Flygt pump exploded following installation
Thermal and short circuit protection must be set to rating of pump

A recent incident at a wastewater pumping station highlighted the installation of the pump had not been carried out in accordance with the requirements of atmosphere explosive (ATEX) certification and was not being operated in accordance with the manufacturer’s instructions for an ATEX certified pump.

Also the pump motor was being operated with no effective electrical overload protection as required by BS7671 ‘Requirements for Electrical Installations’.

A large electrical arc occurred within the motor terminal chamber as a result of a damaged supply cable, this led to a loss of a motor winding connection. Along with the lack of electrical and thermal protection, this caused a massive increase in pressure along with extensive burning within the terminal chamber above the motor stator.

This dramatic increase in internal pressure and partial release of the stator fixing caused failure of the stator housing. The stator housing, cooling jacket and terminal chamber were then propelled upwards out of the pump chamber.

What you need to do:

- Ensure pump thermal protection has been connected as required by the “Safe Conditions of Use” of the ATEX Approval Certificate
- Ensure overload protection is set correctly for the motor rating
- Ensure the short circuit protection provided is set correctly for the pump motor
  - For example, a pump motor with a full load current of 19A, and with assisted starting, should have short circuit protection provided by fuses with a rating of 32A
- Do not operate similar pumps continuously below the minimum level advised in the pump operating manual and pump specifications for an ATEX approved pump
- Do not operate similar pumps on ‘snore’ for long periods as it could give rise to damage, through vibration and high winding temperatures, to the motor windings and connections

Remember to set motor protection correctly