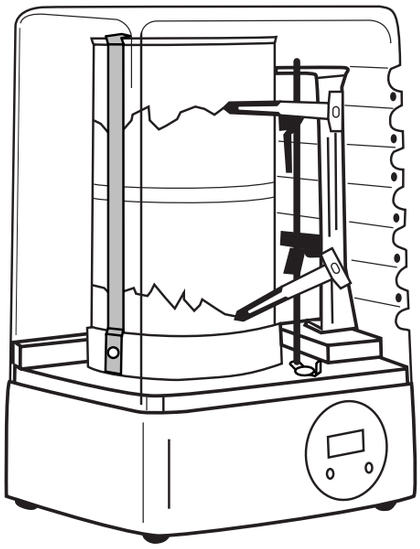
OPERATING INSTRUCTIONS

OAKTON 35701-00

Economical Minidrum Hygrothermograph



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1. Introduction

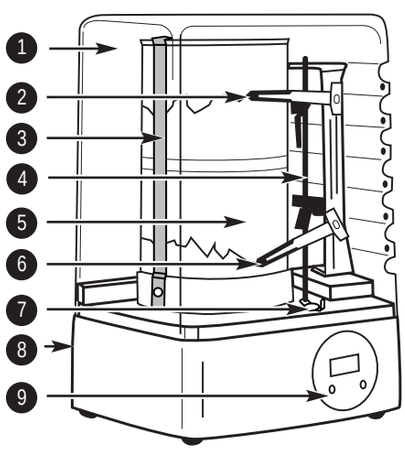
Thank you for selecting the OAKTON economical minidrum hygrothermograph 35701-00. This precision instrument is useful for monitoring temperature and relative humidity conditions over time. It creates a permanent chart recording of these measurements for your records.

Features include:

- 7 day rotation chart
- quartz-controlled drive that maintains consistent drum speed even when batteries are weak
- Built-in digital clock with date and time

Typical applications include general weather measurements, agriculture, horticulture, test laboratories, humidity chambers, computer rooms, machinery rooms, food storage facilities, warehouses, museums, bank vaults, film and book storage facilities.

Components



1. Protective cover
2. Pen arm and pen tip for temperature
3. Paper holder
4. Pen guide
5. Cylinder drum with quartz clock
6. Pen arm and pen tip for humidity
7. Pen lift lever
8. Mounting brackets (located on back)
9. Digital clock

Unpacking

Hygrothermograph includes: 55 sheets of 7-day, °C chart paper, one AA battery, and one LR41 button cell battery.

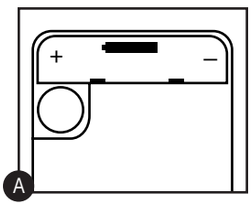
1. Remove all components from the packing material.
2. Carefully lift up and remove the acrylic protective cover.
3. Remove the air pack from the cylinder.
4. Push the pen lift lever away from you to pull the temperature and humidity pens to their resting position.

2. Hygrothermograph Set Up

2.1 Inserting cylinder drum battery

Gently turn the hygrothermograph base on its side. Load the AA battery in the battery compartment at the bottom of the hygrothermograph base. Note polarity as shown inside the battery compartment and in figure A at right.

We recommend that you replace the AA battery every six months.



2.2 Chart paper

Make sure to write the recording start date on top of the chart before replacing the chart paper.

To replace chart paper:

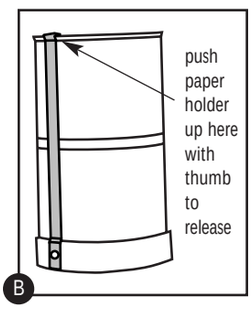
1. Gently lift the cylinder drum straight up to remove it from the cylinder shaft.
2. Release paper holder by pushing up the top of the holder with your thumb.

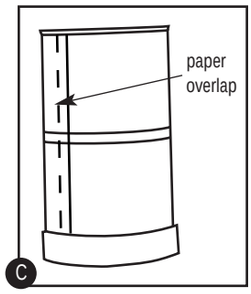
See figure B

3. Wrap the new chart onto the cylinder so that the two ends of the paper overlap.

See figure C

4. Snap the paper holder back into place to secure this overlapping section.
5. Make sure the markings on the paper line up where the overlap occurs.
6. Push the cylinder drum down onto the cylinder shaft until the groove in the cylinder shaft appears above the cylinder drum. Set chart time (see below).





NOTE: The cylinder drum comes with one sheet of 7-day chart paper already attached, plus 55 additional sheets of chart paper. The graduations on the chart are specific to this unit, so you need to use replacement chart paper intended for this model. See "Accessories" to order extra chart paper.

