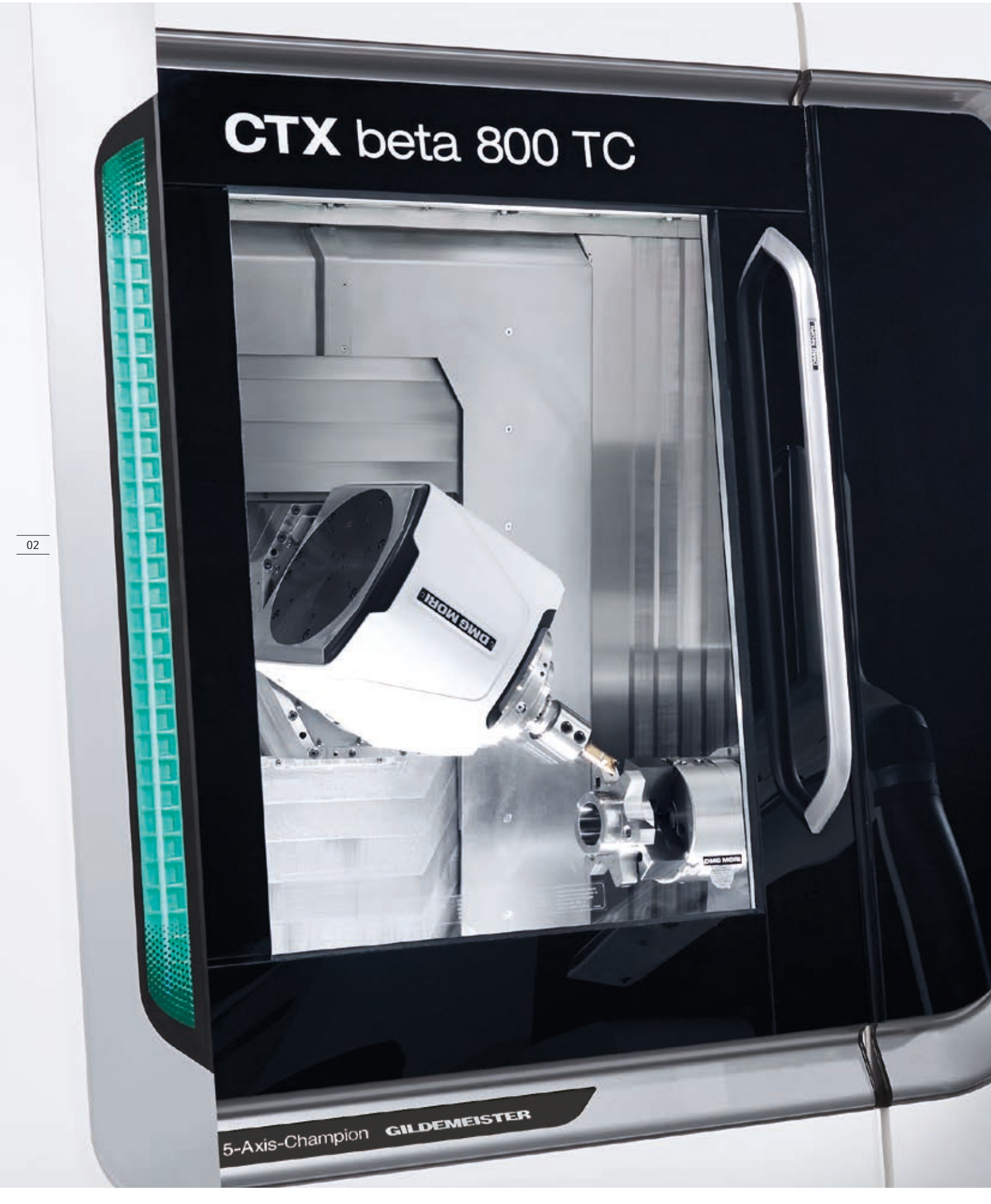
www.dmgmori.com

DMG MORI

Universal turn & mill machining

CTX beta TC

Turn & mill complete machining


CTX beta 800 TC
DMG MORI
5-Axis-Champion
GILDEMEISTER

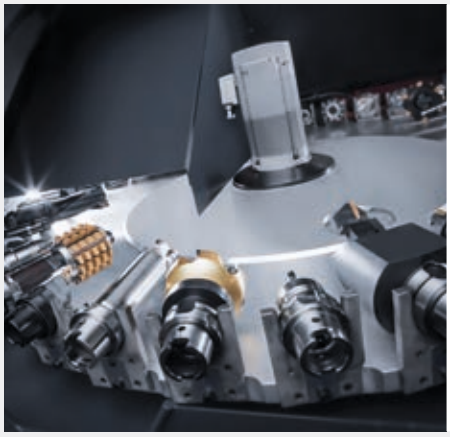
Flexibility – The added value from all universal turning machines.

100 % turning

+ 550 (500)* mm maximum cutting diameter thanks to the large axis travels of the moving column
+ Up to 700 Nm maximum torque on the main spindle
+ 6-sided complete machining with the optional counter spindle

100 % milling

+ Up to 300 mm Y axis travel for eccentric machining thanks to the travelling column concept with maximum stability
+ Maximum milling performance with the compactMASTER®** rated at 120 Nm and up to 20,000 rpm (12,000 rpm as standard)
+ 5-axis simultaneous machining for working with free-form surfaces (with the optional DMG MORI technology cycle)



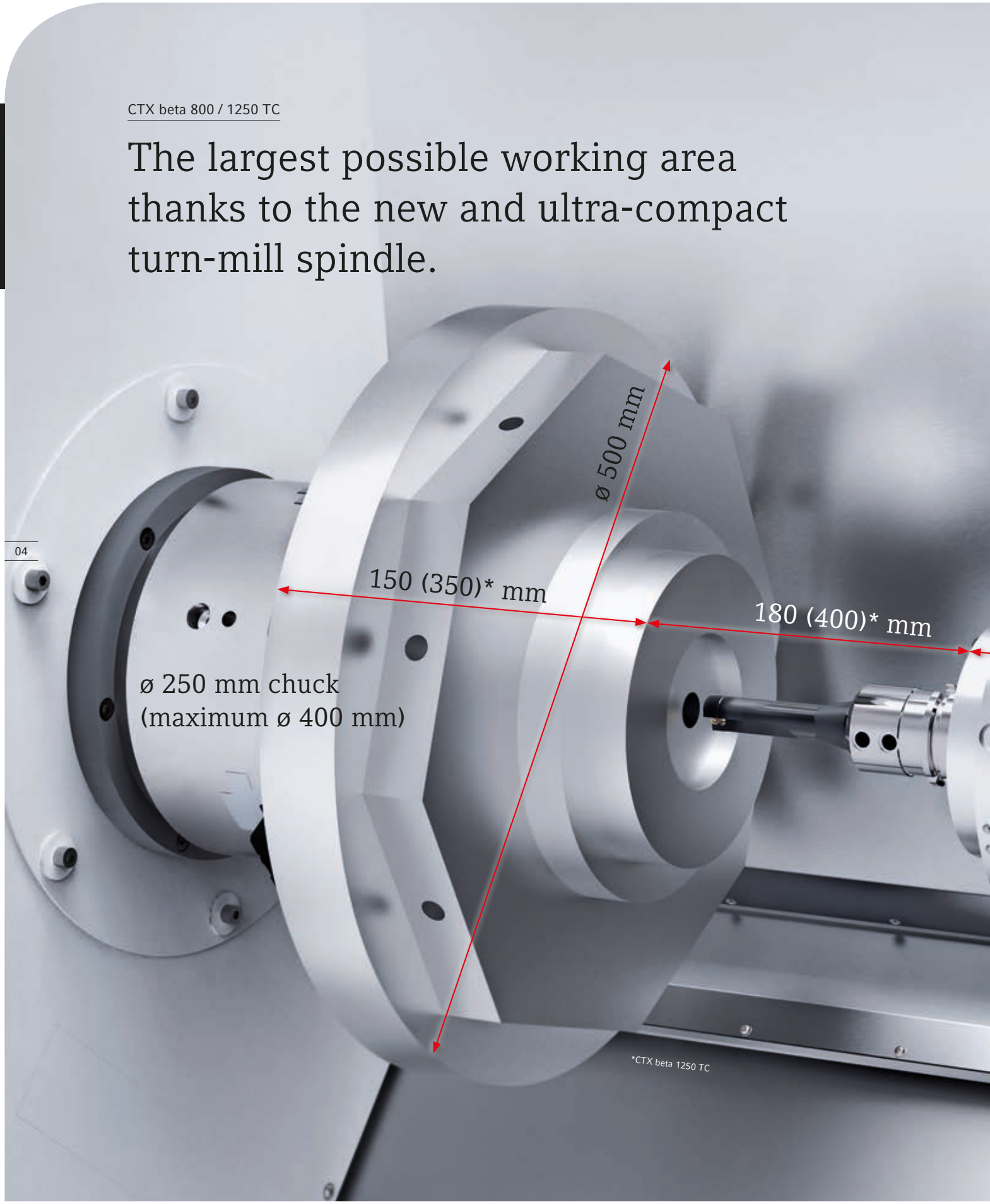
100 % tools

+ Up to 100 (80)* tools for maximum flexibility when machining and the shortest tool change times (disc magazine with 24 pockets as standard)
+ Low-cost standard tools thanks to B axis with a swivel range up to ±120° and maximum accuracy (positioning accuracy < 1 µm)

