

## Additional applications

A big market for our heaters is **biomass ignition**, where we can drastically reduce the ignition time for pellets, woodchips and split logs to reduce energy consumption by 90 % (compared to a hot air blower) and minimize emissions. This is possible due to its optimized geometry with surface temperatures of 1000 °C. Rauschert HTH come as a complete solution for easy installation and are tested up to 100,000 cycles.



In the area of **chemical analysis** we are particularly proud that the Max Planck Institute chose our HTH for the "ExoMars-Rover" mission 2018. This project aims to find traces of former life on Mars through chemical analysis of soil samples. A Rauschert heater was chosen to evaporate the organic elements of these samples for analysis purposes. This example in particular shows the outstanding durability and high energy efficiency of our heater even under the harshest conditions.

We offer our customers individual solutions and service in development and production.

**100 % made in Germany**



v-card

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TRADITION  
FORTSCHRITT  
INNOVATION

**Rauschert**

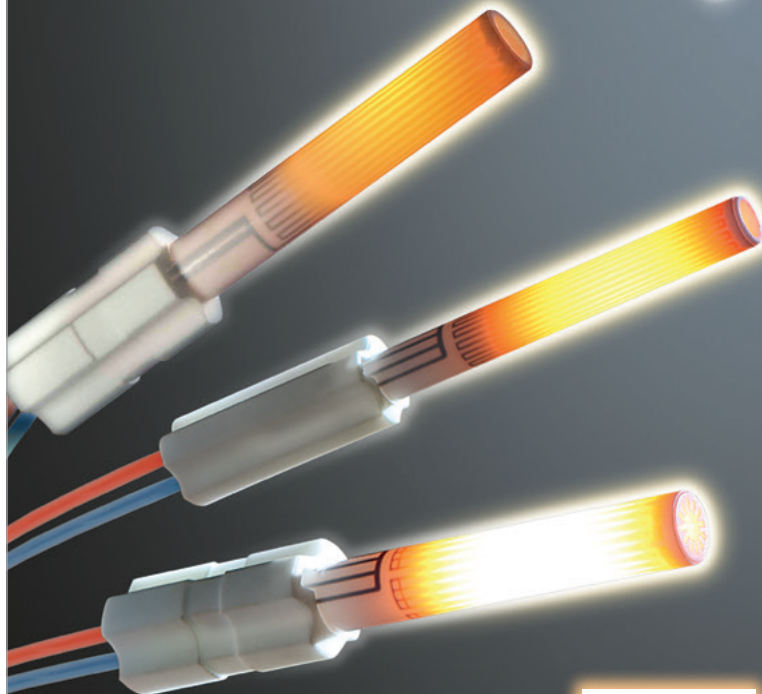
[www.rauschert.com](http://www.rauschert.com)

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Subject to errors and alterations.

The information in this document only contains general descriptions of the technical options available and performance features. We will be pleased to submit you a personal offer.

# Glowing Efficiency



## High temperature heating elements (HTH)

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Product Info



# The Rauschert HTH – innovative heating technology

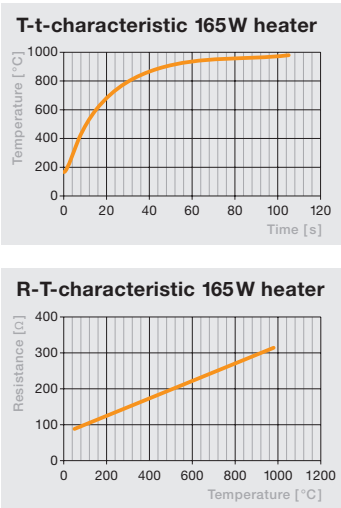
During **manufacturing** a ceramic tape with imprinted circuit path is joined with the ceramic substrate through a lamination process.

A subsequent sinter process turns these components into a monolithic structure. This integration of the conduction paths into the  $\text{Al}_2\text{O}_3$  body protects them from the surrounding atmosphere and electrically insulates outwards.

## Key advantages

- up to 1100 °C long-term, temporarily 1300 °C possible
- compact design for precise and fast heating
- heating rates of up to 1000 K/min
- supremely energy efficient
- platinum circuit path
  - heater and temperature sensor in one
  - continuous adjustment of heater temperature via voltage possible
- Conducting paths embedded in  $\text{Al}_2\text{O}_3$  ceramic
  - oxidation and corrosion resistance
  - long lifetime
  - electrically insulated

## Typical characteristics

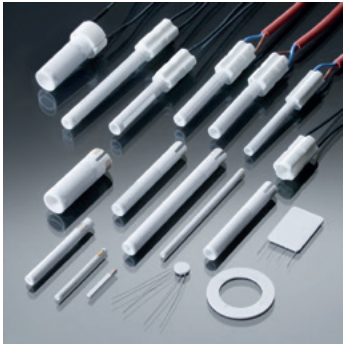


# Areas of application

Ceramic heating elements are typically used for heating applications exceeding 750 °C where conventional heating cartridges fail.

Some areas of application are:

- hot surface igniters
- hot air generation up to 800 °C
- chemical analysis
- melting / welding / soldering
- tool heating



We offer a wide range of flat and tubular heating elements with diverse performance characteristics.

Realized dimensions for tubular heating elements	Range
Length [mm]	14-200
Outer diameter [mm]	2-28
Inner diameter [mm]	0-22
Voltage* [V]	14-230
Performance [W]	20-1000

\* Temperature is continuously adjustable for the entire temperature range.

Examples	D <sub>outer</sub> [mm]	D <sub>inner</sub> [mm]	L <sub>heater</sub> [mm]	L <sub>heating zone</sub> [mm]	U [V]	T [°C]	P [W]
Heating element							
Standard heater	10.5	7.75	79	43	230	1000	165
Long heater	10.5	7.75	115	84	230	1050	300
Slim heater	7.75	5.4	79	43	230	980	120
Rod heater	4.3	2.2	52.5	17	90	1100	45