

## Balancing machine for crankshafts

# KHK 21-B1/ KHK 21L-B1



### Applications

- Balancing of passenger car crankshafts, symmetric and asymmetric design
- automatic loading by gantry or robot; manual loading is also possible
- Unbalance compensation by drilling with one-spindle drill unit

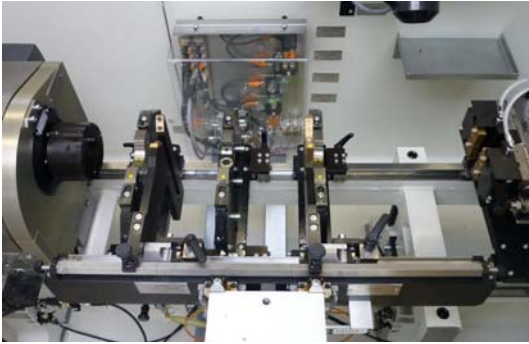
### Description

- One-station balancing machine with entire housing with one or two-part front door
- Measuring system with NC-drive and maintenance-free sensors. Measuring frame lockable in drill and measuring position. Oil lubricated and linearly adjustable bearing sleeves. Pre-storage area is linearly adjustable with end thrust
- Measuring drive as pin or hook drive, weights for compensation of asymmetric shafts can be mounted on discs
- Unbalance compensation by sloped NC-drill spindle with NC-infeed slide and NC-cross slide for positioning to the correction planes
- Chip removal by suction unit
- Control cabinet with all electric components
- Operation via 19" touch screen (manual operations WIN CC and operation of measuring electronic (Windows®))

### Advantages

- Easy and quick changeover
- Maintenance-free and wearless vibration sensors
- Cut indication ensures exact drilling depths
- Monitoring for drill breakage and drill wearing
- Minimal Quantity Lubrication
- Chip removal by suction mask and chip suction directly at tool
- High-quality German drill spindle
- Tool management for 99 tools
- Integrated control cabinet
- Integrated statistics software
- Automatic MFU

**All information without obligation,  
subject to change without notice!**



Measuring station with pre-storage area



Tool changer

## Technical Specifications

		KHK21-B1	KHK21L-B1
<b>Rotor:</b>			
Weight	kg	6 - 50	10 - 100
Overall length	mm	300 - 600	300 - 1100
Main bearing diameter	mm	30 - 80	40 - 100
Journal distance, min.	mm	100 (77)	100 (77)
Fly circle radius crankpin, max.	mm	100	110
Compensation		Drilling with MQL	
Compensation radius	mm	100	110
<b>Machine:</b>			
Measuring planes		2	2
Measuring system		displacement measuring w/ maintenance-free sensors	
Cycle time	min.	cycle time chart for each shaft will be supplied	
Unbalance reduction ratio	%	95	95
Measuring drive		slide bearing shells with hook or pin drive	
<b>Machine Data:</b>			
Width x Depth x Height	mm	2600 x 2100 x 2200	3900 x 2100 x 2200
Balancing speed	rpm	200 - 650	200 - 650
Measurement uncertainty <sup>1)</sup>	gmm/kg	1	1

1) depending on workpiece

## Options

- Loading gantry with gripper
- Automatic tool change (6 positions)
- Detection of flange center for correction of drilling position
- Master parts with calibration weights
- Operation by OP12 and Transline 2000

## Scope of supply

- Measuring and correction station with hook or pin drive (NC-drive)
- Drilling unit on NC-cross slide
- Machine housing with front door and maintenance door
- Welded machine base
- Suction unit
- MC10 measuring computer