iVario. The Game Changer.

Energy efficiency compared to other cooking systems.

The Rational iVario pays off and unleashes its full power in day-to-day kitchen operations. When it comes to energy efficiency compared to other appliances, the iVario clearly sets new standards and saves money. Up to 4 times as fast and with up to 40% less energy.* * A direct comparison with conventional kitchen appliances – officially standardised by DIN 18873.

Energy efficiency and speed

The simplest way to save energy in the professional kitchen is to switch on electrically operated appliances only when they are required, and to switch them off immediately when not in use.

Our cooking systems, whether in the hospitality or catering sectors, are characterised by extremely fast heating times compared to conventional appliances. Their fast heating times reduce waiting and set-up times during cooking. With the iVario, production is practically instantaneous. It is no longer necessary to keep the cooking systems warm in order to have a hot appliance available in time when needed, or to be able to restock food. For example, the heat-up time to 200 °C (for searing meat) is less than 2.5 minutes with the iVario Pro L and the iVario Pro XL models (that's up to five times faster than a conventional tilting pan).

Energy efficiency compared to other cooking systems

In order to be able to easily and reliably assess the comparability of the energy usage of different appliance technologies and characteristics, a German series of standards was developed. DIN 18873 primarily deals with the comparability of the energy consumption of thermal appliances in large and professional kitchens and includes tests based on kitchen practice. This enables a standardised comparison of appliances.

RATIONAL is the first manufacturer in its product range to publish energy consumption data in accordance with the applicable parts of the standard - Part 3: Deep-fat fryers, Part 5: Tilting frying pans and stationary frying pans and Part 6: Tilting pressure braising pans and stationary pressure braising pans in the HKI CERT database*.

With the iVario, RATIONAL is thus giving the starting signal for the comparability of the energy consumption of large kitchen appliances in the contact heat category. The aim is to inform all interested parties quickly and cost-neutrally about relevant energy usage data under normative guidelines. RATIONAL is thus making an important contribution to informing end consumers and investors about the effects of the choice of the respective professional kitchen technology.

In doing so, RATIONAL is not only a leader in providing the data, but also in terms of the energy efficiency of its manufactured products, the iVario.

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

The HKI Cert – Data at a glance




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

Under the following link you will find the determined values of the iVario according to DIN 18873:
www.grosskuechen.cert.hki-online.de

Comparison of the data with other appliances

Energy and time	Multifunctional cooking appliance 2 GN, 17.5 kW	Braising pan 2 GN, 15 kW	iVario Pro L 27 kW	Difference
Deep-frying*				
Energy per kg chips [kWh/kg]	1.457	_	1.078	26 % less
Chips per hour [kg/h]	7.4	_	23.7	2.2 times faster
Frying**				
Energy for preheating [kWh/dm²]	0.067***	0.047	0.026	46–62 % less
Preheating (time to steady state) [min]	9.8***	9.5	2.8	2.4–2.5 times faster
Total energy usage per kg of chilled mince meat patties [kWh/kg]	0.57***	0.48	0.42	13–27 % less
Boiling**				
Heating up water [kWh/kg]	0.094***	0.099	0.089	5–10 % less
Heating up 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 *** determined by an independent testing institute

Tests on the efficiency when heating cold water showed an extraordinarily high efficiency of up to 93% for the iVario. This is so far unique for large kitchen appliances (modern tilting pans and boilers achieve an efficiency of 70% to 85%, cookers about 60%, induction cookers up to 90%).

A significant increase in energy efficiency is achieved by closing the cooking container with an insulated lid. This prevents the heat from escaping from the cooking container.

The HKI (Industrieverband Haus-, Heiz- und Küchentechnik e.V.) recommends in its guide to energy efficiency in professional kitchens „Protecting the climate and reducing costs“ to pay attention to the most efficient heating technology possible when selecting appliances. It is also pointed out that optimum temperature control with the most accurate and uniform temperature regulation possible is to be preferred, as this means heating only when the need is there. RATIONAL helps here with the intelligent cooking system control and switches the heating off immediately at the end of cooking, or within a short time after preheating in case the cooking system is not loaded.

21.914 · DP/Ad · 11/22 · en_UK