insertec
Furnaces & Refractories

SANKEN
HIROSHIMA JAPAN

All-electric, energy-saving, and compact.

The S-MIC Electric Aluminium Melting and Holding Furnace is designed to maximize efficiency in the aluminum melting process, offering several significant advantages for the industry.

insertec
Furnaces & Refractories

insertec.biz

S-MIC \

Electric
Aluminium
Melting and
Holding furnace

insertec
Furnaces & Refractories

S-MIC Concept:

The S-MIC revolutionizes the aluminum melting process by offering unparalleled energy and superior molten metal quality. Designed with advanced technology, the S-MIC not only reduces operational costs but also enhances environmental sustainability and workplace safety.

Main features:

Highly Efficient Melting:

- The molten metal recirculation system speeds up the melting process and achieves uniform distribution.
- Exceptional heat transfer efficiency comparing with induction heating or indirect heating, using state-of-the-art immersion heaters.
- Improved high-irradiance immersion heaters, achieving up to 45w/cm² or more in a variety of available diameters.
- Automatic level control of molten metal.

Low Metal Loss:

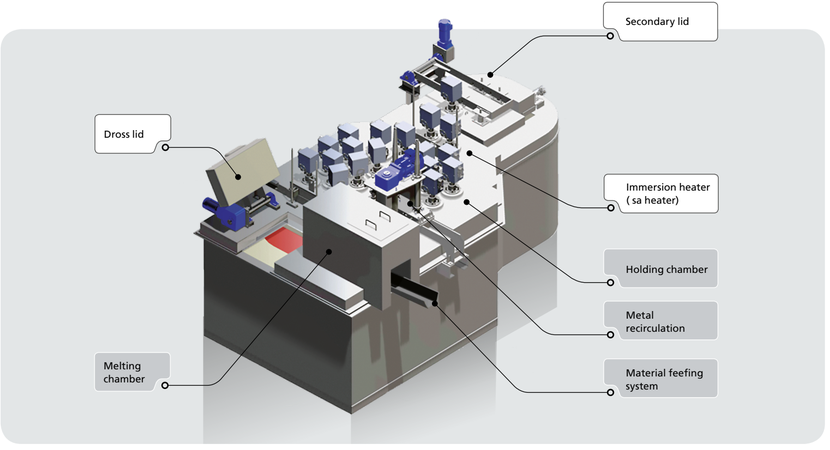
- Exclusive lid design, avoiding dross adhesion to heaters & less fluctuation of molten metal surface, achieving minimum dross generation.
- Heaters can be replaced without removing furnace lid or emptying the furnace.
- Less metal surface fluctuation.

Space Saving:

- Compact overall design, 15% less footprint than conventional gas fired furnaces.
- State-of-the-art compact diameter immersion heaters
- No bag-house system required.

Friendly Working Environment:

- Lower working temperature of furnace walls.
- Longer refractory lifespan.
- Minimum dross removal.
- Noise reduction, combustion and material charging.
- Air pollution prevention, avoiding NOx emissions.

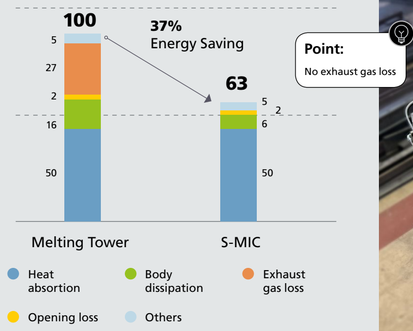


Energy-saving:

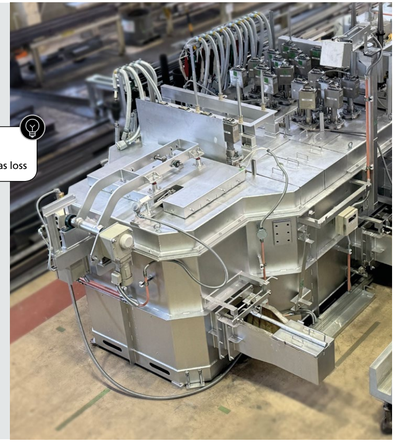
Say goodbye to high energy bills & harmful emissions. Unlike fossil fuel demanding furnaces, the S-MiC furnace 100% electric furnace does not generate exhaust gases, reducing your carbon footprint and cutting dramatically operational costs with minimum energy loss.

