLE
UP TO CHUCK SIZE 250 mm
+ Max. 7,000 rpm and 11 kW with 70 Nm
+ Or 5,000 rpm and 32 kW with 360 Nm

STEADY REST
+ Trailed steady rest with hydraulic clamping
+ Clamping range up to 180 mm
+ Optionally with quick-change system
+ Special steady rests on request
Design and user-friendliness in harmony

**COOLANT TANK THAT PULLS OUT TO THE FRONT**
+ Incl. 370 liter coolant tank
+ Cleaning does not take up extra space

**INTERFERENCE PREVENTION POCKET**
+ To prevent interference caused by long tools

**COOLING UNIT FOR OIL/HYDRAULIC UNIT**
+ Direct access to the rear of the machine
+ Direct access to the clamping pressure adjustment

**CHIP CONVEYOR POSITION**
+ Can be positioned at the rear as an option to suit individual space requirements (e.g. GX loader)
+ Bar feed and bar unloading possible
Good accessibility from the front in the work area thanks to a 870 mm wide door opening.

Crane loading from above for heavy components.

New LIGHTline indicates the machine status.

Unloading flap or very compact conveyor belt for outputting finished parts to the right and for maximum compatibility with the bar loader (optional).
Technology expertise

OPTIONS

+ Customized configuration thanks to modularity (e.g. quick-change steady rest)
+ Accuracy: Linear scales for all axes (X-axis as standard)
+ Extremely powerful motors for all movable parts
+ Colour of choice for the machine for optimal integration into the production line

PREMIUM SUPPORT

+ Customized technology solutions (development of technologies, job-time calculation, demonstration, preliminary acceptance, start-up support)
+ CE-certified customer solutions directly from the supplier (automation, bar loader, band filter system, etc.)
+ Proximity to the customer, open and appealing assembly
+ The highest quality requirements for every component used

THE MOST PROGRESSIVE SOFTWARE SOLUTIONS

+ Use of the latest control versions — across all model series
+ Technology Cycles as an add-on to SIEMENS control systems with the highest user friendliness worldwide (e.g. control of program condition — with GILDEMEISTER structure programming)
Technology component
Material: Ck45
Dimensions: $80 \times 80 \times 220$ mm
Machining time: 18 min.

HIGHLIGHTS:
+ High-performance turning $v_c = 220$ m/min, $a_p = 8$ mm, $f = 0.45$
+ High-performance turning $\phi 50$, $a_p = 7$ mm, $f = 0.2$
+ High-performance drilling $\phi 35$ with the turret, $v_c = 120$ m/min, $f = 0.15$

TECHNOLOGY CYCLES:
1 gearSKIVING
2 Easy Tool Monitoring 2.0
3 Multi-Threading Cycle 2.0
4 Alternating Speed

Technology component
Material: Ck45
Dimensions: $\phi 250 \times 400$ mm
Machining time: 28 min

HIGHLIGHTS:
+ Turning $a_p = 3$ mm, $f = 1.4$

TECHNOLOGY CYCLES:
1 Easy Tool Monitor 2.0
2 Multi-Threading Cycle 2.0
3 Alternating Speed
ERGOnline CONTROL
WITH 21.5” MULTI-TOUCH-SCREEN AND SIEMENS CONTROL

+ Dialogue-based programming
+ 3D graphics including real-time simulation
+ Ample diagnosis for all drives
+ Simplest graphical programming
+ User diagrams for quick set-up

CTX 2500

CELOS – From the idea to the finished product

Simple
+ Simple machine operation for all new high-tech machines from DMG MORI

Continuous
+ CELOS simplifies and accelerates processes from the idea to the finished product
+ Intuitive and simple user interface
+ Faster, more effective and error-free production processes
+ Networking option of the machine with the company organization
+ Complete multi-machine management
+ High process reliability and structured processes

Compatible
+ Compatible with PPS and ERP systems
+ Can be networked with CAD/CAM products
+ Open to pioneering CELOS app extensions

Highlights
Machine and Technology
Applications and Parts
Control Technology
Automation
Technical Data and Options

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DMG MORI TECHNOLOGY CYCLES

Exclusiv Technology Cycles – Complex machining easily realized!

DMG MORI exclusive technology cycles are the true assistants of the production-oriented programming to increase productivity and safety as well as to extend machine capability.

