

Efficiency Improved in Paraxylene Process Using Fisher® Valve and FIELDVUE™ Digital Valve Controller

RESULTS

- The Fisher EU control valve with FIELDVUE digital controller delivered optimal control valve performance to meet stringent process loop requirements.
- Plant up-time and process efficiency were improved.



APPLICATION

Adsorption bed push around valve in paraxylene process

CUSTOMER

Refinery in Malaysia

CHALLENGE

Paraxylene is a colorless flammable liquid derived from the refining of petroleum. The two basic methods used to recover paraxylene from the isomers stream are crystallization and adsorption. This refinery used the adsorption method, where a selective adsorption material is used to retain the paraxylene.

The paraxylene recovery unit consists of multiple adsorbent beds, located in two chambers, that work hand-in-hand to recover paraxylene. The isomers load flowing through the two chambers is controlled by a push-around valve and pump-around valve. This load undergoes frequent dynamic changes. In order to adapt to these changes, the push-around valve and the pump-around valve must be highly responsive, yet provide good control accuracy.

In this installation, the refinery was experiencing frequent recovery unit shut down due to the push-around valve not responding promptly to the load changes. Refinery personnel turned to their Emerson Process Management sales office for a control valve solution that would provide both good control responsiveness and good process output.

Fisher valves and FIELDVUE digital valve controllers provide fast response and accurate control in a wide range of applications.



Severe Service



SOLUTION

The paraxylene adsorption unit is a demanding application that requires fast response time and good control of the process loop. Emerson engineers discovered that the poor process output was due to the existing non-Fisher control valve not being fast or accurate enough to meet load changes in the adsorption column. They specified a solution comprised of a Fisher EU series valve with FIELDVUE digital valve controller to be installed in the process loop.

RESULT

The new Fisher EU valve and FIELDVUE digital valve controller was installed and has proven able to achieve the stringent dynamic performance specifications for response time, step change, and overshoot required to increase plant availability and efficiency.

For more information on severe service solutions, visit www.fishersevereservice.com.

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