

Motive power batteries Ex
certified increased safety « e »

Fiamm Motive Power
energy plus ATEX
Water Less ATEX
energy dry ATEX



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The Technology

The Fiamm Motive Power ATEX batteries are a specialist range of motive power batteries using a battery container designed, patented and certified for use in Zone areas where flammable gas or dust may occur.

- Group I Category M2
- Group II Category 2 and 3 [Zone 1 and 2 (Gas), 21 and 22 (Dust)]

They are conceived to power electrical materials handling equipment working in potentially explosive environments.

The new compact design of the battery container permits the O.E. manufacturers recommended maximum capacity cells to be fitted, thus eliminating the previous necessity of reduced capacity and working patterns noted with alternative designs.

Features and benefits

- The ATEX batteries are available in following ranges :
 - energy plus (flooded)
 - Water Less (flooded, low maintenance)*
 - energy dry (maintenance free, gel)
- New container design now allows capacities enjoyed in non Ex applications
- Screw flexible terminal connections for easy of maintenance
- Available in both DIN and BS series
- Specially designed ventilation avoid hydrogen concentrations
- ATEX energy plus and Water Less batteries can be fitted with automatic topping up system (Fiamm Motive Power aqualevel)
- Battery changing accomplished by utilising DIN standard lifting holes (alternative available)
- Batteries comply with ATEX Directive 94/9/EC
- These batteries can be manufactured in one or several crates; each being considered as an independent battery with certification plate
- The crate is equipped with a lid ensuring an IP23 protection and includes ventilation slots
- This ventilation is designed to keep hydrogen concentrations below 2 %, thereby conforming to the EN 60079-7 : 2007 standard
- The crate is covered with a hermetic insulated coating giving a high level of electrical and chemical resistance
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* without level probe

Standards

- The complete Fiamm Motive Power ATEX ranges carry the type certifications **I M2 Ex e I and II 2GD Ex e II / Ex tD A21 IP65**. They are manufactured and designed to EN 60079-0 : 2006, EN 60079-7 : 2007, EN 61241-0 : 2006 and EN 61241-1 : 2004 standards
- They are homologated by the Sira
- The cells and terminals comply with IP65 and the crate with IP23 – vital for use within zone 21 and 22 dust atmosphere
- Motive power Fiamm Motive Power ATEX batteries conform with the relevant provision of directive 94/9/EC of 23 March 1994. Conformity has been demonstrated with reference to the following documentation:

EC type-examination certificates:

| ATEX | IECEX | Description |
|------------------|---------------------|----------------------------------|
| SIRA 01ATEX3016U | SIRA IECEX 07.0061U | Flooded BS cell |
| SIRA 01ATEX3019U | SIRA IECEX 07.0062U | Flooded DIN cell |
| SIRA 01ATEX3022 | SIRA IECEX 07.0065 | Batt. up to 68.8 KWh |
| SIRA 01ATEX3025 | SIRA IECEX 07.0066 | Batt. not greater than 153.6 KWh |
| SIRA 03ATEX3087U | SIRA IECEX 07.0063U | BS Gel cells |
| SIRA 03ATEX3090U | SIRA IECEX 07.0064U | DIN Gel cells |

ATEX certificates apply to the EEC and IECEX certificates apply to the rest of the world except North America (USA and Canada).

Quality Assurance Notification:

Sira 01 ATEX M103 dated 15/06/01

Field of applications

The certified battery can be used in various applications:

- Mining
- Factories using flammable powders
- Oil refineries, storage depots of hydrocarbons
- Aerosol can filling and storage
- Distilleries
- Paint making factories
- Perfumes, cosmetics factories ...

Group I Category M2

Group II Category 2 Zone 1 and 2
 Zone 21 and 22

Group II Category 3 Zone 2
 Zone 22

M2 = Mining
Zone 1 and 2 = Gas
Zone 21 and 22 = Dust

Battery size

Special patented features within the battery container have eliminated the need to produce batteries of lower ampere hour capacities to accommodate the extra space required to maximise ventilation. Fiamm Motive Power ATEX batteries give the same capacity for use in Ex operations as those recommended by truck manufacturers for non-hazardous applications. Battery voltages are available up to 400 V.

Accessories

Single point filling system for energy plus and Water Less ATEX batteries : to achieve optimal battery life and performance, electrolyte levels in each cell need to be maintained by the periodic addition of demineralised water. The Fiamm Motive Power aqualevel battery filling system can be fitted to this new design, this option was not available on previous Zoned battery designs.

Electrolyte mixing (available as an option on Fiamm Motive Power energy plus and Water Less ranges) the Fiamm Motive Power electrolyte circulation system, using the Airsystem principle, consists of a pipe system which is fitted in the cells. A diaphragm pump sends a low rate airflow into the cell which creates a circulating air stream inside the cell box. This system prevents electrolyte stratification and the battery charging is optimised.

Optional: the battery/charger plugs are manufactured to a same exacting standards as the batteries. Certified plugs offer protection when operating in Ex hazardous areas. They have been designed and constructed to accept a wide range of cables. All cabling must be fed with flameproof Ex d gland entries.



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