HUNTER CALCULATORS

SUPERB QUALITY INSTRUMENTS OF SOLID PERSPLEX PLASTIC PRECISION ENGRAVED

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STATISTICAL

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METRIC CONVERSION

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STOCK CONTROL

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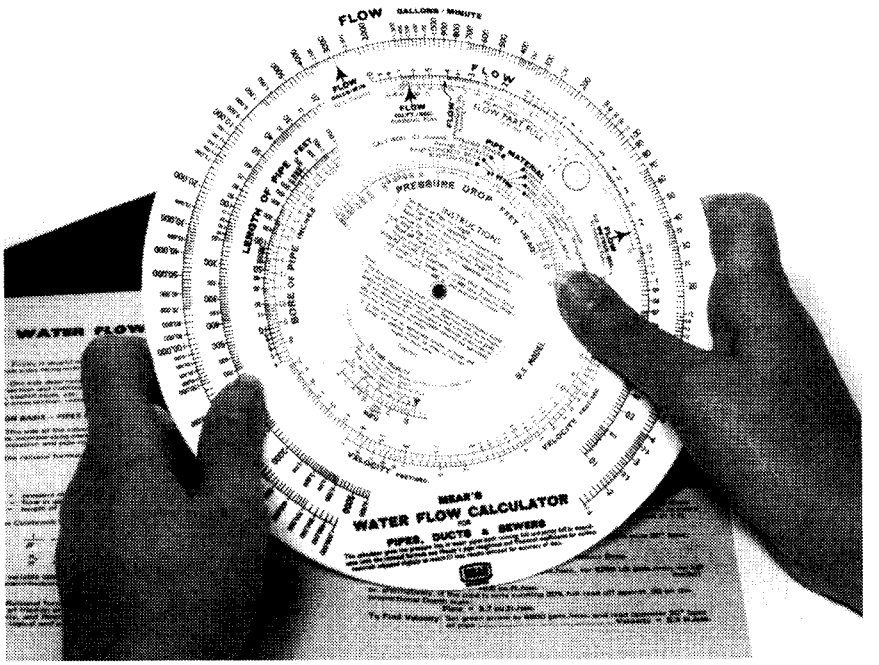

Hunter Calculators

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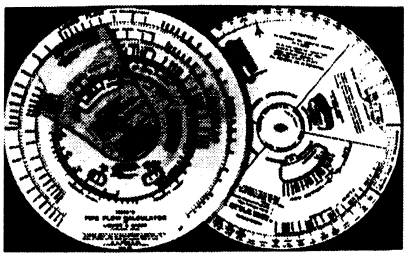
FLOW CALCULATORS

PIPE FLOW CALCULATOR For Liquids & Gases (Turbulent Flow)

Model M.5



The majority of practical problems fall within the Turbulent Flow range and this calculator determines the required pipe size, flow or pressure loss for any liquid and also for any gas (at low pressures) flowing under Turbulent conditions.

Pressure loss, flow or pipe size are found from the front of the calculator by a simple setting of two dials to the known details of length, viscosity, specific gravity, etc. Scales on the reverse side permit an instant determination on whether the flow conditions are Turbulent or Laminar. Viscosities of over 50 liquids at various temperatures are also given on the reverse side along with their specific gravities. Further scales are incorporated for viscosity conversion, including Redwood, Saybolt, Centistokes, and on the metric model, Engler degrees.

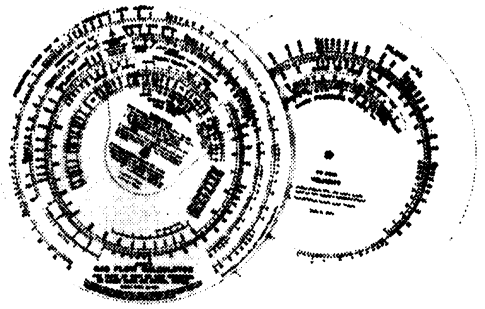
Scale Ranges:

Diameter: 1/4" to 40" Liquid flow: 5 to 1,000,000 g.p.h.
Length: 5 ft. to 5,000,000 ft.
Gas Flow: 50 to 1,000,000 c.f.h.
Pressure Drop: .01 to 500 lbs./sq. in.
Metric model also available
7-5/8" Diameter

GAS FLOW CALCULATOR for LOW or HIGH PRESSURE FLOW

WITH VELOCITY SCALES

Model M.8



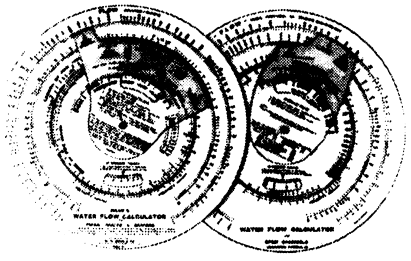
This instrument is for calculations relating to the flow of all gases in pipes. It has two pressure loss scales, one dealing with the majority of the problems where the Terminal pressure is substantially atmospheric and the other for pipes at pressure up to 4,000 lbs./sq. in. Handles all fuel gases, air, nitrogen carbon dioxide, etc., and is widely used for sizing factory compressed air and fuel gas systems, pipelines in chemical plants, coke ovens and process plants, manufactured gas and natural gas distribution.

Scale Ranges
Diameter: 0.4" to 60"
Length: 10 ft. to 300 miles
Flow: 150 to 16,000,000 c.f.h.
Metric Model also available
7-5/8" Diameter

Specify
Model M.8A
(For Cast Iron & Steel Pipes)
Model M8B
(For Plastic Pipes)

WATER FLOW CALCULATOR

Model M.7



For steel, cast-iron, non-ferrous, plastic, asbestos cement, concrete, vitrified and coated pipes and also open channels in earth, rock, concrete, metal and wood.

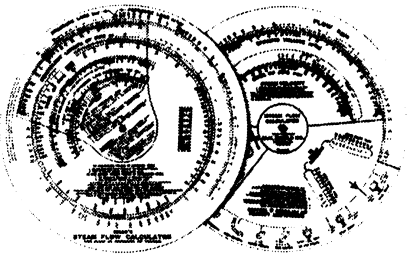
One side of the calculator solves the rational formula for water flow in pipes and ducts of circular sections. The answers have been checked against a large number of well authenticated practical tests on actual pipelines from small metal tubes to long concrete tunnels up to 18 feet diameter and give accuracy appreciably better than usual formulas.

Flow 1.5 to 1,000,000 g.p.m. **Diameter** 0.5" to 240"

The reverse side solves the Manning formula for the flow in open channels. **Flow** 50 to 5,000,000 g.p.m.
Channel area 0.7 to 2,000 sq. ft.
Metric model also available
7-5/8" Diameter

STEAM FLOW CALCULATOR

Model M.9

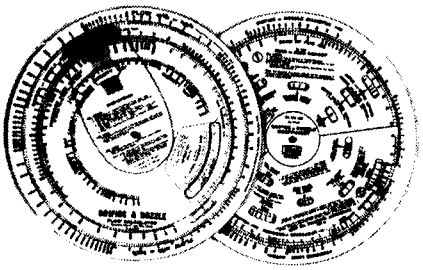


Determines the pressure loss of steam flowing in pipe lines under any conditions from high vacuum up to the critical pressure of 3,200 p.s.i., and at all velocities up to and including sonic flow. Valves, bends and fittings contribute considerably to the total pressure loss and a section is included to give the equivalent lengths of a wide variety of these fittings so that accurate allowances can be made for them.

