

SMART SAVINGS REMOTE LUXURY

A COMMERCIAL
FACILITY INSTALLATION

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Maldives Resort

Design Envelope solutions offer up to 70% energy savings compared to standard industry pumps. Armstrong's Smart Start-Up service inspects and confirms key aspects of installation and optimizes equipment settings for on-site load conditions. Pump Manager provides real-time performance tracking that helps building owners and operators prevent degradation in HVAC efficiency.

Background

Managers at a luxury resort in the Maldives wanted to upgrade the HVAC system serving 15 guest villas. The two most important priorities for the project were reliable, high-performance air conditioning and reduced operating costs.

The remote island location created additional challenges, including limited access to skilled labor to support the upgrade project. Armstrong recommended Design Envelope technology, plus Smart Start-up services and a subscription to the Pump Manager.

The choice to use Design Envelope technology allowed designers to select smaller pumps, which reduced the rated connected load from 190 kW (traditional pumps) to just 144 kW. This change was vital, given the resort's dependence on diesel generators for power. By selecting smaller pumps with lower power requirements, the resort saw reductions in equipment costs, fuel consumption, and carbon emissions.

The customer's decision to implement Design Envelope technology across all applications — condenser, glycol primary, and secondary was an important one, as it gave installers access to valuable information on all aspects of this system. The choice to include Armstrong's Smart Start-Up service also proved valuable, as technicians were able to identify issues in the HVAC system.

Upon start-up, the flow readings in select pumps showed significant fluctuations. By leveraging the embedded Design Envelope software, Armstrong was able to analyze flow and power readings at consistent speeds. Further analysis revealed that air vents were not operating as intended. Cleaning the air vents and installing them properly resolved the issue.

At one point in the commissioning phase, the Pump Manager software indicated zero flow in the system. This alert led to a physical inspection, which revealed that a valve was stuck in a closed position.

Identifying system issues early allowed for quick resolution and avoided expensive delays in the overall upgrade project. Thanks to the Smart Commissioning process, the advanced features of Armstrong's Design Envelope pumps, and the diagnostic capabilities of Pump Manager, the overall HVAC upgrade project was a success, and the resort provides high performance air conditioning for occupant comfort, at a substantially reduced operating cost. This project exemplifies Armstrong's commitment to providing innovative, efficient, and sustainable solutions to the global hospitality industry.

Tech-info

- Design Envelope Pumps (13 units)
- Suction Guides
- Flo-Trex Valves
- Pump Manager
- Smart Start-Up