

R 1 B, RS 0 - 1 Balancing Machines for Small Rotors and Complete Assemblies



- Complete workplace designed for standing or seated operator
- Highest balancing accuracy through super-critical support pedestals and digital measurement processing
- Short change-over times, simple and safe operation
- Modular design for various applications

Range of application

Universal balancing machines series R and RS are especially suitable for very small work-pieces such as small armatures, miniature ventilators and complete assemblies, when high balancing tolerances at high speed must be achieved. They are used in small production lots as well as research and development applications.

They can be used at varying locations and the change-over for other rotor types is possible in a short time.

Design

Displacement measuring, horizontal balancing machines of tabletop design for standing or seated operator with semi or fully automatic operating sequence.

If the machine is to be used for assemblies, the two support pedestals are connected by a frame. An adapter and clamping arrangement is mounted onto this frame for supporting the rotors.

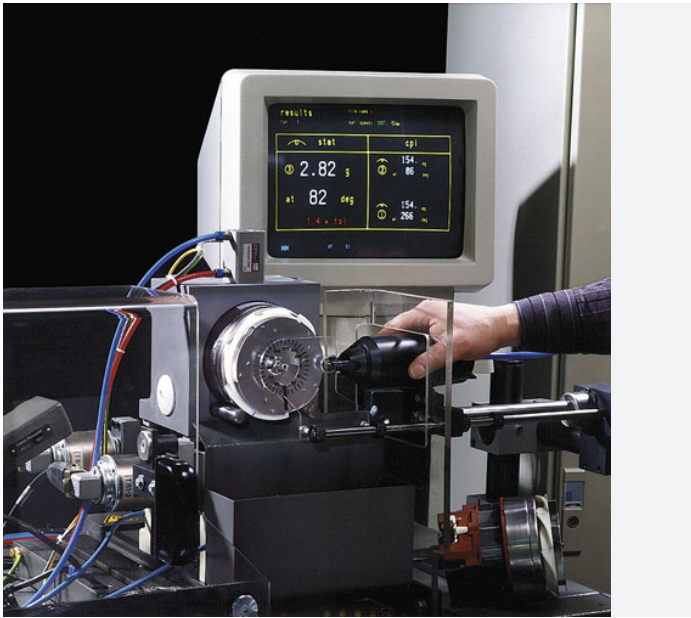
The drive can be by tangential, under slung, over slung, compressed air or, in case of complete assemblies, by an integrated supply for self-drive.

Sequence of operations

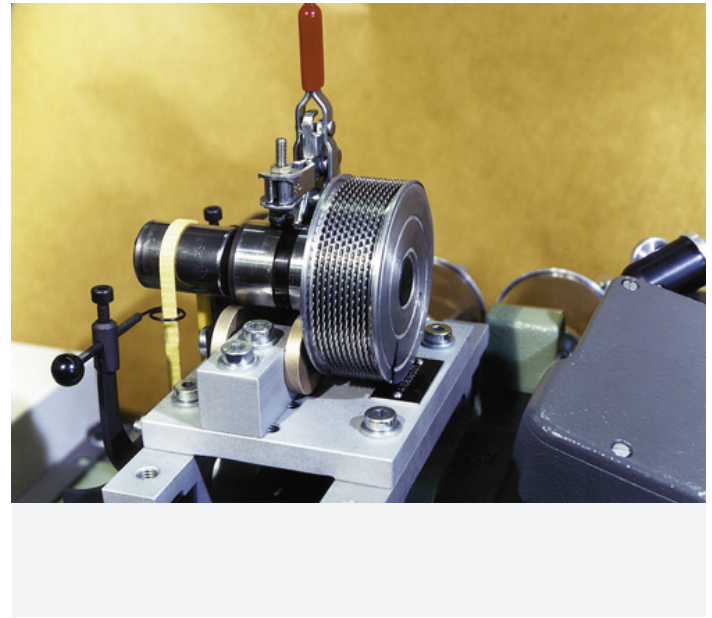
- Manually load the rotor onto the pedestals and the tangential belt drive. With an over slung belt drive clamp the belt drive bracket.
- Close the protective device and start the automatic measuring run: accelerate, measure and display the unbalance on the measuring unit, brake. The display is retained after the measuring run ends.
- Open the protective device, manually correct the unbalance (if required).
- Check the residual unbalance (the measuring unit displays if the tolerance is achieved) and unload the rotor.

