

ECOLINE // SIMPLY MORE SUCCESS

CTX 450 *ecoline*

CTX 650 *ecoline*

CTX *ecoline*

CTX 450 *ecoline*



Machine highlights

Machine and technology

Control technology

Options

Technical data

CTX *ecoline* Series

Highest precision and unbeatable performance – the new CTX *ecoline* models have arrived!

The two new, innovative CTX 450 *ecoline* and CTX 650 *ecoline* machines feature a compact footprint with a large work area. Uniquely large turning diameters (\varnothing 15.7 / \varnothing 23.6 in.) and bar capacities (optional up to \varnothing 3.0 / \varnothing 4.3 in.) provide the greatest chuck and bar machining flexibility in their class.

02

More clarity!

LED signal lamp

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

More comfort!

3rd Generation SLIMline®

- + The ergonomically designed control panel offers maximum comfort
- + Scratch-resistant, high-tech surfaces provide lasting protection against wear.

More premium!

LIGHTline

- + A branded light element
- + Elegant, modern and practical – a supplemental light cue for your production

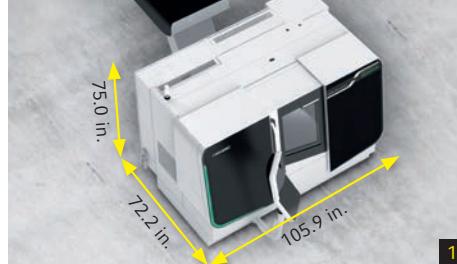


More perspective!

Safety window

- + Approximately 35% larger window
- + For optimal view into the work area
- + Excellent illumination with the pioneering PLANONlight featuring energy-saving LED technology

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



1

2

Ideal for mass production

With the optional rear chip conveyor, the front installation 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 performance, torque up to 1,475.1 ft./lbs.
- + 1,181.1 ipm. rapid traverse in all axes
- + Servo turret with 0.4 second tool change time
- + Bar capacity up to 4.3 in.
- + Automatic traversable tailstock
- + Largest selection of controls: 15" SLIMline® with Operate 4.5 and a SIEMENS 840D solutionline control, 15" SLIMline® with a HEIDENHAIN CNC PILOT 640 control or 10.4" TFT screen with MAPPS IV* from MITSUBISHI
- + DMG SMARTkey®
- + DMG Netservice

* * Available for the CTX 450 ecoline

03



More information!

Unique PROGRESSline

- + Keep an eye on your production
- + A clear indication of the remaining production time and workpiece quantity for a complete machining process

New design!

High-tech surface

- + Lasting protection against wear
- + Scratch-resistant and easy-to-clean surface for everyday use

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 Traversable tailstock

- + For shaft machining

3 Linear guides

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

4 Bar capacity

- + Ø 2.6 in. / Ø 3.0 in.* on the CTX 450 *ecoline*
- + Ø 4.0 in. / Ø 4.3 in.* on the CTX 650 *ecoline*

5 Compact footprint

- + 52.7 ft.² footprint for the CTX 450 *ecoline*
- + 105.5 ft.² footprint for the CTX 650 *ecoline*

CTX *ecoline* Series

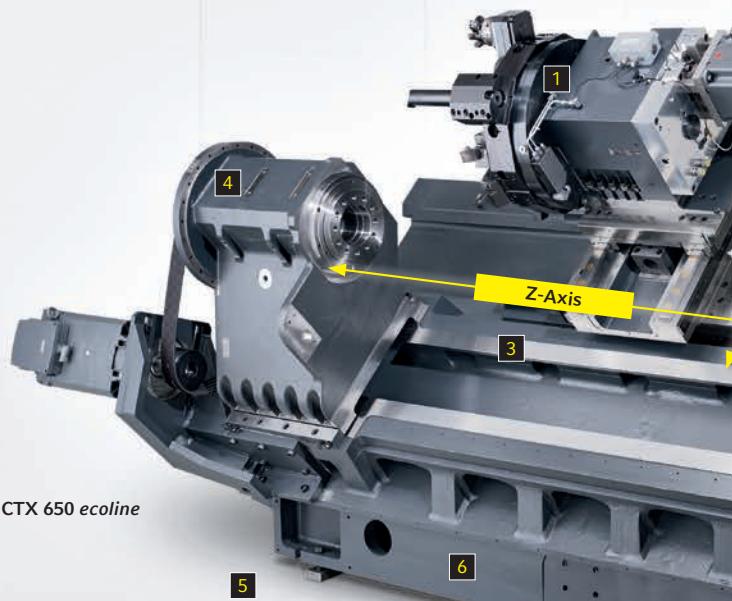
Stable cast-iron beds with precise headstocks and linear roller guides.

