

Description of main parts

Massive hardened cast iron construction

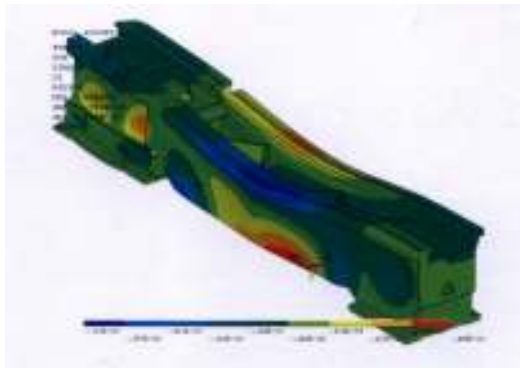
All major components are iron castings, which are specially reinforced internally to withstand bending and damped vibration generated during machining.

The castings are hardened to 50-52 HRC, which provides a very high accuracy machining. For a rigid machine can accurately machined. Tilt bed base can be compared to 45°, 60° or 70°. Oblique guide surfaces allow not only better chip and easy cleaning, but is generally characterized by the ability to better withstand greater stress.

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



The advanced design, high precision manufacturing ensures high rigidity and stability during machining.



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

It is a numerical method when the object you want to analyze, distribute to a lot of parts (elements), which then enters the load and using various mathematical methods to calculate and optimize all

Casts of bases of all machine tools DMTG machined on modern CNC five-axis machines. 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 fit to compile the individual parts.

Castings of all relevant parts meet all current demands and trends in terms of stiffness, strength and flow of vibration from the machining area



Motion control

Almost lathes of this serie is equip by precision linear THK guideway.DL 25M and 32M can be supply with box guideway.

Linear guideway aloows linear motion with a quick response by rolling elements - beads, making it possible to achieve very low coefficient of friction.

Bow guideway is based on exactly grinded surfaces with a guiding direction of the type of box way (right-angled lines). Sliding surfaces of the working table, cross slide and spindle are coated by plastic Turcite B. The advantage of this design is the fluidity and rigidity of the displacements, low vibration and long-term accuracy.

Linear guideways vs box guideways

Friction linear guideways s 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 guideways are intended for high precision and fast machining.

Many manufacturers said that the linear guides ahead of slideway in all directions. That is not exactly true. Linear guidance has a limited capacity to a certain area. When machining heavy pieces, especially with small footprint, it can evoke deformation of linear guideways.

Thus, where a little longer linear lines, clearly has a sliding top executives. Machines with a sliding direction of providing greater rigidity, and are designed for machining heavy pieces. This is not to say unequivocally that friction guide surfaces, were intended only for roughing work because differences in accuracy is a maximum of 0,005 mm.

Lineární kulíkové vedení



Linear guideways

Kluzné vedení



Box guideways

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

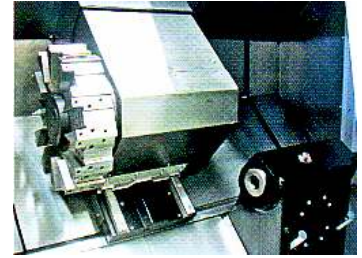


Hydraulic tailstock

Hydraulicdriven tailstock can be activated directly by a program or operator using a standard foot switch. Solid cast rib provides excellent durability. Tailstock is equipped with a rotating tip which is designed for high speed machining while allowing precise centering. Thorn is stored in the bearings NSK brand. Tailstock can be totally involuntary off center.

High speed turret indexing

The machine is supplied with 8-position turret. The hydraulic system controls tool head, indexing / locking and releasing unit quickly and steadily. It is suitable for machining heavy pieces and light finishing machining. Shortest path of indexing turret is automatically selected during the period of change tools. Stable time indexing is only 3 seconds



Tool setter – tool gauge



Correction of tool can be quickly set using the tool gauge. Manual shoulder swings, turret will reach the probe and then it's all automatic. Correction tools are automatically awarded by touching the tip of a scanning tool surface. Setting value is displayed while the NC CRT screen and enforced in accordance with instructions displayed on the screen. Most lathes are equipped with a probe that has a standard accessory

Precise and rigid spindle

Headstock is a solid cast iron construction. The spindle is deposited in front of two precision ball angular contact bearings and the rear of the roller bearings for high speed which creates an ideal design for machining heavy pieces at high cutting speeds. Powerful spindle motor can perform at full power speed machining of medium to high speed of 4500 rpm. High-speed machining can be achieved by new technologies such as ceramic or cremet.

Rotation motion of spindle motor is transferred to the spindle by V- belt. Fully vector-controlled AC motor is placed in a covered place in front of the machine

Workpiece clamping, other possibilities of machine

Workpiece is fastened to the hydraulically operated chuck with a diameter of 8" to 15". Chucking out of control program is implemented using a foot pedal and it runs only when the spindle is stopped and the guards opened

Each machine can be equipped with bar feeder brand FEDEK (Taiwan).

DL models MH 20. DL MH 25 MH and 32 are equipped with driven tools ans and servo driven turret Barufaldi (Italy)

For demanding customers in the menu model milling and turning center CHD 25th



Chip removal

All lathes series CL and DL are supplied as standard with a chip conveyor, screw type or chain type. Efficiently designed work space along the sloping bed ensures a perfect chip removal from the work area without causing their accumulation. Chips are fed into the front of the machine, are flattened and deprived of coolant and then are transfer out into the container chips, which is also standard equipment in the machine.

CNC control and electric system



The machine is supplied with the control system FANUC Oi-TC, which can be added as customer's desired by a software tool Manual Guide i, which allows interactive creation of the program in just a few steps. Lead users through the programming, dynamic menus and graphic simulations, which enable to achieve highly effective results even for complex procedures.

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

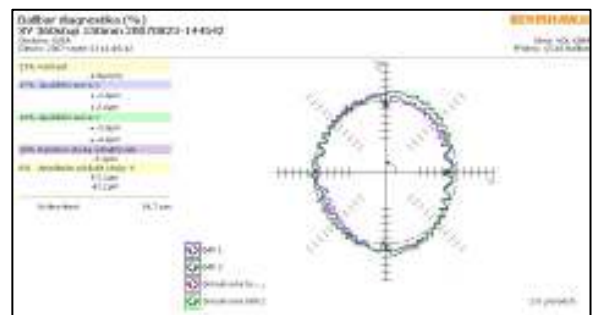
Of course, we thought, but also aware of the fact that the operator is used the control system Siemens will not like to switch to another system. Therefore, it can be equipped by other control systems such as Siemens or Mitsubishi.

The electrical system is made fully in compliance 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.

Quality control, warranty and customer service

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 is used ballbar test. Problem is rather typical of machining centers, but our company uses it for control lathes. Test is able to monitor the movement of machines to 0,005 mm with a resolution of 0.01 mm. Of the captured data is created diagram illustrating the accuracy of the machine. Any variation in 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 company, however, not content with the results ballbar test machines are made to further control the running 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.