*CTX beta 800 / 1250 TC
** not for the CTX beta 2000 TC

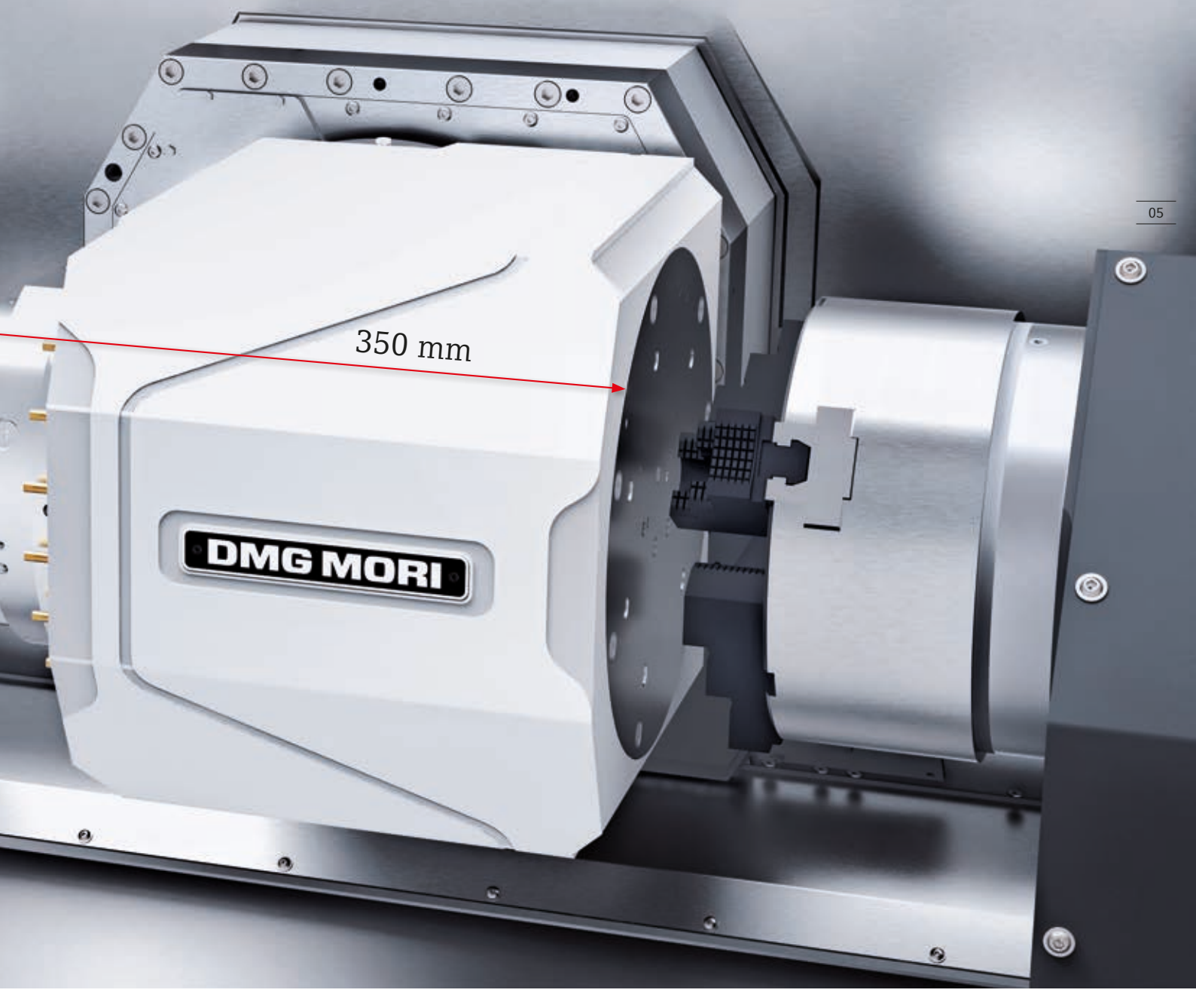
CTX beta 800 / 1250 TC

The largest possible working area thanks to the new and ultra-compact turn-mill spindle.



Highlights

+ 170 mm more space with the new, ultra-compact compactMASTER® turn-mill spindle with a length of 350 mm
+ Bore or turn the inside diameter of 150 (350)* mm long workpieces horizontally
+ Turn external diameters of 450 (470)* mm when the B axis is vertical (with a tool length of 70 mm)
+ Maximum cutting diameter of 500 mm



CTX beta 800 / 1250 TC

Turn & mill complete machining with the new and ultra-compact turn-mill spindle compactMASTER®.

Highlights

+ **Ultra-compact turn-mill spindle** for minimal space requirements in the working area and **20 % higher torque**
+ **170 mm more space** with the new milling spindle
+ Turn-mill spindle rated at **12,000 rpm, 22 kW** and **120 Nm**, high speed model rated at **20,000 rpm** (optional)
+ Workpieces measuring up to **ø 500 mm** and **800 / 1,200 mm** turning length in a footprint of **8.5 / 12.1 m²**
+ **6-sided complete machining with the main spindle rated at up to 700 Nm* and the counter spindle***
+ Large, easily visible working area with **excellent accessibility** and **the shortest possible working distance** to the spindle centre
+ Eccentric machining with a **Y axis travel of up to 250 mm**

* Optional

Improved functionality
Dismantling of the safety glass from the outside

Maximum view
Into the working space for maximum control

Retention of value / long-life surfaces
Premium range of top quality construction for higher scratch resistance and protection against damage

BLACK or WHITE version
The new DMG MORI design is available in either BLACK or in WHITE at no extra cost

