

流动与传递

## Effects of Flow Parameters and Inlet Geometry on Cyclone Efficiency

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**摘要** A novel cyclone design, named converging symmetrical spiral inlet (CSSI) cyclone, is developed by improving the inlet geometry of conventional tangential single inlet (CTSI) cyclone for enhancing the physical performance of the cyclone. The collection efficiency of the CSSI cyclone is experimentally compared with the widely used CTSI cyclone. The results indicate that the CSSI cyclone provides higher collection efficiency by 5%~20% than that of the CTSI cyclone for a tested inlet velocity range of 11.99~23.85 m/s. In addition, the results of collection efficiency comparison between experimental data and theoretical model are also discussed.

**关键词** [cyclone, inlet geometry, flow parameters, collection efficiency](#)

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