



FALLING NUMBER | ALPHA AMYLASE ENZYMES METER 5100



Purpose :

FN (FALLING NUMBER) measuring mode is used for determination of natural alpha-amylase enzymes. Enzyme activity is automatically measured in flour and wheat flour (SPROUT DAMAGE DETECTION).

FFN (FUNGAL FALLING NUMBER) measuring mode is used for determination of total (micro-biological + natural) alpha-amylase enzymes.

Technical Specifications :

- Two samples can be tested at once.
- By adjusting the altitude: Instrument automatically adjusts the boiling temperature.
- Instruments will correct the values depending on the altitude.
- During installation company information: company name, company address, company phone, fax numbers and web are saved in the instrument.
- Every sample can be given a unique name.
- Print out comes with company information, name of sample, and normal and corrected results.
- Average between two samples can be calculated automatically by a press of button.
- Malt percentage then can be added to flour can be calculated automatically by a press of button.
- Mixing Rate between two samples can be calculated automatically by a press of button.
- Sample weight to the moisture can be calculated automatically by a press of button.
- FN results to the moisture can be calculated automatically by a press of button.
- Liquefaction coefficients (LC) of the samples can be calculated automatically by a press of button.
- LCD Graphic screen for easy control of all steps and shos (Date, Time, Water Temperature, Sample Names and operation status of the device (running, printing, stop... etc.))

Office/ Ofis

Email : export@bastak.com.tr
website: www.bastak.com.tr

Tel : +90 312 395 6 787
Fax: +90 312 395 6 788

İvedik OSB 1354.Cad 1387.Sk No:19
Yenimahalle Ankara TURKEY

Factory / Fabrika

Dağyaka mahallesi 2010 .Cd.No:23
Kazan Ankara TURKEY

Tel : +90 312 811 2 811
Fax: +90 312 811 2 812

Email : info@bastak.com.tr
Website: www.bastak.com.tr



- Sensitive sensor for Water level, shows water level low and water level high on the screen with an alert sound.
- 28 function buttons for easy control of all steps.
- Instrument comes with full accessories and necessary consumables for running.



What is the HAGBERG Number?

The method for determining sprout damage is called the HAGBERG Number and measured by the Falling Number in seconds.

What is the FALLING NUMBER?

The internationally standardized and most popular method for the determination of Sprout Damage.

Why to Detect SPROUT DAMAGE?

The Falling Number System used to measure the Activity of the ALPHA-AMYLASE Enzymes in Wheat Flour mainly and also can be used for Ray, Barley and Sorghum to detect the sprout damage, in order to get the best enzyme activity for flour and make sure the grains you are buying are healthy and worth it because the activity of Alpha-Amylase is the key for a high quality product such as (Pasta, Noodles, Bread, cookies, Biscuits and many other products).

What are the Benefits of FALLING NUMBER MACHINE?

Grain Traders:

Having knowledge of the Falling Number results would give you a great idea about the Wheat quality and so the wheat can be fairly priced. Also classification of wheat which has different values of falling number is one of the most important facts to traders.

Flour Millers:

Milling a stable, consist and up to the standards flour is an every miller target, so in order to get the requested or needed FN values the Falling Number test would be the ideal solution. One of the most important income profit for millers is flour blending of various types of FN values. Measuring the Falling Number to get the best benefits before and after adding Alpha-Amylase enzyme additive to the flour.

Office/ Ofis

Email : export@bastak.com.tr
website: www.bastak.com.tr

Tel : +90 312 395 6 787
Fax: +90 312 395 6 788

İvedik OSB 1354.Cad 1387.Sk No:19
Yenimahalle Ankara TURKEY

Factory / Fabrika

Dağyaka mahallesi 2010 .Cd.No:23
Kazan Ankara TURKEY

Tel : +90 312 811 2 811
Fax: +90 312 811 2 812

Email : info@bastak.com.tr
Website: www.bastak.com.tr



End Users:

Double check newly received or stored flour is very important to maintain consist and sable final product, Bakery also might prefer to manipulate their own flour in the same way the millers do.

Quality Control:

Make sure that the in-coming and out-going product are up to the standards and so satisfy both Owner and End-user.

How does the ALPHA-AMYLASE ENZYMES show its activity?

