Today, the electricity budget for a laboratory or a kitchen is an important part in the operating budget.

Hengel is currently working on energy cost reduction of its equipment. While waiting to be equipped with the latest generation machines, here are some simple tips to you should keep in mind. They will allow you to save money on your electric bill.

**SOME TIPS**

- Always use your equipment with optimum storage temperatures: -18 °C for freezers / negative storage systems and +4 °C for refrigerators / positive storage systems. Decreasing of 1 °C set point temperature raises your energy consumption of more than 5% (1).

- Place, if possible, condensers of refrigerating units outside or in cooler rooms. A refrigerator that works in an environment of 30 °C instead of 18 °C generates about 40% overconsumption. (2) Similarly, do not put the refrigerating equipment near heat sources like ovens or radiators.

- Do not insert hot products into your refrigerators /cold rooms. Or the heat must be removed from the equipment causing overconsumption. It is necessary to let the products cool down at room temperature or in blast chiller / fast cooling tunnels designed for that purpose (health requirement). (3)

- Optimize the volume of devices by filling them completely. A freezer or refrigerator completely filled will consume less and will produce less heat than 2 or 3 barely filled.

- Meet the maximum storage quantities indicated on the data sheets of refrigerating equipment so that air circulates properly

- Properly close the doors of the equipment in operation.

- Limit the opening time and the number of door openings by grouping products that must be refrigerated. 20 door openings for 12s instead of 10 openings increase by 6% daily consumption (1)

- Limit the time of presence inside cold rooms

- Check the door seals or ambient air will seep through the joints, supplying heat and frost can form most rapidly on the evaporator.
• Clean regularly refrigerators
• Defrost them regularly. If a layer of ice covers the evaporator it will decrease its performance
• Subscribe to a maintenance program

Sources:
(2) M. Hasanuzzaman et al.; Effects of operating variables on heat transfer and energy consumption of a household refrigerator_freezer during closed door operation; Energy 34 (2009) 196–198.
(3) J. Geppert, R. Stamminger; Analysis of effecting factors on domestic refrigerators’ energy consumption in use; Energy Conversion and Management 76 (2013) 794–800.