+ Proper program structure
+ Program up to 60% faster
+ Error minimization by dialog-guided programming
+ Technology know-how stored in the program

AVAILABLE TECHNOLOGY CYCLES FOR CTX UNIVERSAL TURNING MACHINES

Polygon-/Oval-Turning
Programming and fine tuning of the required Shape, Capto or Oval, realizable in a few steps

Gear hobbing
Programming the gear parameters for straight, helical, curved and worm wheels via dialog input

Counter spindle tip
Cycle for automatic replacement of a Tailstock tip in the chuck of the counter spindle via the tool carrier

Control of program status
Display of the workpiece number and workpiece data; facilitates resuming work after the program is interrupted

gearSKIVING 2.0
Straight and helical external or internal spur gears and splines up to 8 times faster in comparison to gear shaping

Excentric turning and milling
Eccentric geometries simply dialog-controlled produce, while the exact axis coupling and Synchronization in the background is running

Retraction Cycle
By pushing the associated key the X-axis and the Y-axis travel to the positive end-positions for external machining

Runtime Monitor
Application for time analysis of the production process and as a basis for the cycle time optimization
Alternating speed
Avoiding vibrations of tools by means adaptation of the speed
+ Easy to operate through three parameters and without additional sensors
+ No manual intervention by the operator
+ Identical repeatability for all components
+ Increased process safety for special applications by avoiding vibrations

Easy Tool Monitor 2.0
Drive load monitoring of the tools during the machining process to prevent damage to the machine and equipment
+ Save the monitoring limits for each tool and every cutting edge in the program
+ NEW: User interface on CELOS SideScreen
+ NEW: Powerful algorithm for efficient monitoring after the first workpiece

Multi threading 2.0
Trapezoidal, buttress and knuckle thread easily programmable at the machine
+ Screw conveyor with any profile geometry
+ Free definition of contours, pitches and number of starts possible
+ NEW: On-Point Threading – Position oriented thread production

Y-Axis Parting
The new highly productive Y-axis parting method is amazingly easy to use with the technology cycle
+ Compatible with the standard cycle CYCLE92 (Part off cycle), so that the operator can program as usual (ShopTurn and DIN/ISO)
+ Up to three times higher productivity possible (3 × feed) with simultaneously improved chip control

Keyway Broaching
High flexibility in creating grooves according to DIN6885 or DIN138, inside or outside, narrow or wide, short or long with standard tools on standard machines
+ Structured input parameters for the groove geometry, the tool and the machining strategy
+ Advantages of rigid machine guidance for better groove quality
CELOS APPS – DIGITAL PRODUCTS AND SOLUTIONS FOR THE ENTIRE PROCESS CHAIN

PRODUCTION COCKPIT*

The overall production at a glance

+ Transparency for production planners, optimizers and maintenance staff
+ Status display of each production order including remaining times
+ Clear visualization of production-relevant information

* optional

ROBO2GO*

Automated workpiece handling for maximum machine productivity

+ User-friendly robot configuration
+ Easy automatisation
+ No knowledge of robotics necessary
+ Flexible use on different machines

* optional available with Robo2Go hardware
Customized automation

BAR PACKAGE
The combination of bar loader and workpiece unloader for automatic machining of bar material
+ Signal lamp
+ Loader interface
+ Pickup device
+ Hollow clamping cylinder

WORKPIECE UNLOADING
+ Ergonomic: Simple workpiece removal, no need to open the workroom door
+ Buffer storage for multi-machine operation

Optimised conveyor belt
+ Ergonomic: semi-integrated conveyor belt
+ Conveying direction right for maximum compatibility to the bar

ROBO2G 2ND GENERATION
+ Three versions for all demands: Payload robot 10/20/35 kg
+ Handling of shafts ø25 – 150 mm and chuck parts ø25 – 170 mm in standard
+ Optimal accessibility to the machine
+ Parallel use with bar loader possible
+ Laser scanner for monitoring the fence-free safety zone

+ In the machine control integrated operation via CELOS APP
+ No robot programming knowledges necessary
+ Multijob function: Different jobs on one workpiece tray ideal for small and medium batch sizes
+ Creation of a process with predefined program modules
PORTAL LOADING SYSTEM GX 15 T

- Low height of 3.4 m by means of telescopic axis
- Workpiece weight up to 2 × 15 kg with double gripper
- Very low footprint of 10.2 m²
- Control via machine operating panel GILDEMEISTER portal control
- Easy and fast part removal via the front door for parts inspection

