



Project name 20 Childs Ave UB9 6RQ

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HEATING SOLUTION NAVIGATOR REPORT



Solution

Daikin Altherma 3 Low & High Capacity Monobloc (4-16) with domestic hot water cylinder (R32)



1. Highlights

- Perfect fit for new built as well as for low energy houses
- All in one outdoor unit with all key hydraulic components
- Easy installation: only water connections required
- Perfect for applications where indoor space is limited
- Guaranteed operation, even at -25°C
- Combination with separate stainless steel tank for domestic hot water preparation

2. Description

Outdoor unit:

- Captures the heat of the outside air, even at low ambient temperatures
- High efficiency thanks to inverter compressor
- R32 refrigerant
- Resistant to cold weather conditions
- All-in-one monobloc with integrated hydraulical parts: circulation pump, filter, expansion vessel
- Only water connections, no external refrigerant connections

Domestic hot water cylinder:

- Stainless steel tank
- Integrated booster heater 3 kW



Application scheme



3. Solution overview

Heating

Required heating capacity	MCS (-1.7 °C): 5.4 kW Min. Ambient (-6.3 °C): 6.8 kW
Leaving water temperature range heating	35 °C - 50 °C
% covered by Heat Pump	MCS (-1.7 °C): 100.0 % Min. Ambient (-6.3 °C): 100.0 %
% covered by BUH	MCS (-1.7 °C): 0.0 % Min. Ambient (-6.3 °C): 0.0 %
Heating capacity of heat pump	MCS (-1.7 °C): 9.13 kW Min. Ambient (-6.3 °C): 8.61 kW
Backup heater capacity	3 kW
Heating spare capacity at min. Ambient, including BUH	6.73 kW
Energy consumption space heating	3793.1 kWh
Yearly space heating thermal energy	11432.2 kWh
Tank size	250 L
Energy consumption DHW*	1595.8 kWh
Yearly DHW thermal energy	4002 kWh
Space heating seasonal efficiency	3.60
Heating CO2 emission	969.5 Kg

*DHW seasonal efficiency is assumed as 2.7

Energy label



Space heating	A++
Domestic hot water	A

4. Contents

Equipment list

Part name	Quantity	Unit type
EDLA09D3V3	1	Outdoor
EKHSU250D3V3	1	Tank

Option list

Part name	Quantity	Description
	2	Anti-freeze valve
	1	Madoka wired remote control (Black)
	1	Pair of flexi feet (Standard)
EKEXPVES	1	Expansion vessel



Noise calculation

Directivity



4

Distance



1.5

Barrier



-5

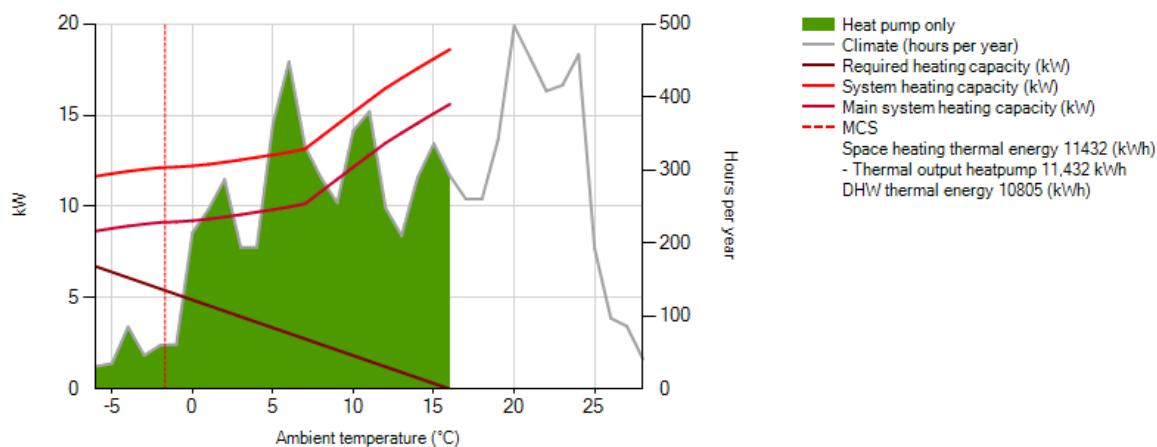
Result

53 dB(A)

