



A new home for art and culture in Turin based on safe and efficiently operating service systems

The new Gallerie d'Italia museum, which belongs to the Intesa Sanpaolo Group, is supported by Grundfos solutions for air conditioning and heating systems, playing a crucial role in ensuring the rigorous control of temperature and humidity inside the exhibition halls.

- Location: Gallerie d'Italia Intesa Sanpaolo Museum Centre – P.zza San Carlo 156, Turin
- Client: Intesa Sanpaolo Bank, Turin
- General contractor: Ediltecno Restauri, Opera (Milan)
- Architectural design: AMDL Circle, Milan
- Final system design and system works management: Studio Pro-Tec Milano Srl, Milan
- Mechanical systems: Panzeri SpA, Luisago (CO)
- General, operational and structural works management: Recchi Engineering, Turin

GRUNDFOS 

Possibility in every drop



The entrance to the Gallerie d'Italia museum is located in Piazza San Carlo

The situation

From hidden spaces to places open to the public, from environments created to protect money to places that open up to culture: this was the leitmotif of the project “to create social and cultural value in Italy” signed up by the Intesa Sanpaolo Group. After having redesigned how to use its spaces, in May 2022 the Group also inaugurated and opened to the public the fourth exhibition venue of the Gallerie d'Italia in Turin, which has been added to the museum complexes in Milan, Naples and Vicenza. In each of these buildings owned by the Group, photographs and video art express their aesthetic value by addressing the crucial issues of history and modern times, while enhancing the artistic, historical and cultural heritage belonging to Intesa Sanpaolo.

Located in Piedmont, since 1963 Palazzo Turinetti di Pertengo has housed the Management of the San Paolo Banking Institute in Turin and it currently serves as the Group's registered office. The Palace, which overlooks Piazza San Carlo, was built in the 17th century as Piazza Reale and was intended for hosting large noble residences. This site links its history to the project to give a new urban and architectural configuration to the city, which became the capital of Italy after Duke Emanuel Philibert of Savoy moved the institutional seat of the Savoy State from Chambéry to Turin. The recent architectural project involving Palazzo Turinetti – designed by Michele De Lucchi from AMDL Circle – has transformed the rooms of this ancient

building (also home to some of the Bank's major collections), creating a museum area of 10,000 m2 that holds images and photographs, events and reflections aimed at promoting issues related to the development of sustainability.

Visitors can climb a large staircase to access the three underground floors intended for temporary exhibitions, the ticket office and the headquarters of the Intesa Sanpaolo Publifoto Archive, which is visible through a large window. It also has an immersive room of over 500 m2, equipped with 17 4K projectors so that visitors can fully immerse themselves in images and videos. On the ground floor, the open-air cloister – surrounded by Piazza San Carlo, Via XX Settembre and Via Santa Teresa – houses a bookshop, a café and a restaurant. The main floor of the Palace presents a display of painting, sculpture, tapestry and historical furnishing, which features late Baroque decorative pieces in the rooms, along with a room devoted to the nine large canvases owned by the Bank, produced in the second half of the 17th century to decorate the ancient Oratory of the Company of St Paul, which had been destroyed. New heating, ventilation and air conditioning systems had to be created for the recent museum section, with a particular focus on the air treatment units. These are vitally important for ensuring the rigorous control of the temperature and humidity inside the exhibition rooms.



Piano nobile (principal floor) with mirror acting as a mobile monitor

The solution

The final design of the facilities and the construction management were assigned to the Milanese design studio Pro-Tec Milano by Banca Intesa Sanpaolo. The tender for the mechanical systems was awarded to Panzeri SpA in Luisago (CO), which had previously worked on the systems of the museum at the Milan headquarters of the banking institution. “We’ve been partners of Banca Intesa Sanpaolo for some time,” remarks Daniele Di Gregorio, Project Manager at Panzeri SpA. “As is widely known, Panzeri SpA collaborates with leading manufacturers of devices and components including Grundfos, whose products are often offered among our supplies. We have been working with Grundfos as a partner for many years and we consider it one of the leading companies in the sector for the manufacture of medium- to high-end products for implementation in system engineering applications. It has a prompt and efficient after-sales, support and spare parts service, which is vital for us, especially when carrying out this great historical restoration work.

Panzeri SpA immediately proposed Grundfos to the design studio and the Construction Management department decided to go with this.” Consideration was therefore given to installing smart inverter pumps that could interact with the facilities’ general management system, adapting its performance to the needs of separate environments.



The twin domestic hot water recirculation pump is a Magna3 model



Primary heat pump circuit consisting of TPE pumps



Secondary heating circuit consisting of TPE pumps

We opted for the TPE family of pumps for the heating and air conditioning system because they are the latest-generation in-line pumps, equipped with extremely reliable and efficient IE5 permanent magnet motors. For the heating system only we installed MAGNA3 twin pumps, wet-rotor circulars which are top-of-the-range in every respect: efficiency, noise-limitation, reliability, control. For wastewater disposal we installed a Duolift booster station and a Modbus communication card for monitoring, which connects the pumps to the plant's central system. Finally, a Hydro EN firefighting system was installed to protect the museum and the complex itself, consisting of an electric pump and a motor pump.

