Innovative Automatic Fire Extinguishing System for wind power based on airbag technology

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Airbags Inflators to fight fires

Airbag inflator technology confers on Automatic Fire Extinguishing Systems the well-known benefits of automotive safety:
- Maintenance-free (no pressure vessel)
- Easy installation (small packaging and low weight)
- Convenience for shipment

Automatic Fire Extinguishing Systems equipped with airbags inflators

Automatic Fire Extinguishing Systems equipped with inflators:
- are triggered by electric signals to produce pressure and propel and spray extinguishing agents;
- are not submitted to permanent pressures and consequently to regular controls during lifetime.

Inflators operating approach and tests results

Inflators Gas Generant Loads outflows (compositions & shapes)

- Progressive
- Flat

Extinguishers Gas Generant Loads (compositions & shapes) vs agents outflows

Theses pressures curves of inflators gas generant load demonstrate a constant piston travel and a constant agent outflow and spraying for an optimal fire extinguishment.

Water mist spraying tests
Optimization of piping and nozzles

Clean agent tests (NOVEC™ 3M™ 1230)
Electrical equipment and mineral oil fires

Applications: equipment in wind turbines, storage units, substations
- Control cabinets
- Transformers
- Generators / slip rings
- Brakes and clutches
- Hydraulics

Conclusion

Automatic Fire Extinguishing Systems equipped with airbags inflators jointly consider / wind power equipment constraints as accessibility, limited space, low weight / electrical or hydraulic fire risks / features as dependability, early fire detection and maintenance free.