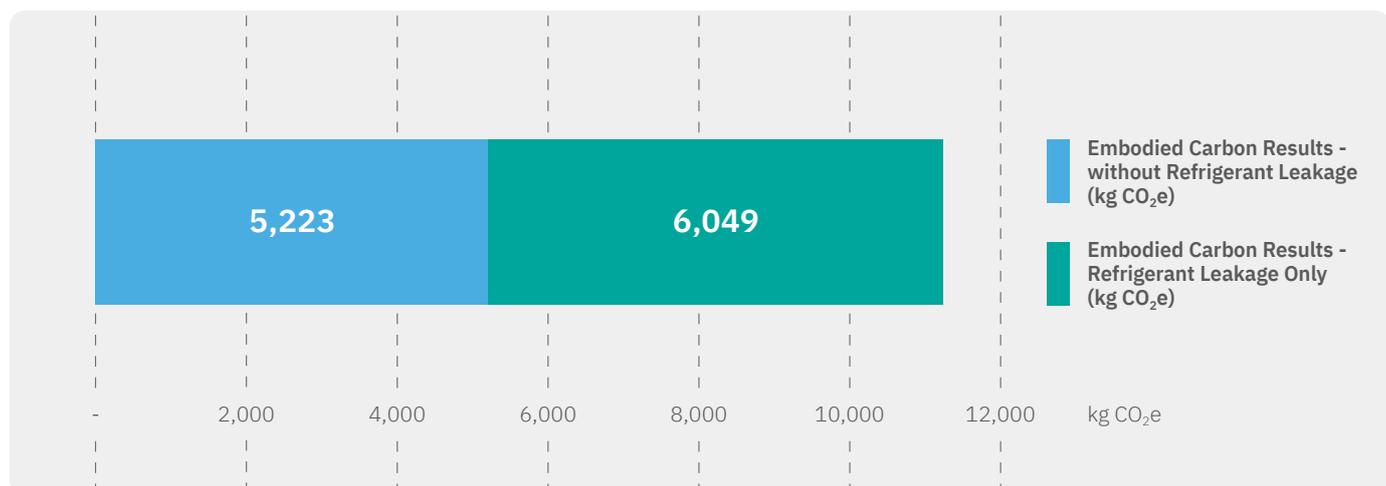


# CAHV-P500YB-HPB

CIBSE TM65 Embodied Carbon Mid-level Calculation



<b>Assesment Date:</b>	21st April 2021	<b>Embodied Carbon Result with 'Mid-level TM65 Calculation' Method Total:</b> <div style="background-color: #76b82a; color: white; padding: 10px; font-weight: bold; font-size: 1.2em;">11,273 (kg CO<sub>2</sub>e)</div>
<b>Assessor:</b>	James Chaplen	
<b>Organisation:</b>	Mitsubishi Electric	
<b>Contact:</b>	embodied.carbon@meuk.mee.com	



## CAHV-P500YB-HPB - Product Information

Type of product	A2W Heat Pump
Capacity of equipment (kW)	45
Product weight (kg)	511
Material breakdown for at least 95% of the product weight? (Y/N)	Y
Service life of the product (years)	15
Type of refrigerant	R407C
Refrigerant GWP	1774
Energy consumption of the factory per unit of product (kWh)	67.2
Location of manufacture	Japan
Product Complexity	Category 3: High



# CAHV-P500YB-HPB

## CIBSE TM65 Embodied Carbon Mid-level Calculation



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

A1: Material extraction	2,992
A2: Transport	405
A3: Manufacturing	118
A4: Transport to Site	111
B1: Use	5,854
B3: Repair	365
C1: Deconstruction	195
C2: Transport	7
C3: Waste Processing	19
C4: Disposal	1

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

A1-C4 (excluding B1,C1)	4,018
A1-C4 with Buffer Factor (excluding B1, C1)	5,223

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

B1 (Refrigerant leakage during use) + C1 (Refrigerant leakage end of life)	6,049
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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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Note: The fuse rating is for guidance only. 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), R1234ze (GWP:7) or R1234yf (GWP:4). \*These GWP values are based on Regulation (EU) No 517/2014 from IPCC 4th edition. In case of Regulation (EU) No.626/2011 from IPCC 3rd edition, these are as follows. R410A (GWP:1975), R32 (GWP:550), R407C (GWP:1650) or R134a (GWP:1300).

Effective as of May 2021