GANTRY LOADER

Max. workpiece weigh: 2 × 15 kg
Axis speeds:
X-axis: 75 m/min
Z-axis: 90 m/min

3-finger centric gripper with swivel axis for loading and unloading the main- and/or counter spindle

WORKPIECE STOCKER

Number of pallets 10
Max. weight per pallet 75 kg
Max. stack height 470 mm

COMPACT DOUBLE GRIPPER

Max. workpiece weight 2 × 15 kg
Diameter 40 – 200 mm
Workpiece height 10 – 150 mm
CTX 2500

Layout plans

CTX 2500 | 700 front view and side view
# Technical Data

## Versions

<table>
<thead>
<tr>
<th>Work area</th>
<th>MC</th>
<th>Y</th>
<th>SY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. swing diameter over bed mm</td>
<td>620</td>
<td>620</td>
<td>620</td>
</tr>
<tr>
<td>Max. Turning diameter mm</td>
<td>430</td>
<td>430</td>
<td>430</td>
</tr>
<tr>
<td>Max. Turning length mm</td>
<td>734</td>
<td>734</td>
<td>734</td>
</tr>
<tr>
<td>Distance from main spindle to tailstock (without chuck) mm</td>
<td>884.6</td>
<td>884.6</td>
<td>–</td>
</tr>
<tr>
<td>Distance from main spindle to counter spindle (without chuck) mm</td>
<td>–</td>
<td>–</td>
<td>961</td>
</tr>
</tbody>
</table>

## Main spindle (standard)/chuck size

<table>
<thead>
<tr>
<th>rpm</th>
<th>CTX 2500</th>
<th>700</th>
<th>CTX 2500</th>
<th>700</th>
<th>CTX 2500</th>
<th>700</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated spindle motor (ISM) with C-axis (0.001 °) rpm</td>
<td>4,000</td>
<td>4,000</td>
<td>4,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drive power [40/100 % DC] kW</td>
<td>26/22</td>
<td>26/22</td>
<td>26/22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Torque [40/100 % DC] Nm</td>
<td>525/410</td>
<td>525/410</td>
<td>525/410</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spindle head (short taper adapter) DIN ISO 702-1</td>
<td>A2-8</td>
<td>A2-8</td>
<td>A2-8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spindle diameter in the front bearing mm</td>
<td>140</td>
<td>140</td>
<td>140</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spindle opening without clamping cylinder mm</td>
<td>91</td>
<td>91</td>
<td>91</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. chuck diameter mm</td>
<td>315 (400)</td>
<td>315 (400)</td>
<td>315 (400)</td>
<td></td>
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</tr>
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</table>

## Counter spindle (optional)

<table>
<thead>
<tr>
<th>rpm</th>
<th>CTX 2500</th>
<th>700</th>
<th>CTX 2500</th>
<th>700</th>
<th>CTX 2500</th>
<th>700</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated spindle motor (ISM) with C-axis (0.001 °) rpm</td>
<td>–</td>
<td>–</td>
<td>7,000</td>
<td></td>
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<tr>
<td>Drive power [40/100 % DC] kW</td>
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<td>11/7.5</td>
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<tr>
<td>Torque [40/100 % DC] Nm</td>
<td>–</td>
<td>–</td>
<td>70/50</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Spindle head (short taper adapter) DIN ISO 702-1</td>
<td>–</td>
<td>–</td>
<td>A2-5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spindle diameter in the front bearing mm</td>
<td>–</td>
<td>–</td>
<td>85</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spindle opening without clamping cylinder mm</td>
<td>–</td>
<td>–</td>
<td>37</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. chuck diameter mm</td>
<td>–</td>
<td>–</td>
<td>203</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Turret (standard)

| Tool holder in accordance with VDI / DIN 69880 mm  | 12 × VDI 40 | 12 × VDI 40 | 12 × VDI 40 |
| Number of driven tools / max. speed rpm  | 12/6,000 | 12/6,000 | 12/6,000 |
| Drive power / torque [40/100 % DC] kW/Nm  | 10/36 | 10/36 | 23.5/70 |
| Indexing time 30 ° seconds  | 0.2 | 0.2 | 0.27 |

