



Flamco

Flexcon Premium expansion vessel

Life cycle assessment



hydraulic flow
control

aalberts

Contributing to a sustainable world.

Aalberts hydronic flow control

Ambitions (sustainability)

Pushing boundaries

Aalberts develops innovative technologies and pioneering industries for daily use. The Aalberts hydronic flow control business segment, with the main brands Flamco and Comap, focuses on technologies for current and future climate systems. We make our dreams and those of our customers come true – in a no-nonsense and professional manner. We do this by constantly pushing boundaries and challenging ourselves. By learning and sharing our knowledge, we become better every day. We are very proud of this.

Sustainable business

Approximately 50% of the world's energy consumption comes from buildings, and climate systems account for half of this consumption. It is therefore very important that these systems operate correctly and as energy-efficiently as possible. We make this possible by continuously improving our products and systems.

Sustainable business is also in our DNA: we make responsible choices and strive to exceed our sustainable ambitions. It is not without reason that our office in Almere scores as 'outstanding' (BREEAM) in the area of sustainability. We also want to continue to improve in the years to come by:

- Providing insight into all our energy-using and energy-influencing installations in order to concretely show from 2023 how they contribute to sustainability performances of buildings.
- Making our carbon footprint fully measurable from 2022.
- Ensuring an annual CO₂ reduction of 5% between 2020 and 2025.
- Only using biodegradable packaging material from 2024 onwards.
- Design sustainable products and technologies from 2025 onwards.

Integral approach

Buildings consume a lot of materials and energy, and building systems offer opportunities for substantial savings. In our ambition to make HVAC installations and buildings more sustainable, we look at the entire life cycle of our products. Each phase has different sustainability aspects. A life cycle assessment (LCA) provides insight into the environmental impact at all stages – from raw material extraction to end-of-life.

Life cycle assessment

Our LCAs are carried out according to a standardised and internationally recognised method (NEN-EN-ISO 14040 and 14044) and with the aid of professional programmes and data (openLCA and ecoinvent). The LCAs provide valuable, reliable data on the environmental impact of our products. We use this data to innovate and achieve further (environmental) savings. We also make this data accessible to our customers so that they can use it to support their product choices.

This fact sheet contains a brief environmental impact assessment. Would you like to receive the extensive LCA report? Then contact your local branch of Aalberts hydronic flow control.

Results (LCA)

Scope

Expansion vessels are important Flamco products and new products are accompanied by an LCA. When we introduced the new Flexcon Premium expansion vessel, we carried out an LCA. Four different Flamco expansion vessels and an expansion vessel from an average competitor were compared.

Environmental indicators

The LCA focuses on the most important factors that determine the environmental impact of the product. 18 different environmental indicators were used, the results of which are summarised in four final indicators that together express the environmental burden: impact on humans, impact on ecosystems, impact on available resources and CO₂ emissions.

Conclusions

Compared with the competitor's expansion vessels, Flamco expansion vessels perform substantially better on all four indicators, in particular due to their extended service life. The 'Flexcon Premium 18 litres, 3 bar' scores best, namely almost three times better than the competitor's model. For example, our expansion vessel has 66.1% lower CO₂ emissions during its entire service life (until end-of-life treatment).

Sustainable membrane

The very low CO₂ emissions are mainly due to the long service life of the expansion vessel with its plastic membrane. This membrane made of thermoplastic polyolefin (TPO) is more durable than SBR and Butyl rubber. It is lighter because it requires up to 50% less material (saving on raw materials, energy and transport), which reduces CO₂ emissions. Moreover, TPO is much more recyclable. The high-quality membrane, in combination with a clamping ring (instead of a welded connection), ensures an extremely long service life of 15 years.



Fig. 1) A Flexcon Premium expansion vessel from Flamco has an extremely long service life of 15 years. Expansion vessels from other brands have an average service life of approx. 5 years, which means that in 15 years as many as 3 expansion vessels are required.

