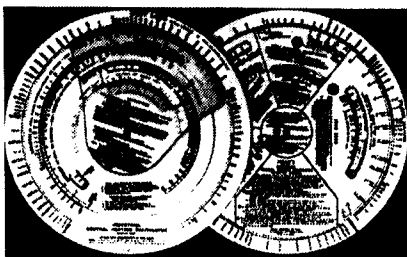


INDUSTRIAL HEATING CALCULATOR

Model M. 19

An instrument designed to simplify the calculations for all the larger heating installations where a full analysis of the heat losses must be made.



Heat losses through the structure are handled on one side of the calculator, each wall, floor, window, etc. being treated individually by simply setting length and width and using the temperature difference and the heat transfer coefficient to obtain the heat loss. The heat loss from air change is obtained in a similar manner.

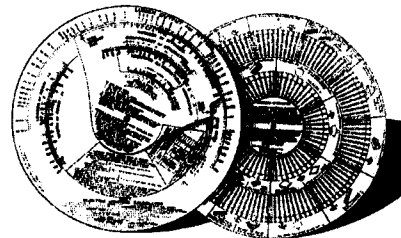
In addition, this calculator has an ingenious method for determining pipe sizes which saves considerable time. It is only necessary to decide what pressure loss can be allowed per 100 ft. run and all pipe sizes can be read off immediately according to B.T.U. carried and flow to return temperature drop. At the same time the water flow in the pipe is shown; or the pipe size can be obtained directly from the flow, if desired. Radiator size, boiler size, and pump size are also obtained and a further section gives heat losses from piping either insulated or left bare.

7-5/8" Diameter Metric Model also available.

ELECTRIC LIGHTING CALCULATOR

Model M.13

This calculator has been designed to give quickly and accurately, the number and size of lighting fittings for any installation by the lumen method. It indicates a logical and easily followed design sequence with each step dealt with by an individual section of the instrument.



Number and Size of Fitting:

On the front of the calculator simply set two dials to length of room, width of room, required illumination and coefficient of utilization and the size of each fitting can be read immediately opposite the chosen number of fittings and vice-versa.

Room Index

To find the coefficient of utilization for any fitting it is necessary to know the Room Index and scales are provided on the front of the calculator to rapidly determine this index for any size of room and height of fittings.

Coefficient of Utilization:

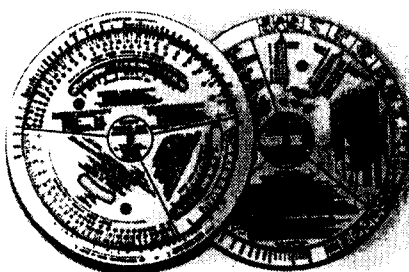
On the reverse side of the instrument are engraved the coefficients of utilization for a wide range of standard lighting fittings.

7-5/8" Diameter Metric Model also available.

WARM AIR HEATING CALCULATOR

Model M.11

A complete method for designing warm air heating installations once the room heat requirements have been determined.



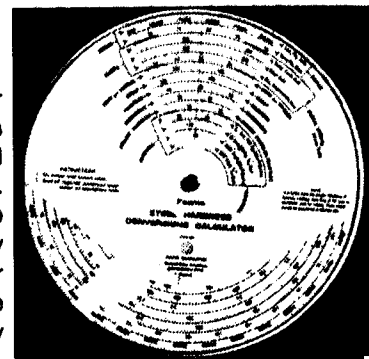
Gives warm air volume, heater size, duct size, pressure loss, equivalent length of duct fittings, velocities and also heat loss from ducting. Deals with installations up to 24 inch diameter duct size.

7-5/8" Diameter Metric Model also available.

STEEL HARDNESS CONVERSION CALCULATOR

Model F.6

Handy calculator for Engineers, Metallurgists and anyone concerned with properties of steels. It has a very wide range and provides a virtually instantaneous method for converting from one hardness value to any other.



All the recognized hardness scales are incorporated, including: Brinell (steel or Tungsten-carbide ball), Firth, or Vickers, Monotron, Herbert Pendulum, Sceleroscope, Knoop, Rockwell 'B', Rockwell 'C', Rockwell Superficial 30N, and Rockwell Superficial 30T.

Additional scales give the equivalent tensile strengths in tons and lbs., and also Brinell impression diameters. A tremendous improvement on conversion tables and charts.

5" Diameter