The design for the calculator is based upon the modern rational formula. It takes account of the deviation of steam from the laws of a perfect gas and for the variation of its viscosity with temperature and pressure. Pipe sizes up to 48" diameter.
Metric Model also available
7-5/8" Diameter

ORIFICE AND NOZZLE FLOW CALCULATOR

Model M.18



This calculator determines the flow rates of fluids through the various types of flow measuring nozzles and orifices, including: Orifice Plates, Nozzles, Venturi Nozzles, Venturi Tubes, Pitot Tubes, Quarter Circle Orifice Plates, Conical Entrance Orifice Plates.

The rates of Flow are calculated in accordance with the standard flow formula:

$$W = 1890\ C\ d^2 \sqrt{hp}$$

where W = mass flow, lb./h
d = orifice or nozzle throat diameter, inches
h = pressure difference p.s.i.
p = density of fluid upstream, lb./ft³
c = overall orifice or nozzle co-efficient

Liquids, Gases or Steam are handled with equal facility, the flow being obtained in terms of either volume or mass whichever is desired. The Flow Coefficient of the various recommended orifice or nozzles vary according to type, diameter, and the relative size of pipe in which they are fitted. The reverse side of the calculator determines these coefficients for liquid flows and also the correction which may be necessary for gas flows to allow for expansion should the pressure loss across the orifice or nozzle be large.

Gas densities in Kg/m³ are quickly obtained for any gas according to pressure, temperature and specific gravity, a special section being provided for this purpose. This considerably facilitates the calculation of gas flows. An instruction booklet is included with each calculator, giving additional information, examples, and particulars of the slight correction necessary for very low Reynolds Numbers and rough pipes.

Scale Ranges
Pipe bore: 2" to 50"
Orifice diameter: .25" to 20"
Flow Rate: 40 to 3,000,000 ft³/h or lb/h

8" Diameter

Metric model also available

STREAMLINE (LAMINAR) FLOW CALCULATOR

Model M.6

This instrument is designed to solve the streamline flow formula applicable to the flow of more viscous liquids such as fuel oils, lubricating oils, syrups, etc. through pipe lines and also the flow of liquids of low viscosity in small pipes. The latest design includes viscosity conversion scales for Redwood, Saybolt, Engler and Centistokes.

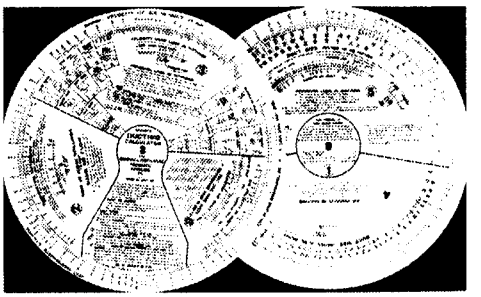
Scale Ranges:

Liquid Flow	.001 to 15,000 g.p.m.	Pipe Dia. 0.1" to 13"
	.001 to 15,000 tons/hr.	
Pressure Drop	.01 to 600 lbs./sq. in.	
Metric model also available		Length 6 to 3,000 ft.

5-5/8" Diameter

DUCTING CALCULATOR

Model M.12



A complete calculator for determining duct sizes, velocities and pressure losses for large or small ducting systems passing either warm or cold air. It is double sided and divided into sections which handle all aspects of duct sizing calculations. It gives answers for either round, square or rectangular ducts.

Velocity: One section of the calculator gives the velocity in the duct or sizes the duct for any specific velocity requirement.

Pressure Losses: A separate section deals with the pressure loss in the straight portions of the duct.

Pressure Loss in Fittings: On many installations a large proportion of the pressure loss occurs in the various bends, branches, and other fittings and a section deals specifically with this giving the loss in velocity heads for a wide variety of fittings and providing scales to convert this to actual pressure loss.

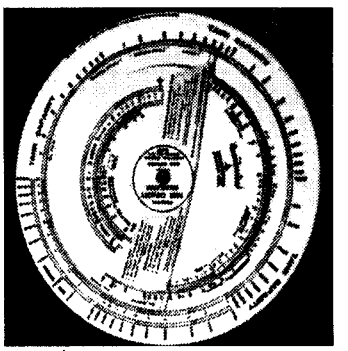
Warm Air Heating: This section gives the volume of air required for warm air heating according to the heat requirements and the temperature differential between warm air and the room. In addition a further section gives heat losses from the surface of the ducting carrying warm air.

Duct sizes up to 100" diameter and the equivalent rectangular or square. Metric Model also available.

7-5/8" Diameter

TANK CAPACITY CALCULATOR

Model F.11



Calculates capacities of rectangular and cylindrical tanks or containers in Cu. Yards, Cu. meters, Cu. feet, gallons, gallons (Imp.) and litres. To operate, it is only necessary to set the scales to the known sizes of the container and read off the cubic capacity in any required units. Alternatively, the scales are set to the known cubic capacity or volume and the container sizes may then be determined.

Special section covers part-full horizontal cylindrical tanks filled to any level.

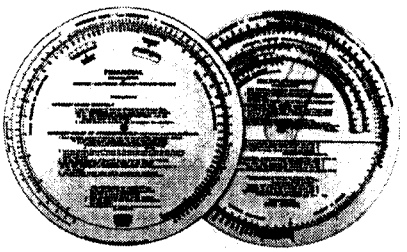
Capacity Range

Tank length:	1 ft to 250 ft.
Tank width:	1 ft to 250 ft.
Tank depth:	4 in. to 100 ft.
Diameter:	4 in. to 100 ft.
Volume:	0.1 to 10,000,000 (cu. ft. gals, or litres.)

7-1/2" Diameter

GENERAL SCIENTIFIC & MATHEMATICAL

FINANCIAL CALCULATOR
Model M.23



A remarkable instrument for business, purchasing, investment, costing, and accounting calculations and decisions. A fraction of the size and cost of electronic versions. By a simple setting of two dials, it answers such questions as:

–Pay cash for new equipment? –Borrow from a bank?
–Lease?
–Value of equipment after any number of years of depreciation?
–Actual interest rate of various transactions?
–Future value of a current investment?
–Present value of future profits of income?

Leasing-Mortgage Transactions
The calculator gives the weekly, monthly, or yearly repayment necessary allowing for compound interest on the outstanding balance. It indicates the actual compound interest included in such transactions, enabling decisions to be made as to whether bank or other forms of lending are more economical.

Discounted Cash Flow
It gives the present value of any sum to be received in the future such as:
A) How much is regular repayment of X dollars per month over Y years worth as a lump sum today allowing for compound interest?
B) What is the present worth of X dollars profit next year, Y dollars the year after, and Z dollars in the third year?

Investment
Tells in a similar manner, the growth rate of any sum at compound interest (added weekly, monthly, quarterly, or yearly) and the final sum accumulated. Also, the sum accumulated from regular investment for any period of time at any compound interest rate.

Depreciation
It gives the written-down value or any equipment after any period and any rate of depreciation.

7-5/8" Diameter

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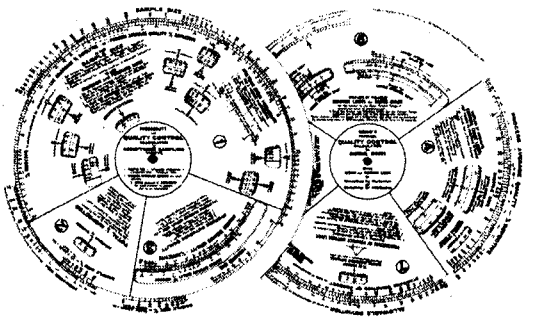
Fax: 1-908-526-8348
E-mail: hunter@eclipse.net

PROBABILITY & STATISTICAL QUALITY CONTROL CALCULATOR Model M.17



This instrument solves quickly and accurately the statistical calculations involved in setting up methods for the control of quality of goods received and quality in batch and mass production. It is divided into seven sections dealing with POISSON PROBABILITIES, ACCEPTANCE SAMPLING METHODS, OUTGOING QUALITY, QUALITY CONTROL CHARTS, SAMPLING BY ATTRIBUTES, SAMPLING BY VARIABLES, AND NORMAL PROBABILITIES. The Poisson Probability section can be used for a wide range of other statistical calculations besides those involved in quality control.

