



Heat Pump

Heat pumps work by extracting the heat from the air and transferring it to the water via a compressor.

Heat pumps use electricity, and its efficiency is directly affected by the temperature around the unit. The warmer it is, the easier job a heat pump will have at transferring the heat to water. The colder it is, the more electricity will be used and the longer it will take for the pool to reach a desired temperature.

Energy regulators and governing bodies recognise that pool covers are an essential part of any swimming pool and can reduce operating costs by up to 40% by reducing heat loss and saving energy. This calculation assumes the use of a pool cover while heating the pool in order to meet expectations when maintaining temperature, reaching initial heat up time and calculating estimated cost of usage.

If maintaining heat is a priority, consider the use of an Intelliheat controller alongside the use of the heat pump recommended in this calculator.

Gas Heating Formula

Gas Heating Formula that will assist further with your sales team when being asked by your clients the time taken for volume of water to reach the desired temp (26 degrees in the examples provided below). The examples below include the current Fluidra Gas Heater range.

The Formula

Volume (litres) X 0.0052 X Temperature Rise divided by megajoules (gas heater size) = Total Time to Heat Spa (the body of water)

e.g. 5000 Litres X 0.0052 X 26 C divided by 120 (JX 130) = 5.5 Hours

e.g. 5000 Litres X 0.0052 X 26 C divided by 155 (JX 160) = 4.7 Hours

e.g. 5000 litres X 0.0052 X 26 C divided by 200 (JXi 200) = 3.4 Hours

e.g. 5000 litres X 0.0052 X 26 C divided by 399 or 400 (JXi 370 / ICI 400) = 1.7 Hours

Calculators

In an effort to improve the accuracy of our calculator, we are now utilising average historical temperature data obtained via an API from sources that gather their data from the Bureau Of Meteorology.

This data is obtained for a specific postcode in real-time as the user enters the required information during the analysis of their pool in order to tailor the recommendation specifically to them.

<https://www.astralpool.com.au/support/heat-pump-calculator>

There are three simple steps to using the tool:

1. Enter information relating to the dimensions of the pool in order to establish the volume of the pool
2. Enter the location (postcode) of the pool
3. Enter the pool use period, electricity cost (if changing from the default) and the desired temperature

The calculator will then determine the minimum KW required for a heat pump and recommend up to three solutions that meet or exceed it.

STEP 1.

The screenshot shows the 'SHAPE OF YOUR POOL' section with three radio button options: 'Circular', 'Rectangular', and 'Other'. The 'Rectangular' option is selected. Below this is the 'DIMENSIONS OF YOUR POOL (METERS)' section with input fields for 'Length' (5), 'Width' (3), and 'Average Depth' (1.5). The calculated 'Pool Volume' is 22500 L.

STEP 2.

The screenshot shows the 'ENTER COST OF YOUR ELECTRICITY' section with a 'Cost in cents' input field set to 28 and a 'Per kw/h' label. Below is the 'POOL USE PERIOD' section with a dropdown menu showing 'Jan' selected. A month selection bar at the bottom includes buttons for Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, and Dec.

STEP 3.

The screenshot shows the 'ENTER YOUR POSTCODE' section with a '2230' input field. Below is a map of the region around Bundamba, Queensland, Australia. At the bottom is the 'AVERAGE TEMPERATURE FOR THIS LOCATION' section with a monthly temperature table:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
23.1	22.2	21.4	18.7	16.2	13.6	13.1	14	17.6	19.2	21.3	21.8