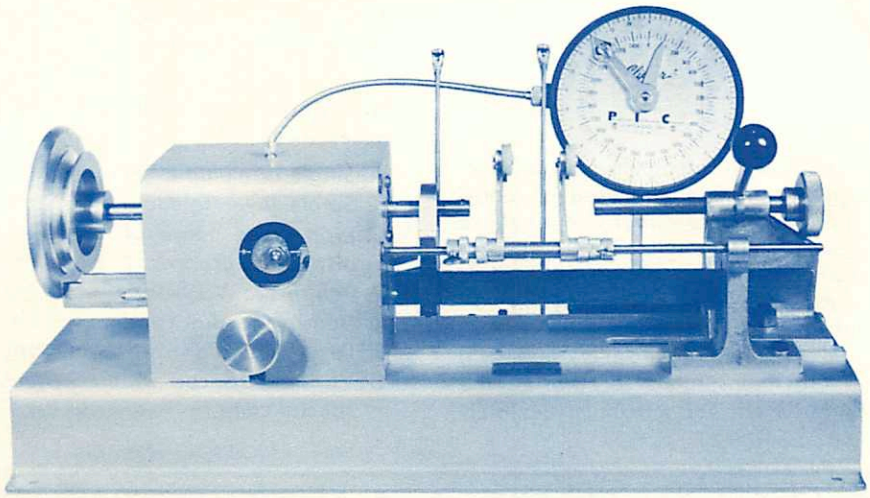
World's Most Versatile Coil Winder



MODEL W COIL WINDER

The Model W (provided with both a cam and a rack and pinion feed) is designed primarily for the production of progressive universal type coils. Since provision is made to move the coil lengthwise in relation to the winding finger, this machine is very convenient for the winding of universal coils as successive "pies." In addition, this machine is an ideal laboratory machine since it will wind a wide variety of other coil types.

In addition to the usual 1:1 and 100:1 ratios available, an additional jack shaft provides as much as a 5:1 step-up or step-down from the usual drives. Thus the range of ratios available for driving the cam is continuous from more than 25:1 down to 1:500 without special idlers. This makes it possible to wind universal coils and bobbins on the same machine, and such special applications as delay lines and unusual single layer coils are wound without special gears.

The head of this machine is sealed to retain the lubricant which forms a bath for all the internal gears. The spindle is carried on grease sealed ball bearings and the progressive feed spindle is rigidly supported in a separate ball bearing. All other shafts run in replaceable bronze bushings pressed in holes line-reamed in the head. The feed shafts slide in self-lubricating bronze bushings. The precision with which these machines are built assures easy interchange or replacement of parts.

Standard equipment includes cam and gears for one coil size; tailstock for outer arbor support; wire guides and winding fingers for winding two coils at once; spool holders and tension devices for two spools of wire; 6" clock face counter; hand-wheel and pulley. A predetermining counter (drum type) is also available for this machine.

SPECIFICATIONS

Bench space—6" wide by 26" overall • Height of machine—8 ½" • Maximum coil length—3" (progressive or single layer) • Maximum coil diameter—3 ½" • Wire size—as fine as .0015 • Net weight of machine—60 pounds • Motor recommended—1/6 HP or larger with variable speed control • Maximum distance from head to tailstock—8" Standard cam capacity ¾", with large yoke 1 ½" • Rack feed range .002" to .050" (may be increased with W-308 & 9)

These capacities easily increased as shown on following pages

COIL WINDING EQUIPMENT CO. COWECO OYSTER BAY, L. I., NEW YORK

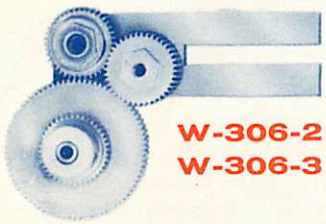
THE MODEL W AS A LABORATORY WINDER

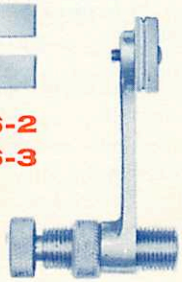
Combining unusual flexibility with maximum convenience, our Model "W" coil winding machine is widely used in laboratories, technical schools, and experimental shops. We believe it to be the only machine available that will wind all types of coils with machine precision, excepting only toroids. When an order specifies "For Laboratory" we will supply one 3" extra sensitive tension and one heavy 6" tension instead of the two 4" medium tensions supplied for production. Also a winding finger W-305 will be substituted for one of the standard fingers normally included. For maximum flexibility it would be advantageous to use the Model W with the adjustable cam feature.

