



Aluminium Recycling Technology

for scrap & dross

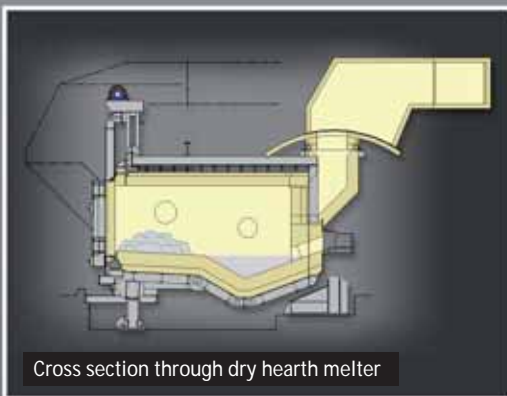


Suppliers of standard plant or custom designed
to suit individual requirements

Why Mechatherm International Limited?

Whether it's to recycle slightly contaminated extrusion scrap or a broader variety of alternate scrap forms – either painted, oiled, swarf, chips, cans, engines, automotive etc. Mechatherm has the solution.

- Continuous references since 1973 for recycling furnace technology, casting and reclamation from all Aluminium scraps & dross.
- Custom designed solutions for different types of scraps.
- Advanced process and control systems based on the latest PC/PLC's and SCADA systems.
- Advanced high efficiency air or oxygen fired combustion systems operating on either natural gas, LPG, diesel, heavy oil or reclaimed oil.
- High metal recovery yields while keeping furnace operating costs to a minimum.
- Equipment designed to satisfy world-wide environmental regulations.
- 3D Solid modelling design techniques utilising finite element analysis (FEA).
- Project management of complete 'Turn-key' foundry installations as a single source supplier.



75T multi-chamber melting furnace for rolling mill scrap with 5T scrap charge machine



130T tilting melting / casting furnace with integrated electro magnetic under hearth stirrer



32T tilting 'top loading' melting furnace



45T static melting furnace and 45T tilting holding /casting furnace



• Single Chamber Furnaces • Multi-chamber Furnaces • Top-loading & Side-well

Single Chamber Melting Furnaces

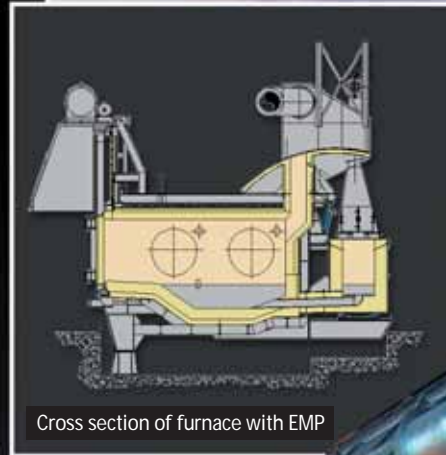
- Used for recycling predominantly clean scraps, but versatile enough to handle small quantities of contaminants such as lacquers, paints and lithographic sheets.
- Burner and control systems that accurately monitor oxygen levels in the furnace to be able to handle the fumes generated from these charge mixes.



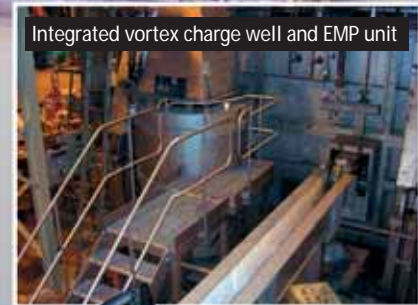
28T single chamber tilting melting furnace

Multi-chamber Furnaces

- Integrated stirring / circulation systems to help minimise metal losses.
- High volume molten metal re-circulation for increased melting rates.
- Side-well chamber for the re-melt of foil & coils and general light gauge scrap.
- Integration of dry hearth for pyrolysis of VOC's and melting of contaminated and iron scraps.
- Supply of full incineration and air pollution control systems with full continuous emissions monitoring.
- Re-melting of swarf and chips from various machining and scalping processes.



Cross section of furnace with EMP



Integrated vortex charge well and EMP unit

Top Loading Furnaces

- Either static or tilting type furnaces.
- Integrated regenerative, cold-air, recuperative or oxy-fuel combustion systems.
- Design and supply of charge buckets and furnace lid lifting and removal mechanisms.
- Integration of sub-hearth electro-magnetic stirring for maximum melt rates and reduced cycle times.



23T melting furnace with EMP pump system



Air pollution control mimic screen



Turnkey chip and wheels processing plant with air pollution control system

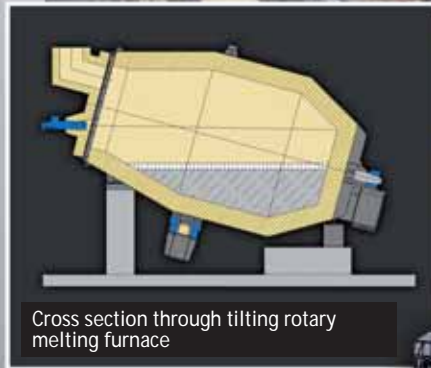
Furnaces • De-ironing Dry Hearth Furnaces • Chip & Swarf Recycling Furnaces •

Tilting Rotary Melting Furnaces (TRMF's)

MECHATHERM and ALTEK collaboration

In 2009 Mechatherm formed a collaboration with ALTEK to jointly market the Aluminium industry with its Tilting Rotary Melting Furnace technology. Together we offer:

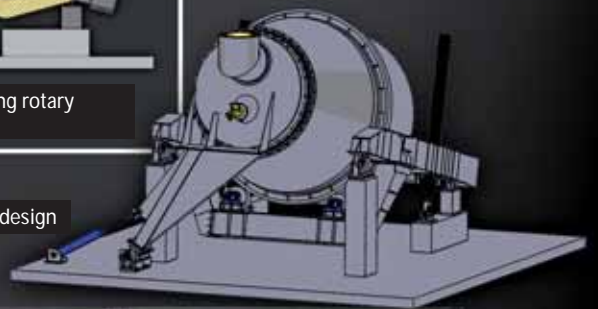
- Combined process experience of ALTEK with the worldwide casthouse and re-melt furnace reputation of Mechatherm.
- World leading supply and project management of 'Turn-key' TRMF's and their associated ancillary equipment.
- Versatile low capital investment of rotary melting technology.
- A selection of standard size, low-cost TRMF's for the processing of dross and scrap (with or without salt flux).
- Custom built units for client specific applications and production targets.
- TRMF's for use on all types of fuel and air or Oxygen – fuel combustion.



Cross section through tilting rotary melting furnace

8T tilting rotary melting furnace

3D modelled furnace design



Altek tilting rotary furnace



5T tilting rotary melting furnace 'oxy-fuel' fired

ALTEK™ TOTAL DROSS MANAGEMENT SOLUTIONS



INVESTOR IN PEOPLE



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