



The Dutch model: A reduction of emissions from over 20% to 3.5% on average

STEK: 18 years of experience

- A forerunner of the F-Gas Regulation: The Dutch STEK programme has existed since 1992 and is based, as the F-gas Regulation, on emission reduction through containment and regular maintenance.
- It took 5 years for the STEK system to be fully understood and implemented by all actors in the Netherlands.
- Under the STEK programme, some 2,000 companies were certified for stationary RAC systems. These companies were visited and assessed once every 18 months by independent bodies and inspected by government authorities.
- All STEK certified companies are obliged to keep a Refrigerant Registration at company level and a logbook at the installation indicating the type and quantities of refrigerants used as well as their purpose, i.e. new filling for new RAC circuits, maintenance or recovery. Since 1999 figures have been presented on an aggregated level.
- The cost for a STEK certification is approx. € 0.33 per hour per service engineer for 80 to 90% of all companies. This estimation is based on an average cost of € 500 per year (fee and internal administration) per service engineer.

HFC leakage rate

- Before the entering into force of the STEK system in 1992, the average leakage rate in the Netherlands was estimated to be around 20 to 25%.
- Since the introduction of the STEK system it decreased to an average rate of 3.5%, based on aggregated figures since 1999. This average rate takes into account tailor made installations as well as pre-charged equipment.

Benefits of the STEK system

- **High awareness** about the environmental impact of RAC & heat pump equipment by the industry sector, including certified companies, their personnel and operators
- **Equipment quality** improved. Equipment manufacturers and installers increased the quality of both equipment and services
- **Operators** benefit from a higher reliability of their systems and thus higher productivity of their own activities
- **Lower operational costs** for operators due to professional leak checks resulting in direct refrigerant and spare part savings. Leak-tight equipment, ensuring optimal refrigerant charge, also results in higher energy performance
- **Higher quality** education and training
- **Real leakage rate figures** based on the refrigerant registration by certified companies