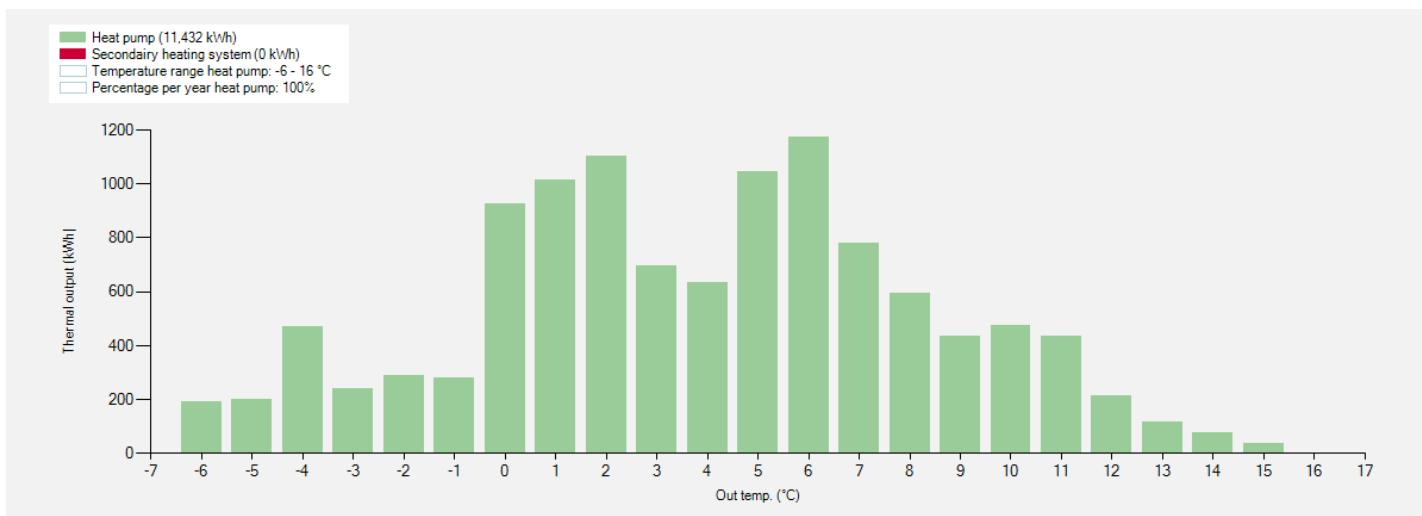
Result

NO-PASS

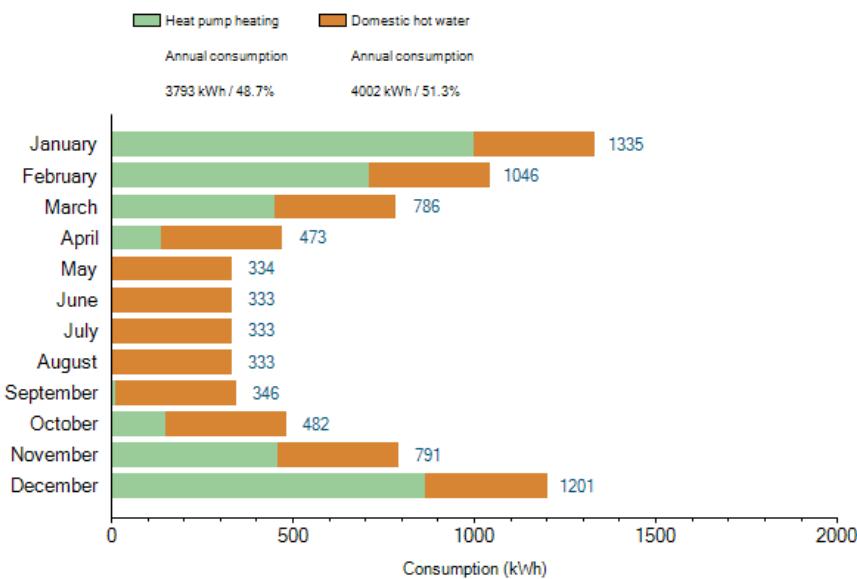
Heating and cooling capacity for system



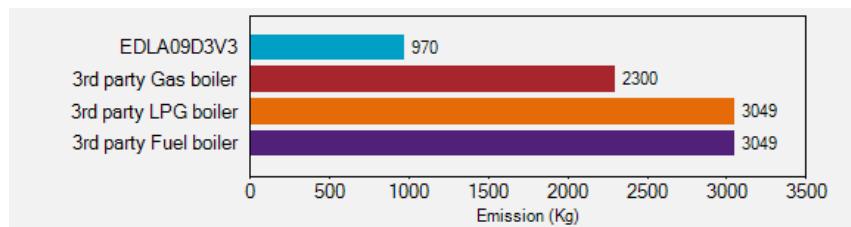
Heating thermal output per source



Energy consumption per month



Annual heating CO₂ emission





Room by room

Main zone

Heating type: Low temperature radiator

Room	Type	Surface	Age of room	Design temp.	Est. annual energy req.	Air change	Heat load
Gnd Hallway	hall	2 m ²	pre2000	21° C	548.44 kWh/year	1.5	258.85W
Living room	livingroom	19.5 m ²	pre2000	21° C	2135.68 kWh/year	1.5	1007.99W
Dining room	diningroom	11.88 m ²	pre2000	21° C	957.74 kWh/year	1.5	452.03W
Kitchen	kitchen	13.23 m ²	pre2000	20° C	2030.46 kWh/year	2	958.33W
Extension	livingroom	11.4 m ²	between2005andpresent	21° C	1458.89 kWh/year	0.5	688.56W
Toilet	toilet	1.98 m ²	pre2000	21° C	472.14 kWh/year	2	222.84W
1st Floor Landing	hall	4.5 m ²	pre2000	21° C	351.14 kWh/year	1.5	165.73W
Bedroom 1	bedroom	11.18 m ²	pre2000	21° C	1208.56 kWh/year	1	570.41W
Bedroom 2	bedroom	8.06 m ²	pre2000	21° C	939.73 kWh/year	1	443.53W
Bedroom 3	bedroom	5.4 m ²	pre2000	21° C	617.68 kWh/year	1	291.53W
Bathroom	bathroom	3.42 m ²	pre2000	22° C	711.73 kWh/year	2	335.92W
Main zone heat load							5395.72W

Total heat load	5395.72W
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Gnd Hallway

Measurement: internal

Fabric loss	Material	Heat transfer to	Thermal bridges insulated	Length (m)	Width (m)	Height (m)	Area (m ²)	U-value (W/m ² K)	ΔT (°C)	Heat loss (Watts)
Ground floor	Ground Floor No Insulation	Through the ground	No				2	0.73	9.7	14.16
Roof	100mm Insulation	Directly to the exterior	No				1.1	0.34	22.7	8.49
External wall	Cavity as built- 1983-1995	Directly to the exterior	No	0.9		2.3	2.07	0.6	22.7	28.19
External wall	Cavity as built- 1983-1995	Directly to the exterior	No	1.2		2.3	2.76	0.6	22.7	6.27
Window	Standard Double Glazing Wood/PVC frame						0.5	2.8	22.7	31.78
Door	High Quality Door 50% glazing						1.8	2.2	22.7	89.89
Internal wall	Standard Aerated Block 100mm	Living room	No	0.9		2.3	2.07	1.66	0	0
