



The completion of Renault Cleon France

The largest gas-fired heating project of the last few decades in France is nearing its completion.

The beginning

What began in 2003 as a heating project, like many other projects in the collaboration between Mark Climate Technology and its French distribution Climair Industrie, has developed into a mega-project of unprecedented scale. The first four air handling units with makeup air burners were a kind of a test project. In the summer of 2003 a serious order of 11 large units followed for a converted part of the complex. This created a situation in which about 20% of the complex was provided with Mark air handling units.



Old installations failed the inspection

Through close contact with the engineers of Renault's "techno centre HVAC" we soon found out that the heating and ventilation of the entire complex needed to be replaced. The emissions of the existing central heating installed in 1956 no longer met the current requirements and the environmental permit would not be renewed in 2014.

It is the serious pollution of the air by the production on the one hand and the necessary fresh air for the welfare of the production staff on the other hand what makes this project a very interesting project.



The rise of Renault Motors

Although the global automotive industry has had very difficult times during the past few years, Renault Motors in Cleon near Rouen has seen a significant growth. In this factory a whopping 3,000 engines and transmissions are being produced PER DAY. Not just for Renault, but for Nissan, Dacia, and even Mercedes and BMW.

Although a large portion production of the plant which was built in 1956 is done by robots, the factory still houses 5,500 people.

Energy savings

In 2010, the decision of Renault's management to reserve a budget for the installation of 84 gas-fired makeup air units on the basis

Climair
INDUSTRIE
MATÉRIEL DE CHAUFFAGE ET DE CLIMATISATION POUR INDUSTRIES ET TERTIAIRE

of advice from Mark and Climair was made definite.

In addition to the stated objectives on safety, emission requirements and lifetime, one of the main objectives was savings. This is achieved by the gas-fired makeup air burner with 99% efficiency, electric motors with the highest efficiency class and a minimum air velocity and resistance of the unit. Possible energy savings up to 1 million euro per year!

EIFFAGE

The installer is granted the order

With multiple parties in the race, the installer Eiffage is granted the order. The French giant installer has offered a competing French product.

Obviously our competitor was willing to do anything to get the contract. For the French competitor, it does not matter that their own product is completely different from the specifications and thus the Mark-version. "We just copy everything" the French manufacturer indicates. After tough negotiations,

the French-Dutch combination Mark-Climair still manages to beat the local competitor and can start the production for the first 42 air handling units on the roof.



Helicopter

In addition to the very tight time schedule, the new cooperation between Mark - Climair - Eiffage faced another challenge. The roof of the plant proved to be too big for the units to be placed there with a crane. Placing by helicopter was the only solution. A job where nothing can go wrong, because the license must be applied for two months in advance, no one is allowed in the factory, so a full production stop for one day.

On December 6th, the installer placed 13 air handling units with 36 aircraft movements on the roof within a time frame of 3 hours.



Follow-up orders

The cooperation is excellent and a follow-up order within the same complex is possible. This time the units are more complex and within a less clear framework: the replacement of 43 existing heating systems in a so-called "maçon" setting. These settings are architectural spaces where custom-made steam-powered heating systems heated and ventilated the factory over the past 60 years. The challenge was to keep the airflow and output the same to the "maçon" and the access doors cannot be adjusted, the control unit must be in another room and the gas control box has to come out because of ATEX (explosion risk) standards.



The installer had initially planned to do the job entirely by themselves and to purchase all components and assemble the heating systems. However, this would not result in an CE EN525 approved system for the installer.

Mark offered a turnkey solution by means of adapting a standard make-up air system with a width of 4 meters and a height of 2 meters in such a way that all the components could be delivered through 75 cm wide 2 meters high door. After assembly, inspection and commissioning Mark can deliver the necessary CE certificate 2A.

A glance at the technology

- Full aluminium air handling units. ALMG3 with mineral wool insulation.
- Air handling unit modules have a maximum weight of 1200 kg because of the placing by helicopter.
- The modules are placed on a prefabricated galvanized support frame with an integrated platform featuring toe boards and stairs designed by Mark.
- Rain cap with droplet blades and anti-bird grills.
- Burner section with a Maxon Make Up Air box burner. Modulation Range 25:1. Minimum power 4%. Efficiency 99%. Gas type natural gas G20 Standard EN 525
- A special high temperature filter G4 is mounted on the warm side of the burner so that freezing is not possible.
- High efficiency fan with backward curved blades.
- Control cabinet in accordance with the Renault CNOMO full wire numbering.
- Temperature control MCC Sesame @ automotive with an Ethernet connection for connection to the building management system.

MARK CLIMATE TECHNOLOGY

Beneden Verlaat 87-89
9645 BM Veendam
The Netherlands
T: +31(0)598 656623
E: info@markclimate.com
I: www.markclimate.com

mark
CLIMATE TECHNOLOGY
FEELS BETTER, WORKS BETTER.