

Vacuum induction magnetic levitation melting furnace



Application:

Vacuum induction magnetic levitation melting furnace is the emerging smelting technology. Its theory is get the water cooling copper crucible inside alternating magnetic field, utilise electromagnetic force to make the workpiece levitation, molten pool doesn't contact the crucible, which brings the workpiece not to be polluted by the crucible material. The workpiece not to be polluted by the crucible material. That is effective to be used to melt the chemical characteristics of active metal, high melting point metal, radioactive material and its metal (like zirconium, vanadium, niobium and tungsten etc.).

Features:

The furnace is vertical structure, composed of furnace body, support, furnace tilting mechanism, vacuum system, medium frequency power supply automatic control system, inductive heater, water cooling copper crucible, rotary shaft, water cooling system and electrical control cabinet.

1. Its main attribute is no touch levitation, high temperature melting (melting temperature just comes to 1700-2000°C) and electromagnetic stirring.
2. The composition of alloy material can be adjusted and controlled easily. After the melting, the ingredients of alloy is homogeneous.
3. The melted material has no pollution. High efficient production.
4. Furnace body and cover are dual-shell configuration with the built-in water cooling jacket. Inner layer is stainless steel with the specular polish. Outer layer is high quality carbon steel with the rust-proof treatment. Water is injected into the middle of furnace shell to cool the furnace body. Furnace cover has alloy feeder, rotary viewing hole, temperature gauging device and material beater.
5. Inductive coil is made of rectangle copper pipe rolled into the spiral structure. The crucible is put into the inductive coil (crucible and the material to fix the crucible prepared by the customer). The electric rotary apparatus drives the electrode rotary and makes the crucible casting.
6. Vacuum system comprises oil diffusion pump, roots pump, mechanical pump, filter and controlling valves. Using manual or automatic vacuum valves and digital display vacuumometer to achieve the automatic switch between the high and low vacuum.

Main technical parameters:

No.	Model	M.F. Power	Crucible Size	Crucible Capacity	Leak Rate	Ultimate Vacuum	Medium power
1	ZGXF-5	160KW	Ø100X180mm	5kg	≤3Pa/h	10 ⁻³ Pa	KGPS or IGBT
2	ZGXF-8	240KW	Ø120X220mm	8kg	≤3Pa/h	10 ⁻³ Pa	KGPS or IGBT
3	ZGXF-10	400KW	Ø135X240mm	10kg	≤3Pa/h	10 ⁻³ Pa	KGPS or IGBT
4	ZGXF-20	600KW	Ø160X280mm	20kg	≤3Pa/h	10 ⁻³ Pa	KGPS or IGBT
5	ZGXF-30	800KW	Ø200X300mm	30kg	≤3Pa/h	10 ⁻³ Pa	KGPS or IGBT
6	ZGXF-45	1000KW	Ø280X320mm	45kg	≤3Pa/h	10 ⁻³ Pa	KGPS or IGBT