



SMTCL





Shenyang Machine Tool Co., Ltd. (SMTCL) is a joint-stock enterprise established by former Shenyang First Machine Tool Plant, China-Czechoslovakia Friendship Plant, Shenyang Third Machine Tool Plant and Liaoning Precision Instrument Plant in May 1993. In July 1996, the company was listed on the Shenzhen Stock Exchange ("SYJC", 000410).

SMTCL's primary business is metal-cutting machine tool manufacturing and major products include CNC machine tools and their functional components. With 14,800 employees and a total area of 1.55 million square meters, the company consists of 16 departments under the principle of product specialization and boasts tremendous manufacturing strength with over 1,700 units of professional production equipment.

With a national technical center and a state key laboratory of high-grade CNC machine tools, SMTCL turns out lathing, milling, boring and drilling products in all sizes, and has a strong capability to provide complete solutions. In 2011, the company achieved business revenues of 9.6 billion yuan, and manufactured 69,000 various machine tools including 24,000 CNC machine tools, with a numerical control rate of 63 percent, thus maintaining its lead in the domestic machine tool industry and ranking 11th among all machine tool manufacturers in the world.

SMART

OUR PATH TO GLOBAL PLAYER

Leadership



SMART Enterprise

Management



Tackle The
Global Challenges
By Conformed
Operation Models

Organization



Establish Company
Architecture For
Mastering
Future Challenges

Production



SMART
For Customers'
Satisfaction

Product Structure



For Customer's' Best
Benefit by **SMART**

Design



Best Product For
Customer
By Being Close
To Customer



Turning

Boring

Milling

Drilling

more choices greater success

Metal cutting technology serving various sectors

Shenyang Machine Tool not only provides reliable products for various industries, but also focuses on providing complete solutions for various industries.



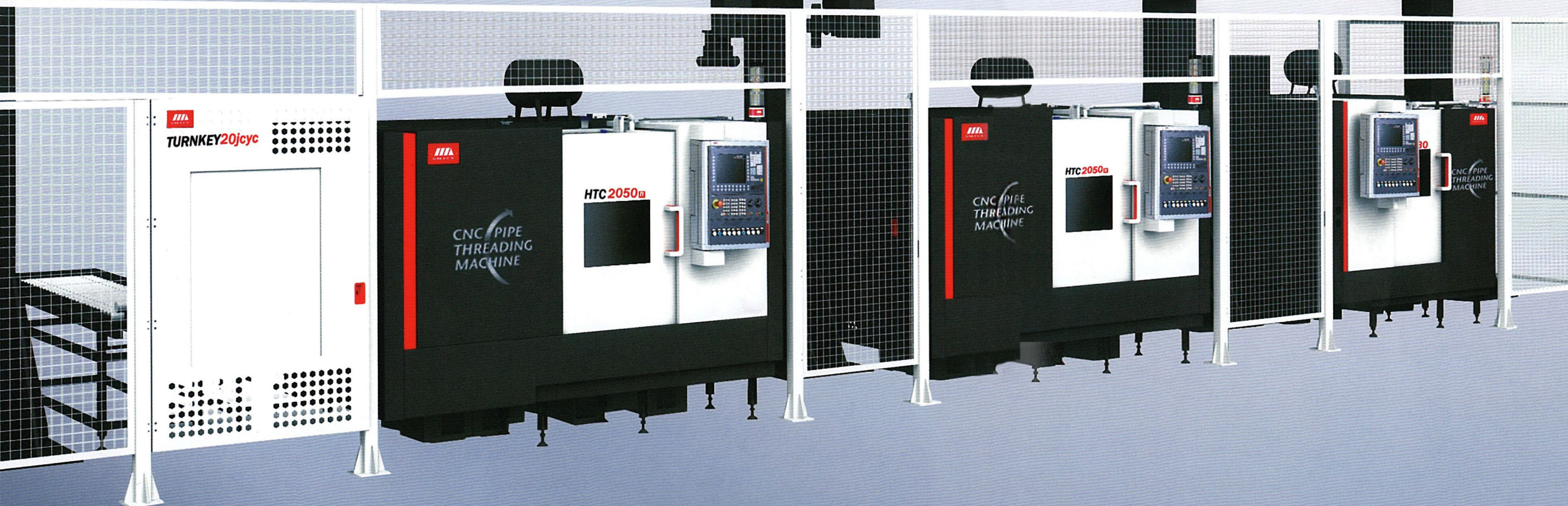
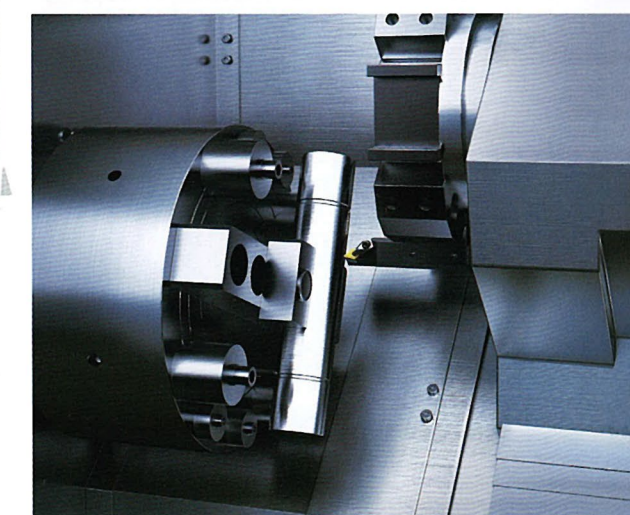
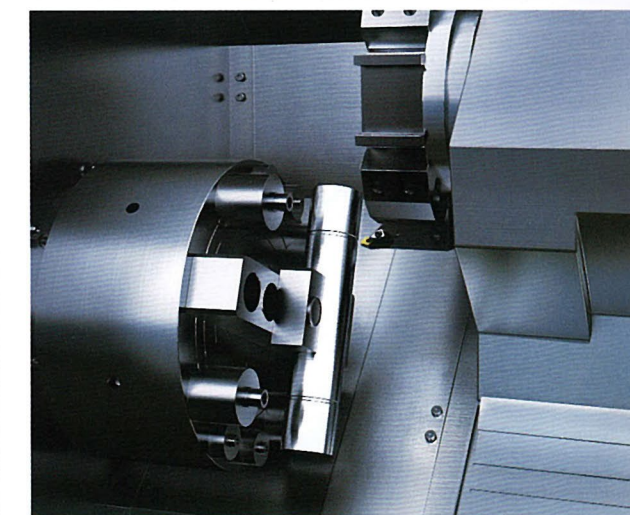
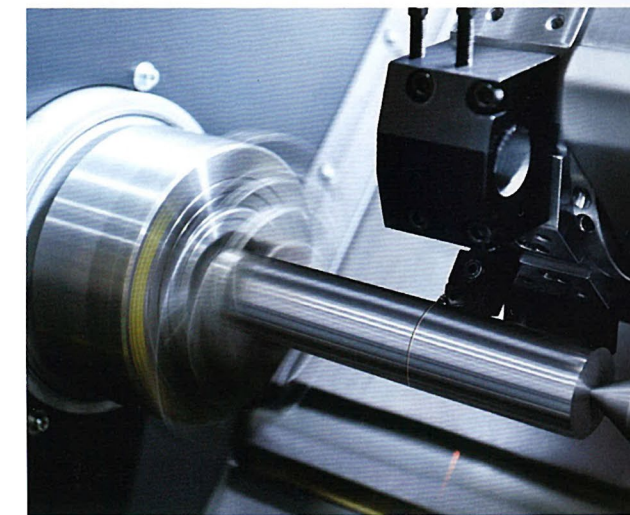
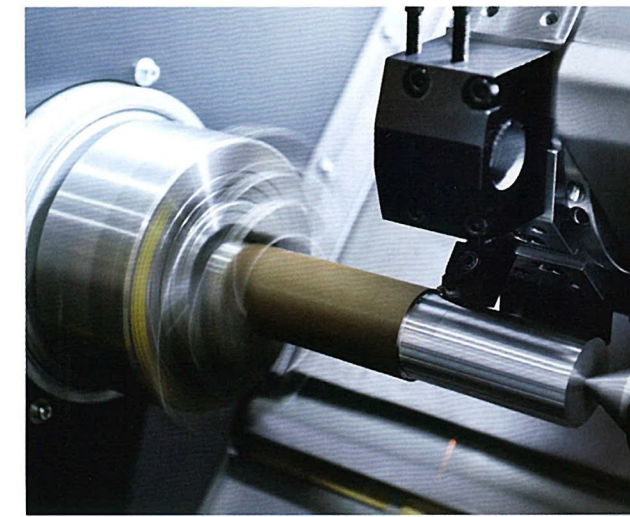
TURNKEY20

TURNKEY20 wire group solution

In-depth understanding of the customer processing technic
more optimized grouping ability

99 seconds are spent from blank to finished products
monthly yield of single line is **10,600** pieces

- High-efficient automatic production specially aiming at fulcrum shaft and other small shaft dish parts
- Monthly yield of single line: 10600 pieces
- Operation days each moth: 26 days
- Operation time every day: 20 hours
- Equipment operation rate: 0.85

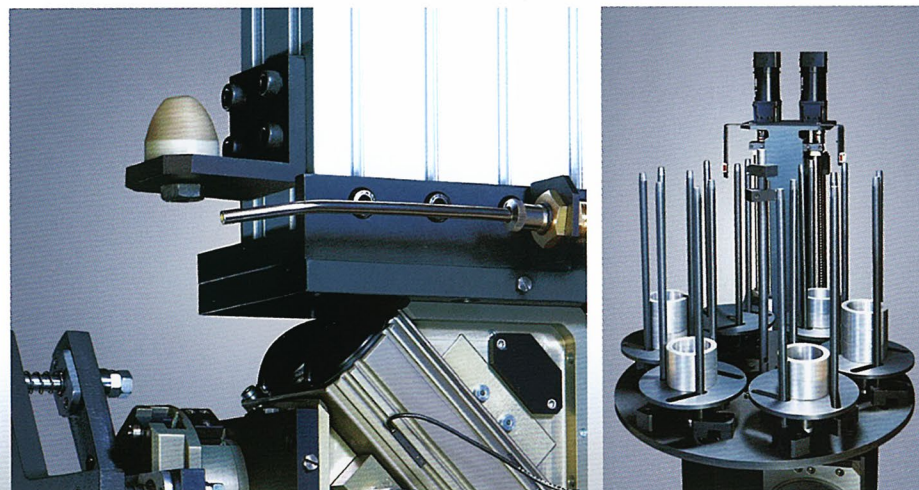


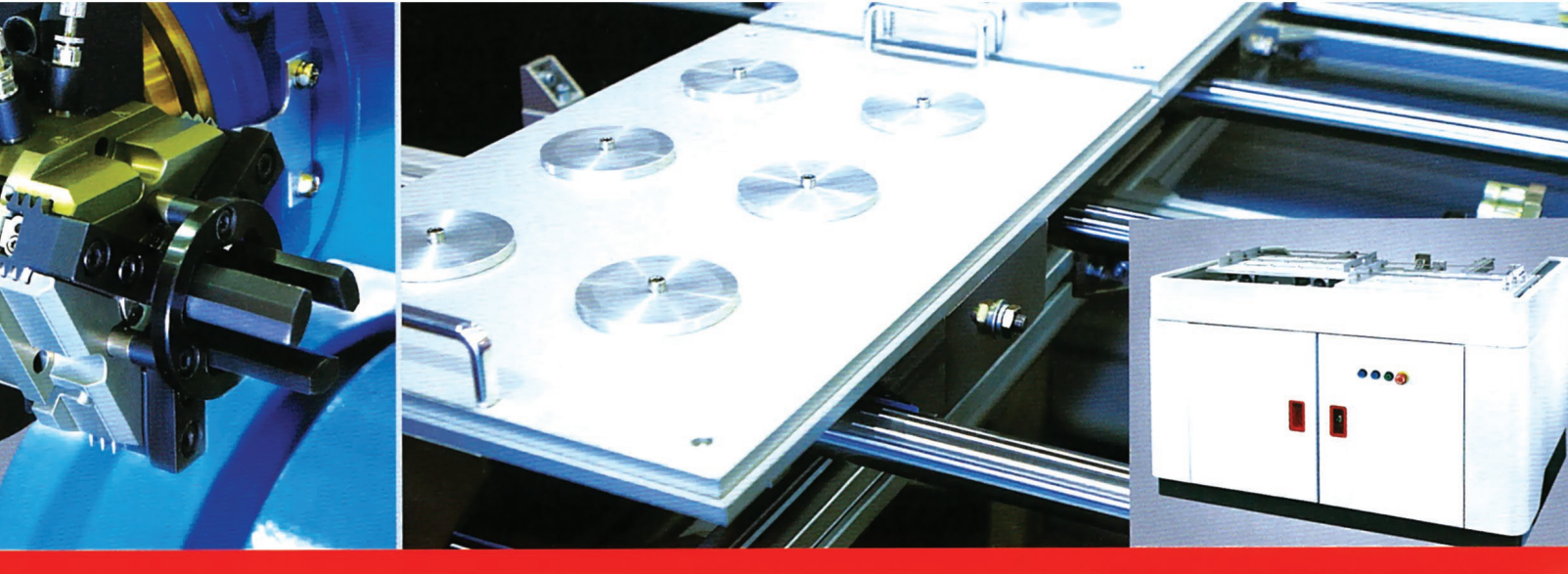
GLS25

GLS25 truss wire group solution

Overall performance optimization: scrap technology, material base, material snatching and bus technology

- Truss T-type structure: beam length is shortened by 1/3, and the occupied area is reduced by 20%
- Single pillar ascension material base solution with low cost and large capacity, the capacity is increased by 20% compared with double pillar material base
- High-speed drive technology: rapid traverse horizontal 100 m/min, vertical 80 m/min
- Truss control technology: international leading bus data transmission type replaces PLC control, thereby lowering interference with more precise positioning, a variety of workpiece loading and unloading programs can be stored with more convenient changeover
- Single piece processing time: bearing collar 126 seconds/piece



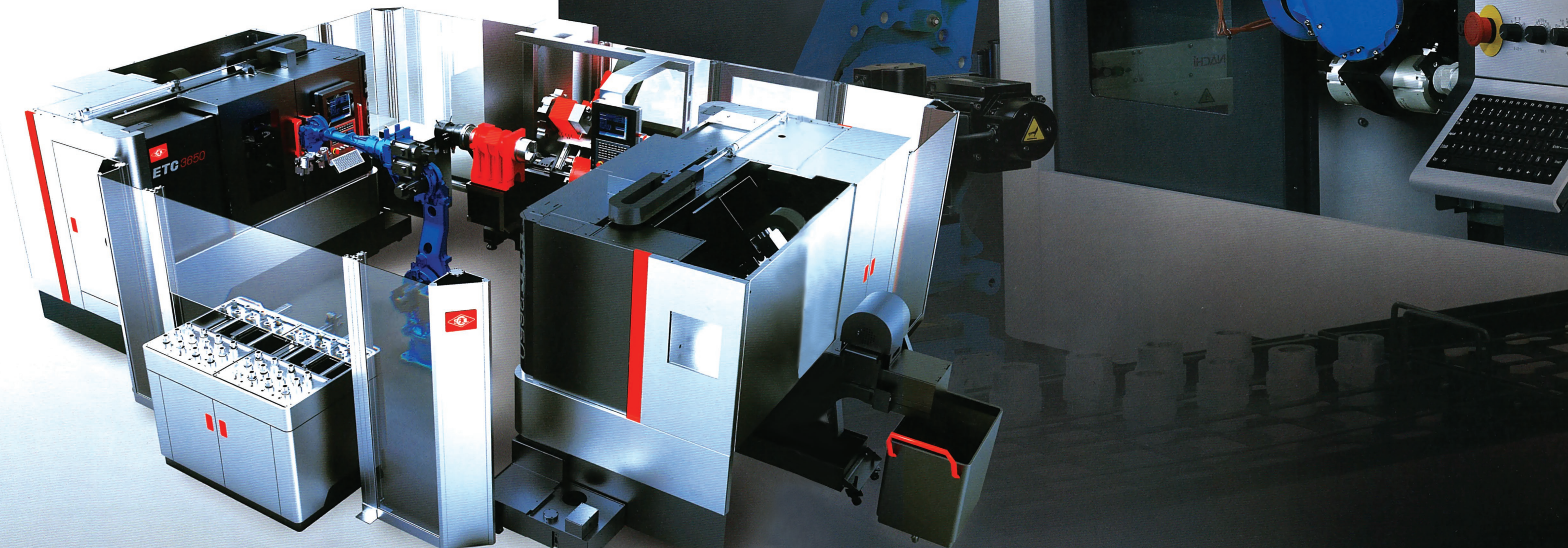


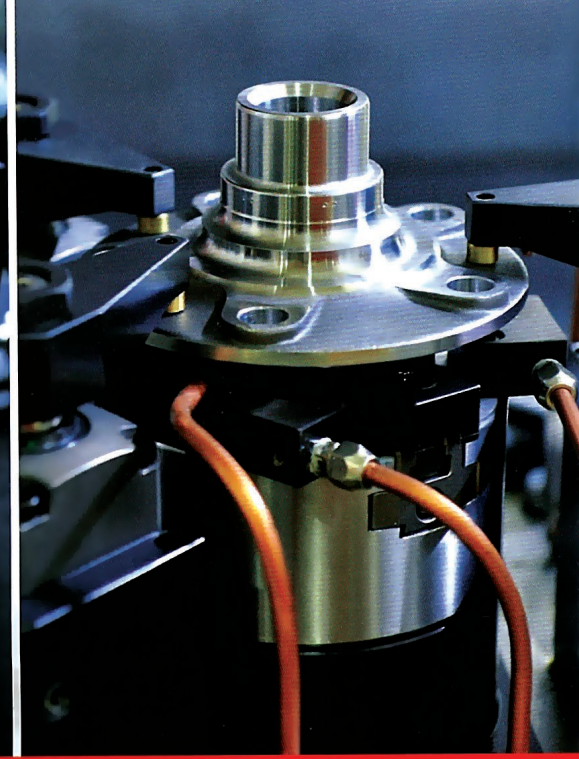
RLS50

Flexible electrical engineering solution

Satisfaction of customer need is our goal:
Reliability, flexible processing and operation

- technology: robot simulation software is adopted to combine with PRO/E 3d software for accurately calculating and optimizing production rate of processing unit, thereby increasing the productivity of processing unit
- workpiece pop-up mechanism is designed on the clip catch part to ensure the workpiece processing precision while improving the installation efficiency, and the auxiliary time can be reduced by 27%
- Double tray exchange technology: double tray and double cylinder drive is adopted, seamless operation can be realized, and the production efficiency is increased by 30%
- Single processing time: pipe joint: 83 seconds/piece





Solution for electrical engineering of hub bearing of the third generation passenger car

