ENERGY STAR Certified Homes, Version 3 (Rev. 07)
HVAC System Quality Installation Contractor Checklist [1]

Home Address: 201 Hubbell Ave._____ City: Syracuse_____ State: NY____ Zip Code: 13207____

System Description [2] Air to water heat pump, Combined space conditioning and DHW Cooling system for temporary occupant load? [3] Yes ☐ No ☐

1. Whole-Building Mechanical Ventilation Design [4]	Builder Verified [5]	Cont. Verified [6]	N/A
1.1 Ventilation system installed that has been designed to meet ASHRAE 62.2-2010 requirements including, but not limited to, requirements in Items 1.2-1.5. [7]	☐	☐	-
1.2 Ventilation system does not utilize an intake duct to the return side of the HVAC system unless the system is designed to operate intermittently and automatically based on a timer and to restrict outdoor air intake when not in use (e.g., motorized damper).	☐	☐	-
1.3 Documentation is attached with ventilation system type, location, design rate, and frequency and duration of each ventilation cycle.	☐	☐	-
1.4 If present, continuously-operating vent. & exhaust fans designed to operate during all occupiable hours.	☐	☐	☐
1.5 If present, intermittently-operating whole-house ventilation system designed to automatically operate at least once per day and at least 10% of every 24 hours.	☐	☐	☐
2. Heating & Cooling System Design [4,8] - *Parameters used in the design calculations shall reflect home to be built, specifically, outdoor design temperatures, home orientation, number of bedrooms, conditioned floor area, window area, predominant window performance and insulation levels, infiltration rate, mechanical ventilation rate, presence of MERV6 or better filter, and indoor temperature setpoints = 70°F for heating; 75°F for cooling.*			
2.1 Heat Loss / Gain Method: ☐ Manual J v8 ☐ 2009 ASHRAE ☐ Other:_____	☐	☐	-
2.2 Duct Design Method: ☐ Manual D ☐ Other: _____	☐	☐	☐
2.3 Equipment Selection Method: ☐ Manual S ☐ OEM Rec. ☐ Other: _____	☐	☐	-
2.4 Outdoor Design Temperatures: [9] Location: Syracuse, NY 1%: 2 °F 99%: 87 °F	☐	☐	-
2.5 Orientation of Rated Home (e.g., North, South): West	☐	☐	-
2.6 Number of Occupants Served by System: [10] 4	☐	☐	-
2.7 Conditioned Floor Area in Rated Home: 1927 Sq. Ft.	☐	☐	-
2.8 Window Area in Rated Home: 299.5 Sq. Ft.	☐	☐	-
2.9 Predominant Window SHGC in Rated Home: [11] .35	☐	☐	-
2.10 Infiltration Rate in Rated Home: [12] Summer: .061 Winter: .061	☐	☐	-
2.11 Mechanical Ventilation Rate in Rated Home: 60 CFM	☐	☐	-
2.12 Design Latent Heat Gain: 2,429 BTUh	☐	☐	-
2.13 Design Sensible Heat Gain: 14,314 BTUh	☐	☐	-
2.14 Design Total Heat Gain: 16,743 BTUh	☐	☐	-
2.15 Design Total Heat Loss: 13,979 BTUh	☐	☐	-
2.16 Design Airflow: [13] 652 CFM	☐	☐	-
2.17 Design Duct Static Pressure: [14] _____ In. Water Column	☐	☐	☐
2.18 Full Load Calculations Report Attached [15]	☐	☐	-
3. Selected Cooling Equipment, If Cooling Equipment to be Installed			
3.1 Condenser Manufacturer & Model: _____	☐	☐	☐
3.2 Evaporator / Fan Coil Manufacturer & Model: _____	☐	☐	☐
3.3 AHRI Reference #: [16] _____	☐	☐	☐
3.4 Listed Efficiency: _____EER _____ SEER	☐	☐	☐
3.5 Metering Device Type: ☐ TXV ☐ Fixed orifice ☐ Other: _____	☐	☐	☐
3.6 Refrigerant Type: ☐ R-410a ☐ Other: _____	☐	☐	☐
3.7 Fan Speed Type: [17] ☐ Fixed ☐ Variable (ECM / ICM) ☐ Other: _____	☐	☐	☐
3.8 Listed Sys. Latent Capacity at Design Cond.: [18] _____ BTUh	☐	☐	☐
3.9 Listed Sys. Sensible Capacity at Design Cond.: [18] _____ BTUh	☐	☐	☐
3.10 Listed Sys. Total Capacity at Design Cond.: [18] _____ BTUh	☐	☐	☐
3.11 If Listed Sys. Latent Capacity (Value 3.8) ≤ Design Latent Heat Gain (Value 2.12), ENERGY STAR certified dehumidifier installed	☐	☐	☐
3.12 Listed Sys. Total Capacity (Value 3.10) is 95-115% of Design Total Heat Gain (Value 2.14) or next nominal size [8, 19]	☐	☐	☐
3.13 AHRI Certificate Attached [16]	☐	☐	☐
4. Selected Heat Pump Equipment, If Heatpump to be Installed			
4.1 AHRI Listed Efficiency: _____HSPF or Ground-Source:_____COP	☐	☐	☐
4.2 Performance at 17°F: Capacity _____BTUh Efficiency: _____COP [20]	☐	☐	☐
4.3 Performance at 47°F: Capacity _____BTUh Efficiency: _____COP [20]	☐	☐	☐

