Product Sustainability Report (PSR)
Category: cooling



Product Sustainability Report (PSR)

The Product Sustainability Report (PSR) provides information about the sustainable aspects of the relevant product category. This is based on extensive environmental data from detailed life cycle assessments (LCAs).

Life cycle assessment (LCA)
under DIN EN ISO 14040

Tools
SimaPro, EcoInvent, UVEK environmental database

Perspectives
Cradle-to-cradle and cradle-to-gate; assessment based on three methods: CO_2 footprint measured in CO_2, the ecological scarcity method measured in environmental impact points and the monetary equivalent value method measured in Swiss francs (CHF).

Category
Cooling

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About V-ZUG

We have been developing, creating and producing appliances that bring simplicity into our customers' homes and creativity into their kitchens since the company was founded in Zug in 1913.

Our responsible approach to manufacturing high-precision and long-lasting products allows us to make an active contribution to a sustainable future.

V-ZUG has branches in the EU, the UK, China, Hong Kong, Singapore and Australia and distribution partners all over the world, but production takes place in Switzerland, and this is where the decisions are made. V-ZUG currently employs a total of around 2,200 people. Organisationally, it consists of the segments Household Appliances and Real Estate.



Timeless design

Our design language is unobtrusive, timeless and reduced to the essentials. It is uncompromising in terms of quality, the materials used and sustainability. We have carefully formulated the user's interaction with our products in great detail to make it as intuitive as possible and create an emotional connection with our products. That is Swiss quality.

Meaningful innovation

We work tirelessly to find solutions that will make our customers' everyday household tasks easier and deliver perfect results.

We are renowned for our innovative products and attach great importance to their user-friendliness, durability, reliability, performance and energy efficiency. Thanks to our proximity to customers, we are able to develop the right programmes and functions to achieve perfect results, allowing us to make their everyday household tasks easier.

Service

Our qualified service team assists our customers throughout their journey with V-ZUG – from choosing the right appliance for their needs to troubleshooting in the event of an issue, error report or code. We guarantee our customers the help they need.

Every day, we give our all to ensure customers are satisfied with our products and receive the best service. With more than 700 service experts around the globe, we are there for our customers whenever they need us.



Swiss origins

We proudly bear our company's location in our brand name and are acutely aware of the responsibility we bear to our environment. We reflect on our actions and the consequences of these for people and resources in our environment and are committed to ongoing investment in a sustainable future. We are here to stay.

Production location in Zug, headquarters, vertical factory

We have made a conscious decision to remain true to our long-standing production location in Switzerland. To ensure we are optimally prepared for the future, we are part of a visionary urban manufacturing project: the Tech Cluster Zug. Because we are striving tirelessly to achieve state-of-the-art production facilities and improve our environmental footprint, we have not only built our own vertical factory, but also a Multi-Energy Hub.

Production location in Sulgen, the most state-of-the-art refrigerator factory in Europe

We are proud to have opened Europe's most state-of-the-art refrigerator factory in Sulgen in 2022. Here, both products and processes are geared towards sustainability.

Swiss Made

V-ZUG produces more than 80% of the appliances it sells in Switzerland in Zug and Sulgen (2023: 82%, Swiss market). All appliances manufactured in Switzerland meet the strict Swiss Made requirements (i.e. > 60% value generated in Switzerland) and are certified accordingly (Swiss Made, protected designation).

We also have at our disposal a key network of suppliers. More than 55% of our suppliers are based in Switzerland, 35% in neighbouring countries (primarily Italy, Austria, Germany) and roughly 10% are from Asia (primarily electronics).



Sustainability at V-ZUG

Sustainability. We see it as the driving force behind the development of our products, the services we offer, the way in which we manufacture, and how we contribute to a society that is fit for the future. Sustainability at V-ZUG comprises three dimensions:



