



Ignition systems for
the heating industry:
innovative,
environmentally
friendly and reliable

BERU ignition components. Always the optimal solution

Ignition system

BERU ignition systems comprise electronic igniters, ignition cables and ignition electrodes. As all system components are developed and manufactured by BERU, they can be optimally matched in terms of operational safety, energy consumption, durability and electromagnetic compatibility (EMC).

One of BERU's newest developments is an intelligent ignition and diagnosis system which breaks entirely new design ground, utilizing synergies from the automotive field. Instead of using sensors for flame monitoring, BERU developers use only existing components and the newly developed igniter. In addition to flame detection, the BERU system will also permit regulated combustion. This is beneficial to the environment, users require less fuel and it saves on heating costs. Installation and set-up work are also reduced.



Ignition electrodes

BERU offers single ignition electrodes, double ignition electrodes and electrode blocks for single or multiple pole ignition or flame monitoring by measuring ion currents.

Our progressive ceramic production enables us to manufacture insulators in high-quality aluminum oxide (> 95%). The manufacturing process is in line with the design and operating conditions of the ignition electrode: The product is either isostatically molded and then sanded or the ceramic is injection molded, enabling the most complex geometric shapes to be manufactured to a very high level of precision and integrated into an electrode block. This saves space, increases operational reliability and reduces installation cost.

Innovative examples are the ceramic bodies developed specially for fracture stability and dielectric strength or the gas-sealed, 2-part center electrode reinforced by glass sealing which demonstrates a particularly high mechanical strength.



Igniters

BERU igniters comprise sophisticated control electronics and a high-quality ignition coil which transforms standard voltage to 15–20 kV ignition voltage. The impact and temperature-resistant plastic housing is cast with the electronics and, if requested, can be manufactured in customer-specific housing molds.

All BERU igniters for oil and gas burners are EMC optimized. They are tailored precisely to their intended use: for one and two pole operation, for low or high combustion capacities.

BERU is also able to manufacture igniters for continuous operation and different voltage ranges, e.g. 24 V DC, 110 V AC and 230 V AC.



Ignition cables, connectors and protective caps

Insulation properties and temperature resistance – these are the main requirements of an ignition cable. BERU offers a wide range of ignition cables in different cross-sections intended specifically for the oil and gas burner industry. They also have sheaths tailored exactly to requirements (from PVC to silicone).

All ignition cables are tested in accordance with DIN ISO 3808 for dielectric strength and temperature resistance. If required, BERU can supply ignition cables which already have connectors and protective caps.

BERU connectors fit perfectly and guarantee a reliable contact, both in angled and in straight designs. Thanks to their high temperature resistance (up to 250°C), they can be used in a wide range of areas.

BERU protective caps are made from silicone which is resistant to high temperatures. They offer contact and flashover protection, are waterproof, can withstand high voltage and are resistant to ageing.



Uncompromising brand quality

The highest technology standards in development and production

To ensure that BERU ignition components fulfill stringent customer requirements regarding safety and reliability, innovative processes and technologies are used – from development through manufacture to the final inspection. For example, BERU has state-of-the-art test benches for conducting endurance tests on ignition systems.

