



# VERTICAL BALANCING MACHINE



*Mastering the fine art of testing*

BIE Make Vertical Balancing Machines are extremely robust and resistant to external adverse influences. The rough workshop environment in both one off and large volume production is where vertical balancing machine can prove their strength. Hard bearing type single plane vertical balancing machines are designed after years of experience. Occasional overloading caused by large initial unbalance or rotors which are slightly outside the specified weight range, are never a problem. Regardless of your application requirements, our vertical balancing machine will provide precision unbalance measurement and dependable long term stability.

### **Application - Flexible and Versatile**

Vertical machine applications range from balancing in the repair workshop to fully automatic mass production. Manual, semi or fully automatic processes are available to meet the needs of any balancing requirements. These machines are most suited for balancing of disc type components like flywheels, clutch plate, impellers, etc.

### **Operation - Simple and Logical**

Many practical details in the design of our vertical balancing machines make operation easy. Low space requirements, ergonomic operation and easy loading can make these machines an integral part of your facility. Our vertical balancing machines are permanently calibrated to reduce set up time and eliminates the need for special calibration runs. Accurate indication in balancing unit avoids the necessity of complicated conversions. Moreover unbalance can be directly corrected on the balancing machine speeds up the working process.

### **For corrections of the unbalance in the balancing machines**

- Correction devices such as drilling head attachment or milling attachment, as per requirement of customer can be integrated with the balancing machine to accelerate productivity of the machine.
- Balancing and correction is a single operation means no un-clamping and re-clamping between measuring run and unbalance correction required increased accuracy.
- Ergonomic operation from a single position High operation Reliability.
- Robust mechanical design and durable electronic components for a long service life under severe operating conditions.
- Simple operation of machine and measuring instrument.
- Protection devices and safety measures to ensure safety at work.

### **Measurement units**

The machines are provided with processor of DSP based systems for measurement of unbalance in gms along with angular position. Salient features of the system are as follows:

### **The features of DSP Panels are as under -**

- High speed 150 MHz processor based.
- Compact design. No external hardware.
- Higher accuracy, increased reliability.
- Lowest power consumption (< 50 watts).
- Auto calibration with single key stroke.
- RS232 Serial Interface.
- Adjustable auto cycle according to geometry of job.
- Auto Ranging from 0.1 grams upto Kilograms.
- Auto tolerance indicator in grams & in gram.mm.
- Actual RPM Indicator (Resolution + / - 1 RPM).

# **VERTICAL AUTOMATIC BALANCING MACHINE**

WITH DSP BASED DIGITAL PANEL & UNBALANCE CORRECTION FACILITY,  
MODEL: FVBM -10-A (AUTOMATIC)



## **SALIENT FEATURES :**

The Automatic Vertical Balancing Machine is having following features :

- The machine will have a facility to stop the balancing spindle at desired angular position. Thus after the balancing run the unbalance amount and angle shall be processed by PLC system and desired number of holes at desired position shall be drilled by using drilling head.
- The depth of hole shall be controlled by PLC system.
- The programming of PLC system shall depend upon job drilled or hole depth is to be controlled.
- While drilled is done, the job shall be supported externally so that drilling load is not exerted on Balancing Machine spindle bearings.
- This job support will have pneumatic clamping arrangement to reduce the cycle time.
- The drill sizes is diameter 6 mm.
- A.C. Servo motors of Pansonic make and PLC system of delta make are used considered.
- Production rate will be around 35 pieces / hour / Machine.

**BIE Make Vertical Hard Bearing Single Plane Dynamic Balancing Machine,  
Technical Specification : MODEL : FVBM-M.**

MODEL	UNIT	FVBM-3	FVBM-5	FVBM-10	FVBM-30	FVBM-50	FVBM-100	FVBM-300
Weight of Rotor (Min - Max)	kg	0.3-3	0.5-5	0.5-10	1-30	1.5-50	3-100	10-300
Max. Dia of Rotor	mm	300	400	400	500	500	600	1000
Balancing Speed (n)	rpm	1000	1000	1000	750	600	500	350
Power of Drive Motor	Hp	0.33	0.33	0.75	1.5	1.5	3	5
Acceleration Capability in $GD^2 n^2$	kgmn <sup>2</sup> n <sup>2</sup>	$0.29 \times 10^6$	$0.29 \times 10^6$	$0.37 \times 10^6$	$0.66 \times 10^6$	$0.66 \times 10^6$	$2.28 \times 10^6$	$10.6 \times 10^6$
Mini. Unbalance Mass Measured	gm	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Max. Unbalance Mass Measured	kg	0.2	0.2	0.2	1	1	2	2
Mini. Achievable Unbalance (For Max. Weight of Rotor)	Microns or gmm/kg	0.5	0.5	0.5	0.5	0.5	0.5	0.5

**Machine Conform to IS:13277 / ISO:2953 / ISO:21940**

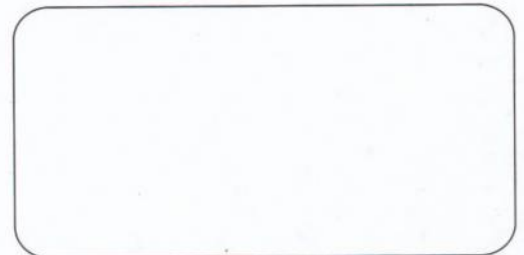
We can also supply Hardness Testers (Rockwell, Brinell, Vickers), Spring Testing Machines, Compression Testing Machines, Tensile Testing machines, Universal Testing Machines, Chain & Rope horizontal Tensile Testing Machines, Dynamic Hardness Testers, Digital Rockwell Hardness Testers, Computersied Brinell & Vickers Hardness Testers, Servo Controlled Universal Testing Machines & Custom Built Testing Machines.

Manufactured By :



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