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## PREFACE TO THE 36th EDITION

New material added to the HEATING VENTILATING AIR CONDITIONING GUIDE in the 1958 Edition has increased the Technical Data Section to 1272 pages, which is 24 pages larger than the preceding edition.

Among the improvements of particular interest will be (1) addition of both a description and a design method for high velocity air duct systems, (2) an enlarged section on the heat pump, (3) new information on exhaust hood performance and design for hot and cold processes, (4) a simplified presentation of industrial drying principles, calculations, and system design, (5) extension of data on heavy fuel oils and their use, with preheating, in automatic fuel burning equipment, (6) new data on heat gain through glass block used in skylights, requirements for shading glass, and basic principles involved in calculating heat flow through glass areas, (7) a general revision of the chapter on radiators, convectors, baseboard, and finned-tube units and addition of new data on their ratings and performance, (8) a revision of ranges of capacity for electrical heating units and a method of determining operating cost for these units, (9) an enlarged section on performance and testing of air cleaners, (10) extension of list of allowable concentrations of air contaminants, (11) an increased number of codes and standards of interest to users of THE GUIDE. These changes may be found in the various chapters as follows:

*Chapter 8—Air Contaminants.* Many additions and revisions have been made in the tables showing maximum allowable concentration of toxic gases, vapors, dusts, fumes and mists, in order to have these values conform to those adopted by the American Conference of Governmental Industrial Hygienists in 1957.

*Chapter 13—Cooling Load.* The discussion of solar heat transfer through glass has been simplified. Heat gain data for two types of glass block used for skylights have been added. New information has been given on shade factors and the overhang required for shading glass areas in 30, 40 and 50 deg north latitude. The discussion of the relative instantaneous and actual cooling load has been extended.

*Chapter 14—Fuels and Combustion.* A section describing residual fuel oils and their properties has been added. Specifications for fuel oil grades 300 and 400, as used on the Pacific Coast, have been included. A new section deals with the supply air openings required for boiler and furnace rooms.

*Chapter 15—Automatic Fuel Burning Equipment.* A new section in this chapter describes the requirements and methods of preheating of heavy fuel oils and gives recommended minimum suction and return pipe size for oil lines for heavy fuel.

*Chapter 16—Heating Boilers, Furnaces, Space Heaters.* New information has been added on rating and performance of steel boilers based on recent actions taken by the steel boiler industry.

*Chapter 22—Radiators, Convectors, Baseboard and Finned-Tube Units.* This chapter was rewritten to include descriptions and data applicable to current heating units. New information is given on baseboard and finned-tube units and the methods of establishing ratings for each type.

*Chapter 29—Central Systems for Air Conditioning.* A description of all-air high-velocity systems has been added. The section on Unitary-Central Systems has been revised.

*Chapter 31—Air Duct Design.* A method of designing high-velocity duct systems is given in a new section. There has been a general revision of this chapter resulting in new information on duct friction loss and improvement in the problem illustrating duct design by the static regain method.

*Chapter 33—Air Cleaning.* The section on moving-curtain air filters has been improved and the section on performance and testing of air cleaners by various methods has been rewritten and enlarged.

*Chapter 36—Refrigeration.* The heat-pump section has been rewritten and en-