

# Portable balancer MODEL-7102B

This system is most suitable for balance adjustment and for vibration measurement of various machinery or equipments, in which motors, turbines or blowers are incorporated. This system can also be used as tachometers.

This system is small in size and light in weight and is contained in a shoulder case, and therefore, it can be conveniently carried to any places at which measurement will be made.



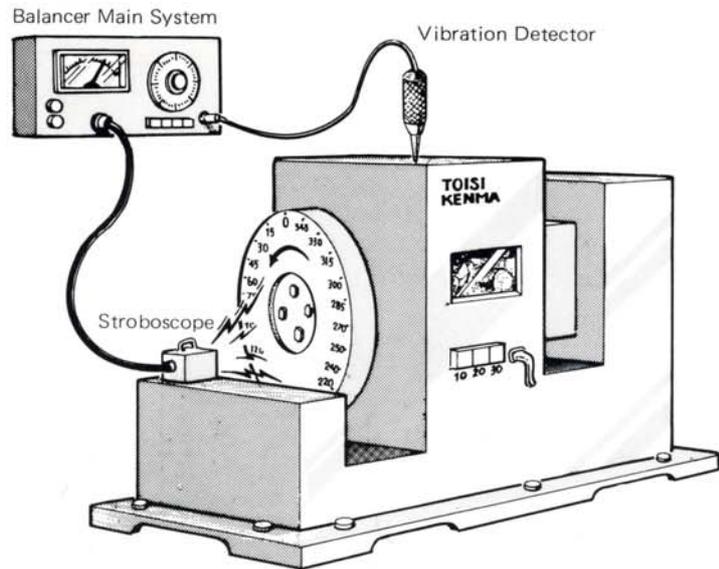
## FEATURES

- This system is furnished with functions as vibration meter, tachometer and balancer.
- This system is contained in a shoulder case and is therefore portable.
- Model 2007 Vibration Detector included in this system is small in size and can be hand-held when conducting measurement.
- A xenon lamp employed in the Stroboscope enables to make measurement clearly.
- This system is provided for the purpose of monitoring with output terminals with which waveform observation or recording can be made.
- The amplifier is small in size and light in weight and is composed of circuits of high reliability and stability employing IC's and semiconductors.
- Control knobs and switches are all arranged on the front panel for convenient operation.

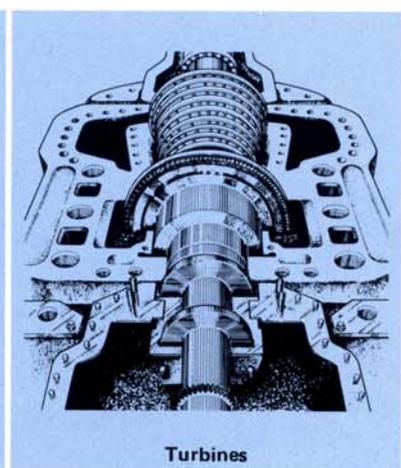
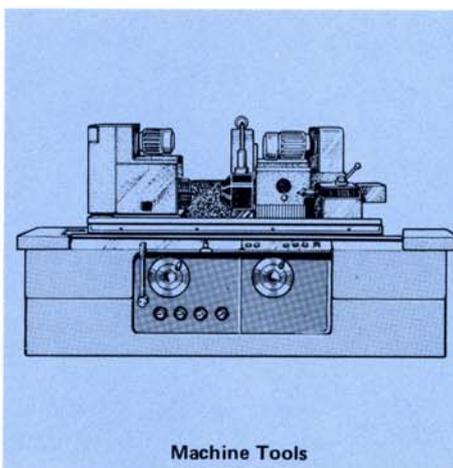
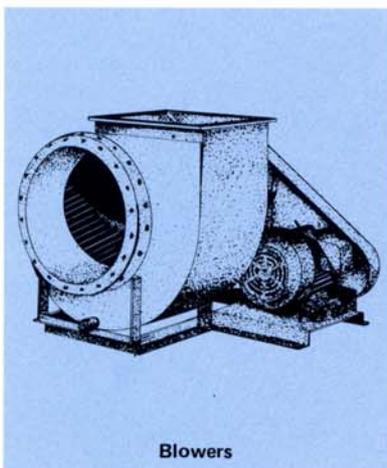
## DYNAMIC BALANCING

### Procedure

- (1) The side surface of the rotating body is to be graduated in 0 to 360° to CCW direction.
- (2) The switch on the Balancer Main System is turned to FLAT. The vibration detector is applied to a test object in the manner as shown on the sketch and the amount of vibration indicated is read.
- (3) The stroboswitch is turned to ON and the switch on the Balancer Main System is turned from FLAT to FIL. Rotate the frequency dial to the extent at which the indicating pointer fluctuates in the maximum. Read the angle at which the rotating body looks standstill in the light from stroboscope. Amount of vibration and angle is measured on the above unbalanced condition.
- (4) A trial weight is applied to the position of 0° and in this state, measurement is made once again to the amount of vibration and angle. Weight of the weight is determined with the weight of the rotating body and the value of amplitude. Rectified weight and angle should be determined by drawing a graph or with the calculator prepared specially for this purpose. The trial weight is disassembled and a rectified weight is mounted at the designated position.
- (5) If results obtained from the initial adjustment was found insufficient, adjustment should be made afresh, in which amount of vibration and angle is measured under the load of initially rectified weight. The initially rectified weight is then disassembled and a newly rectified weight is mounted. With the above, the balance will have been adjusted almost completely.