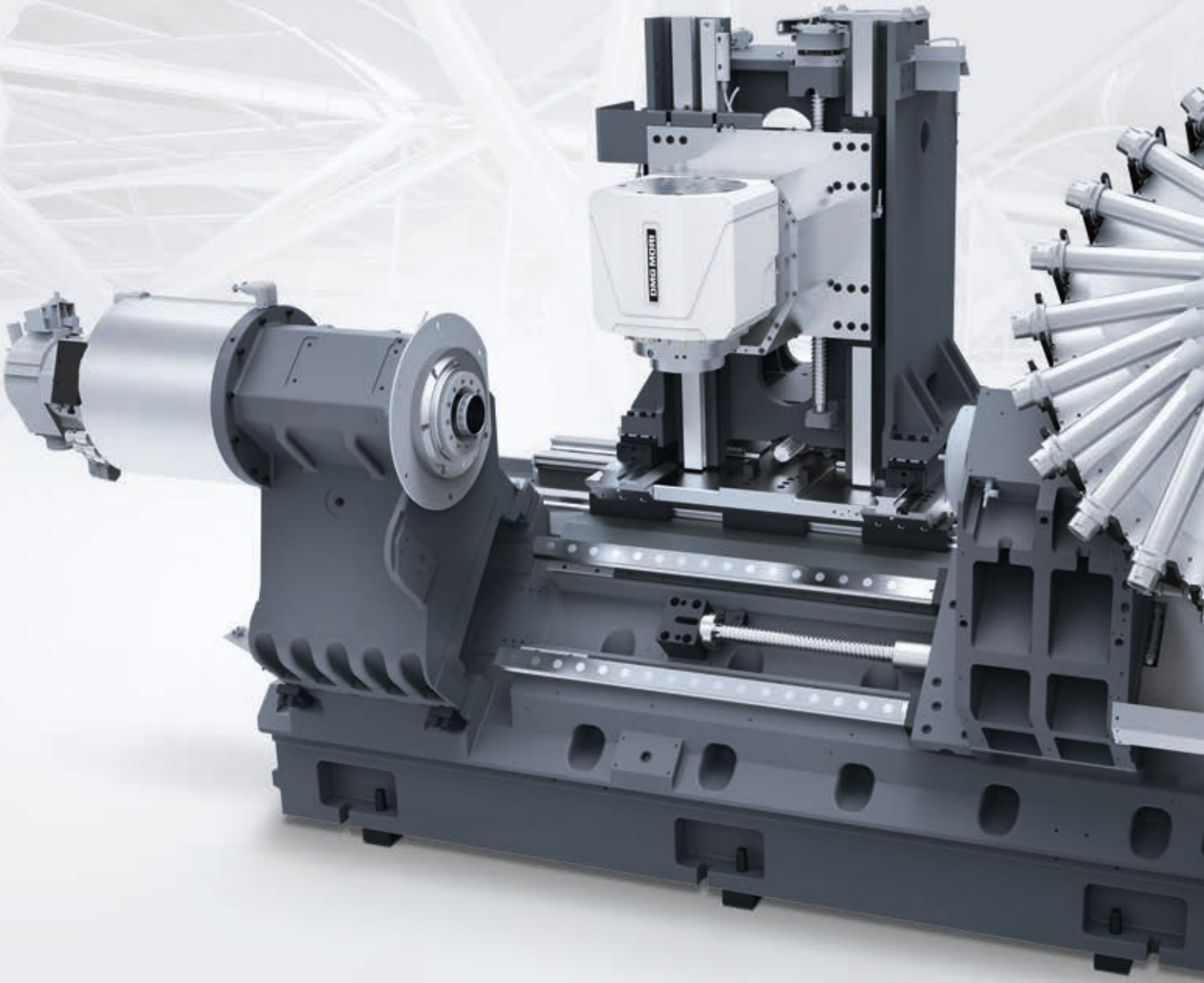
User-friendly
CELOS with SIEMENS: ERGO*line*® Control with 21.5" multi-touch monitor

SMART*key*®
Personalised user authorisation

Optimal ergonomics
Seamless adjustment options for the screen and the keyboard

CTX beta TC

Custom configurations for maximum productivity.



Automatically traversing steady rests* for vibration-free machining of long components such as shafts

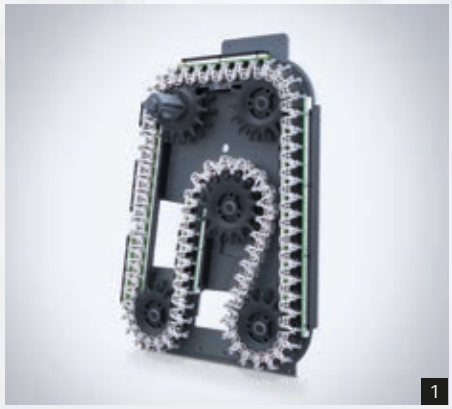
+ Steady rests up to ø 350 mm
+ 50 % shorter set-up time thanks to the optional quick-change system with double cone clamping for 3 µm repeatability

Use of chucks up to 400 mm in diameter on the main and counter spindles* thanks to the highly stable machine concept and high-torque spindles

+ Clamping diameter of up to 400 mm with ISM 102
+ Clamping diameter of up to 315 mm with ISM 76
+ Clamping diameter of up to 210 mm with ISM 52

* Optional

1: Chain magazine,
optionally with up to 100 tools
2: Main spindle up to ISM 102,
maximum 5,000 rpm or 40 kW and 700 Nm
3: ISM 76 synchro counter spindle,
maximum 5,000 rpm with 32 kW and 360 Nm


1


2

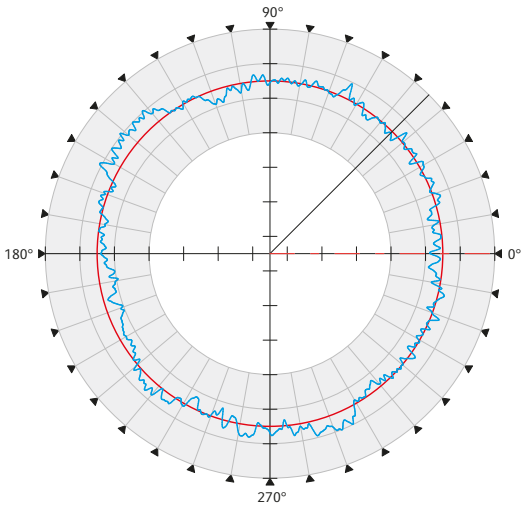

3

CTX beta TC

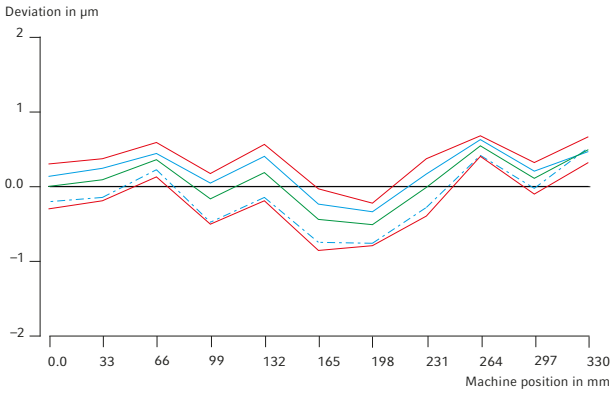
Maximum precision and temperature stability.

Liquid cooling on the main and counter spindles and direct measurement systems from MAGNESCALE

Concentricity of the workpiece
(scale of 0.5 µm / div.)



Laser measurement in accordance with VDI / DGQ 3441
(X axis)



< 0.6 µm roundness of the turned workpiece	
Workpiece	ø 42 mm billet, aluminium
Clamping operation	80 mm projecting length, clamped directly in the spindle
Cutting speed	Vc = 280 m/min
Depth of cut	ap = 0.2 mm
Feed rate	f = 0.1 mm/rpm
Tool	Diamond tool

Precision in the µ range		
	Positioning accuracy (P_{max})	**Repeat accuracy (Ps_{max})**
X axis	< 6 µm	< 2 µm
Y axis	< 6 µm	< 2 µm
Z axis	< 10 µm	< 3 µm
C axis	< 18"	< 5"

Turn & mill complete machining with maximum stability and long-term precision

B axis with Direct Drive
for the highest precision,
positioning accuracy < 1 µm

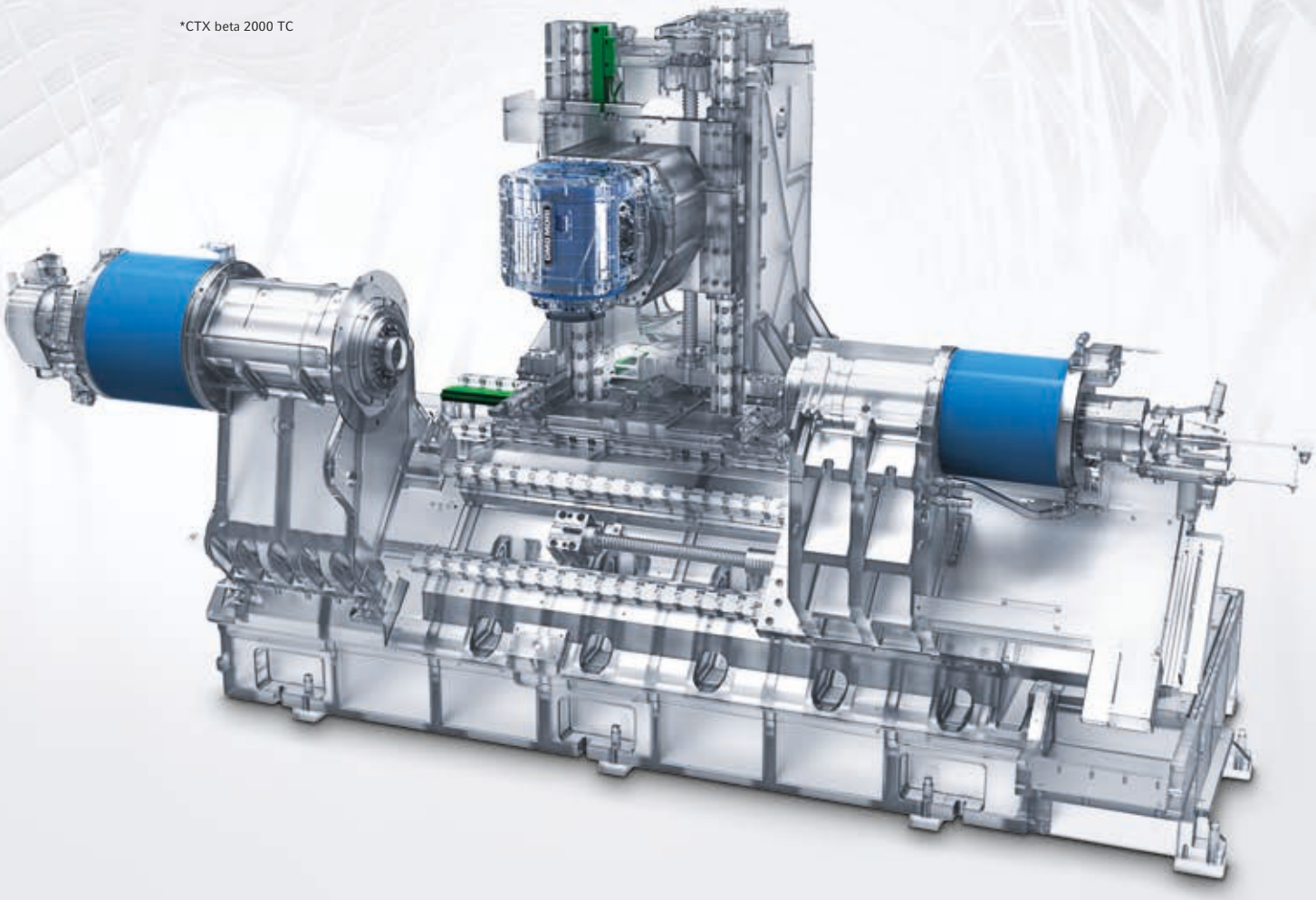
Maximum stability
Constant rigidity thanks to stiff
size 45 (55)* guideways and
ø 40 (50)* mm ball screws

