

[www.ecoline.dmgmori.com](http://www.ecoline.dmgmori.com)

**DMG MORI**

**ECOLINE** // SIMPLY MORE SUCCESS

*CTX ecoline*

CTX 450 *ecoline*

CTX 650 *ecoline*



## Machine highlights

Machine and technology

Control technology

Options

Technical data

### CTX *ecoline* series

# Highest precision and unbeatable performance – the new CTX *ecoline* series has arrived!

The new, innovative CTX 450 *ecoline* and CTX 650 *ecoline* both have a compact footprint with a maximum work area. A large turning diameter ( $\varnothing$  400 /  $\varnothing$  600 mm) and the great bar capacities (optional up to  $\varnothing$  75 /  $\varnothing$  110 mm) are unique features in its class and provide flexibility for chuck and bar machining.

#### **More clarity!**

##### LED signal lamp

- + Provides information about the process status
- + Increases process reliability and workflow efficiency

#### **More comfort!**

##### 3<sup>rd</sup> generation SLIMline®

- + The ergonomically designed control panel offers maximum operating comfort
- + Scratch-resistant, high-tech surfaces also highly resistant to wear out

#### **More premium!**

##### LIGHTline

- + Branded light element
- + Elegant and modern, with high-quality appearance – an attractive visual cue for your production

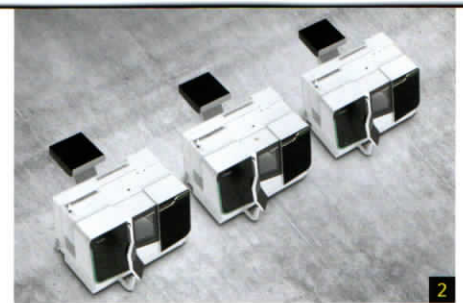
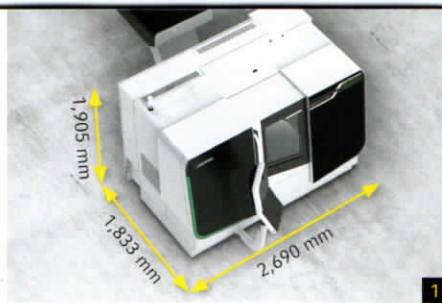
#### **More overview!**

##### Large safety window

- + Approximately 35 % larger window
- + For optimal view into the work area
- + Perfect illumination with the latest PLANONlight gadget and featuring energy-saving LED technology



1: Small footprint with a maximum work area 2: Space-saving installation with rear chip conveyor



### Ideal for mass production

Through the optional rear chip conveyor the width of the machine is reduced by up to 35 %, so that the production area can be used much more efficiently.

## Highlights

- + Highly dynamic spindle drive, torque up to 2,000 Nm
- + 30 m/min rapid traverse in all axes
- + Servo turret with 0.4 second tool indexing time
- + Bar capacity up to  $\varnothing$  110 mm
- + Automatic traversable tailstock
- + 3D control technology: 15" SLIMline® with Operate 4.5 on SIEMENS 840D solutionline, 15" SLIMline® with HEIDENHAIN CNC PILOT 640 or 10.4" TFT screen with MAPPS IV\* with MITSUBISHI
- + DMG SMARTkey®
- + DMG Netservice

\* Available for CTX 450 ecoline



### **More information!**

#### Unique PROGRESSline

- + Keep an eye on your production
- + A visual and digital render of the remaining cycle time and product counter

### **New design!**

#### High-tech surface

- + Lasting protection against wear out
- + Easy removable panel for maintenance, cleaning and renovation

**1 Turret**

- + VDI 40 / 50 servo turret equipped with up to 12 driven VDI and 6 BT tool stations\*
- + MST (MORI SEIKI tool) turret with 12 MST 40 tool holders\*\*

