# COMPARATIVE TEST
# DYNAMIC QUANTUM VS STATIC STORAGE HEATER

## Climate Room Test Chamber - conditions for Room Temperature Profile graph on page 10

A climate room was built to accurately replicate a room from typical UK housing stock. It has two external walls and two internal walls, and the temperatures outside all walls, ceiling and floor are accurately controlled.

The U values of walls, windows and door are as follows:

| | |
|---|---|
| ROOM DIMENSIONS | 4m X 3m X 2.4m |
| U VALUES: | |
| DOUBLE LAYER SOLID BRICK OUTER WALLS | 2.0 |
| INSULATED INTERNAL WALLS AND CEILING | 0.34 |
| INSULATED FLOOR | 0.25 |
| UPVC DOUBLE GLAZED WINDOW | 3.3 |
| UVPC DOUBLE GLAZED DOOR | 3.0 |
| AIR CHANGE RATE | 1 A/C per hour |

## The Test

A daily temperature profile was set up outside the two external walls to simulate an average heating day in a property based in Sheffield, England.

Minimum outside temperature +4ºC
Maximum outside temperature +11ºC

The heating periods were set at 07:00 to 09:00 and 16:00 to 23:00.
The target room thermal comfort temperature was 21ºC during these times.

The following heaters were tested under these conditions:

3.4kW (input) static storage heater with manual charge control - supplemented with a direct acting heater

2.8kW (input) Quantum heater (HSDQ125)

For results please see graph on **page 10.**

# COMPARATIVE TEST RESULTS

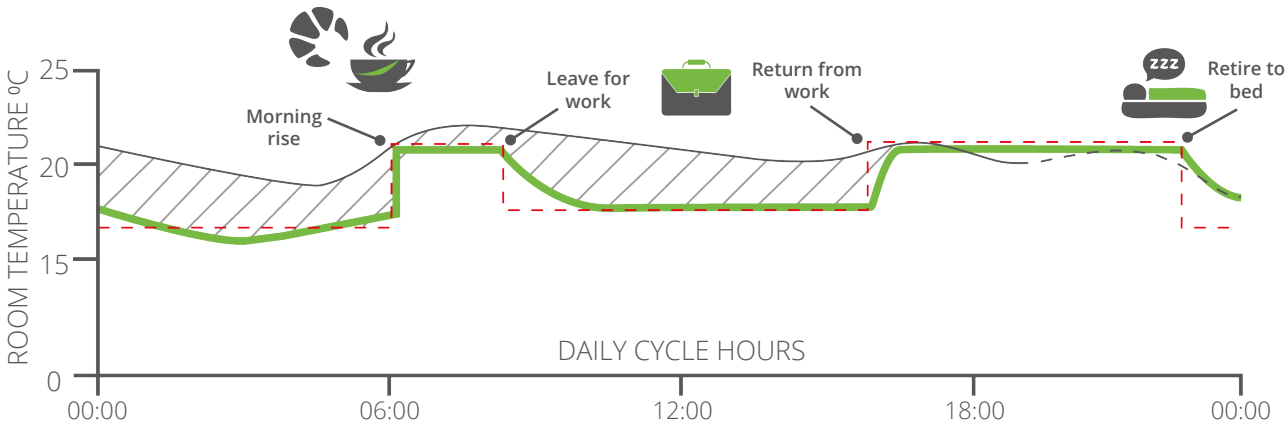
## Room Temperature Profile

Dynamic Quantum HSDQ125 vs Conventional Static 24kWh Storage Heater & Direct Acting Heater

Average weekday profile

Dynamic Quantum Energy Use = 10 kWh - 9 hours heating @ 21ºC

Conventional Storage Energy Use = 12.2 kWh + 1.3kWh Direct Acting Supplementary Heating = 13.6kWh - 9 hours heating @ 21ºC



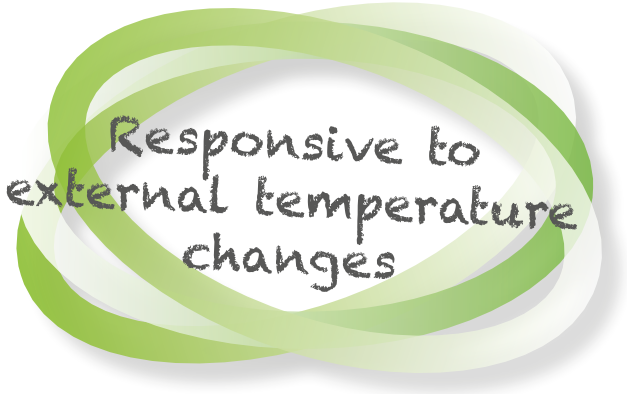

Comfort temperature profile created by static storage heater

Comfort temperature profile created by static storage heater supplemented with Direct Acting Heater

Potential energy saving using Quantum

**Comfort temperature profile created by Dynamic Quantum heater**

**Ideal comfort temperature profile**




**WHETHER YOU'RE SPECIFYING, INSTALLING, LIVING OR WORKING WITH DYNAMIC QUANTUM, YOU'LL QUICKLY REALISE THE BENEFITS THAT THIS ADAPTABLE ELECTRIC HEATING SYSTEM HAS TO OFFER.**