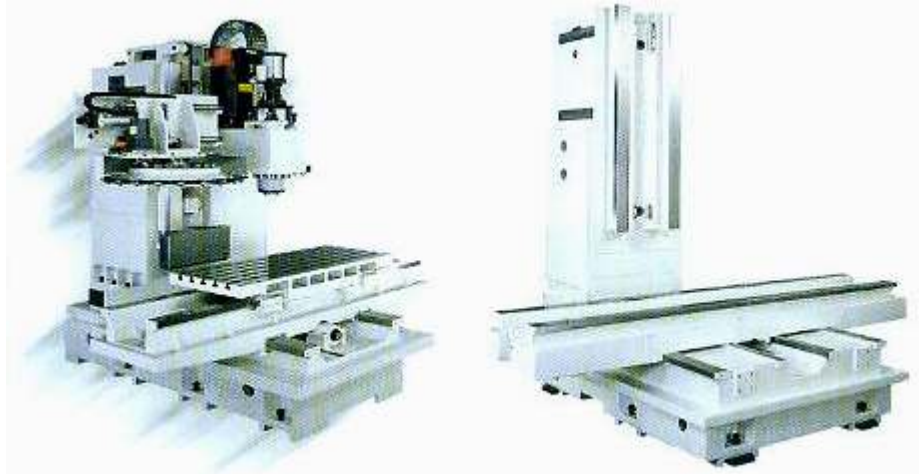


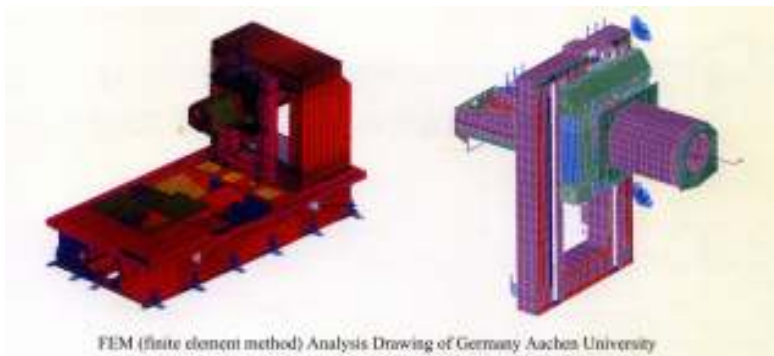
Solid cast iron construction

All major components are iron castings, which are specially reinforced internally to withstand bending and damped vibration generated during machining.

DMTG company is modeled on its Japanese partner, OKK, focuses on thorough examination of each casting.



The advanced design, high precision manufacturing ensures high rigidity and stability of the machine



Each component is optimized using finite element analysis (FEA-Finite Element Analysis), or sometimes also known as finite element (FEM- Finite Element Method).

It is a numerical method, where the object you want to analyze, divided into many parts (elements), which then enters the load and using different mathematical methods to calculate and optimize everything. See picture on the left-processing analysis of the horizontal center.

Casts of bases of all DMTG's machine tools are machined on modern CNC five-axis machining centers. All work, including control of castings are made in one pass, which ensures greater accuracy of production and greatly increases the flow of production and enables DMTG manage such a large scale production. As a result of this precise machining is fixed a problem with fitting to compile the individual parts.

Castings beds and stands, so to meet all current demands and trends in terms of stiffness, strength and flow of vibration from the machining area.



Precise three-axis guide system

VDL series of machining centers have a three-axis linear guide. Linear guidance allows precise linear motion with a quick response by rolling elements - beads, making it possible to achieve very low coefficient of friction.

Guideway in the Z axis for vertical larger machining centers VDL-1000 VDL-1200 VDL-1300 VDL-1400 is sliding guide surfaces, which increases the carrying capacity of the spindle during machining heavy pieces .

Conversely implement a series of VDF is based on precisely grinded guide surfaces with the guideways of box-type way (right-angled lines). Sliding surfaces of the working table, cross slide and spindle are lined sliding mass Turcite B. The advantage of this design is the fluidity and rigidity of the displacements, low vibration and long-term accuracy.



