

iVario. The Game Changer.

Energy efficiency compared with other cooking systems.

Day-to-day kitchen operations are where the iVario pays off – and where it really unleashes its full power. Compared to other appliances, the iVario clearly sets new standards in terms of energy efficiency, which translates to major savings. It prepares food up to four times faster while consuming up to 40% less energy. And that's according to an official DIN 18873-standardized comparison with conventional kitchen appliances.



Energy efficiency and speed

The simplest method of saving energy in commercial kitchens is to leave electrical appliances off until they are being used, and then shut them off immediately afterward.

Whether they're used in the restaurant or the catering segment, their lightning-fast preheat times make our cooking systems stand out from other appliances. Quick preheating reduces set-up and wait times during cooking. iVario users can start preparing food almost immediately. Plus, kitchens no longer need to keep everything preheated just so they'll have a hot appliance ready to go for subsequent batches. The iVario Pro L and Pro XL, for example, take less than 2.5 minutes to preheat to 400°F for searing—up to five times faster than conventional tilting skillets.



Energy efficiency compared to other cooking systems

A series of standards was developed in Germany to allow simple, reliable comparisons of energy consumption among different equipment technologies and specifications. Using tests developed based on real-world kitchen practices, DIN 18873 primarily addresses energy-consumption comparability among thermal appliances for commercial and industrial kitchen use, ensuring that cooking systems can be compared in a standardized manner.

RATIONAL is the first manufacturer in its product segment to publish its energy consumption data in the HKI CERT database* pursuant to the applicable standard sections (Part 3: Deep fryers, Part 5: Tilting fryers and free-standing tilting fryers, and Part 6: Tilting pressure-cooking pans and free-standing pressure-cooking pans).

As such, the iVario represents RATIONAL's starting shot in the race toward energy-efficiency comparability in commercial contact-heat kitchen appliances. Its goal is to provide all interested parties with relevant energy consumption-related data in a fast, cost-neutral way, based on specified standardized guidelines. RATIONAL is thus making an important contribution toward enlightening end users and investors on the effects of choosing various forms of commercial kitchen technology.

In fact, RATIONAL is a leader not only in data provision, but also in the energy efficiency of its manufactured product, the iVario.

* <https://grosskuechen.cert.hki-online.de/de/geraete-nach-hersteller/liste?hersteller=106>

Summary of HKI Cert – data



iVario	2-XS	Pro 2-S	Pro L	Pro XL
Deep frying – DIN 18873-3:2018-02				
Total energy consumption [kWh]	9.159	13.607	12.942	19.733
Total energy consumption per kilogram of frozen French fries [kWh/kg]	1.015	0.986	1.078	1.096
Pan frying – DIN 18873-5:2016-02				
Total energy consumption per kilogram of refrigerated ground meat patties [kWh/kg]	0.406	0.406	0.417	0.408
Pressure cooking – DIN 18873-6:2016-02				
Total energy consumption per kilogram of food [kWh/kg]	–	0.160	0.144	0.147

For information on iVario data recorded pursuant to DIN 18873, visit:
www.grosskuechen.cert.hki-online.de

Comparison of data to other appliances

Energy and time	Multifunctional cooking system 2 GN, 17.5 kW	Casserole 2 GN, 15 kW	iVario Pro L 27 kW	Difference
Deep frying*				
Energy per kg of French fries [kWh/kg]	1.457	–	1.078	26% less
French fries per hour [kg/h]	7.4	–	23.7	2.2 times faster
Pan frying**				
Energy for preheating [kWh/dm] ²	0.067***	0.047	0.026	46–62% lower
Preheating (time to state of inertia) [min]	9.8***	9.5	2.8	2.4–2.5 times faster
Total energy consumption per kilogram of refrigerated ground meat patties [kWh/kg]	0.57***	0.48	0.42	13–27% lower
Boiling**				
Heating water [kWh/kg]	0.094***	0.099	0.089	5–10% lower
Heating water [min]	35.25*** (100 l)	27.41 (70 l)	17.32 (100 l)	0.4–0.5 times faster

* pursuant to DIN 18873-3:2011-12

** pursuant to DIN 18873-5:2011-02

*** measured by an independent testing institute

Tests to determine efficacy in heating cold water showed that the iVario had an exceptionally high efficiency factor of up to 93%. At present, this is unparalleled among commercial kitchen appliances (modern tilting fryers and boilers achieve an efficiency factor of 70% to 85%, stoves manage around 60%, induction stoves are as high as 90%).

Closing the cooking container with an insulated lid significantly boosts energy efficiency as well, because the heat cannot escape from the cooking container.

In its manual for energy efficiency in commercial kitchens, entitled "Protecting the climate and lowering costs," the HKI (Industrial association of HVAC and kitchen technology e.V.) recommends striving for the most efficient heating technology possible when selecting cooking appliances. They also note that optimum temperature regulation with the greatest possible precision and uniformity is a priority so that the appliance only heats up when necessary. RATIONAL helps in this regard with its intelligent cooking system controls, which switch off heat when cooking finishes (or shortly after preheating if the cooking system is not loaded).

