SIEMENS

IMTS 2014

Solutions and services for the machine tool industry

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Siemens solutions and services for the machine tool industry

IMTS 2014

Welcome to IMTS
Chicago 2014

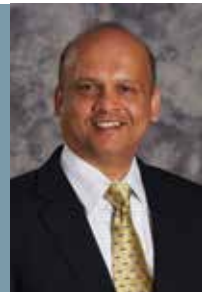
IMTS is here again! At this year's show, nearly 100,000 key individuals from the machine tool and manufacturing worlds of automotive, aerospace, medical, power generation, electronics manufacturing and others will fill the aisles at McCormick Place in Chicago, September 8–13.

Needless to say, Siemens will have a very strong presence at the show, so we invite you to stop by booth E-5010 and experience all our offerings, under our banner of Productivity in Motion.

New solutions and services will be on display, along with multiple machine tools operating in our booth — and all controlled by the industry's most complete family of CNC technology — from our job shop control, the SINUMERIK 808D, to the mid-range line of 828D for turning and milling machines and finally, our long-time star of the show and the most advanced CNC on the world market today, the SINUMERIK 840D sl. Recognized as the industry standard for its open architecture, multi-axis and multi-channel capability, the 840D sl is the preferred CNC in nearly every major automotive, aerospace and medical machining environment today. Our family continues to grow, as we are always developing new communications platforms and factory control integration strategies. Siemens has recently entered a cooperative venture with a company to enhance our presence in the MTConnect world of machine-to-machine communication.

Highlighting our technology leadership, Siemens will demonstrate our mxAutomation and Run MyRobot capability, whereby robotic parts handling is fully incorporated into a second channel on the CNC with fully integrated motion control and position display.

We are keenly aware of the newly emerging uses of additive manufacturing and the unique control challenges faced there. Come to the show to hear and see what we plan in this exciting field, as it transitions from a purely prototype manufacturing option to a viable production technology. We'll give you an entirely new view on the addition and subtraction we all learned in elementary school.



Rajas Sukthankar

Business Manager
Machine Tool Systems
Siemens Industry, Inc.

In conjunction with our fellow Siemens PLM group, we will demonstrate the most comprehensive approach to the medical process chain in the global market today. We closely link the CAD/CAM/CNC chain, via NX-CAM and the Teamcenter concept, culminating in the use of SINUMERIK technology to produce the very best quality surfaces in the always non-linear world inside the human body.

Our technical experts and specific industry market managers for automotive, aerospace, medical and power generation will be in the booth to answer your questions — along with our business development managers, who can assist you in planning tomorrow's projects and manufacturing approaches.

Siemens has made an ongoing commitment to improving the overall product and technology delivery, installation, training and service aspects of our company and these will be fully demonstrated in the booth, as well. Our global sales network and especially our training teams are second to none in helping our OEM and end-customers get up to speed in production and stay there, through the commissioning, start-up and even remote monitoring services for machines and plant-wide manufacturing operations alike.

In response to the cost-conscious, competitive machine tool world in which we all strive to succeed, Siemens retrofit services have helped to breathe new life into old iron, as we say — and this remain a core competence at our company, through our certified and factory-supported solution partners.

Come to Chicago and see how "Anything is Possible" with SINUMERIK CNC. I look forward to hearing your questions and, along with our team, helping you answer them.

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Siemens solutions and services — Anything is possible

Siemens offers you more innovation, more standard product options, more integration expertise and ongoing support. With our cost-effective solutions for every industry, we give you more ways to keep your productivity in motion.

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Siemens customers at IMTS

Within these pages, you will find customers who have invested in their future with Siemens. We would like to take this opportunity to say thank you for helping us become the global leader in CNC.

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Siemens customers at IMTS

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Within these pages, you will find customers who have invested in their future with Siemens. We would like to take this opportunity to say thank you for helping us become the global leader in CNC.

Solutions for the job shop

Seeing is believing — SINUMERIK CNC

SINUMERIK CNC for the shopfloor is the ideal solution for every facet of turning and milling. Handling is amazingly simple: all programming for turning, milling and drilling is done right on the shopfloor. This makes it possible to achieve a great deal very quickly and with little overhead.

No wonder that our ShopMill and ShopTurn software suites are virtually indispensable in modern-day production plants of all sizes. Their high level of functionality is based on input from the world's leading machine manufacturers. Shared features of the "Job Shop Suite" software include:

Easy on-screen programming

Desired parameters are swiftly entered into each input field, moving logically from one machining block to the next. For total flexibility, the machining sequence can be changed at any point during or after part programming.

Graphically-supported programming

By following a sequence of on-screen prompts, the graphical support program guides the operator from setup through dry run simulation. Help displays are present every step of the way to further maximize production time.

With SINUMERIK CNC, your shopfloor will gain greater flexibility while experiencing better accuracy, excellent precision and outstanding performance. It's easy-to-program, easy-to-use.

ShopMill for milling

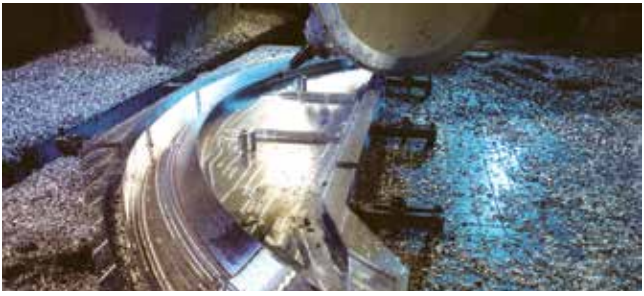
ShopMill milling and drilling software enables CNC operators to achieve peak productivity, with minimum training, on three, four or five-axis machining centers. No intensive G-code training is needed because ShopMill features simple step-by-step programming using on-screen graphics of the workpiece and the tool paths. At the same time, ShopMill users can switch between graphical and G-code programming with the touch of a single keystroke.

ShopTurn for turning

ShopTurn makes the production of machining plans easy for skilled workers — even for those who do not have NC programming knowledge. When dimensions are missing, the software features a high-performance contour calculator to compute up to 50 undefined contour elements and their transitions.

Solutions for aerospace

Cutting-edge precision and performance



CNC technology for aerospace

The aviation industry is constantly demanding lighter, faster, higher, farther. With SINUMERIK CNC technology, you can make use of a potential that "takes off" on every project. Competition within the world of aerospace manufacturing requires a combination of technology, quality, proven reliability and speed. The SINUMERIK 840D sl continues to be the first choice for aerospace part manufacturing.

High speed cutting — precision, speed and high surface finish

We have developed special tools to achieve the best surface finishes on a reliable basis. These allow optimization of your entire sequence of processes, from CAM-generated sub-programs all the way to the tool's surface.

SINUMERIK — five-axis machining of aircraft components

It's not surprising that the SINUMERIK 840D has been the first choice in aerospace part manufacturing for many years — especially when there is a need for five-axis machining.

SINUMERIK offers the aerospace industry innovative high-speed and five-axis features like TRAORI, NURBS and Spline Interpolation to boost productivity on the manufacturing floor without compromising precision or surface finish.

Special functions that have been implemented to make your five-axis machining simple and convenient include:

- Five-axis transformation
- Orientation interpolation
- Special machine kinematics
- High-performance 3-D tool correction
- Manual five-axis functions

The open architecture of the SINUMERIK 840D sl is ideal for the integration of the sophisticated five-axis functionality demanded by aerospace manufacturers. The control offers aerospace end-users innovative high-speed features like NURBS and Spline Interpolation to boost productivity without compromising precision or surface finish.

These unique features of the 840D sl provide increased productivity on the manufacturing floor, especially during the challenging segments of high-velocity and five-axis machining.

Solutions for automotive

TRANSLINE for powertrain

TRANSLINE from Siemens can be implemented into any factory environment and integrates diverse metal cutting technologies such as milling, turning, drilling and grinding under a common system architecture.

Your production line on the road to success

Today's investment decisions regarding mass production as well as traditional aspects such as efficiency, longevity and price have lost their impact. Today, a strong emphasis is placed on maximized availability and minimized cost.

Let's talk about your production goals

TRANSLINE helps automotive powertrain customers increase their productivity while reducing machine downtime thus providing greater efficiency and a faster time-to-market. TRANSLINE solution line includes comprehensive project management support for automotive customers and machine tool builders along with a complete set of hardware and software tools for high-volume production equipment.

The system is designed with you in mind:

- Transfer lines
- Flexible production lines
- Assembly lines
- Special-purpose machines
- Machining centers, standard CNC machines and grinding machines
- Loaders / loading gantries

TRANSLINE solution line can be implemented into any factory environment and integrates diverse metal cutting technologies such as milling, turning, drilling and grinding under a common system architecture.

The face for mass production

Based upon SINUMERIK CNC and SIMATIC PLC, TRANSLINE implements common hardware and software components. Not only will you benefit from faster start-up times, but also better equipment serviceability and increased productivity.

The complete set of hardware and software tools includes:

- Machine controls (NC and PLC)
- Motors and drives
- Networks
- Engineering and HMI software tools
- Plant infrastructure interfaces

One common PLC programming tool and common programming standards are used for all applications. This allows for very efficient training of maintenance and service personnel. These features, and more, will greatly enhance the productivity of your investment.

Modular hardware and software provides users with opportunities to implement new technology, reduce spare parts inventory and reduce overall commissioning, training and maintenance costs.

TRANSLINE is already proving its value in thousands of production lines everyday — and around the globe.

Solutions for medical part manufacturing

SINUMERIK is the right prescription

Competition within the world of medical part manufacturing requires a combination of technology, proven reliability and speed. The SINUMERIK 840D sl has productivity-enhancing features such as cutting-edge precision, performance and innovation that give machines the best that today's CNC technology has to offer: faster machining speeds, shorter setup times and downtimes, and improved surface finish right from the start.

SINUMERIK — five-axis machining of medical parts

It's not surprising that the SINUMERIK 840D sl has been the first choice in medical manufacturing for many years — especially when there is a need for five-axis machining.

Special functions that have been implemented to make your five-axis machining simple and convenient include:

- Five-axis transformation
- Orientation interpolation
- Special machine kinematics
- High-performance 3-D tool correction
- Manual five-axis functions

Whenever there is a need for five-axis machining, the SINUMERIK 840D sl is first-choice in medical part manufacturing.

The open architecture of the SINUMERIK 840D sl is ideally suited for the sophisticated five-axis functionality demanded by the medical industry. The control offers innovative high-speed features that boost productivity without compromising, accuracy, precision or surface finish. These unique features of the 840D sl provide increased productivity on the manufacturing floor, giving users an edge on the competition.

Solutions for power generation

SINUMERIK is the control of choice

Thanks to its integrated technology functions, SINUMERIK has become the control of choice in the power generation industry.

When it comes to the machining of high-quality turbine parts, the 840D sl is the ideal control for five-axis transformation, special milling cycles, programming support with orientation interpolation, manual five-axis functionality and high-performance 3-D correction. Through its graphical user interface, SINUMERIK Operate, and SINUMERIK MDynamics milling technology packages, you have complete five-axis machining expertise.

Wind power

Wind turbines are not only becoming ever more efficient, but also ever larger. This means they are subject to enormous loading and performance demands.

The precision and the surface quality of the installed gear wheel components, not only for the gearboxes and the rotor blade pitch control systems, but also for the hub and drive shafts, is of great importance for the use of such plants and helps ensure the safe operation.

The 3-axis / 5-axis milling, turning, grinding and gear-wheel machining technologies are used in the production of these parts.

Hydropower

Hydropower is power that is derived from the force or energy of moving water. Various turbine designs use the force of moving water to generate electricity. The production of blade turbines must take into account the exact water compression and the angle of impact. The machining technologies used for the production of these types of turbines are 3-axis / 5-axis milling, grinding and thermal coating.

With five-axis machining of structural components, up to 90 percent of raw material can be removed. These extremely high metal removal rates can only be achieved by using SINUMERIK CNC and SINAMICS drives.

Gas and steam power

Power generation with steam and gas turbines places enormous loads on components. Temperatures as high as 600 degrees Celsius, pressures as high as 300 bar and speeds of 3,000 rpm can be attained for steam turbines. This means reliable and fault-free machining for the milling, grinding and teeth machining of gear components is required.

Solar power

Photovoltaic modules convert sunlight directly into electrical current. First, silicon blocks must be grounded. Then wafers for the photovoltaic modules are cut from these blocks.

Solar thermal power plants utilize the heat of the sun to drive steam turbines. The highest manufacturing precision is required for the production of components. The SINUMERIK 840D sl is used for surface and chamfer grinding, laser cutting of mirror curvatures and metal-cutting.

Solutions for mold-and-die
SINUMERIK MDynamics

Go from the blueprint to the finished part

Precise machining and perfect surface finishes are just two of the demands made on the milling process chain. Especially in tool- and mold-making, the requirements for machining quality, speed and cost-efficiency are very high.

By using SINUMERIK 840D sl or SINUMERIK 828D, you benefit from:

- Integrated solutions that quickly take you from the CAD / CAM system to the finished part
- Graphical-based programming and simulation
- Simple and comprehensive setup functions
- Special tool- and mold-making functions, as well as milling cycles
- Time-optimized process sequences through high-speed CNC
- Surface quality that does not require refinishing

Always by your side during the entire process

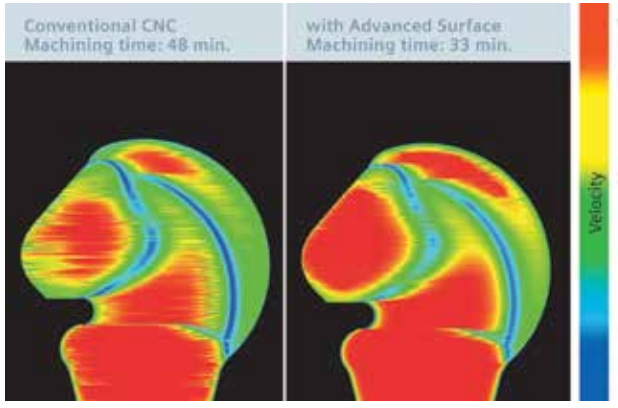
From simple workpieces that are programmed directly on the machine based upon a sketch, all the way through to complex workpieces that are created in CAD / CAM systems, SINUMERIK CNCs support the entire process chain.

Combine milling expertise with SINUMERIK CNC and the unique CAD/CAM/CNC process chain and you have technology packages for three-axis and five-axis milling.

Advanced Surface — the intelligent path control

An evolved algorithm improves the desired surface finish, while significantly reducing the machining time to produce that finish. Forward and backward path motions are calculated identically for line-by-line milling, such as for molds. Surface finish is further enhanced by the calculation of optimum feed characteristics, even with complex block structures in part programs.

Whether you are using our flagship CNC, the SINUMERIK 840D sl, or the mid-range SINUMERIK 828D, you have the advantage to use a three-axis milling machine to cut free-form parts — and complex molds can be cut quickly and precisely on a compact-class machine tool.



SINUMERIK
Always the perfect CNC

As the leader in machine tool automation, Siemens offers you an integrated and seamless CNC platform for your machine tools.

Our approach is simple — one CNC system and many options — from the CNC, all the way to the drives and motors, and even the complete control cabinet to help make your operation more innovative and competitive in today's marketplace.

SINUMERIK is easy-to-learn, easy-to-program and easy-to-use. These CNCs offer you innovative functions and technology cycles for cost-effective manufacturing with programming methods that always fit your needs — no matter if you're machining a small batch or a large series of parts.

Features of the SINUMERIK CNC system include:

- Scalable hardware and software
- Openness of the CNC, PLC and user interface
- Fast commissioning and automatic identification of drive components
- Powerful servo- and spindle motors
- Milling technology packages for perfect workpiece surfaces
- A new graphical user interface
- Energy-efficient drives
- Efficient tool management
- Integrated safety for the protection of people and machines

SINUMERIK CNC systems are used to automate machine tools and offer you a number of cost-effective solutions for every machining technology and industry.

The SINUMERIK system platform offers several versions for different machine tool requirements:

- **SINUMERIK 808D —** the entry-level CNC for standard milling and turning machines — is a compact and rugged CNC that's easy-to-maintain. Together with SINAMICS V60 drives and SIMOTICS 1FL5 servomotors, the 808D can be managed with minimal training.
- **SINUMERIK 828D —** the mid-range CNC for the job shop — is a new panel-based CNC that makes it perfect for demanding milling and turning applications. It's a breakthrough CNC offering machine-enhancing performance capabilities, never seen before in a shopfloor control.
- **SINUMERIK 840D sl —** the universal and flexible CNC system featuring the SINAMICS S120 drive platform — is the ideal solution for high-performance and complex applications. It sets new standards when it comes to precision, performance and accuracy.

SINUMERIK 808D / 808D Advanced

The small, robust and easy CNC

Entry-level CNC for your milling and turning machines

This operator-panel-based CNC is extremely compact, rugged and very easy to maintain. Powerful CNC functions allow you to achieve excellent machining precision in a very short amount of time. The SINUMERIK 808D and 808D Advanced both offer you a broad performance range for entry-level machine tools, along with a high cost-performance ratio for basic, standard machines.

Highlights of the SINUMERIK 808D / 808D Advanced include:

- Technology-specific keyboard for milling or turning make the 808D completely easy-to-use.
- The elimination of a fan and hard disk make the 808D robust.
- Connectivity such as the front-panel USB for memory sticks and PC keyboards make the 808D easy-to-program.
- With an IP65 degree of protection rating, the 808D is easy-to-maintain.

Together with the SINAMICS V60 drive platform and SIMOTICS S-1FL5 servomotors, the SINUMERIK 808D is ideally-suited for standard milling and turning machines — up to four axes. Thanks to startGUIDE, every process step of the machine can be managed with minimal training.

SINUMERIK 808D and 808D Advanced offer optimal CNC scalability for the entry-level machine tool.

