

**microtec 510/ 510.M/
100.M**



Wheel balancing-computer



BEISSBARTH
GROUPE  **FACOM**

Documentation data

BA-mt510/510.M/100.M/En/Rev.002/03.98
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Beissbarth GmbH Automobil-Servicegeräte

Hanauer Str. 101 80993 München Telefon 089/ 14901-0 Telefax 089/ 14901246 Teletex 17/ 898612

Customer: Street: Postcode/Town: Tel.:	No.	Instructor:
	Sold by:	
	Order issued by:	

(please check as applicable)

Machine:	
Serial number:	

1. Check on completeness of balancing machine and freedom from damage

No defects/complaints

Missing parts: _____

Damage in transit: _____

2. Check function of machine

Clean machine shaft, examine clamping flange

Mechanical and electrical functions checked

3. Instruction on handling and operating the balancing machine

Mechanical construction of balancing machine explained

Safety instructions

Operation with Action Center

Various clamping methods and flanges indicated

Various imbalance compensation methods explained

Concealed balance weights

System adjustments

4. Instruction on special functions of balancing machine

Operator familiarised with match program

Flange calibration explained

Visual inspection procedure

60-gram calibration explained

5. Instruction on operating errors

Special attention drawn to possible wheel clamping errors

Reference to fault code table in operating instructions

6. Notes: _____

Customer's signature: _____

Time in flat rate units _____

Name in block letters: _____

Date: _____

BEISSBARTH MT 510/ 510.M/ 100.M

The wheels and suspension are crucial to the satisfactory road behaviour of an automobile.

Unequal distribution of material in wheel rims and tyres, possible residual imbalance in the wheel hub, brake drum or brake disc and today's sensitive suspension systems therefore require ultra-modern computer technology in the tyre service workshop.

Thanks to their high level of measuring accuracy, wheel-balancing computers from Beissbarth help to define wheel imbalance exactly and eliminate it. Depending on the machine model, matching the tyre to the rim is also possible.

High-quality electronic assemblies ensure exact measuring data and excellent service results.

Beissbarth wheel-balancing computers are therefore among those factors that decisively influence your company's competitiveness, together with customer satisfaction and further progress in the vehicle repair shop.



BEISSBARTH MT 510/ 510.M/ 100.M

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BEISSBARTH MT 510/ 510.M/ 100.M

Wheel weight	up to 65 kg
Rim diameter	Passenger cars 10" to 19" Small trucks up to 17.5" Motorcycles up to 22"
Rim width	up to 12" (305 mm)
Minimum motorcycle rim width	2"

Max. external diameter of wheel 820 mm for mt510/ 510.M:

Motor: 0.37 kW,
3 x 220-240V/ 380-420V
50/ 60 Hz

Balancing speed: 285 min-1 at 50 Hz

Balancing speed: 342 min-1 at 60 Hz

for mt510/510.M:

Power connection: 1-phase 1 x 230V-240V
50 Hz-60 Hz

Measuring time:

for mt 510/ 510.M: 3 seconds

for mt 100.M: 4 seconds

Operating temperature

range: +5°C to 40°C

Atmospheric humidity

range: 10-90% at 40°C

Noise emissions

for mt 510/ 510.M/ 100.M: LpA value = 70dB (A)

Dimensions (width x height x depth):

for mt 510/ 510.M: 700 x 900 x 400 mm

for mt 100.M: 700 x 900 x 390 mm

working space required, with wheel guard

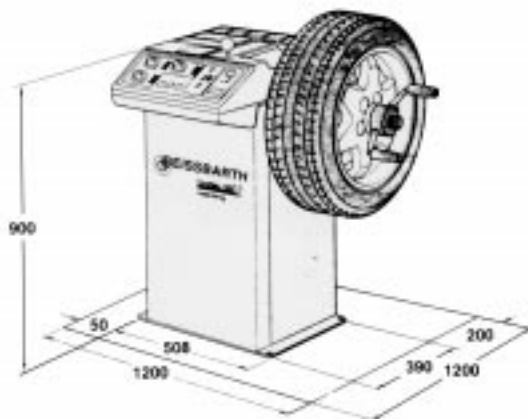
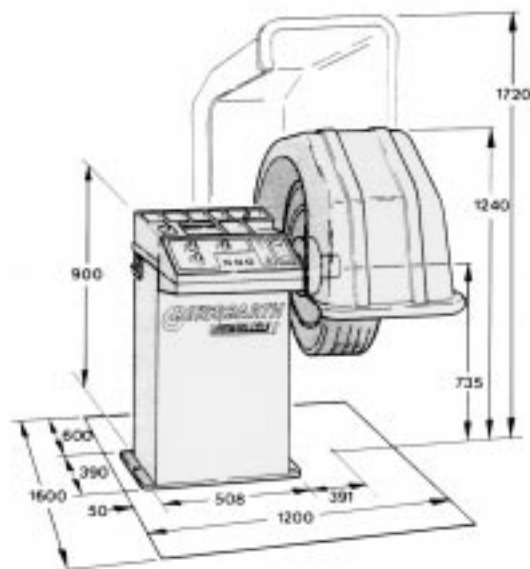
(width x depth): 1200 x 1600 mm

working space required, without wheel guard

(width x depth): 1200 x 1200 mm

Weight: 68 kg

Colour: blue (RAL 5015),
anthracite (RAL 7016)