People

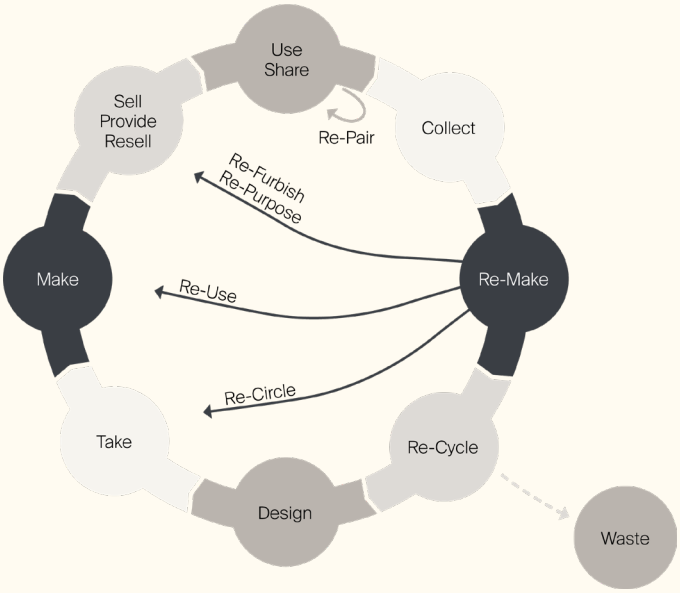
Our commitment to our employees and our environment is our top priority – we never cease to invest in these. The wellbeing of our employees, our customers and society as a whole is the driving force behind our aspirations and big ambitions for positive change.

Planet

We pursue ambitious environmental goals. We reduce our environmental footprint along the entire value chain through measures relating to renewable energies, energy efficiency and the circular economy.

Profit

Our success is based on quality, design and durability. These values are reflected in our projects too. Far from being geared towards short-term profit maximisation, they will secure the future of our company for generations to come.



The circular economy

For us, a sustainable product starts at the development stage. This early stage is where we can most effectively influence its “long-term” sustainability. This is when we concentrate on aspects like the durability and repairability of the appliances, low energy and water consumption in use, material selection and modular design – all very much with the circular economy in mind.

*Find out more in the Climate Report at www.vzug.com

We have encapsulated our commitment to sustainability in four targets which provide the framework for our goals, activities and reporting.

Products and services for a future-fit society
Producing an energy-efficient appliance is just one of many sustainability aspects. We think ahead. From procurement, development and manufacturing and servicing right through to re-use and recycling, sustainability throughout the entire life cycle of the appliance is more than just a consideration for us: it is the goal. Measurable, definable and achievable.

Resilient and committed employees
A workforce we care about and whose work is close to our heart. The quality of our products depends on our employees. That is why we incorporate them in the strategic direction of the company, promoting an open, fair and safe working environment, encouraging and facilitating life-long learning and offering a wide range of advancement opportunities.

Environment and climate protection
We are reducing our environmental footprint along the entire value chain – from development and procurement through production and use to recycling of materials. To achieve this, we set clear environmental and climate targets, measure our impact systematically and work with partners in business, politics and science. In addition to decarbonisation and energy-efficient production, we promote resource conservation, waste prevention and biodiversity.

Entrepreneurship for sustainable prosperity
We are committed to our Swiss location and have invested over 50 million Swiss francs a year in our local production infrastructure in the last three years alone. Our quest for profit, our business partnerships and our entire management set-up are geared towards ethical and sustainable practice and fall in line with our binding code of conduct.



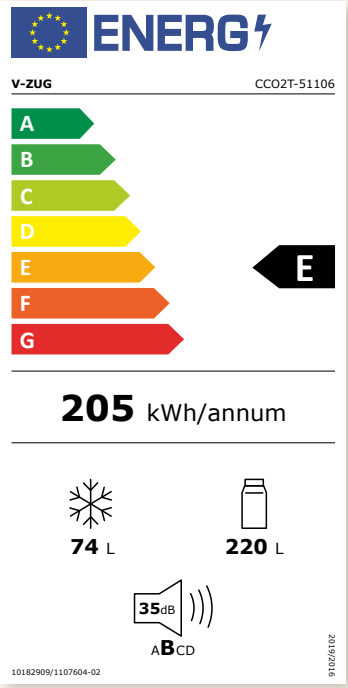
Results of life cycle assessments (LCA)

Product category: Cooling
Product name: CombiCooler V2000, Cooler V2000, WineCooler V4000
Energy labels (EU): see specific product, varies depending on C-G model
Recycling quota*: 69 – 93%
Recovery quota*: 91 – 97% (recycling including combustion with heat recovery)

*Based on own method reflecting the current state of recycling technology in Switzerland

Stiftung Sens recycling quota for the refrigeration category:
83% (according to 2024 annual report)

Underlying data for the life cycle assessment
Country of manufacture [1]: Switzerland



Example for CombiCooler V2000.
All other energy labels are available at vzug.com

Country of use [2]: Switzerland
Electricity mix [3]: as per Swiss average: 128 g CO_2/kWh
User behaviour: normal use based on declaration data for annual use[4] over 12 years[5]

Underlying data background:

1) All appliances with the Swiss Made designation are manufactured in Switzerland.