The SINUMERIK 808D Advanced features SINAMICS V70 drives and SIMOTICS S-1FL6 servomotors to guarantee high system performance. Ideal for up to five axes, the 808D Advanced provides drive bus communication, auto-servo tuning and a wide variety of software options.

With intelligent, robust and easy-to-use hardware, the SINUMERIK 808D and 808D ADVANCED CNCs set the benchmark when it comes to basic, standard milling and turning machines.

SINUMERIK 828D

Breakthrough CNC for the job shop

Introducing the new CNC that will allow job shops to break free

Job shops have finally cracked the G-code. Performance-limiting, G-code-intensive CNC is a thing of the past. The new SINUMERIK 828D is a panel-based CNC that makes it the ideal solution for demanding milling and turning applications. It's a breakthrough CNC that offers machine-enhancing performance capabilities you have never seen before in a shopfloor control.

What makes the SINUMERIK 828D so perfect?

It's compact — maximum power with compact dimensions

- 10.4" color TFT display
- Full QWERTY CNC keyboard
- Maintenance-free (no battery, hard disk or fan)
- Vertical and horizontal variants
- USB, Compact Flash (CF) card, Ethernet on the front panel

It's strong — powerful CNC functions

- Advanced surface
- 80-bit NANO floating point accuracy
- Simplified tool and workpiece management

It's simple — easy-to-setup, easy-to-use

- ShopMill / ShopTurn graphical programming
- Animated elements (interactive help)

The numerical control for today's job shop professionals — advanced, yet easier CNC.

Key advantages for the job shop owner and the machine operator

Advantages for job shop owners

- Production-status text messaging
- Shopfloor communications
- Automatic measuring cycles
- Interactive animated help elements
- ISO code programming

As a job shop owner or manager, you can expect higher CNC-driven performance across your operations. The bottom-line advantage is a time-savings that will equate to cost-savings in man-hours and greater profitability. Increase production efficiencies and take greater control of your shopfloor.

Advantages for job shop operators

- Simpler setups
- Simplified tool management
- Residual material detection
- Contour calculator and CAD reader
- Advanced surface

As a machine tool operator, programmer or maintenance technician, you can expect higher CNC-driven performance from your machines. Expand your professional capabilities by expecting more from your CNC.

SINUMERIK 828D Basic M and T

Get your production up to speed

Compact, strong, simple — perfect for the compact-class machine tool

The design of the SINUMERIK 828D Basic M and T features a compact screen, keyboard and CNC, along with fewer interfaces and cables. The operator panel consists of heavy-duty die-cast magnesium to keep the SINUMERIK 828D in perfect shape — even in harsh application environments.

Features of the SINUMERIK 828D Basic M and T include:

- 8.4" color TFT display with a full QWERTY CNC keyboard
- Maintenance-free (no battery, hard disk or fan)
- USB, Compact Flash (CF) card, Ethernet on the front panel
- Vertical and horizontal variants
- Simplified tool and workpiece management
- 80-bit NANO floating point accuracy
- Animated elements (interactive help)
- ShopMill / ShopTurn graphical programming

Based upon the SINAMICS S120 Combi drive, SINUMERIK 828D Basic M and T are tailor-made CNCs for both milling and turning applications.

Features of the SINAMICS S120 Combi drive include:

- Maximum performance in a minimum space
- Optimum dynamics and precision in a compact and integrated drive design with features such as Dynamic Servo Control (DSC), 80-bit NANO floating point accuracy and high-speed DRIVE-CLiQ communication.
- Uncompromising ruggedness caused by optimum protection against condensation, insensibility against a weak power supply and protection against short circuit, over-voltage and ground faults.
- Expandable up to two additional SINAMICS S120 motor modules

SINUMERIK 840D sl

The next generation CNC with impressive innovation

The force behind today's high-performance applications

The SINUMERIK 840D sl is a universal and flexible CNC system featuring the innovation of the SINAMICS S120 drive platform. The CNC is a distributed, scalable and open system offering a wide range of functions and can be used for up to 93 axes. It is ideally suited for every machining application including milling, turning, grinding, drilling, stamping, nibbling, laser, waterjet, mill-turning and turn-milling. The 840D sl sets new standards when it comes to accuracy, precision and performance.

Features and benefits of the SINUMERIK 840D sl include:

- Maximum performance and flexibility
- Integrated and certified safety functions
- System-wide open architecture
- Reliable operator and programming software such as the new SINUMERIK Operate graphical user interface

The SINUMERIK 840D sl offers unsurpassed flexibility and performance. It's the secure, future-proof and innovative investment for both machine tool builders and end-users.

Large-screen view with the 19-inch SINUMERIK OP19 operator panel

This SINUMERIK operator panel with outstanding design and new operator technology sets the standard in modern machine operation. It is perfectly matched to the SINUMERIK Operate graphical user interface and to the SINUMERIK 840D sl CNC.

Thanks to the capacitive sensory system, glass contact buttons located around the edge respond quickly, even when wearing gloves. IP66 degree of protection rating makes the OP19 very robust and existing accessories can continue to be used with it. Despite all of the new advancements in operator panel technology, one thing remains the same — it's form-factor. This 19-inch operator panel can quickly and easily replace your existing SINUMERIK display.

SINUMERIK Operate

Operation and programming has never been easier

The SINUMERIK Operate graphical user interface clearly and intuitively combines every function needed for the operation and programming of a CNC machine. It provides a consistent look-and-feel and offers you the same usability for every technology — even when you switch between different technologies, such as multi-tasking machines.

Programming has never been so easy

SINUMERIK Operate has many new powerful functions. This permits the combination of machining step and high-level language programming under a single system user interface — it allows for very fast, rational and intuitive NC programming and job preparation.

Flexible and fast

G-code programming with cycle support is combined in programGUIDE. This ensures maximum flexibility and short machining times and is ideal for medium- to large-sized batches. SINUMERIK CNC also supports ISO code programming. ShopMill and ShopTurn are the tailored programming solution for single part and small batch production.

Combining HMI Advanced, ShopMill and ShopTurn into one, SINUMERIK Operate is the new graphical user interface for efficient machine tool operation.

Support for every manufacturing technology

Complex workpieces demand cost-effective manufacturing methods and innovative CNC solutions. The SINUMERIK 840D sl supports multi-tasking machines for workpiece manufacturing in a single clamping — or even during the change between different technologies, such as mill-turning and turn-milling.

DIN and SINUMERIK high-level language and programGUIDE

Developed for maximum flexibility and extremely short machining times

ShopMill / ShopTurn machining step programming

Developed for extremely short programming times

programSYNC

Developed for increased productivity for multi-channel machines

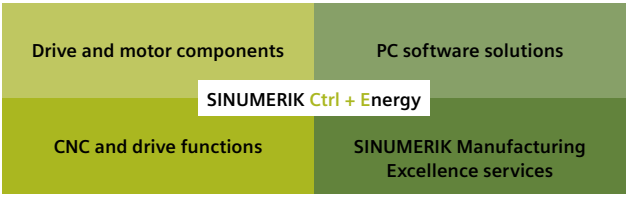
SINUMERIK CTRL-Energy

Energy efficiency in CNC and drive technology

Together with SINAMICS S120 drive systems and SIMOTICS motors, Siemens CNCs provide highly-effective, energy-efficient solutions that help to significantly reduce your machine tool's energy consumption.

SINUMERIK CTRL-Energy

With a simple touch of the CTRL + E keys on the operator panel, SINUMERIK CNCs allow you to quickly evaluate the energy consumption, along with the management of energy consumption, during times of machine standstill.



Energy efficiency in drive technology

Siemens supports its customers in every phase of the energy management process, not only on the product or system level, but also during the planning stages of new machines.

Through a simple keystroke, SINUMERIK CTRL-Energy provides a full assessment of the energy consumed by the machine tool. Siemens sets new standards for energy efficiency and energy management.

Identify — the energy flows

- Energy consumption displays

Evaluate — the savings potential

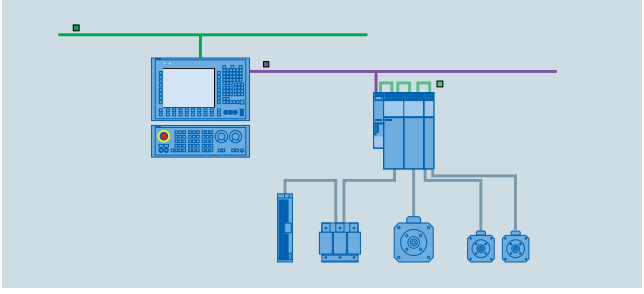
- Energy consumption calculation
- Energy optimal system solution

Realize — by optimizing machines and processes

- Energy management through controlled supply for energy feedback and reactive power compensation (cos phi =1)
- Energy savings through common DC link
- Energy standby supply

Universal motion control

Easily-achieved integrated solutions



SINAMICS S120 drive system

The SINAMICS S120 drive system is the foundation for many Siemens machine tool solutions — including SINUMERIK solution line.

SINAMICS provides for less wiring and space-saving installations. Usability and diagnostics can be performed down to the component level via the internal DRIVE-CLiQ communication interface.

All Siemens motors and drives are modular, making it easy to achieve integrated solutions for both centralized and decentralized machine tool applications.

SIMOTICS motors for every application

The SINAMICS S120 system can drive multiple and different types of motors, including Siemens servo, linear, spindle, synchronous and induction motors.

SIMOTICS

The balance between force and motion

1FT7 synchronous motors

The 1FT7 sets new benchmarks in motor technology from Siemens.

This high-performance synchronous motor is up to 30% smaller than the 1FT6 servomotor and offers users increased torque and a robust encoder attachment with convenient mounting options in this compact design.

Other innovative features include: twistable plug-in connector with quick-release lock; "cool jet" water-cooling; encoder technology for both SIMODRIVE and SINAMICS drives; and winding with individual tooth coils.

1FK7 synchronous motors

1FK7 rotary servo-drives are 25% smaller than previous 1FK synchronous models.

With high torques of up to 108 Nm and a particularly favorable torque-inertia ratio, this motor achieves a very high dynamic response resulting in decreased machine downtime.

The rugged, maintenance-free 1FK7 motor design ensures high operational reliability and is ideal for all mechanical engineering applications, particularly robots and handling tasks.

SIMOTICS motors for machine tool applications are perfectly harmonized and coordinated for use with our SINAMICS S drive platform resulting in fast commissioning and optimal performance.

1PH8 main spindle motors

The new 1PH8 series offers compact main spindle motors with squirrel-cage rotors and IP55 / IP65 degree of protection.

They extend the performance range of the proven 1PH / 1PM series and provide the correct version for every application.

Available with air blast or water cooling, with solid or hollow shaft and with a very wide range of storage concepts and various transmitter types for speed control and high-precision positioning operation.

1PH2 motors for direct drives

1PH2 built-in motors are fluid-cooled, three-phase asynchronous motors.

They are used in cases where compact construction means that the motor has to be integrated directly into the machine.

The workpiece is processed with he highest level of precision and without the influences of lateral forces from the drive thanks to the quiet, precise spindle movement, even at very low speeds. Their performance range covers 7.5–30.9 kW.

SIMOTICS

The balance between force and motion

Linear motors

Siemens offers two linear motor models to cover the increasing demand for high performance direct drive solutions.

The 1FN3-series offer high traversing speeds up to 360 m/min and peak force per motor of up to 20,700 Nm. The 1FN6-series is a linear motor designed for lighter-duty applications such as material handling and light-duty machine tools.

The design eliminates secondary track magnets and water-cooling, making them easy and economical to install, while offering peak force of up to 7,980 Nm.

Synchronous main spindle motors — highly dynamic, extremely compact

1FE1 built-in motors are compact, water-cooled synchronous motors which are supplied as stator and rotor components.

They provide maximum speeds of up to 40,000 rpm and performance of up to 104 kW (S1 operation) and are available in high-torque and high-speed versions. Permanently energized (PE) motor spindles increase the power density and cost-efficiency of CNC machines.

Linear motors, torque motors and spindle motors are ideal solutions for high-performance machine tool applications.

1FW6 torque motors

Operating as a synchronous motor with permanent magnets on the rotor side, the 1FW6 torque motor series has an increased torque range of up to 7,500 Nm offering maximum precision and dynamics for positioning and continuous-path control. Thus the motors can also be used as direct drives.

By increasing the torque range, the 1FW6 is ideal for large rotary table and rotary indexing applications. All motors are exclusively offered as integrated motors, consisting of stator and rotor, in two different fundamental designs.

Motor spindles with a high level of control dynamics

The advantages of motor spindles: rigid, compact design, extremely high power density and reduced overall mass and friction forces.

- Standardized motor spindles for milling machines (for use in vertical and horizontal machine concepts)
- Motor spindles for milling, drilling, turning and grinding
- Custom motor spindles specially develop according to individual customer specifications

Siemens and Weiss

Your spindle motor team

Why Siemens for your spindle motor repair?

You can be certain that your Weiss spindle is in the hands of highly-qualified professionals. Our factory-trained technicians use factory-built repair and test equipment to ensure that you receive your spindle back — set to factory specifications.

In the United States, Siemens offers a complete set of spindle services that include:

- Repairs and upgrades for Siemens-Weiss and third-party spindles
- Fast replacement parts and spindle accessories that are always stocked
- Preventative maintenance that keeps machine downtime to a minimum while extending the spindle's service life
- Technical consultations for the installation, handling and operation of Siemens-Weiss spindles
- On-site spindle service and training

We have the experience to prove our expertise.

Some of our satisfied customers from around the world include:

- Audi
- BMW
- Cincinnati Machine
- Deckel Maho
- DS Technologie
- EMAG
- General Motors
- Gleason-Pfauter
- GROB
- Hardinge
- INDEX
- MAG
- Zimmermann
- and many more...

SIMOGEAR

Gear motors for industry and automation

Today's problems demand new answers

Today's manufacturers and machine builders face pressures to shorten the design phase, reduce the build and installation time, and get the machines up and running quicker — and it all has to be done with fewer components, lower costs and with no compromise in uptime.

SIMOGEAR gear motors help you meet the demands to save time, effort, energy and costs. Some of the ways SIMOGEAR can help you deliver the results your company expects include: quick configuration, on-demand drawings and 3-D CAD files, highly-efficient designs, fast delivery from our U.S. assembly plant, easy installation, simple unit identification and asset management, along with 24 / 7 service and support around the globe.

The automation engineer's gear motor

SIMOGEAR is designed for automation engineering. As such, it integrates smoothly with Siemens drives and automation products, resulting in simpler commissioning and faster start-ups. Options such as encoders and brakes give users the tools to meet the exacting demands of a wide breadth of applications. Motor connectors and SIMOLOC — the Siemens keyless tapered bushing hollow shaft mounting system — support fast installation.

RFID name plates simplify asset management

SIMOGEAR gear motors feature RFID technology embedded into standard human-readable name plates. The RFID tags, readable (and writeable) from several feet away, contain pertinent identification and service data, including the unit's Smart Number. Smart Numbers completely identify each standard gear motor down to the mounting position and color and is all that is required to get an exact duplicate of any standard SIMOGEAR unit.

SINUMERIK Integrate

Integrating communication, engineering and production

The integration of CNC machines into the company's manufacturing processes is becoming increasingly important for lean and efficient production Comprised of six modules, SINUMERIK Integrate does just that.

SINUMERIK Integrate module 1

Create-it!

- This module provides solutions to generate and configure user-specific functions used in SINUMERIK Operate and your company's server.
- This includes comprehensive function libraries and allows the use of NC, PLC and HMI functions throughout the entire network.

SINUMERIK Integrate module 2

Lock-it!

- Protect technological information against unauthorized access through Lock-it!.
- This includes copy protection, as well as the safe storage of company expertise and information through the use of encrypted cycles.

SINUMERIK Integrate module 3

Run-it!

- The Run-it! module comprises the entire runtime system for the execution of individual screen interfaces and user-defined compile cycles on the NC kernel, along with the control of drives and the processes of the virtual NC kernel (VNCK).

Quickly, simply and reliably integrate your machine tool data into your company's production process.

SINUMERIK Integrate module 4

Manage-it!

- Organize and manage NC programs and tools with Manage-it!.
- This module comprises tool / data and program management solutions to quickly and comprehensively provide manufacturing information.
- Link all design, production planning and manufacturing processes together.

SINUMERIK Integrate module 5

Access-it!

- This module provides a uniform communication interface for SINUMERIK CNC. It permits remote access for machine diagnostics, increases machine availability through high-speed online access and reduces service costs.
- Automatic backups for higher-level data backup software can be initiated overnight and decentrally-created data, such as local NC programs, can be collected automatically.

SINUMERIK Integrate module 6

Analyze-it!

- Benefit from powerful functions for condition-based maintenance and key figure-based analysis functions through Analyze-it!.
- Machine run-times are increased thanks to the continuous evaluation of machine data during the manufacturing process, while failure and standstill times are reduced through condition-based maintenance.

SINUMERIK Manufacturing Excellence

Machine tool retrofit

An entirely new life for your machine — at a fraction of the cost

Keeping pace with the constant demand to modernize, improve overall productivity, reduce costs and increase quality is a challenge we all have to deal with everyday. Retrofitting an aging machine with a new CNC can quickly improve its productivity, cut soaring maintenance costs and greatly extend the machine's life cycle. You can depend on Siemens to provide the level of retrofit assistance you need.

Retrofitting new "state-of-the-art" equipment on existing machines presents an attractive, viable alternative to maximize value and stretch the capital budget. Siemens can help you decide what you need. We'll do a machine evaluation to determine the extent of the retrofit package that meets your needs and stays within your budget. A control retrofit package can help you keep pace with future demands at substantially less cost than purchasing a new machine.

