

# B Series – B100

## 4500 kg (10000 lb) Capacity

### Horizontal Balancing Machine



**HORIZONTAL AXIS,  
GENERAL PURPOSE,  
SOFT BEARING,  
BALANCING MACHINE**

**DESCRIPTION:**

The B100 is a dynamic, horizontal axis, soft bearing Balancing Machine. This is a precision balancing machine that can be used with any IRD Balancing instrument. It is suited for balancing medium weight rotors such as motor armatures, fans, turbines, etc. The machine is constructed from heavy gauge steel weldments and can be mounted to existing shop floors without the need for a special foundation. Two work supports with rollers are used to support the rotor journals. The left work support has a built in height adjustment to accommodate rotors with unequal journal diameters. One work support pedestal can be moved on the machine bed to accommodate different length rotors. The drive system consists of a DC variable speed motor with a belt drive. The motor controller is mounted inside the control console and is equipped with regenerative braking for quick stops. The B100 is supplied completely wired and ready to connect to existing input power. Optional instrument packages, V-Block rotor work supports, drive power systems and negative load hold downs are available.

**GENERAL SPECIFICATIONS:**

- Weight Capacity: 4500 kg (10000 lb)
- Max. Rotor Dia.: 2921 mm (115 inches)
- Maximum Sensitivity: 10 g mm (0.4 g in)
- Standard Bed Length: 2134 mm (84 inches)



- Journal Diameter Range: 25 - 381 mm (1 - 15 inches)
- Journal-to-Journal Separation: 203 - 1905 mm (8 - 75 inches)
- Drive Type: Underslung Belt Drive with manual belt tensioning
- Drive Motor (std): DC 7.5 kW (10 HP) Variable speed motor with encoder
- Balancing Speed Range: 250 to 4000 RPM
- Number of Balance Planes: 1 or 2
- Encoder output port: Used by IRD Balancing instruments for determining rotor angular position
- Standard Accessories: (5) Flat drive belts, (2) roller work supports, suspension motion locks, end thrust assemblies, motor control console.
- General configuration (without rotor):
  - Dim: 4267 x 1676 x 1562 mm (l x w x h) (168 x 66 x 61.5 in) (l x w x h)
  - Weight: 1497 kg (3300 lb)

- General configuration (continued)
  - Power (std): 460VAC, 3 ph, 50 or 60 Hz
  - Temperature: Operating 0 to +40° C

**OPTIONAL FEATURES:**

- Rotor Safety Hold Downs
- V-Block Rotor Work Supports
- Negative Load Hold Downs
- Narrow Width Roller Work Supports
- Bed extensions
- 236 Digital Balancing Instrument
- 246 Portable Balancing Instrument
- 290 Touch Screen Balancing Computer
- Larger drive motor
- External transformers for other voltages

## STANDARD CONFIGURATIONS:

| B100 Basic Machine | Brief Description   | Detailed Description   |
|--------------------|---|--|
| E33100             | Complete B100 Balancing Machine with 7.5 kW (10 HP) 2500 RPM, DC motor for <b>460VAC, 3 phase</b> , 50 or 60 Hz Operation                   | Complete B100 Balancing Machine includes a machine bed, 2 pedestals (the left pedestal has height adjustment and is movable along the length of the bed), 2 roller work supports, drive motor with encoder, motor controller with regenerative braking and drive belts. For 460 VAC operation. This machine does not include a balancing instrument or sensors which must be purchased separately. |
| E34000             | Complete B100 Balancing Machine with 11.2kW (15 HP) 2500 RPM, force ventilated, DC motor for <b>460VAC, 3 phase</b> , 50 or 60 Hz Operation | Same as E33100 above, except for 11.2 kW (15 HP) DC motor.   |

