

 **TOSHULIN**





"From our founding we have been proud of the high quality of Czech manufacturing. More than 70 percent of all machine components are made directly under our control in TOSHULIN. Thanks to our continuous innovation process and development, TOSHULIN moves the boundaries of machine tool manufacturing forward."

Dagmar Herring
Chairman of the board

TOSHULIN is one of the world's leading manufacturers of technologically advanced multifunctional CNC machining centers for large workpieces. TOSHULIN machines are capable of integrating a variety of metal cutting technologies. Our added value is our ability to provide solutions to complex manufacturing we provide to our customers.

Thanks to our own development and design teams, we are able to quickly and flexibly react to requests from a variety of industrial fields. We also cooperate with various Czech universities, leaders in our field.

We focus on each customer's individual needs. In cooperation with our customers, we seek and find innovative solutions to satisfy the most demanding requirements for automation of production processes, precision of work pieces, stability of parameters and longevity of our machines.

We are proud that we have had many of the world's industry leaders as customers for decades.

TOSHULIN IN NUMBERS

80

More than
80 years of experience.

73

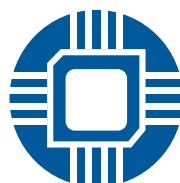
Installed machine base in
73 countries of the world.

100000

More than
100,000 machines
sold worldwide.



Development, manufacturing,
and assembly **all in one factory**
in the Czech Republic.



We have high quality equipment
and utilize **the most up-to-date**
technologies.

410

More than **410 people**
employed by Toshulin Group.

TOSHULIN HISTORY

TOSHULIN is a world leader and innovator in the vertical turning lathe market.

1949

Start of the construction of the factory; manufacturing starts a year later.

1974

The start of production of vertical turning lathes with automated tool exchange.

1996

TOS Hulin, s.p. is privatized and company TOSHULIN, a.s. is formed.

1959

The first numerically controlled machine produced in Czechoslovakia and one of the first in the world was built in Hulin.

1986

The first machine with pallet changer and C-axis control was produced.

2008

POWERTURN line of machines is introduced.

MAIN APPLICATIONS

Transportation

Railway wheels, ship and locomotive drive and transmission systems, cylinders for testing equipment.



Mining & Petrochemical

Special parts for fitting and pumps, parts for drilling systems.



Aviation & Aerospace

Components of jet engines, parts used in aerospace programs.



General industries

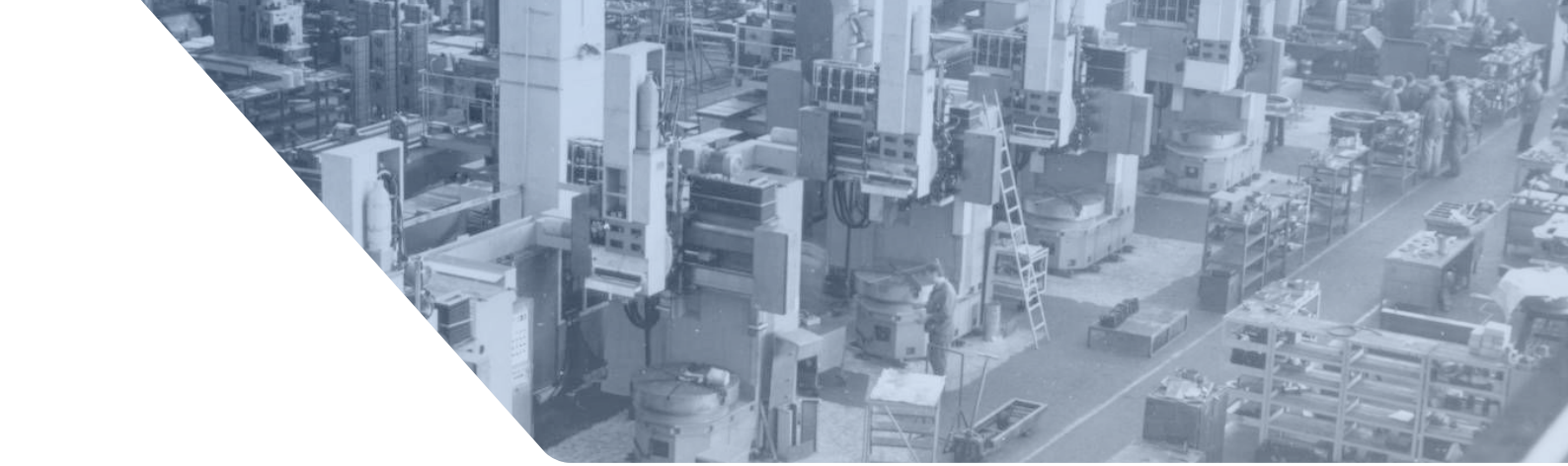
Parts for transmission systems, parts for diagnostic devices in healthcare, large scale bearings, parts for defense industry.



Energy industry

Parts for steam and gas turbines, parts for transmission systems, bodies of electric motors.





2016

Production of new line of EXPERTURN machine for efficient cutting of railway wheels.

2019

Fully automatic machining line project realized.

2023

Semi-autonomous production cell, robotic tool exchange.

2018

TOS Kurim – OS, a.s. is acquired by the TOSHULIN Group.

Introduction of TOSCADa application.

2022

First use of AI to design a machine tool component for manufacture.

Today

TOSHULIN and TOS Kurim officially merge as TOSHULIN.

OUR EXPERTISE & KNOW-HOW

- Application engineering centre – preparation of complete machining technology
- Proprietary research and development
- High product customization
- High automation
- Materials and products from the EU
- The smallest fully covered machining space
- Application of software for Industry 4.0
- The simplest concrete foundation for a vertical turning lathe in its category
- Long machine life

TOS KUŘIM HISTORY

Worldwide symbol of reliable and precise machine tools with long service life.

1942

Manufacturing and assembly of precise drilling machines in newly-built production halls began.

1991

ISO 9001 certificate obtained.

1962

The first numerically controlled machine was manufactured in TOS KUŘIM.

2007

Focus on heavy duty machining centres.

WIDE RANGE OF APPLICATIONS

Aerospace industry:

Landing gear, aircraft engine parts, fuselages, wing parts, titanium machining, parts for shuttles.

Ship-building industry:

Diesel engines, propeller blades, crankshaft parts, complex ship parts.