2.3 Setting the chart time

1. Push the pen lift lever away from you to move the temperature and humidity pens to their resting position.

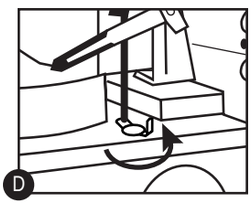
See figure D

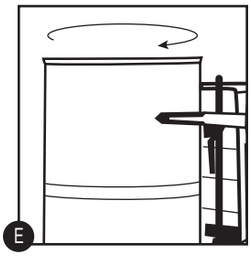
2. Turn the cylinder drum one full rotation clockwise.

See figure E

3. Turn the cylinder drum counterclockwise until the pen tips align with the correct time of day or night. Numbers indicating time are located at the center of the chart paper.
4. Pull the pen lift lever towards you to return the temperature and humidity pens to their ready position.

NOTE: Make sure that the numbers on the graph are right side up. Change the chart paper when the cylinder has completed one rotation.





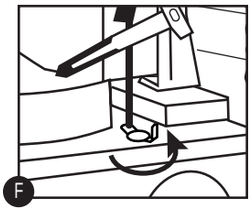
2.4 Cartridge Pens

To operate the pens:

1. Push the pen lift lever away from you to move the pens to their resting position.

See figure F

2. Gently pull off the pen caps.
3. Pull the pen lift lever towards you until the pens are touching the paper on the cylinder drum.



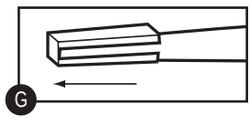
NOTE: Do not touch the pen tips, because skin oils will prevent the ink from flowing smoothly.

To replace the pens:

The pen tips can be used for up to a year, but we recommend that you replace them at least every six months. Conditions such as high temperature or low humidity may shorten pen life to three months. See "Accessories" to order extra pens.

1. Hold the pen arm in your right hand and pull the pen cartridge off with your left hand. If it is difficult to pull off, use a small pliers.

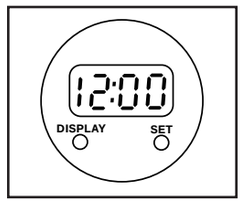
See figure G



2. To attach the replacement cartridge pen, insert it over the arm until it is fully attached.

3. Digital Clock

3.1 Viewing the date



1. Press Display key once to briefly view the date. Quickly push the Display key again to view seconds. Push Display again to return to clock mode.
2. Press Set key once to alternately display the date and time.

3.2 Setting the clock

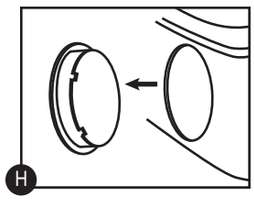
1. Press Set key twice to display the “months” place. Press Display key repeatedly to select the correct month.
2. Press Set key to confirm month and display the “days” place. Press Display key repeatedly to select the correct day.
3. Press Set key to confirm day and display the “hours” place. “A” indicates A.M. time and “P” indicates P.M. time. Press Display key repeatedly to select the correct hour.
4. Press Set key to confirm day and display the “minutes” place. Press Display key repeatedly to select the correct minute.
5. Press Set key again to return to clock mode. The colon (:) should be flashing, and you should view the correct time.

3.3 Replacing the clock battery

If the clock slows or the display dims, replace the batteries:

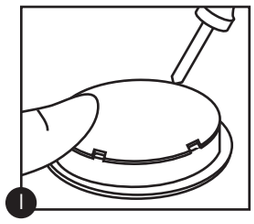
1. Lift the hygrothermograph, grip the digital clock with the thumb and index finger, and push the clock towards the front panel.

See figure H



2. Insert a small blade screwdriver into the groove on the underside of the casing. Remove the cover by slowly pushing up.

See figure I

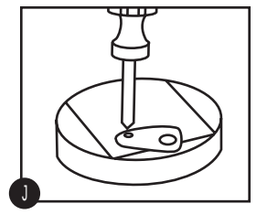


3. Using a Phillips screwdriver, loosen the metal battery terminal cover.

See figure J

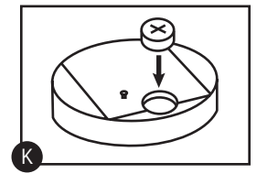
4. Remove the old battery, and replace with a new one (battery model LR-41, 1.5 V alkali button) with the positive terminal facing up.

