ROKADE™

ROKADE RoTek India Pvt. Ltd.

DYNAMIC BALANCING MACHINE FOR EVERY ROTOR

End / Belt Drive Balancing Machines

Special Purpose Balancing Machines

Vertical Balancing Machines

www.rokadegroup.com

Company Profile

ROKADE RoTek India Pvt. Ltd. are one of the leaders, providing In House Dynamic Balancing, Vibration Consultancy, On-site Balancing, Laser Shaft Alignment Services for numerous Clients from almost all Sectors, both in India and abroad. We have installed world renowned Dynamic Balancing Machines of various Models to meet varied needs of the Customers.

By virtue of being in the field for the past many decades, and having understood the pulse of the Customers' requirements and also the experience gained in this duration, we have also met their requirements by manufacturing and supplying Dynamic Balancing Machines of world class technology.

Our Manufacturing Facilities are located in Mumbai and Delhi. We have supplied around large number of Dynamic Balancing Machines of varied capacity for quality conscious Customers. As of now, we have supplied Machines having capacity, ranging from 1 Kg. to 40 Tons, for variety of applications to many Customers, by meeting their specific requirements in a time-bound manner.

We are now poised to enhance our manufacturing capacity of Dynamic Balancing Machines up to 70 Tons, using world renowned advance technology, to meet the ever increasing needs of Customers. Hence, the quality and performance of our Balancing Machines are very well comparable with the world best known brands.

Our Products

End Drive Balancing Machine

Belt Drive Balancing Machine

Vertical Balancing Machine

Small Turbo Charger Balancing Machine

Special Purpose Balancing Machine

Balancing Instruments

Balancing Software Features

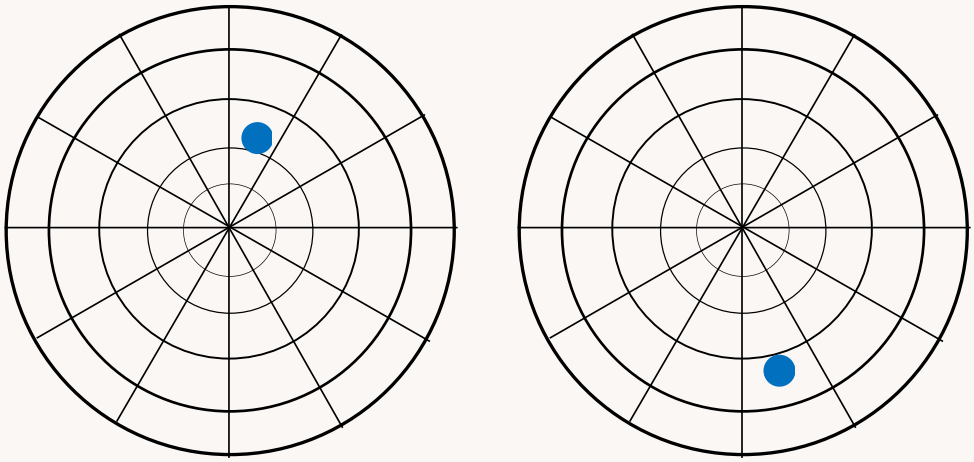
ROTEQ (Rokade Balancing Technology Software)

