GREE HEAT PUMPS

GREE WHIO COP & SAVINGS

QUICK REFERENCE SHEET | CUSTOMER EXPLANATION

What is COP?

COP (Coefficient of Performance) shows how efficiently a heat pump turns electricity into useful heat. A COP of 5.4 means that for every 1 kWh of electricity used, the WHIO can theoretically produce about 5.4 kWh of heat.

COP 5.4	1 kWh Electricity	≈ 5.4 kWh Heat

Gree WHIO example – 4 people

Based on the supplied WHIO theoretical payback calculation: 45 litres of hot-water use per person per day, 11.5 kWh of energy required to heat the water, and electricity at $0.30/kWh.

System	Electricity / Day	Cost / Day	Cost / Year
Standard electric cylinder	11.5 kWh	$3.45	$1,259
WHIO – COP 5.4	2.13 kWh	$0.64	$233
Saving	9.37 kWh	$2.81	$1,026

What happens when COP is lower?

The lower the COP, the more electricity is needed to produce the same amount of hot water. The table below shows the impact using the same 11.5 kWh/day requirement and $0.30/kWh electricity price.

COP	Electricity / Day	Cost / Year	Annual Saving	Saving Lost vs COP 5.4
5.4	2.13 kWh	$233	$1,026	—
5.0	2.30 kWh	$252	$1,007	$19
4.5	2.56 kWh	$280	$979	$47
4.0	2.88 kWh	$315	$944	$82
3.5	3.29 kWh	$359	$900	$126
3.0	3.83 kWh	$420	$839	$187
2.5	4.60 kWh	$504	$755	$271
2.0	5.75 kWh	$630	$629	$397

The customer takeaway

COP is directly linked to running cost. At a theoretical COP of 5.4, the WHIO uses about 2.13 kWh to provide the 11.5 kWh of heat required in this example. If the average COP were only 3.0, electricity use would rise to about 3.83 kWh/day and the annual saving would fall from approximately $1,026 to $839.

Important: These are theoretical comparisons based on a COP of 5.4 and do not use weather compensation. Actual COP and running costs will vary with operating conditions, water temperature, ambient temperature and usage.