

Energy Efficiency of Refrigerating Systems – Information No. 7
Maintaining Your Refrigerating System



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Maintain your refrigerating system in accordance with the recommendations of the refrigerating system constructor or manufacturer.

Note:

If applicable, combine the leakage and safety checks of your refrigerating system with maintenance.

Regular and proper maintenance of your refrigerating system

- increases energy efficiency.
- reduces operating costs.
- contributes to environmental protection.
- ensures its function.
- increases its life time.

Use these benefits!

The “Saving Energy Through Maintenance”* study by the Research Council for Refrigeration Technology examines

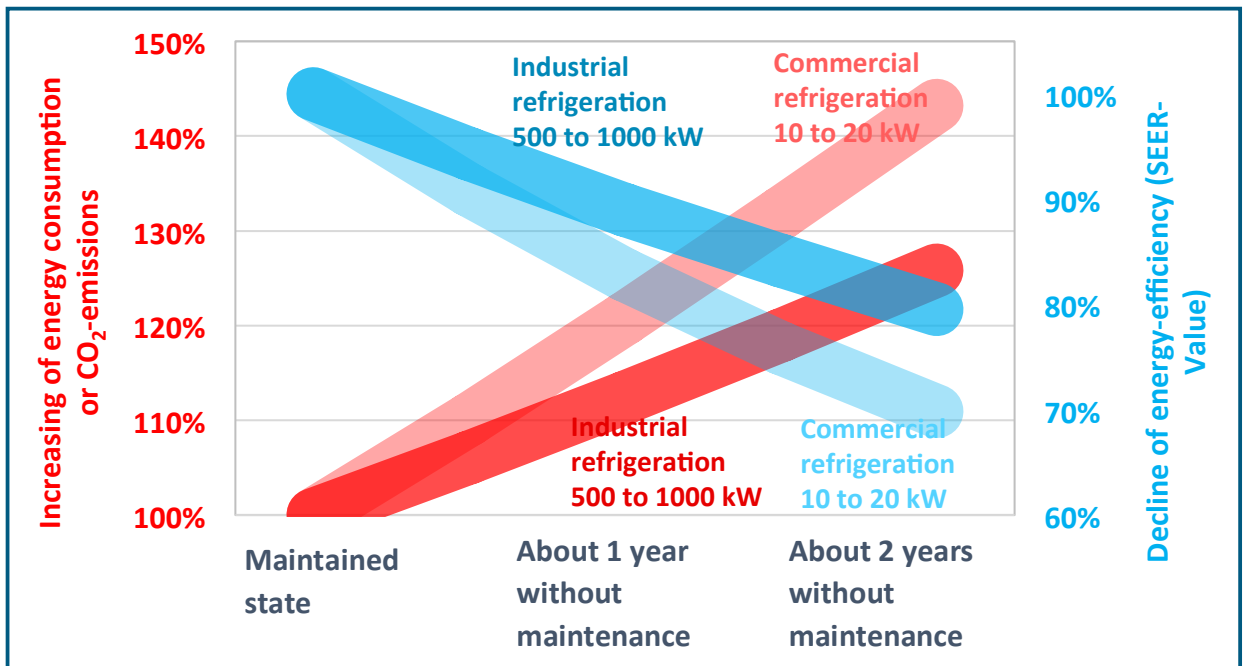
- systems in the lower refrigeration capacity range 10-20 kW
- systems in the higher refrigeration capacity range 500-1000 kW

as examples.

* The study “Saving Energy Through Maintenance” study (FKT 37/97, August 2016) can be obtained from the Research Council for Refrigeration Technology, karin.jahn@fkt.com.



The results of the study show significant saving potential.



Specifically, they show energy-saving potential of up to 45% in the lower capacity range and up to 25% in the higher capacity range.

The following maintenance measures can save significant energy costs:

- Cleaning the heat exchanger surfaces
- Optimum setting of temperature and pressure sensors
- Ensuring the function of the control modules
- Optimum setting of the system, especially evaporation and liquefaction temperatures

Note:

The influence of further maintenance activities on the energy efficiency of the refrigerating system was examined in the study "Saving Energy Through Maintenance".

This study by the Research Council for Refrigeration Technology used specific examples of refrigerating systems to determine the following savings that can be achieved per system through maintenance:

Commercial refrigerating systems (10-20 kW refrigeration capacity)

- Energy cost saving up to approx. EUR 3,800 per year
- CO₂ reduction of up to approx. 8.3 t per year

(It would take around 660 trees to sequester this additional CO₂.)

Industrial refrigerating systems (500-1,000 kW refrigeration capacity)

- Energy cost saving up to approx. EUR 100,000 per year
- CO₂ reduction of up to approx. 360 t per year

(It would take around 29,000 trees to sequester this additional CO₂.)

The recommendations on the topic of “Maintaining your Refrigerating System”

- provide recommendations for refrigerating system operators and refrigeration experts on how to increase energy efficiency and reduce operating costs through proper, regular maintenance.
- sensitize planners, installers and operators of refrigerating systems to the topic of energy efficiency and help to enhance their skills.
- have been compiled in cooperation with the refrigeration industry (VDMA, Forschungsrat Kältetechnik e.V., cold store operators (VDKL)) and approved monitoring bodies (TÜV SÜD Industrie Service GmbH).

You will find more information on energy and cost efficiency at
www.kwt.vdma.org/Energieeffizienz

In cooperation





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