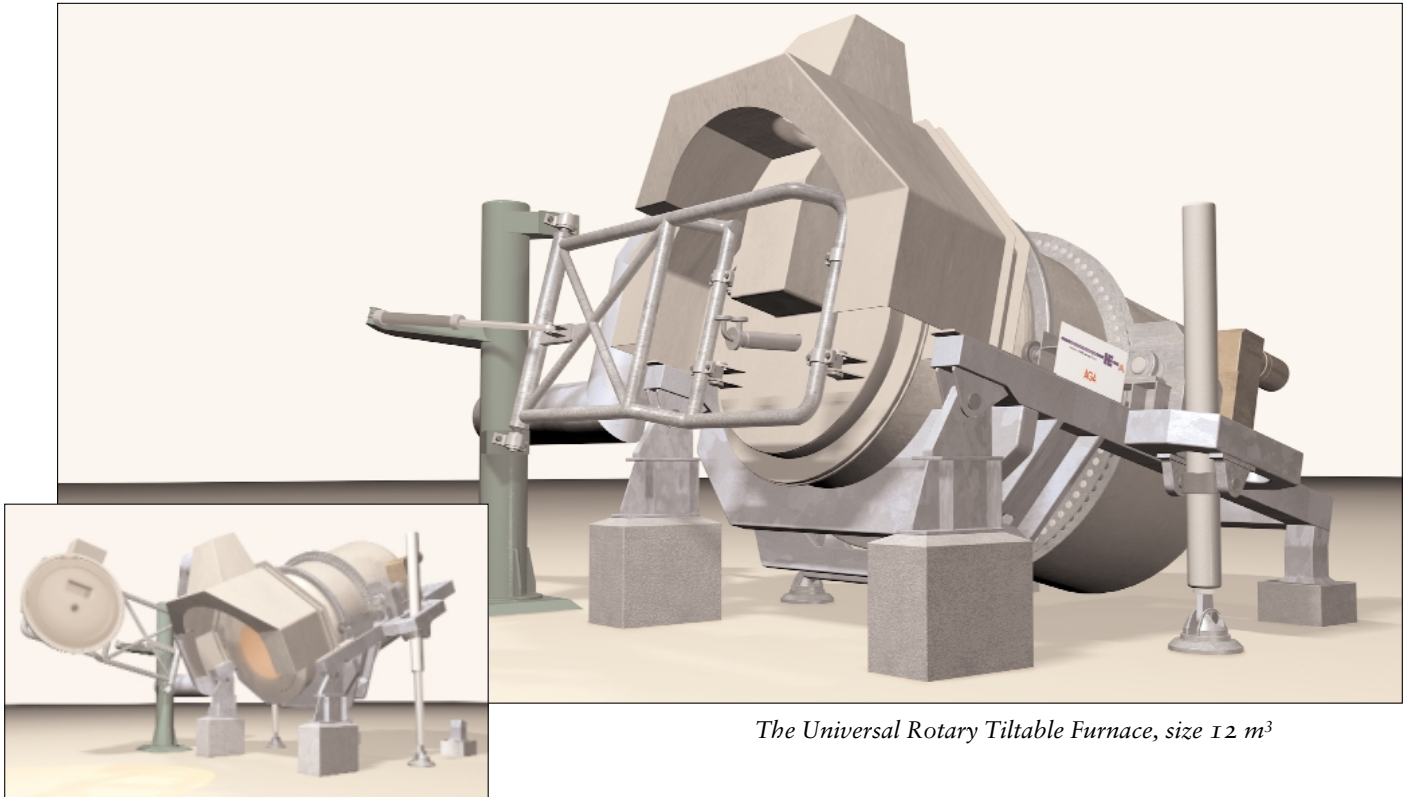


**Process:** Aluminum Recycling  
**Equipment:** Universal Rotary Tilting Furnace (URTF)

## Highly Versatile, Environment-Friendly Processing Furnace



*The Universal Rotary Tilting Furnace, size 12 m<sup>3</sup>*

**D**eveloped for salt-free processing of aluminum dross and scrap or for conventional dry processes. In either case, the new and unique Universal Rotary Tilting Furnace (URTF) offers maximum reliability in mechanical engineering and design.

The efficient URTF is being marketed by AGA AB, Hertwich Engineering GmbH, and CORUS Aluminum Voerde GmbH. This three-way joint venture effectively combines the expertise of AGA in oxy-fuel combustion systems and related processes with the expertise of Hertwich Engineering in innovative equipment systems for the handling of aluminum processes and the expertise of CORUS in environmentally sound aluminum recovery.