— OUR PORTABLE BALANCER IS ENGAGED MOST ACTIVELY IN BALANCING OF ALL SORTS OF ROTATING BODIES. —



Our Portable Balancer can be additionally applied to motors, generators and all sorts of rotating bodies.

## SPECIFICATIONS

**Vibration Detector** : Model 2007 Dynamo-Electric Type, 80 mV/cm/sec.

**Measuring Ranges** : 5 steps of 10, 30, 100, 300 and 1000  $\mu\text{p-p}$  F.S.

**Speed Range** : 300 to 30,000 r.p.m.

**Filter Characteristics** : Band-Pass Filter, Q=10.  
300 to 3000 rpm (x1 Range)  
3000 to 30000 rpm (x10 Range)

**Oscillation Frequency** : Same with that of Filter (as functions of Tachometer)

**Stroboscope** : Handy Type with incorporated Xenon Lamp.  
Flashing Time: 5 to 10  $\mu\text{s}$ .

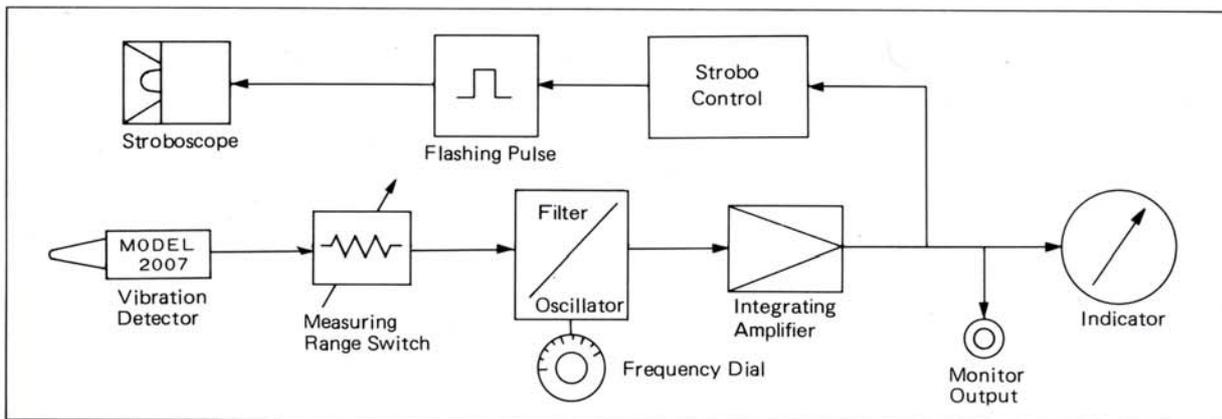
**Monitor Output** :  $\pm 1\text{V}$  Max./F.S., 10  $\text{K}\Omega$  or more.  
 $\pm 5\text{mV}$  Max./F.S., 20  $\Omega$  or less.  
Provided with Output Adjustor.

**Power Supply** : 100 V AC, 50/60 Hz, 30 VA.

**Dimensions and weight** : 120 (H) x 240 (W) x 150 (D) mm.  
Approx. 2.5 Kg.

**Optional Accessories** : Calculator for prompt adjustment and calculation of direction and weight at which correction should be made.

## BLOCK DIAGRAM



## COMPOSITIONS

1 set Portable Balancer Amplifier Model 7102A.  
1 set Vibration Detector Model 2007 (complete with Contact Pin).  
1 pce. Cable, 3m, for the above.  
1 set Stroboscope.  
1 pce. Cable, 3m, for the above.

1 pce. Shoulder Case.  
1 copy Instructions Manual.  
OPTIONS:

Detector Mounting Magnet.  
Calculator with built-in software (for calculation and adjustment of direction and weight).

### MAIN PRODUCTS:

DIGIVIBRO Ultra-small Digital Vibration Meter – MINIVIBRO Portable Vibration Analyzer furnished with frequency analyzing capabilities – Portable Vibration Exciter for Calibration – Portable Balancer – Wide-Band Charge Vibration Meter – Low Range Charge Vibration Meter – Servo Type Vibration Meter – Charge Amplifiers – Auto-Range Charge Amplifiers – Ultra-Small Charge Amplifiers – Impulsive Acceleration Meter – Plug-In Type Vibration Meter – Vibration Monitor – Calibrator – Contactless Vibration Meter.