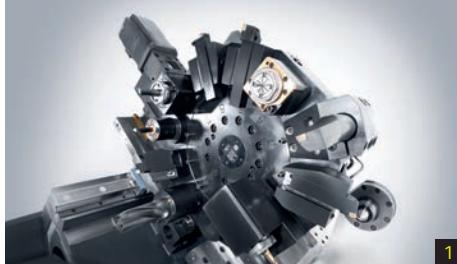
The new CTX *ecoline* Series is on optimized cast-iron beds for the best rigidity and vibrational characteristics. To meet the most demanding production requirements, high-quality ball screws and roller linear guides were combined. The dynamic 4x mounted main spindles and large bar capacity on both models ensure high circular accuracy and outstanding durability. Nevertheless, should anything happen, the belt-driven spindle can be quickly and economically repaired by our DMG MORI Spindle Service. CNC-controlled tailstocks provide flexibility and fast production processes while low connection load, economical power consumption and energy recovery ensure a good energy balance.

6 4-track cast-iron bed

- + The high-quality 45° slant bed made of cast-iron is compact and warp resistant. The guides are linear slide rails and the 4-guide design allows collision-free tailstock movement while the Z-axis guide protection increases reliability and durability.

* Optional, ** Only available for the CTX 450 *ecoline* with MAPPS IV

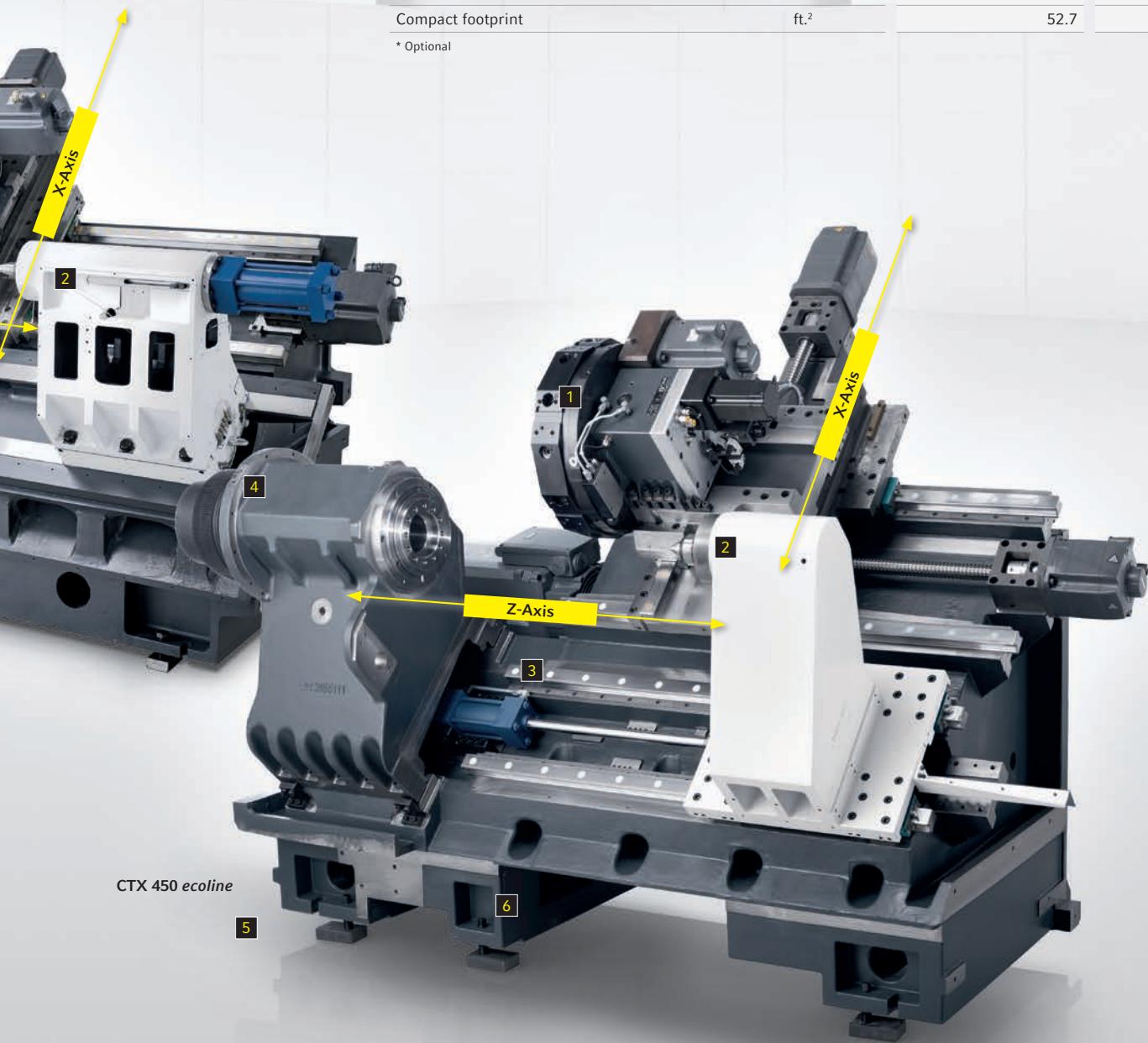




1: VDI servo turret 2: MST (MORI SEIKI tool) turret 3: Wide guideways

		CTX 450 ecoline	CTX 650 ecoline
Swing diameter over the bed, max.	in.	ø 25.6	ø 33.9
Turning diameter over the slides, max.	in.	ø 15.7	ø 23.6
Longitudinal path (Z), max.	in.	23.6	45.3
Large bar capacity	in.	ø 2.6 / ø 3.0*	ø 4.0 / ø 4.3*
Drive power (40 / 100 % DC)	hp. (AC)	23.5 / 16.8	64.4 / 55.0
Torque, max. (40 / 100 % DC)	ft./lbs.	272.9 / 206.5	1,475.1 / 1,253.9
Chuck diameter	in.	8.3* / 9.8* / 12.4*	12.4* / 15.7* / 19.7*