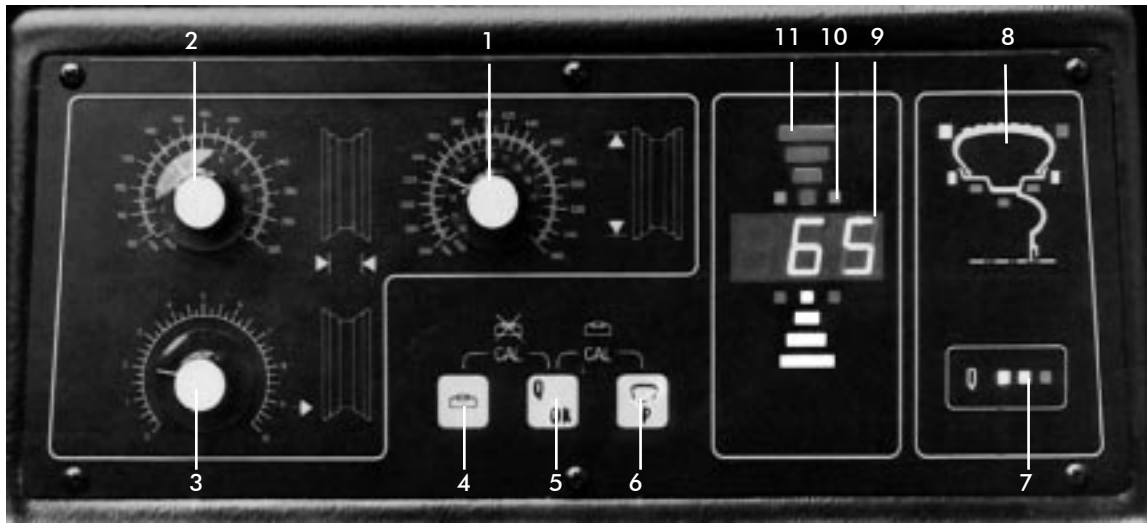


Subject to design modifications.

Important:








No warranty claims can be entertained in the event of the wheel-balancing computer having been improperly used or handled.

In particular, never operate the membrane keyboard with the weights tongs or other objects.

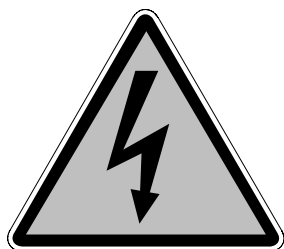


- 1 = Rim diameter adjusting knob**
- 2 = Rim width adjusting knob**
- 3 = Rim distance adjusting knob**
- 4 = Balancing method selector key**
- 5 = Weight threshold suppression key**
(with additional OK key for matching program)
- 6 = Inner/ outer plane selector key**
(with additional key for matching program)
- 7 = Weight threshold suppression display LEDs**
- 8 = Wheel rim diagram with display LEDs for weight position on inner and outer planes**
- 9 = Weight display in grams (with changeover for inner/ outer plane)**
- 10 = Signal LEDs for compensation point, green**
- 11 = Direction arrows (inner and outer plane), red**
- 12 = Mains switch on mt 510/ 510.M**
(green rocker switch on mt 100.M)
- 13 = Start/ stop switch (not on mt 100.M)**



-  The wheel balancing machine must only be used to balance vehicle wheels and tyres in conformity with the stated technical data.
-  Only properly trained and skilled personnel must operate the machine.
-  Power-driven wheel balancing machines must only be operated with a wheel guard in position (German law: please conform with local regulations in other countries).
-  Safety equipment must never be removed or put out of action.
-  Essential repairs must only be performed by servicing personnel familiar with the machine. Any form of tampering with the machine absolves Beissbarth from all liability for resulting damage.
-  Work on the electrical installation must be performed by qualified electrical technicians.
-  The wheel balancing machine must not be operated in explosion-risk areas.

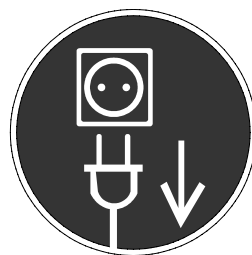
Warning symbols



Meaning:

Warning in regards to electrical installations

Attention!



Meaning:

Before opening unplug power supply!

Installing the machine

The machine must be bolted to a firm and level concrete floor using plugs.