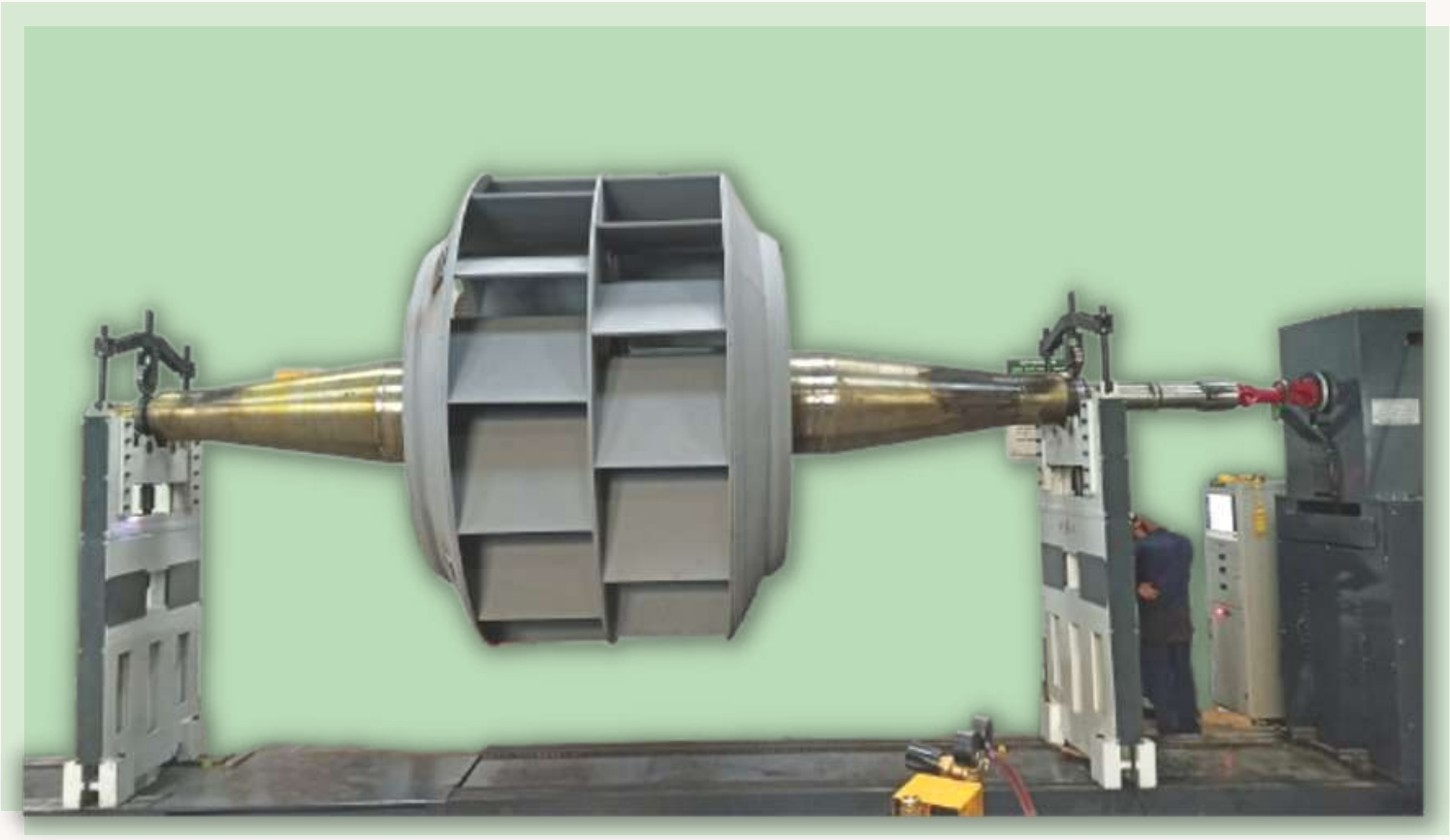
- The ROTEQ controller is fully digital and microprocessor based with CRT display, it has a built in ISO Calculator.
- Display is available in Polar, Vector or Cartesian formats.
- Software facilities include auto tolerance Calculation, system diagnostics through error messages.
- Balancing results print out can be taken at any stage of balancing.

MRBT (Microprocessor Rotor Balancing Technology)

- Fully Digital Microprocessor Controller, Total solid-state signal conditioning, High accuracy & stability only achievable with digital control
- Direct data input from front panel tactile
- Key pad with touch sensitive switches
- High Readability Illuminated 7 segment LED displays
- Real Time & bit data capture of system force & phase signals

End Drive Balancing Machine





End drive Balancing Machines are suitable for components which do not have provision to be driven by belts, such as agricultural components, some types of Fans, Impellers, etc. Balancing Machines are available to balance components ranging from few kilos to many tons.

