

CTX 310 **eco**
DMG**ECO**LINE



| THE BEST TECHNOLOGY AT AN UNBEATABLE PRICE |

CTX 310 *eco* | CTX 510 *eco*

02 | 03 Applications and Parts
04 | 05 Machine and Technology
06 | 07 Machine Design and Options
08 | 09 Control Technology
10 | 11 Floor Plans and Technical Data



» Collet

For the spindle drive
Industry: Machine construction
Machine: CTX 310 V3 *eco*
Technology: Machining with
a C-axis and driven tools

02



» Clamping cylinder

Industry: Automotive (wheel rim)
Machine: CTX 310 V3 *eco*
Material: 52 SiCrNi5
Technology: Machining with
a C-axis and driven tools

| DMG ECOLINE – SIMPLY MORE SUCCESS |

»THE BEST SELLER WITH STATE-OF- THE-ART COMPONENTS.«

In economically-turbulent times, efficiency is key. This is why GILDEMEISTER developed the DMG ECOLINE. The idea behind the design is to deliver DMG's usual high-quality standard through consistent standardisation and a simple, reliable machine construction that has an unbeatable price-performance ratio. With the CTX 310 *eco* and CTX 510 *eco* Top Sellers, DMG sets new global standards in the entry-level machine sector. The DMG ECOLINE will accelerate your production and give you a renewed competitive edge.



» Connector

Industry: Machine construction
Machine: CTX 310 V1 *eco*
Material: Ck x 55 mm
Dimensions: ø 75 x 55 mm
Technology: Surface and longitudinal turning

» Fitting

Industry: Machine construction
Machine: CTX 310 V3 *eco*
Material: Ck 45
Dimensions: ø 75 x 55 mm
Technology: Surface and longitudinal turning