Poisson Multi-Event Probabilities If an event is known to happen on say 3% of all occasions, it will be expected to happen 1½ times in 50. Actually it can only occur 0, 1, 2, 3, or 4, etc. times and Poisson Probabilities show the probability of it occuring 0, 1, 2, 3, or 4 etc. times for any particular expectation (in this case the expectation is 1½). This very comprehensive section of the calculator gives the Poisson Cumulative Probabilities for up to 20 occurrences, by simply setting the arrow to the Expectation. The answers are read off much more conveniently, accurately and quickly than with conventional charts.

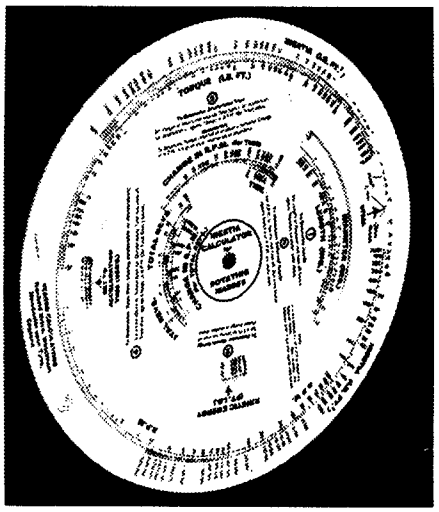
Acceptance Sampling Methods Provides a scientific basis for accepting or rejecting a product by checking samples instead of entire batch, and the Poisson Probability section enables the sampling size, the acceptable number of defectives and the risk involved in accepting below average quality to be determined. In addition, it gives the risk of rejecting good material and enables the Operating Characteristics Curve to be plotted.

The most economical method requiring the least amount of inspection is found from Section 2 and the average outgoing quality of the finished product from Section 3. In addition, this instrument calculates statistical control chart limits, when sampling by attributes or variables. Finally, the Normal Probability section gives areas under the Normal Probability Curve so that knowing the standard deviations of the product from the sampling sections, the percentage falling outside any set of limits can be found. It can be used for many probability calculations where the Normal Distribution is applicable.
This instrument is an absolute essential for Quality Control departments and other statistical workers.
Engraved in three colors.

7-5/8" Diameter

GENERAL DESIGN & TECHNICAL CALCULATORS

INERTIA CALCULATOR for ROTATING MASSES
Model F.10

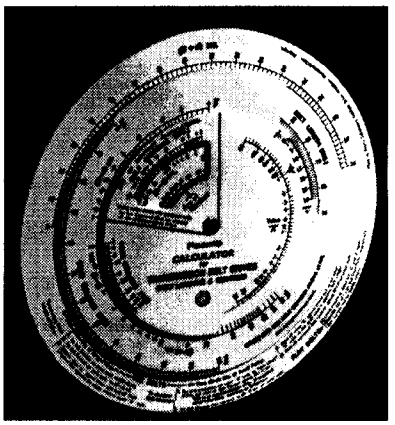


A precision, easy to use instrument which, in a fraction of the time previously required, completes engineering calculations relating to inertia and acceleration of rotating masses including: Inertia and Referred Inertia, Kinetic Energy, Acceleration Torques, Acceleration Times, Total Revolutions During Acceleration, for complete rotary systems of all kinds in steel, cast iron, aluminum, brass, and bronze.

Calculations completed with ease by a simple setting of dials. Almost the equivalent of an electronic computer, without the cost and programming complications. An indispensable tool in any modern engineering and design department.

7-1/2" Diameter

TRANSMISSION BELT CALCULATOR
Model F.14



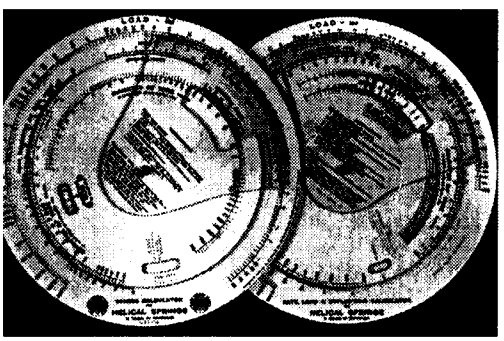
A time saving, easy to use calculator for use when designing and Vee or Flat Belt Drive. Completely eliminates laborious mathematical calculations and, by a simple setting of dials, calculates:

- Bell Lengths
- Belt Centers
- Arc-of-contact of belt on pulley

Covers any pulley size from 2 in. Dia. to 90 in. Dia., and belt centers from 5 in. to 150 in. Ideal for use in conjunction with belt manufacturers catalogs and equally suitable for English or Metric dimensions. A tremendous design time saver.

5-5/8" Diameter

HELICAL SPRING CALCULATOR
Model M.4



This calculator designs helical compression and extension springs. It is double sided, one side dealing with the stress calculation and the other with Rate and Extension. It enables spring sizes to be determined very rapidly as the Rate and Stress for a particular spring can be read off in a few seconds by setting the dials to the appropriate values.

A scale is provided for the Spring index and where neither wire diameter nor coil diameter are specified initially, design can proceed rapidly on the basis of an appropriate index figure.

The stress correction factor for curvature of the wire is automatically indicated and taken into account during the calculations.

Scale factors are wide enough to cover practically every commercially used spring.

Wire Diameter: .006" to 1.2" — Number of Coils: 1 to 300
Coil Diameter: .03" to 12" — Stress: 4,000 to 300,000 p.s.i.
Load: .05 to 40,000 lbs. — Deflection: .01" to 15"

The calculator will also handle springs made from rectangular or square wire as well as the normal round wire springs, additional scales being provided for this purpose.

Metric Model also available.

7-5/8" Diameter

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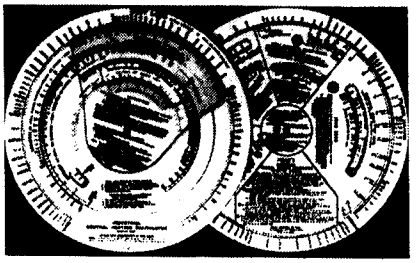
INDUSTRIAL HEATING CALCULATOR

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.

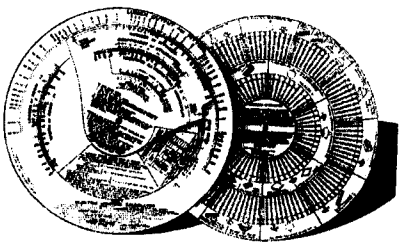
Heat losses through the structure are handled on one side of the calculator, each wall, floor, window, etc. being treated individually by simply setting length and width and using the temperature difference and the heat transfer coefficient to obtain the heat loss. The heat loss from air change is obtained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

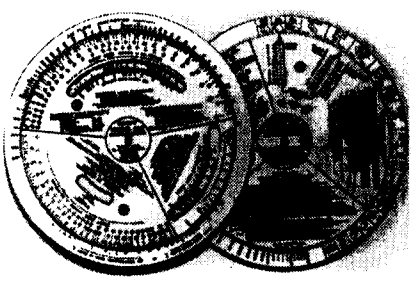
Coefficient of Utilization:

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



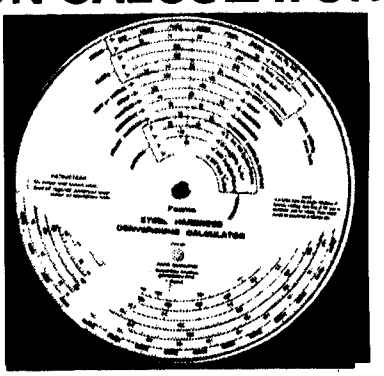
A complete method for designing warm air heating installations once the room heat requirements have been determined.

