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## PREFACE TO THE 14th EDITION

THE Guide Publication Committee has incorporated in the fourteenth edition of THE AMERICAN SOCIETY OF HEATING AND VENTILATING ENGINEERS GUIDE many new and important additions to the Technical Data Section which extends its usefulness to all those individuals who are interested in the professional art of heating, ventilating and air conditioning.

The original conception of the founders of THE GUIDE has been carefully protected in this new volume so as to maintain its continued role as an authoritative and unbiased presentation of long established, as well as newly recognized scientific standards of the profession and allied industries.

Because of increasing demands from various users of THE GUIDE, and because of increased application of air conditioning and cooling to all types of industrial processing and comfort installations, four new chapters have been added to the Technical Data Section on the subjects of Refrigeration, Drying, Motors and Their Control and Railway Air Conditioning. All of the principle thermodynamic cycles of cooling adaptable to air conditioning are concisely described and illustrated in the new chapter on Refrigeration and in addition complete tables of the common refrigerants are included. Dryer design and methods of construction are given with proper control mechanism for adequate and desirable drying results. A new temperature and humidity chart which may be applied to all types of dryer calculations with a complete descriptive example is fully described. Electric motors and their proper adaptation to all types of applications for fans, filters, pumps, hoists, compressors, stokers, oil burners and other units used in heating, ventilating and air conditioning installations are discussed in the chapter on Motors with recommendations for control devices accomplishing convenient and effective regulation. All of the several complicated features involved in the design of passenger car railway air conditioning are amply discussed in a new chapter on this subject. A typical example is given involving the many factors which should be considered in the calculation of the cooling load for a passenger car. Curves and tables showing the costs per car mile for various types of cooling systems are given with cost equations which take into account the various mechanical efficiencies applicable to tractive power.

In addition to this new material all of the previous chapters have been carefully checked and reviewed and in some cases the text has been completely rewritten. Information on unit heaters, ventilators, coolers and air conditioners has been correlated in one chapter and completely revised. Two methods of estimating fuel consumption are discussed in the new chapter on Heat and Fuel Utilization. System characteristics of fans with curves to illustrate the effects of speed or system changes on fan operation have been added. Other chapters which have been amplified with much new material are: Cooling Methods, Industrial Exhaust Systems, Automatic Fuel Burning Equipment, Radiators and Gravity Convectors, Pipe, Fittings, Water Supply Piping, Water Heating, Electrical Heating, and Air Conditioning for Industrial Processes.