



LIDKÖPING

CL630/660

Wide-wheel centerless machine for high-output
precision grinding



CL630/CL660

KMT Precision Grinding is Sweden's largest machine tool manufacturer. We specialise in the manufacture of precision grinding systems.

Our goal is to give you accuracy, efficiency and reliability through our products, our process knowledge and development, customer support and service. Through close cooperation with end-users, we ensure a correct and profitable solution for you, the customer.

The LIDKOPING centerless grinder is designed and manufactured to meet practically any challenge in precision grinding. The Centerless is the foundation stone of our reputation as a leader in precision grinding technology.

Infeed or throughfeed grinding

The CENTERLESS grinding machine offers two main type of grinding operations, infeed or throughfeed grinding depending on the shape of the work piece.

Grinding spindle

Main spindle drive permits constant grinding speed.

Regulating spindle

Is servomotor driven via a hypoid gear. Speed range 10 rpm to 750 rpm.

Spindle drives

Belt and pulleys are used as main spindle drive for the grinding spindle.

Cartridge-type spindles

for grinding and regulating wheel enable quick wheel change. Wheels can be mounted directly on spindles, or on a separate wheel mount.

Grinding wheel

is dressed by a servomotor-driven hydrostatic CNC dresser with fixed diamond or diamond form roller.

Regulating wheel

is dressed by a servomotor-driven hydrostatic CNC dresser

Regulating wheel headstock

can be fed manually, or via a servomotor with pre-loaded ball screw.

Adjustable work blade support Spindle drives

Siemens main spindle drive is used for grinding spindle. Servo motors are standard for regulating wheels.

Control system

Graphical user interface provides user-friendly controls and Integrated Program Generator IPG. Control System, Siemens 840D sl.

The SINUMERIK 840D sl is a distributed, scalable, open and inter-connecting control system that offers a wide range of functions. This flexible, universal CNC can be used for up to 31 axes.



Dressing unit for grinding wheel



Dressing unit for regulating wheel



Grinding gap



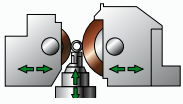
Camshaft
Automotive - External



Outer Ring
Bearing - External

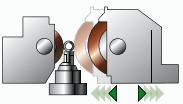


Shaft
Automotive - External



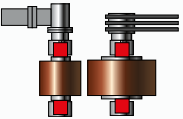
Fixed work center

with vertically adjustable workblade support and movable grinding/regulating wheel headstocks. No adjustment is needed to in- and outfeed devices, to compensate for wheel wear.



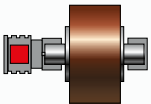
Hydrostatic grinding wheel headstock

with pre-loaded servomotor-driven ball screw provides feed resolution of $0.1 \mu\text{m}$, forwards and backwards.



Dual bearing support

on grinding and regulating spindles ensures high stability in the grinding gap, essential to high quality grinding.



Power transfer

to grinding spindle is via belt and pulley, utilizing an independent pulley bearing and spline sleeve to eliminate radial tension.

Key features

Key features that guarantee accuracy, output, life-cycle economy and safety:

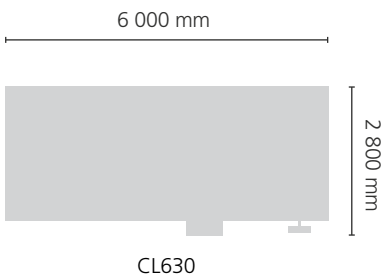
- Fixed work center
- Hydrostatic grinding wheel headstock – down to $0.1 \mu\text{m}$ feed resolution
- Grinding gap stability
- No radial forces from spindle drive belts on grinding spindle
- Dual-supported grinding and regulating spindles
- Short cycle times
- Safe, easy operation

About us

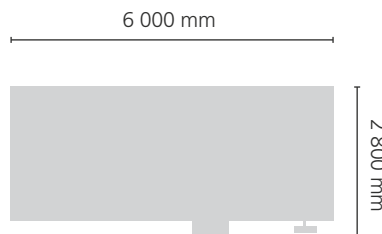
KMT Precision Grinding develops, markets, manufactures, and installs high-precision grinding machines with surrounding equipment within the area of high precision grinding. We market our products under the trademarks LIDKÖPING and UVA. KMT business areas include grinding machines, and complete aftermarket solutions that include service, productivity-enhancing upgrades, and rebuilds.

KMT has delivered over *10 000 machines*, and is represented in every part of the industrialized world. With over a *100 year* old tradition of engineering excellence, KMT is today a high-technology company in the vanguard of grinding research and development.

Extensive knowledge and grinding experience gives KMT a powerful technological advantage and our products are recognized for their consistently high performance and quality. Customers include many of the world's leading producers in the bearing, automotive and hydraulic industries.



CL630



CL660



Joints
Automotive - External



Crankshaft
Automotive - External



Spools
Hydraulic - External

Technical data

Please note that all data stated are correct at time of printing but are subject to change.

Working Range	CL630	CL660
Maximum opening between new wheels	150 mm	250 mm
Recommended working range ¹⁾	2.5-125 mm	5-175 mm
Recommended working range for bar grinding	8-125 mm	
Maximum workpiece length for infeed grinding, normal wheels	295 mm	605 mm
Maximum workpiece length for infeed grinding, recessed wheels	395 mm	695 mm

Grinding Wheel

Outer diameter, new wheel, standard/maximum	610/630 mm	610/630 mm
Outer diameter, worn wheel	380 mm	380 mm
Normal width	300 mm	610 mm
Maximum width, with recessed wheel	400 mm	700 mm
Bore diameter	304.8	304.8
Peripheral speed	max 63 m/s	63 m/s

Grinding Wheel Headstock

Resolution, servomotor	0.1 µm	0.1 µm
Max. feed rate, servomotor	10 mm/s	10 mm/s

Regulating Wheel

Outer diameter, new wheel, standard/maximum	330/380 mm	330/380 mm
Outer diameter, worn wheel	255 mm	255 mm
Normal width	300 mm	610 mm
Maximum width, with recessed wheel	400 mm	660 mm
Resolution, servomotor	0.1 µm	0.1 µm
Bore diameter	203	203
Speed	10-750 rpm	10-750rpm
Regulating wheel's maximum inclination	6 °	5 °

Power requirements

Main motor	37-100 kW	37-100 kW
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Dimensions & Weights

Height from floor to spindle centers	1060 mm	1060 mm
Footprint ²⁾	6 000 x 2 800 mm	6 000 x 2 800 mm
Net weight ³⁾	11 500 kg	13 500 kg

¹⁾ Hollow components of greater diameter can be ground.

²⁾ Including electrical cabinet and hydraulics. Excluding coolant equipment and loading equipment.

³⁾ Basic machine, main motor, spindle, electrical cabinet and hydraulic equipment.