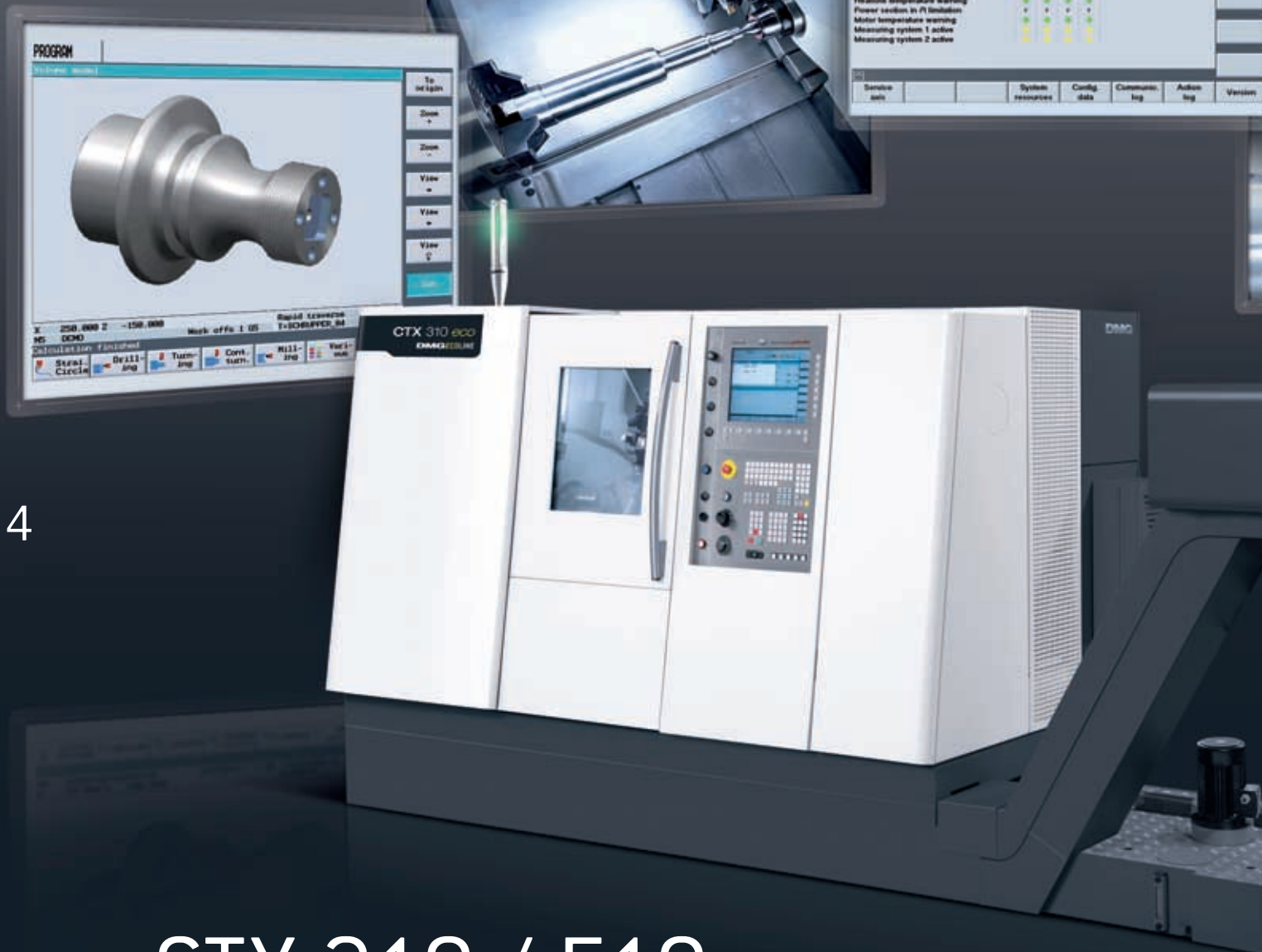


The CTX 310 *eco* and the larger CTX 510 *eco* CNC Universal Turning Machines will impress you with their high-tech comprehensive standard equipment as well as with their performance in single and serial production. Driven tools with up to six pockets, the highly dynamic spindle drive and the continuously-adjustable rotational speed make challenging

turning operations possible. Whether in production plants with that have a frequently- changing parts spectrum (especially shafts, axes or spindles), training workshops or custom production – with the DMG ECOLINE Universal Turning Machines, you will maximise your production.

» Automatic traversable tailstock

» ShopTurn software for the easiest programming with 3D-simulation



CTX 310 / 510 *eco*

Universal turning with high dynamics and precision.

With their high-tech equipment, the compact CNC Universal CTX 310 *eco* and CTX 510 *eco* Turning Machines offer the best conditions for challenging turning operations. With numerous options available, this machine design can be individually adapted to your applications.

- » Visual support for set-up and diagnostics



» VDI 30 / VDI 40* turret with 12 tool stations



CTX *eco* – SANDVIK COROMANT TOOL PACKAGE

- » Highly productive tool package (six tools) for turning, drilling and thread turning
- » Six VDI 30 / 40 tool holders (Coro Drill® 880 complete drill, CoroTurn® 107 boring bar, shaft fitting with RC-clamp, CoroCut® U-lock thread holder, CoroTurn® TR shaft holder)
- » 70 spare cutting inserts



- » Linear guides in all axes

05

MACHINE SPECIFICATIONS

CTX 310 V1 *eco* / CTX 510 V1 *eco*

The latest 3D-control software, VDI 30 / 40* turret with 12 tool stations, Automatic traversable tailstock, linear guides, hollow clamping device with $\varnothing 51 / 76^*$ mm bar passage and hydraulic 3-jaw chuck in the standard version

CTX 310 V3 *eco* / CTX 510 V3 *eco*

with additional driven tools (six stations) and a C-axis

TECHNOLOGICAL HIGHLIGHTS

- » VDI 30 / VDI 40* turret with 12 tool stations and up to six driven tools
- » Digital drives and linear guides in all axes for high dynamics and the highest precision