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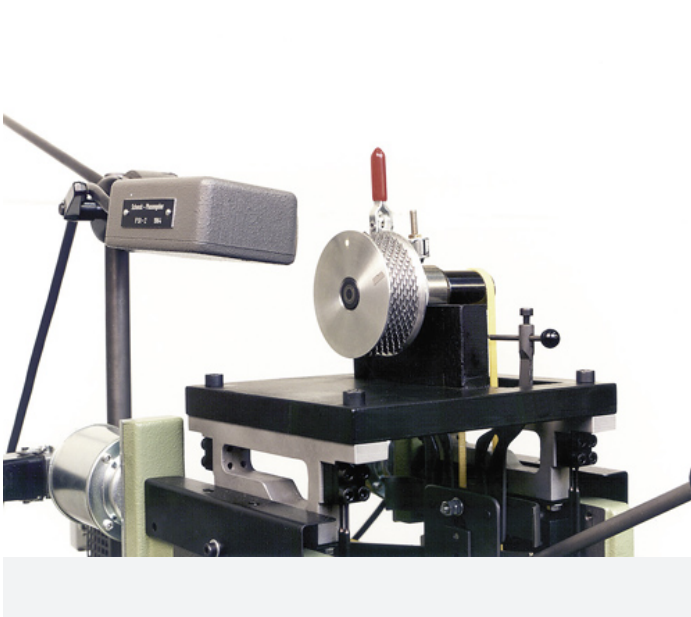
Balancing Machines for Small Rotors and Complete Assemblies



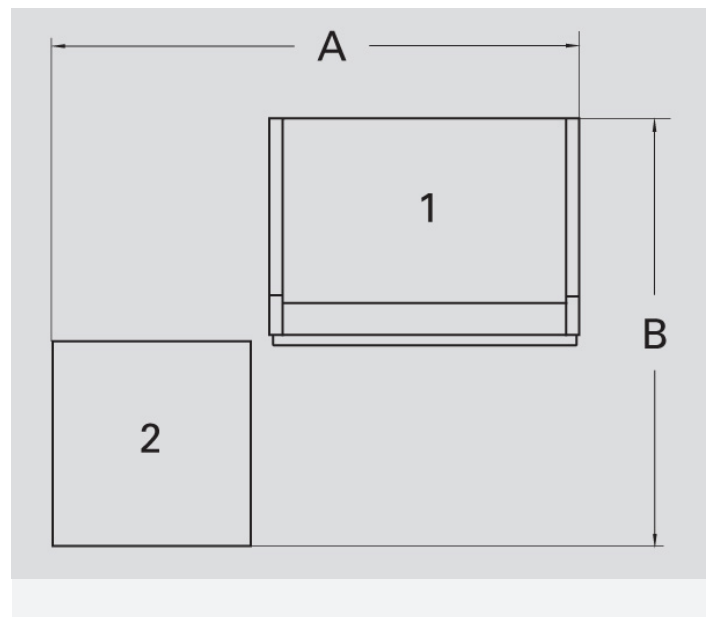
When small rotors or, as above, a complete assembly is to be balanced to a tight tolerance in small to medium production lots, a displacement measuring balancing machine is the correct solution. If unbalance correction is integrated into the machine, the handling of the rotor can be simplified significantly and cost can be reduced. Depending on rotor design, additive or subtractive methods of unbalance correction can be employed.



The modular design of Schenck RoTec horizontal balancing machines offers standard modules for all common applications. Solutions for special cases can also be offered. This rotor for textile machines is mounted on special roller carriages because of the very small distance between the bearings.



With RS support pedestals the standard journal or roller bearings can be replaced in minutes by an adapter platform and clamping device. Balancing of rotors in their own bearings and at almost operational condition is no problem.



