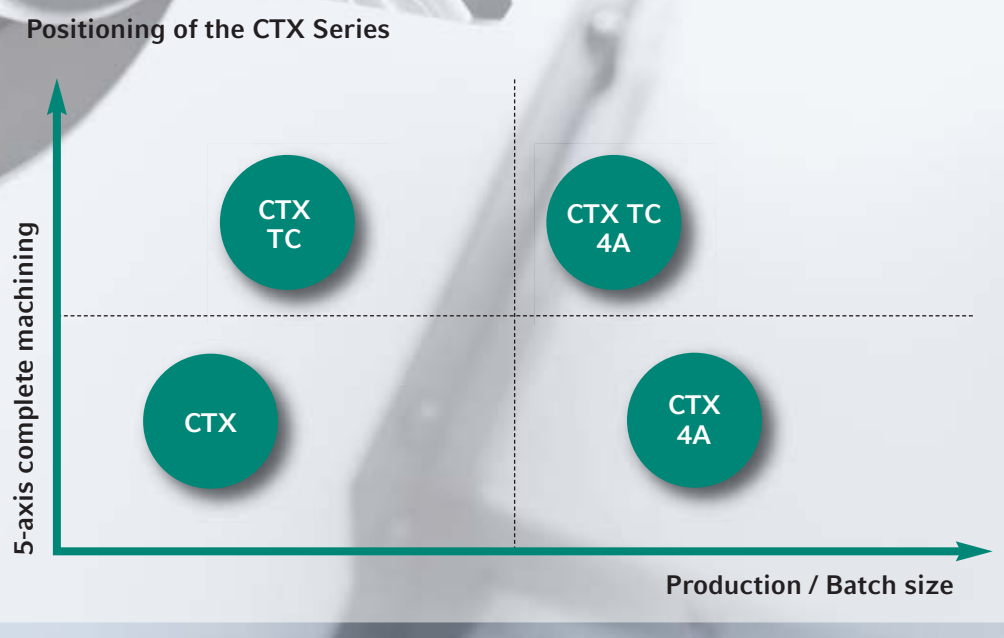
CTX 2-axis Universal Turning Machines

CTX 4-axis Production Turning Machines

CTX alpha / beta / gamma

DMG MORI SEIKI

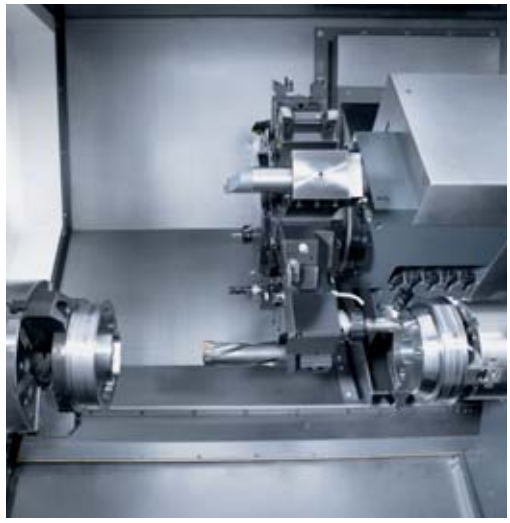
CTX alpha 500
Joint piece from airplane construction.
Made from bar using high performance turning and milling functions.



CTX alpha, beta, gamma – the series at a glance.

CTX – 2-axis universal turning

_ **Modular design** with turning diameters ranging from 200 mm to 700 mm and turning lengths from 335 mm to 3,050 mm
_ **Turret with driven tools** and a C-axis in the standard version
_ **Y-axis for complex machining** with up to **160 mm vertical traverse**
_ **Expandable** with a counter spindle for **6-sided complete machining**
_ **Direct Drive turret** with up to **34 Nm torque** optional
_ **Advanced 3D control** with the DMG ERGO*line*® control panel (SIEMENS ShopTurn 3G or HEIDENHAIN Plus iT)



CTX 4A – 4-axis production turning

_ Highest flexibility through the patented and proven **TWIN-design** with two independent work areas
_ Turning diameter up to 340 mm and turning lengths up to 800 or 1,250 mm
_ **2 × 12-pocket VDI 40** (Direct Drive turret and optional Y2-axis) on both turrets
_ **< 30 sec. tool setup** with the VDI 40 featuring the TRIFIX®-precision interface
_ **DMG ERGO*line*® control panel with the latest 3D control** SIEMENS ShopTurn 3G multi-channel programming

CTX TC – TURN & MILL complete machining*

_ **Highest machining flexibility** with up to 5-axis interpolation and up to a 240° swivel range
_ **Powerful 12,000 rpm turning/milling spindle** with an NC-controlled B-axis incl. a Direct Drive torque motor (optional: 8,000 rpm, 18,000 rpm)
_ Highest precision with glass scales in X / Y / Z
_ **TC 4A:** Highest productivity with an additional lower turret for parallel machining with two tools
_ **DMG ERGO*line*® control panel with the latest 3D control** SIEMENS ShopTurn 3G
_ **Exclusive DMG Technology Cycles** for easy and fast high-tech programming

* separate brochures

CTX alpha / beta / gamma 2-axis Universal Turning

1

2

|1| Subcontracting, belt pulley made of steel, 175 sec. machining time |2| Fluid industry, steel switch nut, 190 sec. machining time

CTX beta 4-axis production turning

3

4

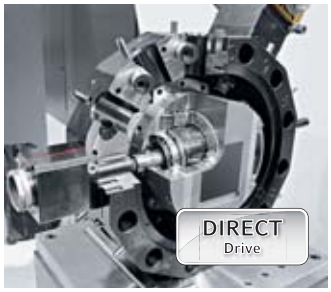
5

|3| Machine construction, steel drive shaft, 280 sec. machining time |4| Automotive, stainless steel spiral shaft, 475 sec. machining time
|5| Drive technology, cast steel steering component, 150 sec. machining time

CTX (4A) – Turret turning machines for maximum flexibility and productivity.

< 30 sec. tool setup with VDI featuring TRIFIX®

_Highest stability and a consistent precision of < 6 µm
_Comes standard for all star turrets
_Free of play and elastic double centering
_Increased rigidity through an enlarged flange contact with hole patterns

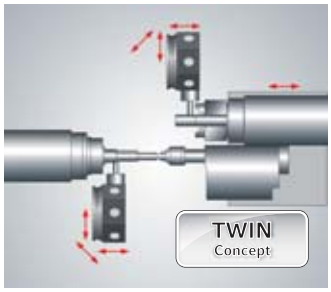


Turret with Direct Drive drive for the highest cutting performance

_alpha: 12,000 rpm, VDI 30 interface, 20 Nm and 8.4 kW of power (optional)
_beta: 10,000 rpm, VDI 40 interface, 34 Nm and 14.2 kW of power (optional)
_gamma: 4,000 rpm (conventional drive), VDI 50 interface, 85 Nm, 12.5 kW of power and six block tool mountings

Linear drive for 1 g acceleration

_Maintenance-free linear drive in the X-axis (upper turret) with 1 g acceleration for the highest dynamics and consistent precision (optional for the CTX beta)
_60-month warranty on the linear drive



4A: Patented and proven TWIN design

_Two independent work areas with a unique work area design featuring two turrets and the cross stroke of the counter spindle / tailstock combination
_24 driven VDI 40 tools (TRIFIX®) and a Direct Drive turret (optional)
_Up to two Y-axes for the machining of complex parts (lower turret optional)

3D control with exclusive DMG Technology Cycles

_SIEMENS 840D solutionline with ShopTurn 3G for comfortable programming with animated images
_Exclusive DMG Technology Cycles for easy dialogue-guided programming with parameterised input masks

CTX – 2-axis universal turning of work pieces up to ø 700 mm and 3 m long.

_ Fast chip-to-chip times through with the quick turret indexing (30°, 0.4 sec.)
_ < 30 sec. retooling with the TRIFIX® precision quick change system (standard for star turrets)
_ Highest consistent precision with glass scales in the X-axis (standard)
_ Maximum thermal stability through water-cooled spindle motors
_ Highest cutting performance with the Direct Drive turret featuring driven tools for up to 34 Nm on the CTX alpha and beta (optional)
_ **NEW: Six tool stations with block tool screw fastening on the turret for maximum stability (CTX beta and gamma)**

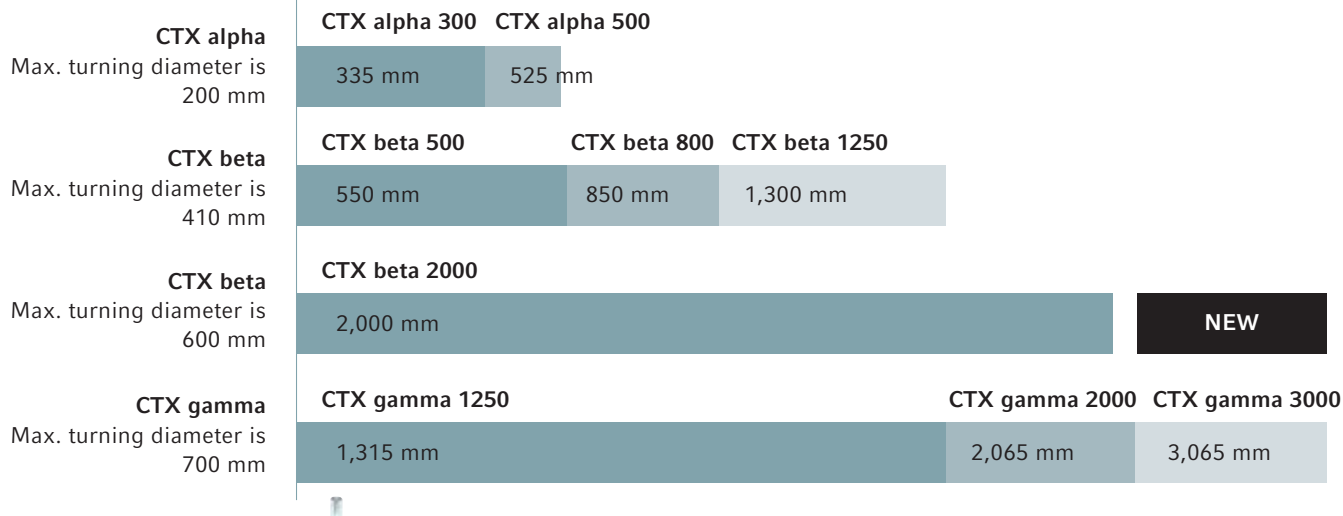
Highlights
CTX alpha 300 / 500

_ ISM 52 integrated spindle motor with up to 6,000 rpm, 20 kW and 127 Nm
_ Integrated C-axis with 0.001° resolution
_ Bar machining for work pieces up to ø 65 mm optional
_ Complete machining through the optional counter spindle and star turret for the CTX alpha 500
_ 12-pocket turret with a tool drive (VDI 30), 5,000 rpm, 5.4 kW and 18 Nm
_ Tailstock
_ Y-axis with ±40 mm vertical traverse optional

Highlights
CTX beta 500 / 800 / 1250 (*linear*)

_ ISM 76 integrated spindle motor with 5,000 rpm, 34 kW and 380 Nm (beta 1250 with ISM 102, 4,000 rpm, 45 kW and 770 Nm)
_ Integrated C-axis with 0.001° resolution
_ Bar machining for work pieces up to ø 102 mm optional
_ Complete machining with the optional counter spindle and star turret
_ 12-pocket turret with a tool drive (VDI 40), 4,000 rpm, 11.3 kW and 28 Nm + six stations with block tool screw fastening
_ Tailstock
_ Y-axis with ±60 mm vertical traverse optional

Turning length



linear DRIVE

Highlights
NEW: CTX beta 2000 (*linear*)

_ Integrated spindle motor ISM 102 with 4,000 rpm, 45 kW and 770 Nm
_ Integrated C-axis with 0.001° resolution
_ Bar machining for workpieces up to ø 110 mm in diameter optional
_ 12-fold turret with tool drive (VDI 50), 4,000 rpm, 12.5 kW and 85 Nm + six stations with block tool screw fastening
_ Tailstock, optionally NC-controlled
_ Y-axis with ±75 mm optional
_ Optimal accessibility due to double sliding door

Highlights
CTX gamma 1250 / 2000 (*linear*) / 3000

_ Integrated spindle motor ISM 102 PLUS with 2,500 rpm, 52 kW and 2,200 Nm (gamma 3000 with ISM 127, 2,500 rpm, 52 kW and 2,200 Nm)
_ Integrated C-axis with 0.001° resolution
_ Bar machining for workpieces up to ø 102 mm in diameter optional (CTX gamma 3000 on request)
_ 12-fold turret with tool drive (VDI 50), 4,000 rpm, 12.5 kW and 85 Nm + six stations with block tool screw fastening
_ Tailstock, NC-controlled
_ Y-axis with ±80 mm optional

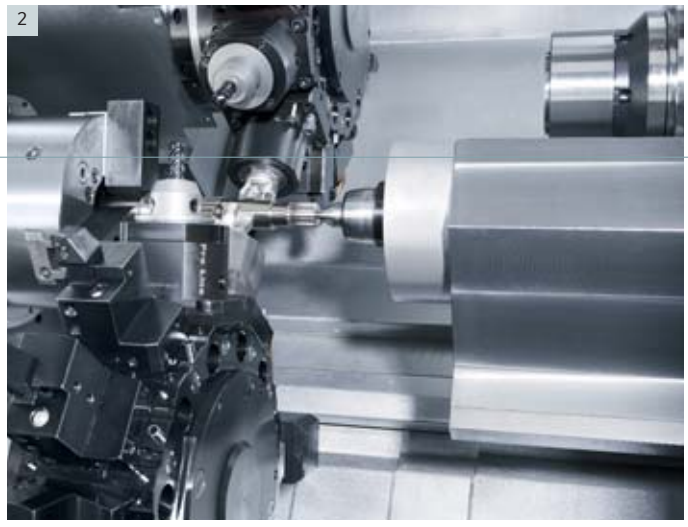
TWIN Concept

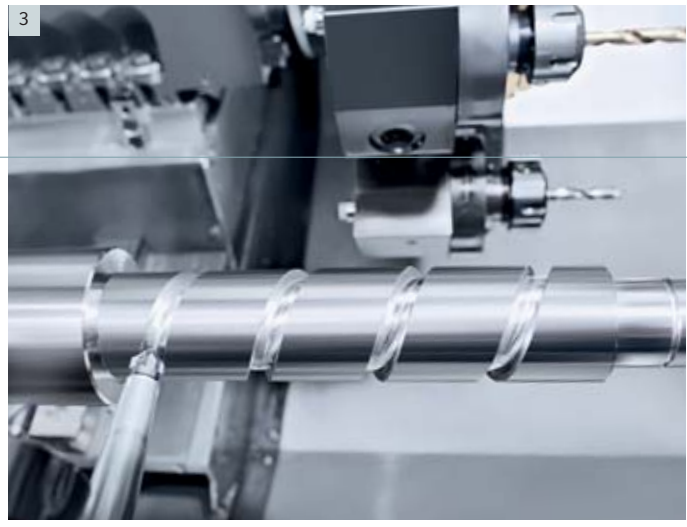
CTX beta 4A – 4-axis production turning with the patented TWIN design.

