

ATEX Certified Fans for Hazardous Areas

ATEX fans with durable design, robust mechanical construction, and carefully paired sparkproof materials including semi-conducting polypropylene, fabricated steel with copper or aluminium non-sparking components, cast aluminium or stainless steel.



Who Are Axair Fans?

We're UK industrial fan suppliers with a solid goal: To help you.

Revolutionary fan selection and technical integration advice that revolves around you and your system. With over 30 years experience in the UK fan market, we revolutionise the way our customers do business, that's why we're fast becoming the independent fan supplier of choice in the UK market.

Industrial Applications

Chemical Storage Ventilation where ammonia, hydrogen and other corrosive fumes are present.

Fume Cupboards whether in laboratory, educational settings, extract arms, dust or fume extraction.

Environmental Fume Extraction for anaerobic and aerobic digestion plants and other toxic environments.

Biomass, Biofuel & Renewables for combustion, material handling, drying, explosion protection and corrosion management.

Sewage & Waste Water Treatment for sludge drying, toxic fume removals and eliminating hazardous gases.

Mortuary & Autopsy where formaldehyde is present and corrosive gas ventilation is required.

ATEX Applications to prevent explosions in potentially hazardous Zone 1, 2 gas or 21, 22 dust applications. ATEX fans are certified in line with the ATEX Directive 2014/34/EU.

ATEX Fan Labelling

In accordance with UK & European ATEX regulations and legislation, all equipment that is certified for use in the UK hazardous area market is labelled with a code that defines its use. This ensures all equipment is traceable back to its origin source should the rare event of an issue arise.

Certifications & Groups

Axair are a carbon zero, ISO 9001 certified company. We are proud active members of the fan manufacturers and smoke control associations. Download a copy of our policies at www.axair-fans.co.uk.

We're Revolting!

You heard us right, we're revolting - we're changing the rules of the industrial fan game, breaking the mould Response times that take some companies days, take us minutes. Pre-sales advice and after sales support is built around you, because our job is to empower you to make the right fan selection for your application.



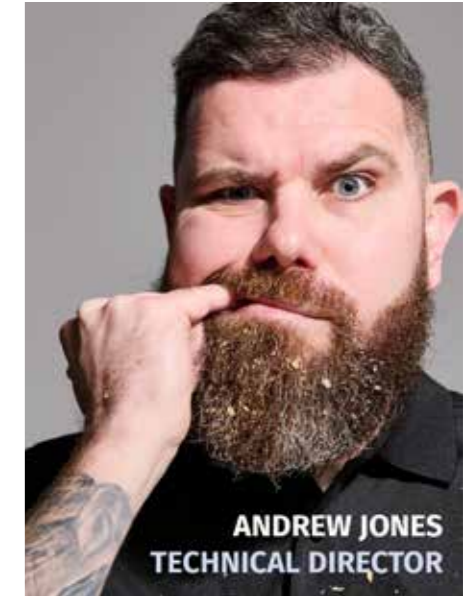
Michael Hambleton
Head of Qualifications

When your enquiry comes into Axair you'll speak to Michael and his team of qualification engineers. They'll work with you to figure out what would be best for your application. From here they'll pass you to our product engineers for fan selections.



Georgia Rawlins
Industrial Product Engineer

Following your enquiry qualification, our departmental product engineers will produce a detailed quotation and provide datasheets for you to sign off. Each engineer has a specialist niche, Georgia for example, is extensively DSEAR and ATEX trained.



Andrew Jones
Technical Director

Sometimes your enquiry needs a little more technical TLC, that's where our heavy technical guys step in. AJ leads from the front on all ATEX, net zero, hydrogen and emerging technologies, and helps our customers with the tricky side of fan integration.

Important Information Regarding ATEX Fan Selection

The Axair team have undertaken extensive training in ATEX regulations but have a duty of care to ensure we supply a suitable fan based upon a customer's correct ATEX coding specifications. ATEX has to be understood as an ever evolving subject requiring competence and training that is now provided by UK notified bodies and consultancies. We advise that if anyone requires additional training in ATEX that they contact an independent body for assistance. Axair can supply fans suitable for ATEX applications within zone 1 & 2 for gas and Zone 21 & 22 for dust, manufactured from either metal, or corrosion resistant polypropylene depending on the specification.



ATEX Certified Fans

Don't go unprotected in hazardous environments with our net zero award winning ATEX fans boasting durable design, robust mechanical construction, and carefully paired sparkproof materials.