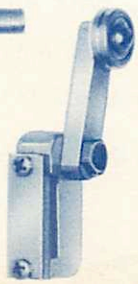
The Model "W" will wind the following coils without accessories:

A. *Single or multiple "Pi" wound (lattice weave) to ¾" wide.*
B. *Single layer solenoids, resistors, etc. to 3" long.*
C. *Progressive universal (modified bank wound) to 3" long, also bank, progressive bobbins, etc.*
D. *Bobbins to ¾" wide.*
E. *Hand spaced or random wound of all types.*
F. *Layer wound or transformer type to ¾" winding length.*
G. *Variable spaced windings, lumped delay lines, etc. with special cams.*

ACCESSORIES FOR MODEL W MACHINE







W-308
W-309
WA-308
WA-309

W-305

W-304

A few inexpensive attachments increase the capacity of the machine in size and types of coils wound. The following list of accessories with a brief note as to their use should prove helpful in determining the exact equipment required.

W-303 Large Yoke, increases the traverse in items A, D, and F, to 1 ½".

W-304 Winding Finger. The rack provides a total feed of 6" for straight progression, but the movement of the coil under the winding finger is limited by the length of the splined shaft which turns it. If the coil is rotated on the spindle and this winding finger attachment is used on the rack, 6" of winding length is available under item B.

W-305 Bobbin Winding Finger. Fixed wire guide for level winding with cam.

W-306-2 Reverse for Rack Feed. Permits feeds in either direction as determined by the position of the manual feed knob. Winds multi-layer coils up to 6" in length when used with standard idler. Also permits winding single layer or progressive universal with L.H. rather than R.H. Helix. Provides 2:1 or 1:1 ratios.

W-306-3 Reversing idler for 3:1 or 1:1 ratios.

W-308 (2:1 ratio) **W-309** (3:1 ratio) Idlers for increasing range of gear ratios.

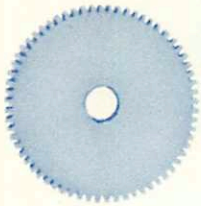
WA-308 WA-309 Same as above, but for cam gears on adjustable cam machines. Required for most bank and progressive bobbin patterns.

W-310 Winding Finger for Universal and accurate space winding. (Rests on coil)

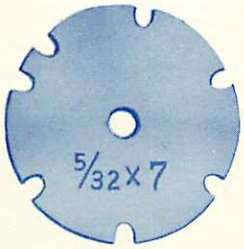
W-315 Pi spacing attachment uses index plates shown on opposite page for rapid and accurate location of pies.

W-319 Cone type universal arbor for experimental winding.

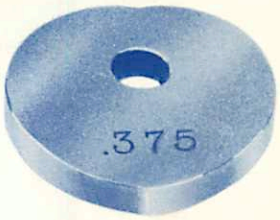
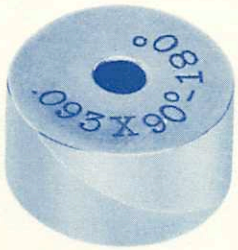
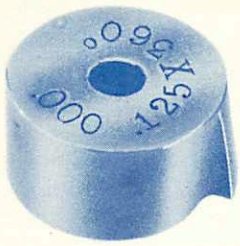
CAMS, GEARS AND INDEX PLATES



Gears, Minimum laboratory requirements would be a set from 25-100 teeth-gears stocked from 20-150 teeth.

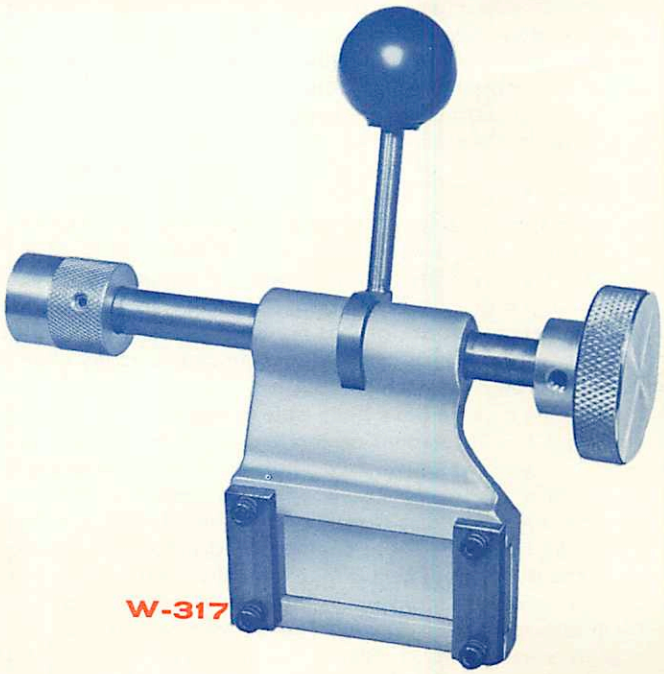


Index plate, used with W-315 to determine coil spacing.