Put the latest CNC technology to work

Let Siemens bring state-of-the-art technology to your existing high-dollar capital investment. The SINUMERIK family of controls are sophisticated CNC systems that offer a wide range of specialized functions for milling, drilling, turning, grinding and handling technologies.

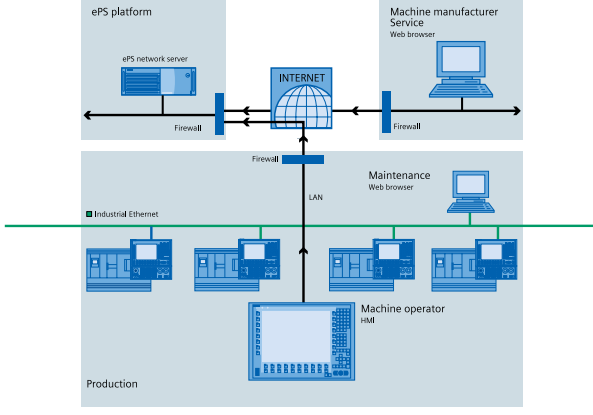
Work with the global leader in machine tool automation

When it comes to machine tool retrofit, you can rest assured that you'll receive all the advantages and security of working with a large company, but without the confusion. Siemens is the retrofit partner that will be there for you; an organization that you can count on now — and well into the future.

Machine tool maintenance and service made simple and safe.

New innovations for machine tool service and maintenance

Condition monitoring solutions are provided via ePS Network Services, the Internet-based service that supports inter-company monitoring between OEMs, end-users and Siemens for machine faults through the use of predictive functions. Services can be configured on the ePS servers over secure internet connections from anywhere in the world via a standard PC. Through the use of condition monitoring, you and your service team can be notified by e-mail or SMS text message should a machine fault occur.

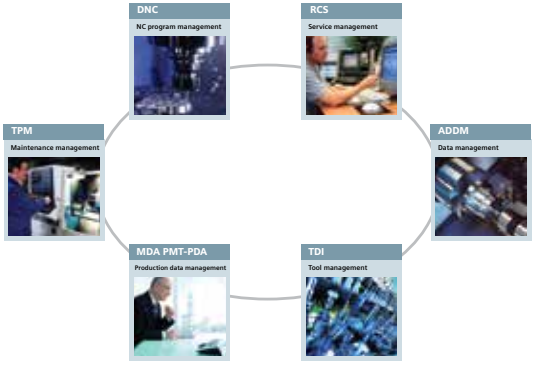


Manufacturing IT is an excellent option that guarantees the fast and secure integration of CNC machines into your production network.

Keeping your production on schedule

Manufacturing IT is the key to increasing your productivity. With our SINUMERIK and SIMATIC S7 open controls and Manufacturing IT, Siemens can offer you different options to increase your productivity. For your production system, this means efficient coordination of planning, availability and implementation, as well as reduced setup times, shorter machine downtimes and simplified fault analysis.

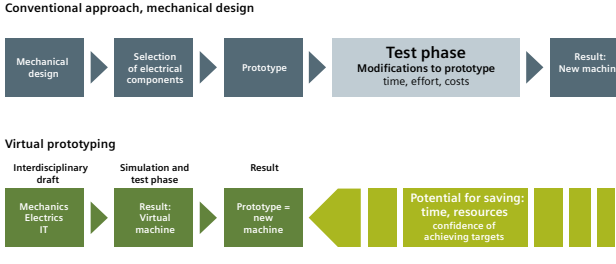
Manufacturing IT also means that the control can be integrated quickly and reliably into the network. One key factor is the rapid transfer of programs and data between the production planning and work preparation system and the machine itself. Such tasks are now functions of high-performance software modules that ensure optimum communication.



Siemens motors and drives are modular — making it easy to achieve integrated solutions for centralized and decentralized applications.

Faster to the machine — faster to market

Mechatronics Support enables OEMs to design their machines in a cooperative partnership with Siemens experts — from the machine's concept all the way through to completion. This provides a platform for the OEM's engineers to work very closely with Siemens as their expert and supplier of control and drives technology. Through this collaboration, Siemens will develop innovative ideas and end-user-specific machine concepts that are tailored to the exact needs of the OEM. Each solution comes equipped with state-of-the-art CNC technology and superior functionality. Mechatronics Support is also available for existing machines. In this case, Siemens will focus on the interaction between the mechanical components and the electrical drives to improve the precision and productivity of a machine.



SINUTRAIN

The perfect introduction into the world of CNC

SINUTRAIN Operate — efficient SINUMERIK CNC training on the PC

In today's competitive world, you not only need the newest technologies, but more importantly, highly-qualified people if you want to stay ahead of the competition. This is especially true when it comes to working with CNC machines. In order to train people to work with machine tools, it's necessary to simulate real-life situations. That means that students must be able to learn the exact steps on a training PC before they can carry them out in daily life.

Based upon the new SINUMERIK Operate graphical user interface, you can use SINUTRAIN to generate and simulate NC programs based on the DIN 66025 programming language, as well as the Siemens ShopMill and ShopTurn products, plus language commands for the SINUMERIK 828D and 840D sl CNCs. Programs created with SINUTRAIN can be used on real machines provided that SINUTRAIN is adapted to the SINUMERIK control system on which the program is to be executed.

The feeling of being right at the machine

When running SINUTRAIN on your PC, you get the feeling as if you were standing in front of the machine. The machine control panel is emulated right on your screen — no additional hardware is needed.

SINUTRAIN is ideal for control-identical CNC training with multimedia software and interactive learning.

SINUTRAIN speaks your language

We know that today's CNC user speaks numerous languages. That's why the software is available in English, Spanish, French, German, Italian and Simplified Chinese — with additional languages soon to come. SINUTRAIN requires Windows® 7 (32- / 64-bit).

Easy learning right from the start

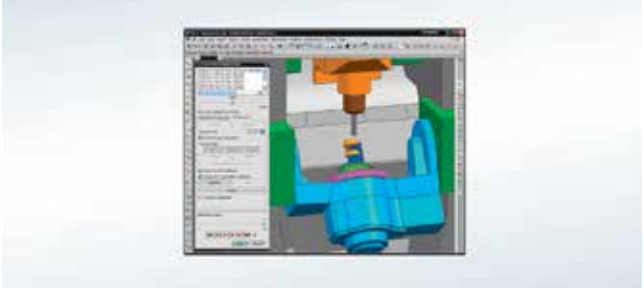
With its integrated tutorials, SINUTRAIN allows you to learn at your own pace. Integrated online help provides you with the necessary information at the touch of a button.

Available for different needs and different budgets

- Trial version — explore SINUTRAIN Operate, free-of-charge, for 60 days.
- Student version — a low-priced, 300-hour license to help students learn how to operate and program SINUMERIK CNC.
- Single-user version — an unrestricted license for a single-user featuring operation and CNC programming.
- Educational version — a classroom license that enables professional instructors to teach multiple students the ins-and-outs of SINUMERIK.

Download a free trial version
www.usa.siemens.com/cnc4you

CAD / CAM / CNC process chain
NX CAM



CAM-CNC integration — connecting the virtual planning and physical production worlds

The combination of programming and planning software with proven shopfloor and CNC solutions from Siemens provides users a unique opportunity to establish advanced levels of integration between these elements of the CAM-CNC process chain. The objective — to deliver new levels of part manufacturing efficiency.

Advanced NC programming capability

NX CAM is an established NC programming system with a wide range of functionality, proven programming flexibility and global technical support.

For advanced CAM applications, such as those typical in aerospace, the efficient and accurate five-axis programming in NX supports a range of methods for defining precisely controlled tool paths on complex surfaces.

For mold and die applications, NX offers the latest in optimized programming for high speed machining to deliver high quality surface finish, extended tool life and shorter manufacturing times.

The latest release of NX CAM includes Volume-Based Milling for fast and easy programming of prismatic parts.

Part programming and planning solutions from Siemens PLM software maximize the value of your machine tool.

CNC production ready output — advanced post-processing and machine tool simulation in NX CAM

NX is one of the few CAM systems to offer integrated machine tool simulation that is driven by the output of the post processor (G-code-driven simulation). NX CAM has additional capabilities in both programming and post-processing that allow you to utilize the advanced functions of the SINUMERIK CNC.

Programming automation

The system is able to recognize a wide range of machining features and create NC operations for them automatically. This can be as much as 10 times faster than manual CAM programming.

Integrated part programming and planning solution

Using Teamcenter technology, NX CAM can be extended to provide CAM data management, integrated tool and fixture libraries, as well as part process planning. Tool library content with > 30,000 tools is available.

PROFINET

Communications across every level

PROFINET is the innovative and open Industrial Ethernet standard for automation and enables uniform networking and communication from the field level through to the control.

Your advantages of using PROFINET

- Simultaneous real-time and IT communication via one bus allows you to synchronize decentralized and distributed automation systems without having to install a second network.
- Flexible communication to SIMATIC controls and office applications
- Maximum machine performance through high-speed data exchange
- Increased machine flexibility allows you to quickly and efficiently respond to changes in production.

SINUMERIK Safety Integrated

The safety system for machine tools

SINUMERIK Safety Integrated offers utility model-tested safety functions that provide highly effective personal and machine protection. Safety functions meet the requirements of safety category 3 compliant with EN 954-1 and are an integral part of the basic system. No additional sensors or evaluators are necessary. For you, this means less installation effort on the machine and a "slimline" control cabinet.

- The safety functions are available in every operating mode and can communicate with the process by safety-orientated input/output signals.
- Safe shutdown brings the drives safely from motion to standstill when a monitor or sensor (e.g. light curtain) responds.
- Safe operation stop monitors the drives at standstill within an adjustable tolerance window. The drives are fully functional in position control in this case.
- Safe stop pulse quenching of drives and; therefore, safe, electronic isolation of the energy supply.
- Safe reduced speed monitoring of configurable speed limit values, for example, when setting-up without trimming key.
- Safe software limit switch variable travel range limits, can be configured axis-specifically
- Safe software cam range detection
- Safety-orientated input / output signals, interface to the process
- Safe programmable logic — direct connection of all safety-relevant signals and internal logic link.

Industry services

There when you need us

To be profitable and sustainable in the face of global competition, machine tool builders and end-users need to ensure maximum availability and optimize performance from their assets and plants. Keeping critical equipment, such as CNCs, drives, motors and PLCs, running reliably and at peak efficiency is critical and can directly impact a company's ability to reach production and business goals.

Reliable service —anywhere in the world

Our field services are performed by trained experts who know your industry and the proper operation and maintenance of SINUMERIK CNC-equipped machine tools. Whether you require modernization of obsolete machines, break / fix service for assets operating out-of-specification or need upgrade services to reach new production goals, our technicians will help get your machines and production back online quicker.

When repairs cannot be performed on-site, we are the only factory-authorized repair provider in the U.S. for SINUMERIK CNCs, drives, motors, spindles, PLCs and board repair. Additionally, we are the only provider to guarantee genuine, OEM spare parts for these systems.

Contact us at (800) 879-8079 or e-mail cncservice.industry@siemens.com to learn more.

Siemens Technical Support — provides expert help for technical issues to get your machines and production back online faster. Online support enables 24 / 7 access and is the central point for service requests. From basic, first-come, first-served contracts to priority service which moves you to the front of the line, you choose the urgency of response and level of support needed.

You can reach our Technical Support team by calling us at (800) 879-8079.

Siemens is the well-coordinated team you require — and we're ready in every situation to keep your productivity in motion.

For more complex projects, 24-hour service or extended support options are also available. Depending upon the level of support contracted, communication is provided via phone, e-mail or remote access. Even products that have been discontinued or are no longer available are still fully covered so that you can have peace of mind that your investments will continue to deliver value.

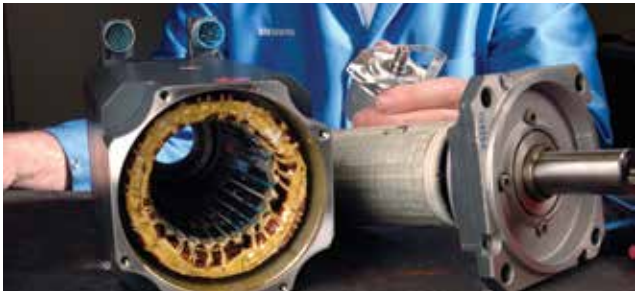
Spare Parts — parts when and where you need them

The right spare parts at the right time are essential for keeping downtime to a minimum and maintenance costs in check. Regional spare parts warehousing ensures that system-compatible components are available as quickly as possible, anywhere in the world. To serve our machine tool customers, Siemens stocks more than 20,000 new and refurbished items in its warehouses, including CNC and drive parts, as well as pre-assembled, standard / core motors for many configurations. With our standard same-day order processing, three methods for responding to critical spare parts needs are offered — outright purchase, exchange or repair.

Just call (800) 879-8079 or e-mail cncparts.industry@siemens.com

For more information,
point your web browser to
www.usa.siemens.com/cnc

Industry services
There when you need us



Repair Services — fast restoration of inoperable devices to good function

A Siemens repair allows you to keep personnel focused on your core competence and lets us take responsibility for returning the functionality of inoperable or out-of-service equipment back to original factory specification. Siemens provides repair and regular inspection service on-site and in repair centers, as well as a technical emergency service all over the globe.

We take a holistic approach to repairing and extending the life of your unit. In addition, we also perform all engineering change notices and updates at the same time of a repair. With fixed pricing for most repairs, you can plan and budget without any surprises.

You'll have peace-of-mind knowing that all Siemens repairs come with our standard warranty. Our factory-trained technicians are qualified on all SINUMERIK and ACRAMATIC CNCs, SIMODRIVE, SINAMICS, MASTERDRIVE and MICROMASTER drive products, SIMOTICS servo- and spindle motors and WEISS motorized spindles. Regionally-located repair centers provide services for printed circuit boards, drives, motors, numerical controls, complete devices, units and drive modules, tape readers, MDI / CRT units and operator panels.

Siemens is committed to providing you with the best solution for every situation. Our offering includes field service, technical support and service agreements — as well as spare parts, repair, training and more.

Service Agreements — increase uptime with lifecycle audits

Siemens service agreements are ideal for greater control and budgeting of your machine tool maintenance costs. They also offer a variety of benefits, including enhanced protection against machine downtime, lower predictive maintenance costs and reduced budget pressures. We offer three standard service agreement packages, which include a range of support options from spare parts supply to 24-hour guaranteed on-site response. In other cases, you may have a unique situation where a customized service agreement is more suitable. Whether you're an OEM that is shipping machines all over the world, or an end-user who needs local support, Siemens offers an agreement that fits your needs.

Take the guesswork out of planning an effective maintenance program

To help secure your machine investment — today and into the future — Siemens offers many other services including:

- Industry training (CNC)
- Asset condition monitoring and analytics
- Energy management and analytics
- Plant cyber security services

SMTCL USA, Inc.

Featuring the SINUMERIK 808D

SMTCL uses the SINUMERIK 808D, 828D and 840D sl controls, SINAMICS drives and SIMOTICS motors from Siemens.

Brio Miller 8 (BM850T)

SMTCL is the largest manufacturer of machine tools in the world making vertical machining centers, vertical turning centers, horizontal turning centers, table-type boring mills, floor-type boring mills, gantry boring and milling machines, along with a complete line of conventional machine tools.

The Brio Miller 8 (BM850T) Vertical Machining Center redefines productivity and value with a base-selling price below $50,000. This economical and versatile machine has X, Y and Z travels of 31" x 19" x 20" and an 8,000 rpm spindle to provide flexibility to manufacturers. It comes with an automatic tool changer, chip auger, the powerful SINUMERIK 808D CNC as standard equipment — plus a two-year parts warranty.

This machine is controlled by the SINUMERIK 808D from Siemens. It's a powerful, reliable and easy-to-use control for machinists who want performance at an economical price. The CNC has a conversational mode, and it has the ability to read standard G-code programming.

EMCO Maier GmbH

Featuring the SINUMERIK 828D

The EMCOTURN E45 comes equipped with the SINUMERIK 828D numerical control and SINAMICS drives.

EMCOTURN E45 with swing loader

Ideal for use in the automotive industry or in medical part manufacturing, the new EMCOTURN E45 with EMCO swing loader for automated part loading, uses an additional channel in the SINUMERIK 828D CNC.

Main spindle

- Bar capacity: ø45 (51) mm
- Speed range: 0–6,300 (5,000) rpm
- Max. torque: 78 (100) Nm
- Max. power: 13 kW

12-station tool turret VDI30, six-position

- Speed range: 0–5,000 rpm
- Max. torque: 16 Nm
- Max. power: 4 kW

Programmable tailstock

- Max. thrust 6,000 N
- Morse tape size4

Sharp Industries

Featuring the SINUMERIK 828D

This Sharp SVL-2416 is equipped with the SINUMERIK 828D CNC — the ideal control for compact-class machine tools.

SVL-2416

The SVL-2416-series of compact linear guide way vertical machining centers combines high productivity with great accuracy and its highly rigid "C" frame design using ultra precision linear guide way system for rapid positioning with high-speed machining. The machine has a travel of 24" x 16" x 18" and standard spindle speeds of 10,000 or 12,000 rpm. Affordable upgrades can be made with 15,000 rpm or 20,000 rpm spindles, glass scales and 4th axis capability. With a machine size of only 78.7" width and 85" depth, this machine will take up very little workspace.

This machine comes standard with a 16-tool carousel ATC or an option of a 24-tool side-mount ATC. Other standard accessories include a coolant system with enlarged coolant tank, auto lubrication system, spindle oil chiller, removable hand wheel, chip pan, air accumulator and heat exchanger for the electrical cabinet.

DMG-Mori with KUKA robot

Featuring the SINUMERIK 840D sl

This DMG-Mori MillTap 700 machine with integrated KUKA robot is controlled by the SINUMERIK 840D sl CNC from Siemens.