Manufactured by leading global fan manufacturer Casals, our explosion protected industrial fans are designed for use in gas zones 1 & 2, or dust zones 21 & 22. Construction materials are paired responsibly to avoid ignition explosions from sparks and friction, including copper, stainless steel, polypropylene and aluminium. Contact our expert in-house team for fan selection assistance.

Axial & Roof Fans



HBX Ex ec IIC T3
HBX Ex eb IIC T4



HBX Ex ec IIC T3
HBX Ex eb IIC T4



HBX Ex db IIC T5



HMX Ex ec IIC T3
HBX Ex eb IIC T4



CTH3-A Ex ec IIC T3
CTH3-A Ex db IIC T5

Air diluted fumes to be ducted may require forward or backward curved centrifugal fans. For general ventilation of rooms and buildings, we supply axial fans in plate mounted and cased construction. Polypropylene fans will handle corrosive fumes.

Centrifugal Fans



AAVA Ex ec IIC T3



AAVC Ex ec IIC T3



AAVG/N Ex ec IIC T3



AAVM/N Ex ec IIC T3



AAVP Ex ec IIC T3



AAX Ex ec IIC T3



AAZA Ex ec IIC T3



MAX Ex ec IIC T3
MAX Ex db IIC T4



MBCA Ex ec IIC T3
MBCA Ex eb IIC T4



MBGR Ex ec IIC T3



MBRM Ex ec IIC T3



MBRU Ex ec IIC T3



MBX Ex ec IIC T3



MBZM P/R Ex ec IIC T3



NIMAX Ex ec IIC T3



NIMUS Ex ec IIC T3

The above is a representation of the ATEX range, not an exhaustive list, contact our industrial team for fan selections.

Please note: Equipment manufacturers and distributors are not ATEX consultants, cannot play any role in the process of determining the risk of explosion and cannot therefore specify the ATEX 2014/34/EU code for any product supplied.

All About Axair Fans

Back in 1983, our passionate managing director set up Axair in a spare room with a solid goal: *to provide air movement and fan components that create better systems, systems that help our customers to be more successful.*

Today the growing family business retains these values at its core. Through thoughtful selection of employees and solid leadership, the company has become a mature and well developed UK industrial fan supplier with a unique approach to fan selection, customer support, technical fan integration and resourcefulness.



We Challenge the Status Quo

We provide alternative ideas that challenge existing procedures and thinking, so that we can improve and develop new solutions for our customers.

We Leverage Collective Genius

We focus on utilising our combined knowledge for best results each time. This means our customers get the most efficient solution every single time.

We're Resourceful & Solution Led

Our resourcefulness enables us to find ways to speedily overcome difficulties and achieve customer goals smartly

Revolutionary Fan Expertise

We advise and help to integrate the best industrial fan solutions that increase efficiency, improve performance, and solve a problem. We're a united team dedicated to your success, and we're excited to demonstrate how working with us can revolutionise the way you do business with your fan component supplier.



GEOFF EDWARDS
BUSINESS DEV DIRECTOR



FABIEN CARBONELL
KEY ACCOUNTS MANAGER



JAMES KEELING
PRODUCT ENGINEER

WE'RE REVOLTING!

We're Revolutionising An Antiquated Industry.

We understand that in today's fast paced business environment, time is of the essence, that's why we've enhanced our enquiry efficiency by integrating a singular technical team to handle your enquiries from start to finish. With this streamlined approach, we guarantee **no continuous team handovers**, rapid response times and highly accurate solutions that propel your success.

If you're looking for technical support on a fan we've supplied, we'll be with you in no time. Work with a fan supplier who works hard to improve the inefficiencies our customers experience in the UK fan industry.

www.axair-fans.co.uk

Directive, Coding & Motors

The following brief notes are provided for guidance purposes and must not be considered to form part of any contract for supply of equipment or accessories.

ATEX User & Manufacturer Directives

99/92/EC ATEX 137 (formerly 118a), often referred to as “The Users 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 regulation, or DSEAR.

“ATEX 137 requires the end user to define what the equipment manufacturer can lawfully supply”

2014/34/EU ATEX 114 often referred to as “The Equipment Directive” is concerned with ATEX product compliance. The legislation enables the equipment manufacturer to supply product that meets or exceed the minimum requirements of the end users DSEAR risk assessment. 2014/34/EU was implemented in the UK under the Equipment & protective systems intended for use in potentially explosive atmospheres regulations 2016.

“ATEX 114 requires the equipment manufacturer to supply safe and lawfully suitable products”

ATEX Motors

The type of flameproof motor depends on the duration of the risk of explosion - generally identified by an Equipment Category number. Non Incendive motors are designed to avoid internal contact sparking, increased safety motors are a non-incendive type with thermistors to limit the shell temperature while Explosion proof motors will contain an internal explosion and prevent the flame from escaping.

