ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025 / ISO 21930

CLIMECON OY

SUPPLY AND EXHAUST AIR DIFFUSERS INTEGRATED IN THE STRUCTURES

Registration number in RTS EPD:

RTS EPD 195_22

EcoPlatform reference number:

Jukka Seppänen Committee Secretary	Laura Apilo RTS General Director

GENERAL INFORMATION

MANUFACTURER INFORMATION

Manufacturer	Climecon Oy
Address	Lämmittäjänkatu 4A, 00880 Helsinki
Website	https://climeconair.com/en-en/

PRODUCT IDENTIFICATION

Product name	Supply and exhaust air diffusers integrated in the structures
Declared unit	1 unit
Spesific product name	OLO, OLOi HF, DINO T
Place(s) of production	Kausala, Finland

EPD INFORMATION

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

EPD program operator	Building Information Foundation, RTS, Malminkatu 16 A 00100 Helsinki
EPD standards	This EPD is in accordance with EN 15804+A2 and ISO 14025 standards.
Product category rules	The CEN standard EN 15804 serves as the core PCR. RTS PCR 2020
EPD author	Granlund Oy, Malminkaari 21 00701 Helsinki
EPD verification	Independent verification of this EPD and data, according to ISO 14025: £ Internal certification þ External verification
Verification date	23.09.2022
EPD verifier	Heini Koutonen
EPD number	RTS_195_22
ECO Platform nr.	-
Publishing date	27.10.2022
EPD valid until	27.10.2027

Yleissääntönä on noudatettu eurooppalaisen standardin EN 15804:2012 + A2:2019 vaatimuksia ja RTS tuoteryhmäsääntöjä	
Kansainvälisen standardin EN ISO 14025:2010 mukainen riippumaton varmentava taho on	
☐ **Sisäinen**	☒ **Ulkoinen**
Kolmannen osapuolen varmentamisen on suorittanut: Heini Koutonen  Ramboll Finland Oy	

PRODUCT INFORMATION

PRODUCT DESCRIPTION

This environmental declaration covers the environmental impacts of supply and exhaust air equipment manufactured by Climecon Oy in Kausala Finland. The EPD contains three different products with different sizes:

OLO

- 125 mm
- 160 mm
- 200 mm
- 250 mm
- 315 mm

OLOi HF

- 200 mm
- 250 mm
- 315 mm
- 400 mm

DINO T

- 125 mm
- 160 mm
- 200 mm
- 250 mm
- 315 mm
- 400 mm

PRODUCT APPLICATION

OLO is a supply air diffuser for suspended and coffered ceilings.

OLOi HF is a unit for large volumes of exhaust air. The product is especially suitable for offices, schools and shopping malls.

DINO T is a unit for displacement ventilation. DINO T displacement diffuser can be flush mounted on a wall or a ceiling. The product is used in schools, restaurants, professional industrial premises, fitness premises and offices.

PRODUCT RAW MATERIAL COMPOSITION AND TECHNICAL INFORMATION

Product	Material	Product size (mm)	Amount (kg)
OLO	Steel	125 / 160 / 200 / 250 / 315	6,4 / 6,2 / 6,2/ 5,6/ 5,5
	Powder coating		0,07 / 0,07 / 0,07 / 0,06 / 0,06
	Polypropylene (PP)		0,1 / 0,2 / 0,2 / 0,6 / 0,6
OLOi HF	Steel	200 / 250 / 315 / 400	5,2 / 5,2 / 5,1 / 5,1 /
	Powder coating		0,06 / 0,06 / 0,06 / 0,06 /
DINO T	Steel	125 / 160 / 200 / 250 / 315 / 400	10,1 / 11 / 23 / 28,1 / 49,5 / 54
	Powder coating		0,09 / 0,09 / 0,2 / 0,3 / 0,4 / 0,4
	Polypropylene (PP)		0,5 / 0,5 / 1,1 / 1,8 / 4 / 4

PACKAGING MATERIAL COMPOSITION AND TECHNICAL INFORMATION

Product	Material	Product size (mm)	Amount (kg)
OLO	Cardboard	125 / 160 / 200 / 250 / 315	0,2 / 0,2 / 0,2 / 0,2 / 0,2
	LLDE-Polyethylene		0,08 / 0,08 / 0,08 / 0,08 / 0,08
	Polyethylene (PE)		0,09 / 0,09 / 0,09 / 0,09 / 0,09
	Polypropylene (PP)		0,04 / 0,04 / 0,04 / 0,04 / 0,04
OLOi HF	Cardboard	200 / 250 / 315 / 400	0,2 / 0,2 / 0,2 / 0,2
	LLDE-Polyethylene		0,08 / 0,08 / 0,08 / 0,08
	Polyethylene (PE)		0,1 / 0,1 / 0,1 / 0,1
	Polypropylene (PP)		0,004 / 0,004 / 0,004 / 0,004 /
DINO T	Cardboard	125 / 160 / 200 / 250 / 315 / 400	0,2 / 0,2 / 0,4 / 0,8 / 1,8 / 1,8
	LLDE-Polyethylene		0,03 / 0,03 / 0,03 / 0,04 / 0,08 / 0,15
	Polypropylene (PP)		0,01/ 0,01 / 0,02/ 0,02 / 0,04/ 0,04

GLOBAL WARMING POTENTIAL, GWP

Product	Product size mm	GWP Total kg CO2e (A1-3)
OLO	125	20,21
OLO	160	19,81
OLO	200	19,81
OLO	250	19,20
OLO	315	19,00
DINO T	125	31,61
DINO T	160	34,14
DINO T	200	71,75
DINO T	250	91,99
DINO T	315	159,31
DINO T	400	172,59
OLOi HF	200	16,50
OLOi HF	250	16,50
OLOi HF	315	16,22
OLOi HF	400	16,22

SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).

