



UVA NOMYLINE

Customized grinding solutions for high precision
product components



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.



It all started in 1928

- 1928** Nomy AB founded in Stockholm. Produces new type of hydro dynamic spherical bearing.
- 1931** Moves to Bromma. Changes name to Ulvsunda Verkstäder AB (UVA).
- 1943** Starts producing internal grinding machines.
- 1965** Delivers world's first machine for fully automated internal grinding of diesel injection nozzles.
- 1971** Acquires Johansson Grinding Machines, external grinding machine manufacturer.
- 1980** Introduces U80 grinder, which features unique modular system and CNC system specially optimized for grinding.
- 1989** Introduces U88 and UVATRONIC 2.
- 1996** Becomes wholly owned subsidiary of KMT.
- 2003** Delivers first UVA Nomyline grinder, which features ground-breaking grinding technology.
- 2006** Adds PC-based UVATRONIC 3 to UVA Nomyline. Introduces UVAe external grinder.

Advanced precision grinding specialists

KMT Precision Grinding AB produces modular grinding solutions for small, high precision product components under the trademark UVA. We are committed to innovation and performance through precision in all aspects of our work and to added-value for customers through customized, high-speed, high volume solutions.

Demand for specialized technology

Since the mid-1960s, we have been the world's leading producer of grinding machines for fuel injection components for internal combustion engines, especially diesel. In today's market, we face excellent opportunities for continued growth. Increasingly stringent fuel consumption and emission requirements and new injection systems for alternative fuels are triggering the development of new fuel technology. In addition, more and more passenger cars are utilizing diesel technology.

Synergistic research and development

In 2001, we introduced UVA Nomyline, the world's first grinding system to capitalize on linear servo-motor and hydrostatic slide technology. With fewer components and no contact, wear-free movable parts, UVA Nomyline systems run by KMT trained operators offer more than 98 % uptime for customers.

UVA Nomyline also features UVATRONIC, our proprietary CNC system, which is specially designed to optimize KMT products and processes.

The precision of our systems is backed by our vast grinding knowhow and extensive metrological resources for test-grinding and measurement.

Not just a supplier but a partner

We count world-renowned companies such as Bosch, Siemens, Delphi, Caterpillar, and Cummins among our satisfied customers. With our specialized know-how, customers know they can trust us for superior product quality. In many cases, we provide concurrent engineering services, such as feasibility studies and test and prototype grinding, long before our machines are even ordered.

Worldwide strength

We offer worldwide aftermarket support through locally-based service and spare part supply.



More than just high tech grinding machines

UVA Nomyline is a modular grinding system that can be fully customized yet easily retooled for any grinding application. For customers, this means optimal production today...tomorrow... next month...next year.

Superior grinding technology

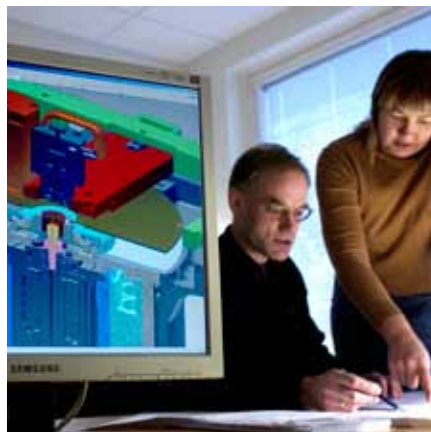
UVA Nomyline solutions feature multiple spindles and chucks, complex and parallel grinding processes, and integrated accessories for complete automation. Each UVA Nomyline accessory has been specially designed to optimize the capability of each solution. The result is better grinding precision, higher production volume, and more system uptime.

Standard yet customized

Many grinding systems on the market today offer modularized machine construction. But we have taken the concept farther by offering virtually standard yet customized grinding solutions. Depending on the application, standard machine modules comprise 80–95 % of a UVA Nomyline solution. UVA Nomyline's unique and competitive strength, however, is its wide array of proprietary, easily adaptable add-on tooling and accessories for completely customized applications.

UVATRONIC

UVATRONIC is our own PC-based computerized numerical control (CNC) system, a key software tool for UVA Nomyline applications. UVATRONIC controls not only the machine but the entire grinding process. With UVATRONIC, UVA Nomyline technology can be easily updated and adapted for the production of other specialized automotive components, such as other fuel injection components, needles and plungers as well as components for valve trains, transmissions, air conditioning compressors, power-steering, and braking systems. UVA Nomyline component production systems are also used in the aerospace and hydraulics industries.





UVA Nomyline platform

- UVAi – multiple internal grinding operations in a single chucking.
- UVAi Twin – cuts cycle time by half or more.
- UVAe – for multiple grinding operations and complicated profile dressing.
- UVAie – internal and external grinding in a single chucking.
- UVATRONIC 3 – state-of-the-art CNC system for KMT UVA products and system add-ons.
- UVAi Index – two parallel grinding operations in one machine.

