

Air Source HP and Geothermal Water to Air HP 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. Contact Ron Rose (402-760-0159); Steve Walker (308-535-5324); or Kelly Beiermann (402-563-5415), with any questions.

Direct Incentive - OR - Low Interest Loan --- Apply for one! Electric Utility: _____

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

Address & City: _____ HVAC Phone: _____

2. Homeowner's Name: _____ Daytime Phone: _____

Mailing Address & City: _____ Account # _____

Installation Address & City: _____ Meter # _____

3. Equipment: Tons: _____ Mfr.: _____ Heat Pump Model #: _____ Furnace or Coil ID # _____

Air Source HP Type: 1 or 2 stage 3 or more stages Variable Capacity

Air Source HP: SEER _____ EER _____ HSPF _____; Backup Heat: Electric _____ (kW), or Fossil Fuel _____ (Btuh)

Ground Source HP: Full Load EER _____ COP _____; or GLHP Partial Load (if Variable Capacity) EER _____ COP _____

Type of Installation: New Construction A/C to a Heat Pump Existing Heat Pump to New Heat Pump

Verification Tip! Having the manufacturer's performance data on site at the time of verification testing will be helpful. Test installation with hot water generator off. For steps below see Verification Tips at www.nppd.com/assets/incentives/high-efficiency-heat-pump/PerformanceVerification.pdf

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: _____ V x _____ A = _____ W x 3.414 = _____ Btuh

2) T (Supply Air) – T (Return Air) = TD: _____ °F Supply Air – _____ °F Return Air = _____ Temp. Difference (TD) °F

3) Btuh / 1.08 / TD = CFM: _____ Btuh / 1.08 / _____ TD = _____ CFM

5. Measured Heat Pump Capacity Calculation (Complete section A or B for air side) (test with desuperheater off)

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

1) T (Supply Air) – T (Return Air) = TD: _____ °F Supply Air – _____ °F Return Air = _____ Temp. Difference (TD) °F

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

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

1) Return air wet bulb temp. _____ F°, Enthalpy = _____; Supply air wet bulb temp. _____ F°, Enthalpy = _____

2) 4.5 x CFM x Enthalpy Diff. = Btuh: 4.5 x _____ CFM (from section 4) x _____ Enthalpy Difference = _____ Btuh

6. Quality Assurance Inspection Results: (Complete sections A-D for Air Source; Complete A-H for Water-to-Air Geothermal)

A) Measured CFM (from section 4): _____ Measured Heat Pump Capacity (from section 5): _____ Btuh

B) Mfr. Rated Heating or Cooling Capacity: _____ Btuh @ Outdoor or Water Temperature during testing _____ °F

C) Difference between rated and measured capacity: (rated-measured)/rated x 100 = _____ % Passed (within 10%) or Failed

D) If failed – reason? _____

E) Mfr. Rated Heat of Extraction (HE) or Heat of Rejection (HR): _____ Btuh @ Water Temperature during testing _____ °F

F) HE or HR = _____ gpm X _____ TD X 485 (glycol) or 500 (water) = _____ Btuh (pressure difference needed to get gpm)

G) Difference between rated and measured capacity: (rated-measured)/rated x 100 = _____ % 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

9. Submit this application to your local utility for approval and processing for payment.