

# PRESSURE AND SCALE

A RESIDENTIAL  
WATER SUPPLY  
INSTALLATION

Armstrong large-volume municipal booster sets have been installed to meet the domestic water requirements of more than 1,000 residential buildings in the West Shrouk City housing project in Cairo.

“Factory assembly ensures that all system components are integrated exactly as required for performance and long-term reliability.”

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## West Shrouk City

Armstrong Design Envelope booster systems are factory-built, fully integrated and tested prior to delivery. This eliminates performance risk, reduces maintenance requirements and makes installation easy. The packaged system approach also means on-site operators have a single point of responsibility for the entire solution including pumps and controls.

### Background

West Al Shrouk is one of a number of giant housing projects that have been carried out by the Engineering Authority of the Armed Forces to accommodate Egyptian military personnel and their families. Situated in Cairo, the West Shrouk City compound consists of 1000 five-storey buildings, 860 villas and twin houses, four tower blocks, a business centre and a food court.

A water tank with a capacity of 30,000m<sup>3</sup> has been installed to meet demands for irrigation water and fire-fighting networks, in addition to the extensive requirements for domestic water. The scale of the project meant that the Engineering Authority needed an innovative design and a reliable solution. But the project also required a partnering approach from a manufacturer that would take full responsibility for the entire system to ensure reliable water supply.

Bahadii Group, the local Armstrong representative in Cairo for municipal and government projects, was asked to provide a solution.

Armstrong provided two factory-built large scale municipal water booster sets. The packaged booster sets were fully tested prior to delivery, for quick, trouble free installation and commissioning. Accurate assembly was guaranteed, as the boosters were manufactured by Armstrong's own engineers, following ISO quality procedures.

Kiran Dharwadkar, Regional Sales Manager for Armstrong Fluid Technology described the challenge, saying “Both the plant room and entrance to the

plant room were very tight. To support the final installation, given limitations on access and floor-space, after the factory testing we partly disassembled the system and provided instructions for final assembly on site.”

With the booster sets installed, the housing project management team can be confident of energy efficiency and lower operating costs. The integrated booster controller adjusts pump speeds and stages pumps on and off as needed during periods of high and low demand. This optimised control capability, combined with IE3 high-efficiency motors, enables the boosters to deliver energy savings of around 15% compared to alternative designs.

### Tech-info

#### Residential water supply booster package

- 4 × Design Envelope 4300 200kW pumps

#### Irrigation water supply booster package

- 4 × Design Envelope 4300 110kW pumps

