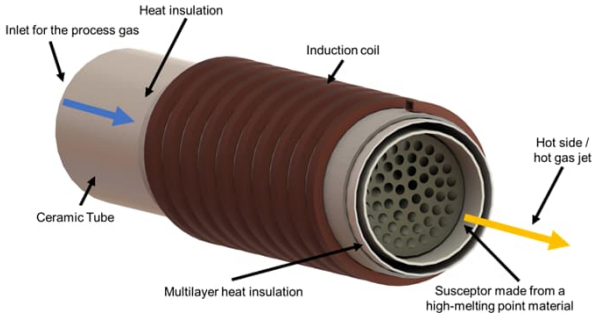
UHT-Thermo Jet

CO_2-free thermo-processing technology

OVERVIEW

The **U**ltra-**H**igh-**T**emperature (UHT)-Thermo-Jet is an inductively heated system for the generation of a hot gas flow.
A high-melting metallic body (radiator) in a refractory tube is heated by an external induction coil and at the same time air or inert gas flows around it and through the hollow channels. This gas heats up in contact with the hot metallic filling and emerges from the tube as a hot gas stream.



The UHT-TJ in principal

ADVANTAGES

•Decarbonization of thermal processes is fully possible when renewable power is available.

•Variable power control with minimal fluctuations in heating.

•Creation of a high-quality, low-wear furnace atmosphere.

Primetals Technologies Austria GmbH
A joint venture of Mitsubishi Heavy Industries and partners

Turmstrasse 44
4031 Linz
Austria

contact@primetals.com
primetals.com

PRIMETALS TECHNOLOGIES

Ultra-High Temperature Thermo-Jet (UHT-TJ)

CO2-free thermoprocessing technology

primetals.com

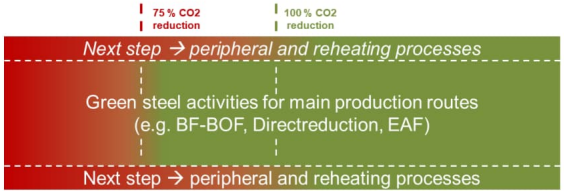
TECHNOLOGY
CHARACTERISTICS OF THE UHT

TECHNOLOGY OVERVIEW

High energy input due to inductive heating
Stepless power control from 0-100 %, and completely variable process gas flow rate
Power density comparable with natural gas burner
Heating of any non-flammable gases is possible
CO_2-free process technology with use of CO_2-free generated electricity.

DEVELOPMENT OBJECTIVES

- Electrical output of up to 250 kW and thermal output of up to 200 kW.
- Use of various process gases and recycling of hot process gas after use.
- Validation of various thermal process applications in the metal industry, such as the preheating of forged parts, heat treatment, and ladle drying.
- Scaling up to 1 MW thermal output for larger industrial process applications.



INDUGASHEAT
FROM IDEA TO PRODUCT

ROADMAP TO SUCCESS

- Prototype in laboratory-scale has shown potential as proof-of-concept.
- RFCS EU-funded project “InduGasHeat” for pilot installation and industrial development in steel production applications
- Heating process “forging furnace” chosen as high-potential application in steel processing
- Peripheral process “ladle preheating” chosen as high-potential application in steel making

The aim of the R&D project is to jointly develop the industrial prototypes and drive the development with fast readiness for market application.

In addition to the above-mentioned applications, cross-industry use in aluminium production, non-ferrous metal melting, glass production, chemical and ceramics industries are future focus areas for implementation of the UHT-TJ.

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ABP INDUCTION PEOPLE. TECHNOLOGY. SUCCESS.
FERALPI STAHL
BGH Leistung in Edelstahl
INDUGASHEAT
TU BERGAKADEMIE FREIBERG TUBAF Die Ressourcenuniversität. Seit 1765.
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APPLICATIONS
FROM METAL TO OTHER INDUSTRIES