

Optimal comfort in the Igreja da Santíssima Trindade in Portugal

AT THE FATIMA SANCTUARY, NORTH OF THE PORTUGUESE CAPITAL LISBON, LIES ONE OF THE MOST IMPORTANT SHRINES OF THE WORLD DEDICATED TO THE VIRGIN MARY, THE IGREJA DA SANTÍSSIMA TRINDADE (CHURCH OF THE HOLY TRINITY). FAMOUS FOR THE APPARITIONS OF THE VIRGIN MARY TO THREE SHEPHERD CHILDREN IN 1917, THE SANCTUARY WELCOMES MILLIONS OF PILGRIMS AND TOURISTS FROM ALL OVER THE WORLD.

RANKED AS THE FOURTH LARGEST CHRISTIAN CHURCH IN THE WORLD, THE LOW, OVAL, WHITE BUILDING ACCOMMODATES NEARLY 9,000 WORSHIPPERS. THE FIRST STONE, A PIECE OF MARBLE TAKEN FROM THE TOMB OF APOSTLE PETER, WAS DONATED BY POPE JOHN PAUL II AND LAID ON JUNE 6TH 2004. THREE YEARS LATER THE IMPRESSIVE CHURCH WAS COMPLETED AND IMMEDIATELY AFTER WON ONE OF THE MOST IMPORTANT ENGINEERING AWARDS IN PORTUGAL, THE SECIL AWARD OF CIVIL ENGINEERING 2007.

THE SITUATION

With room for nearly 9,000 churchgoers, tourists, and pilgrims, the Igreja da Santíssima Trindade required safe and efficient fire protection system and rain water drainage.

In addition, the church required a reliable HVAC system that could ensure a comfortable indoor climate regardless of the season. Therefore, the project also included heating and air conditioning pumps, composed by a primary group and secondary circuits.

TOPIC:

A wide range of TP pumps for both the primary and the distribution system.

LOCATION:

The Igreja da Santíssima Trindade in Portugal

COMPANY:

Grundfos Portugal

According to the two Portuguese installers Pinto & Cruz and Sotelemec, Grundfos pumps were selected for the prestigious project due to the optimal relationship between price and quality – i.e. the extra investment in high quality was quickly paid back by significant savings in maintenance and energy consumption.

THE GRUNDFOS SOLUTION

HVAC

Grundfos supplied a wide range of TP pumps for both the primary and the distribution system. The TPE variable speed solution ensures complete control of the flow for the air conditioning terminal devices, such as the air handling units, the fan coils, and the two-way unit. The applications didn't call for customised solutions. However, the different systems were placed in dedicated stations in the church to separate the applications from each other.

FIRE AND DRAINAGE

The fire prevention solution was installed in a specific technical area, a fire central, designed specially for the church. The Grundfos SE rainwater drainage pumps were installed individually, each one in a proper drainage pit. Due to the technical conditions, the entire application called for customised solutions, which were already established in the contract documentation.

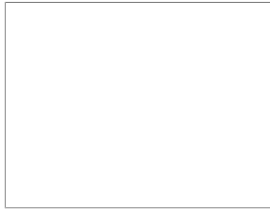
THE OUTCOME

The two installers were very pleased with the cooperation with Grundfos, not least in the final test stage, where Grundfos supplied expertise and ensured correct adjustment of the pump systems.

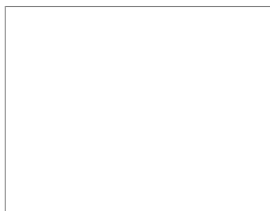
According to Mr. Paulo Carvalho from Pinto & Cruz, “the ability to communicate is vital in a project of this type, and the Grundfos support team offers excellent support. The experts are trained to provide the support we need, be it technical or general support. It is really comforting to know that the solution to a problem is just a phone call away.”

Mr. Manuel Couto from Sotelemec was equally pleased with the support he received from the Grundfos support team: “Grundfos has a remarkable presence in terms of technical support as well as general support.” And finally, both men emphasise the efficiency of the Grundfos solution and Mr. Carvalho confirms that the Grundfos variable speed solutions offer average reductions in energy consumptions of about 25-30% compared to a standard solution.

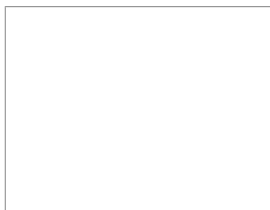
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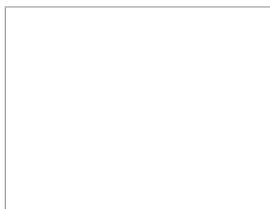
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Grundfos mixers and flowmakers provide energy efficient mixing. The drive unit is equipped with IE3 motor components, and combined with the large variety of gear steps, this enables Grundfos to provide a suitable mixer or flowmaker within the overall range.