End Drive Balancing Machine

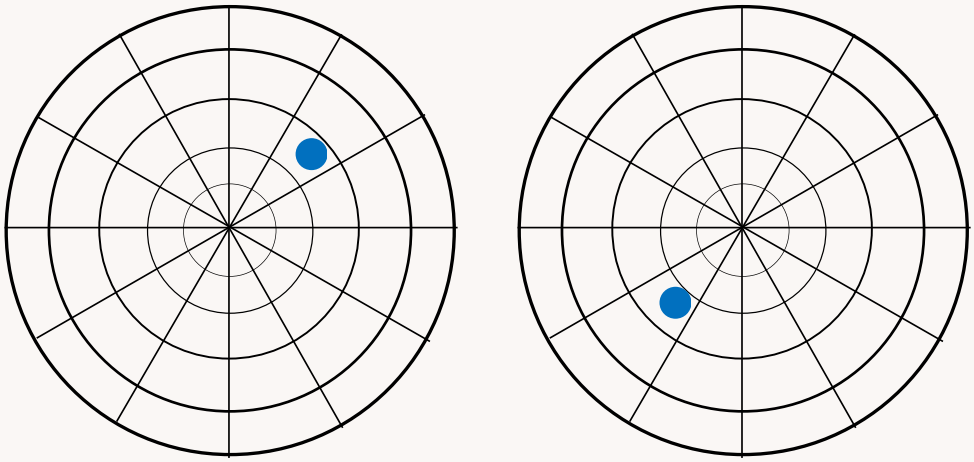
This type of Machines are ideally suited for large Rotors, often with high inertia and where high power is consumed due to air resistance, etc. Drive options include single and multiple speeds through pulley arrangements, gearboxes, or AC frequency variable speed drives. Gap bed Machines are available for bigger diameter rotors. End-driven machines also lend themselves to high-speed balancing applications in conjunction with safety enclosures. Furthermore, the positive drive arrangement through Universal coupling assures the Rotor does not lift off the pedestals during running due to high centrifugal forces. With our vast experience, the most commonly served applications for end-driven machines include, but are not limited to: Blowers, Impellers, Motor rotors, Paper machine rolls, Centrifuges, Crushers, Turbine rotors, Pulleys, Hubs, Crankshafts, Armatures, Fans, Compressors, Etc.

Technical Data

Machine Model	Unit	RH50	RH100	RH300	RH650	RH1K	RH3K	RH5K	RH10K	RH16 K	RH20K	RH30 K	RH40K	RH60K
Weight of Rotor	Kg	50	100	300	650	1000	3000	5000	10000	16000	20000	30000	40000	60000
Maximum Diameter of Rotor	mm	600	800	1150	1350	1600	1800	1800	2100	2500	2800	3200	3500	4000
Standard bed Length	mm	1000	1500	1500	2500	2500	2500	2500	6000	6000	6000	6000	6000	6000
Max.distance Measured from Coupling End to Extreme Bearing Centre	mm	500	700	650	1600	1600	1500	1500	4500	4500	4500	4500	4500	4500
Minimum distance between Roller Bearings of Pedestals	mm	70	80	80	150	150	300	350	400	500	600	600	700	700
Roller Journal diameter Range (Standard)	mm	06--55	10--70	12-120	16-125	16-110	20-125	40-180	70-210	70-210	70-225	70-300	70-300	125-450
Roller Journal diameter Range (Additional)	mm	55-110	70-145	120-205	125-260	110-210	125-245	180-300	210-300	210-300	210-300	300-450	300-500	450-900
Power of Drive Motor	H.P.	1	3	5	5	7.5	10	15	25	30	40	75	110	110
Speed	rpm	500-1200						200-1400						

- **The maximum diameter can be increased by using a split bed configuration.**
- **A further increasing maybe obtained by arrange for a proper pit in the floor in between the two bed parts. The drive system can be positioned anywhere on the bed for standard roller carriages.**
- **Optional roller carriages for special journal dimensions are available on request.**

