

## 300 MBRK, 310 MBRK Checking Machine for Crankshafts



- Precision quality control of crankshafts through high-quality balancing unit
- Manual loading and unloading
- Expandable with correction unit (see 300 / 510 EBTK)

### Range of application

Unbalance measuring machine for machined crankshafts. Measurement of the unbalance in two planes, relative to the outside counterweights. Conversion of the unbalance values to other planes is automatically or manually controlled. Can be used for inspection or in production for quality control of balancing machines. Transport of the work-pieces can be manual or by a corresponding lifting device.

### Sequence of operations

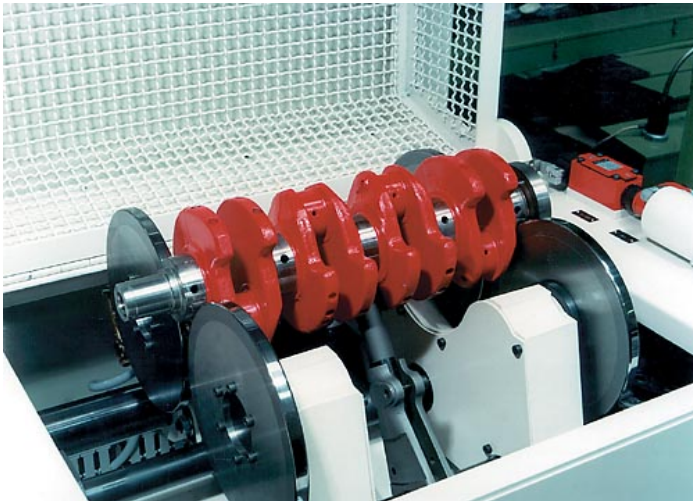
- Load a crankshaft into the machine, either manually or by a lifting device.
- Close the protective shroud. Automatic measuring run and display of the unbalance values. If required the correction values are displayed.
- Open the protective cover and unload the crankshaft.
- If a correction unit has been supplied the correction can be done according to the display on the measuring unit.

### Design

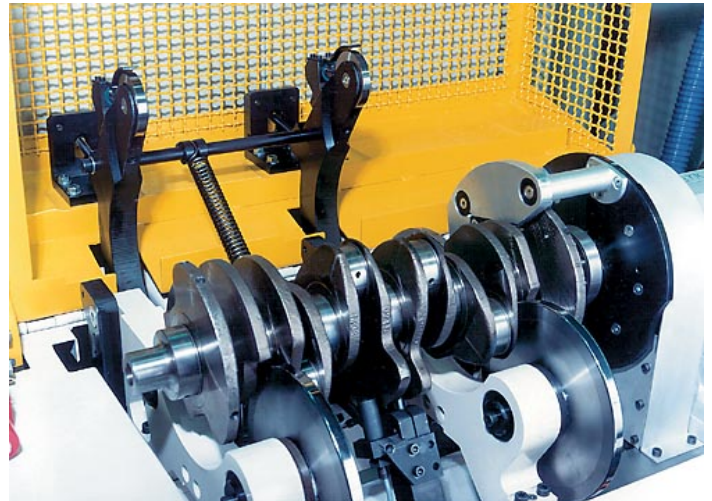
Machine with horizontal rotor axis and a balancing unit similar to the type used in transfer balancing machines. Coupling-free roller-drive or spindle-drive with a hook adapter. Welded machine base with integrated control cabinet. Safety housing and protective shroud are part of the standard supply.

Microprocessor-controlled measurement equipment for unbalance measurement or correction calculation. Software packages are available for component or optimized correction. Other features: Operator prompting, diagnosis programs, fault display, statistics program and printer interface. Display in German or English; other languages on request.

