

Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

Rectangular duct heaters / coolers water / refrigerant PGV/PGK/PGDX



Owner of the declaration:

VEAB Heat Tech AB

Product:

Rectangular duct heaters / coolers water / refrigerant
PGV/PGK/PGDX

Declared unit:

1 kg

This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019 serves as core
PCR

NPCR 030:2021 Part B for ventilation components

Program operator:

EPD-Global

Declaration number:

NEPD-18563-22802

Issue date:

13.10.2026

Valid to:

13.10.2031

EPD software:

LCAno EPD generator ID: 1544166

General information

Product

Rectangular duct heaters / coolers water / refrigerant PGV/PGK/PGDX

Program operator:

EPD-Global
Post Box 5250 Majorstuen, 0303 Oslo, Norway
Phone: +47 977 22 020
web: www.epd-global.com

Declaration number:

NEPD-18563-22802

This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019 serves as core PCR
NPCR 030:2021 Part B for ventilation components

Statement of liability:

The owner of the declaration shall be liable for the underlying information and evidence. EPD-Global shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

Declared unit:

1 kg Rectangular duct heaters / coolers water / refrigerant
PGV/PGK/PGDX

Declared unit with option:

A1-A3, A4, A5, B6, C1, C2, C3, C4, D

Functional unit:

Not declared

General information on verification of EPD from EPD tools:

Independent verification of data, other environmental information and the declaration according to ISO 14025:2010, § 8.1.3 and § 8.1.4. Verification of each EPD is made according to EPD-Global's guidelines for verification and approval requiring that tools are i) integrated into the company's environmental management system, ii) the procedures for use of the EPD tool are approved by EPD-Global, and iii) the process is reviewed annually by an independent third party verifier. See Appendix G of EPD-Global's General Programme Instructions for further information on EPD tools

Verification of EPD tool:

Independent third party verification of the EPD tool, background data and test-EPD in accordance with EPD-Global's procedures and guidelines for verification and approval of EPD tools.

Third party verifier:

Alexander Borg, Asplan Viak AS

(no signature required)

Owner of the declaration:

VEAB Heat Tech AB
Contact person: Christian Delfin
Phone: +4645148500
e-mail: veab@veab.com

Manufacturer:

VEAB Heat Tech AB

Place of production:

VEAB Heat Tech AB
Stattenavägen 50
28135 Hässleholm, Sweden

Management system:

ISO 14001, ISO 9001, ISO 45001

Organisation no:

SE556138316601

Issue date:

13.10.2026

Valid to:

13.10.2031

Year of study:

2026

Comparability:

EPDs of construction products may not be comparable if they do not comply with EN 15804 and are not viewed in a building context.

Development and verification of EPD:

The declaration is created using EPD tool lca.tools ver EPD2022.03, developed by LCA.no. The EPD tool is integrated in the company's management system, and has been approved by EPD-Global.
Approval number:

Developer of EPD: Mikael Isaksson

Reviewer of company-specific input data and EPD: Christian Delfin

Approved:



Håkon Hauan, CEO EPD-Global

Product

Product description:

The rectangular duct connection makes it easy to integrate in your existing ventilation system.

It is an advanced heating / cooling solution with rectangular duct connections that does not only heat up / cool down the ventilation air in your system, but can also be used as an efficient heater / cooler in supply air ducts, which gives you the flexibility to adapt the heating / cooling to your specific needs.

Product specification

Materials	kg	%
Hydronic coil (50% AL, 50%CU)	22.00	65.48
Metal - Steel	0.22	0.6548
Metal - Steel with aluzinc coating	4.10	12.20
Metal - Steel with magnelis coating	7.20	21.43
Plastics	0.06	0.1786
Rubber, synthetic	0.02	0.05952
Total	33.60	100.00

Packaging	kg	%
Packaging - Cardboard	0.60	95.24
Packaging - label, supercalendered	0.01	1.59
Packaging - Paper	0.02	3.17
Total incl. packaging	34.23	100.00

Technical data:

Energy performance must be calculated using realistic project specific operating conditions. Complete and project specific product specification including all relevant technical data can be generated using VEAB Air Calc at veab.com.

