

CASE STUDY | Pacific Mall



Pacific Sahibabad is a major destination mall in Ghaziabad, India. Operations Managers asked Armstrong for help with replacing and upgrading three pumps that were over 10 years old and had begun to fail regularly.

Armstrong installed three Design Envelope Vertical In-Line pumps and used a datalogger to capture the energy usage. The data shows that the replacement pumps use 41% less energy — more than double the estimate provided by Armstrong.



FACILITY TYPE
Retail



LOCATION
Ghaziabad, India



SIZE
Large four-storey consumer mall

SITE CHALLENGES

- Minimal time window for installation and commissioning
- Minor leakage issues in pre-installed piping
- Had to ask for site shutdown to replace pumps due to leakage in existing isolation valves



ANNUAL ENERGY COST

BEFORE	AFTER
\$233,613 USD	\$136,638 USD
AVERAGE	AVERAGE

ANNUAL COST SAVINGS

\$96,975 USD



CO₂ EMISSIONS

BEFORE	AFTER
1,496,259 kg CO ₂	892,975 kg CO ₂
AVERAGE	AVERAGE

ANNUAL CO₂ EMISSION REDUCTION

603,284 kg CO₂

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BUREAU VERITAS VERIFIED

ANNUAL ENERGY SAVINGS

41%



ANNUAL ENERGY SAVINGS

ANNUAL kWh	TOTAL kWh BEFORE	TOTAL kWh AFTER	SAVINGS %
Primary pump 3	965,918	391,785	46.65
Condenser pump 3	858,787	499,584	33.2

KEY OUTCOMES:

- ✓ 41% energy savings
- ✓ Payback period of just 10 months
- ✓ Reliable operation for improved occupant comfort
- ✓ Reduced maintenance costs
- ✓ Constant data-logging and performance insights
- ✓ Risk mitigation
- ✓ Minimal upgrade disruption

- Equipment included**
- 3 × Design Envelope Vertical In-Line pumps (45kW)
 - 3 × Suction Guide
 - 3 × Flo-Trex Valve



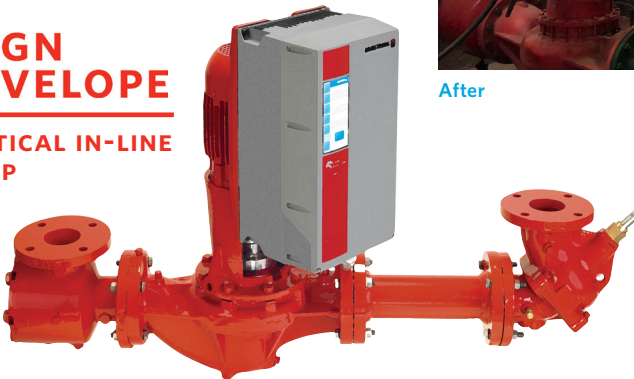
Before



After

SOLUTION EMPLOYED

DESIGN ENVELOPE
VERTICAL IN-LINE PUMP



Bureau Veritas S. A. is an international certification agency appointed by Armstrong to provide a technical assessment of pump performance and energy usage.

Armstrong maps each individual pump's hydraulic, motor and inverter variations at the factory to achieve exceptional accuracy throughout the flow range. With this calibration, Armstrong Design Envelope pumps also serve as

flow meters, providing reliable system flow data (+/- 5%). The testing ensures optimal performance efficiency at start-up, while Armstrong's Pump Manager helps maintain and extend efficiency throughout the pump's operating life.