**2 Movable tailstock**

- + For shaft machining

**3 Linear guides**

- + In the X- and Z-axes to ensure high machine dynamics

**4 Bar capacity**

- +  $\varnothing$  65 mm /  $\varnothing$  75 mm\* for CTX 450 *ecoline*
- +  $\varnothing$  102 mm /  $\varnothing$  110 mm\* for CTX 650 *ecoline*

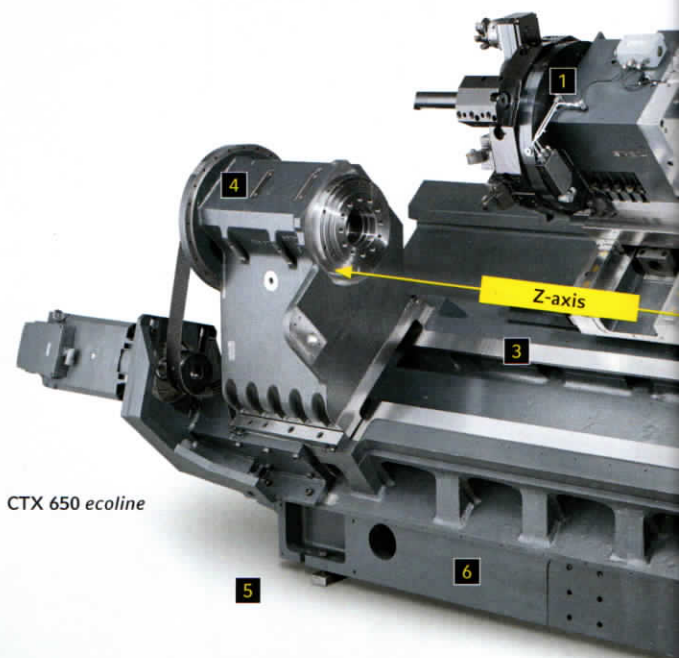
**5 Small footprint**

- + 4.9 m<sup>2</sup> footprint for CTX 450 *ecoline*
- + 9.8 m<sup>2</sup> footprint for CTX 650 *ecoline*

**6 4-track cast iron bed**

- + The high-quality 45° slant bed, made of cast iron, is small, stiff and shock resistant. The design of the four individual linear guides allows a collision-free tailstock movement with the possibility to assembly CNC positioned steady rest without reduction of the machine reliability and durability.

\* Option, \*\* Only available for CTX 450 *ecoline* with MAPPs IV

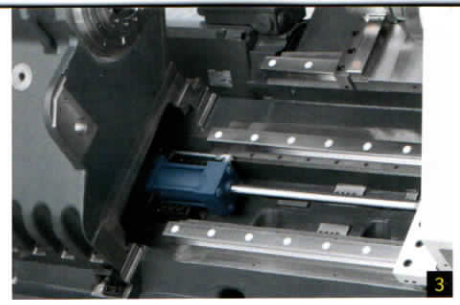
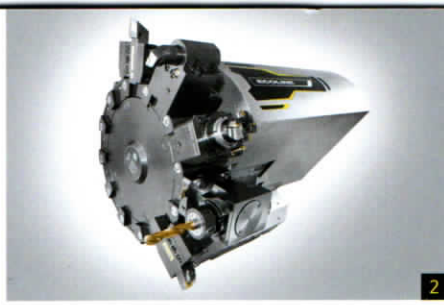
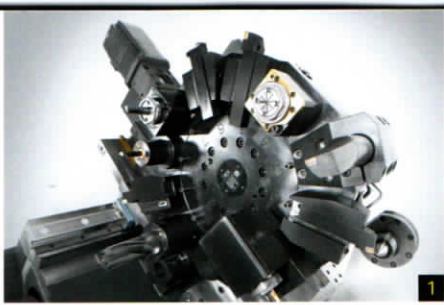