Highlights

_ **Machine with two turrets**, as well as the main and counter spindle in the standard version
_ Optimal work area use through the unique work area design with **two turrets and the cross stroke* of the counter spindle/tailstock combination**
_ Y-axis on both turrets (top is ±60 mm, bottom* is ±40 mm) for the productive complete machining of bars, shafts and feed parts
_ Two VDI 40 star turrets with a total of 24 driven tool pockets and VDI 40 **TRIFIX®-precision quick change system**
_ < 30 sec. tool setup with the TRIFIX® precision quick change system
_ **Direct Drive* turret** with 10,000 rpm, 14.2 kW and 34 Nm for the highest removal rates
_ **Highest consistent precision** with the glass scales in both X-axes
_ Maximum thermal stability through the water-cooled spindle motors
_ **DMG ERGO*line*® control** with SIEMENS and ShopTurn 3G for up to 60 % faster programming through the **innovative multi-channel programming**

* Option



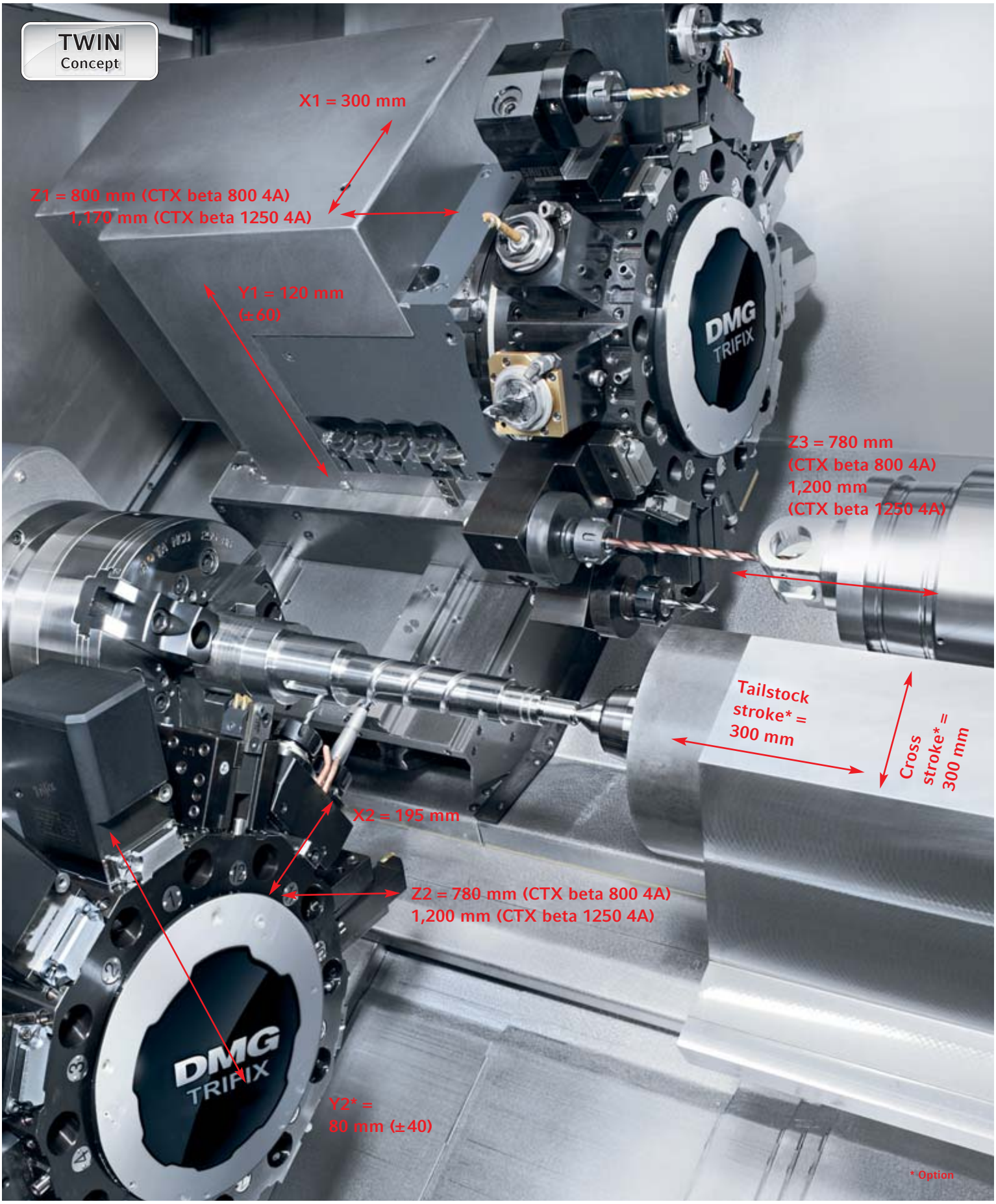


|1| TWIN design: 4-axis machining on the counter spindle with the upper and lower turrets
|2| TWIN design: 4-axis machining on the main spindle and work piece support with the tailstock
|3| TWIN design: parallel machining on the main and counter spindle

Turning length

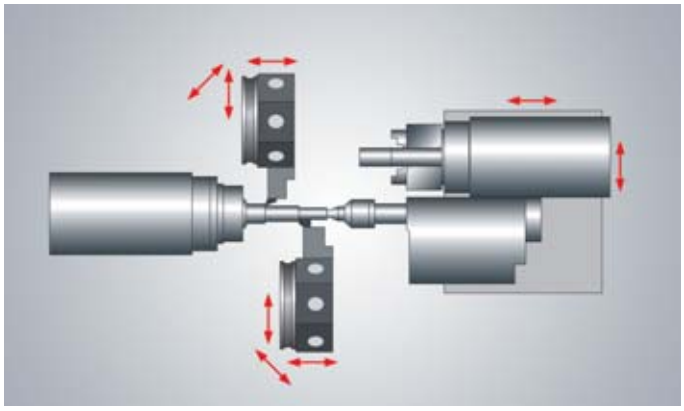
CTX beta 4A
Max. turning diameter is 340 mm

CTX beta 800 4A	CTX beta 1250 4A
800 mm	1,200 mm


TWIN
Concept
X1 = 300 mm
Z1 = 800 mm (CTX beta 800 4A)
1,170 mm (CTX beta 1250 4A)
Y1 = 120 mm
(±60)
Z3 = 780 mm
(CTX beta 800 4A)
1,200 mm
(CTX beta 1250 4A)
Tailstock
stroke* =
300 mm
Cross
stroke* =
300 mm
X2 = 195 mm
Z2 = 780 mm (CTX beta 800 4A)
1,200 mm (CTX beta 1250 4A)
Y2* =
80 mm (±40)
* Option

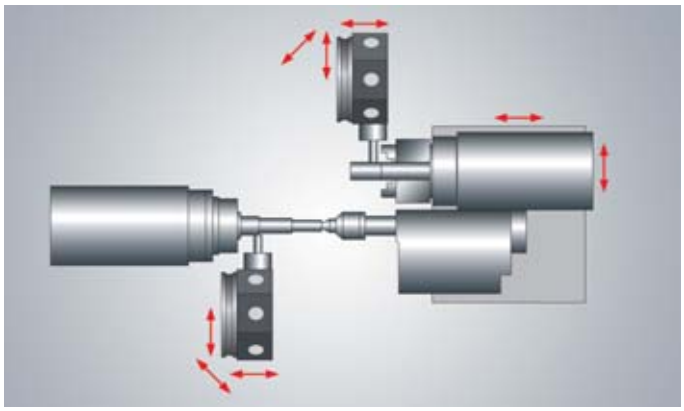
TWIN Concept

TWIN design – over 1,500 machines installed.



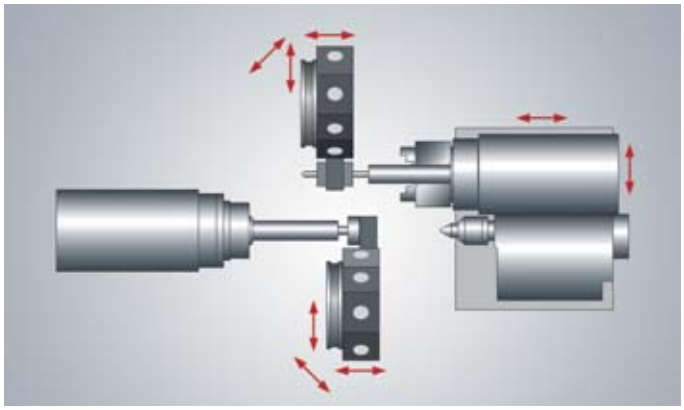
Example 1

_ Collision-free machining with two turrets
_ 4-axis machining of longer and thinner shafts with support from the independent traversable tailstock*
_ Y-axes for challenging complete machining (lower Y-axis is optional)



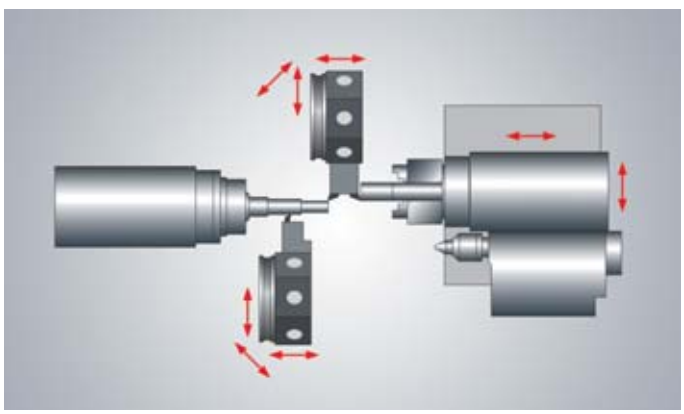
Example 2

_ Two independent work area through the cross stroke
_ Collision-free machining with two turrets and a tailstock
_ 2 × 2 axes machining



Example 3

_ Cross traversable counter spindle for the face machining of longer parts on the main and counter spindle
_ Collision-free machining with two turrets and tools up to 300 mm
_ 2 × 2 axes machining

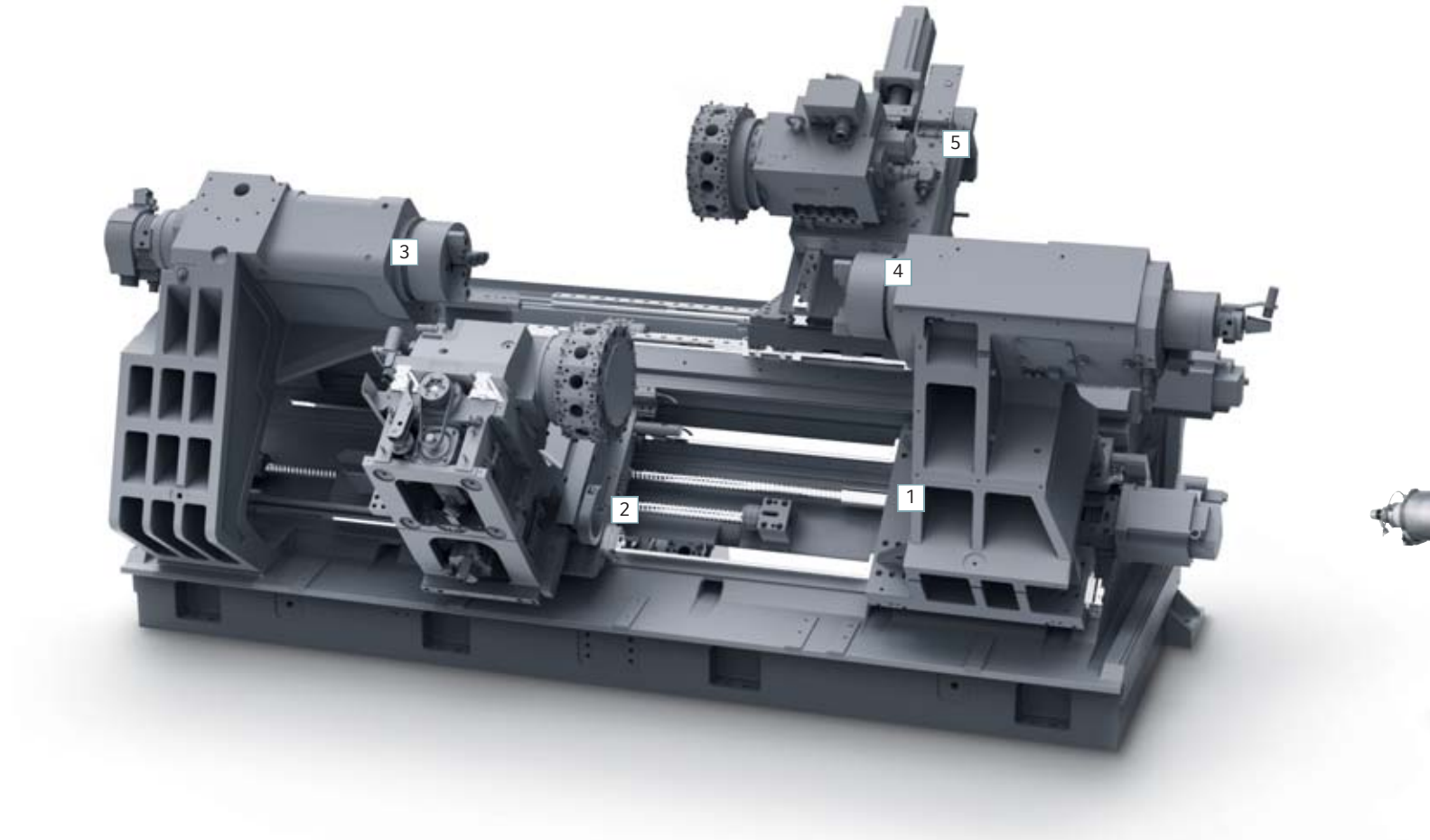


Example 4 – 3 tool strategy *

_ Tool 1 on the main spindle and tool 2 on the counter spindle (coupled operation on turret 1)
_ Tool 3 on the main spindle (turret 2)
_ 3 × 2 axes

*Optional

CTX alpha / beta / gamma: high stability and consistent precision.



