

# High-frequency electron tube by induction heating

Hengxin Science and Technology Limited

Hengxin is experienced in Induction Heating Machine and Induction Heating Power Supply, induction heating equipments can be used in induction heating service, induction heat treatment, induction brazing, induction hardening, induction welding, induction forging, induction quenching, induction soldering, induction melting and induction surface treatment applications  
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Induction heating is often used in the heat treatment of metal items. The most common applications are induction hardening of steel parts, induction soldering/brazing as a means of joining metal components and induction annealing to selectively soften an area of a steel part.

Induction heating can produce high power densities which allow short interaction times to reach the required temperature. This gives tight control of the heating pattern with the pattern following the applied magnetic field quite closely and allows reduced thermal distortion and damage.

This ability can be used in hardening to produce parts with varying properties. The most common hardening process is to produce a localised surface hardening of an area that needs wear-resistance, while retaining the toughness of the original structure as needed elsewhere. The depth of induction hardened patterns can be controlled through choice of induction-frequency, power-density and interaction time.

Limits to the flexibility of the process arise from the need to produce dedicated inductors for many applications. This is quite expensive and requires the marshalling of high current densities in small copper inductors, which can require specialized engineering and 'copper-fitting'.

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