CTX 650 *ecoline*

CTX *ecoline* series

## Rigid cast iron beds with precise spindle stock and linear guides.

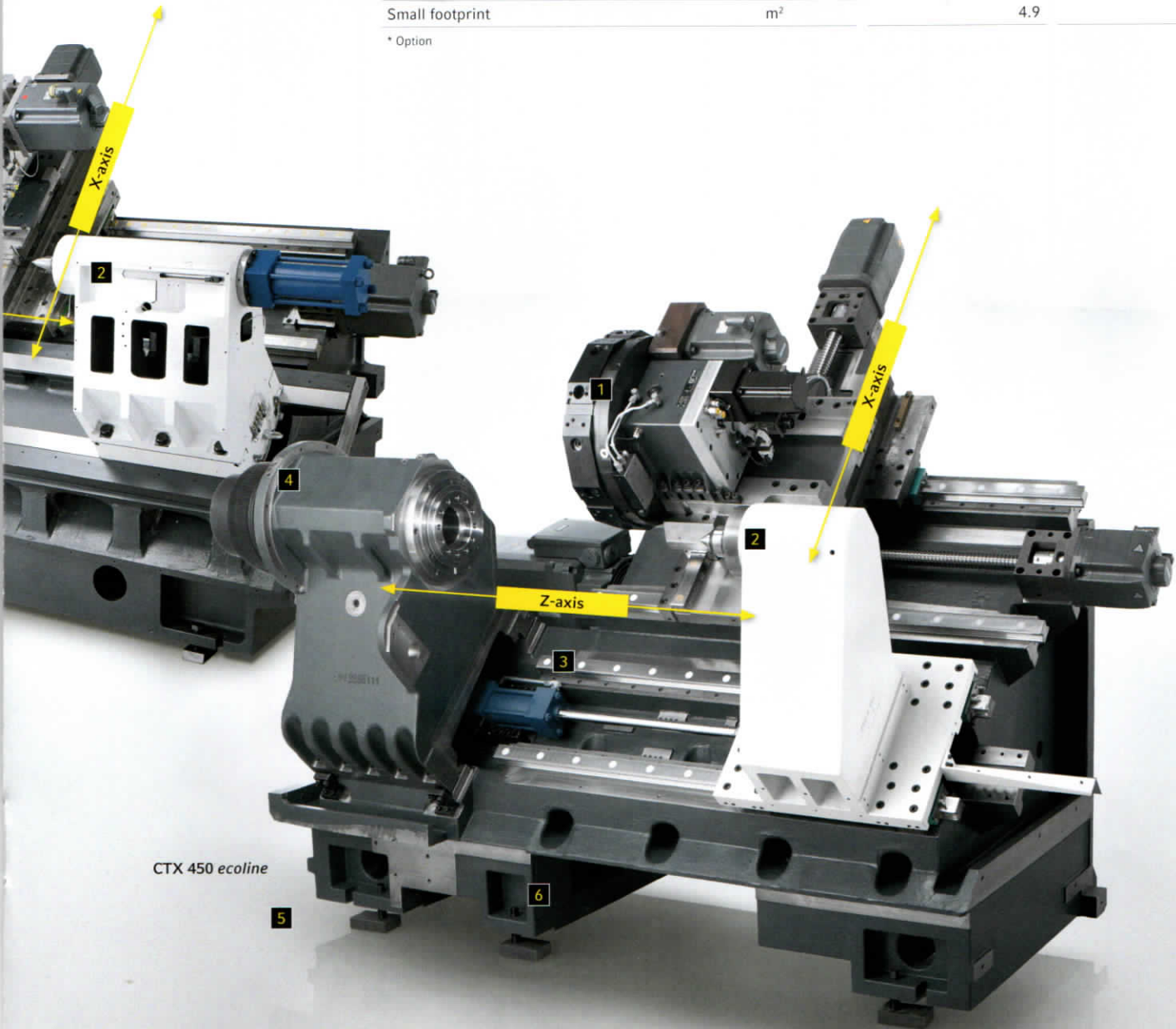
The CTX *ecoline* series is based on optimised cast iron beds for the best rigidity and vibration absorption. To meet the most demanding production requirements, high-quality ball screws and linear guides were combined. The hi-dynamic main spindles and large bar capacity ensure on both models the highest precision with the longest durability. Nevertheless, should anything happen, the belt-driven spindle can be quickly and easily repaired by DMG MORI Spindle-Service. The CNC-positioned tailstocks provide flexibility and rapidity on the production processes. Low connection load, economical power consumption and energy recovery ensure a good energy balance in respect to the ecological features required at a modern machine.



