

ATEX Rated Fans

Metal & Plastic



AXAIR
FANS UK LIMITED
www.axair-fans.co.uk

2012 Edition

Axair Fans UK Limited serves the UK and Ireland as a manufacturer and distributor of small to medium sized industrial fans. Our mission is to help solve any problem in air movement through having at our disposal the widest range of fan products from any single source.

Over many years we have developed particular expertise in the selection and supply of fans for air diluted corrosive fumes, hot fumes, and, where this brochure is concerned, for compliance with ATEX Directives. Axair Fans UK Limited operates a management system to ISO 9001 overseen by Lloyds Register Quality Assurance.

ATEX Products

ATEX compliant fans can be supplied in semi-conducting polypropylene, fabricated steel with copper or aluminium non-sparking components, cast aluminium, or in stainless steel if required.

Many applications call for air diluted fumes to be ducted, hence the availability of centrifugal fans in either forward or backward-curved impeller blade. For general ventilation of rooms and buildings we supply axial fans in plate mounted and cased construction; we even have an ATEX in-line duct fan.

Polypropylene fans will handle corrosive fumes whilst enduring outdoor conditions and can be supplied with weather-protecting pedestals to enhance their motor IP classification.

ATEX Directives

99/92/EC ATEX 137 (formerly 118a), often referred to as 'The user's directive', is concerned with safe working conditions and is implemented in UK law by the Health & Safety Executive in the form of the Dangerous Substances and Explosive Atmospheres Regulations, or DSEAR. ATEX 137 requires the end-user to define what the equipment manufacturer can lawfully supply.

94/9/EC ATEX 95 (formerly 100a), often referred to as 'The Manufacturer's Directive', is concerned with ATEX product compliance. This enables the equipment manufacturer to supply product that meets or exceeds the minimum requirements of the end-user's DSEAR risk assessment.

ATEX coding

Ex II fans i.e. for surface industries (not mining) are the only type covered in this brochure.

Category 2 (Zone 1) is specified when explosive gasses may be present in normal operation (occasionally)

Category 3 (Zone 2) is specified when explosive gasses are not expected to be present in normal operation, and if they are it will only be for a short time.

Gas Groups IIA, IIB or IIC are common gasses grouped according to their incendive properties; IIC being the highest. Category 3 fans may simply cover all Group II gasses without the sub-group letter reference because they are non-incendive (non sparking) and gas is unlikely to be present i.e. the risk of explosion is very low.

Temperature Class T1 to T6 defines the auto-ignition temperature of a gas, therefore the maximum temperature on the shell of an electric motor. Temperature classes vary from T6/85°C to T1/450°C but the most popular are T4/135°C and T3/200°C.

As examples only, ATEX codes could take the form Ex II 2G IIB T4 for Zone 1 and Ex II 3G II T3 for Zone 2.

Take care with Hydrogen gas; it has T1 the lowest auto-ignition risk but Gas Group IIC the highest incendive properties.

ATEX Motors

EEx d is Cat.2 flame-proof i.e. not anti-sparking but a spark induced internal flame cannot escape from the motor.

EEx e is Cat.2 or Cat.3 i.e. anti-sparking in normal operation; can be temperature limited; but is not flame-proof.

EEx nA is Cat.3 non-incendive i.e. anti-sparking in normal operation; but not flame-proof.

Manufacturers generally select the type of motor required to meet the regulations; clients sometimes choose to over-specify the motor for extra security.

The above notes relate to gaseous atmospheres. Dust is another explosion hazard that we can deal with according to whether the fan is handling dust or whether dust is present in the atmosphere.

Note : Axair Fans UK Limited is not an ATEX consultancy but nevertheless recommends that client seek basic advice from our experienced sales team before making fan selections.

ATEX Fan Range

SEMI-CONDUCTING POLYPROPYLENE FAN

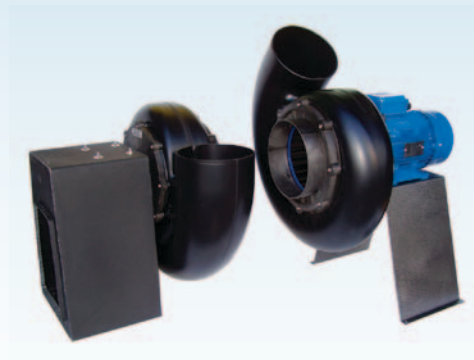
Corrosion resistant plastic; weather protected option
ATEX Category 3G, Zone 2, EEx nA or EEx d motor

Axair SA centrifugal

Forward-curved impeller blades. Spigots Ø125 to Ø315
Flow rates to 10,000m³/h. Pressures to 1500pascals

Axair STA centrifugal

Forward-curved impeller blades. Spigots Ø75 to Ø160
Flow rates to 1800m³/h. Pressures to 2000pascals



FABRICATED STEEL FAN

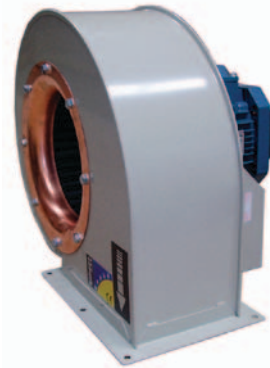
Anti-corrosion treated
ATEX Category 2G, Zone 1, EEx d or EEx e motor

Sodeca CMP centrifugal

Forward-curved impeller blades. Spigots Ø160 to Ø500
Flow rates to 16500m³/h. Pressures to 2400pascals

Sodeca CMR centrifugal

Backward-curved impeller blades. Spigots Ø400 to Ø800
Flow rates to 48,000m³/h. Pressures to 3200pascals



CAST ALUMINIUM FAN

Anti-corrosion treated
ATEX Category 2G, Zone 1, EEx d or EEx e motor

Sodeca CMA centrifugal

Forward-curved impeller blades. Spigots Ø80 to Ø180
Flow rates to 3550m³/h. Pressures to 4000pascals



PLATE MOUNTED FAN

Anti-corrosion treated
ATEX Category 2G, Zone 1, EEx d only

Sodeca HCDF axial

Aluminium wall-plate mounted to 710mm square
Cast aluminium impellers from Ø250 to Ø560
Flow rates to 15,100m³/h. Pressures to 200pascals

Sodeca HDF axial

Steel wall-plate mounted to Ø1015
Cast aluminium impellers from Ø630 to Ø900
Flow rates to 48,200m³/h.
Pressures to 450pascals



IN-LINE DUCT FAN

Plastic outer-case with Ø315 spigots at each end
ATEX Category 3G, Zone 2, EEx nA motor

Rosenberg R315Ex centrifugal

Backward-curved impeller blades in plastic
External rotor motor in the airstream



Note: ATEX Category 2 fans
may be used in
Category 3 installations

**Rosenberg also supply compact dimensioned
speed controllable axial and centrifugal fans
driven by external rotor motors type EEx e**



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