

Wire Tension Devices

This tension device is unexcelled for sensitive and smooth regulation. The brake drum is aluminum, to reduce spool inertia, and the oiled cork brake shoe rides on the polished drum surface. In operation this brake is strong enough to stop the spool within a turn or two, and the small amount of slack in the wire is taken up by the movement of the tension arm, resulting in the wire's remaining tight at all times.

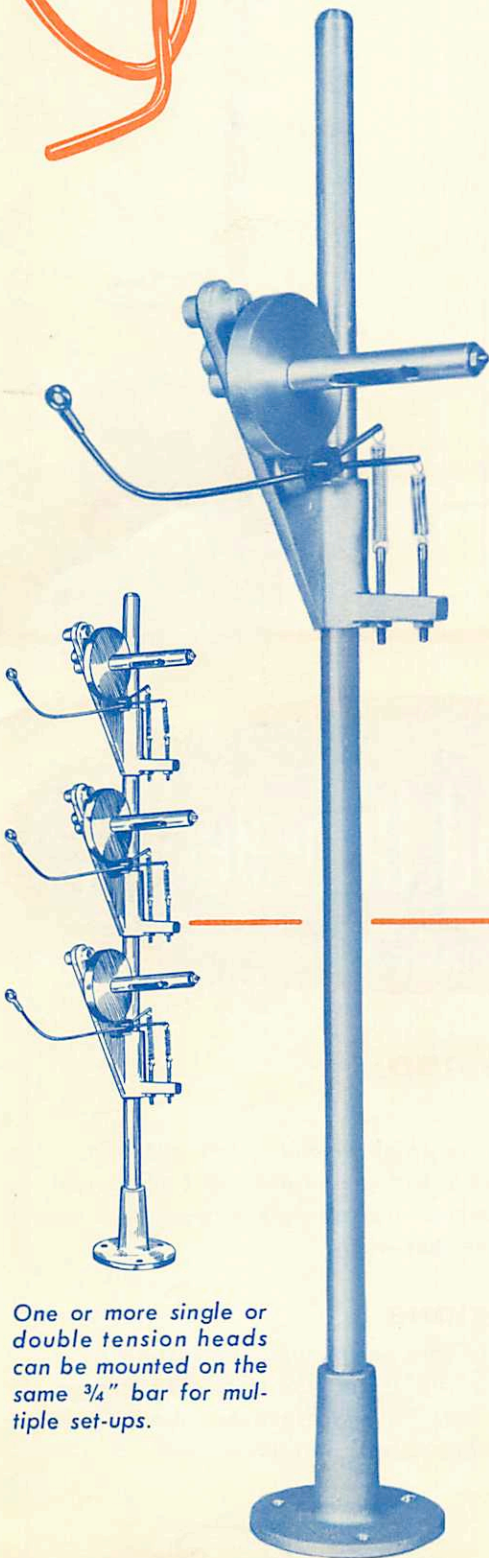
The tension of the wire actuates a light spring steel arm which has a high mechanical advantage in releasing the brake tension. Thus the transition from full brake to free running spool is made with little variation in wire tension and provision is made for additional travel of the tension arm after the brake is completely released so that there is time for the spool to start turning without wire breakage. No weights are employed and the entire device may be used in an upright, horizontal, or inverted position. Each tension head and spool holder is self-contained, and mounts on a $\frac{3}{4}$ " bar.

SPECIFICATIONS

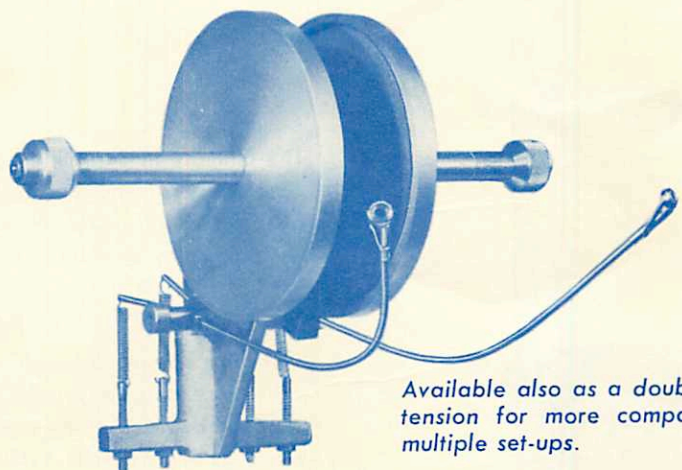
W-300A-3" — Maximum range #32-#50 or any wire normally supplied on 2½" or 3" spools. Recommended Range #36-#42.

