

Smooth operators in South Australian hospitals



There are few air conditioning installations where reliability is more critical than in hospital operating theatres. That made Temperzone the obvious choice when four South Australian hospitals upgraded their facilities in the last twelve months.

Running a hospital can't be easy. Meeting the demands of patients and the nursing and medical staff, maintaining the highest levels of hygiene and living within budgetary requirements is a challenging management role. One area where there's no room for compromise is in the hospital's operating theatre.

That's why four South Australian hospitals recently upgraded the air conditioning servicing their operating theatres, says Ryan Wijayasekera, Temperzone's local State Manager. "We were delighted to be the chosen supplier for Glenelg Community Hospital, South Coast District Hospital, Bordertown Hospital and Kangaroo Island Hospital," says Ryan.

"Temperzone has built its reputation on robust engineering, which makes our units ideal for hospital applications," says Ryan. "These units are required to work at any time of the day. Maintaining a fairly

constant temperature in the theatre is equally important, because of the high tech equipment in the room." Ryan says that this requirement – along with the need for fairly high capacity combined with low airflow – gave us a distinct technology edge. "That's because our stage 1 digital scroll compressor is an ideal way to achieve everything required of the units."

DIFFERENT SOLUTIONS FOR DIFFERENT OPERATIONS

Interestingly, the hospitals at the Bordertown and Kangaroo Island hospitals were standard units, while those supplied to Glenelg and South Coast hospitals were custom built.

"For the first two of these installations were based on our latest digital scroll technology. They utilised standard twin compressor – stage 1 digital units with minor factory modifications mainly in the area of the supply fan," says Ryan. "Operating theatres require a high level of air filtration," explains Ryan.

“We use HPEA filters which offer very high resistance to the airflow. As a result, the supply air fans for these applications generally need to be upgraded to cope with the static pressure which is generally above 500-600pa.”



The solution depends on the individual application, but usually involves the fitting of a larger motor or pulley upgrades – or both.

The installations at the Glenelg and South Coast hospitals were, on the other hand, custom built units. “The installations at both of these hospitals were based on our previous product range and took advantage of Temperzone’s custom-build capability,” says Ryan. The specification of the units was changed significantly and included compressor downgrades, modified coils and HP control.

The differences in the solutions applied also highlights the way in which features previously fitted as options have been standardised across much of the Temperzone range. The use of the digital scroll compressors in the 26kW and 44kW size units required at the South Australian hospitals is a case in point. However, the addition of head pressure control and outdoor unit controller boards that monitor and manage the refrigeration system also represent significant advances.

DIGITAL SCROLL MAKES THE DIFFERENCE

Ryan Wijayasekera says that additional safety features have been standardised as well. “But the move to digital scroll compressors is the huge leap forward,” he says. “These units have two compressors, Stage 1 being digital scroll and Stage 2 being fixed speed. The digital scroll compressor is able to control the room conditions far better than a fixed speed unit. They are able to control the output of the system and therefore maintain a linear temperature line within the conditioned space. The way Temperzone has designed the operation of these systems, the units are capable of running down to 40% or 50% of their total capacity.

The new Temperzone units will certainly make life easier for the hospital administrators, as they are capable of being run from the institutions’ building management systems. “The bottom line is that in the future, systems without this ability won’t meet the basic requirements for installations like these,” says Ryan.

Ryan concludes, “The installation of their new Temperzone air conditioning units helps improve both the working environment for medical staff and the levels of patient care provided. But from a technical point of view, it’s interesting to note how quickly out technological advances have enhanced our ability to now supply a virtually standard, off-the-shelf unit for applications that required a heavily customised unit in the recent past.”