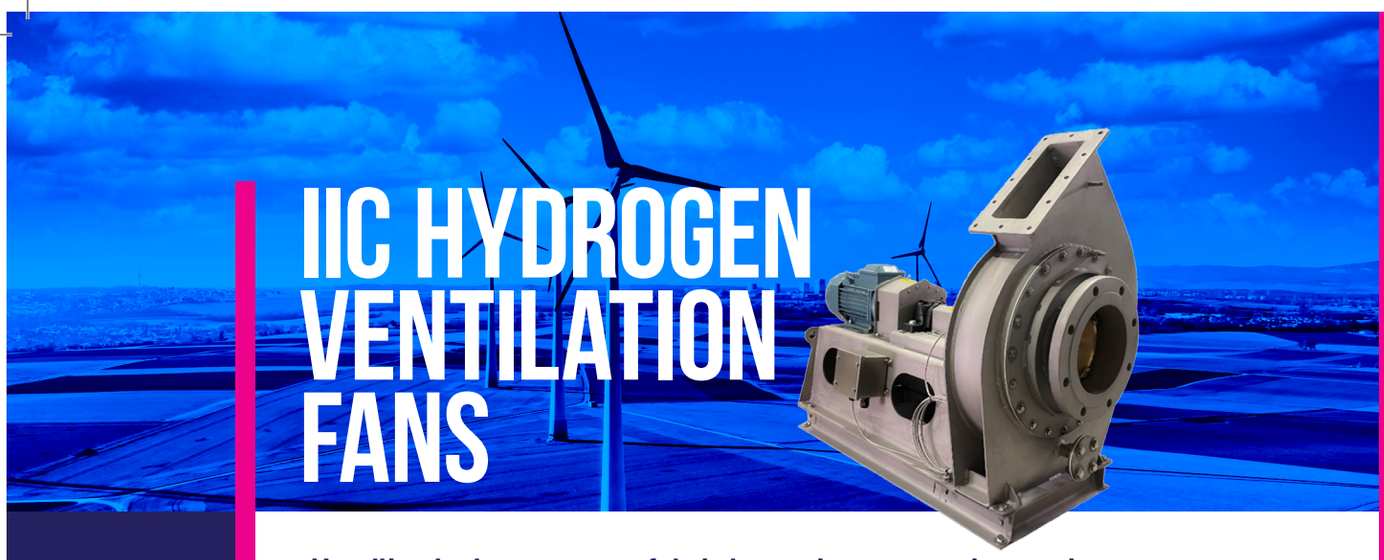


IIC HYDROGEN VENTILATION FANS

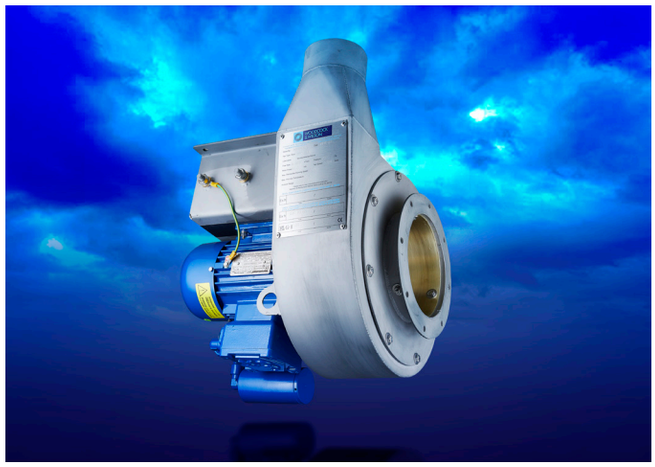
WOODCOCK & WILSON

Handling hydrogen gas safely is becoming an ever-increasing concern as applications increase, particularly with the pressure to move towards cleaner energy solutions. Generation, fuel cell systems, filling stations, distribution, and storage plants all present challenges when it comes to ensuring the safe ventilation of hydrogen gas.

Battery rooms for example are becoming more commonplace for backup and uninterruptible power supplies. Battery rooms are even now part of a wind turbines make-up to ensure that surplus, harnessed electrical energy is stored for later consumption. Hydrogen gas discharge is a common occurrence of batteries under heavy recharge or during malfunction, depending on the battery technology. It is important that the overall process risks, which include the prevention of build-up of such a highly flammable gas, are fully understood and mitigated.

Hydrogen is classified as a Group IIC gas. Even a relatively low concentration of hydrogen in the air is extremely vulnerable to ignition by a spark or flame. New requirements for non-electrical explosion protection in the ISO/IEC 80079-36 & 37 standards that help to evaluate the effectiveness of non-electrical ignition sources, now exist.

GAS GROUPS	
IIA	Acetic acid, Acetone, Ammonia, Butane, Cyclohexane, Propane, Petrol, Methane, Toluene, Xylene, Methanol, Propane-2-ol
IIB	Group IIA gases plus: Di-ethyl ether, Ethylene, Ethanol, Methyl ethyl ketone, Propane-1-ol
IIC	Group IIA and IIB gases plus: Acetylene, Hydrogen



WHAT IS A BATTERY ROOM FAN?
Fans used to ventilate battery storage facilities are often referred to as "Battery Room Fans". It is vital that Battery Room ventilation systems are correctly designed for the Hazardous Area environment that can potentially exist under operation or failure modes. This includes ensuring that the fan and other equipment used are correctly certified.

Hazardous Area classification, including Gas Group considerations for UKEX, ATEX and IECEx schemes are strictly controlled. IIC Gas Groups for fans is one of the most demanding, often requiring additional safety features and distinct certification in addition to those for Gas Groups IIA & IIB.

WHAT IS A IIC FAN?
While other manufacturers may offer IIB + Hydrogen, Woodcock and Wilson are able to offer independently certified IIC (Hydrogen) fans to UKEX, ATEX or IECEx.
The certification covers:

The certification covers:

EN 14986:2017: Design of fans working in potentially explosive atmospheres.

EN ISO 80079-36:2016: Non-electrical equipment for explosive atmospheres. Basic method and requirements.

EN ISO 80079-37:2016: Non-electrical equipment for explosive atmospheres. Non-electrical type of protection (constructional safety "c". control of ignition sources "b", liquid immersion "k")

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