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, Scelerescope, Knoop, Rockwell 'B', Rockwell 'C', Rockwell Superficial 30N, and Rockwell Superficial 30T.

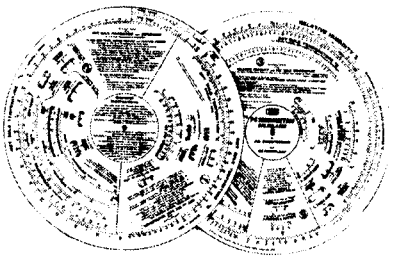
Additional scales give the equivalent tensile strengths in tons and lbs., and also Brinell impression diameters. A tremendous improvement on conversion tables and charts.

5" Diameter

PSYCHROMETRIC CALCULATOR

for Air Conditioning & Meteorology

Model M.24



This calculator determines all the properties of moist air directly from any of the three basic sources of measurement. By a single setting of: Wet Bulb to Dry Bulb Temperature (screen or aspirated) or, Wet Bulb Temperature to Depression (screen or aspirated) or, Dry Bulb Temperature to Relative Humidity it gives:

Dew Point	Vapor Pressure	Specific Humidity
Frost Point	Moisture Content	Mixing Ratio
Latent Heat	Specific Enthalpy	Vapour Density
Sensible Heat	Specific Volume	Altitude Correction

High accuracy eliminates interpelation from tables and charts as temperature scales are calibrated in 0.2 deg. settings to 0.1 deg. or less. The Relative Humidity scale is also very accurate.

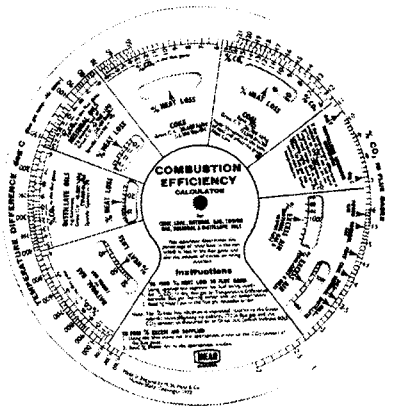
The basic properties are per Kg. of dry air at standard atmospheric pressure of 1013.25 mb. on the Metric Model and per lb. of dry air at standard atmospheric pressure of 14.7 psi on the English Model. The specific humidity and mixing ratio are given for any barometric pressure down to 300 mb. on the Metric Model and 4 psi on the English Model. Additional scales allow for correction of the wet bulb depression for the effects of low barometric pressure on altitude. The properties of mixed air from two or more different streams can also be obtained.

Scale Ranges:	**Metric Model**	**English Model**
Wet Bulb Temp.	0 to 29 deg. C	24 to 80 deg. F
Ice Bulb Temp.	−50 to 0 deg. C	−50 to 32 deg. F
Dew Point	−53 to 29 deg. C	−56 to 110 deg. F
Frost Point	−50 to 0 deg. C	−50 to 32 deg. F
Dry Bulb Temp.	−53 to 44 deg. C	−58 to 110 deg. F
Depression	0 to 22 deg. C	0 to 35 deg. F

7¾" Diameter Metric or English Model

COMBUSTION EFFICIENCY CALCULATOR

Model M.25



The efficiency of a boiler is determined largely by the heat lost to any excess air supplied and the loss in high temperature flue gases.

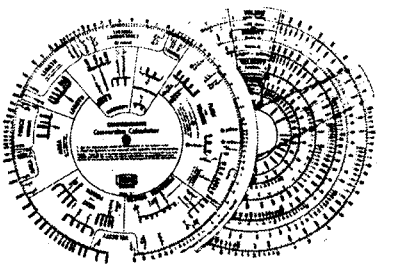
This calculator determines the efficiency from the CO_2 content of the flue gas and the flue gas temperature. At the same time, it also indicates the percentage of excess air being supplied.

Gives answers for coal, coke, manufactured gas, natural gas, and fuel oils (residual and distillate). Calibrated in metric units.

5-3/4" Diameter

COMPREHENSIVE METRIC CONVERSION CALCULATOR

Model M.22



Designed primarily for Engineers and Designers, this calculator will perform the following conversions:

Length and Area: ins.-mm., ft-yds-meters, sq.ins.-sq.mm.-sq.cm., sq.ft.-sq.yds.-sq. meters.

Volume: ins.-mm., ft-yds-meters, sq. ins.-sq. mm.-sq. cm., sq. ft.-sq. yds.-sq. meters.

Flow: U.S. g.p.h.-U.S. g.p.m.-Imperial g.p.h.-Imperial g.p.m.-U.S. barrels per hour-c.f.h.-c.f.m. -c.f.s.-cu.yd/hr.-cu. meter/hr.-litres/sec.cu. meters/min.

Pressure & Stress: lb./sq. in.-ins. w.g.-ft. w.g.-meters w.g.-mm. H.G.-ins.H.G.-bar-millibar-Torr-atmosphere-Kg./sq. cm.-Tons/sq. in.

Thermal Conductance: watts/sq. meter/Deg. C.-Kilo-cal/h/sq. meter/Deg. C.-B.T.U./h/sq. ft./Deg. F.

Heat & Power: H.P.-B.T.U./h.-Kilocal/h-kilojoule/h.-watts-kilowatts

Viscosity: Centistokes-Redwood-Saybolt Universal-Engler Degrees

Density: lbs./cu.in.-lbs.cu.ft.-kg./cu.meters-grams/litre.

Velocity: m.p.h.-meters/sec., ft/min.-meters/sec.

Weight & Force: lbs.-kilograms-decanewtons.

Temperature: Deg. F.-Deg. C.

5-3/4" Diameter

Hunter Products Inc.

792 Partridge Drive
Post Office Box 6795
Bridgewater, New Jersey 08807

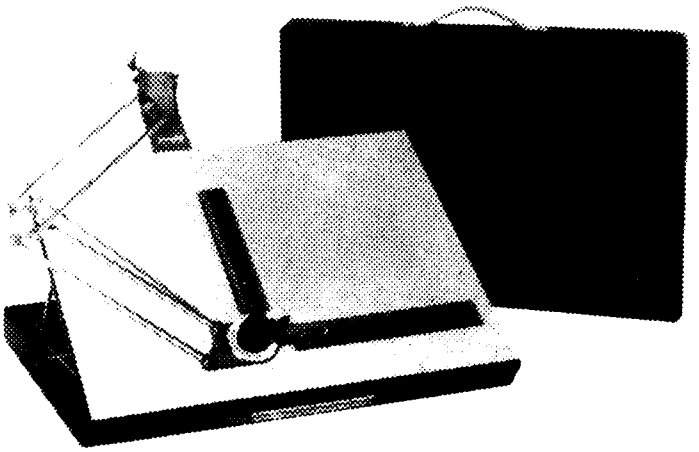
Phone: "TOLL FREE" 1-800-524-0692

Fax: 1-908-526-8348
E-mail: hunter@eclipse.net

HUNTER DRAFTING EQUIPMENT

"TRAVELER" PRECISION PORTABLE DRAFTING KITS DELUXE SERIES

These kits are built to the highest professional standards and constructed of the finest available materials. Consists of a precision drafting machine mounted on a rigid vinyl-covered board which is an integral part of a leatherette attache carrying case. Board includes adjustable tilt-up feature. For home, office, laboratory and shop.



