

BASIC FOOTAGE COUNTER

Model BFC - 17

Operating Instruction Version 1.0

1.0 OVERVIEW

The basic components designed within this instrument consist of a motor driven drive roll and a sensing roll which counts turns as the material passes over it. The material should be threaded as shown in figure 1 to insure maximum wrap around the sensing roll. The "S wrap" configuration insures that the material maintains maximum and consistent wrap regardless of the changing diameter of the supply roll.

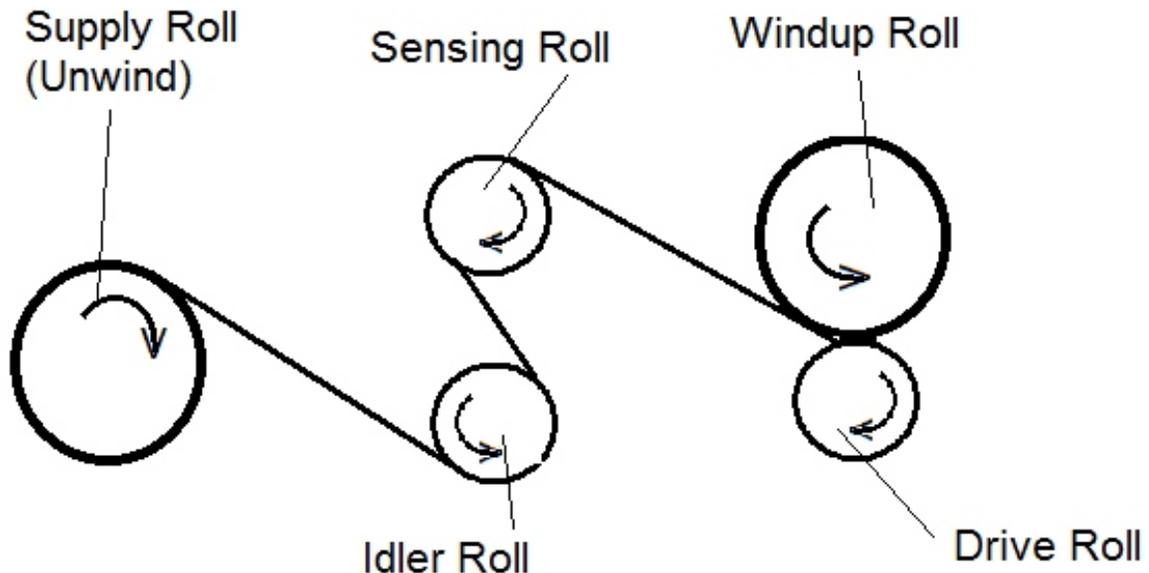


Figure 1: Basic configuration

2.0 CONTROLS

There are 2 control systems designed into this tester.

2.1 Motor Control

A DC variable speed motor is connected to the drive roller. The surface speed of the drive roll is adjustable from 0 - 350 feet per minute. The motor is turn off/on using the rocker switch on the motor control cabinet. The speed is adjustable using the speed potentiometer on the motor control cabinet.

2.2 Length Sensor

An encoder is provided on the sensing roll which counts turns as the sensing roll rotates. This encoder is monitored by the length meter which converts the rotation to footage. The length meter can be calibrated to compensate for stretch in the material (see section 3). The length meter is reset to zero by pressing the reset button on the top of the cabinet.

3.0 OPERATION

Place the sample roll on the unwind spindle. Pull the web from the sample roll and pass it under the aluminum idler roller and over the rubber covered sensing roll forming a "S" wrap around the rolls.

Place the leading edge of the web at the top of the rubber covered sensing roller. Next press the "Reset" button on the cabinet to reset the footage to zero. Carefully pull the material through the roller system until you are approx. 6 inches beyond the rubber covered drive roller. Now insert a cardboard core onto the rewind roller and place the rewind roller into the slots so it lays on the drive roller and forms a nip on the web.

Next, wrap the web around the rewind roll so it make a complete wrap. You will notice that the footage counter will have a value on 1 - 2 feet which represents the amount that you pulled through during start up. Now press the rocker switch on the motor control to start the measurement process. The speed can be adjusted by turning the speed potentiometer.

4.0 CALIBRATION

It may be necessary to adjust the calibration to compensate for the stretch in the material. The footage counter display has a calibration scale factor that is designed for this adjustment. This scale factor can be accessed and adjusted as follows:

4.1 Press and hold the "Mode" for 3 seconds until the word FunC appears as shown in Figure 2.

4.2 Press the Mode button 5 more times until the word PSCALE appears as shown in Figure 2.

4.3 Use the up and down arrow keys on the display to entered the desired scale factor.

4.4 Press and hold the Mode button for 3 seconds to store this new value and return to the operation mode.



Figure 2: Display shown in Calibration mode

5.0 CALIBRATION THE DESIRED SCALE FACTOR

It is recommended that you run a roll of material of known length in order to verify the calibration of the BFC - 17. If you determine that the calibration is off you can adjust it by entering a new scale factor as described in section 4.0. Here is the equation for determining the correction in the scale factor.

$$(\text{Known Length})/(\text{Measured Length}) \times (\text{Current PSCALE}) = \text{New PSCALE}$$

5.1 Example

We have a web that we are certain is 1000 feet in length. Upon running it on the BFC - 17 we get a length value of 985.

When we display the PSCALE value on our footage display as discussed in section 4 we see that our current PSCALE = 0.505.

Using the equation above we calculate:

$$1000/985 \times 0.505 = 0.51269$$

Hence our corrected scale factor is 0.513

Using the up and down arrows we change the PSCALE value to 0.513 and save this value. This new scale factor will correct the length measurement to achieve a length measurement of 1000'.

6.0 ADDITIONAL COMMENTS

6.1 Large Rolls

If you are running large rolls on this tester you might experience out - of - round issues as the windup roll get to a large diameter. This will cause the rewind roll to bounce. This is due to the rewind properties of the material. If this is the case you can slow the motor down as the test progresses to eliminate the bounce or you can stop the motor, cut the web, replace the windup core and start the motor once again. As long as you don't reset the footage counter the total amount of material unwound will remain accurate.

6.2 Running tape samples

This instrument can be used to measure the length of rolled tape. Keep in mind that the adhesive will stick to the aluminum idler roll but will not stick to the rubber covered rolls. When running tape, keep the adhesive side down as you thread the machine so the non-adhesive side contacts the aluminum roll and the adhesive side contacts the rubber roll. Thread rolls of tape exactly as shown in Figure 1.

6.3 Length comparison for narrow rolls

If you want to compare the length of 2 different narrow rolls (8 inches wide or less) of product you can run both products side by side at the same time. If you carefully watch the test as it is running, you can slow the motor down to a crawl as the shortest roll expires, record the length of the short roll, then speed up the motor to complete the test for the longer roll .

7.0 SPECIFICATION

Size: 35 " long x 27 ½ " wide x 12 " high

Weight: Machine frame	49	lbs
Rolls x2	<u>12 ½</u>	lbs
Total weight	75	lbs

Power: 115 VAC, 3 amp