

# MECH-iS-G07 /0082

## CIBSE TM65 Embodied Carbon Mid-level Calculation

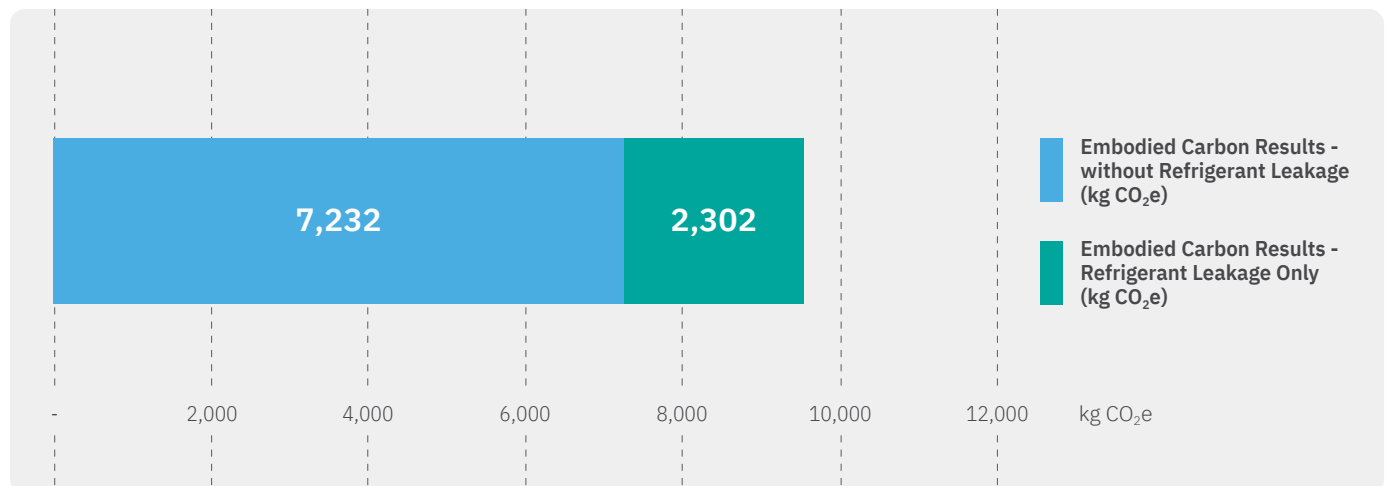
**Assesment Date:** November 2022

**Assessor / Organisation:** Mitsubishi Electric

**Contact:** embodied.carbon@meuk.mee.com

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

**9,534 (kg CO<sub>2</sub>e)**



### MECH-iS-G07 /0082 - Product Information

Type of product	Chiller
Capacity of equipment (kW)	80
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)	159
Location of manufacture	Europe
Product Complexity	Category 3: High



# MECH-iS-G07 /0082

## CIBSE TM65 Embodied Carbon Mid-level Calculation



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

A1: Material extraction	3,945
A2: Transport	661
A3: Manufacturing	216
A4: Transport to Site	175
B1: Use	2,228
B3: Repair	506
C1: Deconstruction	74
C2: Transport	11
C3: Waste Processing	46
C4: Disposal	2

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

A1-C4 (excluding B1,C1)	5,563
A1-C4 with Buffer Factor (excluding B1, C1)	7,232

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

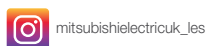
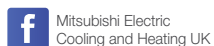
B1 (Refrigerant leakage during use) + C1 (Refrigerant leakage end of life)	2,302
--	-------

### 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)



Telephone: 01707 282880  
email: [embodied.carbon@meuk.mee.com](mailto:embodied.carbon@meuk.mee.com)  
[les.mitsubishielectric.co.uk](http://les.mitsubishielectric.co.uk)



UNITED KINGDOM Mitsubishi Electric Europe Living Environment Systems Division, Travellers Lane, Hatfield, Hertfordshire, AL10 8XB, England. Telephone: 01707 282880 Fax: 01707 278881  
IRELAND Mitsubishi Electric Europe, Westgate Business Park, Ballymount, Dublin 24, Ireland. Telephone: (01) 419 8800 Fax: (01) 419 8890 International code: (003531)

Country of origin: United Kingdom - Italy - Turkey - Japan - Thailand - Malaysia. ©Mitsubishi Electric Europe 2022. Mitsubishi and Mitsubishi Electric are trademarks of Mitsubishi Electric Europe B.V. The company reserves the right to make any variation in technical specification to the equipment described, or to withdraw or replace products without prior notification or public announcement. Mitsubishi Electric is constantly developing and improving its products. All descriptions, illustrations, drawings and specifications in this publication present only general particulars and shall not form part of any contract. All goods are supplied subject to the Company's General Conditions of Sale, a copy of which is available on request. Third-party product and brand names may be trademarks or registered trademarks of their respective owners.

Effective as of November 2022

