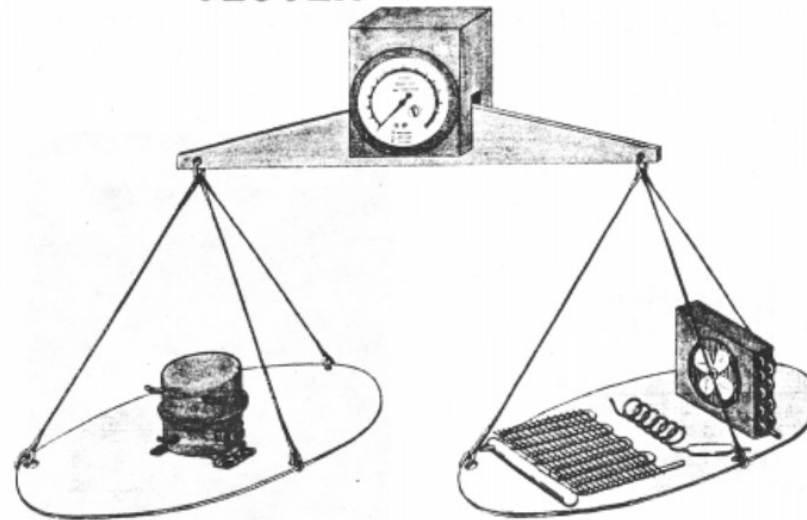


# Supco Compressor & Capillary Tube Tester

**SEALED UNIT PARTS CO., INC!**  
presents its Exclusive, Patented

## COMPRESSOR AND CAPILLARY TUBE TESTER



Check the system efficiency  
by checking the **BALANCE**. Find out...

1. Is the capillary tube restricted?
2. Is the strainer clogged?
3. Is the compressor efficient?
4. Will the replacement cap tube work?
5. If I use a cap tube cleaner, how can I be sure when the restriction is clear?
6. If I have a chart that claims I can interchange a new length and different diameter for the original, how can I be sure it's right?
7. Isn't there a way of testing the cap tube before I charge the system?

**The C-C Tester answers these questions**

# Introduction to the BALANCE THEORY

When a capillary system is first designed most of the engineering goes into the capillary tube sizing in order to obtain the correct flow rate. Condenser efficiency, evaporator size, and compressor capacity also play important roles.

The finished system can be termed a properly BALANCED system where the flow rate thru the cap tube is equal to the capacity of the compressor.

This delicate balance is upset when the cap tube becomes restricted or the compressor loses its efficiency. The problem that faces the Service Engineer is to first correct the cause and, most important – RESTORE THE ORIGINAL BALANCE. The CC Tester tells you when the system is "balanced" BEFORE you charge it with refrigerant.