FEATURES:

- Precision construction
- Removable scales
- Spring-tensioned arms
- Detent "clicks" at 15° intervals on protractor
- General purpose compartment in carrying case for paper & instruments

#DE4008 Model 624 19 1/2" x 27 1/2"	**249.95**
#DE4009 Additional scales-metric	**25.50**

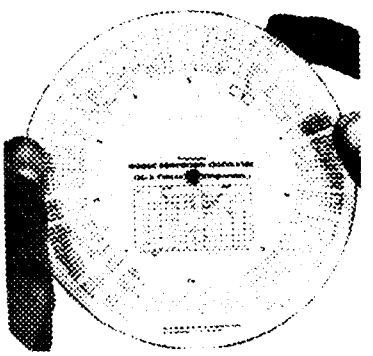
HUNTER CALCULATORS
SUPERB QUALITY INSTRUMENTS OF SOLID PERSPLEX PLASTIC PRECISION ENGRAVED

Hunter Products Inc.
792 Partridge Drive
Post Office Box 6795
Bridgewater, New Jersey 08807
Phone: "TOLL FREE"
1-800-524-0692

Fax: 1-908-526-8348
E-mail: hunter@eclipse.net

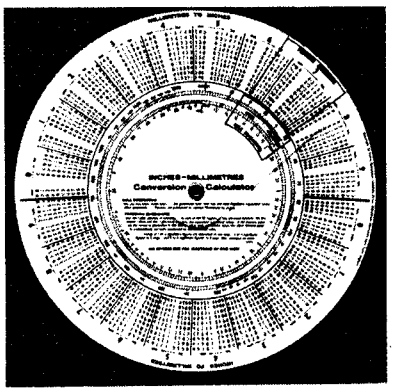
HIGH ACCURACY WEIGHT CONVERSION CALCULATOR

Model F.29



This calculator provides a very simple method for obtaining English to Metric weight conversions with a 6-figure accuracy and range from 0.1 lb. to 999 tons.
5" Diameter

INCH-MILLIMETER CONVERSION CALCULATOR

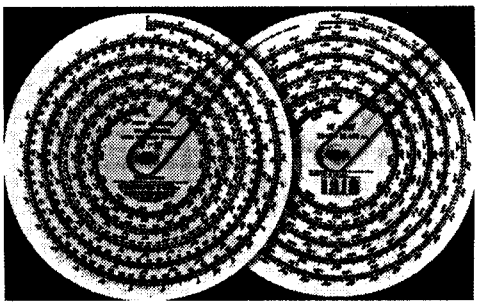


Model F.21

An ingenious yet simple-to-use calculator which rapidly converts inches to millimeters or vice-versa with an accuracy within 0.0001 in. Converts any value between 0.0001 in. and 99.999 in. or between 0.01 mm and 999.99 mm. Special section for rule dimensions in fractions. Equally suitable for shop floor or design personnel.
5″ Diameter

FEET & INCHES TO MILLIMETERS CONVERSION CALCULATOR

Model M.14 (Fractional Inches)

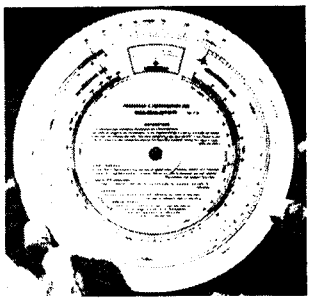


This is a handy pocket-sized instrument designed for converting dimensions measured in feet, inches and fractions of an inch instantaneously to millimeters and vice-versa. Easily used by unskilled personnel.
The scaling gives a high degree of accuracy and is varied to suit practical requirements, being more open at the lower end so that small dimensions are easily read to 1/64″ while larger ones near 100 ft. are read to ¼″.
Thus such figures as 4-23/64″ or 85′-3¼″ are readily converted by direct reading to 110.7 millimeters and 25.99 meters respectively. The construction gives high accuracy simply, and without using devices such as the addition of two separate parts of a number. This degree of accuracy amply meets most commercial and industrial needs. The calculator is double sided, handling 0″ to 10 ft. on one side and 10 to 100 ft. on the other. For larger dimensions a table of equivalents is provided.
To use the instrument it is only necessary to set the cursor to the Known Length and read opposite it the millimeter equivalent. Range 0″ to 100 ft. scaled in fractions of an inch.
5-3/4″ Diameter

PRINTING & GRAPHIC TRADES CALCULATORS

REPRODUCTION SIZE CALCULATOR

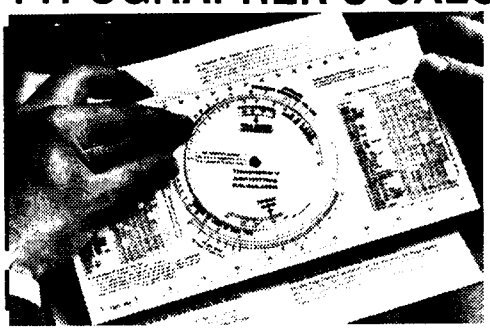
Model F.41



Rapid and simple calculation of percentage reductions (or enlargements); copy and block size; additional dimensions and masking sizes; area of blocks. All in inch or metric dimensions as required, with conversions.
Covers any dimension from 1 in. to 200 in. or 25 mm. to 4500 mm.
7-1/2″ Diameter

TYPOGRAPHER'S CALCULATOR

Model F.40

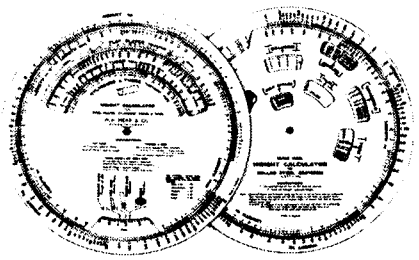


This unit represents an amazing breakthrough in the simplification and elimination of routine typographical calculations. Indispensable to typographers, printers, publishers, studios, advertising agencies, publicity departments and anyone concerned with the problem of fitting copy into a fixed space or determining the space required for a given amount of copy. It incorporates a type scale and type-writer character counting scales, combined with calculating dials of completely new design for rapid copyfitting, casting-off and page depth calculation.
A feature of this calculator is its wide range and versatility covering 67 of the most popular body faces each in any size from 6-point to 14-point inclusive and any e.m. measure from 4 to 80.
It quickly calculates:
—Total number of characters in any typewritten or printed copy
—The number of lines the copy will make, for any type face and size in any e.m. measure
—The required page depth, leaded or unleaded, in e.m.'s or inches
If the space available is fixed, the calculator will accurately determine:
—The number of lines, characters or words which can be fitted into the space for a given type face and size.
—If the space and amount of copy are both fixed, the calculator facilitates the rapid selection of a suitable type face. A particular feature is the ease with which it is possible to compare the effects of using alternative type faces and line spacing.
Eliminates time-wasting, non-creative, routine calculations.
Size: 5″ × 10″

WEIGHT CALCULATORS

STEELWORK WEIGHT CALCULATOR

Model M.1



An instrument to determine accurately and rapidly the weight of almost any piece of fabricated or rolled steelwork—from standard sections to large plates, sheets, discs, tubes and cylinders, from the very small to the extra large.
Precision construction, ample size and the use of extended scales ensure high accuracy.
A single setting of one dial is sufficient to obtain the weight of any item. One side deals with flat plates, sheets, cylinders, tubes, round, square and hexagon bars, while the other handles beams, joists, columns, angles, tees and flats.

Range
Plates & Flats: ¼" to 20 ft. wide, 20 g. to 6" thick.
Lengths up to 300 ft.
Cylinders & Tubes: ¼" to 20 ft. dia., 20 g. to 6" thick.
Lengths up to 300 ft.
Discs and Round Bars: ⅜" to 17 ft. dia. Lengths up to 300 ft.
Square & Hex Bars: ⅜" × ⅜" to 17 ft. × 17 ft. Lengths up to 300 ft.