Maximum precision
Direct measurement systems
from MAGNESCALE on all linear
axes of the travelling column

Thermal stability
Liquid-cooled main and
counter spindles

*CTX beta 2000 TC

Magnescale
SPEED × PRECISION



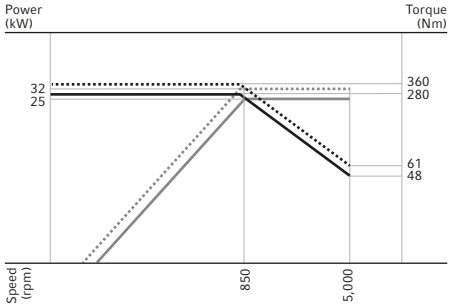
CTX beta TC

Integrated spindle drives rated at up to 700 Nm for the highest machining performance.

+ **The highest dynamics** with integrated spindle drives rated at up to 6,000 rpm or 700 Nm and an integrated C axis (0.001°)
+ **Maximum precision** and temperature stability thanks to the liquid-cooled drives of the main and counter spindle
+ **6-sided complete machining** with the main and optional counter spindle
+ **Service friendly spindle assembly** with the cartridge principle

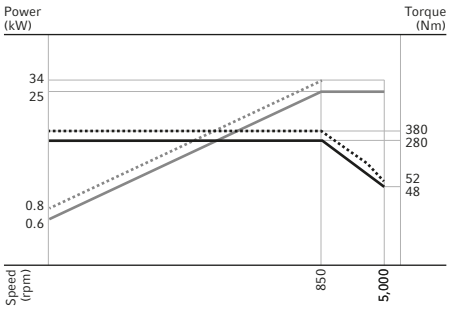
ISM 76 synchro

5,000 rpm / 32 kW / 360 Nm



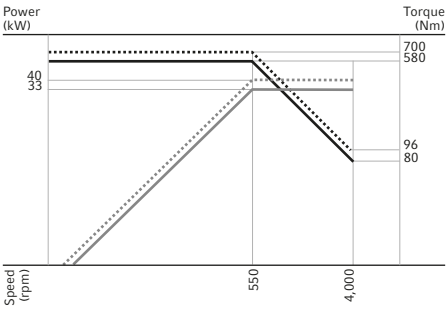
ISM 76

5,000 rpm / 34 kW / 380 Nm



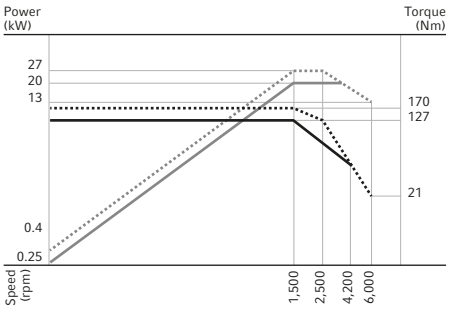
ISM 102

4,000 rpm / 38 kW / 770 Nm



ISM 52 PLUS

6,000 rpm / 27 kW / 170 Nm



Type // Speed Power // Torque (40 / 100 % ED) Bar capacity // Spindle head (flat flange)		**ISM 76** // 5,000 rpm 34 / 25 kW // 380 / 280 Nm 65 (76) mm // 170h5	**ISM 102** // 4,000 rpm 40 / 33 kW // 700 / 580 Nm 93 (102) mm // 220h5	**ISM 52 PLUS** // 6,000 rpm 27 / 20 kW // 170 / 127 Nm 51 (65) mm // 140h5
High-performance rough machining (CK45)				
Component diameter	mm	150	200	75
Material removal rate	cm^3/min	504	630	336
Depth of cut	mm	6	7.5	4
Cutting speed	m/min	240	240	240
Feed	mm/rpm	0.35	0.35	0.35
High-performance drilling (CK45)				
Workpiece diameter	mm	55	72	40
Spindle speed	rpm	462	353	636
Cutting speed	m/min	80	80	80
Feed	mm/rpm	0.15	0.15	0.15

Motor spindles	Machine					
	CTX beta 800 TC		CTX beta 1250 TC		CTX beta 2000 TC	
Type // Speed Power // Torque (40 / 100 % ED) Bar capacity // Spindle head (flat flange)	MS	CS	MS	CS	MS	CS
ISM 52 PLUS // 6,000 rpm 27 / 20 kW // 170 / 127 Nm 51 (65) mm // 140h5		○		○		
ISM 76 // 5,000 rpm 34 / 25 kW // 380 / 280 Nm 51 (65) mm // 140h5	●		●		●	○
ISM 76 synchro // 5,000 rpm 32 / 25 kW // 360 / 280 Nm 65 (76) mm // 170h5				○		
ISM 102 // 4,000 rpm 40 / 33 kW // 700 / 580 Nm 93 (102) mm // 220h5	○		○		○	○

MS = main spindle, CS = counter spindle, ● standard, ○ optional

CTX beta TC

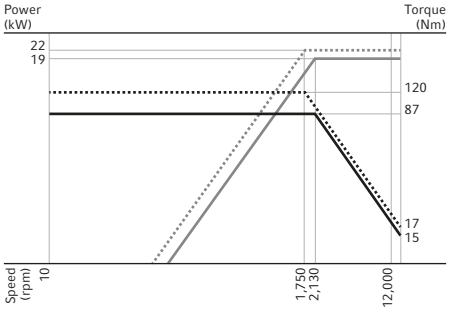
Turning-milling spindles for 5-axis simultaneous machining with up to 20,000 rpm and 120 Nm torque.

