1. Record Nr. UNISA996418438503316

Autore	Gistau Baguer Guy
Titolo	Cryogenic helium refrigeration for middle and large powers / / Guy Gistau Baguer
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2020] ©2020
ISBN	3-030-51677-6
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (XLII, 691 p. 686 illus., 511 illus. in color.)
Collana	International cryogenics monograph series
Disciplina	621.59
Soggetti	Low temperature engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Units and Symbols -- 1 Introduction -- 2 Some Reminders about Cryogenics and Others -- 3 Heat Exchangers for Cryogenic use, Reminders -- 4 Basic Cycles for Helium Refrigeration and Liquefaction -- 5 Special Cycles for Helium Refrigeration and Liquefaction -- 6 Technology of the helium Refrigeration Components -- 7 Helium -- 8 Introduction to off-design Operation -- 9 Process control -- 10 Operating Modes of a Helium Refrigeration Plant -- 11 Operation and Maintenance of a Helium Plant -- 12 A Few Examples of Existing Plants -- 13 A Helium Plant Specification -- 14 Commissioning Tests -- 15 The Cryo Tool Box -- 16 Annex 1 Starting procedures for screw compressors -- 17 Annex 2 More on ORS -- 18 Annex 3 Heat exchangers operating in a horizontal position -- 19 Annex 4 Introduction to the Grafcet language for the description of an automation procedure -- 20 Terminology.
Sommario/riassunto	This book offers a practical introduction to helium refrigeration engineering, taking a logical and structured approach to the design, building, commissioning, operation and maintenance of refrigeration systems. It begins with a short refresher of cryogenic principles, and a review of the theory of heat exchangers, allowing the reader to understand the importance of the heat exchanger role in the various thermodynamic cycle structures. The cycles are considered from the simplest (Joule Thomson) to the most complicated ones for the very large refrigeration plants and, finally, those operating at temperatures

lower than 4.5 K. The focus then turns to the operation, ability and limitations of the main components, including room temperature cycle screw compressors, heat exchangers, cryogenic expansion turbines, cryogenic centrifugal compressors and circulators. The book also describes the basic principles of process control and studies the operating situations of helium plants, with emphasis on high level efficiency. A major issue is helium purity, and the book explains why helium is polluted, how to purify it and then how to check its purity, to ensure that all components are filled with pure helium prior to starting. Although the intention of the book is not to design thermodynamic cycles, it is of interest to a designer or operator of a cryogenic system to perform some simplified calculations to get an idea of how components or systems are behaving. Throughout the book, such calculations are generally performed using Microsoft® Excel and the Gaspak® or Hepak® software. .

2. Record Nr. UNINA9910917796203321

Autore	Mohamed Wael
Titolo	Nutrition and Traumatic Brain Injury (TBI) : From Bench to Bedside / / edited by Wael Mohamed
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2024
ISBN	9789819763412 9789819763405
Edizione	[1st ed. 2024.]
Descrizione fisica	1 online resource (417 pages)
Collana	Nutritional Neurosciences, , 2730-6720
Disciplina	613.2
Soggetti	Nutrition Medical care Neurosciences Neuroimmunology Immunology Neurology Health Care Neuroscience
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia

Nota di contenuto

1. Defining and Biomechanics of Traumatic Brain Injury -- 2. Probing Traumatic Brain Injury Pathophysiology: Lessons from the Zebrafish Model -- 3. Understanding Pathophysiological Changes of Traumatic Brain Injury -- 4. Nutritional changes in traumatic brain injury -- 5. Resilience and Nutri-protection against Traumatic Brain Injury Prior and Post Injury -- 6. Antioxidants and Traumatic Brain Injury -- 7. Role of Branched-Chain Amino Acids in Traumatic Brain Injury -- 8. Application of Choline for Treatment of Traumatic Brain Injury -- 9. Creatine and TBI -- 10. Magnesium and Traumatic Brain Injury -- 11. PUFAs and Traumatic Brain Injury -- 12. Polyphenols and TBI -- 13. The Relation Between Vitamin D and Traumatic Brain Injury: Possible Mechanisms and Effect on The Severity and Progression -- 14. Zinc and Traumatic Brain Injury: from Bench to Bedside -- 15. "Polyphenols: The Key to Unlocking Traumatic Brain Injury Rehabilitation" -- 16. Nutritional recommendation for Traumatic Brain Injury management -- 17. Nutritional intervention after severe pediatric traumatic brain injury -- 18. "Nutritional Support for Mental Health in Traumatic Brain Injury patients" -- 19. Nutrition and Traumatic Brain Injury: Synthesizing Insights from Bench to Bedside.

Sommario/riassunto

The book provides a comprehensive exploration of the relationship between nutrition and traumatic brain injury (TBI). Divided into two sections, the book covers various aspects of TBI, from its biomechanics and pathophysiological changes to evidence-based clinical guidelines and experimental models. Section I covers the background of TBI, including the definition and biomechanics of TBI, an understanding of pathophysiological changes that occur in the brain, and the importance of evidence-based clinical guidelines for effective TBI management. The section also delves into experimental models of TBI and the role of biomarkers in diagnosing and assessing TBI. Furthermore, it explores early feeding guidelines following TBI, emphasizing the significance of nutrition in the recovery process. Section II focuses on the connection between nutrition and TBI. It examines the concept of resilience and nutri-protection against TBI prior to the injury, highlighting strategies to enhance the brain's ability to withstand trauma. The book then explores the role of various nutrients and dietary components in TBI, such as antioxidants, branched-chain amino acids, choline, creatine, ketogenic diet, magnesium, polyunsaturated fatty acids (EPA and DHA), polyphenols, vitamin D, and zinc. Each topic is explored in depth, considering their impact on TBI outcomes and potential therapeutic applications. Furthermore, this section delves into nutritional interventions for TBI management. It addresses the selection of appropriate nutritional interventions and mechanistic targets for effective treatment. The section also explores the integration of nutrition into clinical practice guidelines for TBI and the emerging field of nutrigenomics, which investigates the interaction between nutrition and the genetic factors involved in TBI. Additionally, the section discusses the role of pharmacognosy in TBI research and provides nutritional recommendations for TBI management, considering the diverse needs of individuals affected by TBI. The book contributes to advancing the understanding and management of TBI by exploring the background, highlighting the importance of nutrition, and offering insights into nutritional interventions with potential implications for both preventive and therapeutic approaches. The book is a great resource for students and brain/neuroscience researchers.