LIFE-CYCLE ASSESSMENT

LIFE-CYCLE ASSESSMENT INFORMATION

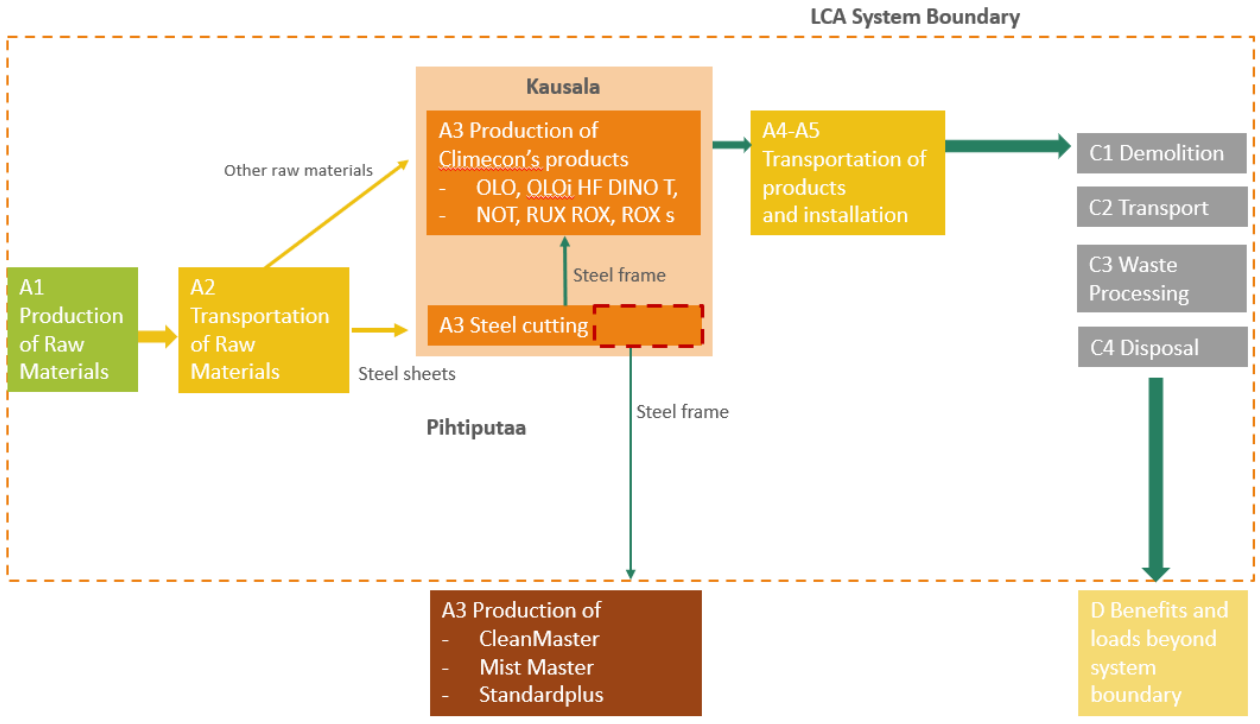
Period for data	1 year, 2021

DECLARED UNIT

Declared unit	1 item	
Mass per declared unit	OLO	6,6 / 6,5 / 6,5 / 6,3 / 6,2 kg
	OLOi HF	5,3 / 5,3 / 5,2 / 5,2 kg
	DINO T	10,7 / 11,6 / 24,3 / 31,1 / 53,9 / 58,4 kg

SYSTEM BOUNDARY

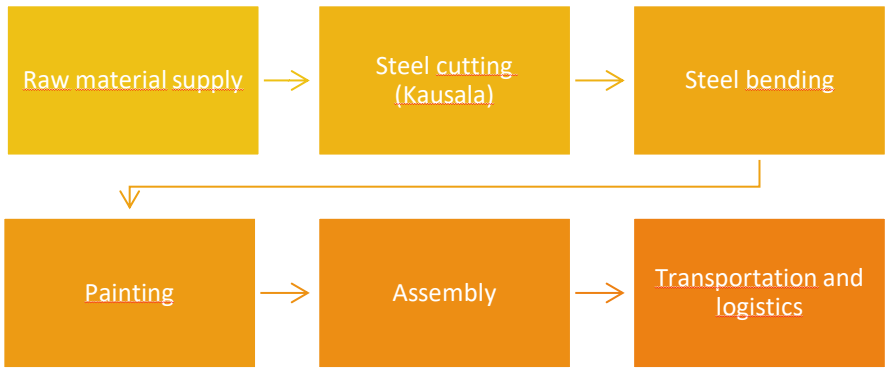
Studied system covers the following steps of life cycle according to EN 15804: **A1** Raw material supply**, A2** Transport, **A3** Manufacturing, **A4** Transportation of the product to construction site, **A5** Installation to building, **C1** Deconstruction, **C2** Transportation of end-of-life **C3** Waste processing and **C4** Disposal. In addition, the benefits and loads beyond the system boundary of stage **D** consist of product reuse, recovery and recycling. System boundary describing the system boundary and the input and output flows is shown below:



The end of waste point of the recycled steel raw material was assumed to be after scrap steel collection, sorting and preparation. Processing of scrap steel to be used in raw material in Climecon products was considered to be part of this life cycle and thus was included to the system boundaries. End of waste point

of the studied product is the step when material is used as fuel in an incineration plant or recycled material is handled in the collection and sorting plant.

Production stage (A3) on the Climecon's production sites cover following manufacturing processes; raw material supply (steel, plastics, and insulations), steel cutting, steel bending, painting, assembly and packaging. After that, products will be transported to the client. The production processes of supply air diffusers are presented in following Figure.



Studied system covers the following steps of life cycle according to EN 15804:

	Product Stage			**Construction Process Stage**		**Use Stage**							**End-of-Life Stage**				**Benefits and loads beyond the system boundary**		
	Raw material supply	Transport	Manufacturing	Transport to building	Installation to building	Use/applications	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/demoli	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling
	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	D	D
Included	X	X	X	X	X								X	X	X	X	X	X	X
Relevancy	R	R	R	R	R	NR	NR	NR	NR	NR	NR	NR	R	R	R	R	R	R	R

Mandatory
Mandatory as per the RTS PCR section 6.2.1 rules and terms
Optional modules based on scenarios

The study does not omit any life cycle stages, processes or data needs that are mandatory according to EN 15804 and RTS PCR. The study excludes following life cycle stages which are optional according to EN 15804 and RTS PCR.

