

PUHY-P450YNW-A2

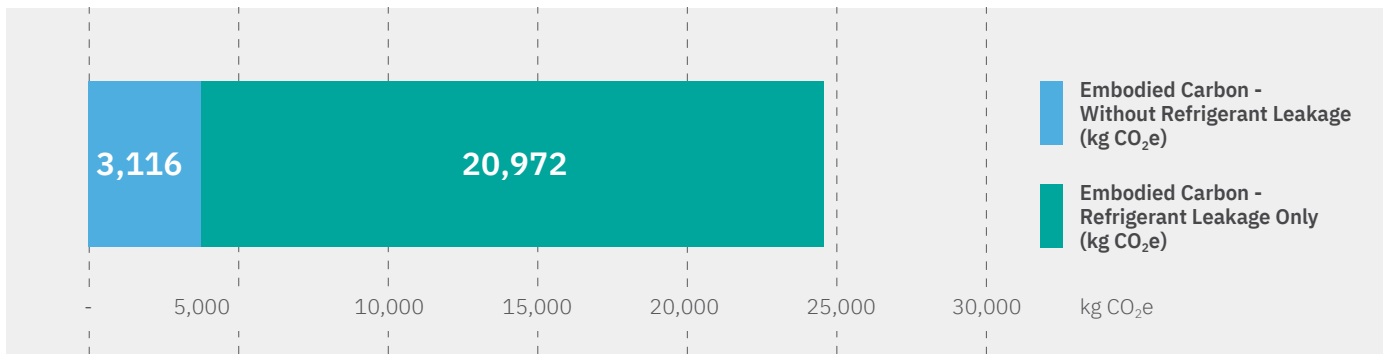
CIBSE TM65 Embodied Carbon Mid-level Calculation

Assesment Date:	14th August 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:

24,088

Capacities (kW)*	50
Embodied Carbon Result per kW (kg CO ₂ e/kW):	482



PUHY-P450YNW-A2 - Product Information

Type of product	VRF Outdoor Unit
Capacity of equipment (kW)*	50
Product weight (kg)	293
Material breakdown for at least 95% of the product weight? (Y/N)	Y
Service life of the product (years)	15
Type of refrigerant	R410A
Refrigerant GWP	2088
Energy consumption of the factory per unit of product (kWh)	15.26
Location of manufacture	Asia
Product Complexity	Category 3: High



*Nominal cooling capacity conditions as per data book

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Embodied Carbon Results Breakdown (kg CO₂e)

A1: Material extraction	1,809
A2: Transport	232
A3: Manufacturing	52
A4: Transport to Site	68
B1: Use	20,295
B3: Repair	218
C1: Deconstruction	677
C2: Transport	4
C3: Waste Processing	13
C4: Disposal	1

Embodied Carbon Results - without Refrigerant Leakage (kg CO₂e)

A1-C4 (excluding B1,C1)	2,397
A1-C4 with Buffer Factor (excluding B1, C1)	3,116

Embodied Carbon Result - Refrigerant Leakage Only (kg CO₂e)

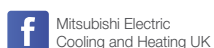
B1 (Refrigerant leakage during use) + C1 (Refrigerant leakage end of life)	20,972
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Assumptions

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



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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