W-300-4" — Maximum Range #28-#40 or any wire normally supplied on 4" or 4½" spools. Recommended Range #32-#38.

W-301-6" — Maximum Range #22-#38 or any wire normally supplied on 4½" or 6" spools. Recommended Range #25-#36.



One or more single or double tension heads can be mounted on the same $\frac{3}{4}$ " bar for multiple set-ups.



Available also as a double tension for more compact multiple set-ups.

Over-end Tension

MODEL T-101

An improved tensioning device for maximum speeds with the smaller wire sizes.

Minimum inertia permits quick starts and stops • Special ring eliminates kinks • Tension is uniform regardless of spool size or weight • Wide range of tension adjustments • No abrasion

SPECIFICATIONS

Unit illustrated accommodates spools up to 3½" long by 3¼" diameter. Recommended for copper wire sizes #30 through #42; 25 through 400 grams. Frequently used successfully for wire as heavy as #24, as fine as #46. For 4½" wire spools order cup #43-302 and ring S-190. 6" diameter spools may be used without the cup and ring. Overall height—20".



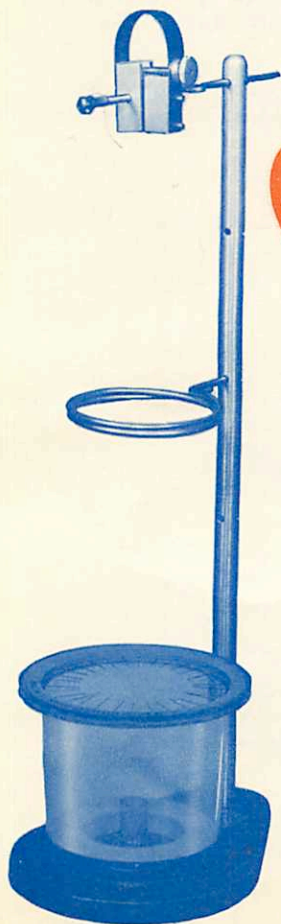
Over-end Dereeler

MODEL F-150

The ultimate in dereeling equipment when very high winding speeds are desired. Since there are no moving parts or wheels to turn, inertia does not limit the rate of acceleration or deceleration of the machine. The felt pads through which the wire runs may be rotated to avoid excessive channeling.

SPECIFICATIONS

Winding speeds as high as 4000 feet of wire per minute. Successfully used with wire as heavy as #32 and particularly useful with sizes #38 through #56. Recommended especially for use with flat or rectangular forms. Spool sizes as with model T-101. The F-150 head itself may be mounted on the H-200 or T-101 stand.



Over-end Tension

(Hysteresis type)

MODEL H-200

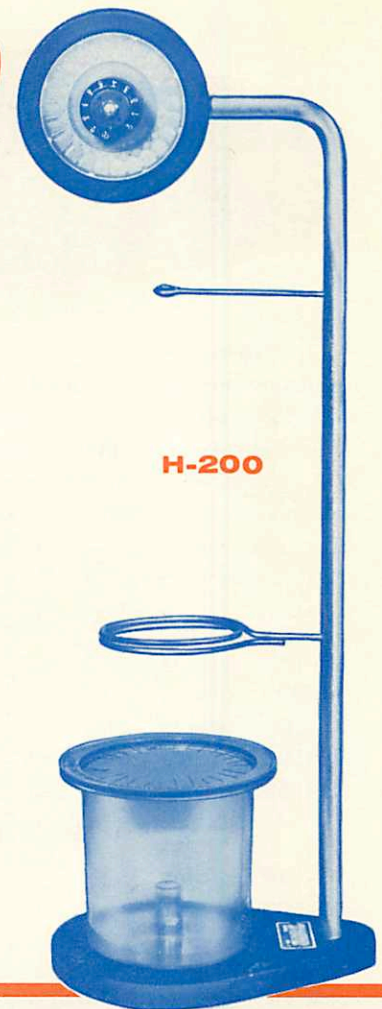
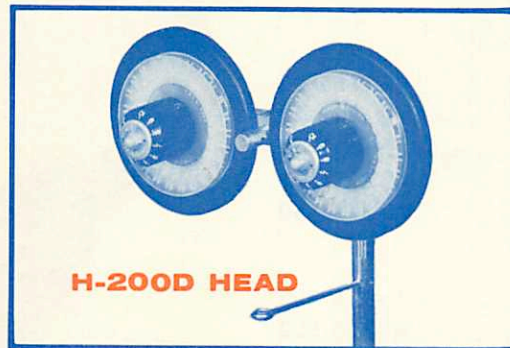
A hysteresis type tension control for very fine wire. Rugged and inexpensive tension head.

