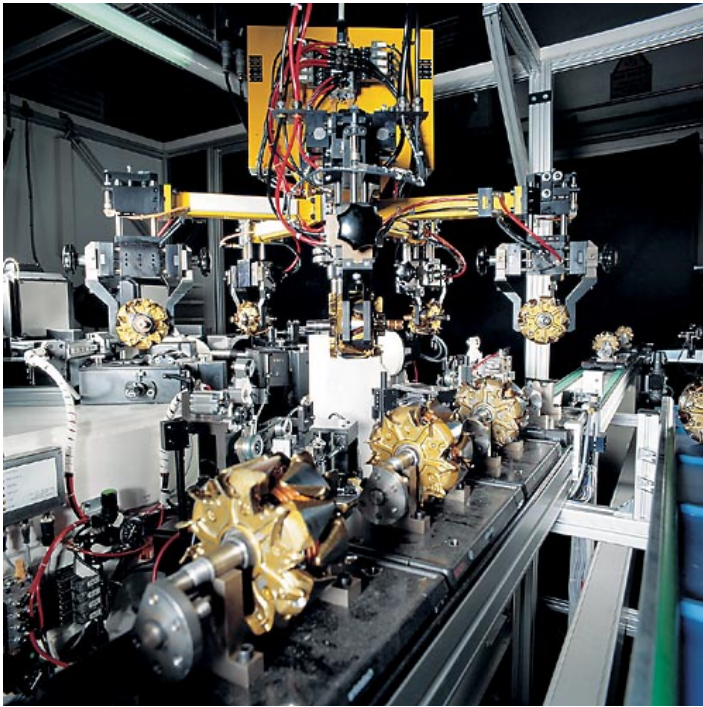


552 KBTU Transfer Balancing Machine for Alternators



- Modular machine design with integrated rotary transfer transport
- Fully automatic sequence, flexible application, easy change over and fast faultfinding
- NC axis control for all movements
- Easy integration to all production lines
- Powerful PC based industrial measuring unit

Range of application

Measurement and correction of unbalance in alternators of various sizes as well as similar rotors. Use of the machine in production lines with large production volumes.

Design

Five-station machine with fully automatic sequence of operations.

Station-to-station transfer and integration with peripheral equipment through integrated rotary transfer.

Work-pieces can be delivered to the machine by chain or pallet transport conveyor.

Sequence of operations

The lift-and-turn transport unit remains stationary with the carrying arm over the station. After starting, the gripper lowers and takes the rotors out of the individual stations, transports them through 72° over the following stations and lowers them.

The empty transport unit returns to the starting position and the machine functions run fully-automatically and in parallel in the stations.

Loading and unloading station:

The transfer unit automatically removes a rotor from the in-feed and replaces it with one from the checking station. This rotor is transferred either to the exit conveyor or to the OT conveyor, or fed back to the machine for a second correction step.

Measuring station:

The rotor is accelerated to balancing speed, stopped and indexed to the correction angle. The unbalance value is calculated for correction and stored.

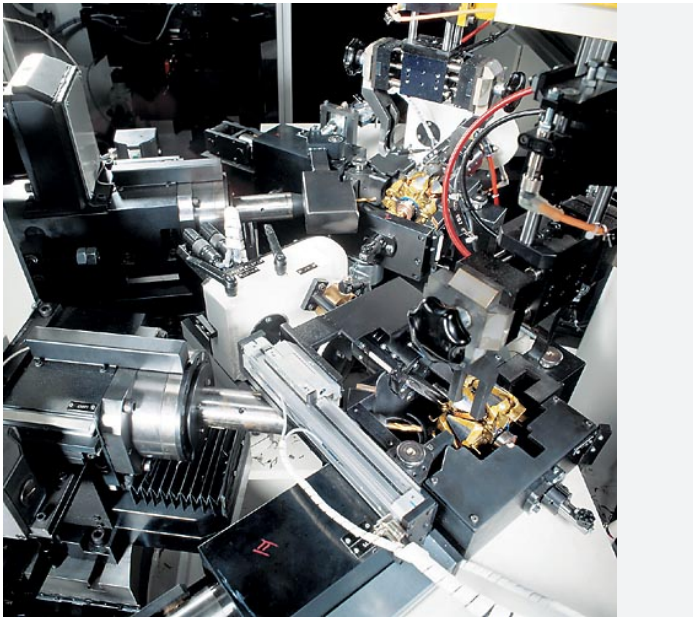
Correction station:

The rotor is indexed and corrected by polar or component drilling in 1 or 2 planes.

