

MECH-iS-G07 /0092

CIBSE TM65 Embodied Carbon Mid-level Calculation

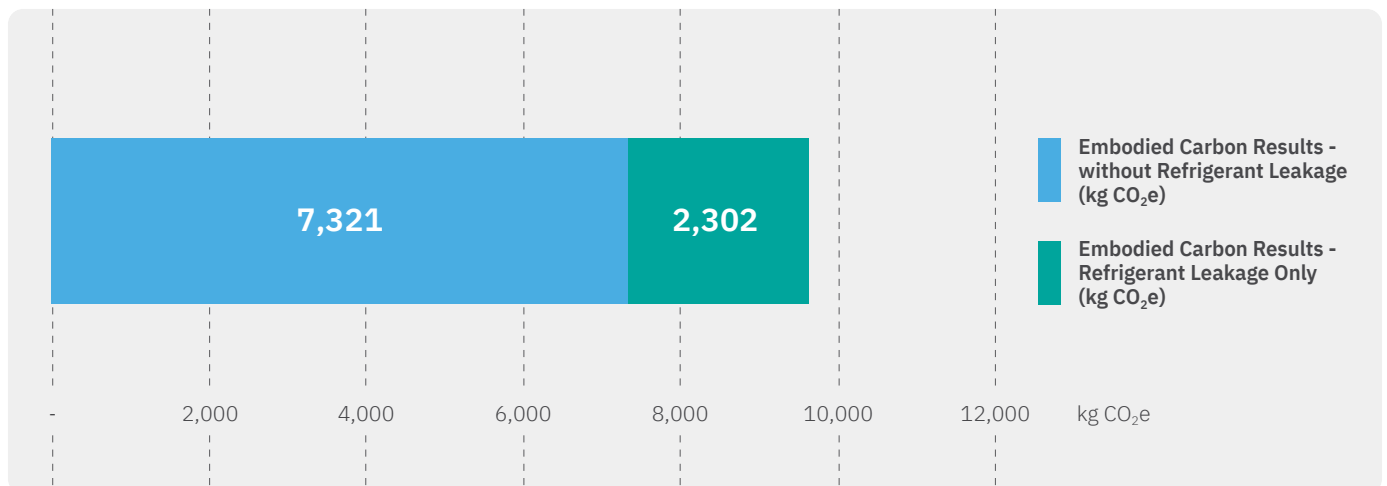
Assesment Date: November 2022

**Assessor /
Organisation:** Mitsubishi Electric

Contact: embodied.carbon@meuk.mee.com

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

9,623 (kg CO₂e)



MECH-iS-G07 /0092 - Product Information

Type of product	Chiller
Capacity of equipment (kW)	90
Product weight (kg)	835
Material breakdown for at least 95% of the product weight? (Y/N)	Y
Service life of the product (years)	15
Type of refrigerant	R32
Refrigerant GWP	675
Energy consumption of the factory per unit of product (kWh)	196.8
Location of manufacture	Europe
Product Complexity	Category 3: High



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Embodied Carbon Results Breakdown (kg CO₂e)

A1: Material extraction	3,945
A2: Transport	661
A3: Manufacturing	268
A4: Transport to Site	175
B1: Use	2,228
B3: Repair	512
C1: Deconstruction	74
C2: Transport	11
C3: Waste Processing	57
C4: Disposal	2

Embodied Carbon Results - without Refrigerant Leakage (kg CO₂e)

A1-C4 (excluding B1,C1)	5,632
A1-C4 with Buffer Factor (excluding B1, C1)	7,321

Embodied Carbon Result - Refrigerant Leakage Only (kg CO₂e)

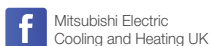
B1 (Refrigerant leakage during use) + C1 (Refrigerant leakage end of life)	2,302
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Assumptions

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 November 2022

