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Y. H. Venus Lun · S. L. Dennis Tung

Heat Pumps for Sustainable Heating and Cooling

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Preface

This book aims to highlight the significance of using sustainable energy to prevent degradation of the globe. Energy sustainability can be achieved through improved energy efficiency. Heat pump provides an energy-efficient alternative for heating and cooling. To this end, we focus on examining sustainable practices in heat pump system design for sustainable buildings.

This book consists of the following parts:

- To begin, we define sustainable energy and discuss the trend of “think green.” In designing new HVAC (heating, ventilation, and air-conditioning) system or renovating existing buildings, the use of sustainable energy is appropriate in furnishing comfortable indoor temperature and humidity. The first part focuses on exploring topics of sustainability in heating and cooling.
- We then investigate sustainable practices in mapping out HVAC system. As temperature and humidity affect indoor air quality, it is desirable to control indoor air temperature and relative humidity via heating and cooling system. To this end, we investigate sustainable heat pump equipment. Innovation in heating and cooling is also covered in this part.
- Green operations are examined to promote sustainable practices in heat pump operations. Topics in this part include various operating modes, reverse cycle operations, and heat pump system configuration to meet user requirements.

Hong Kong, PR China

Y. H. Venus Lun
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