Do a visual check of the unit

→ **Check filter, coils, blower, oil spots on connections, physical damage.**

Oil spots or significant amount of dirt and dust collecting in a refrigerant connection can signify refrigerant leaks.

Open the Visual Service App

Turn on each probe and check battery level.

Connect to the app via Bluetooth

Make sure probes are calibrated

Even small calibration errors can cause improper charging.

→
- **Pressure probes read zero**
- **All temp probes read close to the same**
- **Psychrometer probes close to the same temp**

Install pressure, temperature, and psychrometer probes, making sure they are designated correctly: suction/ liquid line, or supply/return

Incorrect probe designations can result in improper charging.

Select refrigerant type: find on nameplate or research model/serial number.

Make sure unit is a TXV

→ **Open unit or research model/serial number**

Find target subcooling

→
- **Nameplate**
- **Design chart if outdoor or indoor temp is in the extreme**
- **Research model/serial number**

Turn on the unit to cool and run for 5-10 minutes

→ **While waiting:**
- **Make sure unit is running correctly**
- **Compressor turns on**
- **Blower motor turns on**
- **Check refrigerant lines**

Look at target subcool design chart liquid line temp and press; Compare with target design temp

→
- **If within ±2 °F of target subcool: Good**
- **If over target subcool: refrigerant needs to be recovered.**
- **If over target subcool: refrigerant needs to be added**

Check subcool in VS

Both too much refrigerant and too little refrigerant can result in significant performance degradation.

Wait 5 minutes and keep watching subcool

Look at Delta T

→ **Delta T should be around 18-21°F**

Look at other data in VS

If Delta T is outside this range, there may be other problems, such as airflow obstruction.