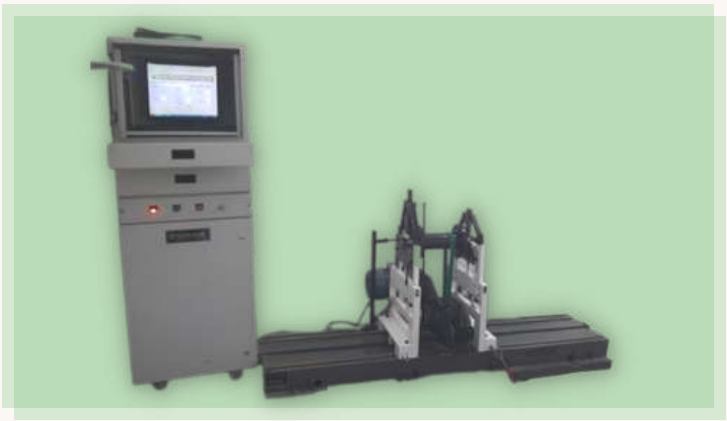
Belt Drive Balancing Machine

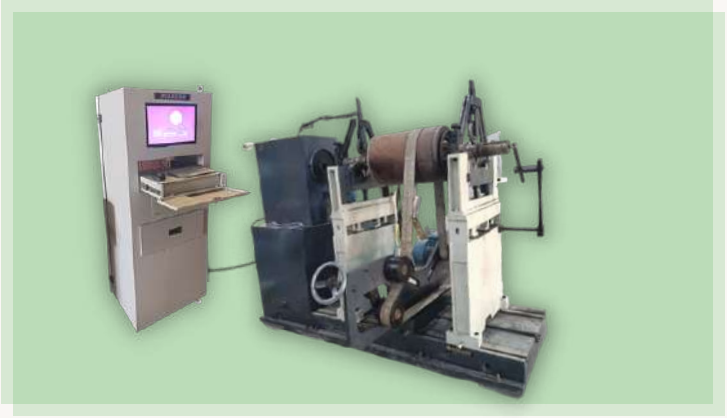


Belt Driven Balancing Machines are ideally used for Armatures, Textile or Machine Spindles, Shafts, Turbines, Printing/Paper machine Rollers, Submersible Pumps Rotor and various other applications. These Machines display accurate reading and offer reliable performance. Machines are light in weight and can be easily mounted on any surface.

Belt Drive Balancing Machine

Belt-driven Machines are used for balancing Rotors, where high accuracy is desired and parasitic errors and influences due to the drive, cannot be tolerated. The need for making adaptors is also eliminated, as the Rotors do not have to be coupled with the universal shaft. Belt-driven Machines are ideally suitable for cylindrical Rotors like Armatures, Motor Rotors, Rolls, Spindles, small Blowers, etc. Such Machines also reduce loading and unloading time as the Rotors do not require to be coupled and provide higher accuracy since the unbalance of the universal shaft is eliminated.