Make all electrical connections according to the circuit diagram. Incorrect connections will damage the electronics. The mt 510/510.m may be used with three-phase mains supplies of 220/ 380/ 415 Volt (50/ 60 Hz). The factory setting is 400 V. The mt 100.M requires a 230-240 V / 50-60Hz power supply.

The wheel being balanced must rotate in the direction of the arrow, otherwise error code E3 will appear.

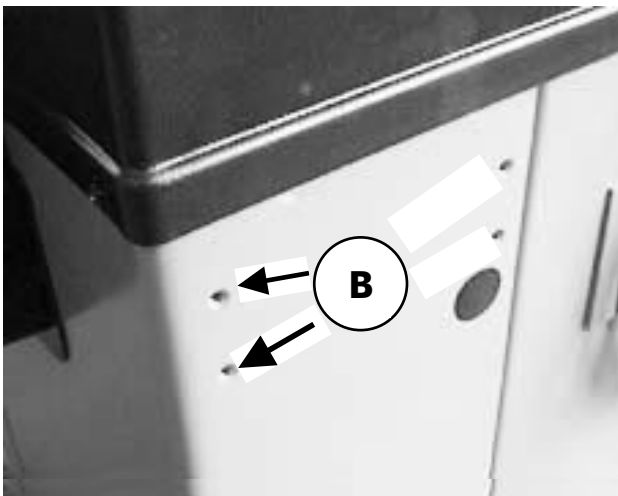
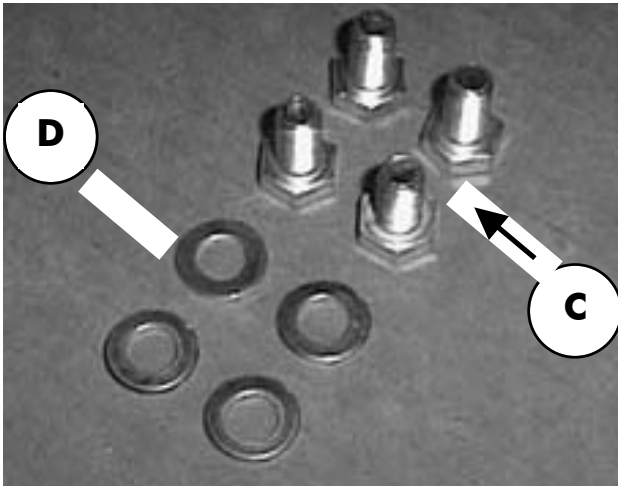
Before starting up for the first time, calibrate the balancing flange (see page 7-2).

Assembling of the wheel guard



For mt 510 only:

Screw (A) wheel guard onto the back of the machine (B) by means of attaching screws (C) and washers (D).



- Clean the rim and tyre.
- Remove old balancing weights.
- Check wheel run-out with dial gauge P 22 (accessory item).



Installing flange on machine shaft

Push the complete flange on to the conical shaft and tighten the M 16 retaining bolt with the Allen key.



Installing wheel on flange

Important note:

Use of dirty or damaged clamping devices and wheels, use of incorrect clamping devices, improper use of clamping devices (see list of flanges, EDV 901 146 001) and excessive or inconsistent wheel stud tightening torques can lead to balancing errors of 30 g and more.

Refer to the accompanying flange list for the most appropriate method of securing the wheel to be balanced in each case.

		BEISSBARTH				
		SI	KB	S+KB	S+D	U
Wheel	Flange	SI	KB	S+KB	S+D	U
...

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BEISSBARTH MT 510/ 510.M/ 100.M

Hub centring flange

To clamp the wheels on to the balancing machine, use the hub-centring flange for all open-centred wheels: these account for 80 % of all wheels.

To minimise clamping errors, the tyre valve should face downward when clamping the wheel on to the flange and fitting to the vehicle.

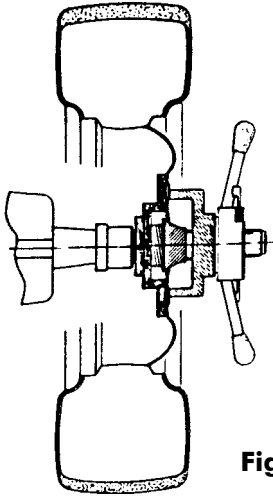


Fig. 1

1. Centring of the wheel with centring cones from the rim back, and wheel mounting with clamping cap and quick-clamping ring nut from the rim front:

Push coil spring over flange shaft.

Choose appropriate centring cone (cone must enter the hub centre of the rim) and push cone against coil spring.

Hold the car wheel carefully against the centring cone and at the same time press clamping cap over flange shaft against rim.

Tighten wheel by hand at quick-clamping ring nut (see Figure 1).

Do not use tools such as a hammer.