Internal wall	Standard Aerated Block 100mm	Living room	No	1.9		2.3	4.37	1.66	0	0
Internal wall	Standard Aerated Block 100mm	Toilet	No	2.2		2.3	5.06	1.66	0	0
Sub total										205.6

Fabric heat loss is estimated based on external room dimension. If the room dimension input is internal, then a factor 1.15 will be multiplied.

Ventilation loss	Air changes per hour	Length (m)	Width (m)	Height (m)	Volume (m³)	Specific heat of air	ΔT (°C)	Heat loss (Watts)
	1.5				4.6	0.34	22.7	53.25
Sub total								

Ventilation heat loss is estimated based on internal room dimension. If the room dimension input is external, then a factor 0.8 will be multiplied.

Result	Heat loss (Watts)
Fabric heat loss	205.6
ventilation heat loss	53.25
Reheat load	0
Exposed location	0
Total heat loss	258.85

Living room

Measurement: internal

Fabric loss	Material	Heat transfer to	Thermal bridges insulated	Length (m)	Width (m)	Height (m)	Area (m ²)	U-value (W/m ² K)	ΔT (°C)	Heat loss (Watts)
Ground floor	Ground Floor No Insulation	Through the ground	No				19.5	1.02	9.7	192.93
Internal ceiling	Intermediate Ceiling Timber without insulation	Bedroom 1	No				17	1.73	0	0
External wall	Cavity as built- 1983-1995	Directly to the exterior	No	2.6		2.3	5.98	0.6	22.7	63.2
Window	Standard Double Glazing Wood/PVC frame						1.34	2.8	22.7	85.17
External wall	Cavity as built- 1983-1995	Directly to the exterior	No	2.5		2.3	5.75	0.6	22.7	78.32
Internal wall	100mm Block with Cavity	Kitchen	No	2.3		2.3	5.29	1.02	1	5.4
Internal wall	Standard Aerated Block 100mm	Dining room	No	4.4		2.3	10.12	1.66	0	0
Party wall	Standard Aerated Block 125mm	To an adjacent building entity	No	3.9		2.3	8.97	1.53	0	0
Internal wall	Standard Aerated Block 100mm	Toilet	No	0.8		2.3	1.84	1.66	0	0
Internal wall	Standard Aerated Block 100mm	Gnd Hallway	No	0.9		2.3	2.07	1.66	0	0
Internal wall	Standard Aerated Block 100mm	Gnd Hallway	No	0.9		2.3	2.07	1.66	0	0
Sub total										488.76

Fabric heat loss is estimated based on external room dimension. If the room dimension input is internal, then a factor 1.15 will be multiplied.