2) The life cycle assessments relate to use of appliances in Switzerland with the corresponding Swiss electricity mix. If the appliance is used in another country, the corresponding results can be requested from V-ZUG.

3) The electricity mix is based on the Swiss average. The emissions from electricity consumption depend on electricity generation. The more sustainable and renewable electricity production is, the smaller the environmental footprint. This can vary significantly from one energy supplier to another. The influence of emissions caused by electricity production is very high.

4) Usage behaviour: theoretical usage behaviour based on internal definitions is used for calculation. Sometimes this is based on service data, other times it is based on the regulatory requirements for the energy label assessment. Usage behaviour with regard to intensity influences the result considerably.

5) V-ZUG defines a theoretical lifespan in years for each product category; this is used as a basis to review the quality in development/production. But, in reality, the lifespan depends on a number of different factors, intensity of use and care being the most crucial. The lifespan in years also includes potential repairs during this time and beyond. Great importance is attached to repairability (availability of spare parts and repair expertise in the service department).

Life cycle assessments are carried out using three different methods/perspectives.

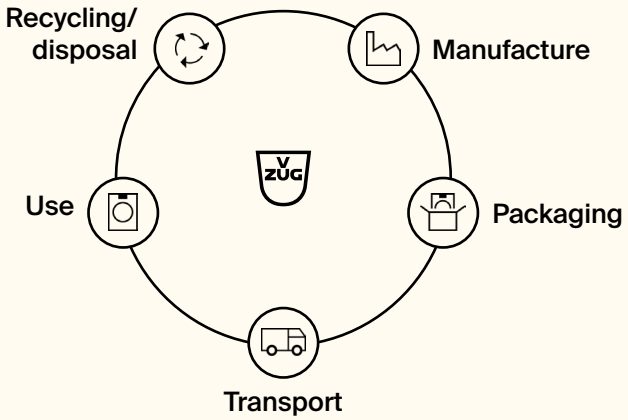
Carbon footprint in kg CO_2e:
greenhouse gases differ in their global warming potential (GWP). The climate impact of carbon dioxide (GWP of CO_2 is equal to 1) serves as a benchmark, i.e. the global warming potential of other substances are measured relative to CO_2. The GWP value/CO_2 equivalent indicates the global warming potential of a substance and thus its contribution to the warming of the atmospheric boundary layer.

Environmental impact points:
The method of ecological scarcity provides a comprehensive picture of the environmental footprint and, in addition to the greenhouse gas potential, includes other impact categories such as noise, water, land use, acidification of the soil, toxicity to humans and ecosystems, etc. This method was introduced by the Federal Office for the Environment in Switzerland in 2011 and is constantly being adapted to take into account new findings. The unit is environmental impact points.

Monetary equivalent in CHF:
In cooperation with the Lucerne University of Applied Sciences and Arts (HSLU), V-ZUG has developed a method that shows the environmental costs which, along with the footprint, serve as a basis for the life cycle assessment (in environmental impact points). In most cases, these costs are borne by society. The value is expressed in Swiss francs and is included as a shadow price in V-ZUG's business case considerations.

Important note:
the ecological footprint in the use phase depends largely on the usage behaviour (programme selection, intensity, care, etc.), as well as the electricity mix used.

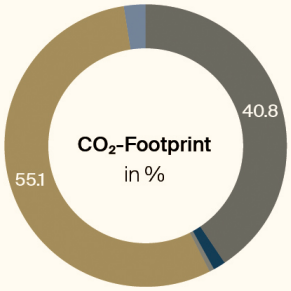
Scope of life cycle assessments:
Life cycle assessments cover the entire product life cycle from production, packaging, use and transport to recycling/disposal (cradle-to-cradle). The "manufacturing" section (also known as grey energy) includes all the materials used as well as the manufacturing process (cradle-to-gate).

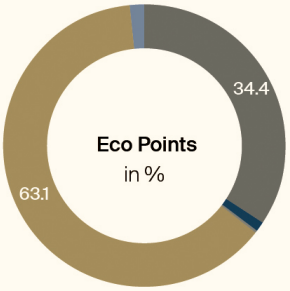


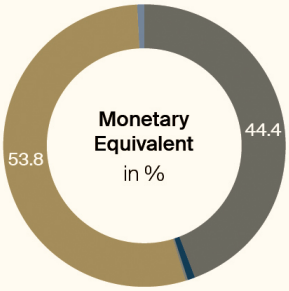
Representation of life cycle assessments in the appliance category
The following three life cycle assessments form an informative insight into the diverse refrigeration range with its varied installation sizes and features. In addition to its own products, which are all manufactured in Switzerland (refrigerator factory in Sulgen), V-ZUG also offers extra products manufactured by trusted partners. These are produced in Germany, Italy and Austria. They account for approx. 5 - 10% of the quantities.