Market:

World wide

Reference service life, product

Depend on the application of the product.

Reference service life, building or construction works

Not declared

LCA: Calculation rules

Declared unit:

1 kg Rectangular duct heaters / coolers water / refrigerant PGV/PGK/PGDX

Cut-off criteria:

All major raw materials and all the essential energy is included. The production processes for raw materials and energy flows with very small amounts (less than 1%) are not included. These cut-off criteria do not apply for hazardous materials and substances.

Allocation:

The allocation is made in accordance with the provisions of EN 15804. Energy, water and waste production in-house is allocated equally among all products through mass allocation. Effects of primary production of recycled materials is allocated to the main product in which the material was used. The recycling process and transportation of the material is allocated to this analysis.

Data quality:

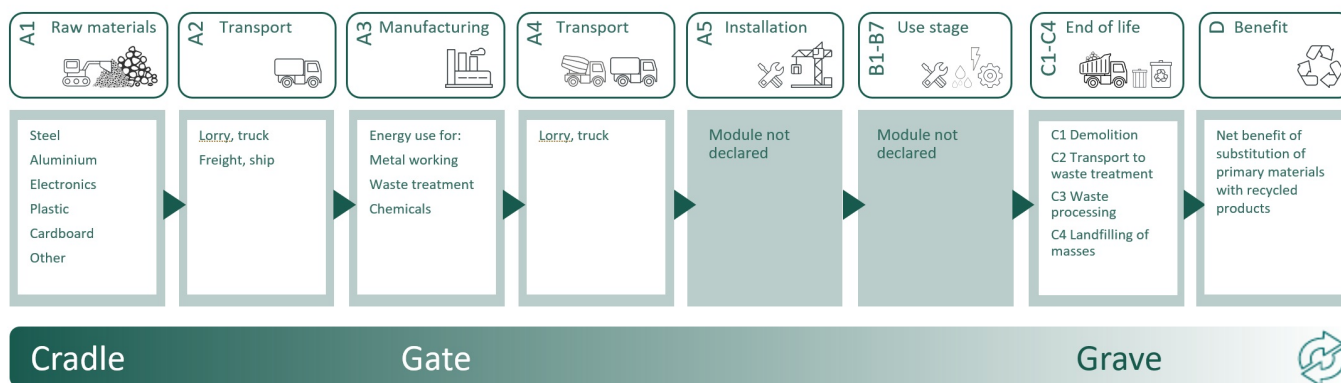
Specific data for the product composition are provided by the manufacturer. The data represent the production of the declared product and were collected for EPD development in the year of study. Background data is based on EPDs according to EN 15804 and different LCA databases. The data quality of the raw materials in A1 is presented in the table below.

Materials	Source	Data quality	Year
Hydronic coil (50% AL, 50%CU)	ecoinvent 3.10.1	Database	2023
Metal - Steel	ecoinvent 3.10.1	Database	2023
Metal - Steel with aluzinc coating	ecoinvent 3.10.1	Database	2023
Metal - Steel with magnelis coating	Modified ecoinvent 3.10.1	Database	2023
Packaging - Cardboard	ecoinvent 3.10.1	Database	2023
Packaging - label, supercalendered	ecoinvent 3.10.1	Database	2023
Packaging - Paper	ecoinvent 3.10.1	Database	2023
Plastics	Modified ecoinvent 3.10.1	Database	2023
Rubber, synthetic	ecoinvent 3.10.1	Database	2023

System boundaries (X=included, MND=module not declared, MNR=module not relevant)

Product stage			Construction installation stage		Use stage							End of life stage				Beyond the system boundaries
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery- Recycling-potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	X	MND	MND	MND	MND	MND	X	MND	X	X	X	X	X

System boundary:



Additional technical information:

Complete project specific technical information and documentation is generated using our online product selection software at www.veab.com.

