

Mini Heat Pump Performance



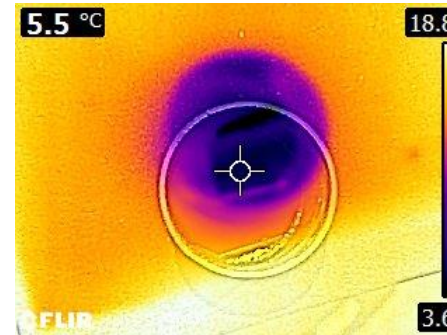
Specifications

- Up to 450 W cooling capacity
- Up to 150 W power usage
- COP 3.0
- Up to 600 W heating capacity
- 12 VDC

Infrared Thermal Imaging



Heating source



Cooling source

* Heating source up to 36 dC from the upper section of the condenser * Cooling source down to 3 dC from the evaporator

First Principle Thinking

QUICK INSIGHTS

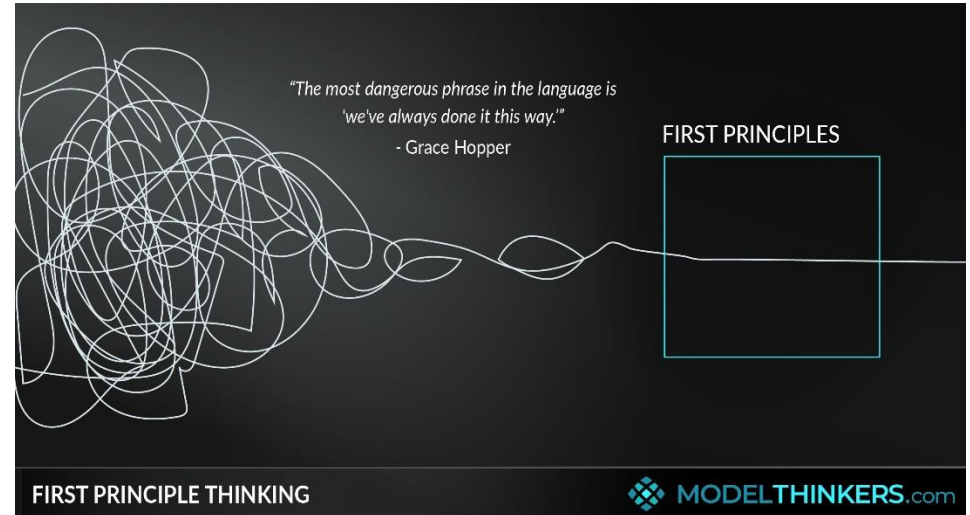
First Principles



"First principles is a physics way of looking at the world. You boil things down to the most fundamental truths and then reason up from there.

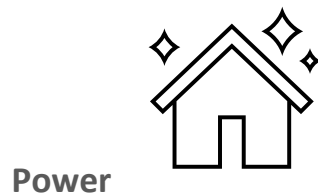
(For example) people may say 'battery packs are really expensive and that is the way they will always be'. No, that's pretty dumb. If you apply that reasoning to anything new, you wouldn't ever be able to get to that new thing."

- Elon Musk



Our Fundamental Question

WHAT do we really want to **HEAT** or **COOL**?



House or Occupant



~120 W Power



WHY Heat Pump?



Do you know?

- Combined heating & cooling in one unit
- High Coefficient of Performance (COP) to 3.0 above
- Using cleaner electricity and reduce GHG emissions
- Solar-assisted Heat Pump market size up to USD 140 billion