Ventilation loss	Air changes per hour	Length (m)	Width (m)	Height (m)	Volume (m³)	Specific heat of air	ΔT (°C)	Heat loss (Watts)
	1.5				44.85	0.34	22.7	519.23
Sub total								519.23

Ventilation heat loss is estimated based on internal room dimension. If the room dimension input is external, then a factor 0.8 will be multiplied.

Result	Heat loss (Watts)
Fabric heat loss	488.76
ventilation heat loss	519.23
Reheat load	0
Exposed location	0
Total heat loss	1007.99

Dining room

Measurement: internal

Fabric loss	Material	Heat transfer to	Thermal bridges insulated	Length (m)	Width (m)	Height (m)	Area (m ²)	U-value (W/m ² K)	ΔT (°C)	Heat loss (Watts)
Ground floor	Ground Floor No Insulation	Through the ground	No	2.7	4.4		11.88	0.9	9.7	103.71
Internal ceiling	Intermediate Ceiling Timber without insulation	Bathroom	No	2.7	4.4		11.88	1.73	-1	-20.55
Internal wall	Standard Aerated Block 100mm	Living room	No	4.4		2.3	10.12	1.66	0	0
Internal wall	100mm Block with Cavity	Kitchen	No	2.7		2.3	6.21	1.02	1	6.33
Internal wall	Standard Aerated Block 100mm	Extension	No	4.4		2.3	10.12	1.66	0	0
Party wall	Standard Aerated Block 125mm	To an adjacent building entity	No	2.7		2.3	6.21	1.53	3	28.5
Sub total										135.7

Fabric heat loss is estimated based on external room dimension. If the room dimension input is internal, then a factor 1.15 will be multiplied.

Ventilation loss	Air changes per hour	Length (m)	Width (m)	Height (m)	Volume (m ³)	Specific heat of air	ΔT (°C)	Heat loss (Watts)
	1.5	2.7	4.4	2.3	27.324	0.34	22.7	316.33
Sub total								316.33

Ventilation heat loss is estimated based on internal room dimension. If the room dimension input is external, then a factor 0.8 will be multiplied.

Result	Heat loss (Watts)
Fabric heat loss	135.7
ventilation heat loss	316.33
Reheat load	0
Exposed location	0
Total heat loss	452.03

Kitchen

Measurement: internal

Fabric loss	Material	Heat transfer to	Thermal bridges insulated	Length (m)	Width (m)	Height (m)	Area (m ²)	U-value (W/m ² K)	ΔT (°C)	Heat loss (Watts)
Ground floor	Ground Floor 50mm Insulation	Through the ground	No	4.9	2.7		13.23	0.43	8.7	49.49
Roof	200mm Insulation	Directly to the exterior	No	4.9	2.7		13.23	0.18	21.7	51.68
External wall	Building Regulations - 2007-2010	Directly to the exterior	No	2.7		2.3	6.21	0.3	21.7	28.71
Door	High Quality Door 50% glazing						1.8	2.2	21.7	85.93
Internal wall	100mm Block with Cavity	Dining room	No	4.9		2.3	11.27	1.02	-1	-11.5
External wall	Building Regulations - 2007-2010	Directly to the exterior	No	2.7		2.3	6.21	0.3	21.7	25.45
Window	Standard Double Glazing Wood/PVC frame						2.3	2.8	21.7	139.75
External wall	Building Regulations - 2007-2010	Directly to the exterior	No	4.9		2.3	11.27	0.3	21.7	73.37
Sub total										509.32

Fabric heat loss is estimated based on external room dimension. If the room dimension input is internal, then a factor 1.15 will be multiplied.

Ventilation loss	Air changes per hour	Length (m)	Width (m)	Height (m)	Volume (m³)	Specific heat of air	ΔT (°C)	Heat loss (Watts)
	2	4.9	2.7	2.3	30.429	0.34	21.7	449.01
Sub total								

Ventilation heat loss is estimated based on internal room dimension. If the room dimension input is external, then a factor 0.8 will be multiplied.

