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HVAC Fundamentals

System Design, Operation, Selection, and Optimization

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HVAC Fundamentals , System Design, Operation, Selection, and Optimization fully covers the full range of HVAC systems used in today's facilities and how they operate. HVAC systems are divided into components and controls for air, water, heating, ventilating and air conditioning to illustrate how each system, subsystem, control, or component contributes to providing the desired indoor environment. The reader will learn why one component or system may be chosen over another with respect to design, application, energy conservation, indoor air quality, and cost. This book also covers heat flow fundamentals and calculations used in selecting equipment and determining system operating performance and cost. Fluid flow fundamentals and equations and fundamentals of system testing, and verification of system performance are also covered in this book. This gives the reader a complete picture of systems from concept to operation. The chapters are organized in a way that one builds upon another, and systems, components, design, and application are revisited as the reader gains knowledge and insight about the workings of HVAC and heat pump systems. This new edition has been revised and expanded with new drawings to give the reader a complete picture of HVAC and heat pump systems. Along with the Tables chapter for reference the HVAC Math chapter has equations and example problems for many systems and components operation, energy, and cost calculations.

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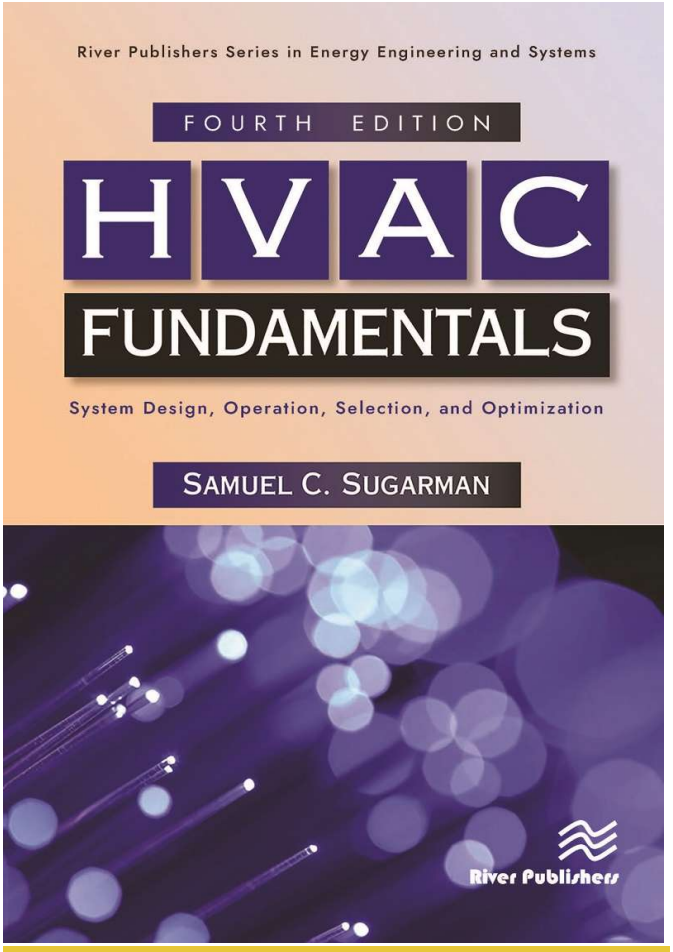

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