

1. Record Nr.	UNINA9910366577203321
Autore	Gülich Johann Friedrich
Titolo	Centrifugal Pumps // by Johann Friedrich Gülich
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2020
ISBN	3-030-14788-6
Edizione	[4th ed. 2020.]
Descrizione fisica	1 online resource (xlviii, 1,264 pages) : illustrations
Disciplina	621.67
Soggetti	Machinery Fluid mechanics Energy systems Industrial engineering Production engineering Machinery and Machine Elements Engineering Fluid Dynamics Energy Systems Industrial and Production Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Fluid dynamic principles -- Pump types and performance data -- Pump hydraulics and physical concepts -- Performance characteristics -- Partload operation, impact of 3-D flow phenomena performance -- Suction capability and cavitation -- Design of the hydraulic components -- Numerical flow calculations -- Hydraulic forces -- Noise and Vibrations -- Operation of centrifugal pumps -- Turbine operation, general characteristics -- Influence of the medium on performance -- Selection of materials exposed to high flow velocities -- Pump selection and quality considerations -- Pump testing.
Sommario/riassunto	This handbook summarizes the research results on hydraulic problems in centrifugal pump design and describes the state of the art in a comprehensive way. For this 4th edition, current research results of practical relevance were included. The selection and presentation of the material was oriented towards the needs of pump manufacturers,

system planners and pump operators. Much space is devoted to understanding the physical relationships as essential knowledge for correct application. The latter is supported by more than 160 diagrams and tables for calculation and problem diagnosis . The book has been extensively updated. New additions: - A separate chapter on "Vibrations on vertical pumps". - Measurements of hydraulic exciter and impeller reaction forces - Alternating stresses and fatigue fractures of impellers - a critical study on the accuracy of numerical flow calculations of pumps - Design of inlet housings and double spirals for multistage pumps.
