LOGAN INSTRUMENTS CORP.

FAB-2S FRIABILITY TESTER
(with variable speed setting)
Instruction Manual

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LOGAN INSTRUMENTS CORP. 19 C School House Rd., Somerset, NJ 08873
Tel: 732-302-9888 Fax: 732-302-9898 E-Mail: info@loganinstruments.com
www.loganinstruments.com

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1.0 SPECIFICATIONS

Drum Position:	2
Drum Speed:	Variable Speed 25-70 RPM
Speed Accuracy Per Minute:	±1 RPM
Maximum Testing Time:	9 HR 59 MIN. 59 SEC.
Maximum Count of Revolutions:	99999 Revolutions
Size:	12” x 16” x 14”
Weight:	20LBS.
Voltage:	110V/50-60Hz
	220V/50-60Hz

2.0 DESCRIPTION OF FAB-2S FRIABILITY TESTER

Logan FAB-2S Friability Tester is a double-drum Tablet Friability Test instruments, manufactured in compliance to the USP, Europe, and other Pharmacopoeias. One of the testing criteria of mechanical strength of tablets and cores is Friability and Abrasion testing. During the process of coating, transportation, packing …etc. the tablet will lose some mass. To measure the mass loss the samples are counted and weighed. Thereafter the Friability test performed following the individual monographs of the Pharmacopoeia. When finished the samples have to be dusted and weighed again. Actually the difference between the weight before and after the test is determined as Friability, which usually should not exceed 1%.

The standard Friability drum causes the samples to roll and fall during the test while the abrasion drum continuously stresses the sample by abrasion of lamellas. FAB-2S Friability Tester can be used 1 or 2 drum. A noiseless gear motor rotates the drums with a variable speed of 25-70 RPM that programmed by users. The actual drum is made from Plexiglas and separated into two parts, the drum body and a removable cover, opened to fill, discharge and clean the drum inside when required. The instrument itself is made from high quality metal which meets in full the actual GLP requirements.

FAB-2S FRIABILITY TESTER includes the following:

- Main Drive Unit
- 2 Drums (L & R)
- 2 Drum Nuts (L & R)

2.1 FAB-2S AUTOMATED DISSOLUTION TESTER

FRONT VIEW

3.0 CONTROL LOCATIONS ON FRONT PANEL OF FAB-2S

Power Switch	Location: Purpose:	Left side control panel Turns the system on/off
Display	Purpose:	To display timer or counter
Timer Indicator Light	Purpose:	To indicate Friability Tester is in timer mode.
Counter Indicator Light	Purpose:	To indicate Friability Tester is in counter mode.
“Start/Stop” Button	Purpose:	To start or stop the timing or counting
“Counter/Timer” Button	Purpose:	To select counter mode or timer mode
“Reset” Button	Purpose:	To reset Friability Tester to re-start
“Enter” Button	Purpose:	To enter the digits
“Set” Button	Purpose:	To set the digits

4.0 INSTALLATION AND SET UP

4.1 Remove the unit from packing box.

4.2 Remove both drums from packing box.

4.3 Remove drum nut from Friability Tester

4.4 Install drums inf. Shafts. Both drums are marked.
One marked “L” goes to left side.
One marked “R” goes to right side.
Make sure the drum drive slot engage with drive bar and tighten with drum nut.

4.5 Connect the power cord to the Friability Tester

5.0 Operating Procedure

5.1 Turn power switch on.

5.2 Select timer mode or counter mode by pressing “Timer/Counter” button.

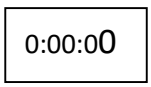
5.3 Timer Mode:

With Timer indicator light on, display will show a default time of 0:04:00.
This means when “Start/Stop” button has been pressed drum will rotate for 4 minutes and then stop.

To Set Test Time:
(Make sure timer mode indicator light is on before proceeding.)

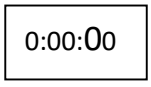
<u>Set Seconds:</u>

A. Press “set” button, the last digit will start flashing.



B. Press “Enter” to increase the flashing digit. (Skip step B if no change is required.)

C. Press “Set” button, the second to last digit will start flashing.



D. Press “Enter” to increase the flashing digit. (Skip step D if no change is required.)

Set Minutes:

A. Press “Set” button, the third to last digit will start flashing.

0:00:00

B. Press “Enter” to increase the flashing digit. (Skip step B if no change is required.)
C. Press “Set” button, the fourth to last digit will start flashing.

