

# OPERATION MANUAL

# FALLING TIME SYSTEM

## Model No SWD

**Automatic Instrument for the determination of  
alpha-amylase enzyme activity**



**Farm-Tec (Santon Ltd)**  
Unit 1 Carr End Farm  
Glaisdale  
Whitby  
North Yorkshire  
YO21 2QH  
Tel: 01947 897995  
Tel: 01947 878132  
Fax: 01947 821372  
Email: [infofarmtec@aol.com](mailto:infofarmtec@aol.com)



**FARM-TEC**

---

FALLING TIME SYSTEM  
MODEL SWD

## Quick set up guide

Carefully unpack the instrument removing all packaging.

Stand instrument on a level surface, connect mains power lead supplied.

The instrument will beep, the message should read **FILL WATER IN TO TANK**

Unscrew white cap from water reservoir, and fill with distilled water (Approx. 4.5 Litres) until alarm bleeps and message reads **FILLING WATER**

Replace the white reservoir cap



The instrument will transfer the required amount of water from the reservoir to the boiling vessel, the message will read **PLEASE WAIT**

When the temperature reaches 100C the instrument is ready to use, the display reads **READY, INSERT SAMPLE.**



# The Falling Time method

## *Sample Preparation*

For grain a 300-gram sample is ground in a Laboratory Mill. The large sample is to avoid sampling error. For flour a representative sample is taken.



## *Weighing*

$7.0 \pm 0.05$  g of whole meal or flour is weighed and put into a Viscometer tube. The flour amount should be moisture corrected by measuring the actual moisture content of the sample.



## *Dispensing*

$25 \pm 0.2$  ml of distilled water is added to the tube



## *Shaking*

Sample and water are mixed by vigorously shaking the tube to obtain a homogeneous suspension.



## *Stirring*

The Viscometer tube with the stirrer inserted is put into the boiling water bath and the arm located on the right is pulled across to the left until it clicks in to place. Then close the arm on the left, locking the tube in to place, see below.



## *Measuring*

The stirrer is automatically released in its top position after 60 (5 + 55) seconds and is allowed to fall down under its own weight.



## *The Falling Time*

The total time in seconds from the start of the instrument until the stirrer has fallen a measured distance is registered by the instrument. This is the Falling Time.



## **ATTENTION!**

*Owing to evaporation of the water from the boiling vessel, it will be necessary to top up the reservoir tank when prompted.*

*When doing so, only put in a **maximum of 2 Litres***

## Maintenance

Clean the sample tube and Viscometer stirrer, after every sample.

If the unit is not going to be used for an extended period of time, please drain the water from the tanks.

It is essential that the instrument is serviced at least once a year, for heavy use this interval may need to be reduced to 6 months.

For service please contact:

Farm-Tec (Santon Ltd)  
Unit 1 Carr End Farm  
Glaisdale  
Whitby  
North Yorkshire  
YO21 2QH  
Tel: 01947 897995  
Tel: 01947 878132  
Fax: 01947 821372  
Email: [infofarmtec@aol.com](mailto:infofarmtec@aol.com)

---

FALLING TIME SYSTEM  
MODEL SWD

Moisture Correction

Moisture Content of sample in %	Weight of sample in g
11.4	6.65
11.6	6.55
11.8	6.70
12.0	6.70
12.2	6.70
12.4	6.75
12.6	6.75
12.8	6.80
13.0	6.80
13.2	6.80
13.4	6.85
13.6	6.85
13.8	6.90
14.0	6.90
14.2	6.90
14.4	6.95
14.6	6.95
14.8	7.0
15.0	7.0
15.2	7.0
15.4	7.05
15.6	7.05
15.8	7.10
16.0	7.10
16.2	7.15
16.4	7.15
16.6	7.15
16.8	7.20

---

Dimensions	550 X 270 X 500
Weight	21.5 Kg
Power Supply	230 V 50 Hz
Power Consumption	1Kw
Stirrer Motor	24 V DC 10 W
Boiling Vessel capacity	1.6 Litres
Water Reservoir Capacity (Top up)	2 Litres
Water Reservoir Capacity Commissioning	5 Litres

---

## Optional Accessories

### Laboratory Sample Mill

#### FEATURES

- No Moisture Loss
- Compatible with reference oven analysis
- Compatible with NIR analysis
- Compatible with Falling Time analysis
- Adjustable Grinds Settings
- Low Noise Level
- Suitable for grains up to 20% oil

#### TECHNICAL

- Discs Grinder Type
- Motor Power - 0.5 HP
- Motor Speed - 1400 rpm
- Grinding Discs - 64mm
- Grinding Capacity 10 – 14 Kg/h
- Power Supply 220 – 250 volts
- Weight - 12.5 kg
- Depth - 0.28 m