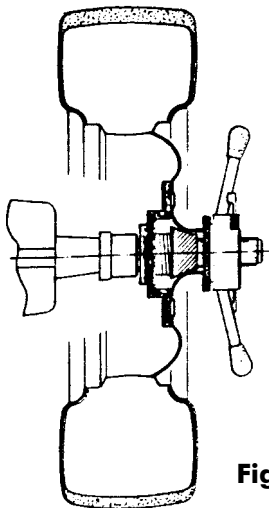


Fig. 2

2. Centring of wheel with centring cones from the rim back, and mounting with pressure ring and quick-clamping ring nut from the rim front:

Centring of the wheel is carried out as described in Item 1.

To fasten, use a pressure ring instead of a clamping cap.

This is a suitable method to centre light-alloy wheels with a very high rim dome where the clamping cap does not reach the mounting surface or if the rim (because of reinforcing ribs) is of irregular shape (see Figure 2).

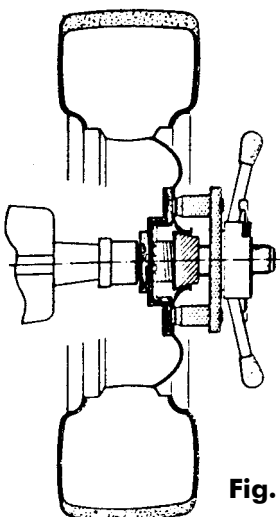


Fig. 3

3. Centring of wheel with centring cones from the rim back, and mounting with centring discs and quick-fastening ring nut from the rim front:

Centring from the rim back is as described in Item 1.

To fasten, use a centring disc for the specific car type instead of a clamping cap.

The centring disc's fixed bolts engage in the relevant rim locating holes and press the wheel on to the flange mounting surface via the quick-clamping ring nut (see Figure 3).

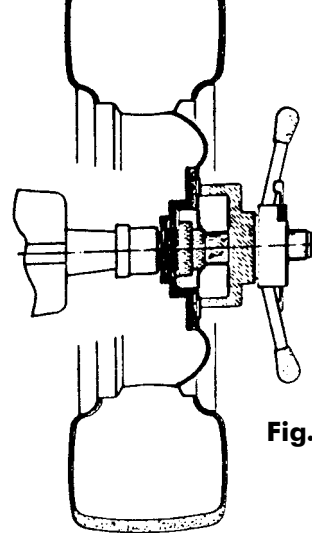
car type from the rim back, and mounting with clamping cap and quick-clamping ring nut from the rim front:

Select appropriate centring ring (the centring ring must fit exactly into the machined centre bore of the rim) and push it over the flange shaft.

Push the centre bore of the rim carefully over centring ring and simultaneously press clamping cap over flange shaft against rim.

Tighten wheel by hand at quick-clamping ring nut (see Figure 4).

Do not use tools such as a hammer.



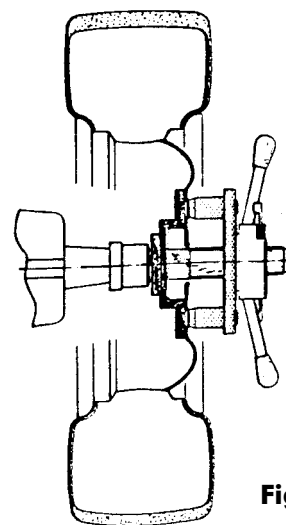
5. Centring and mounting of wheel with centring discs and quick-clamping ring nut from the rim front:

Centring and mounting of car wheels without machined centre bore can be carried out with centring discs for specific car types.

Hold the wheel against the mounting surface of the flange and push the appropriate centring disc - with centring bolt leading - over the flange shaft into the locating holes of the rim.

Tighten wheel by hand at the quick-clamping ring nut (see Figure 5).

Do not use tools such as a hammer.



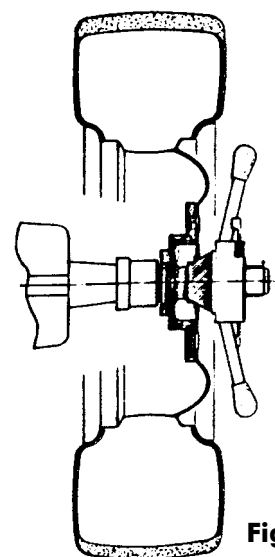
6. Centring and mounting of wheel with centring cones and quick-clamping ring nut from rim front:

A version only rarely used. Suitable for wheels with thin walls in the machined centre bore area.

Position wheel against mounting surface of flange and push appropriate centring cone over the flange shaft into the centre bore of rim (cone must enter hole).

Tighten wheel by hand at quick-clamping ring nut (see Figure 6).

Do not use tools such as a hammer.



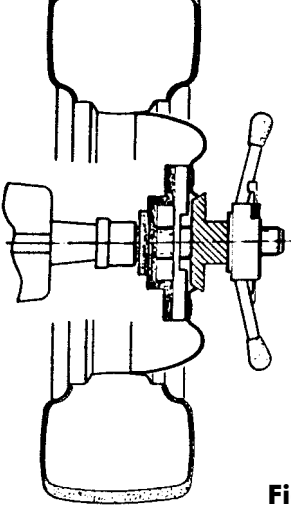


Fig. 7

cones and quick-clamping ring nut from rim front and wheel spacers from reverse side of rim:

Since offsets of light-truck wheel rims are very large, the wheel spacer is inserted between the flange mounting surface and the reverse side of the rim.