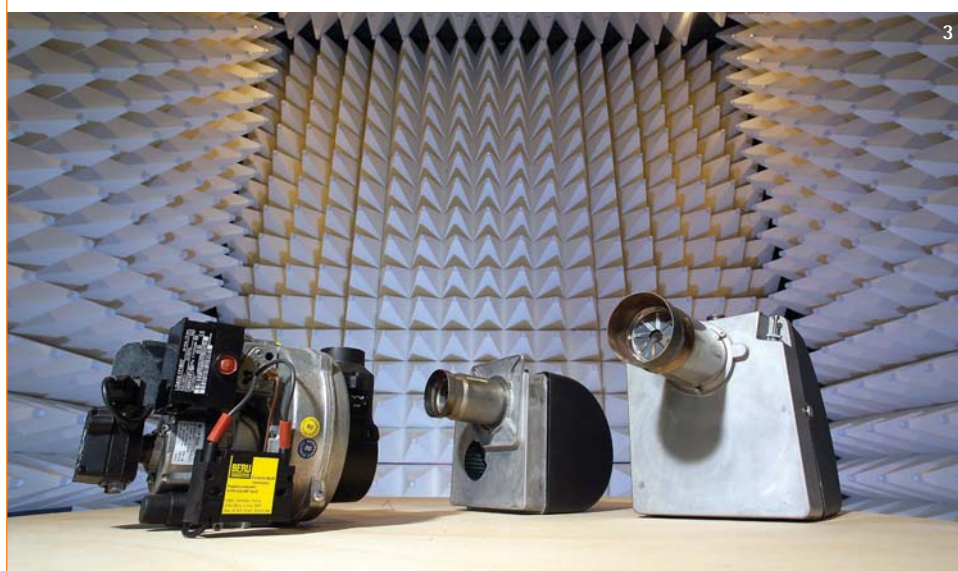
All BERU production sites are certified in accordance with ISO TS 16949, ISO 9001 and ISO 14001. These certifications are only awarded after a lengthy testing process, showing that our development, manufacturing, sales and management processes comply with the highest quality standards.

Innovative interference suppression technology ensures operational reliability

BERU ignition components are tested in accordance with the requirements of the device manufacturers and the electromagnetic compatibility (EMC) standards. A special EMC hall is available at BERU's headquarters in Ludwigsburg for conducting EMC tests on burners and complete units. With the help of ultra-modern technology, individual components or entire systems are examined, enabling any sources of interference to be quickly and effectively remedied. Customerspecific measurements can be carried out here.



- 1 | Structures of the micro world: The scanning electron microscope makes them visible – such as this surface structure of a spark plug electrode after an engine endurance test.
- 2 | Glost firing of the ceramic parts takes place around the clock at a temperature of 1,650°C.
- 3 | A glance into the EMC hall: testing the electromagnetic compatibility of heating burners at BERU headquarters in Ludwigsburg.



3

BERU – Your partner in innovative ignition systems

Transfer of expertise from the automotive sector to heating

Beru has devoted itself to ignition technology since 1912 – almost all automotive manufacturers rely on BERU branded products. Our experience, expertise and innovation in the automotive sector have made us a sought-after partner in the heating industry for more than 20 years – our current reference list includes the BBT Group, Vaillant, Viessmann, Weishaupt and many other big names. As a pacesetter in the industry, we want to continue developing our technological lead by means of innovative, future-oriented system solutions. We are also an expert partner for special and limited production series – thanks to our modern, flexible pilot plant.



The research and development center in Ludwigsburg has state-of-the-art testing labs and facilities.

Ignition technology – a one-stop shop

BERU does not just develop and manufacture individual components tailored to customer requirements but also complete system solutions, i.e. igniters, ignition electrodes, ignition cables and connectors. In other words, components optimally tailored to each other. And, of course, solutions tailored specifically to the most varied customer requirements.

Innovation and environmental mission

We believe that it is our obligation to future generations to reduce contaminants and make energy savings in the heating sector. At the same time, the development, design and manufacture of intelligent ignition systems will provide us with a crucial competitive edge – particularly with regard to the ever more stringent emission protection and energy saving regulations.

As a result, we are focusing on new, future-oriented solutions. One example is BERU's most recent innovation: a standardized ignition and diagnosis system. In addition to flame detection, it will also enable regulated combustion, thereby saving on heating costs and lessening the load on the environment.

Customer proximity

As a global company, BERU has 23 sites on 3 continents. Even in the development phase of heating systems, BERU engineers are able to contribute their skills and expertise to our business partners directly on site, in order to jointly develop the optimal solution.

From conception to mass production of the BERU heating components and systems, the goal is always the same: the satisfaction and long-term success of both partners.





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