## Turret slides (top)

| X/Y/Z mm  | 260/–/795 | 260/±50/795 | 260/±50/795 |
| Rapid traverse X/Y/Z m/min  | 30/–/30 | 30/10/30 | 30/10/30 |
| Feed force X/Y/Z kN  | 6/–/10.5 | 6/5.5/10.5 | 6/5.5/10.5 |

## Slide for counter spindle

| Z mm  | – | – | 795 |
| Rapid traverse speed Z m/min  | – | – | 30 |
| Feed force Z kN  | – | – | 7 |

## Tailstock

| Axis mm  | 734 | 734 | – |
| Force kN  | 7 | 7 | – |
| Tailstock centre MK  | 5 | 5 | – |
| Machine weight kg  | 5,820 | 6,140 | 6,360 |

## Control system

- Operate 4.7 on SIEMENS 840D sl
- CELOS from DMG MORI with SIEMENS and ShopTurn 3
- ERGOline control with 21.5" multi-touch screen
<table>
<thead>
<tr>
<th>Versions</th>
<th>CTX 2500</th>
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<tbody>
<tr>
<td></td>
<td>MC</td>
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<td>SY</td>
</tr>
<tr>
<td><strong>Work area</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. swing diameter over bed mm</td>
<td>710</td>
<td>710</td>
<td>710</td>
</tr>
<tr>
<td>Max. Turning diameter mm</td>
<td>430</td>
<td>430</td>
<td>430</td>
</tr>
<tr>
<td>Max. Turning length mm</td>
<td>1,284</td>
<td>1,284</td>
<td>1,284</td>
</tr>
<tr>
<td>Distance from main spindle to tailstock (without chuck) mm</td>
<td>1,434.6</td>
<td>1,434.6</td>
<td>–</td>
</tr>
<tr>
<td>Distance from main spindle to counter spindle (without chuck) mm</td>
<td>–</td>
<td>–</td>
<td>1,511</td>
</tr>
<tr>
<td><strong>Main spindle (standard) / chuck size</strong></td>
<td>10°</td>
<td>10°</td>
<td>10°</td>
</tr>
<tr>
<td>Integrated spindle motor (ISM) with C-axis [0.001°] rpm</td>
<td>4,000</td>
<td>4,000</td>
<td>4,000</td>
</tr>
<tr>
<td>Drive power [40 / 100 % DC] kW</td>
<td>26 / 22</td>
<td>26 / 22</td>
<td>26 / 22</td>
</tr>
<tr>
<td>Torque [40 / 100 % DC] Nm</td>
<td>525 / 410</td>
<td>525 / 410</td>
<td>525 / 410</td>
</tr>
<tr>
<td>Spindle head (short taper adapter) DIN ISO 702–1</td>
<td>A2–8</td>
<td>A2–8</td>
<td>A2–8</td>
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<tr>
<td>Spindle diameter in the front bearing mm</td>
<td>140</td>
<td>140</td>
<td>140</td>
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<tr>
<td>Spindle opening without clamping cylinder mm</td>
<td>91</td>
<td>91</td>
<td>91</td>
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<tr>
<td>Max. chuck diameter mm</td>
<td>315 (400)</td>
<td>315 (400)</td>
<td>315 (400)</td>
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<tr>
<td><strong>Counter spindle (optional)</strong></td>
<td>6°</td>
<td></td>
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<tr>
<td>Integrated spindle motor (ISM) with C-axis [0.001°] rpm</td>
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<td>–</td>
<td>7,000</td>
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<tr>
<td>Drive power [40 / 100 % DC] kW</td>
<td>–</td>
<td>–</td>
<td>11 / 7.5</td>
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<tr>
<td>Torque [40 / 100 % DC] Nm</td>
<td>–</td>
<td>–</td>
<td>70 / 50</td>
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<tr>
<td>Spindle head (short taper adapter) DIN ISO 702–1</td>
<td>–</td>
<td>–</td>
<td>A2–5</td>
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<tr>
<td>Spindle diameter in the front bearing mm</td>
<td>–</td>
<td>–</td>
<td>85</td>
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<tr>
<td>Spindle opening without clamping cylinder mm</td>
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<td>37</td>
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<tr>
<td>Max. chuck diameter mm</td>
<td>–</td>
<td>–</td>
<td>203</td>
</tr>
<tr>
<td><strong>Turret (standard)</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Tool holder in accordance with VDI/DIN 69880 mm</td>
<td>12 × VDI 40</td>
<td>12 × VDI 40</td>
<td>12 × VDI 40</td>
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<tr>
<td>Number of driven tools / max. speed rpm</td>
<td>12 / 6,000</td>
<td>12 / 6,000</td>
<td>12 / 6,000</td>
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<tr>
<td>Drive power / torque [40 / 100 % DC] kW / Nm</td>
<td>10 / 36</td>
<td>10 / 36</td>
<td>23.5 / 70</td>
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<tr>
<td>Indexing time 30° seconds</td>
<td>0.2</td>
<td>0.2</td>
<td>0.27</td>
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<tr>
<td><strong>Turret slides (top)</strong></td>
<td></td>
<td></td>
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<tr>
<td>X / Y / Z mm</td>
<td>260 /– /1,345</td>
<td>260 / ±50 /1,345</td>
<td>260 / ±50 /1,345</td>
</tr>
<tr>
<td>Rapid traverse X / Y / Z m/min</td>
<td>30 /– /30</td>
<td>30 /10 /30</td>
<td>30 /10 /30</td>
</tr>
<tr>
<td>Feed force X / Y / Z kN</td>
<td>6 /– /10.5</td>
<td>6 /5.5 /10.5</td>
<td>6 /5.5 /10.5</td>
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<tr>
<td><strong>Slide for counter spindle</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Z mm</td>
<td>–</td>
<td>–</td>
<td>1,345</td>
</tr>
<tr>
<td>Rapid traverse speed Z m/min</td>
<td>–</td>
<td>–</td>
<td>30</td>
</tr>
<tr>
<td>Feed force Z kN</td>
<td>–</td>
<td>–</td>
<td>7</td>
</tr>
<tr>
<td><strong>Tailstock</strong></td>
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<tr>
<td>Axis mm</td>
<td>1,284</td>
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</tr>
<tr>
<td>Force kN</td>
<td>7</td>
<td>7</td>
<td>–</td>
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<tr>
<td>Tailstock centre MK</td>
<td>5</td>
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<tr>
<td>Machine weight kg</td>
<td>7,220</td>
<td>7,540</td>
<td>7,760</td>
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<tr>
<td><strong>Control system</strong></td>
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<tr>
<td>Operate 4.7 on SIEMENS 840D sl</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>CELLOS from DMG MORI with SIEMENS and ShopTurn 3</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>ERGOLine control with 21.5° multi-touch screen</td>
<td>●</td>
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## Options