		CTX beta 800 / 1250 TC Standard spindle 12,000 rpm // 22 / 19 kW 120 / 87 Nm // HSK-A63		CTX beta 800 / 1250 TC High-speed spindle 20,000 rpm // 22 / 19 kW 120 / 87 Nm // HSK-A63	
CK45 high-performance milling		**Steel (CK45)**	**Aluminium (AlMgSi)**	**Steel (CK45)**	**Aluminium (AlMgSi)**
Material removal rate	cm^3/min	530	829	530	2,510
Spindle speed	rpm	1,768	12,000	1,768	20,000
Power	kW	18.8	6.5	18.8	19.0
Torque	Nm	101	5.2	101	9.1
Feed	mm/tooth	0.200	0.192	0.200	0.232
Depth of cut	mm	10	20	10	20
Cutting width	mm	30	9	30	9
Cutting speed	m/min	350	603	350	1,131
Number of teeth		5	2	5	3
Milling tool	mm	63	16 // End mill	63	18 // End mill
Specific cutting force	N/mm^2	1,910	275	1,910	275
Threads			**Steel (CK45)**		**Steel (CK45)**
Thread size			M20 × 2,5		M20 × 2,5
Spindle speed	rpm		606		606

Standard spindle (HSK-A63 / Capto C6*)

CTX beta 800 / 1250 TC // compactMASTER®

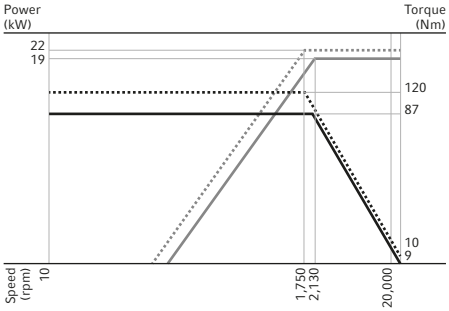
12,000 rpm, 22 kW, 120 Nm



Optional spindle (HSK-A63 / Capto C6*)

CTX beta 800 / 1250 TC // compactMASTER®

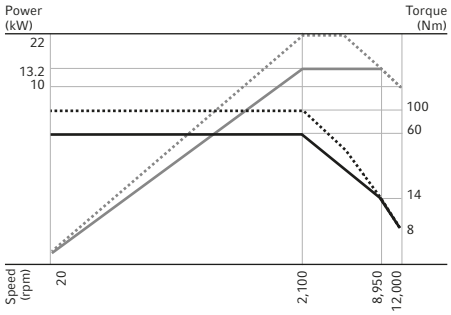
20,000 rpm, 22 kW, 120 Nm



Standard spindle (HSK-A63 / Capto C6*)

CTX beta 2000 TC // Turn-mill spindle

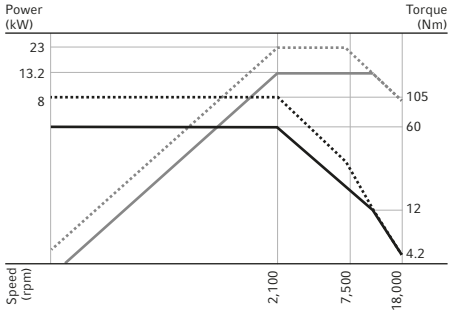
12,000 rpm, 22 kW, 100 Nm



Optional spindle (HSK-A63 / Capto C6*)

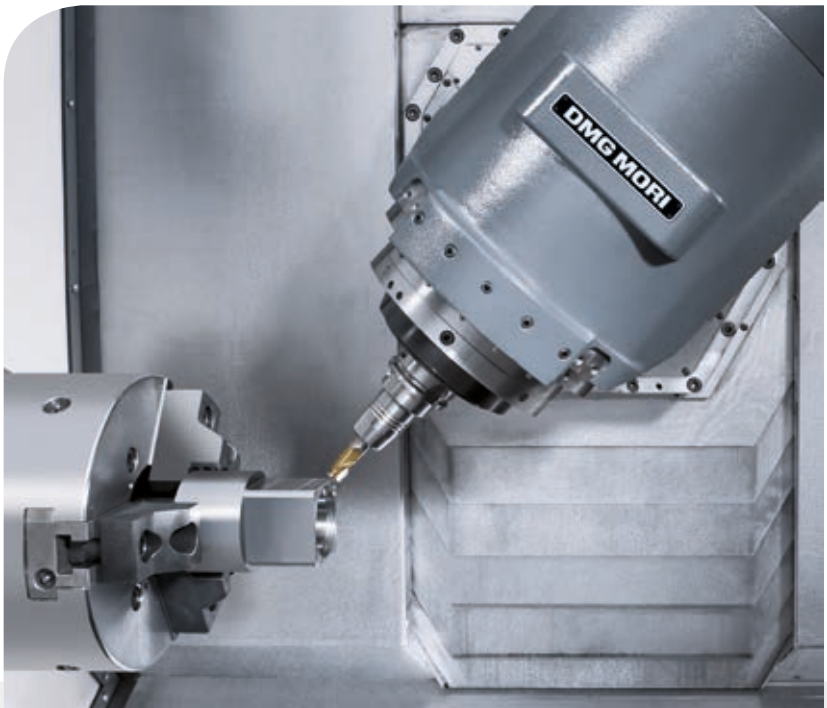
CTX beta 2000 TC // Turn-mill spindle

18,000 rpm, 23 kW, 105 Nm



*Optional

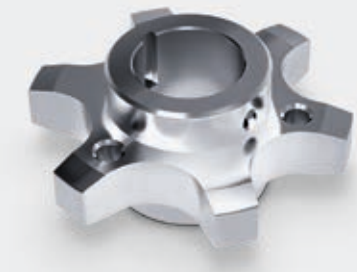
	CTX beta 2000 TC Standard spindle 12,000 rpm // 22 / 13.2 kW 100 / 60 Nm // HSK-A63
	Steel (CK45)
	477.4
	1,989
	15
	73
	0.25
	6
	40
	250
	4
	40
	1,910
	Steel (CK45)
	M20 × 2
	318



CTX beta 2000 TC:
B axis with a swivel range of ±120° for 6-sided to 5-axis simultaneous machining with an optional technology cycle

CTX beta TC

Example applications.



Machine construction: Chain wheel	
Material	CK45
Workpiece dimensions	ø 180 × 80 mm
Machining time	11.5 min

Highlights

Optimal cutting conditions thanks to the B axis with Direct Drive;
Reduced tool count thanks to the B axis (straight and angled driling with one tool);
Short chip-to-chip times thanks to the use of multi-tool inserts;
High-performance turning: Diameter: 180 mm // ap = 5 mm // f = 0.45 mm;
High-performance milling: ø 20 mm end mill cutter // vc = 180 m/min // f = 0.4 mm (fz = 0.1 mm);
High-performance driling: ø 50 mm // vc = 150 m/min // f = 0.18 mm;
Broaching: 12 mm width;
Recessing: 6 mm width (diameter: 180 mm // vc = 180 m/min // f = 0.2 mm);
Tapping: M16;
Programming in ShopTurn

Fluid / hydraulics: Connection flange	
Material	CK45
Workpiece dimensions	ø 120 × 120 mm
Machining time	11.4 min

Highlights

Complete machining including deburring;
Use of long tools for internal machining thanks to the space saving B axis;
Angled deep bores;
Short chip-to-chip times thanks to the use of multi-tool inserts;
High-performance turning: Diameter: 120 mm // ap = 6 mm // f = 0.45 mm;
High-performance milling: ø 20 mm end mill cutter // vc = 180 m/min // f = 0.4 mm (fz = 0.1 mm);
High-performance driling: ø 50 mm // vc = 150 m/min // f = 0.18 mm;
Broaching: 12 mm width;
Recessing: 6 mm width (diameter: 120 mm // vc = 180 m/min // f = 0.2 mm);
Programming in DIN / ISO

Machine construction: Rotor shaft	
Material	CK45
Workpiece dimensions	ø 120 × 300 mm
Machining time	19.2 min

Highlights

Pocket machining with helical milling heads and high-feed milling;
Use of technology cycles: Off-centre turning and milling // gear hobbing;
Short chip-to-chip times thanks to the use of multi-tool inserts;
High-performance turning: Diameter: 120 mm // ap = 6 mm // f = 0.45 mm;
High-performance milling: ø 20 mm end mill cutter // vc = 180 m/min // f = 0.4 mm (fz = 0.1 mm);
High-performance driling: ø 50 mm // vc = 150 m/min // f = 0.18 mm;
Deep-hole drilling: D7 × 200 mm;
Recessing: 6 mm width (diameter: 120 mm // vc = 180 m/min // f = 0.2 mm);
Keyway milling;
Programming in ShopTurn

Energy technology: Sprocket	
Material	42CrMo4
Workpiece dimensions	ø 140 mm × 495 mm
Machining time	35 min
Highlight	Multi-thread

Tooling: Tool holder	
Material	42CrMo4
Workpiece dimensions	ø 80 mm × 125 mm
Machining time	5.8 min
Highlight	Gear hobbing

Energy technology: Guide vane	
Material	X 13Cr12Ni2W1V-5
Workpiece dimensions	155 mm × 110 mm × 770 mm
Machining time	180 min
Highlight	5-axis milling

Tooling: Cutter head	
Material	X37CrMoV5-1
Workpiece dimensions	ø 86 mm × 100 mm
Machining time	23 min
Highlight	Complete machining

1 g acceleration and 60 m/min rapid traverse*

+ The highest dynamics and best long-term accuracy
+ 5-year guarantee

linear DRIVE

Linear drive in the Z axis with 1 g acceleration and the highest long-term precision

+ **The shortest non-productive times thanks to the rapid jerk and 1 g acceleration:**
  → Rapid positioning even over short distances
  → 20 % higher feed rate
  → chip-to-chip time of 8.3 seconds (–0.7 seconds)
+ **Maximum stiffness = optimal long-term accuracy and surface finish:**
  → Consistent positioning thanks to the elimination of elasticity in the drive train
+ **Low maintenance, minimal life cycle costs:** No mechanical transmission elements, no wear and a 5-year guarantee on the linear drive
  → Ideal for applications in series production

* Optional only for the CTX beta 1250 TC

Experience Centre Turn & Mill.

