

Operation Manual

Operating Manual Number : HEC-D001

Published : December 2006

Covering Model : DT-02/04



Before operating this unit, Please read & understand this manual completely and Keep it for future reference.

Disintegration Tester



DT-4

DT-2

Disintegration Tester




• Safety Warnings







주의사항



Before operating, read and understand safety warnings thoroughly and use this equipment properly.
Keep these warnings in mind for your safety.



Safety Warnings: Danger!, Warning!, Caution!

-  **Danger** : Failure to observe this instruction can result in a personal injury or death.
-  **Warning** : Failure to observe this instruction may cause a fatal injury
-  **Caution** : Violation of this instruction and improper use may cause a serious injury and property damage.

 Do not contact	 Caution
	Fire or heat injury may occur. Do not touch this place.

 High Voltage	 Warning
	Electric shock may occur. Unplug the power before you repair the machine.

 Explosion	 Danger
	Explosion or fire may occur due to improper handling. Do not put flammable, explosive materials in the machine.

 Electric Shock	 Warning
	A risk of electric shock exists. Electric shock may occur without a ground wire installation.

Disintegration Tester

Features

This disintegration tester uses and applications has following features ;

- 1) Adjustable temperature and time give you value and versatility.
- 2) Stable up/down action, and low noise
- 3) Easy set the temperature and time, and high accuracy of the temp. control by digital PID controller.
- 4) Seamless corrosion resistant stainless steel chamber with tempered glass is easy to maintain.

Installation



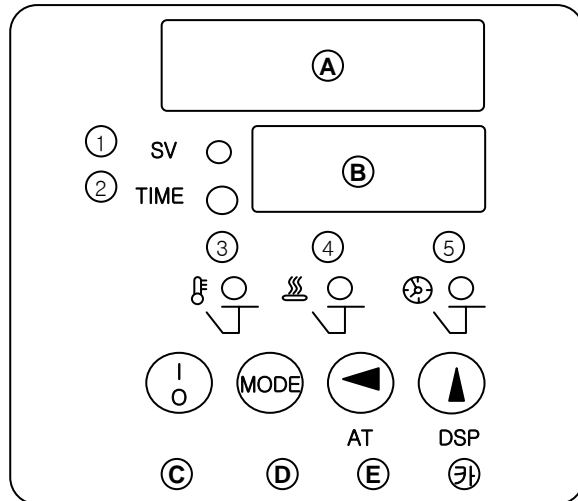
Attention

Improper set up can cause a malfunction or an accident.

- 1) Install the equipment on a firm area avoiding heat, humidity, dust and vibration.
- 2) Place it in a well ventilated area with enough space.
- 3) Install it horizontally on a firm and stable surface.

Disintegration Tester




Controller



Function & Feature of the control panel

- | | |
|------------------------------------|---|
| (A) Display of current temp.& time | (5) Lamp of Timer |
| (B) Display of set temp. & time | (C) Start/Stop Button |
| (1) Lamp of SV | (D) Parameter Set Button |
| (2) Lamp of Time | (E) Left Shift Key & Auto Tuning Button |
| (3) Lamp of start | (F) Increase Value Key & Display button |
| (4) Lamp of Heater | |

Indicating Lamps

- | | | |
|-----|---|--|
| (3) |  | Light-on while running, and light-off when it stops running. |
| (4) |  | Light-on while the heater supply the power. |
| (5) |  | Lamp is blinking from starting up to set temperature, and light-off when the time is out.
But, the lamp don't light-on if the time set as 00:00 |

Disintegration Tester

Before Operation

Start Mode

(A)

(B)

When the electric power supply, (A) shows the current temperature of the chamber, and (B) shows the set temperature. The operator can see the set temperature whenever press (F) key.

Set Value

SV ○



Press the button (D), and the controller lies on the set mode of temperature. Display (A) shows the current temperature, the right digit of (B) is blinking, and lamp (1) light-on.



Press the (E) to move to the left digit position.

AT



Press (F) key to increase value.

DSP

TIME ○



Press the button (D) once again, and the controller lies on the set mode of time. Display (A) shows the current time, the right digit of (B) is blinking, and lamp (2) light-on.



AT



DSP

Press (E) and (F) keys to set the time as above.