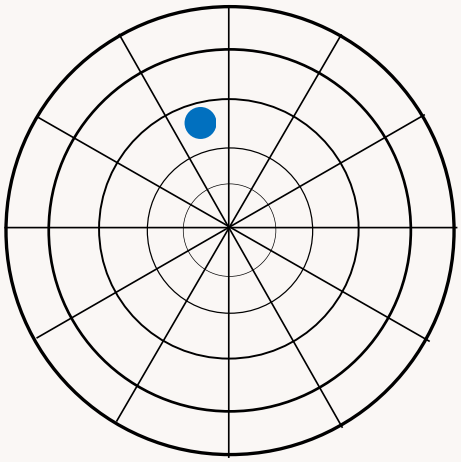


Technical Data

Machine Model	Unit	RHB 5	RHB10	RHB20	RHB50	RHB100	RHB300	RHB1K	RHB3K	RHB5K
Weight of Rotor	Kg	5	10	20	50	100	300	1000	3000	5000
Maximum Diameter of Rotor	mm	250	300	500	700	800	1200	1500	2100	2500
Standard bed Length	mm	1000	1000	1000	1000	1500	2500	2500	3000	3000
Max.distance between end to end bearing	mm	900	900	900	900	1350	2300	2250	2650	2600
Minimum distance with inboard Belt Drive.	mm	70	70	70	70	85	100	180	300	450
Roller Journal diameter Range (Standard)	mm	3--25	6--55	6--55	12-120	16-125	16-125	40-180	40-180	70-210
Roller Journal diameter Range (Additional)	mm	-	30-70	70-145	120-205	125-260	125-260	180-305	180-300	210-300
Power of Drive Motor	H.P.	1	1	1	2	2	5	7.5	10	15
Rotor belt driven dia range	mm	10-150	10-150	20-300	20-300	20-300	2-450	30-600	30-600	30-600

- **Maximum distance may be accommodated by selecting a different Bed length**
- **The maximum diameter can be increased by using a split bed configuration. A further increasing maybe obtained by arrange for a proper pit in the floor in between the two bed parts. The drive system can be positioned anywhere on the bed**

Vertical Drive Balancing Machine



Vertical Balancing Machines are used for balancing of Rotors with centre bores and outer diameter larger than the axial length, for example Flywheels, Pulleys, Pump Impellers, Grinding Wheels, Car Wheels, Brake Discs, Clutches and similar components.

Vertical Drive Balancing Machine

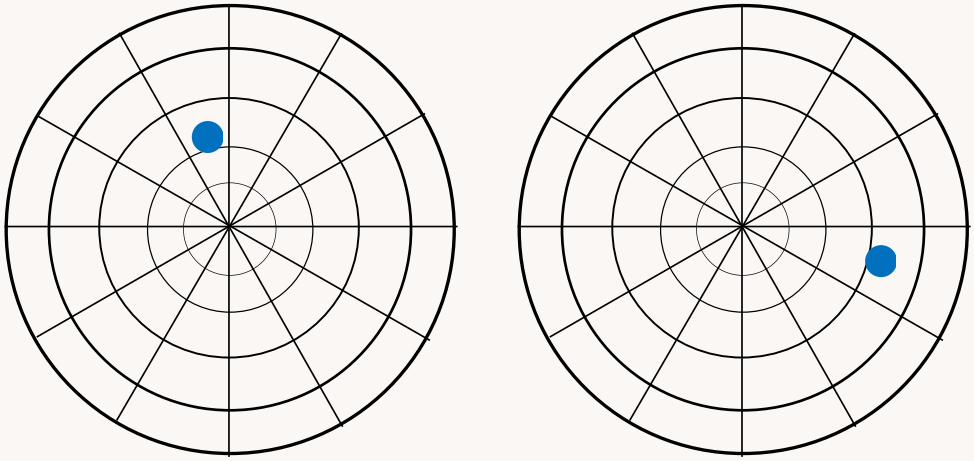
These types of Machines are ideally suited for mass production of disc-shaped Rotors like Fan blades, Impellers, Blowers, Pulleys, Flywheels, Clutch assemblies, etc. Correction units like drilling/milling units can be mounted on the Machine to remove unbalanced masses. The clamping is easy, efficient, and fast to assist high throughput. This is further assisted by dynamic braking control options to save further time. Great attention is paid to operator safety parameters and options like safety shields and interlocks. The angular disc provided on the machine spindle helps the operator to easily locate the unbalance angle. Electronic Remount Error Compensation is a standard feature of our software to minimize remounting errors.

Technical Data

Machine Model	Unit	RV1	RV3	RV10	RV30	RV50	RV70	RV100	RV160
Weight Of Rotor	Kg	1	3	10	30	50	70	100	160
Maximum Diameter	mm	400	500	500	500	500	600	600	650
Balancing Speed	RPM	1000	1000	900	900	750	640	600	500
Drive Power	H.P.	0.5	1	1	1	2	2	3	5

Maximum Diameter / Balancing Speed / Drive Power can be supplied as per customer's requirements.

