**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

A picture containing text, clipart

Description automatically generated

**Infrared Thermal Imaging**

A screenshot of a video game

Description automatically generated with medium confidence A picture containing person, wall, indoor

Description automatically generated A picture containing shape

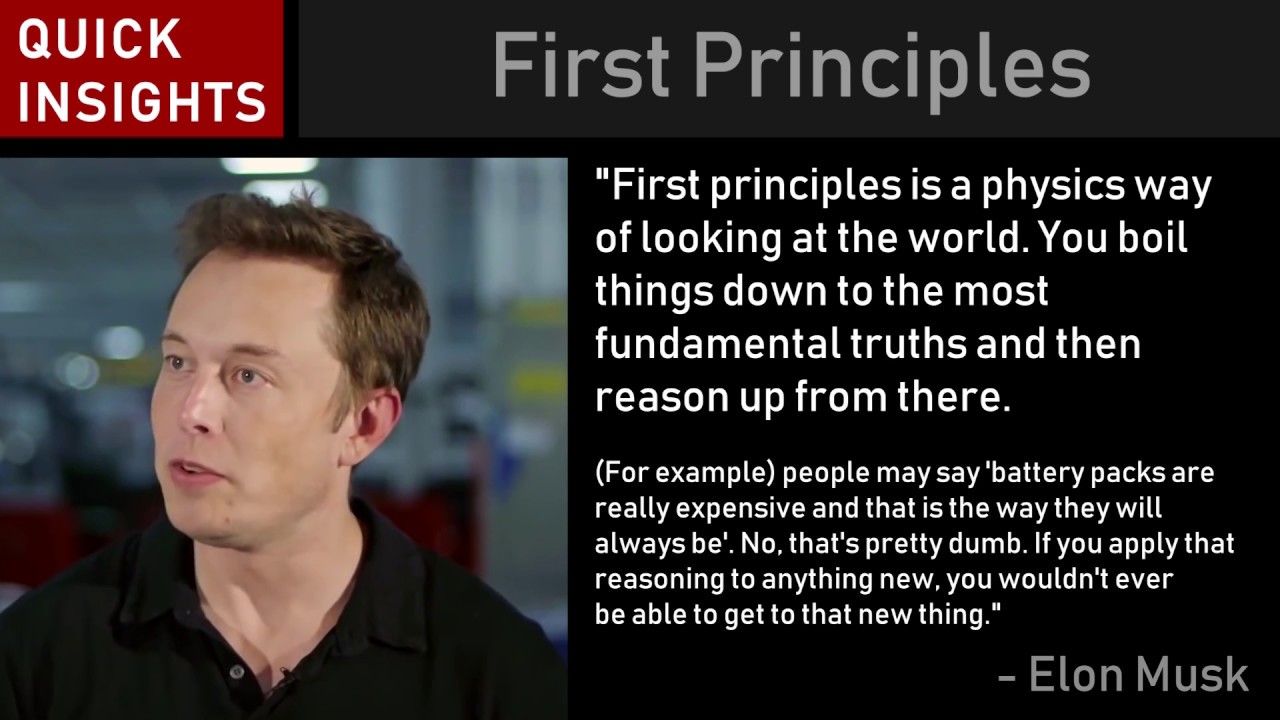
Description automatically generated A picture containing indoor, electronics, camera

Description automatically generated

**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**

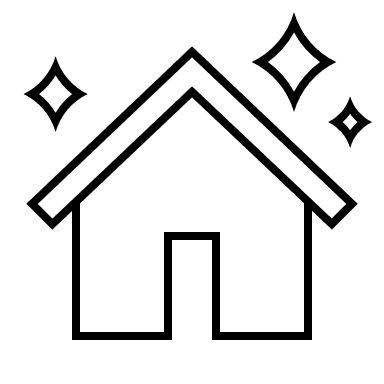
**First Principle Thinking**

 Diagram

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**Our Fundamental Question**

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

**Power  House or Occupant ~120 W Power A picture containing text, sign

Description automatically generated**

**WHY Heat Pump?**

**Icon

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**Timeline

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**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