

# DEPENDABLE WATER PRESSURE



A COMMERCIAL  
/ RESIDENTIAL  
CASE STUDY



Factory manufacture of the complete booster sets ensured trouble-free installation and commissioning with minimal labour required on site, plus a single point of responsibility for the entire system.

“Off-site manufacture is the best way forward for trouble-free installation, reliability and easy maintenance.”

**Kevin Laidler**  
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## Gardenia Compound Residential & Commercial Complex

Armstrong large-volume Design Envelope booster sets are pre-tested and factory built so they arrive on-site ready to use, requiring only a few basic connections. They feature multiple Armstrong Design Envelope 4300 pumps with embedded control logic motors.

### Background

Gardenia Compound is a prestigious new residential and commercial development on the outskirts of Cairo that includes 13 residential buildings, each comprising a basement level, a ground floor, and five additional floors (78 floors total). In addition, the development includes a community recreation area and a three-storey commercial mall.

When planning municipal water infrastructure, the developer and general contractor were looking for a large-volume pumping solution that would be more reliable than traditional horizontal split-case pumps. They were determined to find a partner who could take full responsibility for the water supply, rather than having to deal with a number of suppliers of system components and services.

Cairo's Bahadri Group and Armstrong proposed the advantages of intelligent Design Envelope factory-built boosters. Instead of fabricating the system on site, the booster set for Gardenia was fully-assembled and tested in Armstrong's factory and shipped to site ready for the final connections with minimal wiring and mounting required.

Accurate assembly was guaranteed, as the booster systems were built by trained, experienced assemblers, with product-specific fluid dynamics knowledge following ISO quality procedures.

The factory-manufactured package provided the peace of mind that comes with a single point of responsibility for the entire water system. In addition, Design Envelope intelligent systems are among the world's most advanced, reducing costs for pump energy, maintenance and service costs.

The quality assurance approach means greater reliability for the water supply and lower maintenance costs than alternative solutions. Designed using the latest 3D modelling, the system's physical footprint is typically 25% smaller than comparable systems. Pumps and controls are also pre-mounted on a base-frame that makes lifting and positioning easy for a faster overall installation.

The Design Envelope factory-built booster package met and exceeded the water supply, energy, installation and performance requirements of this important new project. The building owners, installing contractors and operators are very pleased at the cost savings, and the residents will enjoy stable, reliable water supply.

### Tech-info

- Design Envelope large volume booster set
- 4 × Armstrong Design Envelope 4300 125-290 75kW pumps
- Flow rates up to 200 m<sup>3</sup>/hr
- Embedded control logic
- IE3 high-efficiency motors