Highly stable machine design

|1| Highest stability
Constant rigidity through the robust guides with sizes 55 and up to 50 mm ball screw drives

|2| Optimal chip flow
45° bed and steep covers, temperature influence from hot chips is eliminated

|3| Long-lasting precision
Direct measuring system in the X-axis (Y- and Z-axes optional)

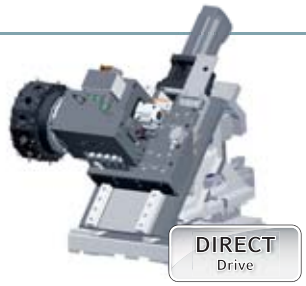
|4| Thermal stability
Liquid-cooled main and counter spindle*, Direct Drive turret (optional)

|5| Highest dynamics
Maintenance free linear drive in the X-axis* with 1 g acceleration for the highest dynamics and consistent precision

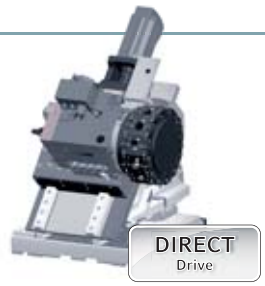
* Option

Intelligent modular system for machining requiring two or four axes.

Tool slide on top with a linear drive in the X-axis
(not for beta 4A and gamma 3000)



Star turret on the left top side
(also as Direct Drive for alpha and beta)

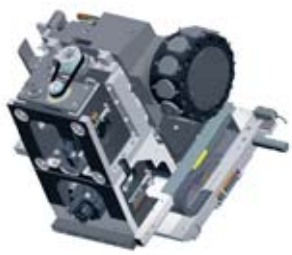


Star turret on the top right, also available as a Direct Drive
(only for the beta 4A)

Main spindle up to ISM 127 PLUS
(max. 6,000 rpm, or 59 kW and 4,000 Nm)

Basic machine comes with a disc turret and tailstock

Counter spindle up to ISM 76
(max. 6,000 rpm, or 32 kW and 360 Nm // for gamma as a special solution)



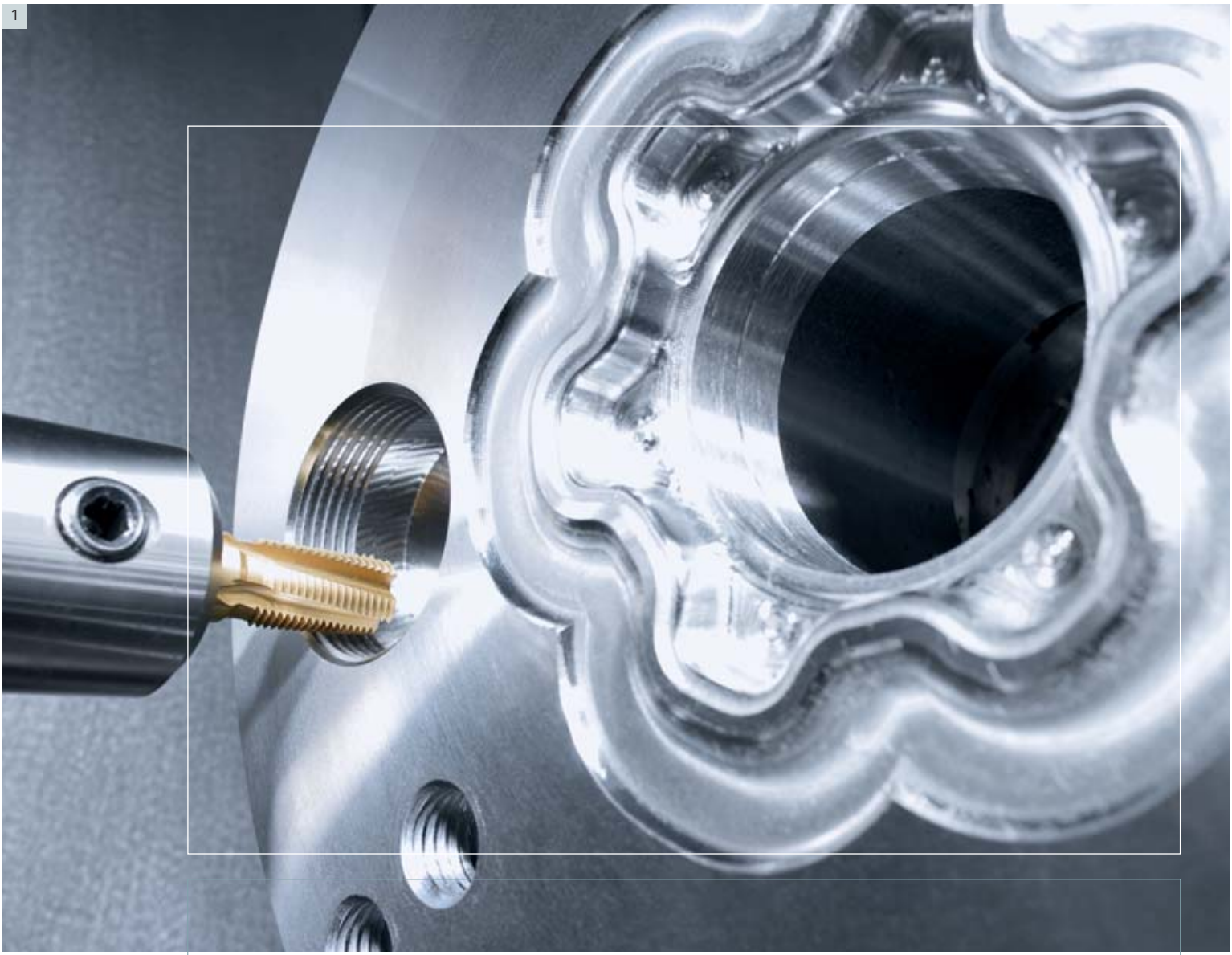
Turret available on the bottom for the beta 4A, also as a Direct Drive
with Y-axis

Cross traversable counter spindle / tailstock combination
(only for the beta 4A – TWIN // ISM 76 for up to 5,000 rpm, 32 kW and 360 Nm)

CTX alpha	CTX beta 500 / 800 / 1250 CTX beta 4A	CTX beta 2000	CTX gamma
35 mm Ball guides	45 mm Roller guides	45 / 55 / 55 mm (X / Y / Z) Rollerguides	55 mm Roller guides
32 mm Ball screw drives	40 mm Ball screw drives	40 / 40 / 50 mm (X / Y / Z) Ball screw drives	50 mm Ball screw drives
Glass scales in the X-axis			
Glass scales in the Y and Z-axes optional			Glass scales in the Y and Z-axes
Water-cooled, integrated spindle motors			
Cooling of the turret drives (on Direct Drive)			
	4A: Cooling of the X- / Y- / Z motors of the lower turret		

Highest precision and temperature stability by cooling the main and counter spindle and with the direct measuring system.

1



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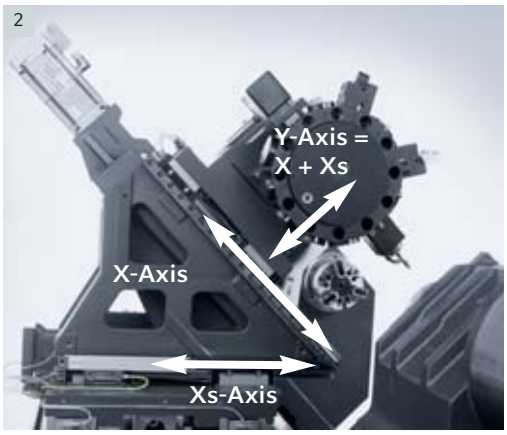


3

|1| Eccentric machining with the Y-axis on the counter spindle **|2|** Y-axis in the highly stabile wedge slide design
|3| Bezel with automatically traversable steady rest carrier for the vibration-free machining of long parts

Customer options for more productivity.

Highlights

_ Maintenance-free linear drives* in the X-axis with 1 g acceleration and 60 m rapid traverse for minimal downtime

_ Y-axis* for the eccentric complete machining of complex workpieces; maximum rigidity by using the wedge slide principle

- CTX alpha 300 / 500: 80 mm (±40)
- CTX beta 500 / 800 / 1250: 120 mm (±60)
- CTX beta 2000: 150 mm (±75)
- CTX gamma 1250 / 2000 / 3000: 160 mm (±80)
- CTX beta 800 / 1250 4A: 120 mm (±60) for the upper turret as a standard option
  80 mm (±40) for the lower turret (direct stroke)*

_ Automatic traversable steady* for vibration-free machining of large parts, including shafts

- CTX beta 800 / 1250: 8 up to 200 mm clamping diameter,
  (not in combination with a counter spindle)
- CTX beta 2000: 8–350 mm chuck diameter (trailing, or optionally
  using independent NC-axis)
- CTX gamma 1250 / 2000 / 3000: 20 up to 460 mm clamping diameter
  (control over one NC-axis)
- Special bezels available upon request

* Optional

TRIFIX

TRIFIX® – fast and precise setup with CDI compatibility.

1

2

Highlights
TRIFIX®-precision interface

_ **Standard for all star turrets**
_ **< 30 sec. tool setup through the VDI with TRIFIX®**
_ **Highest stability and consistent precision:** free of play and elastic double centring and greater rigidity through the enlarged flange contact surface and hole pattern
_ **< 6 µm consistent precision** (same tool, same pocket)
_ **< 10 µm positioning precision from one station to another**
_ Completely aligned driven tools
_ VDI recordings usable
_ Use of larger tools with up to a **4:1 gear ratio** through the compact turret design

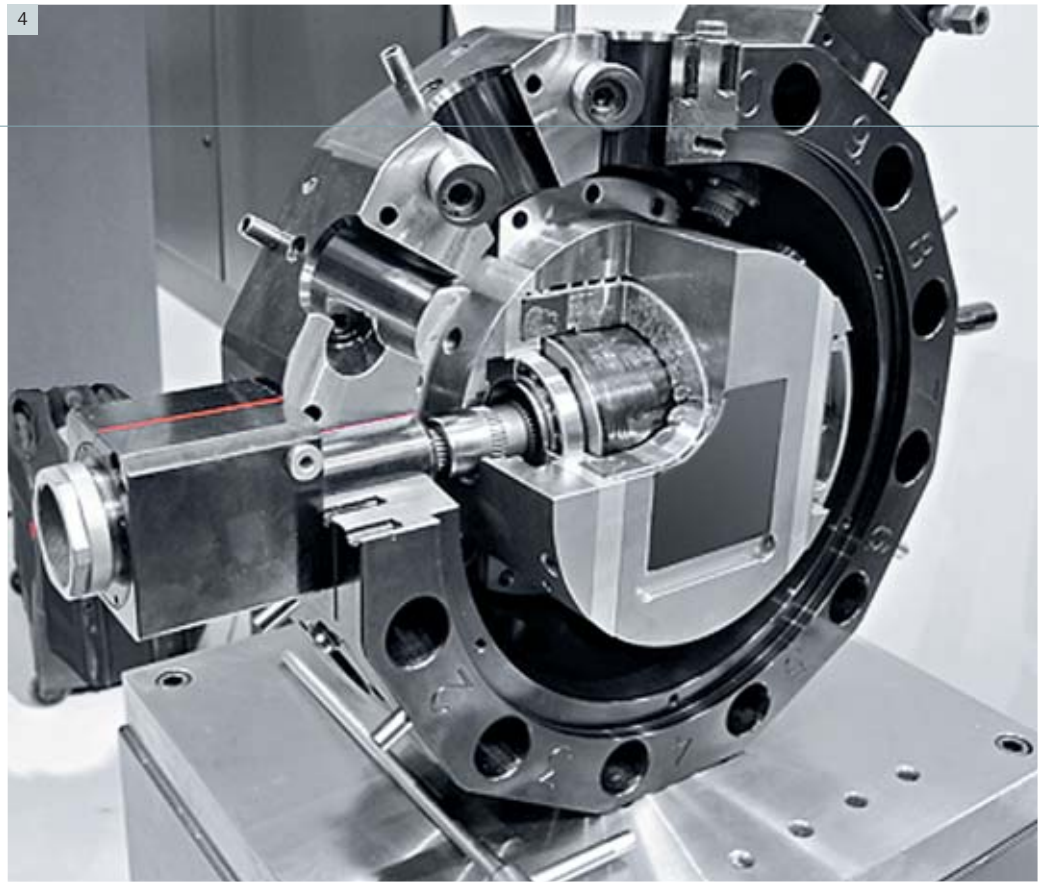
3

|1+2| Tools with TRIFIX® recording for the highest stability and 6 µm consistent precision **|3|** 12-pocket turret with TRIFIX® recording for < 10 µm positioning accuracy **|4|** Direct Drive turret with TRIFIX® recording for speeds up to 12,000 rpm

DIRECT Drive

Direct Drive turret with up to 12,000 rpm, for more productivity and the highest removal rate.

4



Highlights

_ **Wear-resistant direct drive** with low heat generation by eliminating the Gearbox and liquid cooling
_ Smoother running with the gearless drive, maximum tool life
_ **Higher speed, performance and torque** than conventional drives, optional as a star turret for the following machines:
  • CTX alpha: VDI 30, 12,000 rpm, 8.4 kW and 20 Nm
  • CTX beta: VDI 40, 10,000 rpm, 14.2 kW and 34 Nm
_ **TRIFIX®-precision interface** with < 30 sec. tool setup (standard)
_ **Up to 160 Nm torque through** a gear ratio of 4:1

Intelligent tool handling for the highest productivity.