Drive/Cardan Shaft Balancing Machine



Dynamically balanced single-piece units ensure smooth operation to ensure maximum stability and reliability during operation. With our fully-floating assemblies, there is no friction-loss and the shaft transmits torque to the gear reducer, greatly improving operating economy.

A propeller shaft balanced on ROKADE RHU series horizontal balancing machine. Cardan shafts / propeller shafts of different sizes are efficiently balanced using ROKADE balancing machines.

Features

- Specially designed brackets transmit mechanical force with high rigidity.
- Durable and reliable sensor possesses high sensitivity.
- Permanent calibration brings high accuracy with a permission of large initial unbalance amount.
- Advanced electrical measuring system and friendly man-machine interface.

Drive/Cardan Shaft Balancing Machine

The electrical equipment of the machine is located in a separate electrical cabinet. The electrical equipment includes a frequency converter, which provides smooth control of the machine's electric drive and protection of the equipment. The electrical cabinet also includes a control panel and a hardware-software complex with an industrial computer. The computer has a touch screen for easy operation of the software and hardware complex, and the control panel, in addition to the machine controls, is equipped with signal lamps that clearly indicate the status of all systems of the equipment.

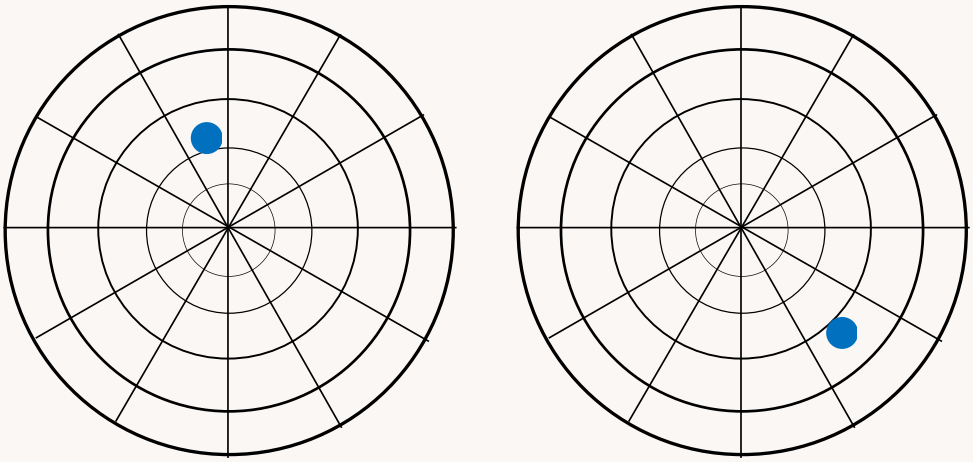
Variety of propeller, Cardan Drive Shaftsto be balancedon this RHU series machine.

Technical Data

Machine Model	Unit	RHU300	RHU650	RHU1.5K	RHU3K	RHU5K
Weight of Rotor	Kg	300	650	1500	3000	5000
Maximum Diameter of Rotor	mm	1150	1350	1600	2100	2100
Standard bed Length	mm	1500	2500	3500	5000	6000
Max.distance Measured from Coupling End to Extreme Bearing Centre	mm	650	1500	2500	4000	5000
Minimum distance between Roller Bearings of Pedestals	mm	80	150	200	300	350
Power of Drive Motor	H.P.	5	5	7.5	10	15
Speed	rpm	300-1500				200-1400

The outermost supports have spindle assemblies and pneumatic self-clamping chucks with guide pins for quick orientation of the driveshaft flanges during clamping. The rear spindle support can move along the entire bed, allowing the machine to be set up for different lengths of PTO shafts. For easy changeover, the rear spindle bearing has a movable quill and a weight compensation mechanism for its movement. The two intermediate supports can also be moved along the bed when the machine is set up.