Tool interface		VDI 40	VDI 50
Compact footprint	ft. ²	52.7	105.5

* Optional





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®, with Operate 4.5 on a SIEMENS 840D solutionline or HEIDENHAIN CNC PILOT 640 control, supports both plain text and fast cycle programming. The key panels are practically laid out and the screen is divided into clear user menus for ease-of-use. On the large, high-resolution 15" TFT screen, you can run 3D simulations of a machining process, fast and in real-time – save valuable time and stay on the safe side! SLIMline® is also attractive with a scratch-resistant anodized aluminum design. You can further customize your control with MAPPS IV on a MITSUBISHI control. This is what a modern and responsible work place looks like!

SLIMline® with Operate 4.5

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

- + 15" TFT screen with a clearly arranged layout
- + Latest software, intuitive user guide from the drawing to the finished workpiece
- + 3D workpiece simulation
- + Shopfloor-oriented programming
- + Many cycles, including rigid tapping without a compensating chuck, pocket milling and falling contours, come standard
- + Program memory consists of 5 MB of NC memory and an additional 2 GB on a CF card
- + 1.5x faster block processing time





SLIMline®

HEIDENHAIN CNC PILOT 640 and
DMG SMARTkey®

- + 15" TFT screen with a clearly arranged layout
- + Comfortable programming with the new full ASCII keyboard
- + 1.5 ms block processing time comes standard
- + Shopfloor-oriented programming with graphical support
- + Fast data interface for externally created programs



