

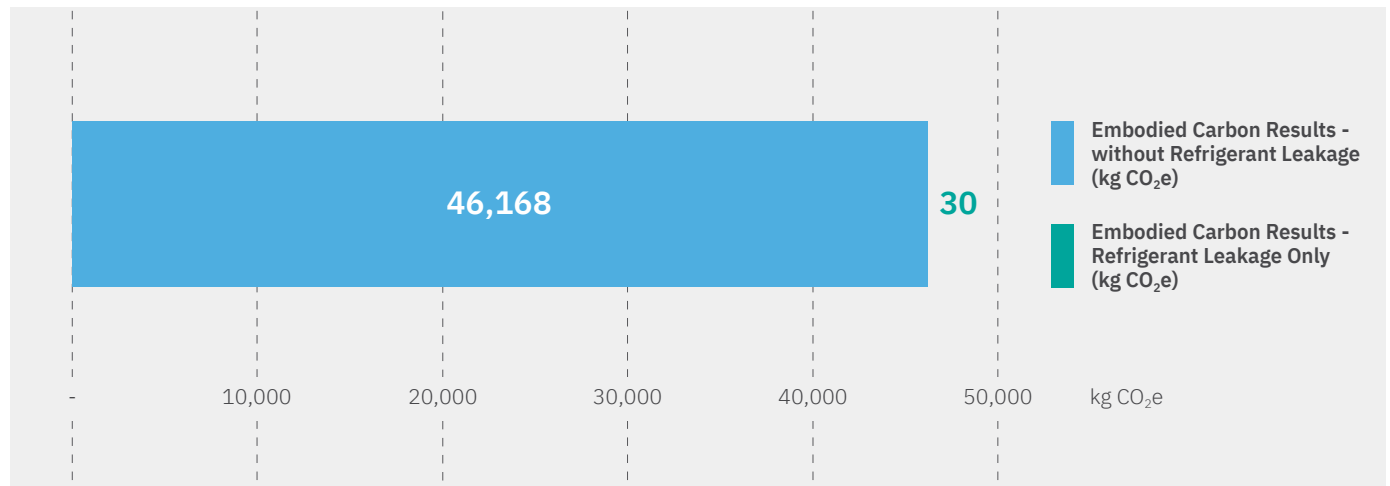
i-FX2-G04-K 0672

CIBSE TM65 Embodied Carbon Mid-level Calculation

Assesment Date: 3rd September 2025
Assessor / Organisation: Mitsubishi Electric LES UK
Contact: embodied.carbon@meuk.mee.com

Embodied Carbon with 'Mid-level TM65 Calculation' Method (kg CO₂e) Total:

46,197



i-FX2-G04-K 0672 - Product Information

Type of product	Chiller
Capacity of equipment (kW)	667.1
Product weight (kg)	4924
Material breakdown for at least 95% of the product weight? (Y/N)	Y
Service life of the product (years)	15
Type of refrigerant	HF01234ze
Refrigerant GWP	1
Energy consumption of the factory per unit of product (kWh)	1805.6
Location of manufacture	Europe
Product Complexity	Category 3: High





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Embodied Carbon Results Breakdown (kg CO₂e)

A1: Material extraction	24,363
A2: Transport	3,900
A3: Manufacturing	2,456
A4: Transport to Site	966
B1: Use	29
B3: Repair	3,229
C1: Deconstruction	1
C2: Transport	64
C3: Waste Processing	524
C4: Disposal	13

Embodied Carbon Results - without Refrigerant Leakage (kg CO₂e)

A1-C4 (excluding B1,C1)	35,514
A1-C4 with Buffer Factor (excluding B1, C1)	46,168

Embodied Carbon Result - Refrigerant Leakage Only (kg CO₂e)

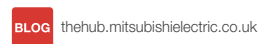
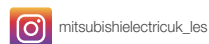
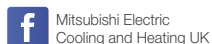
B1 (Refrigerant leakage during use) + C1 (Refrigerant leakage end of life)	30
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Assumptions

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



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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), R32 (GWP:675), R407C (GWP:1774), R134a (GWP:1430), R513A (GWP:631), R454B (GWP:466), R515B (GWP:292), 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. Mitsubishi Electric's air conditioning equipment and heat pump systems contain a hydrocarbon, R290 (GWP:0.02). *These GWP values are based on IPCC 6th edition.

Effective as of September 2025