Adaptability – versatility

UVA Nomyline add-ons and accessories for customized applications. UVA Nomyline components have been specially designed by KMT Precision Grinding AB to satisfy customers' unique precision needs.

Grinding spindles

For grinding small bores and seats. Rotation speed of 45,000–150,000 rpm. Superb accuracy for superior grinding quality.

Dressing

Proprietary grinding wheel dressing devices to insure correct geometry and cutting characteristics.

Pivoting spindle holder

Unique proprietary technology that compensates for quill bending. Dramatically higher grinding precision.

Chucks

Large selection with extensive choice of clamping tooling to meet specialized production needs. Extremely precise and consistent clamping with no component deformation.

Automatic loading

Standard option. Reduces cycle time and improves component quality through extremely consistent loading.

Process PC

Proprietary flat panel PC with specialized software. One unit controls all peripheral equipment. Icon technology for measuring and monitoring desired processes. Process tool to insure high quality





Machine program

UVAi – for internal grinding

Excellent for multiple grinding operations in a single chucking or batch production with quick changeover. Up to five internal, or four internal and one face grinding operation in a single chucking.

UVAi Twin – for parallel internal grinding

Two parallel grinding processes and automatic loading cut cycle time by half or more compared to conventional multi-spindle machines. Two workheads with three internal, or two internal and one face grinding operation per workhead.

UVAi Index

Two indexing workheads and a double cross slide with two top slides. Simultaneous grinding of different operations e.g. bore and seat with separate spindles.

UVAe – for external grinding

Perfect for multiple plunge grinding operations and complicated profile dressing. Also suitable for cubic boron nitride (CBN) abrasives and match grinding. Infeed angle of 10–30° for chucked or center-supported workpieces.

UVAie – for internal and external grinding

Internal and external grinding for improved quality and productivity. Multiple grinding operations in a single chucking.

Application examples

UVA Nomyline is easily adapted for any grinding combination



Pump
Internal, Face



Nozzle
Internal



Plate
Internal, Face



Valve Lifter
Internal



Pump Body
Internal



Pump Head
External or Internal



Needle
External



Nozzle
External



Nozzle
External or Internal



Ongoing value through continuous precision

The creation of value through precision does not end the day we deliver a machine. In fact, our aftermarket program to keep customer systems functioning at peak efficiency represents a third and growing portion of our total turnover.

[Spare parts and service](#)

We guarantee worldwide availability of spare parts for ten years (five years for certain electronic components). But in most cases, we will support and deliver spare parts to machines more than 25 years old. We maintain a large spare part inventory and, as the system designer, can deliver the correct spare quickly. We assume full responsibility for our machines and systems and use locally-based, trained service technicians in all our major markets.

[Upgrade kits](#)

We offer upgrade kits that customers can install themselves. The kit is comprised of a set of customized improvements to be installed on site. The upgrades are designed to modernize and improve machine performance as cost-effectively as possible.

[Rebuilds](#)

Our machines typically outlive their designed function. But thanks to their modular construction, they can be rebuilt and retooled for a fraction of the cost of a new machine. We offer the same warranty on a rebuilt machine as on a new one.

[Preventive maintenance and reconditioning](#)

About once a year, our trained technicians measure the accuracy of our systems functions and compare the results to company standards and to those from previous inspections, and, as needed, recommend reconditioning measures for improved performance.

[Process optimization](#)

