

GS 1000 Geometry Measuring Machines



- Measurement of axial and radial runout
- FFT analysis
- Measurement of rotors with varying diameters
- Fully automatic sequence of operations
- Interfacing with production lines
- Integration into vertical-axis balancing machines
- Separate machines available for short cycle times
- NC control
- PC based measurement instrument

Range of application

Measurement of diameter and runout including FFT analysis on brake discs, torque converters, pulleys, shafts and clutch discs.

Depending on application, the measuring system may be integrated into a single- or multi-station vertical-axis balancing machine. If shorter cycle times are required, a separate machine should be used.

Design

- Integrated into a vertical-axis balancing machine or as a separate station
- Fully automatic sequence of operations with freely programmable controller with fault diagnosis
- Evaluation by means of PC
- Work-piece clamping and measurement of required features
- Manual loading of machine, optionally with handling and conveyor equipment

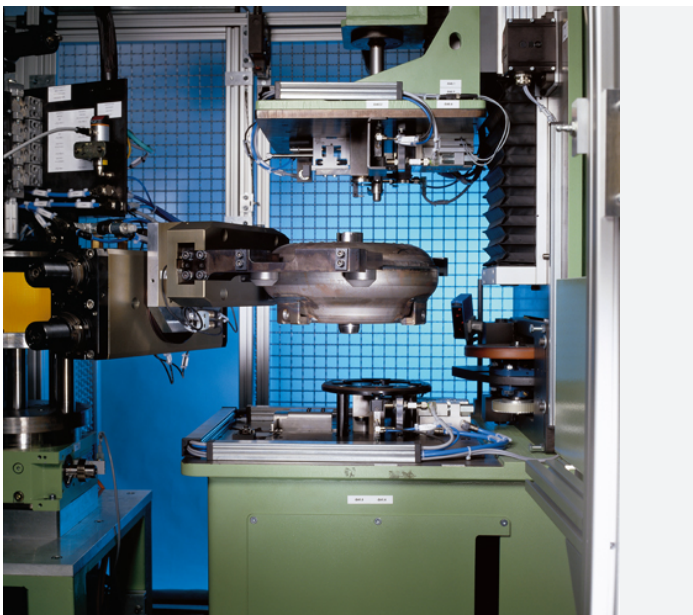
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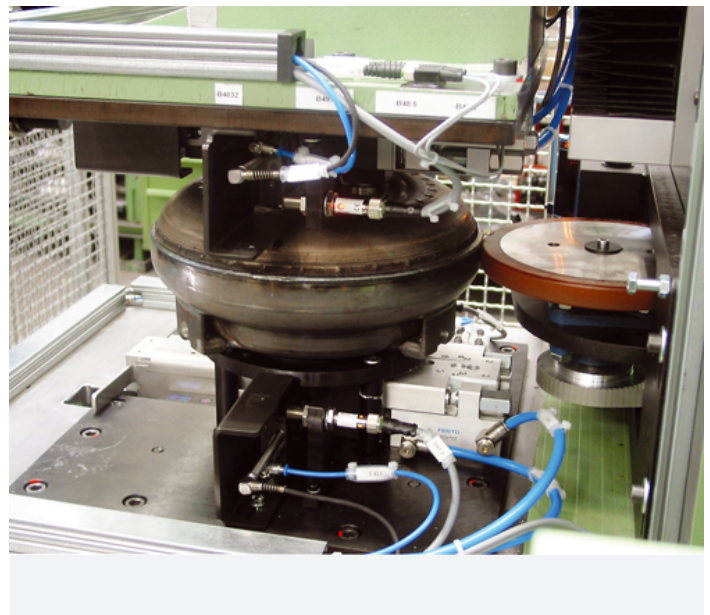
Runout measurement on gearbox components integrated in a fully automatic vertical balancing machine. Runout is measured during the unbalance measurement run. If unbalance and runout are within tolerance, the work-piece is deposited on the „Within Tolerance“ conveyor.



This system determines the characteristics of a brake disc. The machine works fully automatically and is loaded by means of a handling system. Characteristics measured include: Lateral and radial runout, Waviness, Diameter, FFT analysis, Inclusion of temperature coefficient.