<table>
<thead>
<tr>
<th>Optional specifications</th>
<th>CTX 2500</th>
<th>700</th>
<th>CTX 2500</th>
<th>1250</th>
<th>CTX 2500</th>
<th>700</th>
<th>CTX 2500</th>
<th>1250</th>
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<tbody>
<tr>
<td>turnMASTER spindle</td>
<td>●</td>
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<td>HPT turret</td>
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<td>●</td>
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<tr>
<td>Tailstock</td>
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<td>●</td>
<td></td>
<td>●</td>
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<td>●</td>
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<tr>
<td>torqueDRIVE turret</td>
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<td>●</td>
<td></td>
<td>●</td>
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<td>●</td>
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<tr>
<td>speedDRIVE turret</td>
<td>–</td>
<td></td>
<td>●</td>
<td></td>
<td>●</td>
<td></td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>Counter spindle</td>
<td>–</td>
<td></td>
<td>–</td>
<td></td>
<td>–</td>
<td></td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Y-axis</td>
<td>–</td>
<td></td>
<td>–</td>
<td></td>
<td>–</td>
<td></td>
<td>–</td>
<td></td>
</tr>
</tbody>
</table>

- Standard       • Optional ● – Not available

### Spindle
- turnMASTER 12\(^\circ\) main spindle, ISM 102
- turnMASTER 6\(^\circ\) counter spindle, ISM 36, Y-axis
- turnMASTER 8\(^\circ\) counter spindle, ISM 65, Y-axis

### Options for spindles
- Hollow clamping device, ø 77 / ø 102 mm
- Hollow spindle stop, ø 77 / ø 102 mm
- Clamping pressure adjustment, motor-adj. valves
- Dynamic two-pressure clamping
- Dynamic two-pressure clamping, motor-adj. valves

