

Harmonic Inductive Gain (HIG™) Heating Technology



Recent advances in semiconductor technology have enabled a new method of induction heating that allows real-time control of power delivery, frequency and recognition of load characteristics.

WIDE FREQUENCY RANGE

PRECISION CONTROLS

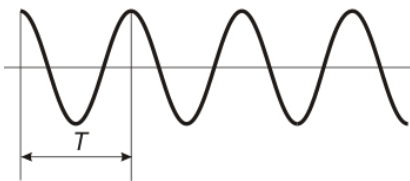
EXPANDS COIL DESIGN

PROVEN REPLACEMENT FOR

FLEXIBILITY

RESISTIVE HEATING

Traditional Induction



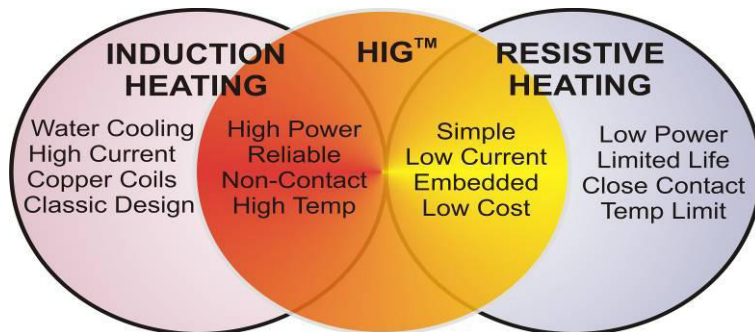
Switching Period = T
Effective Frequency = $1/T$
High Current, Low Resistance
High Switching Losses
Limited Information About Load

Harmonic Inductive Gain™

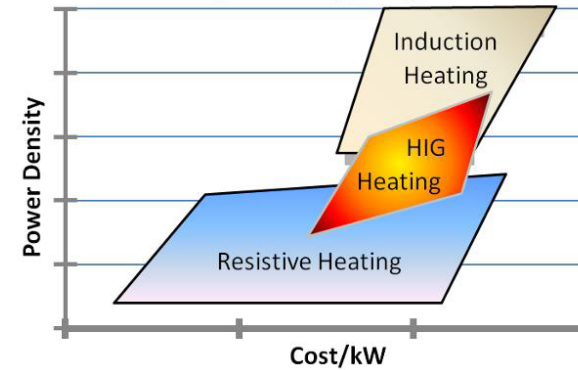


Switching Period = T
Effective Frequency = $5-15 \times 1/T$
Low Current, High Resistance
Low Switching Losses
Significant Information About Load

Years of research have exposed the full spectrum of the HIG™ heating pulse. Detailed understanding of the pulse and the development of optimization algorithms have been proven in inductive and resistive applications now converted to HIG™ heating. iTherm's HIG™ heating technology works by sending pulses of current at high frequencies through a conductor adjacent to the object to be heated. These discrete pulses induce intense changes in the magnetic field thus creating intense heating with low current allowing coil design and material selection flexibility.



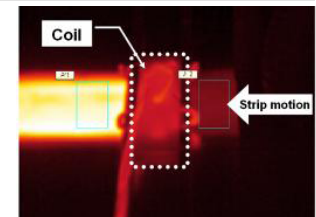
Heating Technology Ranges



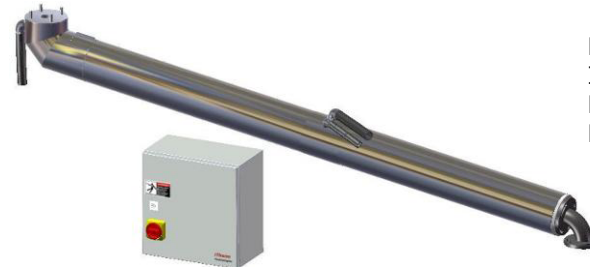
STRIP HEATING:



Air cooled coil
Non-contact
6-40" width
High frequency
50ft/min



MELT TRANSFER PIPE HEATING:

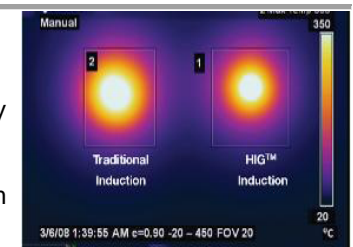


No water cooling
Increase melt temperature
Lower furnace temperature
Energy savings

PRECISION INDUCTION HEATING:



1W accuracy
High frequency
Reduced heat zone
Modular design



Other proven applications include, shrink fitting, forging, plastic processing, annealing, Litz wire coils, embedded warm coils...