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Nota di contenuto	Front Cover; Fire Fighting Pumping Systems at Industrial Facilities; Copyright Page; Contents; Chapter 1. Historical Applications of Firewater Pumping Systems; Ancient Water Pumps; Reciprocating Hand and Steam Driven Fire Pumps; Rotary Pumps; Invention of Centrifugal Pump; Modern Fire Pumps; Municipal Water Pumping Plants and Mains; Offshore Facilities; Chapter 2. Philosophy of Protection; Process Emergency Control Measures; Incident Fuel Consumption; Provide Protective Measures; Passive Systems; Active Systems; Insurance Requirements; Internal Company Policies and Standards Chapter 3. Firewater Flow RequirementsRisk Areas; Exposure Cooling Requirements; Fire Control Requirements; Suppression Requirements; Egress Water Sprays; Residual Pressure Requirements; Chapter 4. Duration of Firewater Supplies; Capability of Public Water Mains; Primary Supplies; Reserve Supplies; Chapter 5. Sources of Firewater Pump Supply; Seas and Oceans; Rivers, Channels. Ponds and Lakes; Water Wells (Natural Underground Reservoirs); Manmade Reservoirs (Impounded Supplies); Storage Tanks; Municipal and Private Firewater Distribution Mains; Specialized Offshore Raw Seawater Systems

Firewater Usage by Other ServicesEmergency Water Sources; Water Quality; Enhancements to Fire Fighting Water; Marine Growth; Biocide Injection; Other Marine Growth Control Methods; Future Use, Sources and Development; Chapter 6. Pump Types and Applications; Centrifugal Pumps; Pump/Impeller Design Relationships; Single and Multi-stage Arrangements; Volute and Turbine Pump Classification; Axial Flow Pumps; Positive Displacement Pumps; Rotary Pumps; Gear Pumps; Lobe Pumps; Sliding Vane Pumps; Reciprocating Pumps; Firewater Pump Characteristics; Characteristic Firewater Pump "Curve"
Main and Standby Firewater PumpsBooster Firewater Pumps; Water Mist Firewater Pumps; Jockey Pumps; Firewater Circulation Pumps; Foam Pumps; Packaged and Skid Units; Retrofit Improvements to Existing Firewater Pumps; Future Expansion; Reliance on Mobile Firewater Pumping Apparatus; Portable Pumps; NFPA 20 Versus API 610 and Other Pump Types; Chapter 7. Pump Installation, Piping Arrangements and Accessories; Code Requirements; Listing Requirements; Typical Installation; Pump Separation; Pump Room or Building Construction; Offshore Facilities; Arctic Locations; Arid Locations; Tropical Locations Earthquake ZonesMultiple Pump Installations; Pump Rotation; Relief Valves; Circulation Relief Valves; Pressure and Flow Control Valves; Isolation Valves; Bypass Capability; Pressure Gages; Pressure Recorders; Flow Measurement Capability; Check Valves; Air Release Valve; Supervision of Isolation Valves; Inlet Screens, Strainers and Filters; Submerged Pump Intake Openings; Cavitation, Net Positive Suction Head (NPSH) and Vortices; Water Hammer or Surge; Pumping System Hydraulic Design; Vibration Limitation; Torsional Vibration Analysis (TVA); Backflow Prevention; Area and Task Lighting
Ventilation

Sommario/riassunto

This book describes fixed firewater pump installations for industrial facilities from the viewpoint of the end users, fire protection engineers, loss prevention professionals, and those just entering a career in which decisions about fire pump installations must be made. Therefore much background information is given for the necessary requirements and usefulness of a firewater pump and the services that interface with it. This book's primary objective is the provision of practical information and basic background design principles on the application of fixed pumps for fire fighting pur