1: VDI turret 2: MST (MORI SEIKI) tool turret  
3: Wide guide ways for hi-rigidity

		CTX 450 <i>ecoline</i>	CTX 650 <i>ecoline</i>
Swing diameter over bed, max.	mm	ø 650	ø 860
Turning diameter over slides, max.	mm	ø 400	ø 600
Stroke in Z-axis, max.	mm	600	1,150
Large bar capacity	mm	ø 65 / ø 75*	ø 102 / ø 110*
Main spindle power (40 / 100 % DC)	kW (AC)	17.5 / 12.5	48 / 41
Torque, max. (40 / 100 % DC)	Nm	370 / 280	2,000 / 1,700
Maximum chuck diameter	mm	210* / 250* / 315*	315* / 400* / 500*
Tool interface		VDI 40	VDI 50
Small footprint	m <sup>2</sup>	4.9	9.8

\* Option



CTX 450 *ecoline*



1: Easy setup 2: DMG SMARTkey®

CTX *ecoline* series

## SLIMline® – the controls with a modern user interface.

Regardless of your control preferences, ECOLINE offers you the most advanced controls for your industry. SLIMline®, optionally with Operate 4.5 on SIEMENS 840D solutionline or with HEIDENHAIN CNC PILOT 640 supports both NC text and fast interactive cycle programming. The keyboards are ergonomically laid out and the screen is divided into user-friendly menus for easy handling. The high-resolution 15" TFT screen, enables you to run 3D simulations of a machining process, fast and in real-time – that way, you save valuable time and stay on the safe side! The SLIMline® comes with an attractive scratch-resistant anodised aluminium surface finish. The control choice is extended by MAPPS IV with MITSUBISHI. This is what a modern and work place looks like!

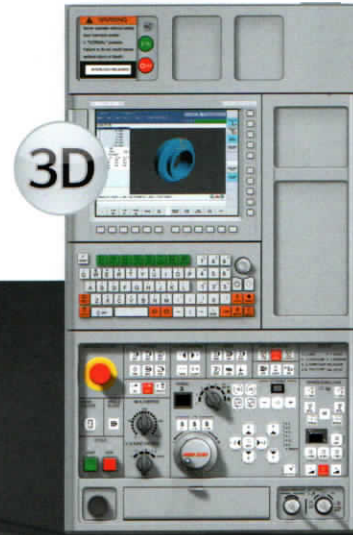
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### SLIMline® with Operate 4.5

SIEMENS 840D solutionline with ShopTurn (in standard) and DMG SMARTkey®

- + 15" TFT screen with a convenient display layout
- + Latest software, intuitive user guide from the drawing to the finished work piece
- + 3D work piece simulation
- + Workshop-oriented programming
- + Multiple cycles, including rigid tapping, pocket milling and falling contours in standard
- + Programme memory consists of 5 MB of NC memory and an additional 2 GB on a CF card
- + 1.5 times faster block processing time





## SLIMline®

HEIDENHAIN CNC PILOT 640  
and DMG SMARTkey®

- + 15" TFT screen with a convenient display layout
- + Comfortable programming with the new full QWERTY keyboard
- + 1.5 ms block processing time in standard
- + Workshop-oriented programming with graphical support
- + Fast data interface for externally created programmes

## MAPPS IV with MITSUBISHI

- + MAPPS IV user interface with control console and Windows Frontend PC
- + 3D simulation and graphic support
- + Automatic programming function with editing menus
- + DNC operation through use of external and user memory area
- + Input and output of programmes via MORI SEIKI Server from an external PC
- + File display and notes function for access to manuals, drawings and texts
- + Vertical softkeys can be for access to buttons or shortcut keys for quick display of user-selected data

