

# High Accuracy Digital Egg Tester DET6000

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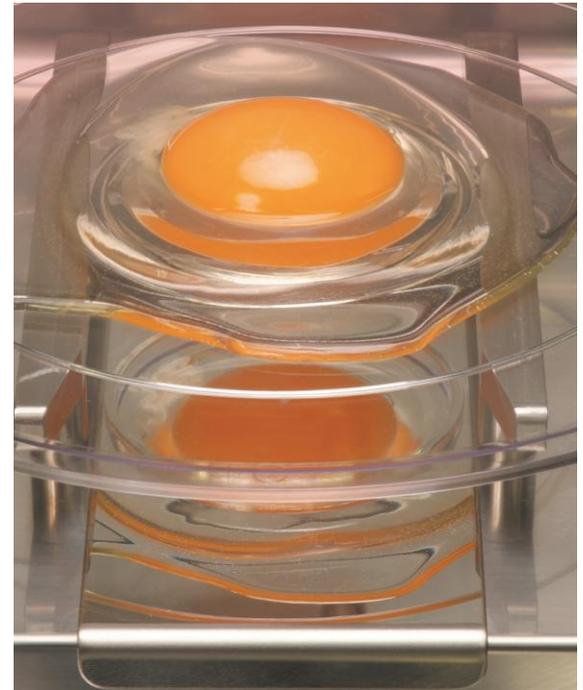
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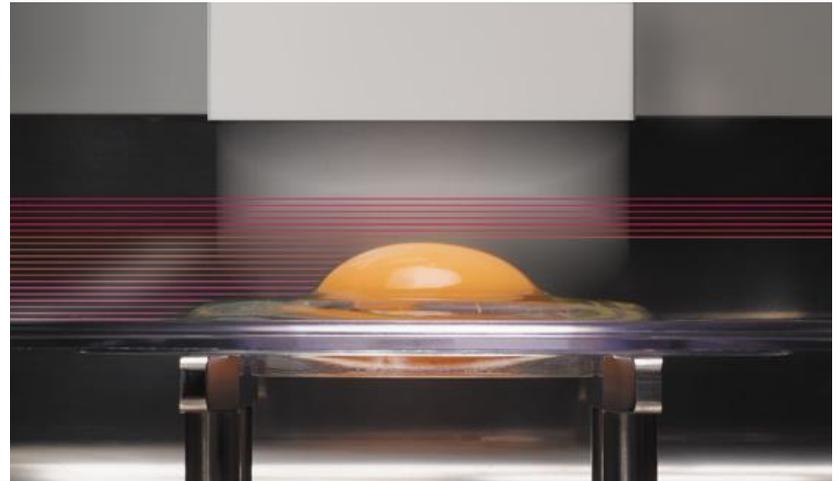
# Digital Egg Tester DET6000

- MULTIFUNCTIONAL  
Egg Weight, Eggshell Strength, Yolk Color, Haugh Unit, Eggshell Thickness (Optional)
- HIGH SPEED  
It takes **approximately 20 seconds** to measure the quality of one egg.  
(Except Eggshell Thickness)
- BOTTOM CHECK  
The bottom of the yolk **can be visually checked** by the see-through tray.



# Measurement Method

- Egg Weight: Load cell  
Automatic zero point adjustment function
- Eggshell Strength: Pulse motor, Load cell  
Stops with **minimum breaking**
- Yolk Color: White LED, RGB sensor  
**No need to replace** the source lamp,  
use of 3 sensors
- Albumen Height: Laser parallel  
beam, Line sensor  
**Calculates measuring point**  
from albumen shape



# Specifications

- Model: DET6000
- Power: AC100V-240V 90W (Other voltages can be delivered).
- Constitution: Main unit, See-through trayx2, Special mirror, Printer, Eggshell thickness gauge (Optional).
- Measurements: Egg Weight, Eggshell Strength, Haugh Unit, Yolk Color, Eggshell Thickness (optional)
- Environment: Ambient Temperature: 5 - 35° C  
Ambient Humidity: 80%RH
- Dimensions: W=280mm, D=450mm, H=360mm
- Weight: 20Kg

# Measuring Range

- Egg Weight 25.0 - 200.0 g (Accuracy: 0.1g)
- Eggshell Strength 8.0 - 80.0 N (Newton) (Accuracy: 1.0N)
- Albumen Height 3.0 - 15.0 mm (Accuracy: 0.2mm)
- Yolk Color 1.0 - 15.0 Yolk color fan number DSM)
- Eggshell Thickness 0.2 - 0.5 mm (Accuracy: 0.02mm)

If the measured data is out of the above range, the display will show **ND** (No Data), and should not be used for calculation of the average, maximum and minimum data.



