

Model 236

Digital Balancing Instrument



FOR USE WITH SOFT & HARD BEARING BALANCING MACHINES

DESCRIPTION:

The Model 236 is an easy to use, microprocessor-based Balancing Instrument with unmatched performance in balancing all types of rotors on soft and/or hard bearing balancing machines. In addition, the 236 can be used for replacing outdated instruments to improve the performance of older machines. Anyone can use the 236 to balance rotors with only basic training. Once the instrument is calibrated, the operator simply needs to spin the rotor and read the unbalance corrections on the fluorescent display screen. The 236 is ideal for use in Production as a 'Quality Tool' and in high precision balancing applications, such as for machine tool spindles.

GENERAL SPECIFICATIONS:

- Balancing Speed Range: 60 to 80,000 RPM
- Amount Readout: Auto-Ranges between 0.001 to 5,000 micrometers p-p (0.0001 to 199 mils p-p) or 0.0001 to 228 mm/sec pk (0.0001 to 9 in/sec pk)
- Filter: Dual, narrow band shaft-synchronous digital tracking filters, with averaging
- Number of Balance Planes: 1 or 2
- Calibration Methods: Trial Weights or Permanent (Hard Bearing machines only)
- Display: Dual Channel, large Fluorescent Alphanumeric, 2 lines x 40 characters per line



- Numeric keypad with 6 Function keys for data entry
- Unbalance Readout: g mm, g in, oz in, grams or ounces
- Vibration Readout: micrometers, mils, millimeters/second or inches/second
- Unbalance Tolerance determination for User specifications
- Color indicator Lights and Relay for "In Tolerance" and "Out of Tolerance" annunciation
- Display of Dynamic (Left/Right) Unbalance or Static/Couple Unbalance
- Display of correction angles for adding or removing rotor balance weights
- Unbalance Display in Digital Format
- Rotor Memory storage for up to 50 different rotors internally
- Automatic Vector Splitting of unbalance corrections
- Vector Addition of unbalance corrections for combining weights
- Electronic Compensation for tooling errors caused by cardan shafts or adapters
- Electronic Compensation for keys and keyways
- Automatic, Semi-Automatic or Manual Balance mode cycles (Spin/Measure/Stop) For Production Applications
- Customized Headings on Balance Reports (with external computer)
- Serial RS232 interface to send balance data to an external computer
- Desktop or Rack Mount Configuration:
 - 450 x 316 x 238 mm (LengthxWidthxHeight)
 - Weight: 8.6kg (19 lb) (no accessories)
 - Power Supply: 115/230VAC
- Switch Selectable Language Options: English, German, French, Italian and Spanish
- Angle encoder input for the display of the unbalance position (requires 1024 ppr external encoder, not included)

OPTIONAL FEATURES:

- Printer: Full size printer

STANDARD CONFIGURATIONS:

236 Package	Brief Description	Detailed Description
E00302	Basic Instrument only	Model 236 for applications where all accessories (vibration sensors, photocells, mounting brackets and cables) are already available. This package includes the 236 instrument, three power cables (US, UK and European), operation manual and PC communications disk.
E00303	Instrument and Accessories for IRD Soft Bearing Balancing Machines (B5-B200)	Model 236 for new or existing IRD Soft Bearing Balancing Machines – B5-B200. Accessories, in addition to those included in the E00302 Package, include two 546DP (direct prod) sensors, photocell, photocell reflective tape, photocell mounting arm assembly and all cables.
E00304	Instrument and Accessories for IRD Tabletop Balancing Machines (B01-B02)	Model 236 for use with IRD tabletop balancers. Accessories, in addition to those included in the E00302 Package, include two 546DP (direct prod) sensors with magnetic tips, photocell, photocell reflective tape and all cables.

	E00302 Package (236 Basic Instrument) includes
E78012-1	Model 236 Balancing Instrument
E72658	PC communications software floppy disk(3-1/2")
E78031	Operation manual for 236 Balancing Instrument-English
E19643	AC Power Supply Cable with US plug, 120VAC, 3 m
E41874	AC Power Supply Cable with UK plug
E41554	AC Power Supply Cable with European plug
	E00303 Package (B5-B200 Balancing Machine) includes
E00302	236 Basic Instrument Package
E11194	546DP Vibration sensor with magnetic tip & mounting bracket, Qty. 2
E21000	Speed sensor, reflective tape trigger, 25-610 mm range
E21200	Reflective tape for use with speed sensor, 47.5m/150'
E04690	Cable for 544/546DP vibration sensor, 7.6m/25', Qty. 2
E10179	Cable for P/N E21000 photoelectric speed sensor, 7.6m/25'
E26720	Universal holder for mounting speed sensor on machine

