

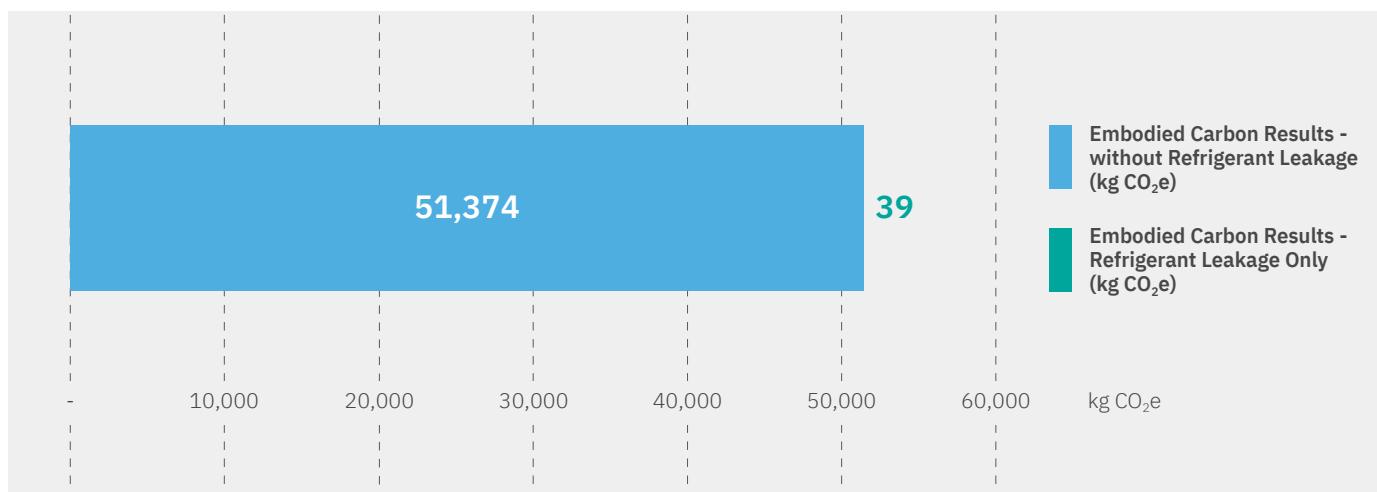
# i-FX2-G04-E 0662

## CIBSE TM65 Embodied Carbon Mid-level Calculation

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

**Embodied Carbon with 'Mid-level TM65 Calculation' Method (kg CO<sub>2</sub>e) Total:**

**51,413**



### i-FX2-G04-E 0662 - Product Information

Type of product	Chiller
Capacity of equipment (kW)	658.3
Product weight (kg)	5455
Material breakdown for at least 95% of the product weight? (Y/N)	Y
Service life of the product (years)	15
Type of refrigerant	HFO1234ze
Refrigerant GWP	1
Energy consumption of the factory per unit of product (kWh)	1660.8
Location of manufacture	Europe
Product Complexity	Category 3: High



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## Embodied Carbon Results Breakdown (kg CO<sub>2</sub>e)

A1: Material extraction	27,712
A2: Transport	4,320
A3: Manufacturing	2,259
A4: Transport to Site	1,069
B1: Use	38
B3: Repair	3,593
C1: Deconstruction	1
C2: Transport	70
C3: Waste Processing	482
C4: Disposal	14

## Embodied Carbon Results - without Refrigerant Leakage (kg CO<sub>2</sub>e)

A1-C4 (excluding B1,C1)	39,519
A1-C4 with Buffer Factor (excluding B1, C1)	51,374

## Embodied Carbon Result - Refrigerant Leakage Only (kg CO<sub>2</sub>e)

B1 (Refrigerant leakage during use) + C1 (Refrigerant leakage end of life)	39
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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:674), R407C (GWP:1430), R513A (GWP:631), R454B (GWP:468), R515B (GWP:292), R454C (GWP:118), R1234ze (GWP:7) or R1234yf (GWP:4). \*These GWP values are based on Regulation (EU) No 511/2014 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

