

Introduction of machine

The CKE series was launched in the Czech market, June 2007. Since this time it has become a selling smash on the market. After more than 3 years of operation, this series shows its strengths such as reliability, dependability and a good working accuracy.

Lathes are suitable for operating in a wide and small-batch production of pieces, such as prototyping, small series production of repetitive, custom manufacturing and cooperation. It is a powerful lathe with a stable construction that guarantees a practical application and economic benefits.

Main Drive

CKE lathes are produced in two versions.

CKE- i series with direct-drive spindle, inverter, or servo motor enables high-speed spindle. This series is more suitable for finishing.

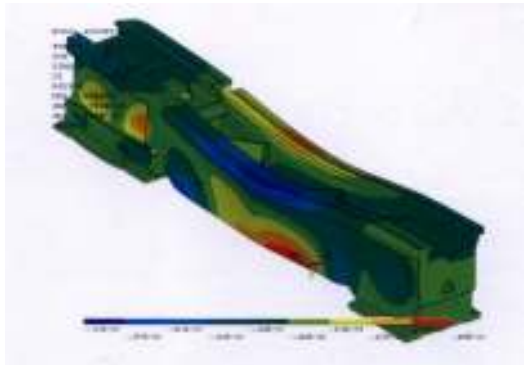
Series of CKE-Z has adopted smart transmission equipment (gear mechanism) that allows automatic speed change in scale: low-medium-high, without stopping the machine, allowing much wider use of the machine including roughing operations.

Description of the main parts

All major parts, such as bed, slide, headstock, are iron castings, which are internally reinforced to resist bending and damped vibration generated during machining.

The castings are hardened to 50-52 HRC, which provides a very high accuracy of machining. Bed, slide, headstock, pedestal and other parts are cast in a mold with resin sand.

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, is divided into a lot of parts (elements), which then enter the load and using various mathematical methods to calculate and optimize all.

Precision ball screws and anchors

Precision ball screws, 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 that has 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 with accuracy class **IT5 and IT 6**. The ball screws are anchored at both ends. Their parallelism to the guide surfaces is controlled by a laser during assembly.

Motion control

Slide way is based on precision grinding surfaces with a guiding direction of the type of box way (right-angled lines). Sliding surfaces of the bed, headstock and cross slide are covered with the sliding mass Turcite B. The advantage of this design is the fluidity and rigidity of the displacements, low vibration and long-term accuracy.

The machine is equipped with an automatic central lubrication system that provides powerful automatic lubrication of ball screw and sliding surfaces.

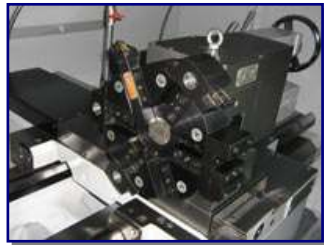
Tool posts

In the basic equipment of the machine is an automatic 4-cutter block positional electronically controlled directly from the PLC machines. This tool post with internal coolant channels enables straightforward management of coolant to the cutting site

The machine can be equipped as desired horizontal 6, 8 and 12-positional tool post or quick change head called "Multifix.



Vertical 4-positional tool post



Horizontal 6-positional tool post



Hydraulic driven 8-positional tool post



Quick change head called "Multifix.

CNC control and electric system



The machine is supplied with the control system FANUC 0i-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.

Workpiece clamping, other possibilities of machine

In the standard equipment of machine is a manual 3 - jaw chuck, tailstock manually controllable, steady and movable rest.

For volume production, or just as an option the machine can be supplied with a hydraulic 3-jaw chuck and tailstock hydraulically controllable. It is also possible to equip the machine collet chuck, 4 - jaw chuck, face plate or bar feeder,



Manual 3-jaw chuck



Hydraulic 3-jaw chuck



Collet chuck



Manual tailstock CKE 6163 Z



Hydraulic tailstock CKE 6156Z

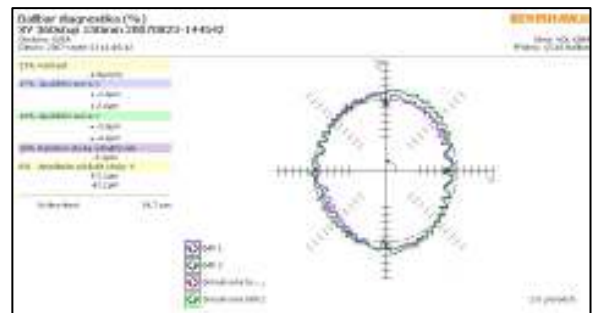


Bar feeder FEDEK

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.