LCA: Scenarios and additional technical information

The following information describe the scenarios in the different modules of the EPD.

For A4 a generic transportation distance (EURO6 truck) of 300 km is declared. True transportation distance can be provided in project specific EPD. For A4 a generic transportation distance (Euro 6 Truck) of 300 km is declared. True transportation distance can be provided in project specific EPD.

Transport from production place to user (A4)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Truck, 16-32 tonnes, EURO 6 (km)	38.8 %	300.00	0.044	l/tkm	13.20
Assembly (A5)	Unit	Value			
Waste, cardboard and paper, to average treatment - A5, inkl. transp. (kg)	kg	0.03			
Operational energy (B6)	Unit	Value			
Electricity, Germany (kWh)	kWh	0.000000001			
De-construction demolition (C1)	Unit	Value			
Demolition of building per kg of ventilation product (kg)	kg	33.60			
Transport to waste processing (C2)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Truck, 16-32 tonnes, EURO 6 (km)	38.8 %	50.00	0.044	l/tkm	2.20
Waste processing (C3)	Unit	Value			
Materials to recycling (kg)	kg	30.50			
Waste treatment per kg Rubber, incineration (kg)	kg	0.02			
Waste treatment per kg Plastics, from incineration (kg)	kg	0.03			
Disposal (C4)	Unit	Value			
Waste, steel, to landfill (kg)	kg	0.742			
Waste, copper, to landfill (kg)	kg	1.10			
Waste, aluminium, to landfill (kg)	kg	0.77			
Waste, plastic, mixture, to landfill (kg)	kg	0.03			
Waste, stainless steel, to landfill (kg)	kg	0.41			
Benefits and loads beyond the system boundaries (D)	Unit	Value			
Substitution of primary steel with net scrap (kg)	kg	3.65			
Substitution of primary copper with net scrap (kg)	kg	7.60			
Substitution of primary aluminium with net scrap (kg)	kg	8.60			
Substitution of primary other ferrous metals with net scrap (kg)	kg	2.56			
Substitution of electricity (MJ) - updated	MJ	0.00001224			
Substitution of thermal energy, district heating (MJ) - updated	MJ	0.00001353			

LCA: Results

The LCA results are presented below for the declared unit defined on page 2 of the EPD document.

Environmental impact											
Indicator		Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
	GWP-total	kg CO ₂ -eq	4.68E+02	1.92E+00	9.60E-01	4.31E-10	4.85E-02	3.19E-01	1.34E-01	3.12E-02	-1.18E+02
	GWP-fossil	kg CO ₂ -eq	4.61E+02	1.91E+00	5.53E-04	3.90E-10	4.84E-02	3.19E-01	1.34E-01	3.12E-02	-1.16E+02
	GWP-biogenic	kg CO ₂ -eq	7.17E+00	1.48E-03	9.60E-01	4.10E-11	8.12E-06	2.46E-04	5.68E-06	1.34E-05	-3.73E-01
	GWP-luluc	kg CO ₂ -eq	5.32E-01	6.87E-04	1.86E-07	1.00E-12	4.96E-06	1.14E-04	7.86E-07	1.02E-05	-1.53E+00
	ODP	kg CFC11 -eq	3.10E-06	4.03E-08	1.10E-11	0.00E+00	7.39E-10	6.72E-09	4.10E-11	8.31E-10	-1.55E-06
	AP	mol H+ -eq	6.28E+00	3.98E-03	2.08E-06	1.00E-12	4.37E-04	6.63E-04	2.46E-05	1.69E-04	-4.63E+00
	EP-FreshWater	kg P -eq	1.58E+00	1.29E-04	3.95E-08	1.00E-12	1.40E-06	2.15E-05	3.79E-07	2.45E-06	-3.69E-01
	EP-Marine	kg N -eq	1.03E+00	9.56E-04	8.09E-07	0.00E+00	2.03E-04	1.59E-04	1.26E-05	1.32E-04	-2.62E-01
	EP-Terrestrial	mol N -eq	1.35E+01	1.03E-02	8.15E-06	2.00E-12	2.22E-03	1.72E-03	1.15E-04	7.35E-04	-3.41E+00
	POCP	kg NMVOC -eq	3.17E+00	6.62E-03	3.05E-06	1.00E-12	6.62E-04	1.10E-03	2.92E-05	2.70E-04	-1.04E+00
	ADP-minerals&metals ¹	kg Sb-eq	4.37E-02	6.37E-06	1.78E-09	0.00E+00	1.74E-08	1.06E-06	9.04E-09	7.05E-08	-5.51E-02
	ADP-fossil ¹	MJ	5.19E+03	2.69E+01	7.31E-03	6.09E-09	6.34E-01	4.49E+00	2.08E-02	6.10E-01	-1.63E+03
	WDP ¹	m ³	1.20E+02	1.34E-01	1.88E-04	1.01E-10	1.58E-03	2.23E-02	8.04E-03	9.39E-03	-1.63E+02