MillTap 700

The first joint development from DMG-Mori is the MillTap 700 compact machining center. The highly productive machine stands out with its patented tool changer (0.9 seconds tool change time) and robust construction for high-performance milling. As the only machine in this segment, the MillTap 700 can be optionally-equipped with a measuring system in X/Y/Z for best repeatability and consistent precision.

KR AGILUS

Compact, precise, agile and fast — the robots of the KR AGILUS-series are the new masters of speed. When it comes to handling tasks, the KR AGILUS offers impressive results combined with minimized cycle times. At the same time, the small robot family works with great precision, enabling manufacturing quality of the highest quality. Its speed and accuracy make the performance of the KR AGILUS unique in its payload category. The basic model, KR 6 R900 sixx, weighing 51 kilograms, can carry a maximum payload of 6 kilograms. The KR AGILUS is pre-destined for operation in general industry, wherever automation with low payloads is required.

Easy CNC and social media

We've got an app for that

Easy CNC mobile app

Our popular app has been expanded to include Android devices. Simplify your work, increase your productivity and stay informed with news from Siemens.

This app contains all of the current training manuals for SINUMERIK CNC and will ensure you always have the latest updates. With no more heavy manuals to carry, you have access to over 4,000 pages of vital CNC instruction and content.

In addition, a handy G-code compatibility tool lets you quickly find compatible codes for Siemens and ISO G-codes. The glossary feature is your reference guide to CNC terminology, and web-links to service, support and social media feeds open the door to our online user community.

Don't wait — download the Easy CNC app for iOS and Android devices for free.

Scan this QR-code to download.

The world of SINUMERK at your fingertips —
or the click of your mouse.

Social media

Like us and follow us — let's be social. Stay up-to-date with the latest CNC information from Siemens. Make sure to follow us on Twitter and Facebook.

www.twitter.com/siemens_cnc_us

www.facebook.com/SiemensCNC

CNC4you — the SINUMERIK CNC user community

usa.siemens.com/cnc4you is our online community where you'll find testimonial videos about our customers and their machine tool applications, webinar replays, how-to videos, virtual product tours, software downloads and even technical documentation.

Scan this QR-code now.

Machine tool manufacturers

Siemens customers at IMTS

AKS Alfing

Booth S-8966

Alfing Corporation
44160 Plymouth Oaks Boulevard
Plymouth, MI 48170 USA

T: +1 734 414 5884
F: +1 734 414 5899

alfing@alfing-corp.com
www.alfing.com

Machine description

- Transfer lines and flexible manufacturing systems, specializing in the machining of con rods and light-alloy components
- Multi-spindle machining centers for high-volume, light metal parts
- Linear motors in all axes
- Trunnion fixture technology
- Fracture splitting machines, e.g. con rods and bearing caps

Siemens components

AKS Alfing machines feature the SINUMERIK 840D numerical control.

AMT Alfing Montagetechnik GmbH

Booth S-8966

Alfing Corporation
44160 Plymouth Oaks Boulevard
Plymouth, MI 48170 USA

T: +1 734 414 5884
F: +1 734 414 5899

alfing@alfing-corp.com
www.alfing.com

Machine description

Intelligent automation solutions, featuring:

- Assembly systems for feeding, jointing, tightening, checking, leak test and flow control
- Nitrogen-cooled press-in process
- Individual modules or turnkey systems to automate material flow
- Gantry systems for transporting parts
- Part grippers with rotating and swivel modules
- Intelligent nutrunners and controls for wired and wireless nutrunners
- Wireless Ethernet interface

Siemens components

AMT Alfing machines are equipped with the SINUMERIK 840D computer numerical control.

Arnold, Karl H. Maschinenfabrik GmbH & Co. KG

Booth N-6670

German Machine Tools of America (GMTA)
4630 Freedom Drive
Ann Arbor, MI 48108 USA

T: +1 734 973 7800
F: +1 734 973 3053

sales@gmtamerica.com
www.gmtamerica.com

Machine description

The gantry 3D-laser series is a processing center for large-volume components. All load-bearing parts are designed as welded constructions and the bridge construction is guided and driven on sturdy prop stands with synchronized servo axes. The processing optics are navigated as full flying optics in the 5-axis transformation. Material flow can be flexibly configured with automatic shuttle tables and vertical lifting gates or sliding doors on the front and back side (optional) enable component feed from both sides.

Siemens components

The 3D-laser machining center is controlled by Siemens 840D CNC with supplementary PLC control unit and HT8 handheld terminal. During operation, all of the essential operating states are displayed on the control panel monitor. Additional screens show visual images of the working chamber, the focusing optics including the camera and the Siemens OP monitor.

Bahmueller Technologies, Inc.

Booth N-7467

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2321-A Distribution Street
Charlotte, NC 28203 USA

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F: +1 704 971 6966

info@bahmueller-usa.com
www.bahmueller-usa.com

Machine description

Machine	ULTRA twinner	QUBE
Quality	Hydrostatic axes with Linear drives	Hydrostatic axes with ball screw
Premium	both: Hydrostatic workhead with Roundness 0,1µm	
Quality eco	Axes with roller bearings	Axes with roller bearings
Axes	max.8 (alpha: 4)	max.2
ID Spindle	up to 250.000 rpm	up to 250.000 rpm
Tools	max.8 (alpha: 4)	eternal 1, internal max.2
Application	Combined processing Complex geometry	Step by Step Single process

Siemens components

The ULTRA twinner QUBE is equipped with the Siemens SINUMERIK 840D sl CNC featuring SINAMICS S120 drives, SIMOTICS motors and PROFINET.

Bertsche Engineering Corporation

Booth S-9282

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F: +1 847 537 1113

erb@bertsche.com
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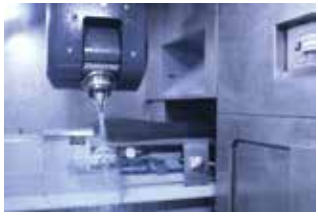

Machine description

The innovative portal machine design features two 5-axis machine modules on opposed sides of the bridge reducing the overall footprint and increasing productivity by a factor of two.

Equipped with integral vacuum fixture tables and zero-point connection system workholding fixtures, which can be quickly exchanged and together with retractable datum surface swing clamps, parts can be quickly loaded, located and clamped for machining.

With the growing trend toward cutting composites wet, flood coolant cutting was added. Flood coolant is constantly circulated throughout the machine for greater machine thermal stability and machine bed thermal sensors are used for dynamic thermal growth compensation.

Siemens components

This milling machine is equipped with the SINUMERIK 840D sl CNC, the SINAMICS S120 drive platform and is used in a number of industries including aerospace, automotive and power generation.

Blohm Jung GmbH

Booth N-6800

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Machine description

The compact BLOHM PROFIMAT MC grinding machine brings efficiency to a variety of production applications, including those involving precision, profile, internal or external cylindrical grinding operations.

With grinding ranges from 23.6" x 27.6" to 23.6" x 39.4", the machine has several spindle variations such as a horizontal spindle for drive capacities up to 80 hp and a stationary or NC-swiveling vertical spindle with speeds up to 60,000 rpm.

Widely-spaced guideways provide machine rigidity, while a traveling column design with various configurations allows for a stationary, rotary or index table. The BLOHM software ensures exact interpolation of the axes, resulting in high workpiece quality.

Several accessories, including a tool changing system with up to 24 tools, as well as special workpiece clamping, enable quick, cost-effective adaptation to customized tasks.

Siemens components

The PROFIMAT MC features the SINUMERIK 840D to further boost its grinding performance and flexibility. As the perfect control system for complex tasks, the 840D offers dynamics, precision and ease-of-network integration. The certified safety functions, safe-axis monitoring and extensive operator guidance offered through the control also protects the machine and its user in an efficient, practical manner.

Breton S.p.A.

Booth S-9186

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Machine description

BRETON launches EAGLE, a new range of high-speed 5-axis CNC milling machining centers with a gantry design and highly-dynamic mobile cross-beam specifically designed and developed for the machining composite materials, resin and light alloys. It is the ideal solution for high-speed production requirements and for precision 5-axis milling operations on the five faces of the workpiece in just one setup.

EAGLE offers you a choice of configurations allowing you to perform complex machining jobs with maximum flexibility, performance and efficiency with work ranges spanning from 2,000 x 2,500 x 1,000 mm to 10,500 x 5,000 x 2,500 mm and over.

Siemens components

- SINUMERIK 840D sl with NCU730.3
- SINAMICS S120 drive system
- SIMOTICS S-1FK7 servomotors
- Operator panel TP015A (15" touch) with PCU50.5 and SINUMERIK Operate
- Machine control panel MCP483C
- Handheld unit HT2
- Safety Integrated
- SINUMERIK MDynamics 5-axis milling technology package

Bucci Industries USA

Booth S-8270

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Machine description

The Iemca BOSS IV is an automatic barfeeder able to machine bars from 3 mm (.0118") to 38 mm (1.496") [Boss 338 HD] and from 5 mm (0.196") to 51 mm (2.001") [Boss 552 HD]; and its optimized design is ideal to work either with Swiss-type machines or with fixed headstock lathes for applications requiring load bar lengths from 1–6 meters. It guarantees maximum reliability with no compromises. Our passion for the continuous improvements of this product, as well as the attention to the smallest details, has proven the Boss line as the market standard for excellence in every working application for over 20 years.

Siemens components

Siemens SIMATIC S7 PLC offers great improvements in the speed and durability of our new line of barfeeders. The responsiveness and expanded control options of the PLC and related components in conjunction with an improved control of the motor and drive allow a faster bar change cycle (up to 40% faster) and a faster exchange of signals between barfeeder and lathe resulting in less dwelling time in the lathe part program, down to zero seconds with some lathe models.

Buderus Schleiftechnik GmbH

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Machine description

The ModuLine 2A SiMac-LA is designed for a low-emission and energy efficient production line. For end-face machining, this grinding machine is equipped with a CBN cup wheel (Ø 400 mm). The cone diameter is machined simultaneously with a CBN external circular grinding wheel (Ø 100 mm). Besides the reduction of grinding time by about 50%, as compared to a sequential machining process, the use of a smaller CBN external circular grinding wheel keeps the tooling costs at an affordable level. The new automation concept "LA–Linear Automation" comes with independent part handling and can also be provided with a post-process measuring station, a centrifuge station or a turn-over facility.

Siemens components

This machine, which is ideal for the automotive, tool- and mold-making industry, plus others, features the Siemens SINUMERIK 840D CNC, SINAMICS S120 drives and SIMOTICS S-1FK7 servomotors.

Buffoli Transfer S.p.A.

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Machine description

The Buffoli Trans-Bar is a horizontal-axis transfer machine for precision parts that are machined directly from bar with high flexibility and efficiency. The Trans-Bar finishes even the most complex parts from both directions and transversely, in one clamping. The Buffoli machine lines includes Omni-Turn-Transfer machines for precision shafts up to 800 mm and for very high-precision automotive parts (e.g. shafts, joints and hubs). On average, the Buffoli machines generates cycle times of 2–20 sec., which is roughly 50% shorter than an automatic multi-spindle, thanks to 10, 12, 16 or more spindles working simultaneously. The integrated cut-off system and the tool monitoring system value material cost and tool cost. Clamping fixtures (chucks, collets, expanding mandrels) are designed for optimal work-piece clamping. All clamping fixtures quick-change.

Siemens components

BUFFOLI machines feature the SINAMICS drive platform from Siemens, SIMOTICS M-1PH8-series spindle motors, SIMOTICS S-1FK7 generation II servomotors with absolute encoder and PROFINET.

Burkhardt+Weber

Booth S-8780

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Machine description

BURKHARDT+WEBER introduce their newest boring mill headstock in an MCR machine model. The re-designed headstock incorporates the latest technologies, advancing the automation capabilities of boring mill uses.

- 130 mm (5.1") or 160 mm (3.3") spindle sizes with up to 1,000 mm (39.4") spindle travel and a spindle speed range up to 80 kW cutting power at 100% duty cycle
- Spindle droop compensation and temp.-controlled headstock and spindle
- Direct spindle growth measurement and compensation

All standard B+W key features are available including:

- Tool field-proven rack-type changer magazine
- Tool exchange for tools or heads up to 75 kg (163 lbs), plus handling of long tools up to 1,250 mm from the standard magazine;
- Spindle with tool face contact up to diameter 160 mm
- Advanced tool management and tool handling with operator-friendly batch type tool loading
- High table torques and high table tilting moments for complete machining

Siemens components

This machine features the Siemens SINUMERIK 840Dsl CNC including SINAMICS drives and SIMOTICS motors.

Current EDM

Booth E-5257

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Machine description

Current EDM offers a complete line of manual and CNC EDM drilling machines available in a wide range of sizes and levels of automation.

Options include:

- Automatic electrode and guide changer
- Micro-hole drilling systems
- High amperage power supplies
- Multi-axis positioning
- Multiple drilling heads
- Extended length drilling heads
- Water or oil dielectric fluid
- Vision hole inspection

Siemens components

Current EDM machines feature the Siemens SINUMERIK 840D sl numerical control. Features include a highly functional control panel with high-resolution LCD display and heavy-duty switches. 5 GB program memory, 1,000 programmable power settings and automatic drilling and referencing cycles greatly simplify long and complex programming.

Dalian Machine Tool Group Corporation

Booth S-8255

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Machine description

DX500J metal engraving and milling machine is suitable for chamfering and polishing surfaces of mobile phone, MP3 and MP4 player shells. This metal engraving and milling machine further optimizes the machine structure, improved Z-axis structure and effectively enhancing machining rigidity. The new appearance also adapts design elements and improved operation and comfort.

- Integrated casting machine base, hardening process and precision grinding guide way ensure mechanical accuracy.
- The machine is equipped with a 5 µm high-precision chip filter device for the machining of non-destructive surfaces and high-gloss surfaces.
- High precision coupling, no slip at high-speed and high-torque.
- Highly precise and sensitive automatic tool probe to ensure tool length automatic compensation and machining precision.

Siemens components

- SINUMERIK 828D

Deckel Maho Gildemeister Shanghai Machine Tools

Booth S-8900

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Machine description

The new ecoTurn 650 is the first jointly-developed turning machine from DMG MORI and comes with impressive advanced components and a rigid, compact design. The work area was designed to provide optimal chip fall and clean up. Two different chip conveyors (to the right or the rear) are available and the large doors provide quick access to the work area.
With its servo turret and high rapid traverse speeds, this machine sets new productivity and performance standards.

Swing diameter, max.	mm/in	860 / 33.9
Turning diameter, max.	mm/in	600 / 23.6
Longitudinal (Z)	mm/in	1,150 / 45.3
Bar capacity	mm/in	ø 102 / ø 110* // 4.0 / 4.3*
Drive power (40 / 100% DC)	kW/hp	48 / 41 // 64.3 / 55.0
Max. torque (40 / 100% DC)	Nm/ft./lbs.	2,000 / 1,700 // 1,475.1 / 1,253.9
Clamping chuck diameter	mm/in	ø 400*/15.7

Siemens components

This machine is equipped with the Siemens SINUMERIK 840D sl CNC with powerful tool management, quick-view simulation of complex part programs and the easiest interactive 3D programming.

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Machine description

The DMC 80 FD duoBLOCK® sets new standards for 5-sided and 5-axis simultaneous machining. Equipped with a fast and space-saving pallet changer, mill-turn machining in one setup guarantees the highest precision and time-savings.

- FD drives with DirectDrive Technology — speeds up to 1,200 rpm, spindle power up to 63 hp and torque of 4,573 ft. / lbs.
- NC-controlled swivel milling head as a B-axis or A-axis for five-sided machining; simultaneous 5-axis milling with different spindle options
- Work area (XYZ): 31.5 / 41.3 / 31.5 in.
- NC-controlled A-axis for machining of negative angles up to -30°
- Maximum rigidity due to the FEM-optimized and patented duoBLOCK® design
- Three guideways in the X-axis for constant rigidity over the entire travel path

Siemens components

This machine is equipped with the Siemens SINUMERIK 840D sl CNC with powerful tool management, quick-view simulation of complex part programs and the easiest interactive 3D programming.

Deckel Maho Seebach GmbH

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Machine description

The improved DMU 60 eVo linear features 5-axis simultaneous machining with a revolutionary gantry design X and Y axis. Now more accessible and with a larger work area, this 5-axis machine is ideal for workpieces of up to 881.8 lbs. Spindle speeds up to 24,000 rpm. ensure highest quality parts in less time.

- 5-sided and up to 5-axis simultaneous machining
- Optimized gantry design, high rigidity, good accessibility, low space requirements
- Dynamic NC swivel rotary table with high rapid traverse speeds, 60 rpm in the B and C-axis
- Optional linear drives in X and Y for rapid traverse speeds of up to 3,149.6 ipm.
- Tool magazine with 30 positions and double gripper for fast and reliable tool changes

Siemens components

This machine is equipped with the Siemens SINUMERIK 840D sl CNC with powerful tool management, quick-view simulation of complex part programs and the easiest interactive 3D programming.

Diskus Werke Schleiftechnik GmbH

Booth N-6770

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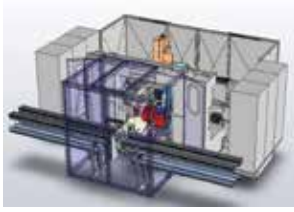

Machine description

DDW 900 R — Double sided face grinder with horizontal spindle arrangement and Ø 900 mm grinding wheels to grind the side faces of coplanar and non-coplanar connecting rods. The machine is equipped with pre-loaded linear bearings, recycling ball screws and digital drives for all axis and spindles. The flexible, rigid design of the machine, for which Diskus has a patent, allows grinding off extreme stock removals instead of a milling operation in a production line, which is a cost-savings. Cycle times are reduced, the basic investment for a production line and the follow-up costs for tools will be reduced, as well. The loading- and off-loading system is designed modularly.