Special Purpose Balancing Machine



Technical Data

MODEL -	HBS 5	SHAFT DIA -	5 - 15
TYPE -	SOFT BEARING, BELT DRIVE	BAL SPEED -	1000 - 1200
DISPLAY -	DIGITAL / ANALOG	SENSITIVITY -	0.2 - 2
MAX DIA -	120 MM	MAIN SUPPLY -	230V, 50HZ, SINGLE PHASE
MAX DISTANCE -	3OO MM		

Such type of Machine is suitable for small Armatures, small Turbochargers, Mixer Grinder Armatures, etc having weight 100 Grams to 5 KG.

Special Purpose Balancing Machine

Self-Drives: This type of drive is used for balancing of Rotors in its own drives like Motor with fan/complete Radiator Fan Assembly etc. This has got an advantage as the component is balanced at its operating speed and in its actual operating conditions. Better balancing accuracy can be achieved with this type of drive, provided the Rotor is running smoothly in its assembled condition. Sometimes, the Manufacturers also demand for balancing the components in actual operating conditions.

High Speed Balancing Machines:

This type of machines are used for balancing and over speed testing of Flexible and Rigid Rotors, Propeller Shaft, Cardan Shaft etc. The Rotor is first checked at slow speed and thereafter run at high speed.

Balancing Machine Instruments

ROTEQ (Rokade Balancing Technology Software)

Basic features:

- The ROTEQ controller is fully digital and microprocessor based with CRT display, it has a built in ISO Calculator.
- Display is available in Polar, Vector or Cartesian formats.
- Software facilities include auto tolerance Calculation, system diagnostics through error messages.
- Balancing results print out can be taken at any stage of balancing.
- It is possible to select any geometrical configuration and feed data through the keyboard, in and out of tolerance indication, job history and job data storage of more than 1000 jobs
- ROTEQ is high-end dynamic balancing software designed with the operator in mind and service at site.
- This software is designed for Windows 7, and fully compliant with Windows XP etc

ROTEQ

MRBT

MRBT (Microprocessor Rotor Balancing Technology)

Basic features:

- Fully Digital Microprocessor Controller
- Total solid-state signal conditioning
- High accuracy & stability only achievable with digital control
- Direct data input from front panel tactile
- Key pad with touch sensitive switches
- High Readability Illuminated 7 segment LED displays
- Real Time & bit data capture of system force & phase signals
- External serial port for printer interface
- Flexible tolerance level selection
- System diagnostics for ease of servicing
- Easy Calibration

It is our endeavour to in-corporate latest technological advancements in our Products from time to time.

Retrofit of other makes of Dynamic Balancing Machines

Our experience in the field has helped us in retrofitting of other makes Dynamic Balancing Machines, as well. We have successfully undertaken machines retrofitting of leading brands like Schenck, Abro, FIE, etc.,
Schenck Balancing Machine of Siemens Maharashtra, upgraded with ROKADE Instrumentation. This machine is used for Dynamic Balancing of their electric motor rotors.

Schenck Balancing Machine of Batliboi Ltd Surat-Gujarat state upgraded with ROKADE Instrumentation. This machines is used for Dynamic Balancing of Industrial Blower Fans at their factory in Surat. We have retrofitted three machines at their Surat Plant

Abro Balancing Machine of Strak Engineering Pvt Ltd Muzaffarnagar-U.P state upgraded with ROKADE Instrumentation. This machine is used for Dynamic Balancing of there repaired jobs & for their chemical process machine rotors.

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OUR BRANCHES

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5, U.K. Industrial Estate, Behind Durian Furniture, Opp. Oswal Park, 2nd Pokharan Rd, Thane (W) - 400 601, (M.S)
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MUMBAI :
4 / A Wing, Bharat Indl Estate, Off. Lake Road,
Opp. Hind Rectifier Co., Bhandup (W),
Mumbai – 400 078 (M.S)
Tel.: 022 2173 7777

NAVI MUMBAI :
R / 375, TTC Industrial Area, Rabale, Navi Mumbai - 400701 (M.S)
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