Railway industry:

Locomotive bogies, „truck frames“, bogie parts, engine blocks, railroad switches, axles, half-axle covers.

Power industry:

Turbine casings, water turbine impellers, heat exchangers, impeller vanes, gearboxes, wind turbine hubs.





2015

New modern design of horizontal and gantry machining centers.

2022

80 years anniversary of TOS KURIM founding.

2011

Merging of the production portfolio of TOS KURIM and ČKD BLANSKO.

New production hall with area of 2600 m² and crane capacity 100 and 50 tons.

2018

TOS KURIM becomes part of the TOSHULIN group.

Today

TOSHULIN and TOS Kurim officially merge as TOSHULIN.

Arms industry:

Skeletons of armoured vehicles, gun barrels, parts of armoured vehicles.

Mining and construction:

Chassis for excavators, excavator arms, arms of cranes for oil rigs, parts for large trucks.

Gear cutting industry:

Helical, direct, double-helical gearing, direct internal and direct bevel gearing.

Other industries:

Automotive and moulding industries, parts for heavy machinery.



PRODUCT PORTFOLIO

INDUSTRIAL AUTOMATION AND TURNKEY FMS SOLUTIONS

Highly customizable machines
tailored to customer
requirements with technical
solutions for automating
different segments



MACHINES FOR RAILWAY WHEEL MACHINING

Complex machining of railway wheels
from forgings to the final product



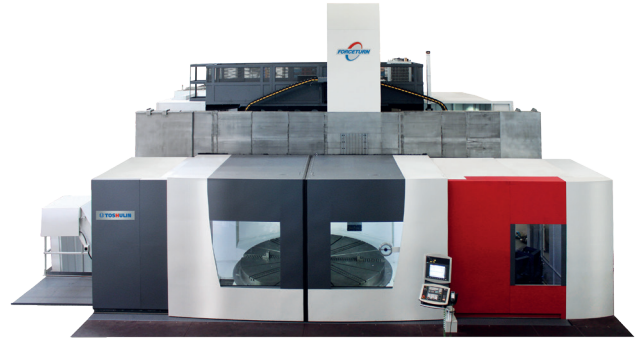
VERTICAL MULTIFUNCTIONAL MACHINING CENTRES

Technologically advanced
vertical multifunctional CNC
machine tools



BIG VERTICAL LATHES AND MACHINING CENTRES

High performance metal cutting
for large workpieces



HORIZONTAL MACHINING CENTRES

Flexible, modular horizontal
machining centres with
exceptional stability
and accuracy



GANTRY MACHINING CENTRES

Robust, high-performance gantry
machining centres for complex,
large-scale components



High variability
of tools.



Machine accuracy
tuned to customers'
specific needs.



Variable heights
of work space area,
extended range
of X-axis.



Two- to five-axis
machining. Optional
configuration extension.



INDUSTRIAL AUTOMATION AND TURNKEY FMS SOLUTIONS

EFFECTIVE MACHINING OF VARIETY OF WORKPIECES

- Turnkey flexible manufacturing systems (FMS)
- Integration of vertical turning and multifunctional machining centres
- Connection of multiple machines into one automated line
- Measuring, diagnostic and tool management systems
- Automated pallet handling and robotic loading/unloading
- Intelligent storage of raw parts and finished components
- Unmanned operation with advanced logistics control
- Real-time monitoring, diagnostics and visualization
- Software integration with MES/ERP for full process control
- Tailor-made solutions for high productivity and flexibility

SEMI-AUTOMATED PRODUCTION CELL

Highly productive turnkey automated production system

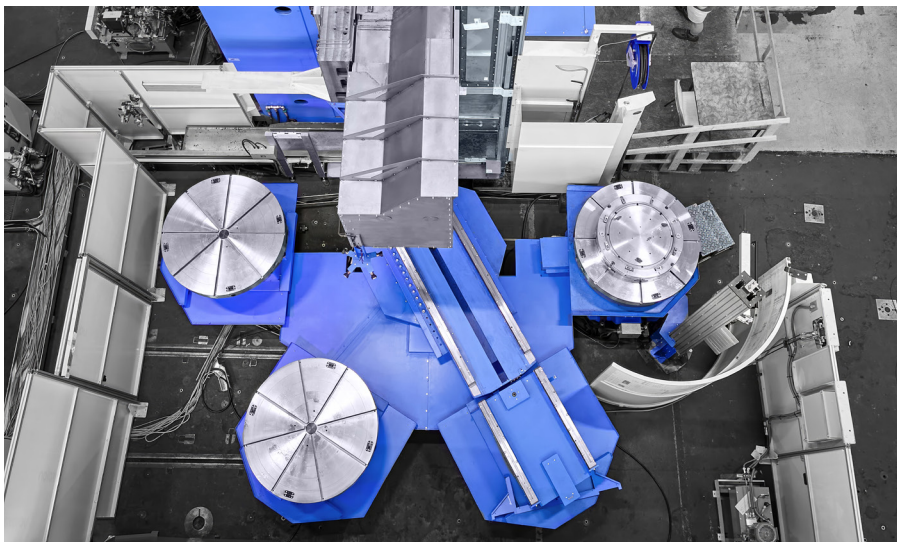
Efficient semi-automated production cell enabling single-operator control, combining two POWERTURN S1 vertical lathes, automated pallet exchange, integrated tool and logistics management, and ERP/MES connectivity.



AUTOMATIC EXCHANGE OF TECHNOLOGY PALLETS

Demanding technological applications with high precision

Automated pallet handling for vertical machining centres, this system features a precise loading station, manipulator, and flexible storage, support high-rigidity clamping, customizable pallets, and intuitive graphic control interface.