You can experience the machine in one of our exclusive and cutting-edge Experience Centres.

Experience Centre
in Bielefeld

ERGO*line*® Control with 21.5"multi-touch monitor and SIEMENS.

SIEMENS with ShopTurn 3G

- + **Conversational programming**
- + **3D graphics including real-time simulation**
- + New, clear screen design
- + **Indicator light diagnostics for all drives**
- + Simple graphical programming
- + User diagrams for quick set-up

CELOS – From the idea to the finished product.

CELOS from DMG MORI enables consistent administration, documentation and visualisation of order, process and machine data. CELOS can be extended with APPS and is also compatible with your company's existing infrastructures and programs.

APP selector: Central access to all available applications

Uniform

Standard user interfaces for all new high-tech machines from DMG MORI.

Continuous

Consistent administration, documentation and visualisation of order, process and machine data.

Compatible

Compatible with common PPS and ERP systems. Can be networked with CAD / CAM products. Open to trendsetting CELOS APP extensions.

CELOS APPS

+ **JOB MANAGER**: Systematic planning, administration and preparation of orders
+ **JOB ASSISTENT**: Process orders efficiently
+ **CAD / CAM VIEW**: Visualise workpieces and optimise program data
+ **TECH CALCULATOR**: Calculate technology data, measurements and values
+ **DOCUMENTS**: Digital library with full text search
+ **ORGANISER**: Calendar and note functions
+ **NET SERVICE**: Qualified support via internet-based remote diagnostics
+ **SERVICE AGENT**: Improves machine availability with an intelligent maintenance system
+ **ENERGY SAVING**: Automated energy management
+ **SETTINGS**: Customisation and personalisation
+ **STATUS MONITOR**: View machine status in real time
+ **CONTROL**: Machine control with a touch-operated system
+ **JOB SCHEDULER**: Production planning for all machines
+ **TOOL HANDLING**: Shorter tool change times through assessments of the magazine configuration for subsequent orders
+ **MESSENGER**: So you are always aware of the progress in your production
+ **MACHINE CHECK**: Controlled maintenance and repairs for machines

CTX beta 800 TC

Exclusive technology cycles – complex machining programmed easily.

Highlights

+ Save 60 % more time thanks to simple programming with exclusive DMG MORI technology cycles
+ Parametrised, exclusive context menus; easy conversational input of parameters
+ Ready-made windows to enter data, easy to learn, knowledge of programming hardly needed
+ No complicated DIN programming

Technology integration

5-axis simultaneous machining

+ Machining of freeform surfaces
+ Turning and milling with interpolating B axis

Gear cutting using the hobbing method

+ Automatic generation of gears, including helical gears
+ Shifting for even wear of the milling tool
+ Previously: time-consuming DIN programming needed

Off-centre turning and milling

+ Machining off-centre features that are not on the spindle centreline

Technology integration

Multi-thread cycle

+ Cycle input is done via a user window for entering pitch, number of threads and contour

Process safety

Easy tool monitoring

+ Driven tool load monitoring during the machining process in order to avoid damage to the machine and equipment

Component quality

Alternating speeds

+ Variation of the speed of the main, counter or tool spindle in order to prevent vibrations and chatter during machining

Time reduction

Tool sorting cycle

+ Sorting of tools in the chain magazine according to the relevant tool changes in the machining program
+ Time optimised sorting in the chain magazine due to the use of the shuttle instead of the spindle

Operating comfort

Program condition control system

+ Extended program status for displaying the detailed condition of the part to the control screen
+ Display of the workpiece position in the spindle and the associated machining status (e. g. unfinished part, half finished part, machining step)

Counter spindle centre

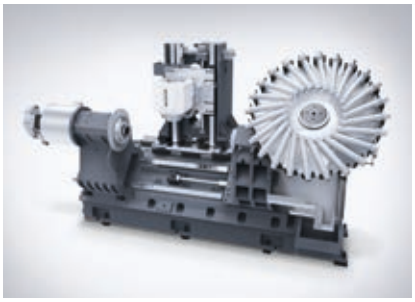
+ Cycle to automatically insert a tailstock centre into the chuck of the counter spindle from the tool magazine
+ Complete machining of shaft components on machines with counter spindles with no process interruptions
+ The centre can be loaded and unloaded via the milling spindle

CTX beta 800 TC

Up to 29 % lower energy use thanks to energy efficiency measures as standard.

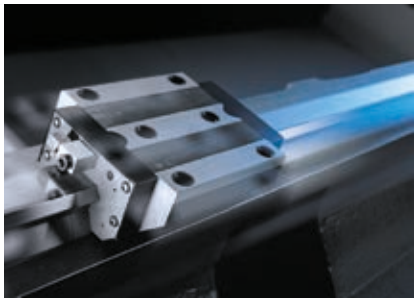
DMG MORI ENERGY SAVING

- **Coolant unit with water incorporation**
  –59.2 % / –9,120 kWh per year
- **Frequency controlled hydraulic unit**
  –16.4 % / –2,520 kWh per year
- **Energy efficient control cabinet cooler**
  –2.7 % / –420 kWh per year
- **Class IE2/3 three-phase motors**
  –0.2 % / –26 kWh per year
- **Low oil leakage clamping cylinder**
  –9.4 % / –1,440 kWh per year
- **Direct drive with asynchronous motor**
  Standard since 2009
- **Feedback of braking energy**
  Standard since 2009
- **On-demand sealing air**
  –8.3 % / –1,277 kWh per year
- **LED working area lighting**
  –1.6 % / –240 kWh per year
- **Programmable chip conveyor**
  Standard since 2009
- **AUTO*shutdown***
  or deactivation at the end of the program (30 min/day)
  –2.3 % / –354 kWh per year



Design

FEM-optimised design with high static and low moving masses.



Linear guides

Minimised friction thanks to the use of cutting edge roller bearing technology.

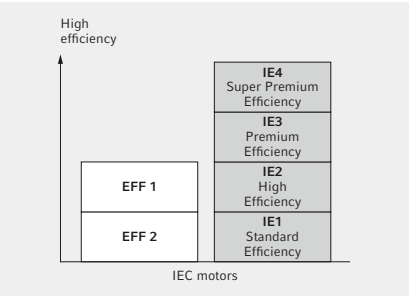
Servo technology / frequency control*

Frequency controlled coolant and hydraulic pumps instead of fixed displacement pumps with regulator technology.

* Optional

Drives

Energy recovery during the braking phases of spindles and feed drives.



Motor

Use of the latest drive motors with up to 93 % efficiency.

Cooling

Coolant unit with water incorporation for on-demand cooling output.

Energy saving

CTX beta 800 TC:
60 kVA connection,
34 kW maximum spindle output,
8.9 kW average spindle output

CTX beta 800 TC
38,004 kWh p. a. consumption
29 % saving*

40 %	60 %	80 %	100 %
KFW bank subsidies from energy savings of 20 %		Predecessor machine from 2009 (53,401 kWh per year)	

Energy consumption	
CTX beta 800 TC	38,004 kWh per year
Predecessor (2009)	53,401 kWh/a
Saving in kWh per year	**15,397 kWh per year**
Saving in %	**–29 %**

*** Basis of calculation**
Production conditions

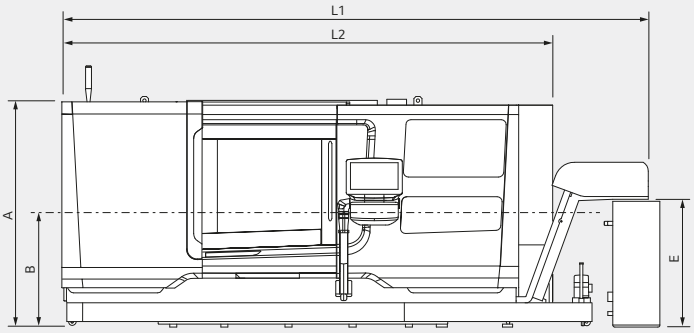
General information		
Machine capacity utilisation per day	h	16
Working days per year	Days	250
Production	%	50
Readiness for operation	%	40
Standby	%	10
Proportion of time in production		
Roughing	%	25
Average power	%	25
Finishing	%	50

