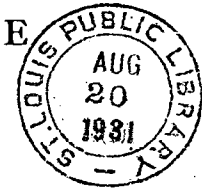


AMERICAN SOCIETY of
HEATING and VENTILATING
ENGINEERS GUIDE
1931



INTRODUCTION

THE developments taking place in the heating and ventilating fields from year to year are truly remarkable. In many cases, long established methods and practices have been rendered obsolete by the introduction of innovations for maintaining with exactitude the atmospheric environment demanded by the revelations of scientific research. To keep pace with progress, three new chapters have been included in the ninth edition of THE GUIDE and, with but a single exception, all other chapters have been revised or rewritten in the light of developments which have taken place since the publication of the eighth edition. There have been no deviations, however, from the fundamental principles upon which THE GUIDE was founded in 1922.

Research has played an important part in the preparation of THE GUIDE 1931. The results of investigations conducted at the A.S.H.V.E. Laboratory, operated in cooperation with the U.S. Bureau of Mines Station in Pittsburgh, and at the various institutions with which the Society maintains cooperative agreements, dominate the Technical Data Section throughout.

The subject of heat losses from buildings, formerly covered in one chapter, is treated in this issue of THE GUIDE in four separate chapters in a logical and concise manner. New data are included on infiltration losses, fan-furnace and fan steam heating systems, radiators and convectors, boilers and heaters, chimneys, solid and liquid fuels, electric heating, exhaust steam heating, district heating, automatic temperature and humidity control, pipe and pipe insulation, and pumps and traps. The subjects of ventilation standards and systems, air conditioning, ducts, registers and grilles, and fans and motive power have been greatly amplified and improved.

The Technical Data Section of THE GUIDE 1931 has been prepared by carefully selected engineers, each a specialist in the subject on which he