



## I-Type immersion heater

### Powerful savings

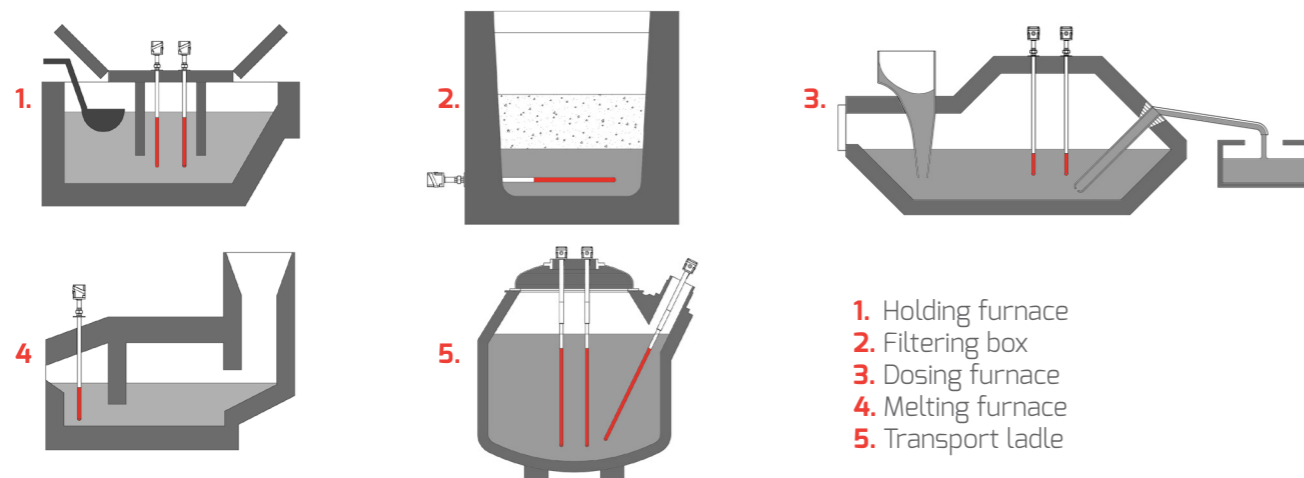
Are you holding molten metal in casthouse, foundry or recycling fields ? With Lethiguel, be prepared to save energy and time while improving your metal quality and increasing your productivity.

Lethiguel's i-type immersion heater is an electrical heating system, specially designed for molten aluminium heating. It is intended to be directly immersed into liquid metal. The thermal power is directly brought to the heart of molten metal through conduction.

### Advantages of immersion heater :

- Heating efficiency rate superior to 99%
- Energy saving of 30 to 50% compared to traditional heating methods\* / Provides evenly distributed heat
- Flow' temperature precision of +/- 2°C - 35.6°F guaranteed
- No metal overheating, improved metallurgical quality
- Possibility to raise flow' temperature up to 800°C - 1562°F
- Enables a rapid raise of temperature
- High level of safety during operation
- Quick installation and easy maintenance

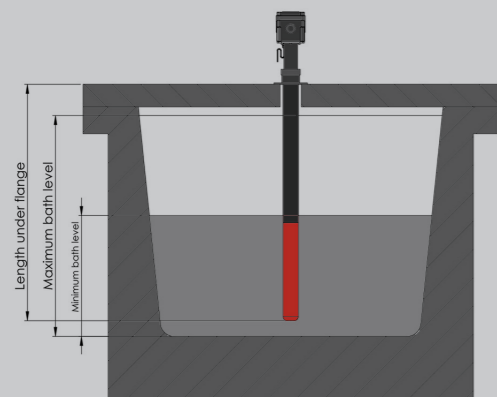
### Applications



\* Gaz burner, SiC heater, heating lid, heating rods.

### Positioning and calibration

Every single heater we install is designed according to our customer's needs in terms of heating power, application and purpose. This is why an immersion heater is identified by its unique ID number.



Lethiguel takes into account at least 11 parameters to calibrate an immersion heater. Our engineering bureau conceives the solution within both thermal and positioning constraints to deliver the best customized solution.

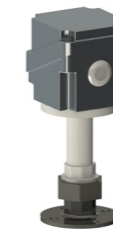
### Extensions range

Four types of extensions available in our immersion heating product range. Possibility to attach a Quick-Type multipin connector to any cabled extension.

