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PREFACE TO THE 23rd EDITION

THE HEATING, VENTILATING, AIR CONDITIONING GUIDE 1945 is the 23rd edition of this widely known handbook and is the fourth to be released under wartime conditions.

Several steps were taken to comply with wartime limitations in the use of paper, including a change in format to increase the amount of text per page and the omission of the geographical list of members. The change in format afforded an opportunity to examine a larger part of THE GUIDE than has been customary and consequently, wherever practicable, much new valuable data which became available during the year have been incorporated.

Further progress has been made in the current edition in the adoption of A.S.A. Standard Symbols and Abbreviations.

Chapter 4 on Heat Transmission of Building Materials has been carefully reviewed by the A.S.H.V.E. Technical Advisory Committee on Insulation. Some new materials have been listed and separate columns have been provided in the tables for the values of k and C to facilitate their use. Chapter 6 has been rearranged, and a column showing annual minimum temperatures has been added to Table 1. Engineers may compare these data with the locally accepted design temperature before making load calculations.

The tabular data in Chapter 8, Fuels and Combustion, have been checked and revised. A new chart for sizing chimneys for gas appliances and additional data on chimney construction have been added to Chapter 9. New codes for rating stokers have recently been adopted and references to such codes have been added to Chapter 10, Automatic Fuel Burning Equipment. The discussion in Chapter 11, Estimating Fuel Consumption, on the use of fuel consumption records and degree-day data has been considerably amplified.

Chapter 12, Heating Boilers, has been revised to include present accepted practice in rating boilers and to clarify the meaning of various terms referring to heating loads.

The subjects, Steam Heating Systems and Piping, have been combined in Chapter 14 and new data on high pressure systems and pipe size selection have been included. The chapter has been rearranged to facilitate reference to the different types of systems.

In Chapter 17, Pipe Insulation, heat transmission data have been revised to include generally accepted values for representative materials as now manufactured. Chapter 21, Unit Heaters, Unit Ventilators, Unit Humidifiers, has been expanded in the light of present accepted practice. Numerous improvements in nomenclature have been made in revising Chapter 23, Dehumidification.

Chapter 26, Spray Equipment, has been revised particularly with reference to cooling tower practice. Laws of fan performance have been stated in detail in Chapter 29, Fans, to which laws of homologous fans have also been added. Recently adopted names and definitions of types of fans have also been included. In Chapter 31, Air Duct Design, attention of the designer is called to the importance of including a factor of safety when applying friction loss values.

Important changes which increase the value of Chapter 35, Motors and Motor Controls, include revised performance curves and the addition of: typical motor specifications, recommended control combinations, a glossary of motor terms, and a section on gear motors. A section on airplane air conditioning has been added to Chapter 37, Transportation.