- B1 Use
- B2 Maintenance
- B3 Repairs
- B4 Replacement
- B5 Refurbishment
- B6 Operational energy use
- B7 Operational water use

CUT-OFF CRITERIA

This study follows the cut-off criteria stated in RTS PCR and EN 15804 -standard. This study does not exclude anu modules or processes which represent more than 1 % of the emissions of studied life cycle stage. The study does not exclude any hazardous materials or substances.

Excluded processes and the criteria for exclusion are given in following table. Machines and facilities (capital goods) required for and during production are excluded, as is transportation of employees.

Process excluded from study	Cut-off criteria	Quantified contribution from process
A1-A3 screws	emission effect	< 0.1 % mass of unit process
A3 EURO-pallets	emission effect	< 1 % mass of unit process
B1-B5, B7 use	Not mandatory according to the RTS instructions	-

ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation rules used are made according to the ISO14044:2006. Allocation is avoided when possible and when necessary, allocation is made based on physical shares and also avoiding double calculations. Allocation is required if the production process produces more than one product and the flows of materials, energy and waste cannot be separately measured for the studied product. Allocation used in generic data sources follow the requirements of the EN 15804 -standard. It should be noticed that the allocation method 'allocation, cut-off by classification' has been used for Ecoinvent 3.6 data, which complies with EN 15804.

In the Kausala Production site, various products are produced, and some allocations were needed. Avoiding allocation could not be avoided for following inputs as the information was only measured on factory or production process level.

- Electricity and heat consumption: only measured on factory level
- Energy wood and plastic waste, only measured on factory level
- Water use, only measured on factory level

The inputs were allocated to studied product based on production volume (mass).

According to EN 15804, flows leaving the system at the end-of-waste boundary of the product stage (A1-A3) are allocated as co-products. In this study, the recyclable metal scrap from cutting process is considered as a co-product. Scrap metal collected from the steel cutting process is sent for recycling, and environmental impacts from the waste processing in A3 module are allocated for this co-product based on mass (kg).

KEY ASSUMPTIONS

A1: Recycled content in steel raw materials: 20 % based on industry estimations.

A3 Manufacturing: Production of metal scrap in steel cutting process was considered in the study based on manufacturer's long-term estimations and measures.

C1 Deconstruction/demolition: According to waste handling companies, HVAC products are collected separately for recycling in the end-of-life stage. It can be assumed that there are no significant environmental impacts caused by demolition phase and hence it is not declared.

C2 Transportation: Transportation distance 75 km road driving by lorry (SYKE 2021)

C3-4 Waste Treatment and disposal: It was assumed that air diffuser is collected, and the materials are separated. Steel including powder coating are going to material recycling and plastics to energy recovery.

Module D: This module covers the net benefits and loads arising from the recycling and recovery of energy from end-of-waste state materials.

- Recovery: when a product is incinerated at its end-of-life and the produced heat is recovered, the benefits can include avoiding the production of energy. Net calorific value as received of the construction waste was assumed to be 9,8 MJ/kg and efficiency of heat and power co-generation was 90 %.
- Recycling: Benefits from avoided primary steel production due to the recycling of steel at end of life was included. Only share of virgin raw materials in the product composition were included to the module D.

VALIDATION OF DATA

The quality requirements for the life cycle assessment were set according to the EN ISO 14044 standard (4.2.3.6) and EN 15804 standard (6.3.7).

This LCA study follows the standard EN 15804:2012+A2:2019 and RTS PCR and no decisions are made based on the values.

PROCEDURED FOR COLLECTION PROCESS SPECIFIC DATA

Production specific data was collected directly from manufacturer's production plant. The data represents the production of the studied product at the plant from the materials transported to the facility and represents 1 year average. The data represents year 2021, which was the latest year with full year data. All gathered data was used without excluding categories in advance following the system boundaries set in earlier chapters.

CRITERIA FOR CHOOSING THE GENERIC DATA

Generic data that was used for upstream and downstream processes represents complementary data from Ecoinvent 3.6 database.

The datasets were chosen to represent the studied system as closely as possible. When available supplier specific information was used for instance in form of EN 15804 EPDs or emissions profile of local energy supplier. When supplier specific information was not available the information sources were chosen based on their technical and geographical representativeness. Only when country specific or European data has not been available has global level data been used (concerns mainly data from ecoinvent 3.6)

As up-to-date data as possible was chosen and no more than five-year-old for producer specific data and ten years for generic data was used.

ENVIRONMENTAL IMPACT DATA

SCALING FACTORS TO OTHER PRODUCT SIZES

This EPD provide environmental impact assessment results for following products and product sizes:

- **OLO 125**
- **DINO T 125**
- **OLOi HF (All sizes: 200, 250, 315, 400)**

The results of OLO and DINO T are presented according to the smallest size of the products. A scaling factor in the following table can be used to calculate results of the life cycle assessment in a situation where the size of concerned product is different. The results of other product sizes can be scaled accordingly with the help of the table.

Product	Product size mm	The total mass of the product kg	Scaling factors*	Scaling factors - for the use of net freshwater - for the use of non-renewable energy resources as raw material if necessary
OLO	125	6,6	1,0	1,0
OLO	160	6,5	0,98	2,0
OLO	200	6,5	0,98	2,0
OLO	250	6,3	0,95	6,0
OLO	315	6,2	0,94	6,0
DINO T	125	10,7	1,0	1,0
DINO T	160	11,6	1,08	1,0
DINO T	200	24,3	2,27	2,2
DINO T	250	31,1	2,91	3,6
DINO T	315	53,9	5,04	8,0
DINO T	400	58,4	5,46	8,0

*These scaling factors are suitable for all other environmental impact categories than the use of net freshwater and the use of non-renewable energy resources as raw material.

