STAKE YOUR CLAIM
BEATRICE
CITY • BOARD OF PUBLIC WORKS

Air Source & Water to Air -- Geothermal High Efficiency Application

ATTENTION -- No incentive will be paid if the verification test is not completed! It is the homeowner's responsibility to ensure the contractor completes the performance testing. If you have questions, please contact City Clerk Erin Saathoff at (402)228-5211

☐ **Direct Incentive** **-OR-** ☐ **Low Interest Loan --- Apply for one!**

1. **Name of HVAC Contractor:** _____ Tax ID #: _____

   Address & City:_____Phone Number: _____

2. **Homeowner's Name:** _____ Electric Utility: _____

   Homeowner's Address & City:_____Daytime Phone: _____

   Installation Address & City*: _____ Acct or Meter #* _____

3. **Equipment Information:** Tonnage:_____Equipment Mfr.:_____Heat Pump Model #: _____

   Air Source HP: SEER_____EER_____HSPF_____; Backup Heat: Electric_____(kW), or Fossil Fuel_____(Btuh)

   Ground Source HP: Full Load EER_____COP_____; or Partial Load (if Variable Capacity) EER_____COP _____

   Type of Installation: New Construction_____, A/C to a Heat Pump_____, or Existing Heat Pump to New Heat Pump _____

Tip! Having the manufacturer's performance data, on site and at the time of verification testing, will be helpful. Test installation with hot water generator off.

4. **Determine CFM: (Complete section A <u>or</u> B)**

   A) Total External Static Pressure (ESP)_____inches of W.C.; Equivalent CFM (per mfr's specifications @ measured ESP) _____

   B) Airflow check – temperature rise method with electric furnace (test in emergency heat mode)

   1) _____Volts x _____ Amps =_____Watts x 3.414 =_____Btuh

   2) _____Supply Air °F (minus) _____ Return Air °F = _____ Temp. Difference (TD) °F

   3) _____ Btuh (divided by) 1.08 (divided by) _____ (TD) °F =_____CFM

5. **Measured Heat Pump Capacity Calculation (Complete section A <u>or</u> B for air side)(test w/water heater generator off)**

   A) **Heating cycle** (test in heat pump only mode)

   1) _____Supply Air °F (minus) _____ Return Air °F =_____(TD) °F

   2) 1.08 x_____(TD) °F x _____ CFM (section 4) = _____ Btuh

   B) **Cooling Cycle** (run at least ten minutes prior to testing)

   1) Return wet bulb temp._____= Enthalpy_____; Supply wet bulb temp._____= Enthalpy _____

   2) 4.5 x _____ CFM (section 4) x _____ Enthalpy Difference = _____ Btuh

6. **Quality Assurance Inspection Results:**

   A) Measured Total CFM (section 4): _____ Measured Heat Pump Capacity (section 5):_____Btuh

   B) Mfr's. Rated Capacity (Heating Capacity or Total Capacity): _____ Btuh

   C) Difference between rated and measured capacity (rated-measured)/rated) =_____% Passed (within 10%) or Failed

   D) If failed - reason_____?

   E) HE or HR =_____gpm X_____TD X 485 (glycol) or 500 (water) =_____Btuh (pressure difference needed to get gpm)

   F) Mfr's. Rated Heat of Extraction (HE) or Heat of Rejection (HR): _____ Btuh

   G) Difference between rated and measured capacity (rated-measured)/rated) =_____% Passed (within 10%) or Failed

   H) If failed - reason_____?

7. ☐ **Check box to signify that AHRI Certificate is attached** (required for all installations) AHRI Cert. # _____

8. **I acknowledge that this installation is in compliance with the program guidelines.**

   Homeowner: _____ _____ _____
   Print Name Signature Date

   Inspection by: _____ _____ _____
   Print Name Signature Date

   NATE Certification #_____(NATE Certification is requested, but not mandatory for this application process)

9. **Submit this application to the Beatrice Board of Public Works for approval and processing for payment**