Product Environmental Profile

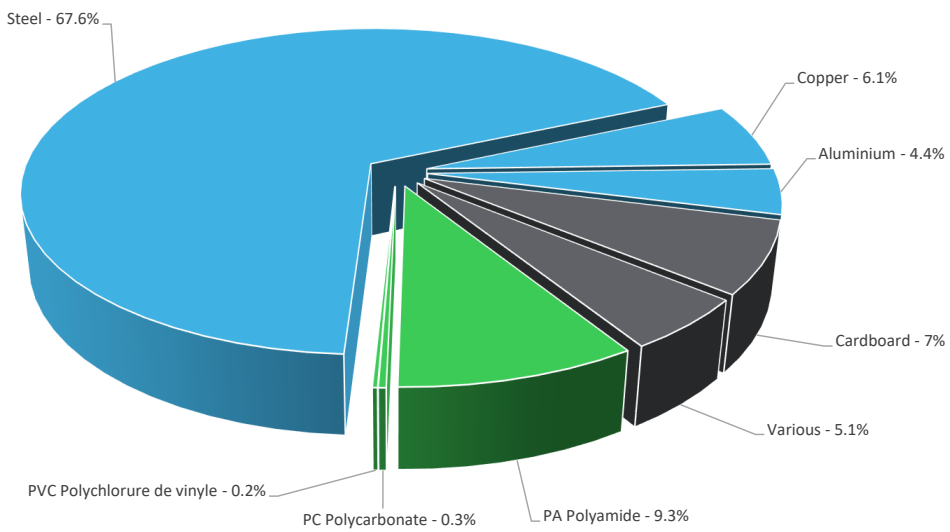
ClimaSys Connected Cooling Unit

General information

Reference product	ClimaSys Connected Cooling Unit - NSYCU2K3P4DG
Description of the product	The main purpose of the ClimaSys Connected Cooling Unit product is the dissipation of heat from any electrical panel in order to protect temperature sensitive components in an industrial environment.
Functional unit	To produce 1 kW of cooling, according to the appropriate usage scenario defined in the EN 14825 standard and during the 22-year reference lifetime of the product. - Product dimensions 1000mm x 405mm x 225mm - IP55 conforming to IEC 60529 (on the internal circuit) - IP24 conforming to IEC 60529 (on the external circuit) - Technology: Air/Air - Non-reversible - Cooling capacity - 2kW - SEER - 2.1978 - Refrigerant used - R134a - Refill threshold - Cannot Refill - Where Used - Industrial

Constituent materials

Reference product mass	46182 g	including the product, its packaging and additional elements and accessories



Note - R134a refrigerant C2H2F2 gas (400 g) used for this cooling unit

Plastics	9.8%
Metals	78.1%
Others	12.1%

Substance assessment

Details of ROHS and REACH substances information are available on the Schneider-Electric Green Premium website
https://www.se.com/ww/en/work/support/green-premium/

Additional environmental information

Use	The product does not require special maintenance operations.		
End Of Life	End of life optimized to decrease the amount of waste and allow recovery of the product components and materials. This product contains R134a refrigerant C2H2F2 gas(400 g) that should be separated from the stream of waste so as to optimize end-of-life treatment. When recovering the equipment at the working site, the quantity of refrigerant collected is calculated as follows: 400 x 1 = 400g. The default transport distance considered for collection of the refrigerants will be 1000 km. The impacts related to the regeneration of refrigerant or its incineration with energy recovery will not be taken into account in accordance with the stock method. The quantity of refrigerant incinerated (without energy recovery) is calculated as follows: • 10% x 0.9 x 400 = 36g The quantity of refrigerant recovered (regeneration or incineration with energy recovery) is calculated as follows: • 90% x 0.9 x 400 = 324g During treatment of the equipment, a quantity equal to (1 -0.9) x 400 = 40g will be considered as being discharged directly into the air when the equipment is crushed. The location of these components and other recommendations are given in the End of Life Instruction document which is available on the Schneider-Electric Green Premium website http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page		
	Recyclability potential: “Our new 2kW Cooling Unit (NSYCU2K3P4DG) produces only 7% of landfilled wastes. The equivalent old Cooling Unit (NSYCU2K3P4) was producing 11% of landfilled wastes. Just focusing on the metal landfilled wastes, the new 2kW CU produces only 0.724kg when the old CU was producing 3.356kg. It’s a metal waste reduction of 80% !”	**83%**	Recyclability rate has been calculated based on REEECY'LAB tool developed by Ecosystem, for components/materials not covered by the tool, data from the “ECO’DEEE recyclability and recoverability calculation method” was taken. If no data was found a conservative assumption was used (0% recyclability).

