

Press Release

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LEMKEN automates fan control for greater safety and comfort

Air volume measurement and automatic fan control

How can the fan function be set, monitored and controlled in a physically resilient manner? LEMKEN solves this challenge with its iQblue fan automation, a new, automated fan control system for pneumatic seed drills. At the heart of this system is a vacuum sensor located on the air intake, which monitors the actual amount of air drawn in. Consequently, a real control variable is used for the first time to accurately map the air flow in the system and provide the basis for adaptive control. The measurement takes into account machine-specific factors, such as cable lengths, cable routing and resistances, and therefore enables reproducible results under practical conditions.

Air volume supersedes rotational speed: the new benchmark in seeding technology

This technical approach deliberately goes beyond considering rotational speed alone. Previous approaches usually involved setting the fan according to general manufacturer recommendations and then manually adjusting it based on the seed type, ground speed and implement combination. The new solution, in contrast, provides immediately usable data on the actual air volume conveyed. This value correlates with the floating speed of the seeds and the mass of seeds to be transported per unit of time. LEMKEN has carefully calibrated the underlying relationship between negative pressure and air flow to ensure that the sensor value provides a reliable basis for the actual flow rate – regardless of whether a basic setup or a complex machine combination is involved.

Continuous monitoring of the air system offers major practical benefits. Malfunctions, such as blocked pipes or leaks, are immediately apparent as a deviation of the air volume from the reference value. This prevents situations in which a seemingly correct fan speed gives a false sense of security, even though no air flows due to a blocked pipe. Measuring the air volume ensures

transparency, especially in case of machines with multiple outlets or additional spreaders that push conventional methods to their limits. This reliably reduces operating errors and inefficient settings, which are known to result in incorrect distribution and even machine failure.

Calibrated sensor system for reproducible settings in practical applications

The iQblue fan automation system has a modular design that covers a range of configuration levels. Users can start with a basic pressure gauge solution that allows them to begin measuring air volume. They can also opt for an in-cab display on the tractor terminal, which simplifies monitoring and enables documentation during operation. At the highest configuration level, the system controls the fan automatically via ISOBUS or in conjunction with LEMKEN iQblue connect. The system is therefore aimed at both existing fleets and modern operating machinery. When used with implement combinations with multiple fans, it can control the optimum air volume in line with demand.

This offers a number of practical advantages: The fan speed can be optimised for each type of seed and every machine combination, and it is adaptively adjusted in response to changes in ground speed or cultivation conditions. This ensures more consistent seed distribution and stable flow properties, even in variable conditions. At the same time, energy consumption and wear are reduced because there is no need to run the fan at excessive speeds, “just in case”. Direct visualisation on the terminal supports operator control, while the optional automated control reduces driver strain, particularly in demanding applications involving several air circuits. The system renders the entire fan technology measurable and controllable, enabling reliable control independent of the machine or application.

Efficient sowing

With iQblue fan automation, LEMKEN has transferred its systems expertise to seeding technology to create a robust basis for process reliability and productivity. The combination of carefully calibrated sensor technology,

practical evaluation and seamless integration into existing ISOBUS architectures makes this solution a universal tool for farm managers who seek to operate pneumatic seed drills reliably and economically. Where experience values and speed tables dominated in the past, actual air volume measurements now offer a decisive information advantage in terms of providing immediate and transparent data for control purposes.

At its Agritechnica press conference, the DLG announced the winners of the Innovation Award, with LEMKEN being awarded a silver medal for its new iQblue fan automation product.

About LEMKEN: LEMKEN enjoys a worldwide reputation as a visionary, sustainably operating company that makes an important contribution to profitable agriculture. As medium-sized German family company, LEMKEN has applied its expertise and passion for progress for 245 years, delivering solutions for the challenges confronting agriculture today and tomorrow. The company's product range includes tillage implements, seed drills, hoeing machines, fertiliser spreaders and smart solutions for agricultural data management.

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Image 1: LEMKEN launches iQblue fan automation, a new, automated fan control system for pneumatic seed drills.

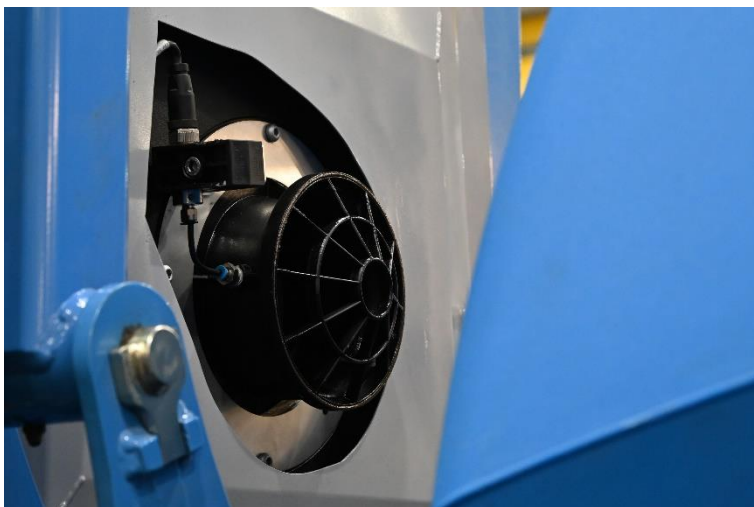


Image 2: At the heart of this system is a vacuum sensor located on the air intake, which monitors the actual amount of air drawn in.

