

ICON VHT SERIES

High volume platinum and palladium melting and casting systems

The ICON VHT Series combines innovative induction melting systems with cutting edge automation to provide a complete solution for production of consistent high quality platinum and palladium ingot casting. The ICON VHT Series is available with crucible capacities from 4kg-27kg of platinum, and is ideal for mining, refining, and high volume production environments.



The system illustrated is designed to operate as a complete standalone unit, without any external cooling. The system is also available in a compact design with a heat exchanger system.

KEY FEATURES OF THE ICON SR SERIES INCLUDE

Complete System Automation

High level of system automation to ensure consistency in the process. All melting and casting parameters can be accurately controlled; including the speed of rotation, the power to the coil, and the metal temperature. Automatic casting programs are also provided. The various melting and casting parameters can be stored, and the parameters can be adjusted using an access controlled password.

Controlled Melting and Casting Environment

The melting and pouring is carried out in a water cooled chamber within an inert environment. To ensure an inert environment, a vacuum will be drawn to evacuate the air from the chamber. The chamber is then back filled with an inert gas up to atmospheric pressure. An automated flush cycle function is also provided. The system can be used without the vacuum inert environment if required.

Automated Metal Feed System

If there is a requirement to melt sponge an automated metal feeding system can be implemented, to ensure the full molten capacity of the crucible is reached. This feature also ensures the safety of the operator, who will no longer need to manually add metal to the molten metal in the crucible.

Casting Process

Once the metal is molten and is at the casting temperature, the operator will be notified. The operator starts the cast from the user interface panel. The coil is rotated automatically through 90 °C with a motor. The induction power is kept on the coil as the coil is rotating to prevent the solidification of the molten metal as it is being poured into the graphite mould. The metal temperature, tilting speed; and power can all be adjusted independently. These three parameters control the solidification rate and casting result of the ingot.

Mould

An innovative cassette type mould holder is used, which ensures continuous operation, and rapid replacement of the mould after casting.

Temperature Measurement

To measure the temperature a 2 colour emissivity compensated pyrometer is used, with measurement range from 800-2200 °C.

User Interface

A completely digital 65536 colour 10" user interface with resistive touch panel is used, to ensure optimum display of all critical process parameters, and alarm systems. The user interface is designed to ensure easy operation of the system, and is built into a stainless steel podium, to allow for easy mounting on a platform. The user interface also integrates a remote control for the pouring of the metal.

Induction Generator

Hot Platinum's efficient three phase high frequency induction generator is used, to ensure rapid heating and mixing of the metal. The all solid-state electronic generator ensures high levels of electrical efficiency.

TECHNICAL SPECIFICATION	
Electrical Supply	380V 50/60 Hz 3 Phase
Dimensions Generator	116 (D) x 66 (W) x 200 (H) cm
Power	15 - 40 kVA
Argon / Nitrogen Gas Supply	6 Bar
Maximum temperature	2000°C
Crucible Capacity (Molten Volume)	4 - 27 kg Pt



HOT PLATINUM™

Innovation at work