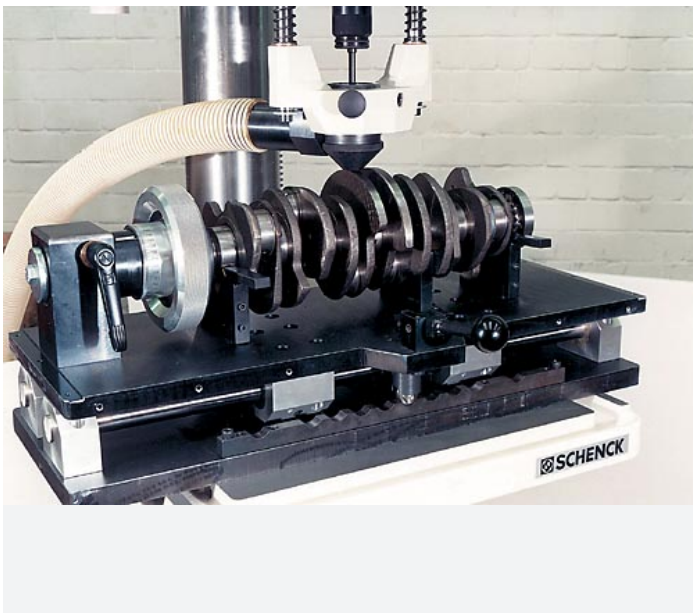
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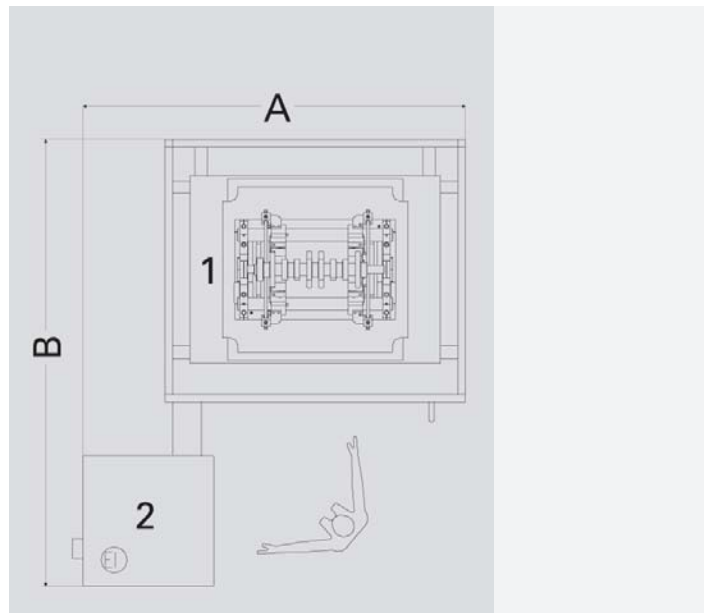
Universal balancing unit with coupling-free drive for symmetrical crankshafts. Drive for the crankshafts is supplied by synchronous roller-drive with hard-metal coating. Crank pin detection supplies the angle reference signal. Asymmetrical crankshafts can be balanced using master-rings.



Balancing unit for asymmetrical crankshafts with a rotor-coupled spindle-drive and hardmetal rollers. Synchronization of the reference signal to the crankshaft by crank pin detection. Counter-weights on the drive for compensation of the offset masses in the crank-drive.



By combining with an adjacent drill unit the machine can become a production balancing machine for small production lots or a repair shop machine. Calculation and display of the required correction is done by the measuring equipment. Increasing the production volume is possible by operating in over-lapping cycles.



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

## 300 MBRK, 310 MBRK Checking Machine for Crankshafts

Technical data at a glance		300 MBRK	310 MBRK
Measuring unit		CAB 950	CAB 950
Passenger-vehicle crankshafts		•	•
Commercial-vehicle crankshafts		•	•
<b>Asymmetrical crankshafts</b>			
... measurement with bob weights		•	
... measurement without bob weights			•
Balancing unit with roller-drive		•	
Balancing unit with hook-drive			•
<b>Crankshaft</b>			
Weight, max.	[kg]	6 - 35	6 - 35
Total length	[mm]	280 - 790	280 - 790
Journal distance, max.	[mm]	650	650
main journal diameter	[mm]	40 - 75	40 - 80
Max. outside diameter	[mm]	100 - 200	100 - 200
<b>Machine</b>			
Width A	[mm]	1010	1010
Depth B	[mm]	1070	1070
Height C	[mm]	2000	2000
Balancing speed	[min <sup>-1</sup> ]	450 - 700	450 - 700
Measurement uncertainty	[gmm]	5 - 15	10 - 20
Cycle time	[s]	16 - 20	16 - 20
Power consumption	[kVA]	2 - 2,5	2 - 2,5
		Order No.	R0260100.01    R0260200.01

2) Max. 15kg with manual loading

3) Minimum achievable times, dependent on the crankshaft concerned

4) Data non-binding, dependent on the equipment delivered