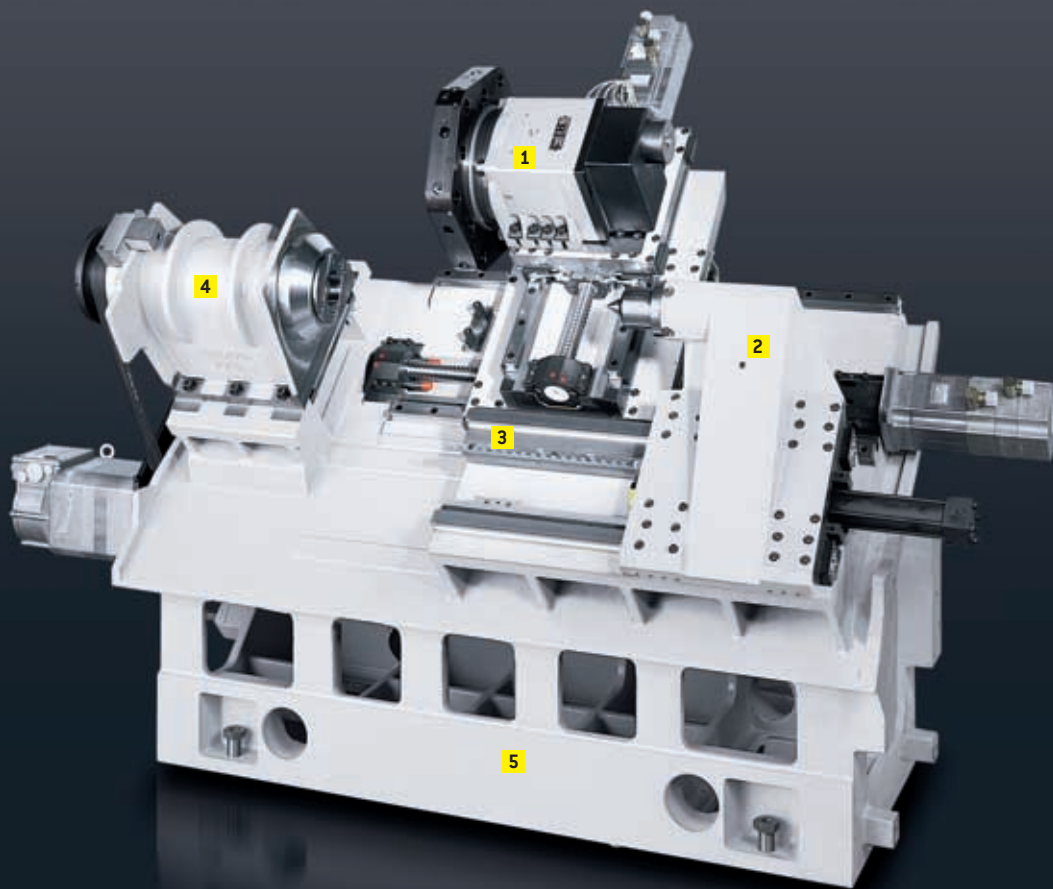
- » Automatic traversable tailstock for the highest production flexibility
- » Highly dynamic spindle drive with 16.5 / 33* kW (40% DC), 166.5 / 630* Nm (40% DC) and 5,000 / 3,250* rpm

* Data for the CTX 510 *eco*

I MACHINE DESIGN AND OPTIONS I

»POWERFUL STANDARD AND INDIVIDUAL OPTIONS.«

The DMG ECOLINE CTX 310 *eco* and CTX 510 *eco* Universal Turning Machines are standard equipped with high-level state-of-the-art components that can be expanded through numerous targeted options and options packages.



The standard CTX *eco* machines have a VDI 30 / 40* turret with 12 tool stations **1** which can be additionally equipped with driven tools on six stations. In connection with the driven tools, the main spindle is available as a C-axis. Another component of the standard equipment is the automatic traversable tailstock **2** for shaft machining. Linear guides in the X and Z-axis **3** ensure high machine dynamics. All axes are equipped with digital drives that deliver feed velocities of 24 m/min in the X-axis and 30m/min in Z (X / Z = 30 / 30 m/min)*. The CTX 310 *eco* and the CTX 510 *eco* offer the best conditions with their

highly dynamic spindle drive **4** featuring continuous controllable speeds up to 5,000 / 3,250* rpm, with an output of 16.5 / 33* kW (40% DC) and a torque of 166.5 / 630* Nm (40% DC) for challenging turning operations in the diameter range up to 200 / 465* mm for chuck parts (51 / 76* mm for bar machining). Here direct measuring systems on the spindle in connection with the latest CNC controls from Fanuc or Siemens, provide the highest positioning accuracy. The four-track bed **5** is optimally-suited for flexible production possibilities.

