

PARMA EXHIBITION CENTRE

Parma - Italy

Trade Fair Centre

Packaged system

Year 2006-2011



The Parma Exhibition Centre is one of Italy's main trade fair centres with a display area of more than 300,000 square metres located in a strategic position and an ever-increasing calendar of events.

The Challenge

The project to enhance the Parma Exhibition Centre aimed at turning a very dynamic local venue into a trade fair centre with a national outlook.

This is why a development program spanning over several years was put in place. The first stage was launched in 2006 to fully refurbish halls 5 and 6 over two years. The second and third stage were instead due to be completed within a shorter time frame, one year for each stage, with the construction of the new entrance in 2010 and the demolition and rebuilding of halls 3 and 4 over the following year.

The time frames to complete the various stages needed to be short and, more importantly, reliable in order to be in line with the busy calendar of events already scheduled

Both the structures and the systems needed to be extremely versatile to be able to adapt to the variety of trade fair events held during the various seasons of the year.

Namely, the new climate control systems needed to ensure steady conditions in terms of comfort and not be affected by either the unpredictable crowding of the premises or the outdoor weather conditions, which can vary a lot during rather hot summers and cold and humid winters, with temperatures often below zero for many weeks.

The designers also needed to find a solution to limits related to the availability of electricity, which is limited during winter, also considering the possibility of installing new large photovoltaic fields.

Finally, there was the imperative goal of cutting running costs, which needed to be limited only to the days the centre was open to the public during trade fairs.



Parma Exhibition Centre – Inside of the halls and view of the parking area during the Camper Van Show
www.fieredi-parma.it

The building

- Two-floor prefabricated building
- Surface of over 300,000 sq m

The dimensions

- 7 halls
- 4 restaurants, 2 conference rooms, 1 Meat Exchange room

The team

- Project commissioned and managed by Parma's Exhibition Centre, Italy
- Architectural design by Di Gregorio Associati, Italy
- Systems designed by Esseti Studio, Studio Nocera, Italy

About Parma's Exhibition Centre

Thanks to a major redevelopment and specialisation project worth over 60 million euros, Parma's Exhibition Centre is now a trade fair venue with an international reach at the centre of the big manufacturing hubs of northern and central Italy. It is home to leading events in specific sectors such as the food industry, the antique trade, caravanning and the open-air industry. For instance, every year the Camper Van Show attracts more than 120,000 visitors, positioning itself as the second-leading event in this sector in Europe, even bigger than the Paris Motor Show in terms of size and number of visitors.

The solution

With the strong positive experience of the Palacassa multifunction centre, which has been using a Clivet hydronic system since 2001, the designers confirmed this choice also for the new halls with a decentralised system based on CLIVETPack rooftop air-air reversible heat pumps specially designed for the various intended uses.

During the first stage completed in 2007, as much as 24 Clivet units were installed. Each unit generates an air flow rate of more than 50,000 m³/h and comes with a supply and return ventilating unit with automatic air renewal control, thermodynamic energy recovery and freecooling.

The second stage, which in 2010 saw the creation of the new entrance and restaurant and café area, involved another 5 CLIVETPack units fitted with variable air flow rate ventilation and 1 rooftop system specially designed for highly crowded areas capable of treating large amounts of fresh air.

The third stage, which in just six months saw the demolition, reconstruction and opening to the public of halls 3 and 4, involved another 24 high-capacity CLIVETPack units with a variable air flow rate. They are fitted with high-efficiency gas heating systems (condensing modulating models) to ensure 100% reliable operation even in the event of limited electricity supply during winter. Other specialised CLIVETPack systems are used in the restaurants, with partial recirculation units in the rooms and all-fresh-air versions for the kitchens and the premises of the annexed Meat Exchange room.

Another three Clivet SPLIT-System units are used in the offices, which are separate from the rest of the building.

The whole system serving these two halls is managed by the Clivet P-Matic supervision system.

The results

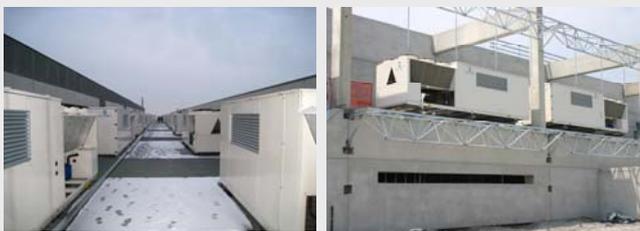
The ambitious deadlines to complete the project were met, as the CLIVETPack units ensure all year round comfort with a single industrialised system, thereby drastically reducing operations conducted on site and possible unforeseen events.

Moreover, the decentralisation of the system allowed the Parma Exhibition Centre to cut running costs. Indeed the units operate only in active halls and accurately monitor the heat load ensuring no heat is wasted, as well as making them fully operational in little time, both in terms of set-up and operation.

The CLIVETPack units are completely independent: compared with other conventional centralised hydronic systems, they eliminate both pumping costs and operation required in winter even when the premises are closed to prevent the operating fluid from freezing. They also increase the reliability of the whole system, as each unit is completely independent from the other ones.

Limits in terms of electricity supply in winter have been dealt with, too. CLIVETPack's high efficiency levels in terms of heat pump-based operation reduced the system's electrical consumption to a minimum. In two halls, the gas heating systems are activated during periods that require greater capacity levels, such as the coldest days in winter, further limiting electricity supplied by the mains network in those conditions.

For further information about Clivet's systems
www.clivet.com



Parma Exhibition Centre – CLIVETPack reversible air-air heat pumps on the roof and a suspended platform

About CLIVETPack

The **CLIVETPack** independent climate control systems are high energy efficiency *packaged* rooftop units designed for the year-round climate control of small and large areas. They make it easier to create the system as they have all the functions that in conventional solutions are carried out by separate products and parts. They process the air by heating, cooling, controlling humidity, renewing the air and carry out thermodynamic energy recovery. They are available in versions specially designed for environments with medium and high crowding levels and all-fresh-air applications, with either an air or a water-based source.

The System

- 58 CLIVETPack rooftop air-air reversible heat pumps with built-in thermodynamic energy recovery
- Overall cooling capacity: 15 MW
- 3 Clivet SPLIT-System direct expansion systems
- 1 Clivet P-Matic centralised supervision system