OLO 125

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	1,66E1	7,41E-1	2,83E0	2,02E1	7,73E-2	2,6E-1	0E0	4,5E-2	2,78E-1	0E0	-1,02E1
GWP – fossil	kg CO_2e	1,65E1	7,41E-1	1,45E0	1,87E1	7,8E-2	2,4E-1	0E0	4,5E-2	2,12E-1	0E0	-1,02E1
GWP – biogenic	kg CO_2e	1,11E-1	5,38E-4	1,39E0	1,5E0	5,66E-5	2,01E-2	0E0	3,27E-5	6,6E-2	0E0	3,07E-2
GWP – LULUC	kg CO_2e	1,18E-2	2,23E-4	1,48E-3	1,35E-2	2,35E-5	1,61E-4	0E0	1,35E-5	1,82E-4	0E0	-2,55E-3
Ozone depletion pot.	kg CFC-$_{11}$e	1,2E-6	1,74E-7	5,5E-8	1,43E-6	1,83E-8	1,94E-8	0E0	1,06E-8	2,34E-8	0E0	-3,96E-7
Acidification potential	mol H^+e	2,42E-1	3,11E-3	4,78E-3	2,5E-1	3,28E-4	2,69E-3	0E0	1,89E-4	1,97E-3	0E0	-5,64E-2
EP-freshwater[3)]	kg Pe	1E-3	6,03E-6	1E-4	1,11E-3	6,34E-7	1,19E-5	0E0	3,66E-7	1,11E-5	0E0	-5,93E-4
EP-marine	kg Ne	2,33E-2	9,38E-4	2,26E-3	2,65E-2	9,87E-5	3,21E-4	0E0	5,69E-5	4,4E-4	0E0	-1,16E-2
EP-terrestrial	mol Ne	8,77E-1	1,04E-2	1,15E-2	8,99E-1	1,09E-3	9,59E-3	0E0	6,29E-4	5,09E-3	0E0	-1,33E-1
POCP ("smog")	kg NMVOCe	8,4E-2	3,33E-3	3,75E-3	9,11E-2	3,5E-4	1,11E-3	0E0	2,02E-4	1,39E-3	0E0	-5,71E-2
ADP-minerals & metals	kg Sbe	2,38E-2	1,26E-5	1,03E-5	2,39E-2	1,33E-6	2,4E-4	0E0	7,68E-7	8,88E-6	0E0	-1,8E-4
ADP-fossil resources	MJ	1,98E2	1,15E1	1,96E1	2,3E2	1,21E0	2,84E0	0E0	7E-1	2,24E0	0E0	-8,64E1
Water use[2)]	m^3e depr.	9,49E0	4,29E-2	6,63E-1	1,02E1	4,51E-3	1,11E-1	0E0	2,6E-3	3,84E-2	0E0	-4,62E0

1)GWP = Global Warming Potential; EP = Eutrophication potential; POCP = Photochemical ozone formation; ADP = Abiotic depletion potential. 2) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator. 3) Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO_4e.

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
Renew. PER as energy	MJ	3,76E1	1,45E-1	1,47E0	3,92E1	1,53E-2	4,16E-1	0E0	8,81E-3	3,48E-1	0E0	-8,2E0
Renew. PER as material	MJ	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0
Total use of renew. PER	MJ	3,76E1	1,45E-1	1,47E0	3,92E1	1,53E-2	4,16E-1	0E0	8,81E-3	3,48E-1	0E0	-8,2E0
Non-re. PER as energy	MJ	1,94E2	1,15E1	1,11E1	2,16E2	1,21E0	2,71E0	0E0	7E-1	2,24E0	0E0	-8,64E1
Non-re. PER as material	MJ	4,74E0	0E0	8,13E0	1,29E1	0E0	1,29E-1	0E0	0E0	0E0	0E0	0E0
Total use of non-re. PER	MJ	1,98E2	1,15E1	1,92E1	2,29E2	1,21E0	2,83E0	0E0	7E-1	2,24E0	0E0	-8,64E1
Secondary materials	kg	1,91E0	0E0	2,74E-3	1,91E0	0E0	1,91E-2	0E0	0E0	0E0	0E0	3,88E0
Renew. secondary fuels	MJ	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0
Non-ren. secondary fuels	MJ	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0
Use of net fresh water	m^3	3E0	2,4E-3	7,15E-2	3,07E0	2,53E-4	3,09E-2	0E0	1,46E-4	1,06E-3	0E0	-7,6E-2

6) PER = Primary energy resources

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
Hazardous waste	kg	5,07E0	1,12E-2	8,69E-2	5,17E0	1,18E-3	5,43E-2	0E0	6,8E-4	0E0	0E0	-3,78E0
Non-hazardous waste	kg	5,69E1	1,24E0	2,9E0	6,1E1	1,3E-1	6,8E-1	0E0	7,52E-2	0E0	0E0	-3,22E1
Radioactive waste	kg	5,05E-4	7,91E-5	3,4E-5	6,19E-4	8,33E-6	8,71E-6	0E0	4,8E-6	0E0	0E0	-5,34E-5

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
Components for re-use	kg	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0
Materials for recycling	kg	0E0	0E0	1,34E0	1,34E0	0E0	6,17E-1	0E0	0E0	6,47E0	0E0	0E0
Materials for energy rec	kg	0E0	0E0	1,48E0	1,48E0	0E0	1,48E-2	0E0	0E0	1E-1	0E0	0E0
Exported energy	MJ	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content	Unit (expressed per functional unit or per declared unit)
Biogenic carbon content in product	0 kg
Biogenic carbon content in accompanying packaging	-9,75E-04kg

NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO2.