ENERGY STAR Certified Homes, Version 3 (Rev. 07)
HVAC System Quality Installation Contractor Checklist [1]

5. Selected Furnace, If Furnace to be Installed	Builder Verified [5]	Cont. Verified [6]	N/A
5.1 Furnace Manufacturer & Model: _____	☐	☐	☐
5.2 Listed Efficiency: _____ AFUE	☐	☐	☐
5.3 Listed Output Heating Capacity: _____BTUh	☐	☐	☐
5.4 Listed Output Heat. Cap. (Value 5.3) is 100-140% of Design Total Heat Loss (Value 2.15) or next nominal size [8,21]	☐	☐	☐
6. Refrigerant Tests - *Run system for 15 minutes before testing*			
Note: If outdoor ambient temperature at the condenser is ≤ 55°F or, if known, below the manufacturer-recommended minimum operating temperature for the cooling cycle, then the system shall include a TXV, and the contractor shall mark "N/A" on the Checklist for Section 6 & 7. [22]			
6.1 Outdoor ambient temperature at condenser: ____°F DB		☐	☐
6.2 Return-side air temperature inside duct near evaporator, during cooling mode: ____°F WB		☐	☐
6.3 Liquid line pressure: ____psig		☐	☐
6.4 Liquid line temperature: ____°F DB		☐	☐
6.5 Suction line pressure: ____psig		☐	☐
6.6 Suction line temperature: ____°F DB		☐	☐
7. Refrigerant Calculations			
For System with Thermal Expansion Valve (TXV):			
7.1 Condenser saturation temperature: _____ °F DB (Using Value 6.3)		☐	☐
7.2 Subcooling value: _____ °F DB (Value 7.1 - Value 6.4)		☐	☐
7.3 OEM subcooling goal: _____ °F DB		☐	☐
7.4 Subcooling deviation: _____ °F DB (Value 7.2 – Value 7.3)		☐	☐
For System with Fixed Orifice:			
7.5 Evaporator saturation temperature: _____ °F DB (Using Value 6.5)		☐	☐
7.6 Superheat value: _____ °F DB (Value 6.6 – Value 7.5)		☐	☐
7.7 OEM superheat goal: _____ °F DB (Using superheat tables and Values 6.1 & 6.2)		☐	☐
7.8 Superheat deviation: _____ °F DB (Value 7.6 – Value 7.7)		☐	☐
7.9 Value 7.4 is ± 3°F or Value 7.8 is ± 5°F		☐	☐
7.10 An OEM test procedure (e.g., as defined for a ground-source heat pump) has been used in place of sub-cooling or super-heat process and documentation has been attached that defines this procedure		☐	☐
8. Electrical Measurements – *Taken at electrical disconnect while component is in operation*			
8.1 Evaporator or furnace air handler fan: ____amperage _____line voltage		☐	☐
8.2 Condenser unit: ____amperage _____line voltage		☐	☐
8.3 Electrical measurements within OEM-specified tolerance of nameplate value		☐	☐
9. Air Flow Tests			
9.1 Air volume at evaporator: _____CFM		☐	☐
9.2 Test performed in which mode? ☐ Heating ☐ Cooling		☐	☐
9.3 Return duct static pressure: _____IWC Test Hole Location: [23] _____		☐	☐
9.4 Supply duct static pressure: _____IWC Test Hole Location: [23] _____		☐	☐
9.5 Test hole locations are well-marked and accessible [23]		☐	☐
9.6 Airflow volume at evaporator (Value 9.1), at fan design speed and full operating load, ± 15% of the airflow required per system design (Value 2.16) or within range recommended by OEM		☐	☐
10. Air Balance			
10.1 Balancing report prepared and attached indicating the room name and design airflow for each supply and return register. In addition, final individual room airflows measured and documented through one of the following options:			
10.1.1 Measured by contractor using ANSI / ACCA 5 QI-2007 protocol, documented by contractor on the balancing report, & verified by contractor to be within the greater of ± 20% or 25 CFM of design airflow [24], OR;		☐	☐
10.1.2 To be measured, documented, and verified by a Rater per Item 1.4.2 of the HVAC System QI Rater Checklist		☐	☐
11. System Controls			
11.1 Operating and safety controls meet OEM requirements		☐	☐
12. Drain pan			
12.1 Corrosion-resistant drain pan, properly sloped to drainage system, included with each HVAC component that produces condensate [25]		☐	☐

HVAC Company Name:_____ Credentialing Organization: ACCA / AE / Other

HVAC Contractor Name: _____ HVAC Contractor Signature: _____ Date: _____

Builder Name: [5] _____ Builder Signature: [5] _____ Date: _____