



## 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 or 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 or 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**