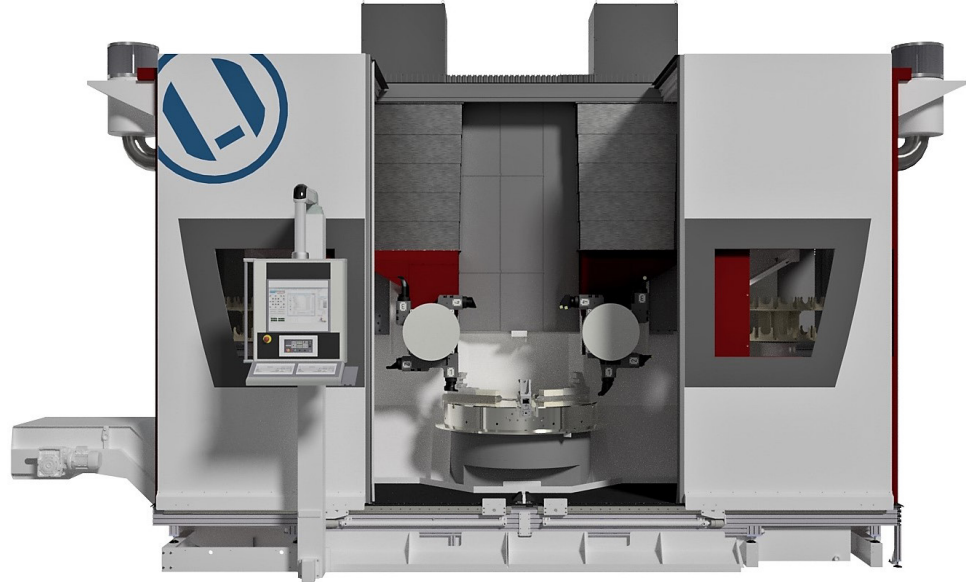
RAILWAY MACHINING

COMPLEX MACHINING OF RAILWAY WHEELS FROM FORGINGS TO THE FINAL PRODUCT

- Designed and manufactured exclusively by TOSHULIN in Czechia
- High-efficiency machining of railway wheel forgings
- Modular machine concepts tailored to customer needs
- Simultaneous machining with dual cutting heads
- Rapid tool exchange and automated workpiece handling
- Optimized cooling for maximum process stability
- Very fast tool change and automated workpiece exchange.
- Effective cooling of the cutting process.

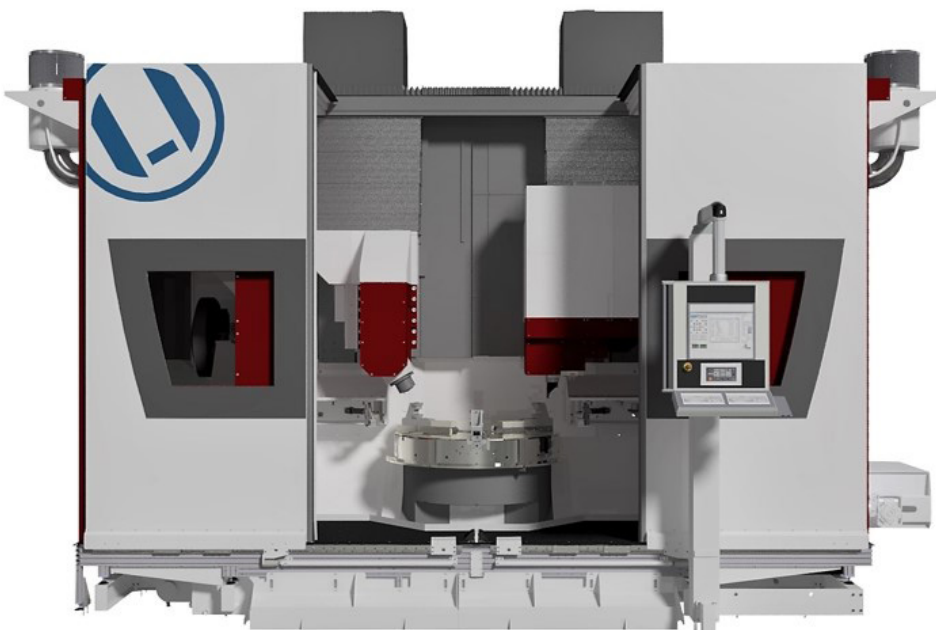
RAILWAY ROUGHING

The EXPERTURN 1400 S is designed for efficient rough machining of railway wheel forgings. With a modular concept adaptable to customer needs, it delivers high performance through dual cutting heads, rapid tool change, automated workpiece handling and effective cooling for stable cutting processes.



RAILWAY FINISHING

The EXPERTURN 1400 C ensures precise finishing of railway wheels by turning, drilling and milling. It allows accurate machining of details such as hole edges and mechanical locks, while its modular design with dual spindles, optional angular spindle rotation, fast tool change and automated exchange guarantee top-level productivity and reliability.





VERTICAL MACHINING LATHES

DEMANDING TECHNOLOGICAL APPLICATIONS WITH HIGH ACCURACY

- Automatic adapter exchange into the ram
- Automatic exchange of tools into adapters
- Completely enclosed working area allowing for installation of suction device
- Master-Slave drive option for advanced performance and precise positioning of the table
- Optional hydrostatic guidance of linear axis for better shock damping
- Wide choice of tool magazines and tooling
- Extended travel of X-axis in both directions from the center of the table
- Optional additional heads with added axes: B-head, C-head, Y-head

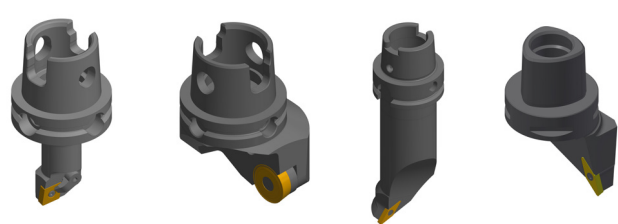
POWERTURN

	POWERTURN 1	POWERTURN 2	POWERTURN 3
Main drive	Belt drive with 2-speed gearbox	Belt drive with 2-speed gearbox	Master-Slave with 2-speed gearbox
Workspace	Partially open	Closed	Closed
Tool magazine	Single-level disc type	Two level disc type / Chain type	Two level disc type / Chain type
Automatic tool exchange	YES	YES	YES
Automatic tool holder and head exchange	YES	YES	YES
OPTIONS:			
Pallet changer	NO	YES	YES
Automatically adjustable B-axis head	NO	YES	YES
Y-axis head	NO	YES	YES
C-axis head	NO	NO	YES
Ram 320 x 320 mm	NO	NO	YES
Hydrostatic guideways on X & Z axis	NO	NO	YES