Siemens components

This grinding machine features the SINUMERIK 840D sl CNC and the SINAMICS drive platform. It is ideal for industries such as automotive, tool- and mold-making, plus other industries.

DIXI Machines

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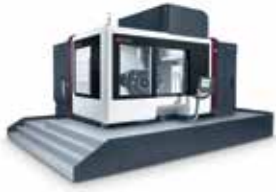

Machine description

The new, high-precision DIXI 210 is in a class of its own with a work area of 70.9 × 82.7 × 57.1 in. (X/Y/Z) and volumetric precision < 0.0014 in. The 3-point support gantry design, made of GGG60 cast iron components, provides maximum rigidity and stability. This combination has created the perfect foundation for ultimate dynamic finishing precision and maximum milling performance.

- Highest precision thanks to an additional 500 hrs. of guideway scraping
- Temperature control of all relevant heat-generating machine components
- Unbeatable dynamics: up to 19.7 ft./s2 and 2,362.2 ipm.
- Max. workpiece weight of 17,637.0 lbs. with a max. diameter of 98.4 in. and a height of 49.2 in.
- 80% of volumetric precision < 0.0014 in. compared to other manufacturers > 0.0039 in.
- Positioning accuracy of 0.0002 in. in all axes
- Powerful gear spindle(1,143.2 ft./lbs. – 6,300 rpm)
- High-performance motor spindles (425.6 ft./lbs. – 152.9 hp)

Siemens components

This machine is equipped with the Siemens SINUMERIK 840D sl CNC with powerful tool management, quick-view simulation of complex part programs and the easiest interactive 3D programming.

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Machine description

The first joint development from DMG MORI is the MILLTAP 700 compact machining center. The highly productive machine stands out with its patented tool changer (0.9 sec. tool change times), robust construction for high-performance milling, as well as its cutting edge SINUMERIK 840D sl Operate HMI control technology. As the only machine in this segment, the MILLTAP 700 can be optionally-equipped with a measuring system in X/Y/Z for best repeatability and consistent precision.

- Chip-to-chip times < 1.5 seconds
- Compact design and smallest foot print of only 65.0 in. x 92.1 in.
- High reliability and process safety with proven high-tech components
- Max. spindle output: 25 kW / 33.5 hp, max. torque 45 Nm / 33.2 ft./lbs.
- Wide machining area with axis travels of 700/420/380 mm / 27.6 / 16.5 / 15.0 in. (X/Y/Z)
- Rapid traverse rate of 60 m/min/2362.2 ipm on all axes, Z-axis acceleration of 1.6 g
- DDRT rotary table (optional)
- Max. table load capacity: 400 kg / 881.8 lbs.

Siemens components

This machine is equipped with the Siemens SINUMERIK 840D sl CNC with powerful tool management, quick-view simulation of complex part programs and the easiest interactive 3D programming.

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Machine description

The compact, highly-efficient integrated mill-turn center NTX 1000 2nd Generation offers impressive performance and flexibility for turning diameters up to 14.6 in. and turning lengths up to 17.7 in. Featuring a ±120° swiveling B-axis, a lower turret, an NC-controlled swiveling counter spindle and a 38-slot tool magazine, the NTX 1000 is ideally-suited for complete machining of sophisticated, smaller and highly precise workpieces for the medical, aerospace, automotive, metrology and watch industries.

- 5-axis and 6-sided machining of small, sophisticated workpieces
- ±4.1 in. Y-axis for maximum production flexibility
- High accuracy with direct drive technology and linear scales
- Integrated workpiece unloading via swiveling counter spindle and chute for finished workpieces
- Small, compact footprint of 107.7 ft²
- Standard 6-inch chuck on the lower turret (8-inch chuck optional)

Siemens components

This machine is equipped with the Siemens SINUMERIK 840D sl CNC with powerful tool management, quick-view simulation of complex part programs and the easiest interactive 3D programming. It also includes the SINAMICS S120 drive platform, SIMOTICS S-1FK7 servomotors and SINUMERIK Integrate Run MyRobot.

Elb-Schliff Werkzeugmaschinen GmbH & aba Grinding Technologies GmbH

Booth N-7425

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Machine description

The toolShop grinding machine has been designed especially for the demanding requirements of the mold-and-die industry. It is most suitable for the flexible, high-precision grinding of workpieces up to a length of 1500 mm. If challenging profile grinding in pendulum or creep-feed mode is required, then the toolShop is your choice. The modular design allows us to satisfy a wide range of individual customer demands. The precision of the machine is guaranteed by the integrated linear guides in all axes in addition to high-resolution glass scales. One of the highlights is the swivelling dressing unit mounted on the machine table mounted on both sides. It allows for the easy generation of most complex profile contours in the grinding wheel.

Siemens components

- SINUMERIK 840D sl CNC
- SINAMICS S120 drive system
- SIMOTICS S-1FK7 servomotors

EMAG

Booth N-6846

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Machine description

Compact and fast — the EMAG VLC 200 H gear hobbing machine offers top production dynamics, short transport distances and a minimal footprint providing optimal conditions for the manufacturing of precision gears. Designed for wheel-shaped workpieces with a diameter up to 8 inches and module four, this intelligent system boosts productivity with its traditional EMAG design including a vertical workspace and integrated automation system. The pick-up spindle ensures short idle times and a reduced cost-per-piece. Operated with the Siemens control system, it is perfectly prepared for integration into existing manufacturing systems and can also be easily linked with any EMAG Modular Standard machines to offer a complete gear manufacturing line.

Siemens components

The EMAG VLC 200 H gear hobbing machine features the SINUMERIK 840D sl CNC with NCU 720.3 PN and the SINAMICS S120 drive platform from Siemens.

Emco Famup S.r.l.

Booth E-5519

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Machine description

The MAXXMILL 500 is the ideal vertical milling center for 5-sided and 5-axis-simultaneous operation on parts with small or medium amount of production numbers. It is the perfect machine for job shops, industrial businesses (automobile vendors), general mechanical engineering companies and also for advanced educational facilities. The new MAXXMILL 500 is capable of milling parts with an edge size of 500 x 500 x 475 mm on five sides.

Technical specifications:

Main spindle
Speed Range: 0–15,000 rpm
Max. Torque: 100 Nm
Max. Power: 20 kW

Number of tool stations: 30 (Option 40)

Rapid traverse: X/Y/Z: 30 m/min

Siemens components

- SINUMERIK 840D sl CNC
- SINAMICS S120 drive system

Emco Maier GmbH

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Machine description

The new Hyperturn 45 is characterized by its dynamics and great flexibility. It is the ideal turning machine for automotive, medical and electronics parts manufacturing. With two high-performance spindles, two tool turrets and a Y axis, it is designed to handle challenging production requirements with ease. Its compact dimensions and high-static and dynamic rigidity provide the best possible conditions for manufacturing medium to large quantities of precision workpieces.

Technical specifications:

Main spindle
Bar capacity: ø45 (51) mm
Speed range: 0–7,000 rpm
Max. torque: 100 Nm
Max. power: 15 kW

Counter spindle
Speed range: 0–7,000 rpm
Max. torque: 100 Nm
Max. power: 15 kW

Tool turrets
2x 12-station tool turrets with VDI 25 quick-change system
2x 12 positions driven
Speed range: 0–6,000 rpm
Max. torque: 16 Nm
Max. power: 4 kW

Siemens components

- SINUMERIK 840D sl
- SINAMICS S120 drives

Famot

Booth S-8900

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Machine description

The ecoMill 70 presents the perfect combination of functionality and technology with an NC swivel rotary table for 5-sided machining and advanced 3D control technology that comes standard!

- Powerful main spindle with speeds up to 12,000 rpm (17.4 / 12.1 hp, 61.2 / 42.0 ft. / lbs., 40 / 100% DC)
- Large travels X / Y / Z: 29.5 / 23.6 / 20.5 in.
- Linear axes rapid traverse: 944.9 ipm.
- 32-slot chain tool magazine with holders and double gripper, including setup assistance for tool loading during machining
- Highly-efficient, NC swivel rotary table with digital drives for 5-sided machining
- 3D quickSET® tool kit for evaluation and calibration of the kinematic precision (optional)

Siemens components

This machine is equipped with the Siemens SINUMERIK 840D sl CNC with powerful tool management, quick-view simulation of complex part programs and the easiest interactive 3D programming.

Felsomat USA, Inc.

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Machine description

Flexline — the future of lean gear manufacturing

With the Felsomat Flexline, we offer our customers a complete and highly-efficient gear manufacturing system — from green turning and all other processes required through to hard gear finishing. Together with Reishauer, we will present standardized, modularly-configurable machines and automation modules in intelligently-configured soft and hard machining cells at IMTS 2014. Visit our booth and discover our compact and scalable Flexline — the system for value-added gear manufacturing.

Siemens components

We use the Siemens SINUMERIK 840D sl CNC, the SINAMICS drive system and Weiss spindles in our product lines.

- SINUMERIK 840D sl CNC
- SINAMICS S120 drive platform
- SIMOTICS S-1FK7 servomotors
- SIMOTICS S-1FT7 servomotors
- SIMOTICS L-1FN3
- SIMATIC PROFINET I/O

Fives Cincinnati

Booth N-7018

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Machine description

The Cincinnati XT Profiler is ideal for aerospace manufacturers working in hard materials, offering the highest single machine metal removal rate (MRR) in the industry — over 100 cubic ipm in titanium.

Features include:
- Structurally enhanced machine design delivers torque and stiffness for sustained, chatter-free cuts
- Choice of 3, 4 and 5 spindle models
- Choice of 3- or 5-axis contouring models
- Unlimited X-axis to meet individual needs
- Choice of spindle speed and torque

Benefits include:
- High dynamic accuracy — rapid, precise production throughput
- Produce up to five parts simultaneously in the same cycle time as a single part
- Install multiple gantries on common X-axis rails for greater productivity
- Flexibility to efficiently process different materials — aluminum, steel, titanium, inconel

Siemens components

This machine features the SINUMERIK 840D CNC system with SINAMICS S120 digital feed and spindle drives from Siemens.

Fives Forest-Liné Albert

Booth N-7018

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www.fivesgroup.com

Machine description

With the VECOMILL series, Fives Forest Liné meets the needs required for heavy-duty and accurate machining.

Features inlcude:

- Low rail-type gantry machine
- CNC continuous positioning of the crossrail
- Powerful and rigid design
- 5-axis / 5-sided contour part processing
- Up to 5,000 Nm (3,700 lbf.ft) continuous spindle torque
- Rotary table available
- Large choice of milling heads

Benefits include:

- High dynamic accuracy — rapid precise production throughput
- Capacity to process extremely long, wide and tall parts for the marine, energy and transportation industries
- Capacity to efficiently process different materials including aluminum, steel and titanium

Siemens components

Fives Forest Liné machines utilize the SINUMERIK 840D sl CNC with SINAMICS S120 drives, SIMOTICS S-1FT7 servomotors and SIMOTICS M-1PH8 main spindle motors from Siemens.

Fives Forest-Liné Capdenac

Booth N-7018

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www.fivesgroup.com

Machine description

With the AEROMILL series, Fives Forest Liné meets the needs required for high-speed and accurate machining.

Features include:
- Standalone or cell configuration with pallets
- Closed-loop gantry design
- 5-axis / 5-sided contour part processing
- Linear motors drive system
- Pallet size up to 3 x14 meters (10 x 46 feet)
- Cell management software (pallet, parts and tools)

Benefits include:
- High dynamic accuracy — rapid precise production throughput
- Capacity to process long and wide parts on pallet — full wing panels and aircraft structures
- Capacity to efficiently process different materials including aluminum and composite

Siemens components

Fives Forest Liné machines utilize the SINUMERIK 840D sl CNC with SINAMICS S120 drives, SIMOTICS S-1FT7 servomotors and SIMOTICS L-1FN3 linear motors from Siemens.

Fives Giddings & Lewis

Booth N-7018

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www.fivesgroup.com

Machine description

The Giddings & Lewis Horizontal Boring Mill offers precise, large capacity machining in a variety of modular configurations to meet the needs of OEM and contract manufacturing and offers an optional integrated contouring head for mill-turn capabilities.

Features include:

- Plain table, rotary table and floor-type configurations
- Robust construction providing a rigid machine platform
- Exclusive spindle growth compensation
- Exclusive W/Z zero tracking with Siemens control system
- Dual function live spindle and integrated contouring head with standard tooling

Benefits include:

- High dynamic accuracy — rapid, precise production throughput
- Capacity ranges to process cube type to extremely long, wide and tall parts — large industrial components, pumps, valves, blocks, frames, etc. and aircraft landing gear
- Flexibility to efficiently process different materials including cast iron, steel, titanium

Siemens components

Fives Giddings & Lewis machines feature the SINUMERIK 840D sl control system and SINAMICS S120 drives from Siemens.

Fives Liné Machines

Booth N-7018

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Machine description

With the POWERMILL series, Fives Liné Machines meets the needs required for high-speed and accurate machining.

Features include:
- High rail-type gantry machine
- Powerful and rigid design
- 5-axis / 5-sided contour part processing
- Linear motors or conventional drive
- Up to 3,000 ipm and up to 0.5 G
- Automated pallet system available
- Large choice of milling heads

Benefits include:
- High dynamic accuracy — rapid precise production throughput
- Capacity to process extremely long, wide and tall parts including lay-up tools, aircraft structures and wing panels
- Capacity to efficiently process different materials such as aluminum, composite, invar and titanium

Siemens components

Fives Liné machines utilize the SINUMERIK 840D sl CNC, SINAMICS S120 drives, SIMOTICS S-1FT7 servomotors and SIMOTICS L-1FN3 linear motors from Siemens.

Fryer Machine Systems, Inc.

Booth S-8719

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Machine description

The new Fryer HB-70 Horizontal Boring Mill features the latest control technology from Siemens. Fryer has customized the SINUEMRIK 840D sl control to provide state-of-the-art ease-of-use programming, setup and operation. This machine features the latest 15" touch screen driven control with SINAMICS drives and SIMOTICS motors.

The Fryer HB-70 is built in the USA and features:

- Travels of 72" X-axis, 55" Y-axis, 40" Z Axis, 20" W-axis and 360° B-axis
- Heavy-duty 50 taper tooling
- 20" travel bar type spindle
- 40 station automatic tool changer

Siemens components

Fryer machines feature the SINUMERIK CNC, the SINAMICS drive system and SIMOTICS motors in its product lines.

- SINUMERIK 840D sl CNC
- SINAMICS S120 drive platform
- SIMOTICS S-1FK7 servomotors
- Siemens 15" operator panel OP15

Gehring L.P.

Booth N-6740

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Machine description

The Solohone was designed for conventional honing applications. It provides the perfect conditions for producing tribologically optimized surfaces, shapes and geometries. Developed for processing parts with honing diameters of 50–120 mm, its main areas of application include cylinder blocks of all kinds, as well as sleeve bushings.

Solo LV1: single-spindle stand-alone machine for simple honing applications
Solo LV2: two-spindle stand-alone machine for small-scale production
Solo HV2: two-spindle stand-alone machine which can be optionally equipped with a tool changer and automatic loading and unloading.

Equipped with a fixed table and an electromechanical feeding unit with feedback as a standard, the basic machine provides an optimal instrument for high precision honing. Upgrading options and standardized modules allow for the machines to be configured to match customer-specific requirements.

Siemens components

The Solohone HV2 / HV2 is equipped with:

- SINUMERIK 840D CNC
- SINAMICS S120 drive system
- SIMOTICS servomotors
- SIMATIC safety PLCs
- SIMOTICS servomotors

Gildemeister Drehmaschinen GmbH

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Machine description

The CTX beta 2000 TC is part of the successful CTX TC-series and offers affordable entry into turn-mill complete machining of parts with turning lengths up to 6.6 ft. in. The machine features a large work area for workpieces up to Ø 19.7 x 80.7 in., the largest Y-axis travel of 11.8 in. in its class plus the option to use steady rests for workpieces up to Ø 13.8 in.

- 6-sided complete machining with a main and counter spindle rated at 5,000 rpm or up to 567.9 ft./lbs.
- The largest Y-axis travel in this class: 11.8 in.
- Footprint of only 190.5 ft2
- High energy efficiency and precision
- Powerful turn-mill spindle up to 18,000 rpm with NC-controlled direct drive B-axis
- Direct measuring systems in X/Y/Z
- 24-slot disc magazine, optional 48/100-slot chain magazine and additional magazine for 3 oversized tools
- Large, transparent work area with good accessibility (only 20.9 in. reach in depth)
- 55-size roller guides and 2.0 in. ball screws

Siemens components

This machine is equipped with the Siemens SINUMERIK 840D sl CNC with powerful tool management, quick-view simulation of complex part programs and the easiest interactive 3D programming.

Gildemeister Italiana / GITAL

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Machine description

The new SPRINT 50 3T lathe is the latest solution for bar machining up to 2.0 in. in diameter. The vertically-arranged machine bed offers a minimum footprint of only 103.3 ft.2 including the chip conveyor. Three turrets with up to 3 Y-axes minimize cycle times thanks to parallel machining at the main and counter spindle with 3 tools. The three turrets can be equipped with up to 36 driven VDI 25 tools (TRIFIX®).

- Three turrets with up to 3 Y-axes and B-axis (optional) for machining negative angles
- 0.8 sec. chip-to-chip time with a highly dynamic turret
- 0.9 sec. acceleration of the main and counter spindle to 4,000 rpm. (max. 7,000 rpm.)
- Highest dynamics with 0.7–1 g acceleration
- < 30 sec. tooling time and < 0.00024 in. repeatability due to VDI 25 with TRIFIX® precision interface
- Highest accuracy due to water-cooled main and counter-spindle
- Maintenance free, highly-dynamic, heavy-duty oil-air lubrication for turret, main and counter-spindle

Siemens components

This machine is equipped with the Siemens SINUMERIK 840D sl CNC with powerful tool management, quick-view simulation of complex part programs and the easiest interactive 3D programming.

