

Active Balancing

MecBalancer MB 4002



Advantages

- Increase in product quality and machine availability
- Permanent vibration monitoring
- Version for space-saving installation in spindle bore
- No wear, non-contact energy transmission
- Suited for operation in wet environments
- Software for pre-balancing

Applications

- Automatic balancing of grinding Wheels
- Balancing during operation
- Compensation of operational unbalance in one or two balancing planes
- Achieving perfect smooth running
- Monitoring of unbalance vibrations

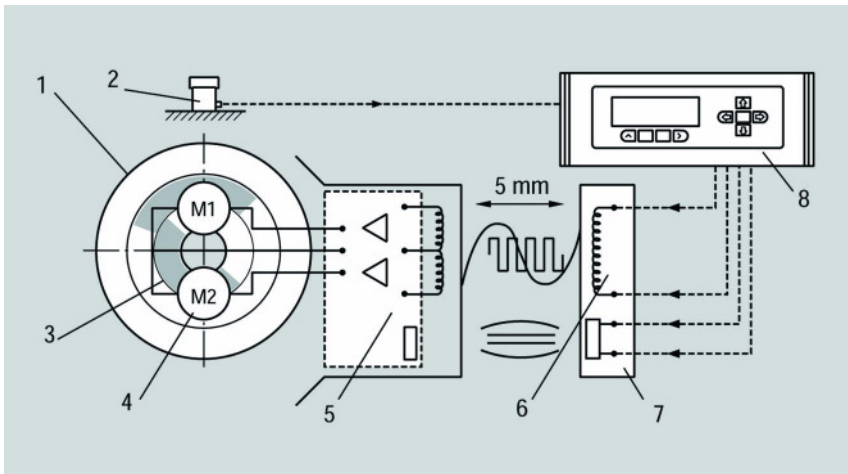
Description

The active balancing system MB 4002 compensates rotor unbalance using the split component method. To this end, two freely movable weights are positioned in the rotating balancing head on the rotation axis. If the balancing weights are positioned directly opposing each other, their effect is neutralised. The full balancing capacity is obtained by placing the weights at the same angular position. By moving the weights to a specific angle, any unbalance correction with respect to magnitude and direction can be obtained within the above limits.

The balancing weights are moved by two small electrical positioning motors installed within the rotating balancing head. A transmission reduces the motor speed for accurate positioning of the balancing weights.

The energy to drive the actuator motors is transmitted contactless and thus wear-free. The NONCON receiver in the rotating balancing head is matched by a fixed NONCON sending unit on the stationary side.

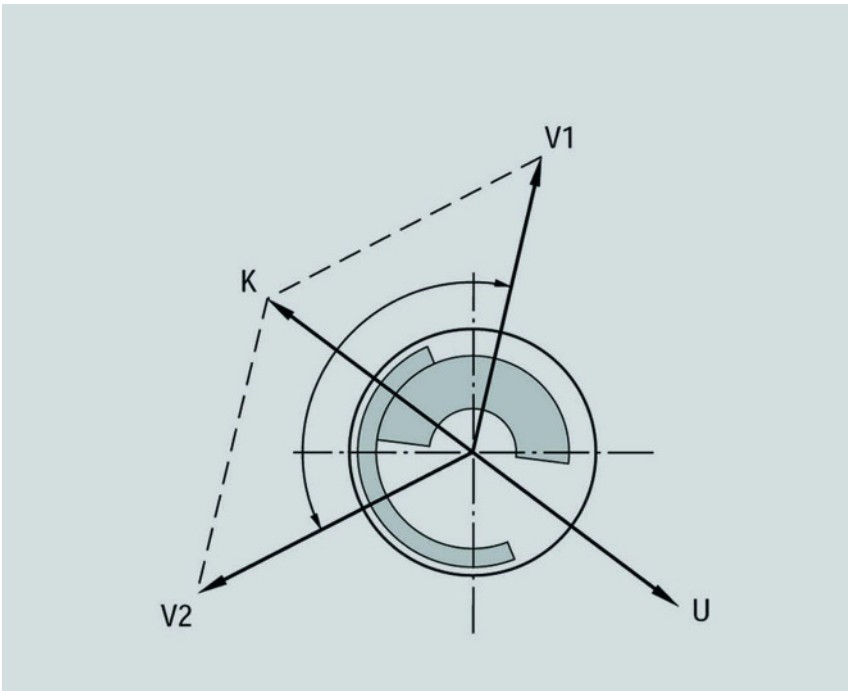
**All information without obligation,
subject to change without notice!**



HB 4002 function schematic

A control unit constantly receives the measured data - rotor speed and vibration. If the vibration exceeds a preset limit, an automatic balancing procedure is started by either the machine controller or the operator. The positioning motors receive the corresponding signals to move the balancing weights to the required position.