MAPPS IV on a MITSUBISHI control

- + MAPPS IV operating system with control console and Windows Frontend PC
- + 3D machining simulation for easy contour proofing
- + Automatic programming function with editing menu
- + DNC operation by utilizing the external and user memory
- + Upload and download of programs over the DMG MORI Server from an external PC
- + File display and notes function to access manuals, drawings and texts
- + Vertical soft keys can be used as customizable buttons or shortcut keys for quick display of user-selected data

CTX ecoline Series

Controls features

Monitor	15" (color)
Access security	DMG SMARTkey®
Programming	DIN, ShopTurn
Simulation	3D workpiece simulation
Program memory	5 MB + 2 GB
Block processing time	1.5 ms
Interface	USB, Ethernet
Programming help	Online programming manual
External programming	SINUTRAIN

SLIMline® with Operate 4.5 on a SIEMENS 840D solutionline	
Monitor	15" (color)
Access security	DMG SMARTkey®
Programming	DIN, ShopTurn
Simulation	3D workpiece simulation
Program memory	5 MB + 2 GB
Block processing time	1.5 ms
Interface	USB, Ethernet
Programming help	Online programming manual
External programming	SINUTRAIN

SLIMline® with a HEIDENHAIN CNC PILOT 640	
Monitor	15" (color)
Access security	DMG SMARTkey®
Programming	DIN, smart.Turn, TurnPlus (optional)
Simulation	3D workpiece simulation
Program memory	250 MB
Block processing time	1.5 ms
Interface	USB, Ethernet
Programming help	Online programming manual
External programming	DATAPILOT

MAPPS with a MITSUBISHI control	
Monitor	10.4" (color)
Access security	Password
Programming	DIN, CAPS
Simulation	3D workpiece simulation
Program memory	50 MB + 6 GB
Block processing time	2 ms
Interface	USB, Ethernet
Programming help	Online programming manual
External programming	MORI-AP

Operate 4.5 on a SIEMENS 840D solutionline control	
• Standard	•
◦ Optional	•

HEIDENHAIN CNC PILOT 640	
• Standard	•
◦ Optional	•

MAPPS IV	
• Standard	◦ Optional
◦ Optional	•

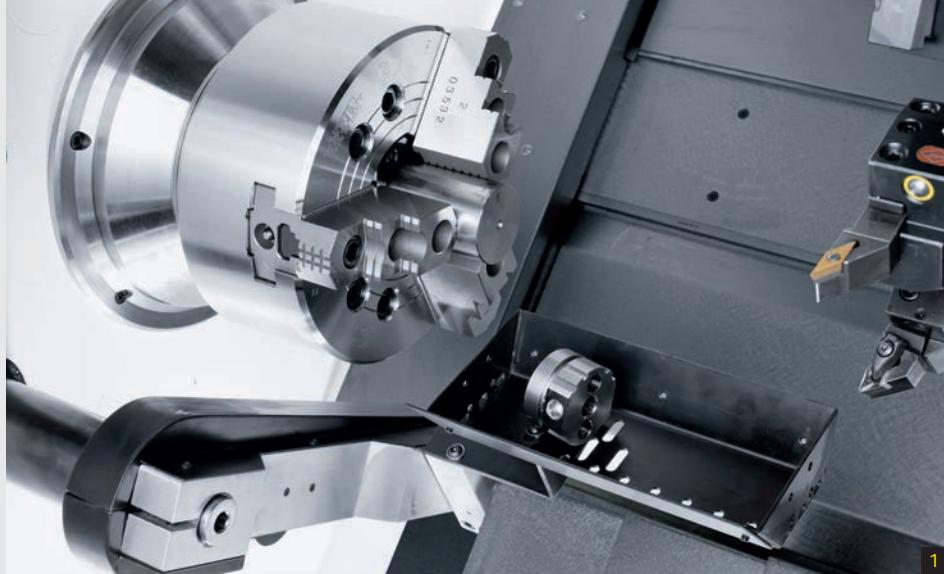
**ALL-
INCLUSIVE
PACKAGE**

CTX ecoline Series

Extensive options and the best quality.

