# Atlas Copco sets standards in connectivity

*HEX@GRID - the innovative control platform for industrial vacuum users*

**Köln, November 2021**: For intelligent networking of machines and systems, it is elementary that industrial processes can be controlled centrally. In order to prepare industrial vacuum users for the Internet of Things and Industry 4.0 scenarios, the manufacturer Atlas Copco has developed the innovative HEX@GRID control platform. The central multi-pump control has a multitude of intelligent functions and sets new standards in terms of connectivity and energy efficiency.

### *Reduced costs for operation and maintenance*

In terms of optimised operating processes, users have the opportunity to improve their vacuum performance. In addition, costs can be saved with the HEX@GRID because a properly tuned vacuum system is easier and more cost-effective to operate and maintain. "Another benefit for users relates to connectivity, because with the new controller all vacuum components can be integrated into one system," explains the responsible product manager, Yuri Vanderveken.

### *Values in real time on the terminal*

This allows customers to operate their systems from a single source, regardless of location: For example, if several components of a vacuum system with variable speed control (VSD) have to keep the pressure constant. "With the help of the HEX@GRID's optional 10-inch HMI interface, users get a complete insight into the central vacuum system," Yuri Vanderveken points out. "The individual, intuitive user interface allows the values of the system components to be entered and monitored in real time via laptop, tablet or smartphone," the product manager adds.

### *Checks become a finger exercise*

Thanks to the full connectivity of the HEX@GRID, updates and new functions can also be downloaded directly. A notification function on the selected end device always keeps users up to date. Further advantages: Regular checks of the vacuum system become an

easy finger exercise, and calibration also becomes easier. "If required, the user can add schedules, plan actions and thus secure the entire process. With the help of the central setpoint control, the vacuum system can be operated in a stable and intelligent way," explains Yuri Vanderveken.

***Different features, depending on the application***

Depending on the application, different HEX@GRID versions are available to the user. For vacuum users with a HEX@, MK5 or other Atlas Copco controller, there is a standard HEX@GRID version as well as an updated version with Optimizer. "Both versions can also control third-party products," says Yuri Vanderveken. For vacuum systems consisting of DZS VSD+ or GVS VSD+ pumps, the VSD+ app is suitable; for a system with up to 16 vacuum pumps, the LINK HEX@GRID with pressure sensor and virtual machine control.

***Maintenance intervals are optimized***

With LINK control, the user has the advantage of operating the vacuum pumps as 1 virtual machine. Depending on the process, these pumps are started one after the other at 60%, each time the first pump acting as the VSD leader is reaching full capacity. Once all follower pumps are at 60% and the leader pump runs out of capacity, these follower pumps can increase their capacity in steps of 10% as 1 machine. For processes with a predefined operating time, the provision of reserve pumps is crucial. The LINK control coordinates the use of backup pumps to optimise maintenance intervals.

***Master pump compensates for fluctuations in demand***

The standard version of the HEX@GRID platform controls up to eight pumps. “It has virtual machine control and thus the same working principle as the LINK where we have a leader pump adapting VSD to the demand and follower pumps working as 1 within the 60-100% capacity range" Yuri Vanderveken elaborates. The bottom line is that this can lead to a reduction in energy consumption of up to 10 % compared to conventional sequencers. "In addition, the operating hours of different pumps in a network can also be balanced out," sums up Product Manager Yuri Vanderveken. The tip of the technological iceberg however is the Optimizer control algorithm. Each individual pump in a vacuum

system has a different specific energy at different speeds and inlet pressures. HEX@GRID uses that information to continually optimizes the speed of each of those individual pumps by calculating the most energy efficient way to control the entire system based on the demand. As an addition up to 20 pumps can be controlled by the Optimizer control.

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## Atlas Copco Vacuum Technique

Great ideas accelerate innovation. At Atlas Copco Vacuum Technique we collaborate with our customers to turn industrial ideas into leading edge technology in vacuum and abatement solutions. Our passionate people, expertise and service bring sustainable value to industries everywhere. Atlas Copco is based in Stockholm, Sweden with customers in more than 180 countries and about 40 000 employees. Revenues of BSEK 100/ 10 BEUR in 2020.

At Atlas Copco **Industrial Vacuum**, we have revolutionized vacuum technology. Our state-of-the-art vacuum pumps and systems exemplify today's connected and digitalized industry. Our teams of exceptional and passionate people engineer customer-centric vacuum solutions that offer better energy efficiency, consumer safety, improved productivity and a sustainable future. Our products are the invisible force that drive all industrial applications and manufacturing.

*Caption:*


*HEX@GRID - the innovative control platform for industrial vacuum users.*