

Portable Heat Pumps



Low cost supplemental heat and cooling

Portable heat pumps can heat or cool your home and are easily transportable. They come in window mounted and floor options. They are a great solution for supplemental heat to reduce your reliance on gas or electric baseboard heating, and since they are portable, they are a great solution for renters. We are focusing on the floor mounted option because they are often more powerful and do not require complex installation or permanent mounting to the building as do window units.

These devices are sometimes called Portable AC with Heat. They can heat or cool highly used spaces like kitchens or living rooms or they can cool a bedroom for sleeping. A single unit can heat and cool a small apartment. They offer the efficiency of a heat pump without the cost of whole home system.

Portable Heat Pumps work must be vented to the outside through a vent hose and a window kit which interfaces with the window. They work well with sliding windows which open either vertically or horizontally. They do not work well with hinged, casement type windows. They typically come on rollers for ease of movement and weigh 60- 80 lbs.

While these devices can supply cooling in the summer, they will typically only supply heat when the outside temperature is above 40 degrees F. This makes them useful for the fall and spring, but they will not work during the coldest months of winter when temperatures are below freezing.

Components of a typical model



Vent Hoses

Portable heat pumps will come configured with either a single vent hose which blows air to the outside, or two hoses – one for exhaust and one to bring air from the outside into the unit. Models with two hoses or a two-in-one combined hose will generally be more efficient for heating and will not suck cold air into the home.



Single Hose



Dual Hose



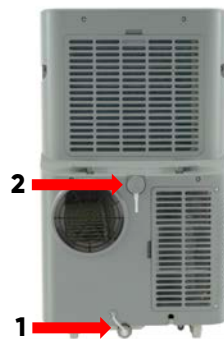
2 in 1 Hose

Condensate Drains

In heating mode, the heat pump will create condensate as it operates. The water will collect in a reservoir which must be emptied occasionally, or it can be pumped through a drain hose to the outside. Models with a single drain at the bottom must be drained manually. Some models have a second drain high on the back of the unit for use in "Dehumidify Mode". Some models have a third drain with an on-board pump so condensate can be pumped out through the window to the outside. This is the preferred solution – we recommend models with an on-board pump.



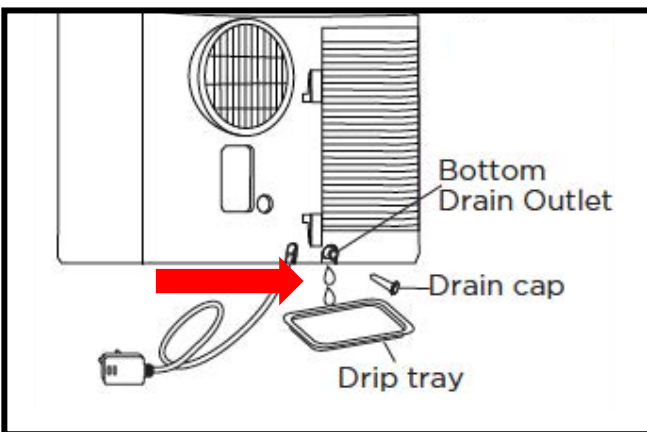
Single Drain



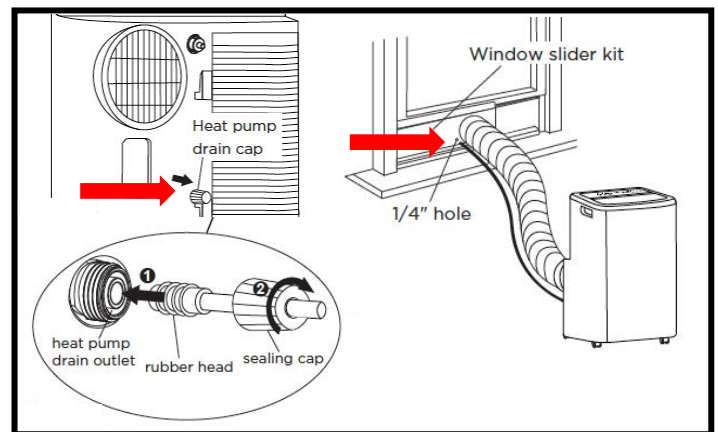
Two Drain



Three Drain and Pump



Single /Two Drain
 Whynter ARC 14
 Black and Decker
 GE/Haier
 Honeywell



Three Drain with Pump
 Whynter ARC 122
 Frigidaire
 LG
 Midea/Toshiba

Portable Heat Pump Model Comparison

	PRICE at Home Depot	Listed Min Oper Temp	Noise dBA @6ft	Heat Cool BTU/h	Vent Hoses	Drain Pump	Drain Hose	Swing Fan	Window Kit	Good Manual
Whynter ARC-122DHP	\$500	45 F	52	10K	2	Green	Green	Red	Yellow	Green
Frigidaire FHPH142AC1	\$530	41 F	49-52	11K	1	Green	Green	Green	Green	Green
Whynter ARC-14SH	\$530	45 F	53-56	13K	2	Red	Red	Red	Yellow	Yellow
Black and Decker BPACT10HWTP	\$550	45 F	54-56	11.5K	1	Red	Yellow	Green	Green	Green
LG LP1021BHSM	\$565	45 F	50-53	12K	1	Green	Green	Green	Green	Green
GE APSA13YBMW	\$630	45 F	50-52	11K	1	Red	Red	Red	Yellow	Red
Honeywell MN4HFS9	\$630	45 F	54	11K	1	Red	Red	Red	Yellow	Green
Midea/Toshiba* MAP14HS1TBL	\$650	45 F	42-56	12K	2	Green	Yellow	Green	Green	Green

*Inverter driven – highest energy efficiency

Conclusions and Recommendations

Portable heat pumps are very effective for heating and cooling rooms and can be more efficient than window mounted units for this purpose. The users manuals will say they only operate above 45 degrees, but we have found that they can be very effective for heating down to 40 degrees F. It is important that you buy a model that specifies heating and cooling if you want to use the device for space heating. They are often advertised as "Portable Air Conditioners With Auxiliary Heat". There is not a big difference between models in the heating or cooling capacity they offer except for the lowest price model which delivered slightly lower capacity. We highly recommend the models with an on-board drain pump for continuous draining. It can be very annoying and clumsy to drain the reservoir on models that do not have this feature. They are similar in the amount of noise they make, but the Midea/Toshiba models have a quiet mode which reduces the noise substantially, but also provides less heating or cooling in that mode.

Recommended Models

We recommend the below models because they have on-board drain pumps. There are some differences between these 4 models regarding the number of vent hoses, swing fans, the quality of the window kit, and the quality of the included drain hose as outlined in the chart above. The Midea/Toshiba model offers inverter technology which should make it more energy efficient than the other models.



Whynter \$500
ARC-122DHP
2 Vent Hoses



Frigidaire \$530
FHPH142AC1
1 Vent Hose



LG \$565
LP1021BHSM
1 Vent Hose



Midea/Toshiba \$650
MAP14HS1TBL
2 Vent Hoses