



Tony International (HK) CO., LTD

No.809 the Center Point Business Center Dongzhong road, Guan cheng Zone, Dongguan City
Tel: 86-769-23010657 Fax:86-769-23010667 Email:tony@tonyhk.hk

English Manual

Velocity of Projectile



Model: TW-219

The attention of security

1. Security of the mark

In this manual, with regard to the attention of security issues and the use of equipment, had the following important matters of the various shows, in order to prevent accidents and dangerous, please be sure to observe the following danger \ warnings and pay attention to this word in mind:

danger :



This shows the project: Expressed as a failure to comply with, the operator may be harmed.

notice:



This project shows it may affect the test results and the quality.

Annotate :



This shows the items that use this product in the operation of the auxiliary state.

Summary

1.Introduction

Used to test related materials from the launch of the toys and toys from the launch of a non-exclusive material that may be caused by the ejection of some, but not all of the potential risk of accidents.

Complies to standards : ASTM: F963-03

EN-71-03

2.Main Technical Parameter

Power supply 200/220 AC / 50Hz

dimension: 300×360×175mm

display: 7 digits

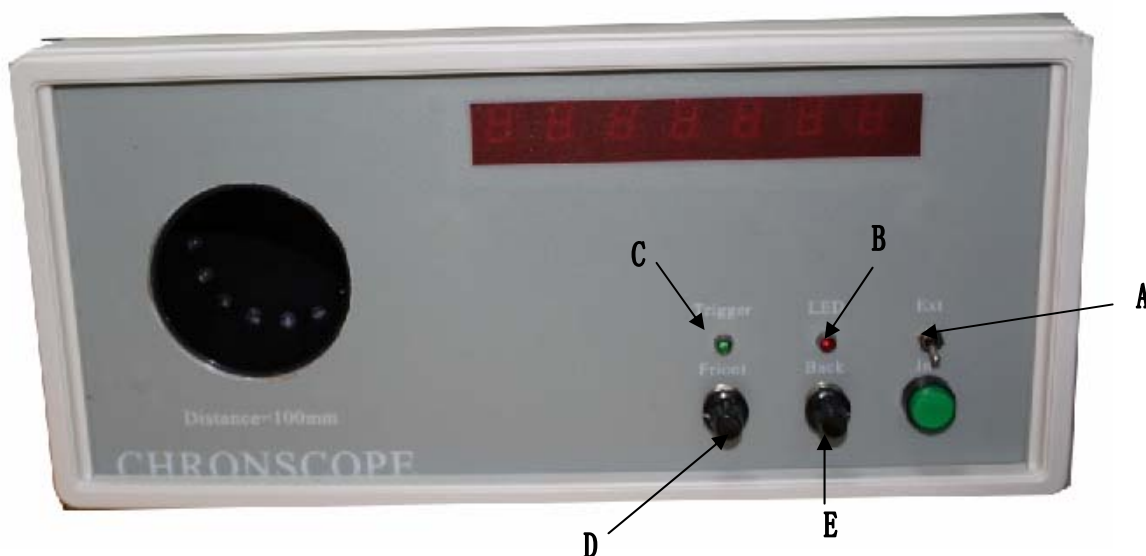
Display:0.000001 to 9.999999 sec

The diameter for shoot subject : larg than 2mm ~less than 40mm (internal sensor)

The distance of sensor in the test canister : 100mm

The distance of the external sensor : 40~400mm(adjustable)

Control Panel



A : switch , press **Ext** , display the value tested by external sensor ; press **int** , display the value tested by test canister