ATEX Markings

Ex d is Cat.2 flameproof i.e not sparking but a spark induced internal flame cannot escape from the motor.

Ex nA is Cat.3 non incentive i.e anti sparking in normal operation but not flameproof.

Changes to ATEX markings on our Casals fans mean our ATEX range now carries the following ATEX markings:

Ex eb (enhanced protection) is suitable for Zone 1 and Zone 22 conductive dust. All fans equipped with Ex eb motors have pedestals on account of the motor weight.

Ex ec (non sparking protection) and is suitable for Zone 2 and 22 Non-conductive dust.

Electric motors are susceptible to over-heating when running on overload, when their supply or self cooling air is reduced, when the ambient air is too high, or when part of the motor surface is thermally insulated by its installed situation. Any one of these conditions could lead to an explosion.

All speed controlled ATEX motors receive less cooling air on speed reduction and must therefore be supplied with thermistor over-temperature sensors to protect against shell temperature in excess of the motor temperature class.

ATEX Fans

In addition to their ATEX coding, ATEX fans must be selected with reasonably good knowledge of their flow rate or pressure operating point; the temperature and fume content of the air to be transported; especially whether hydrogen or acetylene fumes are present; whether they are being installed indoors or outdoors; the voltage of the anti-condensation heaters (if specified) and which handing is required in the case of centrifugal fans.

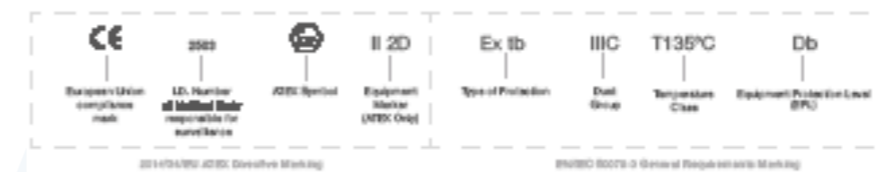
Hazardous Area Guide

It is strictly the responsibility of the end user to perform a DSEAR risk assessment to ensure that flameproof zones are properly defined in terms recognised by ATEX 2014/34/EU. The below guide is intended for guidance only.

Typical Equipment Marking for Gas Atmospheres



Typical Equipment Marking for Dust Atmospheres



Gas Zones			
Gas Zones	Definition	ATEX Category	Required Protection
Methane	Mixes with methane and dust. Equipment remains energised in explosive atmosphere	II 1	Ma
Methane	Mixes with methane and dust. Equipment is de-energised in explosive atmosphere	II 2	Ma
Zone 0	Explosive atmosphere present continuously or for long periods, frequently	II 0	Ga
Zone 1	Explosive atmosphere likely to occur under normal conditions, occasionally	II 1	Ga
Zone 2	Explosive atmosphere unlikely to occur under normal conditions, infrequently	II 2	Ga

Dust Zones			
Dust Zones	Definition	ATEX Category	Required Protection
Zone 20	Explosive atmosphere likely to occur under normal conditions, occasionally	II 2D	Da
Zone 21	Explosive atmosphere likely to occur under normal conditions, occasionally	II 2D	Da
Zone 22	Explosive atmosphere unlikely to occur under normal conditions, infrequently	II 2D	Da

Enclosure Ingress Protection (IP) Level	
First Number (Solid objects / dust)	Second Number (Water)
0 No protection	0 No protection
1 Objects > 50mm	1 Vertically dripping water
2 Objects > 12.5mm	2 Vertically dripping water with nozzles < 63°
3 Objects > 8mm	3 Sprayed water up to 60° from the vertical
4 Objects > 5mm	4 Sprayed water from all directions
5 Dust tight	5 Protected under jets
6 Dust tight	6 Extended submersion > 1m depth

Ambient Temperature Range (T amb)	
T amb =	Temperature relating to the nominal surroundings of the equipment (assumed to be -20°C to +40°C, unless stated)