The Falling Number test shows the effect of the ALPHA-AMYLASE Enzymes on the starch granules in the flour which gelatinization, and progressively cleaved by the amylase action. The mixture of water and flour leads to Enzymes activity under a certain temperature (100° at 0 sea level) then the Falling Number results are calculated, if the result shows low numbers means the enzymatic activity is high and shows that the starch is broken down (liquefied) rapidly during gelatinization so ideal FN results are 250s-280s but if the result show high numbers means that the enzymatic activity is low and so at 600 FN results we can understand that there is no ALPHA-AMYLASE activity in the flour.

How the Results of FALLING NUMBER is calculated?

The results of the Falling Number is calculated in second of falling the stirrer from the zero point of drop to the end of the test tube in a certain weight of stirrer passing through the mixture of flour and water after gelatinization.



Recommended Accessories :

- Laboratory Hammer Mill 1900 or 1800 (Used for grinding whole wheat to wheat meal)
- Moisture Meter 16000 (used to detriment the moisture content in grains)

Office/ Ofis

Email : export@bastak.com.tr
website: www.bastak.com.tr

Tel : +90 312 395 6 787
Fax: +90 312 395 6 788

İvedik OSB 1354.Cad 1387.Sk No:19
Yenimahalle Ankara TURKEY

Factory / Fabrika

Dağyaka mahallesi 2010 .Cd.No:23
Kazan Ankara TURKEY

Tel : +90 312 811 2 811
Fax: +90 312 811 2 812

Email : info@bastak.com.tr
Website: www.bastak.com.tr



Other Specifications :

Volt/ Hertz	230v - 50/60hz
Amper	5A
Power	700W
Device Dimensions W "mm" x L "mm" x H "mm"/Weight. Kg	185-215x 460-430x 550-65/ 32 Kg
Package Dimensions W "mm" x L "mm" x H "mm"/Weight. Kg	28 x 35 x 108 / 39Kg

INTERNATIONAL ASSOCIATION FOR CEREAL SCIENCE AND TECHNOLOGY



ICC DRAFT STANDARD No. 189

Approved: 2021

1. Title

Determination of 'Falling Number' using **Bastak FNChq to estimate the level of Alpha-Amylase Activity based on viscosity in wheat flour and wheat meal**

2. Scope

The method is applicable to wheat flour and wheat meal. In this standard the word "flour" and 'meals/ground wheat' (wholemeal) are not synonymous and their meanings are defined below.

Bastak 4000 and 4500 model roller mills must be used to obtain the wheat flour sample.

Bastak 1900 model hammer mill must be used to obtain the wheat meal sample.

By converting the Falling Number value into the Liquefaction Number, it is possible to calculate the composition of flour mixtures of a desired Falling Number value.

Office/ Ofis

Email : export@bastak.com.tr
website: www.bastak.com.tr

Tel : +90 312 395 6 787
Fax: +90 312 395 6 788

İvedik OSB 1354.Cad 1387.Sk No:19
Yenimahalle Ankara TURKEY

Factory / Fabrika

Dağyaka mahallesi 2010 .Cd.No:23
Kazan Ankara TURKEY

Tel : +90 312 811 2 811
Fax: +90 312 811 2 812

Email : info@bastak.com.tr
Website: www.bastak.com.tr



5. Principle

The **Falling Number** method indicates alpha-amylase activity using the starch in the flour or meal sample as substrate. The method is based upon the rapid gelatinization of an aqueous suspension of flour or meal in a boiling water bath and following measurement of the liquefaction of the starch paste by alpha-amylase in the sample.

6. Reagents

5.1 Distilled water

Distilled water or water complying with grade 3, ISO 3696.

7. Apparatus

6.1 **BASTAK FN**Cheq apparatus model 5100 or 5000, obtainable from BASTAK Instruments Company; Dagyaka Mahallesi 2008. Cadde No:12 Kahramankazan/Ankara/TURKEY or a regional agency of Bastak Instruments Company which includes:

<https://icc.or.at/store/189-bastak-fn>

Technical Specifications		BRAND / MODEL	
Brand		BASTAK	Competitor
Model		FN 5100	1900
1	FN Mode	Yes	Yes
2	FFN Mode	Yes	Yes
3	Altitude Correction	Yes	Yes
4	Int. ICC Standart	Yes	Yes
5	AACC Standart	No	Yes
6	LCD Screen	Colour LCD	Black&White LCD
7	Screen Digital Lines	4 lines	1 line
8	FN Test Temp °C	Boiling Temp	Boiling Temp
9	FFN Test Temp °C	90°C	90°C
10	Sample FN Test	7 g	7 g
11	Sample FFN Test	5 g	5 g
12	FN Test Solution	25 ml Dis Water	25 ml Dis Water
13	FFN Test Solution	30 ml Acid Solution	30 ml Acid Solution

