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Dynamic

Dynamic Balancing Machine

Hard Bearing Models : HDM



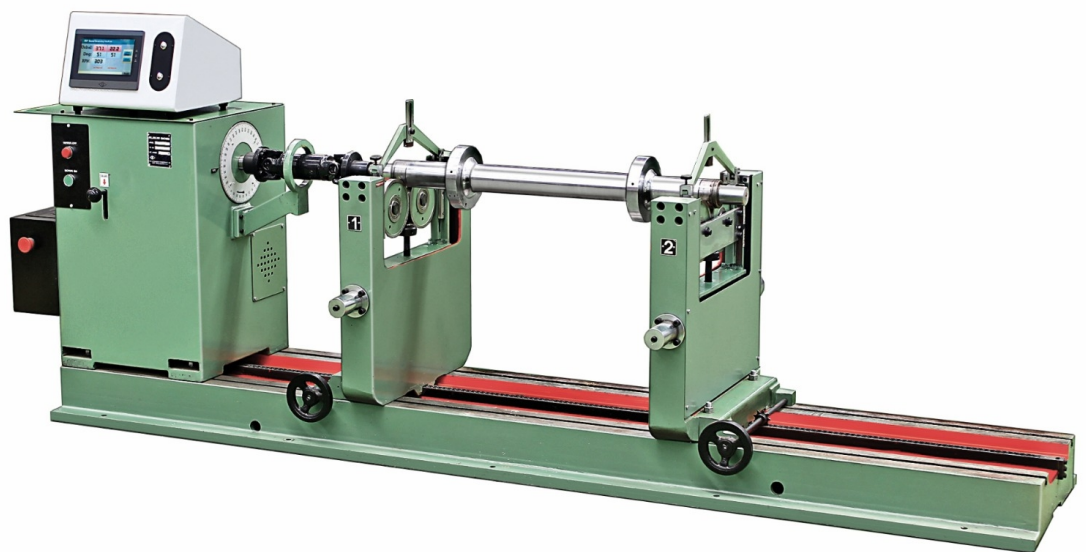
Digital Display



Auto Stop



Simultaneous Indication





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Dynamic Balancing Machines

With Microprocessor Based Measuring Panel
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Machines Model HDM are horizontal type universal hard bearing balancing machines provided with DSP based measuring for balancing different shapes of rotors like rotors of electrical machines, crankshafts, cylinders, Gas Compressors, flywheels, turbine rotors, rotors of centrifugal pumps and any other type of rotors of rotating machines.

These 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 for two planes simultaneously and stops machine (with brake if machine is provided with electrical braking facility). The measuring cycle in general is less than 10 seconds for normal rotors, which can be accelerated within 5 seconds.

To have smooth and gradual acceleration models HDM 3,000/7,000/10,000/20,000 are provided with VFD drive in order not to have damage to drive coupling as well other rotating parts in drive system like gears etc.

Touch screen provided on measuring panel for correct data feeding of rotor with 1 digit accuracy for its dimensions like A, B, C, R1 & R2. Tolerance limits of both correction planes i.e. t1, and t2 can be fed, so that when rotor is balanced within the limits

