1. Record Nr. UNINA9910728395303321

Autore	Liu Kun
Titolo	Gas Turbines Structural Properties, Operation Principles and Design Features / / edited by Kun Liu, Daifen Chen, Serhiy Serbin, Volodymyr Patlaichuk
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2023
ISBN	9789819909773 9819909775
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (250 pages)
Altri autori (Persone)	ChenDaifen SerbinSerhiy PatlaichukVolodymyr
Disciplina	621.433
Soggetti	Machinery Fluid mechanics Electric power production Marine engineering Machinery and Machine Elements Engineering Fluid Dynamics Mechanical Power Engineering Marine Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Power generation market for gas turbines -- General information about turbine design and operation -- Thermodynamic basics of the turbine theory -- Flow in the plane turbine channels -- Features of the actual profile flow. Cascade loss classification -- Gas turbine engine classification -- Simple cycle gas turbine units -- The features of GTU thermal calculation -- Thermal calculation of the simple cycle gas turbine unit -- Advantages and disadvantages of the power plants with gas turbine units -- Combined marine power plants with gas turbine engines -- Design and operation of the gas turbine parts. Inlet casings of the gas turbine unit -- Compressor part of the gas turbine unit -- Compression work and efficiency of the compressor stage --

	Combustion chambers of the gas turbine units -- Turbine part of the gas turbine units -- Improving of the efficiency of the gas turbine units.
Sommario/riassunto	The book gives a clear idea about the concept of gas turbines, thermodynamic basics of the turbine theory. It includes classification of gas turbines, working principle, structure feather, application and designing approaches of gas turbines. The readers will understand easily the power system for ships since there are a lot illustrations and instruction for each of equipment. It also introduces the thermal calculation of gas turbine unit, different structure feather of compressor, combustion chamber and turbine. It gives the way to increases the efficiency of the unit, design and operation of the gas turbine parts. The combined marine power plant with gas turbine is discussed and advantages and disadvantages for each type unit is discussed too.