DMG Automation	CTX alpha	CTX beta	CTX gamma
WH 3	•	•	–
WH 10 / WH 25	•	•	–
WH 10 TOP	•	•	–
Additional solutions			
Articulating arm robot	•	•	•
Gantry loader	•	•	•
Expansion stages / Peripherals			
Washing	•	•	•
Burring	•	•	•
Measuring	•	•	•
Work piece labelling	•	•	•

|1+2| Removal of a finished work piece from the main spindle and placement on the conveyor belt

Complete package for bar machining

_ Automatic workpiece pick-up device
_ Transporting conveyer belt for transporting the workpieces out of the machine
_ Preparation for bar feed or bar loading magazine

CTX alpha	CTX beta	CTX beta 4A	CTX gamma 1250
ø 65 × 200 mm	ø 102 × 250 mm	ø 102 × 600 mm	ø 102 × 250 mm
3 kg	6 kg	10 kg	15 kg

Integrated handling system for the CTX beta 800 / 1250 4A

_ NC-controlled loading and unloading device with double gripper for the main and counter spindle
_ Workpieces up to ø 250 mm, 40–160 mm long and 15 kg
_ Pallet carousel with 17 pallet stations

WH 10 TOP work piece handling

_ Space-saving automation for work pieces up to 10 kg
_ 6-axis industrial robot, load tolerance of 10 kg and 2,017 mm work radius
_ Flexible, integrated work piece magazine of your choice with a rotary indexing table, conveyor belt or thrust loading system with a load capacity of 40 kg (per drawer)
_ for the CTX alpha 300 / 500
_ for the CTX beta 500 / 800

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|1| CTX beta 800 with WH 10 TOP work piece handling **|2|** Work piece storage as a drawer **|3|** Work piece unloading on a CTX beta **|4|** CTX alpha 500 with WH 3 work piece handling

WH 3 work piece handling

_ Retrofit automation for workpieces up to 3 kg
_ 6-axis industrial robot, load capacity 3 kg and 892 mm working radius
_ 15-pocket paternoster system
_ Optional: shifting system for optimal machine availability
_ for the CTX alpha 300 / 500
_ for the CTX beta 500 / 800

4

Integrated spindle drive with up to 4,000 Nm for the best cutting performance.

Highlights

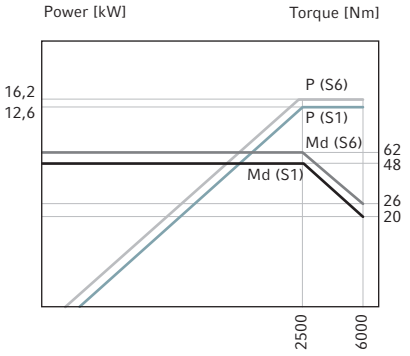
_ Highest dynamics through the integrated spindle drive with up to 6,000 rpm or 4,000 Nm and an integrated C-axis (0.001°)
_ Highest precision and temperature stability with the water-cooled drives on the main and counter spindle
_ 6-sided complete machining with the counter spindle starting with the CTX alpha 500; counter spindle for the gamma machines as a special option

Motor spindle	**Machine**															
Type // Speed // Power (40 / 100 % DC) // Torque (40 / 100 % DC) // Bar passage // Spindle head (flat faced flange)	**CTX alpha 300**		**CTX alpha 500**		**CTX beta 500/800**		**CTX beta 1250**		**CTX beta 4A 800/1250**		**CTX beta 2000**		**CTX gamma 1250/2000**		**CTX gamma 3000**	
	HS	**–**	**HS**	**GS**	**HS**	**GS**	**HS**	**GS**	**HS**	**GS**	**HS// GS = Special**		**HS// GS = Special**		**HS// GS = Special**	
ISM 36 // 6,000 rpm 16.2 / 12.6 kW // 62 / 48 Nm 36 mm / 140h5				●												
ISM 52 // 6,000 rpm 20 / 15 kW // 127 / 95 Nm 51 (65) mm // 140h5	●					○		○								
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 65 (76) mm // 170h5					●											
ISM 76 synchro // 5,000 rpm 32 / 25 kW // 360 / 280 Nm 65 (76) mm // 170h5						○		○	●	●						
ISM 102 // 4,000 rpm 45 / 35 kW // 770 / 600 Nm 93 (102) mm // 220h5					○		●				●					
ISM 102 synchro // 4,000 rpm 48 / 40 kW // 680 / 570 Nm 102 mm // 220h5									○							
ISM 102 plus // 2,500 rpm 52 / 40 kW // 2,200 / 1,700 Nm 102 mm // 220h5											○		●			
ISM 127 // 2,500 rpm 52 / 40 kW // 2,200 / 1,700 Nm – // A15													○		●	
ISM 127 plus // 2,000 rpm 59 / 50 kW // 4,000 / 3,400 Nm – // A15													○		○	

HS = Main spindle, GS = Counter spindle, ● Standard, ○ Option

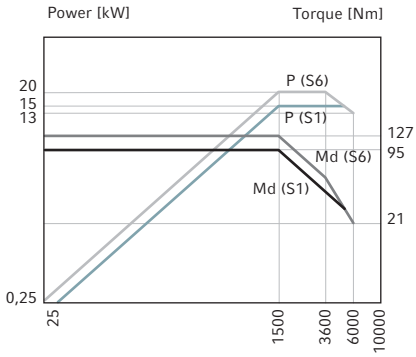
ISM 36

6,000 rpm / 16.2 kW / 62 Nm



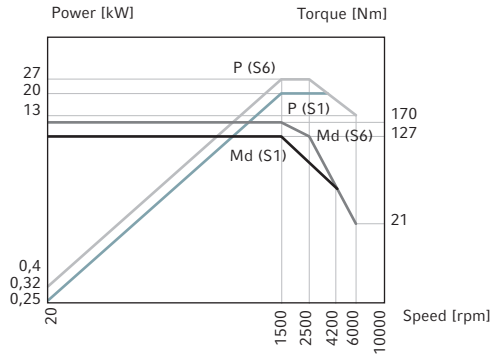
ISM 52

6,000 rpm / 20 kW / 127 Nm



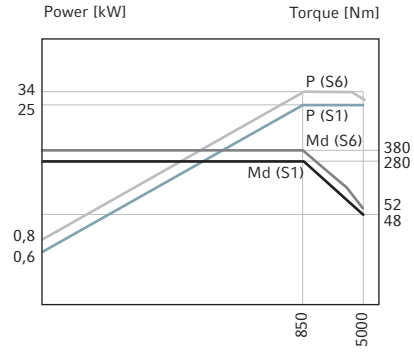
ISM 52 plus

6,000 rpm / 27 kW / 170 Nm



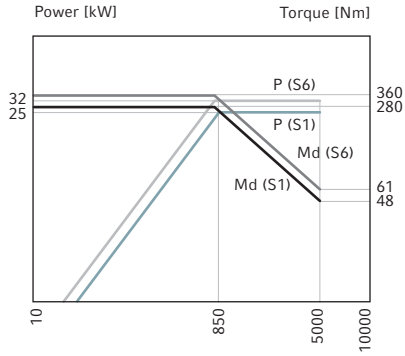
ISM 76

5,000 rpm / 34 kW / 380 Nm



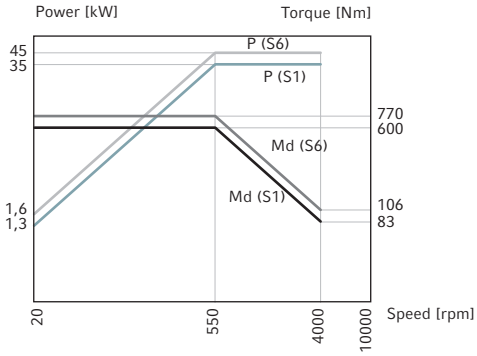
ISM 76 synchro

5,000 rpm / 32 kW / 360 Nm



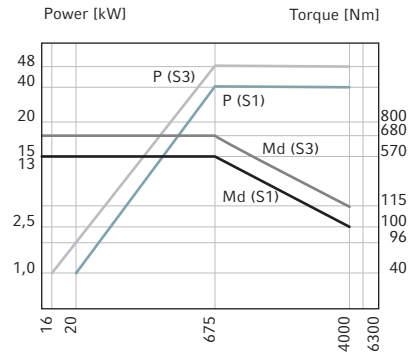
ISM 102

4,000 rpm / 45 kW / 770 Nm



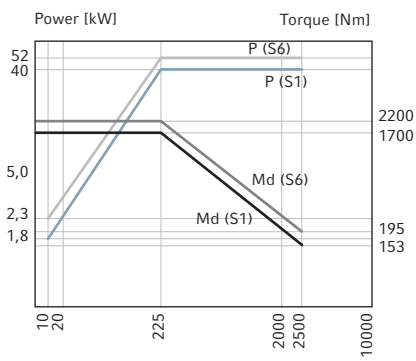
ISM 102 synchro

4,000 rpm / 48 kW / 680 Nm



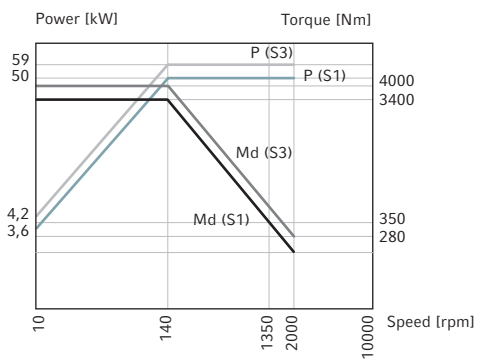
ISM 102 plus // ISM 127

2,500 rpm / 52 kW / 2,200 Nm



ISM 127 plus

2,000 rpm / 59 kW / 4,000 Nm



Performance turning up to 59 kW and 4,000 Nm of torque.

ISM 36 // CTX alpha 500 Counter spindle

16.2 kW, 62 Nm, 6,000 rpm

Performance roughing (CK45 // 36 mm part diameter)		
Removal rate	cm^3/min	336
Cutting depth	mm	4
Cutting speed	m/min	240
Feed rate	mm/U	0.35

Performance milling (CK45)		
Tool diameter	mm	28
Spindle speed	U/min	909
Cutting speed	m/min	80
Feed rate	mm/U	0.15

ISM 52 // CTX alpha 300 Main spindle // CTX beta 500 / 800 / 1250 Counter spindle

20 kW, 127 Nm, 6,000 rpm

Performance roughing (CK45 // 75 mm part diameter)		
Removal rate	cm^3/min	336
Cutting depth	mm	4
Cutting speed	m/min	240
Feed rate	mm/U	0.35

Performance milling (CK45)		
Tool diameter	mm	40 (30)
Spindle speed	U/min	636 (848)
Cutting speed	m/min	80
Feed rate	mm/U	0.15

ISM 52 Plus // CTX alpha 500 Main spindle

27 kW, 170 Nm, 6,000 rpm

Performance roughing (CK45 // 75 mm part diameter)		
Removal rate	cm^3/min	420
Cutting depth	mm	5
Cutting speed	m/min	240
Feed rate	mm/U	0.35

Performance milling (CK45)		
Tool diameter	mm	30
Spindle speed	U/min	848
Cutting speed	m/min	80
Feed rate	mm/U	0.15

ISM 76 synchro // CTX beta 500 / 800 / 1250 option Counter spindle // CTX beta 800 / 1250 4A Main spindle and counter spindle

32 kW, 360 Nm, 5,000 rpm

Performance roughing (CK45 // 150 mm part diameter)		
Removal rate	cm^3/min	462
Cutting depth	mm	5.5
Cutting speed	m/min	240
Feed rate	mm/U	0.35

Performance milling (CK45)		
Tool diameter	mm	55 / 65*
Spindle speed	U/min	462 (391)
Cutting speed	m/min	80
Feed rate	mm/U	0.15

* on the CTX beta 800 / 1250 4A

ISM 76 // CTX beta 500 / 800 Main spindle

34 kW, 380 Nm, 5,000 rpm

Performance roughing (CK45 // 150 mm part diameter)		
Removal rate	cm^3/min	504
Cutting depth	mm	6
Cutting speed	m/min	240
Feed rate	mm/U	0.35

Performance milling (CK45)		
Tool diameter	mm	55
Spindle speed	U/min	462
Cutting speed	m/min	80
Feed rate	mm/U	0.15

ISM 102 synchro // CTX beta 800 / 1250 4A option Main spindle

48 kW, 680 Nm, 4,000 rpm

Performance roughing (CK45 // 200 mm part diameter)		
Removal rate	cm^3/min	630
Cutting depth	mm	7.5
Cutting speed	m/min	240
Feed rate	mm/U	0.35

Performance milling (CK45)		
Tool diameter	mm	72
Spindle speed	U/min	462
Cutting speed	m/min	80
Feed rate	mm/U	0.15

1

|1| Integrated spindle motor for the best performance

ISM 102 // CTX beta 1250 / 2000 Main spindle //
CTX beta 500 / 800 option Main spindle
45 kW, 770 Nm, 4,000 rpm

Performance roughing (CK45 // 200 mm part diameter)		
Removal rate	cm^3/min	714
Cutting depth	mm	8.5
Cutting speed	m/min	240
Feed rate	mm/U	0.35

Performance milling (CK45)		
Tool diameter	mm	55
Spindle speed	U/min	462
Cutting speed	m/min	80
Feed rate	mm/U	0.15

ISM 102 plus // CTX gamma 1250 / 2000 Main spindle //
CTX beta 2000 main spindle option
52 kW, 2,200 Nm, 2,500 rpm

Performance roughing (CK45 // 400 mm part diameter)		
Removal rate	cm^3/min	1,080
Cutting depth	mm	10
Cutting speed	m/min	240
Feed rate	mm/U	0.45

Performance milling (CK45)		
Tool diameter	mm	72
Spindle speed	U/min	353
Cutting speed	m/min	80
Feed rate	mm/U	0.15

ISM 127 // CTX gamma 3000 Main spindle //
CTX gamma 1250 / 2000 option Main spindle
52 kW, 2,200 Nm, 2,500 rpm

Performance roughing (CK45 // 400 mm part diameter)		
Removal rate	cm^3/min	1,080
Cutting depth	mm	10
Cutting speed	m/min	240
Feed rate	mm/U	0.45

Performance milling (CK45)		
Tool diameter	mm	72 / 105*
Spindle speed	U/min	353 / 242*
Cutting speed	m/min	80
Feed rate	mm/U	0.15

* on the CTX gamma 3000

ISM 127 Plus // CTX gamma 1250 / 2000 / 3000 option
Main spindle
59 kW, 4,000 Nm, 2,000 rpm

Performance roughing (CK45 // 500 mm part diameter)		
Removal rate	cm^3/min	1,584
Cutting depth	mm	12
Cutting speed	m/min	240
Feed rate	mm/U	0.55

Performance milling (CK45)		
Tool diameter	mm	72 / 105*
Spindle speed	U/min	353 / 242*
Cutting speed	m/min	80
Feed rate	mm/U	0.15

* on the CTX gamma 3000

Direct Drive turret with up to 12,000 rpm, for more productivity with the highest removal rates.