Centring and mounting are carried out as described under Item 6 (see Figure 7).

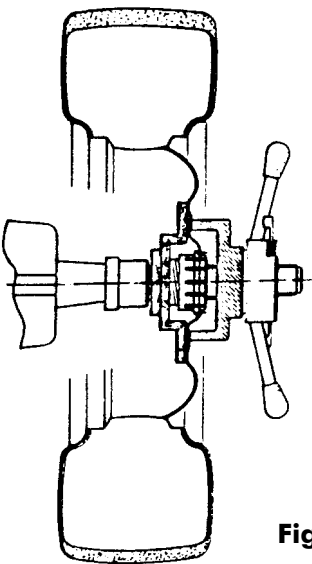


Fig. 8

- 8.** Centring with self-adjusting centring spreader sleeves from the rim back and fastening with clamping cap or pressure ring and quick-clamping ring nut from rim front:

Optimum centring for all rims with machined centre bore. Push coil spring over flange shaft.

Push basic sleeve into appropriate spreader sleeve (specific type for car) and press it onto the flange shaft. The bulge on the spreader sleeve must be at the front.

Push the centre bore of the wheel rim carefully over the spreader sleeve and simultaneously press clamping cap or pressure ring over flange shaft against rim.

Tighten wheel by hand at quick-clamping ring nut.

Do not use tools such as a hammer.

During tightening, the spreader sleeves will always adjust without play, with the result that tolerances between the clamping centre shaft and the cylindrically machined rim centre bore will be absolutely zeroed during centring (see Figure 8).

UNI (universal) flanges are used to clamp wheels on to the wheel balancer in the case of all closed-centre wheels with 3, 4 and 5-hole patterns as well as all wheels with unmachined centre bores.

To avoid clamping errors as far as possible, the tyre valve must be in face-downward position when clamping the wheel on to the flange and fitting to the car.

Make sure that the mounting nut directly located next to the valve is always tightened first; then tighten all other nuts in a crosswise pattern.

When the balancing procedure has been completed, fit the wheel to the car according to the same procedure.

- 9. Centring and mounting of the wheel with locating pins and double-ended conical nuts or quick-clamping cones:**

Select required hole pitch circle pattern for the hole centre plate of the flange and insert correct number of locating pins.

Secure locating pins from back with knurled nuts.

Carefully push wheel with mounting bores over the locating pins and against the mounting surface of the flange.

Tighten double-ended conical nuts on the locating pins with box wrench 22 mm across flats or use quick-clamping cones (see Figure 9).

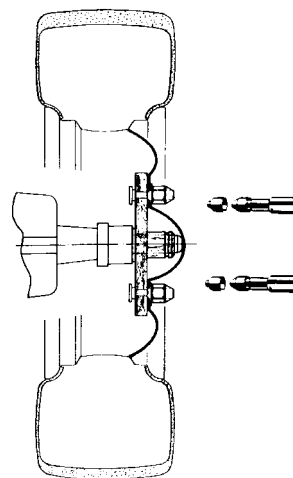


Fig. 9

- 10. Centring and mounting of the wheel with sliding bolts and double-ended conical nuts or quick-clamping cones:**

Insert required sliding bolts into the flange guides and adjust to the desired hole circle pattern.

The sliding bolts are set via ball-grids to the selected hole circle.

The wheel is mounted on to the flange as described under Item 9 (see Figure 10).

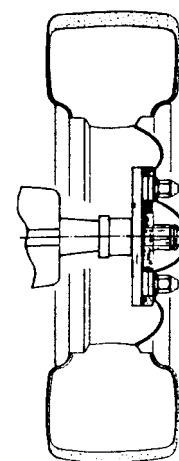


Fig. 10

- 11. Centring and mounting of wheel with steplessly adjustable swivel pins and double-ended conical nuts or quick-clamping cones:**

Unscrew swivel bolts with T-shaped Allen key and insert centre plate for 3-hole mounting or the combination centre plate for 4- and 5-hole-pattern mounting as necessary into the flange recess.

Loosely fasten the required swivel bolts according to the embossed numbers.

