

EW-HT 0302

CIBSE TM65 Embodied Carbon Mid-level Calculation

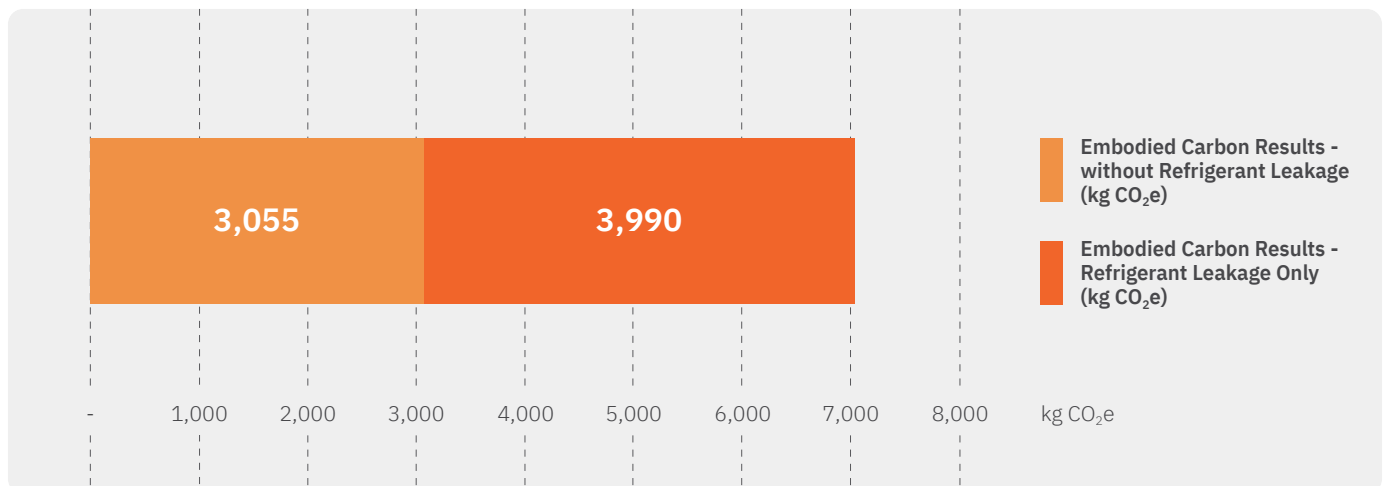
Assessment Date: 1st July 2022

Assessor / Organisation: Mitsubishi Electric

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Embodied Carbon Result with 'Mid-level TM65 Calculation' Method Total:

7,045 (kg CO₂e)



EW-HT 0302 - Product Information

Type of product	W2W Heat Pump
Capacity of equipment (kW)	139.4
Product weight (kg)	415
Material breakdown for at least 95% of the product weight? (Y/N)	Y
Service life of the product (years)	15
Type of refrigerant	R134a
Refrigerant GWP*	1300
Energy consumption of the factory per unit of product (kWh)	273.6
Location of manufacture	Europe
Product Complexity	Category 3: High

*IPCC AR5



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Embodied Carbon Results Breakdown (kg CO₂e)

A1: Material extraction	1,579
A2: Transport	10
A3: Manufacturing	372
A4: Transport to Site	89
B1: Use	3,861
B3: Repair	214
C1: Deconstruction	129
C2: Transport	5
C3: Waste Processing	79
C4: Disposal	1

Embodied Carbon Results - without Refrigerant Leakage (kg CO₂e)

A1-C4 (excluding B1,C1)	2,350
A1-C4 with Buffer Factor (excluding B1, C1)	3,055

Embodied Carbon Result - Refrigerant Leakage Only (kg CO₂e)

B1 (Refrigerant leakage during use) + C1 (Refrigerant leakage end of life)	3,990
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Assumptions

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



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