Gleason-Hurth Maschinen und Werkzeuge GmbH

Booth N-7000

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www.gleason.com

Machine description

Gleason's new Genesis 200GX threaded wheel grinding machine combines maximum productivity with minimized idle time and excellent setup times. Based upon a two spindle concept, it is the ideal machine tool for customers with high productivity and quality requirements.

As the total gear solutions provider, Gleason provides you with a complete solution consisting of machine, technology tools and workholding..

Siemens components

The Genesis 200H is controlled by the SINUMERIK 840D sl and the SINAMICS S120 drive platform from Siemens.

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Booth N-7000

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Machine description

Gleason's power skiving concept is suitable for the highly-productive manufacturing of cylindrical internal and external gears with outstanding gear quality and significant reductions in cost-per-piece, when compared with the gear shaping process, for example.

Gleason's tool concept gives the power skiving process unprecedented flexibility and simplicity of process management. This makes the process equally suitable for small lot runs, as well as mass production.

Siemens components

The Gleason 300PS machine features the SINUMERIK 840D CNC from Siemens.

Grob Systems, Inc.

Booth S-9490

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Machine description

The GROB G-series universal machining centers provide simultaneous 5-axis machining, are cost-effective, and the design and quality are intended to last up to three times longer than comparable systems. A slide-mounted spindle results in a precise and stable Z-axis with twice the tool rigidity of quill feed systems. The G-series establishes a high level of flexibility, ideal for general machining, configurable to the needs of contract machine shops while its proven longevity, rigidity and precision is suitable for high volume cell and system manufacturing. GROB offers pallet changers, pallet storage systems and robotic handling or gantry systems for automatic load/unload, delivering 24/7 unattended operation.

Siemens components

The G-series is equipped with the Siemens SINUMERIK 840D sl numerical control including the 5-axis SINUMERIK MDynamics milling technology package, SINAMICS S120 drives and SIMOTICS S-1FK7 / 1FT7 servomotors.

This solution offers easy-to-use programming, which ranges from Siemens ShopMill workstep programming, visual workpiece programming, to the use of all necessary milling, swivel and measuring cycles.

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Booth N-6677

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Machine description

The Multigrind® CB is a high-performance machine that represents maximum precision and accuracy, and covers a wide range of customer requirements.

- Large grinding wheels with a diameter up to 300 mm and a width up to 70 mm can be used
- Work pieces with a diameter up to 500 mm
- Up to 30kW spindle power
- Tool changer with up to 30 positions
- Optional robot automation
- Highly-accurate and extremely precise for increased productivity
- Compact machine design
- Ideal for every technology to manufacture precise components with complex structures

Siemens components

- SINUMERIK 840D sl numerical control
- SINAMICS S120 drives
- SINUMERIK Safety Integrated
- Siemens 15" operator panel OP15

Haco-Fat

Booth S-9449

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Machine description

The TUR1550MN/CNC 4-Axis turning center is the latest addition to Toolmex's line of superior European lathes. It has a 61" swing over bed and 43.3" swing over saddle and available from 78"–707" BC. The featured 4-axis version: X, Z, C with live tooling plus Y (vertical) for wider keyways or large flats on outside diameter. A standard 40"/43" wide 2 way bed or optional 4-way step beds, large spindle bores options (5.5"–24") plus + 75 additional options make this series truly custom-built to your needs. Choose manual or power chucks, manual to 12 station turrets, hydraulic tailstock, deep boring attachment, manual or hydraulic steadies, indexing to full C-axis, Y-axes or grinding head, increase load capacity or turning torque versions make it precise, yet heavy-duty suitable for more industries including power generation, oil and gas, steel, printing, etc.

Siemens components

Fitted with Siemens most power control, SINUMERIK 840Dsl with SINUMERIK Operate ShopTurn for maximum user ease and flexibility.

Haimer GmbH

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Machine description

The Tool Dynamic TD 2010 Automatic is a truly universal CNC-based balancing machine with automated correction of the unbalance.
It automatically compensates the unbalance in one or two planes by drilling or milling. The machine can work vertically and horizontally. The balancing machine is controlled by an integrated 19" touchscreen.

Siemens components

The TD 2010 Automation is equipped with the SINUMERIK 840D sl numerical control and SINAMICS S120 drive system from Siemens.

Handtmann CNC Technologies, Inc.

Booth S-9136

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Machine description

Handtmann is proud to introduce the HBZ TR-series of horizontal trunnion machines. Ideal for the automotive, aerospace, power generation, tool- and mold-making industries, the TR-series is available in three table sizes including 800, 1,200 and 1,600 mm. The machines can be equipped with a 2 pallet, 6 pallet or FMS automation system, and are designed for machining aluminum and hard metals. These heavy-duty, fast machines are available with spindles up to 150 hp and torque of up to 1,030Nm.

Siemens components

- SINUMERIK 840D sl CNC
- SINAMICS S120 drives
- SIMOTICS S-1FK7 servomotors

Hanwha Machinery America, Inc.

Booth S-9453

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Machine description

The easy-to-use STL-32H features distinguished power, large output and the greatest compound multi-function processing capability — along with innovative improvements in cutting capability through the adoption of the most powerful internal motor (8.0 kW) among competing models. The tool post accommodates up to 73EA, maximizing the capability to process materials with different and compound shapes.

Siemens components

- SINUMERIK 840D numerical control
- SIMODRIVE 611 drives
- SIMOTICS M-1FE1 built-in motors
- SIMOTICS S-1FK7 servomotors
- SIMOTICS S-1FT6 servomotors

Hanwha Tech-M Co., Ltd

Booth S-9453

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www.hanwhatechm.co.kr

Machine description

STL38HY turning machine — distinguished power and the greatest compound multi-function processing capability.

Innovative improvement of cutting capability by adopting the most powerful internal motor (8.0kW) among competing models.

It is the tool post that can accommodate up to 73EA, maximizing the capability to process materials with different and compound shapes.

- Large output
- Maximizing tooling capability
- Enhanced ease-of-use
- Maximum productivity

Siemens components

- SINUMERIK 840D sl CNC
- SINAMICS S120 drives
- SIMOTICS S-1FK7 servomotors
- SIMOTICS S-1FT7 servomotors
- SIMOTICS M-1FE1 built-in motors

Hardinge Grinding Group

Booth N-6938

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Machine description

Usach 100/150/200/300/500 high precision ID and OD grinding machines:

- Single spindle ID/OD
- 2 or 3 spindles side-by-side
- Multi-spindle ID/OD with up to 4-position turret
- CNC B-axis
- Single point, rotary and radius dressers
- Single spindle OD
- Dual wheelspindle OD
- Multi-spindle OD with up to 4-position turret
- Universal for ID and OD
- Production OD with 2 wheelheads
- Production ID and OD with 2 workheads for loading / unloading while grinding
- Swing diameters up to 42”
- Part weights up to 1,650 lbs chucking / 3,500 lbs between centers
- Part lengths up to 200”

Siemens components

- SINUMERIK 840D sl and SINUMERIK 802D sl CNC
- SINAMICS S120 drive platform
- SIMOTICS S-1FT7 and 1FT6 servomotors
- SIMOTICS T-1FW6 torque motors

Hegenscheidt-MFD GmbH & Co. KG

Booth S-9844

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www.hegenscheidtmfd.com

Machine description

The 7893R is offers the latest technology for crank shaft deep rolling and roll straightening.

Siemens components

- SINUMERIK 840D sl CNC
- SINAMICS S120 drive platform
- Siemens industrial computer PCU50

Huron Graffenstaden S.A.S.

Booth S-8358

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Machine description

The HSM (High-Speed Machining) concept of the KX FIVE-series machine enables operations in five simultaneous axes, from roughing to finishing, of all types of complex workpieces. These fixed portal type 5-axis machines combine high dynamics and accuracy to obtain high surface finish even when machining of complex contours and profiles.

The table uses the TRIM technology. The plane inclined by 45 deg allows tilting from -30 deg to +180 deg with a rotational speed of 50 rpm and 0.001 deg incremental measuring. The machine is available with a palletization device and offers variety of spindle options according to the relevant application.

KX FIVE-series machines are ideal for use in the automotive, aerospace and power generation industries, tool- and mold-making and medical part manufacturing.

Siemens components

- SINUMERIK 840D sl CNC
- SINUMERIK MDynamics milling technology package
- SINAMICS S120 drives
- SIMOTICS S-1FT7 servomotors
- SIMOTICS M-1FE1 built-in motors
- SIMOTICS T-1FW6 torque motors

Hyundai-Wia

Booth S-8948

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Machine description

The HYUNDAI-WIA F400 is one of HYUNDAI-WIA's most versatile CNC vertical machining centers. Designed with both speed and rigidity in mind, the F400 has a heavy-duty machine bed, constructed of aged, processed Meehanite cast iron. The F400 maintains high productivity with its accurate, high-speed positioning. This reduces cycle times for all machining processes. A total of 24 tools can be loaded into the standard magazine to meet the requirements of a wide range of workpieces.

Siemens components

The HYUNDAI-WIA F400 VMC is equipped with the SINUMERIK 828D numerical control and SINAMICS drives from Siemens.

Hyundai-Wia Machine America

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Machine description

The HYUNDAI-WIA i-CUT 380 M vertical machining center is designed around high rigidity and high-speed, resulting in high productivity and precision accuracy in a compact machine footprint.

The 24,000 rpm built-in direct drive spindle motor has a spindle acceleration of 1.2 seconds from stop to full rpm, reducing idle time and increasing overall productivity. The spindle utilizes the BIG PLUS, 2-face contact system, to greatly increase tool rigidity at high spindle speeds.

Table positioning time has been reduced to a minimum, through rapid feedrates of 56 meters (2,200 ipm) in all axes, having a slide acceleration of 1G.

Further reduction of cycle time has been accomplished with a twin arm ATC, having a tool-to-tool time of 1.5 seconds and chip-to-chip time of 2.2 seconds.

Siemens components

The HYUNDAI-WIA i-CUT 380 M is equipped with the SINUMERIK 828D numerical control and SINAMICS drives from Siemens.

Index Corporation (Esslingen)

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Machine description

The R300 Turning / Milling Center by INDEX represents a new level of achievement in advanced turning/milling centers. Two powerful motorized milling spindles and two movable work spindles perform extremely productive and flexible machining operations in two independent sub-systems. Each subsystem is capable of full 5-axis machining of bar stock to 65 mm.

The design of the INDEX R300 allows it to machine equivalent workpieces almost twice as fast as commercially available turning / milling centers that use only a motorized milling spindle.

One motorized milling spindle and one work spindle each are assigned to one another in the two subsystems located one above the other, permitting highly productive and flexible machining, including simultaneous and independent 5-axis machining on both spindles. Workpieces can be machined efficiently and in parallel on the front and reverse sides.

Siemens components

The current INDEX C200-4D SL control is based upon the field-proven Siemens SINUMERIK 840D sl CNC and has been enhanced by INDEX with user-friendly functions. Specially developed cycles simplify the most complex machining operations. They support multi-axis milling and turning operations and provide maximum functional reliability.

Index Corporation (Reichenbach)

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Machine description

The INDEX G220 with its dynamic motorized milling spindle, 18.000 rpm, 11 kW/30 Nm is ideal for machining of complex workpieces — up to five-axis machining (X, Z, Y, B-axis). With the highest degree of rigidity, thermal and dynamic stability and vibration damping — also thanks to the Y/B-axis running in hydrostatic bushings — workpieces can be completely machined from six sides with highest precision. A shuttle supplies the milling spindle with the tools from the tool magazine (70 or 140 tool stations). A chip-to-chip time of approx. 6 sec. ensures highest productivity. The lower turret, up to 18 tool stations, tool drive 7,200 rpm, 6 kW/18 Nm, with Y-axis ensures the possibility of three-dimensional machining on the main and counter spindle.

Siemens components

- SINUMERIK 840D sl CNC
- SINUMERIK MDynamics milling technology package
- SINAMICS S120 drives
- SIMOTICS S-1FK7 servomotors
- SIMOTICS S-1FT7 servomotors
- SIMOTICS M-1FE1 built-in motors
- SIMOTICS T-1FW6 torque motors

Ingersoll Machine Tools, Inc.

Booth S-8004

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Machine description

Ingersoll Machine Tools produces medium to very large size machines for metal removal and automated fiber placement (AFP) machines for the manufacture of composite structures. Metalcutting machines include a range of general milling machines, rotor slotters, scalpers, trim and drill machines, multi-spindle solutions, titanium machines and many more. In addition to AFP, Ingersoll also offers composites milling machines. Ingersoll serves global markets for hard metals, aluminum, steel and composite materials across a wide range of industries.

Siemens components

Ingersoll utilizes the latest Siemens SINUMERIK 840D CNC and digital drive technology to ensure maximum machine performance and compatibility of all drive and control components. Moreover, the global presence of Siemens assures superior technical support and service throughout the entire lifecycle of the machine.

Jyoti CNC Automation PVT.LTD

Booth S-8358

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www.jyoti.co.in

Machine description

Jyoti CNC introduces DX 350 series of machines with Monoblock 45° slant bed structure for superior rigidity and durability providing value for money. State-of-the-art design perfectly ribbed single piece slant bed with saddle is made out of high-grade cast iron for stability and minimal distortion. High- speed 12-station servo turret for faster indexing and better mechanical life. Roller type linear motion guideways on X and Z axes and higher rapid traverse rates with better accelerations.

Capacity
Swing over bed: 700 mm
Maximum turning length: 1000 mm
Max. turning dia.: 470 mm

Turret (Servo)
No. of stations: 12
No. of driven stations: 12
Max. live tool speed: 5000 rpm
Live tool motor power: 4.1 kW

Slides
X axis travel: 250 mm
Longitudinal (Z axis) travel: 1000 mm
Spindle motor power (S6-40% / S1): 27.8 / 18.5 kW
Speed range: 50 - 2500 rpm

Siemens components

- SINUMERIK 828D
- SIMOTICS S-1FK / 1FT7 servomotors
- SIMOTICS M-1PH8 spindle motors
- ShopTurn

Kapp Werkzeugmaschinen GmbH

Booth N-7036

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Machine description

The KX 260 TWIN is designed on a shared modular machine platform with features specifically for continuous generating grinding with dressable tools.

The machines of the KX TWIN type are particularly designed for mass production of gears and shafts where quality levels are especially demanding. Short setup times are especially worth emphasising in this efficient machine concept. The machine includes two identical workpiece spindles, arranged at opposing sides of an index table. While machining one part, the second workpiece spindle simultaneously unloads / loads and aligns another part. The KX 260 TWIN is optimised for automatic loading.

Siemens components

- SINUMERIK 840D sl CNC
- SINAMICS S120 drive platform
- SIMOTICS S-1FT7 servomotors

Klingelnberg (Ettlingen)

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Machine description

The gear grinding machine VIPER 500 is designed for component diameters up to 500 mm and is optimally suited for small- to medium-sized batches. To suit individual requirements, the machine is available in three different configurations — profile grinding, small grinding wheels for custom jobs and multiple-wheel technology (K) and generation grinding (W).

The VIPER 500 W configuration allows both profile grinding and continuous generation grinding on the same machine — with minimal retooling time. To change the grinding technology, just swap out the grinding wheel, the grinding wheel flange and the dressing wheel.

On all variants, the optional internal gear grinding arm permits retooling from external to internal gearing.

Siemens components

Viper 500 machines are equipped with and controlled by the SINUMERIK 840D sl CNCs, SINAMICS S120 drives and SIMOTICS S servomotors

Klingelnberg (Hückeswagen)

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Machine description

Thanks to their universality and their high grinding capacities, the CNC-controlled spiral bevel gear grinding machine in the G-series represents a cost-effective concept for high precision final machining of spiral bevel gears in all gear cutting systems, as well as curvic couplings. Their range of application is up to a maximum gear diameter of 600 mm. Contrary to the standard bevel gear machine designs, the machines in the G-series have a vertical grinding spindle. This arrangement guarantees an optimal and unrestricted downward flow of the chips. Special attention is paid to the location of the drive units, which are located above the grinding area and remain free from chips. The complete interior enclosure was made out of stainless steel in order to guarantee a durable and clean working chamber.

Siemens components

G60 machines are equipped with the SINUMERIK 840D sl numerical control, SINAMICS S120 drives and SIMOTICS motors from Siemens.

Knuth Machine Tools USA

Booth N-6268

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www.knuth-usa.com

Machine description

The Numturn 420 ECO is a powerful and user friendly CNC lathe featuring easy programming with the SINUMERIK 808D MM Plus Control.

Features include:

- Manually transverse the X and Z axis via two electronic hand-wheels
- User-oriented cycle interface for easy parts programming — turning cycles with many programming options to create a complete parts program
- USB port for easy data transfers (SINUMERIK 808D on PC included in standard equipment)
- Induction-hardened, ground guide-ways
- Longitudinal and transverse movements via high-quality preloaded ball-screws and servo-drives
- Smart central lubrication system for low-maintenance operation

Siemens components

The Numturn 420 ECO is equipped with the SINUMERIK 808D MM Plus numerical control from Siemens featuring the user-friendly and graphical SINUEMRIK Operate Program Guide Basic HMI for easy programming.

