

# DYNAMIC QUANTUM energy system

## Heating Schemes

### What is a Heating Scheme?

The Dynamic Quantum heating design service is a part of Heatstore's commitment to electrical contractors and their customers providing specialist product and technical support.

From drawings supplied by the contractor, the technical team will develop a design solution providing a scheme, listing the number and size of the Dynamic Quantum heaters required. This will be calculated taking into account "U" values and construction details such as walls, floors, windows and roof, whether these are insulated, cavity or solid walls, timber or solid floor, pitched or flat roof and level of glazing for the windows.

Available free of charge with no obligation to the customer, computer generated heating schemes with over 650,000 combinations are individually designed to the specific property. This can be from a one bedroom flat to a 200 room hotel, offering the same level of high detail and complexity.

The computer generated results are then transferred onto the drawings supplied clearly showing where to sight the appropriate heater.

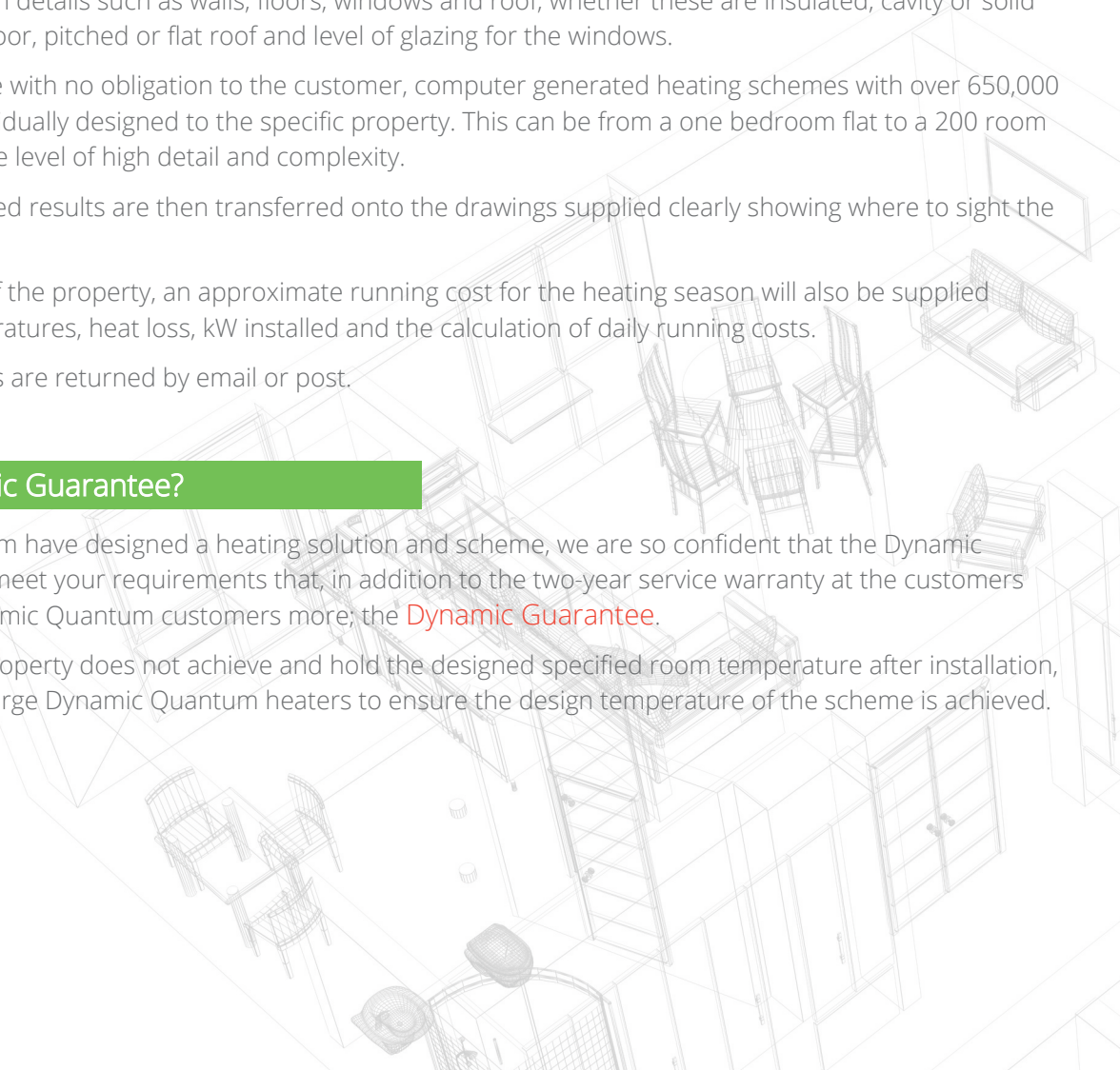
Based on the results of the property, an approximate running cost for the heating season will also be supplied showing design temperatures, heat loss, kW installed and the calculation of daily running costs.