OLOI HF 200, 250

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	1,34E1	6,01E-1	2,46E0	1,65E1	6,21E-2	2,26E-1	0E0	3,62E-2	1,22E-1	0E0	-8,25E0
GWP – fossil	kg CO_2e	1,33E1	6E-1	1,34E0	1,53E1	6,26E-2	2,09E-1	0E0	3,61E-2	1,3E-1	0E0	-8,28E0
GWP – biogenic	kg CO_2e	8,85E-2	4,36E-4	1,12E0	1,21E0	4,55E-5	1,71E-2	0E0	2,62E-5	-7,44E-3	0E0	2,5E-2
GWP – LULUC	kg CO_2e	9,56E-3	1,81E-4	1,48E-3	1,12E-2	1,88E-5	1,41E-4	0E0	1,09E-5	1,47E-4	0E0	-2,08E-3
Ozone depletion pot.	kg $CFC_{-11}e$	9,34E-7	1,41E-7	5,28E-8	1,13E-6	1,47E-8	1,66E-8	0E0	8,49E-9	1,86E-8	0E0	-3,2E-7
Acidification potential	mol H^+e	1,95E-1	2,52E-3	4,66E-3	2,02E-1	2,63E-4	2,22E-3	0E0	1,52E-4	1,57E-3	0E0	-4,58E-2
EP-freshwater[3)]	kg Pe	8,14E-4	4,88E-6	8,92E-5	9,08E-4	5,09E-7	9,98E-6	0E0	2,94E-7	8,95E-6	0E0	-4,82E-4
EP-marine	kg Ne	1,88E-2	7,59E-4	1,97E-3	2,16E-2	7,93E-5	2,74E-4	0E0	4,57E-5	3,47E-4	0E0	-9,39E-3
EP-terrestrial	mol Ne	7,04E-1	8,39E-3	1,1E-2	7,23E-1	8,75E-4	7,87E-3	0E0	5,05E-4	4,03E-3	0E0	-1,08E-1

POCP (“smog”)	kg NMVOCe	6,81E-2	2,7E-3	3,69E-3	7,45E-2	2,81E-4	9,54E-4	0E0	1,62E-4	1,1E-3	0E0	-4,63E-2
ADP-minerals & metals	kg Sbe	1,91E-2	1,02E-5	9,91E-6	1,91E-2	1,07E-6	1,92E-4	0E0	6,16E-7	7,19E-6	0E0	-1,47E-4
ADP-fossil resources	MJ	1,56E2	9,33E0	2,02E1	1,85E2	9,74E-1	2,43E0	0E0	5,62E-1	1,8E0	0E0	-6,99E1
Water use[1)]	m^3e depr.	7,6E0	3,47E-2	6,77E-1	8,31E0	3,62E-3		0E0	2,09E-3	2,55E-2	0E0	-3,75E0

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
Renew. PER as energy	MJ	3,03E1	1,17E-1	1,47E0	3,19E1	1,23E-2	3,44E-1	0E0	7,07E-3	2,82E-1	0E0	-6,66E0
Renew. PER as material	MJ	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0
Total use of renew. PER	MJ	3,03E1	1,17E-1	1,47E0	3,19E1	1,23E-2	3,44E-1	0E0	7,07E-3	2,82E-1	0E0	-6,66E0
Non-re. PER as energy	MJ	1,56E2	9,33E0	1,12E1	1,76E2	9,74E-1	2,34E0	0E0	5,62E-1	1,8E0	0E0	-6,99E1
Non-re. PER as material	MJ	0E0	0E0	8,6E0	8,6E0	0E0	8,6E-2	0E0	0E0	0E0	0E0	0E0
Total use of non-re. PER	MJ	1,56E2	9,33E0	1,98E1	1,85E2	9,74E-1	2,43E0	0E0	5,62E-1	1,8E0	0E0	-6,99E1
Secondary materials	kg	1,51E0	0E0	2,9E-3	1,51E0	0E0	1,51E-2	0E0	0E0	0E0	0E0	3,16E0
Renew. secondary fuels	MJ	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0
Non-ren. secondary fuels	MJ	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0
Use of net fresh water	m^3	1,93E-1	1,94E-3	5,84E-2	2,53E-1	2,03E-4	2,69E-3	0E0	1,17E-4	7,34E-4	0E0	-6,18E-2

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
Hazardous waste	kg	4,15E0	9,07E-3	7,81E-2	4,23E0	9,47E-4	4,51E-2	0E0	5,46E-4	0E0	0E0	-3,08E0
Non-hazardous waste	kg	4,62E1	1E0	2,59E0	4,98E1	1,05E-1	5,73E-1	0E0	6,04E-2	0E0	0E0	-2,62E1
Radioactive waste	kg	4,1E-4	6,41E-5	3,32E-5	5,07E-4	6,69E-6	7,72E-6	0E0	3,86E-6	0E0	0E0	-4,34E-5

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
Components for re-use	kg	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0
Materials for recycling	kg	0E0	0E0	1,09E0	1,09E0	0E0	6,35E-1	0E0	0E0	5,26E0	0E0	0E0
Materials for energy rec	kg	0E0	0E0	1,19E0	1,19E0	0E0	1,19E-2	0E0	0E0	0E0	0E0	0E0
Exported energy	MJ	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content	Unit (expressed per functional unit or per declared unit)
Biogenic carbon content in product	0 kg
Biogenic carbon content in accompanying packaging	-9,75E-04kg

NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO2.

