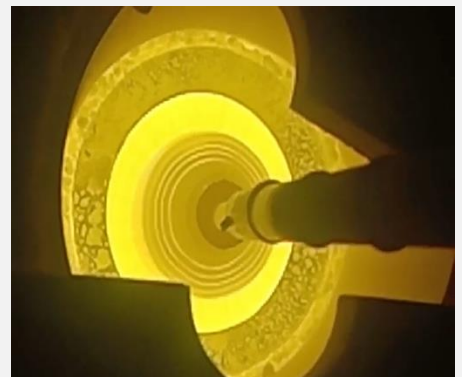




GROW CONTROL
POWER TECH PVT. LTD.

We Provide Solutions....

AN ISO 9001:2015 COMPANY



CRYSTAL GROWTH INDUCTION FURNACE

GROW CONTROL has developed special purpose Crystal Growth Furnace is a specialized piece of equipment used to produce single crystals from a variety of materials, including metals, semiconductors, and oxides. The purpose of the furnace is to provide a controlled environment for crystallization, which can involve precise temperature control, atmosphere regulation, and sometimes the use of specific techniques such as Czochralski, Bridgman, or solution growth methods.

Features

1. **Temperature Control System:** Typically involves thermocouples and controllers to maintain precise temperature settings and gradients.
2. **Crucible:** A container that holds the material being melted or processed; often made of materials like quartz or high-purity ceramics.
3. **Controlled Atmosphere:** Many furnaces can regulate the atmosphere inside (inert gases, vacuum, etc.) to prevent oxidation or contamination during crystal growth.
4. **Cooling System:** Essential for controlling the rate of cooling which can affect the quality of the crystal produced.

Key Advantages

1. **Indigenous Technology:**
Completely designed and manufactured in India, Induction Furnace for Crystal Growth deliver solutions optimized for domestic industrial, research, and defense needs.
2. **Advanced Protection:**
Built-in safety mechanisms, including over-voltage, over-current, and thermal protection, ensure reliable performance in demanding applications.
3. **Customizable Configurations:**
GROW CONTROL offers flexible options in terms of voltage, current range, and form factor, ensuring that each unit meets the unique requirements of its intended application.

Applications

- Crystal growth furnaces are used in various fields including semiconductor manufacturing (for silicon wafers), photonics, materials science (for metal and ceramic crystals), and even in pharmaceuticals for producing pure chemical forms.

Customization Options

GROW CONTROL offers a range of customization options to meet the unique power requirements of diverse industrial and defense applications:

- **Output Voltage & Current Range Adjustments**
- **Cooling System Customization**
- **Advanced Monitoring and Control Interfaces**
- **Extended Protection Features**

Our engineering team collaborates with clients to deliver tailored solutions suited to their operational, environmental, and performance needs.

Why Choose **GROW CONTROL**?

- **Indigenous Design:** Backed by over three decades of power electronics expertise, **GROW CONTROL** Induction Furnace meet high standards of reliability and performance.
- **Efficiency & Stability:** High efficiency and low ripple output ensure stable power delivery, critical for sensitive and precision applications in industrial, defense, and research sectors.
- **Safety and Reliability:** Designed with comprehensive protection mechanisms, these power supplies offer safe and dependable performance under demanding conditions.
- **Ruggedized for Harsh Environments:** Compliant with military standards, **GROW CONTROL** Induction Furnace for Crystal growth are built to operate reliably in extreme environmental conditions.
- **Customer Support:** From customization and installation to support and maintenance, **GROW CONTROL** ensures seamless integration and optimal performance for all clients.



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Technical Specification

Model no	GC503IHF-CG
Power Supply	415V, 50Hz, 3 wire system
Frequency generator	50 kW, 5 - 20 kHz
Inverter Power Devices	IGBT inverting device
Control Features	Manual, automatic regulation controls
Efficiency	High efficiency, low power consumption
Power factor	>0.95
Protection	Over-voltage Over-current Overheat Phase loss Water shortage alarm indications
Total connected in KW & KVA	65 KW & 81.25 KVA

