

innovatherm

Prof. Dr. Leisenberg GmbH + Co. KG



**YOUR
COMPETENT
PARTNER
FOR THERMAL
PROCESSES**

Optimization Our focus from the start



Optimization Our focus from the start

The innovatherm success story began more than 60 years ago with the founding of the Manfred Leisenberg KG, which specialized in the development and manufacture of burners (heavy oil and gas) for kilns and dryers in the ceramic industry.

At the beginning of the 1990s, Prof. Dr. Wolfgang Leisenberg, Managing Director of Manfred Leisenberg KG, recognized the growing need for integrated system solutions that had to include thermal process technologies and automation concepts in addition to raw material knowledge. Together with the company Lingl, at that time a leading international manufacturer of machinery and equipment for the heavy clay industry, Leisenberg founded innovatherm in 1991. Since then, innovatherm has specialized in the modernization and process optimization of existing kilns and dryers in the ceramic industry, as well as in the primary and secondary aluminum industry. With impressive success. Our process engineers have unmatched technical

expertise and vast knowledge. Our quality promise is the DNA of innovatherm. innovatherm was certified to DIN EN ISO 9001:2000 (amended to DIN EN ISO 9001:2015) as early as 1999.

After winning numerous significant orders in aluminum smelting plants from Europe, the USA as well as the Middle East, innovatherm continued its internationalization by establishing a joint venture company in Bhubaneswar/India. Representative offices in Beijing/China, Manama/Kingdom of Bahrain and in Moscow/Russian Federation followed. Finally, in July 2008, the US subsidiary innovatherm USA Inc. was founded. The company is based in the US state of Missouri and is responsible for servicing the North American market.

After Prof. Leisenberg's and Wolfgang Uhrig's retirement, the company was managed by Detlef Maiwald since 01 January 2010.

On 01 January 2021, the business shares of innovatherm were finally taken over 100% by Mr. Frank Appel and Mr. Andreas Lingl.

Since September 2021 Frank Appel and Andreas Lingl are managing directors of innovatherm. Mr. Detlef Maiwald was appointed as a member of the management board. Domenico Di Lisa is head of sales, Christian Hoßbach is the head of the commercial department and of the headquarter in Butzbach, which is located close to Frankfurt international airport. Dr. Frank Heinke (head of process technology), Andreas Himmelreich (head of automation engineering and head of the Weimar office) as well as Klaus Prinz as head of mechanical engineering complete the management team of innovatherm. innovatherm is now a legally autonomous and independent company and can therefore focus even better on securing its competitive position in the long term.

Andreas Lingl

Frank Appel



Your competent
partner for thermal
processes

Sustainable in all aspects

Starting around the turn of the millennium, innovatherm has become the world market leader for firing and process control systems on anode furnaces. To date, more than 260 production firing systems are in operation on over 90 different anode baking furnaces.

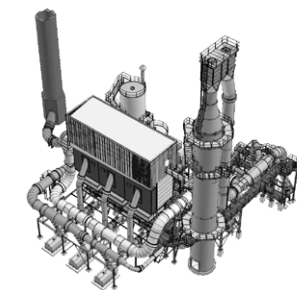
innovatherm is working on all continents: from Argentina to New Zealand we supply our leading know-how to improve aluminum production. In addition, innovatherm has already started to conquer new markets since 2008: innovatherm is now successfully present in the field of advanced flue gas cleaning (FTC) as well as in the field of firing systems for cathode and electrode production.

Our product portfolio is enhanced by following services:

- Consulting
- Process analysis and process optimization
- Upgrades of dryers, kilns, firing and control systems
- Supervision of installation and commissioning
- On-the job and classroom training
- Comprehensive after sales services
- Spare parts supply



Higher profitability by innovation

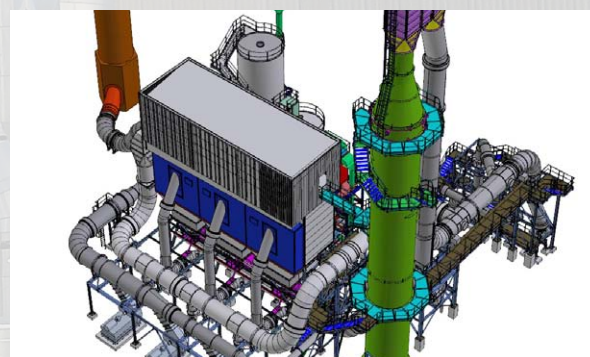


Partnering with our clients

Developing new and better products, increasing the reliability of manufacturing processes, reducing energy and material costs, all these are the objectives of customers in the ceramic and aluminum industry. innovatherm is your reliable partner to optimize manufacturing processes by use of high quality products in order to increase our customer's profitability, reduce environmental impacts and to reduce the overall operation cost. To ensure this we provide advanced and custom designed technologies. Our approach for turn-key solutions ensures a timely and efficient project realization.

