PERFORMANCE TESTED COMFORT SYSTEMS®

Last Updated April 2022

PTCS® Ground Source Heat Pump Optional Data Collection Tool

All fields must be completed. Work must be performed by one or more technicians certified in PTCS and/or IGSHPA. Multiple technicians may be employed to meet these certification requirements, but all must be present at the time of the install.

1) **Enter data on a mobile device or computer** at ptcs.bpa.gov using the installing technician's account. Issues entering data? Submit this form for entry:
   - Customers of Bonneville Power Administration (BPA) utilities: email ResHVAC@bpa.gov, fax to 1.877.848.4074, or call 1.800.941.3867
2) **Submit documentation to the customer utility,** including this form, the Registry Installation Report (found online), and any required backup documentation.

Site Information

Install Date		**Electric Utility**	
PTCS Tech Name	**PTCS Tech #**	**IGSHPA Tech Name**	**IGSHPA #**
Installation Site Address	**Site City**	**Site State**	**Site Zip**

Home Type: ☐ Existing Site Built ☐ New Construction Site Built ☐ Manufactured: **# of Sections** ☐ 1 ☐ 2 ☐ 3

Heated Area: **Sq Ft** | **Foundation Type (Site Built):** ☐ Crawlspace ☐ Full Basement ☐ Half Basement ☐ Slab

Existing Heating System Being Replaced *(If new home, indicate heating system installed)*:

☐ Electric Forced Air w/out AC ☐ Electric Forced Air w/ AC ☐ Electric Zonal ☐ Air Source Heat Pump ☐ Ground Source Heat Pump

☐ Natural Gas Furnace (Gas Company: _____) ☐ Other Non-Electric Space Heating: _____

Back up Heat: ☐ None ☐ Electric Forced Air ☐ Electric Zonal ☐ Natural Gas Furnace ☐ Non-Electric Space Heating

New Heat Pump Equipment Data

**PTCS requires GSHPs to be Energy Star qualified. Visit energystar.gov.*

***ENERGY STAR®?** ☐ Y ☐ N	**AHRI#**	☐ Closed Loop ☐ Open Loop ☐ Pond	☐ Vertical Loop ☐ Horizontal Loop	☐ Water-Water ☐ Water-Air
Heat Pump Make		**Heat Pump Model #**		
Is equipment sized to meet PTCS Specs? Provide BP documentation to utility. ☐ Yes ☐ No		**Capacity (tons)**		With Desuperheater? Yes ☐ No ☐
For Closed Loop Systems Total external loop length: _____ft		***For Horizontal ground loop*** Average in-ground loop depth: _____ft.		***For Vertical Loop*** No. _____ and depth _____ ft. of boreholes

For Open Loop Systems Supply side depth (elevation difference between water source and heat pump): _____ft.

Return water: Re-injected into ground. Re-injection depth (elevation difference between heat pump and re-injection point): _____ ft.

Discharged onto the surface. Specify surface:

Air Flow Test

True Flow Plate Type: ☐ Original ☐ Digital/Bluetooth ***Not necessary for Water to Water systems.***

Testing Mode Used: ☐ Heating ☐ Cooling	External Static Pressure *Does not apply to W-W Systems*	Plate Location: ☐ Air Handler ☐ Return Grille ☐ Other:	Units: ☐ Pa ☐ H2O

	Plate 1 ☐ 14 ☐ 20	**Plate 2** ☐ 14 ☐ 20	**External Static Pressure - CFM Manufacturer Lookup Table**
Plate Size			**1.** Use manufacturer lookup table to determine total airflow.
NSOP **[A]**			**2.** Calculate **CFM/ton** **1.** Total Airflow **2.** CFM/ton
TFSOP **[B]**			*Air Flow Notes*
Plate Pressure			
Correction Factor **[C] = √([A]/[B])** or from table			
Raw Flow CFM from tables **[D]**			
Corrected Flow **CFM = [C] x [D]**			**True Flow Total CFM** / **True Flow CFM/ton**

Digital/Bluetooth True Flow Test									
1. Plate Location		**2.** Capacity		**3.** True Flow Total CFM			**4.** True Flow CFM/ton		
☐ Air Handler Return Grille Other:		**Plate 1**	**Plate 2**	**Plate 1**	**Plate 2**	**True Flow Total CFM**	**Plate 1**	**Plate 2**	**True Flow CFM/ton**

Auxiliary Heating System

Auxiliary (strip) heat lockout does not engage at outdoor temperatures above 30 deg: ☐ Yes ☐ No ☐ Other (specify):

Flow Rate in GPM

**For GPM flow rate measure directly.*

Loop In Pressure **[A]**	Loop Out Pressure **[B]**	Pressure Drop **[A-B]**
GPM flow rate from Mfg. table*	Calculate GPM/ton	GPM/ton requirement met: ☐ Y ☐ N

PTCS Commissioned Ground Source Installation Checklist

Temperature Rise/Drop across Ground Loop. Tests to be performed w/o desuperheater after 15 min continuous operation.					
Mode unit tested in: ☐ Heating ☐ Cooling					
Existing Condition	Cooling	Heating	After Adjusted Cond. *(If necessary)*	Cooling	Heating
Loop in Temp.	^{o}F	^{o}F	Loop in Temp.	^{o}F	^{o}F
Loop out Temp.	^{o}F	^{o}F	Loop out Temp.	^{o}F	^{o}F
Temp. Diff.	^{o}F	^{o}F	Temp. Diff.	^{o}F	^{o}F
Target Diff.**	^{o}F	^{o}F	Target Diff.**	^{o}F	^{o}F
Temperature Rise/Drop across Air Coil Check after 15 minutes of continuous operation.					
Existing Condition	Cooling	Heating	After Adjusted Cond. *(If necessary)*	Cooling	Heating
Supply Air Temp.	^{o}F	^{o}F	Supply Air Temp.	^{o}F	^{o}F
Return Air Temp.	^{o}F	^{o}F	Return Air Temp.	^{o}F	^{o}F
Temp. Diff.	^{o}F	^{o}F	Temp. Diff.	^{o}F	^{o}F
Target Diff.**	^{o}F	^{o}F	Target Diff.**	^{o}F	^{o}F

***Refer to manufacturer's installation guide for target loop and air-side temperature splits. If measured splits do not meet the manufacturer's specifications, repair and re-test until specs are met*

Notes