The devices were installed partly in the HVAC system (those used for heating) and partly in the cooling system (those used for chilled water and air conditioning). The two rooms, which already exist and are adjacent to each other, are located on floor -4. "We added the heating and air conditioning systems both in the main building and similar ones that were required to supply the systems serving the museum complex," explains Di Gregorio.

"The system we have created extends from the roof of the building to every area of the museum. When it came to selecting the devices, we first carried out internal checks and studied every detail – system dimensions, curves, circuits, flow rates and pressure drops – before liaising with the Grundfos Technical Department and sharing the results obtained from our technical analyses, which allowed us to identify and select the most suitable pumps for the type of work to be carried out." The project lasted just over 12 months.

During the calibration and commissioning phases, Panzeri SpA carried out all the necessary checks on flow rates and hydraulic heads, enlisting the services of the specific company department that deals with commissioning. The staff working in the Commissioning department carried out specific checks with the help of a certified ultrasonic instrument, which is applied directly to the pipes, making sure that there were no deviations from the standards declared by the manufacturer.



Circuit with domestic hot water heat exchanger was made using TPE pumps

The result

The systems have been up and running for almost a year now, with the devices operating perfectly and reflecting the required design characteristics. The Intesa Sanpaolo Group was very satisfied with the result, as Di Gregorio confirms: "Banca Intesa appreciated the quality and professionalism that make us stand out so that, during completion of the work, it hired us directly to carry out a system renovation in another historical building in Turin in Via Monte di Pietà, which involves revamping the new site according to the museum's activities. In this type of application, every installation – from pump to air diffuser – must be very practical and closely related to the type of environments we're dealing with."

During the construction phases, Banca Intesa supervised the execution process by having its technical representatives present every day on site, who monitored the installation and maintenance activities. "We have collaborated with Grundfos for many years, so we are well aware of the quality of the products offered and the high level of professionalism of its after-sales service," concludes Di Gregorio. "Quality, efficiency and reliability over time are the key points of these devices, which provide significant energy savings if properly managed and integrated."

Grundfos products installed

- In-line TPE 65-240/4 S-A-F-A-BQQE-KD3
- In-line TPE 80-270/4 S-A-F-A-BQQE-MD3
- In-line TPE 50-240 S-A-F-A-BQQE-IDC
- In-line TPE3 50-200 S-A-F-A-BQQE-HDC
- In-line TPE 125-160/4 S-A-F-A-BQQE-MD3
- In-line TPE3 80-180 S-A-F-A-BQQE-IDB
- In-line TPED 100-110/4 S-A-F-A-BQQE-JD3
- TPE 100-200/2 S-A-F-A-BQQE-LDB
- TPE 100-200/4 S-A-F-A-BQQE-MDA
- MAGNA3 D 32-120 F220 1X230V
- DUOLIFT 540.50.APB TANK 99017735
- MODBUS CIM200 add-on cpl.packed
- HYDRO EN65-250/250 YJS ASD-U

Advantages of Grundfos systems

- Quality of materials
- Long-term reliability
- Device efficiency
- Energy savings
- Technical support during the choice and offering of devices to the customer
- Prompt and efficient support centre



Secondary circuit water cooler and refrigeration unit was made using TPE pumps



Firefighting unit consists of an electric pump and motor pump



In one of the building's principal rooms we focused on working on the floors: installation of the air conditioning was completed with a number of fan coils under the window



Air vents in the principal room which belonged to the former President of Banca Intesa



The heating and air conditioning vents were painted in the same colour as the rooms to blend in, as far as possible, with the building's interior decor



“The major difficulty we faced was certainly logistical, which, given the location of the construction site in the historical centre of Turin, did not afford us any margin for error.”

Daniele Di Gregorio, Project Manager
Panzeri SpA

To create a prestigious museum like Gallerie d'Italia, each type of installation must be customised and adapted to the customer's needs. Being involved in creating such a complex and highly structured building is extremely challenging because these projects, which are so technical and operationally ambitious, require a lot of commitment and care.

The major difficulty we faced was certainly logistical, which, given the location of the construction site in the historical centre of Turin, did not afford us any margin for error. We had

to block off half of Piazza San Carlo and shore up the car park underneath the station to place an unconventional mobile crane so that we could install the refrigeration units and heat pumps on the roof. In addition, we had to pay close attention when carrying out activities inside the building where the artistic pieces are the soul of the museum, which contains frescoes and valuable decorations under the Cultural Heritage Supervisory Authority.

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