

FN Sedimentation Value tester

Instruction

Please carefully reads the instruction
before use product

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I. Summary

Sedimentation Value tester is test the active amylase in grain special instrument, can accurately judges damage of the grain germination. Can use in grain, In particular wheat flour test. It is the necessary quality examination instrument in grain stores, domain, bread flour processing, food processing and so on.

II. Principle

Accord to Berhagger's sedimentation value method test the α —Amylase index test in grain.

III. Specification

1. Mix stick weight: $25 \pm 0.05\text{g}$
2. Water bath barrel preheated pipe: 600W
3. Viscosity tube
Inside diameter $21 \pm 0.02\text{mm}$
Outer diameter $23.8 \pm 0.25\text{mm}$
Inside high $220 \pm 0.3\text{mm}$
4. Repeat: Difference of the two test results does not over 10%
5. Size: $420 \times 340 \times 350\text{mm}$
6. Weight: 25kg
7. Power resource: AC $220\text{V} \pm 10\%$ 50Hz

IV. Structure

3.If the time low then 98.0°C , don't change to 100°C ,you need to test it by Construction. Such as you can test the first point of the result, and then add quantity ethanol or glycerol, you will get another result, as the same , you can get more result at the different result near 100°C ,then you can do a Coordinate picture , you can get the result of 100°C

4If the temp over 100.2°C ,you can add 0.1% (V/V) Isopropanol each 0.1°C ,until 100°C .

Sample (water contain %)	Sample g	
	Water contain 15% Sample 7g	Water contain 15% Sample 9g
17.4	7.25	9.35
17.6	7.30	9.40
17.8	7.30	9.40
18.0	7.30	

Enclosed chart II: The temperature and the ethanol or glycerol quantity

1. $^{\circ}\text{C} = K.n (T-t)$

$K=0.00016$

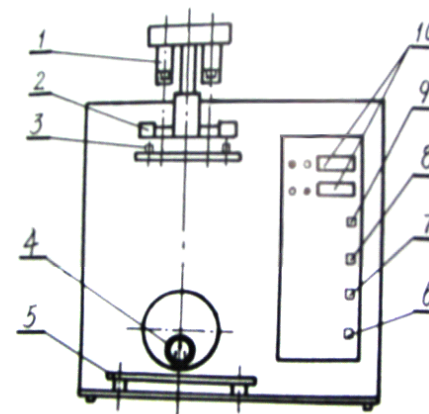
n: temp show on the water bath high of mercury

T: the thermograph number in the water

t: the environment temp

2. If the temperature is between 98.0-99.8, you can add ethanol or glycerol, the quantity as following:

Add temperature ($^{\circ}\text{C}$)	Add quantity (v/v)	
	Ethanol	Glycerol
0.2	1.9	2.5
0.4	3.9	4.9
0.6	5.8	7.4
0.8	7.9	9.8
1.0	9.7	12.3



Picture one

1. Hanger

2. Level arm

3. Fixed position

4. Pin

5. Water bath pin

6. Power key

7. Heat key

8. Stop key

9. Start key

10. Screen

V. Operation

1. Prepare the sample

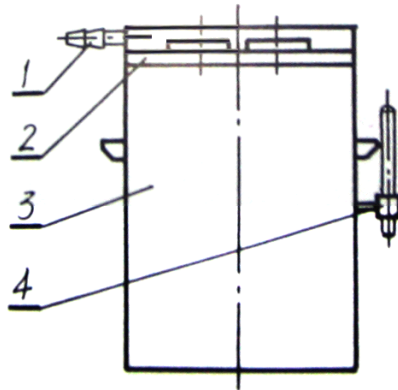
1.1 Grian sample: take 300g and grind until the waste on the 710 μm sieve not over 1%

1.2 Flour sample: use 800 μm sieve dot even.

2. The sample water test.

3. Balance

The sample quantity must decide by water. As in Enclosed chart I. Such as if the water contains 15%, the sample is 7.00g(accuracy 0.05g).



