APPLICATIONS OF COMPUTER NUMERICAL CONTROL (CNC) MACHINE IN MANUFACTURING INDUSTRIES

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In today’s scenario you will find lathe machine in almost all industries, workshops and even on road side small scale workshops or repair shops for heavy vehicles. CNC lathe machines are also not an exception to this. There is hardly any aspect of manufacturing that is not handled by the automated CNC machine. It’s a must know for everyone who are involved in the manufacturing industry, what a CNC machine can do for their corporation. Because of broad applications of CNC machines in different industries, there is a great pitch in the demand of the CNC machine programmers. In order to fulfill the demands, a number of training establishments have come up to educate the operations and programs of the CNC machines so that the demand of industries also being fulfilled in time.

**Some of the Industries where CNC Machines are used**

Below are some of the industries mentioned where the CNC machining centers are being used.
Metal Removal Industries

The metal removing industries remove the unwanted metals from the raw materials to give it the desired shape as per the requirements. These can be automotive industries for who manufactures the Pulleys, shafts, gears, cylinders and many other automotive parts. It can be of any type of manufacturing industries for making various types of shaped products which may include round, square, rectangular, threaded or other shaped products. There are many other types industries where the metal removal works are also performed. All these metal removal works are performed by different machine tools like lathe, milling machine, drilling machine, boring machine, shaping machine, reamer, etc. Conventionally these lathe machines are operated by the operators, but the CNC versions of all these machines are now used widely. You can carry out almost all machining operations with the CNC machine. You can also carry out all the turning operations such as facing, boring, turning, grooving, knurling, and threading on your CNC turning centers. On your CNC
grinders you can carry out the grinding of the internal diameter, outer diameter, and also the flat surfaces. The Contour Grinding technology enables you to grind surfaces of all shapes.

## Metal Fabricating Industries

There are many small scales or large scale industries that require many types of thin or thick plates like steel plates or other metal plates, which are required for various purposes. In fabrications industry the machining operations are performed on such plates with the help of CNC lathe machine. In these industries the CNC machines are used for various machining operations like shearing, flame or plasma cutting, punching, lasers cutting, forming, and welding and many other types of applications. To bring the plates to their final shape CNC lasers and CNC plasma cutters are used commonly. To punch the holes in the plates of all sizes CNC turret punch presses are being used. If you want to bend the plate so as to give it a final shape, you can use CNC press brakes. In some cases the CNC back gages are coupled with the shearing machines, this enables controlling the length of the plate to be sheared as for different applications.

## Electrical Discharge Machining (EDM) Industry
The Electrical Discharge Machine machine removes the metal by generating sparks which burns the metal. There are two types of EDM with the CNC automation – Vertical EDM and Wire EDM. The Vertical EDM needs an electrode of the shape and size of the cavity that is be made in the job. Wire EDM is used to make the punch and die combinations for the dies set that are used in the industries where fabrication is done.

**Other Industries where CNC machines are used**

There are many other industries which use CNC machines extensively. Industries like the wood working industries which perform various operations like routing (similar to milling operating) and drilling. CNC technology is also used in number of lettering and engraving operations. There are also CNC machines for the electrical industry such as CNC coil winders, and CNC terminal location and soldering machines.

Any type of industry you visit these days, you will definitely find some or the other type of CNC machines in use. The progress made by the manufacturing industries is mostly because of the developments and advancements taken place in the CNC machine technology.
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