



**SERIES 365, 330**  
MOISTURE ANALYZERS

**FOOD AND DRINK**  
Methods eBook



## PRECISA DNA: ZERO COMPROMISE

Laboratory and industrial technicians are aware of the significance of the results they provide. That is why they are unwilling to accept any compromise in their field of work. This is precisely why leading specialists around the world place their trust in Precisa and have done for decades.

## PRECISA DNA: MOISTURE ANALYZER

Moisture Analyzers from Precisa - for efficient measurements and accurate results. As the leading manufacturer of thermogravimetric analytical equipment, Precisa excels with an extensive range of moisture analysis equipment, meeting highest demands in research, production and quality control.

## PRECISA DNA: SWISS PRECISION

Precisa products are prime examples of Swiss perfection and reliability. They are tried and tested in both demanding laboratory environments and industrial applications, and are subject to rigorous quality controls throughout the entire manufacturing process. Precisa invests continuously in developing new technologies and employs a highly qualified team. The result is a state-of-the-art range of precision instruments for the most exacting demands.

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# INTRODUCTION

## Moisture analysis with the Series 330 and 365 for food and drink applications:

Moisture and water content have a defining influence on the quality and processing of food and drink samples. The determination of moisture content is important within various areas such as raw materials, incoming goods inspection, quality control and production and storage of food. To ensure optimum food quality and safety, the level of moisture is measured and controlled.

The use of compact and robust precision moisture measuring instruments in the laboratory and in production increases efficiency and saves time and costs. Furthermore, productivity is enhanced by the fully automatic moisture analysis of samples, and the corresponding generation of measurement documentation. All models of the Series 365 EM, and 330 XM provide fast, error-free moisture analysis, using highest degrees of measurement performance and precision.

With the Series 365 EM 120-HR, Precisa is setting new standards in the demanding area of high-end moisture analyzers. The flagship model combines ease-of-use and sophisticated customizing features for advanced and most demanding applications. EM 120-HR is an innovative, high-tech moisture analyzer, which includes latest technical developments, unique performance features, best user-interface in a modern design, yet in a compact form with a small footprint. Those users who will not accept any compromise in their working environment may enjoy the reassuring certainty that for many years they can rely on an extremely accurate instrument which features the latest technology and renowned Swiss quality. Day after day.

This compendium of methods illustrates the fast and easy water and moisture determination with Precisa moisture analyzers, exemplified with samples relating to the food and drink industry.

# CONFECTIONERY

## Moisture Determination of Biscuit, Bonbon and Chocolate

Sample	Machine	Utensils	Sample weight (g)	Preparation	Temp. (°C)	Temp. program	Moisture content (%)	Standard deviation (+/- %)	Average analysis time (min)
Biscuit	XM60 / 120 halogen	Spatula	2.0	Crumble	105	Standard	3.57 (average of 6 measurements)	0.22	3.5
Bonbon	XM60 / 120 halogen	Spoon, Aluminium pan, Mortar and pestle	3.0	Ground, spread thinly on pan	105	Standard	2.62 (average of 4 measurements)	0.11	15
Chocolate	XM60 / 120 halogen	Knife, Aluminium pans, Glass fibre filter	2.0	Rasped sample and spread thinly on filter	85	Soft	1.26 (average of 5 measurements)	0.04	5.5

# DAIRY PRODUCTS

## Moisture Determination of Coffee creamer, Cream, Ice cream, Margarine, Milk and Yoghurt

Sample	Machine	Utensils	Sample weight (g)	Preparation	Temp. (°C)	Temp. program	Moisture content (%)	Standard deviation (+/- %)	Average analysis time (min)
Coffee creamer	XM60 / 120 halogen	Spatula, Aluminium pans	2.0	Thinly and evenly spread on pan	90	Standard	3.07 (average of 6 measurements)	0.07	6.3
Cream	XM60 / 120 halogen	Pipette, Glass fiber filter, Aluminium pan	1.0	Spread thinly and evenly onto a Glass fibre filter	105	Boost	60.51 (average of 6 measurements)	0.07	8
Ice cream	XM60 / 120 halogen	Spatula, Aluminium pans, Glass fibre filter	1.0	Thinly and evenly spread on filter	90	Boost	60.12 (average of 5 measurements)	0.08	8.5
Margarine	XM60 / 120 halogen	Spatula, Aluminium Pan, Glass Fiber Filter	2.5	Thinly and evenly spread on pan	105	Standard	8.29 (average of 6 measurements)	0.07	7.8
Milk	XM60 / 120 halogen	Pipette, Glass fiber filter, Aluminium pan	2.5	Thinly and evenly on a Glass fibre filter	105	Boost	87.58 (average of 6 measurements)	0.03	8.9
Yoghurt	XM60 / 120 halogen	Knife, Aluminium pan	3.0	Spread thinly on pan	100	Boost	86.55 (average of 6 measurements)	0.06	10.4