Life cycle assessments (LCA)

CombiCooler V2000

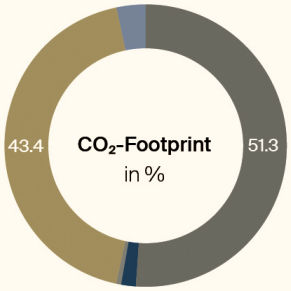


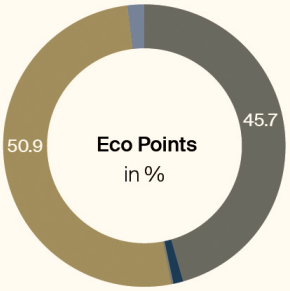


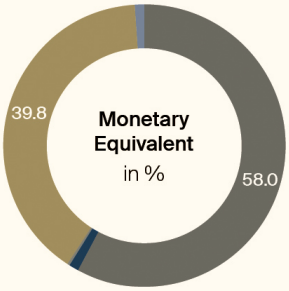


	in % | in kg CO_2e	in % | in EP	in % | in CHF
Manufacturing (cradle-to-gate)	**40.8 | 331**	**34.4 | 762,000**	**44.4 | 369**
Packaging	1.4 | 11	0.9 | 19,200	0.8 | 7
Transport	0.4 | 3	0.2 | 5,360	0.2 | 2
Use – Electricity	55.1 | 447	63.1 | 1,400,000	53.8 | 447
Recycling/Disposal	2.4 | 20	1.4 | 31,602	0.8 | 7
Total (cradle-to-cradle)	**100.0 | 812**	**100.0 | 2,218,162**	**100.0 | 831**

Cooler V2000



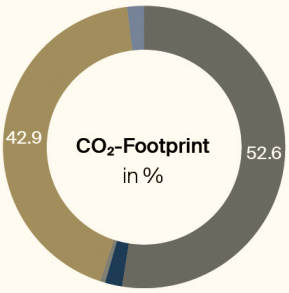


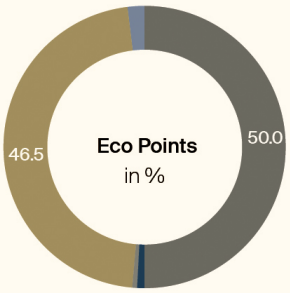


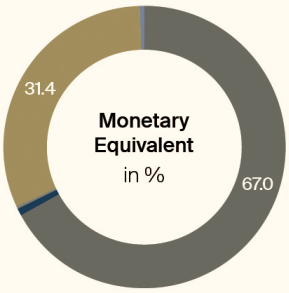
	in % | in kg CO_2e	in % | in EP	in % | in CHF
Manufacturing (cradle-to-gate)	**51.3 | 332**	**45.7 | 792,000**	**58.0 | 410**
Packaging	1.7 | 11	1.1 | 19,200	1.0 | 7
Transport	0.5 | 3	0.3 | 5,930	0.3 | 2
Use – Electricity	43.4 | 281	50.9 | 882,000	39.8 | 281
Recycling/Disposal	3.1 | 20	1.9 | 32,850	0.9 | 7
Total (cradle-to-cradle)	**100.0 | 647**	**100.0 | 1,731,980**	**100.0 | 707**

Life cycle assessments (LCA)

WineCooler V4000







	in % | in kg CO_2e	in % | in EP	in % | in CHF
Manufacturing (cradle-to-gate)	**52.6 | 184**	**50.0 | 507,000**	**67.0 | 321**
Packaging	1.9 | 7	1.1 | 11,500	0.9 | 4
Transport	0.7 | 3	0.5 | 4,590	0.4 | 2
Use – Electricity	42.9 | 150	46.5 | 472,000	31.4 | 150
Recycling/Disposal	1.9 | 7	1.9 | 18,975	0.3 | 2
Total (cradle-to-cradle)	**100.0 | 350**	**100.0 | 1,014,065**	**100.0 | 478**

The values of the different models and items vary due to slight differences in design and energy efficiency. Please refer to the technical data on the website for the detailed value per model offered (in absolute figures, CO_2, environmental impact points and monetary equivalent).