CTX beta TC

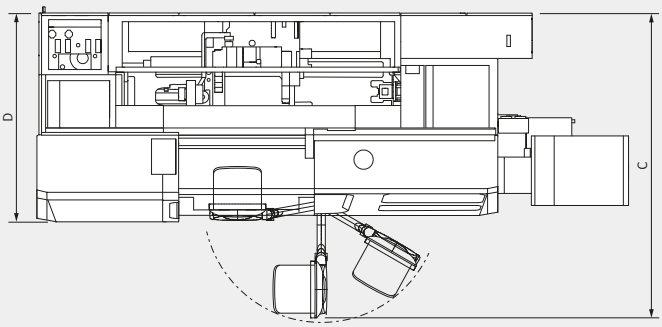
Floor plans

Floor plans

Frontal view



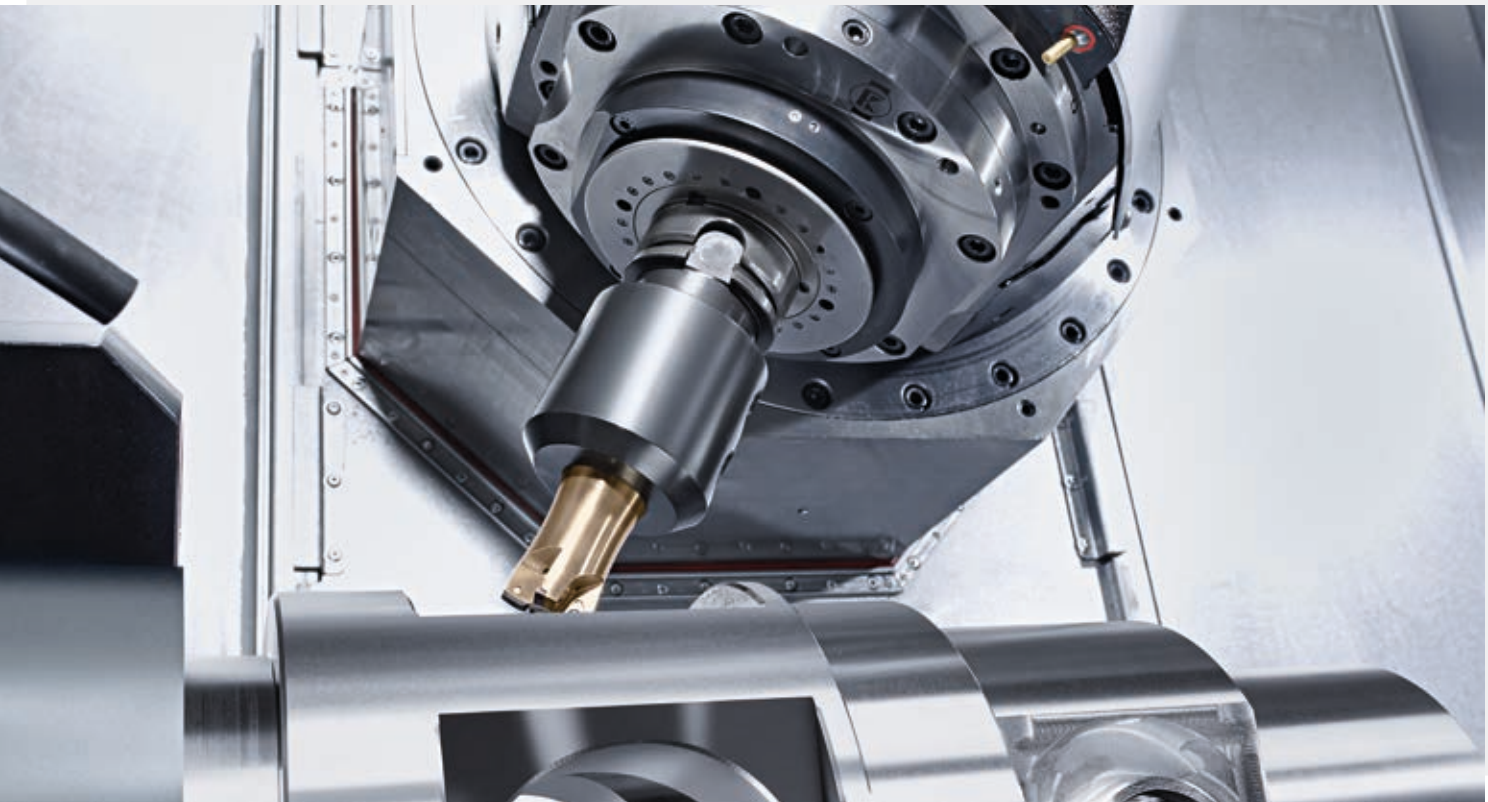
Plan view



Machine dimensions

	A	B	C	D	E	L1	L2
CTX beta 800 TC	2,247	1,050	2,910	2,065	1,269	4,957	4,100
CTX beta 1250 TC	2,247	1,040	3,061	2,065	1,269	5,854	4,900
CTX beta 2000 TC	2,344	1,290	3,323	2,588	1,298	7,193	6,295

Dimensions in mm



CTX beta TC

Technical data

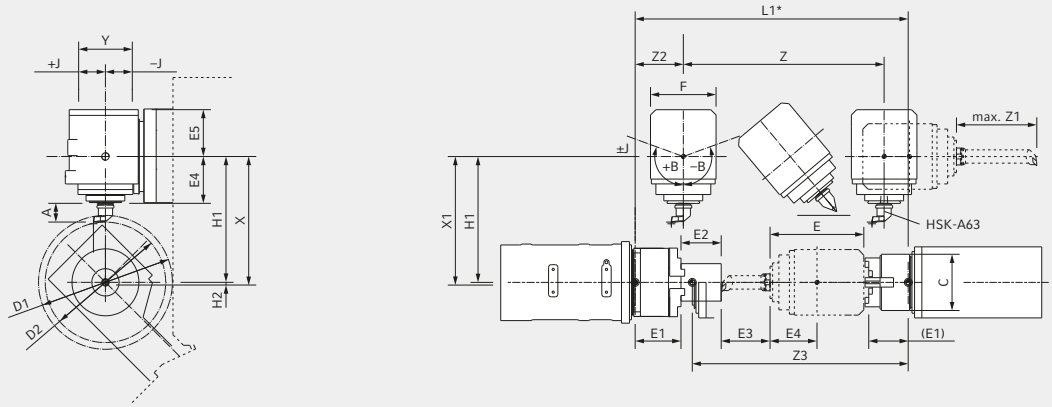
		CTX beta 800 TC	CTX beta 1250 TC (*linear*)	CTX beta 2000 TC
Working area				
Maximum swing / maximum cutting diameter	mm	500	500	630
Maximum machinable workpiece length (tailstock / counter spindle)	mm	800	1,200	2,000
Distance from main spindle to counter spindle (without chuck)	mm	1,020	1,470	2,260
Main spindle (standard)		ISM 76	ISM 76	ISM 76
Integrated spindle motor (ISM) with C axis (0.001°)	rpm	5,000	5,000	5,000
Drive power rating / torque (40 % DC)	kW / Nm	34 / 380	34 / 380	34 / 380
Front spindle bearing diameter	mm	130	130	130
Drawtube internal diameter	mm	67 (77*)	67 (77*)	67 (77*)
Spindle head (flat flange) / max. chuck diameter*	mm	170 h5 / 315	170 h5 / 315	170 h5 / 315
Counter spindle*		ISM 52	ISM 52	ISM 76
Integrated spindle motor (ISM) with C axis (0.001°)	rpm	6,000	6,000	5,000
Drive power / torque (40 % DC)	kW / Nm	27 / 170	27 / 170	34 / 380
Front spindle bearing diameter	mm	100	100	130
Drawtube internal diameter	mm	52	52	67
Spindle head (flat flange) / max. chuck diameter*	mm	140 h5 / 210	140 h5 / 210	170 h5 / 315
Turn-mill spindle (standard)		HSK-A63 (Capto C6)*	HSK-A63 (Capto C6)*	HSK-A63 (Capto C6)*
Spindle speed	rpm	12,000	12,000	12,000
Drive power / torque (40 % DC)	kW / Nm	22 / 120	22 / 120	22 / 100
B axis				
Swivel range	°	±110	±120	±120
Rapid traverse	rpm	70	70	100
Tools: Disc magazine (standard)		24 slots	24 slots	24 slots
Maximum tool diameter (free / occupied positions)	mm	ø 125 / ø 80	ø 125 / ø 80	ø 125 / ø 80
Maximum tool length	mm	300	300	300
Maximum tool weight / chip-to-chip time	kg / second	7 / 11.5	7 / 12 (11.8)	7 / 12.5
Tools: Chain magazine (optional)		48 / 80 slots	48 / 80 slots	48 / 100 slots
Maximum tool diameter (free / occupied positions)	mm	ø 120 / ø 80	ø 120 / ø 80	ø 120 / ø 80
Maximum tool length	mm	300	400	400
Maximum tool weight / chip-to-chip time	kg / second	12 / 8.5	12 / 9 (8.3)	12 / 9.5
Travelling column slideway				
X / Y / Z traverse	mm	480 [+470 / –10] / ±100 / 845	490 [+480 / –10] / ±125 / 1300	650 [+625 / –25] / ±150 / 2,050
Rapid traverse speed X / Y / Z	m/min	36 / 40 / 40	40 / 40 / 50 (40 / 40 / 60)	40 / 40 / 30
Thrust X / Y / Z (40 % DC)	kN	10 / 7.5 / 10	9 / 6 / 9 (9 / 6 / 9)	12.5 / 11 / 16
Slide for counter spindle				
Z traverse	mm	800	1,200	1,910
Z rapid traverse speed	m/min	40	30	30
Z thrust (40 % DC)	kN	10	9	16