Kuka Robotics Corporation

Booth N-6200

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www.kukarobotics.com

Machine description

KR AGILUS — Compact, precise, agile and fast: the robots of the KR AGILUS series are the new masters of speed. When it comes to handling tasks, the KR AGILUS offers impressive results combined with minimized cycle times. At the same time, the small robot family works with great precision, enabling manufacturing quality of the highest quality. Its speed and accuracy make the performance of the KR AGILUS unique in its payload category. The basic model, KR 6 R900 sixx, weighing 51 kilograms, can carry a maximum payload of 6 kilograms. The KR AGILUS is pre-destined for operation in general industry; wherever automation with low payloads is required.

Siemens components

SINUMERIK 840D sl CNC

Lasertec

Booth S-8900

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Machine description

The LASERTEC 65 3D integrates additive manufacturing into a high-tech 5-axis milling machine combining laser metal deposition with milling into one machine. This innovative hybrid solution makes machining of completely new applications and complex geometries possible, and is up to 20-times faster than the generation in the powder bed.

Siemens components

This machine is equipped with the Siemens SINUMERIK 840D sl CNC with powerful tool management, quick-view simulation of complex part programs and the easiest interactive 3D programming.

Leistritz Advanced Technologies Corporation

Booth N-6746

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Machine description

The new generation of LEISTRITZ whirling machines is the LWN 300 HP. This heavy machine was designed for the use in the ball screw industry, for pump spindles, eccentric screws and rotors (PDM). Decisive for an economic and efficient production is the high precision of the machine. The machine fulfills the high demand with regards to rigidity and precision. It is equipped with direct measuring systems and an especially designed high precision whirling unit with Torque drive, which can be equipped with CBN tools. This enables hard-machining operation of spindles, which eliminates the grinding process for finishing.

Siemens components

- SINUMERIK 840D CNC with Safety Integrated
- SIMODRIVE 611D drives
- SIMOTICS S-1FK-series servomotors
- SIMOTICS S-1FT-series servomotors
- SIMOTICS M-1PH-series main spindle motors
- Numerical Control Unit (NCU) 572.5
- PCU 50

Liebherr-Verzahntechnik GmbH

Booth N-6930

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www.liebherr.com

Machine description

Single-table solution with short cycle times — the new generating and profile grinding machine is available in two cersions: The LGG 180 for all gears up to 180 mm in diameter and the LGG 280 for gears up to 280 mm in diameter, and workpiece lengths up to 500 mm. The grinding machine combines short grinding times with consistently high-quality in high-volume operations, which is made possible by the single-table solution. Extremely fast load / unload times of 4-seconds, chip-to-chip, with a single-table

Siemens components

This Liebherr grinding machine is equipped with the SINUMERIK 840D sl numerical control with SINAMICS S120 drives and is ideal for use in the automotive, aerospace and power generation industies, along with tool-and mold-making.

MAFA-Alfing Corporation

Booth S-8966

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www.alfing.com

Machine description

BAZ KW600 CNC induction hardening center for crankshafts featuring:

- Improved energy efficiency and reduced operating cost
- Optimized flow of quenchent in new inductor design
- Direct drives in all main rotary axes
- Easy changeover for different shaft configurations
- Gantry automation inside a fully-enclosed center for two-station operation
- Part buffer on roof for tempering and cool-down
- User-friendly operator interface

Siemens components

The MAFA-Alfing BAZ KW600 machine is equipped with the SINUMERIK 840D sl CNC and SINAMICS S120 drives from Siemens.

Mägerle AG Maschinenfabrik

Booth N-6800

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Machine description

The versatile MÄGERLE MFP 100 is one of the grinding industry's most precise and productive surface and profile machines. Available as a 5- or 6-axis system with a spindle power of up to 50 kW, it can grind, mill and drill, making it perfect for shops that require multi-face machining of heavy and complex workpieces in a single clamping operation.

The machine also offers high working speeds, quick tool changes and an expandable tool changer system that can hold up to 60 tools, including drills, milling cutters, CBN wheels and measuring sensors.

A special tool and dressing roll changer system reduces the MFP 100's idle time by featuring a dual gripper that changes out the grinding wheels and associated diamond dressing rolls simultaneously. Furthermore, an automatic 16-position cooling lubricant nozzle changer protects the machining area and ensures a long, worry-free machine life.

Siemens components

The MFP 100 employs the user-friendly Siemens SINUMERIK 840D sl control system to ensure precise movement of the machine's individual axes when performing complex tasks. The 840D features a user-specific programmable interface, an innovative control architecture, intuitive operation, as well as certified functions for work and production safety.

MegaFab

Booth N-6366

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Machine description

WHITNEY combines leading technologies, with over 100 years experience, in manufacturing a comprehensive line of cutting and forming equipment for the metal fabrication market — including lasers, plasma-punch combination and plasma machines. Stand-alone and combined process solutions include fiber & CO_2 laser, high-definition plasma, punch, bevel, mill, drill, tap, form, mark and automation.

Located in Rockford, Illinois, WHITNEY is U.S.A. Proud.

Siemens components

Whitney machines feature the SINUMERIK 840D CNC from Siemens.

Niles-Simmons Industrieanlagen GmbH

Booth S-9844

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Machine description

The NILES-SIMMONS CNC Turn Mill is capable of efficient, flexible, high-precision, operator-friendly and complete machining of the most complex workpieces in one setup. It can be configured as single-slide or multi-slide machine for heavy milling or deep hole drilling and bottle boring.

The N30MC we are exhibiting is our mid-size machine. The exclusive innovation is the spindle extension that converts one end of the tool spindle into a 22 in. boring bar. The automatic tool changer services the 12,000 rpm milling spindle and the spindle extension.

Swing: 0.7 in. / turning length: 117 in.
A11 main spindle and counter spindle: 3,000 rpm / 105 hp / 687 ft. lbs.
C6 tool spindle coolant on both ends: 12,000 rpm / 38 hp / 37 ft. lbs.
Tool probing and workpiece probing

Siemens components

- SINUMERIK 840D sl CNC
- SINAMICS S120 drives
- SIMOTICS S-1FK7 servomotors
- SIMOTICS M-1FE1 built-in motors
- SIMOTICS T-1FW6 torque motors

Niles Werkzeugmaschinen GmbH

Booth N-7036

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Machine description

The gear profile grinding machine ZP 12 represents great quality, durability and outstanding flexibility.

The machine can be operated from the factory floor and, as is typical for NILES, is setup without the need for an elaborate foundation. Electrical direct drives in the index table as well as in the grinding and dressing spindle make processing highly dynamic and lead to shorter machining times.

The interpolation of up to five CNC axes during the grinding process makes it possible to produce complex gear geometries.

Maximum flexibility is guaranteed thanks to diverse options: eg. optional hydrostatic bearings and guideways for highly accurate positioning, excellent load capacity and almost unlimited lifetime.

Siemens components

- SINUMERIK 840D sl
- SINAMICS S120 drive platform
- SIMATIC S7 PLC

Overbeck GmbH

Booth S-8692

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Machine description

High-precision grinding machines with integrated rotary axis in the workhead base. The CNC-controlled motor and the 3-axis interpolation software allow the grinding of different radii without manual resetting of the pivot points.

Spindle turret for higher versatility with up to four spindles.

Prepared for internal, external, radius, face and unround grinding — ideal for the machining of forming and cutting tools.

Siemens components

This grinding machine, which is used in medical part manufacturing, plus tool- and mold-making, is equipped with the SINUMERIK 840D sl CNC, SINAMICS S120 drives, SIMOTICS L-1FN3 linear motors and SIMOTICS T-1FW6 torque motors.

Pama S.p.A.

Booth S-8686

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Machine description

SPEEDMAT multi-functional table-type boring and milling center.

The SPEEDMAT product range consists of four basic models with boring spindle 5.1”–6.3” diameter and spindle power up to 70 hp, pallet sizes from 49” x 49” to 79” x 98” and maximum workpiece swing diameter from 102”–181”.

The boring and milling center is characterized by a central headstock, cast iron structures, hydrostatic support for table rotation, high torque gear-driven spindle and oil-air lubrication system. Real-time CNC-controlled compensation of spindle elongation / contraction is available (PAMA patent).

Siemens components

All SPEEDMAT machines from PAMA are equipped with the SINUMERIK 840D sl CNC from Siemens.

Parpas S.p.A.

Booth S-8959

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Machine description

XS Gantry is a moving bridge gantry-style machine designed for heavy-duty machining as well as high-speed cutting. The structures have been designed using most advanced FEM analysis to ensure the best performances for high productivity, flexibility and accuracy,

A patented temperature stabilization system is making this machines the most reliable in the volumetric accuracy.

This is the perfect 5-axis high-speed milling center to machine high accuracy aluminum, steel, titanium components. It's ideal for the automotive, aerospace and power generation industries, along with tool- and mold-making.

Siemens components

- SINUMERIK 840D sl CNC
- SINAMICS S120 drives
- SIMOTICS M-1PH4 main spindle motors

Peter Wolters GmbH

Booth N-7333

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Machine description

Ideas, Drive, Flexibility, Commitment — that's exactly what makes PETER WOLTERS a world-leader in the manufacture of double-wheel fine grinding, lapping, polishing, flat honing and deburring machines for flat workpieces.

The PETER WOLTERS microLineAC® 700 double-sided batch machining system has been designed for high-precision serial workpiece production. Thanks to its modular structure, it is already in use as a precision grinding, lapping, honing and polishing machine. PETER WOLTERS is now offering a patented solution for the microLineAC® 700 with a newly-developed tool for double-sided deburring applications in one working step. This means a precision grinding machine is basically suitable for deburring and can also be used as a combination machine.

Siemens components

The AC700 double-side-grinding machine is equipped with maintenance-free servo-drives from Siemens. All working, control and adjustment processes are controlled by SIMATICS S7-400 PLC. The data exchange from and to the IO-Interface is done by PROFIBUS. The Operator Interface is a MP370/377 from Siemens with a color TFT display and foil keyboard for function buttons, numeral block and alphanumerical keyboard. The Human Machine Interface (HMI) is designed with "WinCC Flexible".

Pittler T & S GmbH

Booth N-6670

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Machine description

The PV³ is the innovative solution for complete machining of rotationally symmetrical and cubic parts. The modular concept allows the machine to be produced with 1 or 2 independent spindles and with one or two cross slides. The PV³ combines technologies such as turning, drilling, thread cutting, milling, skiving, grooving or grinding and gear hobbing, as well as hard turning and grinding including integrated quality check in a monitored process, all in one machine.

Siemens components

The PV³ features the SINUMERIK 840D numerical control from Siemens.

Plasmo

Booth S-8966

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Machine description

This online process monitoring system for welding, cutting and drilling can bring an increase in efficiency of up to 3% — all without ever touching or damaging your workpieces. Our welding monitoring system works for every known laser application.

The function — during the welding process such as laser beam welding, process light in the visible, infrared and ultraviolet wavelengths is emitted. Failures in the welding process are revealed in changes to the process light.

Siemens components

The monitoring system from Plasmo features an industrial SIMATIC RACK PC.

Präwema Antriebstechnik GmbH

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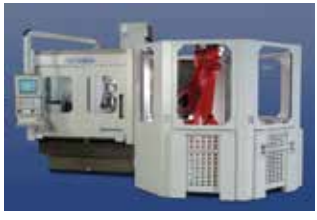

Machine description

The SynchroFine® 205 HS — (W) is a high performance gear honing machine with directly-driven, digitally-controlled spindles for the tool and the workpiece. In combination with the high drive power installed, the SynchoFine® provides extremely precise and rigid coupling between the tool and workpiece even at the highest speeds. The entire machine rests on a natural granite base and the workpiece spindle is positioned on a separate granite support to minimize vibration and temperature influences. The X and Z axes on the SynchroFine® 205 HS are equipped with linear motors ensuring higher dynamics for even better machining quality while simultaneously reducing the cycle times.

Siemens components

The SynchroFine® 205 HS is equipped with the SINUMERIK 840D numerical control from Siemens.

Precitrame Machines

Booth S-8966

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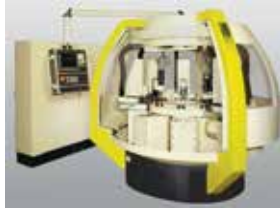

Machine description

CNC rotary transfer machines offering a unique concept:

- Five-face machining
- Combined milling, hard turning, drilling, tapping and grinding
- Complete machining in a single clamping
- Internal / external turning up to 6,000 rpm
- Modular design with 4 up to15 stations
- Servo-controlled CNC technology
- Applications include automotive, telecommunications, medical part manufacturing and the watchmaking industries
- Productivity from 500 to over 10,000 parts per day

Siemens components

Precitrame machines feature the SINUMERIK 840D CNC from Siemens.

Profilator GmbH & Co. KG

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Machine description

The Profilator S-Type is a highly productive, highly flexible gearing system available in three machines sizes with single- or multi-spindle options. Suited for general drive applications, as well as for gear production for the automotive and commercial vehicle markets, the S-500 is a vertical, single spindle pick-up gear cutting machine for gears up to a diameter of 500 mm.

Siemens components

Profilator S-Type machines are controlled by the SINUMERIK 840D CNC.

Quaser

Booth S-9451

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Machine description

The all new MF400U Full 5-Axis Flexible Manufacturing Cell VMC features 40 pallets, 120 tools, ø16" maximum swing, and compact footprint. It is ideal for high-volume complicated workpieces that require multiple setups. Parts can be finished with a single setup without having to worry about accuracy lost from transferring your part from one setup to another.

- Powerful 30 hp direct coupled spindle
- 15,000 rpm maximum spindle speed
- AC digital servo- and spindle-drive system
- Continuous full 5-axis machining capability with A- and C-axis
- Random access and bi-directional tool magazine
- 45 mm cross roller type guideway on Z-axis
- Servomotors directly coupled to ballscrew
- 45 mm pre-tensioned hardened and ground ballscrew
- Dual auger and scraper type chip removal system
- Remote manual pulse generator
- High-quality and rigid Meehanite® casting

Siemens components

The Quaser MF400U is equipped with the Siemens SINUMERIK 840D sl CNC, together with a 15" color TFT LCD display, a full QWERTY keyboard, front panel USB and Ethernet interfaces, SINUMERIK MDynamics five-axis milling technology package, ShopMill programming and Advanced Surface.

RedViking

Booth E-4493

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Machine description

RedViking designs and builds turn-key assembly lines, battery-free AGV lines, custom highly engineered machines, leak testers, dimensional gages, laser weld stations, dynamometers, dynamic test systems and manufacturing execution systems. We design and build turnkey lines with the level of automation that makes sense for you. Battery-free AGV assembly lines create a flexible, scalable line. Our custom machine group designs and builds precision, highly engineered machines to measure, cut, drill, position and more. The dynamic test systems group designs and builds multi-model gearbox test stands, automotive dynamometers, powertrain test systems and blade balance stands.

Siemens components

Battery-free AGVs use SIMATIC S7-1200 PLC, SINAMICS S120 drives, SIMOTICS S-1K7 servomotors and SIMATIC HMI to create a virtually "invisible" assembly line conveyance. They have no batteries, chains, pits or tracks, so line change is simple. Wingspan™ battery-free AGVs are continuously powered, can power onboard tools and can be integrated with automated work instructions and error proofing.

Reishauer

Booth N-7040

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Machine description

The RZ 260 gear grinding machine equipped with two work spindles making it a highly-productive machine developed for the automotive / truck, construction and marine industries for grinding gears and pinions. We will demonstrate a new process called polish and fine grinding, achieving surface finishes never before possible associated with the grinding process. The machine has been optimized to achieve the shortest possible cycle as all idle time or non-productive times have been slashed allowing typical floor-to-floor cycle times of under one minute. The Felsomat FSC 600 Flex Stacking Cell loader has been optimized to take advantage of the short cycle times allowing the machine to run unattended for several hours. Learn why Reishauer has become the "Industry Standard" for hard gear finishing, allowing users to achieve the shortest possible cycle time, uncompromised quality, lowest cost-per-piece and highest reliability in the industry today. Learn about our other models with capacities up to 1000 mm.

Siemens components

The Reishauer RZ 260 Gear Grinding machine features the SINUMERIK 840D sl numerical control, SINAMICS S120 drive system, SIMOTICS 1FE1 built-in motors, and SIMOTICS 1FK7 servomotors from Siemens.

Republic Lagun CNC Corporation

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Machine description

This three-axis VMC incorporates the new SINUMERIK 828D CNC from Siemens. All electrics are UL-approved and the machine is assembled and tested in our Harbor City, California facility.

Republic Lagun CNC machines are high precision, ruggedly constructed, easy-to-operate and for over 30 years have a track record for dependability.

Features of the Republic Lagun VMC 3016 include:

- 8,000 rpm, 15 hp spindle with 100 ft.-lbs. spindle torque @ 1,500 rpm
- 4,000 lbs. machining force
- Travels: X = 30" Y = 16" Z = 16"
- Linear guideways eliminate machine stick slip for high-speed machining
- Extensive diagnostic capabilities with RCS (remote diagnostics) and Easy Message (SMS text message alerts)
- 1-year full warranty and 2-year limited warranty

Siemens components

- Powerful functions of the SINUMERIK 828D set new standards in the compact-class CNC. It can understand other CNC manufacturers' programs with the ISO interpreter.
- Siemens ShopMill boasts the most-straightforward CNC program editor where processes are graphically displayed.
- Other features of the SINUMERIK 828D include Ethernet and USB interfaces, tool management and more.

Romi (Brazil)

Booth S-8780

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Machine description

The Romi VTL 700MR is a vertical turning center designed for medium- and high-volume production environments. It has a robust structure, offers rigidity, stability and flexibility for machining many part types, in applications using a chuck for clamping.

- 30" maximum swing diameter
- 28" maximum turning diameter
- 15" or 20" hydraulic chuck size
- Main spindle motor: 46 hp / 34 kW
- 12-station turret - BMT-65 disc - for turn tools and driven tools for drilling, milling and tapping

Equipped with hardened and ground square guides in X- and Z-axes, designed to offer high rigidity, absorption of vibrations, high load capacity, high cutting loads with feed rates up to 20 m / min (787 ipm).