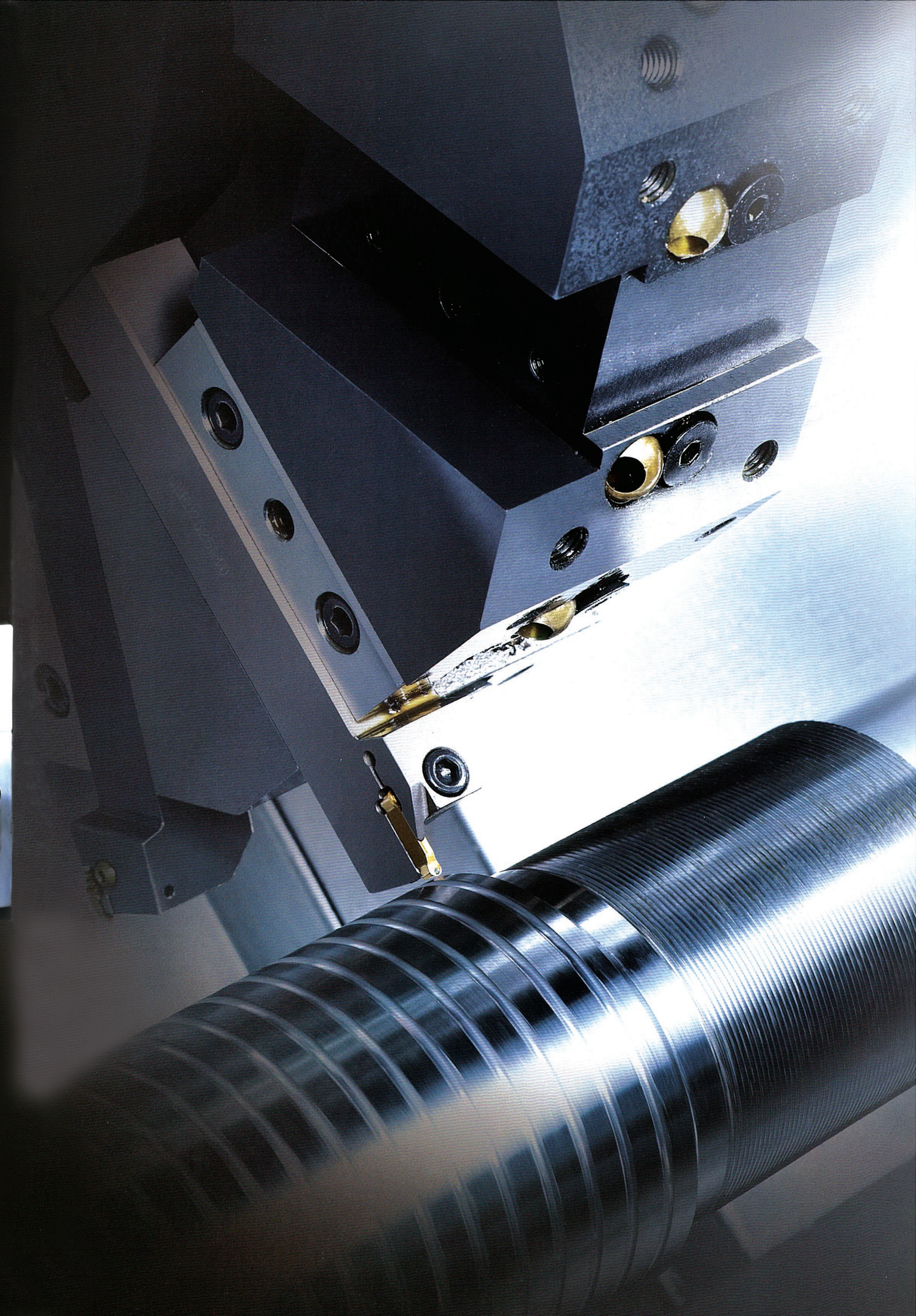
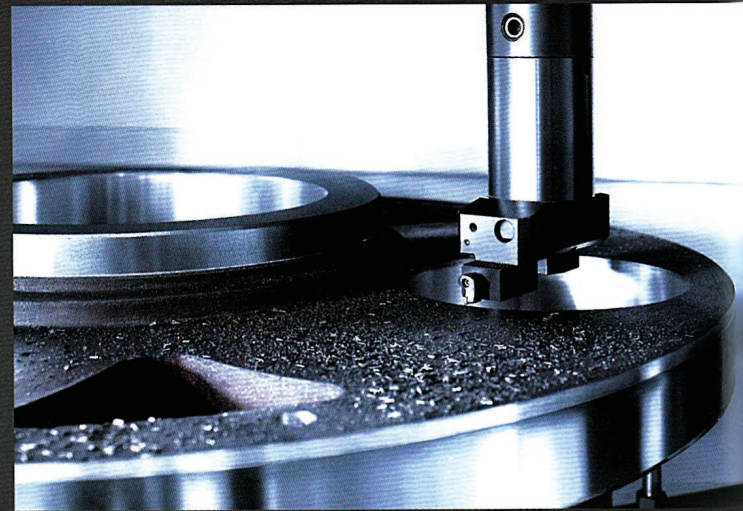
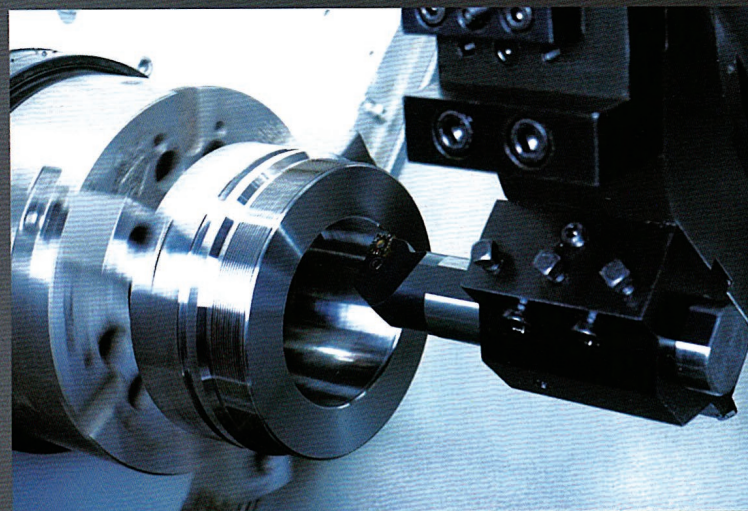
- One-piece processing time: the inner ring (59.8 seconds/piece) and outer ring(66.8 seconds / piece)
- Total order processing production line: automatic measurement feedback and real-time automatic tool compensation can be achieved while automatic processing
- High-speed and high rigidity: X and Y-axis rapid traverse speeds up to 120m/min, and the speed is increased by 20% compared with similar mainstream products in the market
- High efficiency: the efficiency is increased by 30% compared with traditional processing methods
- High flexibility: it can achieve rapid changeover of wheel hub bearings with different models





Reliable **conventional classics**
Transmitting **quality**

TURNING TECHNOLOGY





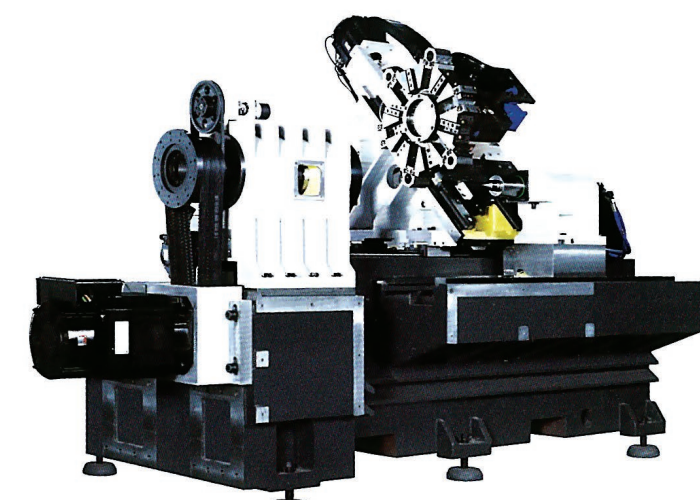
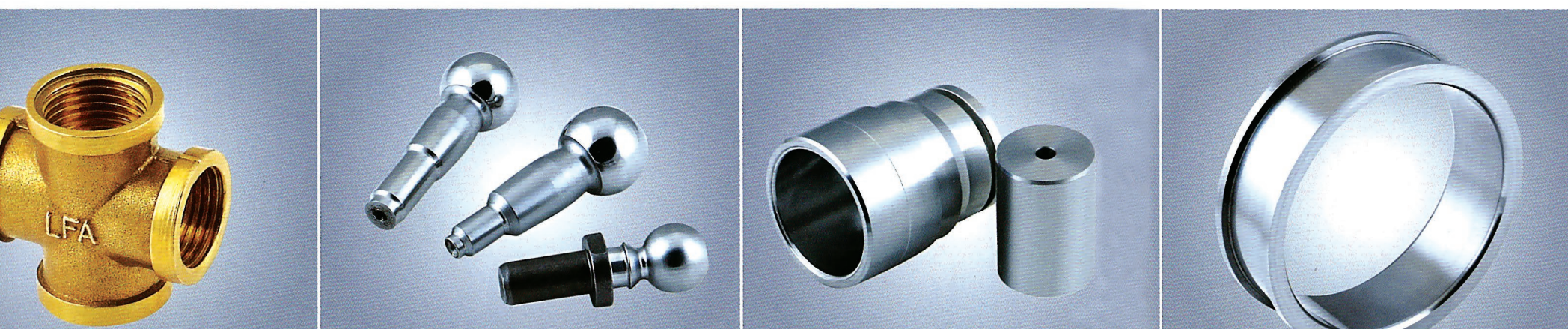
ETC

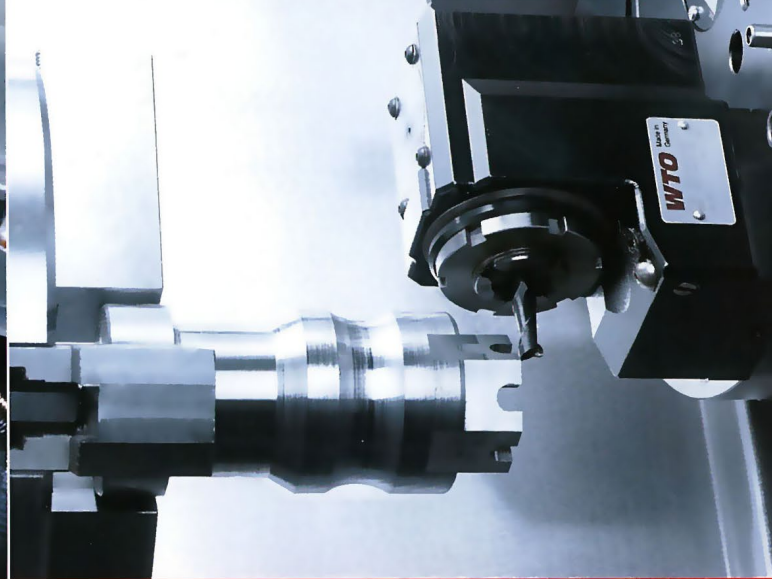
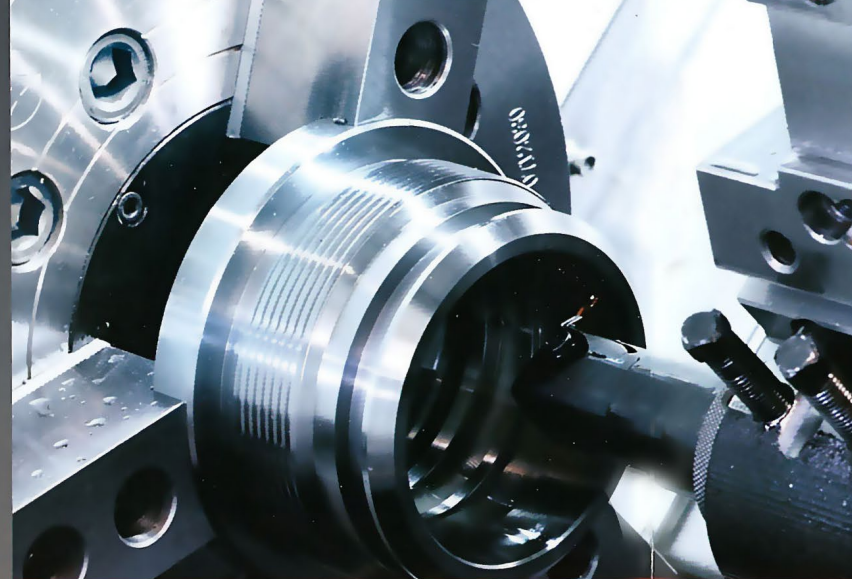
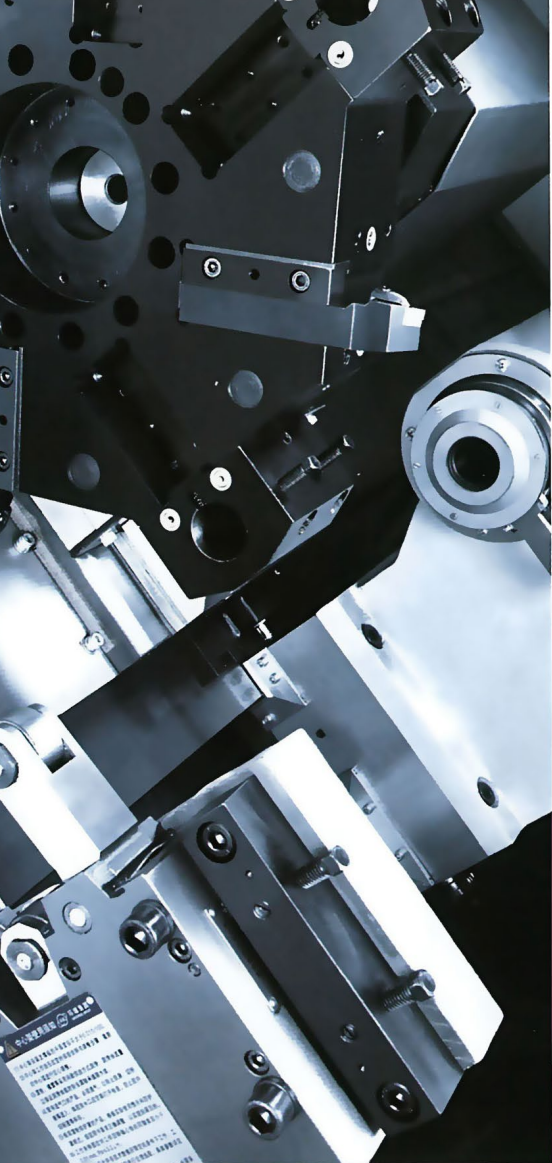
Upgraded performance at competitive price

Saving space, electricity, labor, staff and time



ETC series horizontal CNC lathe is a high performance product developed through being combined with market demand, which can complete high-efficiency machining of a variety of shafts and disc parts. The lathe not only includes u series to general public demand and h series with superior rigidity, but is also provided with p-series with high performance price ratio and e series with energy saving and environmental protection performances, and a variety of configurations are available for customers to choose. Automatic loading and unloading devices can be configured to realize automatic processing of parts, thereby reducing labor costs.





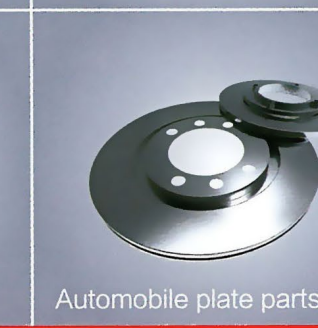
Automobile long axle



Guide sleeve



Bearing ring



Automobile plate parts

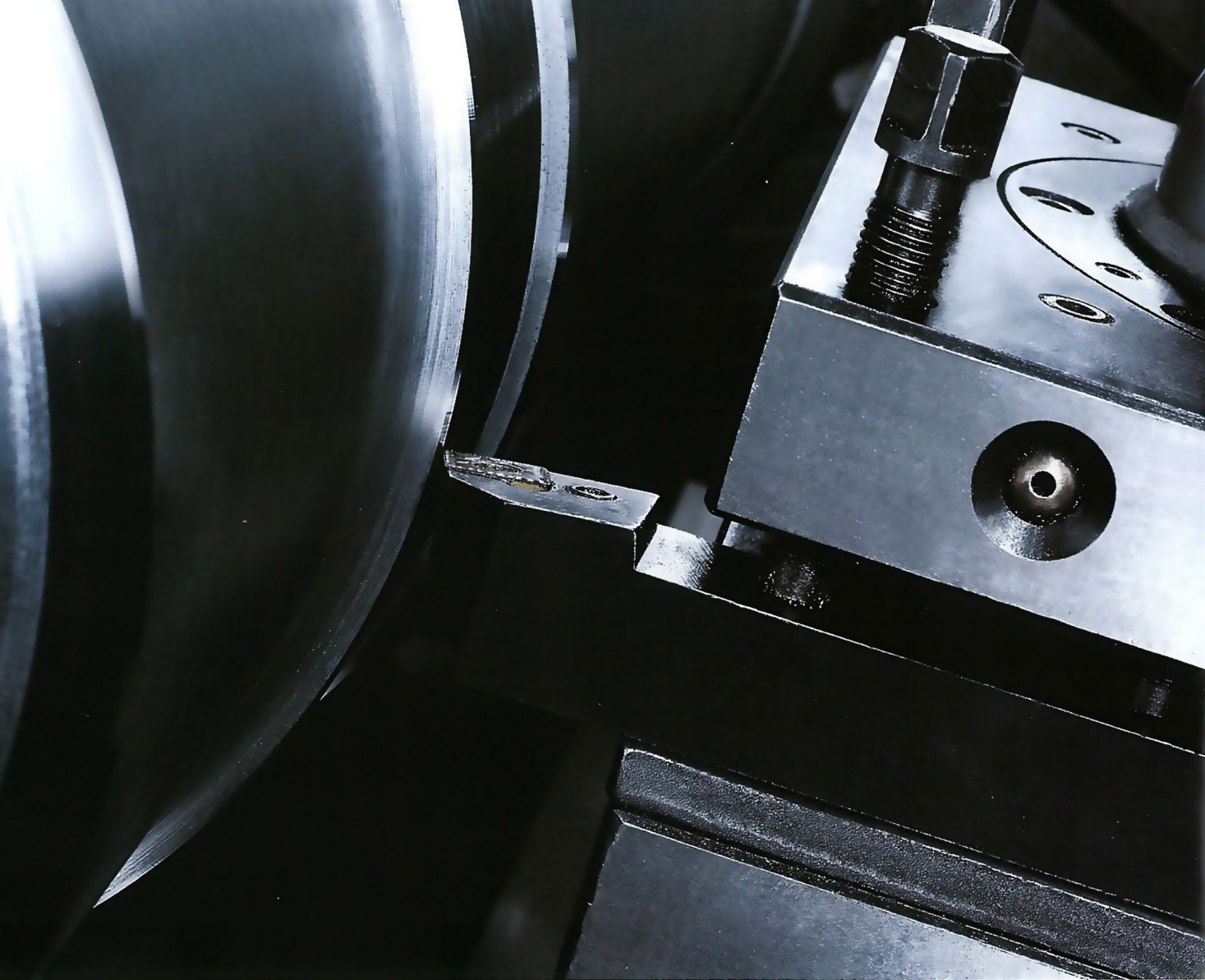


HTC

CNC lathe with high-precision machining

C-axis and Y-axis are increased to realize four- axis linkage

HTC Series CNC lathe is a novel fully-functional upgrade product developed according to energy saving, green and environmentally friendly design concepts, its technical performance can achieve contemporary international standards, the unique high rigidity and precision of the machine tool are especially suitable for efficient four-axis turning center, finishing and semi finishing can be conducted on internal and external cylindrical surfaces, conical face, screw thread, boring, reaming hole and various curve rotary bodies of the workpieces, and the lathe is widely used in various machinery industries.

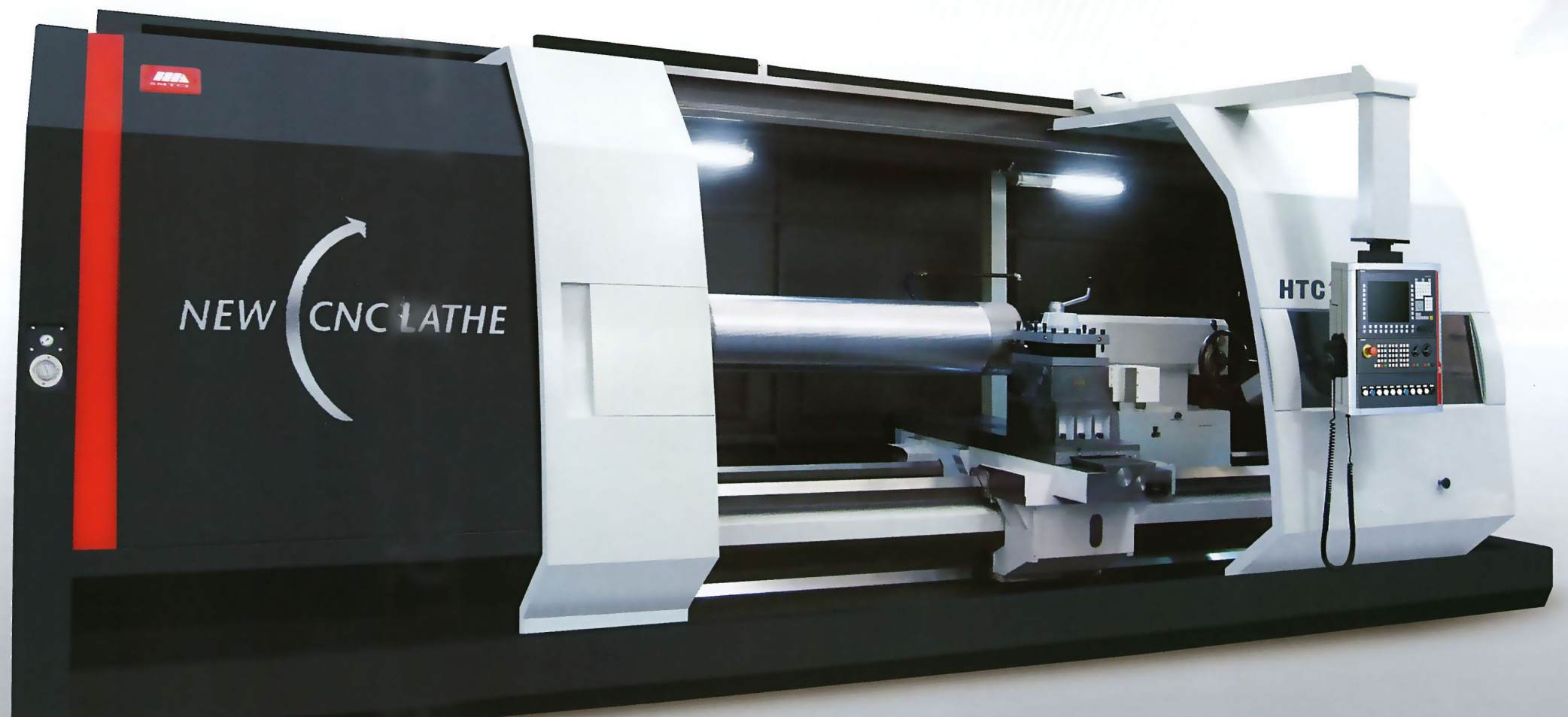
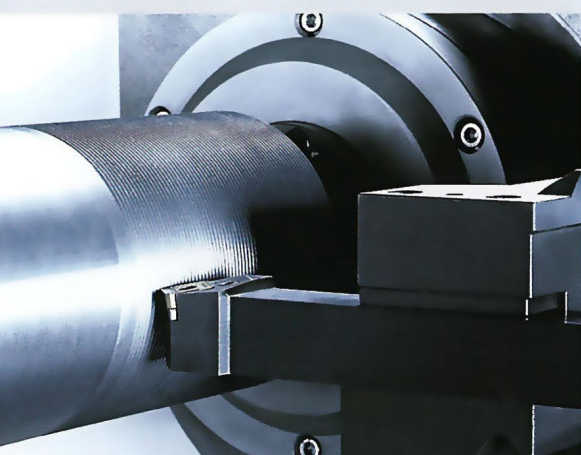
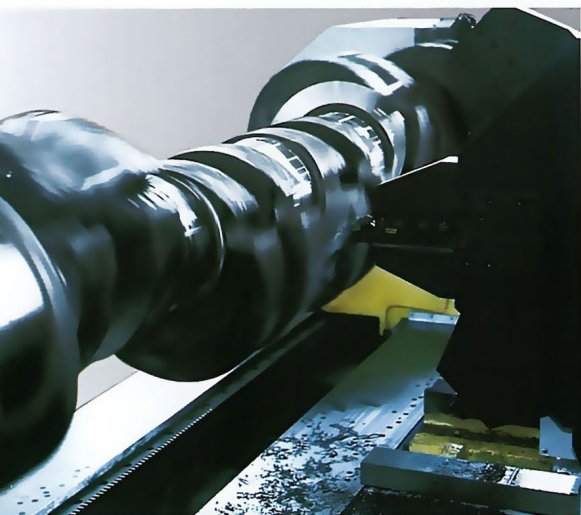