Result	Heat loss (Watts)
Fabric heat loss	509.32
ventilation heat loss	449.01
Reheat load	0
Exposed location	0
Total heat loss	958.33

Extension

Measurement: internal

Fabric loss	Material	Heat transfer to	Thermal bridges insulated	Length (m)	Width (m)	Height (m)	Area (m ²)	U-value (W/m ² K)	ΔT (°C)	Heat loss (Watts)
Ground floor	Ground Floor 100mm Insulation	Through the ground	No	3	3.8		11.4	0.26	22.7	28.26
Roof	200mm Insulation	Directly to the exterior	No	3	3.8		11.4	0.18	22.7	65.21
Internal wall	100mm Block with Cavity	Dining room	No	3.8		2.3	8.74	1.02	0	0
External wall	Building Regulations - 2007-2010	Directly to the exterior	No	3		2.3	6.9	0.3	22.7	48.62
Door	High Quality Door 50% glazing						1.8	2.2	22.7	89.89
External wall	Building Regulations - 2007-2010	Directly to the exterior	No	3.8		2.3	8.74	0.3	22.7	60.45
Window	Standard Double Glazing Wood/PVC frame						2.4	2.8	22.7	152.54
External wall	Building Regulations - 2007-2010	Directly to the exterior	No	3		2.3	6.9	0.3	22.7	65.78
Sub total										587.38

Fabric heat loss is estimated based on external room dimension. If the room dimension input is internal, then a factor 1.15 will be multiplied.

Ventilation loss	Air changes per hour	Length (m)	Width (m)	Height (m)	Volume (m³)	Specific heat of air	ΔT (°C)	Heat loss (Watts)
	0.5	3	3.8	2.3	26.22	0.34	22.7	101.18
Sub total								

Ventilation heat loss is estimated based on internal room dimension. If the room dimension input is external, then a factor 0.8 will be multiplied.

Result	Heat loss (Watts)
Fabric heat loss	587.38
ventilation heat loss	101.18
Reheat load	0
Exposed location	0
Total heat loss	688.56

Toilet

Measurement: internal

Fabric loss	Material	Heat transfer to	Thermal bridges insulated	Length (m)	Width (m)	Height (m)	Area (m ²)	U-value (W/m ² K)	ΔT (°C)	Heat loss (Watts)
Ground floor	Ground Floor No Insulation	Through the ground	No	2.2	0.9		1.98	0.55	9.7	10.56
Internal ceiling	Intermediate Ceiling Timber without insulation	Bedroom 3	No	2.2	0.9		1.98	1.73	0	0
External wall	Cavity as built- 1983-1995	Directly to the exterior	No	0.9		2.3	2.07	0.6	22.7	21.38
Window	Standard Double Glazing Wood/PVC frame						0.5	2.8	22.7	31.78
External wall	Cavity as built- 1983-1995	Directly to the exterior	No	2.2		2.3	5.06	0.6	22.7	68.92
Internal wall	Standard Aerated Block 100mm	Living room	No	0.9		2.3	2.07	1.66	0	0
Internal wall	Standard Aerated Block 100mm	Gnd Hallway	No	2.2		2.3	5.06	1.66	0	0
Sub total										152.54

Fabric heat loss is estimated based on external room dimension. If the room dimension input is internal, then a factor 1.15 will be multiplied.

Ventilation loss	Air changes per hour	Length (m)	Width (m)	Height (m)	Volume (m ³)	Specific heat of air	ΔT (°C)	Heat loss (Watts)
	2	2.2	0.9	2.3	4.554	0.34	22.7	70.3
Sub total								70.3

Ventilation heat loss is estimated based on internal room dimension. If the room dimension input is external, then a factor 0.8 will be multiplied.

Result	Heat loss (Watts)
Fabric heat loss	152.54
ventilation heat loss	70.3
Reheat load	0
Exposed location	0
Total heat loss	222.84

1st Floor Landing

Measurement: internal

Fabric loss	Material	Heat transfer to	Thermal bridges insulated	Length (m)	Width (m)	Height (m)	Area (m ²)	U-value (W/m ² K)	ΔT (°C)	Heat loss (Watts)
Internal floor	Intermediate Floor Timber with insulation	Living room	No	2.5	1.8		4.5	0.32	0	0
Roof	300mm Insulation	Directly to the exterior	No	2.5	1.8		4.5	0.12	22.7	12.26
Internal wall	Standard Aerated Block 100mm	Bedroom 3	No	1.8		2.4	4.32	1.66	0	0
Internal wall	100mm Block with Cavity	Bedroom 1	No	2.5		2.4	6	1.02	0	0
Internal wall	100mm Block with Cavity	Bathroom	No	1.8		2.4	4.32	1.02	-1	-4.41
Party wall	Standard Aerated Block 125mm	To an adjacent building entity	No	2.5		2.4	6	1.53	3	27.54
Sub total										40.7

Fabric heat loss is estimated based on external room dimension. If the room dimension input is internal, then a factor 1.15 will be multiplied.

