## 

Press Release

**• HG GRIMME SysTech: TIER 1 supplier ACE significantly reduces setup times in CFRP post-processing**

**• Carbon dusts pose a major challenge**

*Wiedergeltingen/Germany, April 28, 2025.* Two tables with shuttles instead of just one: By switching to new CNC machining centers, ACE has significantly reduced setup times for milling operations on CFRP components. Machine downtime now amounts to a maximum of only three percent, down from up to 45% previously.

The TIER 1 supplier primarily manufactures carbon fiber reinforced plastic (CFRP) parts for premium automotive manufacturers. They primarily source Class-A quality visible parts and structural components made of CFRP from ACE, which require milling of contours and trims prior to painting. For this purpose, the company from Lake Constance utilizes three 5-axis CNC portal milling machines of the type P-S-F (20-25)/S from HG GRIMME SysTech.

**Easy Switching Between Identical Machines**

ACE acquired the identical machining centers, each with two tables and a shuttle as well as a Siemens 840d sl control system, between 2016 and 2024. Consistent operation and machine tables with the same hole pattern and a fixed zero point also contribute to short setup times. Furthermore, ACE can post-process the CFRP parts on all machines from HG GRIMME SysTech interchangeably and without any quality limitations.

**CFRP Dust is Extracted**

The milling systems are suitable for workpieces with external dimensions of up to 2,000 x 2,500 x 650 mm, which can be machined with exceptional dynamics thanks to rapid traverse speeds of 80 m/min in X/U/Y and 30 m/min in Z.

Double tables and shuttles result in a machine length of just under 11 meters and a width of slightly less than six meters. This simultaneously provides sufficient space for good accessibility to the machine table and milling head from all sides.

The components to be machined are up to 2,000 x 2,500 mm in size, with thicknesses between 1 and 3 mm, and batch sizes usually vary between 500 and 10,000 pieces.

Around two-thirds of the products are visible parts, predominantly for car bodies, particularly fenders and hoods. The remaining parts are structural components such as monocoques for the drivetrain, battery trays for electric vehicles, and paneling for B-pillars and center struts.

Given the significant dust generation during CFRP milling, CNC machining centers from HG GRIMME SysTech are completely encased, and an extraction system removes many airborne particles directly within the enclosure. Furthermore, the components are manually cleaned again with high pressure after machining.

**ACE manufactures most CFRP components using the closed RTM process**

ACE manufactures ninety percent of the CFRP components and assemblies using the closed RTM process. In this process, textile preforms are cut and prepared into layups, which are then placed in presses, injected with resin, and cured into shells. The edges of the two, or less frequently three, shells still need to be milled before they are subsequently bonded together to form the carbon fiber part.

After contour and trim milling, the bonded and painted components are inspected before ACE delivers them to its customers' assembly lines. This includes well-known brands such as Lamborghini, Porsche, Aston Martin, Bugatti, BMW, Mercedes, AMG, Audi, and Volkswagen. The most important customers from the aerospace industry are Airbus and Boeing.

**Praise for Solidity, Reliability, and Competence**

Peter Klaus Gröschl, Production Manager and one of the Managing Directors of ACE, praises not only the solidity and reliability of the systems but also the service provided by HG GRIMME SysTech. His conclusion: "At HG GRIMME, they understand something about processing composite materials, and the communication is at eye level. The company is down-to-earth. We enjoy working together."

**About HG GRIMME SysTech:**

HG GRIMME SysTech GmbH develops and manufactures CNC machining centers and fixtures for the demanding machining of plastics, composites, aluminum, and model-making materials. The compact high-tech machines are characterized by durable, high-precision technology and powerful dynamics. All systems, from conception to completion, are exclusively manufactured at the company's headquarters in Wiedergeltingen, located in the Unterallgäu region of Germany. They are specifically configured for customers and adapted to industry, space, and material requirements. HG GRIMME SysTech delivers the machines to customers worldwide. The company's own technical customer service supports users centrally from the company headquarters and decentrally via various national and international bases in all matters.

In August 2024, Philipp Grimme took over as Managing Director, succeeding his father Wolfgang Grimme, who co-founded the family-owned company with around 80 employees in 1987.

**Photos:**

Ein Bild, das Im Haus, Maschine, Bautechnik, Fabrik enthält.

Automatisch generierte Beschreibung

Photo 1:

The shuttle system with two tables reduces the downtime of the milling centers to two to three percent of the machine running time – compared to 40 to 45% for a system with only one table (Photo: HG GRIMME SysTech).

Ein Bild, das Plastik, Auto, Werkzeug, Boot enthält.

Automatisch generierte Beschreibung

Photo 2:

Most carbon parts consist of two separately manufactured outer and inner shells that are bonded together. Before this, the edges must be post-processed (Photo: HG GRIMME SysTech).

Ein Bild, das Im Haus, Boden, Fußboden, Wand enthält.

Automatisch generierte Beschreibung

Photo 3:

Around two thirds of the components and assemblies made from CFRP are visible parts, mainly for car bodies, in particular wings and bonnets. One third are structural parts such as monocoques for the powertrain, battery trays for electric vehicles and panelling for B-pillars and centre pillars (Photo: HG GRIMME SysTech).

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