

AN ISO 9001:2015 COMPANY





INDUCTION HEATING FOR ZONE REFINING SYSTEM



GROW CONTROL Zone Refining system is used in materials processing to refine metals, especially to remove impurities and enhance the purity of materials. It uses induction heating to create a localized high-temperature zone where impurities can be separated from the base metal. The system uses electromagnetic induction to generate heat in the material. When an alternating current passes through a coil, it creates a magnetic field that induces eddy currents in the metal. These currents cause localized heating in the metal.

The temperature in the induction zone is high enough to melt specific areas of the material while leaving the rest solid, enabling a process where purity of material can be concentrated and removed from the molten zone

Features

- **High Purity Products:** The process is effective for refining materials, especially metals like copper, aluminum, and steel, by removing trace amounts of impurities.
- **Energy Efficiency:** Induction heating is a relatively energy-efficient process because it directly heats the material without needing to heat the entire volume of the material.
- **Selective Refining:** It allows for selective removal of impurities based on their melting points or solubility characteristics in the molten zone.

Key Advantages

1. Indigenous Technology:

Developed and manufactured in India, ensuring compatibility with local industry standards and accessible technical support.

2. Versatile Applications:

Heating solutions that are suitable for a range of industries like metallurgy and laboratories.

3. High Reliability:

Engineered for consistent performance under demanding operational conditions, ensuring reliability in various applications.

4. Environmentally Friendly:



Produces minimal emissions compared to traditional heating methods, making it a greener choice for manufacturing.

5. Comprehensive Customization:

GROW CONTROL offers tailored solutions to meet specific operational requirements, ensuring optimal functionality for every application.

Applications

1. Metals and Alloys Refining:

Commonly used for refining metals, such as copper, steel, and aluminum, which need high purity for advanced industrial applications.

2. High Reliability:

Engineered for consistent performance under demanding operational conditions, ensuring reliability in various applications.

Customization Options

GROW CONTROL provides a variety of customization options for the Induction Heating Machine to accommodate specific application requirements:

- **Custom Power Ratings** to suit specific heating needs
- Enhanced Control Features for specific materials and heating profiles
- **Integrated Monitoring Systems** for real-time performance feedback
- Modular Configurations for Increased Capacity
- Communication Interfaces for enhanced integration with production systems

Our engineering team collaborates with clients to deliver tailored solutions that precisely fit their operational needs, ensuring optimal performance and compatibility.

Why Choose GROW CONTROL?

- **Indigenous Expertise**: Tailored to meet Indian industry standards with local support for customization and maintenance.
- **Reliable and Consistent Performance**: Ensures precise and repeatable heating essential for critical applications.
- **Low Maintenance Requirements**: Durable design reduces wear and tear, minimizing downtime and maintenance costs.
- **Energy Efficient and Cost-Effective**: Low energy losses lead to cost savings and enhanced operational efficiency.



Comprehensive Customer Support: From initial design consultation to installation and ongoing support, *GROW CONTROL* offers a full range of services.

Certifications

• ISO 9001:2015 – Quality Management Systems

Technical Specification

| Model no. | GC123IHM |
|---------------------|---|
| Output (KW) | 12 |
| Input Voltage | 415V, 3ph, 50HZ |
| Power | 15kVA |
| Operating Frequency | 80-160kHz |
| Scheme | IGBT Resonant Inverter |
| Type of control | Local, Remote (4-20mA), PLC, Temperature Feedback, RS 432 communication |



Some of the jobs being heated by our induction heaters.











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OUR CLIENTS



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