



WHY CHOOSE A PORTLAND POOL PRODUCTS HEAT PUMP?

- 1. Portland heat pumps are specifically designed for excellent performance in the UK**, ensuring maximum energy gain at low air temperatures (high COP at lower air temperatures, when maximum energy is needed)
- 2. Higher COP - Higher energy gain - Less energy costs.**
Portland Heat Pumps have oversized Evaporators, Double Titanium A1 Coil Heat Exchangers, Pre-charged Defrosting System
- 3. Practical functions.**
Backwash function for sand filter; bottom-pan heating to prevent ice-formation around base of unit, waterproof display and control panel
- 4. Value: best prices on the market for the performance and quality you get:**
Portland Pool Products have been designed with the benefit of many years of experience, efficient production, long-lasting relationships with suppliers of quality components and low-cost distribution system.



HOW DOES PORTLAND POOL PRODUCTS ACHIEVE HIGH PERFORMANCE WITH UNIQUE QUALITY?

Performance - COP

Evaporator:

size; number of fins; expansion system.

Output for P-models = +15%

Heat exchanger:

double-flow heat exchanger for increased volume. Output = +15%

Defrosting system: Pre-charged defrosting system.

Output = +11%

Quality - QC

Components: Components selected based on

long-term usage. Pre-testing of components.

Random "extreme" testing of components.

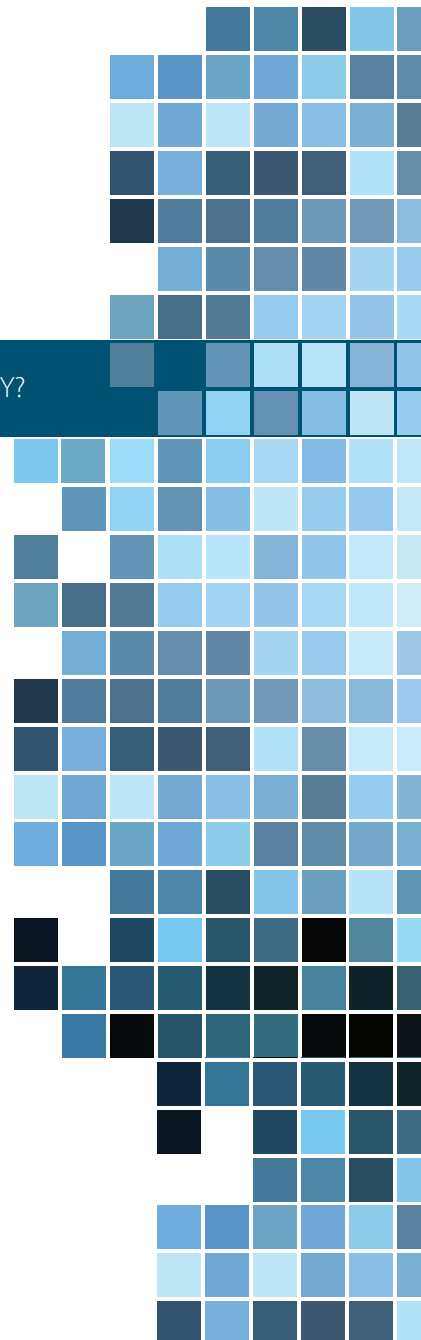
Quality Control - Norwegian QC System:

Special QC 12-point test system & 5-point QC control.

Every 50th unit undergoes "extreme" testing.

Manufacturing standards: 5S / ISO / 6Sigma.

Every 50th unit is performance tested.

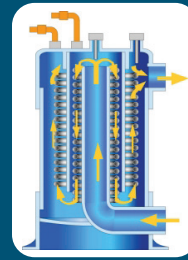


Features:

1. Oversized coated energy collector (air coils) - higher COP
2. Titanium class A1 double-coil heat exchanger
3. Active auto-charged defrosting system - higher COP
4. Digital display
5. Waterproof display and control panel
6. Backwash feature for sand filter
7. Strong plastic casing - no corrosion
8. Bottom heater to prevent ice formation
9. Galvanized bottom plate for horizontal type
10. Horizontal air flow
11. Easy connection to water system
12. Rotary/Scroll compressor
13. Flow switch protection
14. High / low-pressure switch protection
15. Optional vinyl cover for winter protection