OLOI HF 315, 400

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	1,32E1	5,89E-1	2,46E0	1,62E1	6,09E-2	2,24E-1	0E0	3,55E-2	1,2E-1	0E0	-8,09E0
GWP – fossil	kg CO_2e	1,31E1	5,88E-1	1,34E0	1,5E1	6,14E-2	2,06E-1	0E0	3,54E-2	1,27E-1	0E0	-8,12E0
GWP – biogenic	kg CO_2e	8,85E-2	4,27E-4	1,12E0	1,21E0	4,46E-5	1,71E-2	0E0	2,57E-5	-7,3E-3	0E0	2,45E-2
GWP – LULUC	kg CO_2e	9,43E-3	1,77E-4	1,48E-3	1,11E-2	1,85E-5	1,39E-4	0E0	1,07E-5	1,45E-4	0E0	-2,04E-3
Ozone depletion pot.	kg CFC_{-11}e	9,19E-7	1,38E-7	5,27E-8	1,11E-6	1,44E-8	1,64E-8	0E0	8,33E-9	1,83E-8	0E0	-3,14E-7
Acidification potential	mol H^+e	1,94E-1	2,47E-3	4,66E-3	2,01E-1	2,58E-4	2,2E-3	0E0	1,49E-4	1,54E-3	0E0	-4,49E-2
EP-freshwater[3)]	kg Pe	7,99E-4	4,79E-6	8,92E-5	8,93E-4	5E-7	9,83E-6	0E0	2,88E-7	8,78E-6	0E0	-4,73E-4
EP-marine	kg Ne	1,85E-2	7,45E-4	1,97E-3	2,12E-2	7,78E-5	2,71E-4	0E0	4,49E-5	3,41E-4	0E0	-9,21E-3
EP-terrestrial	mol Ne	7E-1	8,22E-3	1,1E-2	7,2E-1	8,59E-4	7,83E-3	0E0	4,95E-4	3,95E-3	0E0	-1,05E-1
POCP ("smog")	kg NMVOCe	6,67E-2	2,64E-3	3,69E-3	7,31E-2	2,76E-4	9,4E-4	0E0	1,59E-4	1,08E-3	0E0	-4,55E-2
ADP-minerals &	kg Sbe	1,91E-2	1E-5	9,88E-6	1,91E-2	1,05E-6	1,92E-4	0E0	6,05E-7	7,05E-6	0E0	-1,44E-4
ADP-fossil resources	MJ	1,53E2	9,15E0	2,01E1	1,82E2	9,56E-1	2,4E0	0E0	5,51E-1	1,76E0	0E0	-6,85E1
Water use[2)]	m^3e depr.	7,49E0	3,4E-2	6,48E-1	8,17E0	3,55E-3	9,16E-2	0E0	2,05E-3	2,5E-2	0E0	-3,68E0

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
Renew. PER as energy	MJ	3E1	1,15E-1	1,47E0	3,16E1	1,2E-2	3,41E-1	0E0	6,94E-3	2,77E-1	0E0	-6,54E0
Renew. PER as material	MJ	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0
Total use of renew. PER	MJ	3E1	1,15E-1	1,47E0	3,16E1	1,2E-2	3,41E-1	0E0	6,94E-3	2,77E-1	0E0	-6,54E0
Non-re. PER as energy	MJ	1,53E2	9,15E0	1,12E1	1,73E2	9,56E-1	2,31E0	0E0	5,51E-1	1,76E0	0E0	-6,85E1
Non-re. PER as material	MJ	0E0	0E0	8,6E0	8,6E0	0E0	8,6E-2	0E0	0E0	0E0	0E0	0E0
Total use of non-re. PER	MJ	1,53E2	9,15E0	1,98E1	1,82E2	9,56E-1	2,4E0	0E0	5,51E-1	1,76E0	0E0	-6,85E1
Secondary materials	kg	1,49E0	0E0	2,9E-3	1,49E0	0E0	1,49E-2	0E0	0E0	0E0	0E0	3,09E0
Renew. secondary fuels	MJ	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0

Non-ren. secondary fuels	MJ	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0
Use of net fresh water	m^3	1,91E-1	1,91E-3	5,84E-2	2,51E-1	1,99E-4	2,67E-3	0E0	1,15E-4	7,2E-4	0E0	-6,06E-2

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
Hazardous waste	kg	4,05E0	8,89E-3	7,81E-2	4,14E0	9,29E-4	4,42E-2	0E0	5,36E-4	0E0	0E0	-3,02E0
Non-hazardous waste	kg	4,54E1	9,84E-1	2,59E0	4,9E1	1,03E-1	5,65E-1	0E0	5,93E-2	0E0	0E0	-2,57E1
Radioactive waste	kg	4,04E-4	6,28E-5	3,31E-5	4,99E-4	6,56E-6	7,64E-6	0E0	3,78E-6	0E0	0E0	-4,25E-5

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
Components for re-use	kg	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0
Materials for recycling	kg	0E0	0E0	1,07E0	1,07E0	0E0	6,35E-1	0E0	0E0	5,16E0	0E0	0E0
Materials for energy rec	kg	0E0	0E0	1,19E0	1,19E0	0E0	1,19E-2	0E0	0E0	0E0	0E0	0E0
Exported energy	MJ	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content	Unit (expressed per functional unit or per declared unit)
Biogenic carbon content in product	0 kg
Biogenic carbon content in accompanying packaging	-9,75E-04kg

NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO2.

DINO T 125

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	2,67E1	1,17E0	3,74E0	3,16E1	1,25E-1	3,51E-1	0E0	7,3E-2	8,73E-1	0E0	-1,62E1
GWP – fossil	kg CO_2e	2,65E1	1,17E0	1,47E0	2,91E1	1,26E-1	3,21E-1	0E0	7,29E-2	5,12E-1	0E0	-1,62E1
GWP – biogenic	kg CO_2e	1,79E-1	8,52E-4	2,27E0	2,45E0	9,18E-5	2,97E-2	0E0	5,3E-5	3,61E-1	0E0	4,85E-2
GWP – LULUC	kg CO_2e	1,85E-2	3,53E-4	1,17E-3	2E-2	3,8E-5	2,13E-4	0E0	2,19E-5	2,9E-4	0E0	-4,04E-3
Ozone depletion pot.	kg $CFC\text{-}_{11}e$	2,07E-6	2,76E-7	5,05E-8	2,4E-6	2,97E-8	2,74E-8	0E0	1,71E-8	3,82E-8	0E0	-6,35E-7
Acidification potential	mol H^+e	3,83E-1	4,93E-3	3,69E-3	3,92E-1	5,31E-4	4,04E-3	0E0	3,06E-4	3,2E-3	0E0	-8,92E-2

