

ECOV-X15VA

CIBSE TM65 Embodied Carbon Mid-level Calculation

Assesment Date:	13th April 2023
Assessor / Organisation:	RI / Mitsubishi Electric LES UK
Contact:	embodied.carbon@meuk.mee.com

Embodied Carbon with 'Mid-level TM65 Calculation' Method (kg CO₂e) Total:

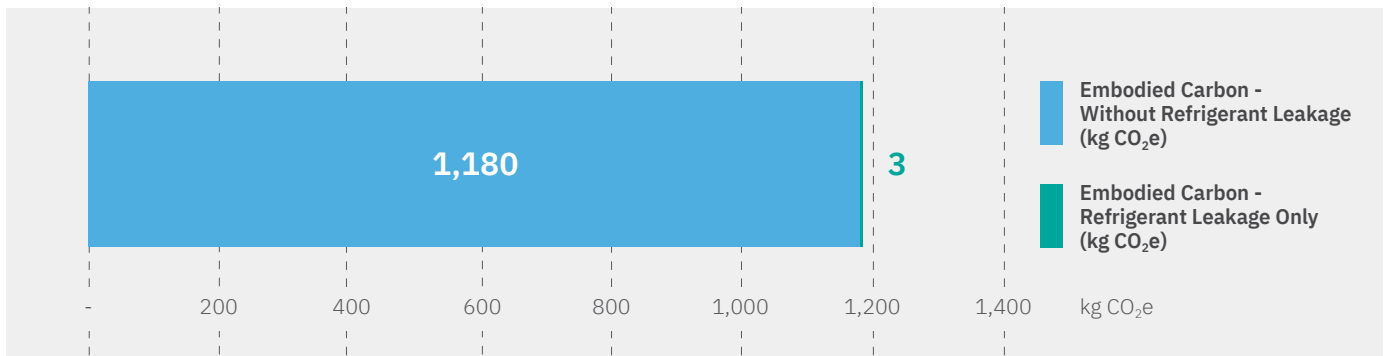
1,183

Evaporation Temperature (ET)	-10°C	-30°C
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Embodied Carbon per kW (kgCO₂e/kW):

296

521



ECOV-X15VA - Product Information

Type of product	Condensing Unit
Capacity of equipment (kW)*	4 (-10°C ET) / 2.27 (-30°C ET)
Product weight (kg)	115
Material breakdown for at least 95% of the product weight? (Y/N)	Y
Service life of the product (years)	15
Type of refrigerant	R744
Refrigerant GWP	1
Energy consumption of the factory per unit of product (kWh)	15.26
Location of manufacture	Asia
Product Complexity	Category 3: High



*Refrigeration capacity conditions as per product catalogue.

ECOV-X15VA

CIBSE TM65 Embodied Carbon Mid-level Calculation

Embodied Carbon Results Breakdown (kg CO₂e)

A1: Material extraction	648
A2: Transport	91
A3: Manufacturing	52
A4: Transport to Site	27
B1: Use	2
B3: Repair	82
C1: Deconstruction	0
C2: Transport	2
C3: Waste Processing	4
C4: Disposal	0

Embodied Carbon Results - without Refrigerant Leakage (kg CO₂e)

A1-C4 (excluding B1,C1)	907
A1-C4 with Buffer Factor (excluding B1, C1)	1,180

Embodied Carbon Result - Refrigerant Leakage Only (kg CO₂e)

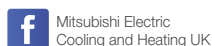
B1 (Refrigerant leakage during use) + C1 (Refrigerant leakage end of life)	3
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Assumptions

A1: Material carbon coefficient source	TM65 Table 2.1 & The ICE Database
B1: Refrigerant annual leakage rate (%)	6
C1: Refrigerant end of life recovery rate (%)	97
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 September 2023



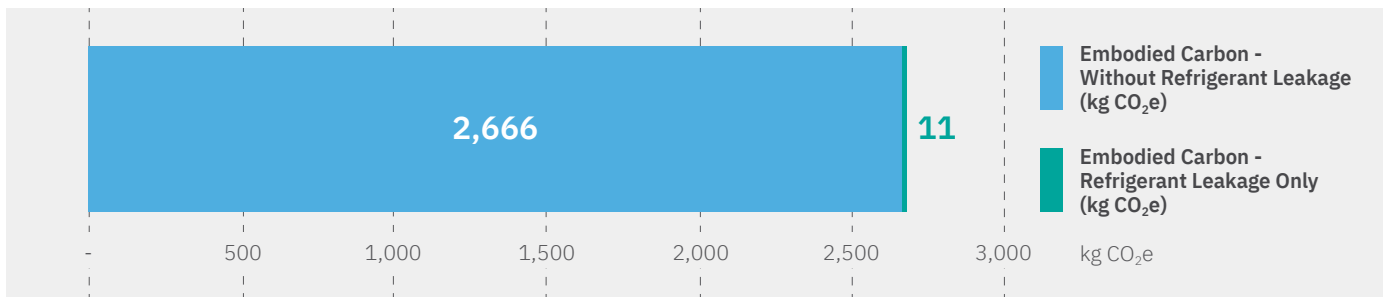
ECOV-X37/X55VA

CIBSE TM65 Embodied Carbon Mid-level Calculation

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Contact:	embodied.carbon@meuk.mee.com

Embodied Carbon with 'Mid-level TM65 Calculation' Method (kg CO₂e) Total: **2,678**

	Evaporation Temperature (ET)	-10°C	-30°C
ECOV-X37VA Embodied Carbon per kW (kgCO ₂ e/kW):		296	521
ECOV-X55VA Embodied Carbon per kW (kgCO ₂ e/kW):		167	337



ECOV-X37/X55VA - Product Information

Type of product	Condenser Unit
Capacity of equipment (kW)*	
ECOV-X37VA	10 (-10°C ET) / 5.07 (-30°C ET)
ECOV-X55VA	16 (-10°C ET) / 7.95 (-30°C ET)
Product weight (kg)	290
Material breakdown for at least 95% of the product weight? (Y/N)	Y
Service life of the product (years)	15
Type of refrigerant	R744
Refrigerant GWP	1
Energy consumption of the factory per unit of product (kWh)	15.26
Location of manufacture	Asia
Product Complexity	Category 3: High



*Refrigeration capacity conditions as per product catalogue.

ECOV-X37/X55VA

CIBSE TM65 Embodied Carbon Mid-level Calculation

Embodied Carbon Results Breakdown (kg CO₂e)

A1: Material extraction	1,506
A2: Transport	230
A3: Manufacturing	52
A4: Transport to Site	67
B1: Use	11
B3: Repair	186
C1: Deconstruction	0
C2: Transport	4
C3: Waste Processing	4
C4: Disposal	1

Embodied Carbon Results - without Refrigerant Leakage (kg CO₂e)

A1-C4 (excluding B1,C1)	2,051
A1-C4 with Buffer Factor (excluding B1, C1)	2,666

Embodied Carbon Result - Refrigerant Leakage Only (kg CO₂e)

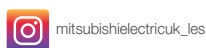
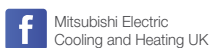
B1 (Refrigerant leakage during use) + C1 (Refrigerant leakage end of life)	11
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Assumptions

A1: Material carbon coefficient source	TM65 Table 2.1 & The ICE Database
B1: Refrigerant annual leakage rate (%)	6
C1: Refrigerant end of life recovery rate (%)	97
B3: Materials replaced as part of repair (%)	10 (TM65 Assumption)
C4: Percentage of product going to landfill (%)	30 (TM65 Assumption)



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