

PAN & Carbon Fiber Winders + SYSTEMS from GEORG SAHM

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The carbon fiber market is growing every year with new demands for new applications. Today we can see composite parts replacing old structured parts, as they are easy to shape and considerably lighter. The industrial carbon fiber market, meaning large tow size 24K-48K or bigger, dominated by the automotive and wind energy industries, is predicted to grow throughout this and the coming decades.

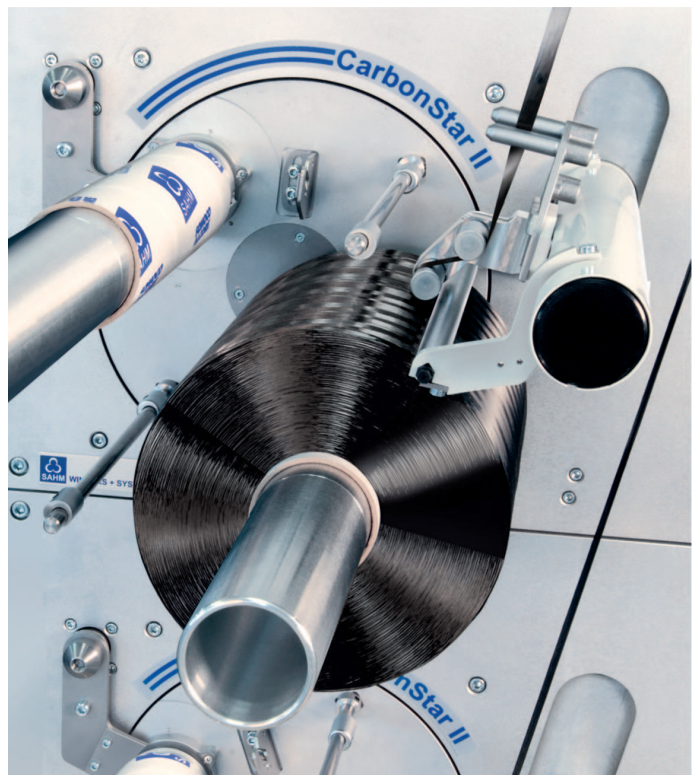
Leading the effort to meet this industrial carbon fiber demand, almost all leading carbon fiber producers are expanding their production with facilities in North America, the Far East and Europe. Also, China's offshore carbon fiber supply is a growing phenomenon, not easy to forecast.

With the growing demand for industrial carbon fiber, research institutes are paying more attention to new alternative solutions to lower the production costs of precursor materials and carbon fiber. Oak Ridge

National Laboratory (ORNL, Oak Ridge, Tennessee, US) and Australia's Future Fibres Research and Innovation Centre (AFFRIC) located at Deakin University (Geelong, Victoria, Australia) are the leading institutes for low-cost precursor and carbon fiber studies.

The above mentioned facts induced Georg Sahn GmbH & Co. KG (SAHM),

Georg Sahn with headquarters in Eschwege, Germany, is a leading manufacturer of automatic and manual winders for various applications. At ITMA 2019, SAHM together with partner Sonoco will introduce its newest quality control management for technical yarns and carbon fibers together with automation solutions.



Eschwege, Germany, to develop new high quality winding equipment for the carbon fiber, precursor and tow-preg markets. With over 30 years of experience in the carbon fiber market, currently SAHM is one of the leading suppliers of carbon fiber, PAN and tow-preg winding equipment. With the growing demand for industrial carbon

winding equipment and a success story for automatic winding technology.

To produce bigger tow carbon fiber, you need to produce even bigger precursor bobbins to continue the carbon fiber production in the long term. Until now, carbon fiber producers have had no intention to make bobbins bigger than 350 kgs. But with the growing demand in industrial carbon fiber production, this situation is changing. With the increasing speed and big capacity bobbins, producers can decrease downtime and production costs.

Today, SAHM also focuses on quality control in PAN and CF manufacturing with business partners, since it is a process that ensures end-users products which are free from defects and meet their needs. When done the wrong way, it can put consumers at risk.

Aware of the consequences of poor quality in production, SAHM is now working on

a new R&D project which will allow producers to check their quality in line and control the production process from beginning to end until shipping. At the end of this R&D work, SAHM is aiming to equip their winders to have user-friendly control units which are integrated together with quality management.

Customers expect and demand high-quality products. When customers receive quality products you will:

- Increase customer loyalty
- Gain repeat business
- Gain new customers from referrals
- Maintain or improve your position in the market
- Improve safety
- Reduce liability risks
- Contribute to overall positive branding of your product.

Manufacturers with quality control procedures in place are far less likely to put customers at risk from poorly made products.

Implementing Quality Control System in production in the PAN and CF field includes:

- Defining the quality standards for each product
- Selecting the quality control method
- Defining the number of products/ batch that will be tested
- Recruiting and training employees for quality control
- Creating a communication system for reporting defects or potential issues.

At ITMA 2019, SAHM together with partner Sonoco will introduce its newest Quality Control Management for technical yarns and carbon fibers together with automation solutions.

The above mentioned facts show why SAHM is not only the leading the winding equipment supplier but also

the supplier for Solutions & Systems for winding technology.

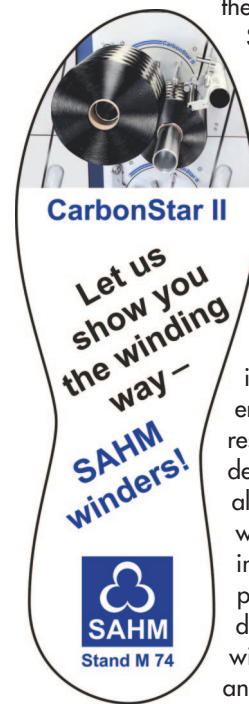
In view of all these facts and in awareness of the developing carbon fiber and composite industry, SAHM is emphasizing research and development and is also cooperating with leading institutes and producers to develop new winding equipment and systems,

thereby earning its

place among the leading equipment supplier companies for the carbon fiber and composite world.

Georg Sahn GmbH & Co KG, with headquarters in Eschwege, Germany, is a leading manufacturer of automatic and manual winders for various applications. SAHM belongs to the Starlinger Group, Vienna, Austria, and has offices in Guangzhou, China, and in the United States at Fountain Inn, SC where American Starlinger-Sahn, Inc. handles sales, service and spare parts supply.

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fiber, also the winding equipment has to fit the new challenging demands of the industry covering bigger tows and bigger bobbin sizes with a higher speed range.

Lately production trends of precursor material have taken a step forward compared to recent years, with spinning speed increase and production methods changing enormously. Bigger tow carbon fiber production is becoming more profitable when you calculate the demand for industrial carbon fiber.

Developments are bringing new demands also to the machinery supplier industry, in response to which SAHM developed a new carbon fiber automatic winder, CarbonStar II, especially designed for big tows and for bigger size bobbins.

With the CarbonStar II winder, producers can reach up to 320 mm diameter with traditional 250 mm length bobbins. Three years after releasing the CarbonStar II model, it is now a proven