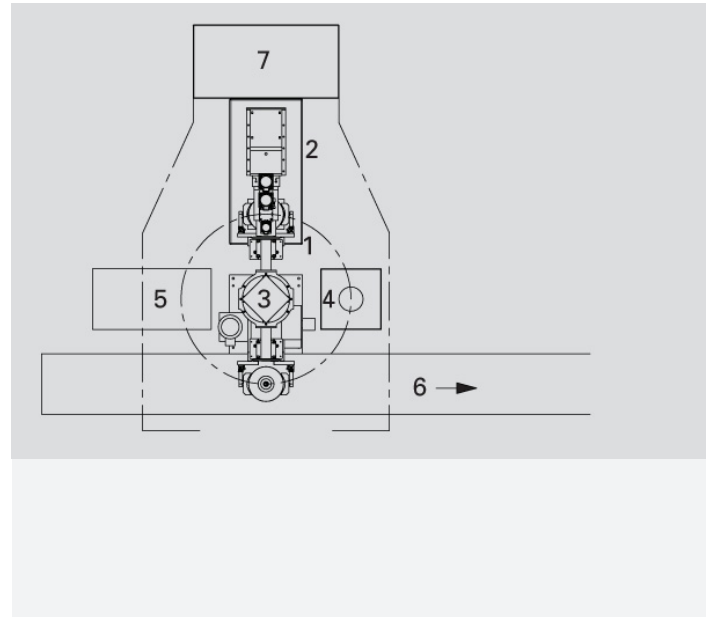
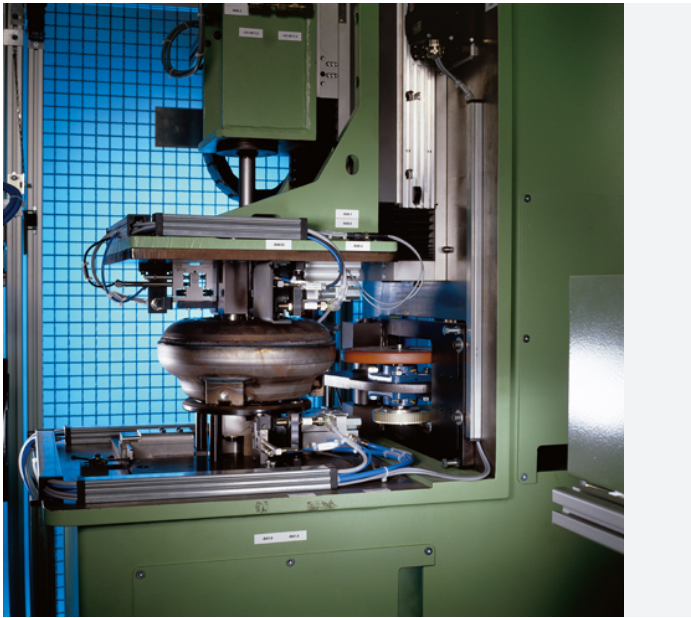


Measurements on torque converters. The geometry measuring machine is loaded and unloaded automatically. Characteristics determined include: Lateral runout and roundness of arbor/flange, Arbor/flange diameter, Runout of driver flange, Axial play of inner turbine (bearing play).



The torque converter is driven from the outside through a drive wheel. Characteristics are determined mechanically and optically. The movable spindle sleeve arranged from above is used to measure the axial play of the inner turbine on the non-rotating converter.

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1 Balancing unit 2 Milling station 3 Transport 4 Master rotor deposit 5 Out of tolerance chute 6 Feed and outlet belt 7 Switch cabinet with operating unit

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Measuring unit		Measuring system	Integrated in vertical machinesCAB 950 V	Stationary systems Type GS 1000 Torque converterCAB 950 Diagnosis	Stationary systems Type GS 1000 Brake diskCAB 950 Diagnosis
Integrated measurement			•		
Separate measuring system				•	•
Manual loading			•	•	•
Automatic loading			•	•	•
Rotor					
Pulleys, flywheels			•		
Vibration dampers, fans, turbines			•		
Torque converters				•	
Brake discs					•
Weight	[kg]		up to 100 kg	up to 50 kg	up to 50 kg
Diameter, max.	[mm]		600	400	400
Height, max.	[mm]		200	300	300
Machine					
Width A	[mm]		2100	2100	2100
Depth B	[mm]		3300	3300	3300
Height C	[mm]		2600	2600	2600
Radial runout			•	•	•
Axial runout			•	•	•
Diameter determination			•	•	•
Waviness					•
Concentricity					•
Roundness				•	
FFT analysis					•
Temperature coefficient					•
Axial play (bearing play)				•	

Order-Nr.	R1000100.01	R1000200.01	R1000300.01
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