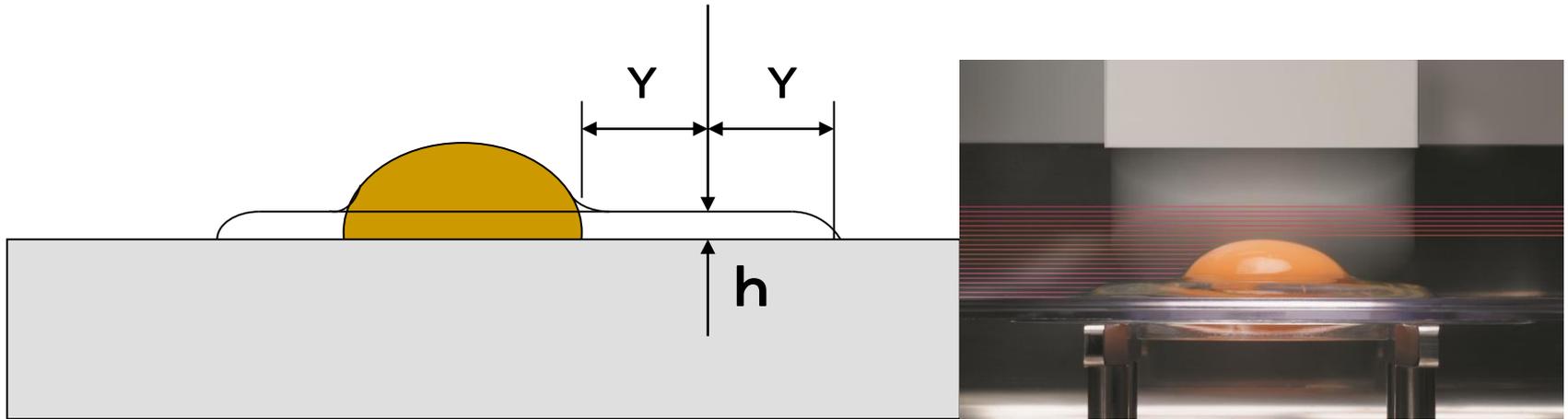
Shell Thickness Micrometer

# Operation

- Before turning power ON  
Make the **balance** ready for use and place the **tray**.  
Turn the printer on.
- 1. Power ON  
Turn on the **power switch** at the backside of the device.
- 2. Measuring egg weight  
Carefully place the egg on the balance. When the weight is fixed, it is measured automatically.
- 3. Measuring eggshell strength  
Touch the pointed side to the fixed right side, and press the **PRESS button**.
- 4. Measuring albumen height and yolk color  
Break the egg, and set the albumen stretched side in the back, and press the **SCAN button**.  
[In all measurements, re-measuring is possible and the latest data value is overwritten.]
- 5. Printing out  
When the measurement for next egg is started, the measurement result of the previous egg is printed out.  
And, after more than 2 eggs are measured, **END button** is pressed, the measurement result of the previous egg and lot total (Average, Maximum and Minimum) is printed out. (**LOT END**)

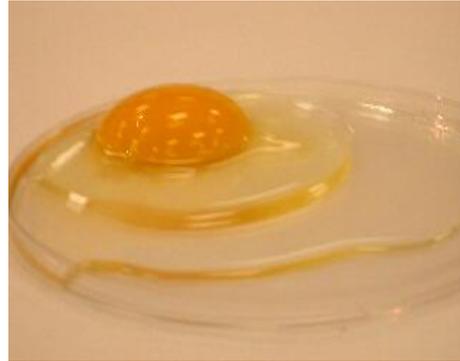
# Where is the albumen height measured?

- At the albumen stretched side, between the yolk end and the albumen end.