*Data for the CTX 510 *eco*

Reliability in daily continuous operation – in challenging routine production, the two CTX *eco* machines offer the best conditions for maximum machining flexibility. In the standard version, the DMG ECOLINE Universal Turning Machines are equipped with the latest high-tech components. CE conformity, user-friendly handling and a large, accessible work area, make this outstanding, all-purpose machines.



Your Standard for Service

- » Service-friendly fluid box (lubrication, hydraulics, pneumatics)
- » Colour-coded description of the diverse media circuits
- » Large and easily accessible service and control cabinet doors



1 Control cabinet with a cable guide **2** Processing with driven tools **3** Shaft parts machining with a tailstock and steady rest

07

PERFORMANCE THAT YOU DEFINE

Optional accessory packages ensure increased processing safety and minimise service complexity. With additional options such as a strengthened cooling agent pump, or freely available M-functions for the controls, the machines can be optimally adapted to your production requirements.

OPTIONS

Bar package

With a hinged chip conveyor, cutting interface for a bar feed system or a bar loading magazine, workpiece pick-up equipment and 4-colour signal lamp

Pre-adjustment package

With a tool measuring device (manual), hinged chip conveyor and a 4-colour signal lamp

Chip-removal package

With a hinged chip conveyor, one set of soft jaws (three pieces) for the hydraulic 3-jaw chuck and a 4-colour signal lamp

CTX 310 *eco* / CTX 510 *eco* options:

Coolant rinsing pistol, tool measurement device, strengthened cooling agent pump with 12 bar, clearly available M-functions for Siemens and Fanuc controls, chuck feed, one set of hard jaws

Additional CTX 510 *eco* options:

Hydraulic 3-jaw chuck \varnothing 315 mm, for shaft operations: steady-rest slide, hydraulic steady-rest with a clamping range of \varnothing 20 - 165 mm (not compatible with the bar processing package)



I DMG CONTROL I

»THE LATEST CONTROL TECHNOLOGY AND 3D-SIMULATION.«

The CTX 310 *eco*, as well as the CTX 510 *eco* are equipped with the latest 3D-CNC controls from Siemens and Fanuc. Up to a 15" large colour screen, a full keyboard and the electronic hand wheel, constitute the basis for outstanding hardware performance.

Several software features support the operator in the ShopFloor area. This is the most important feature for the integrated ShopTurn software of the Siemens controls and for the Manual Guide i with the Fanuc CNC. Both systems guarantee the user the fastest way from the drawing to the finished workpiece. Further distinguishing characteristics in the area of controls is the extensive tool administration, the visually-supported setup operation and the comprehensive and visually-supported diagnostics function.



09

SIEMENS 810D POWERLINE WITH SHOPTURN

Highlights

- » Digital machining controls including NC and PLC
- » The easiest programming with 3D simulation
- » 15" TFT-screen with a comprehensive screen design
- » Unique shop floor programming with ShopTurn for a fast and secure path from the drawing to the finished workpiece
- » Extensive tool management with visual representation
- » Visualisation of maintenance and diagnostics
- » Ethernet interface for fast data exchange, as well as compatibility with CompactFlash memory cards
- » Full keyboard and electronic hand wheel
- » External programming with control-identical training SinuTrain software