The extensive equipment on the CTX 450 *ecoline* and CTX 650 *ecoline* guarantee maximum efficiency on these entry-level machines. Through the task-optimized upgrade options, the machines can be customized for even turn & mill complete machining. This is how the CTX 450 *ecoline* and CTX 650 *ecoline* carry the high-quality reputation of the ECOLINE Series forward. Our use of high-tech digital drives and stable linear guides in all axes provide optimal speed and dynamics as well as top precision for more complex tasks.

08



1



2



3

Available customization packages

Bar package & interface*

- + Hinged belt chip conveyor
- + Workpiece pick-up device, for parts up to Ø 3.0 x 7.9 in. long, max. workpiece weight is 8.8 lbs.
- + 4-color signal lamp

Chip removal package

- + Hinged belt chip conveyor
- + 4-color signal lamp

Automation package

- + Automation interface (standard DMG MORI interface)
- + Automated cover with electric drive
- + Automatic chuck rinsing device

* Only for the CTX 450 *ecoline*

1: Workpiece pick-up device (part of the bar package)

2: Machining with a tailstock steady rest

3: Tool measuring device in the work area



Reach your
goal faster

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

09

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)	•	•
Differential pressure clamping for the main spindle	•	•
Hollow clamping cylinder with larger capacity	3.0 in.	4.3 in.
Steady rest for precise shaft machining up to	6.8 in.	13.9 in.
More powerful coolant pump, 174.0 psi.	•	•
DMG Powertools (DMG Service Agent ECOLINE, DMG MORI Messenger)	•	•

• Available

CTX ecoline Series

Technical data

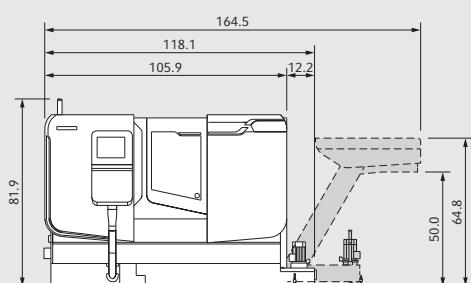
		CTX 450 ecoline	CTX 650 ecoline
Work area			
Swing diameter, max.	in.	25.6	33.9
Swing diameter over cross slides	in.	18.3	23.6
Turning diameter, max.	in.	\varnothing 15.7	\varnothing 23.6
Cross travel (X)	in.	10.5	16.3
Longitudinal travel (Z)	in.	23.6	45.3
Rapid traverse (X / Z)	ipm.	1,181.1 / 1,181.1	1,181.1 / 1,181.1
Main spindle			
Spindle head (flat flange)	in.	6.7h5	8.7h5
Bar capacity	in.	\varnothing 2.6 / \varnothing 3.0*	\varnothing 4.0 / \varnothing 4.3*
Front bearing diameter	in.	5.1	6.3
Clamping chuck	in.	8.3* / 9.8* / 12.4*	12.4* / 15.7* / 19.7*
Drive power (40 / 100 % DC)	hp. (AC)	23.5** / 16.8**	64.4** / 55.0**
Torque, max. (40 / 100 % DC)	ft./lbs.	272.9** / 206.5**	1,475.1** / 1,253.9**
Speed range, max.	rpm.	4,000	2,250
Tool holder			
Number of tool stations		12	12
Number of driven tool stations		12	12
Shaft diameter	in.	1.6	2.0
Drive power (40 % DC) by 4,000 rpm.	hp.	5.6**	16.8**
Torque, max. (40 % DC)	ft./lbs.	14.8	73.8
Speed, max.	rpm.	4,000	3,500
Tailstock			
Tailstock stroke	in.	19.7	45.3
Live center	MK	5	5
Tailstock force, max.	lbf.	1,798.5	4,046.6
Guides			
Ball screw drive in X- / Z-axis (D x P)	in.	1.6 x 0.4	2.0 x 0.4
Machine weight			
Machine weight (without chip conveyor)	lbs.	11,464.0	19,841.6
Machine weight (with chip conveyor)	lbs.	12,786.8	21,164.4
Controls			
SLIMline® with Operate 4.5 on a SIEMENS 840D solutionline control		•	•
SLIMline® with a HEIDENHAIN CNC PILOT 640 control		•	•
MAPPS IV from MITSUBISHI		○	