Picture two

- 1. Cool tube link head 2. Water bath lid**
3. Water bath 4. Level meter

4. Add the distilled water to the water bath (Picture two), the water level about 20mm.
5. Close the water bath lid
6. Link the water bath electrical to mainly instrument, then put the water bath to the shelf and fasten to the fixed position (Picture one). Under the water level put a 100ml.
7. Link the plastic tube to two Prolonging, one link to cool water tap, and another put into pool. When the water bath boiling,

Sample (water contain %)	Sample g	
	Water contain 15% Sample 7g	Water contain 15% Sample 9g
13.2	6.80	8.75
13.4	6.85	8.80
13.6	6.85	8.80
13.8	6.90	8.85
14.0	6.90	8.85
14.2	6.90	8.90
14.4	6.95	8.90
14.6	6.95	8.95
14.8	7.00	8.95
15.0	7.00	9.00
15.2	7.00	9.05
15.4	7.05	9.05
15.6	7.05	9.10
15.8	7.10	9.10
16.0	7.10	9.15
16.2	7.15	9.20
16.4	7.15	9.20
16.6	7.15	9.20
16.8	7.20	9.25
17.0	7.20	9.30
17.2	7.25	9.35

Enclosed chart I: The sample quantity and water

Sample (Water contain %)	Sample g	
	Water contain 15% Sample 7g	Water contain 15% Sample 9g
9.0	6.40	8.20
9.2	6.45	8.25
9.4	6.45	8.25
9.6	6.45	8.30
9.8	9.50	8.30
10.0	6.50	8.35
10.2	6.55	8.35
10.4	6.55	8.40
10.6	6.55	8.40
10.8	6.60	8.45
11.0	6.60	8.45
11.2	6.60	8.50
11.4	6.65	8.50
11.6	6.65	8.55
11.8	6.70	8.55
12.0	6.70	8.60
12.2	6.70	8.60
12.4	6.75	8.65
12.6	6.75	8.65
12.8	6.80	8.70
13.0	6.80	8.70

open the cool water tap. Ensure the water bath have the water level.

8. Connect the instrument electricity

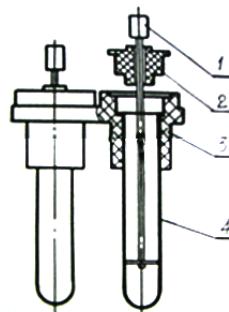
9. Press power key (Picture one), at this time the heat indicator light on, it tell us the water bath is heating. (At this time the screen do no show anything)

10. When the water bath boiling, the screen begin working. Use the accuracy $\pm 2^{\circ}\text{C}$ thermograph

to test the temp. If the temp low then 100°C , please do as the **Enclosed chart II**

11. Put the hanger out by you one hand, and another and press the Start key, letter the machine work empty, then press the stop key. The new machine must work empty once.

12. Put the sample to the tube in two viscosity tubes, then at an angle of 45 degree. Each add $25\text{ml} \pm 0.2\text{ml}$, $20 \pm 5^{\circ}\text{C}$ distilled water. Put on the lid and wave 20 times (left hand 10, and right hand 10)



Picture three

1. Mix stick 2. Tube stopper 3. Viscosity tube shelf 4.

Viscosity tube

13. Put two viscosity tubes to the viscosity tubes shelf (Picture three), and put the viscosity tubes insert the two hole on the water bath, let the viscosity tubes in boiling water, the right hand press the start key, you left hand press the tube stopper. The screen shows the time, 59S later, put the mix stick to the highest. 60S loosen the mix stick, mix stick pull down, when the mix stick reach the fix position the timer stop, when you hear some noise, it means it finish. At this time the screen show the Sedimentation Value. The left show the left tube value, the right show the right tube value.

14. Press stop key, if there is any abnormal you can press stop key.

15. Test finish turn off the power.

16. Take out the viscosity tube and clean.

17. count the result.

VI. Point for attention

1. Before electrify, the wash bath must add water, it is forbid electrify without water!

2. After working, cut off the power of the electricity

3. Do some wash of the instruments.

4. The instrument must put in the dry and ventilate room

5. In the lab must have cool water.

6. The instrument must connect to ground.

VII. Instrument list

1	.FN Sedimentation Value tester	1
2	Water bath barrel	1
3	Tube shelf	1
4	Electrical line	1
5	Viscosity tube	10
6	Rubber stopper	2
7	Mix stick	2
8	Viscosity tube shelf	2
9	Plastic tube (ϕ 6)	4m
10	Instruction	1
11	Certificate	1
12	Warrant card	1