Within 48-hours results are returned by email or post.

### What is the Dynamic Guarantee?

Once our technical team have designed a heating solution and scheme, we are so confident that the Dynamic Quantum heaters will meet your requirements that, in addition to the two-year service warranty at the customers address, we offer Dynamic Quantum customers more; the **Dynamic Guarantee**.

If for any reason the property does not achieve and hold the designed specified room temperature after installation, we will offer free of charge Dynamic Quantum heaters to ensure the design temperature of the scheme is achieved.





### 3 Quantity of heaters required to meet the design specification

Individual room breakdown of heater models required to meet the temperatures shown, with an overall site total of all heaters quoted.

Heatstore  
HEATSTORE, VICTORIA ROAD, AYOUBMOUTH, BRISTOL, BS11 8DB

From: MARTYN FIELD  
Tel: 0117 923 5375  
Date: 07-02-2014 Page 2 of 6

To: [Redacted] To: [Redacted]  
Fax: [Redacted] Fax: [Redacted]

City Electrical Factors  
Unit 25  
North Park  
North Road  
Finglas, Dublin 11

Project: SAMPLE ALL QUANTUM SCHEME

Name: [Redacted]  
Tel: [Redacted]  
Fax: [Redacted]

Ref: HH/104267

DESIGN CRITERIA

- 1) External design temperature -3 °C in still air.
- 2) A warm up period is recommended before a room is to be used.
- 3) The heater selection is based upon the customer requirements as provided.
- 4) In the absence of specified U values the following have been assumed. Before proceeding, please ensure that these reflect as built construction materials.

External Wall	Glazed Area	Door	Internal Wall	Roof	Floor
0.35	2.00	2.00	0.20	0.16	0.25
0.35	2.00	2.00	0.20	0.16	0.25
0.35	2.00	2.00	0.20	0.16	0.25
0.35	2.00	2.00	0.20	0.16	0.25
0.35	2.00	2.00	0.20	0.16	0.25
0.35	2.00	2.00	0.20	0.16	0.25
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0.35	2.00	2.00	0.20	0.16	0.25
0.35	2.00	2.00	0.20	0.16	0.25
0.35	2.00	2.00	0.20	0.16	0.25

HEATER SCHEDULE

Room	Temp	Qty	Model/Description	Off Peak (kW)	Normal (kW)
FLAT 1 TOP LEFT OF PLANS GF	21	1	HSDQ100	4.40	1.76
FLAT 1 TOP LEFT OF PLANS GF	21	2	HSDQ125	5.62	2.28