Linear guideways

x

Box type guidewas

Linear guides is pre-tensed to ensure zero backlash. This enhances the accuracy and reliability of machines. Another characteristic of a linear line is a low coefficient of friction, which allows faster movements with greater precision of repeated running. Machines with linear ball guidance are intended **for high precision and fast machining.**

Many manufacturers claim that the linear guides in all respects superior to box type guideways. That is not exactly true. Linear guidance has a limited capacity to a certain area. When machining heavy pieces, especially with small footprint, the deformation of linear guideways is occurred in time

Thus, where a linear guidewas lost their advantages, the box way guideways has clearly has a top executives. Machines with a sliding guideways provide greater rigidity, and are **designed for machining heavy pieces.** But it is not clearly say that the sliding guideways were intended only for roughing work. Bbecause differences in accuracy is a maximum of 0,005 mm

Lineární kulíkové vedení



Linear guideways

Kluzné vedení



Slide guideways – box type

Precision ball screws and anchors



Precision ball, their anchorages and the limit Tensioning nut ball screws have a significant impact on positioning accuracy in each axis and this is often the stumbling block had been the machines of Asia.

This fact is fully aware of the DMTG. That's why my machine comes standard C3 three-degree of precision ball screws wit accuracy class **IT5 and IT 6**. The Ball screws are anchored at both ends. Their parallel to the guide surfaces is controlled by a laser during assembly.

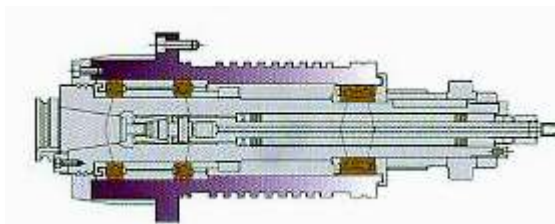
The main features of spindle

Machining centers are equipped with high quality spindles from the world-renowned Swiss manufacturer of IBAG, which has a subsidiary, directly in Dalian, home and society of DMTG.

As standard machining centers are supplied with a dual spindle motor FANUC. The power switch between the two coils so-called star-triangle switching. This system allows the choice of the optimal forcing low-or high-speed machining ensures higher torque. Since change is changing during run, is guaranteed sufficient power range needed to achieve constant cutting speed.



High speed spindle with an emphasis on rigidity and accuracy



- The spindle is stored in the tapered roller bearings FAG brand with the accuracy of P4, which ensures high rigidity and high precision
- The transfer is effected by means of the toothed belt, which prevents slippage and allows smooth operation with low noise
- Floating type tool pulling system is adopted to avoid on spindle bearings when tool is released and offers longer bearing life
- Other equipment includes a dynamic balancing system who is able to compensate for dynamic balancing spindle, eliminating resistance during operation, when the spindle run at high speeds. It guarantees the optimum machining accuracy.
- The spindle is designed with a dust protection (blowing hollow spindle), which is automatically activated each time the when the tool is insert in or out in order to ensure trouble-free clamping. In advance it increases the life of the spindle.

Fast and reliable tool change mechanism

Machining centers are supplied as standard with a drum tool changer with tool magazine at 12, 16 or 20 tools.

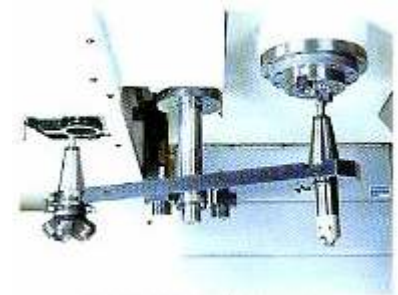
On the customer can of course also be equipped with center ramenovým exchanger tools, tool magazine with up to 24 instruments.

My company DMTG and we are well aware that a fast and reliable long-term exchanges are often (especially in the large series) decisive factor in the purchase of machines, so the reliability of the Exchange as a fully tested in the production process of DMTG, so in our country in CZ MOOS TRADING .

Both types of containers, just as the spindle taper shall be constructed to taper shanks with taper BT 40 or BT 50, which are now widely available here in the Czech Republic.

Time exchange exchanger drum instrument in the range of 6-8 seconds. Shoulder exchanger is faster, the exchange time for this type of moves in the 3 seconds.

For reliable exchange is required to supply compressed air 0,6 Mpa.



Cooling of workpiece

As standard cooling system consists of two hand-controlled nozzles that are mounted next to the headstock. Coolant to scatter around the perimeter of the spindle and the outer sleeve. Both can be cooled to prevent the spindle bearings spindle temperature rises while cool tool and workpiece.



