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## **SIMULATION OF DENO<sub>x</sub> MASS BALANCE BASED ON VISUAL COMPONENT LIBRARY (VCL)**

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### **Abstract**

Mass and energy balance calculation is the premise and key of the SCR (Selective Catalyst Reduction) DeNO<sub>x</sub> system design. However, the traditional calculation method is too complicated. In this paper, the author designed E-R data model for DeNO<sub>x</sub> system, simulated mass and energy transfer process, and developed visual calculation software based on VCL (visual component library) after studying the principle of SCR and data structure of DeNO<sub>x</sub> system. Comparing the ammonia demand and flue gas volume at outlet obtained from traditional method and this method, the relative deviation is far below the limitation of engineering practice 5 percent.

*Key words:* aided design, calculation software, E-R data model, mass and energy balance, SCR DeNO<sub>x</sub>

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