Heating | TM65 Calculation

MITSUBISHI ELECTRIC

Ecodan R290
8.5kW Air Source Heat Pump

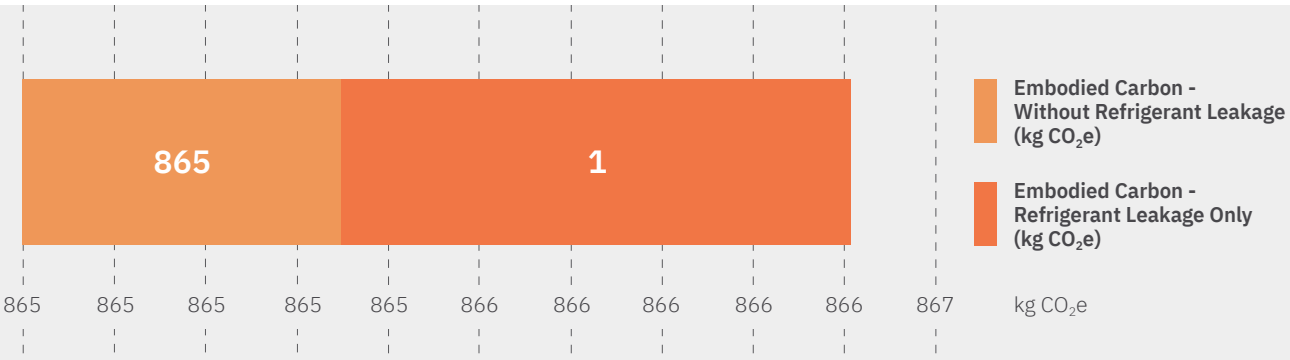
CIBSE TM65 Embodied Carbon Mid-level Calculation

ecodan® Renewable Heating Technology

Assesment Date:	13th December 2024
Assessor / Organisation:	Mitsubishi Electric Residential Product Marketing
Contact:	embodied.carbon@meuk.mee.com

Embodied Carbon with 'Mid-level TM65 Calculation' Method (kg CO_2e) Total:	**866**

Capacities (kW)*	8.5
Embodied Carbon Result per kW (kg CO_2e/kW):	101.93



PUZ- WZ85YAA - Product Information

Type of product	**A2W Heat Pump**
Capacity of equipment (kW)	**8.50**
Product weight (kg)	**117.00**
Material breakdown for at least 95% of the product weight? (Y/N)	**Y**
Service life of the product (years)	**15**
Type of refrigerant	**R290**
Refrigerant GWP*	**3**
Energy consumption of the factory per unit of product (kWh)	**26.65**
Location of manufacture	**UK**
Product Complexity	**Category 3: High**

*Nominal cooling capacity conditions as per data book

QUIET MARK

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Embodied Carbon Results Breakdown (kg CO_2e)	
A1: Material extraction	471
A2: Transport	92
A3: Manufacturing	32
A4: Transport to Site	1
B1: Use	1
B3: Repair	61
C1: Deconstruction	0
C2: Transport	2
C3: Waste Processing	8
C4: Disposal	0

Embodied Carbon Results - without Refrigerant Leakage (kg CO_2e)	
A1-C4 (excluding B1,C1)	666
A1-C4 with Buffer Factor (excluding B1, C1)	865

Embodied Carbon Result - Refrigerant Leakage Only (kg CO_2e)	
B1 (Refrigerant leakage during use) + C1 (Refrigerant leakage end of life)	1

Assumptions	
A1: Material carbon coefficient source	TM65 Table 2.1 & The ICE Database
B1: Refrigerant annual leakage rate (%)	2
C1: Refrigerant end of life recovery rate (%)	99
B3: Materials replaced as part of repair (%)	10 (TM65 Assumption)
C4: Percentage of product going to landfill (%)	30

MITSUBISHI ELECTRIC
Changes for the Better

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Note: The fuse rating is for guidance only and please refer to the relevant databook for detailed specification. It is the responsibility of a qualified electrician/electrical engineer to select the correct cable size and fuse rating based on current regulation and site specific conditions. Mitsubishi Electric's air conditioning equipment and heat pump systems contain a fluorinated greenhouse gas, R410A (GWP:2088), R290 (GWP:3), R32 (GWP:675), R407C (GWP:1774), R134a (GWP:1430), R513A (GWP:631), R454B (GWP:466), R454C (GWP:148), R1234ze (GWP:7) or R1234yf (GWP:4). *These GWP values are based on Regulation (EU) No 517/2014 from IPCC 4th edition. In case of Regulation (EU) No.626/2011 from IPCC 3rd edition, these are as follows. R410A (GWP:1975), R32 (GWP:550), R407C (GWP:1650) or R134a (GWP:1300).

Effective as of January 2025

Green Gateway greengateway.mitsubishielectric.co.uk