ProClean Integrated fume treatment technology for baking furnaces

ProClean includes a sequence of processing stages – conditioning, adsorption and filtering – which are combined in a way to guarantee a maximum treatment and cleaning of the waste gases produced in the baking process – and with continuous feedback to the ProBake firing system.





ProBake

Advanced firing systems for baking furnaces

The innovatherm integrated baking furnace firing and control system ProBake unites 40-years of know-how in open top and closed baking furnaces to the latest firing and control technology. ProBake offers an expert approach to an efficient and economic operation of all types of baking furnaces.

The control strategy is based on the implementation of intelligent control modules on top of the basic automation for an optimum production at lowest energy consumption and emissions, which sets benchmarks in the industry.

The ProBake system provides the following advantages:

- Lowest energy consumption down to < 1,7 GJ/t
- Pitch burn module for maximum pitch volatile combustion
- Flow control module, flow prediction for each flue by fuzzy logics
- Highest firing flexibility by section-oriented baking curves
- WiFi technology (wireless) for high reliability and low maintenance
- Low NOx burner technology for lowest emissions
- innovatherm short pulse dosing valve, 500,000,000 switching cycles guaranteed
- RFID technology for automatic position detection
- Long life flue thermocouple

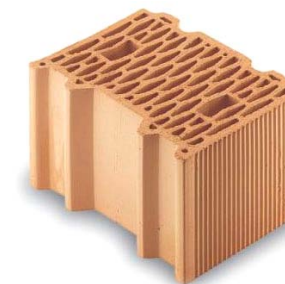
Setting benchmarks
in the industry





ProCeram

Solutions for the ceramic industry



ProCeram includes a family of products designed for the ceramic industry namely NOVACONTROL, NOVAPULS and NOVAJET.

NOVACONTROL – central process control system

The NOVACONTROL central process control system is special designed for the wide-ranging demands of the ceramic industry. The design supports all functions for operating ceramic dryers and kilns most efficiently.

- Fully configurable control structure, powered by a graphical configuration editor
- Easy handling for the operators
- Fully automatic control of the thermal process
- Maximum support and diagnostics for the operator
- High flexibility in adaptation to customer's demands
- High reliability
- Highest production performance for the dryer and the kiln
- Best product quality
- Lowest energy consumption and best energy efficiency

NOVAJET – burner technology for gas and oil

The NOVAJET burner systems are used as high speed burners in tunnel kilns. The use of SIC components leads to a significant increase in lifetime and to low operational cost. The high gas speed guarantees best combustion efficiency. For flame supervision either ionisation electrodes or UV-cells can be applied.

NOVAPULS – pulse technology for gas and oil

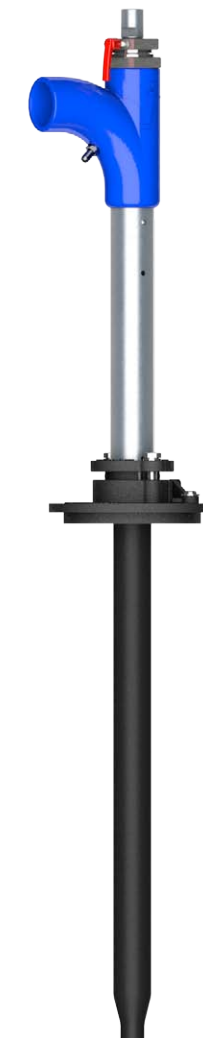
The NOVAPULS pulse burners and solenoid valves are recognized for highest efficiency. The injectors are available for various applications. The frequency can be modulated up to 400 pulses per minute. The operating pressure range can reach up to 3 bars and more, so these solenoids are ready to be used with hydrogen. These technical features are unique and the lifetime of more than 500,000,000 switching cycles sets a benchmark in the industry.



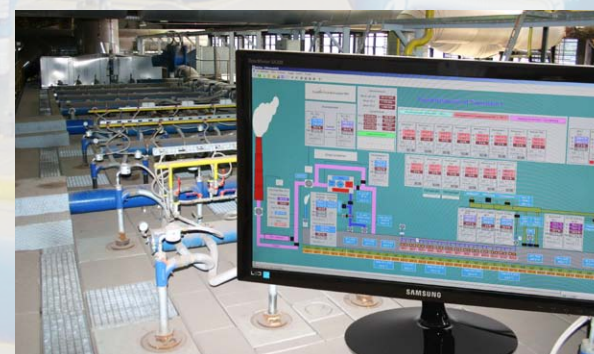
NOVAPULS
electro-magnetic
impulse solenoid



NOVAJET
high velocity burner



NOVAPULS
injector burner lance



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