If the time is set as 00:00, the timer isn't operated, but it controls the temperature only.



Press the button (D) while 2 seconds, and it completed.

The digits of (B) no longer blinking, and the controller returns the initial mode.

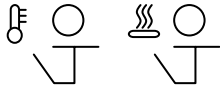
Disintegration Tester

Operation Procedure

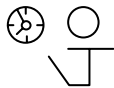
Start



Press the Start/Stop button ① .



Lamp ③ and ④ light-on, and the heater emits.



The timer don't act while the current temperature will be up to set temperature, and the lamp is blinking.

But, the timer start to act the current temperature heat up to set temperature, and the lamp light-on.

End

Ⓐ

The lamp still light-on, and display Ⓑ shows "END" indicate the time is over.

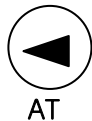
Ⓑ



Press the Start/Stop button while 1-2 sec. After, the buzzer sound alike "bee---", the timer is off, display Ⓑ shows the set temperature, and the controller lies on stop state.

In state of stop, the heater and timer are power-off.

Auto Tuning



This Auto Tuning function measure and set automatically the value to fit for P.I.D(Proportional Integral Derivative) and A.R.W (Anti Rest Wind-up). This function can act at any time while heating up/or stable running. The Auto Tuning starts to press the "AT" button 5 seconds while the buzzer sounds alike "bee---".

If it shall stop this function, then press the "AT" button while 5 seconds, Then the lamp light-off, and release this function.

** This Auto Tuning function is preset, no need set procedure.

** Please try to do it in case as this function is not stable.

Disintegration Tester

Maintenance



Warning

Power off before cleaning the machine.



Attention

Disconnect the electric plug.

Do not use benzene, soap, detergent and hot water while cleaning. It causes the damage of parts and malfunction of instruments

- 1) Cleaning the interior
 - Disconnect the electric plug.
 - Remove the selves and self hangers.
 - Clean the dirty by brush or cleaner.
- 2) Cleaning the exterior
 - Wipe the rug or sponge wetted by neutral detergent,
 - Polish by dried woven fabric.
 - Do not use organic solvent.
- 3) Cleaning the electric components
 - Use the dried woven fabric.
- 4) Stand by for a long time
 - Disconnect the electric power source.
 - Wipe the exterior and interior of machine
 - Warp the machine and store it.

Disintegration Tester

Trouble Shooting & Repair

Problems	Remedy & Repair
The unit does not operate	<ul style="list-style-type: none">- Make sure the power cord is plugged.- Make sure the switch is on.- Check a power outage.
Decrease of heating ability	<ul style="list-style-type: none">- Check the heater
Temperature does not rise	<ul style="list-style-type: none">- Check the set temperature- Check the heater
Malfunctions of the controller	<ul style="list-style-type: none">- Check whether other high voltage electric equipment is working nearby.

After Service

1) We guarantee 12 months in conditions of normal operation.

However, the machine or component were occurred the trouble, then please let us know the details of as under;

- Detailed description of trouble and parts
- Machine Model.
- Manufacture or Purchase date.

2) We cannot guarantee the trouble occurred by as under;

- Mis-operation, unreasonable repairing and transform of machine by user.
- Transfer and handle roughly of the machine.
- Natural disaster and over current , voltage and frequency.
- Trouble occurred by mistake of operation.

3) Please let us know any furthers of this machine.

Disintegration Tester

Technical data

Temp.	Range	Amb. to 37°C
	Controller	Digital PID controller
	Sensor	PT-100 Ohm
	Accuracy	±0.5°C
Up/Down	Range	28 -32 Rpm
	Stroke	53 -57mm
	Drive	AC Motor
Material	Bath	Tempered Glass
	Body	Steel plate with powder coating
	Heater	Water bath / 400W
Control & Display		Digital PID control & LCD display
Electric Source		220VAC, 50/60Hz

Specification

Model	DT-2	DT-4
No. of well	2 x Dia.56.5mm	4 x Dia. 56.5mm
Working volume	50 - 100ml	100-250ml
In Size (W×D×H)mm	500×300×200	600×300×250
Out Size (W×D×H)mm	670×340×250	770×340×300
Weight (Kg)	30	45



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