Our commitment to sustainable products

Across all products generally:

- How we design and refine appliances
  - Focus on quality and durability
  - Based on the principles of the circular economy
  - Ongoing improvement energy and water efficiency
  - Enable repairability (at least 15 years of spare parts availability for all Swiss Made products, competent service teams with extensive specialist knowledge)

- How we manufacture the appliances
  - Use of 100% renewable electricity in our production operations in Switzerland (from Swiss hydroelectric power)
  - Ambitious climate targets for production in Switzerland (continuous reduction of CO_2 emissions, additional investments in the V-Forest climate protection project (high-quality reforestation)
  - Internal CO_2 steering tax on scope 1+2 emissions (CHF 120/t CO_2)
  - State-of-the-art production facilities and building
  - Advanced waste management

- Resilient and committed employees

- Assuming responsibility in supply chains (human rights, child labour, conflict minerals)

- Driving the transformation from a recycling economy to the circular economy

- Driving forward the decarbonisation of our own vehicle fleet (service vehicles, lorries)



Specifically for CombiCooler, Cooler and WineCooler:

- **High-quality vacuum insulation panels (VIP)** prevent heat from penetrating the appliance, The thin design of the VIPs enable a large usable volume despite the high level of insulation.
- **Four active heat exchanger modules,** each of which is equipped with a fan, boost the refrigerator's heat exchange efficiency and performance.
- Natural refrigerant R600a (isobutane) is used in all V-ZUG refrigerators. It has an ODP (ozone depletion potential) of 0 and a GWP-AR5 (global warming potential) of 3.
- In the event of a breakdown, V-ZUG **refrigerators can maintain chilled storage for up to 16 hours,** which sets the benchmark in the industry.
- High-quality **racks made from Swiss beech wood** are used in the WineCooler.
- V-ZUG Kühltechnik AG maintains a long-standing partnership with Obvita, which is dedicated to **the professional and social integration of people with visual impairments and mental health** issues. As part of this collaboration, an Obvita working group **regularly undertakes assembly work in V-ZUG's refrigerator production division**.



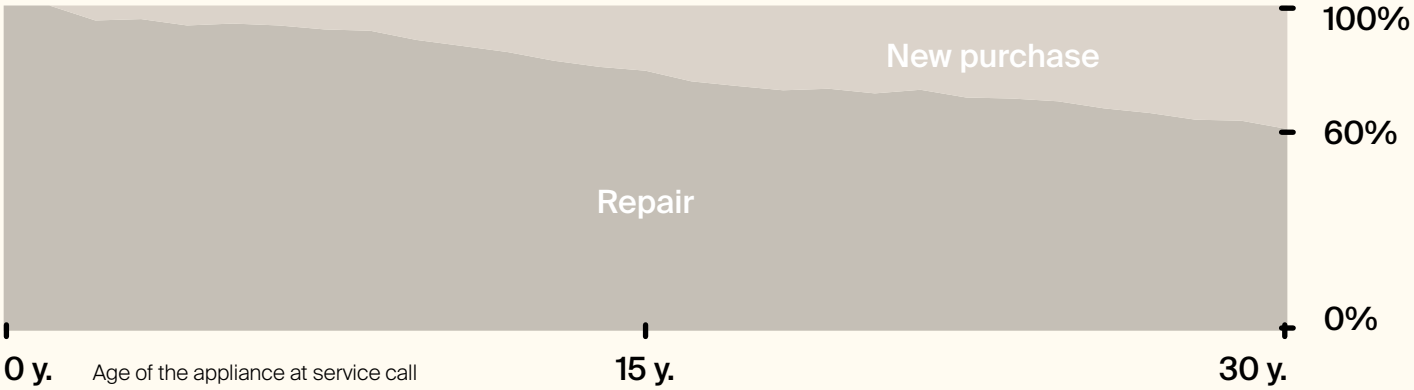
Your contribution to a more sustainable use of our appliances

A large part of our environmental footprint is caused by the use of our appliances. V-ZUG supports an ecological use of the appliances with the following tips and hints:

