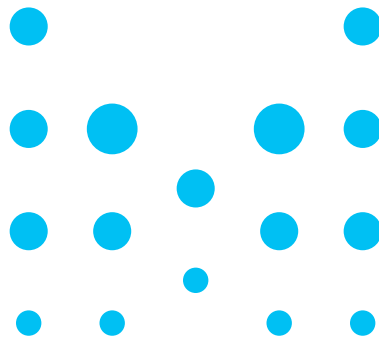


DIAMOND MIRROR

Lab Grown Diamond Magazine



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MUEGGE

POWER TO YOUR PROJECTS

Pioneering Solutions in Industrial Microwave Technology and Plasma Sources



Established in 1986, the MUEGGE Group stands as a prominent figure in the global landscape, specializing in the manufacturing and supply of mission-critical industrial microwave components, systems, and plasma sources. With a workforce of approximately 180 employees, our headquarters in Reichelsheim Odenwald, Germany serves as the epicenter of our operations, catering to a diverse clientele across more than 40 countries. Technical prowess and extensive application competence define our approach at MUEGGE, as we excel in the development, production, and implementation of high-power microwave technology. This expertise enables us to offer unique solutions tailored to address our customers' most complex technical challenges.

Our comprehensive product portfolio encompasses microwave generators spanning frequencies of 2.45 GHz and 915 MHz, with power outputs ranging from 1 kW to 100 kW. Complementing these offerings are a range of associated

waveguide and matching components, magnetrons, plasma systems, and plasma components. Noteworthy among these are our plasma arrays for large area deposition, remote plasma sources, atmospheric plasma sources, and downstream sources, which collectively cater to the diverse needs of our clientele. In addition to traditional magnetron-based microwave generators, MUEGGE also offers cutting-edge solid-state microwave generators. These generators utilize advanced semiconductor technology to provide enhanced reliability, precise control, and improved efficiency compared to conventional magnetron-based systems. With solid-state microwave generators, users benefit from reduced maintenance requirements, longer operational lifespans, and greater flexibility in adjusting power levels and frequencies, making them ideal for a wide range of industrial applications.

Strategic global presence underscores our commitment to delivering seamless support to our customers. With operational hubs in Germany, the USA, Singapore, and Italy, we ensure prompt and efficient service to meet our clients' requirements.

In India, we foster close collaboration with esteemed partners such as ENERZI Microwave Systems Pvt. Ltd. and NexGen, facilitating localized support and eliminating delays associated with overseas shipments. This strategic partnership enables us to service MUEGGE generators used in CVD systems for lab-grown diamonds within India, streamlining operations and enhancing customer satisfaction.

At our production sites, we embrace lean digital production processes, manufacturing according to the "pull principle" to ensure a smooth and efficient production flow. Through constant checks and process optimization, we uphold the highest standards of quality, delivering high-quality products cost-effectively and on schedule. Central to our ethos is our commitment to sustainability and environmental responsibility.



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The MUEGGE Production System (MPS) enables us to minimize our carbon footprint while ensuring a sustainable and environmentally friendly supply chain. Creating safe workplaces for our employees and customers remains integral to our production system. In recent years, the MUEGGE Group has made significant strides in LEAN manufacturing, with 80% of production areas across all locations now converted to LEAN manufacturing. This transformation has resulted in reduced throughput times and a simultaneous increase in annual production figures,

further reinforcing our commitment to operational excellence. In the realm of CVD diamond growth, MUEGGE's expertise shines through in harnessing high-frequency microwave energy to achieve exceptionally high and stable plasma density, ensuring efficient and reliable process control. Turn-key CVD diamond systems are operating at frequencies of 2.45 GHz and 915 MHz with power outputs ranging from 6 to 100 kW. Our products are meticulously designed to meet the demands of both research and production applications. Our team of experts stands ready to provide comprehensive support, leveraging our in-depth knowledge and state-of-the-art 3D visualization tools to assist you at every stage of your project. Whether it's consultation, simulation, or prototype development, MUEGGE is your trusted partner for success in industrial microwave technology and plasma sources.



Dr. Klaus Martin Baumgaertner

CEO - MUEGGE Group

Dr. Klaus Martin Baumgaertner is a highly qualified physicist and inventor with extensive expertise in the fields of microwave and plasma technology. Dr. Klaus Martin Baumgaertner holds a diploma in Physics and completed his doctorate at the Institute for Plasma Research at the University of Stuttgart, Germany with his doctoral thesis entitled "Raman spectroscopic and morphological investigations of diamond layers from plasma technological and thermal deposition". He is active in a variety of microwave and plasma technology communities and stands out as the inventor of several patents covering a broad spectrum of his expertise in the field of microwave and plasma technology. His extensive specialized knowledge is reflected not only in his patents, but also in his role as author or co-author of numerous publications on innovative plasma and microwave processes. He is also a regular speaker at conferences and meetings, where he presents the latest developments in microwave and plasma technology.

Dr. Klaus Martin Baumgaertner joined MUEGGE in 2000 and was appointed CEO in 2012.



Markus Dingeldein

President - MUEGGE Group

Markus Dingeldein is a seasoned expert in microwave technology with a wealth of experience within the company. Over the past 27 years, Markus Dingeldein has held various management positions within the MUEGGE Group, showcasing his dedication and expertise in the field. Currently serving as President since October 2022, Markus Dingeldein, a graduate engineer in electronics, has been instrumental in driving the global sales organization, contributing to the growth and success of MUEGGE Group. His visionary leadership aims to further internationalize the company, ensuring its continued expansion and influence in the market.

In his previous role as Director of Sales & Marketing from January 2014 to October 2022, Dingeldein demonstrated his ability to support specialists across industries, understanding their unique needs and processes. With a strong practical background in microwave and plasma technology, he explored new avenues of innovation, including applications in the food industry, microwave technology for lab-grown diamonds, and efficient processes for semiconductor manufacturers. His focus on "Power 2 X" reflects his commitment to inspiring the future through innovative solutions. ■