

How-to

## Start Balancing Today

Brought To You By Haimer USA | Apr 15, 2019

When trying to cut costs in the production process, most people will look into investing in newer or more efficient toolholding products. However, that is one of the smallest components that make up the total cost of production. It is important to look into ways on how to reduce your machining time as it makes up 50% of the cost structure.

One way to reduce machining time is to make sure your equipment is properly balanced. Like how you get your car tires balanced and rotated, balancing your equipment makes the production process more reliable and efficient. Today's higher spindle speeds make the effects of imbalance increasingly more noticeable. The consequences of imbalance are vibrations, bad surface finish, shorter tool life and longer cycle times.

### Solution: Balancing Machine

In order to fix imbalances, we suggest you invest in a balancing machine which will maximize your machining capabilities. Below are a few of the many benefits you receive by using a balancing tool to properly balance your machine tools.

- Realize the full potential and speed of your machine tool
- Longer cutting tool life and decreased tool wear
- Reduced machine spindle wear
- Better surface finishes on your parts
- Decreased vibration
- Reduced downtime
- Increased process security
- Higher metal removal rates

### Does a Balancing Machine Pay for Itself?

You might be thinking, "Why should I buy another machine if I am trying to find a way to reduce my costs?" While you may have to invest up front for a new machine, you will see a return on your investments in no time.

For example, a machining center costs \$100 per hour to operate (one-shift operation, 1,600 operating hours per year, with tooling costs at \$10 per hour). With a 10% increase in metal removal rate from balancing your tooling assemblies, you save \$16,000 per year just from increased productivity. An additional \$1,600 is saved from an additional 10% in tool life, and a further \$2,880 of savings can be realized from the increased spindle life thanks to balancing.

This conservative example illustrating the benefits of balancing does not take into account the improved surface quality, improved machining accuracy, or any costs saved from unplanned machine downtime (e.g. spindle replacement). Real savings may be much higher than the \$20,480 calculated in this example.

## Which Balance Machine Should I Get?

HAIMER provides unmatched and repeatable quality to its customers and the TD 1002 is your entry into the balancing machines by HAIMER. Designed with ultra-precise force sensors and patented spindle adapter technology, the TD 1002 is the ideal solution for mold makers, grind houses and small job shops using standard chucks or grinding wheel packs.

The TD 1002 measures and compensates the unbalance in one static plane. Therefore, it is perfect for balancing short toolholders or wheel packs. Index balancing and a stable base construction ensure a repeatable accuracy less than 1gmm. An integrated keyboard and display screen with menu-based handling also makes the device operator-friendly. Other features include:

- Vibration optimized base
- Special high-precision spindle bearings
- Optical indexing help
- Laser marking
- Safety hood with automatic door lock
- 180° index balancing
- Balancing with spindle compensation

When looking for a way to reduce the cost of your production process, make sure you look at what is costing you the most: machining time. Having balanced equipment is critical in cost reduction and the TD 1002 can help you with that.

*Previously Featured on Haimer's blog.*

*To browse Haimer's line of premium tooling technology, including shrink fit tool holders, collet chucks and accessories, balancing machines and more, visit their landing page on MSCDirect.com.*

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