EP-freshwater[3)]	kg Pe	1,6E-3	9,54E-6	1,34E-4	1,74E-3	1,03E-6	1,79E-5	0E0	5,93E-7	1,76E-5	0E0	-9,36E-4
EP-marine	kg Ne	3,7E-2	1,48E-3	2,9E-3	4,14E-2	1,6E-4	4,52E-4	0E0	9,23E-5	7,39E-4	0E0	-1,83E-2
EP-terrestrial	mol Ne	1,39E0	1,64E-2	1,01E-2	1,41E0	1,77E-3	1,45E-2	0E0	1,02E-3	8,49E-3	0E0	-2,1E-1
POCP ("smog")	kg NMVOCe	1,34E-1	5,27E-3	2,58E-3	1,42E-1	5,68E-4	1,55E-3	0E0	3,28E-4	2,3E-3	0E0	-9,03E-2
ADP-minerals & metals	kg Sbe	3,76E-2	2E-5	8,09E-6	3,77E-2	2,16E-6	3,77E-4	0E0	1,24E-6	1,41E-5	0E0	-2,85E-4
ADP-fossil resources	MJ	3,35E2	1,82E1	9,16E0	3,62E2	1,97E0	3,94E0	0E0	1,13E0	3,65E0	0E0	-1,38E2
Water use[2)]	m^3e depr.	1,53E1	6,79E-2	4,61E-1	1,58E1	7,31E-3	1,63E-1	0E0	4,22E-3	8,42E-2	0E0	-7,29E0

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
Renew. PER as energy	MJ	6,06E1	2,3E-1	1,07E0	6,19E1	2,48E-2	6,32E-1	0E0	1,43E-2	5,52E-1	0E0	-1,29E1
Renew. PER as material	MJ	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0
Total use of renew. PER	MJ	6,06E1	2,3E-1	1,07E0	6,19E1	2,48E-2	6,32E-1	0E0	1,43E-2	5,52E-1	0E0	-1,29E1
Non-re. PER as energy	MJ	3,11E2	1,82E1	6,75E0	3,36E2	1,97E0	3,68E0	0E0	1,13E0	3,65E0	0E0	-1,38E2
Non-re. PER as material	MJ	2,37E1	0E0	1,43E0	2,51E1	0E0	2,51E-1	0E0	0E0	0E0	0E0	0E0
Total use of non-re. PER	MJ	3,35E2	1,82E1	8,19E0	3,61E2	1,97E0	3,93E0	0E0	1,13E0	3,65E0	0E0	-1,38E2
Secondary materials	kg	2,97E0	0E0	4,84E-4	2,97E0	0E0	2,97E-2	0E0	0E0	0E0	0E0	6,13E0
Renew. secondary fuels	MJ	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0
Non-ren. secondary fuels	MJ	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0
Use of net fresh water	m^3	1,42E1	3,8E-3	1,12E-1	1,43E1	4,09E-4	1,43E-1	0E0	2,36E-4	2,23E-3	0E0	-1,2E-1

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
Hazardous waste	kg	7,99E0	1,77E-2	9,74E-2	8,11E0	1,91E-3	8,24E-2	0E0	1,1E-3	0E0	0E0	-5,97E0
Non-hazardous waste	kg	8,94E1	1,96E0	3,4E0	9,47E1	2,11E-1	9,87E-1	0E0	1,22E-1	0E0	0E0	-5,08E1
Radioactive waste	kg	7,9E-4	1,25E-4	2,83E-5	9,44E-4	1,35E-5	1,11E-5	0E0	7,79E-6	0E0	0E0	-8,46E-5

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
Components for re-use	kg	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0
Materials for recycling	kg	0E0	0E0	2,04E0	2,04E0	0E0	5E-1	0E0	0E0	1,02E1	0E0	0E0
Materials for energy rec	kg	0E0	0E0	2,44E0	2,44E0	0E0	2,44E-2	0E0	0E0	5E-1	0E0	0E0
Exported energy	MJ	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content	Unit (expressed per functional unit or per declared unit)
Biogenic carbon content in product	0 kg
Biogenic carbon content in accompanying packaging	-9,75E-04kg

NOTE kg biogenic carbon is equivalent to 44/12 kg of CO2

SCENARIO DOCUMENTATION

Manufacturing energy scenario documentation

Energy type	Object	QWP value	Data quality
Electricity	Electricity data quality and CO2 emission kg CO2 eq. / kWh	0,0615 kg CO2e / kWh	Electricity production, wind, 1-3mw turbine, onshore EN15804+A1, EN15804+A2, EcoInvent 3.6
District Heat	District heating data quality and CO2 emissions kg CO2 eq. / kWh	0,009721 kg CO2e / kWh	Heat production, light fuel oil, at industrial furnace 1mwEN15804+A1, EN15804+A2, EcoInvent 3.6
			Heat production, softwood chips from forest, at furnace 5000kw, generic Global, EN15804+A1, EN15804+A2, EcoInvent 3.6
			Heat production, at hard coal industrial furnace 1-10mw, Finland, EN15804+A1, EN15804+A2, EcoInvent 3.6

Transportation scenario

Parameter	Value
Fuel type and consumption of vehicle used for transport	Truck: diesel, maximum load capacity 34 t. Specific transport emissions 0,064 kg CO_2 equiv. / tn x km
Distance (km)	Average transport distance 130 km
Capacity utilization (%)	100 % for truck
Bulk density of transported products (kg/m^3)	Bulk density varies depending on product type and thickness
Volume capacity utilization factor	1

Installation of the product in the building

The masses of the packaging materials of products are shown on page 5.

Parameter	Unit
Ancillary materials for installation (specified by material)	Rivet, disposable gloves (not included in the analysis because of their insignificant usage amount)
Water use	0 m3
Other resource use	0 kWh (energy use is insignificant)
Quantitative description of energy type (regional mix) and consumption during the installation process	-
Waste materials generated by product installation	Packaging materials: Cardboard LLDE-Polyethylene Polyethylene (PE) Polypropylene (PP)

End-of-life scenario; OLO and OLOi HF

			OLO	OLOi HF
		Material		
Process flow	**Size (mm)**		125 / 160 / 200 / 250 / 315	200 / 250 / 315 / 400
Collection process specified by type	kg collected separately		6,6 / 6,5 / 6,5 / 6,3 / 6,2	5,3 / 5,3 / 5,2 / 5,2
	kg collected with mixed construction waste	-	-	-
Recovery system specified by type	kg for reuse	-	-	-
	kg for recycling	Steel, Powder coating	6,47 / 6,27 / 6,27 / 5,66 / 5,56	5,26 / 5,26 / 5,16 / 5,16
	kg for energy recovery	Plastic	0,1 / 0,2 / 0,2 / 0,6 / 0,6	-
Disposal specified by type	kg material for final deposition	-	-	-
Assumptions for scenario development	units as appropriate	Waste materials are transported 150 km by truck to recycling facility with a truck capacity utilization of 45%		