## How the C-C Tester works

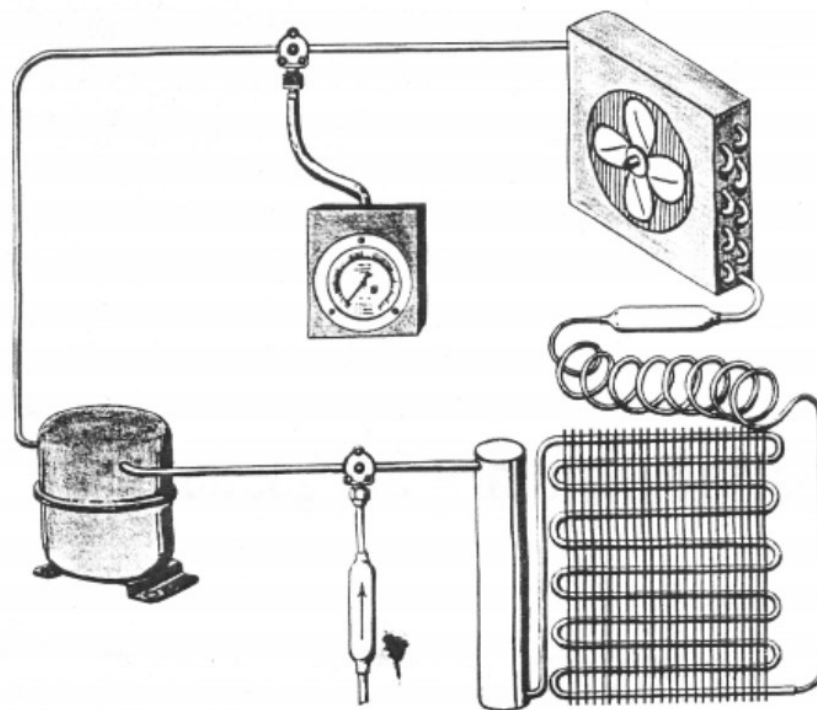


A small amount of dry air is drawn into the system thru an external drier, after all the refrigerant is removed. The CC Tester is attached and the compressor is started and this dry air circulates throughout the system. It then tells you the BALANCE POINT of the unit by measuring the flow rate of the cap tube simultaneously with the pumping capacity of the compressor. This figure relates directly to AVERAGE EVAPORATOR TEMPERATURES. Typical usual operating temperatures are:

Air Conditioning	.....32 to 40 degrees meter reading
Refrigerators	..... 15 to -5 degrees meter reading
Freezers	..... 10 to 25 degrees meter reading

(Frost Free Freezer plates can go as low as -35 degrees)

If the balance point is below the average temperatures, the cap tube is restricted. If the balance point is above the average temperatures, the compressor is inefficient. . . it's that simple.



## It's Easy to Use

For example: If you are testing a room air conditioner and the CC Tester shows a balance point of 10 degrees you know that the cap tube is restricted. If the air conditioner balance point is 70 degrees, the compressor is inefficient.

The best part of it all is that you are testing with a small amount of dry air BEFORE you CHARGE. That means you can experiment with odd size tubing, starting with a long length, and taking off small amounts until the proper balance is reached. Each test takes about 2 minutes.

## Instructions

*Remove all refrigerant from system.*

*Use existing access valves or install piercing valves on the suction and discharge lines*

**NOTE:** If unit has service valves use the service ports making sure that the stem is only slightly open. Do not run the stem all the way in.

*Install drier on suction piercing valve (or service port). See diagram.*

*Install CC Tester on discharge piercing valve.*

*Make sure inlet side of drier is OPEN and outlet side of drier properly connected.*

*Start unit and observe CC Tester gauge.*

*If pointer goes at a steady rate beyond -35 degrees, shut off unit. Cap tube is probably totally clogged.*

*Pointer should move fast for the first minute then gradually settle to its balance point and remain stationary.*

## Helpful Hints and Suggestions

### SIZE OF EVAPORATORS

All air conditioners, refrigerators and freezers are not always designed with the same temperature difference between coil and air. Therefore, there will always be slight variances in the balance point between different manufacturers on the same size air conditioner, refrigerator and freezer.

For example a compact 1 H.P. air conditioner with a small evaporator will average out at a lower temperature than a 1 H.P. air conditioner with a larger evaporator. Both units will have about the same B.T.U. output: the difference being that the smaller evaporator will have a greater volume of air passing through the evaporator.

### REPLACING STRAINERS OR CAPILLARY

The "CC TESTER" is invaluable to determine if the cap tube should be replaced when the strainer is clogged or partially clogged. In most cases, the strainer will take five minutes to replace whereas the capillary tube takes 10 times as long. Always change the strainer first (cut off about six inches of cap), then test the system for balance. If the balance test proves good, you've saved yourself hours of labor.

### REPLACING CAPILLARY TUBES

If it should become necessary to replace the cap tube, join the cap tube to the strainer and evaporator. **BALANCE TEST FIRST** before you solder cap tube to suction line or go through the labor of putting back insulation, etc.

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