# DRINKS

## Moisture Determination of Black tea, Carrot juice, Orange juice and Red wine

Sample	Machine	Utensils	Sample weight (g)	Preparation	Temp. (°C)	Temp. program	Moisture content (%)	Standard deviation (+/- %)	Average analysis time (min)
Black tea	XM60 / 120 halogen	Spatula, Aluminium pans	2.0	Thinly and evenly spread on pan	105	Standard	7.67 (average of 6 measurements)	0.04	4.0
Carrot juice	XM60 / 120 halogen	Aluminium pan, Pipette, Glass fibre filter	2.0	Spread thinly on filter	105	Boost	92.81 (average of 4 measurements)	0.05	6
Orange juice	XM60 / 120 halogen	Aluminium pan, Glass fibre filter, Pipette	2.0	Spread thinly on filter	105	Boost	89.07 (average of 4 measurements)	0.03	9.5
Red wine	XM60 / 120 halogen	Aluminium pan, Glass fibre filter, Pipette	2.0	Spread thinly on filter	105	Boost	98.2 (average of 4 measurements)	0.09	7



# FOOD CUPBOARD AND BAKING

## Moisture Determination of Flour, Instant noodles, Rice, Spaghetti, Soybean granules and Sugar

Sample	Machine	Utensils	Sample weight (g)	Preparation	Temp. (°C)	Temp. program	Moisture content (%)	Standard deviation (+/- %)	Average analysis time (min)
Flour	XM60 / 120 halogen	Spoon, Aluminium pan	2.0	Spread thinly on pan	105	Standard	11.25 (average of 4 measurements)	0.13	6
Instant noodles	XM60 / 120 halogen	Grinder	2.0	Ground sample	100	Standard	5.29 (average of 6 measurements)	0.02	4.0
Rice	XM60 / 120 halogen	Grinder	2.0	Ground sample	105	Standard	11.79 (average of 6 measurements)	0.03	6.5
Spaghetti	XM60 / 120 halogen	Grinder, Spatula, Aluminium pans	3.0	Grind into fine pieces, spread sample thinly and evenly on pan	105	Standard	10.63 (average of 6 measurements)	0.11	15.1
Soybean granules	XM60 / 120 halogen	Spatula, Aluminium pans	5.0	Thinly and evenly spread on pan	110	Standard	12.16 (average of 6 measurements)	0.08	22.6
Sugar	XM60 / 120 halogen	Spatula	5.0	Thinly and evenly spread on pan	50	Soft	0.07 (average of 6 measurements)	0.01	5.9





# FRUITS AND NUTS

## Moisture Determination of Coconut, Dried mango, Nuts and Pineapple slice

Sample	Machine	Utensils	Sample weight (g)	Preparation	Temp. (°C)	Temp. program	Moisture content (%)	Standard deviation (+/- %)	Average analysis time (min)
Coconut	XM60 / 120 halogen	Aluminium pan	3.0	Spread thinly on filter	105	Standard	2.23 (average of 6 measurements)	0.03	4.5
Dried mango	XM60 / 120 halogen	Knife, Spatula, Aluminium pan	5.0	Cut into small pieces	105	Standard	13.19 (average of 6 measurements)	0.31	50.1
Nuts	XM60 / 120 halogen	Aluminium pan	3.0	Spread thinly on pan	105	Standard	5.19 (average of 6 measurements)	0.07	9
Pineapple slice	XM60 dark radiator	Knife, Spatula	5.0	Cut into small pieces	110	Boost	6.71 (average of 6 measurements)	0.15	14.4



# SAUCES, SEASONING AND SPICES

## Moisture Determination of Black pepper powder, Garlic powder, Mayonnaise, Paprika powder, Salt, Tomato sauce and Vanilla aroma powder

Sample	Machine	Utensils	Sample weight (g)	Preparation	Temp. (°C)	Temp. program	Moisture content (%)	Standard deviation (+/- %)	Average analysis time (min)
Black pepper powder	XM60 / 120 halogen	Spatula, Aluminium pans	2.0	Thinly and evenly spread on pan	85	Standard	7.97 (average of 6 measurements)	0.11	8.8
Garlic powder	XM60 / 120 halogen	Spatula, Aluminium pans	2.0	Thinly and evenly spread on pan	100	Standard	5.36 (average of 6 measurements)	0.05	7.3
Mayonnaise	XM60 / 120 halogen	Spoon, Aluminium pan, Glass fibre filter	2.0	Spread thinly on pan	140	Standard	44.65 (average of 4 measurements)	0.36	9.5
Paprika powder	XM60 / 120 halogen	Spoon, Aluminium pan	2.0	Spread thinly on pan	130	Standard	9.24 (average of 4 measurements)	0.45	10
Salt	XM60 / 120 halogen	Spatula	2.0	Thinly and evenly spread on pan	100	Standard	4.90 (average of 6 measurements)	0.02	3.0
Tomato sauce	XM60 / 120 halogen	Spatula, Aluminium pans, Glass fiber filter	2.0	Thinly and evenly on a Glass fibre filter	85	Standard	89.29 (average of 6 measurements)	0.04	14.9
Vanilla aroma powder	XM60 / 120 halogen	Spoon, Aluminium pan	1.5	Spread thinly on pan	115	Standard	5.40 (average of 6 measurements)	0.08	5



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In addition to Precisa, Techcomp Europe comprises of the following companies:



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