

enabling sustainability in buildings through ground-breaking technology

our three pillars of sustainability



we aim to create eco-friendly & fossil-free buildings, and save energy in installations

According to the EU commission, buildings in the EU are responsible for almost 40% of energy consumption and 36% of greenhouse gas emissions, which stem from construction, usage, renovation, and demolition.¹ 50% of energy from buildings is consumed in heating and cooling.

Further, only 75% of the EU building stock is energy inefficient. The large consensus would be that renovating existing buildings could reduce the total energy consumption by 5-6% as well as lower the CO₂ emissions by approximately 5%. However, member states are only renovating about 1% of their total building stock each year. This varies from 0.4% to 1.2% between the countries.

To meet the EU's climate and energy objectives detailed in the European green Deal, the current rates of renovations should at least double. It is also imperative to minimise energy losses from inefficient systems.

By using recyclable materials, reducing waste, saving energy, ensure longevity and relying on renewable energy sources, we can reduce global CO₂ emissions by up to 50%. Energy savings are also possible in the HVAC (Heating, Ventilation, and Air Conditioning) sector in both commercial and residential buildings

pillar 1

sustainable components - reduction in energy consumption

The EU's focus on the building industry and to boost the energy performance is outlined in the Energy Performance of Buildings Directive and the Energy Efficiency Directive. The two directives aim to promote a building stock that is energy efficient and decarbonised by 2050; consumers and businesses are enabled to make informed decisions as well.

Aalberts hydronic flow control plays a role in both these aspects with its mission-critical heating and cooling technologies. The main product brands Flamco and Comap partner with different stakeholders to engineer "from source to emitter" solutions for requirements for each stage of the building lifecycle.

autonomous products

Aalberts hydronic flow control operates according to three basic pillars of sustainability, which include saving energy at installations, reducing the CO2 footprint of the products on offer and ensuring that fossil-free buildings become a possibility.

The first of the three pillars is about prevention, or making buildings as energy efficient as possible by installing products that give users greater control over energy usage and distribution. For example, smart thermostats and thermostatic radiator heads serve to ensure that rooms are only heated when occupants are in the premises, and not wasting energy heating empty buildings.

Individual homes can lower their energy consumption by 15% if consumption is managed in such a way. Over a long term, this translates into reduced prices and carbon footprint. Moreover, the increased popularity of smart thermostats and smart radiator heads is likely to skyrocket these savings, since they facilitate even greater control over a building's energy consumption, even remotely.



balancing and air & dirt separation

Balancing valves are yet another example of a simple piece of equipment that contributes to considerable energy savings. Designed to attain hydronic balance within heating systems, they divide fluid flow equally throughout a building and equalise system pressure, thus making it 12% more efficient.

Likewise, air and dirt separators, such as the Flamco XStream, serve to separate air and dirt from the system to improve efficiency. Just as having air in radiators stops them from working well, when dirt particles are present in installations or the water used therein has not been properly degassed, systems consume more energy, produce more noise and have a shorter lifespan. When air particles are separated, however, 10% less energy is consumed by the system, while removing dirt reduces energy usage by 7%. Collectively, this gives rise to a joint reduction of 14%.

The Flamco air and dirt separator has a longer lifetime than the market average, lasting approximately fifteen years before needing to be replaced. Of course, the longer the product's lifetime, the greater the direct energy savings overall. For instance, using a Flamco XStream over the course of its fifteen-year lifespan equates to an average saving of 1400 kw/h of energy no: over 15 years lifespan $1400 \times 15 =$ or 1.400 km/h per year. What's more, the longer a product's lifespan, the greater the reduction in material costs and material waste, as well.

what we achieved

In 2022 alone, Aalberts hydronic flow control products helped save 8.552 tons of CO2 which is equivalent to planting 427.583 trees and energy consumed by 264.897 homes.



pillar 2

eco-friendly products

This brings us onto the second of the three pillars, reducing the carbon footprint of products themselves. Primarily this involves using eco-friendly, recyclable materials and extending product lifetimes as much as possible. A clear example of this can be seen with the Meiflex hoses, which contain an eco-friendlier type of insulation than other hoses on the market, thus making them 64% more environmentally friendly than the market average in terms of their carbon footprint.