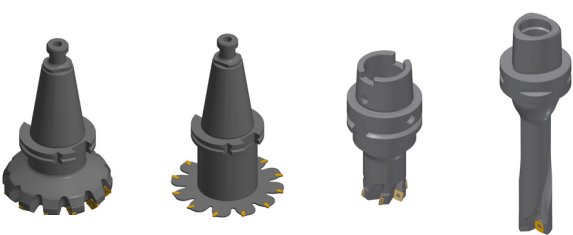
ADAPTERS



MODULAR MACHINING TOOLS



MODULAR ROTARY TOOLS





BIG VERTICAL LATHES

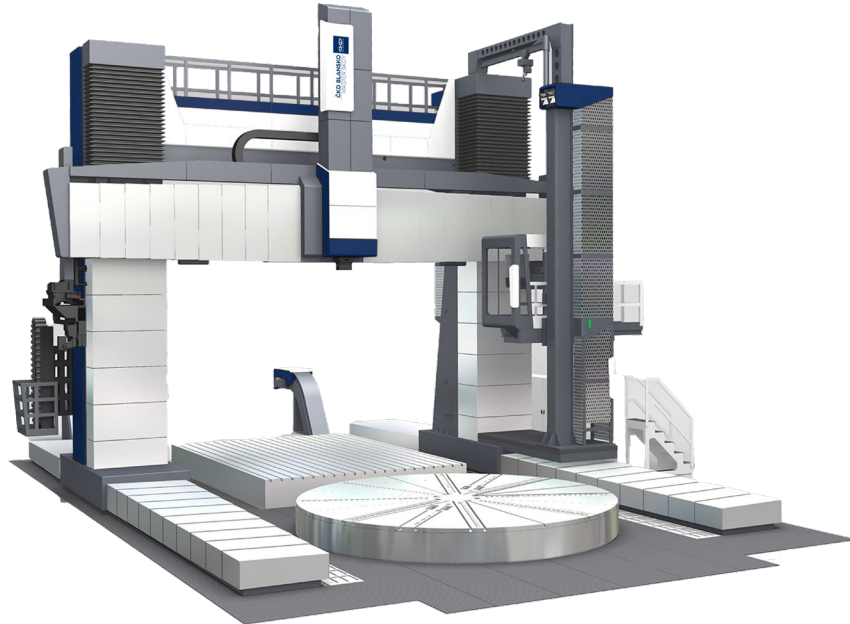
HIGH PERFORMANCE METAL CUTTING FOR LARGE WORKPIECES

FORCETURN

- Extremely stable and rigid machine frame made from heavy castings specifically designed for high performance and rapid material removal
- Above average ram rigidity – ram cross-section up to 400 x 400 mm
- Maximum workpiece weight up to 60 tons
- Extremely rigid table mount – with either hydrostatic bearing or rolling bearing
- Fully enclosed work area allows for the option of suction device
- Suitable for roughing and finishing operations on very large workpieces
- The machine can be equipped with heads containing additional axes: B-head, C-head, Y-head

ČKD SKDY

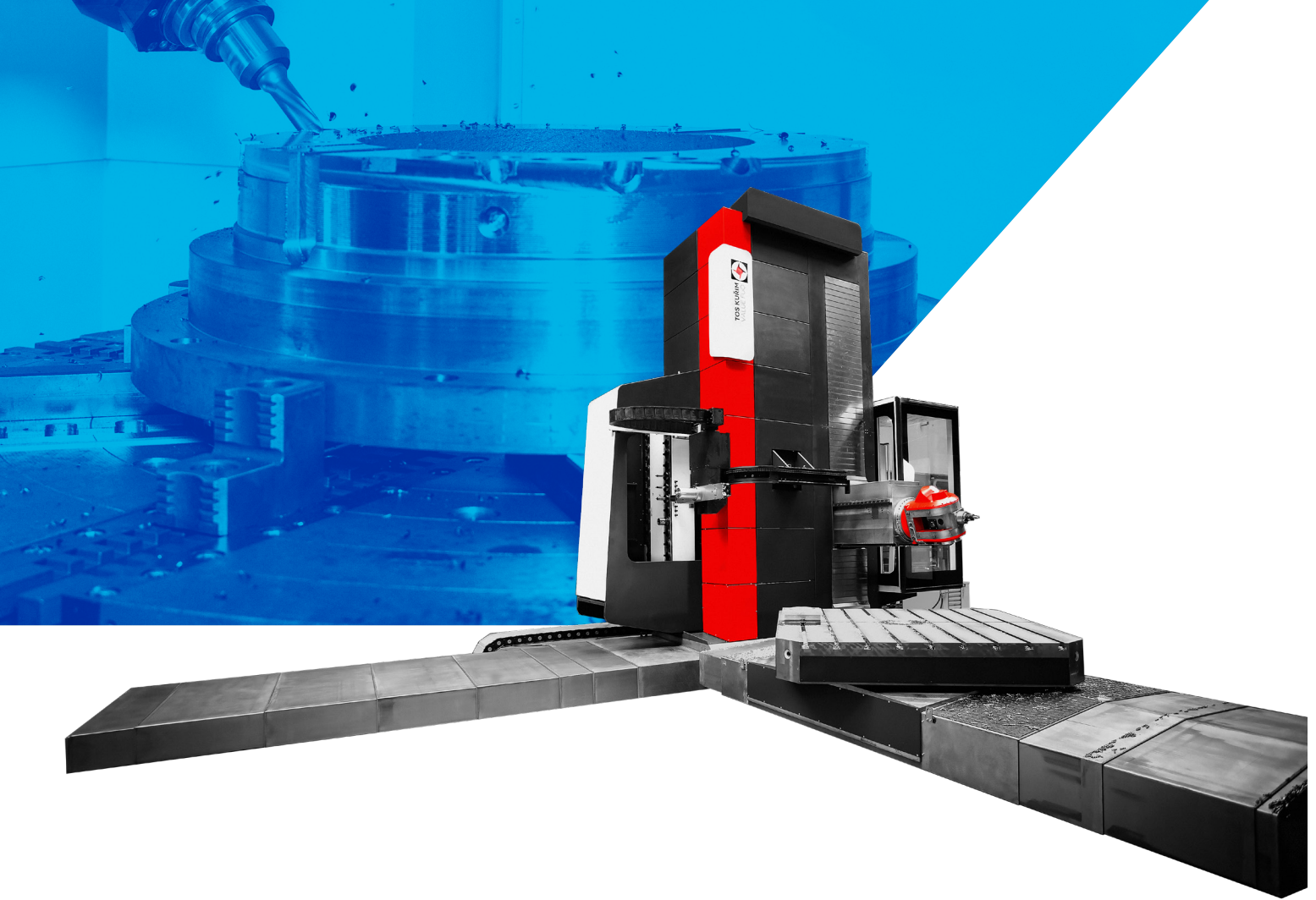
Combining the strengths of a vertical lathe and a gantry centre, this machine offers top-tier flexibility—able to handle turning, milling, boring, grinding, threading and drilling—with a massive load capacity (up to 1,100 tons), built for durability and precision.



