

Model 290 SERIES Balancing Instrument



FOR USE WITH SOFT & HARD BEARING BALANCING MACHINES

DESCRIPTION:

The 290 Series III is the latest version of the Model 290 and now incorporates an enhanced Pentium© based CPU and internal flash drive permitting faster operation and efficient data storage. Improved internal components and manufacturing techniques mean lower power consumption and greater reliability.

This instrument is easy to use and can replace outdated instruments and improve the performance of Soft and/or Hard bearing balancing machines. The touch activated LCD screen allows quick data entry. Screen prompts and online help assist the operator in obtaining fast accurate results. The 290 electronics provides a wide range of balancing speeds, high measurement accuracy and unique signal filtering. Low speed precision balancing is a major feature of the Model 290.

GENERAL SPECIFICATIONS:

- Balancing Speed Range: 30 to 6,000 RPM
- Amount Readout : Auto Ranges between 0.01 to 5,000 micrometers p-p (0.001 to 199 mils p-p)
- Filter : Dual, narrow band shaft synchronous, digital tracking filters, with averaging
- Number of Balance Planes : 1 or 2
- Calibration Methods : Trial Weights, Auto Calibration or Permanent (Hard Bearing machines only).
- Display: High resolution (480 x 640 Pixels) flat Color LCD Video Display (260 mm diagonal)
- Help Keys for On Line Instrument Information. Application help for various balance topics.
- Touch activated LCD screen for user input (numeric keypad and ASCII keyboard on demand)



- Unbalance Readout : g mm, g in, oz in, grams or ounces
 - Vibration Readout : micrometers or mils (on soft bearing machines)
 - Unbalance Tolerance determination for ISO, API, MIL-SPEC or User specifications.
 - Colored indication for "In Tolerance" and "Out of Tolerance" Balance Conditions.
 - Display of Dynamic (Left / Right) Unbalance or Static / Couple Unbalance.
 - Display correction angles for independently adding or removing rotor balance weights.
 - Unbalance Display in Digital Format or combined Polar / Digital Format.
 - Rotor Memory storage for up to 500 different rotors internally; unlimited on external disks
 - 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
 - Semi Automatic or Manual Balance mode cycles. (Spin / Measure)
 - Customized Balance Reports on optional external printer
 - Free standing configuration: -520x400x345 mm (LengthxWidthxHeight)
-Net Weight: 20 kg (44lb) (no accessories)
-Power Supply: 115/230VAC
 - Language Selection: English, French and Spanish
 - Angle encoder input for the display of the unbalance position (requires 1024 ppr external encoder, not included)
- ### OPTIONAL FEATURES:
- Angle encoder for the display of the angular position of the rotor
 - Printer and Printer cable: Full size, Hewlett Packard Desk Jet



| STANDARD CONFIGURATIONS: | | |
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| 290 Package | Brief Description | Detailed Description |
| E44000-1 | Basic Instrument only | Model 290 for applications where all accessories (vibration sensors, photocells, mounting brackets and cables) are already available. This package includes the 290 instrument, power cable, operation manual, software installation disk and vinyl dust cover. |
| E00577 | Instrument and Accessories for Soft Bearing Balancing Machines (B5-B200) | Model 290 for new or existing Soft Bearing Balancing Machines. Accessories, in addition to those included in the E44000-1Package, include: two Model 546DP sensors, photocell, photocell reflective tape, photocell mounting assembly and all cables. |
| E00579 | Instrument and Accessories for Soft Bearing Roll Balancing Machines (B200R-B1500R) | Model 290 for new or existing Soft Bearing Balancing Machines/Pedestals. Accessories, in addition to those included in the E44000-1Package, include: photocell, photocell reflective tape, photocell mounting assembly with tubes/brackets and all cables. |
| E00610 | Instrument and Accessories for Large Capacity Balancing Pedestals (BP2000-BP5000) | |
| E45309 | Instrument, Accessories and Printer for Large Capacity End Drive Machines (B500-B140) | Model 290 for new or existing Soft Bearing End Drive Balancing Machines. Accessories, in addition to those included in the E44000-1Package, include: two Model 546DP sensors, printer and all cables. |
| E00599 | Instrument and Accessories for Hard Bearing Machine Upgrade | Model 290 for new or existing Hard Bearing Balancing Machines. Accessories, in addition to those included in the E44000-1Package, include: photocell, photocell reflective tape, photocell mounting assembly and cable. Two sets of sensor cables are also included in the package (Details of existing sensors are required). |

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| | E44000-1 Package (290 Basic Inst.) includes |
| E45106 | Software Installation disk |
| E36218 | Vinyl dust cover |
| E43490-1 | Operation manual for 290 Balancing Instrument-English |
| E19643 | AC Power Supply Cable with US plug, 120VAC, 3 m |
| | E00577 Package (B5-B200 Balancing Machine) includes |
| E44000-1 | 290 Basic Instrument Package |
| E21000 | Speed sensor, reflective tape trigger, 25-610 mm range |
| E21200 | Reflective tape for use with speed sensor, 47.5m/150' |
| E26720 | Universal holder for mounting speed sensor on machine |
| E10179 | Cable for P/N E21000 photoelectric speed sensor, 7.6m/25' |
| E11194 | 546DP Vibration sensor with mag. tip & mtg. bracket, Qty. 2 |
| E04690 | Cable for 544/546DP vibration sensor,7.6m/25', Qty. 2 |
| | E00579 Package (B200R-B1500R Roll Balancing Machine) includes |
| E44000-1 | 290 Basic Instrument Package |
| E21000 | Speed sensor, reflective tape trigger, 25-610 mm range |
| E21200 | Reflective tape for use with speed sensor, 47.5m/150' |
| E26720 | Universal holder for mounting speed sensor on machine |
| E10179 | Cable for P/N E21000 photoelectric speed sensor, 7.6m/25' |