* Optional

		CTX beta 800 TC	CTX beta 1250 TC (*linear*)	CTX beta 2000 TC
Tailstock				
Travel (hydraulic)	mm	800	1,200	1,910 (NC controlled)
Tailstock thrust	kN	8	14	18
Tailstock centre	MK	5	5	6
Machine				
Footprint of machine without chip conveyor	m^2	8.5	10.2	17.8
Discharge height chip conveyor	mm	1,270	1,270	1,250
Machine height	mm	2,300	2,300	2,380
Machine weight	kg	10,000	12,000	22,000
Controls				
Operate 4.5 on SIEMENS 840D solutionline and ShopTurn 3G: ERGO*line*® Control with 19" monitor		○	○	○
CELOS from DMG MORI with SIEMENS 840D solutionline and ShopTurn 3G: ERGO*line*® Control with 21.5"-multi-touch monitor		•	•	•

* Optional

Working area



* L2 for tailstock machine

Working area dimensions

	CTX beta 800 TC	CTX beta 1250 TC	CTX beta 2000 TC
A	70	70	70
B	110	120	120
C	210	210	250
D1	500	500	640
D2	450	470	550
E	350	350	522
E1	171.5	171.5	170
E2	150	350	480
E3	180	400	400
E4	175	175	261
E5	175	175	261
F	245	245	352
H1	470	480	625
H2	10	10	25
J	100	125	150
L1	1,020	1,470	2,260
L2	1,078	1,473,5	2,240
X	480	490	650
Y	200	250	300
Z	750	1,200	2,050
Z1	300	300**	300**
Z2	180	180	75
Z3	800	1,200	1,910

**400 with chain magazine

CTX beta TC

Options

	CTX beta 800 TC	CTX beta 1250 TC	CTX beta 2000 TC
Machine options			
Linear drive for the Z axis		○	
Differential pressure clamping for the main spindle and / or counter spindle	○	○	○
24-position disc magazine (HSK-A63, Capto C6)	•	•	•
48-position chain magazine (HSK-A63, Capto C6)	○	○	○
80-position chain magazine (HSK-A63, Capto C6)	○	○	
100-position chain magazine (HSK-A63, Capto C6)			○
Main spindle			
ISM 76 // 5,000 rpm // 34 / 25 kW // 380 / 280 Nm (40 / 100 % DC)	•	•	•
ISM 102 // 4,000 rpm // 40 / 33 kW // 700 / 580 Nm (40 / 100 % DC)	○	○	○
Counter spindle			
ISM 52 plus // 6,000 rpm // 27 / 20 kW // 170 / 127 Nm (40 / 100 % DC)	○	○	
ISM 76 // 5,000 rpm // 34 / 25 kW // 380 / 280 Nm (40 / 100 % DC)			○
ISM 76 synchro // 5,000 rpm // 32 / 25 kW // 360 / 280 Nm (40 / 100 % DC)		○	○
ISM 102 // 4,000 rpm // 40 / 33 kW // 700 / 580 Nm (40 / 100 % DC)			○
Turn-mill spindle			
compactMASTER® // 12,000 rpm // 22 / 19 kW // 120 / 87 Nm (40 / 100 % DC)	•	•	
compactMASTER® // 20,000 rpm // 22 / 19 kW // 120 / 87 Nm (40 / 100 % DC)	○	○	
Turn-mill spindle // 12,000 rpm // 22 / 13,2 kW // 100 / 60 Nm (40 / 100 % DC)			•
Turn-mill spindle // 18,000 rpm // 23 / 13,2 kW // 105 / 60 Nm (40 / 100 % DC)			○
Measuring / monitoring			
Tool measuring device	○	○	○
Mechanical drill breakage detection	○	○	○
In process workpiece measuring with measuring sensors	○	○	○
Bar machining / automation			
Bar machining package with parts catcher, hydraulic hollow clamping cylinder, quad-colour signal light and connection for a bar feed or bar loading magazine	○	○	
Bar loading magazine for max. bar length of 1.2 to 3.2 m (depending on the machine)	○	○	
Shaft machining			
Tailstock function for counter spindle	•	•	○
Steady rest slide, automatic positioning	○	○	
Steady rest slide, NC controlled			○
Steady rest clamping range of 8–101 mm	○	○	○
Steady rest clamping range of 20–165 mm	○	○	○
Steady rest clamping range of 30–245 mm			○
Steady rest clamping range of 85–350 mm			○
Steady rest quick change system	○	○	○

	CTX beta 800 TC	CTX beta 1250 TC	CTX beta 2000 TC
Clamping for the main spindle			
Chuck measuring up to ø 210 mm including accessories and chuck jaws	○	○	○
Chuck measuring up to ø 250 mm including accessories and chuck jaws	○	○	○
Chuck measuring up to ø 315 mm including accessories and chuck jaws	○	○	○
Chuck measuring up to ø 400 mm including accessories and chuck jaws	○	○	○
Clamping for the counter spindle			
Chuck measuring up to ø 170 mm ncluding accessories and chuck jaws	○	○	
Chuck measuring up to ø 210 mm including accessories and chuck jaws	○	○	○
Chuck measuring up to ø 250 mm including accessories and chuck jaws		○	○
Chuck measuring up to ø 315 mm including accessories and chuck jaws			○
Chuck measuring up to ø 400 mm including accessories and chuck jaws			○
Coolant and chip disposal			
Chip conveyor	○	○	○
Improved coolant pump, 12 bar, 23 l/min	○	○	○
8 / 20 bar with internal coolant supply, 600 l und 40 µm paper belt filter	○	○	○
8 / 20 bar with internal coolant supply, 980 l und 40 µm paper belt filter	○	○	○
8 / 20 bar with internal coolant supply, 980 l, 40 µm paper belt filter and coolant unit	○	○	○
8 / 20 / 80 bar with internal coolant supply, 980 l, 40 µm paper belt filter and coolant unit	○	○	○
Aluminium package in conjunction with paper belt filter	○	○	○
Oil mist extraction system	○	○	○
Control system / software			
DMG MORI technology cycle: 5-axis simultaneous machining	○	○	○
DMG MORI technology cycle: Milling of gears using the hobbing method	○	○	○
DMG MORI technology cycle: Off-centre turning and milling	○	○	○
DMG MORI technology cycle: Multi-thread cycle	○	○	○
DMG MORI technology cycle: Easy Tool monitoring	○	○	○
DMG MORI technology cycle: Alternating speeds	○	○	○
DMG MORI technology cycle: Tool sorting cycle	○	○	○
DMG MORI technology cycle: Program condition control system	○	○	○
DMG MORI technology cycle: Counter spindle centre	○	○	○
Sister tool management system Tool Monitor	○	○	○
Programming structure with sub-routines including graphical interface	○	○	○
DMG Netservice / DMG Service Agent	○	○	○
Miscellaneous			
Machine adaptation for increased ambient temperatures (tropical package)	○	○	○

● Standard, ○ Optional

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