

ENERGY SAVINGS, MASS- PRODUCED

AN INDUSTRIAL
FACILITY CASE STUDY

Indo-MIM replaced constant speed pumps with an energy-efficient variable speed solution and reduced their energy spending by 33%.

“We’re seeing significant energy savings along with automated, trouble-free operation, which helps both our production processes and our product quality.”

Umamaheswar Varma
Plant Manager

Indo-MIM

The Armstrong IPS 3000 controller adjusts pump speed in response to demand. IPS control technology, combined with a space-saving package system design and long-term reliability of Vertical In-Line pumps is a cost-effective solution for commercial and industrial installations.

Background

Indo-MIM is a manufacturer and supplier of metal injection molding parts located in Bangalore India. Founded in 1997, Indo-MIM is a world leader in metal injection molding, serving customers such as Honeywell, TRW and Bosch. The two major Indo-MIM facilities are located at Hoskote and Doddaballapur in India.

In early 2012, Armstrong met with the plant manager of the Hoskote facility to discuss a possible upgrade project.

Operations at Indo-MIM were experiencing frequent pump breakdowns, leading to interruptions in production processes. The existing installation used 5 End Suction pumps to supply water to a furnace. Pumping loads varied according to production levels for different shifts in a 24/7 manufacturing schedule. Two key challenges for the retrofit project were a shortage of floor space and the need for continuous operation with minimal downtime. Given their production requirements, Indo-MIM couldn’t afford to shut down the facility while the existing pumps were removed and replaced. That meant the replacement system had to be installed while the existing pumps were still operating, using only the left-over floor space (less than 9 m²) in the mechanical room.

Benefits

Armstrong designed and built a packaged system with 3 Vertical In-Line Pumps, Flo-Trex triple-duty valves and an IPS 3000 controller. The custom package was assembled at the Armstrong factory, hydro tested and then shipped to site partially disassembled to accommodate narrow access to the mechanical room. The entire retrofit project

required only four hours of downtime, in advance of equipment delivery, to change the mechanical room piping. The Armstrong IPS 3000 control technology operates the pumps at variable speed, in response to system demand. Over the first three months of use Indo-MIM reduced their energy usage by over 33%, and saved 113,190 Indian rupees (US\$1886) per month.

Managers at the facility were impressed at the energy savings as well as the reliability of the Vertical In-Line pumps. In the months since the installation, operations at the facility have experienced no unplanned shutdowns due to pump failure.

Tech-Facts

	PREVIOUSLY INSTALLED END SUCTION	RETROFIT VERTICAL IN-LINE WITH IPS 3000
Total flow CMH	198	180
Qty of pumps working (Stand By)	3 + 1 + (1)	2 (1)
Total flow pump CMH	28 × 3 + 57 × 2	60 × 3
Head-Mtr	54, 60	45
Motor Rating (KW)	18.5 × 3 + 15 × 2	37 × 2
Total operating load (KW)	67	74
Energy consumed per month (kWh)	49,000	32,830
Monthly Energy Saving (kWh)		16,170 (33%)
Monthly Cost Savings		Rs. 113,190
Payback in months		12

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