Permanent alnico magnet eliminates separate power supply

- Accurate permanent calibration
- Minimum inertia permits quick starts and stops
- Special ring eliminates kinks
- Tension is uniform regardless of spool size or weight

SPECIFICATIONS

Accommodates spools 3" diameter and smaller single head (shown) for 1 to 11 grams tension. Also available with 2 heads in tandem for 1 to 26 grams. (See chart on back page for equivalent copper wire sizes)



Over-end Tensions

For Special Wire Packages

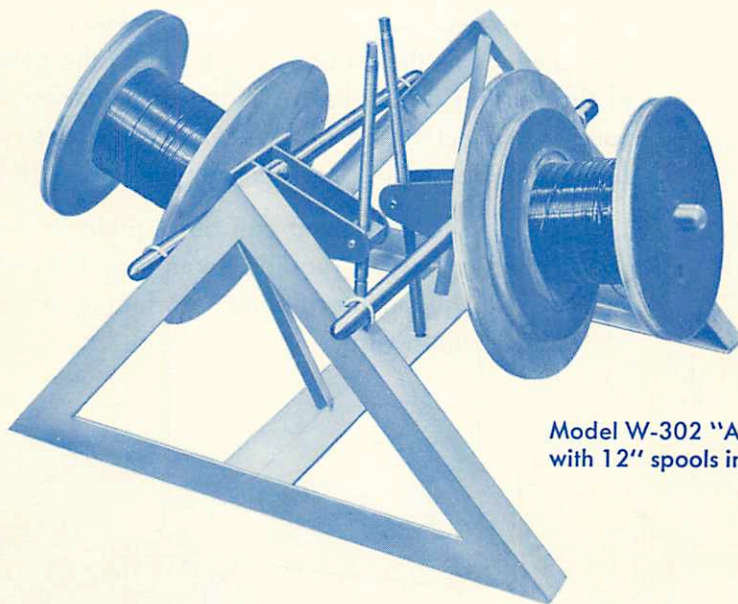
FOR PAIL-PAK

A mounting ring with clamps is available for attaching to standard pail-type wire packages. To this may be attached an upright which in turn accommodates the standard tension heads used with our other over-end tensions as described elsewhere on these pages. The same ring is grooved for mounting on the fiber drums used as shipping containers for 11" spools.

FOR SPECIAL SPOOLS

Similar to the above but designed for the new 6" x 6" and 9" x 9" spools, these devices also accommodate the various tension heads and supply as well a plastic pail on which the ring and upright are mounted.

Tension for Heavy Spools



Model W-302 "A" Frame
with 12" spools in place.

MODEL W-302 AND W-302A

A patented* tensioning device for 12" spools and larger

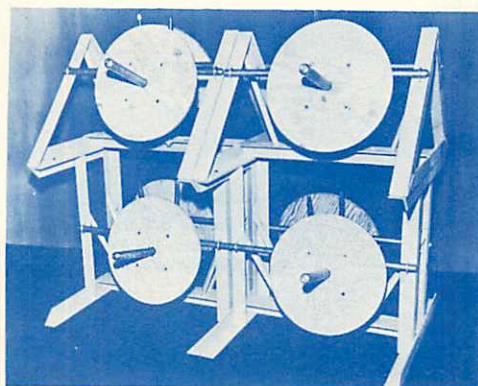
Screw adjustment for accuracy and convenience • Self-compensated for changing spool load • Easily loaded without lifting spool • No clamping to cause wire abrasion • Available as single or double units • Units can be locked end to end in multiple • Available in frames for stacking

SPECIFICATIONS

MODEL W-302—Accommodates spools with 1 1/4" or larger hole and diameters up to 18". Occupies floor space 27" x 32".

MODEL W-302A—Same as above but will accommodate spools as large as 24" in diameter. Floor space 35" x 38".

Illustration at right shows two "A" frames mounted on two "H" frame units.

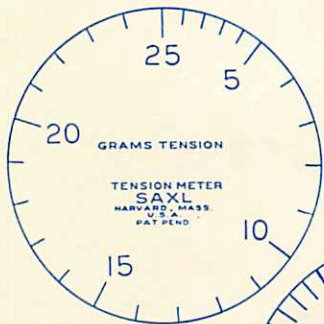


*U.S. Patent #2,766,951

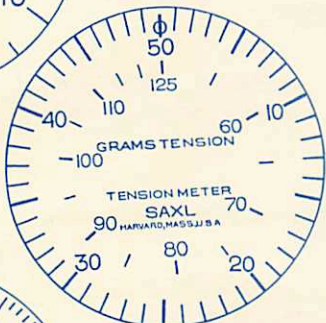
Saxl Tension Meter

These convenient pistol-grip units are designed to provide readings of the wire tension as the wire is being wound. They not only provide a check on the tension setting but on the actual performance of the tension device itself. Changes of tension due to improper spooling, acceleration and deceleration characteristics, or malfunctioning tensioning devices are revealed immediately.