End-of-life scenario; DINO-T

			DINO T
		Material	
Process flow	**Size (mm)**		125 / 160 / 200 / 250 / 315 / 400
Collection process specified by type	kg collected separately	-	10,7 / 11,6 / 24,3 / 31,1 / 53,9 / 58,4
	kg collected with mixed construction waste	-	-
Recovery system specified by type	kg for reuse	-	-
	kg for recycling	Steel, Powder coating	10,19 / 11.09 / 23,2 / 28,4 / 49,9 / 54,4
	kg for energy recovery	Plastic	0,5 / 0,5 / 1,1 / 1,8 / 4 / 4
Disposal specified by type	kg material for final deposition	-	-
Assumptions for scenario development	units as appropriate	Waste materials are transported 150 km by truck to recycling facility with a truck capacity utilization of 45%	

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ANNEX 1: RESULTS OF ENVIRONMENTAL INFORMATION REPORTED PER KILOGRAM

OLO 125

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP – total	kg CO_2e/kg	2,52E+00	1,12E-01	4,29E-01	3,06E+00	1,17E-02	3,94E-02	0,00E+00	6,82E-03	4,21E-02	0,00E+00	-1,55E+00
ADP-minerals & metals	kg Sbe/kg	3,61E-03	1,91E-06	1,56E-06	3,62E-03	2,02E-07	3,64E-05	0,00E+00	1,16E-07	1,35E-06	0,00E+00	-2,73E-05
ADP-fossil resources	MJ/kg	3,00E+01	1,74E+00	2,97E+00	3,48E+01	1,83E-01	4,30E-01	0,00E+00	1,06E-01	3,39E-01	0,00E+00	-1,31E+01
Water use[2)]	m^3e depr./kg	1,44E+00	6,50E-03	1,00E-01	1,55E+00	6,83E-04	1,68E-02	0,00E+00	3,94E-04	5,82E-03	0,00E+00	-7,00E-01
Biogenic carbon content in product	kg CO/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	0,00E+00	0,00E+00	0,00E+00
Secondary materials	kg/kg	2,89E-01	0,00E+00	4,15E-04	2,89E-01	0,00E+00	2,89E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,88E-01

OLOi HF 200, 250

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP – total	kg CO_2e/kg	2,53E+00	1,13E-01	4,64E-01	3,11E+00	1,17E-02	4,26E-02	0,00E+00	6,83E-03	2,30E-02	0,00E+00	-1,56E+00
ADP-minerals & metals	kg Sbe/kg	3,60E-03	1,92E-06	1,87E-06	3,60E-03	2,02E-07	3,62E-05	0,00E+00	1,16E-07	1,36E-06	0,00E+00	-2,77E-05
ADP-fossil resources	MJ/kg	2,94E+01	1,76E+00	3,81E+00	3,49E+01	1,84E-01	4,58E-01	0,00E+00	1,06E-01	3,40E-01	0,00E+00	-1,32E+01
Water use[2)]	m^3e depr./kg	1,43E+00	6,55E-03	1,28E-01	1,57E+00	6,83E-04	0,00E+00	0,00E+00	3,94E-04	4,81E-03	0,00E+00	-7,08E-01
Biogenic carbon content in product	kg CO/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	0,00E+00	0,00E+00	0,00E+00
Secondary materials	kg/kg	2,85E-01	0,00E+00	5,47E-04	2,85E-01	0,00E+00	2,85E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,96E-01

OLOi HF 315, 400

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP – total	kg CO_2e/kg	2,54E+00	1,13E-01	4,73E-01	3,12E+00	1,17E-02	4,31E-02	0,00E+00	6,83E-03	2,31E-02	0,00E+00	-1,56E+00
ADP-minerals & metals	kg Sbe/kg	3,67E-03	1,92E-06	1,90E-06	3,67E-03	2,02E-07	3,69E-05	0,00E+00	1,16E-07	1,36E-06	0,00E+00	-2,77E-05
ADP-fossil resources	MJ/kg	2,94E+01	1,76E+00	3,87E+00	3,50E+01	1,84E-01	4,62E-01	0,00E+00	1,06E-01	3,38E-01	0,00E+00	-1,32E+01
Water use[2)]	m^3e depr./kg	1,44E+00	6,54E-03	1,25E-01	1,57E+00	6,83E-04	1,76E-02	0,00E+00	3,94E-04	4,81E-03	0,00E+00	-7,08E-01
Biogenic carbon content in product	kg CO/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	0,00E+00	0,00E+00	0,00E+00
Secondary materials	kg/kg	2,87E-01	0,00E+00	5,58E-04	2,87E-01	0,00E+00	2,87E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,94E-01

DINO T 125

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP – total	kg CO_2e/kg	2,50E+00	1,09E-01	3,50E-01	2,95E+00	1,17E-02	3,28E-02	0,00E+00	6,82E-03	8,16E-02	0,00E+00	-1,51E+00
ADP-minerals & metals	kg Sbe/kg	3,51E-03	1,87E-06	7,56E-07	3,52E-03	2,02E-07	3,52E-05	0,00E+00	1,16E-07	1,32E-06	0,00E+00	-2,66E-05
ADP-fossil resources	MJ/kg	3,13E+01	1,70E+00	8,56E-01	3,38E+01	1,84E-01	3,68E-01	0,00E+00	1,06E-01	3,41E-01	0,00E+00	-1,29E+01
Water use[2)]	m^3e depr./kg	1,43E+00	6,35E-03	4,31E-02	1,48E+00	6,83E-04	1,52E-02	0,00E+00	3,94E-04	7,87E-03	0,00E+00	-6,81E-01
Biogenic carbon content in product	kg CO/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	0,00E+00	0,00E+00	0,00E+00
Secondary materials	kg/kg	2,78E-01	0,00E+00	4,52E-05	2,78E-01	0,00E+00	2,78E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,73E-01