FIE GROUP

Over 60 years of consistent excellence

Vertical Balancing Machines with Microprocessor Based Measuring Panel

Hard Bearing Models : HDVM & HDVTM



Digital Display

Auto Stop

Simultaneous Indicators

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Machines Model HDVTM are Vertical type single plane Hard Bearing Machine provided with Microprocessor based measuring panel HDVM-8500 for balancing Disc shaped rotors such as Clutch plates , Fan Blades, Fly wheels, Magnetos, Grinding wheels, Impellers etc.

Where as HDVTM are Vertical type two plane hard bearing machines provided with Microprocessor based measuring panel HDVTM-8500 for balancing spinning pots, Spinning spindles etc.

Both type machines feature a very simple operation. The working cycle is fully automatic. From safety point of view a double press push button starts machine, measures and stores the unbalance values on DPMS and stops machine.

Key Board facility provided on measuring panel for correct data feeding of rotor with one digit accuracy for its dimensions like 'RAD', +1 for single plane & w,d,r1,r2+11,+12 for two plane machines.

When rotor is balanced within the limits respective LEDs glow up, indication no further correction is necessary.

For other details please refer standard features of measuring panel HDVM and HDVTM.

Both type of machines are provided with electronic companion software to compensate the unbalance effect due eccentricity between rotating (Spindle) axis & adaptor (Rotor) axis.





HDVM 8500

This Microprocessor based measuring panel suitable for FIE Vertical Single Plane Hard Bearing Balancing Machine.



Vertical Single Plane machine with Optional Vertical or Horizontal Drill Head Attachment.

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STANDARD FEATURES of HDVM-8500 & HDVTM-8500

1) Digital display for unbalance indication

Amount and angle for unbalance for both planes displayed on separate DPMS for HDVTM machine. Hence linear accuracy is very good as compared to analog meter . Accuracy +1 Digit for amount and +1 Degree for angle.

2) Digital display for RPM indication

A DPM is provided to indicate balancing speed continuously as a standard feature.

3) Auto Stop

No necessary to stop machine once started. It stops automatically after stabilization of unbalance results.

4) Simultaneous Indication

Amount and Angle of unbalance in both planes displayed simultaneously and remains displayed (Stored) till next run. This totally eliminates operation of plane selector and reduces additional time for stabilization of readings in other plane.

5) Key-board

Data of rotor dimensions and balancing tolerance i.e. values of A,B,C,R1,R2,tl11,tl12 are fed by key operation. Hence accuracy of data feedings accurate up to 1 digit.

6) Tolerance Indicators

Separate LEDs are provided for both planes which glow when unbalance is reduced within balancing tolerance.

7) Auto Range

Depending upon whether unbalance amount is more or less a respective course or fine range gets automatically selected till rotor gets balanced within tolerances limits.
Multiplier operation is totally eliminated.

8) Data Store

Data of various rotors can be stored against respective rotor type nos. Hence no need of measuring of rotor dimensions or rotor data feeding when repeat balancing operation required. Just call rotor type no. and machine is ready for balancing.

9) Self Check

Panel is provided with "Self-Check" mode which checks proper functioning of digital displays, LEDs is cyclic operation (optional). This helps immediate fault detection.

B) <u>Additional Features on demand for unbalance Correction (Optional).</u>

1) Vertical Drilling attachment with drilling-thrust compensation.
2) Horizontal drilling attachment with drilling-thrust compensation.
3) Welding attachment.
4) Any other attachment as per customers requirement.

C) Printer :

A matrix printer can be connected through 'FIE' software.

D) Compensation Indication :

'FIE' software specially developed with 3-99 component indication, is suitable for balancing of rotor with fixed locations for balancing correction.

TECHNICAL SPECIFICATIONS :

"FIE" Vertical Hard Bearing Single/Two Plane Dynamic Balancing Machine.

MODELS	UNIT	HDVM 10	HDVM 30	HDVM 50	HDVM 100	HDVM 300	HDVTM 5	HDVTM 10
Weight of Rotors	kg	0.5-10	1-30	1.5-50	3-100	10-300	0.2-5	0.5-10
Max. Diameter of Rotor	mm	400	500	500	600	700	300	300
*Balancing Speed (n)	RPM	1000	750	600	500	350	1200	1000
Power of Drive Motor	HP	0.75	1.5	1.5	3	7.5	0.33	0.75
Acceleration Capability ($Gd^2 N^2$)	kgm^2n^2	$0.37x10^6$	$0.88x10^6$	$0.88x10^6$	$3.9x10^6$	$14.12x10^6$	$0.29x10^6$	$0.37x10^6$
Min. Unbalance Mass Measured	g	0.1	0.1	0.1	0.1	1	0.01	0.01
Max. Unbalance Mass Measured	kg	4	4	4	4	4	0.2	0.2
Unbalance Reduction Ratio	%	95	95	95	95	95	95	95
Min. Achievable Unbalance per Rotor wt. (For max. Rotor wt.)	Microns or gmm/kg.	5	5	5	5	5	5	5

- The balancing speed depends upon selection of the rotor diameter, where drive is to be given and the motor pulley diameter.
- All the machines above operate on mains supply of 400 to 440 V, 3Ø, 50 cycles.
- Due to constant R&D, specifications and features are subject to change without notice. The dimensions given above are approximate.

**** PC & Printer is not in our standard scope of supply.***



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Manufactured By :

Fuel Instruments & Engineers Pvt. Ltd.