By heating ladles with electricity instead of gas, aluminum producers as well as aluminum and steel foundries can benefit from lower energy costs and increased process control.

Kanthal® ladle heater installations offer energy efficient solutions for heating and pre-heating up to ladle temperatures of 1500°C (2732°F) and ladle sizes from ID 500 mm to ID 2100 mm (19.69 – 82.68 inches).

Kanthal® electrical ladle heaters are supplied as complete installations, comprising heating elements in a reflector casing, control and regulation equipment, commissioning and technical service. The innovative heater monitoring and control system optimizes performance and prolongs the lifetime of the heater by eliminating overheating. The system ensures maximum and consistent power, which reduces process times.

KANTHAL® ELECTRICAL LADLE HEATER ADVANTAGES
— More energy efficient. Net efficiency is 70%, compared to only 20% for gas.
— Multi-purpose. Innovative design enables the same heater to be used for both heating and holding
— Reduced process times
— Increased refractory lifetime
— Reduced CO₂ emissions
— Cleaner working environment
— Complete installation

In Kanthal® electrical heaters, the heating elements are arranged in a reflector. This allows the radiation to be more accurately directed towards the target area. Optionally, certain models can have the heater automatically raised and lowered hydraulically, and there are attachments on both sides to minimize heat loss from the spouts. This goes together with a timer system that starts preheating automatically at a preset time. Heating is monitored and controlled by PLC.
CONTROL EQUIPMENT
Kanthal® electrical ladle heaters are delivered together with control equipment specially designed by Kanthal® to ensure optimal heater operation. We deliver CE/EN/UL/CSA certified equipment according to your national/company standards.

This innovative control and regulation system optimizes performance and eliminates over-heating in order to prolong the lifetime of the heater. It also ensures maximum and consistent power. More power reduces process times and reductions in time mean cost savings.

INSTALLATION AND COMMISSIONING
Kanthal® electrical ladle heaters are supplied as complete installations, comprising heating elements in a reflector casing, and control and regulation equipment. Commissioning and technical support are provided on site by Kanthal® heating experts.

TECHNICAL SERVICE
Once the system is installed, we will support you with preventive maintenance, repairs, replacements, service and refurbishment. We offer service agreements and technical team efforts on a global scale in order to keep your ladle heaters productive for a long time.

ACCESSORIES
The Kanthal® program includes the following accessories for ladle dryers and heaters:
— Add-on for ladle pouring spout
— RHH cable set (5 m / 197 inches)
— Thermocouples
— Lifting device

The control system can handle most of today’s common communication protocols such as Modbus, Profibus, Profinet and Ethernet IP.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>LADLE SIZE A [MM] [INCH]</th>
<th>PHASES</th>
<th>POWER [KW] [BTU/H]</th>
<th>SUPPLY VOLTAGE [V]</th>
<th>HEATER DIMENSIONS OD [MM] [INCH]</th>
<th>H [MM] [INCH]</th>
</tr>
</thead>
<tbody>
<tr>
<td>5–7</td>
<td>500–700 [20”–28”]</td>
<td>1-phase</td>
<td>30 [102 400]</td>
<td>230</td>
<td>1150 (45,3”)</td>
<td>700 (27,5”)</td>
</tr>
<tr>
<td></td>
<td>500–700 [20”–28”]</td>
<td>1-phase</td>
<td>45 [153 500]</td>
<td>230</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>500–700 [20”–28”]</td>
<td>1-phase</td>
<td>66 [225 200]</td>
<td>400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7–9</td>
<td>700–900 [28”–35”]</td>
<td>1-phase</td>
<td>66 [225 200]</td>
<td>400</td>
<td>1350 (53,1”)</td>
<td>700 (27,5”)</td>
</tr>
<tr>
<td></td>
<td>700–900 [28”–35”]</td>
<td>3-phase</td>
<td>90 [307 000]</td>
<td>400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9–11</td>
<td>900–1100 [35”–43”]</td>
<td>3-phase</td>
<td>90 [307 000]</td>
<td>400</td>
<td>1550 (61”)</td>
<td>700 (27,5”)</td>
</tr>
<tr>
<td></td>
<td>900–1100 [35”–43”]</td>
<td>3-phase</td>
<td>135 [460 600]</td>
<td>400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11–13</td>
<td>1100–1300 [43”–51”]</td>
<td>3-phase</td>
<td>90 [307 000]</td>
<td>400</td>
<td>1750 (68,9”)</td>
<td>700 (27,5”)</td>
</tr>
<tr>
<td></td>
<td>1100–1300 [43”–51”]</td>
<td>3-phase</td>
<td>135 [460 600]</td>
<td>400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13–15</td>
<td>1300–1500 [51”–59”]</td>
<td>3-phase</td>
<td>90 [307 000]</td>
<td>400</td>
<td>1950 (76,8”)</td>
<td>700 (27,5”)</td>
</tr>
<tr>
<td></td>
<td>1300–1500 [51”–59”]</td>
<td>3-phase</td>
<td>135 [460 600]</td>
<td>400</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1300–1500 [51”–59”]</td>
<td>3-phase</td>
<td>200 [682 400]</td>
<td>400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15–17</td>
<td>1500–1700 [59”–67”]</td>
<td>3-phase</td>
<td>135 [460 600]</td>
<td>400</td>
<td>2150 (84,6”)</td>
<td>700 (27,5”)</td>
</tr>
<tr>
<td></td>
<td>1500–1700 [59”–67”]</td>
<td>3-phase</td>
<td>200 [682 400]</td>
<td>400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17–19</td>
<td>1700–1900 [67”–75”]</td>
<td>3-phase</td>
<td>135 [460 600]</td>
<td>400</td>
<td>2350 (92,5”)</td>
<td>700 (27,5”)</td>
</tr>
<tr>
<td></td>
<td>1700–1900 [67”–75”]</td>
<td>3-phase</td>
<td>200 [682 400]</td>
<td>400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19–21</td>
<td>1900–2100 [75”–83”]</td>
<td>3-phase</td>
<td>135 [460 600]</td>
<td>400</td>
<td>2500 [98,4”)</td>
<td>700 (27,5”)</td>
</tr>
<tr>
<td></td>
<td>1900–2100 [75”–83”]</td>
<td>3-phase</td>
<td>200 [682 400]</td>
<td>400</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1900–2100 [75”–83”]</td>
<td>3-phase</td>
<td>270 [921 300]</td>
<td>400</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**CONTROL SYSTEMS**

**Features according to customer requirements**
- Manufactured using components from global industry leaders
- Advanced PLC or budget equipment
- Thermocouple free control available
- Full documentation
- CE certification
- Multiple com protocols
  - Modbus
  - Profibus
  - Ethernet IP (AB)

**LIFTING SYSTEMS**

**Standardized for each system**
- Multiple solutions available
- Electrically controlled motion
- Classified as lifting devices
- CE approved

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**KEY ADVANTAGES**

**7 GOOD REASONS FOR CHOOSING KANTHAL® LADLE HEATERS**

- REDUCED PROCESSING TIME
- MUCH HIGHER ENERGY EFFICIENCY
- ZERO CO, CO₂, OR NO X EMISSIONS
- EXTENDED LADLE LIFETIME
- SAFE & QUIET WORK ENVIRONMENT
- UNMANNED & TIMED OPERATION
- MULTIPURPOSE OPERATION