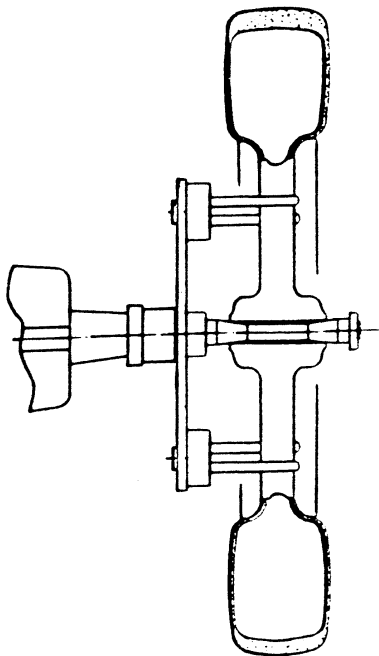
For exact adjustment of the flange on the relevant hole-circle pattern, measure the fastening bores of the flange with the hole pattern gauge and transfer to the swivel bolts.

Tighten swivel bolts with Allen key.

Attach the wheel to the flange as described in Item 9 (see Figure 10).

Motorcycle Pro Bike flange

For all motorcycle wheels from 2" rim width with a centre bores from 14mm to 25mm (with special accessories also for centre bores from 10- and 12 mm).



12. Centring of wheel with centring sleeves or centring cones and mounting with knurled nut.

The two sprung driving-plate pin tighten and push the wheels running surface from outside.

Put a accuracy in fitting centring sleeve in the wheel hub and mount them on the outer wheels running surface. Make sure that the wheel rests on the centring sleeve shoulder, and not against the driving plate. If necessary, fit intermediate spacing sleeve. Insert second centring sleeve over centre shaft into wheel hub and secure wheel with large knurled nut.

For special wheel hubs, use the two centring cones instead of the centring sleeves.

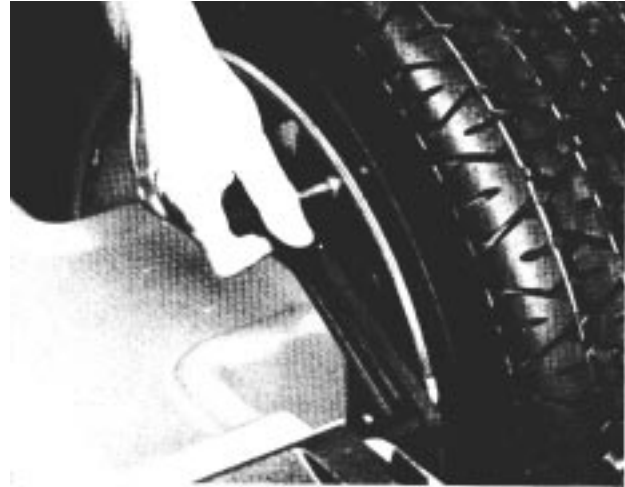
Turn on mains switch.

Enter rim data at adjusting knobs (1) and (2).

(If rim data is not stamped on the wheel, use accessory item - rim width gauge EDV No. 859 590 004.)

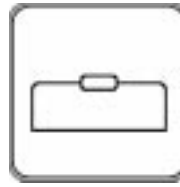
Slide out the rim distance sensor arm until it touches the rim flange.

Read off the value and set adjusting knob (3) to the appropriate position.

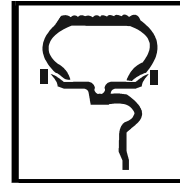


BEISSBARTH MT 510/ 510.M/ 100.M

Select the locations for the balancing weights on the rim at selector key (4).



When the machine is switched on at the mains switch, weight location is automatically programmed for hammer-on weights on both sides of the rim flange.



Press selector key (4) once:

Computer program for stick-on weights on both sides of the bead seat.



Press selector key (4) twice:

Computer program for concealed location of outside stick-on weight in rim well.

(Front edge of eight flush with rear edge of flange disc.)



Press selector key (4) three times:

Computer program for purely static balancing. (Balancing weight located at centre of rim.)



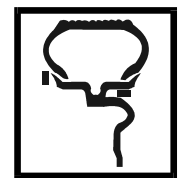
Press selector key (4) four times:

Computer program for attaching stick-on weight inside (bead seat) and hammer-on weight outside (rim flange).



Press selector key (4) five times:

Computer program for attaching stickon weight outside (bead seat) and hammer-on weight inside (rim flange).

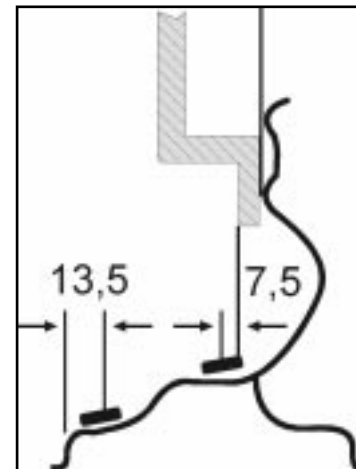


Press selector key again to reselect the basic program for hammer-on weight location on both sides of the rim flange.

(Most widely used balancing method.)



Note
Balancing position



If this balancing position is not possible, residual imbalance is to be expected and rebalancing will probably be necessary.

These computing programs are shown on the rim diagram (8) by illuminated green LEDs.

To alter the weight display to ounces, switch the machine off, unscrew the measuring unit and reset service switch No. 4 (close to distance potentiometer) to ON.

