SUSTAINABLE ENERGY AUTHORITY OF IRELAND

Home Energy Grants: Technical Bulletin

Installation Guidance for Heat Pump Systems

Series 2021-11-001 HP

Guidance on Designer/Installer Sign-Off Form v5.3.1

One of the salient provisions of the new version of the Designer/Installer Sign-off Form (v5.3.1) is the additional calculation tab, 'Radiator Output Conversion'. This must be completed where the designer has used a non-default flow temperature (ºC) in the heating design i.e. where the ΔT_{design} is not taken directly from the manufacturer's specifications (brochure). The designer must demonstrate how they calculated the specified heat output data and provide documentary evidence.

Document overview

The new version of the Designer/Installer Sign-off Form v5.3.1 has five (5) tabs, namely:

1. Tab 1 Designer/Installer Sign-off
   Information must represent the dwelling as constructed for new Heat pump installation.

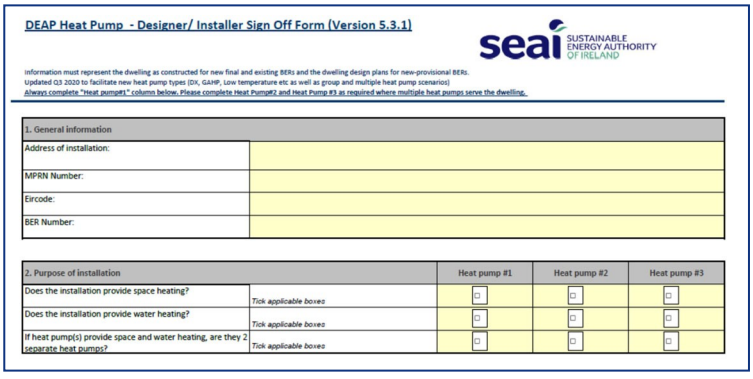
   1.1 General information - Address must clearly identify the dwelling.
   1.2 Purpose of installation – Indicate if the Heat Pump system is providing space and/or water heating.
   1.3 Heat pump selection – Manufacturer, model, and type of Heat Pump (up to 3 Heat pumps). Specify the Temperature (ºC) leaving the Heat Pump for water and space heating. Specify if space heating is provided by a low temperature and/or gas-fired Heat Pump.
   1.4 Heat emitter design – Emitter type, i.e., radiator, fan coil units, underfloor, and warm air. Temperature (ºC) of water leaving the Heat Pump system.
   1.5 Hot water system – Maximum flow temperature (ºC) of Heat Pump. Manufacturer, model, and type of domestic hot water (DHW) storage. Indicate if immersion is present.
   1.6 Confirmation – If the Heat Pump installation is being grant aided, this section needs to be completed by the SEAI registered contractor who installed the Heat Pump system. Complete with Name, Company, Email, Job Title, Signature, and Date.

2. Tab 2 Heating Design
   Indicate the room heat loss (Watts), emitter details including emitter output at ΔT_{design} and total heat emitter output (Watts), the design room temperature (ºC), area of dwelling (m^2), and the Heat Pump output (kW) at design conditions.

3. Tab 3 Radiator Output Conversion
   Required where a non-default flow temperature is used in the design and the radiator outputs specified in the Heating Design Sheet are not taken directly from the manufacturer's brochure.

4. Tab 4 BER Checklist
   Checklist for BER assessors.

5. Tab 5 BER + Heat pump Grant Checklist
   If the Heat Pump installation is being grant aided, this section needs to be completed by the SEAI registered contractor who installed the Heat Pump system.



DEAP Heat Pump - Designer/ Installer Sign Off Form (Version 5.3.1)

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Information must represent the dwelling as constructed for new final and existing BERs and the dwelling design plans for new-provisional BERs.
Updated Q3 2020 to facilitate new heat pump types (DX, GAHP, Low temperature etc as well as group and multiple heat pump scenarios)
Always complete "Heat pump#1" column below. Please complete Heat Pump#2 and Heat Pump #3 as required where multiple heat pumps serve the dwelling.

1. General information	
Address of installation:	
MPRN Number:	
Eircode:	
BER Number:	

2. Purpose of installation		Heat pump #1	Heat pump #2	Heat pump #3
Does the installation provide space heating?	Tick applicable boxes	☐	☐	☐
Does the installation provide water heating?	Tick applicable boxes	☐	☐	☐
If heat pump(s) provide space and water heating, are they 2 separate heat pumps?	Tick applicable boxes	☐	☐	☐

Figure 1: Designer/Installer Sign-Off Form v5.3.1

Other important guidance for Heat Pump installation

1. SEAI Heat pump documentation Requirements

The absence of heat pump documentation is responsible for a significant number of inspection failures and reworks. This can result in unnecessary long delays to grant payments and contractor reworks.

Contractors must ensure homeowners are supplied with all required signed heat pump documents. These should be shared with the homeowner on completion of works.

Homeowner Documentation :

1. The homeowner must be provided with the following design documents for submission with the Declaration of Works (DOW):
    - Ecodesign datasheets;
    - Designer/Installer form.

2. The homeowner must also be provided with the following documentation:
    - Register of Electrical Contractors Ireland (RECI) Certificate
    - Heat Pump Commissioning Certificate
    - User Manual
    - F-Gas Certificate (if applicable)
    - Ground and water collector design (if applicable)

The contractor can provide these documents to the Homeowner by email.