Ventilation loss	Air changes per hour	Length (m)	Width (m)	Height (m)	Volume (m ³)	Specific heat of air	ΔT (°C)	Heat loss (Watts)
	1.5	2.5	1.8	2.4	10.8	0.34	22.7	125.03
Sub total								125.03

Ventilation heat loss is estimated based on internal room dimension. If the room dimension input is external, then a factor 0.8 will be multiplied.

Result	Heat loss (Watts)
Fabric heat loss	40.7
ventilation heat loss	125.03
Reheat load	0
Exposed location	0
Total heat loss	165.73

Bedroom 1

Measurement: internal

Fabric loss	Material	Heat transfer to	Thermal bridges insulated	Length (m)	Width (m)	Height (m)	Area (m ²)	U-value (W/m ² K)	ΔT (°C)	Heat loss (Watts)
Internal floor	Intermediate Floor Timber with insulation	Living room	No	4.3	2.6		11.18	0.32	0	0
Roof	300mm Insulation	Directly to the exterior	No	4.3	2.6		11.18	0.12	22.7	30.45
External wall	Cavity as built- 1983-1995	Directly to the exterior	No	2.6		2.4	6.24	0.6	22.7	68.64
Window	Standard Double Glazing Wood/PVC frame						1.2	2.8	22.7	76.27
External wall	Cavity as built- 1983-1995	Directly to the exterior	No	4.3		2.4	10.32	0.6	22.7	140.56
Internal wall	Standard Aerated Block 100mm	Bedroom 2	No	2.6		2.4	6.24	1.66	0	0
Internal wall	Standard Aerated Block 100mm	Bedroom 3	No	4.3		2.4	10.32	1.66	0	0
Sub total										363.32

Fabric heat loss is estimated based on external room dimension. If the room dimension input is internal, then a factor 1.15 will be multiplied.

Ventilation loss	Air changes per hour	Length (m)	Width (m)	Height (m)	Volume (m ³)	Specific heat of air	ΔT (°C)	Heat loss (Watts)
	1	4.3	2.6	2.4	26.832	0.34	22.7	207.09
Sub total								207.09

Ventilation heat loss is estimated based on internal room dimension. If the room dimension input is external, then a factor 0.8 will be multiplied.

Result	Heat loss (Watts)
Fabric heat loss	363.32
ventilation heat loss	207.09
Reheat load	0
Exposed location	0
Total heat loss	570.41

Bedroom 2

Measurement: internal

Fabric loss	Material	Heat transfer to	Thermal bridges insulated	Length (m)	Width (m)	Height (m)	Area (m ²)	U-value (W/m ² K)	ΔT (°C)	Heat loss (Watts)
Internal floor	Intermediate Floor Timber without insulation	Dining room	No	3.1	2.6		8.06	1.73	0	0
Roof	300mm Insulation	Directly to the exterior	No	3.1	2.6		8.06	0.12	22.7	21.96
Internal wall	Standard Aerated Block 100mm	Bedroom 1	No	2.6		2.4	6.24	1.66	0	0
External wall	Cavity as built- 1983-1995	Directly to the exterior	No	3.1		2.4	7.44	0.6	22.7	101.33
External wall	Cavity as built- 1983-1995	Directly to the exterior	No	2.6		2.4	6.24	0.6	22.7	68.64
Window	Standard Double Glazing Wood/PVC frame						1.2	2.8	22.7	76.27
Internal wall	Standard Aerated Block 100mm	Bathroom	No	3.1		2.4	7.44	1.66	-1	-12.35
Sub total										294.23

Fabric heat loss is estimated based on external room dimension. If the room dimension input is internal, then a factor 1.15 will be multiplied.

Ventilation loss	Air changes per hour	Length (m)	Width (m)	Height (m)	Volume (m ³)	Specific heat of air	ΔT (°C)	Heat loss (Watts)
	1	3.1	2.6	2.4	19.344	0.34	22.7	149.3
Sub total								149.3

Ventilation heat loss is estimated based on internal room dimension. If the room dimension input is external, then a factor 0.8 will be multiplied.