Environmental impacts

Reference service life time	22 years			
Installation elements	No special installation components need during installation phase, but transport of packaging to disposal and disposal of packaging accounted for during installation.			
Use scenario	The product is in active mode 40% of the time with a power use of 835W and in Standby mode 60% of the time for 22 years.			
Technological representativeness	The Modules of Technologies such as material production, manufacturing process and transport technology used in this PEP analysis (LCA-EIME in this case) are Similar and representative of the actual type of technologies used to make the product in production.			
Geographical representativeness	Europe			
	[A1 - A3]	**[A5]**	**[B6]**	**[C1 - C4]**
Energy model used	Electricity Mix; Production mix; Low voltage; MT	Electricity Mix; Production mix; Low voltage; UE-27	Electricity Mix; Production mix; Low voltage; UE-27	Electricity Mix; Production mix; Low voltage; UE-27

Detailed results, including all the optional indicators mentioned in PCRed4, and the split of the Use Phase (B1 to B7), are available in the LCA report and on demand in a digital format - Country Customer Care Center - http://www.schneider-electric.com/contact

Mandatory Indicators		ClimaSys Connected Cooling Unit - NSYCU2K3P4DG						
Impact indicators	Unit	Total	Manufacturing [A1 - A3]	Distribution [A4]	Installation [A5]	Use [B1 - B7]	End of Life [C1 - C4]	Benefits [D]
Contribution to climate change	kg CO2 eq	2.84E+03	1.76E+02	4.28E+00	2.16E+00	2.58E+03	8.49E+01	-1.13E+02
Contribution to climate change-fossil	kg CO2 eq	2.84E+03	1.75E+02	4.28E+00	2.16E+00	2.57E+03	8.46E+01	-1.12E+02
Contribution to climate change-biogenic	kg CO2 eq	5.40E+00	1.87E+00	0*	0*	3.25E+00	2.87E-01	-9.04E-01
Contribution to climate change-land use and land use change	kg CO2 eq	4.79E-06	0*	0*	0*	0*	4.79E-06	0.00E+00
Contribution to ozone depletion	kg CFC-11 eq	5.79E-05	3.89E-05	3.78E-06	0*	1.48E-05	3.46E-07	-1.69E-05
Contribution to acidification	mol H+ eq	1.54E+01	1.23E+00	1.93E-02	2.00E-03	1.39E+01	1.92E-01	-8.97E-01
Contribution to eutrophication, freshwater	kg $(PO4)^{3-}$ eq	1.76E-02	7.16E-04	0*	3.41E-05	6.67E-03	1.02E-02	-2.02E-04
Contribution to eutrophication marine	kg N eq	1.81E+00	1.76E-01	8.91E-03	8.79E-04	1.59E+00	3.36E-02	-6.61E-02
Contribution to eutrophication, terrestrial	mol N eq	2.63E+01	1.91E+00	9.65E-02	7.04E-03	2.39E+01	3.78E-01	-7.67E-01
Contribution to photochemical ozone formation - human health	kg COVNM eq	5.85E+00	5.72E-01	3.13E-02	2.40E-03	5.12E+00	1.27E-01	-2.79E-01
Contribution to resource use, minerals and metals	kg Sb eq	1.62E-02	1.57E-02	0*	0*	1.76E-04	2.89E-04	-3.18E-02
Contribution to resource use, fossils	MJ	6.83E+04	2.85E+03	5.21E+01	1.56E+01	6.21E+04	3.28E+03	-2.42E+03
Contribution to water use	m3 eq	1.63E+02	5.11E+01	2.18E-01	9.03E-02	8.64E+01	2.48E+01	-5.35E+01