Highlights

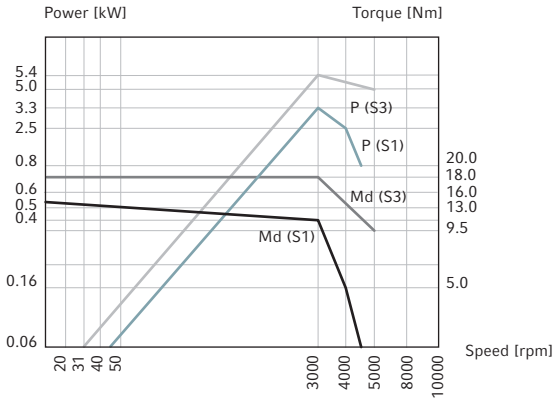
_ TRIFIX® precision quick change system for all machines with a counter spindle, turret serves as a star turret
_ NEW: Maximum stability due to six-block tool stations on the VDI 40 and VDI 50 turrets on the CTX beta and gamma machines (12-fold disk turret)
_ Direct Drive turret with up to 12,000 rpm optional for the alpha and beta machines (star turret)
_ Larger tools for the best cutting performance through an up to 4:1 gear ration for the Direct Drive turret

Turret	**Machine**				
Type // Speed // Performance (40 / 100 % DC) // Torque (40 / 100 % DC)	**CTX alpha 300**	**CTX alpha 500**	**CTX beta 500/800/1250 CTX beta 4A 800/1250**	**CTX beta 2000 CTX gamma 1250/2000**	**CTX gamma 3000**
VDI 30, 12 times disc turret* // 12 × 5,000 rpm 5.4 / 3.3 kW // 18 / 13 Nm	●	●			
VDI 30, 16 times disc turret* // 8 × 5,000 rpm 5.4 / 3.3 kW // 18 / 13 Nm	○	○			
VDI 30, 12 times star turret // Direct Drive TRIFIX® // 12 × 12,000 rpm 8.4 / 7.5 kW // 20 / 16 Nm	○	○			
VDI 30, 16 times disc turret* // 16 × 4,000 rpm 11.3 / 5.6 kW // 28 / 18 Nm			○		
VDI 40, 12 times disc turret* // 12 × 4,000 rpm 11.3 / 5.6 kW // 28 / 18 Nm			●		
VDI 40, 12 times star turret // Direct Drive TRIFIX® // 12 x 10,000 rpm 14.2 / 10.9 kW // 34 / 26 Nm			○	○ (only for beta)	
VDI 40, 16 times disc turret // 16 × 4,000 rpm 12.5 / 8 kW // 85 / 50 Nm				○	
VDI 50, 12 times disc turret // 12 × 4,000 rpm 12.5 / 8 kW // 85 / 50 Nm				●	●

* Designed as star turret with on machines with counter spindle (alpha: 16-fold star turret with VDI 25), ● Standard, ○ Option

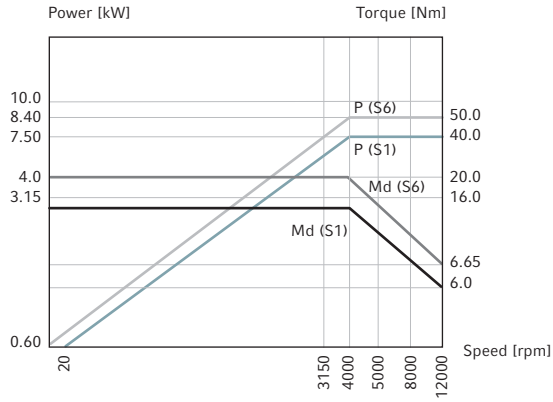
CTX alpha

Tool drive



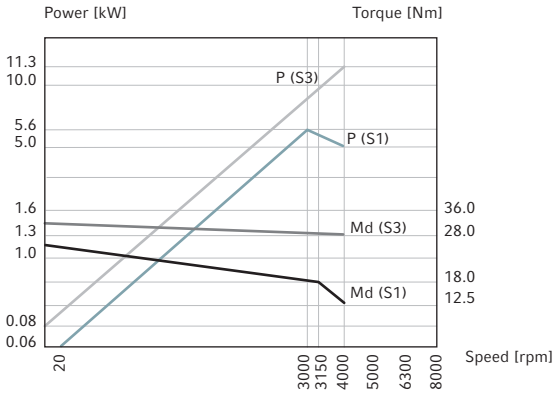
CTX alpha

Tool drive, Turret with Direct Drive



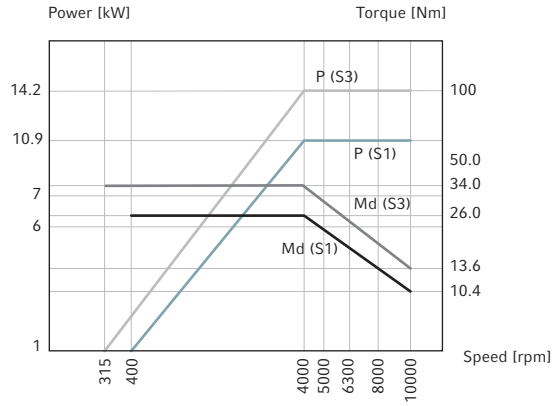
CTX beta 500 / 800 / 1250 (4A)

Tool drive



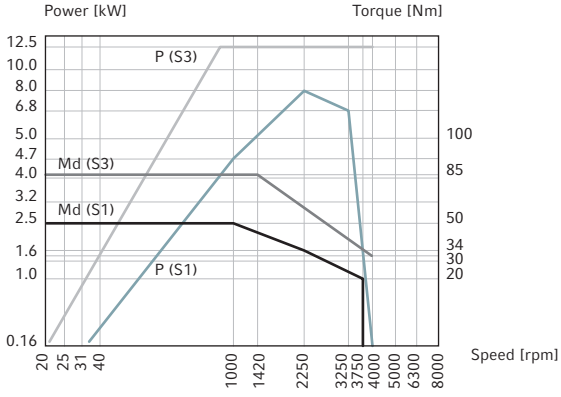
CTX beta (4A) / CTX gamma

Tool drive, Turret with Direct Drive



CTX beta 2000 / CTX gamma

Tool drive



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2

|1| Machining on a CTX beta 800
with driven tools and Y-axis

|2| Maximum stability due to six additional
tool stations with block tool screw fitting:
as standard for all 12-fold disk turrets
in the CTX beta and gamma series
_ NEW: VDI 40
_ VDI 50
→ Used for long bore tools
→ Used for turning tools

Driven tools with up to 12,000 rpm, 14 kW or 85 Nm for the best milling performance.

CTX alpha		**Standard:** VDI 30		**Option:** VDI 30
		5.000 rpm, 5.4 kW, 18 Nm		Direct Drive 12,000 rpm, 5.4 kW, 18 Nm
Performance milling CK45		**Tool drive 1:1**	**Tool drive 1:1**	**Tool drive 4:1**
Removal rate	cm^3/min	61.1	143.3	238.3
Spindle speed	rpm	2,546	4,775	9,167 : 4
Power	kW	4.9	2	3.7
Torque	Nm	18	4	15
Feed rate	mm/teeth	0.1	0.75	0.13
Cutting depth/width	mm	4 / 20	1 / 20	8 / 25
Cutting speed	m/min	160	300	180
Number of teeth		3	2	4
Milling diameter	mm	20	20	25
Specific cutting force	N/mm^2	1,910	1,910	1,910
Tapping CK45				
Thread size	mm	M20 × 1	M24 x 1	
Spindle speed	rpm	318	265	

CTX beta 500 / 800 / 1250 (4A)		**Standard:** VDI 40		**Option:** VDI 40
		4,000 rpm, 11.3 kW, 28 Nm		Direct Drive 10,000 rpm, 14.2 kW, 34 Nm
Performance milling CK45		**Tool drive 1:1**	**Tool drive 1:1**	**Tool drive 4:1**
Removal rate	cm^3/min	131.1	171.9	385.1
Spindle speed	rpm	1,401	4,775	5,602 : 4
Power	kW	4.2	2.4	4.7
Torque	Nm	28	5	33
Feed rate	mm/teeth	0.25	0.75	0.25
Cutting depth/width	mm	1.5 / 50	1.2 / 20	5.5 / 50
Cutting speed	m/min	220	300	220
Number of teeth		5	2	4
Milling diameter	mm	50	20	50
Specific cutting force	N/mm^2	1,910	1,910	1,910
Tapping CK45				
Thread size	mm	M16 × 1.5	M20 x 1.5	
Spindle speed	rpm	397	318	

CTX beta 2000		**Standard:** VDI 50		**Option:** VDI 40
CTX gamma		4,000 rpm, 12.5 kW, 85 Nm		Direct Drive 10,000 rpm, 14.2 kW, 34 Nm
Performance milling CK45		**Tool drive 1:1**	**Tool drive 1:1**	**Tool drive 4:1**
Removal rate	cm^3/min	397.8	171.9	385.1
Spindle speed	rpm	1,263	4,775	5,602 : 4
Power	kW	7.1	2.4	4.7
Torque	Nm	54	5	33
Feed rate	mm/teeth	0.25	0.75	0.25
Cutting depth/width	mm	4 / 63	1.2 / 20	5.5 / 50
Cutting speed	m/min	250	300	220
Number of teeth		5	2	4
Milling diameter	mm	63	20	50
Specific cutting force	N/mm^2	1,910	1,910	1,910
Tapping CK45				
Thread size	mm	M24 × 2	M20 x 1.5	
Spindle speed	rpm	265	318	

Technology expertise
CTX 2-axis universal turning.

Belt pulley // CTX beta 500

Industry / Material	Hydraulic / CK45
Bar diameter	85 mm (h11)
Work piece dimensions	ø 80 × 60 mm
Machining time	3.2 min.
Highlight	Performance piercing, performance milling

Control piston // CTX beta 500

Industry / Material	Drive technology / CK45
Bar diameter	80 × 80 mm (h11)
Work piece dimensions	ø 80 × 180 mm
Machining time	4.7 min.
Highlight	Performance turning, high removal rate

Drive elements // CTX beta 500

Industry / Material	Automobile / CK45
Raw parts	Forging blank
Work piece dimensions	240 mm
Machining time	45 sec.
Highlight	Performance turning

Distributor unit // CTX beta 800

Industry / Material	Hydraulic / CK45
Cut off	120 mm (× 150)
Work piece dimensions	ø 120 × 140 mm
Machining time	3.55 min.
Highlight	Eccentric machining with a Y-axis

Adapter ring // CTX beta 800

Industry / Material	Drive technology / CK45
Bar diameter	100 mm (h11)
Work piece dimensions	ø 95 × 50 mm
Machining time	2.90 min.
Highlight	Driven tools for drilling and tapping

Reducer plug // CTX beta 800

Industry / Material	Hydraulics / Aluminium
Bar diameter	45 mm (h11)
Work piece dimensions	ø 44 × 100 mm
Machining time	3.80 min.
Highlight	Complete machining, ready to install

Technology expertise
CTX 4-axis universal turning.

Control piston // CTX beta 800 4A

Industry / Material	Hydraulic / CK45
Bar diameter	38 mm (h11)
Work piece dimensions	ø 35 × 180 mm
Machining time	210 sec.
Highlight	Long and thin shafts, high thickness ratio

Control piston // CTX beta 800 4A

Industry / Material	Hydraulic / CK45
Bar diameter	75 mm (h11)
Work piece dimensions	ø 70 × 140 mm
Machining time	12.23 sec.
Highlight	Complete machining, spiral milling

Tool holder // CTX beta 800 4A

Industry / Material	Tool holder / 42CrMo4
Bar diameter	65 mm (h11)
Work piece dimensions	ø 63 × 100 mm
Machining time	9.2 min.
Highlight	Highest precision h6

Drive spindle // CTX beta 1250 4A

Industry / Material	Hydraulic / 42 CrMo
Bar diameter	65 mm (h11)
Work piece dimensions	ø 60 × 240 mm
Machining time	9.55 min.
Highlight	Complete machining, high-grade milling

Control piston // CTX beta 1250 4A

Industry / Material	Hydraulic / 42 CrMo
Bar diameter	70 mm (h11)
Work piece dimensions	ø 68 × 96 mm
Machining time	8.37 min.
Highlight	Complete machining

Nozzle head // CTX beta 1250 4A

Industry / Material	Hydraulic / 19Mn Cr5
Bar diameter	75 mm (h11)
Work piece dimensions	ø 72 × 130 mm
Machining time	7.95 min.
Highlight	Complete machining, high-precision angular positioning of 0.01°

DMG ERGO*line*® Control with SIEMENS and ShopTurn 3G.

Highlights

_ DMG ERGO*line*® control with a 19" screen and SIEMENS 840D solutionline Operate
_ ShopTurn 3G shop floor programming 30 % greater productivity

|1| 60 % fast programming with innovative multi-channel programming
|2| DMG ERGO*line*® control with a 19" screen

Highlights

_ **Up to 60 % faster programming** with the innovative multi-channel programming for even complex structures
_ **3D work piece simulation with multi-channel**
_ **Complete flexibility between DIN and WOP** that combines of ShopTurn cycles with DIN functions
_ **Up to 40 % faster machining** with 4 axes or parallel machining
_ **Fast, easy and clearly structured tool management**
_ **Full ShopMill functionality**

Up to 50 % greater productivity with exclusive DMG Technology Cycles.