### Basic URTF Design

The furnace is fundamentally a rotary and tiltable converter designed with full flexibility for use in the various processes to recover aluminum from aluminum scrap and dross. This may include conventional dry (low salt) processes as well as the salt-free process ALUREC®—a salt-free process that has been developed by AGA and its partners. The furnace shell is made of heavy-duty welded carbon-steel lined with a permanent lining (refractory bricks) and a wear lining (castable refractory). The furnace shape is as a cylindrical drum having a cone-formed section and a dished bottom section. An extremely

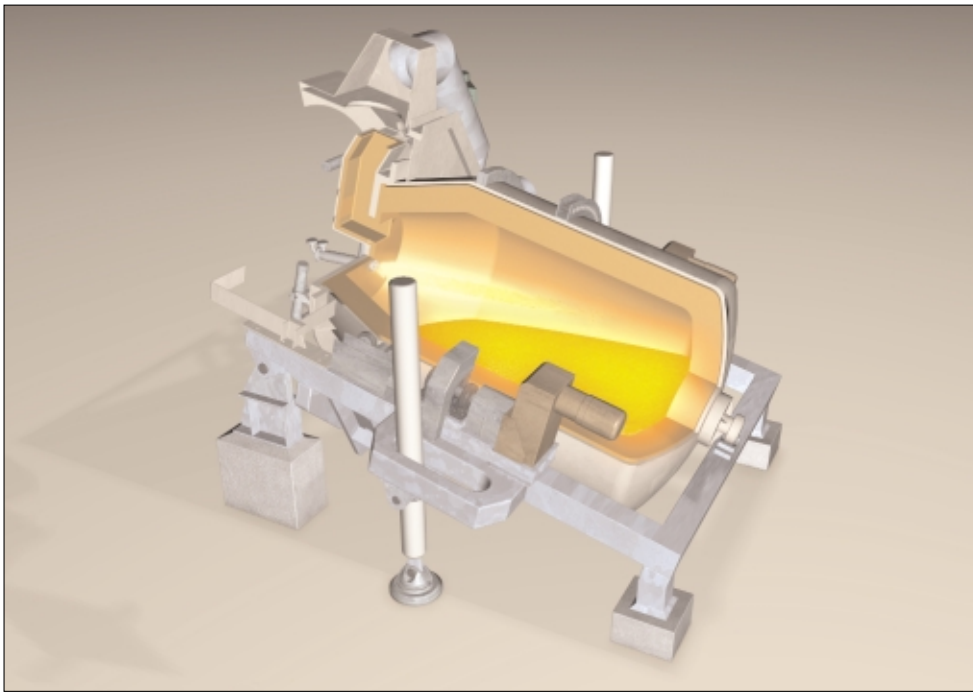
sturdy steel frame plus heavy-duty industrial bearings provide support during rotation and tilting operations. Two drive units, one on either side of the furnace provide bi-directional rotation of the drum. Speed is variable from 0.6 to 8 rev/min.

### Heating System

The furnace is equipped with a multi purpose oxy-fuel-based combustion system, enabling extremely efficient supply of energy and control of combustible contaminants with highest safety and monitoring standards. The burner system is mounted directly in the furnace door. Continuous flow-and-ratio control of both fuel and oxygen is provided, as is automatic operation, alarm and shut-off handling, and flame supervision.

### Process Control System

All necessary process logic, menu systems, error handling, and debugging is provided through Hertwich control-system software running on an industrial PC. The software is stored on flash EPROMs. Several control PCs may be linked using standard LAN, e.g. Ethernet for exchanging data. In case of power down, the system can always be restarted without any problems. For emptying the furnace, some functions can be carried out via remote control, e.g., tilting, rotating, and door opening. Remote control is activated or deactivated from the control panel.



*The burner system is mounted directly in the furnace door for the supply of energy and control of combustible contaminants.*

## Turn Key Plants

Hertwich Engineering's unique experience as a well established supplier of equipment to the aluminum cast house, gives us the opportunity to offer highly automated turn key systems for aluminum recycling. Aside the Universal Rotary Tilting Furnace the plants may also contain charging machines, melt treatment, flue gas treatment and casting machines.

## Benefits

The Universal Rotary Tilttable Furnace offers the latest process know-how for the highest aluminum yield yet with low specific energy consumption. Very promising results have been achieved in the elimination of residues when operating salt free.

And, there are other benefits:

- Highest engineering standard for most reliable operation and minimum maintenance,
- Highest aluminum yield, very low specific-energy consumption,
- State-of-the-art PC/PLC process control with remote-access maintenance,
- Latest process know-how based on previous generations of salt-free ALUREC® and low-salt processes,
- Availability of technical assistance from AGA/CORUS, specialists in process optimization,
- Minimal environmental impact,
- Unique capability for processing heavily contaminated scrap.

Technical data	
	URTF
Useful volume, m <sup>3</sup>	3–12
Charge size, t	5–20
Productivity, t/h	2–6
Max. burner power, MW	1–5
Rotating speed, rev/min	0.6–8
Cycle time, h	2–3

# AGA

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