ČKD SKD

Designed for heavy-duty cutting and roughing of castings and forgings, this rigid and powerful lathe excels in precision machining, milling and grinding—perfect for demanding applications like turbine components and other large-scale industrial parts.





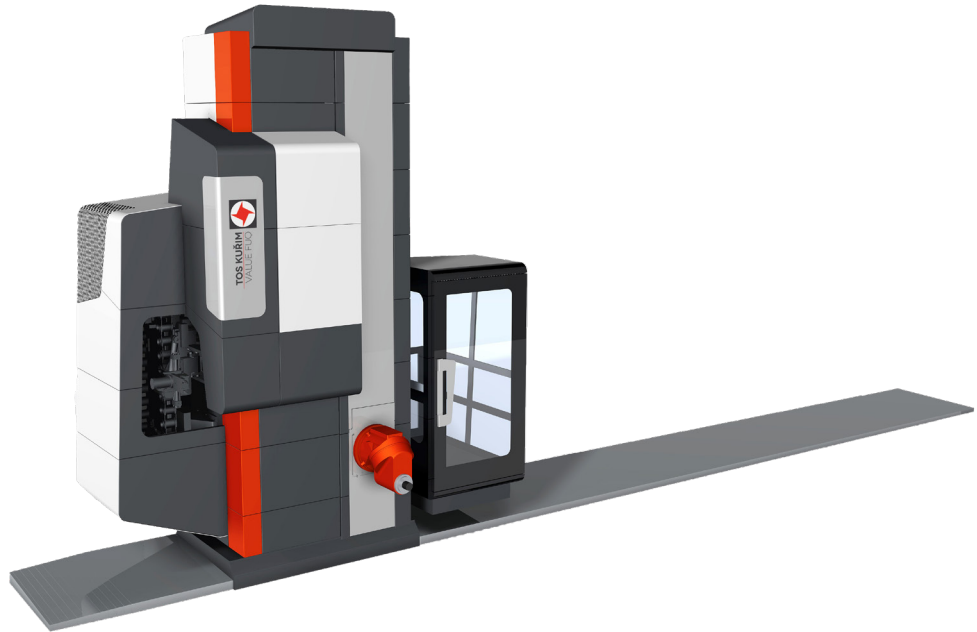
HORIZONTAL MACHINING CENTRES

FLEXIBLE, MODULAR HORIZONTAL MACHINING CENTRES WITH
EXCEPTIONAL STABILITY AND ACCURACY

- Robust, modular design offering high flexibility and a wide range of interchangeable spindle heads
- Exceptional stability and geometric accuracy for precise high-performance machining
- Support for diverse operations: milling, boring, roughing, reaming, drilling, threading (and even grinding with extended axes)
- High machining productivity driven by powerful spindles, multi-axis capability (5+ axes), and efficient tool cooling
- Tailored machine solutions, including custom workspace and technology setups, optimized for your process needs
- Capable of installation directly on hall floor foundations, maximizing floor-space usage and enabling heavy-duty applications

