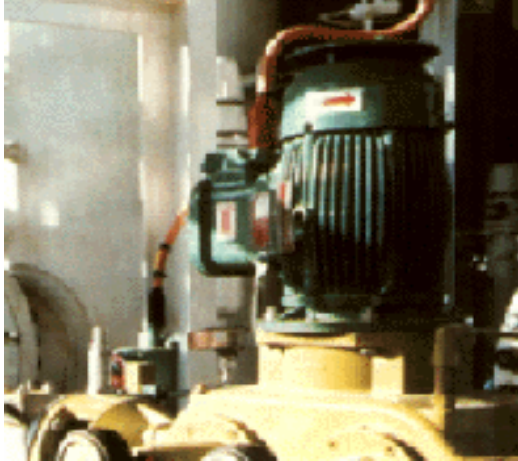




The majority of motors or generators for hazardous areas are protected by one of the following concepts:

<b>Flameproof</b>	<b>Ex d</b>	<b>Zone 1</b>
<b>Pressurised</b>	<b>Ex p</b>	<b>Zone 1</b>
<b>Increased safety</b>	<b>Ex e</b>	<b>Zone 1</b>
<b>Non-sparking</b>	<b>Ex n</b>	<b>Zone 2</b>



The principles involved with these protection concepts are based upon three quite distinct philosophies:

**Flameproof:** The motor or generator housing is of a very robust design with specially machined joints and rotor shaft gaps to physically contain any internal ignition and prevent it from transmitting to the surrounding atmosphere. These are usually the most expensive type and normally require additional maintenance routines.

**Pressurised:** As its name suggests, the inside of the motor or generator housing is pressurised with an inert gas to prevent the ingress of any potentially explosive gases. This method is usually used for larger motors to reduce costs, but require a pressurising system and monitoring equipment.

**Increased Safety and Non-sparking:** In the case of Type e and Type n protection the objective is to prevent the production of any arcs, sparks or hot surfaces by the design of the internal parts, therefore eliminating any source of ignition. These methods are used for the majority of smaller motors or generators in the relevant zone.

#### **On-site assessments and testing**

Although testing is normally carried out at our Hazardous Area Centre in Chester, our engineers can arrange to visit your premises to effect physical and drawing assessments, and witness/conduct any necessary testing such as heat run or locked rotor (Ex e) tests. Sira is also able to offer the facility of

performing all your company's pressurised, flameproof, and increased safety certification testing at your site. This can significantly reducing testing completion times, thereby providing a helpful and simple solution to any testing problems.

On-site testing has the advantage of having Sira staff, with extensive hazardous area experience, at your premises to assist you in achieving the best scope for the certification of your equipment. This service can be arranged at very short notice for anywhere around the world.

Furthermore, when the testing and assessment is completed on-site, a major part of the certification process is completed, thereby greatly reducing your time to market. This also allows us to provide you with a Fax Of Intent, which is written confirmation that the product meets all the major requirements of the relevant standard.

If other (European) notified bodies or national authorities are being used, you may wish to make use of our test or assessment reports to reduce your certification time scale.

#### **Recognition of Sira Certificates**

In an ever competitive global market, Sira has recognised the competitive advantage required by motor manufacturers and has set up a number of international agreements with NRTL's (Nationally Recognised Testing Laboratories).

Sira currently has the following recognition agreements:

<b>FM</b>	-	North America
<b>UL</b>	-	North America
<b>CSA</b>	-	Canada
<b>MSHA</b>	-	North America
<b>SABS</b>	-	South Africa
<b>Test Safe</b>	-	Australia

In addition, Sira is currently in negotiation with the Japanese Ministry of Labour to be a 'Designated Foreign Testing Laboratory'. This will allow acceptance of our certificates by TIIS of Japan. Sira's agreement with **CSA** assists in obtaining listings for access to the Canadian market. Sira will actively seek to set up further recognition agreements with other national certification bodies at our customer's request, thereby enabling a single source for all your motor or generator approval requirements.

#### **Testing of High Voltage Machines**

For machines with a rated voltage above 1kV the additional requirements of (prestandard) DD ENV 50269: 1997 are to be applied. This will ultimately form part of the relevant EN standard.

#### **Sira Test & Certification**

Hazardous Area Centre, Rake Lane, Eccleston, Chester, England. CH4 9JN.