* Optional, ** Technical data for a SIEMENS 840D solutionline, • Standard, ○ Optional

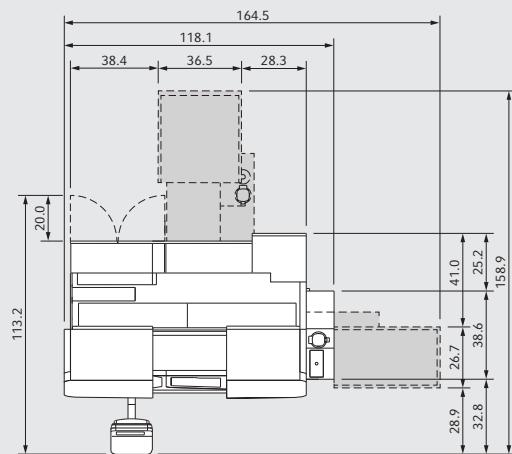
Floor plans and work areas

CTX 450 ecoline with a chip conveyor

Front view

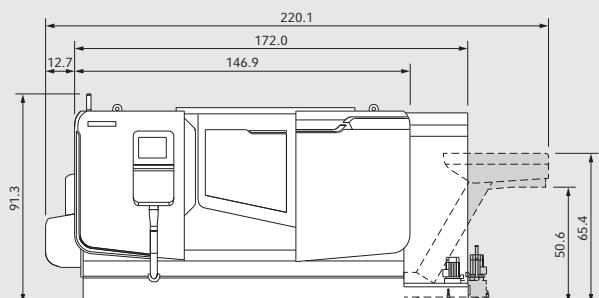


Top view

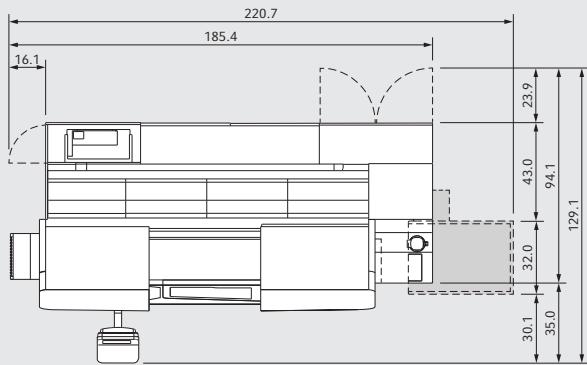


CTX 650 ecoline with a chip conveyor

Front view

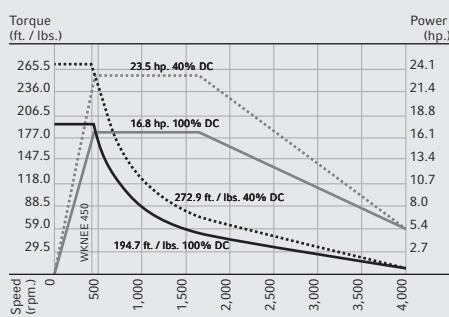


Top view



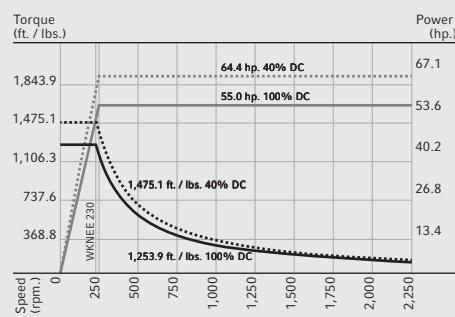
CTX 450 ecoline performance diagram

Standard spindle with 4,000 rpm.



CTX 650 ecoline performance diagram

Standard spindle with 2,250 rpm.



Worldwide at your service!

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