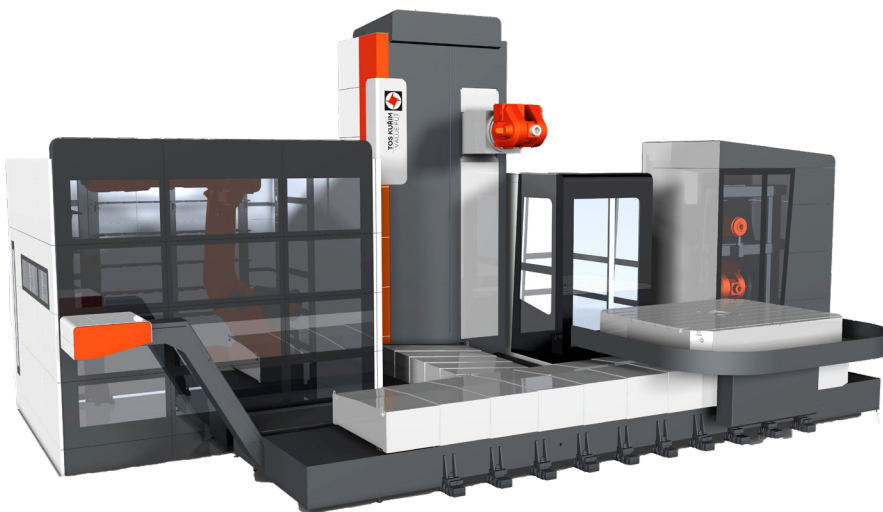
FU

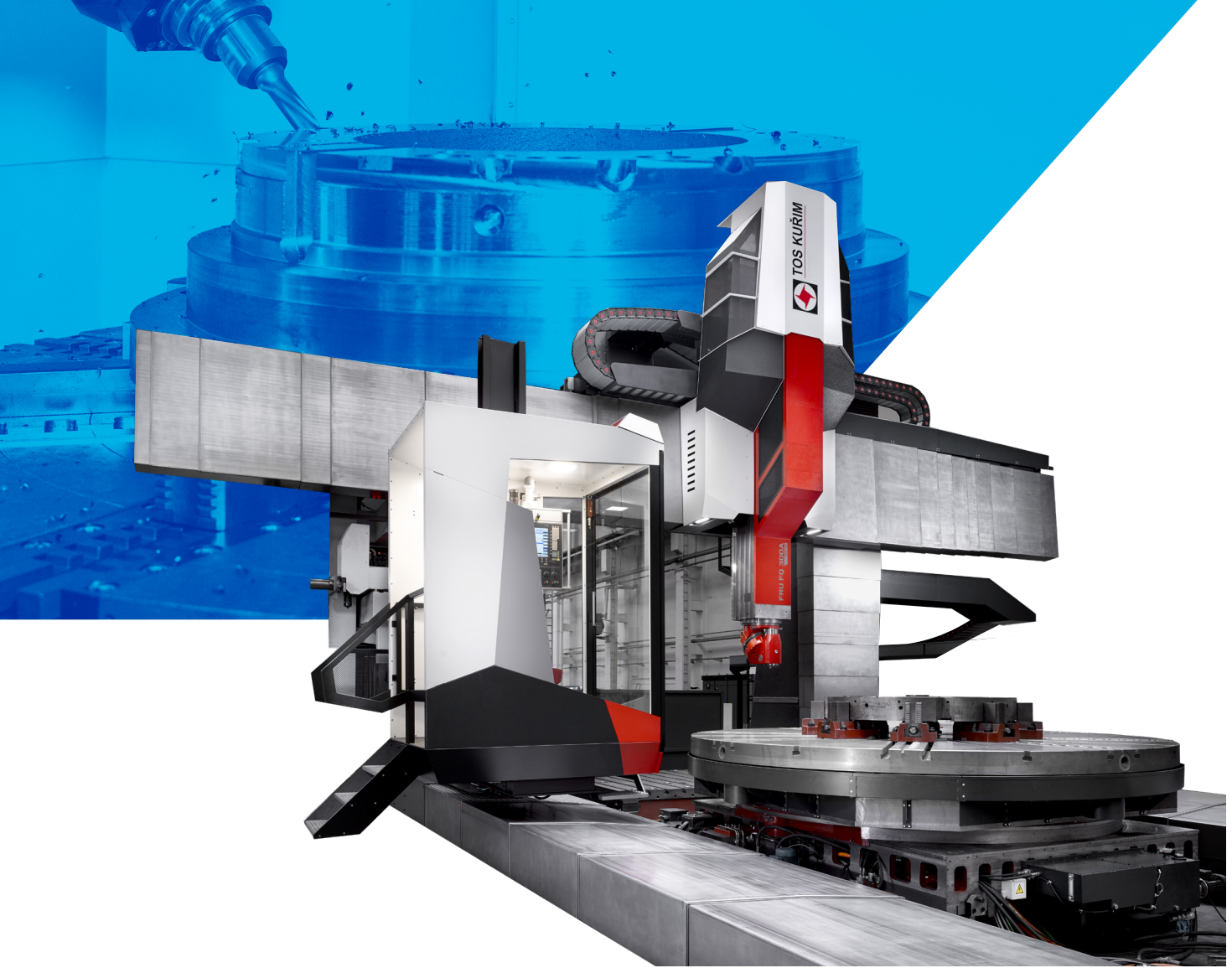
The TOS FU horizontal machining centre with a movable column delivers exceptional flexibility thanks to its modular design and interchangeable spindle heads. It supports a broad range of operations—milling, drilling, roughing, reaming, and threading—and adapts to customer-specific clamping configurations.



FUT

The TOS FUT machining centre combines high-speed dynamics (up to 30 m/min) with outstanding stability and accuracy—even at extreme positions. Its T-shaped structure and choice of spindle heads make it ideal for machining very complex parts using both conventional and high-speed methods.





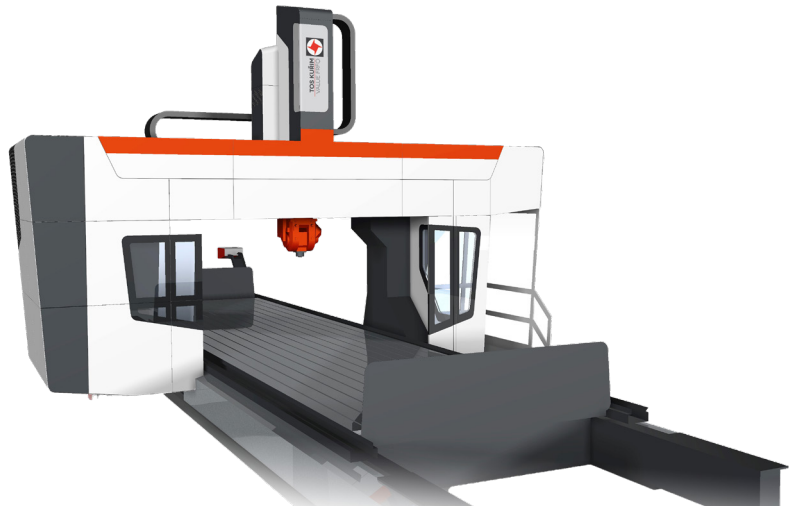
GANTRY MACHINING CENTRES

ROBUST, HIGH-PERFORMANCE GANTRY MACHINING CENTRES
FOR COMPLEX, LARGE-SCALE COMPONENTS

- Robust, modular design offering high flexibility and a wide range of interchangeable spindle heads
- Exceptional stability and geometric accuracy for precise high-performance machining
- Support for diverse operations: milling, boring, roughing, reaming, drilling, threading (and even grinding with extended axes)
- High machining productivity driven by powerful spindles, multi-axis capability (5+ axes), and efficient tool cooling
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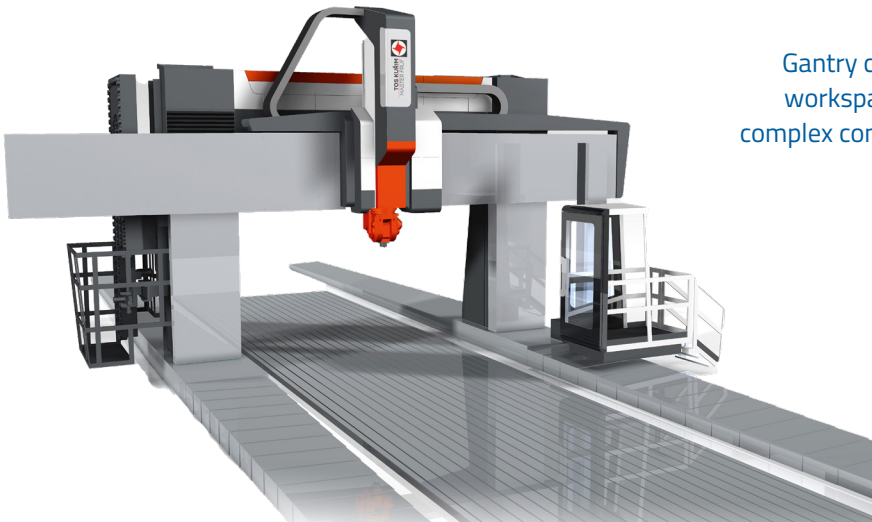
FRF

Robust gantry machining centre with movable gantry—high throughput and compact footprint—ideal for large, complex workpieces like turbine casings and bogies.



