



Nonferrous Molten Metal

Furnace Systems



Tilting reverb melter/holder with a capacity of 38 metric tons



Round melting furnace in the tilting position

Heat Processing Solutions for Nonferrous Molten Metal

Your new nonferrous molten metal furnace system will be custom engineered to meet your special requirements. Our team of design engineers are among the world's most experienced in developing heat processing solutions for melting and holding nonferrous metals. Whether your application involves melting sows, solids and scrap, or cleaning the molten metal before casting into usable forms, SECO/WARWICK melt furnaces, or reverbs, are designed and built to provide years of efficient service. Today, SECO/WARWICK remains on the leading edge of heat processing furnace technology... just as it was more than 100 years ago. Our advanced technology and processes have led to the improved handling of complex metals such as magnesium. When you specify SECO/WARWICK you place your trust in a century old company a company known worldwide for recommending, designing and building the finest quality nonferrous molten metal furnace systems.

SECO/WARWICK design engineers work closely with your engineering and production staff to ensure optimum performance for your furnace system and overall plant operations.

We offer the finest quality melt equipment in the industry:

- Central melt furnaces
- Stationary and tilting reverbs
- Rotary furnaces
- Tilting barrels
- Holding furnaces
- Die cast furnaces

Let our applications engineering staff assist you in selecting the right furnace style and design to meet your production requirements.



Casting line tilting holder



Tilting barrel furnace applications

Heat Processing System Design

SECO/WARWICK delivers complete solutions. We offer superior construction, advanced control systems, combustion alternatives, quality linings, and professional installation services to help our industrial furnace users obtain more from their heat processing operation. SECO/WARWICK continues to deliver the very finest heat processing equipment available anywhere in the world.

Controls

High inputs of fuel are required when melting aluminium. Lesser amounts are required for holding the molten metal. SECO/WARWICK selects high tech, microprocessor-based, control instruments that feature great sensitivity and accuracy to control the wide turn down ratios required in today's furnace equipment. Special attention is given to combustion control of fuel/air mixtures, furnace pressure and temperature. Each system is equipped with solid state safety protection, temperature high limits and an alarm system.

Construction

All SECO/WARWICK reverbs feature rugged steel construction reinforced with structural members at various key points around the furnace. Points of localized stress such as door openings, tap and drain locations, and openings into external wells, receive additional reinforcing members as needed. Depending upon the requirement, water-cooled doors and door openings are available to meet individual design requirements.

Combustion Systems

SECO/WARWICK selects from a broad choice of the latest burner designs to best suit the needs of a specific furnace. Burner placement is carefully analyzed to provide maximum coverage while providing the fastest melt rate possible. Special care is taken to select the correct burner so that just enough heat is applied to the furnace to do the job, but not too much as to cause problems with metal quality, high metal loss or short furnace lining life.

Refractory Linings

Different operating conditions require specifically developed refractory materials. Some of the factors to be considered in selecting the correct refractory material are anticipated life, spall resistance, metal attack resistance, overall resilience and determination of special wear areas and cost. SECO/WARWICK constantly evaluates energy saving refractories for the most economical performance. Maximum thermal efficiency is achieved by using energy-conserving backup insulation materials in all furnace linings.

Energy Saving Options

A wide variety of options are available to further improve the efficiency of SECO/WARWICK is reverbs. Preheated combustion air and preheating chambers for sows and scrap charges can improve the excellent furnace economy already offered. Other options include molten metal recirculation systems to speed melting of small section material, special door closing and sealing methods, energy-conserving refractory lining materials, as well as various heating systems including regenerative & oxy fuel burners. SECO/WARWICK can also provide programmable control of the entire furnace and the related casting operation to assure maximum utilization of fuel inputs.



Scrap manager



Central melt and hold furnace systems airflow

Nonferrous Molten Metal Furnace Systems



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