

1. Record Nr.	UNINA9910786101203321
Autore	Moss Dennis R
Titolo	Pressure vessel design manual [[electronic resource] /] / Dennis R. Moss, Michael Basic
Pubbl/distr/stampa	Amsterdam ; ; Boston, : Elsevier/Butterworth-Heinemann, 2013
ISBN	0-12-387001-1
Edizione	[4th ed.]
Descrizione fisica	1 online resource (825 p.)
Altri autori (Persone)	BasicMichael
Disciplina	681/.76041
Soggetti	Pressure vessels - Design and construction Tanks - Design and construction
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Front Cover; PRESSURE VESSEL DESIGN MANUAL; Copyright; Contents; Preface to the 4th Edition; Chapter1 - General Topics; Design Philosophy; Stress Analysis; Stress/Failure Theories; Failures in Pressure Vessels; Loadings; Stress; Thermal Stresses; Discontinuity Stresses; Fatigue Analysis for Cyclic Service; Creep; Cryogenic Applications; Service Considerations; Miscellaneous Design Considerations; Items to be Included in a User's Design Specification (UDS) for ASME VIII-2 Vessels; References; Chapter 2 - General Design; Procedure 2-1: General Vessel Formulas [1,2] Procedure 2-2: External Pressure Design Procedure 2-3: Properties of Stiffening Rings; Procedure 2-4: Code Case 2286 [1,8,21]; Procedure 2-5: Design of Cones; Procedure 2-6: Design of Toriconical Transitions [1,3]; Procedure 2-7: Stresses in Heads Due to Internal Pressure [2,3]; Procedure 2-8: Design of Intermediate Heads [1,3]; Procedure 2-9: Design of Flat Heads [1,2,4,5,6]; Procedure 2-10: Design of Large Openings in Flat Heads [1]; Procedure 2-11: Calculate MAP, MAWP, and Test Pressures; Procedure 2-12: Nozzle Reinforcement; Procedure 2-13 Find or Revise the Center of Gravity of a Vessel Procedure 2-14: Minimum Design Metal Temperature (MDMT) Procedure 2-15: Buckling of Thin Wall Cylindrical Shells [21]; Procedure 2-16: Optimum Vessel Proportions [16-20]; Procedure 2-17: Estimating Weights of Vessels and Vessel Components; Procedure 2-18: Design of Jacketed Vessels; Procedure 2-19: Forming Strains/Fiber Elongation;

References; Chapter3 - Flange Design; Introduction; Procedure 3-1: Design of Flanges [1-4]; Procedure 3-2: Design of Spherically Dished Covers; Procedure 3-3: Design of Blind Flanges with Openings [1,4]; Procedure 3-4: Bolt Torque Required for Sealing Flanges [5-7] Procedure 3-5: Design of Studding Outlets Procedure 3-6: Reinforcement for Studding Outlets; Procedure 3-7: Studding Flanges; Procedure 3-8: Design of Elliptical, Internal Manways; Procedure 3-9: Through Nozzles; References; Chapter4 - Design of Vessel Supports; Introduction: Support Structures; Procedure 4-1: Wind Design Per ASCE [1]; Procedure 4-2: Seismic Design - General; Procedure 4-3: Seismic Design for Vessels [2]; Procedure 4-4: Seismic Design - Vessel on Unbraced Legs [4-7]; Procedure 4-5: Seismic Design - Vessel on Braced Legs; Procedure 4-6: Seismic Design - Vessel on Rings [4,5,8] Procedure 4-7: Seismic Design - Vessel on Lugs [5,8-13] Procedure 4-8: Seismic Design - Vessel on Skirt [1,2,3]; Procedure 4-9: Seismic Design - Vessel on Conical Skirt; Procedure 4-10: Design of Horizontal Vessel on Saddles [1,3,14,15]; Procedure 4-11: Design of Saddle Supports for Large Vessels [4,15-17,20]; Procedure 4-12: Design of Base Plates for Legs [20,21]; Procedure 4-13: Design of Lug Supports; Procedure 4-14: Design of Base Details for Vertical Vessels - Shifted Neutral Axis Method [4,9,13,17,18] Procedure 4-15: Design of Base Details for Vertical Vessels - Centered Neutral Axis Method

Sommario/riassunto

Pressure vessels are closed containers designed to hold gases or liquids at a pressure substantially different from the ambient pressure. They have a variety of applications in industry, including in oil refineries, nuclear reactors, vehicle airbrake reservoirs, and more. The pressure differential with such vessels is dangerous, and due to the risk of accident and fatality around their use, the design, manufacture, operation and inspection of pressure vessels is regulated by engineering authorities and guided by legal codes and standards. Pressure Vessel Design Manual is a solutions-