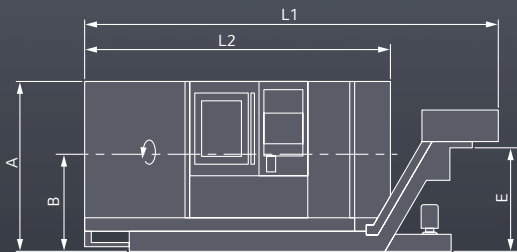
FANUC Oi-TC WITH MANUAL GUIDE i

Highlights

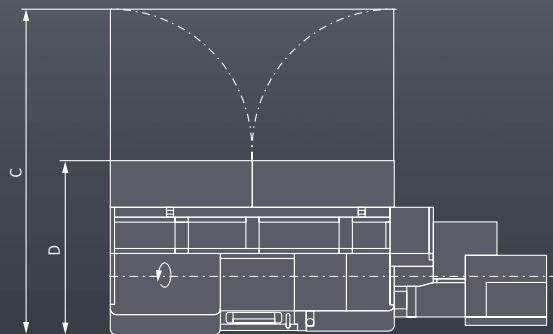
- » User-friendly programming with 3D-simulation
- » Image and text support with Manual Guide i
- » Extensive tool management with visual representation
- » Tool durability administration for maximum machine utilisation
- » Numerous machining cycles and a large program storage
- » Graphic support for fast setup
- » 10.4" TFT-screen
- » NC guide training software
- » Ethernet interface (optional) as well as compatibility to CompactFlash memory cards

FLOOR PLANS | WORK AREAS

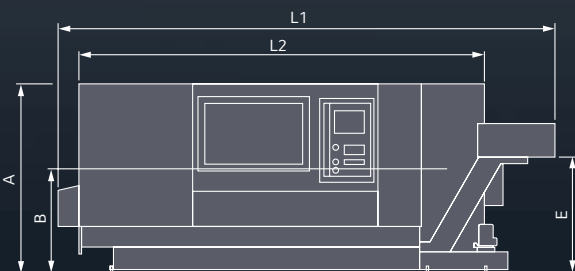
CTX 310 *eco* floor plan, Side view



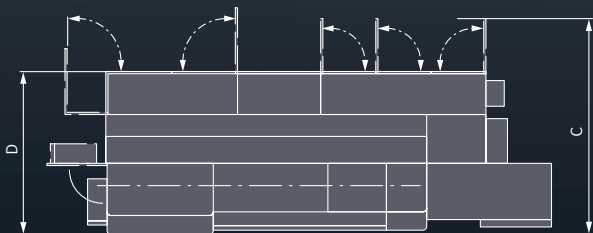
Top view



CTX 510 *eco* floor plan, Side view

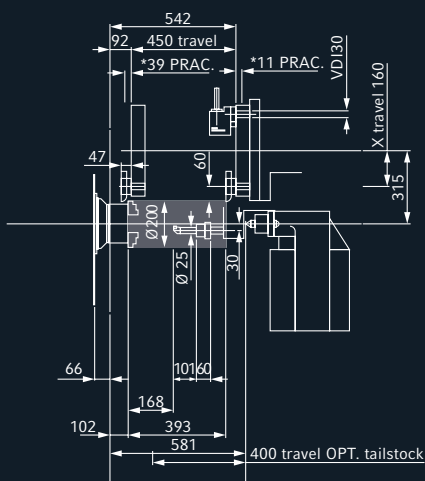


Top view

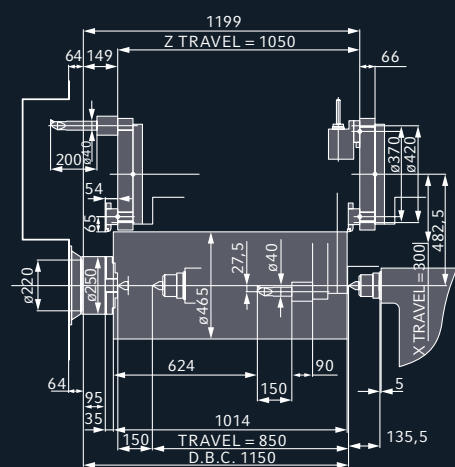


Machine	A	B	C	D	E	L1	L2
CTX 310 <i>eco</i>	1,730	1,010	2,377	1,504	1,134	4,268	2,500
CTX 510 <i>eco</i>	1,930	1,060	2,463	1,770	1,200	5,280	4,145