Elbow Type



Terminal Box Type



Cabled Type



Quick Connector Type



I-Type 32



I-Type 55



I-Type 55 in 500kg holding furnace

### Technical characteristics

An immersion heater is the combination of two advanced materials :

- 1 A silicon nitride sheath (Si3N4) with the following technical qualities :
  - No sensitivity to thermal shocks
  - High mechanical resistance
  - Excellent thermal conductivity
  - Optimum resistance to corrosion

- 2 A high watt density electrical heating resistance embedded in a highly performing isolating material, providing both electrical isolation and heat transfer.
 

Standard dimensions :

  - Sheath diameter : 32 or 55 mm
  - Length under flange from 500 to 1450 mm
  - Immersed length can reach 1000+mm when allowed by depth of the bath and work capacity
  - Connecting voltage from 36 to 600 V, mono/three phase, delivering up to 50kW.

## L-Type immersion heater

An exclusive product for innovative foundries and casthouses !

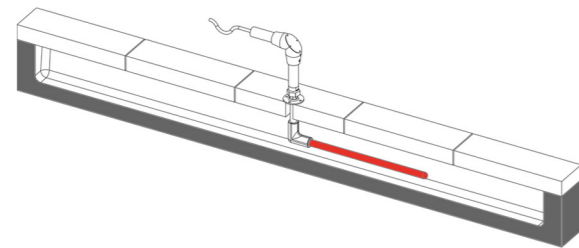
Our latest innovative development is an L shaped heater, specially designed for shallow bath levels applications. The L-Type is quick to install, and delivers the best metallurgical quality by regulating the flow temperature with a +/- 2°C accuracy.

We offer two different solutions for 5 kinds of applications :

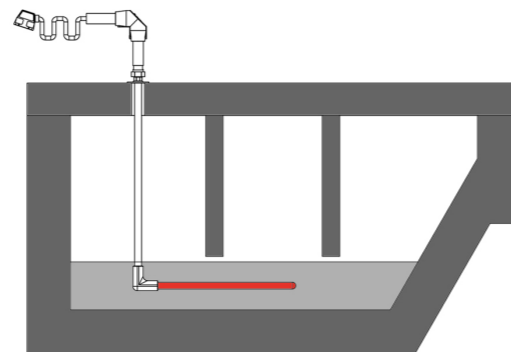
- L-Type for transfer launder process : very short mast, to fit any standard of launder
- L-Type for shallow bath level furnace : designed according to the pouring capacity

### Applications :

- Melting / Holding furnace
- Low-pressure furnace
- Degassing station
- Additional heating solution
- Transport ladle



L-Type in transfer launder



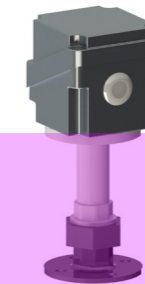
L-Type in holding Furnace

### Extensions range

Three types of extensions available in our L-Type heater product range. Possibility to attach a Quick-Type multipin connector to any cabled extension.



Elbow Type



Terminal Box Type



Cabled Type



L-Type with Elbow Type Extension

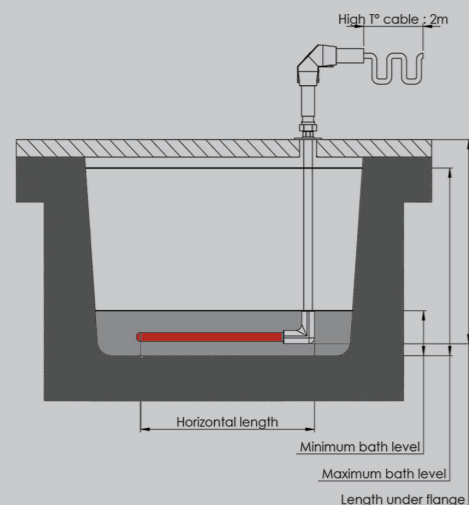


L-Type with Cabled Type Extension

Using an immersed heating system is the most efficient way to **precisely monitor and manage the aluminium bath temperature**, and therefore take control over your metal quality, your productivity, and your energy savings.

