

## VB1000-B Balance Analyzer

From the powerful VB series of data collectors comes the VB1000-B. A compact, rugged, stand alone dynamic balancing instrument, capable of solving any single or dual plane balance problem with ease. Lightweight and extremely portable, the VB1000-B is easily carried on site to any problem machine.

Imbalance causes high levels of mechanical stress and vibration, when imparted to your bearings, will cause a reduction in the normal bearing life. It is essential for the health of your rotating machinery to be balanced correctly to minimize any resultant damage caused by the excessive stressed of vibration.

Not sure what level of unbalance is acceptable? Built into the VB1000-B firmware is the ISO 1940 standard. This internationally recognized standard is the most widely-followed balancing guideline in the industry today. By simply entering a few basic parameters, the VB1000-B will calculate the acceptable level of residual imbalance for you, thus giving you an acceptable tolerance to work toward. The VB1000-B offers the perfect portable solution to your balancing problems.

### Other Calculations Available:

- **Trial Weight** - Automatically suggested mass value for increased accuracy of balancing set up
- **Split Weights** - Allows a correction weight normally specified at a particular angle to be split and applied at alternative angles
- **Combine Weights** - Calculates combined mass for a particular correction angle
- **Change Radius** - Calculates the change required for the correction of mass at a given radius

**Set Up** - The VB1000-B set up is minimal, quick and easy. Only a few calibration runs are required with, or without, removing your trial weight.

**Memory** - The VB1000-B stores your previous balance data. No need to waste valuable time performing calibration runs on repetitive or routine balance jobs.

**Balance** - Imbalance is computed quickly and the display indicated the angular position for weight correction.

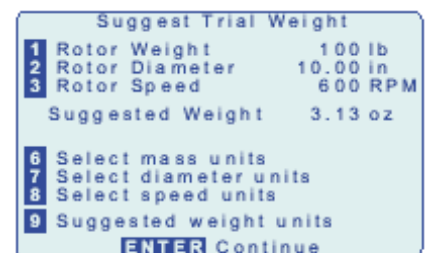
**Reporting** - Balancing reports, including Customer and Machine details can be printed directly from the VB1000-B to a thermal printer for the spot reports.



Main Menu



ISO 1940 Calculator



Trial Weight Calculator



Specifications	VB1000-B	Remarks
<b>Accelerometer Input</b> Number of channels Type Sensitivity Connector Input impedance Voltage swing Sensor excitation current Sensor excitation voltage	2 channels 2-wire, low impedance piezoelectric 100 mV/g BNC 500 k Ohms 18V peak-to-peak 2.2 mA 24V maximum	Can be used in single or dual channel mode Commonly termed "ICP type"  Safety feature: break-free inline connector  AC coupled input, allows for +/-8V sensor output swing (80g) 2.2 mA required for ICP type accelerometer At sensor terminals with sensor attached
<b>Tachometer Input</b> Sensor Optical sensor range Speed range Input type Pulse rating Supply (output)	Optical sensor with reflective tape 20 mm to 1 m nominal 30-65,000 rpm (0.5-1.08 kHz) Optically isolated, accepts TTL pulse 2.5V(4mA)min, 10V(27mA)max, <0.8 off 7.2V nominal (6.0-9.5V) instrument bat.	Sensor triggered by reflective tape reflects its beam Dependent on size of reflective tape  Triggers on positive edge Available to power sensor. Protected by 0.1A PTC
<b>Parameter Indication</b> Measurement types Maximum levels Minimum levels Units Frequency display Accuracy Frequency response	Acceleration, Velocity, Displacement +/-80g (800m/s <sup>2</sup> ), +/-4 in/sec (100mm/s), +/- 400mil (10mm) 0.01g (0.1m/s <sup>2</sup> ), 0.0004in/sec (0.01mm/s), 0.01 mil (0.2 um) G or m/s <sup>2</sup> , in/s or mm/s, mil or mm or um Hz, cpm +/-1% (0.1dB) +/-0.2dB from 10Hz to 5kHz +/-0.5dB from 3Hz to 20kHz	User-selectable Zero-to-peak. Approximate, dependent on calibration  Zero-to-peak. Approximate, dependent o machine RPM  Zero-to-peak, peak-to-peak, or rms  Measured at 100Hz, 23 +/- 5 Deg. C From value measured at 100Hz
<b>Logging features</b> Screen display Output formats Data storage Data storage format	Rpm, Hz, 1X Amplitude, phase angle Text format via serial comms 200 balance jobs 200 named machines	For selected amplitude type, phase angle in degrees Can be pasted into spreadsheet programs  User-specified machine names (16 characters)
<b>Balancing modes</b> Angle measurement Weight modes Remove trial weights Filter bandwidths Manual data entry	With rotation, against rotation Angle 0-360 degrees, fixed position Yes, No 15cpm, 150cpm Yes	User selectable E.g. Attach weights on fan blades  Allows re-entry of previous balance jobs
<b>Display</b> Resolution Viewing area Backlight	Graphic LCD 240 x 128 pixels 4.3" x 2.3" Electro-luminescent	
<b>PROFLASH</b>	Allows firmware to be upgraded via built-in serial port	Download firmware service packs via the internet
<b>Communications</b> Baud rate	RS232 57600 bits per second	15kV ESD protected. Cable with DB9 connector
<b>Battery</b> Type Voltage Capacity Operating time	Custom Nickel-Cadmium pack 7.2 volts nominal 1500mAh nominal 9 hours with backlight off, 6 on	Depends on mode and setup
<b>Charger &amp; Conditioner</b> Charge rate Discharge rate	Integral charger - automatic and manual control 0.7A nominal 0.5A nominal	Power transformer with 13.5 +/- 1.5 VDC 1A output included  2.5 hours for complete charge Combats NiCad battery memory effect
<b>Mechanical</b> Size Weight	9.7"W x 6.1"L x 3.0"H 4.4 lb (2kg)	Including protective boot Including protective boot and strap
<b>Environment</b> Temperature/Humidity Operating Storage EMC	32 Deg. F to 122 Deg F (0-50 Deg. C) 80%RH32-86 Deg F/70% 86-122 Deg F 14-140 Deg.F (-10-60 Deg. C)/ 95%RH EN50081-1 EN50082-1	Non-condensing Non-condensing  Radiated and conducted emissions RF field, ESD and fast transient immunity