



Vibrations Mat Instrument

BALANCING MACHINE BM400

Technical Specification

1. GENERAL DESCRIPTION

1.1. Balancing Machine

The balancing machine is a dynamic soft bearing machine with horizontal axis.

An AC motor, with variable speed, drives the balancing machine through a belt drive system. The machine can be mounted on a reinforced concrete basement or rigid table (250 ...300 mm height) for better operating conditions.

1.2. Support and bearings

- The BM400 Balancing Machine can be used for rotor weight up to 400 kg.
- Bearing rollers of 52 mm and 75 mm diameter are provided (2 pair each).

1.3. Transducers

The vibration transducers are displacement non-contact inductive sensors with a measurement range of ± 4.0 mm and 1.2 mV/ μ m sensitivity.

The speed and phase sensor is a reflection proximity switch, type Sensopart FT20. This sensor has a scanning range between 10 and 300 mm.

1.4. Speed controller

The VMI Speed Control Panel is equipped with an Altivar frequency converter. The motor speed can be adjusted continuously between 0 and 1500 RPM. The recommended balancing speed is 400 to 800 RPM.

Optional Accessories:

- Optical Encoder for Angle Indicator
- Rotor Safety Hold Down Assembly
- Negative Load Hold Down Assembly

2. SPECIFICATIONS

Rotor Mass and Unbalance Limitations

- | | |
|------------------------------|--------|
| • Maximum Weight Capacity | 400 kg |
| • Maximum Weight per Support | 200 kg |
| • Minimum Weight | 10 kg |

Rotor Dimensions

- | | |
|---|--------------|
| • Maximum Rotor Diameter with Maximum Journal Diameter, D | 1200 mm |
| • Maximum Distance between Rotor Bearing Centrelines, L1 _{max} | 1280 mm |
| • Minimum Distance between Rotor Bearing Centrelines, L1 _{min} | 260 mm |
| • Shaft journal diameter range | 13 to 180 mm |



Unbalance under ideal rotor conditions

0.003 mm mass center displacement per plane at minimum rotor weight;

Unbalance Reduction Ratio 95%

Drive System

- Type of Drive Belt;
- Motor 2.2kW AC-Variable Speed Controlled;
- Supply Voltage 380 VAC +/- 10%, 3 Phase, 50/60 Hertz.

Balancing Speed

Variable from 400 RPM;
Lower speeds obtainable with reduction in minimum achievable residual unbalance;
Balancing Speeds depends upon journal diameters, rotor diameters, and pulley ratios.

Belt Speed

30 to 1200 m/min.

MACHINE COMPONENTS

Machine Dimension

- Length 1480 mm
- Width 770 mm
- Height 830...860 mm
- Work Supports

Both pedestals can be positioned along base to accommodate various rotor lengths - manually operated.

Belt Drive Assembly

- Drive motor with drive pulley.
- Manually operated belt tensioning with three idler pulleys.
- Drive frame mounted on rollers for positioning along the base – manually operated.