1 Balancing machine
2 Switch cabinet
Plan view (non-binding example)

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Balancing Machines for Small Rotors and Complete Assemblies

Technical data at a glance		RS 0	RS 1	R 1
Measuring unit		CAB 700	CAB 700	CAB 700
Self-drive		•	•	
Belt-drive, BU1		•	•	•
Automatic indexing with belt drive		•	•	
Shroud acc. to ISO 7475		•	•	•
Rotor				
Weight, max.	[kg]	3	10	6
Diameter, max.	[mm]	o.r.	o.r.	360
Length, max.	[mm]	900		
Journal diameter	[mm]	-	-	3 - 22
Machine				
Width A	[mm]	980	980	980
Depth B	[mm]	850	850	850
Height C	[mm]	1520	1520	1520
Pedestal height	[mm]	160	160	-
Balancing speed	[min ⁻¹]	variable	variable	variable
Measuring time	[s]			
Drive power (belt drive)	[W]	130	130	130
Power requirement	[V]	230	230	230

	Order No.	R0120100.01	R0120200.01	R0120300.02
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	Order No.	R0120101.01	R0120201.01	R0120301.02
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Report printer	Order No.	R0120103.01	R0120203.01	R0120303.02
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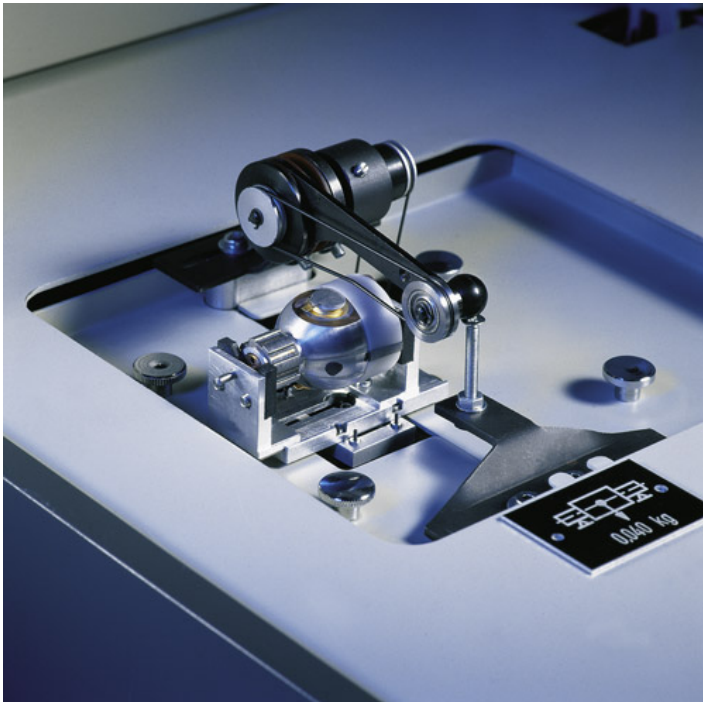
Belt drive, BU 1	Order No.	R0120104.01	R0120204.01	-
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2) Power configuration: 3 / PE AC 50Hz 400 V +6 / -10%

o.r. On request

RT 01 B

Balancing Machines for Small Rotors and Complete Assemblies



- Highest balancing accuracy with soft-bearing design for smallest rotors
- Complete workplace designed for standing or seated operator
- Short change over times
- Directly usable at changing locations without foundation and without screwing up

Range of application

Universal balancing machines series RT are best suited for extremely light rotors such as dental turbines, textile false twist spindles, non-ferrous armatures, rolling-elements, etc. for which the highest level of balancing tolerance is required. They are conceived for use in batch production or in research and development.

The machine is designed for a standing or seated operator and can be used at varying locations.

Change over to other rotor types is possible in very short time through manual action.

Design

Displacement measuring, horizontal balancing machines of tabletop design for standing or seated operator with semi or fully automatic operating sequence.

The machine consists basically of the following main components: work table, mechanical balancing unit with tangential belt drive, measuring unit and control cabinet.

If the machine is to be used for assemblies, the two support pedestals are connected by a frame. An adapter and clamping arrangement is mounted onto this frame for supporting the rotors.

Sequence of operations

- Manually load the rotor onto the support pedestals and belt drive
- Close the protective device (if necessary) and start the automatic measuring run: accelerate, measure and display the unbalance on the measuring unit, brake. The display is retained after the measuring run stops.
- Open the protective device, manually correct the unbalance (if required).
- Check the result of the unbalance correction (achievement of the tolerance is displayed by the measuring unit) and unload the rotor.