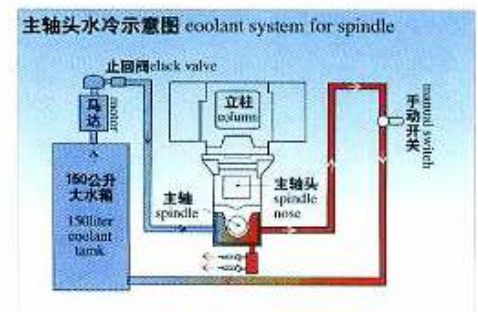
Coolant through the spindle (option)



It is a progressive method, where the coolant through the spindle is drawn through the center of an auxiliary pump from the tank and pumping directly into the instrument that is adapted to this method. Coolant to be able to get directly to the point of machining. They are thus guaranteed a perfect cutting conditions affecting the machining accuracy, while also significantly increases tool life.

Temperature compensation of spindle

Machining centers from DMTG are equipped with temperature control of spindle, which monitors the temperature of the spindle and prevents deformation caused by rising temperature. As long as guarantee the accuracy of work, while extending bearing life.



Chip Removing

All centers are supplied as standard with a chip conveyor, screw or chain type. Efficiently designed working space with automatic rinsing chip ensures perfect chip removal from the working area without causing their accumulation. Chips are fed into the front of the machine, flattened and deprived of coolant and then are removed into the container chips, which are also standard equipment of the machine.



CNC control system and electric system



The machine is supplied with the control system **FANUC 0i-TC**, which can be added to the customer friendly software **Manual Guide, which allows interactive creation of the program in just a few steps**. Lead the user through the programming, dynamic menus and graphic simulations, which allow to achieve very effective results even for complex procedures

Selecting the control system is of course dependent only on the will of the customer. But our society, after successful experience with control systems and also with an excellent ratio between price and quality, recommends FANUC

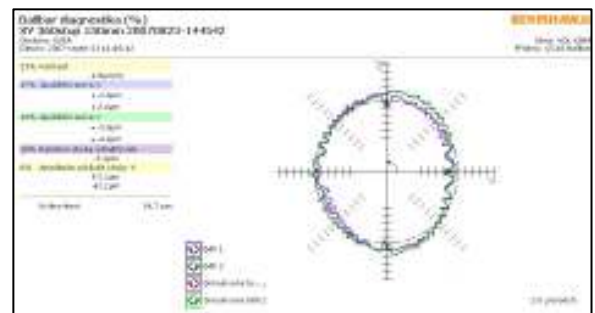
Of course, we thought, but also aware of the fact that the operator is used as the control system Siemens will not like to switch to another system. Therefore, it can be equipped with machines and other control systems such as Siemens or Mitsubishi

The electrical system is made fully compliant with CE standards. The vast majority of electric and pneumatic components are from world's leading manufacturers who are forced to concentrate their production in Asia. At center is so, for example, installed a quality brand **Grundfos Pumps**

Quality control, service and after sales support

All machines in the company DMTG passes during the manufacturing process and thorough inspection before dispatch. Upon receipt of the machine to Czech Republic, our **company takes responsibility for the quality of the machine**. Therefore, every machine is thoroughly tested by our own staff.

To check the accuracy of the linear geometry and the machine accuracy is used ballbar test. It is able to monitor the movement of machines **to 0,005 mm** with a resolution of 0.01 mm. Of captured data creates a diagram that shows the accuracy of the machine. Any deviation in the squareness and accuracy is illustrated in the form of distorted circles. Copies of this measure is attached to each machine and ensures its accuracy and correct settings. Our society, however, not content with the results ballbar test, the machines are out of control and running more tests, so that the machine was delivered to the customer 100% quality.



Our company has a unique technical background and is able **to provide quality and timely customer service**, which is today, when is a perceived shortage of companies capable of providing similar services, most taken into account when buying a new machine. A machine is given a 12 month warranty on mechanical parts and 24 months for the cnc control.

Increased potential of using with rotary tables

Machining centers can be equipped according to customer will by driven rotary table as a 4th or 5 th. axe, thus multiplying the possibilities of using these machines, such as machining special contours or eccentric holes, and thus create a powerful entity that will increase productivity.

This configuration is available for most machining centers. There is a wide range of high quality rotary tables and separating different types and sizes.



Selection from our product range



MRNC 320



TRNC 255



MRNC 255 – Heavy DUTY



High-speed rotary table



Driven Tailstock

Model	VRNC 210	MRNC 255/255N	MRNC 320	MRNC 400/400N
Table Diameter (mm)	210	255	320	400
Maximum workpiece diameter (mm)	210	255	320	400
Maximum table load (kg) :				
horizontally	150	250	350	500
vertically	75	100	150	200
using tailstock	150	250	350	500
Division (°)	0,001			
Speed ratio	1/90	1/180		
Rotation speed (rpm).	33,3	11,1		
Table Weight (kg)	43	88	162	262