Beams, Columns, Channels, Joists, Angles, Tees, Etc.: Most standard sections. Lengths up to 1000 ft. Metric Model also available.
7-5/8" Diameter

Hunter Products, Inc.

792 Partridge Drive
Post Office Box 6795
Bridgewater, New Jersey 08807

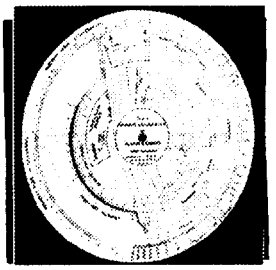
Phone: "TOLL FREE"
1-800-524-0692

Fax: 1-908-526-8348
E-mail: hunter@eclipse.net

VISA/MASTERCARD/AMEX

WEIGHT CALCULATOR For PLATES & SHEETS

Model F.8 (Dual Type U.S. & Metric)

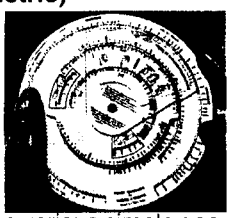


This calculator, by a simple setting of scales, calculates weights of plates and sheets of all sizes and thicknesses in steel, brass, or aluminum, English or Metric units.

Calculates: Weights of any quantity of sheets up to 500. Weights of rectangular sheets or circular discs. Weights of sheets in lbs. or kilograms. Quick cross-reference between U.S., British and Continental gauge and thickness systems.
Capacity Range: Plate Thickness—.010 in. to 6 in., Plate Length—4 in. to 100 ft., Plate Width—4 in. to 20 ft., Diameter—4 in. to 400 in., Weight—0.2 lb to 100,000 lb. or equivalent metric units.
7-1/2" Diameter

WEIGHT CALCULATOR FOR CASTINGS & FORGINGS

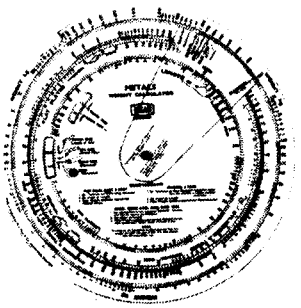
Model F.7 (Dual Type U.S. & Metric)



Quickly calculates the weights of castings, forgings and machined components, intricate or simple in shape, large or small in size, in English or Metric units.
Basically an easy-to-use circular slide rule of special design, it determines almost instantaneously the weights of the various simple geometric shapes into which even the most intricate of components can normally be divided. The only calculation necessary is the simple totalling-up of separate weights provided by the calculator.
Suitable for weights of items in steel, cast iron, lead, copper, bronze, brass, zinc and aluminum.
7-1/2" Diameter

UNIVERSAL METALS WEIGHT CALCULATOR

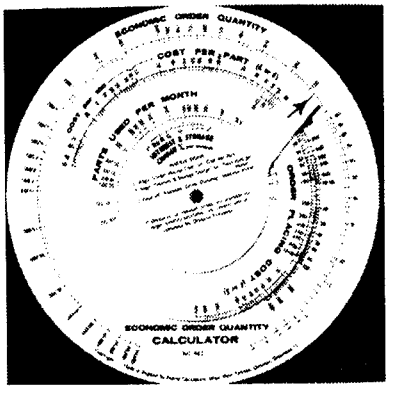
Model M.26



This comprehensive unit solves almost all weight calculations involving standard shapes and most common metals.
One side gives weights directly for sheets, plates, strips, rounds, squares, hex, discs, wire, cylinders, tubes, and coils, in aluminum, steel, cast iron, copper, brass, lead, molybdenum, antimony, zinc, tin and manganese. The reverse side handles weight calculations involving most American standard rolled-steel sections.
Scale Range
Plates: ¼" to 20' width .01" to 8" Thickness
Cylinders & Tubes: ¼" to 13' Mean Diameter
Similar range for other shapes. Metric Model also available.
7-1/2" Diameter

STOCK CONTROL & PURCHASING CALCULATORS

ECONOMIC ORDER QUANTITY CALCULATOR & DISCOUNT EVALUATOR
Model F.36

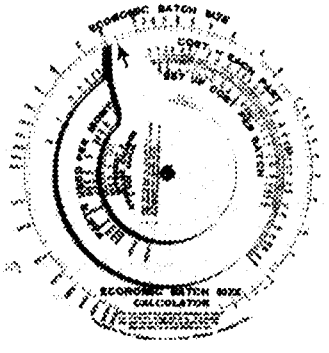


An ingenious easy-to-use calculator of great value for Buyers, Accountants, and anyone concerned with purchasing, stock control policy, and business management. A simple setting of the calculator indicates at a glance the most economic quantity for any given cost per part, usage rate, interest and storage cost, and order placing cost. (Use of the economic order quantity, when purchasing, ensures that the true cost per part is kept to the absolute minimum.)

The Purchase Discount Evaluator on the reverse side of the calculator rapidly evaluates and compares discounts or reduced prices which may be available for large quantity purchases, and indicates at a glance, on the unique profit-loss indicator, which discounts should be taken. At the same time it indicates the actual purchase savings and corresponding increased inventory carrying costs so that an immediate estimation may be made of the resulting net annual savings. The low price of this calculator is quickly recovered many times over by the resultant savings.

7-1/2" Diameter

ECONOMIC BATCH SIZE CALCULATOR
Model F.16



A remarkable, low-priced calculator, simple-to-use but which can be responsible for great savings in production costs. By a simple dial setting, it computes the mathematical absolute lowest cost per part for given usage rate, set-up cost, interest and storage charges. May also be used to determine ideal delivery batch quantities for bought-out parts.

An essential aid for Production and Material Controllers, Buyers, Cost Accountants, and any executive concerned with production economy.

5" Diameter

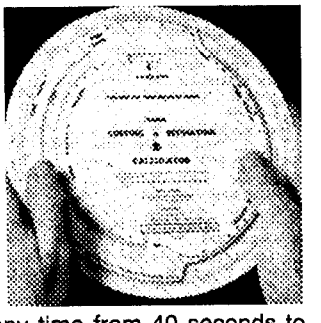
CALENDAR DATE & PERIOD CALCULATOR
Model F.31

By a simple dial setting, this unit immediately indicate the number of days of weeks between any two calendar dates, or alternatively the exact calendar date for any given number of days or weeks from a starting date. Will cover any period up to 265 days and is so simple that it can be used by anyone.

Indispensable for Buying Offices, Production Controllers, Progress Departments, Doctors, Farmers, etc. and anyone dealing with delivery dates or promises and calendar periods.

5" Diameter

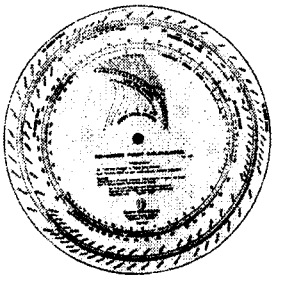
COSTING & ESTIMATING CALCULATOR
Model F.20



A simple-to-operate instrument for all time and cost calculations which do not require comptometer accuracy. The time scales are calibrated directly in hours and minutes and the hourly rate scales are calibrated in dollars so that a simple dial setting converts a time and hourly rate directly into cost. Completely overcomes the usual difficulty of working out such calculations on the slide rule. Covers any time from 40 seconds to 1000 hours.

7-1/2" Diameter

RE-ORDER POINT CALCULATOR (for inventory control)
Model F.37



By a simple dial setting, this unit immediately and accurately establishes the order point for any stocked item. It takes into account the average usage rate of the item, the lead time for replacements, and any required safety stock level.

This is an ideal and inexpensive way of ensuring that your stock shortages and excesses are kept to an absolute minimum.

