



## INSTRUCTION GUIDE

### You Will Need:

- Murphy Compensation Cup
- Syrup hydrometer with a BRIX scale
- Maple syrup sample

### Instructions:

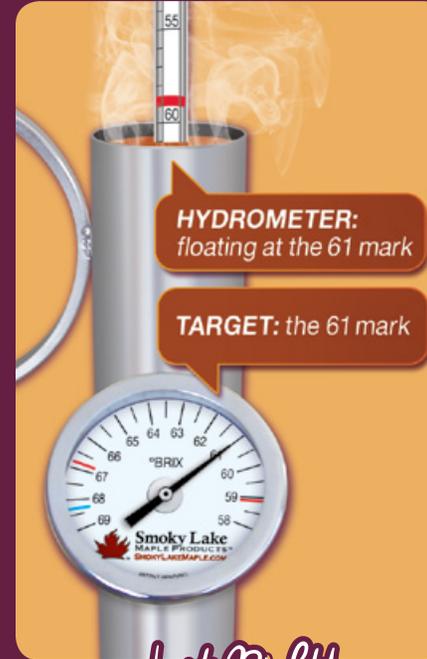
Fill the Murphy Compensation Cup with your syrup sample. The Murphy Compensation Cup will then do a calculation to compensate for your syrup's current temperature. Think of this number on the cup's dial as your **target**. This is the number at which your hydrometer will float if your syrup is perfect density (66.9° BRIX).

Carefully insert your hydrometer into the cup and compare its reading to your target number. See the examples to the right for further explanation.



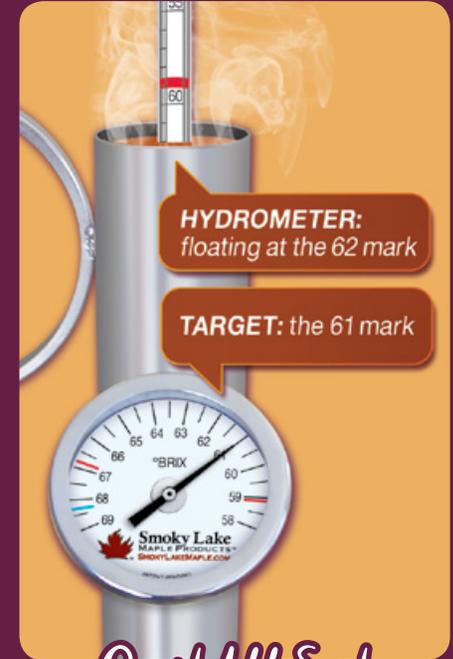
*Keep Boiling!*

If the hydrometer reading is **LOWER** than the dial's reading, your syrup's sugar density is **LOWER** than 66.9° BRIX.



*Just Right!*

If the hydrometer reading **MATCHES** the dial's reading, your syrup's sugar density is **PERFECT!** (66.9° BRIX)



*Oops! Add Sap!*

If the hydrometer reading is **HIGHER** than the dial's reading, your syrup's sugar density is **HIGHER** than 66.9° BRIX.

## TIPS

- Allow both the hydrometer and the dial to stabilize before taking a reading
- Keep your hydrometer clean
- If the paper inside your hydrometer is loose, you need a new hydrometer
- If you are using an extra long hydrometer, you will need an extra tall Murphy Compensation Cup. Standard height of a Murphy Compensation Cup is about 9" tall and works with a hydrometer that is about 10" tall.

# F.A.Q.

## Why does the target density fluctuate? Shouldn't it always be the same?

Target *density* is always 66.9° BRIX. That never changes. What does change is the *location* of 66.9° BRIX on your hydrometer because hydrometers are greatly affected by syrup temperature. That is why your hydrometer has a HOT TEST line (for testing syrup that is 211°F) and a COLD TEST line (for testing syrup that is 60°F). To measure syrup at **any** temperature, rely on your Murphy Compensation Cup.

## If the hydrometer reading and the dial's reading don't match, then which one is correct?

The dial is telling you where your hydrometer will float if your syrup is perfect density. You need to compare your hydrometer reading to the dial's reading in order to understand the status of your syrup. BOTH readings are critical.

If your hydrometer reading is LOWER than the dial's reading, that means your syrup's sugar density is LOWER than it should be.

Similarly, if your hydrometer reading is HIGHER than the dial's reading, that means your syrup's sugar density is HIGHER than it should be.

## Do I still need a hydrometer?

Yes. You will need to compare the hydrometer reading to the reading on the dial in order to understand the status of your syrup.

## How does the dial on the Murphy Compensation Cup determine the target number?

The dial determines the target number based on your syrup sample's current temperature. Without a Murphy Compensation Cup, you would need a thermometer and a compensation chart to calculate this number on your own.

## How do I fix my syrup if its sugar density is too high?

Slowly mix in sap or distilled water until perfect density is reclaimed.

## Will the stem of the dial obstruct my hydrometer?

This was not an issue with any of the hydrometers we tested. There was still plenty of room for the hydrometer to float and move freely.

## What do the red and blue lines on the dial represent?

The two red lines correspond with the HOT TEST and COLD TEST lines on your hydrometer.

The blue line represents 32°F and is used for calibration.

## How do I calibrate my dial?

The dials are calibrated and ready for use at the time of purchase. However, you can check or fine tune the Murphy Compensation Cup by filling it with shaved ice or snow. The dial should then point to the blue line, which represents 32°F. *(Be sure the arrow has stopped moving before making a reading.)* To adjust, simply turn the small screw on the back of the dial.

## Can the Murphy Compensation Cup be used with raw sap?

This generation of the Murphy Compensation Cup is meant for syrup. It is not meant to be used with raw sap.

## How can I prove that the dial on my Murphy Compensation Cup is accurate?

Measure the temperature of your syrup sample with a thermometer. Then use a compensation chart to calculate the target number.

You could also test the dial by performing a calibration test as described above.

## Can I dip the Murphy Compensation Cup into my finishing pan while it's boiling?

We recommend that you fill the Murphy Compensation Cup via your evaporator pan's draw-off valve.