ADJUSTABLE CAMS	APPLICATION	FIXED CAMS
	Standard cam for universal and bobbin winding. Fixed cams for exact coil width. Stock sizes in steps of 1/64" from .031" to 1.500". Adjustable cams provide ¼" adjustment. Stock sizes: .000"—.250" .750"—1.000" .250"—.500" 1.000"—1.250" .500"—.750" 1.250"—1.500"	
	Provide compensation in progressive universal coils for relative cam and rack traverse rates. Adjustable cams provide compensation from 180° to 90°. Also used for compensated progressive bobbins.	
	Bank Winding Cams. Fixed cams available in any size; adjustable cams stocked with .000" to .0125" traverse, suitable for most bank wound coils.	

MACHINES WITH LONGER TRAVERSE

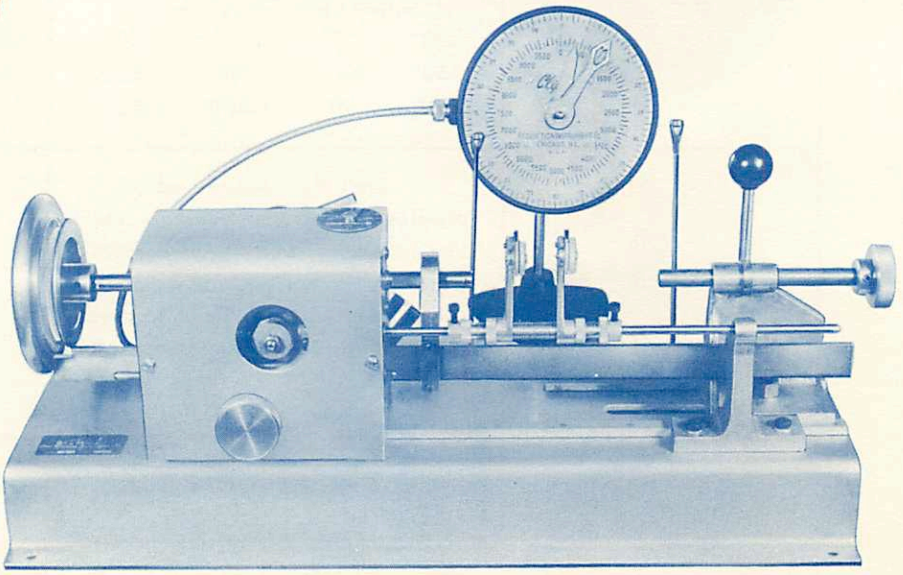
While the standard Model W machine has adequate progression for most coil lengths it is possible to supply modifications for winding any length desired. In most cases this requires a moving outer coil support such as the tailstock shown at the right (W-317). Typical modifications would include this feature with a 36" bed for 6" progression or a 48" bed for 12" progression. We will recommend the necessary combination of features if supplied with coil specifications.



W-317

MODEL W COIL WINDER...

With Adjustable Cam Traverse



The Model W winding machine becomes even more versatile when the exclusive adjustable cam feature is embodied in the design. The set-up procedures are simplified for most coil types, and in general, better and more accurate windings are produced. This cam is the only one available which offers continuous adjustment in a design permitting the high speeds and freedom from backlash so essential to the universal winding. None of the flexibility of the standard design is sacrificed to incorporate the adjusting means. The dial calibrations permit setting to a specified width and means are available to determine the cam throw to tolerances as small as .001". Some of the more important advantages are described here.

When setting up for universal patterns, it is only necessary to approximate the proper gear ratio in most cases. The wire spacing may be corrected even while the machine is running if desired, and a coil of ideal structure may be obtained quickly. When coil design has made the wire spacing critical, variations in wire size are easily accommodated by changing the cam throw.

For some time we have been able to supply fixed cams which contain a known amount of compensation for winding a corrected progressive universal pattern. With the cam adjustment means in a Model W, it is possible to employ a cam with a range from zero compensation to the maximum amount that should be required. These compensated progressive universal windings are always better mechanically, and may be wound at high speeds. In many cases they show more desirable electrical characteristics as well. The uniformity from coil to coil is greatly improved. The same cam may be used for compensated progressive bobbins with similar advantages.