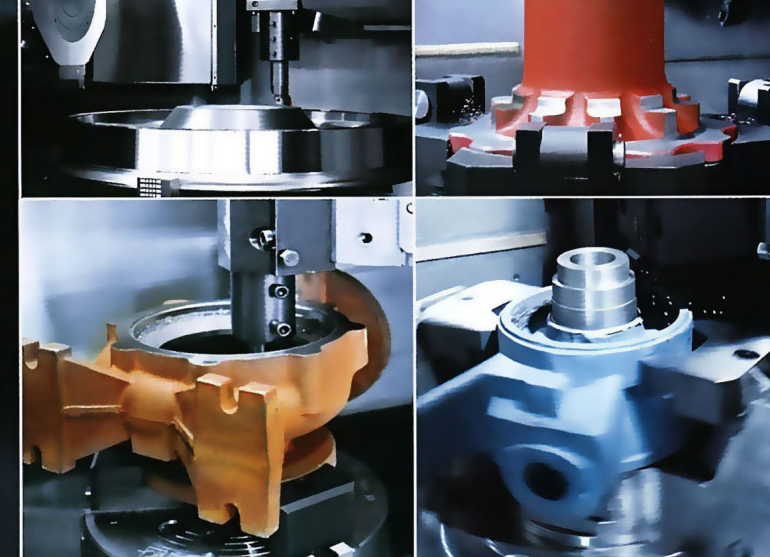
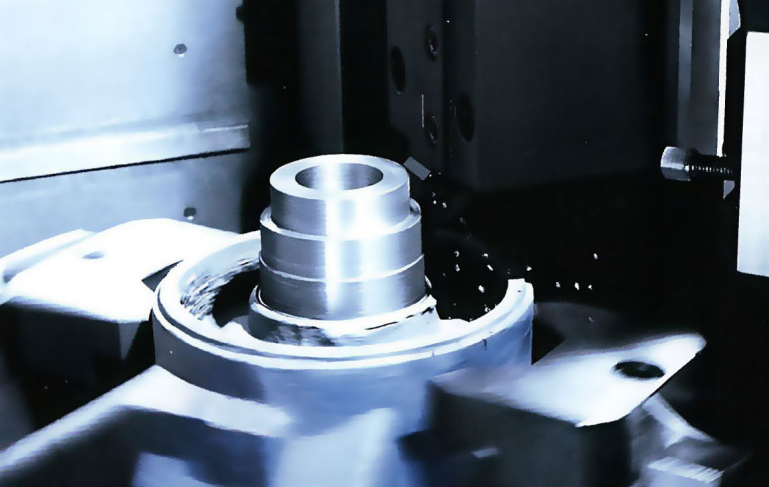
HTC

Large-scale heavy duty CNC lathe targeted at various industries

High precision, high efficiency and high rigidity

- This series of machine tool is divided into light, medium, heavy and overweight series, the maximum turning diameter is 1000-3150mm; and the largest bearing load on two tips is 5-160 tons.
- Light series lathe refers to mountain flat rail, the medium series mainly refers to double rectangular rail or the overall three rails, heavy series refers to overall four rails, and overweight series refers to separated four rails.
- This series of machine tool can be used for processing a variety of shafts and disc-type parts, and turning all kinds of threads, arcs, cones and internal and external curved surfaces of revolving body, and can meet the cutting demand of ferrous and nonferrous metals.





VTC

VTC CNC vertical lathe that is able to machine high-precision plate-parts

can be equipped with C spindle and power knife rest thus to realize turning instead of grinding

CNC vertical lathe of VTC series has more advantages than CNC horizontal lathe in workpiece clamping, and more suitable for machining plate-parts of high-precision and complex shape. Through intensive study on processing technic of typical parts from customer, it can provide optimized processing technic to meet the requirements of customer.



Planet gear

Transmission case

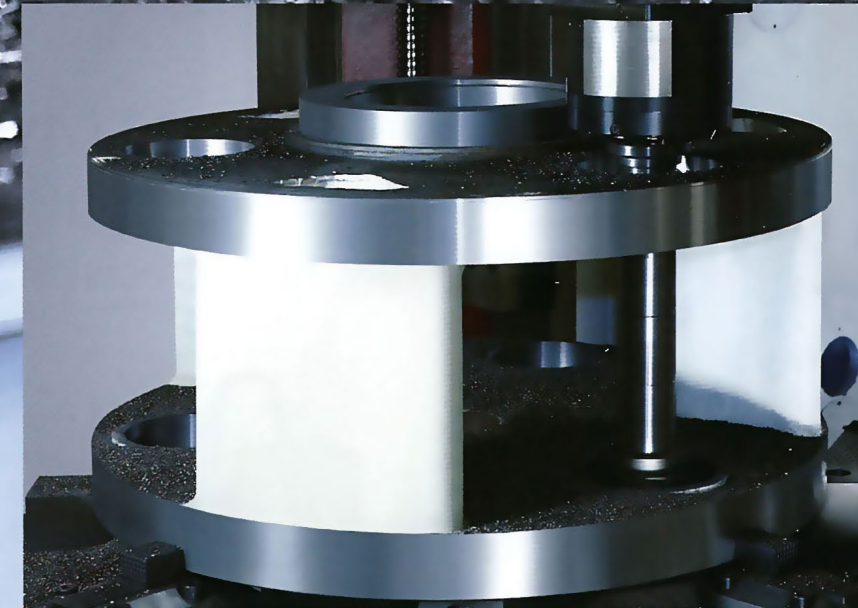
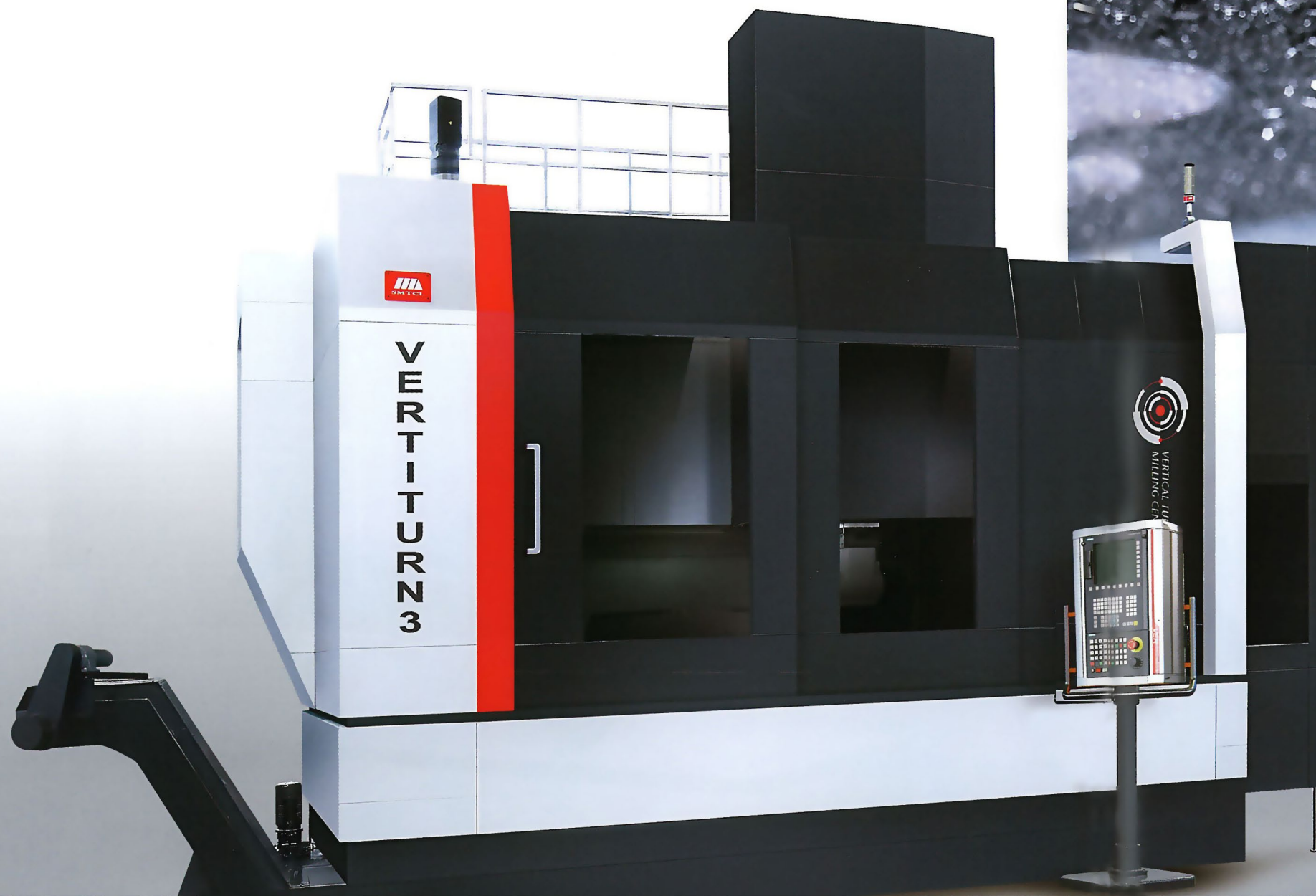


VERTITURN

VERTITURN CNC vertical center lathe with double columns and moving beam

Automatic head exchange, high-precision
high-efficiency, flexibility

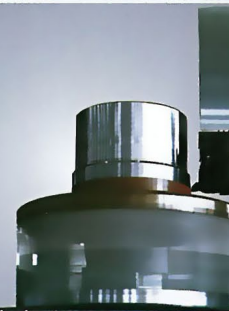
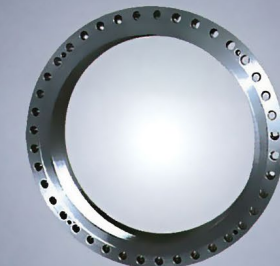
- VERTITURN series vertical center lathe is developed and designed by our company and SCHIESS Co., Germany together. Fixed integral gantry and lift type structure of beam on stand column are adopted for overall structural layout of lathe, and world first-class product quality, working ability, working precision, and working efficiency have been achieved through mature design and manufacture technology from
- Vertical center lathe of VERTITURN series is mainly used for industries such as spaceflight, ship, and wind power, etc., can be used to machine all kinds of large-scale plate-parts with high-precision, numerous procedure and complex shape thus to save technological equipments, shorten production preparation period, ensure machining quality of parts, and improve production efficiency

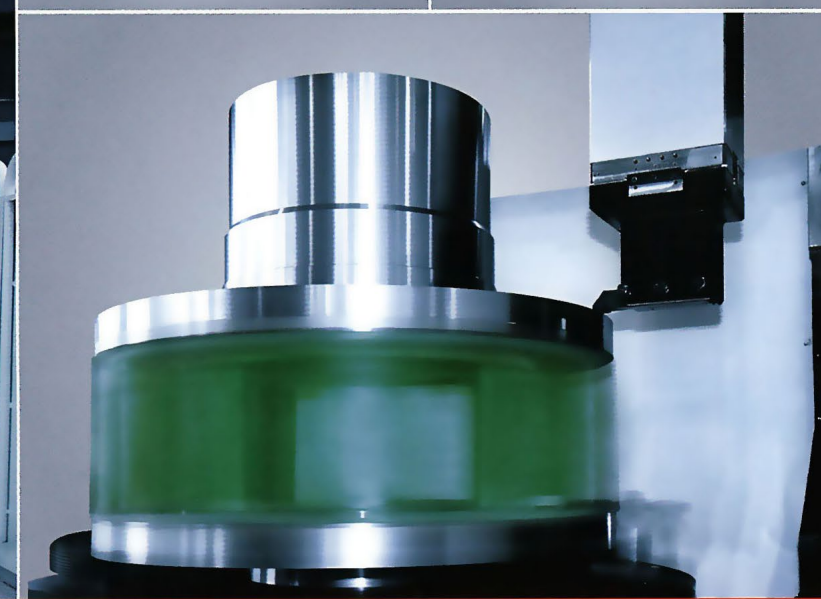
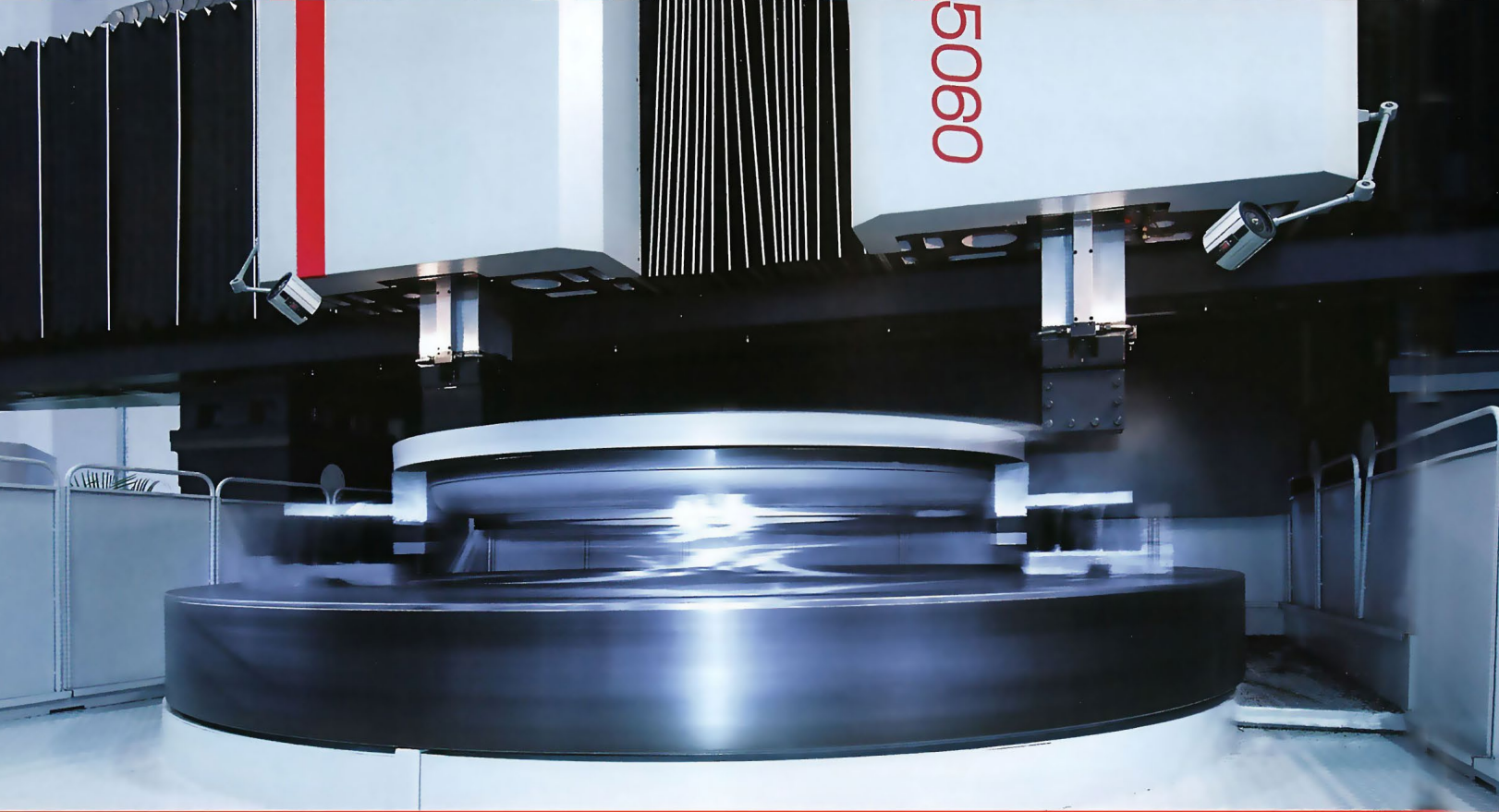