7-1/2" Diameter

Hunter Calculators are precision instruments designed to solve the complex, frequently recurring problems common to technology, manufacturing and business.

They are manufactured of the finest non-warping, heavy perspex acrylic, and all scales are precision engraved for a lifetime of satisfactory use. In many instances, multi-color engraving is utilized to facilitate use.

All units are supplied with complete instructions and case.

These units are tremendous time-savers and will return their low initial costs many times over in the first few hours of use.

Many of these units are available in both U.S. and Metric models.

Rapid solution of: Technical problems, Design calculations, Production Shop calculations, General Mathematical & Commercial calculations, Graphic Arts Problems, Conversion calculations, Financial calculations.

ORDERING INFORMATION

- All calculators are available directly from:

Hunter Products Inc.
792 Partridge Drive
P.O. Box 6795
Bridgewater, NJ 08807
Phone: 908-526-8440 Fax: 908-526-8348
e-mail: hunter@eclipse.net

- Open account to highly rated companies (D&B Rating "Good" or better)
- Terms: Net 30 days F.O.B. Shipping Point
- VISA, MASTERCARD & AMEX accepted
- Shipments will be made from Bridgewater, New Jersey, either collect or prepaid and charged.
- Delivery: 2-3 weeks in stock items
- QUANTITY PRICES QUOTED ON REQUEST
- Calculators can be engraved with company names in quantities of 100 peices per model.

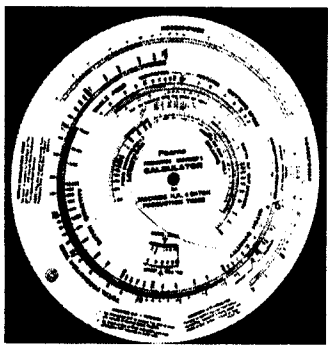
Partial Customer List

A M F Inc.
Air Products and Chemicals
Airco Industrial Gases
American Can Company
American Heyer-Schulte Corp
Amoco
Anaconda Industries
Anchor Hocking Corp
Atlantic Dry Dock Corp
B.F. Goodrich
Babcock Wilcox Research
Bell Laboratories
Bendix Energy Controls
Burroughs Corporation
Carborundum Company
Carling National Brewers
Celanese Chemical Co.
Ciba/Geigy
Cities Service Co.
Colt Industries
Control Data
Cordic Corporation
Corning Glass Works
Crown Zellerbach
Digital Equipment
Dow Chemical
Defense Department
E.I. DuPont De Nemours
Emerson Electric
Erco Industries, Inc.
Ex-Cell-O Corporation
Exxon Corporation
GTE Lenkurt Inc.
General Dynamics
General Electric
General Foods
Grumman Aerospace
Hercules Inc.
Hewlett Packard
Hoffman-LaRoche
Honeywell Inc.
Hughes Aircraft
Hunt Wesson Foods
I B M Corporation
Ingersoll Rand
Input/Output Div. Walter Kidde
Johnson & Johnson
Kaiser Steel
Kerr-McGee Chemical
Lear Siegler
M & M Mars
Memorex Corporation
Milliken & Company
Mobay Chemical
Monsanto Company
NL Sperry-Sun, Inc.
National Semiconductor
North American Phillips
Northrup Corporation
Oak Ridge National Labs
Owens-Corning Fiberglass
Phillips Petroleum
Polaroid Corporation
Procter & Gamble
Purex Corporation
RCA Corporation
Raytheon Company
Reliance Electric
Republic Steel
Revlon Inc.
Sandia National Labs.
Scott Paper Company
Shell Oil
Sherwin-Williams
Square D Company
Sylvania
Syntex Corporation
Texas Instruments
Timex Corporation
3M Corporation
Travenol Labs
Tupperware Co.
U.S. Army
U.S. Gypsum Co.
U.S. Navy
Union Carbide
United Technologies
W.R. Grace Co.
Wean United, Inc.
Westinghouse Electric
Weyerhaeuser Company
Worthington Pump
Xerox Corporation

PRODUCTION CALCULATORS

PRODUCTION ENGINEER'S CALCULATOR

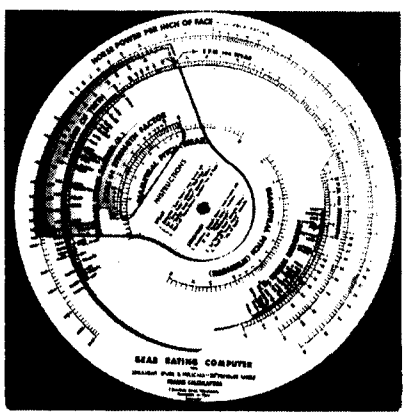
Model F.5



Machine Horsepower Requirements: Computes machine horsepower required for any given combination of cutting speed, feed, depth of cut and material.
Batch Production Times: Calculates batch production times for a given quantity and time each (or number per hour), or vice-versa.
Machining Times: Calculates machining times for turning, milling, drilling, etc. for given feed rate, cutting speed, diameter, length and number of cuts.
Speed, Feed, and Spindle R.P.M. Calculations: Works out speeds, feeds, spindle r.p.m., etc., including conversion between feed/min. and feed/rev.
An indispensable tool for any production engineer and a great time-saver. All scales have extremely wide range, sufficient to cover almost any size of work.
7-1/2" Diameter

GEAR HORSEPOWER CALCULATORS

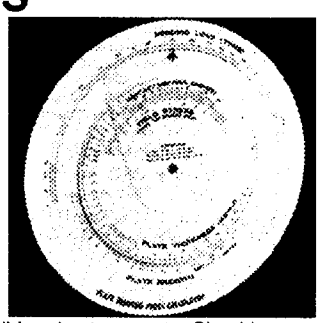
Model F.42



These calculators are used for determining the horsepower transmitting capacity of gears of all kinds and sizes.
Each calculator reduces the previous laborious calculations to a simple matter of setting dials and reading out the answer. Completely reliable and with scale ranges to cover almost any condition or size of drive.
7-1/2" Diameter
Model F.42 SPUR & HELICAL GEAR

CALCULATOR FOR PLATE BENDING PRESSES

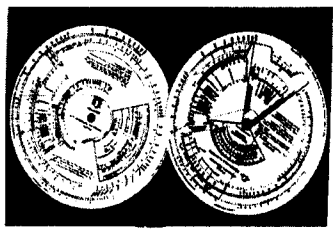
Model F.9



An ingenious, simple-to-use, instrument which, by a simple setting of two dials, immediately computes the bending load, in tons, required to bend any size of steel plate.
Equally quickly it will determine the maximum plate sizes which may be bent in any particular bending press.
Robust construction for regular daily use in workshop or office and requires no mathematical ability, or knowledge of slide-rules to operate. Should form part of the equipment of every fabricating shop.
For plate thicknesses from ½" to 8" and bending loads to 5000 tons.
Double sided Dual English-Metric
Main dial 7½" diameter, ¼" thick

POWER PRESS CALCULATOR

Model F.46

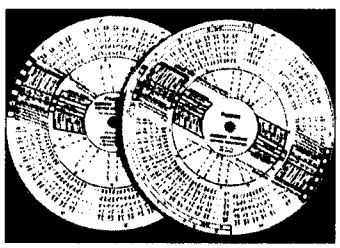


Eliminate trial-and-error and lengthy calculations. A simple setting of one or two dials gives instantly:
- Press tonnage required for all kinds of punching and blanking operations.
- Press tonnage required for all kinds of drawing and forming operations.
- Limiting deep drawing ratios for all sizes and shapes of shell.
- Die clearances for punching and blanking.
- Gauge and thickness conversion.