	E00304 Package (B01-B02 Balancing Machine) includes
E00302	236 Basic Instrument Package
E02785	546DP Vibration sensor, Qty. 2
E10170	Magnetic tip for 546DP vibration sensor, Qty. 2
E04521	Cable for use with 544/546DP vibration sensor, 3.7m/12', Qty. 2
E21000	Photoelectric speed sensor, standard, reflective tape trigger, 25-610 mm range
E21200	Reflective tape for use with speed sensor, 47.5m/150'
E11689	Cable for P/N E21000 photoelectric speed sensor, 1.5m/5'
E48414	Cable to connect to the angle encoder connector of the machine, 1.8m/6'
-	Miscellaneous mounting hardware

	Options, Accessories and Supplies
E48891	Rack mounting kit. Allows 236 to be mounted in a standard 483mm (19") rack mount cabinet.
E72658	PC communications software diskette (3-1/2")
E78031	Operation manual for 236 Balancing Instrument-English
E19643	AC Power Supply Cable with US plug, 120VAC, 3 m
E41874	AC Power Supply Cable with UK plug
E41554	AC Power Supply Cable with European plug
E41626	AC Power Supply Cable with Australian plug
E02785	546DP Vibration sensor only – no magnetic tip or mounting bracket
E11194	546DP Vibration sensor with magnetic tip, mounting bracket and hardware
E10170	Magnetic tip for use with 546DP vibration sensor
E04915	Cable for use with 544/546DP vibration sensor, 1.2m/4'
E04521	Cable for use with 544/546DP vibration sensor, 3.7m/12'
E04690	Cable for use with 544/546DP vibration sensor, 7.6m/25'
E04691	Cable for use with 544/546DP vibration sensor, 15m/50'
E05202	Cable for use with 544/546DP vibration sensor, 22.9m/75'
E04692	Cable for use with 544/546DP vibration sensor, 30m/100'
E23700	Cable for use with 544/546DP vibration sensor whip indicator, has 90 deg connector at sensor, 22.9m/75'
E37668	Cable for use with self powered force or vibration sensors, flying leads, 7.6m/25'
E31506	Cable for use with hard bearing machine sensors with 6 pin Epic connectors, 7.6m/25'
E21000	Photoelectric speed sensor, standard, reflective tape trigger, 25-610 mm range
E21200	Reflective tape for use with speed sensor, 47.5m/150'
E11689	Cable for P/N E21000 photoelectric speed sensor, 1.5m/5'
E10179	Cable for P/N E21000 photoelectric speed sensor, 7.6m/25'
E25863	Cable for P/N E21000 photoelectric speed sensor, 15.2m/50'

	Options, Accessories and Supplies (cont)
E47240	Laser speed sensor, 5Vdc, reflective tape trigger, 100- 2000 mm range
E47244	Cable for laser sensor to 236,246,290, 5m/16.4'
E47246	Cable for laser sensor to 236,246,290, 10m/32.8'
E47255	Infrared speed sensor, 12Vdc, light/dark trigger, 100-150 mm range
E47254	Cable for infrared speed sensor to 236,246,290, 10m/32.8'
E47164	Printer, 9 Pin Dot Matrix, continuous paper, 120VAC 50/60Hz only
E47164-230	External Printer, 9 Pin Dot Matrix, continuous paper, 230VAC 50Hz
E43497	Parallel Printer cable, 1.8m/6'
E47163	Cut sheet paper feeder for printer P/N E47164
E34752	Cable for use with angular location sensor, 1.8m/6'. Normally included with IRD Balancing Machines.
E26720	Universal mounting arm for speed sensor. Mounts to back of pedestal or modular work support.
E26383	Magnetic flex arm holder for speed sensor
E34599	Angular location sensor assembly with 7.6m/25' cable. Note motor shaft mounting kit not included. Please call with motor shaft diameter for proper mtg. kit.
E42002	Switch Box for connecting vibration sensors and speed sensor between Two Balancing Machines and one 236. Uses sensors and cables from balancing machines.
E19061	Magnetic base angle indicator, attaches to rotor to help locate unbalance angle.
E47165	Scale, 120 gram capacity, portable, battery operated.
E11820	Balancing wax, sold by the pound
E32147	Epoxy balancing weight compound, 2 lb package
E04753	Balancing weights, steel, set of 16, C-shaped with set screw
E11946	Balancing clips for squirrel cage fans, steel, (7 sizes of 100 ea)

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Specifications are subject to change without prior notice.

Publication No: BAL-301-EN-4 (Revised 10 Jun 2008)

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Part Number E51204