Siemens components

- SINUMERIK 828D CNC
- SINAMICS drives
- SIMOTICS S-series servomotors
- ShopTurn programming (optional)

Romi Machine Tools, Ltd.

Booth S-8780

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Machine description

The Romi C 420 is a CNC teach-in universal lathe and is great for quick setups with one-off parts, or small to medium batch sizes — turning high-quality with ease. It has a robust structure, high rigidity and stability, providing a great performance in the most varied conditions of machining.

- 17" swing over bed x 40" length
- Headstock ASA A2-5"–4,000 rpm
- Main motor: 10 hp / 7.5 kW
- Hardened and ground guide ways and turcite coated counter guide-ways for high acceleration and speeds
- RMMP — Romi Manual Machining Package (optional) allows simple operations without any type of programming. It is as simple to use as an engine lathe and adds the capability and productivity of a CNC lathe.

Siemens components

- SINUMERIK 828D CNC
- SINAMICS drives
- SIMOTICS S-series servomotors
- ShopTurn programming (optional)

Safop S.p.A

Booth S-8796

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Machine description

The Ball Matic series includes special machines designed for turning and grinding operations on sphere of ball valves.

BM 24″: for ball valves with internal diameter up to 24″. The machine is equipped with a hydrostatic system on the cross slide.

BM 36″: for ball valves with internal diameter up to 36″. The machine is equipped with one longitudinal and two cross carriages (all hydrostatic).

BM 48″: for ball valves with internal diameter up to 48″. The machine is equipped with a dedicated bed and carriage for grinding operations.

BM 64″: for ball valves with internal diameter up to 64″. This machine allows both turning and grinding operations on ball valves of extremely large dimensions.

Siemens components

- SINUMERIK 840D sl CNC
- SINAMICS S120 drives
- SIMOTICS S-1FT7 servomotors
- SIMOTICS M-1PH8 main spindle motors
- SIMOTICS M-1PH7 main spindle motors

Samputensili S.p.A.

Booth N-6924

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Machine description

G 250 Gear Grinding Machine — mass produce gears up to 250 mm

Developed mass gear production, Samputensili's G 250 gear grinding machine features dual work spindles and universal quick change clamping systems. Load, unload and mesh a workpiece on one spindle, while the manufacturing process proceeds on another workpiece on the other spindle. Use the G 250 as a generating or profile grinding machine. Increase tool life by using longer grinding worms or by using combination roughing and finishing tools on the same spindle. High rotational and linear accelerations reduce cycle times.

Siemens components

This machine is equipped with the SINUMERIK 840D sl CNC and SINAMICS S120 drives featuring easy, intuitive and operation, along with fast and efficient online updates and troubleshooting.

Sauer GmbH

Booth S-8900

DMG MORI USA
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Machine description

The ULTRASONIC 30 linear offers maximum contour precision and surface quality of Ra < 0.0000039 in. With its high-precision, long-term stable gantry construction and comprehensive temperature control, the ULTRASONIC 30 linear offers new options for 5-axis precision machining of advanced materials.

- Highly dynamic, actively cooled linear drives in X/Y/Z with up to > 1.2 g and 50 m/min / 1968.5 ipm. rapid traverse
- Flexible 5-axis simultaneous machining with rotary / swivel table with optimal swivel range of ±120° in the B-axis
- 19 kW / 25.5 hp motor spindle with shaft cooling and rotary feed-through with HSK-E40 and 40,000 rpm (standard)
- 30-slot tool magazine with double gripper (optional 60 / 120-slot chain magazine)
- Standardized automation solutions for efficient production in multi-shift operation

Siemens components

This machine is equipped with the Siemens SINUMERIK 840D sl CNC with powerful tool management, quick-view simulation of complex part programs and the easiest interactive 3D programming.

Schütte L.L.C.

Booth S-8255

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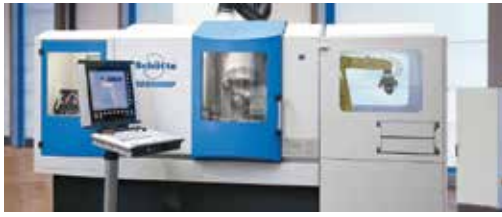

Machine description

325 Linear Grinder — The extremely compact and well-arranged design of the WU325L offers an even more rigid structure so the extended X and Z paths can be traversed with maximum dynamics in the shortest possible cycle times. Workpieces ranging from extremely small drill bits through production components up to hob cutters are guided and positioned precisely. Wheel change and handling systems round off the productivity of the WU325L.

Five CNC axes, with anti-backlash AC direct drives powering both rotary and linear motors, make this machine exceptionally fast, yet accurate. You get better grinding performance, better surface finsih and greater precision. Used in almost all sectors of the indusrty, these grinders are suitable for manufacturing and sharpening cutting tools, as well as for pre-finish grinding of production components.

Siemens components

- SINUMERIK 840D sl CNC
- SINAMICS S120 drives

Sharp Industries, USA

Booth S-8974

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Machine description

SVL-2416SE-M — The Sharp SVL series of compact linear guide-way vertical machining centers combine high productivity with great accuracy. All structural components are made of Meehanite castings and internal ribs running throughout each section. The standard option come with spindle speeds of 10,000 or 12,000 rpm but affordable upgrades can be made with 15,000 rpm or 20,000 rpm spindles, glass scales and 4th axis capability. It's the ideal CNC machine for electronics part manufacturing, along with tool- and mold-making.

Siemens components

- SINUMERIK 828D CNC
- SINAMICS S120 drives
- SIMOTICS S-1FK7 servomotors
- SIMOTICS M-1PH8 main spindle motors

Shenyang Machine Tool Co. Ltd.

Booth S-8148

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Machine description

The Brio Miller 8 (BM850T) vertical machining center redefines productivity and value with a base-selling price below $50,000. This economical and versatile machine has X, Y and Z travels of 31" x 19" x 20" and an 8,000 rpm spindle to provide flexibility to manufacturers. The machine comes with an automatic tool changer, chip auger and the powerful SINUMERIK 808D control as standard equipment, plus a two-year parts warranty.

Siemens components

The SINUMERIK 808D CNC is a powerful, reliable, and easy-to-use control for machinists who want performance at an economical price. The control has a conversational mode, and it has the ability to read standard G-code programming. Canned cycles are built into the machine for bolt-hole circle drilling, chamfering, deep hole peck drilling and other standard machine functions. The control comes standard with a USB interface and Ethernet port for the loading of part programs. The SINUMERIK 808D from Siemens also comes with a standard remote pulse generator for easy operation.

SHW Werkzeugmaschinen GmbH

Booth S-8994

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Machine description

SHW UniSpeed 5 — SHW Werkzeugmaschinen GmbH is one of the world's leading manufacturers of travelling column milling and turning machines and universal machining centers for the efficient machining of large and bulky parts in one setup. Our product range includes machines in various dimensions and characteristics for a variety of applications. Each machine is individually-configured to meet the specific demands of our customers.

The all-purpose compact machining centers of the UniSpeed range deliver dynamic and performance coupled with the highest levels of efficiency for milling and turning operations. They are particularly well suited for the use in tool and die shops, in contract manufacturing and the aviation industry.

Siemens components

- SINUMERIK 840D sl CNC
- SINAMICS S120 drives

Starrag Group — Berthiez SAS

Booth S-8696

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Machine description

The TVU range of vertical lathes has been designed to attain maximum productivity for machining of smaller high quality products.

Highlights of this machine include:

- Completely constructed in cast iron
- Extremely high table speeds
- Integrated turning, boring, drilling and milling on one machine
- High static and dynamic axis stability and accuracy
- Choice of pallet changing options
- Many options to customize the machine

Technical data:
Table diameter 800–2,500 mm
Swing diameter 1,400–2,800 mm

Siemens components

The TVU vertical lathe is equipped with the Siemens SINUMERIK 840D computer numerical control.

Starrag Group — Droop + Rein

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Machine description

The essential advantage of gantry design is to work optimally on big, heavy and unwieldy components, without involving their weight as a factor for the machining result.

Highlights of this machine include:

- Hydrostatic guideways in all linear axes
- Thermosymmetrical ram design
- Integrated C-axis and digital drives
- High rigidity and damping
- Automatic head / tool exchange
- Alternative table configurations
- Wide range of milling attachments and peripheral devices

Power: 50 / 60 / 75 / 100 kW

Torque: 2,400 / 4,000 / 5,500 / 8,000 Nm

Siemens components

This machine features the SINUMERIK 840D CNC from Siemens.

Starrag Group — Heckert GmbH

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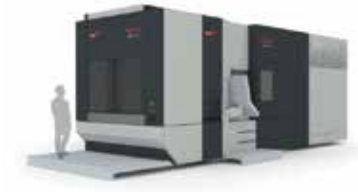

Machine description

These new machining centers in the HEC500–800X5 range are horizontal centers with turning and swiveling units and pallet changers. They have been designed to provide maximum flexibility for the efficient machining of workpieces with complex geometries and at high levels of precision. Featuring a rigid construction and high spindle torques, the centers are perfectly suited to machining difficult materials like nickel-based alloys, as well as castings and steel.

Thanks to their high rapid traverses and high spindle speeds, available as an option, they are equally well-suited to machine aluminum.

Siemens components

- SINUMERIK 840D sl CNC
- SINAMICS S120 drive system

Starrag Group — Scharmann

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Machine description

The ECOFORCE machining center line is a powerful, efficient and highly accurate machining center. With the ECOFORCE line 5-sided machining and 5-axis machining is possible through adaptable technologies to ensure economical solutions.

Highlights of this machine include:

- High cutting capacity from powerful drives
- Wide range of technologies with table or pallet configurations
- Highest positioning accuracy and high rapid traversing speed

X-axis: 2,400–4,000 mm
Y-axis: 1,250–3,500 mm
Z-axis: 2,200–3,500 mm

Siemens components

The ECOFORCE machining center is equipped with the SINUMERIK 840D CNC from Siemens.

Starrag Group — Starrag AG

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Machine description

The STC 800, a compact, rigid and extremely efficient machining center, manufactures highly complex work pieces in aluminum, steel, titanium and other exotic materials in five-axis simultaneous mode to the ultimate precision needed. It is particularly suited for challenging machining applications in the aerospace, aero-engine, steam and gas turbine industries, and for any demanding task from other manufacturing sectors. The machine, with a moving column and a gantry-driven workpiece table, features a working area of 1,400 mm in diameter and height. Five-sided machining is no problem thanks to the high precision, directly driven rotary table and the nodding milling head, already proven in heavy-duty metalcutting. Its high modularity enables it to be optimally adapted for various technological applications.

Unequalled flexibility secures the successful application of new technologies and adaptation to ever-changing production requirements.

Siemens components

- SINUMERIK 840D sl CNC
- SINAMICS S120 drive platform

Sunnen Products Company

Booth N-7400

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Machine description

Together with Siemens, the Sunnen new SV-20 honing system is the first competitively priced large-part machine for job-shop part production with a true linear, vertical, servo-stroking system to produce precision bore geometries on compressors, oilfield components, automotive / truck blocks and similar parts. Ideal for job shops and repair facilities, the SV-20 is equipped with a variable-speed 15-550 rpm, 4.1-kW (5.5 hp) spindle motor, powerful enough to drive two-stage, metal-bond, diamond abrasives for short cycle times with high accuracy and minimal labor. The SV-20's linear stroking system keeps the honing tool concentric with the bore throughout the full stroke length to produce a consistent diameter from top to bottom of the bore. The machine's 1219 mm x 760 mm (48" x 30") work envelope, front-loading design, and weight capacity up to 600 kg (1325 lb) combine for versatility in processing a wide range of large parts. The SV-20 can be used to hone bores with inside diameters from 19-200 mm (0.75-8.00").

Siemens components

The Sunnen SV-20 Honing System features the WinAC RTX automation system, the Siemens 9-inch nano panel with integrated HMI, along with SINAMICS S110 and G120 drives for servo and spindle control.

Thielenhaus Microfinish Corporation

Booth N-6851

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Machine description

The BearingStar 212 Direct Drive is the new member of the successful MICROFINISH machine-tool series for optimizing roundness and roughness of bearing races. In the new two-step machining concept pre- and final finish take place in a single chuck. The machine employs a new direct-drive oscillation, superimposed by an additional high-frequency oscillation (HyperMotion). This technology reduces cycle times and results in high-quality surfaces and precise geometry in comparison to conventional finishing — especially for four-point contact bearings.

Siemens components

The Thielenhaus BearingStar 212 features SINUMERIK 840D CNC.

Waldrich Coburg NA, Inc.

Booth S-8796

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Machine description

When it comes to large precision machine tools, Waldrich Coburg is the market leader. Particularly in the field of moving table and gantry type vertical milling machines, which have been continually developed over the last 40 years, Waldrich Coburg sets the standards for others to follow. Whatever the requirements — complex machining systems, highest accuracy, cutting efficiency, difficult cutting conditions — our customers rely us. More than 700 machines sold worldwide can testify to the quality and support provided by Waldrich Coburg.

Whether you're in power station and turbine construction, diesel engine or machine construction, a Waldrich Coburg machine is a technological leap into the future of workpiece machining.

Siemens components

Waldrich Coburg machines are equipped with the latest SINUMERIK 840D controls and SINAMICS drives from Siemens.

Weiler Werkzeugmaschinen GmbH

Booth S-9272

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Machine description

WEILER Cycle-Controlled CNC Precision Lathe Model E 90 x 3,000 — Cost-effective and efficient for one-off and small batch production. As simple as an engine precision lathe and as versatile as a CNC lathe.

The advantages of cycle-controlled precision lathes:

- Rapid implementation from the drawing to the finished workpiece
- Optimal ergonomics and accessibility for the operator
- Extremely short set-up times
- Generously sized working areas with a minimum footprint
- Exceeds DIN standard requirements for highest possible precision
- Distance between centers 2000–15,000 mm
- Swing over bed 900–2000 mm
- Spindle bore 128 mm or 165 / 262 / 362 mm
- Display unit with 15" TFT screen
- Ingenious user-friendly WEILER graphical user interface
- "e-TIM" energy saving system minimizes power consumption
- Increased machine accuracy to DIN 8606

Siemens components

User-friendly SINUMERIK 840D sl CNC with customized WEILER software

Werkzeug-maschinenbau Ziegenhain GmbH

Booth S-6670

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Machine description

The C200 / CM200 is a center drive lathe where the workpiece can be clamped in the middle, allowing for simultaneous machining of both ends of the workpiece in one setup. The center drive technology is especially suited for converted workpieces with little allowance or highest requirements on running precision of the right and left workpiece side related to complete concentricity, circularity and tolerance of bearings.

Siemens components

The C200 / CM200 features the SINUMERIK 840D CNC from Siemens.

WFL Millturn Technologies GmbH & Co. KG

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www.wfl.at

Machine description

Limitless complete machining with M80 Millturn / 3,000mm
A new generation of Millturns bursting with innovation. This year WFL will present their M80 Millturn/3,000mm at IMTS in Chicago. As well as the strongest turning/boring/milling unit with up to 78 hp, the customer receives a totally new machine which has benefited from WFL's 30 years of experience. This includes a new spindle box with a high-precision direct measurement system, slides which all have solid linear guides as well as a new tool changer. All design variants of the new M80 series are available with a distance of up to 6,000 mm between centres and a counter spindle. A particular plus point for extremely difficult internal machining is the optional drilling slide. Next to M80 Millturn/3,000mm further new technologies are focused on the exhibition.

Siemens components

All WFL Millturn centers are exclusively-equipped with:

- SINUMERIK 840D sl CNC
- SINAMICS S120 drives
- SIMOTICS S-1FK7 servomotors
- SIMOTICS S-1FT7 servomotors
- SIMOTICS M-1PH8 main spindle motors
- SIMOTICS M-1PH7 main spindle motors

Zimmermann GmbH (Denkendorf)

Booth S-9336

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www.zimmermann-inc.com

Machine description

The FZ33 compact combines a wide range of applications with an excellent price / performance ratio and proven Zimmermann technology.

Take advantage of these features for economical machining for a wide variety of parts for aerospace, automotive, tool-and-die, as well as many specialty applications.

The rigid monolithic structure eliminates special foundations and provides a cost-effective and variable installation in small spaces.

Focusing on the power spectrum to machine small- and medium-size parts, Zimmermann sets new standards and guarantees the user an enormous amount of flexibility and value — in other words, a low business risk due to an attractive cost price, stable machine value and, thanks to its flexibility, ensured added value.

Siemens components

The machine isnow equipped with the super-fast, high-tech Siemens SINUMERIK 840D sl control including its new SINAMICS drives and SIMOTICS servomotors creating a dynamic, never seen before in the 5-axis portal machine industry.

Zimmermann GmbH (Neuhausen)

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Machine description

With the new FZ 100 portal milling machine, Zimmermann has managed to achieve six-axis machining using the newly developed M3 ABC three-axis milling head. This concept sets new standards in the volume machining of aluminium, composite and model-making materials, as well as in the high-speed cutting of steel and cast iron. Typical structural components for aircraft manufacturing have inner sloping sides with a setting angle of three to five degrees. The machining time of those parts can be drastically reduced by the additional B-axis as the machining of pockets with the M3 ABC milling head in combination with an ideal feed rate is perfect.

Minimum rotation is needed to achieve any angle of orientation with the three axes available. In almost every other case, simultaneous machining using the M3 ABC becomes even more productive.

Siemens components

- SINUMERIK 840D numerical control
- SIMODRIVE 611D drive platform
- SIMOTICS S-1FT6 servomotors
- Siemens-Weiss spindle
- 15" OP15 operator panel
- Machine control panel B-MPI
- SIMATIC Microbox PC 427B

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