CTX *ecoline* series

## Control features

	SLIMline® with Operate 4.5 on SIEMENS 840D solutionline	SLIMline® with HEIDENHAIN CNC PILOT 640	MAPPS with MITSUBISHI
Monitor	15" colour	15" colour	10,4" colour
Access security	DMG SMARTkey®	DMG SMARTkey®	Password
Programming	DIN, ShopTurn	DIN, smart.Turn, optional TurnPlus	DIN, CAPS
Simulation	3D work piece simulation	3D work piece simulation	3D work piece simulation
Programme memory	5 MB + 2 GB	250 MB	50 MB + 6 GB
Block processing time	1.5 ms	1.5 ms	2 ms
Interface	USB, Ethernet	USB, Ethernet	USB, Ethernet
Programming help	Online programming handbook	Online programming handbook	Online programming handbook
External programming	SINUTRAIN	DATAPILOT	MORI-AP
	Operate 4.5 with SIEMENS 840D solutionline	HEIDENHAIN CNC PILOT 640	MAPPS IV
CTX 450 <i>ecoline</i>	•	•	◦
CTX 650 <i>ecoline</i>	•	•	

• Standard, ◦ Option

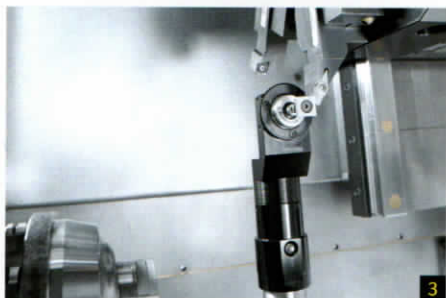
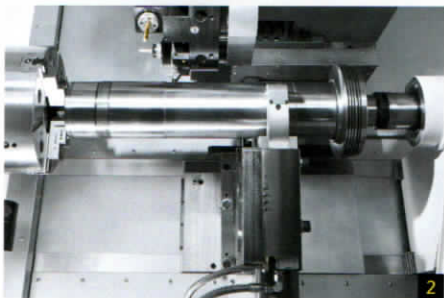
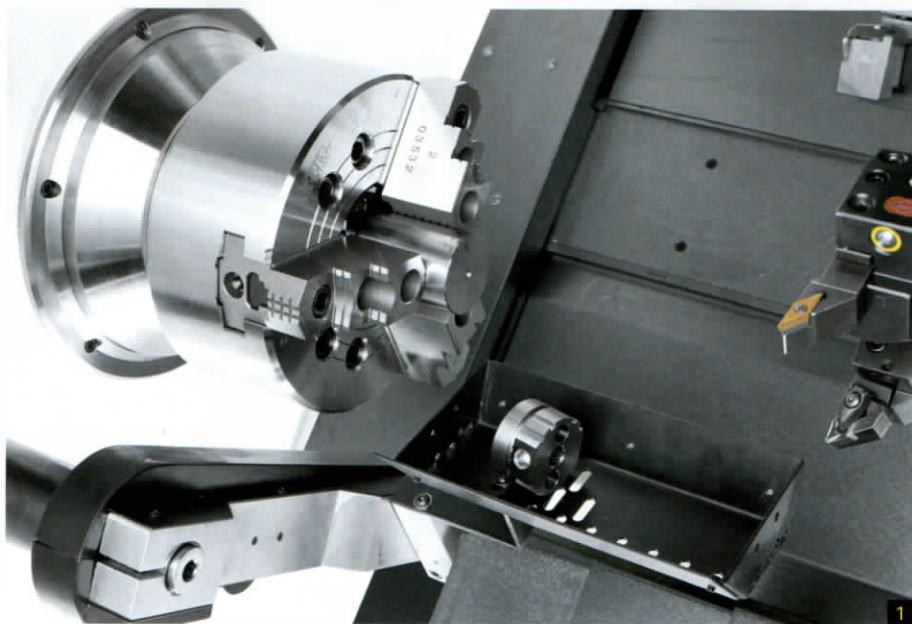


