

Cyclone: Introduction

CPFD Software

www.cpfd-software.com

Overview

This example shows how to setup and run a lightly loaded cyclone simulation

- Model based on Hoffmann, A. C., and L. E. Stein. Gas Cyclones and Swirl Tubes: Principles, Design and Operation. Springer, 2010.
- Particles and gas enter at inlet horn and discharge out vortex tube only

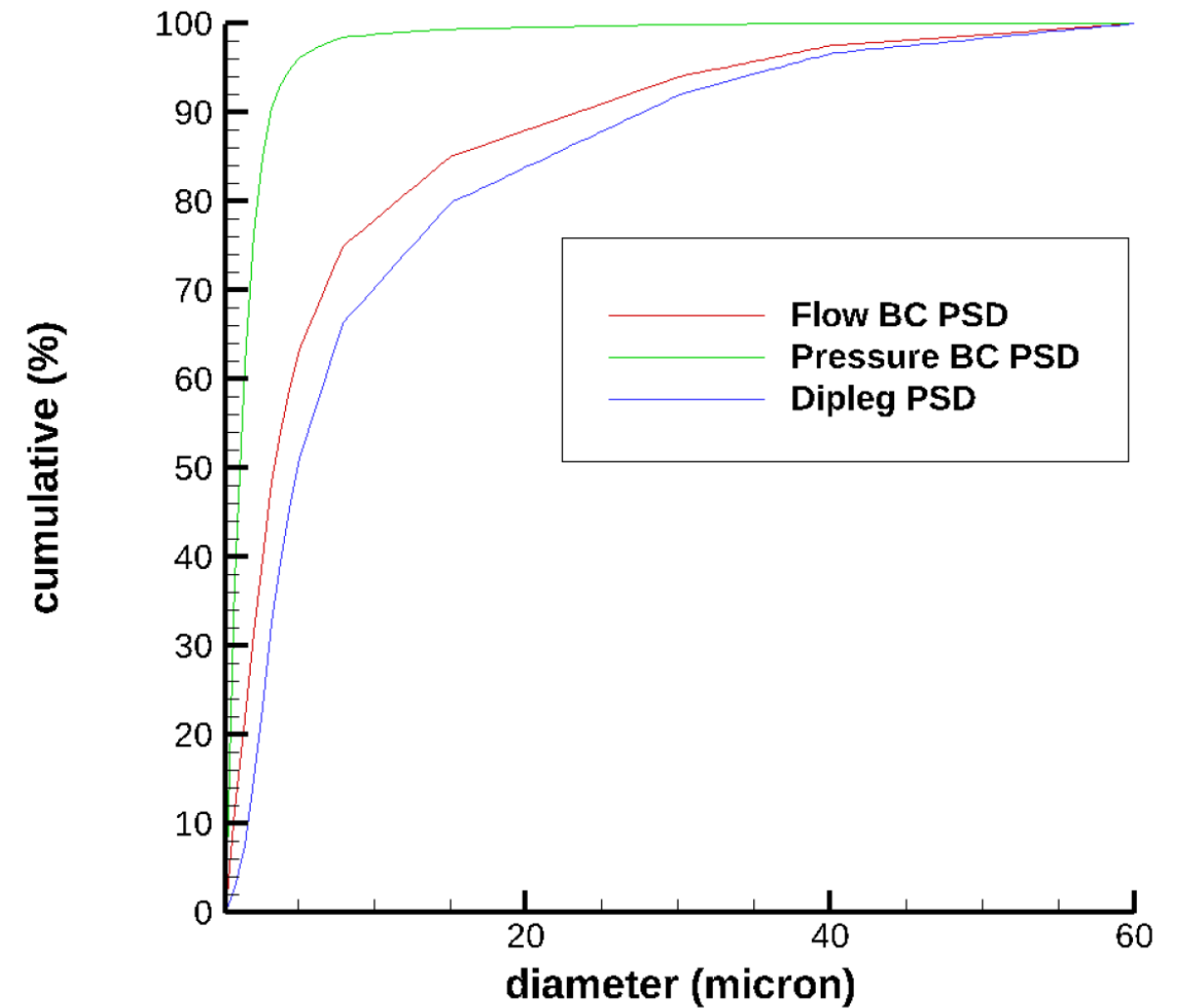
Important considerations taken into account for modeling this cyclone:

- Grid - Ensure walls are smooth by using Merge and remove small cells
- Particles - Use appropriate wall interactions for tangential flow
- Particles - Use Agglomeration model to account for small particles



Analysis: flux2psd

Calculate PSD at the flux planes using flux2psd



Analysis: Cyclone Separation Efficiency

Calculate cyclone efficiency from flux plane data using Tecplot for Barracuda