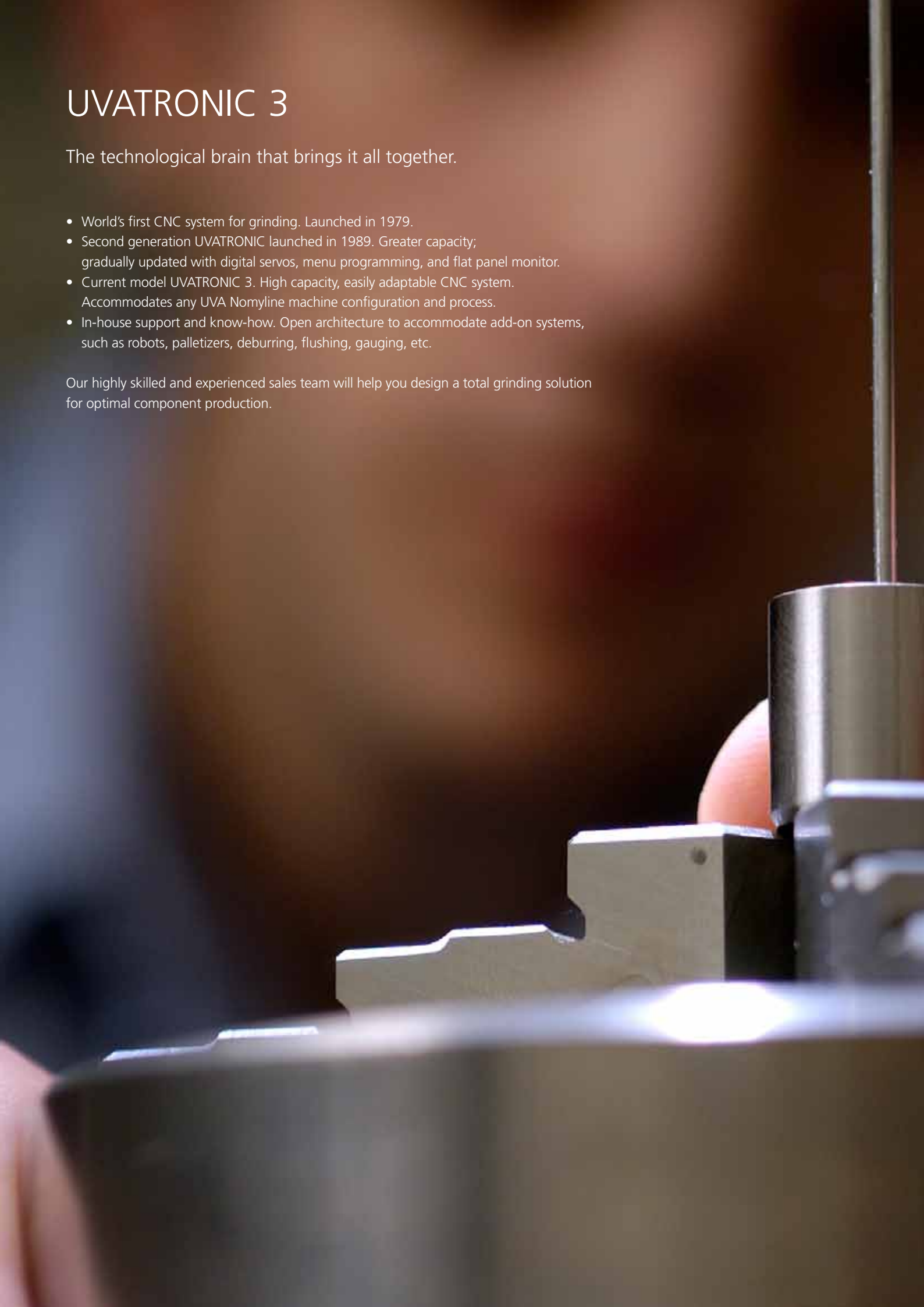
Upon request, our experts will conduct a comprehensive review of a customer's production process, update grinding wheel specifications and process parameters, and install new tooling, as needed. Process optimization represents significant cost savings for customers who depend on optimal machine and system performance.

UVATRONIC 3

The technological brain that brings it all together.

- World's first CNC system for grinding. Launched in 1979.
- Second generation UVATRONIC launched in 1989. Greater capacity; gradually updated with digital servos, menu programming, and flat panel monitor.
- Current model UVATRONIC 3. High capacity, easily adaptable CNC system. Accommodates any UVA Nomyline machine configuration and process.
- In-house support and know-how. Open architecture to accommodate add-on systems, such as robots, palletizers, deburring, flushing, gauging, etc.

Our highly skilled and experienced sales team will help you design a total grinding solution for optimal component production.





Technical data

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

Machine Capacity	UVAi	UVAi Twin	UVAe	UVAie	UVAi Index
Grinding diameter, Ø mm	0.5 - 100	0.5 - 36	1.0 - 80	1.0 - 36	0.5 - 36
Maximum clamping diameter, Ø mm	120	40	80	40	40
Maximum grinding length, mm	200	120	160	160	80
Tablestroke	250	250	250	250	150
Cross slide stroke	550	2x250	250	120/550	2x250

HF Grinding Spindles

Power, kW	0.4 – 10	0.4 - 5.0	9	0.4 - 5.0	0.4 - 5.0
Speed, rpm	18,000 - 180,000	45,000 - 180,000	6000	45,000 - 180,000	45,000 - 180,000
Wheel size, Ø mm	< 50	< 26	-	< 26	< 26
Spindles, maximum number	5	6	1	3	4

OD/Face Wheelheads

Power, kW	4.0 / 2.2	2.2 / 4	9	7.5	2.2 / 4
Speed, rpm	1,500 / 11,200	11,200 / 6,000	1,500 / 6,000	1,500 / 6,000	11,200 / 6,000
Wheel size, Ø mm	230 / 75	75 / 125	400 / 500	400	75 / 125
Cutting speed m/s max	-	-	60 / 120	60 / 120	-

Dimensions and Weight

Machine length, mm ³	2,300	2,300	2,300	2,300	2,300
Machine width, mm ³	1,800	1,800	1,800	1,800	1,800
Machine height, mm ³	2,200	2,200	2,200	2,200	2,200
Floor footprint, m ²	12	12	12	12	12
Shipping weight, kg	5,000	6,000	6,000	6,000	6,000

KMT UVA reserves the right to change above data without advising.