Ship industry



Ship industry



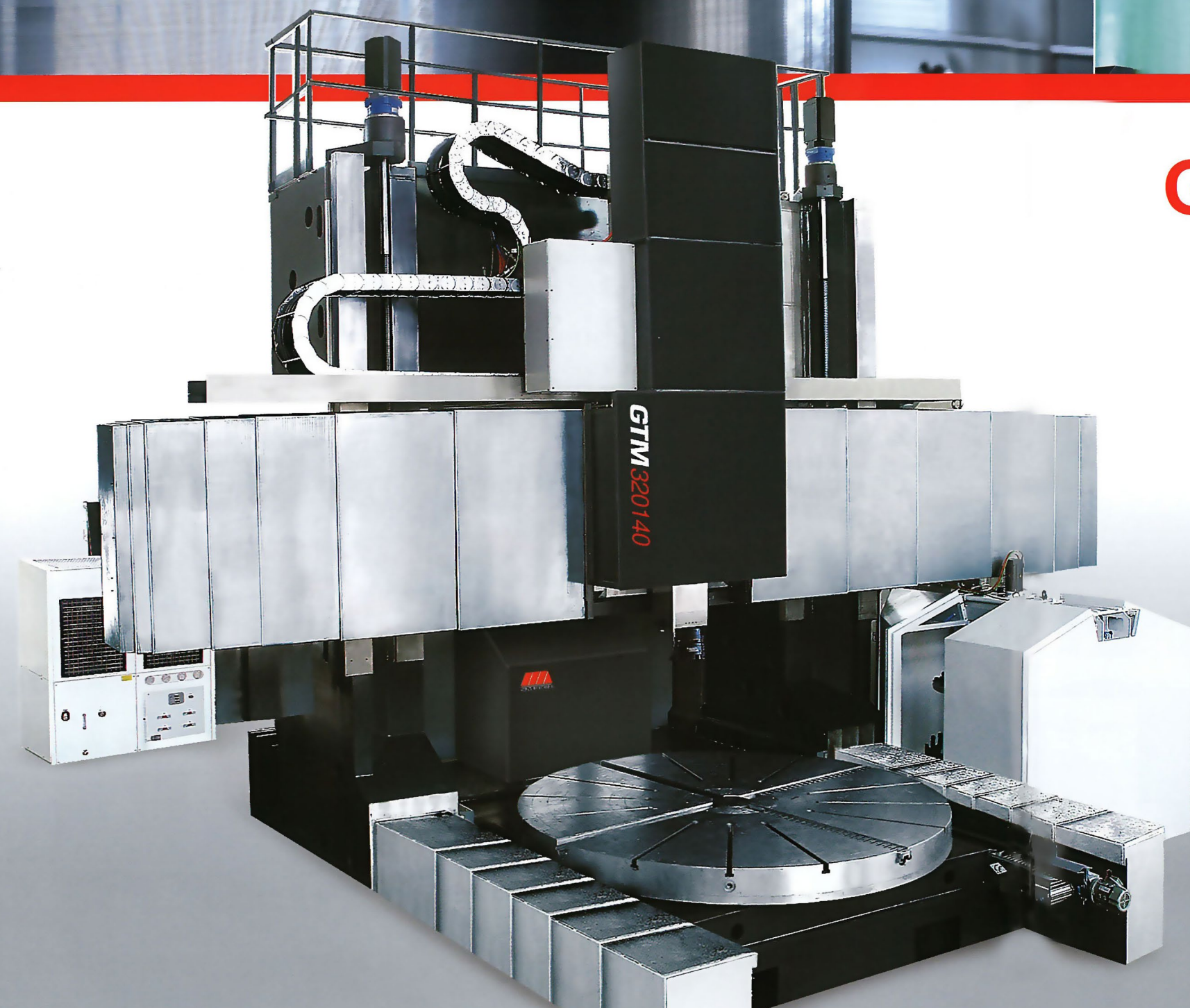
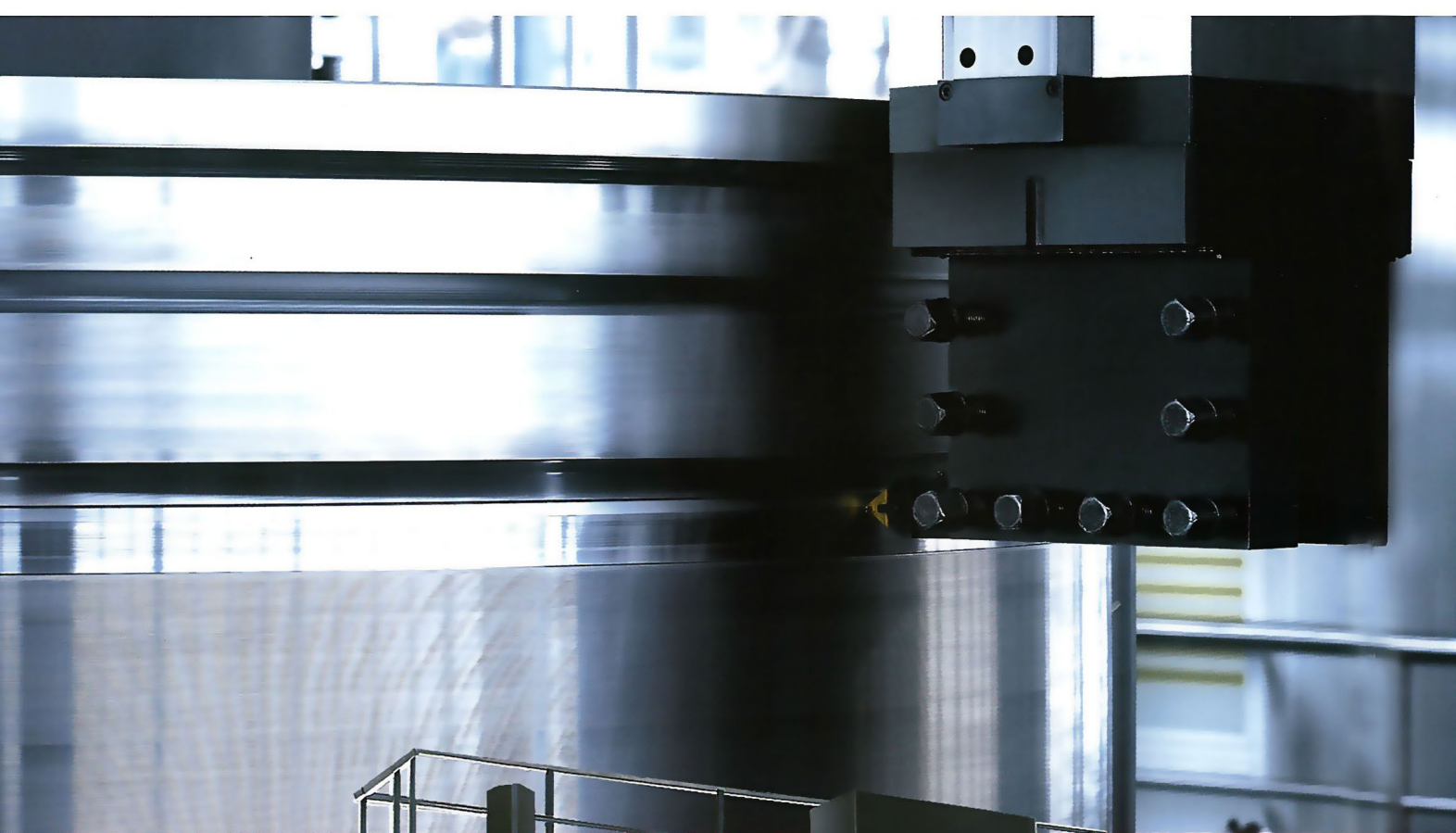


GTC

GTC heavy and large type CNC vertical lathes
featuring modular design
with high rigidity, high precision, and high efficiency

- Through introducing all technologies from Japan Honma, we researched and developed the GTC lathe as a large movable and fixed beam CNC vertical lathe.
- It is widely used for efficient and high-precision turning, and combining turning and milling of large size plate-parts of wind power bearing, wheel, motor casing, valve body, flange plate, and large motor base pump, etc.





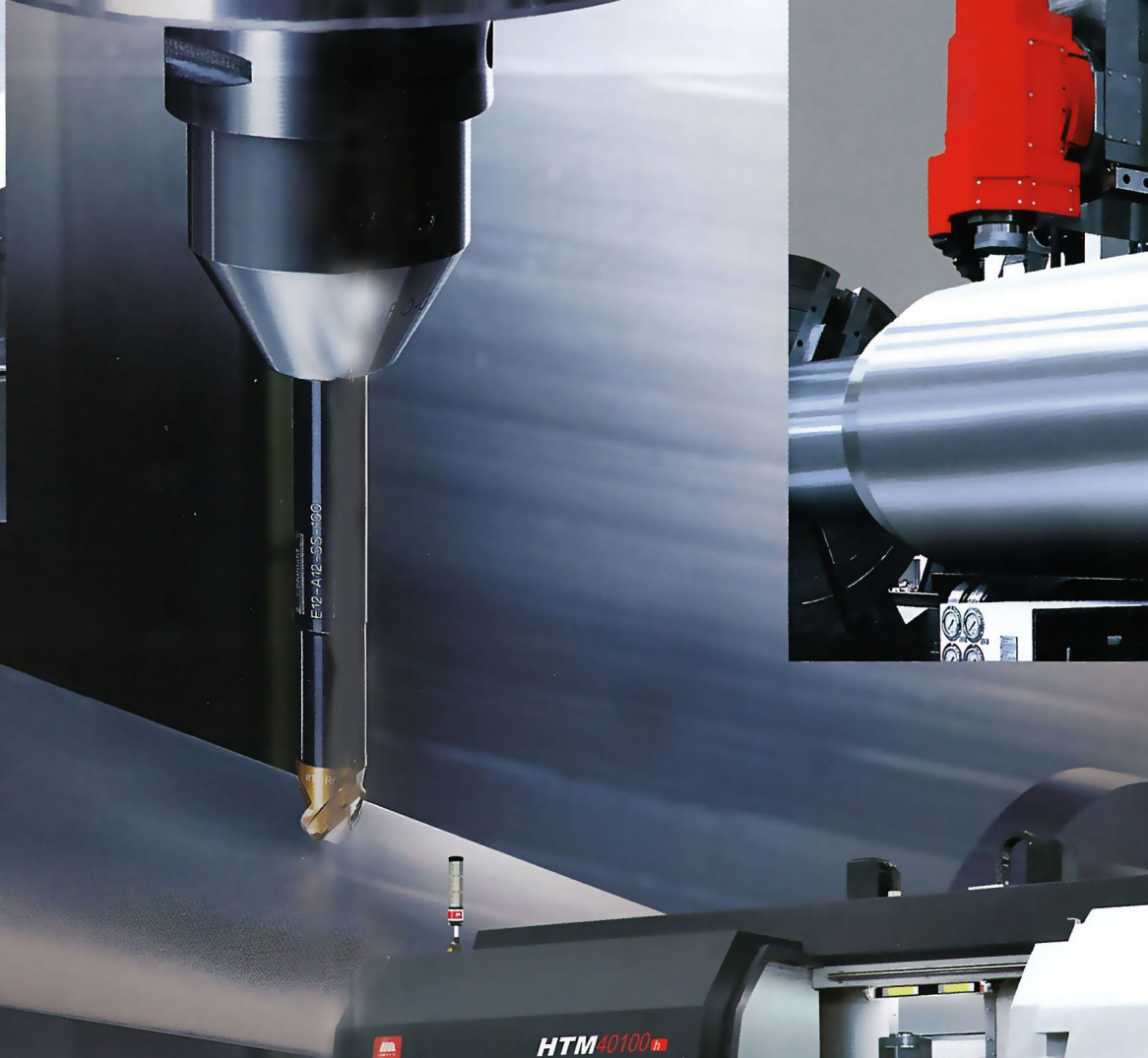
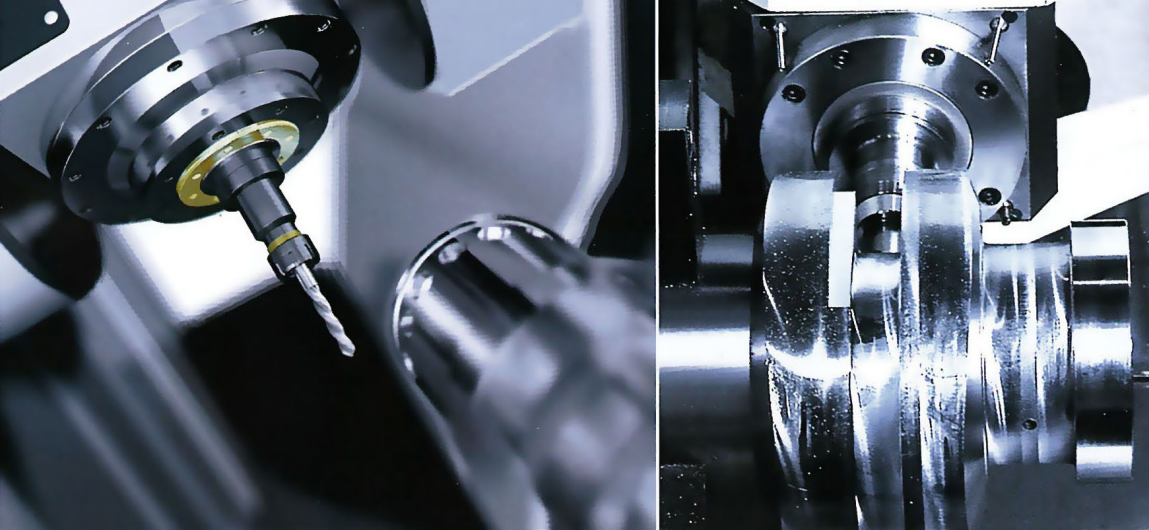
GTM

GTM heavy vertical lathe with movable column and moving beam

High-precision, heavy duty cutting

- GTM series lathe is top grade CNC vertical lathe developed through advanced technology from SCHIESS, and it can realize turning of revolution surface such as excircle, inner bore, end face, etc., and milling of plane, slop, curved surface, and arc surface, and boring and drilling, etc. It is mainly used for industries such as aviation, spaceflight, ship, and energy source, etc
- With universal CNC machining center of good reliability and large power, turning, boring, and milling processes can be achieved through once clamping, especially suitable for large complex parts with symmetry machining axis. The lathe is compatible with the design of milling machine with double columns, featured by economical and practical and good flexibility, it can lessen handling times, and shorten time duration of tightening, alignment, and clamping and thus working hours can be reduced significantly.

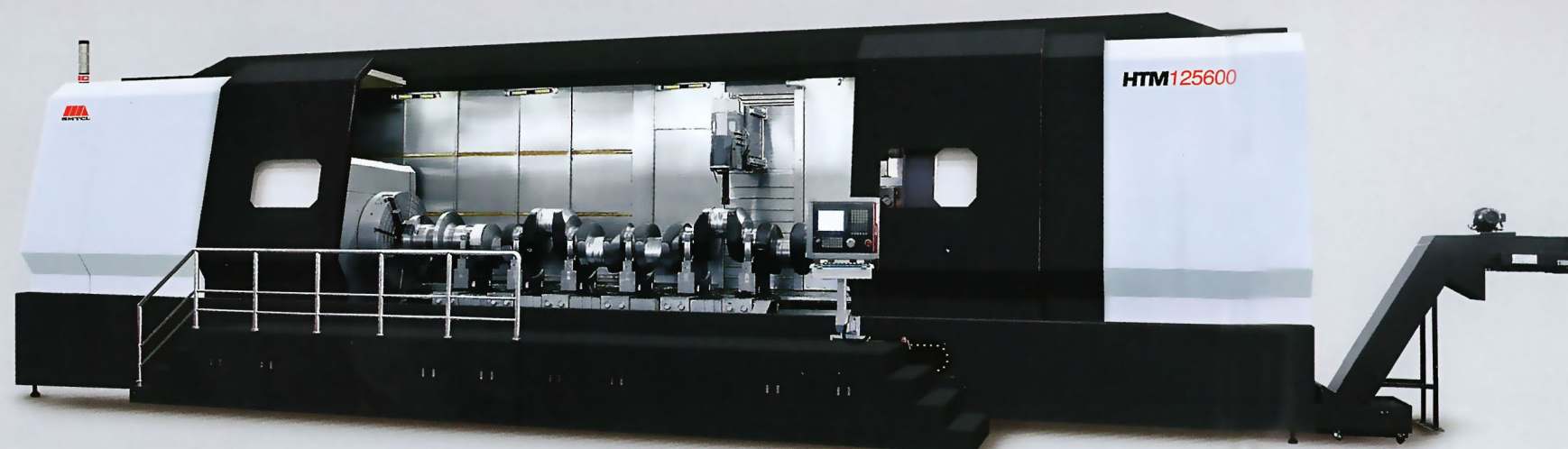


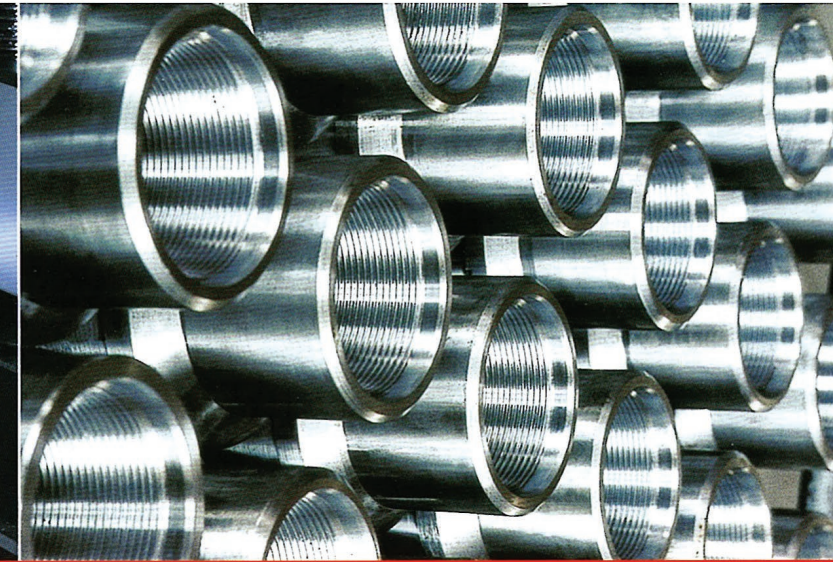
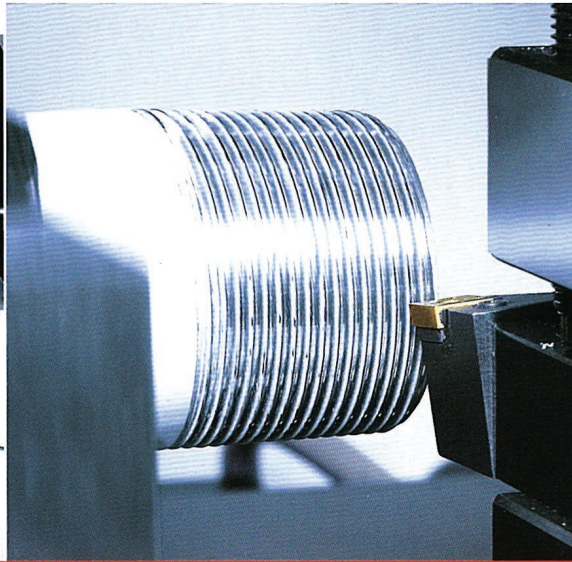
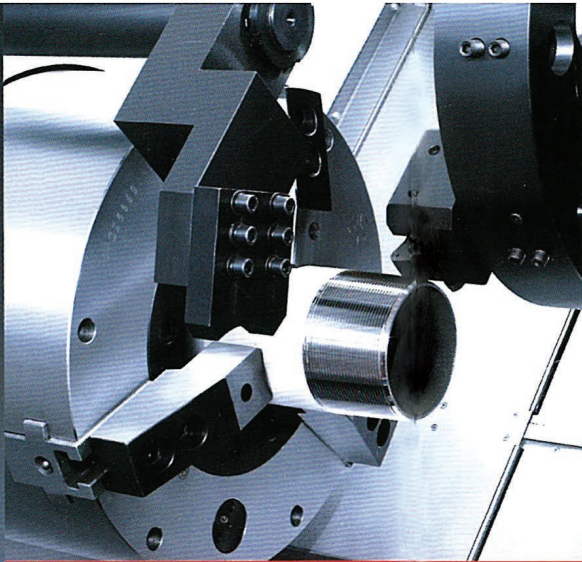
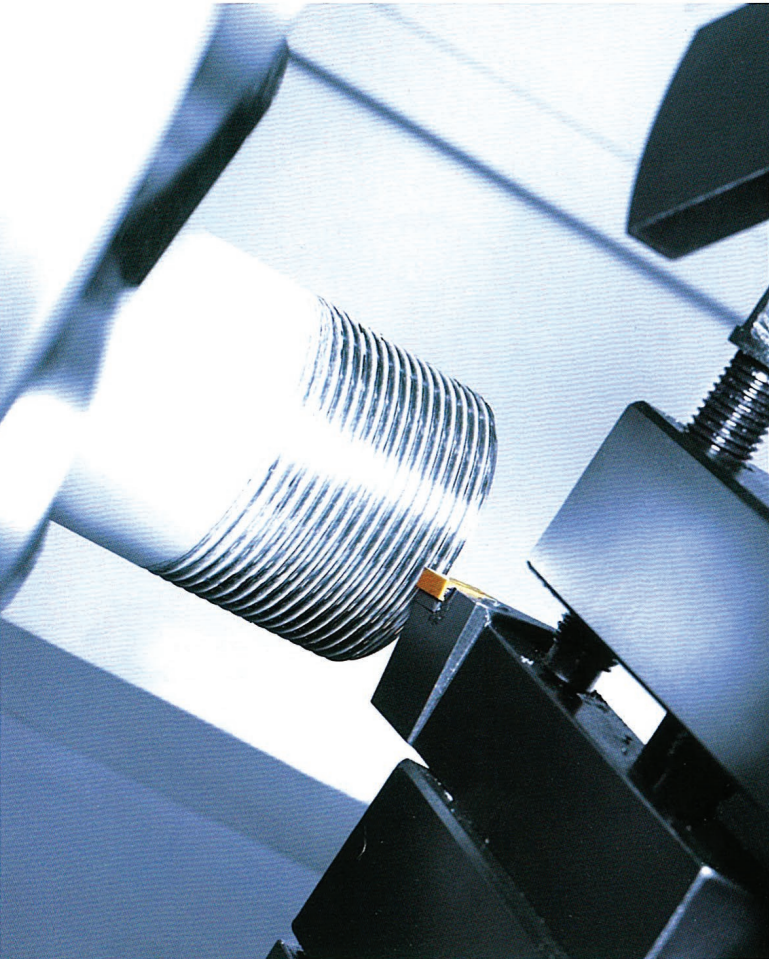


HTM

SERIES TURNING MILLING CENTER

The HTM product series are the turning and milling center absorbing foreign advanced technology and self-developed and designed providing five-axle linkage function. It is a highly-flexible lathe combining functions, such as turning, milling, drilling, boring, tapping into one entity. As to some complex-shaped irregular revolving parts requiring high accuracy in industries, such as space, aeronautics, shipbuilding, etc., without removing the part from fixture, it can finish machining the whole or large parts of procedures. In this way, not only accuracy is guaranteed, but also efficiency improvement and cost reduction are realized.





