

STUDY REPORT

Study Title **Quality performance test report for Air fryer**

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Sponsor Bajaj Electricals Ltd.

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SIGNATURE PAGE

QUALITY PERFORMANCE TEST FOR AIR FRYER

Report No.: RLS/TS/OTR/22/00344/001/R0 to 003/R0

RLS/TS/OTR/22/00345/001/R0 to 003/R0

Conducted by

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Bhosari, Pune - 411026

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The report is true, accurate and a faithful record of the results obtained. We, the undersigned hereby certify the authenticity of the same.

Person	Name	Signature	Date
Study Personnel	Dr. Prajakta Kulkarni		21 st Sep 2022
Study Director	Mr. Suhas Nevase		21 st Sep 2022
Test Facility Management	Dr. Abhijit Pujari		21 st Sep 2022

OBJECTIVE

This report compares the quality of products prepared from “Air fryer” and conventional deep fried products.

A. METHOD SUMMARY

The quantitative analysis of different nutritional parameters for 3 fried products (Samosa, French fries and murukku)

B. RESPONSIBILITY

Analyst

- To prepare the method of analysis for the quantitative analysis of fried products.
- To prepare a summary report based on the results and observations.

Quality Assurance Department

- To check the accuracy of Methodology and Summary Report To approve the quality report and Summary Report

C. METHOD OF ANALYSIS

Requirements

- Air Fryer
- Gas Stove
- Cylinder
- Oil
- Stainless steel utensils
- Ready to cook samosa, French fries and murukku

1. Frying of Products:

- Set up the gas stove and oil in frying pan. Deep fry the prepared samosa and frozen French fries.
- Also prepare the batter for murukku and fill in the container to set the batter in a circular shape.
- Deep fry all the products as well as fry the half of the quantity of 3 products in air fryer.
- Cool the products and analyze for the nutritional values like Carbohydrates, protein, Fat, cholesterol and fatty acids.

D. RESULTS

1. Evaluation of nutritional values:

Table no. 1: Comparative study for air fryer and deep fry product nutritional values

Air fry									
Sr. No.	Lab code	Sample Name	% Moisture	% Fat	% Protein	% Ash	% Carbohydrates	Energy (Kcal/100 g)	mg cholesterol/100g
1	RLS/TS/OTR/22/00344/001	Samosa	42.09	13.94	5.50	2.89	35.58	290	0.55
2	RLS/TS/OTR/22/00344/002	French fries	42.54	8.51	3.21	3.02	42.73	260	0.00
3	RLS/TS/OTR/22/00344/003	Murukku	4.81	13.92	10.84	3.81	66.62	435	0.00

Oil fry									
Sr. No.	Lab code	Sample Name	% Moisture	% Fat	% Protein	% Ash	% Carbohydrates	Energy (Kcal/100 g)	mg cholesterol/100g
1	RLS/TS/OTR/22/00345/001	Samosa	38.17	23.07	4.67	2.20	31.89	354	0.46
2	RLS/TS/OTR/22/00345/002	French fries	38.74	17.44	2.55	2.75	38.52	321	0.00
3	RLS/TS/OTR/22/00345/003	Murukku	1.77	23.23	7.83	3.21	63.97	496	0.00

Table no. 2: Fatty acid profile comparison

Sr.no	Lab code	Fatty acid content			
		Saturated FA	Mono unsaturated FA	Poly Unsaturated Fatty Acid	Trans Fatty Acid
1	RLS/TS/OTR/22/00344/001	3.99	4.26	4.48	0.53
2	RLS/TS/OTR/22/00344/002	4.18	2.92	0.80	0.19
3	RLS/TS/OTR/22/00344/003	6.25	4.67	2.09	0.25
4	RLS/TS/OTR/22/00345/001	4.36	6.42	11.15	0.02
5	RLS/TS/OTR/22/00345/002	3.84	4.22	8.44	0.09
6	RLS/TS/OTR/22/00345/003	7.07	6.62	8.19	0.23

*00344: Air fryer, 00345: Deep fry

Observations:

- There was a difference observed in monounsaturated and polyunsaturated fatty acids and cholesterol levels. Air fryer showed lower count for unsaturated fats than deep fried products.
- Also saturated fats were found to be on lower side.
- From the nutritional parameters, there was a remarkable change in fat % for air fryer than deep fryer. The fat% was much on lower side in air fryer.

G. CONCLUSION

From the above study it was observed that the air fryer has shown to consume 65% less fat compared to traditional way of frying and 15% more protein retention compared to traditional way of frying. However, the taste and texture of product did not show any drastic difference between deep fried and air fried.

*******END OF REPORT *******