| Part Number | E33100 and E34000 include  |
|-------------|--|
| -           | Basic B100 balancing machine with machine bed, pedestals, drive motor, control console and motor controls  |
| E12220      | Flat drive belt, 25 mm wide x 4572 mm long (1 x180 in)   |
| E12228      | Flat drive belt, 25 mm wide x 5334 mm long (1 x210 in)   |
| E33201      | Flat drive belt, 25 mm wide x 5969 mm long (1 x235 in)   |
| E11705      | Flat drive belt, 25 mm wide x 6502 mm long (1 x256 in)   |
| E33202      | Flat drive belt, 25 mm wide x 7112 mm long (1 x280 in)   |
| E11698      | Roller Work supports, with two 100 mm dia x 40 mm wide rollers (4 x 1.6 in), 2 included  |
| E07951      | Height adjustment module with 76 mm (3 in) vertical adjustment. Fitted on left pedestal  |
| E08102      | Fixed height module. Fitted on right pedestal.   |
| E08850      | Adjustment bar for height adjust module, E07951  |
| E36240      | End thrust assemblies, 2 included  |
| E33148      | Operation manual for B100 Balancing System-English   |
| Part Number | Balancing Instrument Options   |
| E00303      | Model 236 Digital Balancing Instrument with all accessories needed for balancing. Includes the 236 Balancing Instrument, two 546DP (direct prod) vibration sensors with brackets and magnetic tips, photoelectric speed sensor, reflective tape and all cables.    |
| E00310      | Model 246 Portable Balancing Instrument with all accessories needed for balancing. Includes the 246 Balancing Instrument, two 546DP (direct prod) vibration sensors with brackets and magnetic tips, photoelectric speed sensor, reflective tape and all cables.   |
| E00577      | Model 290 Touch Screen Balancing Computer with all accessories needed for balancing. Includes the 290 Balancing Instrument, two 546DP (direct prod) vibration sensors with brackets and magnetic tips, photoelectric speed sensor, reflective tape and all cables. |

**web:** [www.irdbalancing.com](http://www.irdbalancing.com)  
**email:** [sales@irdbalancing.com](mailto:sales@irdbalancing.com)

| Part Number | Other Options, Accessories, and Supplies   |
|-------------|--|
| E12060      | Rotor safety hold down with counter roller, 2 recomnd'd  |
| E07416      | V-block Rotor Work Supports, 2 recommended   |
| E13444      | V-Block pivot assembly. Fits under V-Block, E07416, 2 rec'd  |
| E11610      | Negative load hold down assembly for rotors with an outboard center of gravity. Fits E11698 roller work support and B100 pedestal suspension.  |
| E11785      | Replacement roller for standard E11698 roller work support, 100 mm dia x 40 mm wide, 2 req'd per support.  |
| E11784      | Large diameter roller, 150 mm dia x 49 mm (5.9 x1.9 in), fits directly in E11698. 2 required per roller work support.  |
| E07379      | Narrow width roller work support, pivoting, built-in 23 mm (.94in) height adjustment, with two 80 mm dia x 35 mm wide rollers (3 x 1.38 in). Weight capacity: 1100 kg (2500 lb) each work support. |
| E10491      | Bed extension 1200 mm (48 in) long   |
| E11806      | Bed extension 2100 mm (84 in) long   |
| E10492      | Bed extension 3400 mm (132 in) long  |
| E47334      | 10/15 HP air actuated, holding brake kit with drive pulley, brake disk and caliper for E33100 and E34000 machines. (1.375 inch motor shaft diameter, Reliance motor only)                          |
| E39490      | Safety enclosure (perimeter fence) for machine, non-interlocked  |
| E02785      | 546DP Vibration sensor only- no bracket or magnetic tip  |
| E10170      | Magnetic tip for 546DP vibration sensor  |
| E11194      | 546DP Vibration sensor, magnetic tip and mtg. bracket kit  |
| E21000      | Photoelectric speed sensor, standard, reflective tape trigger, 25-610 mm (1-24 in) range   |
| E21200      | Reflective tape for use with speed sensor, 47.5m (150 ft)  |
| E11820      | Balancing wax, sold by the pound   |
| E32147      | Epoxy balancing weight compound kit, 2 lb package  |
| E04753      | Balancing weights, set of 16, C-shaped with set screw  |
| E11946      | Balancing clips for squirrel cage fans (7 sizes of 100 ea)   |

### IRD Balancing Offices (IRD LLC)

USA: Global Headquarters and Factory- IRD LLC, 4740 Allmond Ave, Louisville, KY 40209 USA

Tel: (1) 502 366 0916 or (1) 888 473 2251 (US Toll Free) Fax: (1) 502 238 1001

Europe/UK: IRD UK Ltd, International House, Aviation Park, Flint Road, Saltney Ferry, Chester CH4 0GZ, UK

Tel: +44 (0) 1244 538 170

Fax: +44 (0) 1244 528 900

Mexico: IRD Balancing-Mexico S. de R. L. de C.V., Miguel G. Kramer #29, Col. Atlantida, Mexico D.F., MX 04370

Tel: +52 55 5689 8325

Fax: + 52 55 5689 8160

Specifications are subject to change without prior notice.

Publication No: BAL-311-EN-2 (Revised 16 Jun 2008)

Copyright © 2008 IRD LLC (IRD® Balancing). All rights reserved.

Part Number E51218