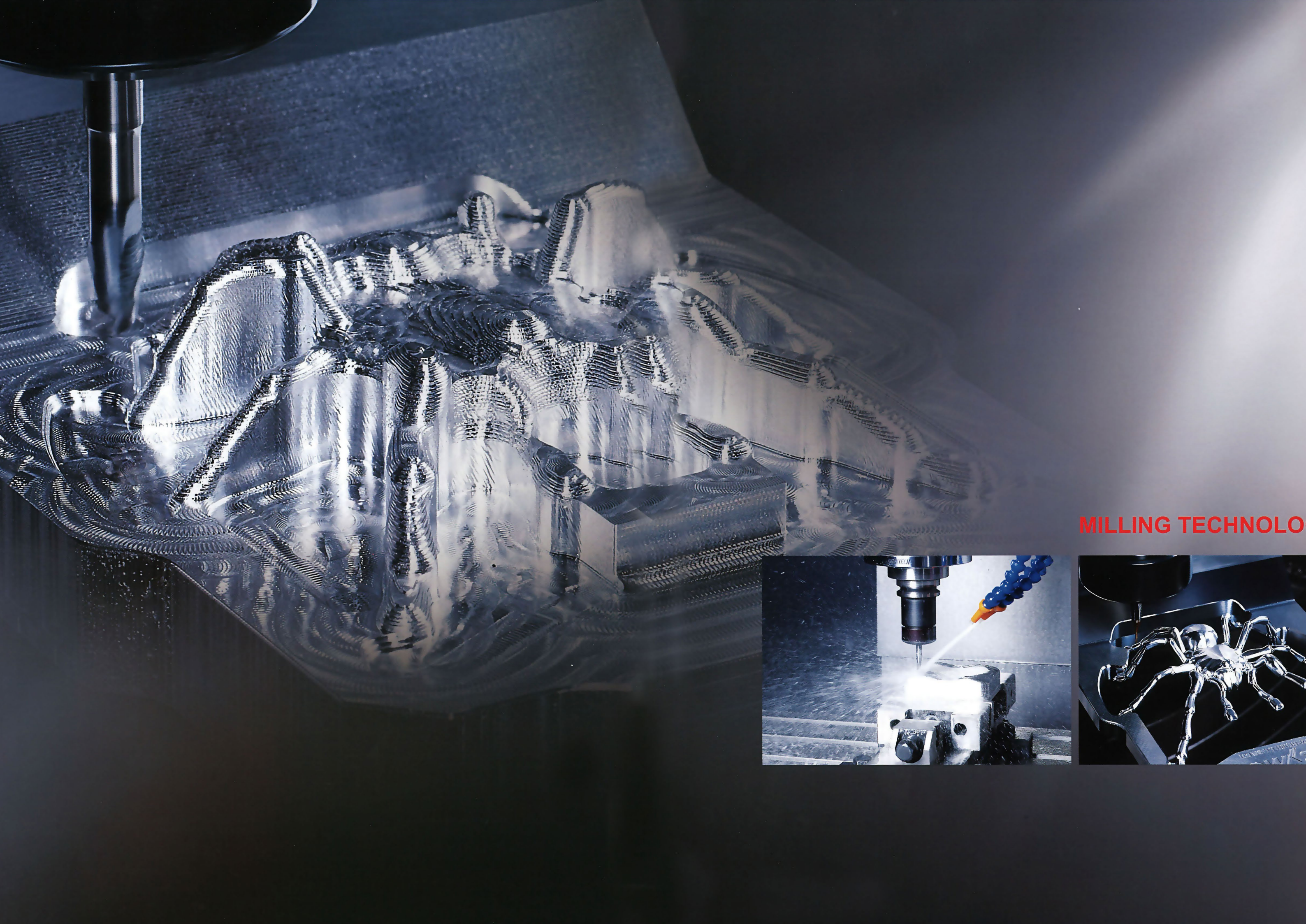
STC/SUC

CNC pipe thread lathe 2.5 times more rigid

Automatic loading and unloading, continuous
processing and multifunctional

Pipe processing series CNC lathe is the special series CNC lathe developed by our company through integrating pipe processing machine tool production experience for many years and absorbing advanced technology of similar foreign products, which is specifically used for oil drilling and metallurgical industry to process all kinds of pipes and pipe threads. The lathe is characterized by large aperture, high efficiency, strong rigidity and the like. Machining precision is up to IT7, and the surface roughness is up to Ra1.6 μ m.





MILLING TECHNOLOGY

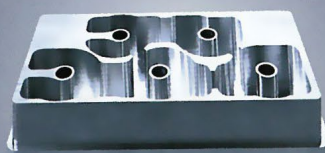
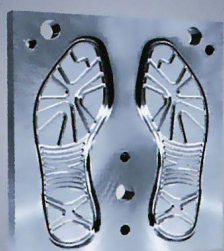


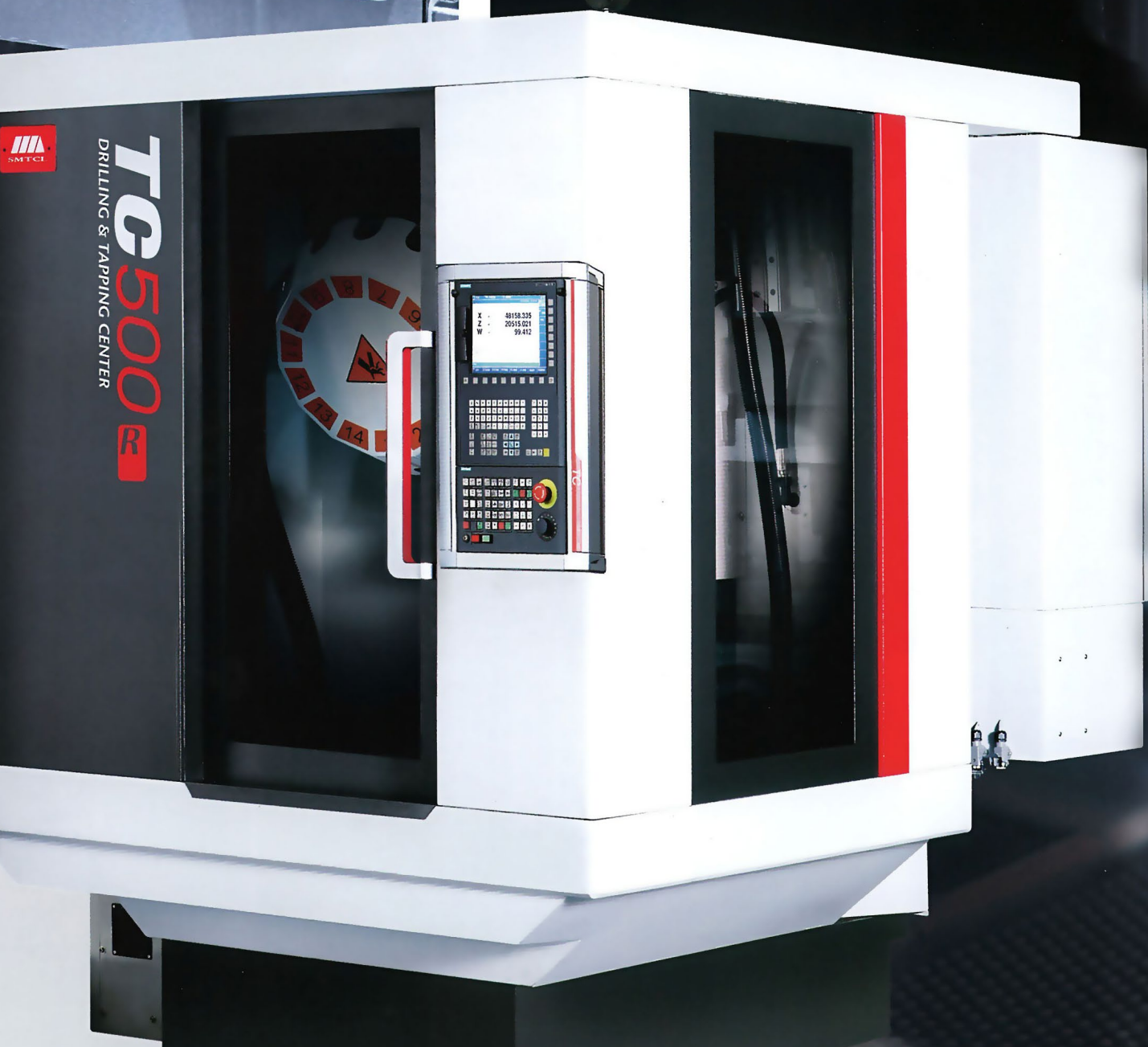
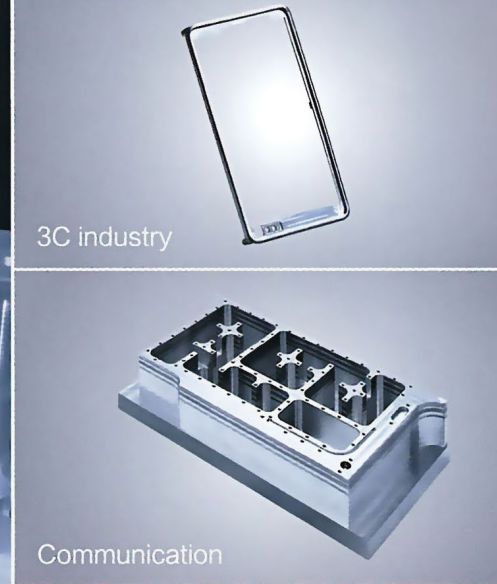
VMC

VMC vertical boring & milling machining center serving customers from all kinds of industries

Superior performance, extensive
application industries

This series machining center was developed for requirements from different industries such as vehicle and mould, etc. With various structure styles and several varieties, it can be equipped with swing rotary table controlled by the fourth or fifth axis, its wide range of machining and covering can meet machining requirements of different materials from various industries, and can implement machining of milling, boring, drilling, reaming, tapping, and countersink, etc. for workpieces.





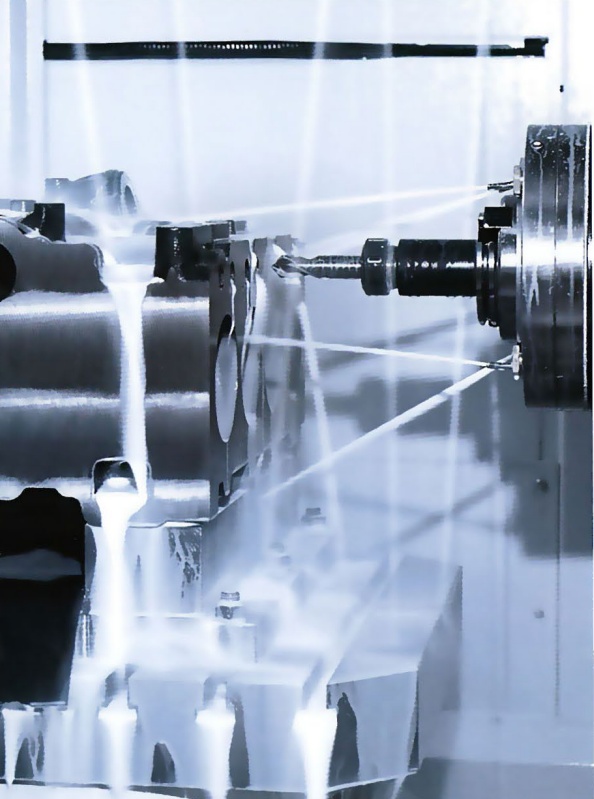
TC

TC efficient shortcut vertical drilling & tapping center

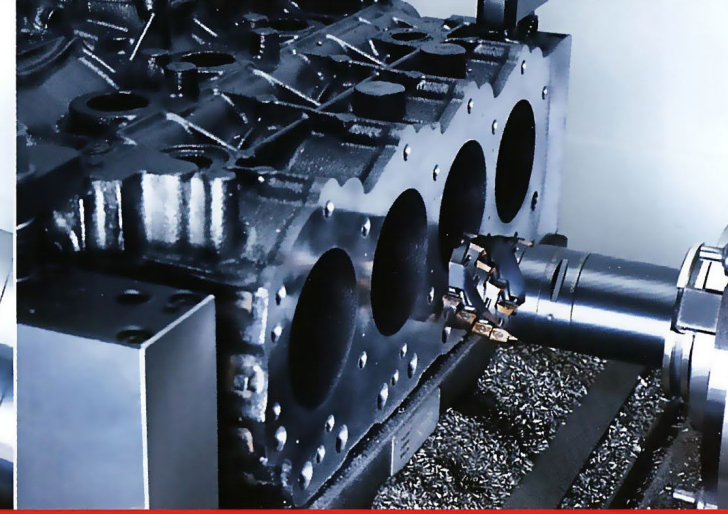
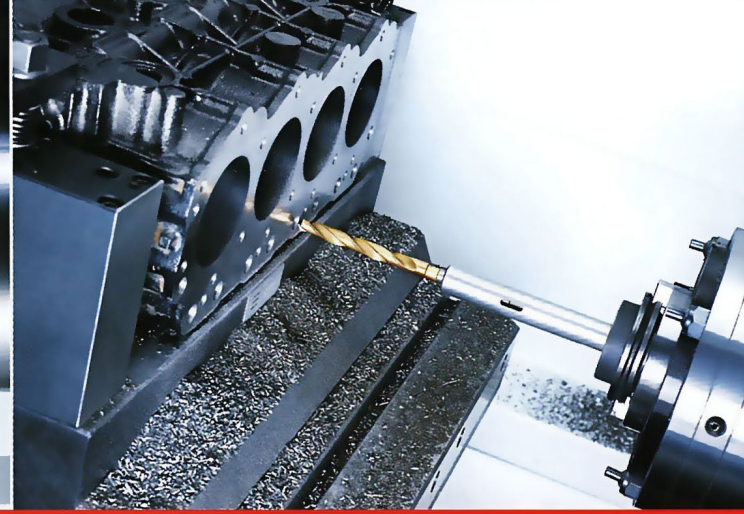
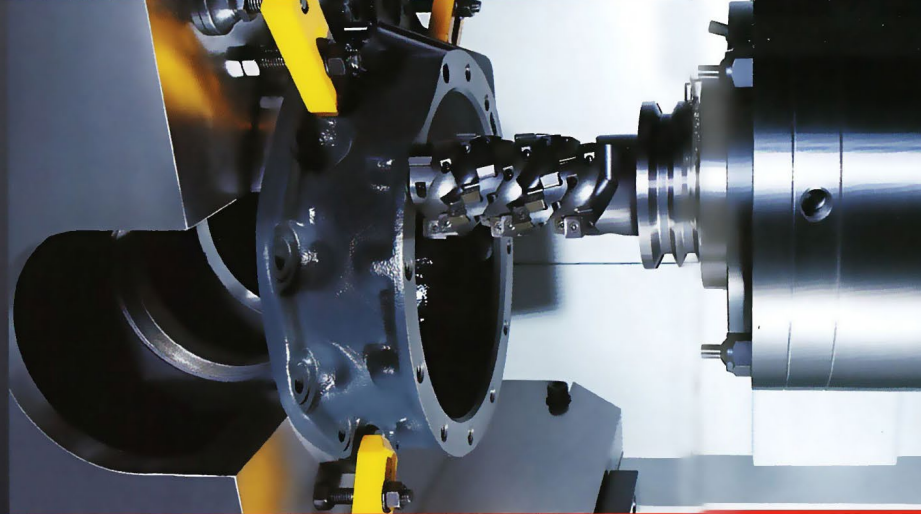
max. rapid traverse: 48m/min

max. revolving speed: 20000rpm

TC series vertical drilling & tapping machining center is well designed product with high quality, high precision and high performance. Mechanical turret tool changer and servo motor drive changer are adopted, tool-changing speed is 1.5s only, mainly applied to consumer electronics and communications industries.



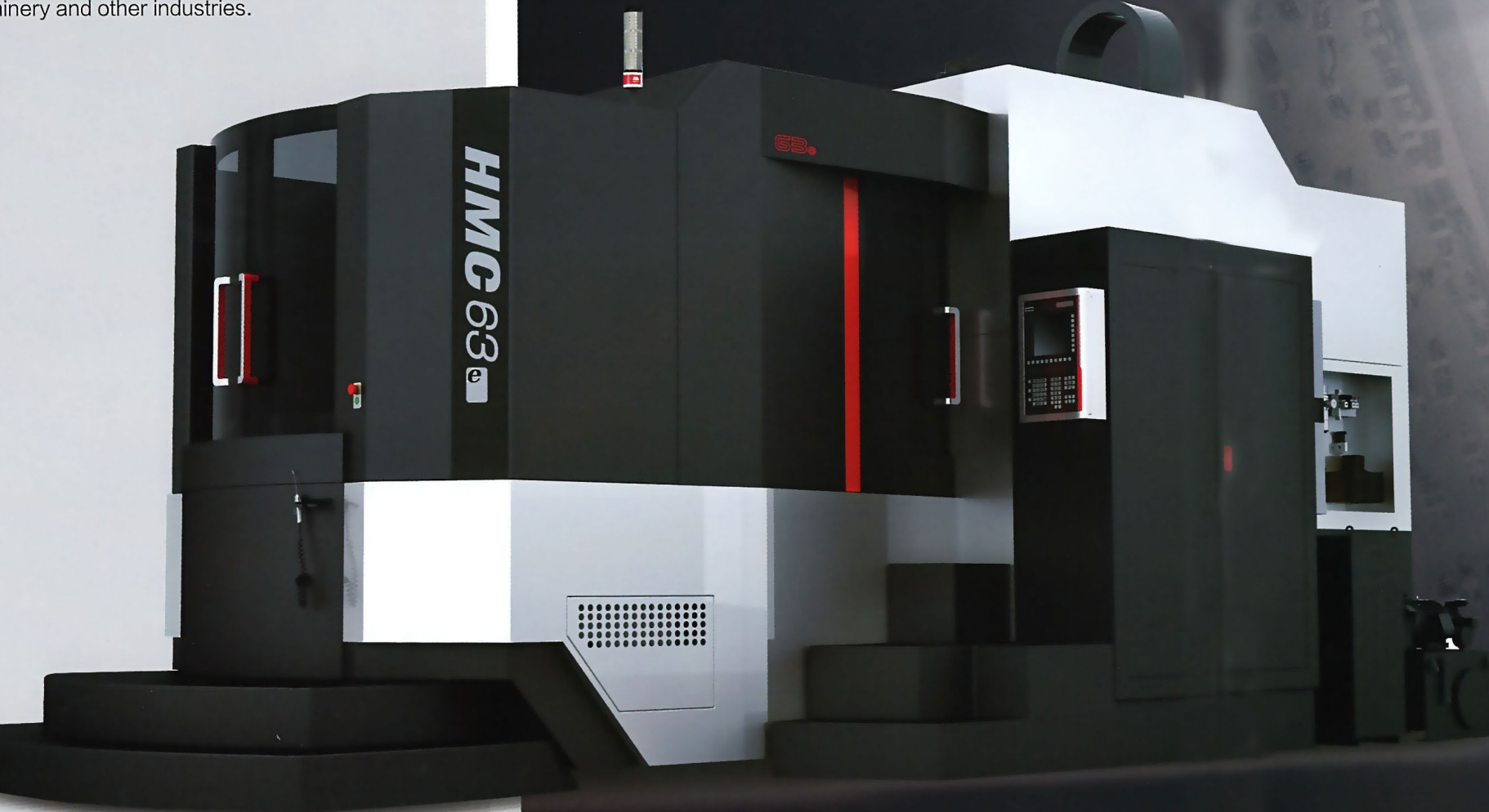
This series horizontal machining center adopts dual tool magazine, and is most suitable for multiple-operation processing such as milling, drilling, boring, reaming, turning, two-dimensional, three-dimensional curved surface processing on multiple working faces of parts. The machine has excellent performance of finishing box holes, and plane processing in the primary processing. When processing, the product is especially suitable for U-turn processing of box holes and is widely used in automotive, mechanical combustion engines, appliances, general machinery and other industries.

