

Commissioning Report for Heat Pumps

<u>Details of Installer</u>
<p>Name: (If Different From Commissioner)</p> <p>SEAI Registered ID: (If available)</p>

<u>Details of Commissioner</u>
<p>Name of Commissioner:</p> <p>SEAI Registered ID:</p>

Installation Details

Name of Homeowner: _____

Installation Address

Phone:
(If available) _____

Greener Homes Scheme
Grant Approval Ref No: _____

Description of System:

Model Identification

SEAI Reference Code: SEI-HP- _____ Model: _____

Manufacturer: _____ Serial No. (if avail.) _____

Make: _____

All Information requested is Mandatory

Failure to provide all information requested will result in this report being returned by SEAI

Installation Details

Date of Completion ___/___/___
 Existing heating system? Yes No
 Age of Dwelling _____ years
 Dwelling floor area _____ m²

Is the system for?

- water heating only
- space and water heating
- cooling

Size of hot water storage tank: _____ litres
 Size of Buffer Tank, if fitted: _____ litres
 What is the Service Connection: _____ kVA
 Is Soft Start Installed? Yes No

Heat Source Details:

Type of refrigerant: _____
 Quantity _____ kg

Air Source: Indoor evaporator
 Outdoor evaporator

Closed loop (brine):

Type of anti-freeze _____
 Concentration _____ %

Vertical collector:

- Number of boreholes: _____
- Total length of boreholes: _____

Horizontal collector:

- Collector area: _____ m²
- Collector total pipe length: _____ m

Surface water:

- Lake collector
- River collector

Open loop (water) heat pump:

- Surface water (river, lake)
- Groundwater
- Extraction Flow (m³/h or litres/min.): _____
- Disposal of extracted water: _____

Direct Expansion (DX)? Yes No

Heat Distribution System Details:

Radiators
 Under floor heating
 Warm Air
 Other (describe): _____
 Pressurisation: Open vented
 Pressure vessel

Measured operating temperatures:

Source: Flow: _____ °C
 Return: _____ °C
 Heating: Flow: _____ °C
 Return: _____ °C
 Refrigerant: Evaporator: _____ °C
 Condensor: _____ °C

Describe briefly heating control strategy:

Service / Access code for controller: _____

Heat Pump System Performance (estimate):

Rated capacity of the heat pump _____ kW
 (at average expected operating temperatures)

Expected average COP of the system: _____

Electricity tariff in place:

- Standard day rate
- Night Rate _____ % at night rate
- Other Details: _____

Is there a means of monitoring the electricity consumption of the Heat Pump e.g. separate meter?

Yes No Explain: _____

Comments:

Heat pump: Installation points to be checked			
1. Before first operation of the heat pump installation	Complete	N/A	Comments
a) Space heating and/or hot water circuits are fully installed, filled, purged and pressurised.			
b) All pipes are correctly fastened			
c) Pipe penetrations through outside walls are water tight.			
d) Appropriate insulation on pipes (especially cold brine)			
e) Drains and vents fitted at appropriate points for the heat source and heating circuits			
f) Electrical installation is correct and safe (supply voltage, circuit breakers, earthing, etc.)			
g) Supply trip installed as recommended by heat pump manufacturer			
h) Flows through air/water heat exchangers are in the correct direction			
i) All sensors are installed correctly and connected to the controller			
j) Settings of all safety devices and thermostats are correct			
k) All shut-off valves in the source and heating circuits are open			
l) Start-up sequence of the controller			
m) If 3 phase, rotational direction of the source pump (or fan for air source)			
n) Rotational direction off the compressor is correct and compressor running smoothly (if DX system, only after refrigerant circuit has been completed and filled)			
o) Pumps speed (heat source and heat distribution) are set correctly			
2. Operational checks	Complete	N/A	Comments
a) Fluid temperatures at key points in the system (source flow and return, heating flow and return, refrigerant temperatures at evaporator and condensor) as well as current amp and voltage indicate correct operation.			
b) Indicator of heat pump (compressor) operation evident for end-user.			
c) If electric back-up heater is fitted, indicator showing status in place			
d) System is operating without undue noise or vibration.			
e) Regulation of the heat distribution keeps return water temperature as low as possible			
3. Closed loop	Complete	N/A	Comments
a) Location of all pipework, especially buried pipework, and components are clearly and permanently identifiable			
b) Direction of fluid flow is marked on pipes and fluid direction through the heat pump is correct.			
c) Quality of insulation and vapour barriers have been checked on internal pipework			
d) All loops have been bled properly. No air locks in the collector loop.			
e) Concentration of anti-freeze is correct (if applicable).			
f) Collector circuit (loops, headers, etc.) holding pressure			
g) Mains water isolated from collector circuit (non-return double check valve installed) and brine filling loop is disconnected			
h) Clean set of filters fitted			
i) Flow in different collector loops is balanced			
4. Heat Distribution and Domestic Hot Water Installation	Complete	N/A	Comments
a) Pressure release valves (non-vented system) operating correctly and overflow sent to drainage			
b) Hot water tank, buffer tank (if applicable) and pipe work properly suitably insulated			
c) Heat distribution and domestic hot water heating circuits are split and controlled independently, with priority to hot water.			
d) Auxiliary heating set-up to allow raising water temperature above 60 deg. C regularly to avoid legionella risks			

e) Corrosion protection anode installed in storage tank (if applicable)			
f) Domestic hot water auxiliary heater (if installed) is controlled by a time clock.			
5. Commissioning and Handover	Complete	N/A	Comments
a) Commissioning of heat pump system completed and ready for hand-over			
b) Maintenance instructions and schedules provided to customer/end user			
c) Customer/end user has been instructed in correct operation of system			
d) System documentation provided to customer:			
Plan of site showing collector area and depth			
Piping/component schematic and valve chart.			
Site specific wiring diagram			
Operating manual supplied to end user			
Estimate of the average annual electricity consumption of the system			
Collector calculations: soil type assumptions/tests			
e) Warranty documentation provided to customer			

I hereby undertake that the **Heat Pump System** referenced above has been commissioned by me, in accordance with the prescribed commissioning report above and that I am satisfied that all of the installation points specified have been correctly followed / checked. I further declare that:

- the design and sizing of the heating system is appropriate for the requirements of the house. Calculations supporting the design and sizing are available on request;
- the particular heating system is of merchantable quality, fit for the purpose intended and free from defects;
- the installation was carried out with the degree of skill and care that is required by good, competent, workmanlike procedures, in accordance with recognised good practice and relevant national and European norms and regulations,
- the instructions of the manufacturer, and any statutory requirements and regulations, relating to the manufacture, packaging, distribution, supply, sale and purchase of such heating systems have been adhered to at all times;
- the system complies with all relevant health and safety regulations and requirements;
- the householder has been provided with all the necessary system documentation, corresponding in all respects with the system installed, and has been shown how to correctly operate the heating system
- the householder has been provided with a schedule of required maintenance noting any particular warranty conditions.

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- Phase I or II:** Existing dwelling or new build
- Phase III:** the building is an **existing dwelling** which was first occupied prior to 30th June 2008

Signed by Commissioner	_____
Name in Block Capitals	_____
Date	_____
Date of Actual System Commissioning (If different to signature)	_____
Completion of all fields is <u>MANDATORY</u>. Failure to provide all information requested will result in this report being returned by SEAI	