Easy Tool Monitoring

_ Drive load monitoring of the tools during the machining process in order to avoid damage to the machine and equipment

Eccentric turning / milling machining

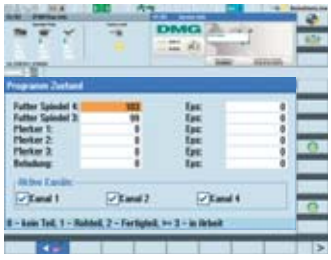
_ Machining of cylindrical elements of a work piece with a centre point that is not in the spindle centre

Alternating speed – for vibration-sensitive clamping

_ Change in spindle speed to reduce tool vibration during machining

Multi-threaded cycles

_ This cycle offers a user screen for inputting the slope, number of threads and the thread contour



Programme status control

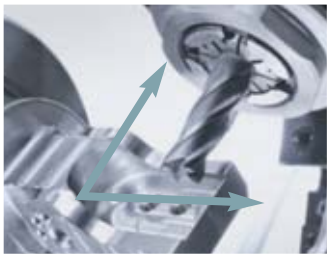
_ Shows the work piece number and displays the work piece data
_ Simplifies work restart after a programme interruption

Turret tip

_ Pre-position and support position in X and Z can be entered directly on the surface
_ Automatic calculation of the approach paths

Turret head bezel

_A bezel mounted on the turret can support or retract a work piece via the cycles



Retraction cycle

_Recovery function for retracting the axes in the X and Z direction at the push of a button
_Control via a Soft*key*®

SIEMENS with ShopTurn – single channel or two channel for the beta 4A

_ **Direct programming**
_ **3D graphics including real-time simulation**
_ New clear screen design
_ **Lamp diagnoses for all drives**
_ Easy graphical programming
_ User images for fast setup

HEIDENHAIN with DINPlus (TurnPlus optional) – single channel

_ **Graphical interactive programming** (structured machining time)
_ **3D real-time simulation**
_ Parts programming memory > 1 GB
_ **Tool file with 999 tools and 64 materials**
_ Tool life monitoring
_ **Best operator comfort:** comprehensive cycle selection
_ Compatible with Heidenhain 1190 and 3190 controls

SIEMENS 840D solutionline with ShopTurn 3G Highlights

|1| Clear presentation of the block structure through alignment to synchronisation points; colour display of machining and idle times, as well as the spindles
|2| Tool management: efficient management of tool data, including replacement tools and tool life details

|3| Cycle presentation with animated elements: graphically simulated workflow with animated elements for clear, interactive representation **|4| Combination of DIN and ShopTurn programming:** filling the blocks with technical programme sections can consist of DIN code, programGUIDE as well as ShopTurn / ShopMill steps.

|5| 3D-simulation: visualisation of multi-channel processing with 3D views, detailed representations and a work piece interface **|6| Copy & paste:** through block-type copying, cutting and pasting, the optimisation of complex programmes on two channels simultaneously is possible

Up to 30 % energy savings – energy efficiency on DMG machines.

Efficient – optimal construction

_ Optimal drive configuration
_ Regenerative drives
_ Regulated units*
_ Minimised friction

Efficient – intelligent control

_ Process optimisation
_ DMG Virtual Machine*
_ DMG AUTO*shutdown*

* Optional

Energy Saving

Standard intelligent technology already saves you up to 20 % in energy costs over life of your DMG machine tool.

DMG AUTO*shutdown*:
Intelligent standby control to avoid unnecessary energy consumption when the machine is idle.

DMG Virtual Machine* – 100 % control and time calculation

Unique – Your DMG machine 1:1 on the PC
_ Efficient production start with optimal preparation
_ Real per part time determination with the integrated PLC
_ Full availability of all cycles and NC functions
_ Greatest process reliability with collision and work area monitoring
_ Authentic machine model with exact work area display
_ Up to 80 % faster tool setup

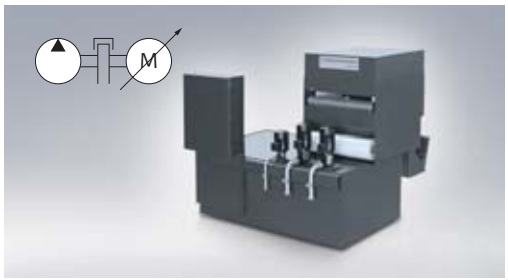
* Optional

Design

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

Linear guides

Lowest friction effects through the consistent use of rolling bearing technology.



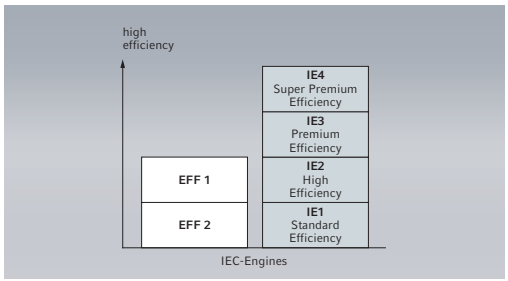
Servo technology / Frequency regulation*

Frequency-controlled coolant and hydraulic pumps rather than fixed displacement pumps with throttle technology.

* Optional

Drives

Energy recovery during braking phases of spindles and feed drives.



Motor

Use of advanced drive motors providing efficiency of up to 93 %.

Cooling*

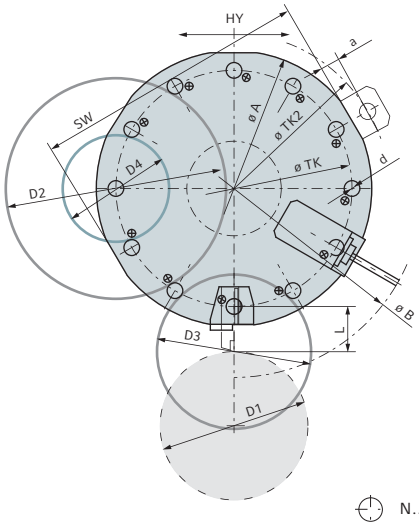
Inverter-controlled systems for demand-driven cooling.

* Optional

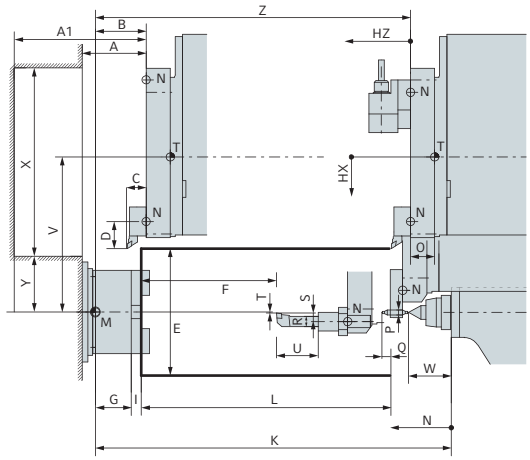
Tool turret / Work area

CTX alpha / beta / gamma universal disc turret with a tailstock

Tool turret



Work area



N…tool reference point T…tool holder reference point M…Machine zero point

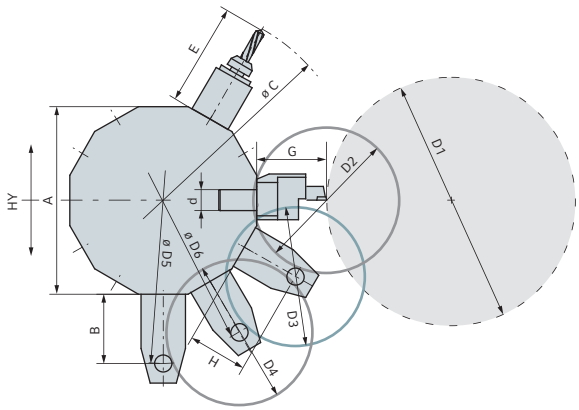
Tool turrent	A	B	d	D1	D2	D3	D4	TK	HY	L	TK2	SW	(a)
CTX alpha 300 / 500	410	540	30	200	310	245	146	340	± 40	65	-	-	-
CTX beta 500 / 800 / 1250	500	700	40	410	380	240	177	420	± 60	65	568	508	30
CTX beta 2000	537	730	50	600	370	250	179	420	± 75	85	590	520	35
CTX gamma 1250 / 2000 / 3000	597	795	50	700	430	286	198	480	± 80	85	650	580	35

Work area	A	A1	B	C	D	E	F	G	HX	HZ	I	K	L
CTX alpha 300	165	275	120	47	65	200	93	75	190	335	17	620	310
CTX alpha 500	165	275	120	47	65	200	283	75	190	525	17	800	500
CTX beta 500	166	276	115	54	65	410	272	87	300	550	24	777.5	500
CTX beta 800	166	276	115	54	65	410	572	87	300	850	24	1077.5	800
CTX beta 1250	166	276	115	54	65	410	976	87	300	1300	24	1527.5	1250
CTX beta 2000	211	658	160	62	85	600	-	100	415	2025	21	2408.5	2000
CTX gamma 1250	300	700	65	62	85	700	800	122	495	1315	36	1599	1160
CTX gamma 2000	300	700	65	62	85	700	1550	122	495	2065	36	2349	1910
CTX gamma 3000	300	700	165	62	85	700	2485	207	495	3065	36	3341	2845

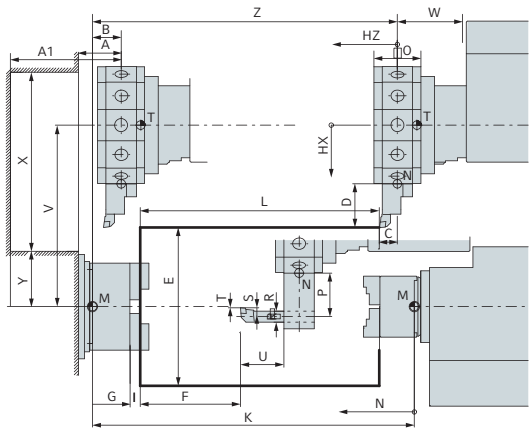
	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
CTX alpha 300	370	67	8	6	25	25	3	100	335	100	500	195	455
CTX alpha 500	550	67	8	6	25	25	3	100	335	100	500	195	645
CTX beta 500	500	75	-	-	40	30	2,5	150	480	102.5	795	200	665
CTX beta 800	800	75	-	-	40	30	2,5	150	480	102.5	795	200	965
CTX beta 1250	1250	75	-	-	40	30	2,5	150	480	148.5	795	200	1415
CTX beta 2000	2025	93	20	0	40	35	8	200	590	140	-	227	2186
CTX gamma 1250	1160	93	20	0	40	60	40	200	675	180	700	300	1380
CTX gamma 2000	1910	93	20	0	40	60	40	200	675	180	700	300	2130
CTX gamma 3000	2850	93	20	0	40	60	40	200	675	180	700	300	3230

CTX alpha / beta (500 / 800 / 1250) star turret with a counter spindle and Y-axis

Tool turret



Work area



N…tool reference point T…tool holder reference point M…Machine zero point

Tool turrent	A	B	C	d	D1	D2	D3	D4	D5	D6	E	G	H	HY
CTX alpha 500	270	100	540	30	240	200	195	205	470	440	135	100	85	±40
CTX beta 500	320	120	650	40	450	244	229	242	560	520	165	120	100	±60
CTX beta 800	320	120	650	40	450	244	229	242	560	520	165	120	100	±60
CTX beta 1250	320	120	650	40	450	244	229	242	560	520	165	120	100	±60

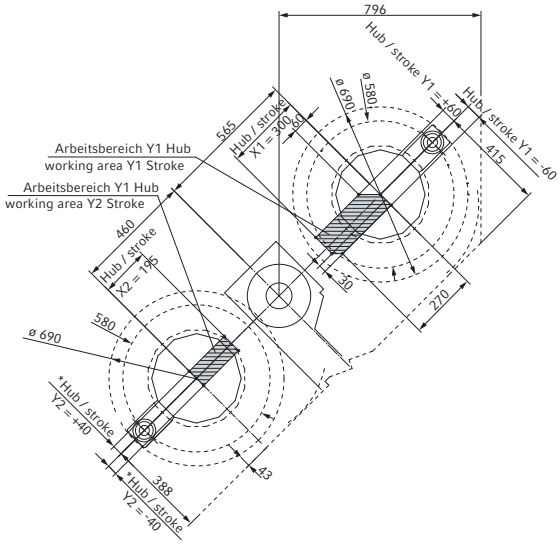
Work area	A	A1	B	C	D	E	F	G	HX	HZ	I	K	L
CTX alpha 500	140	240	95	48	100	240	385	75	170	520	20	780	470
CTX beta 500	117	227	66	57.5	120	450	162.5	87	300	500	24	720	395
CTX beta 800	117	227	66	57.5	120	450	462.5	87	300	800	24	1020	695
CTX beta 1250	117	227	66	57.5	120	450	912.5	87	300	1200	24	1470	1145

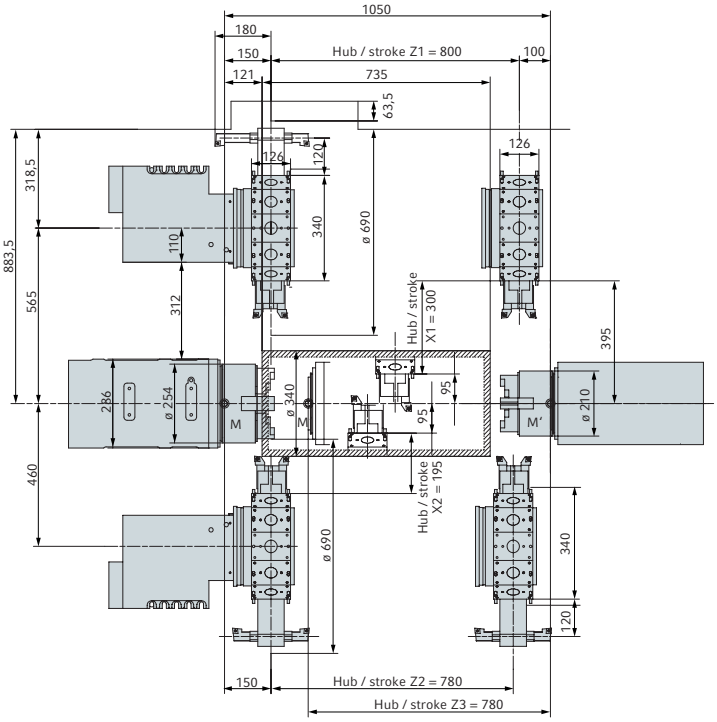
	N	O	P	R	S	T	U	V	W	X	Y	Z
CTX alpha 500	550	108	85	25	22	5	100	355	140	700	130	615
CTX beta 500	500	132	100	40	55	27.5	150	505	180.5	795	200	566
CTX beta 800	800	132	100	40	55	27.5	150	505	180.5	795	200	866
CTX beta 1250	1200	132	100	40	55	27.5	150	505	180.5	795	200	1316