CTX *ecoline* series

## Large variety with maximum quality.

The extensible equipment on the CTX 450 *ecoline* and CTX 650 *ecoline* guarantee maximum efficiency on these entry-level machines. Through the task-optimised upgrade options, the machine can be customized from the basic composition suitable for turning operation up to the Turn & Mill complete machining feature. This is how the CTX 450 *ecoline* and CTX 650 *ecoline* carry on the, well-known high-quality reputation of their predecessors. For example, the use of high-tech digital drives and highly stable linear guides in all axes provide optimal speed and dynamics as well as top precision for even more complex tasks.

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### Option packages

Bar package & interface\*

- + Chip conveyor
- + Automatic part catcher, for parts up to  $\varnothing 75 \times 200$  mm long, max. work piece weight is 4 kg
- + 4-colour signal lamp

Chip removal package

- + Chip conveyor
- + 4-colour signal lamp

Automation package

- + Automation interface (standard DMG MORI interface)
- + Automation door with electric drive
- + Automatic chuck flushing

\* only for CTX 450 *ecoline*

1: Automatic part catcher (part of the bar package)  
 2: Machining with tailstock steady rest  
 3: Tool measuring device in the working area



Reach your  
goal faster

CTX *ecoline* machines  
can increase productivity  
up to 40%.

CTX *ecoline* series

# Options

	CTX 450 <i>ecoline</i>	CTX 650 <i>ecoline</i>
Turret with up to 12 driven and 6 BT tool stations	VDI 40	VDI 50
Chip removal package	•	•
Pre-setting package	•	•
Bar package & interface	•	
Automation package	•	
Rear chip conveyor	•	
Tool measuring device in the work area	•	•
Direct measuring system (X / Z)	•	•
Multiple clamping pressure for the main spindle	•	•
Hollow clamping cylinder with large bar passage	75 mm	110 mm
Steady rest for precise shaft machining up to	172 mm	352 mm
More powerful coolant pump, 12 bar	•	•
DMG Powertools (DMG Service Agent ECOLINE, DMG MORI Messenger)	•	•

• Available

CTX *ecoline* series

# Technical data

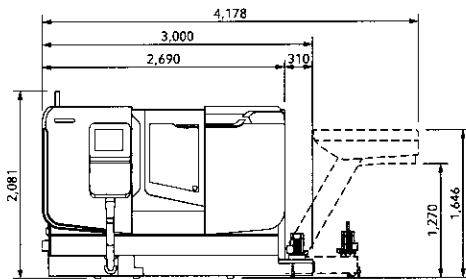
		CTX 450 <i>ecoline</i>	CTX 650 <i>ecoline</i>
<b>Work area</b>			
Swing diameter, max.	mm	650	860
Swing diameter over cross slides	mm	465	600
Turning diameter, max.	mm	ø 400	ø 600
Cross travel (X)	mm	267.5	415
Longitudinal travel (Z)	mm	600	1,150
Rapid traverse (X / Z)	m/min	30 / 30	30 / 30
<b>Main spindle</b>			
Spindle nose	mm	170h5	220h5
Bar capacity	mm	ø 65 / ø 75*	ø 102 / ø 110*
Front bearing diameter	mm	130	160
Maximum chuck diameter	mm	210* / 250* / 315*	315* / 400* / 500*
Main spindle power (40 / 100 % DC)	kW (AC)	17.5** / 12.5**	48** / 41**
Torque, max. (40 / 100 % DC)	Nm	370** / 280**	2,000** / 1,700**
Speed range, max.	rpm	4,000	2,250
<b>Tool holder</b>			
Number of tool stations		12	12
Number of driven tools		12	12
Shaft diameter	mm	40	50
Drive power (40 % DC) by 4,000 rpm	kW	4.2**	12.5**
Torque, max. (40 % DC)	Nm	20	100
Speed, max.	rpm	4,000	3,500
<b>Tailstock</b>			
Tailstock stroke	mm	500	1,150
Centre point interface	Mk	5	5
Tailstock force, max.	daN	800	1,800
<b>Guides</b>			
Ball screw spindle in X- / Z-axis (D × P)	mm	40 × 10	50 × 10
<b>Machine weight</b>			
Machine weight (without chip conveyor)	kg	5,200	9,000
Machine weight (with chip conveyor)	kg	5,800	9,600
<b>Control</b>			
SLIMline® with Operate 4.5 on SIEMENS 840D solutionline		•	•
SLIMline® with HEIDENHAIN CNC PILOT 640		•	•
MAPPS IV with MITSUBISHI		◦	