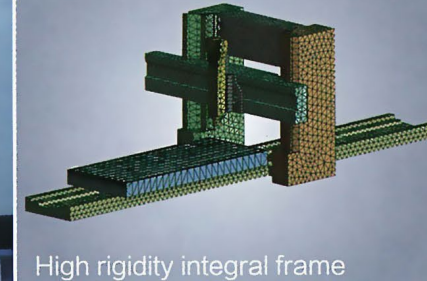


HMC

Horizontal Machining Center

Ladder rail, high - speed high-torque spindle and excellent chip removal system

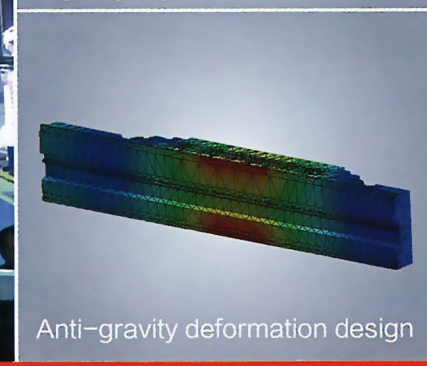




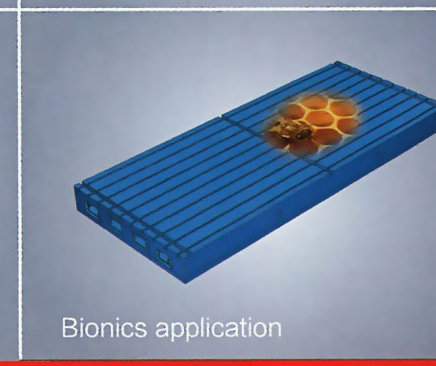
High rigidity integral frame



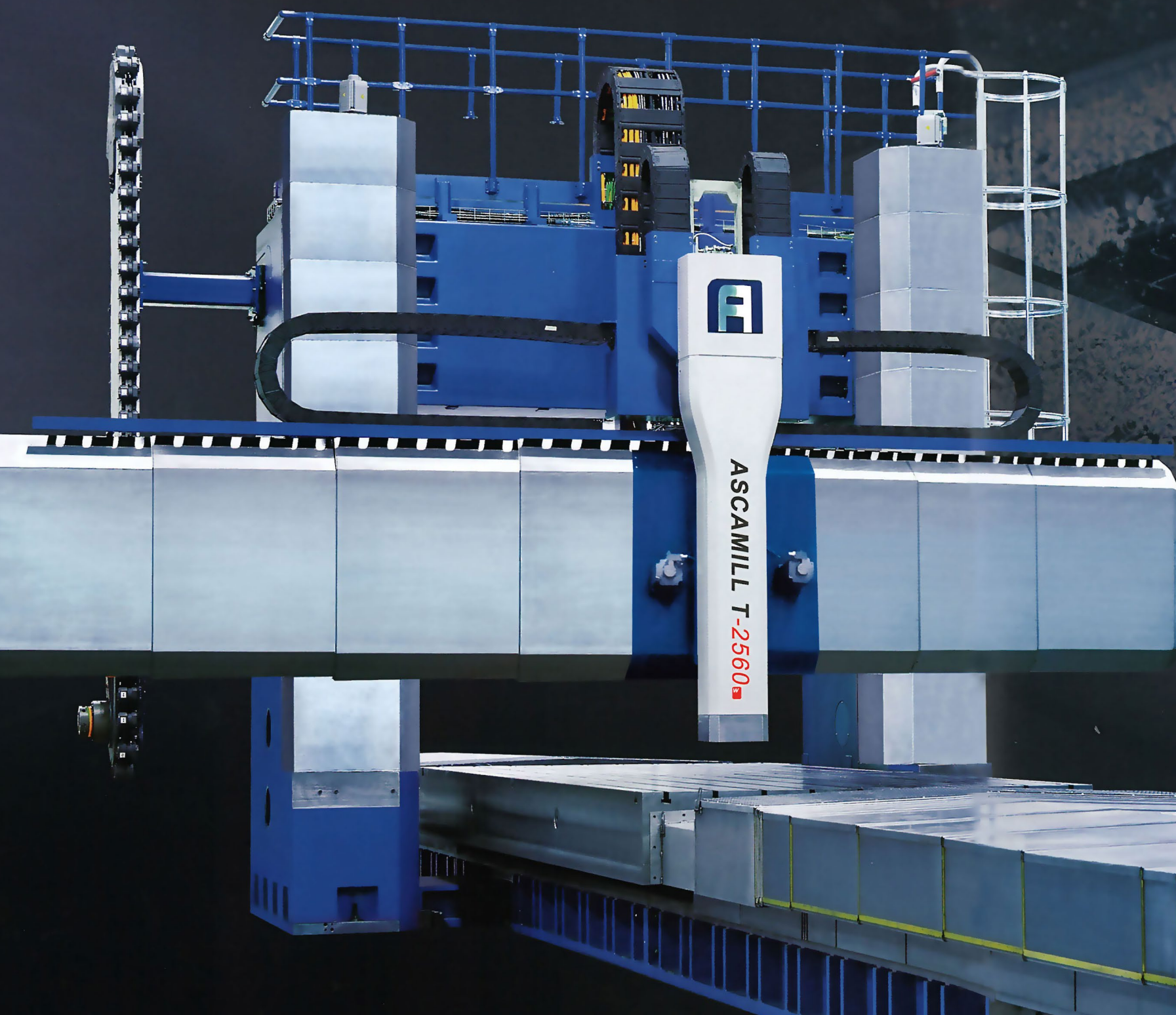
Excellent heat stability



Anti-gravity deformation design



Bionics application



ASCA MILL T-2560W

efficient and precision gantry
machining center with moving beam

developed by China and German jointly,
forged as per German standard
solutions catering to vehicle field and mould
and engine body of energy field



VMC22120u

High speed five-axis machining center with
AB double pendulum axis

International level, high precision and high efficiency



The series of machining center is manufactured and prepared through adopting world advanced technology currently, which can achieve five-axis machining and is mainly used in aerospace, energy, shipbuilding, die and other industries. The machine tool is not only provided with X, Y and Z linear feed axis, but is also equipped with A and B pendulum axis, the procedure machining of space curved surfaces on special-shaped workpieces with complicated shapes through linkage of five coordinate axes, the product is especially suitable for machining titanium alloy, aluminum alloy and other materials in aviation industry with high-precision and high efficiency.



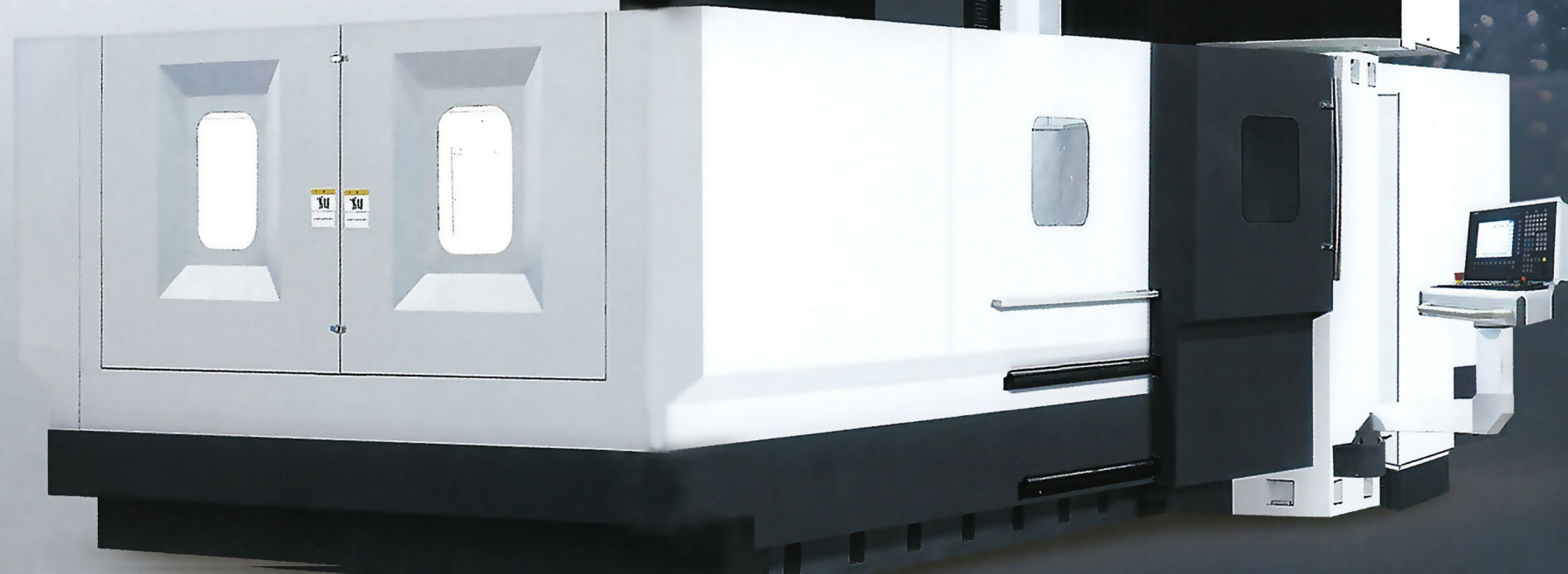
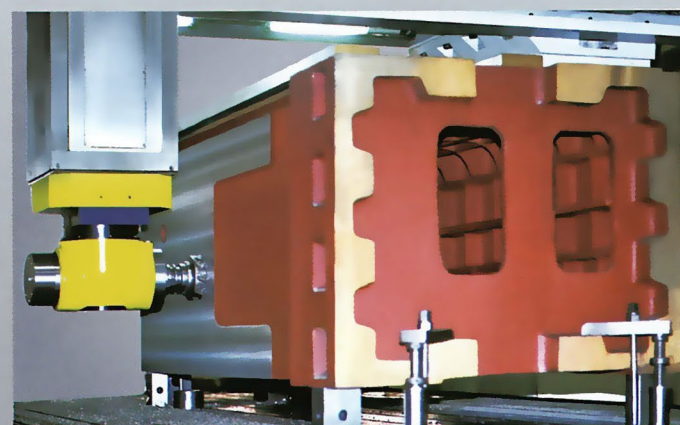


GMB

gantry machining center applicable for high-precision machining of mold industry

high rotating speed, high precision, large torque

Fixed beam gantry frame structure is adopted, lathe bed is fixed, worktable moves in X spindle direction on lathe bed, spindle box moves in Z direction along saddle, and saddle and spindle box move in Y direction along beam. Double hydraulic balance structure is used for components of spindle box to ensure movement stability of spindle box. Transmission structure is of two-shift automatic gear shifting system, which allows low speed high torque and high speed constant power, and meets requirements of rough machining and finish machining. It is applicable for various parts such as mould, plate, box, and cam with complicated structure from various industries.





GMC

gantry five face machining center with horizontal and vertical spindle

large torque, heavy duty cutting, large section ram, automatic head change

GMC series gantry five face machining center is popular in energy, traffic, metallurgy, heavy industry, etc. With good rigidity, full-range function, wide machining range, it is used widely. Lathe is double-column gantry frame, comprises of work table moving type or gantry moving type. Five face machining within once clamping of workpieces can be achieved through spindle head with vertical and horizontal spindle as well as automatic change of angle heads. Positioned by precision end tooth disc, rotary indexing and hydraulic clamp of spindle head and square ram can be realized. Various spindle heads can be changed automatically, thus can machine abnormality faces of all sorts of parts from different industries.

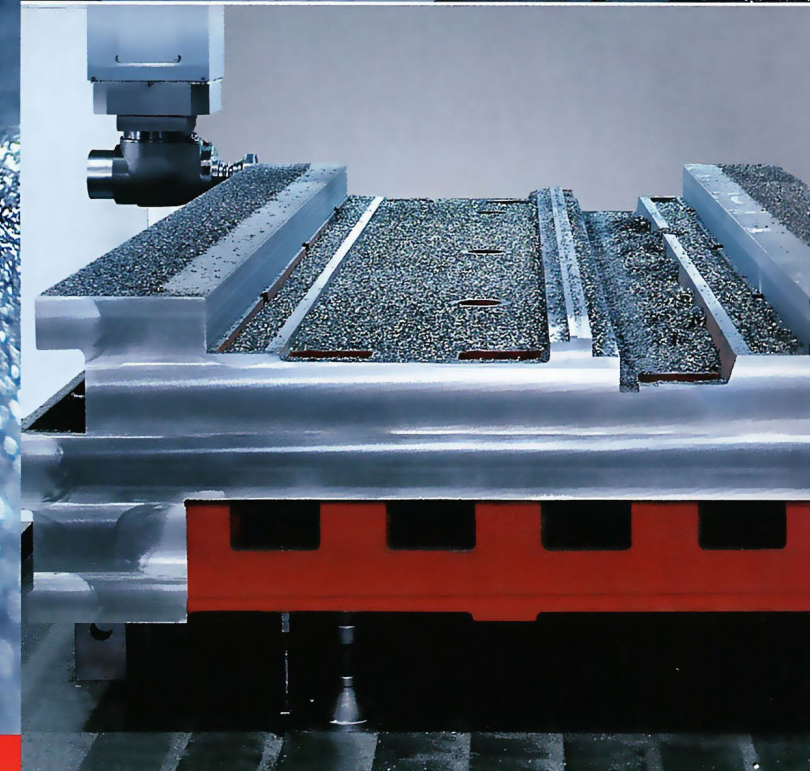
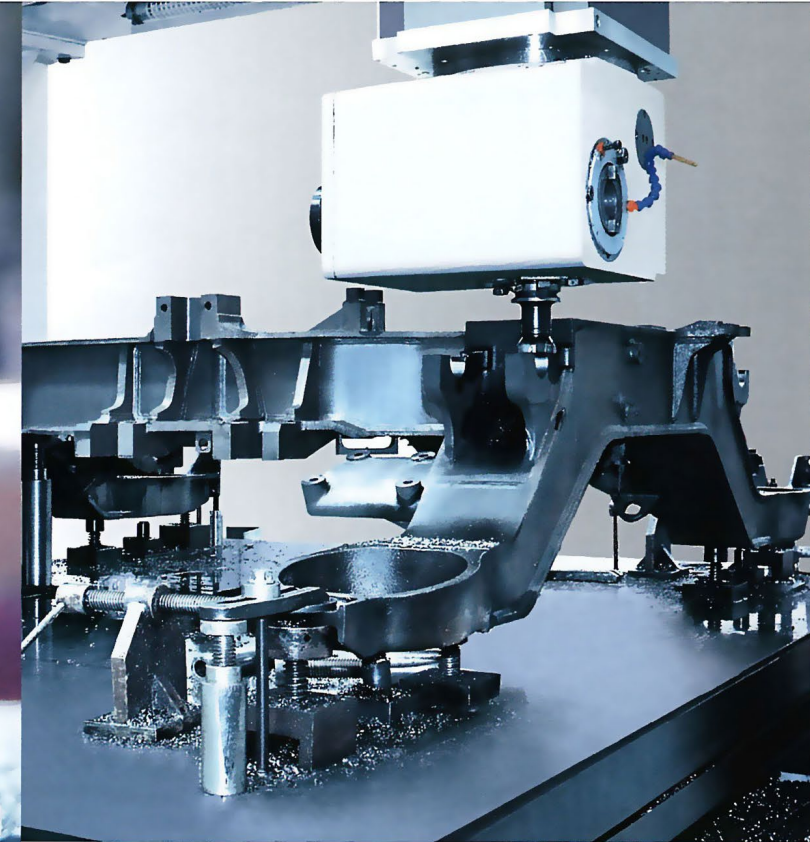
GMC 40mz

GMC 2560mz

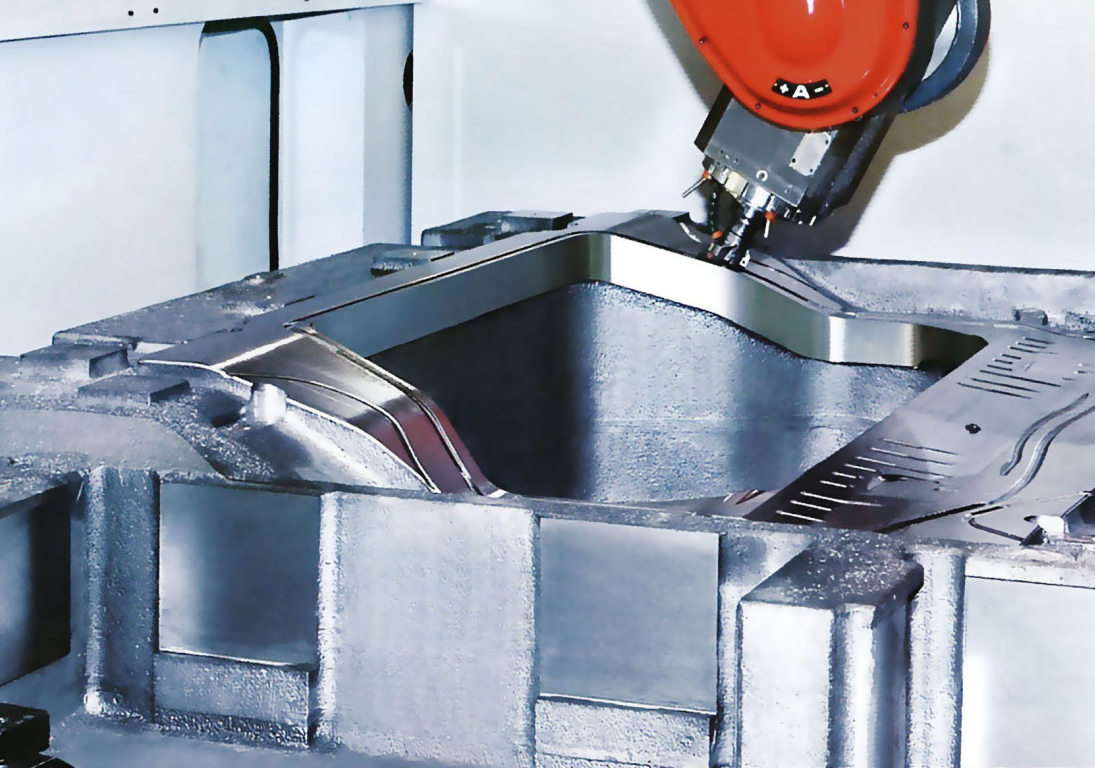
GMC-wmh

moving beam gantry boring & milling
machining center used for machining
heavy and complicated parts

gantry moving, moving beam, static pressure technic,
extra large size, five face machining



It is a heavy lathe mainly developed for large-size or extra large-size parts, widely used in rolling stock, national defense, power generation, ship, heavy type, metallurgy, and mine, etc. High efficient and precision five face machining within once clamping is accomplished through automatic change of various angle heads. Due to fixed gantry moving worktable, load capability is very large and becomes key equipment of machining for large parts of all kinds of industries.



GMCu

bridge type 5-spindle machining
center used for complicated surfaces
of large-size workpieces

electro spindle, Max. spindle rotational speed: 24000r/min

Overall layout of GMCu bridge type 5-spindle machining center is gantry frame structure, with fixed bridge and work table, excellent rigidity and large load weight. it has X, Y, and Z linear spindles, A and C rotation spindles, through which it controls machining of bore and complicated surface in any direction, and flexible variant of products can be done as per marker demand, thus meets the requirements of wide range and strong ability of machining, it is widely used for machining of parts such as mould, engine base, housing, and large and small box, etc.



FIDIA

high-speed milling center

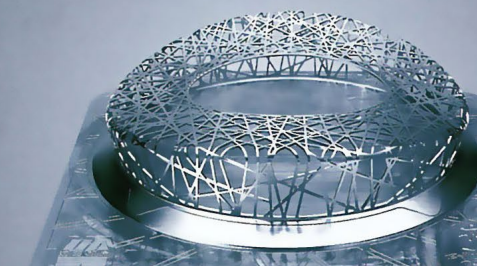
high-precision high-speed high-efficiency

HS664
HIGH-SPEED MILLING CENTER

HS664

SHENYANG
FIDIA

With affordable price and full functions, HS664 high-speed milling center is unique for machining of materials such as aluminum alloy, quenched steel, superhard alloy, and copper electrode, etc. and suitable for machining of workpieces with small and medium size, rich options allow its high-speed and precision features required by complex surface machining, and thus it is used widely. Its powerful functions can realize all kinds of mould machining and small batch production. 3 spindle, 4 spindle, and 5 spindle can be equipped to HS664 high-speed milling center optionally as per requirements of customer.





BORING TECHNOLOGY

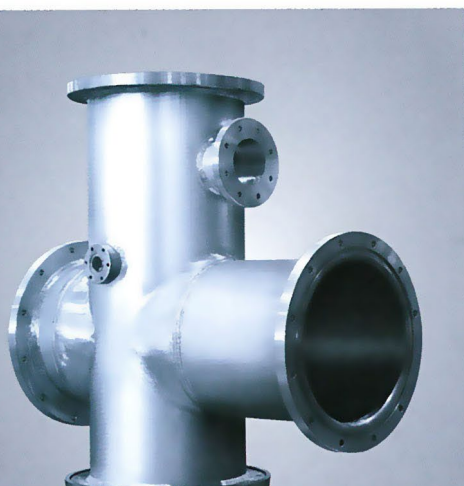
The image features a large industrial machine, the AH130 automatic horizontal boring milling machine, in a yellow and grey color scheme. It is shown in a studio setting with a white background. The machine has a large, circular, rotating worktable and a complex headstock with various tooling. A control panel with a digital display and buttons is visible on the right side. The machine is labeled 'AH130' and 'AUTOMATIC HORIZONTAL BORING'. In the background, there are close-up shots of the machine's internal components, including a large, polished metal flange and a red, cylindrical component with 'WCP 18' and 'DIN 2501' markings. The overall image conveys a sense of precision and industrial capability.

AH

Environmentally friendly automatic horizontal boring milling machine with convenient operation and comprehensive functions

High degree of automation, safety and reliability

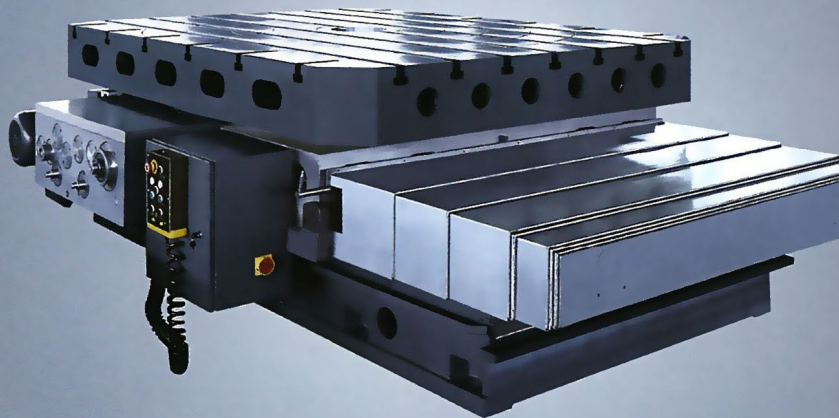
- horizontal boring milling machine completely changes the operating habits of the ordinary boring machine, has high processing efficiency, and can be widely used for machining in various industries.
- Drilling cycle, peck drilling cycle, floating tapping cycle and automatic end milling cycle can be realized through pressing one key with high efficiency.
- The machine has simple operation and low labor costs, and can be operated through simple training. Point-to-point automatic positioning accuracy is up to $\pm 0.02\text{mm}$;
- Improved safety protection device is in line with internationally agreed standards;
- The clever design of oil return grooves can realize recycling of lubricating oil;
- The integration of spindle box and machine body hydraulic system consumes less fuel;
- The transmission chain is shortened to reduce idle power with less power loss.