GWP-total = Global Warming Potential total; GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption

"Reading example: 9.0 E-03 = 9.0*10⁻³ = 0.009"

1. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator

Remarks to environmental impacts

This heater / cooler uses water or refrigerant heating / cooling. These factors are highly project specific, and the environmental impact will vary depending on:

- o Climate / outdoor conditions
- o Inlet temperature
- o Outlet temperature
- o Operating hours
- o Etc.

Energy use is fundamental in determining the environmental impact of this product and must be calculated with project specific values. This can be done using software VEAB Air Calc at www.veab.com.

Additional environmental impact indicators

Indicator	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
 PM	Disease incidence	4.30E-05	1.41E-07	4.20E-11	0.00E+00	1.24E-08	2.35E-08	1.24E-10	3.86E-09	-1.45E-05
 IRP ²	kgBq U235 -eq	4.19E+01	3.47E-02	1.03E-05	9.20E-11	2.81E-04	5.79E-03	5.97E-05	1.80E-03	-2.24E+01
 ETP-fw ¹	CTUe	1.84E+04	3.58E+00	4.87E-03	1.56E-09	3.49E-02	5.97E-01	2.54E-01	5.10E+01	-4.94E+03
 HTP-c ¹	CTUh	4.11E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.00E-12	4.21E-10	-5.84E-07
 HTP-nc ¹	CTUh	2.10E-05	2.02E-08	1.00E-11	0.00E+00	6.70E-11	3.36E-09	2.33E-10	1.78E-08	-4.53E-05
 SQP ¹	dimensionless	2.92E+03	1.63E+01	4.23E-03	1.73E-09	4.44E-02	2.71E+00	6.14E-03	1.53E+00	-1.43E+03

PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Potential Soil Quality Index (dimensionless)

"Reading example: 9.0 E-03 = 9.0*10⁻³ = 0.009"

1. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator
2. This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

Resource use											
Indicator	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D	
 PERE	MJ	7.73E+02	4.71E-01	1.44E-04	2.09E-09	4.01E-03	7.85E-02	1.13E-03	3.38E-02	-5.69E+02	
 PERM	MJ	8.08E+00	0.00E+00	-8.08E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
 PERT	MJ	7.81E+02	4.71E-01	-8.08E+00	2.09E-09	4.01E-03	7.85E-02	1.13E-03	3.38E-02	-5.69E+02	
 PENRE	MJ	5.19E+03	2.69E+01	7.31E-03	6.09E-09	6.34E-01	4.49E+00	2.08E-02	6.10E-01	-1.63E+03	
 PENRM	MJ	2.46E+00	0.00E+00	-7.42E-02	0.00E+00	0.00E+00	0.00E+00	-2.38E+00	0.00E+00	0.00E+00	
 PENRT	MJ	5.19E+03	2.69E+01	-6.69E-02	6.09E-09	6.34E-01	4.49E+00	-2.36E+00	6.10E-01	-1.63E+03	
 SM	kg	7.69E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-9.67E+00	
 RSF	MJ	1.40E-01	1.58E-04	5.17E-08	0.00E+00	6.88E-07	2.63E-05	7.09E-07	3.97E-06	-1.86E-02	
 NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.09E-07	
 FW	m ³	3.07E+00	3.67E-03	3.38E-06	3.00E-12	4.19E-05	6.11E-04	1.43E-04	4.30E-04	-4.21E+00	