Protection Concept - Electrical - Gas	
Type of Protection (ATEX/IEC)	Reference
General Requirements	EN 60079-0
Flameproof - Ex d / Ex e / Ex f / Ex g	EN 60079-1
Purge/Pressurised - Ex p / Ex q / Ex r / Ex s	EN 60079-2
Oil Immersion - Ex o / Ex t / Ex u	EN 60079-3
Increased Safety - Ex i / Ex l / Ex m	EN 60079-7
Intrinsic Safety - Ex i / Ex j / Ex k	EN 60079-11
Non Sparking - Ex n / Ex nL	EN 60079-18
Encapsulation - Ex m / Ex n / Ex o	EN 60079-18
Optical Radiation - Ex op / Ex ol / Ex olp	EN 60079-28
Thermally Stable Systems - Ex t / Ex tD	EN 60079-30-1
Special Protection Ex s	EN 60079-32
Capacitors	EN 60079-38-1
Controlled Spark Duration Power	TS 60079-38
Process Heating	TS 60079-40
Flame Arrestors	EN 14892
Direct Engines	EN 1204-1,2,3

Protection Concept - Electrical - Dust	
Type of Protection (ATEX/IEC)	Reference
General Requirements	EN 60079-0
Enclosure - Ex tD / Ex tDp	EN 60079-21
Purge/Pressurised - Ex p / Ex q / Ex r / Ex s	EN 60079-2
Intrinsic Safety - Ex i / Ex j / Ex k	EN 60079-11
Encapsulation - Ex m / Ex n / Ex o	EN 60079-18

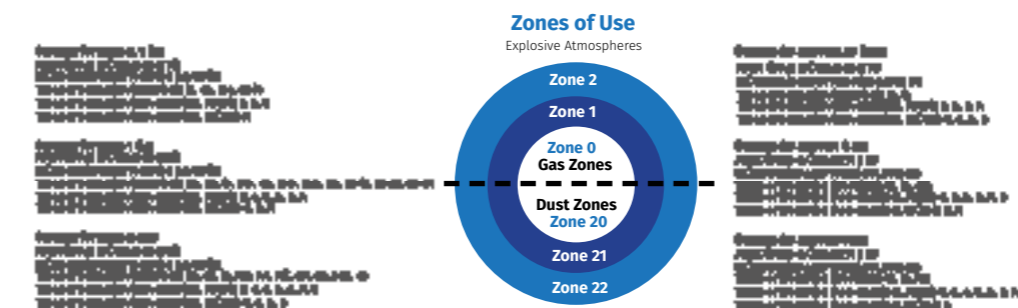
Protection Concept - Non Electrical	
Type of Protection (ATEX/IEC)	Reference
General Requirements	EN 60079-0
Flame Resistant - Ex s	EN 60079-32
Flame Resistant - Ex s	EN 60079-32
Controlled Spark Duration Power	EN 60079-38
Process Heating	EN 60079-40
Flame Arrestors	EN 14892
Direct Engines	EN 1204-1,2,3

ATEX Gas & Dust Zones

If an explosive atmosphere of flammable substances is specified, the following zones may exist:

ATEX Category	ATEX Zone (Gas & Vapour)	ATEX Zone (Dust)	Presence	ATEX Description
Category 2	Zone 1	Zone 21*	Present Intermittently	An explosive mixture may be present occasionally in normal operation
Category 3	Zone 2	Zone 22*	Present Abnormally	An explosive mixture is not expected to be present in normal operation or will only be present for a short time

Zone 22 dust fans available on request



Gas Groups	
Gas Groups	Definition
IIA	Group IIA gases plus, Ethyl ether, Ethylene, Ethanol, Methyl ethyl ketone (MEK), Propane 1 and 2 (not specified)
IIB	Group IIB gases plus, Ethyl ether, Ethylene, Ethanol, Methyl ethyl ketone (MEK), Propane 1 and 2 (not specified)
IIC	Group IIC gases plus, Ethyl ether, Ethylene, Ethanol, Methyl ethyl ketone (MEK), Propane 1 and 2 (not specified)

Dust Groups	
Dust Groups	Definition
IIA	Group IIA dusts plus, Non-Conductive Dusts
IIB	Group IIB dusts plus, Non-Conductive Dusts
IIC	Group IIC dusts plus, Non-Conductive Dusts

Temperature Class	
Temperature Class	Definition
T1	Maximum temperature surface < 450°C
T2	Maximum temperature surface < 300°C
T3	Maximum temperature surface < 200°C
T4	Maximum temperature surface < 150°C
T5	Maximum temperature surface < 100°C
T6	Maximum temperature surface < 85°C

Temperature Class	
Temperature Class	Definition
T1	Maximum temperature surface < 450°C
T2	Maximum temperature surface < 300°C
T3	Maximum temperature surface < 200°C
T4	Maximum temperature surface < 150°C
T5	Maximum temperature surface < 100°C
T6	Maximum temperature surface < 85°C



Contact Us

Whatever your issue, concern or question, contact our industrial team using the below contact details. Alternatively, visit our website and open a live chat to start discussions.

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www.axair-fans.co.uk