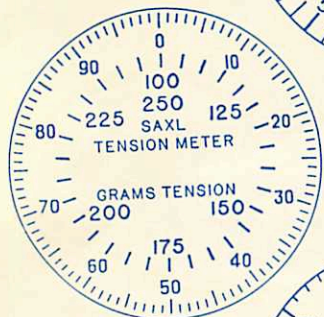
The instrument can be applied to the moving strand of wire, a reading taken, and the meter removed, all without interrupting the winding process even with the finest wire.



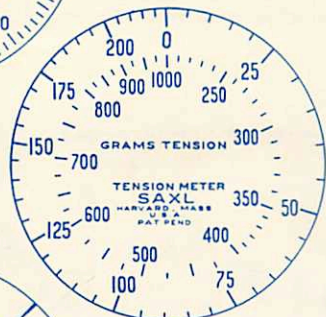
0-25 Grams



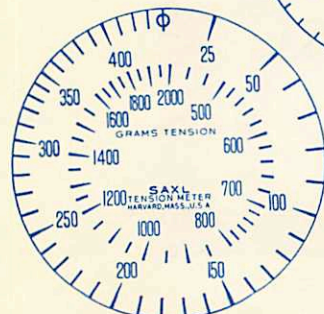
Dual Range 0-50
(125) Grams For Wire
No. 46 AWG and
Finer



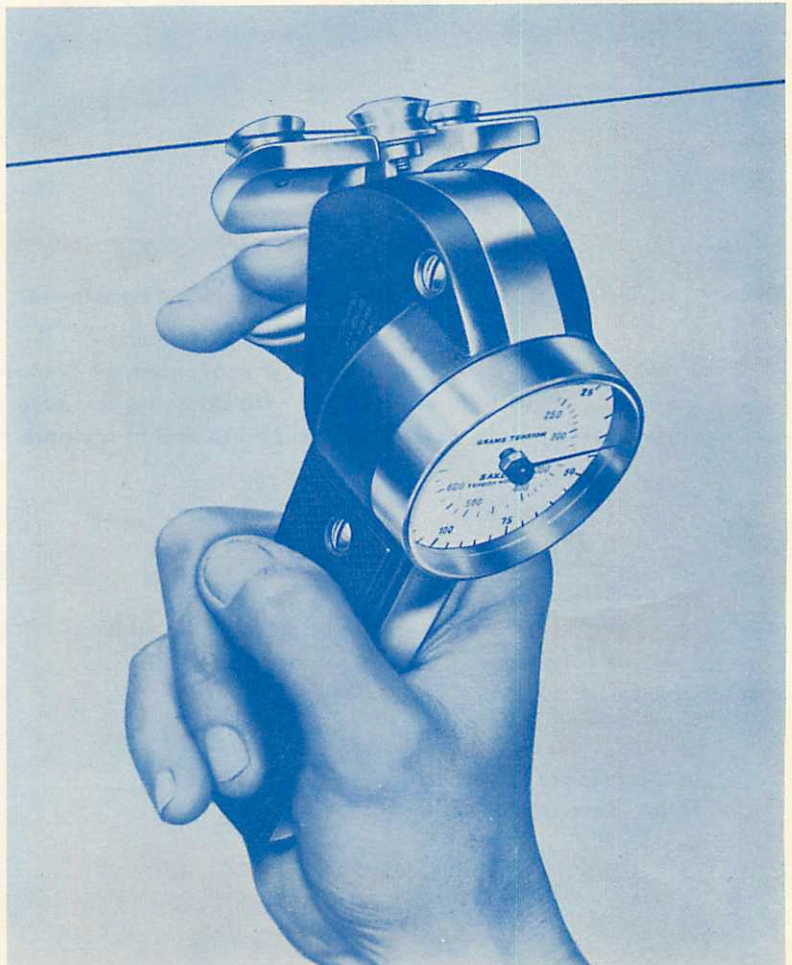
Dual Range 0-100
(250) Grams suggested
for wire sizes No. 40
or finer



