



**Sigma
Therm**
INDUCTION HEATING SOLUTIONS

The
Art
of Induction Heating



**Electronics
Devices**

Worldwide Pvt. Ltd.

Making Things Happen

A World Class Company

- Consulting • Manufacturing • Sales • Support

Since 1974, Electronics Devices was founded with the committed objective of providing world class heating solution, cost effectively. Today, the company design, manufacture and installs the widest possible range of Induction Heating Equipments.

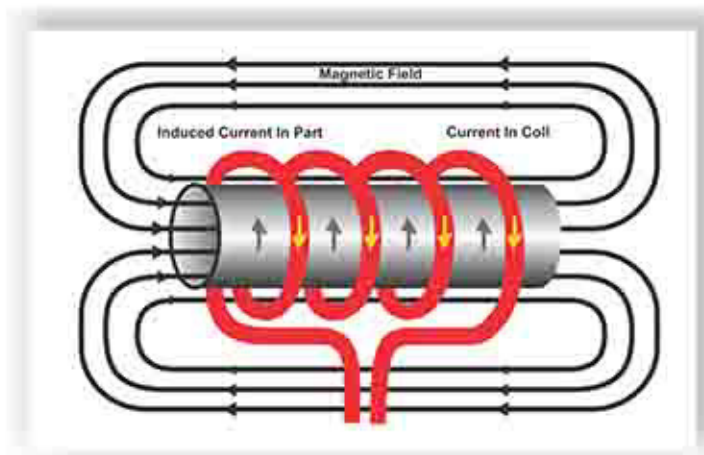
Fully ranged machinery based on IGBT, MOSFET, THYRISTOR or ELECTRON TUBE circuitry and power capacity range from 5kW to the power requirement by the job.

Electronics Devices also provides Manual, Semi Automatic and Fully Automatic Toolings & Fixturing Solutions.

Some of the Induction Heating applications includes Surface Hardening, Annealing, Pan Brazing, Resin Bonding, Sintering, Wire Cutting, Wire Annealing, Forging, Brazing, Partial Heating, Soldering, Metal Melting, Shrink Fitting and special application like Cap Sealing etc.

Electronics Devices customer list is diverse and includes many reputed Indian and Multi-national Companies, the Railways, Defense, BARC as well as many small & medium scale companies. Machines have been exported to over 42 countries world-wide.

- How exactly does induction heating work?



When an alternating electrical current is applied to the primary of a transformer, an alternating magnetic field is created. According to Faraday's Law, if the secondary of the transformer is located within the magnetic field, an electric current will be induced.

In a basic induction heating setup, a solid state RF power supply sends an AC current through a copper coil, and the part to be heated is placed

inside the coil. When a metal part is placed within the induction coil and enters the magnetic field, circulating eddy currents are induced within the part. As shown above, these eddy currents flow against the electrical resistivity of the metal, generating precise and localized heat without any direct contact between the part and the coil.

Standard Machines Manufactured

Mosfet Based Solutions

Model	Input Voltage	Input Max Current	Max Frequency	Output Power	Efficiency	Cooling Water Requirement
EDM-05	230V 1Ø	21A	100KHz	5kW	>90%	20~30 LPM
EDM-06	415V 3Ø	8A	300KHz	6kW		
EDM-15	415V 3Ø	21A	300KHz	15kW		
EDM-25	415V 3Ø	35A	300KHz	25kW		

IGBT Based Solutions

Model	Input Voltage	Input Max Current	Max Frequency	Output Power	Efficiency	Cooling Water Requirement
EDI-05	415V 3Ø	7A	90KHz	5kW	>90%	20~30 LPM
EDI-10		14A		10kW		
EDI-15		21A		15kW		
EDI-20		28A		20kW		
EDI-25		35A		25kW		
EDI-30		41A		30kW		
EDI-40		55A		40kW		

Thyristor Based Solutions

Model	Input Voltage	Input Max Current	Max Frequency	Output Power	Efficiency	Cooling Water Requirement
EIFG-25	415V 3Ø	37A	10KHz	25kW	>90%	30 LPM
EIFG-100	415V 3Ø	146A	10KHz	100kW		60 LPM
EIFG-500	660V 3Ø	485A	2.5KHz	500kW		270 LPM
EIFG-1000	660V 3Ø	965A	1.5KHz	1000kW		520 LPM
EIFG-2000	480V 3Ø	1266A	500Hz	2000kW		940 LPM