Bobbin winding with this feature is greatly simplified. Most commercial bobbins are constructed to a given outside dimension from which the thickness of the flanges and any insulating material is subtracted to determine the cam size. The resulting dimension is seldom the size of a stock cam. Using the adjustable cam no careful measurements need be taken; the cam throw is easily adjusted while the machine is running to produce the desired level winding.

Bank winding, which heretofore has required much care and experimenting is now relatively easy. A single bank winding cam has sufficient range to wind all ordinary coils, and at the same time makes available a wealth of closely related new patterns particularly suited to delay line work.

Since the dial readings may be used to read the cam throw with considerable accuracy, data on the winding of all types of coils may be recorded for future set-ups. One of these machines in the laboratory will provide the information needed to order the required fixed cam to duplicate the coil on a standard machine. Fixed cams may be used in this machine if desired. In this case the adjusting mechanism permits distributing the wear on the cam over its entire working surface.

When a machine is purchased for laboratory work, the continuous range available in this design makes possible substantial savings in cost as compared to a standard machine and even a limited selection of fixed cams. In addition there is the assurance that every needed size is available, without a stock of special or odd sizes.

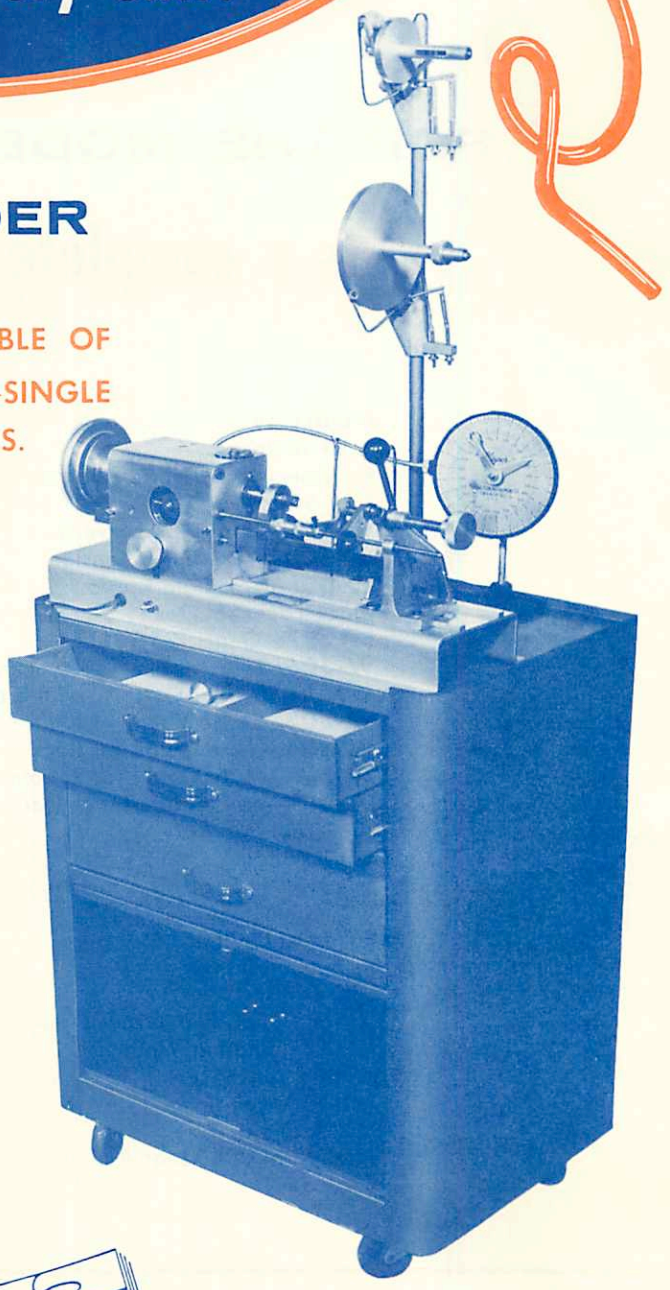
Standard equipment and specifications are the same as for the regular Model W.

COIL WINDING EQUIPMENT CO., OYSTER BAY, L.I., NEW YORK • WAlnut 2-5660

NOW... the world's most Versatile Coil Winder available as a complete laboratory unit!

MODEL W COIL WINDER

THE ONLY COMMERCIAL MACHINE CAPABLE OF WINDING LATTICE—BOBBIN—INTERLEAVED—SINGLE LAYER—BANK WOUND—INTERWOVEN COILS.



Now the world's most versatile coil winder made up in one mobile compact unit complete with all necessary equipment e.g. lubricants, wrenches, instruction book, etc. The model W is capable of winding every type of coil required in the electronic or industrial laboratory except toroids.