0:00:00

D. Press “Enter” to increase the flashing digit. (Skip step D if no change is required.)

Set Hour:

A. Press “Set” button, the first digit will start flashing.

0:00:00

B. Press “Enter” button to increase the flashing digit. (Skip step B if no change is required.)
C. Press “Set” button to end the setting process.

5.4 Counter Mode

With counter indicator light on, display shows a default revolution count of 0:01:00.
This means when “Start/Stop” button has been pressed drum will go 100 rotations and then stop.

To Set Timer Mode:
(Make sure the counter indicator light is on before proceeding.)

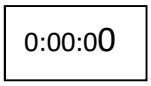
Set Revolution Count:

A. Press “Set” button, last digit will start flashing.

0:00:00

B. Press “Enter” button to increase the flashing digit. (Skip step B if no change is required.)

C. Press “Set” button, the second to last digit will start flashing.



D. Press “Enter” button to increase the flashing digit. (Skip step C if no change is required.)
E. To change the remaining digits repeat the above procedure.

5.5 To Reset the Friability Tester
Press “reset” button. FAB-2S will go back to default starting mode. Please note that default mode for FAB-2S is Timer Mode. To select Counter Mode you must press “Timer/Counter” button.

5.6 To Start Test
Once you have finished setting your time or count, press “Start/Stop” button. FAB-2S will start rotation for timer or counter mode.

5.7 To Stop Test
FAB-2S will automatically stop when it reaches the preset time or count. To stop test before it reaches its preset time or count, press “Start/Stop” button.

Warning:

Below information for the lab manager only, do not show technician how to change the rotation speed to avoid future problems.

F. To change the rotation speed:

5.8 Turn on the POWER switch while pressing and holding the “Start/Stop” button, the display shows the last rotation speed.

5.9 Press “Set” and “Enter” button to input the new rotation speed. Proceed as to set the Revolution Count. The speed setting is from 20-70 RPM.

5.10 Press “Reset” button into test mode for the test.

To set speed (from 25 RPM to 70 RMP):

A. Press and hold “Start/Stop” button and turn on the main power switch at the same time; this will put the FAB-2S into speed program mode. In speed program mode, only the last 2 digits can be programmed (25 RMP – 70 RMP).

B. Press the “Set” button, the last digit will start flashing.

0:00:00

C. Press “Enter” to increase the flashing digit. (from 0 to 9)

D. Press “Set” button, and the fourth digit will start flashing.

0:00:00

E. Press “Enter” to increase the flashing digit. (from 2 to 7.)

F. Press “Reset” to enter the new speed setting into the FAB-2S.

G. Turn off the FAB-2S and power on again to check the new speed setting on the display to start the test at the new speed.

6.0 Maintenance

Keep FAB-2S Friability Tester in a dry and flat surface

6.1 Drum

After test please clean by using a dry cloth. Do not use any solvent. Lay on clean flat surface. Do not store at vertical position.

6.2 Drive Unit

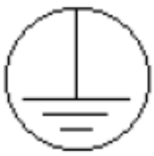
Keep on a flat and clean surface. Clean the surface by using a dry cloth. Do not use any solvent.

6.3 Drive Shaft

Make sure both shafts are dry at all times. Clean shaft with dry cloth. Do not use any solvent.

Fuse Replacement Instruction:

To replace the fuse, turn off the power switch. Gently press the fuse holder knob in and turn counter clockwise. Take the old fuse out and replace it with a fuse (Part#3AG-5AMP at 250VAC)



Ground Symbol

Do not remove any screws with ground symbol next to it.

7.0 Trouble Shooting:

Symptoms	**Possible Cause**
No Power	Check Line Cord
	Check Fuse
When power is on constantly long beep	Check Buttons if join with case
No rotation	Check Motor and Belt

If further assistance is needed please contact your local distributor or Logan Instruments:

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Email: info@loganinstruments.com