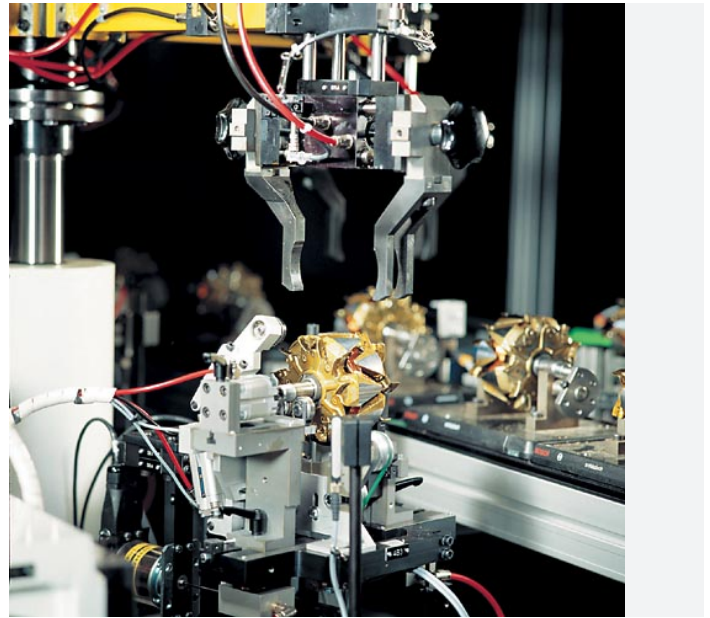
Checking station:

The rotor is accelerated to balancing speed and stopped. The unbalance values are calculated for further handling and stored. Rotors out of tolerance after the 2nd step (optional) that cannot be brought into tolerance are sorted out.

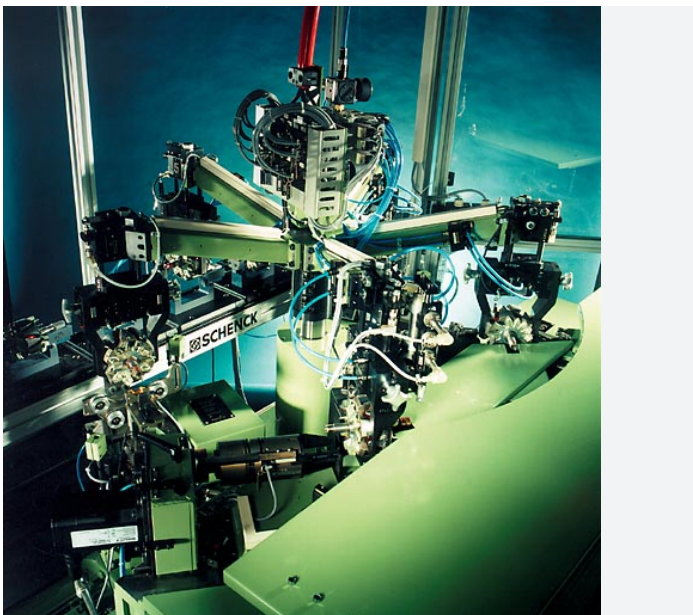
552 KBTU Transfer Balancing Machine for Alternators



