

Phenomenological Model of Cyclone Separator

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Abstract

The development of a mathematical model of cyclone separator based on physics of fluid flow provides details of gas flow and particle motion. The model is validated by comparing the predicted grade-efficiency with experimental data reported in the literature. A new particle tracking procedure proposed in this model accurately predicts the short-circuiting of coarse particles.

Keyword : cyclone separator, mathematical model, size classification, short-circuiting flow