



For **Severe Service** Control Solutions, Turn to Fisher Technology and Innovation

## STEAM CONDITIONING VALVES ACCURATELY CONTROL TEMPERATURE FOR LOCOMOTIVE MANUFACTURER

Because they were happy with the performance of their older-style CVX steam conditioning valves, managers at the GE Transportation Systems Division in Erie, Pennsylvania wanted to use two additional CVX units in their steam distribution system. The facility, which manufactures locomotives for railroads, operates its own industrial power plant to generate steam. Because the CVX valves, installed for ten years, had provided trouble-free service, GE originally asked for duplicates for the new application.

The GE Project Engineers, Dave Seth and Jim Gratton, worked with A. E. Ehrke Company sales engineers, Tom Klingenberg and Bob Roe, to develop specifications for the application. The Fisher team, including Severe Service factory personnel, offered something new and better with faster delivery than the recently discontinued type CVX. The new TBX Steam Conditioning Valves were designed to handle the most severe applications in today's cycling power plants, as well as provide precise pressure and temperature control. The TBX is a flow-up design, incorporating WhisperTrim® (noise abatement) technology. The simplified trim configuration handles rapid changes in temperature, such as during a turbine trip, without sticking or binding.

Because water atomization and vaporization are key elements of any steam-conditioning application, the TBX also incorporates a spraywater manifold (Type AF nozzles) that produces an optimized spray pattern over a wide operating range and under all flowing conditions. Fisher engineers based this water-injection-system design on years of research, including the use of computational fluid dynamics (CFD) and field-performance analysis.



The GE application involved an inlet pressure of 50 psig at 350-degrees Fahrenheit and an outlet pressure of 10 psig at saturation. Accommodating the new valve design required some piping changes, but the Fisher Manufacturing team met the requested delivery date for the TBX units.

GE ordered two TBX steam conditioning valves with FIELDVUE® Digital Valve Controllers to monitor their performance. One valve was 8x12-inches and the second was 10x16-inches in diameter.

Startup began in early 2004, and GE is happy with the valves' performance.

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