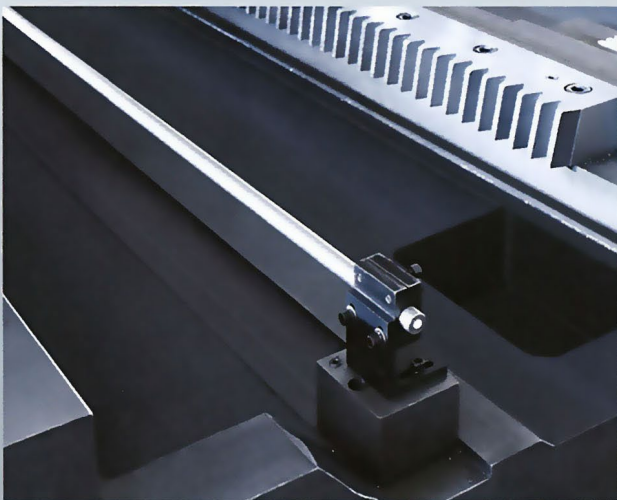
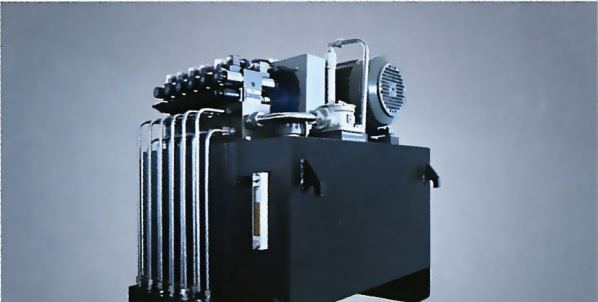
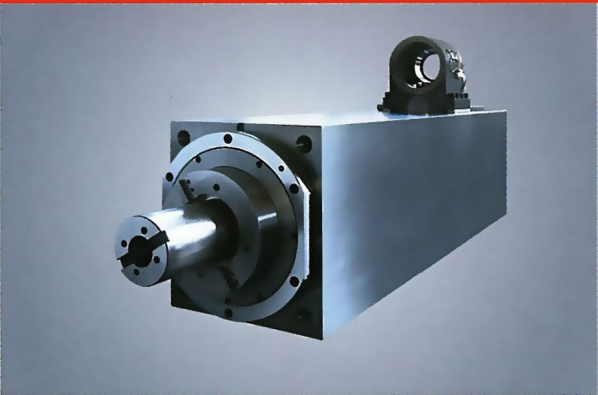
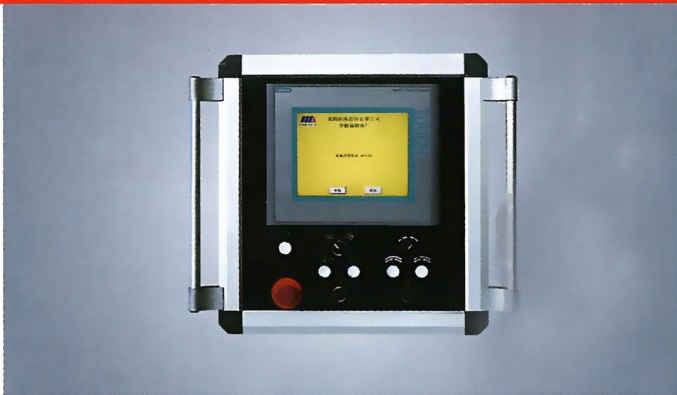
AF

New generation floor type boring mill with convenient operation and at affordable price

Intelligent full operator and multi-sided machining



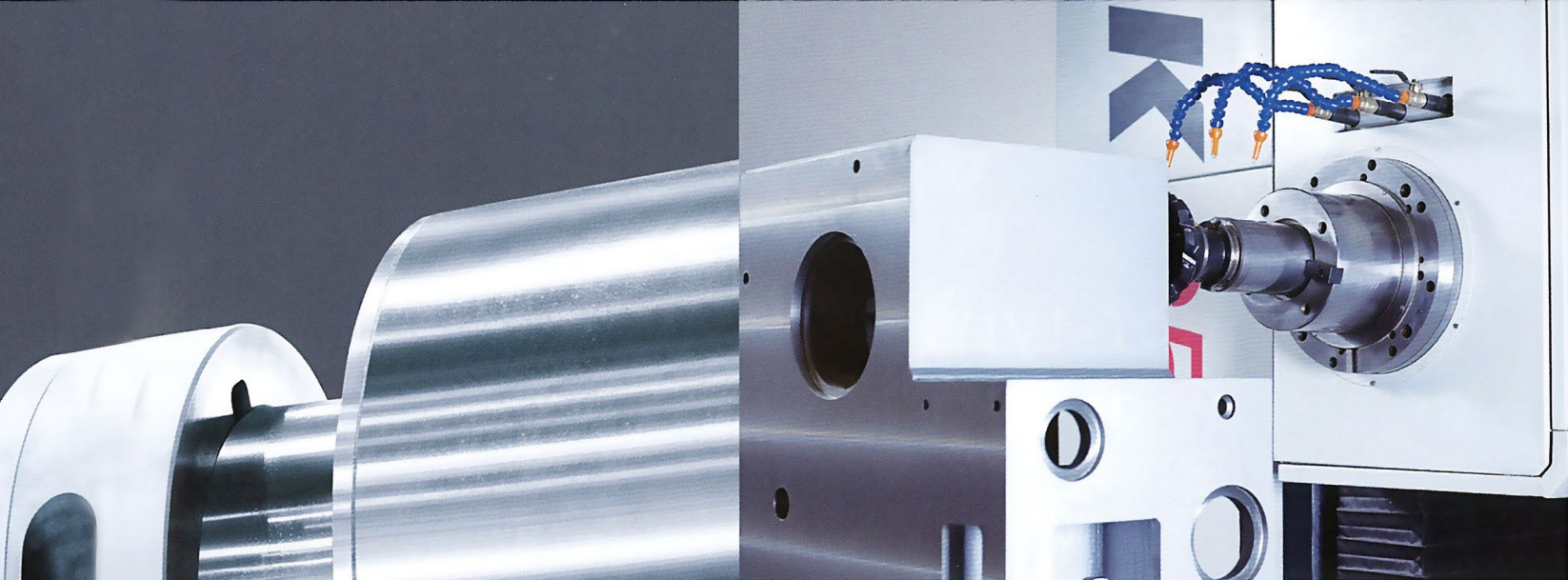
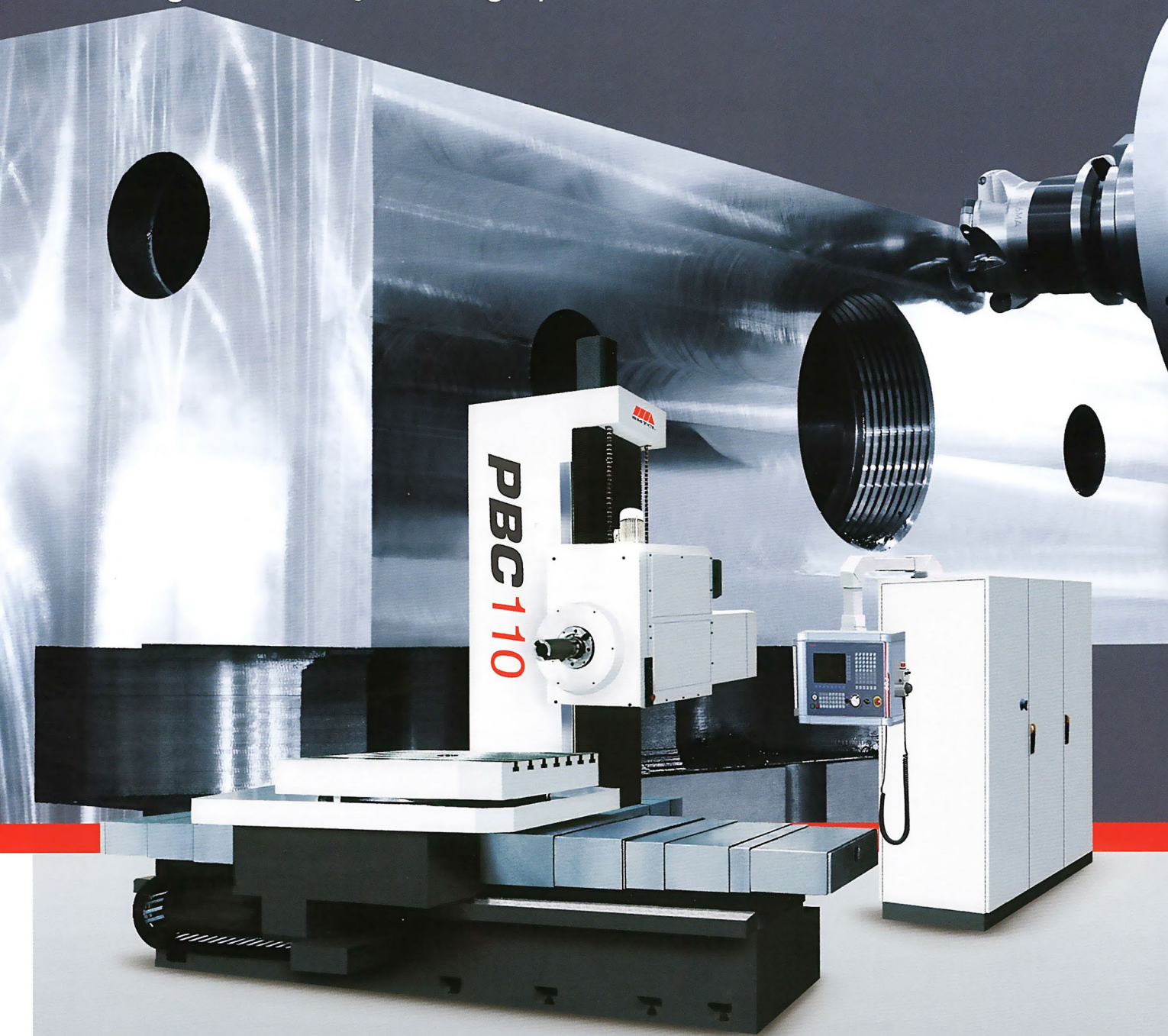
- AF series automatic floor boring milling machine mainly comprises of two specifications of AF series and AF- r series, and the main difference is that the AF- r series is provided with square ram which is automatically retractable and is used for increasing spindle travel.
- AF series automatic floor boring milling machine adopts frequency conversion motor to realize infinite variable speed of spindle, adopts servo motor to realize feeding and rapid movement of various feed shafts, and is equipped with control systems to realize automatic operation of machine tool.
- Series products with X-axis travel and Y-axis travel can be configured to meet the processing needs of components with different sizes. Specialized digital display rotary table, automatic heavy - duty rotary table, right angle milling head, universal milling head and removable flat rotating disk are additionally arranged to realize demands for primary clamping and multi-sided machining of large parts.
- This series of machine tool can be widely used in defense industry, aerospace, shipbuilding, metallurgy, railway rolling stock, automobile manufacturing, construction machinery, wind power generation, mining machinery, textile, printing, light industry, machine tool manufacturing and other industries, and belongs to equipment with high performance and price ratio for processing box type parts especially regular hole parts.



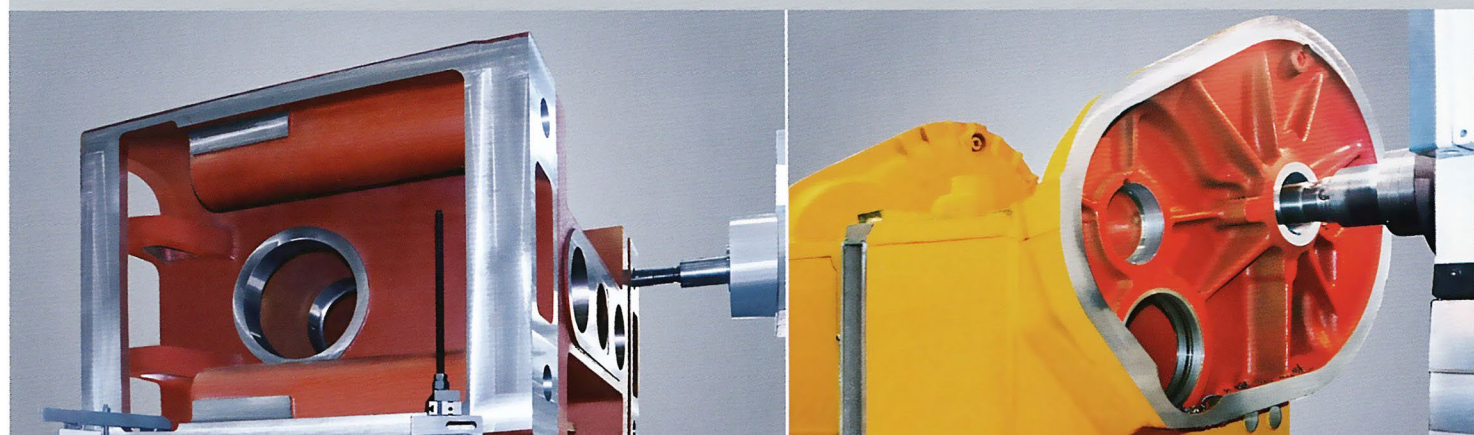
PBC

High cost effective CNC horizontal milling & boring machine series

High efficiency and high precision



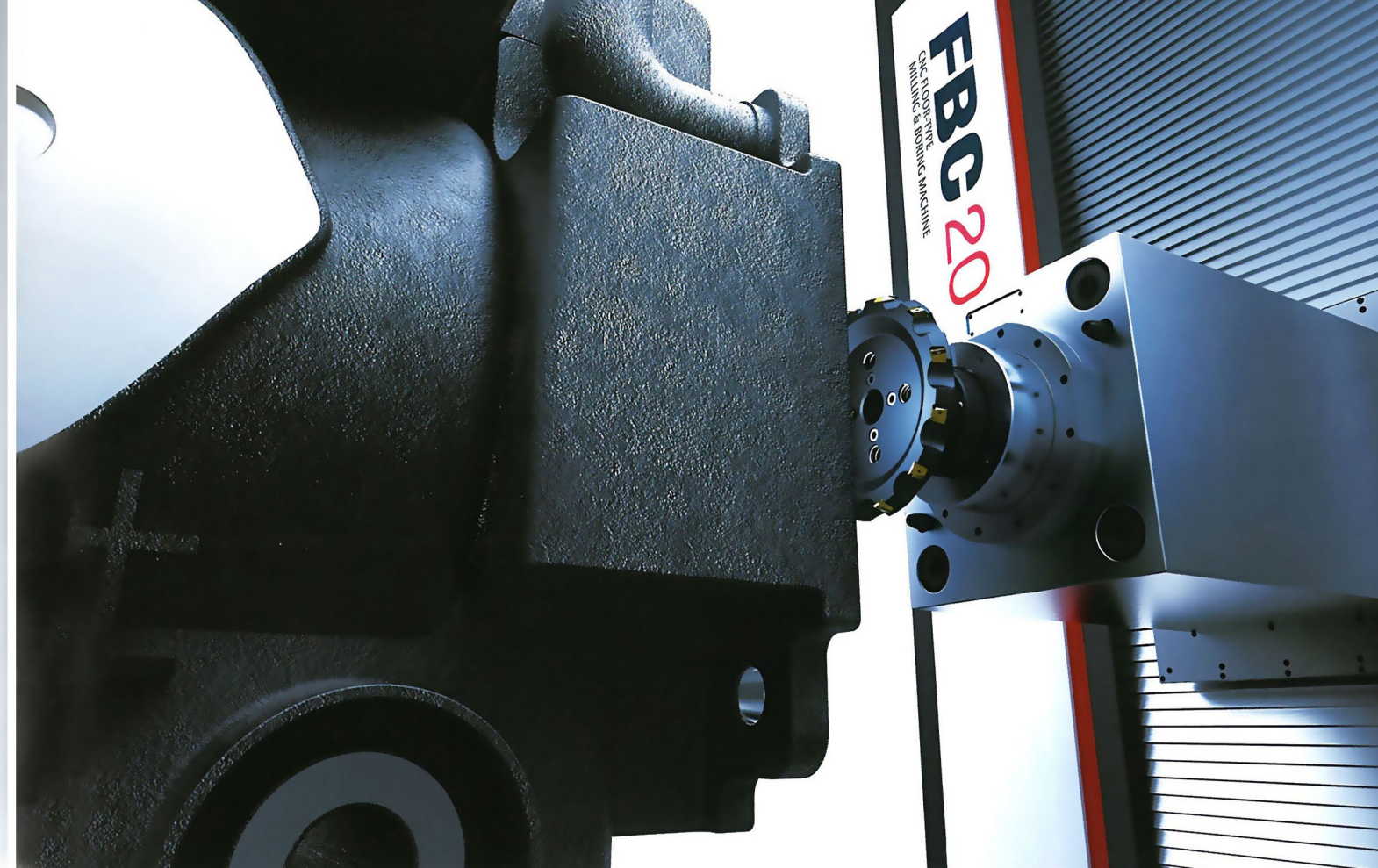
This series product is designed as T shape layout of vertical and horizontal lathe bed, is featured by good rigidity, stable performance, and high precision, etc. With functions as automatic tool change, turntable automatic indexing, automatic rotation, and automatic positioning coordinate dimension, etc., it is able to enhance machining efficiency. It is mainly used for boring and milling, can be used for drilling, reaming, countersink, turning surface, and turning excircle procedures as well, especially suitable for machining box parts with multiple holes and high efficient demand of pitch. Accessories such as CNC facing head, CNC vertical turntable, right angle milling head, and universal milling head can be equipped as per customer demands thus to expand process range of lathe.