SPECIFICATIONS

⅛ HP motor and speed control—Gears from 25-100 teeth—Wire Guide for universal or lattice winding—Wire Guide for bobbins or layer winding—Wire Guide for single or multiple layer coils to 6" in length—3:1 reverse idler for bank winding and long multiple layer coils—Cams for continuous traverse adjustment, 0"-1½"—Large yoke for larger bobbins and transformers—Available with clock counter calibrated in ¼ turns or with drum type predetermining counter—Universal type arbor for coils with hollow cores—Pi spacing attachment with 1/32 index plate—Adjustable bank winding cam—Feeds for wire as fine as .001"—Rack feed range .00083" to .150" per turn (7-1200 TPI). Maximum distance from head to tailstock 8"—Layer wound coils using cam traverse 2 to 600 TPL. Net weight 140 lbs.

Model W with cabinet comes with 50 page instruction book complete with charts for universal computation; work sheets and nomographs.

Cabinet made of auto body steel with reinforced corners and ends; heavy duty ball bearing rubber tired caster with 2 foot brakes; size 18x27x34" high; one cylinder lock secures all compartments.

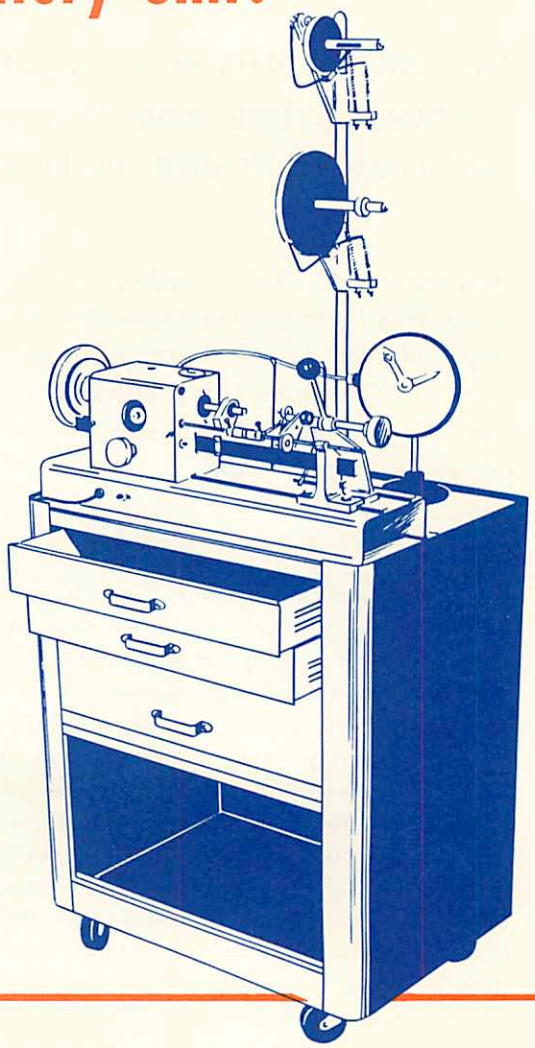
COIL WINDING EQUIPMENT CO. COWECO OYSTER BAY, L. I., NEW YORK

Accessories

FOR THE MODEL W COIL WINDER

. . . as a complete laboratory unit!

MODEL W with adjustable Cam for Laboratory
⅙ HP Motor
Resistance Type Hand Control
Foot Switch
W-319—Cone Type Universal Arbor
W-300A—3" Single Tension
W-301—6" Single Tension
Clock Face Counter
Set of 76 Gears (25-100)
W-306-3—3:1, 1:3, & 1:1 Reversing Idler
WA-309—Idler Gear 3:1 with bracket
W-303—Large Yoke
W-304—Wire Guide for Rack
W-305—Wire Guide for Bobbins
W-310—Wire Guide for Universal Winding
Adjustable Cams 0-1 ½"
Bank Winding Cam
W-315—Pi Spacing Attachment
1/32" Index Plate
Roller Cabinet
Instruction Book
Lubricants
½"-7/16" Open End Wrench
7/16" Combination Wrench
Allen Wrench Set
Screw Driver
Oil Can
Book—"14,000 Gear Ratios"



For quickest setup and maximum convenience, the Model WX may be substituted in the above (with a 1/4 HP Motor instead of 1/6 HP). For a full explanation of this model's special features, see the appropriate catalog page. This machine winds the same coils as the Model W.

COIL WINDING EQUIPMENT CO., OYSTER BAY, L.I., NEW YORK | WAlnut 2-5660 (Area Code 516)