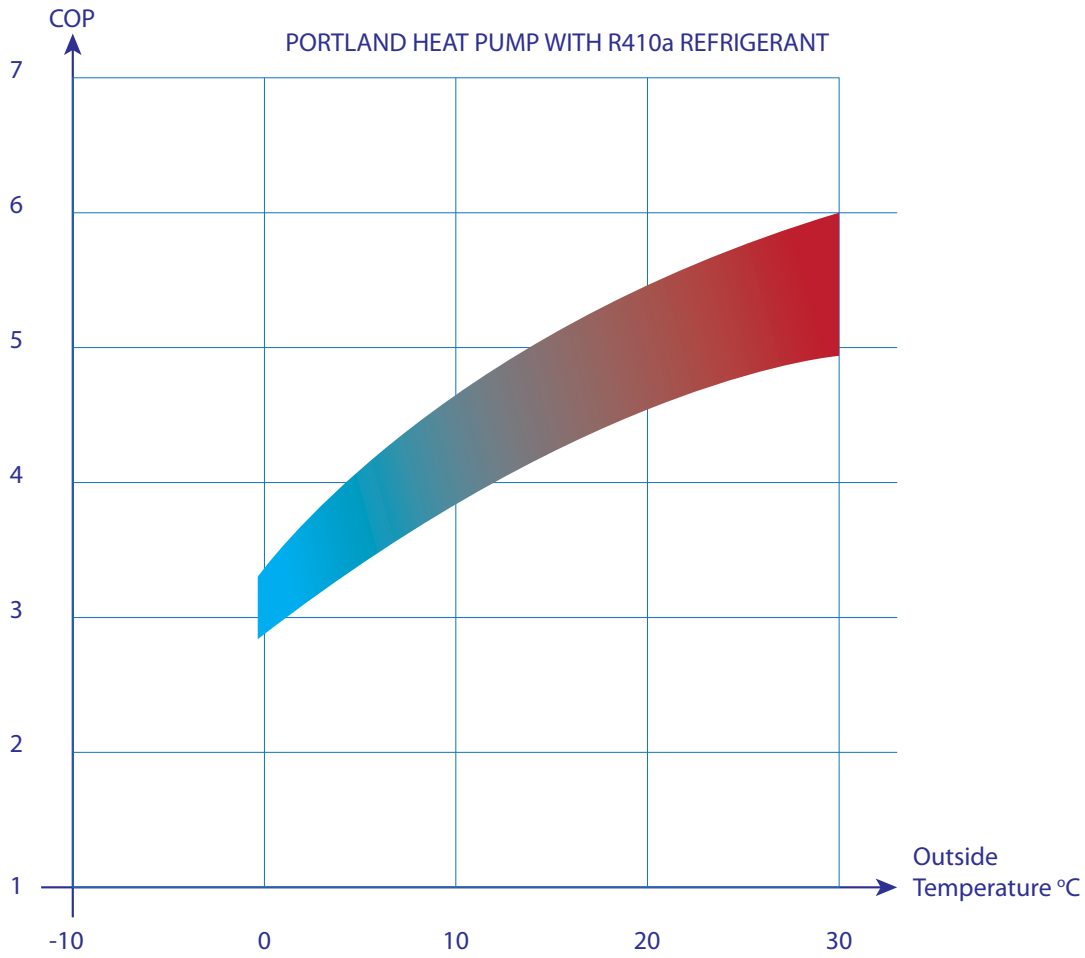
CONTROL PANEL



DOUBLE COIL EXCHANGER

Code			PC13	PC15	PC17	PC20	P21	PC30/3 phase	
Measuring Conditions A24°C W26°C	Heating Capacity	KW	9.5	11.4	13.1	16.7	21.0	24.5	
	Input Power	KW	1.8	2.3	2.6	3.4	4.1	4.7	
	Running Current	A	7.9	9.8	11.1	14.9	18.7	7.8	
	COP	KW/KW	5.2	5.0	5.1	4.9	5.3	5.2	
Measuring Conditions A15°C W26°C	Heating Capacity	KW	7.2	8.9	10.3	13.5	16.3	20.0	
	Input Power	KW	1.7	2.1	2.4	3.3	3.5	4.6	
	Running Current	A	7.2	9.2	10.5	14.5	15.5	7.7	
	COP	KW/KW	4.3	4.2	4.3	4.0	4.7	4.4	
Power Supply	V/PH/HZ	220-240V/1P H/50HZ					380-400V/3P H/50HZ		
Controller		LED/LCD							
Heat Exchanger		Titanium Coil							
Number of Compressors		1	1	1	1	1	1		
Compressor		Rotary					Scroll		
Number of Fans		1	1	1	1	1	2		
Input Power of Fan	W	100	100	110	110	220	440		
Fan Speed	RPM	890	890	850	850	850	850		
Noise (1 mtr)	dB(A)	54	54	56	56	56	57		
Water Connection	inch	1.5"	1.5"	1.5"	1.5"	1.5"	1.5"		
Water Flow Rate (min)	m3/h	2.7	3.6	4	4.9	6	7.5		
Water Pressure Drop	kpa	12	12	14	14	16	16		
Net Dimension	L	mm	1015	1015	1080	1080	1078	1078	
	W	mm	370	370	416	416	416	416	
	H	mm	621	621	708	708	958	1258	
Packing Dimension	L	mm	1140	1140	1150	1150	1150	1150	
	W	mm	400	400	450	450	475	475	
	H	mm	676	676	838	838	1088	1388	
Weight	Net Weight	kg	60	64	75	85	112	140	
	Gross Weight	kg	67	71	83	93	125	152	

Function: Heating & Cooling with reversible defrosting



Output (kW) at different Air Temp. (Water Temp. 26°C)

Heat Pump Model	Max	COP	Air	COP	Air Temperature			COP	Air	Input kW
	Out.	Max	24°C	24°C	15°C	10°C	5°C	5°C	0°C	
	KW	kW/kW	kW	kW/kW	kW	kW	kW	kW/kW	kW	
PC13	10.5	5.8	9.5	5.2	7.2	6.8	5.8	3.2	4.3	1.7
PC15	11.4	5.0	11.4	5.0	8.9	8.2	7.1	3.1	5.3	2.2
PC17	14.4	5.6	13.1	5.1	10.3	9.5	8.2	3.2	6.2	2.4
PC20	18.4	5.4	16.7	4.9	13.5	12.4	10.8	3.1	8.1	3.3
P21	22.5	5.7	21.0	5.1	15.8	14.8	13.6	3.5	12.5	4.1
PC30/3 phase	27.0	5.8	24.5	5.2	20.0	18.4	16.0	3.4	12.0	4.6