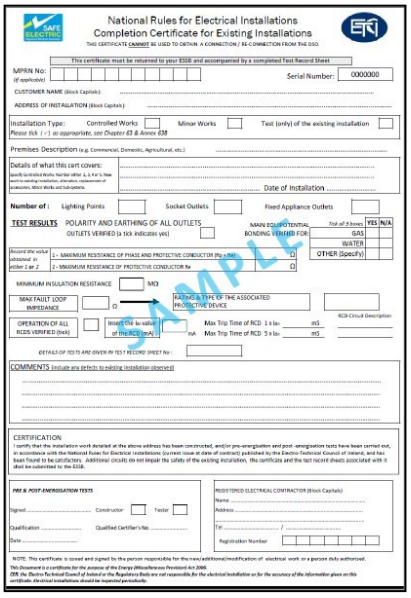
National Rules for Electrical Installations
Completion Certificate for Existing Installations
SAMPLE

Figure 2: RECI Certificate

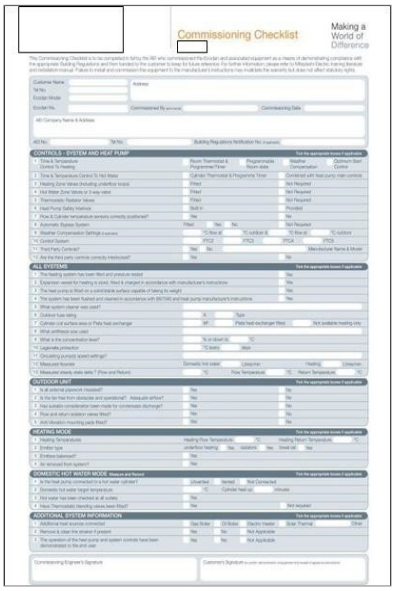
Commissioning Checklist

Figure 3: Commission Certificate

2. Heat pump unit installation

Heat Pump must be installed vertically onto a level concrete pad of sufficient load bearing capacity.

Figure 4: Heat Pump Unit not level

The heat pump shown in Figure 4 above is not level. The distance at the bottom of the unit (with respect to the dwelling's wall) must be equal to the distance at the top to ensure vertical installation - see figures 5 and 6 below.

Figure 5: Top of unit measured 43cm from wall

Figure 6: Bottom of unit measured 40cm from wall

3. Heat pump fittings

All fixings of Heat Pump cover must be in-place and properly tightened. Loose fittings may cause excessive noise due to vibration and result in inspection failure.

Figure 7: Loose side cover

Figure 8: Screw missing from top cover

4. Pipework

Refrigerant circuit copper pipelines must be fully insulated including the union on top of the unit. All major metal pipes must be bonded together via 10mm^2 ground wire (yellow with green stripe insulation) and be connected to a common ground rod or to the nearest metal water pipeline or utility's ground line.

Figure 9: Incomplete pipe insulation and bonding

Figure 9 above shows incomplete refrigerant pipe insulation and incomplete ground wire bonding to all major metal pipelines. No common ground wire connected to earth via ground rod of metal water pipe.

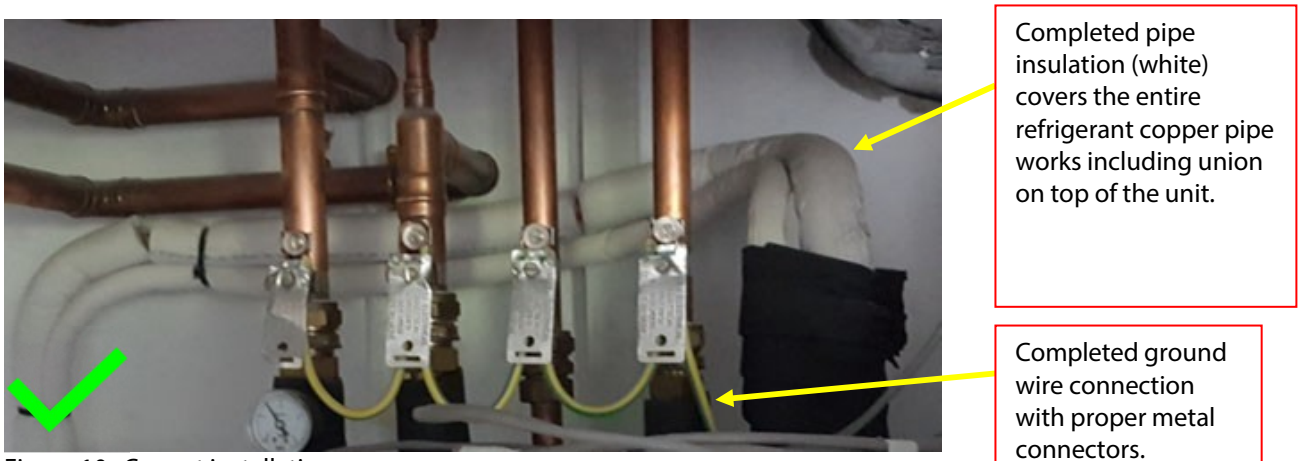

Figure 10: Correct installation

Figure 10 above shows pipe insulation (white) covering all refrigerant circuit pipe works and all major metal pipelines fully grounded.

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