

# Fluid Dynamics Of Cavitation And Cavitating Turbopumps

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The book focuses on the fluid dynamics of cavitation with special reference to high power density turbopumps, where it represents the major source of performance and life degradation and often generates the conditions for the onset of dangerous fluid dynamic instabilities. To this purpose the first part of the book covers the more fundamental aspects of cavitation (nucleation, bubble dynamics, thermodynamic effects, cavitation erosion, stability of parallel bubbly flows) and the main kinds of cavitating flows (attached cavitation, cloud cavitation, supercavitation, ventilated supercavities, vortex cavitation, shear cavitation). The second part focuses on the hydrodynamics and instabilities of cavitating turbopumps (cavitation surge, rotating cavitation, higher order cavitation surge, rotordynamic whirl forces). Finally, the third part illustrates the alternative approaches for modeling and engineering simulation of cavitating flows. EAN/ISBN : 9783211766699 Publisher(s): Springer, Berlin, Springer, Wien Format: ePub/PDF Author(s): d'Agostino, Luca - Salvetti, Maria V.

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