Office/ Ofis

Email : export@bastak.com.tr
website: www.bastak.com.tr

Tel : +90 312 395 6 787
Fax: +90 312 395 6 788

İvedik OSB 1354.Cad 1387.Sk No:19
Yenimahalle Ankara TURKEY

Factory / Fabrika

Dağyaka mahallesi 2010 .Cd.No:23
Kazan Ankara TURKEY

Tel : +90 312 811 2 811
Fax: +90 312 811 2 812

Email : info@bastak.com.tr
Website: www.bastak.com.tr



14	FN Mix Time	60 Seconds	60 Seconds
15	FFN Mix Time	180 Seconds	180 Seconds
16	Direct Choose of FN&FFN	YES	No
17	Reach Test Temp	LESS THEN 10 Minutes	< 20 Minutes
18	Cooling System	Yes	Yes
19	Function Button	28 EACH	22 Each
20	FN Button	Yes	Yes
21	FFN Button	Yes	Yes
22	Left ID Button	No	Yes
23	Right ID Button	No	No
24	Moist Gr Button	No	No
25	Moist FN Button	No	No
26	Mix Button	Yes	Yes
27	Malt Button	Yes	Yes
28	LN Number Button	YES	No
29	Avarage Button	YES	No
30	Shift Button	YES	No
31	Clear Button	YES	No
32	Esc Button	YES	No
33	Enter Button	Yes	Yes
34	Start Button	Yes	Enter
35	Stop Button	YES	No
36	Left ID	Yes	Yes
37	Write ID	Yes	Yes
38	Print Button	Yes	Yes
39	Feed Button	Yes	Yes
40	Code Button	No	Yes
41	Standart Sample	Yes	Yes
42	Service Speed	FAST	Slow
43	Warranty / Service On Site / Customer's Facility	YES	No
44	Spare Parts Support and Delivery	FAST	Slow
45	Spare Parts Cost	LOW	High
46	Training Support Via Whatsapp (Audio and Video)	YES	No
47	Delivery Time	SHORT	Long
48	Product Price	ECONOMICAL	EXPENSIVE

Office/ Ofis

Email : export@bastak.com.tr
website: www.bastak.com.tr

Tel : +90 312 395 6 787
Fax: +90 312 395 6 788

İvedik OSB 1354.Cad 1387.Sk No:19
Yenimahalle Ankara TURKEY

Factory / Fabrika

Dağyaka mahallesi 2010 .Cd.No:23
Kazan Ankara TURKEY

Tel : +90 312 811 2 811
Fax: +90 312 811 2 812

Email : info@bastak.com.tr
Website: www.bastak.com.tr



"More Than 23 Years of Experience ..."

Bastak Laboratory

57 Types of Device, 35 Types of Additive



Youtube > Bastak Expert

<https://www.youtube.com/watch?v=ktEz2PHdDQg&t=10s>

Bastak Factory - 7000 m2

20.000 instruments in 142 countries



Youtube > Bastak Factory

<https://www.youtube.com/watch?v=UbtWWhEbLy4>



You can find all Catalogues and Competitor Comparison Tables in this link:

https://drive.google.com/drive/folders/1_4aXqljmISG0Gi7c0KeMuPAGWqvi65mT



Sensitive
Nutrition



High
Efficiency



Monoblock
Study Body



Standard
Grinding



Personal
Security

**The information in this document is subject to change without any prior notice or obligation on the part of the manufacturer and should not be construed as a commitment by the manufacturer. The manufacturer assumes no responsibility for any errors that may appear in this document.*

Office/ Ofis

Email : export@bastak.com.tr
website: www.bastak.com.tr

Tel : +90 312 395 6 787
Fax: +90 312 395 6 788

İvedik OSB 1354.Cad 1387.Sk No:19
Yenimahalle Ankara TURKEY

Factory / Fabrika

Dağyaka mahallesi 2010 .Cd.No:23
Kazan Ankara TURKEY

Tel : +90 312 811 2 811
Fax: +90 312 811 2 812

Email : info@bastak.com.tr
Website: www.bastak.com.tr