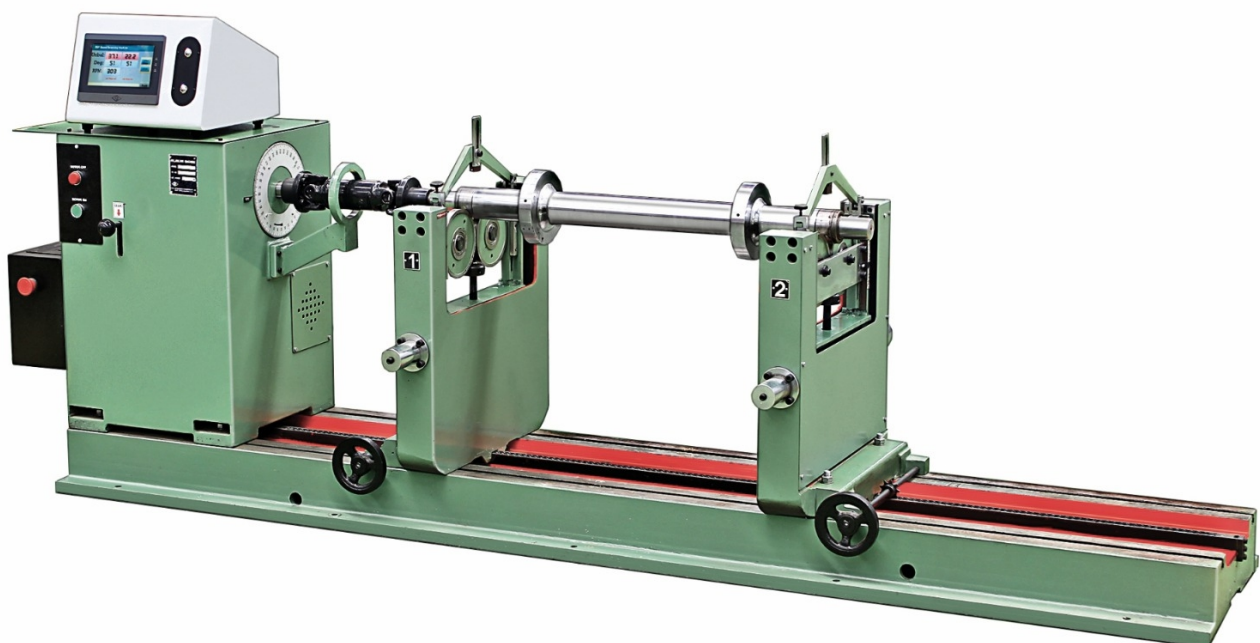
The usable length of machine is established according to the longest rotor to be balanced. Extension beds can be supplied on request, which can be added to standard bed of machine. It is also possible to install an additional bed (Gap bed) with a pit between this bed and standard bed of machine in order to balance rotors having its outside diameter exceeding swing over standard bed. Models HD-7,000/10,000/20,000 are provided with fixed separate drives and hence gap-bed design is not possible.



DSP Based control panel

Panel Features -

1. DSP based ARM controller.
2. Only two potentiometers for Calibration
3. 7" color Touch screen with user friendly GUI.
4. Digital calibration through touch screen HMI.
5. Strong hardware for noise immunity.
6. PC Software for report generations.
7. Upto 10000 results save in Touch panel itself
8. Upto 20 no of rotor data save in panel.
9. USB connectivity for exporting result in CSV format.
10. Variable frequency device for soft start and auto soft stop which illuminates use of hand brake.
11. 0.1gm least count.
12. RS232/RS485 DATA output





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STANDARD FEATURES :

1) Digital display for unbalance indication

Amount and angle for unbalance for both planes displayed on separate DPMS. 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) Touch Input

Touch screen input for user friendly data entry

6) Tolerance Indicators

Green indication shown on the screen when the sample comes within 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 tolerance 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.

TECHNICAL SPECIFICATIONS

“FIE” HORIZONTAL TYPE UNIVERSAL HARD BEARING BALANCING MACHINES

MODELS	UNIT	HDM-10	HDM-30	HDM-50	HDM-100	HDM-300	HDM-650	HDM-1,000	HDM-3,000	HDM-7,000	HDM-10,000	HDM-20,000
Weight of Rotor	kg	0.5-10	1-30	2-50	3-100	10-300	20-650	10-1,000	30-3,000	70-7,000	100-10,000	200-20,000
Max. Weight on each pedestal	kg	7.5	22.5	30	75	180	480	600	1,800	5,250	6,000	12,000
Max. diameter of rotor over bed	mm	600	600	600	1,000	1,000	1,200	1,600	2,000	2,400	2,400	3,000
Max. distance measured from coupling end to extreme bearing centre.	mm	480	480	1,100	1,350	1,350	1,650	1,650	2,400	3,300	3,300	3,200
Min. distance between Roller bearing of pedestals	mm	75	75	75	90	110	300	350	500	560	560	660
Rotor journal dia	mm	5-50	5-50	5-50	15-80	20-120	20-120	25-140	35-200	55-300	55-300	70-300
Balancing speed (n)	RPM	1,000	700	700	600	500	350	300,600	250,500	200,400	200,400	200,400
Power of drive motor	HP	0.33	0.75	0.75	1.5	3	5	7.5	20	30	40	60
Acceleration Capability (GD^2n^2)	kgm^2n^2	0.29×10^6	0.37×10^6	0.37×10^6	0.88×10^6	3.9×10^6	8.56×10^6	14.12×10^6	88×10^6	168×10^6	216×10^6	301×10^6
Minimum unbalance mass measured	g	0.01	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1	1	1
Maximum unbalance mass measured	kg	0.4	4	4	4	4	4	4	4	40	40	40
Unbalance reduction ratio	%	95	95	95	95	95	95	95	95	95	95	95
Minimum achievable unbalance per Rotor Weight (for max. weight or rotor)	gmm/kg	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

- 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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