



How much does a spa cost to run?

Electrical consumption on a spa varies with usage, positioning and climate so it is of course difficult to make hard and fast predictions. The details given below are intended for guidance only, they do not form any guarantee of what your costs will be.

Summary of the detailed tests

The smaller Sunset spa used 27 pence of electricity per day to run on the 3 hour filter cycle, about £8.10 per month. To heat up after a water change it used £2.16 of electricity.

The family sized Galileo spa used 55 pence of electricity per day, about £16.50 per month. To heat up again it used £2.27 of electricity.

The Eclipse spa used 50 pence of electricity per day, about £15.00 per month. To heat up again it used £1.64 of electricity.

How much does the electricity cost me?

With deregulation of electricity supply it's a case of "shopping around" for the best deal. However your latest bill should have a price per unit stated on it. Some bills complicate matters by having a "band A" price for the first so many units you use per billing period and another "band b" rate for subsequent units. Unless you use an incredibly small amount of electricity it is the cheaper "band b" cost that you should use for these calculations.

Some typical rates are given below:

Scottish Power	5.26 pence per kWh
N Power	6.25 pence per kWh
Virgin Home Energy	5.37 pence per kWh
Powergen	5.33 pence per kWh

(These rates were current in December 2003 from each company web site)

The calculations below are based on 5 ½ pence per kWh (unit) as a typical electricity rate for people if they have "shopped around".

Electrical Tech Stuff !

Electrical use is usually stated on most bills in pence per unit. A unit is a friendlier term for a kilowatt hour (kWh). If you used a 1 kW appliance (something like a vacuum cleaner) for one hour you would use 1 kWh of electricity.

For example if you were to look carefully at a household free standing electric heater it will probably have a power of 3kW. If this heater was switched on for 4 hours one evening the electricity it would use is: 4 hours x 3kW = 12kWh which is 12 "units". This would cost 12 x 5.5p = £0.66.



Another example would be a domestic electrical shower. Many are rated at 9kW. If someone has a 15 minute shower in the morning this is a quarter of one hour. So the electricity used is: $\frac{1}{4}$ hour x 9kW = $2\frac{1}{4}$ kWh which is $2\frac{1}{4}$ "units". This would cost $2\frac{1}{4}$ x 5.5p = £0.12.

Details of the tests

Sunset Spa

We connected an electrical consumption meter to a Sunset spa in an unheated room that stayed at about 14 deg C. The spa temperature was set at 37 deg C. This spa has an ozone generator and two speed pump, the filtration cycle was set at 3 hours in each 12 (6 in 24) and the spa cover was removed three times per week day to check the water chemistry.

- Over exactly one week the spa used 33.9 kWh x 5.5p = £1.86 (approximately 27p per day)
- Over one month (actually 32 days) it used 158.0 kWh x 5.5p = £8.86 (again 27p per day)
- The experiment was repeated but with a 6 hour in each 12 (12 in 24) filtration cycle. In this case, over one week, the spa used 59.4 kWh x 5.5p = £3.27 (approximately 47p per day)
- When the spa was refilled with fresh water it was at 10 deg C. After the first 24 hours the spa had reached its set point temperature of 37 deg C. It used 39.9 kWh to raise the temperature by this 27 deg C which equates to 1.48 kWh per deg C temperature rise. At 5½p this equates to 8 pence per deg C temperature rise, or £2.19.

Galileo Spa

We connected an electrical consumption meter to a Galileo spa in an unheated room that stayed at about 14 deg C. The spa temperature was set at 37 deg C. This spa has an ozone generator, air blower, twin speed jet pump and a dedicated 24 hour circulation pump, the purge cycle was set at 1 in each 12 hours (2 in 24) and the spa cover was removed three times per week day to check the water chemistry.

- Over exactly one week the spa used 70.3 kWh x 5.5p = £3.87 (approximately 55p per day)
- Multiplying this by 4 approximates to a month: 281.2 kWh x 5.5p = £15.47 (again approx 55p per day)
- When the spa was re-started after cleaning it was at 14 deg C. After 14 hours the spa had reached its set point temperature of 37 deg C. It used 41.2 kWh to raise the temperature by this 23 deg C which equates to 1.8 kWh per deg C temperature rise. At 5½p this equates to 10 pence per deg C temperature rise, or £2.27.

Eclipse Spa

We connected an electrical consumption meter to an Eclipse spa in a garden (Southern England) during September and October. The spa temperature was set first at 36 deg C but in October raised to 38 deg C. This spa has an ozone generator, air blower, two twin speed jet pumps and a dedicated 24 hour circulation pump, the purge cycle was set at 1 in each 12 hours (2 in 24). The spa was used about every other day.

- When the spa was re-started after a water change it was at 20 deg C. In the first 24 hours the spa had reached its set point temperature of 36 deg C. It used 29.9 kWh to raise the temperature by this 16 deg C which equates to 1.87 kWh per deg C temperature rise. At 5½p this equates to 10 pence per deg C temperature rise, or £1.64.
- On an averaged out daily basis (with the spa in use) it used 9.06 kWh per day x 5.5p = 50p per day.
- Multiplying this by 30 it equates to £15.00 per month.