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Room	Temp	Qty	Model/Description	Off Peak (kW)	Normal (kW)
Bathroom 2	22	1	HSDQ270	1.98	0.88
Bathroom 3	18	1	HSDQ190	2.00	0.88
Bathroom 4	18	1	HSDQ190	11.28	4.53
FLAT 5 GF (Qty x 1)	21	1	HSDQ100	1.98	0.83
FLAT 5 GF (Qty x 1)	21	1	HSDQ270	1.98	0.83
FLAT 5 GF (Qty x 1)	21	1	HSDQ270	1.98	0.83
FLAT 5 GF (Qty x 1)	21	1	HSDQ270	1.98	0.83
FLAT 5 GF (Qty x 1)	21	1	HSDQ270	2.00	0.88
FLAT 5 GF (Qty x 1)	21	1	HSDQ190	3.90	1.80
FLAT 5 GF (Qty x 1)	21	1	HSDQ190	11.34	4.70
FLAT 5 1ST (Qty x 1)	21	1	HSDQ100	1.98	0.83
FLAT 5 1ST (Qty x 1)	21	1	HSDQ270	1.98	0.83
FLAT 5 1ST (Qty x 1)	21	1	HSDQ270	1.98	0.83
FLAT 5 1ST (Qty x 1)	21	1	HSDQ270	1.98	0.83
FLAT 5 1ST (Qty x 1)	21	1	HSDQ270	2.00	0.88
FLAT 5 1ST (Qty x 1)	21	1	HSDQ190	3.90	1.80
FLAT 5 1ST (Qty x 1)	21	1	HSDQ190	11.34	4.70
Flats				8.44	3.61

TOTAL HEATERS FOR SCHEME

Model	Qty
HSDQ270	21
HSDQ190	10
HSDQ100	5

THIS IS A PROVISIONAL SCHEME. FULL PLANS NEED TO BE PROVIDED BEFORE ORDERING

### 4 Bespoke approximate running costs based on information supplied

Using data taken from the Met Office, this gives an approximate running cost based on a 9 month heating season from October to June as used in S.A.P. Calculation Software. This uses the actual heat loss of the specific property to give an approximate daily cost.

APPROXIMATE DYNAMIC QUANTUM DESIGN SCHEME RUNNING COSTS FOR HEATING SEASON

AVERAGE TEMPERATURE FOR HEATING SEASON = 7.4 °C

Based on a 9 month heating season from October to June as used in S.A.P. Calculation Software.

Averages taken for 5 year period from 2005 to 2010.

Allowances have been made for topographical, coastal and urban effects where relationships are found to exist.

Information taken from www.metoffice.gov.uk

CASE STUDY

WINSTON HOTEL

Heat Loss calculated at 7.4°C External Air Temperature

kW installed calculated at -3.0°C External Air Temperature

Design Temperatures:

Living/Dining/Kitchen = 21°C, Bedrooms = 18°C, Hall/Landing = 18°C, Bathroom = 22°C

Other temperatures as per Scheme Design Criteria

Room	HEAT LOSS (kW)	STANDARD E7 STORAGE (kWh)	STANDARD E7 STORAGE TOTAL (kWh)
FLAT 1 Living	1.012	2.78	17.12
Kitchen/Dining	1.365	3.69	
Hall	0.442	1.21	
WC	0.116	0.32	
Study	0.277	0.76	
Bedroom 1	0.425	1.17	
Bedroom 1	0.199	0.55	
Hall	0.611	1.68	
Bedroom 2	0.649	1.78	
Bathroom	0.280	0.71	
Shower	0.329	0.90	
Bedroom 3	0.242	0.66	
	0.335	0.92	
		0.00	
		0.00	

CALCULATION OF DAILY RUNNING COSTS

STANDARD ECONOMY 7

STD E7 STORED (kWh) = 17.12 kW

HOURS OF CHARGE = 7 hours

PRICE OF E7 ELECTRICITY = £0.070

PRICE PER DAY = £8.39

DYNAMIC QUANTUM

STD E7 STORED PRICE PER DAY = £8.39

LESS DYNAMIC QUANTUM EFFICIENCY = 27 %

DYNAMIC QUANTUM PRICE PER DAY = £6.12

DYNAMIC QUANTUM DAILY SAVING = £2.27

DYNAMIC QUANTUM YEARLY SAVING = £618.37



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