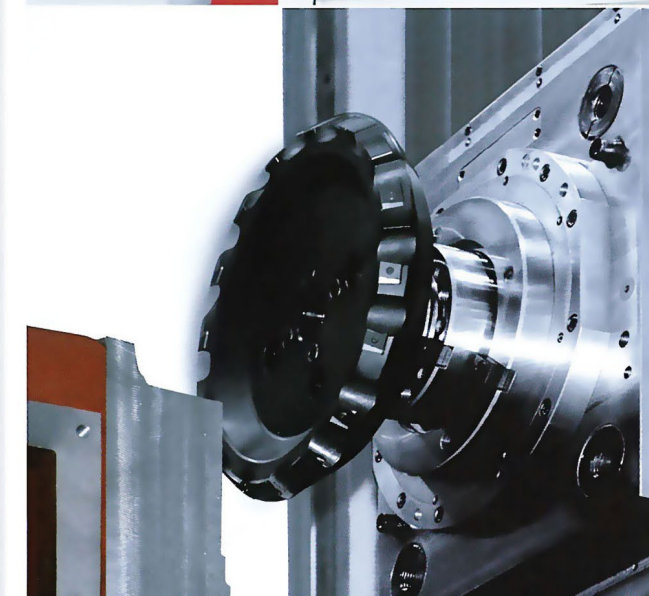
FBC

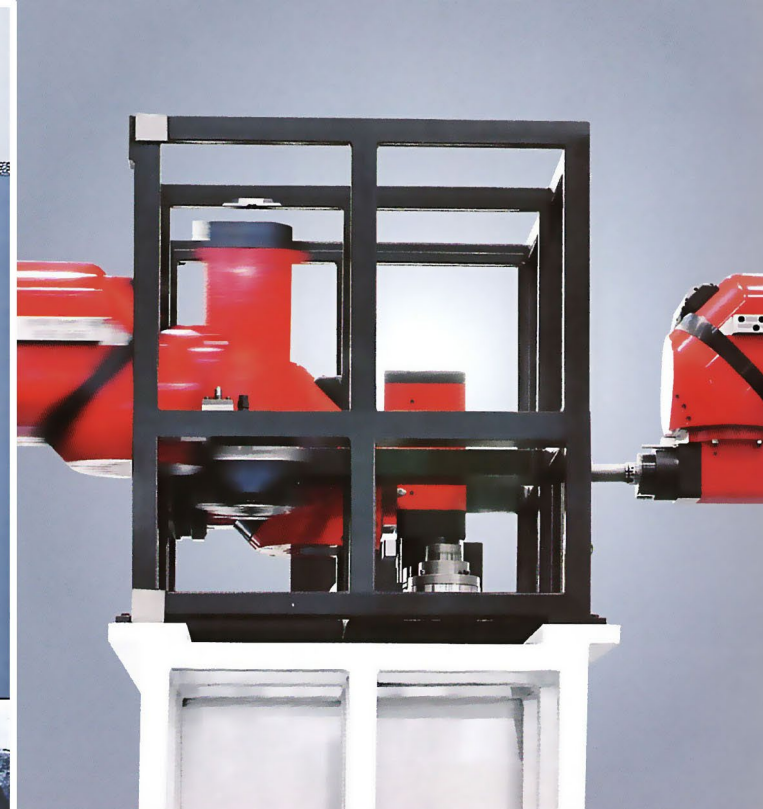
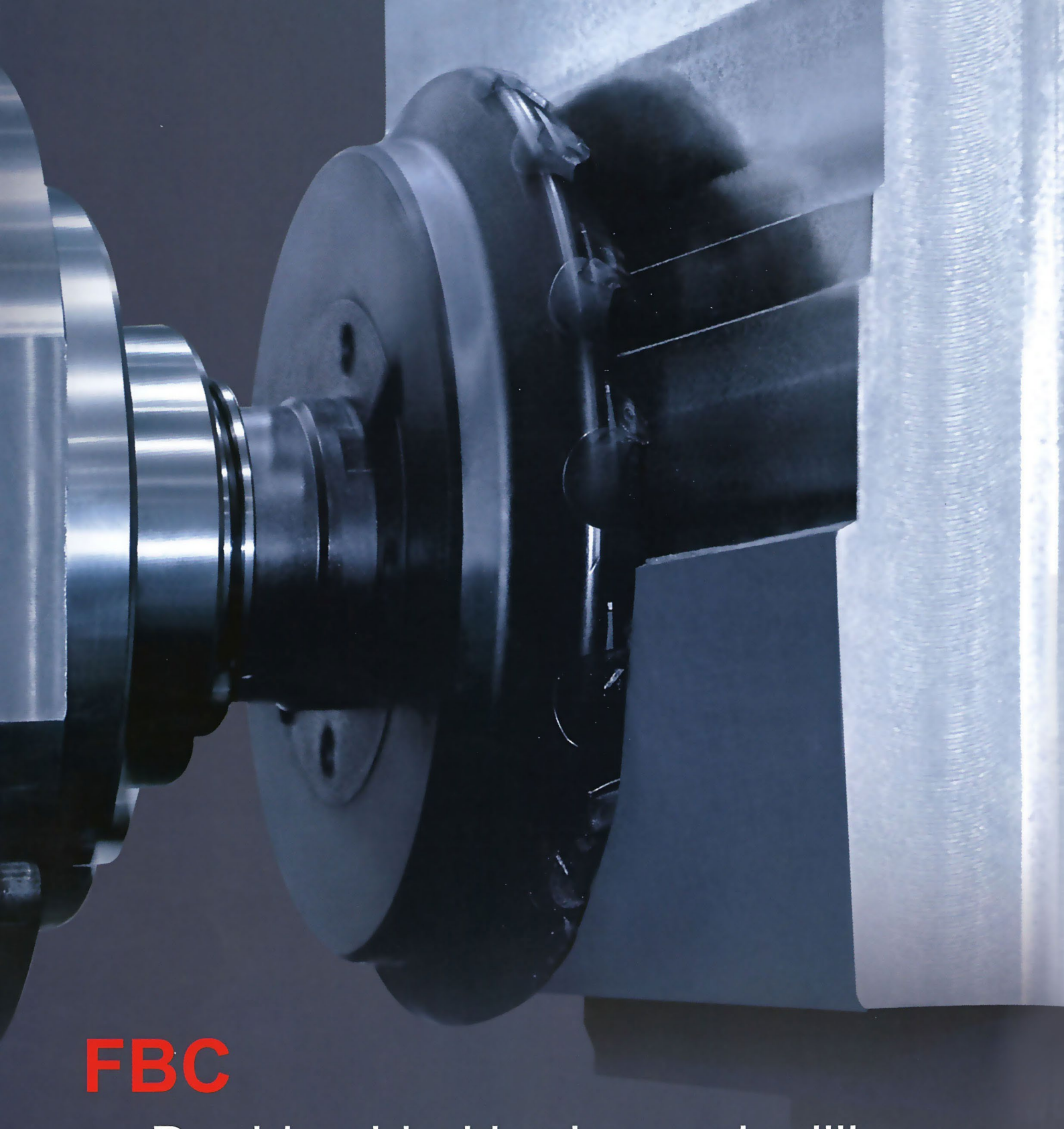
CNC floor-type milling & boring machine specialized for highly efficient machining of large-size workpieces

High precision, strong rigidity, large torque, good reliability



FBC series floor-type milling & boring machine is heavy floor-type product developed independently by our company for requirements such as energy resource, national defense, ship, metallurgy, and mine, etc. This product adopts many world advanced technologies such as closed-current static pressure guide technology, double drive technology, efficient spindle drive technology, double servo compensation for ram deflection, and ram thermal extension compensation technology, etc. This series is full-closed loop controlled with precision up to international standards. Spindle group was imported with original packaging from German and with high precision and strong rigidity. Specially offered accessories such as CNC turntable, facing head, right angle milling head, and universal milling head can be equipped to expand process range of lathe.



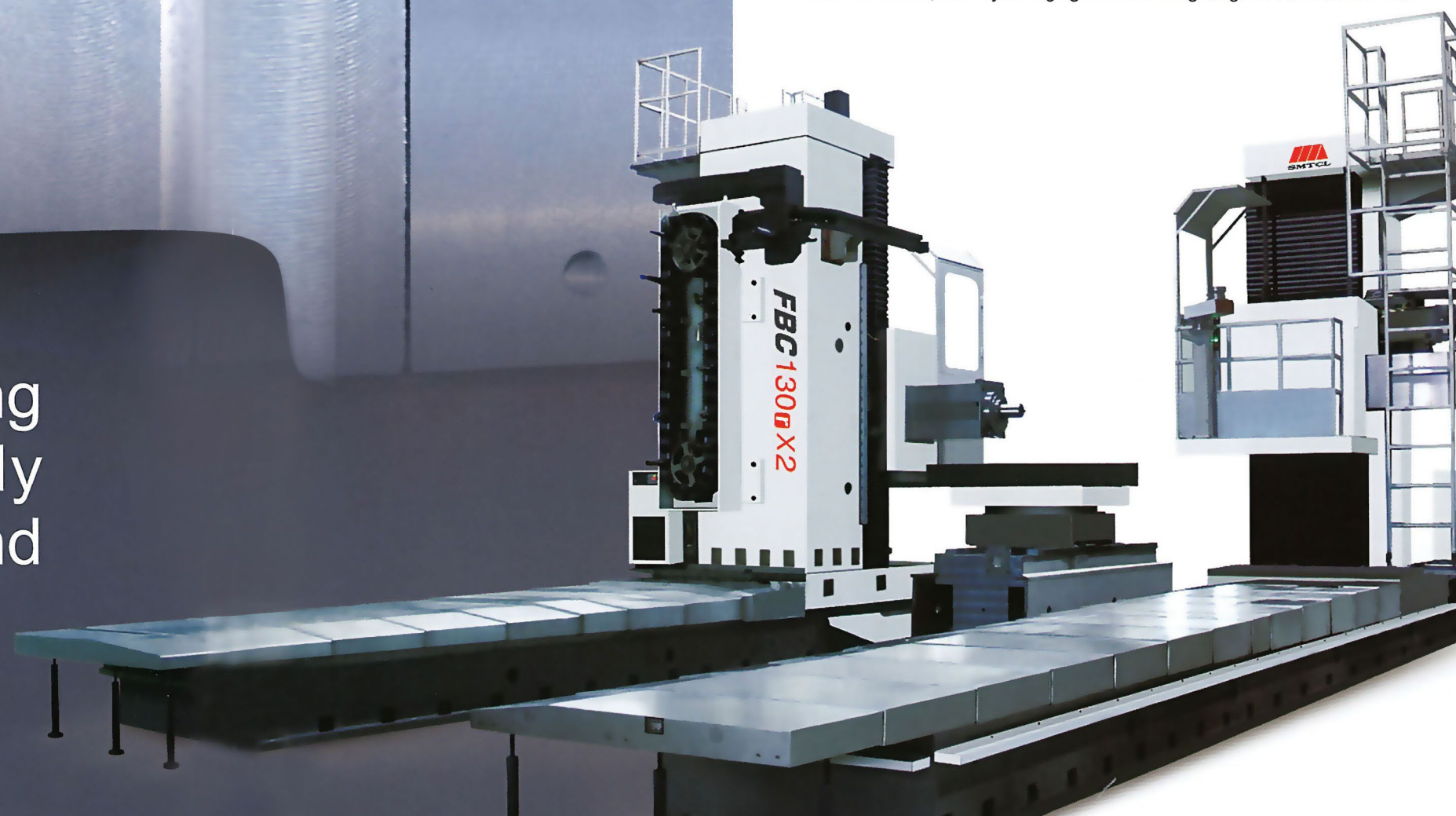


Opposite-head boring and milling machining center series is new product developed on the basis of CNC boring and milling machine with modular design of our company, various floor boring and milling machining centers with different travels of circular spindle, square ram and five-axis can be formed aiming at different spindle diameters through module combination. This structure not only can meet the requirements of various processing ranges, but also can flexibly change X and Y axis travels of the machine tool according to customer needs, thereby enlarging the machining range of the machine tool.

FBC

Double-sided boring and milling machining center specifically for construction machinery and other industries

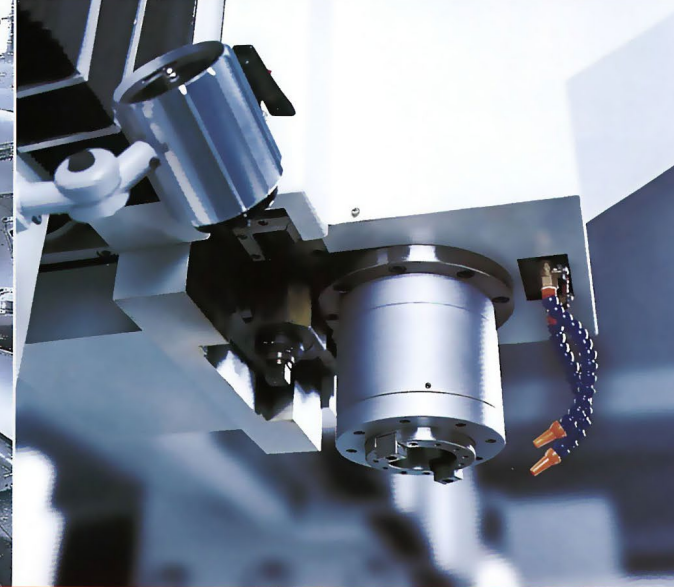
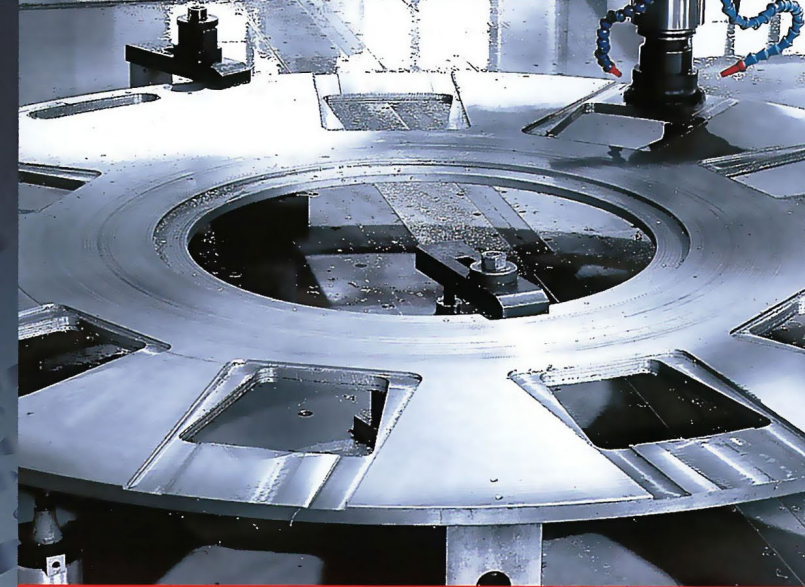
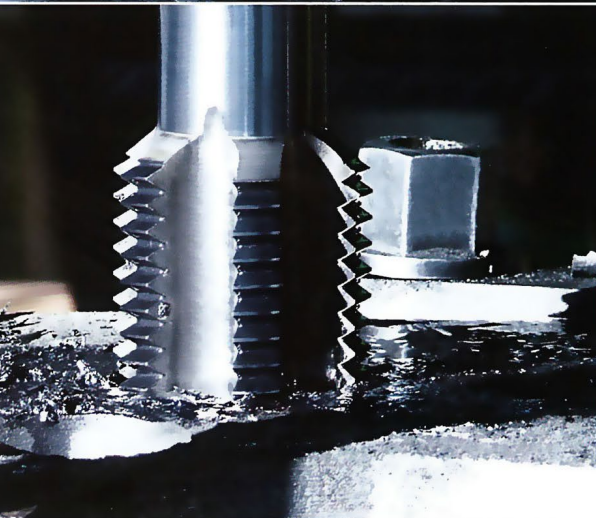
Composite boring and milling products with high efficiency, high-precision and low failure





DRILLING TECHNOLOGY



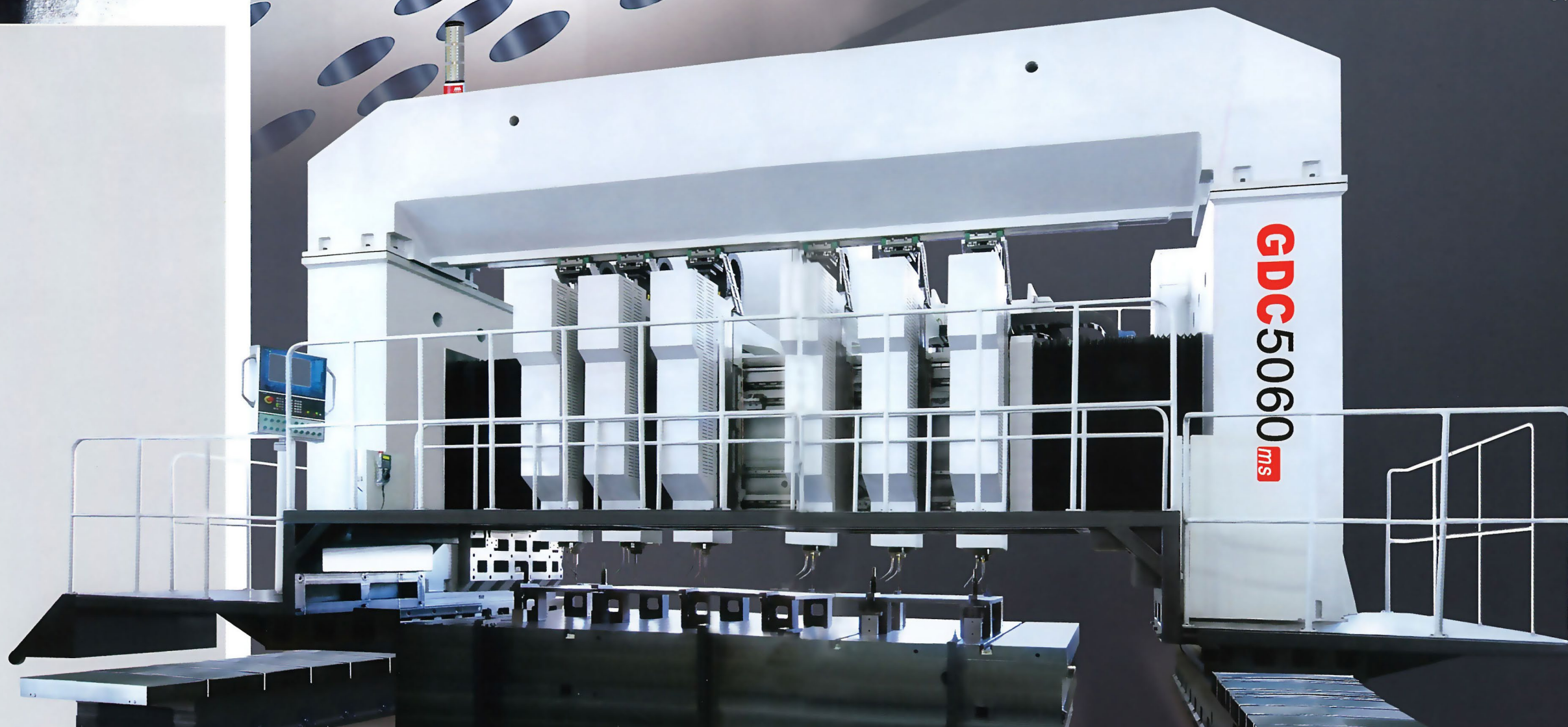


GDC

gantry CNC drilling machine with
extra torque

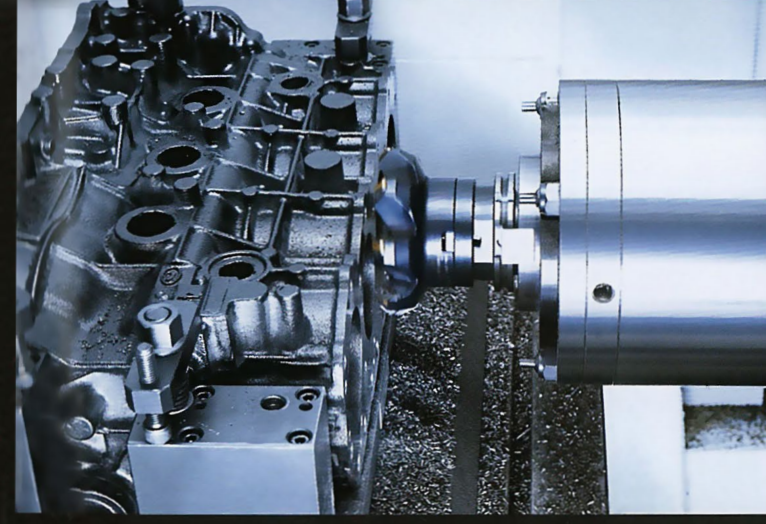
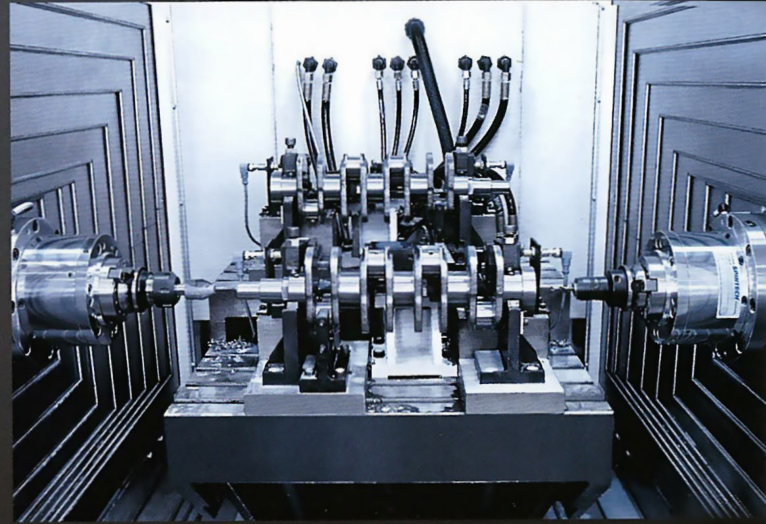
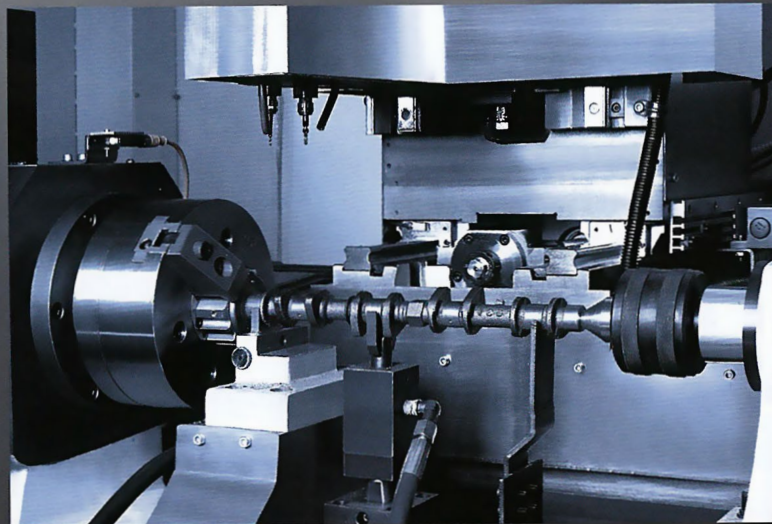
featured by multiple spindle and heavy duty cutting

GDC series machine adopts gantry frame layout, stand column and beam are steel plate combined fixed link, high precision ball screw drive is adopted for triaxial, and high precision linear guide rail kinematic pair is adopted for X and Y axles, thus ensures the Max. drilling performance.





Solution towards automobile industry





SHENYANG MACHINE TOOL CO., LTD.