

# B Series – B20

## 900 kg (2000 lb) Capacity

### Horizontal Balancing Machine



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

**DESCRIPTION:**

The B20 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 small 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. Each 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 B20 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: 900 kg (2000 lb)
- Max. Rotor Dia.: 1143 mm (45 inches)
- Maximum Sensitivity: 4 g mm (0.16 g in)
- Standard Bed Length: 1400 mm (55 inches)



- Journal Diameter Range: 19 - 330 mm (0.75 - 13 inches)
- Journal-to-Journal Separation: 152 - 1257 mm (6 - 49.5 inches)
- Drive Type: Underslung Belt Drive with manual belt tensioning
- Drive Motor (std): DC 2.2 kW (3 HP) Variable speed motor with encoder
- Balancing Speed Range: 250 to 6000 RPM
- Number of Balance Planes: 1 or 2
- Encoder output port: Used by IRD Balancing instruments for determining rotor angular position
- Standard Accessories: (3) Flat drive belts, (2) roller work supports, suspension motion locks, end thrust assemblies, motor control console.
- General configuration (without rotor):
  - Dim: 3556 x 940 x 1168 mm (l x w x h) (140 x 37 x 46 in) (l x w x h)
  - Weight: 635 kg (1400 lb)
- General configuration (continued)
  - Power (std): 230VAC, 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
- Large Diameter Rollers
- Narrow Width Roller Work Supports
- 236 Digital Balancing Instrument
- 246 Portable Balancing Instrument
- 290 Touch Screen Balancing Computer
- External transformers for other voltages

## STANDARD CONFIGURATIONS:

B20 Basic Machine	Brief Description	Detailed Description
E30400	Complete B20 Balancing Machine with 2.2 kw (3 HP), 1750 RPM DC motor for <b>230VAC, 1 phase</b> , 50 or 60 Hz Operation	Complete B20 Balancing Machine includes a machine bed, 2 pedestals (the left is movable along the length of the bed), 2 height adjustable roller work supports, drive motor with encoder, motor controller with regenerative braking and drive belts. For 230 VAC operation. This machine does not include a balancing instrument or sensors which must be purchased separately.

Part Number	E30400 includes
-	Basic B20 balancing machine with machine bed, 2 pedestals, drive motor, control console and motor controller.
E27718	Flat drive belt, 25mm wide x 3175mm long (1 x 125 in)
E12438	Flat drive belt, 25mm wide x 3683mm long (1 x 145 in)
E12219	Flat drive belt, 25mm wide x 4191mm long (1 x 165 in)
E07379	Roller work supports, pivoting, built-in 23 mm (.94in) height adjustment with (2) 80mm diax35mm wide rollers (3x1.38 in). 2 included.
E07417	End thrust assemblies, 2 included
E05140	Spanner wrench for adjusting work support height
E33466	Operation manual for B20 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.

Part Number	Other Options, Accessories, and Supplies
E10427	Rotor safety hold down with counter roller. Fits E07379 roller work support, 2 recommended
E07416	V-Block Rotor Work Supports, 2 recommended
E48306	V Block height adjust assembly, 23 mm (.94in), with pivoting for use with V-block, E07416, 2 recommended
E13169	Negative load hold down assembly for rotors with an outboard center of gravity. Fits E07379 roller work support and B20 pedestal suspension.
E13165	Replacement roller for standard E07379 roller work support, 80mm dia. x35mm, 2 required per work support.
E11360	Large diameter roller, 125mm diax40mm (4.9x1.56in), fits directly in E07379. 2 required per roller work support.
E13400	Narrow width roller work support, pivoting, no height adjustment with (2) 76mm diax13mm wide rollers (3x.5 in). Weight capacity 340 kg (750 lb) each work support
E18608	Height adjust assembly, 23 mm (.94in), non-pivoting, for use with narrow width roller work support P/N E13400
E29537	Fixed height assembly, non-pivoting, for use on opposite side when using height adjust, E18608, and E13400
E23630	Bed extension 1397 mm (55 in) long
E37749	Sliding safety enclosure 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
E04690	Cable for use with 544/546DP vibration sensor, 7.6m/25'
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)
E10179	Cable for use with E21000 photoelectric speed sensor, 7.6m/25'
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)

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

### 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-310-EN-2 (Revised 16 June 2008)

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

Part Number E51217