Electron Tube Based Solutions

Model	Input Voltage	Input Max Current	Max Frequency	Output Power	Efficiency	Cooling Water Requirement
IH-01	230V 1Ø	9A	450KHz	1kW	>70%	20~30 LPM
IH-05	415V 3Ø	13A		5kW		
IH-10	415V 3Ø	27A		10kW		
IH-18	415V 3Ø	44A		18kW		
IH-30	415V 3Ø	75A		30kW		
IH-50	415V 3Ø	135A		50kW		

Equipments Offered

Equipment Based On	For	Heat Penetration	Typical Applications
MOSFET	<ul style="list-style-type: none"> • High Frequency • Low Power 	Shallow	<ul style="list-style-type: none"> • Brazing • Degassing • Sintering • Hardening With Shallow Case Depth
IGBT	<ul style="list-style-type: none"> • Medium Frequency • Medium Power 	Medium	<ul style="list-style-type: none"> • Hardening With Medium Case Depth, • Brazing, • Sintering
THYRISTOR	<ul style="list-style-type: none"> • Low Frequency • High Power 	High	<ul style="list-style-type: none"> • Billet Heating, • Hardening With High Case Depth, • Sintering Large Moulds
ELECTRON TUBE I	<ul style="list-style-type: none"> • High Frequency • Medium Power 	Very Shallow	<ul style="list-style-type: none"> • Surface Hardening With Low Case Depth, • Annealing Small Dia Wires • Brazing Thin Sections
ELECTRON TUBE II	<ul style="list-style-type: none"> • High Frequency • Medium Power 	Heat generated through Molecular Friction	<ul style="list-style-type: none"> • Dielectric Heating, • Thermosetting materials • Rubber Epoxies, • Wood Glue Drying

Competitive pressure in the marketplace today puts a lot of emphasis on reducing your cost and improving process quality. Conventional heating processes are often very wasteful of energy and requires skilled operators to achieve desired quality.

ED-VANTAGE

- Customized cost effective solutions
- High reproducibility & automation capability
- Little space required
- High throughput
- Low energy & eco friendly
- Consistency in hardness pattern & hardness values
- Prompt after sales service
- Updated with current technical development

If **Heating** is your problem, We have the **Solutions**

Our In-house Strengths

- R & D Department
- CAD center
- Micro controller, PLC & CNC programming section
- PCB assembly department
- Fabrication shop

Our Specialization

- Development of new equipments
- Manufacturer of inductor coils
- SPM designing & manufacturing
- Overhauling, maintenance & servicing of Induction Heating Equipment

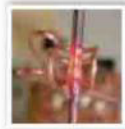
Electronics Devices works with you to...

- Establish your specific heating parameters
- Evaluate the correct frequency to generate heat
- Calculate the power levels & time of heating required
- Recommend the optimum equipment for the Job
- Design the heating coil & fixture to do the job efficiently

flexible solutions for
 your Heating needs



HARDENING



BRAZING



VALVE
 HARDENING



DI-ELECTRIC
 PRE-HEATER



TOOL BRAZING



SINTERING



FORGING



WIRE & UTENSILS
 ANNEALING



SHRINK FITTING



PARTIAL
 HEATING



CHAIN
 HARDENING



SOFT
 SOLDERING

CUSTOM SOLUTIONS

We Design, Develop and Manufacture the machines as per the Job Requirement. We manufacture these machines from 5kW capacity to as per the requirement.

AUTOMATION & TOOLINGS

With the help of our Design Experts and Engineers, we provide you automation and tooling solutions as per production rate and Job nature.

SERVICE SUPPORT

Committed to give the after sales Service to the customers. We have work force of experienced Engineers & Technicians to provide instant service support.



PROVEN
 APPLICATIONS



ENERGY SAVER



ED - VANTAGE



ECO - FRIENDLY



Di-Electric pre-Heater
RANGE: 1kW-4kW



Induction CAP Sealer
RANGE: 300W- 5000W



Inverter-Billet Heater
RANGE: 25kW-3000kW



Digital Welding Inverters
Range-MMA TIG MIG