

Busch to present innovative new product at IFFA 2019

Ready for Industry 4.0: New rotary vane vacuum pump with pressure control

At the IFFA trade show, Busch will be showcasing the new R 5 PLUS, a pioneering vacuum pump for food packaging. It can run with pressure control or at a constant speed, making it exceptionally energy-efficient. Acting either as the sole vacuum pump in a packaging machine or as a vacuum module in a central vacuum supply, the R 5 PLUS makes sure a specified pumping speed is maintained. It can also accurately sustain the required vacuum level, regardless of how the packaging volume changes. Thanks to its variable speed drive, the vacuum pump covers a pumping speed range from 440 to 760 cubic meters per hour and reaches an ultimate pressure of 0.1 millibar. All operating data is recorded and saved on a permanent basis. This data can be accessed directly on the built-in display or transferred via a Modbus TCP/IP client/server protocol. A remote control of the vacuum pump via a computer is possible. Busch's new vacuum pump is thus ready for Industry 4.0.

The R 5 PLUS can be operated in two modes. Following an intuitive menu structure on the display, users can choose between the constant speed mode or pressure control mode. The most suitable operating mode depends on the type of packaging. If you are packaging smaller units at high cycle times with just a few seconds between evacuation cycles, it makes sense to leave the vacuum pump running. Adjusting the speed directly on the display allows it to be adapted to current demand without having a negative impact on packaging quality or cycle times. This means that the pumping speed can be kept at a constant level somewhere between 440 and 760 cubic meters per hour.

When working with longer packaging cycles or when the vacuum pump is operated in a central vacuum supply, speed control is the more suitable option. In this case, the vacuum pump maintains the pre-selected vacuum level, regardless of how the pumping speed changes. Once the required vacuum level is in place, the R 5 PLUS continues to run at a minimum speed of 35 hertz, enabling it to respond to a sudden need for increased pumping speed by increasing the rotational speed. In the event of extended breaks, the vacuum pump can also switch on and off automatically thanks to Ecomode.

The R 5 PLUS vacuum pump is based on Busch's proven rotary vane vacuum technology. Thanks to its stable volume flow curve, this vacuum pump can still reach 70 percent of its pumping speed at atmospheric pressure, even at a vacuum level of just 5 millibar.

One of the fundamental benefits of rotary vane vacuum pumps is that power consumption drops as the pressure starts to fall. The rotary vane vacuum pump consumes the most power between the moment it is restarted and when it reaches a level of around 300 millibar. Within the working range between 10 millibar and the ultimate pressure of 0.1 millibar, the vacuum pump consumes a mere 40 to 60 percent of the specified rated power.

This feature alone makes the R 5 PLUS the most powerful and effective vacuum pump in its performance class. And the R 5 PLUS can save even more energy thanks to the two freely selectable operating modes and demand-driven power adjustment.

A standard built-in PLC records and stores all operating data on a permanent basis. This enables not only complete, uninterrupted data recording, but also warning and alarm functions, among others. Using the self-explanatory menu structure on the display, operators can decide when these warnings and alarms are displayed and/or trigger an action. All data recorded by the PLC can be transferred to other PLCs, computers or SMS control units in either analog or digital form, meaning that the R 5 PLUS rotary vane vacuum pump has full connectivity.

Busch is exhibiting in hall 11.0, booth B61.

Photo:

The new R 5 PLUS rotary vane vacuum pump from Busch is exceptionally energy-efficient, while its connectivity features make it ready for Industry 4.0

Photo: Busch Dienste GmbH