### Positioning and calibration

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## WattMobil®

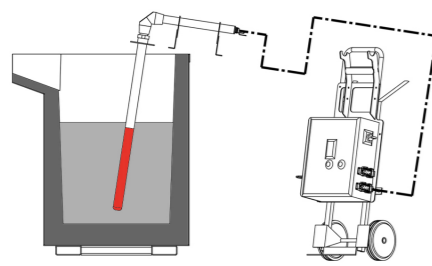
Optimized **temperature maintenance** during furnace **critical stoppage periods**.



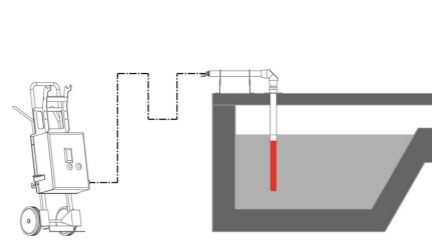
Watt Mobil® has been designed to **help in the following situations** :

- Furnace maintenance
- T° rising and monitoring
- Furnace breakdown
- Degassing time
- Weakened furnace performance

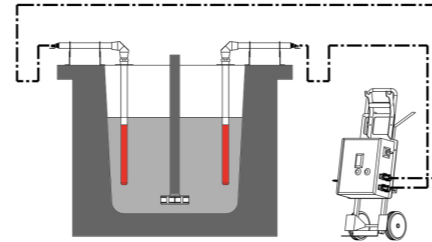
### Applications:



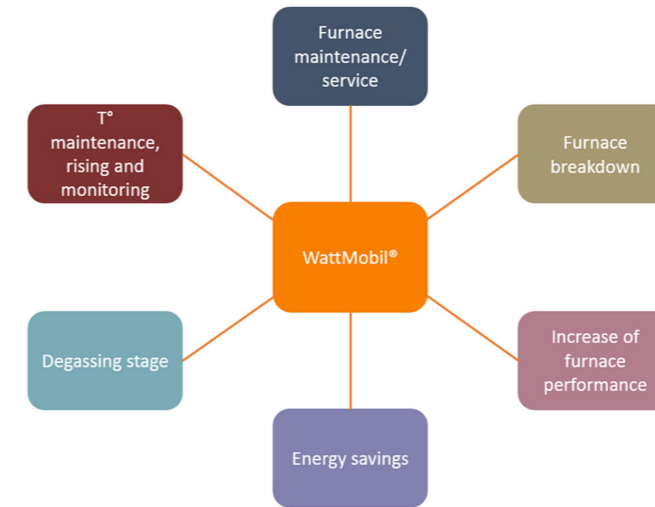
Transport Ladle



Furnace Maintenance



Degassing Time

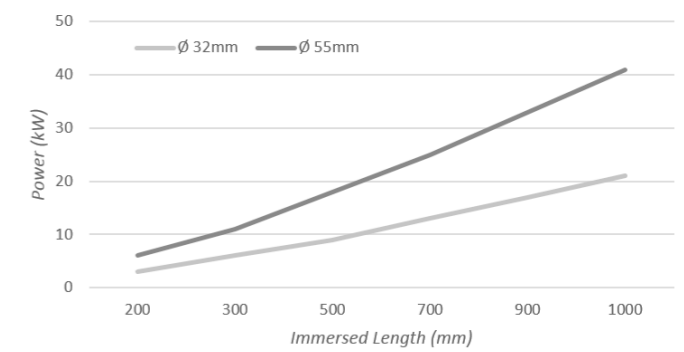


Designed according to foundry required standards, the WattMobil® is the perfect concentrate of an electrical high efficiency heating rod, or immersion heater, and a dolly with an integrated electric control cabinet.

Forwarding the power straight in the heart of molten metal, a WattMobil® ensures both efficient maintaining and rising of the temperature, using 99% of IH power dissipation.

Continuous use allows relief of furnace heating roof, thus helping to notably save energy, reduce oxydation of the bath and eliminate the accumulation of corundum.

The WattMobil is available with I-Type 55, 850 or 1050mm under flange.