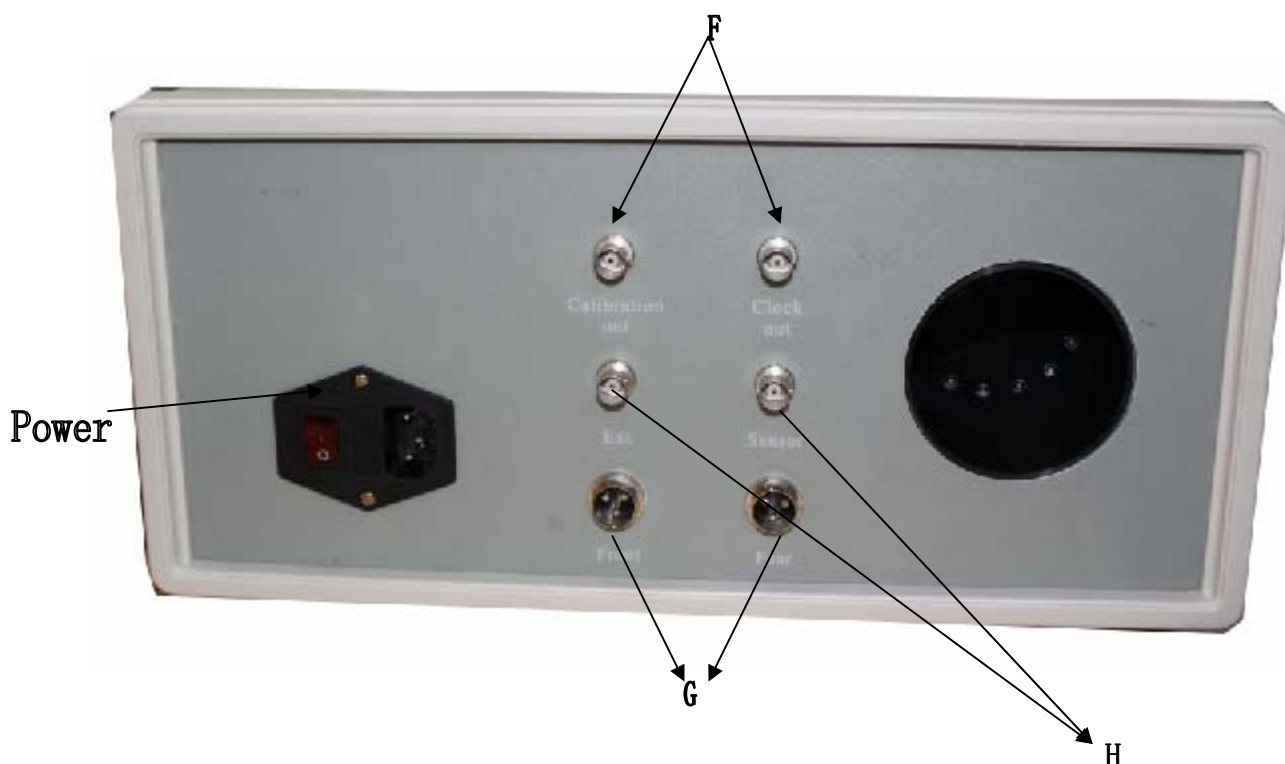
B : back indicate light

C : front indicate light

D : front sensitvity button

E : back sensitvity button

Reset : zero button , to make the value to zero.



F : External calibration out hole

G : External sensor test jack

H: Interior testing calibration jack

Process

1. Test process

1) connect power ◦

2) Turn on the power switch(B) ◦

3) To chose the sensor according to the size of projectile, turn the switch toward to the ext or in.

4) When using the interior sensor, adjust the sensitivy button until the LED indicate light is off, and then adjust the second sensor until the trigger light off.

2. When testing, projectile, the screen flash, that is the sensitivy is high, please press reset button. Then adjust the sensivity low until the screen not flash even people in front of it.

5) Transparent material and the black material sensitivity, please get close to the sensor when projecting, the projectile must project from the mid of the two sensivity lights

When choosing the external sensor, adjust the sensitivy button until the LED indicate light is off, and then adjust the second sensor until the trigger light off.

6) Record the value after each test, press Reset to process the next test.

7) Same projectile need to test 10 times. The value of v in the equation for kinetic energy shall be the average of 10 measurements.

2. Kinetic Energy Determination

$$E_x = \frac{mv^2}{2}$$

M= mass of projectile (Kg)

V= velocity of the projectile (m/s)

E_K : the max kinetic energy (J)

Maintenance

- 1.This instrument environment is the standard laboratory, please keep waterproofing and moisture-proof
- 2.Please shut off the power after using and clean the instruments.
- 3.Please shut down the power if no use for long time

Tony international (HK) Co, LTD