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non renewable primary energy resources used as raw materials; PENRT = Total use of non renewable primary energy resources; SM = Use of secondary materials; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Net use of fresh water

"Reading example: 9.0 E-03 = $9.0 \cdot 10^{-3}$ = 0.009"

End of life - Waste

Indicator		Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
	HWD	kg	1.12E+02	3.91E-02	9.94E-06	1.80E-11	7.05E-04	6.52E-03	1.23E-03	1.10E+00	-3.76E+01
	NHWD	kg	1.63E+03	8.26E-01	2.31E-03	2.59E-09	9.62E-03	1.38E-01	5.32E-02	1.95E+00	-1.43E+03
	RWD	kg	7.84E-03	8.63E-06	2.20E-09	0.00E+00	6.89E-08	1.44E-06	6.38E-09	0.00E+00	-5.91E-03

HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed

"Reading example: 9.0 E-03 = 9.0×10^{-3} = 0.009"

End of life - Output flow

Indicator	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
	CRU	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	MFR	kg	1.85E+01	0.00E+00	2.79E-02	0.00E+00	0.00E+00	0.00E+00	3.05E+01	0.00E+00
	MER	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	EEE	MJ	1.82E-04	0.00E+00	3.71E-07	0.00E+00	0.00E+00	0.00E+00	1.19E-05	7.57E-03
	EET	MJ	2.29E-04	0.00E+00	3.61E-07	0.00E+00	0.00E+00	0.00E+00	1.32E-05	1.35E-03

CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported energy electrical; EET = Exported energy thermal

"Reading example: 9.0 E-03 = 9.0×10^{-3} = 0.009"

Biogenic Carbon Content

Indicator	Unit	At the factory gate
Biogenic carbon content in product	kg C	0.00E+00
Biogenic carbon content in accompanying packaging	kg C	2.62E-01

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO₂

Additional requirements

Greenhouse gas emissions from the use of electricity in the manufacturing phase

National production mix from import, low voltage (production of transmission lines, in addition to direct emissions and losses in grid) of applied electricity for the manufacturing process (A3).

Electricity mix	Source	Amount	Unit
Electricity, Sweden (kWh)	ecoinvent 3.10.1	37.73	g CO ₂ -eq/kWh

Dangerous substances

The product contains no substances on the REACH Candidate list at or above 100 ppm, 0,01 % by weight.

Indoor environment

A properly dimensioned and well-functioning heating system is critical for achieving thermal comfort and productive and safe working environment.

Additional Environmental Information

Additional environmental impact indicators required in NPCR Part A for construction products										
Indicator	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
GWPIOBC	kg CO ₂ -eq	4.64E+02	1.92E+00	5.53E-04	3.93E-10	4.85E-02	3.19E-01	1.34E-01	3.12E-02	-1.18E+02

GWP-IOBC: Global warming potential calculated according to the principle of instantaneous oxidation. In order to increase the transparency of biogenic carbon contribution to climate impact, the indicator GWP-IOBC is required as it declares climate impacts calculated according to the principle of instantaneous oxidation. GWP-IOBC is also referred to as GWP-GHG in context to Swedish public procurement legislation.

Bibliography

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ISO 21930:2017 Sustainability in buildings and civil engineering works - Core rules for environmental product declarations of construction products.

ecoinvent v3, Allocation, cut-off by classification, Swiss Centre of Life Cycle Inventories.

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NPCR Part A: Construction products and services. Ver. 2.0. April 2021, EPD-Norge.

NPCR 030 Part B for Ventilation components, Ver. 1.0, 18.05.2021, EPD Norway.

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