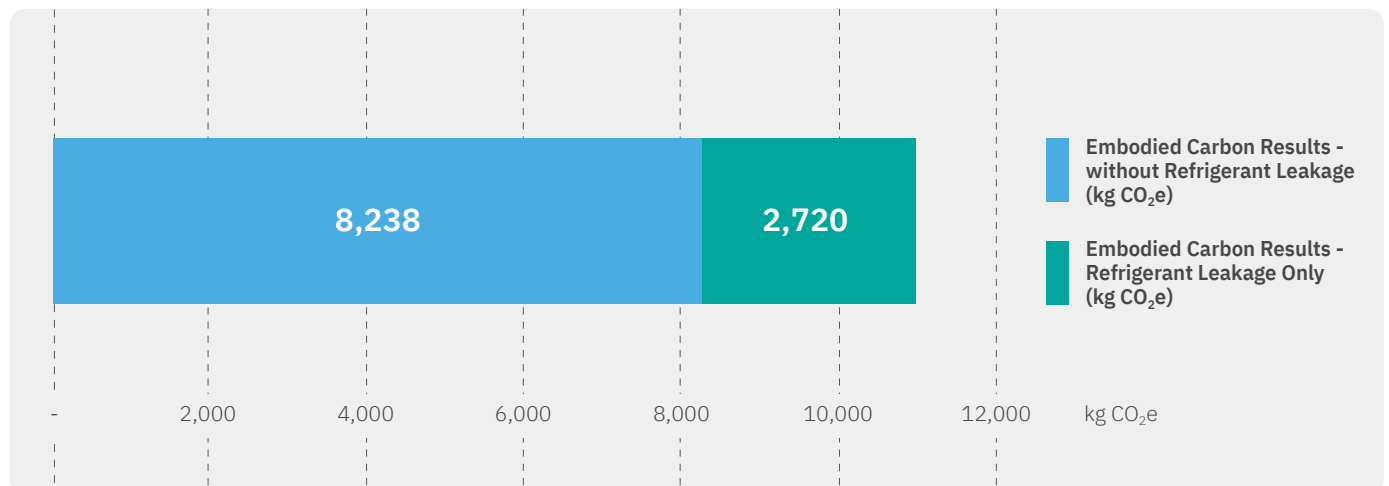


# MECH-iS-G07 /0112

## CIBSE TM65 Embodied Carbon Mid-level Calculation

|                                     |                              |   |
|-------------------------------------|------------------------------|---|
| <b>Assesment Date:</b>              | November 2022                | <b>Embodied Carbon Result with<br/>'Mid-level TM65 Calculation'<br/>Method Total:</b><br><br><b>10,958 (kg CO<sub>2</sub>e)</b> |
| <b>Assessor /<br/>Organisation:</b> | Mitsubishi Electric          |   |
| <b>Contact:</b>                     | embodied.carbon@meuk.mee.com |   |



### MECH-iS-G07 /0112 - Product Information

|  |                  |
|--|------------------|
| Type of product  | Chiller          |
| Capacity of equipment (kW)                                       | 110              |
| Product weight (kg)  | 913              |
| 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)      | 229.8            |
| Location of manufacture  | Europe           |
| Product Complexity   | Category 3: High |



# MECH-iS-G07 /0112

## CIBSE TM65 Embodied Carbon Mid-level Calculation



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

|                         |       |
|-------------------------|-------|
| A1: Material extraction | 4,453 |
| A2: Transport           | 723   |
| A3: Manufacturing       | 313   |
| A4: Transport to Site   | 191   |
| B1: Use                 | 2,633 |
| B3: Repair              | 576   |
| C1: Deconstruction      | 88    |
| C2: Transport           | 12    |
| C3: Waste Processing    | 67    |
| C4: Disposal            | 2     |

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

|   |       |
|---|-------|
| A1-C4 (excluding B1,C1)                     | 6,337 |
| A1-C4 with Buffer Factor (excluding B1, C1) | 8,238 |

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

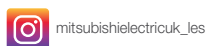
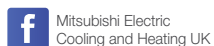
|  |       |
|--|-------|
| B1 (Refrigerant leakage during use) + C1 (Refrigerant leakage end of life) | 2,720 |
|--|-------|

### 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)

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Effective as of November 2022