Dual Range 0-200
(1000) Grams For Wire
No. 35-40 AWG



Dual Range 0-400 (2000) Grams
Suggested for wire sizes No. 30-34



Precision-Dynamometer

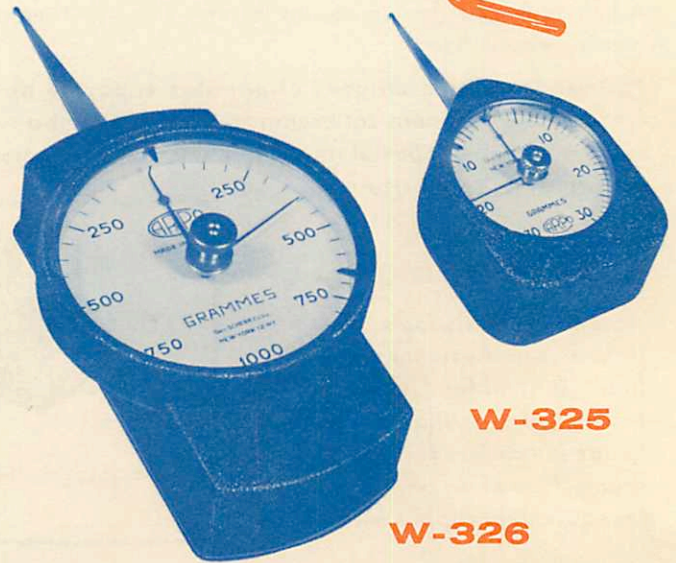
Now available, an imported pocket size precision instrument measuring in grams the force required to draw wire from your tension unit. A separate hand is provided which indicates the highest reading obtained at any test. With this unit it is practical to include in the winding data not only the usual gear and cam information, but a specific tension setting for the most satisfactory winding. (Consult chart below for proper selection)

W-325

5-15 grams	.....	W-325-15
10-30 grams	.....	W-325-20
20-50 grams	.....	W-325-50
20-100 grams	.....	W-325-100
25-150 grams	.....	W-325-150

W-326

50-250 grams	.....	W-326-250
100-500 grams	.....	W-326-500
250-1000 grams	.....	W-326-1000



W-325

W-326

SAFE OPERATING TENSIONS FOR STANDARD ANNEALED FINE COPPER WIRE

Conductor Size No. AWG (B&S)	Diam. At 20 C In.	Safe Oper. Tension Pounds Or. Ounces	Safe Oper. Tension Kilograms	Conductor Size No. AWG (B&S)	Diam. At 20 C In.	Safe Oper. Tension Pounds or Ounces	Safe Oper. Tension Grams	Conductor Size No. AWG B&S	Diam. At 20 C In.	Safe Oper. Tension Pounds or Ounces	Safe Oper. Tension Grams
0	.3249	1,100 lbs.	500	17	.0453	23 lbs.	10,000	34	.00639	7.5 oz.	213
1	.2893	950 lbs.	431	18	.0403	18 lbs.	8,000	35	.00561	5.9 oz.	169
2	.2576	750 lbs.	342	19	.0359	15 lbs.	6,000	36	.00500	4.7 oz.	134
3	.2294	590 lbs.	271	20	.0320	11 lbs.	5,000	37	.00445	3.7 oz.	106
4	.2043	470 lbs.	215	21	.0285	9.5 lbs.	4,300	38	.00396	3.0 oz.	84
5	.1819	380 lbs.	171	22	.0254	7.5 lbs.	3,400	39	.00353	2.4 oz.	67
6	.1620	290 lbs.	135	23	.0226	5.9 lbs.	2,700	40	.00314	1.9 oz.	53
7	.1443	240 lbs.	107	24	.0201	4.7 lbs.	2,100	41	.00280	1.5 oz.	42
8	.1285	190 lbs.	85	25	.0179	3.8 lbs.	1,700	42	.00249	1.2 oz.	33
9	.1144	150 lbs.	67	26	.0159	2.9 lbs.	1,356	43	.00222	.9 oz.	26
10	.1019	118 lbs.	53	27	.01420	2.4 lbs.	1,079	44	.00197	.74 oz.	21
11	.0907	93 lbs.	42	28	.01264	1.9 lbs.	855	45	.00176	.6 oz.	17
12	.0808	74 lbs.	33	29	.01126	1.5 lbs.	678	46	.00156	.46 oz.	13
13	.0720	59 lbs.	26	30	.01003	1.18 lbs.	537	47	.00140	.37 oz.	10.5
14	.0641	47 lbs.	21	31	.00892	15.0 oz.	426	48	.00125	.3 oz.	8.5
15	.0571	37 lbs.	16	32	.00795	11.9 oz.	338	49	.00110	.23 oz.	6.5
16	.0508	29 lbs.	13	33	.00708	9.4 oz.	268	50	.00100	.18 oz.	5.25

*Based on a stress of 15,000 PSI.

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