Tel: +44 (0)1244 670900, Fax: +44 (0)1244 681330, e-mail: [info@siracertification.com](mailto:info@siracertification.com)



This ENV calls for separate assessment of both the stator and rotor hazards to reduce the risks from air-gap sparking and stator winding discharges.

If a potential hazard is identified, this may be reduced, in accordance with the ENV, by any of the following:

- Type testing a representative sample
- Purging and pressuring system to EN 50016 for any stator hazard, or pre-start purging for any rotor hazard
- Other equivalent agreed method

We at Sira are pleased to offer type testing to the ENV.

### Refurbishment

Sira has the necessary expertise and accreditation to audit your refurbishment facilities to enable you to refurbish and repair motors in accordance with IEC 60079-19:1983. This competitively priced service compares favourably with the traditional route of obtaining an approved license. Our assessment of your procedures and facilities will give your customers the confidence of knowing that the equipment you supply will maintain the requirements of the original certification.

### Mechanical Requirements

After 1 July 2003 all mechanical equipment for use in hazardous areas had to be addressed against the requirements of 94/9/EC (ATEX Directive). This requirement directly affects the equipment your motor or generator will be used with. Sira can offer, not only, compliance advice for the production of a technical file, but full ATEX certification approval to the latest non-electrical EN 13463 series of standards.

### Dust Requirements

More and more manufacturers are asking for the addition of dust approval to EN 50281-1-1. Again we at Sira are pleased to offer this service.

### ATEX "Worker" or "Use" Directive 1999/92/EC

Although the requirements of the ATEX Directive 94/9/EC and the above, do not become mandatory, within Europe, until 1 July 2003, a problem exists if there is a long lead-time to commission.

The "use" directive requires all new equipment fitted and commissioned in new European installations to have ATEX approval from 1 July 2003. This requirement is postponed, for up to three years if the equipment is fitted and commissioned within an existing installation.

### Notified Body

Sira is an independent 'Notified Body' in Europe with accreditation from UKAS (United Kingdom Accreditation Service) for its test and certification

activities. Recognised across the world, Sira is heavily committed to Motors and Generators.

Sira provides an approachable and flexible route to certification where the global marketplace remains extremely competitive.

### Sira's reputation

Sira has undertaken hazardous area certification work for a number of UK, European and International Motor and/or Generator manufacturers. We already have an enviable reputation for a, friendly, high quality, no-nonsense service that is flexible enough to achieve your demanding goals whilst remaining flexible and responsive to change. The service offered by Sira compares favourably with that offered by any other motor or generator certification and approval bodies.

### Main Standards Relating to Hazardous Area Motors and Generators

EN 50014: 1997/IEC 60079-0:2000
EN 50016: 1994/IEC 60079-2:1983
EN 50018: 2000/IEC 60079-1:1990
EN 50019: 2000/IEC 79-7:1990
EN 50021: 1999/IEC 60079-15:2001
DD ENV 50269: 1997
FM 3600, FM 3615
UL 674, UL 1836
CSA 145 M1986

### Sira Service Features

Sira offers a range of innovative features when carrying out your company's test and assessment work:

- Fixed price quotations
- Budgetary estimates
- Free initial two hour meeting
- Pre-certification support
- Regular updates of project progress
- Flexible payment terms
- Dedicated account management

Sira will be pleased to provide your company with a quotation for multiple applications at a more favourable price.

### More Information?

To discuss how Sira can provide a cost efficient and technically correct route to motor or generator

Form 9211  
Issue 4

### Sira Test & Certification

Hazardous Area Centre, Rake Lane, Eccleston, Chester, England. CH4 9JN.

Tel: +44 (0)1244 670900, Fax: +44 (0)1244 681330, e-mail: [info@siracertification.com](mailto:info@siracertification.com)

**sira**  
CERTIFICATION

PRODUCT CERTIFICATION – ATEX  
HAZARDOUS AREA MOTORS  
OR GENERATORS



certification, please contact **Steve Otty, Dave Stubbings** or **Dave Hanks** at the Hazardous Area Centre in Chester.

Form 9211  
Issue 4

**Sira Test & Certification**

Hazardous Area Centre, Rake Lane, Eccleston, Chester, England. CH4 9JN.

Tel: +44 (0)1244 670900, Fax: +44 (0)1244 681330, e-mail: [info@siracertification.com](mailto:info@siracertification.com)

Certification and EU Notified Body activities are undertaken by Sira Certification Service (SCS), the independent certification body of the Sira Group