Weight threshold suppression key (5):



If this key is held down for a certain time (approx. 3 s), the weight suppression is switched off. The machine is then ready for fine balancing.

Pressing the key briefly sets the suppression threshold to 5 grams. Pressing it again sets the suppression threshold to 10 grams.

The selected suppression threshold is shown by the appropriate LED coming on in display area (7).

The selected suppression threshold is shown by the appropriate LED coming on in display area (7).



red	green	green
-----	-------	-------

**Fine balancing
- suppression
off**

**5 g
suppression
threshold**

**10 g
suppression
threshold**

An acoustic feedback signal is given each time a key is pressed.

Wheel plane changeover key (6):

Press this key to display the imbalance value either for the inner or the outer plane.

The selected plane is shown by a red LED coming on in the wheel rim diagram (8)



For mt 510/ 510.M:

Note:

In Germany, regulations require a wheel safety hood with electric interlock.

The safety hood has to be closed before the machine drive can be switched on.



Close the wheel guard.

Turn switch (13) to "Start"; the machine will run up to speed.

The measuring run is shown by a broken line on the display (9). When the digital weight display in grams appears, the imbalance values and compensating points for both wheel planes have been stored.



Turn switch (13) to the right to the "Stop" position and hold it there until the wheel comes to a standstill.

The digital display (9) shows the imbalance value in red figures for the wheel plane selected at key (6).

Large red arrows (11), which shorten as the wheel is turned to the correct position, indicate the direction of imbalance.



At the correct balancing position, the red arrows disappear and the four green LEDs (10) light up.

The attachment point for balancing weights is the 12 o'clock position.

Press key (6).

This automatically displays the imbalance and compensating point for the other wheel plane.

Turn to the compensating point as described above, and attach the balance weight at the 12 o'clock position.



A check run can be performed to confirm that imbalance has been eliminated.

If wheel imbalance is correct, the digital displays will show "0".



Rotate the wheel clockwise with the hand crank until a beeping sound indicates that the optimum balancing speed (150 min/ -1) has been reached.

Note:

Wheels with full-section rims and motorcycle wheels are driven by the rod-type crank (optional equipment). To use, locate the rods rubberised tip between the rim flange and tyre.



The measuring run is shown by a broken line on the display (9).

When the digital weight display in grams appears, the imbalance values and compensating points for both wheel planes have been stored.

To brake, press back the ball handle at the top of the plastic cover.



The digital display (9) shows the imbalance value in red figures for the wheel plane selected at key (6).

Large red arrows (11), which shorten as the wheel is turned to the correct position, indicate the direction of imbalance.

At the correct balancing position, the arrows disappear and the four green LEDs (10) light up.



The attachment point for balancing weights is the 12 o'clock position.

Press key (6).

This automatically displays the imbalance and compensating point for the other wheel plane.

Turn to the compensating point as described above, and attach the balance weight at the 12 o'clock position.



The attachment point for balancing weights is the 12 o'clock position.

A check run can be performed to confirm that imbalance has been eliminated.

If wheel imbalance is correct, the digital displays will show "0".

Note:

The following comments apply to the mt 510/ 510.M balancing machines with electric motor.

Run up and brake with the start/ stop switch (13).

The mt 100.M balancing machine, on the other hand, is usually run up with the hand crank or rod-type crank, and braked by means of the ball-type handle at the top of the plastic cover.



Balancing several wheels of the same type

In this case, the rim-data have only to be entered once.

As many wheels of the same type as required can then be balanced consecutively.

Correcting data input mistakes

If you discover after the measuring cycle that incorrect data were entered, a correction can be made without repeating the cycle.

Proceed as described below.

Set the correct rim diameter, width or distance value, as appropriate, at the relevant adjusting knob.

Without repeating the measuring cycle, the balancing values are recalculated and displayed automatically.

Machine self-check

When the machine is switched on, all LEDs and the digital displays (888) in the display area come on for approx. 2 seconds and an acoustic signal also sounds.

The microprocessor runs a selfcheck of the electronic circuitry in this time.

After the displays have gone out, the electronic system check has been completed and the machine is ready for operation.

If an error is located, an error code display appears in the digital display. In this event, servicing work is required.





Important:

If any repair work is carried out or parts are exchanged, only the spare or DIN parts from the appropriate Beissbarth parts list may be used.

- Error 1:** Drive/ light barrier defective
(call customer service)
- Error 2:** Instable wheel speed
(call customer service)
- Error 3:** Incorrect direction of rotation
- Error 4:** Excessive residual imbalance
(only when calibrating)
(call customer service if necessary)
- Error 5:** Sensor/ adjusting weight outside tolerance (only when calibrating with weight)
(call customer service if necessary)
- Error 6:** Amplification channel outside tolerance or A/ D converter defective
(call customer Service)
- Error 7:** NV RAM defective (single-board computer)
(call customer service)
- Error 9:** RAM defective (single-board computer)
(call customer service)
- Error 12:** Wheel guard not closed
- Error 13:** Potentiometer not in adjusting position or defective (potentiometer adjustment only)
(call customer service if necessary).
- Error 14:** Impermissible wheel input data for adjustment
(adjustement with weight only).
- Error 15:** Measuring cycle has been interrupted; restart machine.