RT 01 B

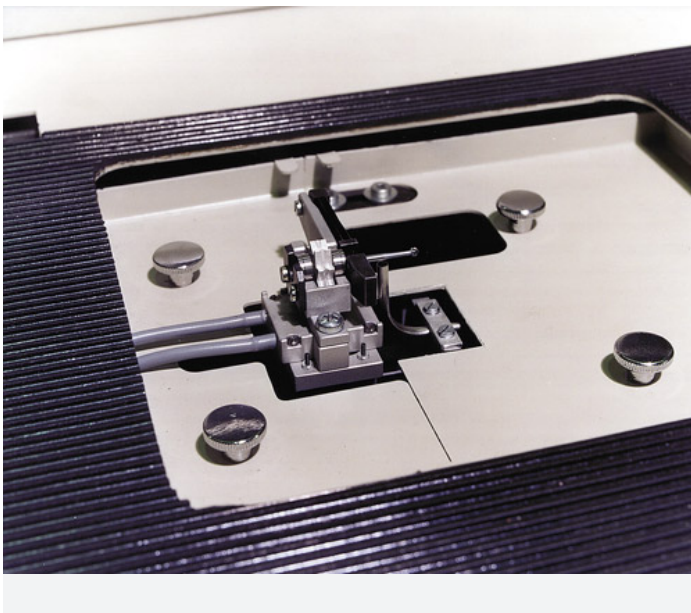
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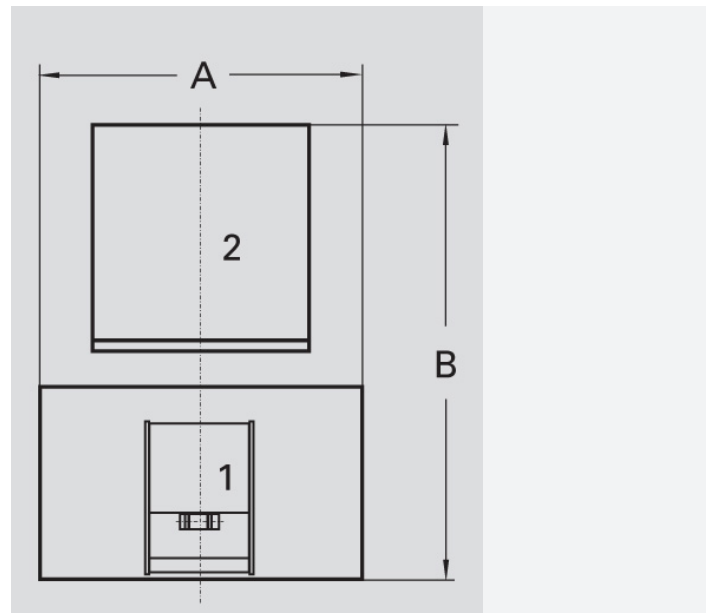
The unbalance is frequently corrected manually by addition of weight, for example with quickdrying, two-component putty or weights. If the unbalance is to be corrected by removing weight, methods such as grinding, milling or drilling can be cost-effectively used. For each of these correction methods specially adapted correction devices can be supplied or added to the machine by the end-user.



Turbines, textile false twist spindles and small non-ferrous armatures present a special balancing task. Because of the normally high operational speeds extremely small unbalances must be accurately measured. The solution to this requirement is a displacement measuring machine with tangential belt drive, combined with a measuring unit of the highest sensitivity.



With extremely small rotors, such as this dental turbine, there is no possibility to use a belt drive because the influence on the measurements will be too large. In this case a compressed air drive that operates without making contact with the rotor is ideal. Through a well-designed layout of the air drive short acceleration and braking times can be achieved.



- 1 Measuring station
- 2 Measuring device and controls

Plan view (non-binding example)

RT 01 B

Balancing Machines for Small Rotors and Complete Assemblies

Technical data at a glance	RT 01 B
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Measuring unit	CAB 920
Belt drive	•
Protective device as per ISO 7475	•

Rotor data

Weight, max.	[g]	1 - 40
Diameter, max.	[mm]	20
Length	[mm]	6 - 45
Bearing journal diameter	[mm]	1 - 6

Machine

Width A	[mm]	900
Depth B	[mm]	600
Height C	[mm]	875
Power supply	[V]	230
Drive power	[W]	30

Order No. R0130100.01

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