Result	Heat loss (Watts)
Fabric heat loss	294.23
ventilation heat loss	149.3
Reheat load	0
Exposed location	0
Total heat loss	443.53

Bedroom 3

Measurement: internal

Fabric loss	Material	Heat transfer to	Thermal bridges insulated	Length (m)	Width (m)	Height (m)	Area (m ²)	U-value (W/m ² K)	ΔT (°C)	Heat loss (Watts)
Internal floor	Intermediate Floor Timber without insulation	Gnd Hallway	No	3	1.8		5.4	1.73	0	0
Roof	300mm Insulation	Directly to the exterior	No	3	1.8		5.4	0.12	22.7	14.71
External wall	Cavity as built- 1983-1995	Directly to the exterior	No	1.8		2.4	4.32	0.6	22.7	42.49
Window	Standard Double Glazing Wood/PVC frame						1.2	2.8	22.7	76.27
Internal wall	Standard Aerated Block 100mm	Bedroom 1	No	3		2.4	7.2	1.66	0	0
Internal wall	Standard Aerated Block 100mm	1st Floor Landing	No	1.8		2.4	4.32	1.66	0	0
Party wall	Standard Aerated Block 125mm	To an adjacent building entity	No	3		2.4	7.2	1.53	3	33.05
Sub total										191.5

Fabric heat loss is estimated based on external room dimension. If the room dimension input is internal, then a factor 1.15 will be multiplied.

Ventilation loss	Air changes per hour	Length (m)	Width (m)	Height (m)	Volume (m³)	Specific heat of air	ΔT (°C)	Heat loss (Watts)
	1	3	1.8	2.4	12.96	0.34	22.7	100.03
Sub total								

Ventilation heat loss is estimated based on internal room dimension. If the room dimension input is external, then a factor 0.8 will be multiplied.

Result	Heat loss (Watts)
Fabric heat loss	191.5
ventilation heat loss	100.03
Reheat load	0
Exposed location	0
Total heat loss	291.53

Bathroom

Measurement: internal

Fabric loss	Material	Heat transfer to	Thermal bridges insulated	Length (m)	Width (m)	Height (m)	Area (m ²)	U-value (W/m ² K)	ΔT (°C)	Heat loss (Watts)
Internal floor	Intermediate Floor Timber without insulation	Dining room	No	1.9	1.8		3.42	1.73	1	5.92
Roof	300mm Insulation	Directly to the exterior	No	1.9	1.8		3.42	0.12	23.7	9.73
Internal wall	Standard Aerated Block 100mm	1st Floor Landing	No	1.8		2.4	4.32	1.66	1	7.17
Internal wall	Standard Aerated Block 100mm	Bedroom 2	No	1.9		2.4	4.56	1.66	1	7.57
External wall	Cavity as built- 1983-1995	Directly to the exterior	No	1.8		2.4	4.32	0.6	23.7	45.79
Window	Standard Double Glazing Wood/PVC frame						1.1	2.8	23.7	73
Party wall	Standard Aerated Block 125mm	To an adjacent building entity	No	1.9		2.4	4.56	1.53	4	27.91
Sub total										203.64

Fabric heat loss is estimated based on external room dimension. If the room dimension input is internal, then a factor 1.15 will be multiplied.

Ventilation loss	Air changes per hour	Length (m)	Width (m)	Height (m)	Volume (m³)	Specific heat of air	ΔT (°C)	Heat loss (Watts)
	2	1.9	1.8	2.4	8.208	0.34	23.7	132.28
Sub total								

Ventilation heat loss is estimated based on internal room dimension. If the room dimension input is external, then a factor 0.8 will be multiplied.

Result	Heat loss (Watts)
Fabric heat loss	203.64
ventilation heat loss	132.28
Reheat load	0
Exposed location	0
Total heat loss	335.92



Radiator Calculations

Design properties

Leaving water temperature	Returning water temperature
50 °C	42 °C

Equipment list



Room	Heat load	Oversize factor	Ref. name	Brand / range	New / Existing	Panel type	Height	Width	Capacity	Added to list
Dining room	511.45W	0.62	Radiator 1	DefaultSteelRadiator	Existing	1 panel 1 convector	600 mm	900 mm	317.19W	
Extension	832.77W	0.353	Radiator 1	DefaultSteelRadiator	Existing	1 panel 1 convector	500 mm	1000 mm	293.69W	
Gnd Hallway	217.71W	0.486	Radiator 1	DefaultSteelRadiator	Existing	1 panel 1 convector	450 mm	400 mm	105.73W	
Living room	299.79W	2.883	Radiator 1	DefaultSteelRadiator	Existing	1 panel 1 convector	600 mm	1400 mm	493.4W	
			Radiator 2	DefaultSteelRadiator	Existing	2 panels 2 convectors	600 mm	600 mm	370.94W	
Toilet	256.26W	0.264	Radiator 1	DefaultSteelRadiator	Existing	1 panel	450 mm	400 mm	67.57W	
Bedroom 1	655.97W	0.322	Radiator 1	DefaultSteelRadiator	Existing	1 panel 1 convector	600 mm	600 mm	211.46W	
Bedroom 2	510.06W	0.177	Radiator 1	DefaultSteelRadiator	Existing	1 panel	600 mm	400 mm	90.09W	
Bedroom 3	335.26W	0.269	Radiator 1	DefaultSteelRadiator	Existing	1 panel	600 mm	400 mm	90.09W	
Bathroom	386.3W	0.36	Radiator 1	DefaultSteelRadiator	Existing	1 panel 1 convector	500 mm	500 mm	139.26W	



