# Indian Refinery saves $115K USD Yearly by upgrading to FIELDVUE™ digital valve controllers in Digital Transformation drive

## RESULTS

- With Fisher™FIELDVUE digital valve controllers, expected savings in air consumption is at 1.135 $Nm^3$/Hr per valve with approximate yearly savings of $115K USD for 500 units
- Increased plant productivity and efficiency by allowing customer to use diagnostics data for proactive maintenance plan
- Achieved Top Quartile performance of the plant thru predictive maintenance with diagnostics software

***The project needed an end-to-end retrofitting solution to ensure responsibility on a single vendor.***

## APPLICATION

This refinery is one of the early adopters of new technology, including the first FOUNDATION fieldbus plant implementation in India. They always try to find new methods of cost saving without compromising plant productivity and efficiency.

In this process, they realized that conventional pneumatic and electro-pneumatic positioners installed on the control valves were consuming more air than required to operate those valves.

FIELDVUE digital valve controllers can reduce this air consumption to not only save yearly budget but also can be utilized for predictive maintenance.

## CUSTOMER

The customer is a 15 million-metric tonne Indian refinery that has a versatile design with complex secondary processing units and high flexibility to process crudes of various API. They deliver a variety of quality products.

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## CHALLENGE

Compressed air systems are major energy users and can be a main sources of leaks. The customer faced the challenge of high air consumption of 1.275 $Nm^3/hr$ per control valve when using conventional valve positioners. Reducing air consumption can directly impact a plant's efficiency and lower the electricity costs to run them.

In addition to this, there were no diagnostics for predictive maintenance so the customer was unsure about the current health of their valves. If employed, proactive preventative maintenance can avert any potential impact on safety, performance, and operability.

Lastly, the customer wanted a single solution for retrofitting existing positioners.

## SOLUTION

To solve this problem, the refinery decided to change all conventional positioners to FIELDVUE™ digital valve controllers in order to reduce air consumption costs and identify critical control valve failure conditions through predictive diagnostics.

The solution involved retrofitting five hundred units to FIELDVUE digital valve controllers with low-bleed relay option. The relay enables low air consumption of 0.14 $Nm^3/hr$. With its linkage-less, non-contact position feedback mechanism, there are no wearing parts so cycle life is maximized.

Diagnostic software supports offline and online tests to do predictive plant maintenance, plan turnarounds, and maintain minimum inventory of spare parts. It is also utilized for faster commissioning using the Concurrent Batch Runner feature.

A control valve expert conducted training to help ensure users were well-equipped to perform the predictive maintenance.

*In total, more than five hundred DVC6200 wiith low-bleed relay option are being installed on Fisher™ and non-Fisher valves to reduce air consumption.*

This End-to-end retrofitting solution ensured responsibility on single vendor, contacting multiple vendors for different activities was not required.

The customer will be implementing their Phase II and Phase III projects in the near future. Phase II replacement will also be approximately 500 units in quantity.



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