

## DEGREE DAYS EXPLAINED

To calculate the effect that the Magnatech System has on energy consumption post installation, we use Degree day data.



Degree day data is an industry standard metric used to measure how cold or hot the weather has been in a specific area during a given period, typically expressed as a single index number for a day, week, or month. Heating degree days are a measure of how much, and for how long, the outside air temperature was below a certain level, and cooling degree days are a measure of how much, and for how long, the outside air temperature was above a certain level.

Degree day data is available for free on the internet, we use Degreedays.net which offers information for fixed weather stations in the UK and around the world.

When using degree day data for energy savings calculations, it is crucial to choose a suitable base temperature that aligns with the building's purpose. We use a common default base temperature of 16.5°C (65°F) for heating calculations. By incorporating degree day data into our analysis, it helps "normalise" consumption data, which means it adjusts the energy usage to account for variations in weather conditions.

The purpose of using degree day data is so that we can accurately compare the energy required to heat a building during specific time period e.g. January 1st to April 1st in one year (pre Magnatech installation), then, after an initial bedding in period of one month, with the same three months in the following year (post Magnatech installation). This plays a vital role in the preparation of our savings reports, as the ability to compare energy usage between these two time periods is crucial in the calculation of the savings made to our customers.

Degree day data is recognised as an industry-standard method in the energy industry. Many Monitoring and Targeting or Measurement and Verification (M&T/M&V) systems incorporate this data as part of their built-in functions for accurate data analysis and energy-saving assessments.



## DEGREE DAYS EXPLAINED



To ensure an accurate basis for our comparison between the two years, it is essential we use the same time period and incorporate the calculated degree day data, this ensures a like for like comparison, like comparing apples to apples or oranges to oranges. Without this normalisation we might just as well compare apples to oranges, but any conclusions drawn from the data collected would be sketchy at best, and almost certainly wildly

inaccurate. By using degree day data as part of our M&V system, we are able to level the playing field and achieve reliable, accurate and replicable results.

### How do we calculate heating degree days?

As previously mentioned, we use Degreedays.net. By using their degree days calculator you can simply enter the weather station ID closest to the required location, indicate the heating data type, the temperature units, how you would like the data broken down and the period that you want the data for. Click "Generate Degree Days" and a CSV file showing your information is generated for you to download and open in MicroSoft Excel or similar software.

#### Degree Days.net

*Enter a weather station ID if you have one, or search for any town or city in the world. UK postcodes work too, as do postal codes for most other countries.*

Weather station ID

Data type  Heating  Cooling  Regression  Temperature

Temperature units  Celsius  Fahrenheit

Base temperature   Include base temperatures nearby

Breakdown  Daily  Weekly  Monthly  Custom  Average

Period covered