Dissipated power by immersed length in Ø32 or 55mm



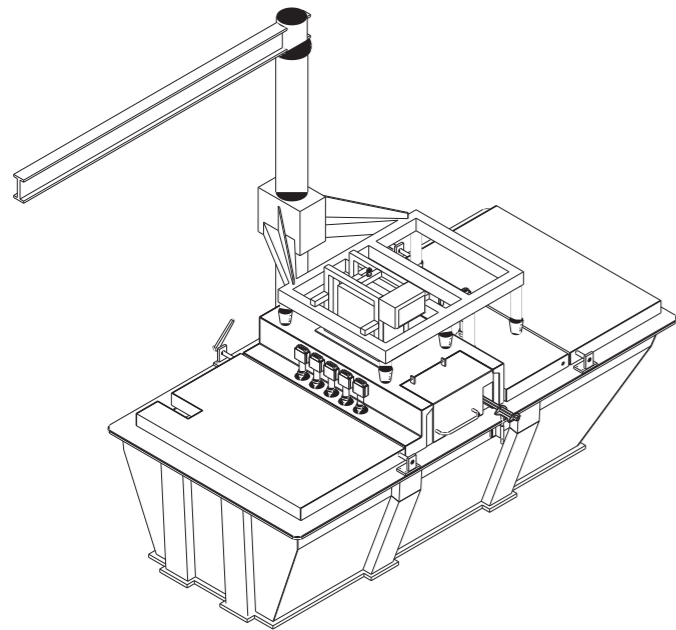
## IMMERSION HEATING FURNACE

Quality, efficiency, precision

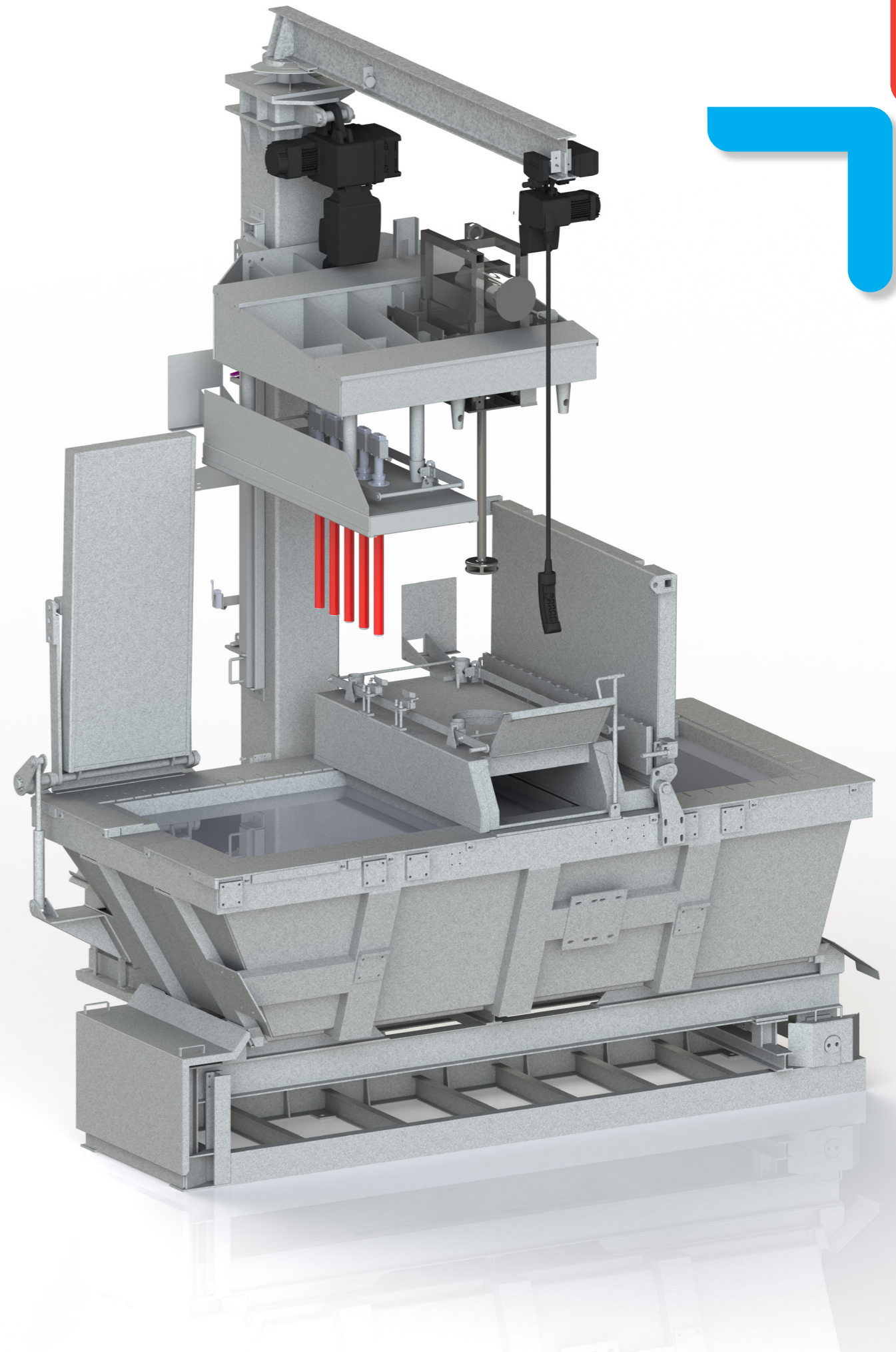
Lethiguel designs and sells fully-customized furnaces, built around immersion heating technology, with or without an embedded degassing system. The useful capacity, thermal performances and immersion heater positioning are specifically designed for each customer.