DHW Calculation

	Weekly disinfection load [kWh]	Daily DHW load [kWh]	Annual DHW load [kWh]	Annual CO2 emission
Heat pump	0	10	3820	583
Immersion heater	3	0	181	75
Total	3	10	4001	658



Terms & Conditions

TERMS OF USE – Heating Solutions Navigator

Please read through these terms of use carefully.

The Heating Solutions Navigator provides only a rough estimate of the equipment required and the cost associated with any home upgrade project. To provide an accurate quote it is recommended to complete a full calculation of the heat loss and heating or cooling required for the space given.

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If applicable the Tool calculates an 'as representative as possible' seasonal efficiency, energy consumption and cost of the space heating mode, based on individual criteria indicated by the User (climate, heating emitters, design load, usage profile, energy prices...). Consequently, these values may differ from the seasonal efficiency data according EU regulations (EU) no 811 / 2013 and (EU) no 813 / 2013 published on www.daikineurope.com/energylabel. Also, these values are not to be used to calculate payments from potential local Incentive Schemes.

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Cookies

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More information on the purposes for which "cookies" are used and your options regarding the use of certain "cookies" can be found in the [Cookie Notice](#).

Specifics on functionalities of the sub tools

The sub tool "Unit Selection" provides the User with an 'as representative as possible' seasonal efficiency, energy consumption and cost of the space heating mode, based on individual criteria indicated by the User or based on the user location information (climate, heating emitters, design load, usage profile, energy prices...). The different calculation steps for the Unit Selection can be reviewed in appendix 1.

The sub tool "Simplified Heat Load Calculator" allows users to calculate the heat load in a simplified manner based on historical energy consumption or based on information regarding the building involved (such as the location of the building age of the building, heating surface, building type (bungalow, inhabited attic, house with more than one floor), adjoining type (detached, semi-detached, mid terrace), energy source, annual consumption).

We recommend users to use a calculation method like Room By Room Heat Load Calculator to be able to select the most suitable unit.

The different calculation steps of the "Simplified Heat Load calculator" can be reviewed in appendix 2.

The outcome of the "Load calculation" is merely indicative.

The sub tool room by room Heat Load Calculator allows users to calculate the heat load in a detailed way based on information of room by room thermal performance. This Calculator is based on calculation methodologies given in EN 12831, the "Domestic Heating Design Guide" (UK) and CIBSE Guide A (UK) but this tool doesn't guarantee the full compliance with these standards and other local standards.

The different calculation steps of the Room by room Heat Load Calculator can be reviewed in appendix 3.

The sub tool "Domestic Hot Water heat load calculator" has two scenarios to calculate the load capacity of domestic hot water: specify and profile. The different calculation steps of both methods of the Domestic Hot Water heat load calculator can be viewed in appendix 4.

The sub tool "Radiator sizing calculator" allows users to calculate the radiators needed for the heat load as calculated in the sub tool room by room Heat Load Calculator.

The different calculation steps of the Daikin "Radiator sizing calculator" can be reviewed in appendix 5. The outcome of the "Radiator sizing calculator" is merely an estimation of the radiator capacity that is needed. The calculation is based on calculation methodologies given in EN 442-2 (1996) and "Design of low-temperature domestic heating systems" (by BRE, UK).

The sub tool "Sound Calculation" allows users to calculate the outdoor sound pressure level for the recommended solution. The sound calculation in the Heating Solutions Navigator is based upon the standard MCS 020 noise standard.

The flow temperatures used in the Heating Solutions Navigator are merely an indication. The user needs to assure these flow temperatures are matching the actual installation.

In the sub tool "Piping and wiring diagram" the diagrams that are generated in this sub tool take into account general installation methods and guidance for heating systems, which are to be considered as common practice in the European heating market.

The sub tool "Solar Selection Tool" gives an indication on the potential return on investment, CO2 savings, cost savings and others. More information can be found in appendix 6.

The sub tool "Economic Viability Study (EVS)" allows professional users of the Stand By Me platform to do simulation of the total life cycle cost of Daikin branded products/solutions in comparison with the life cycle costs of other standard residential heating products/solutions offered in the market. More information can be found in appendix 7.

Miscellaneous

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Contact information

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