\* Option, \*\* Technical data for SIEMENS 840D solutionline, • Standard, ◦ Option

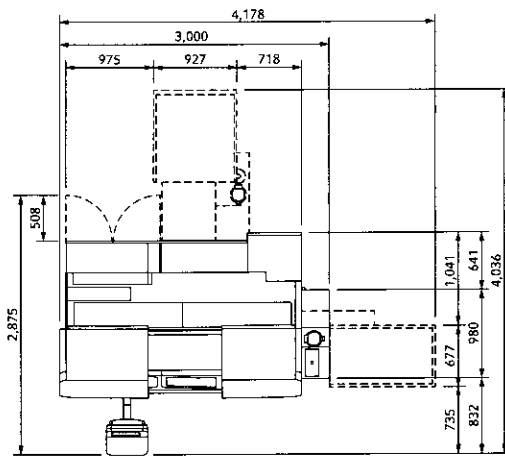
# Footprint and work areas

CTX 450 *ecoline* with chip conveyor

Front view

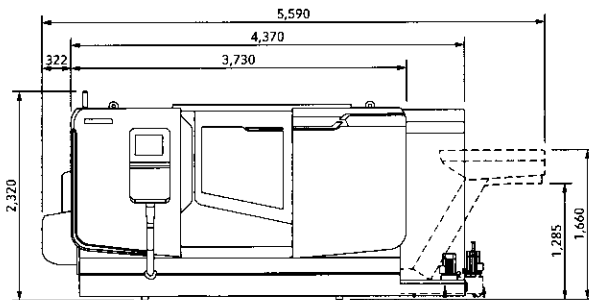


Top view

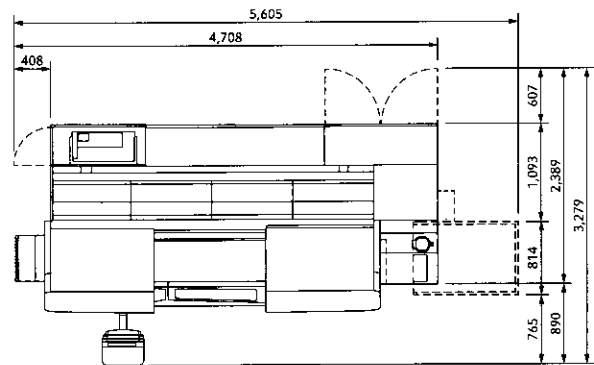


CTX 650 *ecoline* with chip conveyor

Front view

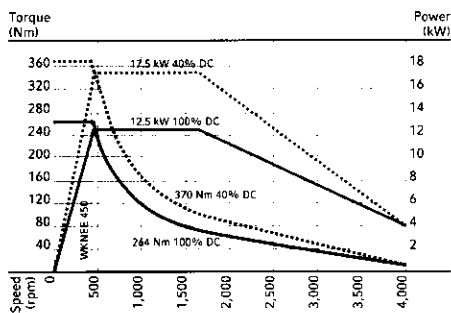


Top view



Performance diagram for CTX 450 *ecoline*

Standard spindle with 4,000 rpm



Performance diagram for CTX 650 *ecoline*

Standard spindle with 2,250 rpm

