



VF Series Vacuum Furnaces Reduce Overall Cost of Ownership by 75%

Net Present Value Analysis Compares VF Series with Traditional Vacuum Furnace

Particularly in today's challenging economy, manufacturers are searching for new ways to improve energy efficiency and reduce operating costs. The GH Induction Atmospheres VF Series Vacuum Furnaces – designed to operate with quick, clean induction heating – provide an excellent example of how lean, green technology can have a positive impact on the bottom line. This analysis demonstrates that our VF Series can reduce overall cost of ownership by as much as 75%.

Recently a prospective customer asked us to provide some hard data to back up our assertion that our induction heating vacuum furnaces provide a very-cost effective heating solution. So we performed a Net Present Value (NPV) cost comparison between a VF-30 Series furnace and a standard large vacuum furnace. Although each customer's application and manufacturing environment are different and individual results will vary, we feel this analysis provides a very realistic overall comparison.

For our analysis, we utilized data from an Aerospace customer who has both a VF-30 Vacuum Furnace and a traditional, large vacuum furnace system. Our customer uses the furnaces to process turbine engine components. While the traditional vacuum furnace has a much larger hot zone, the area that can be used for actual heating is relatively small due to temperature uniformity requirements.

Capital and utility cost estimates were provided by the customer. The following assumptions were used in the analysis:

- Equivalent annual volume of parts run
- 14-year furnace life
- Traditional hot zone replacement every 18 months
- Routine annual maintenance conducted
- Cost of utilities increases by 5% per year
- Cost of capital = 12%

Based upon these assumptions, we obtained the following results for the Net Present Value of the Total Cost of Ownership analysis:

Furnace	NPV of Total Cost of Ownership
Traditional Vacuum Furnace	\$1,216,836
GH IA VF-30	\$305,042

This equates to \$911,794 in savings – approximately a 75% reduction in overall cost of ownership. What makes such a huge difference? The main drivers in the cost savings are initial capital costs, hot zone replacement costs, and utility usage.

The VF-30 also facilitates lean manufacturing – more runs can be done with fewer parts. The VF-30 has 67% more hours of utilization, with 80% fewer parts per run. This enables continuous flow manufacturing – parts are no longer sitting in WIP but moving through your factory.

To learn more, please contact us or visit our website at www.inductionatmospheres.com