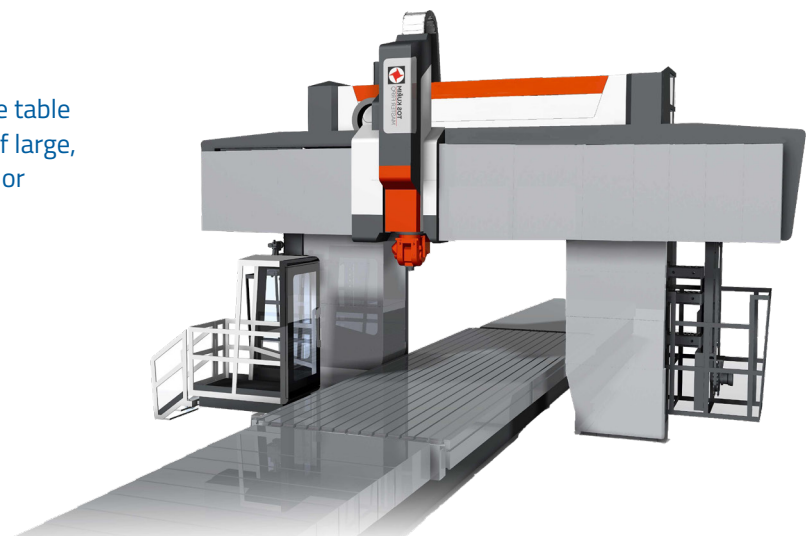
FRU

Gantry centre with travelling gantry maximizing workspace utilization—designed for machining complex components using versatile spindle heads.



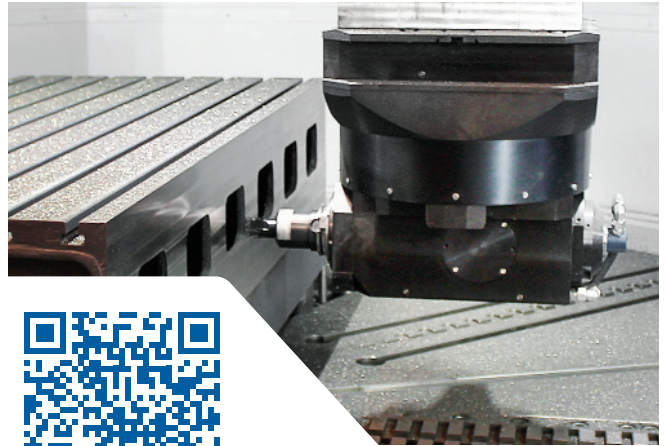
FRP

Fixed-portal gantry centre with movable table for standard or high-speed machining of large, complex parts; features choice of linear or hydrostatic guideways.





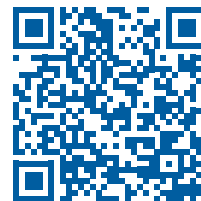
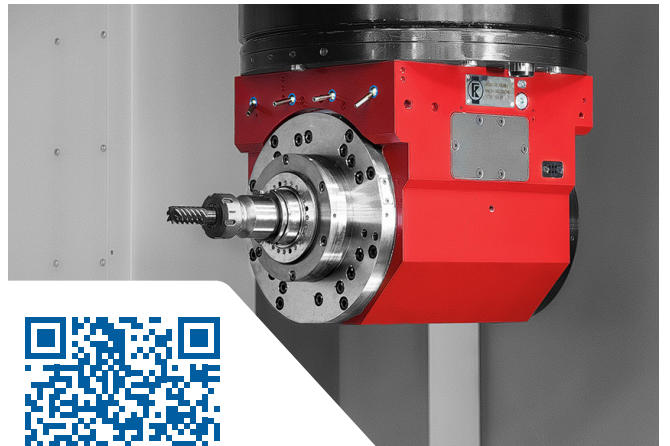
Y-HEAD



C-HEAD



B-HEAD



**HORIZONTAL
ELECTERSPINDELE**



**GRINDING
SPINDLE**



**VERTICAL
ELECTERSPINDELE**

MAJOR OVERHAUL

We draw on our long-term experience to extend the useful life of our older machines – mainly the types SKIQ, SKA, and POWERTURN. We have complete documentation relating to every machine produced in our factory. We perform modernization of our machines, done at the customer's facility, typically involving upgrade of the control system. Complete overhauls are done at the TOSHULIN factory, resulting in a nearly all-new machine.

Scope of repair

- New control system*
- New control panel*
- Exchange of drives*
- New electric panel*
- New PLC*
- Exchange of the hydraulics unit and cooling
- Exchange of all bearings
- Overhaul of the table
- Exchange of all the ball-screws and nuts
- New filtration device
- Complete disassembly of the machine to check all components
- Repair and exchange of all mechanical parts

Properties of the machine after overhaul

- Improved precision
- More operator-friendly
- Higher productivity
- Lower production costs
- Higher reliability
- Longer machine life
- Ecologically responsible

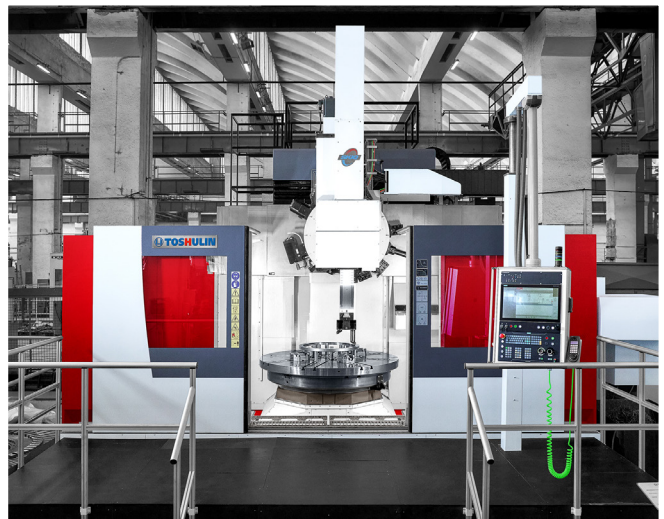
*Modernization of the control system.

