High hazard pumps are used in sprinkler installations to protect commercial and industrial properties deemed as highly combustible from the effects of fire. Every system is designed specifically for each individual site requirement. The units have LPCB approval to the latest standards and are red book listed.

When would I need a High Hazard Set?

Within the UK, each building is defined by criteria of the installation and a relevant insurance body is appointed. If assigned to LPCB, then a hazard category would also be assigned. There are three of these - light hazard, ordinary hazard and high hazard and all are ranked depending on the combustibility rate of the items within the building (for instance, a high combustibility would be considered a 'High Hazard').

Applications

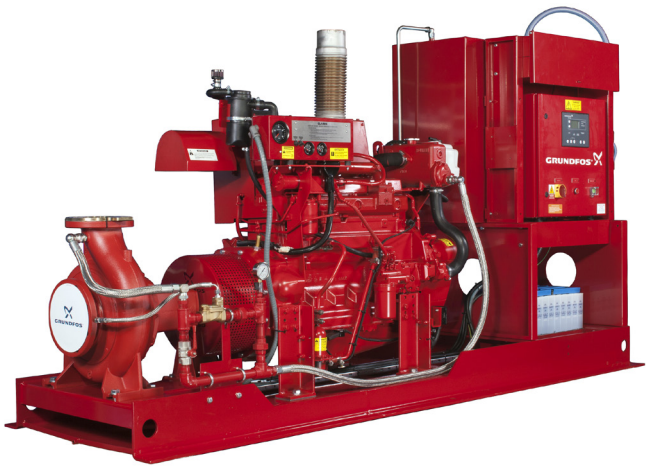
Within the UK, each building is given a designation that is defined by a number of criteria and given a hazard category. Standard categorys are:

OH1
Typically: large schools and offices, hospitals, hotels, restaurants, libraries, dairies, cement works, sheet metal producers and abattoirs.

OH2
Typically: museums, bakeries, breweries, photographic labs and car workshops.

OH3
Typically: shopping centres, supermarkets, industrial processes and buildings with a highly combustible load.

HH
Typical high hazard applications are storage and distribution facilities, areas where chemicals exist and high rise buildings over 45m.



High Hazard Fire Set Diesel

A standard High Hazard Set could consist of the following:

- Diesel pumpset (including pump-end, diesel engine, 6 hour single-walled fuel tank, 24v ni-cad batteries and controller within a single skid)
- Electric pumpset (including pump-end, electric motor and slide rails)
- Electric pump controller (star-delta starter with 4 volt-free contacts)
- Jockey pump (Grundfos CR pump achieving a minimum of 1 bar over the closed valve pressure of the proposed duty pump)
- Jockey pump starter (direct on-line starter)
- Remote alarm panel (for monitoring of signals remote from the pumphouse)
- Automatic supply change-over panels (used on twin electric pump installations to alternate incoming supplies to each pump)

How to select a High Hazard Fire Set?

The first thing to consider is how quickly fire could spread within specific regions of the building. This is done by calculating the flammable materials within each zone. Flammable materials stored to higher vertical levels are most likely to increase the energy of the fire, thereby increasing the chances of the fire spreading.

This information would be self-assessed using the BSEN12845 standard. Once the sprinkler head positions and pipework sizes have been designed within the building, duty parameters are created based upon the best (MFA – Most Favourable Area) and worst (MRA - Most Remote Area) case duties required. An allowance of 0.5 bar is added to the worst case as a safety margin. These are then put onto a pump performance curve along with the proposed water supply tank height and the highest sprinkler within the best case duty area to calculate the maximum flow demand of the system (Qmax) that the pump could be called to deliver. From this the dedicated water supply tank can be sized.

Within BSEN12845 are the recommended installation types for standard buildings and recommended grades for flammable materials.

What standards is this equipment approved / compliant to?

- LPCB – Loss Prevention Certification Board
- BSEN12845 – Fixed firefighting systems, automatic firefighting systems, design, installation and maintenance
- LPS1239 1.1 – Requirements and testing procedures for the LPCB Approval and listing of diesel engines for sprinkler pump sets
- LPS1131 1.1 – Requirements and testing methods for pumps for automatic sprinkler installation pump sets

High Hazard Fire Set Diesel

Benefits

- All products are LPCB listed and approved to BSEN12845, ensuring that they follow the correct criteria offering the peace of mind that they will work effectively.
- Extensive range of end-suction pumps available to suit requirements for fully hydraulically calculated systems giving a wider range to suit individual selection requirements.
- All pumps are tailored via impellers/orifice plates to suit the individual site requirements, reducing the maximum flow demand and ensuring the dedicated water supply tank cost is reduced.
- Pumps are engineered, built and tested in Grundfos Sunderland, ensuring the product has passed all quality checks and achieved duty parameters preventing incorrectly sized equipment reaching site.
- A wide selection of options and accessories are available including pump housing to ensure ensuring greater opportunities to select the ideal equipment.

GB/HighHazardFireSet/1012

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