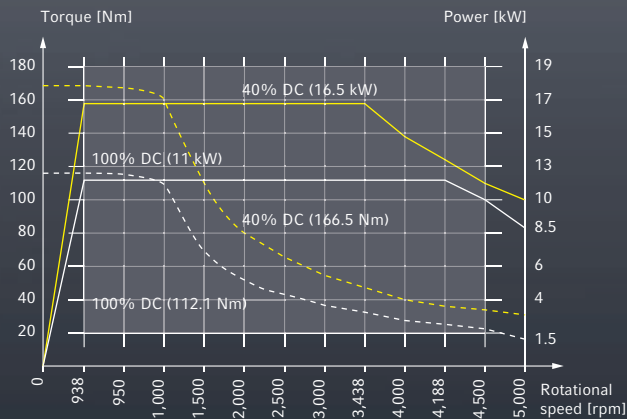
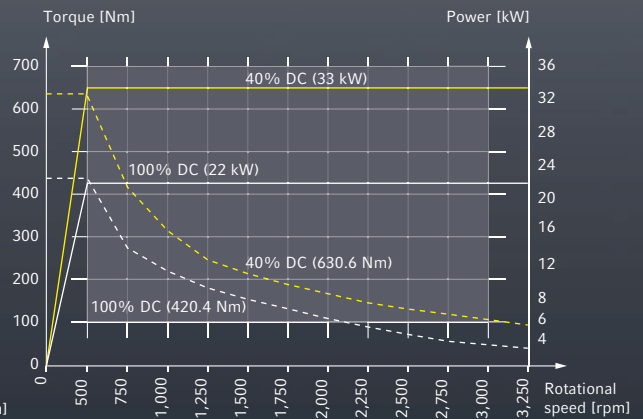
CTX 310 *eco* work area



CTX 510 *eco* work area



PERFORMANCE DIAGRAMS

 CTX 310 *eco* main spindle^[2]

 CTX 510 *eco* main spindle^[2]


TECHNICAL DATA

Machine type		CTX 310 <i>eco</i>	CTX 510 <i>eco</i>
Work area			
Max. swing diameter	mm	330	680
Max. swing diameter above cross-guideway	mm	260	465
Max. turning diameter	mm	200	465
Cross travel (X)	mm	160	300
Longitudinal travel (Z)	mm	450	1,050
Main spindle			
Spindle head (flat flange)	mm	140h5	220h5
Bar capacity	mm	51	76
Spindle diameter in the front bearing	mm	100	140
Chucks	mm	210	250
Power output (40% / 100% DC)	kW (AC)	16.5 ^[2] / 11 ^[2]	33 ^[2] / 22 ^[2]
Max. torque (40% / 100% DC)	Nm	166.5 ^[2] / 112 ^[2]	630 ^[2] / 420 ^[2]
Max. rotational speed	rpm	5,000	3,250
Tool holder			
Number of tool stations		12	12
Driven tool stations ^[1]		6	6
Shaft diameter (according to DIN 69880)	mm	30	40
Power output (40% DC) at 4,000 rpm	kW	8.4 ^[2]	8.4 ^[2]
Max. torque (40% DC)	Nm	20 ^[2]	20 ^[2]
Max. rotational speed	rpm	4,500	4,000
Tailstock			
Tailstock hub (automatic traversable)	mm	400	850
Centre punch receiver	MK	4	5
Tailstock power	daN	400	1,200
Machine weight with a chip conveyor	kg	3,800	8,100

Controls

DMG panel with Siemens 810D powerline and ShopTurn	•	•
DMG panel with Fanuc Oi-TC and Manual Guide i	•	•

^[1] Options ^[2] Technical data for the Siemens 810D powerline

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DMG Service Solutions give you service support and product support worldwide with customised service solutions and service products for the entire life of your machine tool.



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DMG TRAINING

Ensure your competitive advantage for optimal machine utilisation

Enhanced productivity and increased know-how of your employees. We are your reliable, expert partner for efficient training in programming, setup and operation of your DMG ECOLINE machine – always at a location near you.

ECO TRAINING PACKAGE

- » Training for two participants
- » Free ECO workshop
- » 60-day trial version DMG Programming / Training Software*

* At the time, only available for Siemens controls

DMG COMPONENTS

Collets

SACO offers two versions of collets: MPT for bar machining and MPF for clamping of feed parts on the main spindle as well as for rear-sided machining on the counter spindle. Fast and simple retooling is possible – no screws necessary while replacing the collets. The SACO collets are 100% replacing with all the current models.

ECO CLAMPING KIT

- » Chucks MPT 65 / 140 (and MPT 65 / 220)*
- » Chuck \varnothing 30 mm (and \varnothing 65 mm)*
- » Manual changing device \varnothing 65 mm

* Data for the CTX 510 eco

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