SKIQ 16

Made in **1986**

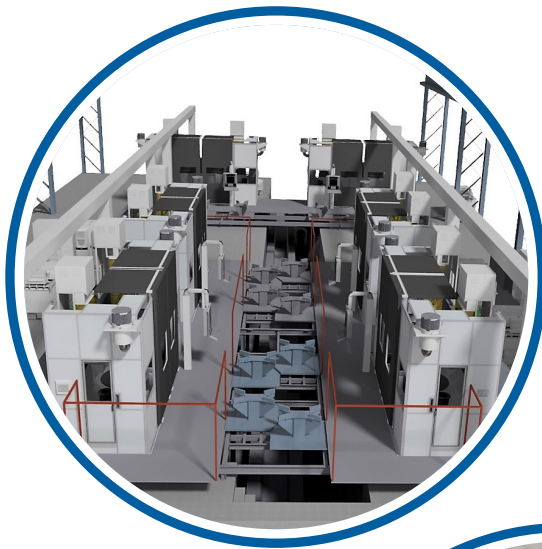


Overhauled in **2022**



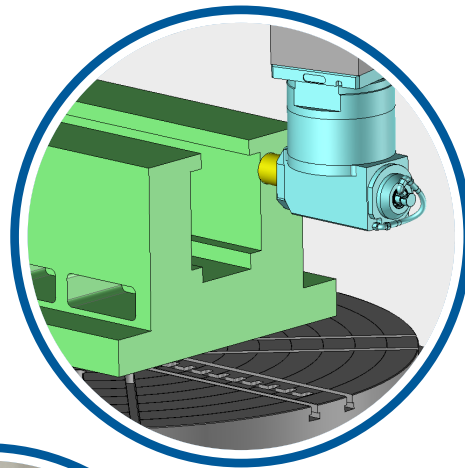
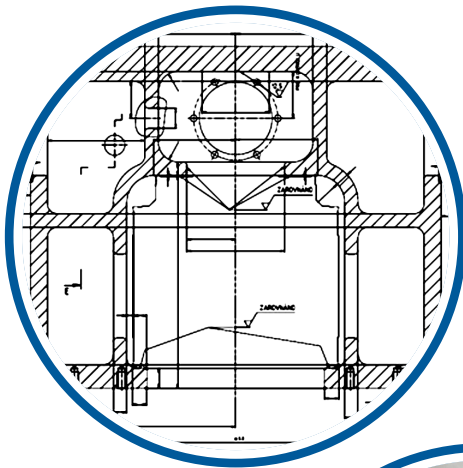
AUTOMATION AND DIGITALIZATION

For more than 20 years, TOSHULIN has been active in the development and production of pallet manipulation. It is key to improving productivity and competitiveness of our customers. Thanks to our long-term experience in this field, we are able to design, manufacture, and deliver automated production lines according to our customers' specifications.



APPLICATION ENGINEERING CENTRE

- Turnkey solution
- Tool equipment selection
- Test workpiece machining according to customer's specifications
- Time studies
- CAM system modeling
- Machine commissioning at customer's production site
- Complete operator training
- Ability to perform testing on machines installed at TOSHULIN
- Technical consulting available during warranty period



AUTHORIZED SERVICE AND CUSTOMER CARE

Individual Customer Support

- Training for operators and maintenance personnel

Warranty and After-Warranty Service

- Service calls performed by highly trained technicians
- We provide support with sub-suppliers during the warranty period and after

Remote Diagnostics

- The quickest way to identify causes of machine malfunction
- Rapid response time – short time between malfunction report and first on-line contact with the customer
- Over 90 % efficiency in solving problems
- Technical support during remote machine restart after control system shut down
- Data back up and archiving

Spare Parts

- Availability of spare parts and documentation for the life of the machine
- Fast delivery thanks to external, geographically-distributed warehouses of original spare parts
- Proprietary manufacturing of spare parts according to original documentation

Customer Hot Line

- Telephone or video consultation regarding the machine in question
- On-line support during solving issue on the machine
- Possibility of using remote diagnostic

Preventive Inspection of Machines

- During the warranty period
- Within the life of the machine
- Performed by certified technicians from TOSHULIN

MACHINERY EQUIPMENT

We have extensive machinery which allow us to produce 70 % of the components ourselves. We are thus able to ensure the quality of all parts and flexibly manage the timeliness of their delivery. At the same time, we are able to provide our business partners with cooperation services for demanding machining operations exactly according to their needs.

Vertical turning lathes

- FORCETURN 4000
- EXPERTURN 3000
- POWERTURN 2000
- BASICTURN 2000
- SKIQ 16

Machining centres

- HECKERT HEC 800 X5
- MORI SEIKI NH8000DCG
- TAJMAC MCFV 2080
- TAJMAC MCFV 1260
- TAJMAC H63

Turning machining centres

- MAS S80I
- MORI SEIKI NL 2500
- MORI SEIKI NL 3000
- MORI SEIKI NT6600 DCG/6000CS

Portal machining centres

- TOS KUŘIM FRFQ 350
- ZIMMERMANN FZ 42
- FRUFQ 400A - VR/20
- FRUQ 400-VR/24

Horizontal boring machines

- TOS KUŘIM FU150/10
- WHQ 13 CNC
- WD 130 with indication
- W 160 with indication
- FFQ 100
- VHN 13A

Grinding machines

- Guide surface grinders
- BRH surface grinder
- Grinding machine BUC 63
- Erwin JUNKER GRINDING Allround
- Shaft groove profile grinder

Measuring equipment

- Merlin 1100 Twin Star
- Five-axis continuous scanning head REVO – 2
- API LaserTracker T3-40
- WENZEL LH 108
- ZEISS Rondcom 44

Sheet metal processing

- TruLaser 3040
- TruBend 5170
- Fronius Trans Steel 5000

3D printing

- Prusa Research

Lathes

Paint shop



TOSHULIN, a.s.

Wolkerova 845
768 24 Hulin
Czech Republic

Blanenská 1321
664 34 Kuřim
Czech Republic



www.toshulin.com
sales@toshulin.cz

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