

Induction Heat Television Picture Tube Glass

United Induction Heating Machine Limited

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Heat Television Picture Tube Glass Objective: The incorporation of solid state RF induction heating into the television picture tube industry, specifically the insertion of attachment pins into the already formed picture tube glass panel. Four pins are to be heated

simultaneously and uniformly for the insertion process. Overall goals include heating each pin to 20000F within two (2) seconds and allowing for insertion of the pins into the glass.

Material: Hollow steel pins measuring 1/2" OD by 7/16" high.

Temperature: 20000F

Application: Through extensive laboratory work, a single turn concentrator type coil was developed to integrate with the Power of 6KW, 6 kW high frequency output solid state induction power supply. Using four (4) individual coils and four (4) Power of 6KW, 6 kW HF power supplies (contained within an SP 3/HF x 4 rack cabinet) the following results

were achieved:

- * 20000F was reached on each pin simultaneously in two (2) seconds.
- * Uniform temperature gradient measurements were taken using an IR optical pyrometer.
- * The single turn concentrator coil design allows for the pins to be inserted into the glass after heating.

Equipment: Power of 6KW, 6 kW output solid state induction power supply rack unit containing four (4) Power of 6KW units. Included with each power supply is one (1) remote heat station containing one (1) capacitor with a value of 1.2 μ F and one (1) single turn concentrator style coil.

Frequency: 720 kHz Heat Television Picture Tube Glass

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