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| E11194 | 546DP Vibration sensor with mag. tip & mtg. bracket, Qty. 2 |
| E04915 | Cable for 544/546DP vibration sensor,1.2m/4', Qty. 2 |
| E05202 | Cable for 544/546DP vibration sensor,22.9m/75', Qty. 2 |
| E34752 | Cable for use with angular location sensor, 1.8m/6' |
| E36234 | End-Thrust Tube 812mm/32" for mounting speed sensor holder, P/N E26720 |
| E36239 | Flange bracket for mounting P/N E36234 tube |
| - | Miscellaneous mounting hardware |
| | E00610 Package (BP2000-BP5000 Balancing Pedestals) includes |
| E44000-1 | 290 Basic Instrument Package |
| E21000 | Speed sensor, reflective tape trigger, 25-610 mm range |
| E21200 | Reflective tape for use with speed sensor, 47.5m/150' |
| E26720 | Universal holder for mounting speed sensor on machine |
| E10179 | Cable for P/N E21000 photoelectric speed sensor, 7.6m/25' |
| E11194 | 546DP Vibration sensor with mag. tip & mtg. bracket, Qty. 2 |
| E05202 | Cable for 544/546DP vibration sensor,22.9m/75', Qty. 2 |
| E36234 | End-Thrust Tube 812mm/32" for mounting speed sensor holder, P/N E26720 |
| E36239 | Flange bracket for mounting P/N E36234 tube |
| - | Miscellaneous mounting hardware |

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| | E45309 Package (B500-B140 End Drive Balancing Machine) includes |
| E44000-1 | 290 Basic Instrument Package |
| E11194 | 546DP Vibration sensor with mag. tip & mtg. bracket, Qty. 2 |
| E04691 | Cable for 544/546DP vibration sensor, 7.6m/50', Qty. 2 |
| E43494 | DeskJet printer, 120VAC |
| E43497 | Parallel printer cable, 1.8m/6' |
| | E00599 Package (For Hard Bearing Balancing Machine Upgrade) includes |
| E44000-1 | 290 Basic Instrument Package |
| E21000 | Speed sensor, reflective tape trigger, 25-610 mm range |
| E21200 | Reflective tape for use with speed sensor, 47.5m/150' |
| E10179 | Cable for P/N E21000 photoelectric speed sensor, 7.6m/25' |
| E26383 | Magnetic flex arm holder for speed sensor |
| E31506 | Cable for use with hard bearing machine sensors with 6 pin Epic connectors, 7.6m/25', Qty. 2 |
| E37668 | Cable for use with self powered force or vibration sensors, flying leads, 7.6m/25', Qty 2 |
| | Options, Accessories, and Supplies |
| 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 |
| 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' |

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| 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' |
| E43494 | DeskJet printer, 120VAC |
| E43497 | Parallel printer cable, 1.8m/6' |
| E34752 | Cable for use with angular location sensor, 1.8m/6' |
| 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 290. Uses sensors and cables from balancing machines. |
| E00584-60H | B5/B5F 60 Hz Automatic Calibration System |
| E00584-50H | B5/B5F 50 Hz Automatic Calibration System |
| E00585-60H | B10/B10F/B10U 60 Hz Automatic Calibration System |
| E00585-50H | B10/B10F/B10U 50 Hz Automatic Calibration System |
| E00586-60H | B50 60 Hz Automatic Calibration System |
| E00586-50H | B50 50 Hz Automatic Calibration System |
| E00587-60H | B20/B50F/B50U 60 Hz Automatic Calibration System |
| E00587-50H | B20/B50F/B50U 50 Hz Automatic Calibration System |
| E00588-60H | B100/B150/B150F/B150U 60 Hz Automatic Calibration Sys |
| E00588-50H | B100/B150/B150F/B150U 50 Hz Automatic Calibration Sys |
| E00589-60H | B200/B200F/B200U/B200R 60 Hz Automatic Calibration Sys |
| E00589-50H | B200/B200F/B200U/B200R 50 Hz Automatic Calibration Sys |
| E26720 | Universal mounting arm for speed sensor |
| E26383 | Magnetic flex arm holder for speed sensor |
| E33678 | Printer paper for older 290s with internal printer (not E44000), qty. 5 rolls |
| E35517 | Rotor Memory disk, 720Kb for 290s manufactured before 1998 (not E44000 or E44000-1). <i>Note: E44000-1 instruments can use standard 1.4 Mb, DOS formatted disks.</i> |
| E19061 | Magnetic base angle indicator, attaches to rotor to help locate unbalance angle. |
| 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) |