Vimfun Diamond Wire Saw Reshapes Hard Material Manufacturing with Endless Diamond Wire Saw Innovation

The China-based precision equipment maker introduces a new production model that merges large-scale cutting capability, real-time data analytics, and Industry 4.0 connectivity.



Shanghai, China Oct 21, 2025 (<u>Issuewire.com</u>) - <u>Vimfun</u> Diamond Wire Saw, a global leader in precision cutting equipment, has unveiled a major industrial breakthrough that is transforming the way hard and brittle materials are processed. With its proprietary **endless diamond wire cutting technology**, Vimfun has redefined manufacturing standards across semiconductor, optical, and

advanced material industries, enabling faster, cleaner, and more efficient cutting without the traditional constraints of size, speed, or accuracy.

Breaking the Boundaries of Traditional Cutting

For decades, the processing of hard and brittle materials relied on several conventional techniques—inner diameter (ID) saws, band saws, laser systems, and reciprocating diamond wires.

Each of these methods comes with critical limitations:

- **ID saws** are constrained by blade diameter, limiting cutting size.
- Band saws deliver rough surface finishes and poor precision.
- Lasers can only handle materials up to 150 mm in thickness.
- Reciprocating diamond wires are slow, complex, and costly to operate.

Vimfun's <u>endless diamond wire saw</u> overcomes all of these barriers. Its closed-loop diamond wire—running continuously at speeds up to **80 meters per second**—achieves both large cutting depth and ultra-smooth surfaces. The company's <u>largest model</u> has reached a **cutting depth of 3 meters**, a performance previously considered unattainable in the field of precision manufacturing.

A New Model of Smart, Scalable Manufacturing

Beyond mechanical innovation, Vimfun has embedded the SGRIT and SGI series with **data-driven control modules** and **remote monitoring functions**, creating machines that are ready for the era of **Industry 4.0**.

The system collects and analyzes real-time operational data—wire tension, linear velocity, cutting load, and vibration—helping operators optimize process parameters and ensure long-term stability. Through an integrated network interface, the machine supports **remote diagnostics**, **firmware updates**, **and production tracking**, enabling centralized control of multiple units across different facilities.

This shift from traditional "stand-alone cutting" to **connected, intelligent manufacturing** represents a significant step forward for global precision processing industries.

Transforming Key Industries

The impact of Vimfun's endless diamond wire cutting technology spans multiple sectors.

- In the semiconductor industry, it has enabled efficient machining of advanced ceramics such as alumina, silicon carbide, boron carbide, and silicon nitride—materials that are notoriously difficult to process with conventional saws.
- In the **optical field**, it provides unmatched precision for <u>cutting germanium lenses</u>, **Corning glass**, **and infrared optics** without edge chipping or deformation.
- In the magnetic materials sector, it delivers higher yield and cleaner separation when

processing rare-earth magnets.

By eliminating the structural and material restrictions that once defined the industry, Vimfun's solution is effectively **changing the production model for high-value materials worldwide.**

Customer Success and Industry Recognition

One notable success comes from **Sunny Optical**, a leading optics manufacturer in the world. The company adopted the **Vimfun SGI20 Endless Diamond Wire Saw** for cutting complex germanium lens shapes used in infrared products.

"This new cutting technology solved our long-standing issues of edge breakage and inconsistent geometry," said the Production Manager at Sunny Optical. "It has been a tremendous help in both new product development and mass production."

About Vimfun Diamond Wire Saw

Vimfun Diamond Wire Saw is a China-based manufacturer specializing in the research and development of endless diamond wire cutting systems for hard, brittle, and high-value materials. The company's mission is to empower global manufacturers with **customized**, **intelligent**, **and efficient cutting solutions** that enhance productivity and precision.

Vimfun continues to lead the transition toward **smart manufacturing**, with its equipment supporting **data analytics**, **remote control**, **and seamless integration into Industry 4.0 environments**.



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