Similarly, Flamco's Flexcon Premium expansion vessel that has the smallest possible environmental footprint. Expansion vessels play a key role in many heating systems, ensuring that the gas-tight membrane that keeps nitrogen within the vessel remains hermetically sealed during water expansion, guaranteeing both safety and efficiency. This helps one avoid frequent replacement of vessels when they suffer from wear and tear.

did you know?

The Flexcon expansion vessel lasts over twice as long as other vessels on the market, since the membrane is made from 100% recyclable materials that have a lower CO₂ footprint than their rubber counterparts. Flexcon premium made with Greentec steel vessels produce just 12 kg of CO₂ per unit over their lifetime, in comparison to the average of 35 kg of CO₂ per product produced by other vessels.



Over the course of their fifteen-year lifespan, Flexcon expansion vessels are calculated to result in a 63% reduction in CO₂. What's more, the amount of energy that goes into producing the vessels themselves has also been reduced significantly, with the use of paper and cardboard in manuals and packaging being eliminated to further reduce environmental impact.

what we achieved

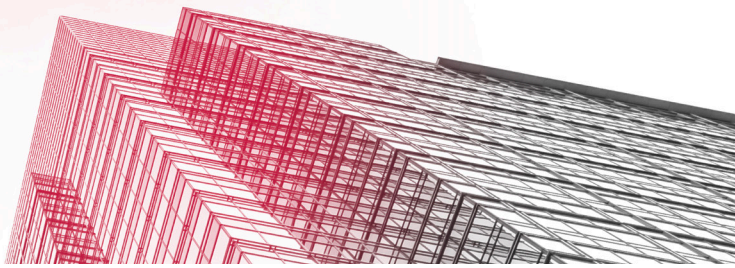
The use of 'greentec steel' to produce the Flexcon Premium Expansion Vessel, results in about 10% less direct carbon emissions compared with conventional manufacturing.

Another example of such reductions can be seen in the Flamco Flexvents, which reduce CO2 emissions by an incredible 38% compared to the market average. The Flexvent's automatic air vent produces 0.32 kg less CO2 than its competitors, which, when multiplied by the millions of Flexvents sold, results in drastically lowered emission levels. Indeed, in 2020, this product alone reduced CO2 emissions by over five million kilograms, which is the same amount of energy that 100,000 houses would consume.



Packaging is also significant

Packaging is also significant in the carbon footprint. Aalberts hydronic flow control aims to reduce the use of plastic and paper in our packaging. We have improved our packaging in some of the most popular products and progressed on bulk shipments. The packaging of our KFE valves and balancing valves are now plastic free. Process changes such as honeycomb covers for Flexcon, recycling of shipping bags, removal of plastic films and eco-friendly bags for our MultiSkin range have already saved 29.04 kg of plastic and 400kg of paper. That amounts to over 100kg in CO2 emissions reduction in 2022.



pillar 3

fossil-free buildings

The final pillar is enabling fossil-free installations. This is achieved through solar panel systems, for example, where products like Flamco's Flextherm Eco enable users to store the electricity collected through their solar panels to readily use at a later time. Systems that run on sustainable sources like solar thermal or heat pumps are supported by Aalberts hydronic flow control;

We design accompanying products especially for solar as the source such expansion vessels, water heaters, pump groups, heat exchangers, temperature controllers, safety and vent valves. This further highlights our commitment to enabling fossil-free buildings.

an integrated energy-saving network

When it comes to comfortable climate in buildings and energy efficiency, we set the ultimate standards. Aalberts hydronic flow control's experts applied De Morgan's laws and probability theory to determine the impact that the company's products could have when combined. The results suggest that energy consumption reductions of up to 16% and thus the same amount of EUR reduction on the energy bill can be realised.

Our mission-critical technologies can facilitate a structural shift in the construction industry, generating energy savings, encouraging eco-friendly buildings and using its technological breakthroughs to extend the lifetime of system components.

We exist to improve the world of today and invent it for tomorrow.

building. climate. excellence.

what we achieved

We completed 929.667 installations amounting to about 3% sustainable systems in the EU. Our energy efficient systems thus saved 286 million. manufacturing.

working together to save energy

We are the one-stop hydronic engineering specialist, from source to emitter, for all building system challenges; delivering innovative, tailor-made and fail-safe solutions that bring great visions to life with superior system performance and energy savings.

Aalberts hydronic flow control

Fort Blauwkapel 1
1358 DB Almere
The Netherlands

+31 (0)36 52 62 300
info@aalberts-hfc.com



hydronic flow
control