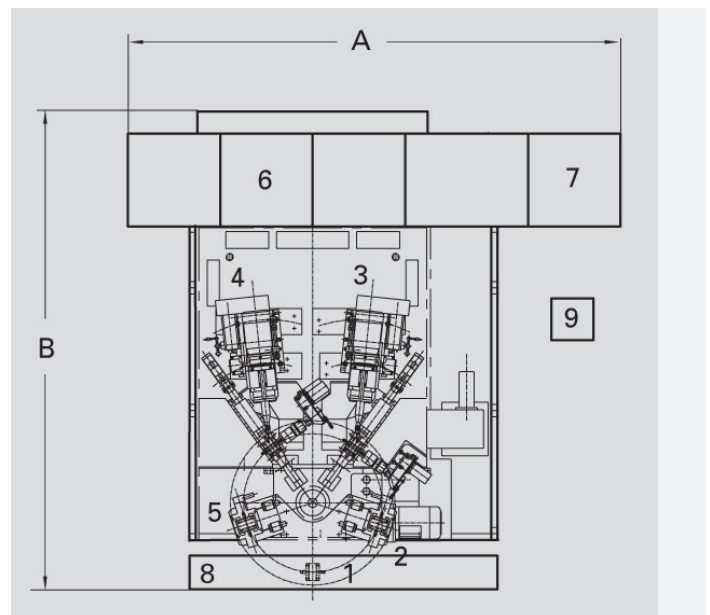
Drilling in suitable areas of the rotor (e.g. poles) is an economical form of unbalance correction. An intelligent, variable control system enables quasi-polar or component correction. This high flexibility is achieved through the use of digitally controlled correction and positioning equipment.



Modern measurement technology: Both balancing units have belt-drives with servo-motor, an electronic angle reference impulse sampling system, precision electro-dynamic vibration sensors and supports exactly adapted to the rotor. All parts in contact with the work-piece have revolving head stops for easy change over. Software modules for correction calculation, self-tests and statistical evaluation of production are integrated in the measuring unit. The measuring system features digital signal processing. The large type data memory and good operator interface permit largely automated setup processes.



Fast, effective transfer through the electromechanical rotary transport unit. The smooth sinusoidal movement assures gentle work-piece handling and the grippers are equipped with damage protection. Should a gripper encounter another object while being lowered into a station, the corresponding gripper is pushed upward by springs. The machine stops immediately and an error message is output. The machines also provide for flexible methods of interfacing the transport unit with a production line. Rotors can be taken directly from a conveyor or pallet. Outfeed of rotors that are out of tolerance can be done by an optional sliding arm or by pallet coding.



- 1 Pick-up/transfer device
- 2 Measuring station
- 3 Correction station
- 4 Correction station
- 5 Control station
- 6 Switch cabinet / PLC
- 7 Measuring system
- 8 Interlinking (option)
- 9 Swarf extractor (option)

552 KBTU

Transfer Balancing Machine for Alternators

Technical data at a glance	541 KBTU	552 KBTU
Measuring unit	CAB 850	CAB 850
Polar correction, inclined drilling	•	
Correction in components, inclined drilling		•

Rotor			
Weight	[kg]	0,3 - 5	0,3 - 5
Diameter	[mm]	80 - 115	80 - 115
Length	[mm]	50 - 180	50 - 180

Machine			
Width A	[mm]	2100	2100
Depth B	[mm]	2400	2400
Height C	[mm]	2200	2200
Weight	[kg]	6000	6000
Measurement uncertainty	[gmm]	1 - 2	1 - 2
Achievable tolerance	[gmm]	8	8
Cycle time	[s]	10 - 12	10 - 12
Change over time	[min]	15/20	15/20
Production volume	[St./h]	300	300
Air pressure	[kPa]	450	450
Air consumption	[m3/h]	6	6
Power consumption	[kVA]	13	13

	Order No.	R0230100.01	R0230200.01
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	Order No.	R0230102.01	R0230102.01
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OT sliding arm + sep. OT belt	Order No.	R0230103.01	R0230103.01
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Pallet coding, mechanical	Order No.	R0230104.01	R0230104.01
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Pallet coding, electronic	Order No.	R0230105.01	R0230105.01
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Change over unit for further sets of grippers	Order No.	R0230106.01	R0230106.01
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Change over parts for further rotor types	Order No.	R0230107.01	R0230107.01
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- 2) Max. 2 holes per plane
- 3) Equal/different diameters
- 4) Data non-binding, dependent on respective equipment

A large industrial machine, the 552 KBTU Transfer Balancing Machine for Alternators, is shown in a factory setting. The machine is white and blue, with a large, complex rotor assembly mounted on it. The rotor has many small, circular protrusions. The machine is on a concrete floor with yellow safety markings.

552 KBTU Transfer Balancing Machine for Alternators

5) Rotor-dependent