

1. Record Nr.	UNINA9910254597603321
Autore	Leachman Jacob W
Titolo	Thermodynamic Properties of Cryogenic Fluids // by Jacob W. Leachman, Richard T Jacobsen, Eric W. Lemmon, Steven G. Penoncello
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2017
ISBN	3-319-57835-9
Edizione	[2nd ed. 2017.]
Descrizione fisica	1 online resource (213 pages) : illustrations, tables, graphs
Collana	International Cryogenics Monograph Series, , 0538-7051
Disciplina	536.7
Soggetti	Low temperature physics Low temperatures Chemical engineering Thermodynamics Heat engineering Heat transfer Mass transfer Low Temperature Physics Industrial Chemistry/Chemical Engineering Engineering Thermodynamics, Heat and Mass Transfer
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Preface Second Edition -- Preface First Edition -- Acknowledgments -- Symbols -- 1 Importance and uses of cryogenic fluid properties -- 2 Equation of State Development and Use -- 3 Helium -- 4 Hydrogen -- 5 Deuterium -- 6 Neon -- 7 Nitrogen -- 8 Air -- 9 Carbon Monoxide -- 10 Fluorine -- 11 Argon -- 12 Oxygen -- 13 Methane -- 14 Krypton.
Sommario/riassunto	This update to a classic reference text provides practising engineers and scientists with accurate thermophysical property data for cryogenic fluids. The equations for fifteen important cryogenic fluids are presented in a basic format, accompanied by pressure-enthalpy and temperature-entropy charts and tables of thermodynamic properties. It begins with a chapter introducing the thermodynamic relations and

functional forms for equations of state, and goes on to describe the requirements for thermodynamic property formulations, needed for the complete definition of the thermodynamic properties of a fluid. The core of the book comprises extensive data tables and charts for the most commonly-encountered cryogenic fluids. This new edition sees significant updates to the data presented for air, argon, carbon monoxide, deuterium, ethane, helium, hydrogen, krypton, nitrogen and xenon. The book supports and complements NIST's REFPROP - an interactive database and tool for the calculation of thermodynamic properties of cryogenic fluids.