An indispensable aid in any design, tooling or production department concerned with presswork. Results in more efficient uses of presses and minimizes danger of breakdown due to overloading.
Suitable for presses up to 1,000 tons and metal thickness up to 0.5".
7-1/2" Diameter Dual English-Metric

SCREW THREAD METRIC CONVERTER

Model F.45



An economically priced, simple-to-use screw thread selector and converter. This unit is quite comprehensive, covering all standard American and British threads up to 1½" diameter. All modern screw thread details are at your fingertips, including: tapping and clearance drill sizes, threads per inch, root areas for strength calculations, (all with metric equivalents), plus a rapid and ingenious system for quickly determining the closest equivalent metric thread in the ISO fine and coarse series. A "must" for every engineer and designer.
5-1/2" Diameter

WORK STUDY ENGINEER'S CALCULATOR For STANDARD TIME CALCULATIONS

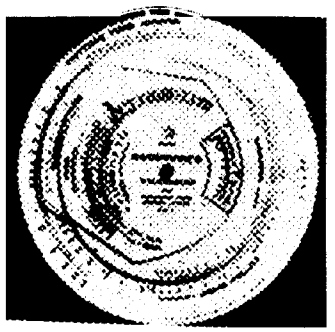
Model F.39

Indispensable to Work Study Engineers in any industry, this unit rapidly converts observed times to basic or normalized times at any required standard rating level. An additional section is provided for rapid calculation of percentage additions or reductions to times.

5-1/2" Diameter

ESTIMATOR'S UNIVERSAL CALCULATOR

Model F.4

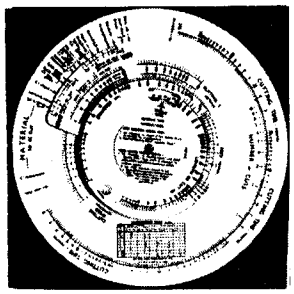


A reduced size simplified version of the Production Engineer's Calculator (Model F.5), incorporating the machining time and speeds and feeds sections only.
A valuable tool for the personal use of estimators and foremen.
5" Diameter

PRODUCTION CALCULATORS

MACHINING TIME CALCULATORS

Models F.1, F.2, F.3



These calculators provide a complete system of unequalled simplicity for determining consistent machining times, quickly, easily, and accurately, without time study. The information they provide is so complete that they may be used by personnel with very limited experience.

Three separate calculators are available, as described below, one for each of the most common groups of machining operations. In each case the total floor-to-floor time for a particular operation is obtained by adding together time elements determined in three separate places on the calculator.

Cutting Time: Read off directly on the front of the calculator after setting dials to relevant details of operation. Information on cutting speeds and feeds is also incorporated.

Loading & Handling Time: Separately determined by a simple setting of dials on the reverse side of the calculator. All necessary allowances relating to weight, size, accuracy, type of operation, etc., are taken into account.

Set-up Time: Determined in another section of each calculator.

LATHEWORK CALCULATOR Model F.1

Calculates times for turned components of all kinds on center lathes, turret lathes and boring mills. Extremely wide range.
7-1/2" Diameter

MILLING CALCULATOR Model F.2

Calculates times for all kinds of milling operations on vertical or horizontal milling machines. All types of cutters, fixtures, dividing heads, etc.
7-1/2" Diameter

DRILLING, REAMING & TAPPING CALCULATOR Model F.3

Calculates times for drilling, reaming, or tapping holes of all sizes in lathes, single and multi-spindle drills.
7-1/2" Diameter

WELDING TIME CALCULATOR FOR MANUAL METAL ARC WELDING

Model P51A

A calculator for rapid and easy calculation of welding times for all sizes of fillet weld. Indispensable to Estimators and Manufacturing Engineers.

Completely new and based on the most up-to-date information. Calculates accurate and consistent welding times, and number of electrodes required. Covers all kinds of fabrication work produced by manual metal-arc (stick type) welding. Equally suitable for the small or large shop.

Eliminates laborious calculations. A simple setting of the dials to the weld sizes and details, and it calculates:

- Arc times for full welds.
- Deslag and brush times.
- Ancillary time (electrode changes, etc.)
- Total weld times.
- Number of electrodes required.

Scope—The calculator has a wide range suitable for almost any size of fabrication, large or small, and covers the following:

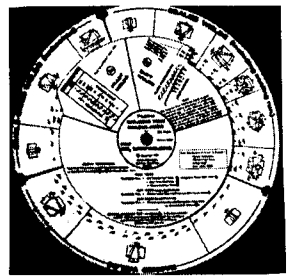
Fillet weld sizes—1/8" to 1"
Weld lengths—from 1" to 1,000 feet
Welding position—any
Electrode types—cellulose; rutile; rutile heavy; basic hydrogen-controlled; (with ASW references).

Quality & Reliability—Made from high grade, non-warping acrylic, with fully-engraved scales. A high quality instrument of sturdy, careful construction to give many years of regular daily use. Supplied complete with an attractive case.
7-1/2" diameter × 1/4" thick

WELDING TIME CALCULATOR

FOR MIG CO_2 WIRE WELDING

Model P50A



A disc calculator for rapid and easy calculation of welding times. Covers almost all types and sizes of butt and fillet weld. Indispensable to Estimators and Manufacturing Engineers. Completely new and based on the most up-to-date information on Mig wire welding. It calculates accurate and consistent welding times and is suitable for almost all kinds of welding and fabrication work, large or small in size.

Eliminates laborious calculations—by a simple setting of dials it calculates:

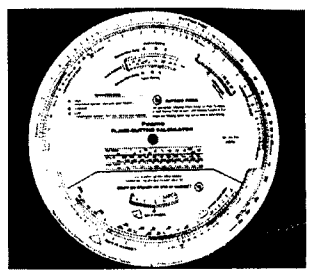
- Arc time for full weld. (Also indicates suitable wire feed rates for given current amps.)
- Additional sealing run preparation time, for sealed welds.
- Total Wire length usage; number of stops; stop time ancillaries.
- General ancillaries.

Scope—For semi-automatic Mig welding of carbon steels.
Fillet welds—1/8" to 1"
Butt welds—Backed, unbacked and sealed for plates from 1/16" to 1" thick
Weld lengths—1/2" to 35 feet
Welding wire size—.030" to 1/8" dia. (solid and flux-cored).

Quality & Reliability— Substantially made from high grade, non-warping acrylic with fully-engraved scales. Sturdy construction to give many years of use, and supplied complete with attractive case and instructions.
7-1/2" Diameter × 5/16" thick

FLAME-CUTTING CALCULATOR

For Machine or Manual Flame Cutting Model P.56A



A disc calculator for rapid and easy calculation of flame-cutting times and quantity of gas and oxygen consumed. Indispensable to Estimators and Manufacturing Engineers.

Completely new and up-to-date, this unit covers machine and manual flame-cutting of all sizes of plate up to 12" thick, with allowance for operator skill and material quality.

Eliminates Laborious Calculations—simple and easy to operate, the calculator has four sections which, by a simple setting of dials, successively calculates:

- Lengths of cut for circular arcs. (to simplify profile length calculation.)
- Flame-cutting times for almost any size of plate or profile shape. (also indicates cutting speeds.)
- Quantity of pre-heat oxygen and gas consumed. (acetylene, propane or natural gas.)
- Quantity of cutting oxygen consumed.

Scope: For manual or machine flame-cutting of steel plates up to 12" thick. Any cut from ½" to 60' long, using acetylene, propane or natural gas.

Made from high grade, non-warping acrylic with multi-color engraved scales. A high quality instrument of sturdy construction designed to give many years of use. Supplied with instructions and case.
7-1/2" diameter × 1/4" thick

HUNTER PRODUCTS INC.
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