Thanks to Lethiguel's savoir-faire, our immersion heating furnaces help reduce energy consumption and improve metal quality. Using heaters in a furnace boosts temperature rising while avoiding oxides. When used with a degassing system, immersion heaters ensure an optimum metal quality and density.

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Lethiguel delivers not only a furnace, but a turnkey solution that can be instantly integrated in your casting process.



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## HEATING STATION

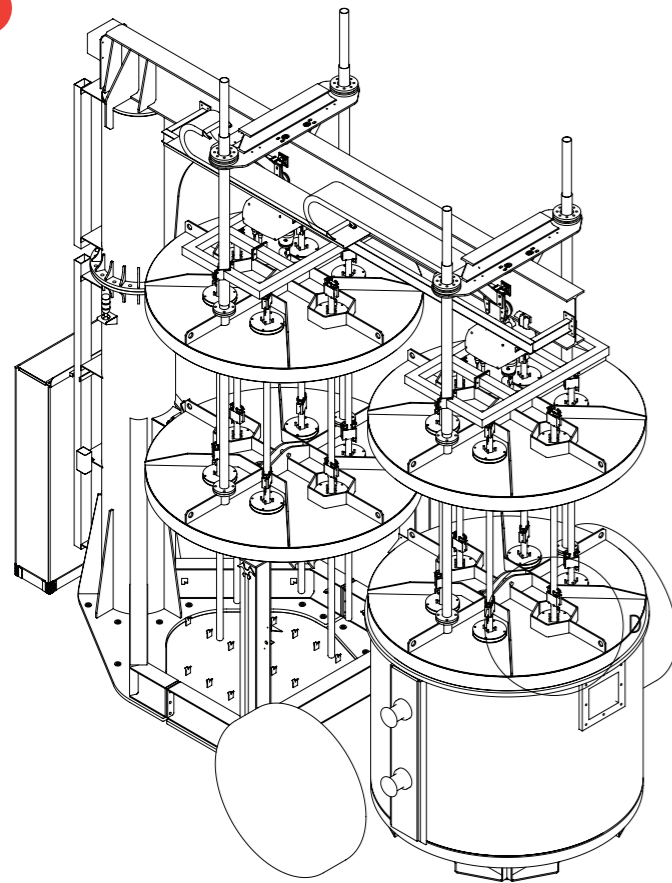
If you are expecting an **integrated heating solution** to upgrade your casting process, **look no further.**

Our engineering bureau, in close cooperation with our team of sales engineers, can build a 100% customized heating solution upon one's constraints. The whole project is led by a task force whose job is to deliver the right solution within a given deadline.

Lethiguel designs and sells immersion-heating stations equipment. Built around and integrating our core technology, the station comes equipped with state of the art mechanical and electrical control regulation.

We can manufacture heating stations for both heating and/or rising temperature, that works for ladles from 500kg to 10tons with a 12kW to 150kW electrical power.

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Lethiguel builds the right solution around any kind of ladle



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