Finding a suitable belt furnace do the right job and save the budget.

---What is the difference between furnaces? & How to spend less money to buy the right furnace?

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How can people be sure they are getting the correct conveyor furnace? There are a variety of furnaces out there and we have heard interesting stories about companies using a 200k furnace after product optimization to achieve the same results as an 800k's furnaces work. The key points are: temperature profile, atmosphere, and operational cost.

There are different ways of heating to achieve the temperature profile. For example, our HSK/HSA series can use the IR heater (infrared), the FEC (fully enclosed coil), heating board, and resistance wire to heat up parts. Those heating methods pretty much cover all heat transfer methods: convection, forced convection, and radiation. Different heating methods correspond to different manufacturing processes. Depending on the peak temperature and the number of heating/cooling zones, customers can use this information to narrow down to whatever furnace they want.

So that brings the question: can a company use the HSK (peak temperature 1050C) to do a reflow furnaces' work? The short answer is yes. If the HSK can accomplish the same or even do a better job and is cheaper, then why not give it a try? However, in most cases, like some SMT applications, using an HSK is like running a plane in place of a school bus -- works but is not worth it.

The other impact is the atmosphere controlling factors. For certain applications, the atmosphere would be one of the key elements that buyers should consider. In the example of brazing, the amount of oxygen and moisture levels in a furnace can influence the behavior of the filler metal as it melts – directly reducing its bounding strength. Many furnaces are equipped with dew point and oxygen measurement devices. A successfully designed furnace should consider the gas

balance. With many nitrogen inlets, furnaces have more flexibility to set proper atmosphere distribution to provide the highest atmosphere purity while having the lowest nitrogen consumption. A no-dead-end design is also beneficial in helping push oxygen out. Hengli's HSA series furnaces have both designs and are capable of having oxygen <= 10 PPM/ dew point <=-50C.

The last thing is the operational cost. A low-quality furnace can bring customers a higher product failure rate – in long term, the cost of bad products may exceed the savings of this furnace. Meanwhile, the customers are still plagued by low-quality products. Another operational cost is energy consumption: an Energy-saving furnace can not only be more environmentally friendly but also lower their electricity bills.

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