Exhaust pre-ventilation upgrade
Purging exhaust to prevent gas build-up
We are continuously searching for new ways to improve product safety, and while modern engines are delivered with exhaust pre-ventilation systems as standard, some legacy engines still operate without such systems installed. This leaves them vulnerable to the possible presence of gas.

Under normal conditions, no gas should leak into the exhaust. However, in some cases, after a start failure or a shutdown for example, unburnt gas may leak out from the cylinders during standstill. To prevent any uncontrolled combustion of gas in the exhaust system, we strongly recommend installing pre-ventilation fans in your system (one per engine) if not already present.

In fact, even if you have this safety device already, we recommend that you upgrade to our latest ventilation system that features a fan with a more powerful airflow that will reduce purging times (depending on the original design of the exhaust system).

The pre-ventilation fan blows ambient air into the exhaust ducts so that any residual gas is purged through the exhaust pipes before start-up.

For a base load plant the pre-ventilation process is normally activated during the 5 minutes start-up sequence. For engines running in grid support mode, a regular purging sequence ensures that the exhaust is free of gas at all times, enabling the engines to start quickly and safely whenever needed.

The starting sequence will always be set-up according to local rules and regulations where the system is installed.
The new exhaust pre-ventilation system includes several safety features:
- A flow switch that activates an alarm if the output flow from the ventilation fan falls below a critical threshold, indicating that the fan is not operational
- System temperature monitoring that triggers an alarm in the event of a blowback from the exhaust system towards the ventilation fan
- Active monitoring and feedback regarding the ventilation valve’s position (open/closed valve)

All safety information and warnings are shown on the PLC screen.

As all power plants are unique, a site inspection is required to identify system requirements and adjustments.

The fan motor will require a 3-phase 400V/690V power supply. Ventilation can either be controlled by the main control (SCADA - Main Sequential Control and Data Acquisition), or the engine control system (ECC - Engine Control Cabinet).

System installation takes approximately one day following the provision and upgrading (as required) of supporting plant equipment.