TM65ANZ Mid Level Calculation

HOT WATER HEAT PUMP – EMBODIED CARBON

QAHV-N560YA-HPB

The QAHV is a 40kW monobloc air-to-water heat pump that utilises low Global Warming Potential and zero ozone depleting CO_2 (R744) refrigerant for the production of potable hot water.

Specifically designed to produce high flow temperature up to 90°C, the QAHV Hot Water Heat Pump is suitable for commercial and industrial applications.

Calculation of product embodied carbon under TM65 ANZ local addendum by CIBSE.

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

4,192 (kg CO_2e)

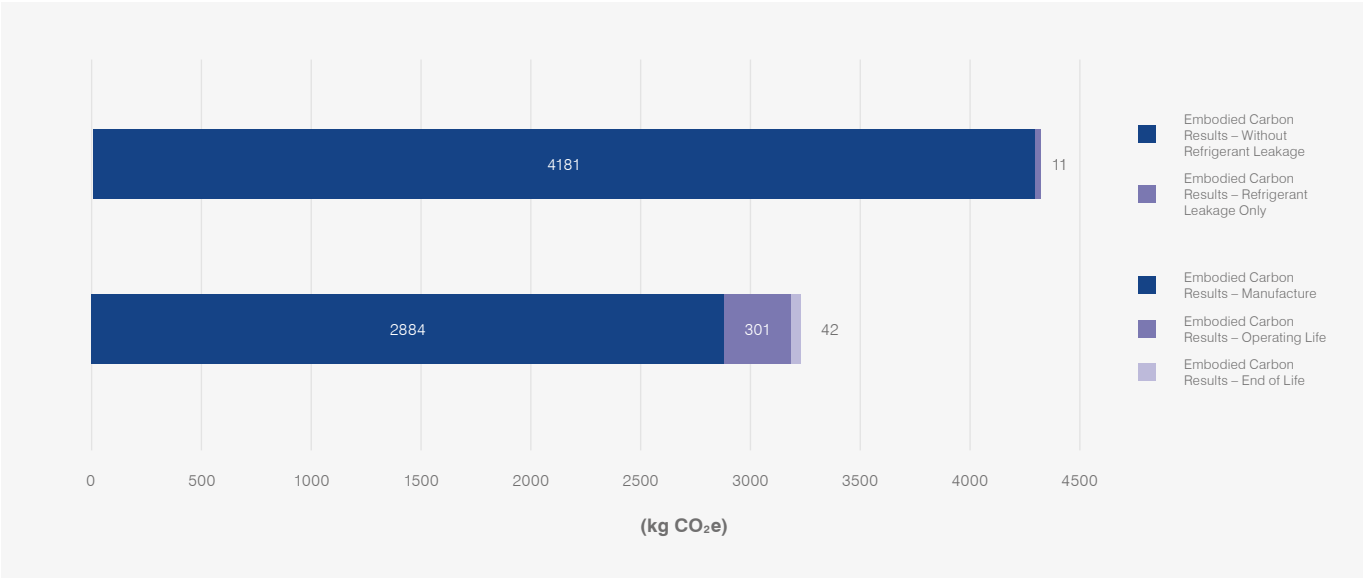
Assessment Date:
28th June 2023

Assessor / Organisation:
Mitsubishi Electric

Contact:
compliance@BDT.co.nz

Valid Country:
New Zealand

PRODUCT INFORMATION	
Type of product	ATW heat pump
Equipment capacity	40kW
Product weight	420kg
Material breakdown for at least 95% of product weight	Yes
Product service life	15 years
Type of refrigerant	R744 (CO_2)
Refrigerant charge	6.5kg
Country of origin	Japan
Product complexity	Category 3: High



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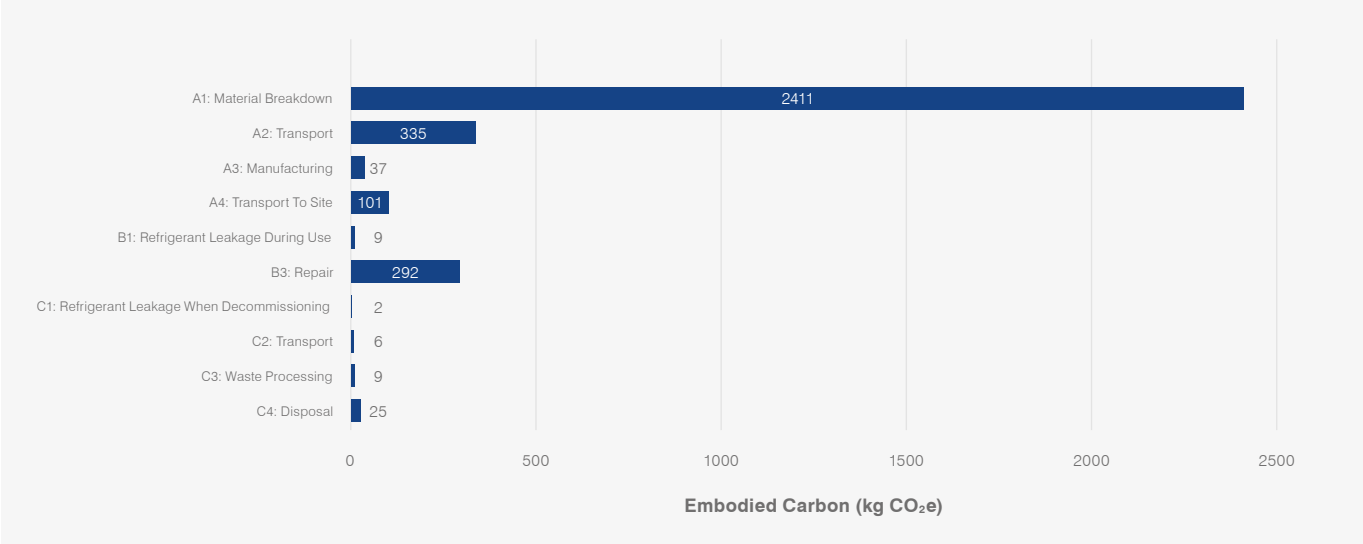
Results Breakdown



Summary of Embodied Carbon Results (kg CO_2e)

A1 – C4 (Excluding B1 and C1)	3216
A1 – C4 with Buffer Factor (Excluding B1 and C1)	4181
B1: Refrigerant Leakage During Life + C1: Refrigerant Leakage at End of Life	11

Calculation Assumptions

A1: Material Carbon Coefficient Source	TM65 ANZ Table 2.1
A4: Transport to site distances	10,000km by sea, 300km by road (TM65 ANZ assumption)
B1: Refrigerant annual leakage rate	9% (TM65 ANZ assumption)
B3: Materials replaced as part of repair	10% (TM65 ANZ assumption)
C1: End of life leakage rate	30% (TM65 ANZ assumption)
C4: Percentage of unit being recycled	70% (TM65 ANZ assumption)

Note: Data is correct at time of document publication and may be subject to vary based on manufacturing and shipping variations on a case by case basis.

For more information please visit our website
or call our Applied Products Team.
www.mitsubishi-electric.co.nz | 0800 784 382

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PLEASE LOOK AFTER THE ENVIRONMENT AND RECYCLE