

1. Record Nr.	UNINA9911004761103321
Autore	Mackay Ross (Ross C.)
Titolo	The practical pumping handbook / / by Ross Mackay
Pubbl/distr/stampa	Oxford ; ; New York, : Elsevier, c2004
ISBN	1-281-07192-7 9786611071929 0-08-051449-9
Edizione	[1st ed.]
Descrizione fisica	1 online resource (303 p.)
Disciplina	621.6/9
Soggetti	Pumping machinery
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 (p. 273) and index.
Nota di contenuto	Front Cover; The Practical Pumping Handbook; Copyright Page; Contents; Acknowledgements; Dedication; About the author; Chapter 1. Centrifugal Pumps; 1.1 The pump; 1.2 Applications; 1.3 Pump cases; 1.4 The impeller; 1.5 Double suction pumps; 1.6 Materials of construction; Chapter 2. Pump Hydraulics; 2.1 The pressure-head relationship; 2.2 Performance curve; 2.3 Affinity laws; 2.4 Pump performance on special liquids; 2.5 Impeller hydraulic loads; Chapter 3. System Hydraulics; 3.1 Pump limitations; 3.2 Liquid flow in pipes; 3.3 Basic elements of pump system design; 3.4 System curve 3.5 The effect of operating performance3.6 Pump system analysis; Chapter 4. Suction Conditions; 4.1 General; 4.2 Vapor pressure; 4.3 Cavitation; 4.4 Net positive suction head; 4.5 Suction specific speed; 4.6 Confusing conditions; 4.7 Similarities and differences; 4.8 Priming; 4.9 Submergence; Chapter 5. Pump selection and purchasing; 5.1 Pump selection factors; 5.2 System operating considerations; 5.3 Price evaluation; Chapter 6. Stuffing Box Sealing; 6.1 Shaft sealing; 6.2 Packing; 6.3 Mechanical Seals; 6.4 Environmental controls; 6.5 The seal chamber; Chapter 7. Pump Bearings 7.1 Pump bearings7.2 Bearing loads; 7.3 Ball bearings; 7.4 Other types of bearing; 7.5 The total bearing arrangement; 7.6 Oil lubrication; 7.7 Grease lubrication; 7.8 Bearing life; 7.9 Lubricant protection; Chapter 8. Special Applications; 8.1 Slurry pumping; 8.2 Paper stock; Chapter 9. Special Pumps; 9.1 Sump pumps; 9.2 Vertical turbine pumps; 9.3

Magnetic drive pumps; 9.4 Positive displacement pumps; Chapter 10. Pump Installation and Piping; 10.1 Installation; 10.2 Piping considerations; 10.3 Alignment; Chapter 11. Troubleshooting; 11.1 Skill and experience; 11.2 Operational problems; 11.3 Reliability problems; 11.4 Failure analysis; 11.5 Failure modes; Chapter 12. Pump Maintenance; 12.1 The strategy; 12.2 Preparation for pump dismantling; 12.3 Removing the back pull-out assembly; 12.4 Inspection checks on cast parts; 12.5 Casing and wear rings; 12.6 Dismantling the back pull-out assembly; 12.7 Inspection checks; 12.8 Mounting bearings on the shaft; 12.9 Assembling the back pull-out assembly; 12.10 Installing the back pull-out assembly; Chapter 13. Fluid Properties; 13.1 Properties of water at various temperatures; 13.2 Effect of altitude on pressures and the boiling point of water; 13.3 Viscous liquids; Chapter 14. Friction Loss Tables; 14.1 Friction loss for water in pipe; 14.2 Typical resistance coefficients for valves and fittings; Chapter 15. Materials of Construction; 15.1 Materials of construction for pumping various liquids; 15.2 Material selection; 15.3 Material classes for centrifugal pumps in general refinery services; 15.4 Materials for pump parts; 15.5 Material specifications for pump parts; Chapter 16. Conversion Tables and Formulae; 16.1 Conversion tables; 16.2 Useful formulae; Bibliography  
Index

---

#### Sommario/riassunto

This book is a practical account of pumping, piping and seals starting with basics and providing detailed but accessible information on all aspects of the pumping process and what can go wrong with it. Written by an acknowledged expert with years of teaching experience in the practical understanding of pumps and systems. Aids understanding of pumps to minimize failures and time-out. A practical handbook covering the basics of the pumping process. Written by an acknowledged expert.

---