

LIDKÖPING

VTG 1500/4000

Grinding and Hard Turning
Vertical



Vertical Grinder

The LIDKÖPING KMT Vertical grinding machines gives the user high output quality and can be set up for Internal, External hard turning and grinding operations.

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.

Machine Concept

Hard turning and grinding, in sequence or simultaneously by two rams:

- Two rams: Mounted on a two columns, one single beam design.
- Machine base: Made in cast iron.
With active close loop cooling system.
- Work head: Fixed position work head spindle/worktable (C2)

Work head spindle/worktable

- KMT designed hydrostatic bearings for both axial and radial support.
- Rotary magnetic worktable diameter *1500/4000 mm*.
- Magnetic chuck for centric work piece chucking.
- Max *65 rpm*, *13 kNm* (VTG4000).
Max *225 rpm*, *5 kNm* (VTG1500)
- Direct driven by a torque motor, *20 kW*, step less variable speed.
- Max load on worktable *3 000 kg*.

GRINDING SYSTEM / Left Ram

Slides system:

Vertical left (W1) & Horizontal Left (U1) KMT Lidköping's hydrostatic design. Linear motor driven hydrostatic slide.

- Vertical stroke: *860 mm* / Hydraulic brake.
- Horizontal stroke: *2460 mm*.
- Max acceleration: *1 m/sec²*.
- Max speed: *1 m/s*.
- Resolution: *0,01µm*. The slides are working independently of each other.

External/Internal grinding spindle

HF grinding spindle with support GMN TSE 260C-3500/40. *40 kW*. Speed *1900-3500 rpm*. Electro-mechanical balancing and A-E (gap) by Marposs P7.

Automatic grinding wheel change, OD/ID wheels.

- Wheel diameter *610 mm*, OD/ID.
- Wheel width *150 mm*, OD/ID.
- Max *60 m/s*, variable.
- Integrated Coolant nozzles for OD & ID.

Swiveling of grinding spindle, to be quoted on request

Dressing unit for external and internal grinding wheels
The dressing unit is fixed to the machine base.

- Single point dresser
- NC disc dresser
- Full profile dresser
- Radius dresser

HARD TURNING SYSTEM / Right Ram

Slides system:

Vertical right (X1) & Horizontal right (Z1). KMT Lidköping's hydrostatic design. Linear motor driven hydrostatic slide.

- Vertical stroke: *850 mm* / Hydraulic brake.
- Horizontal stroke: *1960 mm*.
- Max acceleration: *1 m/sec²*.
- Max speed: *1 m/s*.
- Resolution: *0,01µm*. The slides are working independently of each other.

Tool system:

- Automatic tool changer: *5x/12x*
- Tool holder: Sandvik Capto C6 or acc. to customer demand.
- Tool holder material: Densimet
- Measurements: Including probe for tool control.
Tool monitoring system

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.

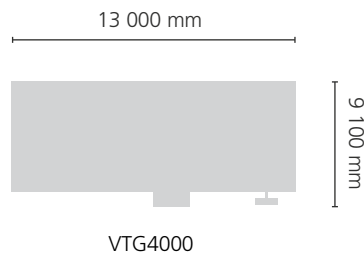
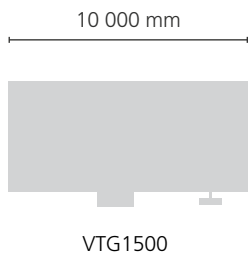


About us

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.



Inner Ring SRB
Windmill, Radar Station
Hard turning/grinding
External or Internal/
External and Internal



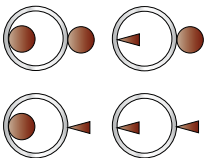
Inner Ring
Gearbox, Large Crane
Hard turning/grinding
External or Internal/
External and Internal



Slewing Bearing
Windmill
Hard turning/grinding
External or Internal/
External and Internal

Technical data

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

Machine	Type	Workholding	Principle	Work Piece Dimension		
				ID	OD	Width
VTG1500	Internal / External / Hard Turning / Grinding	Magnetic Chucking		min Ø 440 max Ø 1 450	min Ø 500 max Ø 1 500	max 500
VTG4000				min Ø 1 000 max Ø 3 800	min Ø 1 300 max Ø 4 000	max 500

Hard Turning

	VTG1500	VTG4000
Work head spindle torque (Nm)	5 000	13 000

Grinding

	VTG1500	VTG4000
Grinding wheel size (mm)	Ø 350	Ø 610
Grinding wheel speed (m/s)	60	60

General

	VTG1500	VTG4000
Work head spindle speed (rpm)	225	65
Work height, from floor to magnetic chuck top face (mm)	400	0
Machine height from floor level (mm)	4 200	4 200
Machine depth from floor level (mm)	2 000	2 600
Machine weight (kg)	60 000	150 000
Footprint (mm)	10 000 x 9 100	13 000 x 9 100

Cooling Water

Cooling Water Pressure	0.25 MPa
Consumption	370 liters/minute
Temperature	ambient ±10°C

Hydraulic System

Pressure, Spindles and Slides	70 bar (+5 bar)
Filter	6 µm
Oil Temperature	±4°C of ambient temperature. Within 15-35°C
Oil	Shell Tellus oil 15/22/46

Coolant

Pressure	0.4-0.6 bar
Consumption	300 liters/minute
Temperature	ambient ±2.5°
Filter	20 µm
Maximun Dirt Content	75 mg/l

Pneumatic System

Consumption, average	1 200 l free air/minute
Pressure	0.5 - 0.7 MPa
Quality	Class 3.4.4 or less

Extra

Exhaust	1 800 m³/h
Noise Level	75 db (A)