See figure K



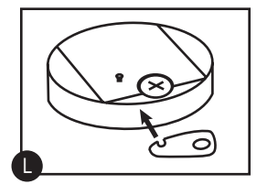
5. Replace the metal battery terminal cover and fasten with the Phillips screwdriver.

See figure L

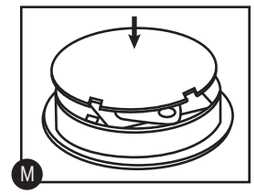


6. Align the groove on the back casing with the main housing, and close the cover.

See figure M



7. Replace the clock in the hygrothermograph base.



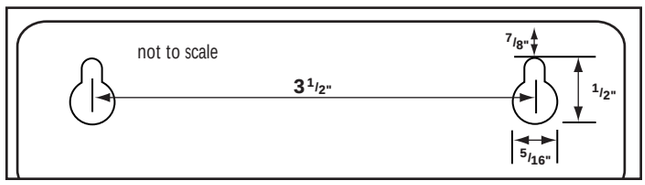
4. Hygrothermograph operation

1. Lift off the acrylic cover.
2. Push the pen lift lever away from you to move the temperature and humidity pens to their resting position.
3. Lift up and remove the cylinder drum from the cylinder shaft.
4. Replace the chart paper (see section 2.2).
5. Push the cylinder drum down onto the cylinder shaft until the groove in the cylinder shaft appears above the cylinder drum.
6. Set the chart time (see section 2.3).
7. Remove pen caps. Pull the pen lift lever towards you until the pens are touching the paper on the cylinder drum.
8. Replace the acrylic cover with the vents facing to the right.

The hygrothermograph will record temperature and humidity for one week (7 days).

5. Wall mounting

To wall mount your instrument, simply hang up the hygrothermograph from the holes on the back of your instrument’s base.



6. Precautions

1. Do not use your hygrothermograph:
   - in direct sunlight
   - in temperatures below –20°C or above 50°C
   - near ovens, stoves, or other heating equipment
   - near harsh chemicals such as paint thinner or ammonia
   - in dusty, drafty or wet environments
   - within magnetic fields
   - in areas with strong vibrations, such as loudspeakers or motors
2. For best results, use only the pens and chart paper listed under the “Accessories” section of this manual. We cannot guarantee results with other pens and other paper.
3. Do not repair the instrument yourself. Should repairs be necessary, please return the instrument to place of purchase. See Warranty and Return of Items.
4. If your instrument will not be used for long periods of time, make sure to replace the pen caps and remove the battery.

7. Specifications

Relative Humidity
Range 10 to 100% RH
Accuracy: ±5% from 30 to 90% RH / 18 to 28°C; ±7% outside this range
Sensor: humidity sensing coil
Chart graduations: 5% RH

Temperature:
Range: –15 to 50°C / –27 to 122°F
Accuracy: ±2°C / ±3.6°F
Sensor: bimetallic strip
Chart graduations: 2°C / 2°F

Chart rotation: 7 day (172 hr)

Chart rotation accuracy: less than 2 hours per 7 days

Power: One AA battery (included)

Dimensions: 4.9"W x 7.3"H x 4.3"D

Shipping weight: 3 lbs

8. Accessories

35701-00 Economical mini-drum hygrothermograph

35701-50 Replacement chart paper, 5 to 122°F / 10 to 100% RH.
7-day rotation, 2-hour increments. 3.6"H x 8.1"L. Pack of 55

35701-52 Replacement chart paper, –5 to 50°C / 10 to 100% RH.
7-day rotation, 2-hour increments. 3.6"H x 8.1"L. Pack of 55

08368-75 Blue felt-tip pens. Pack of 6

08368-80 Red felt-tip pens. Pack of 6

09376-01 Replacement batteries, 1.5 V AA. Pack of four

9. Warranty

OAKTON warrants this instrument to be free from significant deviations in material and workmanship for a period of one year from date of purchase. If repair or adjustment is necessary and has not been the result of abuse or misuse within the warrantied time period, please return—freight prepaid—and correction will be made without charge. OAKTON alone will determine if the product problem is due to deviations or customer misuse.

Out-of-warranty products will be repaired on a charge basis.

10. Return of items

Authorization must be obtained from our Customer Service Department before returning items for any reason. When applying for authorization, please include data regarding the reason the items are to be returned. For your protection, items must be carefully packed to prevent damage in shipment and insured against possible damage or loss. We will not be responsible for damage resulting from careless or insufficient packing. A restocking charge will be made on all unauthorized returns.

NOTE: We reserve the right to make improvements in design, construction, and appearance of products without notice.