

i-FX-Q2-G05/SL-CA 1002

CIBSE TM65 Embodied Carbon Mid-level Calculation

Assesment Date:	1st July 2022	Embodied Carbon Result with 'Mid-level TM65 Calculation' Method Total:
Assessor / Organisation:	Mitsubishi Electric	
Contact:	embodied.carbon@meuk.mee.com	

174,038 (kg CO₂e)



i-FX-Q2-G05/SL-CA 1002 - Product Information

Type of product	A2W Heat Pump
Capacity of equipment (kW)	949
Product weight (kg)	13,582
Material breakdown for at least 95% of the product weight? (Y/N)	Y
Service life of the product (years)	15
Type of refrigerant	R513A
Refrigerant GWP*	573
Energy consumption of the factory per unit of product (kWh)	2269.6
Location of manufacture	Europe
Product Complexity	Category 3: High

*IPCC AR5



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Embodied Carbon Results Breakdown (kg CO₂e)

A1: Material extraction	56,061
A2: Transport	314
A3: Manufacturing	3,087
A4: Transport to Site	2,622
B1: Use	81,309
B3: Repair	6,295
C1: Deconstruction	2,710
C2: Transport	173
C3: Waste Processing	658
C4: Disposal	35

Embodied Carbon Results - without Refrigerant Leakage (kg CO₂e)

A1-C4 (excluding B1,C1)	69,245
A1-C4 with Buffer Factor (excluding B1, C1)	90,019

Embodied Carbon Result - Refrigerant Leakage Only (kg CO₂e)

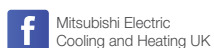
B1 (Refrigerant leakage during use) + C1 (Refrigerant leakage end of life)	84,019
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Assumptions

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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Effective as of August 2022