- **Limit the time that appliance doors are open and only open them as often as** is necessary.
- Allow warm or hot food/products **to cool outside the appliance**.
- Store moisture-releasing foods **in sealed containers or covered** in the refrigerating section. Moisture reduces refrigeration performance.
- To ensure optimum air circulation: **do not store food/goods too close together.**
- Leave **drawers**, glass shelves and door trays in the default **arrangement where possible**. This ensures optimum temperature distribution and efficiency.
- **Be smart when it comes to food shopping**. Before going shopping, it's always worth having a look in the fridge to see what you already have. You should only buy what you really need. Opt for small or packaged portions and be wary when it comes to promotions. Opt for local and seasonal products where possible. A small snack before going shopping can help ensure you don't buy more than you need, because shopping hungry often leads to overbuying.
- **Tips for preventing food waste**: "use by", "sell by" and "best before" dates have different meanings. If the "use-by date" has been exceeded, you shouldn't consume the food. Otherwise, don't just go by the dates, but trust your senses – sight, smell and taste – to determine whether the food is still worth eating. Store food leftovers in transparent containers and position these so they aren't forgotten. Consume the food within one to three days. If you've bought more than you can eat, most foods can be frozen (bread for up to three months, and certain animal products for up to a year). When it comes to animal products, ensure that the cold chain is not broken. Good organisation is key – use the first-in, first-out principle for perishable foods like fruit and vegetables: keep older products at the front, new ones at the back.
- **Use appliances for as long as possible** and have them repaired in the event of a fault. When deciding whether to buy a new product or repair an existing one, take into account grey energy and progress in energy efficiency.
- Buy **renewable electricity** for your own household (contact your electricity provider), or produce your own electricity using a photovoltaic system.
- **Support the V-Forest climate protection project:** Make a climate contribution for electricity consumption and the resulting CO_2 emissions through the V-ZUG CO_2 web shop (make a climate contribution with V-ZUG).

Durability, repairability and customer loyalty

We analyse our service data from the Swiss market every year to gain insights into durability, repairability and customer loyalty. Our service technicians were called out for services over 200,000 times (appliance defective). In each case, we looked at how old the appliance was at the time, whether we could still repair it and whether the customer still wanted to repair it or replace it with a new one.



Age of the appliance at service call
(Underlying data for 2025 – total installed base in Switzerland: approx. 5.7 million V-ZUG appliances)

Results:

- In 46% of cases, the appliances were older than 10 years – the repair rate for 10 years is 89%.
- In 23% of cases, the appliances were older than 15 years – the repair rate at 15 years is 80%.
- In 6% of cases, the appliances were 20 years or older – the repair rate at 20 years is 73% and at 30 years it is still over 60%.
- The oldest appliance (washing machine) was 48 years old; the customer still wanted to repair it and we were able to do so (spare part and expertise were still available).
- The result only reflects appliances we were able to assess because of a service call. Not shown here are appliances in good working order and those replaced straight away because of their already advanced age.

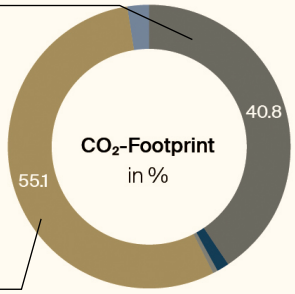
Conclusion:

- Our appliances have a very long service life.
- We can perform repairs even on older appliances (spare parts availability and service expertise)
- The repair service is attractively priced. The majority opt for repair and continue to do so over a long service life.
- Customers are happy to repair because they are very satisfied with the product. Otherwise, they would change appliance or even brand.
- Note: repairing a 25-year-old washing machine makes only limited sense, as the energy efficiency of the successor would be much better and offset embodied energy relatively quickly. Of course, the customer's wishes always come first.

Summary

Manufacture is influenced primarily by V-ZUG

Use is influenced primarily by the user



CombiCooler V2000

Manufacturing (cradle-to-gate	**40.8**	**331**
Packaging	1.4	11
Transport	0.4	3
Use – Electricity	55.1	447
Recycling/Disposal	2.4	20
Total (cradle-to-cradle)	**100.0**	**812**

High-quality vacuum insulation panels (VIP) boost insulation

Extended storage capability in the event of power cuts

Collaboration with institution Obvita in production. Inclusion of people with disabilities



Active heat exchanger modules

Refrigerant R600a (isobutane)

WineCooler: high-quality racks made from Swiss beech wood

Facts

- Swiss Made
- Focus on quality, durability and energy efficiency
- Designed for repairability and the circular economy
- State-of-the-art production facilities in Zug and Sulgen
- Responsible supply chains
- Resilient and committed employees

Legal information



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