

Compliant, Safe, Efficient: ATEX Vacuum Solution for Technical and Medical Gases

New R5 ATEX hydrogen vacuum pump from Busch ensures regulatory compliance and safe gas filling for Air Liquide Austria in explosive atmospheres.

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/EINPresswire.com/ -- Industrial operations are facing increasing challenges from new regulatory requirements – especially when dealing with potentially explosive atmospheres. Air Liquide Austria GmbH, a leading provider of technical and medical gases based in Schwechat near Vienna, meets these requirements with a specially developed vacuum pump from Busch Vacuum Solutions.

The hydrogen version of the [R5 ATEX](#) oil-lubricated rotary vane vacuum pump is used in an explosion-protected gas filling area. The new solution complies with the Austrian VEXAT regulation on workplace explosion protection and once again demonstrates how Busch incorporates new legal guidelines into product development at an early stage – and thus offers reliable support even in regulated applications.



Hydrogen version of the R5 ATEX installed at Air Liquide Austria GmbH. Source: Busch Group.

Air Liquide Austria: supply security for industry and medicine

Air Liquide Austria GmbH is part of the internationally operating Air Liquide Group, headquartered in Paris. The company specializes in the manufacturing and distribution of technical gases as well as ancillary services for the medical, chemical, automotive and electronics industries.

The Schwechat site produces technical and medical standard gases as well as tailor-made gas mixtures for individual customer needs. The portfolio is augmented by welding accessories and dry ice.

Special focus is placed on sustainability: part of the CO₂ bottled during production comes from fermentation processes and is therefore considered “sustainable CO₂.” In addition to environmental aspects, safety also plays a central role – for both employees and technical

equipment. The new hydrogen version of the R5 ATEX significantly contributes to this.

New regulatory requirements – proven partnership

The Austrian VEXAT regulation, which implements the European ATEX Directive 1999/92/EC, tightens the requirements for systems that work in explosive atmospheres. For Air Liquide Austria, this meant updating the vacuum technology used in critical filling areas.

The company has been working with Busch for a long time and, in light of the new regulations, once again chose the manufacturer – this time opting for the hydrogen version of the R5 ATEX, specially developed for this application scope. Commissioning took place in March 2024 – as one of the first models of this type after the market launch in January of the same year.

Safe and efficient filling of combustible gases thanks to vacuum

The vacuum pump is used in filling processes involving combustible gases. The operator sets the desired gas mixture via the system control. The pipe system is then evacuated with the help of the vacuum pump to rule out leaks. These would prevent the desired ultimate pressure from being achieved. The bottles are then opened and also evacuated. Several purge cycles follow: the gas with which the cylinders are to be filled is introduced and then suctioned out again. Depending on the previous filling, several cycles are necessary for the removal of the remaining gases in the cylinder. The evacuation process takes place at a defined vacuum level of approximately 50 hPa (mbar). In total, the vacuum pump is used three to five times per filling cycle. The pump is permanently integrated into the filling line, mounted on a conveyor console and is easily accessible for maintenance work. The previously used vacuum pump will be overhauled and used as a redundancy system in the future. Other rotary vane vacuum pumps from Busch are already operating at the Schwechat site – such as oxygen versions for the processing of medical gases.

Long-term cooperation – technology you can rely on

The new solution from Busch provides Air Liquide Austria not only with regulatory compliance but also with reliable performance in daily operations. Maintenance is mostly performed in-house: weekly visual and filter checks as well as an annual oil change ensure operational safety. If necessary, the vacuum pumps are handed over to the manufacturer for a general overhaul. The cooperation between Busch and Air Liquide Austria has existed for many years – and has proven itself through high product quality and fast technical support. "The long-term partnership with Busch is very good. The company was able to provide us with solutions that no other vacuum supplier offers," says Engineer Marc Geiss, Plant Manager of Air Liquide Austria GmbH in



Bottling plant for special gasses from Air Liquide Austria GmbH.
Source: Busch Group.

Schwechat. Engineer Erwin Weinzing, technician at Air Liquide Austria GmbH, adds: "I have been working with Busch for 29 years and am very satisfied."

Dr Sandra Thirtle-Höck

Busch Group

+49 4964 418021460

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