Work area

CTX beta 800 4A

with a counter spindle without X3 slide

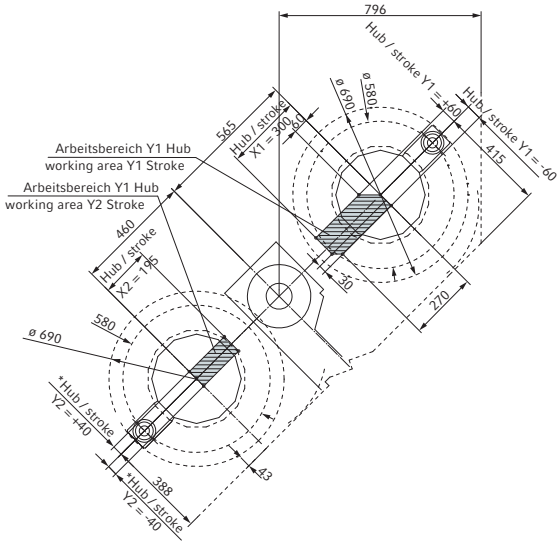


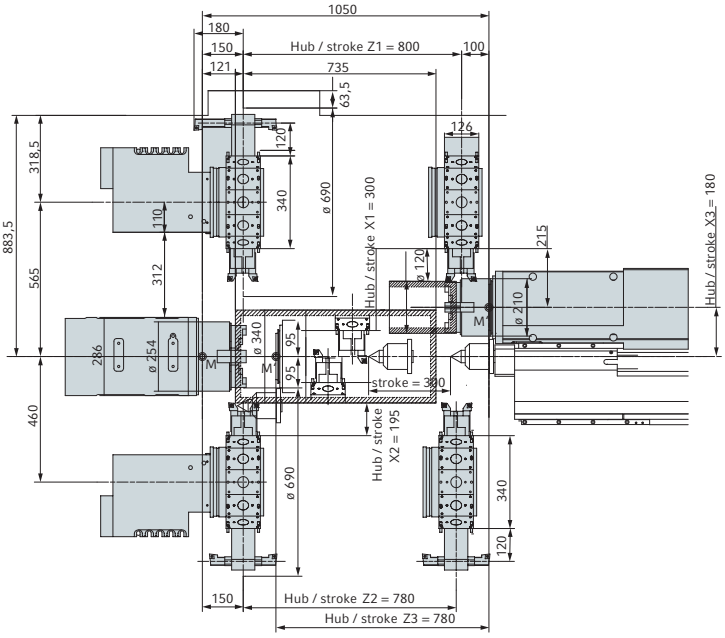


* Optional Y-axis turret 2

CTX beta 800 4A

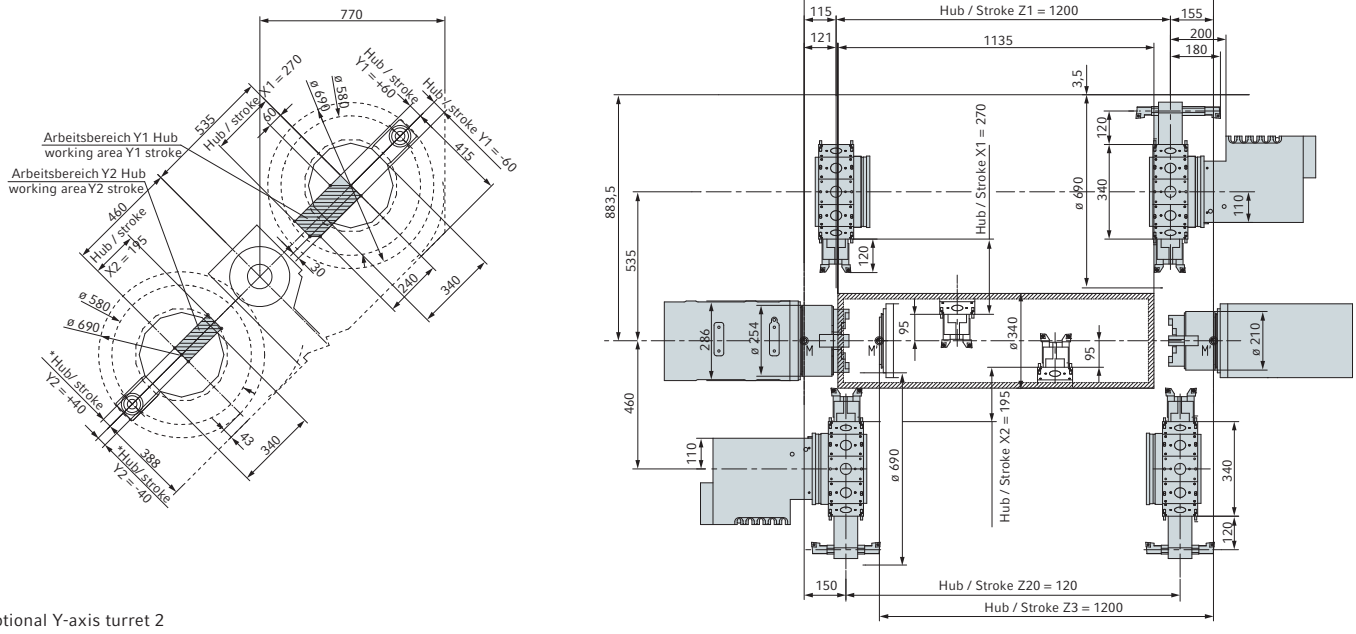
with a counter spindle with X3 slide and a tailstock, optional





CTX beta 1250 4A

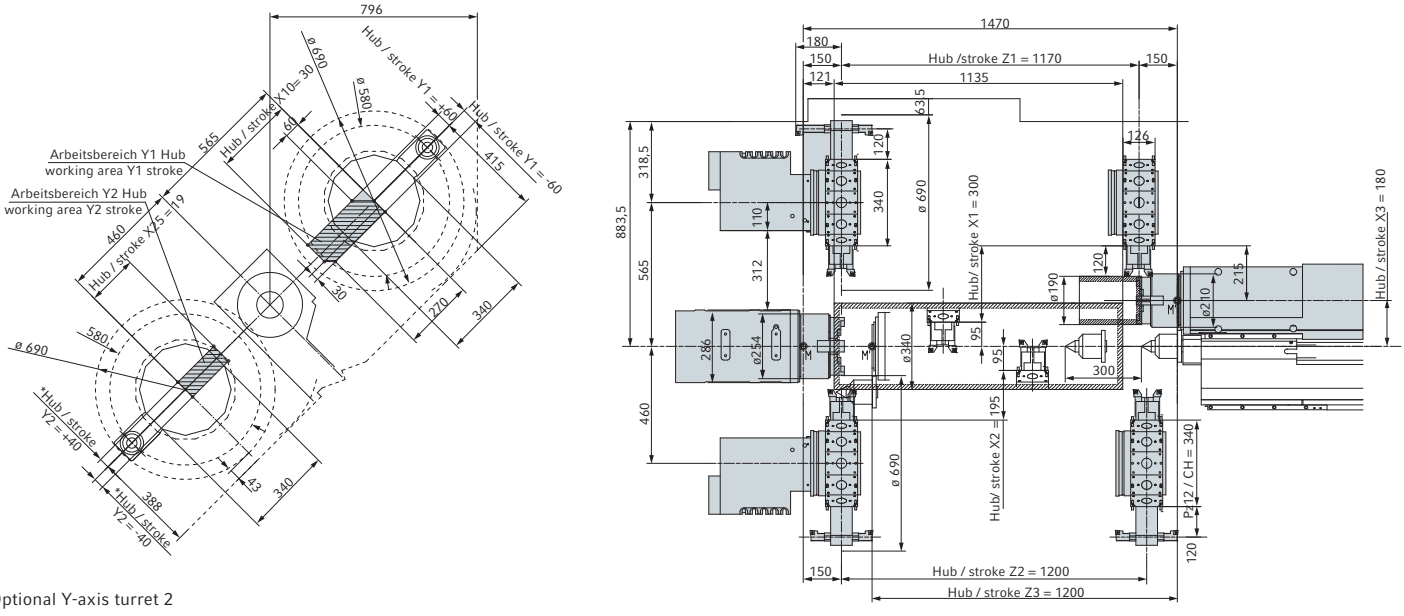
with a counter spindle without X3 slide



* Optional Y-axis turret 2

CTX beta 1250 4A

with a counter spindle with X3 slides and a tailstock, optional

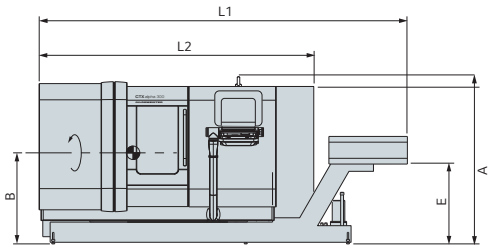


* Optional Y-axis turret 2

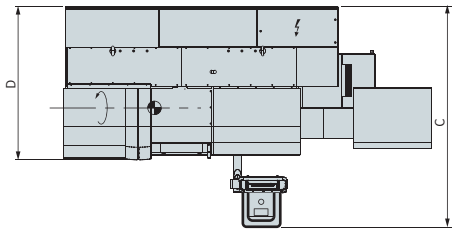
Floor plans

CTX alpha / beta (500 / 800 / 1250)

Front view



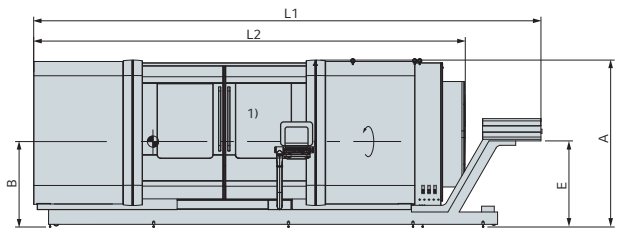
Top view



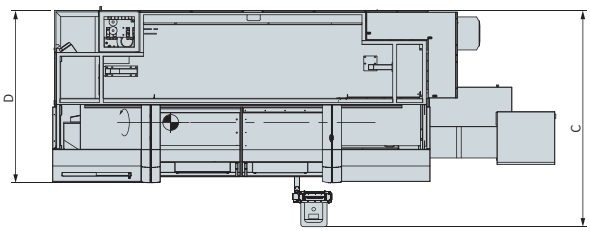
Machine	A	B	C	D	E	L1	L2
CTX alpha 300	1825	1015	2513	1709	1208	4260	3265
CTX alpha 500	1825	1015	2509	1709	1220	4472	3265
CTX beta 500	1937	1040	2681	1875	1219	4472	3865
CTX beta 800	1937	1040	2681	1875	1219	4772	4165
CTX beta 1250	1937	1040	2721	1875	1275	5372	4815
CTX beta 2000	2052	1110	3212	2109	1270	6074	5405

CTX beta 2000 / gamma

Front view



Top view

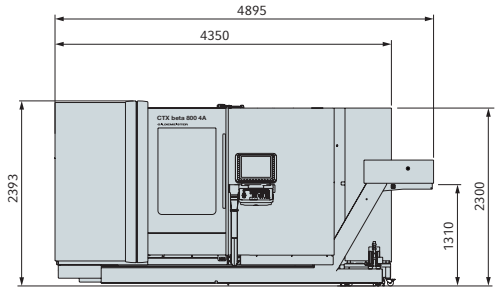


Machine	A	B	C	D	E	L1	L2
CTX gamma 1250	2530	1290	3410	2609	1290	6854	5717
CTX gamma 2000	2530	1290	3410	2609	1290	7601	6467
CTX gamma 3000	2655	1290	3410	2609	1234	9307	8141

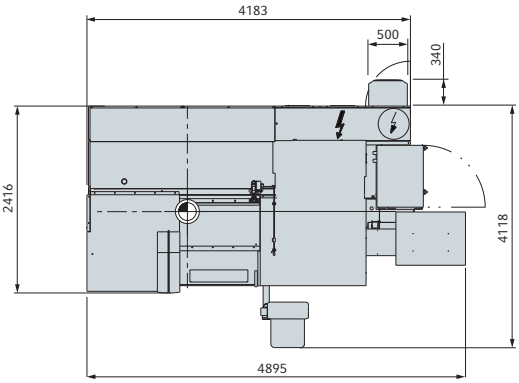
[1)] CTX gamma 1250 with a work area door on the left

CTX beta 800 4A

Front view

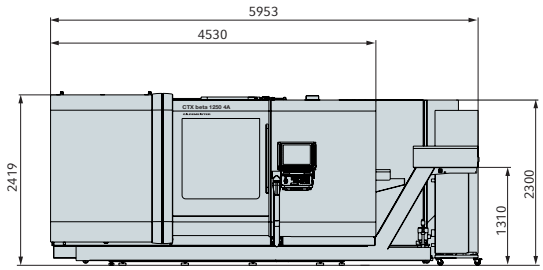


Top view

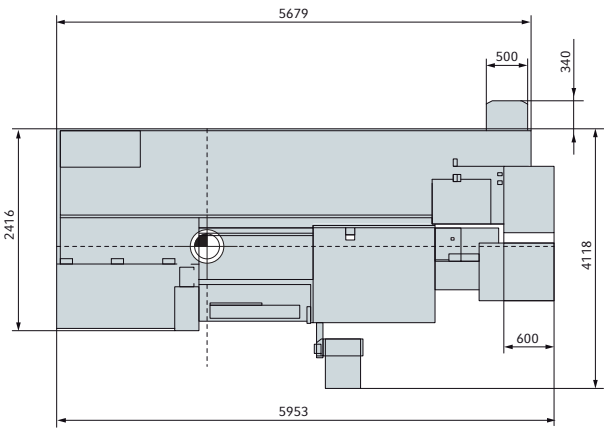


CTX beta 1250 4A

Front view



Top view



Technical data

Machine type		CTX alpha 300
Work area		
Max. swing diameter	mm	500
Max. turning diameter	mm	200
Distance between the spindle and the tail stock (without feed)	mm	520
Max. work piece length with a tailstock (can be machined)	mm	335
Distance from the main spindle to the counter spindle (without feed)	mm	–
Max. work piece length on the counter spindle (can be machined)	mm	–
Main spindle (standard)		**ISM 52**
Integrated motor spindle (ISM) with a C-axis (0.001°)	rpm	6,000
Drive power (40/100% DC)	kW	20 / 15
Torque (40/100% DC)	Nm	127 / 95
Spindle head (flat flange)	mm	140 h5
Spindle diameter in the front bearing	mm	100
Clamping tube inner diameter	mm	52
Max. collet chuck diameter*	mm	215
Counter spindle*		
Integrated motor spindle (ISM) with a C-axis (0.001°)	rpm	–
Drive power (40/100% DC)	kW	–
Torque (40/100% DC)	mm	–
Spindle head (flat flange)	mm	–
Spindle diameter in the front bearing	mm	–
Clamping tube inner diameter	mm	–
Max. collet chuck diameter*	mm	–
Turret (standard)		
Tool holder according to VDI / DIN 69880***	mm	12 × VDI 30
Number of driven tools / Max. speed	rpm	12 / 5,000
Drive power / Torque (40% DC)	kW / Nm	5.4 / 18
Switching time, 30°	sec.	0.4
Turret slide (top) with a tailstock		
X / Y* / Z	mm	190 / ±40 / 335
Rapid traverse speed in X / Y / Z	m/min	30 / 22.5 / 30
Feed force in X / Y / Z	KN	2.8 / 2.8 / 5.6
Turret slide (top) on the counter spindle		
X / Y* / Z	mm	–
Rapid traverse speed in X / Y / Z	m/min	–
Feed force in X / Y / Z	KN	–
Slide for the counter spindle		
X / Z	mm	–
Rapid traverse speed in X / Z	m/min	–
Feed force X / Z	KN	–
Tailstock		
Hub (hydraulic)	mm	370
Force	KN	6.0
Centre point recording	MK	4
Machine weight	kg	4,350
Control		
DMG ERGO*line*® control with a 19" screen		•
SIEMENS 840D solutionline Operate with ShopTurn 3G***		•
HEIDENHAIN Plus iT		•