Additional indicators for the French regulation are available as well

Inventory flows Indicators		ClimaSys Connected Cooling Unit - NSYCU2K3P4DG						
Inventory flows	Unit	Total	Manufact. [A1 - A3]	Distribution [A4]	Installation [A5]	Use [B1 - B7]	End of Life [C1 - C4]	Benefits [D]
Contribution to use of renewable primary energy excluding renewable primary energy used as raw material	MJ	1.19E+04	2.97E+01	0*	0*	1.19E+04	6.95E+00	-3.23E+01
Contribution to use of renewable primary energy resources used as raw material	MJ	3.33E+01	3.33E+01	0*	0*	0*	0*	0.00E+00
Contribution to total use of renewable primary energy resources	MJ	1.20E+04	6.29E+01	0*	0*	1.19E+04	6.95E+00	-3.23E+01
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	6.82E+04	2.74E+03	5.21E+01	1.56E+01	6.21E+04	3.28E+03	-2.42E+03
Contribution to use of non renewable primary energy resources used as raw material	MJ	1.17E+02	1.17E+02	0*	0*	2.09E-01	0*	0.00E+00
Contribution to total use of non-renewable primary energy resources	MJ	6.83E+04	2.85E+03	5.21E+01	1.56E+01	6.21E+04	3.28E+03	-2.42E+03
Contribution to use of secondary material	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to use of renewable secondary fuels	MJ	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to use of non renewable secondary fuels	MJ	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to net use of freshwater	m^3	3.79E+00	1.19E+00	5.07E-03	2.10E-03	2.01E+00	5.78E-01	-1.25E+00
Contribution to hazardous waste disposed	kg	1.34E+03	1.27E+03	0*	0*	4.55E+01	2.30E+01	-2.54E+03
Contribution to non hazardous waste disposed	kg	1.30E+03	9.44E+02	0*	1.87E+00	3.50E+02	2.60E+00	-1.01E+02
Contribution to radioactive waste disposed	kg	1.51E-01	7.55E-02	8.53E-04	6.44E-05	7.42E-02	2.38E-04	-5.37E-02
Contribution to components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to materials for recycling	kg	1.78E+01	0*	0*	6.37E-02	0*	1.77E+01	0.00E+00
Contribution to materials for energy recovery	kg	3.08E-01	0*	0*	0*	1.46E-01	1.62E-01	0.00E+00
Contribution to exported energy	MJ	9.60E-01	0*	0*	9.60E-01	0*	0*	0.00E+00
Contribution to biogenic carbon content of the product	kg de C	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to biogenic carbon content of the associated packaging	kg de C	0.00E+00	0*	0*	0*	0*	0*	0.00E+00

** represents less than 0.01% of the total life cycle of the reference flow*

Life cycle assessment performed with EIME version v5.9.4, database version 2022-01 in compliance with ISO14044.

Detailed results, including all the optional indicators mentioned in PCRed4, and the split of the Use Phase (B1 to B7), are available in the LCA report and on demand in a digital format - Country Customer Care Center - http://www.schneider-electric.com/contact

Please note that the values given above are only valid within the context specified and cannot be used directly to draw up the environmental assessment of an installation.

Registration number :	SCHN-00927-V01.01-EN	*Drafting rules*	PEP-PCR-ed4-2021 09 06
Verifier accreditation N°	VH48	*Supplemented by*	PSR-0013-ed2-2019 12 06
Date of issue	2024/03	*Information and reference documents*	www.pep-ecopassport.org
		Validity period	5 years
Independent verification of the declaration and data, in compliance with ISO 14025 : 2010			
Internal	External X		
The PCR review was conducted by a panel of experts chaired by Julie ORGELET (DDemain)			
PEP are compliant with XP C08-100-1 :2016 or EN 50693:2019			
The elements of the present PEP cannot be compared with elements from another program.			
Document in compliance with ISO 14025 : 2010 « Environmental labels and declarations. Type III environmental declarations »			

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SCHN-00927-V01.01-EN
Published by Schneider Electric
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2024/03