S-MIC energy comsumption, compared with Melting Tower energy consumption (set at 100)

Exhaust gas temperature: 600C°



Point:
No exhaust gas loss



Other benefits:

The S-MIC Electric Aluminium Melting and Holding Furnace revolutionizes the aluminum melting process by offering unparalleled efficiency and superior molten metal quality.

Superior Heat Distribution:

Maximize efficiency with uniform heat distribution. Our advanced electric heating elements and recirculation system ensure rapid and consistent melting, improving product quality and reducing energy waste.

Reduced Dissipated Heat:

Keep the heat where it belongs. With an advanced and compact desing, our furnace retains more heat, boosting energy efficiency and lowering costs.

Supression of Exhaust Gases:

Energy transfer is carried out with immersion heaters though conduction, avoiding the need of heating the chamber atmosphere.

Conclusion

Join the revolution. The 100% electrically heated aluminum furnace offers superior heat absorption, reduced emissions, better energy retention, and minimal heat loss. Lead the way in sustainable, efficient aluminum production with our cutting-edge technology.

Decarbonization Goal:

Transform the Future of Aluminum Melting!

Green technologies for aluminium melting are urgent to achieve sustainable development goals set by 2050. Moving away from fossil fuels and reducing CO_2 emissions is crucial to ensure a sustainable future.

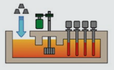
Why is Electrification Crucial?

- Environmental commitment with the carbon footprint.
- Increase energy efficiency to provide short-term lower OPEX.
- Use of renewable energy.
- Innovation and competitiveness in the industry

Our Proposal:

Don't wait any longer. We invite you to consider electrifying your aluminum melting furnaces today. Here are the benefits we offer:

- Specialized Consulting with highly qualified staff
- Turnkey projects
- Integral engineering support

Type	Melting Tower		Hybrid	S-MIC
Melting	Burner	Burner	Burner	Heater
Holding	Burner	Burner+ Heater	Heater	Heater
Scheme				
Merit	·Energy savings ·Utilization of Exhaust gases ·High Insulation ·Precise Air Control	·Ladle Well Heater ·Holding Temp Efficiency ·Reduction of Holding ·Burner Gas Consumption	·Holding All Electric ·Exhaust Gas Reduction ·Compact and Efficient ·Energy Consumption	·All Electric ·80% Thermal Efficient ·Lowest Metal Loss
CO_2 Emissions				

Items		Tower	S-MIC	Benefit
Image iMelting Capacity F1t/h j				-
Heat Source		Gas Burner	SA Heater	-
Utility		Gas AElectricity	Electricity	-
Electrical Capacity (Rated Current)		100A	850A	-
Energy Consumption	Meltng	558.4 kW/ton	390.3 kW/ton	▲30%
	Holding	116.1 kWh/h	34.7 kWh/h	▲70%
Annual Energy Consumption (kWh/yr)		2,963,156	1,868,612	▲37%
CO_2 Emission (ton/yr)		601.7 CO_2 Emission Factor 2.29kg-CO_2/m3N	0 (Inside factory) CO_2 Emission Factor 0.457kg-CO_2/kWh Hour F854.0	▲100%

Join the Change:

SUSTAINABLE DEVELOPMENT GOALS

Be part of the energy revolution and make a difference. Together, we can build a cleaner, greener, and more sustainable future. Act now and secure your place at the forefront of industrial innovation!

insertec Furnaces & Refractories

SANKEN HIROSHIMA JAPAN