

## SAINTE-ANNE NEUROLOGY CENTRE

### AIR HANDLING UNITS ADAPTED TO HOSPITAL STANDARDS



Neuro Sainte-Anne,  
EDEIS and ICE Entreprise

Paris (75), France

### Project description

As part of its reconstruction project for the Université Paris Cité neuroscience teaching centre, GHU Paris and its site, the Saint-Anne hospital centre in Paris, have opted to equip their new building to the NF S 90-351 standard.

This standard guides the design, realisation, use and maintenance of air handling installations in clean rooms and hospital environments. It recommends performance levels to be achieved and the equipment to be used based on the risk class which has been determined for the room or zone to be protected. As the needs and requirements relating to contamination control are different, several risk zones have been defined:

- Risk zone 4: very high risk of infection
- Risk zone 3: high risk of infection
- Risk zone 2: moderate risk of infection
- Risk zone 1: zero risk of infection

To design the layout of the new 14,000 m<sup>2</sup> building, which will accommodate 130 beds, two MRI units and a six-room operating theatre, over six floors, the contractor called on the expertise of engineering and design firm EDEIS for the design, and ICE for the installation, and on the indoor air quality solutions from CIAT.



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### ADVANTAGES

- Control of airborne contamination
- Optimal quality and hygiene
- Energy efficiency and reduction of CO<sub>2</sub>
- Reliability and sustainability
- Adaptability and compliance
- Comfort and reduction of noise
- Optimisation of the space and flexibility

### Challenges and solutions

To meet these requirements, CIAT put forward a specific design of air handling unit.

#### HIGH PERFORMANCE DESIGN

- Design, adaptation and options which comply fully with the "hygiene" recommendations in the EN 13053 and NFS 90 351 standards relating to healthcare establishments (requirements relating to the control of airborne contamination)
- Completely smooth interior design, allowing all functions to be cleaned and decontaminated efficiently
- Design adapted to the most stringent requirements of the latest generation ultraclean processes
- Increased leak tightness adapted to the required pressures
- Complete control of quality, from design to manufacture
- High performance equipment



### TECHNOLOGIES

- 21 CLIMACIAT® AIRTECH™ air handling units
- Two air-to-water AQUACIAT<sup>POWER</sup>™ LD 250R water chillers using R-32 refrigerant

## HYGIENE-GRADE AIRCLEAN EQUIPMENT, OFFERING PERFORMANCE IN EVERY DETAIL

- Casing painted RAL 9010 white on the interior and exterior, with all metal parts secured to the floor
- Hygiene-grade 316L stainless steel condensate drain pan, sloped with no retention, accessible via a 600 mm door
- Plug fans with high-efficiency airfoil blades, designed to adapt to the operation point and required level of acoustic performance precisely, with a motor compatible with variable speed control
- Dampers with opposed blades for class 3 increased leak tightness in line with the EN 1751 standard
- Door profile with double lip and EPDM seal with a specially developed profile, enabling optimal tightness to be maintained
- Hinges with offset axes and handles with composite latches: excellent corrosion resistance, proven robustness, easy to operate, with good temperature resistance
- Door closing axes assembled to guarantee the tightness and thermal performance of the casing

## HIGH PERFORMANCE CHILLED WATER PRODUCTION WITH ENERGY RECOVERY COMPLIANT WITH THE F-GAS REGULATION AND THE ECODESIGN 2024 DIRECTIVE

- Installation of two AQUACIAT<sup>POWER</sup> LD 2650R water chillers with desuperheater
- Optimised by using the greenest refrigerant with the lowest GWP, R-32, which meets the requirements in terms of seasonal energy efficiency (SEER) and CO<sub>2</sub> reduction, in accordance with the various applicable European directives and regulations
- Compact and silent
- Self-regulating operation to adapt to seasonal variations and requirements
- Quick, simple installation
- Simplified maintenance thanks to the new generation Connect Touch control
- Partial heat recovery: free production of hot water simultaneously with the production of chilled water, used to generate domestic hot water



For more information, please contact your local CIAT representative or visit [ciat.com](https://www.ciat.com)