# A guide to the Haugh Unit (HU)

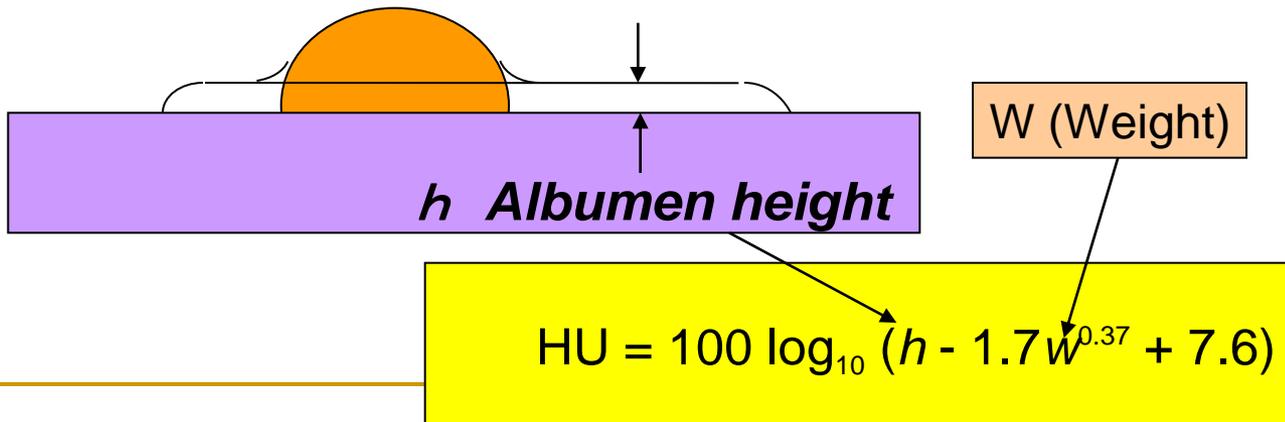
After the exact egg weight in 0.1 grams and the height of the albumen in 0.1 mm has been assessed, the Haugh Units of a sample egg are automatically and immediately calculated. The Haugh Units are expressed in a figure. If the Haugh Units found are 75 and 90+, the internal quality/freshness of the sample egg is excellent. However, if the Haugh Units are between 60 and 30 or even less the internal quality/freshness can be considered as poor or very bad. The internal quality of an egg can also be negatively influenced by a disease (I.B.) in a flock. In that case a freshly laid egg will show a very sudden deterioration of the albumen height, resulting into poor Haugh Unit values.



## Interpretation of the Haugh Units:

90+	Excellent
80	Very good
70	Acceptable
65	Fair
60	<i>Consumer's resistance level*</i>
55	Poor
50	Unacceptable
40	Bad
30	Very bad

\*It is at this Haugh Unit value when the albumen begins to spread and consumer resistance begins to start. At 50 HU and below, there is often a reluctance to again purchase eggs for a period of time irrespective of brand.



# Data Output

- Measured result is printed out from the printer.  
(The printer is shipped with the main unit.)



- The result can be output to PC via USB port.  
You can read the csv file data by Microsoft Excel.

(Output to Printer and PC cannot be done at the same time.)

# User Setting

	Factory Setting	
■ Unit of Eggshell Strength	(N)	(Kgf)
■ Display digit of Yolk Color	(integer)	(first decimal place)
■ Buzzer when pressing button	(ON)	(OFF)



NABEL is the first manufacturer to establish an auto grading and packing system in Japan. Eggs are washed and dried at controlled temperature to avoid being boiled. The eggs are then held softly, released at zero speed against the ground and then graded according to their weight. Crack detection uses the acoustical method by tapping the egg 16 times and in the process the normal and good eggs are automatically packed. This process is our own technology. We can see these eggs displayed at most stores and 75% of these eggs sold in Japan are packed by NABEL machines.

The process may seem easy, however, we had a hard time because every egg differs in its shape, size, weight and shell strength. We have received various patents through our efforts to establish the system which is able to process any eggs.

The **DET6000** has been successfully introduced in 2007 with more than 270 systems sold till now.

We have strong passion to manufacture which possibly change existing operations and work flows, increasing their value further. The more user-friendly the products become, the more satisfied the customer will be.

Our excellent reputation is the result of the long run in establishing and building our current egg packing system.

And now, we have a common view in our mind. Grading and packing eggs in different places around the world with NABEL's machine.



Head office in Kyoto, Japan



Office in Malaysia



Office in China

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Best  
of  
Gentle



for  
eggs

De DET6000 is a true example of a ready to use system for assessment of egg quality. No concern with installation of software and all kinds of different leads!  
Just “Plug and Play”!

By copying this link <https://www.youtube.com/watch?v=0p0EUYtNkdo> in your browser you can watch the DET6000 in operation.

If you wish to learn more about the DET6000 we kindly invite you to contact us.  
You will find our contact details on page nr. 1 of this presentation.