### Collet chucks for main spindle
- Three-jaw chuck, SMW, Schunk, etc.
- Set of top jaws, soft, three units
- Set of base jaws, three units
- Collet chuck

### Collet chucks for counter spindle
- Three-jaw chuck, SMW, Schunk, etc.
- Set of top jaws, soft, three units
- Set of base jaws, three units
- Collet chuck

### Tool turret
- 12-station star turret, torqueDRIVE, VDI 40
- 12-station star turret, speedDRIVE, VDI 40
- 12-station star turret, torqueDRIVE, BMT 60
- 16-station star turret, speedDRIVE, VDI 30
- 16-station disc turret, VDI 30

### Options for the axes
- Y-axis for tailstock machine
<table>
<thead>
<tr>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tailstock</strong></td>
</tr>
<tr>
<td>Tailstock function for the counter spindle</td>
</tr>
<tr>
<td>Machine without tailstock, reduced price</td>
</tr>
<tr>
<td><strong>Steady rest</strong></td>
</tr>
<tr>
<td>Steady rest slide, automatic positioning</td>
</tr>
<tr>
<td>Steady rest quick-change system</td>
</tr>
<tr>
<td>Steady rest carrier for steady rest, 8 – 101 mm</td>
</tr>
<tr>
<td>Steady rest carrier for steady rest, 20 – 165 mm (only for CTX 2500</td>
</tr>
<tr>
<td>SLU-X2 steady rest, clamping range 8 – 101 mm</td>
</tr>
<tr>
<td>SLU-X3.1 steady rest, clamping range 20 – 165 mm (only for CTX 2500</td>
</tr>
<tr>
<td>700)</td>
</tr>
<tr>
<td>Steady rest K2, clamping range 25 – 180 mm (only for CTX 2500</td>
</tr>
<tr>
<td><strong>Coolant media / chip removal</strong></td>
</tr>
<tr>
<td>Chip conveyor hinged type</td>
</tr>
<tr>
<td>Chip conveyor scraper type</td>
</tr>
<tr>
<td>Extension of the discharge chute about 300 mm</td>
</tr>
<tr>
<td>Machine preparation for fine metal chips</td>
</tr>
<tr>
<td>Duplex filter</td>
</tr>
<tr>
<td>Reinforced coolant pump, 12 bar, 231/min</td>
</tr>
<tr>
<td>Reinforced coolant pump, 5–20 bar, frequency controlled</td>
</tr>
<tr>
<td>BFA 8/20 bar, 600l/980l/980l with cooler</td>
</tr>
<tr>
<td>BFA 8/20/80 bar, 980l with cooler</td>
</tr>
<tr>
<td>Mechanical oil mist filter 600m³/h/1,100m³/h</td>
</tr>
<tr>
<td>Chuck rinsing device, outside, main spindle / counter spindle</td>
</tr>
<tr>
<td>Coolant spray gun</td>
</tr>
<tr>
<td>Glass cleaning for safety glass</td>
</tr>
<tr>
<td><strong>Measuring / monitoring</strong></td>
</tr>
<tr>
<td>Tool measuring device in work area, manual up to a chuck ø of 400 mm</td>
</tr>
<tr>
<td>Tool measuring device in work area, automatic up to a chuck ø of 315</td>
</tr>
<tr>
<td>mm</td>
</tr>
<tr>
<td>Drill breakage monitoring, swing wire, 1.4 – 32 mm</td>
</tr>
<tr>
<td>Tool monitoring system ARTIS CTM</td>
</tr>
<tr>
<td>Glass scale for Y-axis</td>
</tr>
<tr>
<td>Glass scale for Z-axis</td>
</tr>
<tr>
<td><strong>Automation</strong></td>
</tr>
<tr>
<td>Portal loading system GX 15 T (only for CTX 2500</td>
</tr>
<tr>
<td>Four-colour signal lamp</td>
</tr>
<tr>
<td>Automatic work area door, electric</td>
</tr>
<tr>
<td>Bar machining package, ø 77 mm</td>
</tr>
<tr>
<td>Bar machining package, ø 102 mm</td>
</tr>
<tr>
<td>Bar loading magazine, IRCO, type SiMag 80.1R</td>
</tr>
<tr>
<td>Short bar loading magazine</td>
</tr>
<tr>
<td>Electric interface for automation</td>
</tr>
</tbody>
</table>
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