Model	Volume	Weight	Max. working load	Membrane	Service life	CO ₂ reduction
Flexcon Premium	18 L	3.40 kg	3 bar	TPO	15 years	66.1%
Competitor X	18 L	3.23 kg	3 bar	SBR	5 years	

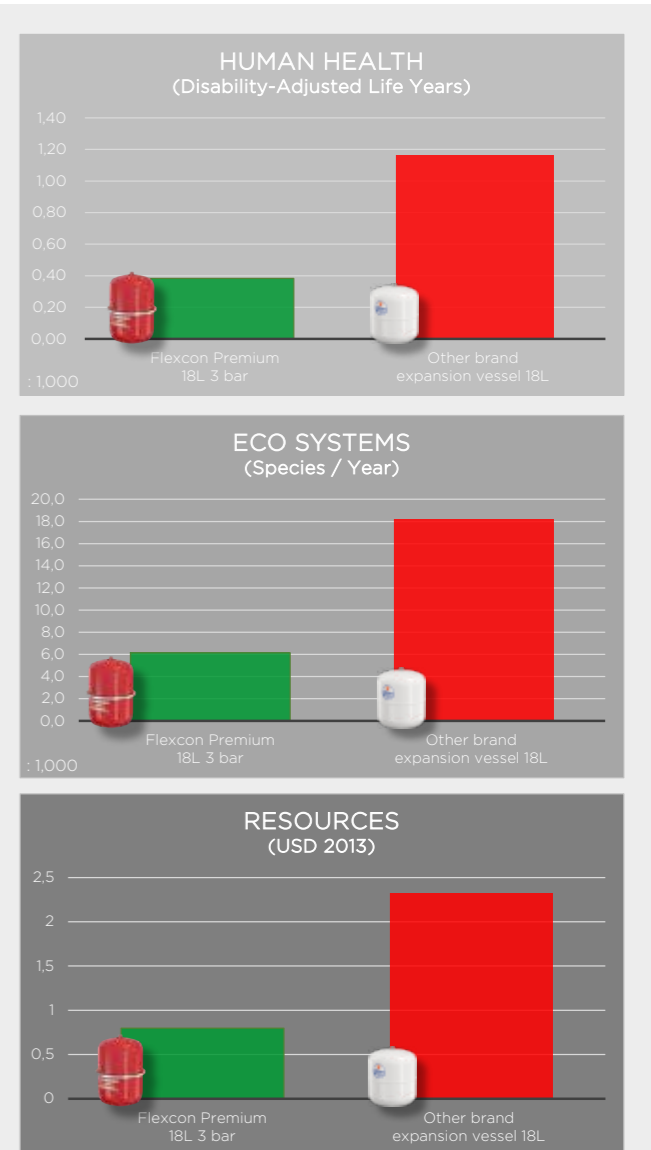


Fig. 2 - 4) The Flexcon Premium has a reduced mass, improved membrane material and a greatly improved service life. All factors combined, the Flexcon Premium has approximately 66% less environmental impact than expansion vessels from other brands.

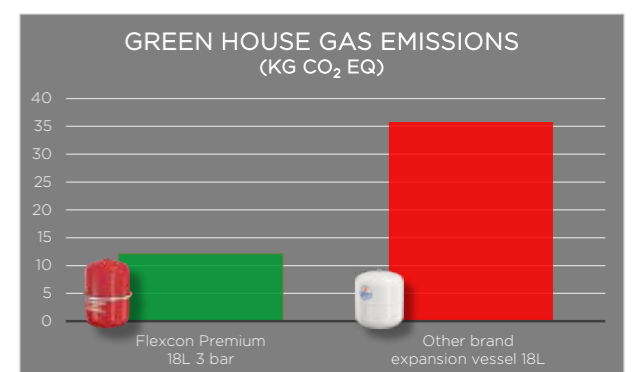


Fig. 5) The Flexcon Premium generates 66.1% less CO₂ than expansion vessels from other brands.



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COMAP

Want to know more?

For a complete and up-to-date overview of our product range and our additional services, please visit: www.flamcogroup.com

Would you like to make a personal appointment with an account manager in your region or get advice and support from our experts by telephone? Then contact us at:

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