

PETROCHEMICALS



The Sector's Challenges

The petrochemicals sector transforms oil and natural gas derivatives into basic chemical products, which are used to manufacture plastics, fertilisers, solvents, resins, synthetic textiles and more. It is an essential link in the global industrial chain - but one that faces severe operational and environmental constraints.

The main challenges in this sector



High thermal and energy intensity

Most processes (cracking, polymerisation, reforming, etc.) rely on intensive heat transfer, often at very high temperature and pressure.



Complex and corrosive fluids

The materials processed in the petrochemical industry can be aggressive (acids, bases, organic solvents). This calls for corrosion-resistant materials and robust designs.



Operational efficiency

Energy optimisation and equipment reliability are key to improving profitability. A poorly sized or clogged heat exchanger can have an impact on an entire process.



Increasing environmental constraints

Reducing emissions, limiting leaks of volatile organic compounds (VOCs), controlling energy consumption... Regulations are becoming stricter and require more sustainable technical choices.



30%

decrease in primary energy requirements



12%

of the world's industrial energy consumption



60%

of processes using fluids with a high corrosive potential

Our involvement in the sector

At **Nexson Group**, we develop **heat exchangers specifically tailored to the needs of the petrochemical industry**, with technologies that combine robustness, high thermal performance and chemical resistance.



Our solutions for petrochemical applications

Welded Spiral Heat Exchangers

Ideal for viscous, dirty or aggressive fluids, often found in polymerisation, acid or heavy hydrocarbon treatment units. Their design drastically reduces clogging.

Plate and shell heat exchangers

Perfectly suited to high pressures and temperatures, with an excellent compromise between compactness and thermal efficiency. Widely used for cooling, condensing or rapid heating loops.

Customisation by process

Our experts design each exchanger according to the specific characteristics of the process (type of fluid, corrosiveness, pressure, available space, etc.), guaranteeing optimum sizing.

Premium materials

Duplex, titanium, Hastelloy®, 316L stainless steel... We choose the best alloys to ensure maximum longevity even with extremely aggressive fluids.

Our Product Range



GREENBOX



GREENSPIRAL



GREENBOX

