





Green ICE

# Green Ice

## News release by KW Apparecchi Scientifici srl

The solutions of the **GREEN ICE** Project by **KW Apparecchi Scientifici**:  
a contribution to reducing laboratory costs and protecting the environment.

Through the **GREEN ICE Project**, **KW Apparecchi Scientifici** is continuing in the development of its product lines and embracing some of the basic principles in the management of modern companies:

- improvement of the environmental impact of its appliances;
- reduction of energy costs in the use of them.

This is why it has developed the concepts of the **GREEN ICE Project** and has transferred them to the reality of its products, succeeding in achieving an effective combination between optimising costs and protecting the environment that surrounds us, applying the solutions found to its appliances.

**GREEN ICE** helps to cut electricity consumption rates;

**GREEN ICE** means our contribution to the reduction of CO2 emissions and to the battle against global warming of the earth;

**GREEN ICE** is hi-tech applied to our machines: it allows significant savings in energy, money and the associated operating costs;

**GREEN ICE** is an added value in the biomedical laboratory cold chain: it transmits positive values to all health operators.

The energy saving plus factors of **GREEN ICE**:

- **LED LIGHTS**: these lights of the future **consume 70% less** than fluorescent ones, have a longer working life and require less maintenance; their disposal is eco-compatible;
- **HIGH EFFICIENCY FANS**: allow a **reduction of inputs of even 40%** compared with conventional solutions, optimising performance rates;
- **LOW EMISSIVITY GLASS DOOR**: this increases insulation (therefore lower dispersion) without altering the visibility of the products and with a positive effect on energy saving (lower consumption rates);
- **INSULATION**: in many refrigerator and freezer models, **KW Apparecchi Scientifici** applies thicker insulations and/or a special insulation (for example with the integration of V.I.P. panels), making it possible to **reduce energy consumption** of the appliance **by 15% to over 20%** compared with conventional solutions;
- **NO FROST SOLUTIONS**: for the low temperature lines (negative T between -20°C and -80°C) HS, PL, HSL, PLL, KBPF, FREEZELAB, KWFRIG, KFD, KRFD, KLAB (for some models and for ADV), and for the Medical Project line (positive T), **KW Apparecchi Scientifici** has developed **systems with no need for defrosting**,
  - dispensing with the energy consumption needed for the defrosting heat and the subsequent cooling energy for restoring the set point T
  - improving preservation quality as there are no periodical fluctuations (with defrosting) of the T inside the storage chamber.
- **SOLUTIONS WITH SMART DEFROST**: for the KLAB refrigerators and freezers fitted with finned aero-evaporator (therefore with the need for periodical defrosting), **KW Apparecchi Scientifici** uses the NIA controller, which allows defrosting that is not periodical but takes place when the packing effect reveals the first symptoms, detected on the T of the evaporator fin (evaporator sensor); this means, for refrigerators (positive T) very much reducing, i.e. by a factor of 10-15, the defrosting frequency, with important energy saving and better preservation quality (more stable T); also where electric defrosting is used, the **SMART DEFROST** solution enables lower consumption rates, as revealed by the tests run by KW.



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- **HOT GAS DEFROSTING:** for the KLAB line with positive T; no heating coil, no applied Joule effect, the heat supplied is produced with a very high COP because it is overheated steam, time reduced to just a few minutes; no alteration of the internal T, during the defrosting cycle, as revealed by the tests run by KW.
- **ENVIRONMENTAL ADAPTABILITY:** the condenser fans are managed autonomously; this way it is possible to shutter the operation of the fans and keep condensation stable as the ambient T varies; this means optimising the condensation conditions and therefore maximising the system COP → **preventive and saving action.**
- **OPEN DOOR MANAGEMENT:** door microswitch on all models: this offers improved functionality and lower consumption; the microswitch turns off the fan, minimising the disturbance of the internal microclimate; all **KW Apparecchi Scientifici** models have a **critical door opening alarm** (for door opening lasting > a max. time); for each door open alarm, the NIA controller records the following data:
  - number of critical openings/ number of total openings/ total opening time in minutes
  - day/ month/ year**A door forgotten open is another source of high consumption.**
- **AES (Automatic Energy Saving)**  
This reduces the consumption rates of the refrigerating unit as soon as the compressor use percentage reaches a predefined value.  
In this condition, the operating set point is temporarily and automatically increased by a value pre-established by the user; resetting takes place automatically at the pre-established conditions.
- **NIGHT & DAY:** during the night, when the user procedures and stored product so permit, it is possible to raise the set temperature by a predefined value, thereby obtaining important energy savings.  
During the period of activation of the night setting, any lights in the refrigerator compartment are also switched off.

The combination of all the items mentioned can lead to **total savings of over 30%** compared with standard consumption levels and a reliability and life expectation of the components and the whole appliance much higher than the standards experienced until now.

**GREEN ICE** is a brand of **KW Apparecchi Scientifici**.



All **KW** products with the above mentioned features bear the following brand **Green ICE**

**KW Apparecchi Scientifici** is continuing to work on a permanent basis to apply further solutions aimed at the reduction of the effects of the environmental impact and the highest level of energy saving on all the lines produced.



## BluLine



## GreenLine



## RedLine



## ServiceLine



## BloodLine



## PharmaLine



ISO 9001:2008



ISO 13485:2003



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