The MB 4002 balances automatically using an iteration procedure. The positions of the balancing weights required to compensate the unbalance in one or two planes are calculated based on the actual measuring data.



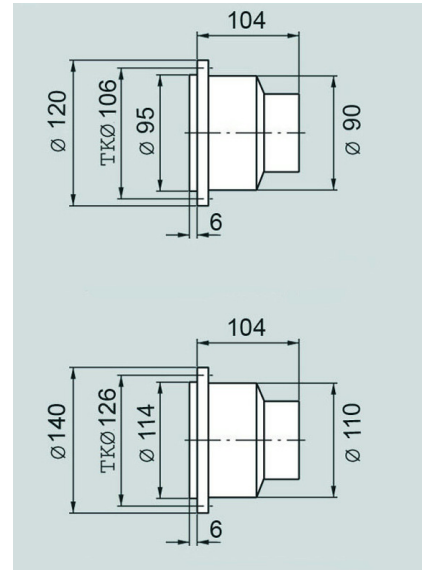
Unbalance compensation

The balancing heads are available in flange mount, external mount or space-saving internal mount versions. In conjunction with the NONCON sending unit, they are perfectly suited for operation in wet environments.

If the rotor unbalance is larger than the balancing head capacity, a manual pre-balance is required. For this purpose the MB 4002 has suitable pre-balancing, software that supports the split-component method of balancing.

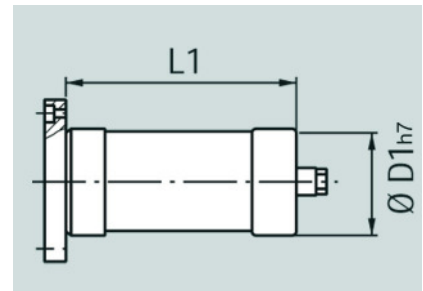


Types of balancing heads



Technical data internal balancing heads Type IBH

Type	Ø D1 [mm]	L1 [mm]	Capacity [gcm]
IBH 400	42	110	400
IBH 700	42	120	700
IBH 1000	50	160	1000
IBH 1500	60	120	1500
IBH 2800	60	220	2800



Technical data balancing heads Type EBH and IBH

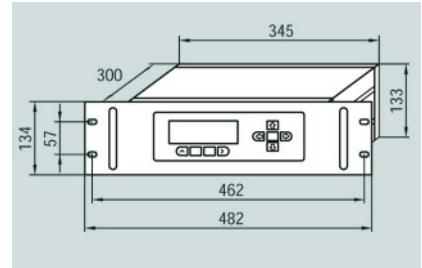
Balancing head - Type	EBH	IBH
Max. balancing speed [RPM]	6.000	12.000
Protection class	IP 67	
Balancing capacity [gcm]		
200	o 1)	x
400	o	o
650	x	x
800	o	x
1350	o	x
1500	x	o
1700	o	x
2850	x	o
3300	o	x
4300	o	x

Other capacities upon request.

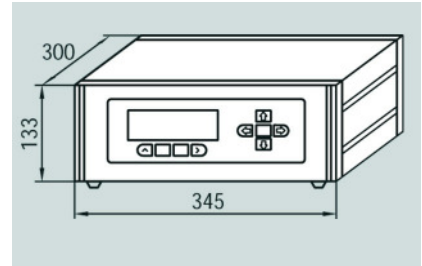
1) o = Standard balancing head, x = special design



Control unit with separate operator panel



Rack version



Desktop version

Technical data

Measuring electronics

Balancing planes	1/2
Vibration sensor	1/2
Rotational speed range	300 - 100,000 RPM
Vibration displacement range	0,01 - 100 µm
Control panel	IP67, keypad with pressure point
Display	4x20 LCD, illuminated
I/O interface	24 V, 25 pin D-Sub
Dimensions WxHxD	
■ Dimensions - 19" rack version	482 mm x 134 mm x 300 mm
■ Dimensions - desktop version	345 mm x 133 mm x 300 mm
Mains supply	115/230 V, 50-60 HZ, 80 W
Weight	approx. 6 kg.
NONCON - sending unit	
Operating frequency	<10 kHz
Transmission gap	up to 5 mm
Diameter x Length	75 x 30 mm

Options

- 2 plane system
- 4 channel system
- Control unit available as a 19" rack mount unit or case version
- Control unit with separate operator panel
- Custom balancing heads

Scope of supply

- Control unit
- Balancing head in external or internal mount version
- Vibration sensor SA 5004 with 5 m connection cable
- NONCON - sending unit with 5 m connection cable
- Operating instructions