CTX alpha 500	CTX beta 500	CTX beta 800	CTX beta 1250
500	700	700	700
200	410	410	410
700	675	975	1,379
525	550	850	1,300
780	720	1,020	1,470
520	500	800	1,200
ISM 52 Plus	**ISM 76**	**ISM 76**	**ISM 102**
6,000	5,000	5,000	4,000
27 / 20	34 / 25	34 / 25	45 / 35
170 / 127	380 / 280	380 / 280	770 / 600
140 h5	170 h5	170 h5	220 h5
100	130	130	160
52 (67)*	67 (77)*	67 (77)*	95 (104)*
215	320	320	400
ISM 36	**ISM 52**	**ISM 52**	**ISM 52**
6,000	6,000	6,000	6,000
16.2 / 12.6	20 / 15	20 / 15	20 / 15
62 / 48	127 / 95	127 / 95	127 / 95
140 h5	140 h5	140 h5	140 h5
90	100	100	100
37	52	52	52
175	215	215	215
12 × VDI 30	12 × VDI 40 + 6 Blocktool	12 × VDI 40 + 6 Blocktool	12 × VDI 40 + 6 Blocktool
12 / 5,000	12 / 4,000	12 / 4,000	12 / 4,000
5.4 / 18	11.3 / 28	11.3 / 28	11.3 / 28
0.4	0.4	0.4	0.4
190 / ±40 / 525	300 / ±60 / 550	300 / ±60 / 855	300 / ±60 / 1,300
30 / 22.5 / 30	30 (60)** / 22.5 / 30	30 (60)** / 22.5 / 30	30 (60)** / 22.5 / 30
2.8 / 2.8 / 5.6	5.6 / 5.6 / 7.4	5.6 / 5.6 / 7.4	5.6 / 5.6 / 7.4
190 / ±40 / 520	300 / ±60 / 500	300 / ±60 / 800	300 / ±60 / 1,200
30 / 22.5* / 30	30 (60)** / 22.5 / 30	30 (60)** / 22.5 / 30	30 (60)** / 22.5 / 30
2.8 / 2.8 / 5.6	5.6 / 5.6 / 7.4	5.6 / 5.6 / 7.4	5.6 / 5.6 / 7.4
– / 550	– / 500	– / 800	– / 1,200
– / 30	– / 30	– / 30	– / 30
– / 5.6	– / 7.4	– / 7.4	– / 7.4
550	500	800	1,250
6.0	8.0	8.0	12.0
4	5	5	5
4,650	5,000	6,100	7,650
•	•	•	•
•	•	•	•
•	•	•	•

*Optional, **on the linear version, ***ShopTurn 3G available from mid 2013 and Blocktool for the CTX beta with VDI 40 turret from 05/2013, • = Standard, – = not available

Technical data

Machine type		CTX beta 800 4A
Work area		
Max. swing diameter	mm	540
Max. turning diameter	mm	340
Distance between the spindle and the tail stock (without feed)	mm	–
Max. work piece length with a tailstock (can be machined)	mm	–
Distance from the main spindle to the counter spindle (without feed)	mm	1,050
Max. work piece length on the counter spindle (can be machined)	mm	735
Main spindle (standard)		**ISM 76 synchro**
Integrated motor spindle (ISM) with a C-axis (0.001°)	rpm	5,000
Drive power (40/100% DC)	kW	32 / 25
Torque (40/100% DC)	Nm	360 / 280
Spindle head (flat flange)	mm	170 h5
Spindle diameter in the front bearing	mm	130
Clamping tube inner diameter	mm	67
Max. collet chuck diameter*	mm	250
Counter spindle*		**ISM 76 synchro**
Integrated motor spindle (ISM) with a C-axis (0.001°)	rpm	5,000
Drive power (40/100% DC)	kW	32 / 25
Torque (40/100% DC)	Nm	360 / 280
Spindle head (flat flange)	mm	170 h5
Spindle diameter in the front bearing	mm	130
Clamping tube inner diameter	mm	67
Max. collet chuck diameter*	mm	250
Turret (standard)		
Tool holder according to VDI / DIN 69880***	mm	12 × VDI 40 with TRIFIX®
Number of driven tools / Max. speed	rpm	12 / 4,000
Drive power / Torque (40% DC)	kW / Nm	11.3 / 28
Switching time, 30°	sec.	0.4
Turret slide (top)		
X / Y / Z	mm	300 / ±60 / 800
Rapid traverse speed in X / Y / Z	m/min	30 / 21,2 / 45
Feed force in X / Y / Z	KN	5.0 / 4.5 / 5.0
Turret slide (bottom)		
X / Y* / Z	mm	195 / ±40* / 780
Rapid traverse speed in X / Y* / Z	m/min	30 / 30 / 45
Feed force in X / Y* / Z	KN	9.0 / 9.0 / 9.0
Slide for the counter spindle		
X* / Z	mm	180* / 780
Rapid traverse speed in X* / Z	m/min	25 / 45
Feed force in X* / Z	KN	9.0 / 9.0
Tailstock**		
Hub	mm	300
Force	KN	6.3
Centre point recording	MK	5
Machine weight	kg	13,500
Control		
DMG ERGO*line*® Control with 19" screen		•
SIEMENS 840D solutionline Operate with ShopTurn 3G***		•
HEIDENHAIN Plus iT		–

CTX beta 1250 4A	CTX beta 2000	CTX gamma 1250	CTX gamma 2000	CTX gamma 3000
540	800	900	900	900
340	600	700	700	700
–	2,285	1,419	2,169	3,161
–	2,000	1,315	2,065	3,065
1,470	–	–	–	–
1,135	–	–	–	–
ISM 76 synchro	**ISM 102**	**ISM 102 Plus**	**ISM 102 Plus**	**ISM 127**
5,000	4,000	2,500	2,500	2,500
32 / 25	45 / 35	52 / 45	52 / 45	52 / 45
360 / 280	770 / 600	2,200 / 1,700	2,200 / 1,700	2,200 / 1,700
170 h5	220 h5	220 h5	220 h5	A15
130	160	160	160	220
67	104 (111)*	104	104	127
250	500	500	500	630
ISM 76 synchro				
5,000	–	–	–	–
32 / 25	–	–	–	–
360 / 280	–	–	–	–
170 h5	–	–	–	–
130	–	–	–	–
67	–	–	–	–
250	–	–	–	–
12 × VDI 40 with TRIFIX®	12 x VDI 50 + 6 Blocktool	12 × VDI 50 + 6 Blocktool	12 × VDI 50 + 6 Blocktool	12 × VDI 50 + 6 Blocktool
12 / 4,000	12 / 4,000	12 / 4,000	12 / 4,000	12 / 4,000
11.3 / 28	12.5 / 85 (25 % DC)	12,5 / 85 (25 % DC)	12.5 / 85 (25 % DC)	12.5 / 85 (25 % DC)
0.4	0.44	0.44	0.44	0.44
270 (300)* / ±60 / 1,170	415 / ±75* / 2,025	495 / ±80* / 1,315	495 / ±80* / 2,065	495 / ±80* / 3,065
30 / 21.2 / 45	30 (60)** / 22.5 / 35	40 (60)** / 28* / 30	40 (60)** / 28 / 30	40 / 28 / 30
5.0 / 4.5 / 5.0	7.5 / 7.5 /10.0	14.0 / 5.3 / 9.5	14.0 / 5.3 / 9.5	14.0 / 5.3 / 14.0
195 / ±40* / 1,200	–	–	–	–
30 / 30 / 45	–	–	–	–
9.0 / 9.0 / 9.0	–	–	–	–
180* / 1,200	–	–	–	–
25 / 45	–	–	–	–
9.0 / 9.0	–	–	–	–
300	2,025 trailed (NC cont.)	1,160 NC controlled.	1,910 NC controlled.	2,850 NC controlled.
6.3	18.0	18.0	18.0	25.0
5	5	6	6	6
14,500	10,000	14,000	18,500	24,000
•	•	•	•	•
•	•	•	•	•
–	•	•	•	–

*Optional, **on the linear version, ***ShopTurn 3G available from mid 2013 and Blocktool for the CTX beta with VDI 40 turret from 05/2013, • = Standard, – = not available

Options

Machine options	CTX alpha 300	CTX alpha 500	CTX beta 500
Counter spindle	–	o	o
Differential tension for each main spindle	o	o	o
Differential tension for each counter spindle	–	o	o
Tool measuring device	o	o	o
Y-axis for turret 1 (top)	o	o	o
Y-axis for turret 2 (bottom)	–	–	–
Glass scales for the Y and/or Z axes	o	o	o
TWIN: Counter spindle travel range in the X and Z directions, additional tailstock mounted on the counter spindle slides with independent hydraulic movement in the Z direction	–	–	–
Bar machining / Automation			
Bar machining package with a work piece pick-up device, hydraulic hollow clamping device, 4-colour signal lamp and connector for bar feed or a bar loader magazine	o	o	o
Bar loading magazine for bar lengths of 1.2 to 3.2 m	o	o	o
Preparation for external handling with a robot interface, automatic sliding canopy and feed flushing device	o	o	o
Automatic loading hatch for automation with a 6-axis robot // Electrical interface for a 6-axis robot	o	o	o
Shaft machining			
Tailstock function for the counter spindle	–	o	o
Bezel slide, automatically positioned, bezel clamping area up to 165 mm	–	–	–
Bezel slide, NC controlled, bezel clamping area up to 350 mm	–	–	–
Bezel slide, NC controlled, bezel clamping area up to 460 mm	–	–	–
Turret head bezel, clamping area up to 101 mm	–	–	–
Clamping device for the main spindle			
Collet chuck feed up to ø 215 mm incl. attachments and clamping jaws	o	o	–
Collet chuck feed up to ø 325 mm incl. attachments and clamping jaws	–	–	–
Collet chuck feed up to ø 400 mm incl. attachments and clamping jaws	–	–	o
Collet chuck feed up to ø 500 mm incl. attachments and clamping jaws	–	–	–
Collet chuck feed up to ø 630 mm incl. attachments and clamping jaws	–	–	–
Clamping device for the counter spindle			
Collet chuck feed up to ø 175 mm incl. attachments and clamping jaws	–	o	–
Collet chuck feed up to ø 250 mm incl. attachments and clamping jaws	–	–	o
Collet chuck feed up to ø 325 mm incl. attachments and clamping jaws	–	–	–
Coolant and chip removal			
Chip conveyor	o	o	o
Clamping jaws-rinsing	o	o	o
8 bar internal coolant supply coolant system, 600 l and 40 µm paper band filter	o	o	o
8 / 20 bar internal coolant supply coolant system, 600 l and 40 µm paper band filter	o	o	o
8 / 20 bar internal coolant supply coolant system, 980 l und 40 µm paper band filter	o	o	o
8 / 20 bar internal coolant supply coolant system, 980 l, 40 µm µm paper band filter and cooling device	o	o	o
8 / 20 / 80 bar internal coolant supply coolant system, 980 l, 40 µm paper band filter, cooling device and 80 bar additionally for 4 independent outputs in the turret (top)	o	o	o
Oil mist suction device	o	o	o

CTX beta 800	CTX beta 1250	CTX beta 4A 800 / 1250	CTX beta 2000	CTX gamma 1250 / 2000	CTX gamma 3000
o	o	o	–	–	–
o	o	o	o	o	o
o	o	o	–	–	–
o	o	–	o	o	o
o	o	•	o	o	o
–	–	o	–	–	–
o	o	o	o	•	•
–	–	o	–	–	–
o	o	o	–	o	–
o	o	o	–	o	–
o	o	o	o	o	o
o	–	–	–	–	–
o	o	o	–	–	–
o	o	–	o	–	–
–	–	–	o	–	–
–	–	–	–	o	o
–	–	o	–	–	–
–	–	–	–	–	–
–	–	o	–	–	–
o	o	–	–	–	–
–	–	–	o	–	–
–	–	–	–	o	o
–	–	–	–	–	–
o	o	–	–	–	–
–	–	o	–	–	–
o	o	o	o	o	o
o	o	•	o	o	o
o	o	o	o	o	o
o	o	o	o	o	o
o	o	o	o	o	o
o	o	o	o	o	o
o	o	o	o	o	o

• = Standard, o = Option, – = not available

Options

Machine options	CTX alpha 300	CTX alpha 500	CTX beta 500
Control / Software			
ShopTurn 3G technology cycle for milling gear teeth using the hob method	o	o	o
ShopTurn 3G technology cycle for off centre turning and milling	o	o	o
ShopTurn 3G technology cycle "Easy tool monitoring" for monitoring tool wear	o	o	o
ShopTurn 3G Technology cycles with alternating speeds for vibration-sensitive clamping	o	o	o
ShopTurn 3G technology cycle for creating a thread with custom contours	o	o	o
ShopTurn 3G technology cycle "Program status control" for displaying the program number, work piece status and work piece number	o	o	o
ShopTurn 3G technology cycle for retracting the X-axes at the press of a button (only external machining)	o	o	o
"Turret tip" technology cycle for using a hydraulically operated bezel on the turret (only 4A)	–	–	–
"Turret head bezel" technology cycle for using a traversing centering tip on the turret (only 4A)	–	–	–
Tool Monitor sister tool management system	o	o	o
Programming structure with sub-programmes incl. graphical interface	o	o	o
DMG Netservice // DMG Service Agent	o	o	o
Other items			
Machine adaptation for higher environmental temperatures up to 40° (tropical package)	o	o	o

DMG / MORI SEIKI recommends

Castrol

CTX beta 800	CTX beta 1250	CTX beta 4A 800 / 1250	CTX beta 2000	CTX gamma 1250 / 2000	CTX gamma 3000
o	o	o	o	o	o
o	o	o	o	o	o
o	o	o	o	o	o
o	o	o	o	o	o
o	o	o	o	o	o
o	o	o	o	o	o
o	o	o	o	o	o
–	–	o	–	–	–
–	–	o	–	–	–
o	o	o	o	o	o
o	o	o	o	o	o
o	o	o	o	o	o
o	o	o	o	o	o

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