Machine calibration with hammer-on weight on a conventional wheel (rim width 4" to 7", rim diameter 12" to 16").

This calibration routine is needed only in the event of display errors (direction or amount). It can be carried out by the machine operator.

1. Enter the wheel data.
2. Balance the wheel; residual imbalance must be less than 10 g, otherwise error code 4 will appear during calibration.
3. Zero-gram wheel calibration (without weight):

hold down keys (4) and (5) together for approx. 5s, until "C0" appears in the digital display. Close the wheel guard and start the machine at switch (13).

The machine then performs a calibration run, followed by a measuring run.

When "0" appears in the digital display (9), stop the machine at switch (13).

4. 60 g calibration with wheel.

Check the wheel data (distance, rim width, rim diameter). Hammer the 60 g calibration weight on the outer plane and turn precisely to the 6 o'clock position.

Hold down keys (5) and (6) together for approx. 5 s, until "C 60" appears in the digital display.

Confirm the calibration weight's direction (6 o'clock position) by pressing weight threshold suppression key (5).

Close the wheel guard and start the machine at switch (13).

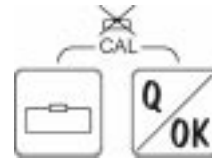
The machine then performs a calibration run, followed by a measuring run.

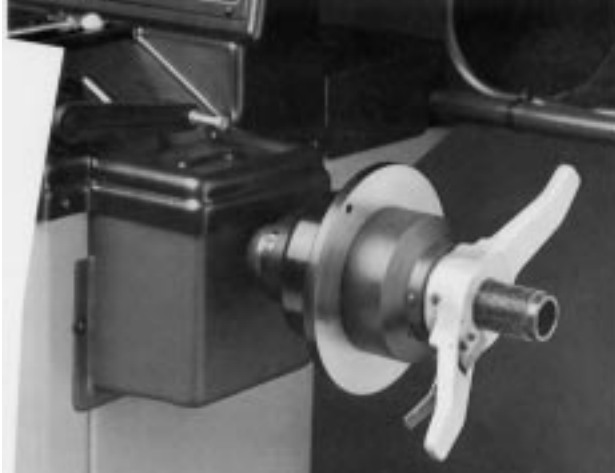
When "60" appears in the digital display (9), stop the machine at switch (13).

This completes machine calibration.

Important:

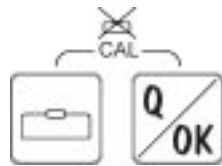
Once the machine has been calibrated it is essential that the balancing flange be calibrated too.





This calibration is necessary when the machine is put into service for the first time, after a balancing flange has been replaced or the machine calibrated. It can be carried out by the machine operator.

Secure the complete balancing flange on the machine shaft.



Hold down keys (4) and (5) together for approx. 5 s, until "C 0" appears in the digital display.

Close the wheel guard and start the machine at switch (13).

The machine then performs a calibration run, followed by a measuring run.

When „0" appears in the digital display, stop the machine at switch (13).

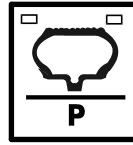
Any residual flange imbalance is now stored and compensated for.



Matching is recommended for compensation of vertical runout and irregular shapes for static wheel components of 30 g upwards.

Activating the matching process

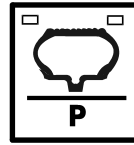
Switch off the machine at mains switch (12).
Hold down key (6), at the same time switching the machine on again at mains switch (12).



A "1" appears briefly in the digital display to indicate that the matching process has been activated.

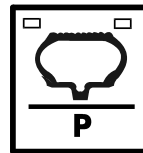
When in this mode - in normal balancing operation - the grams display flashes, automatically indicating that a matching process should be carried out.

The matching process is switched off-line by switching off the machine at the mains switch (12), then holding down key (6) and at the same time switching on the machine again at mains switch (12).



A "0" appears briefly in the digital display to indicate this.

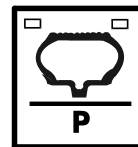
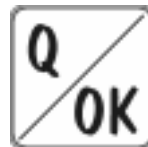
By pressing key (6) for 5 seconds, the matching program can be obtained immediately.



Note:

Keys (5) and (6) serve a dual function.

Key (5) only functions as an OK key in the matching program. In normal balancing operation it is the weight threshold suppression key.



By pressing key (6) for 5 seconds, the matching program can be obtained.

In normal operation, it is the selector key for the inner/ outer plane displays.



- Hold down key (6) for 5 seconds. "P1" appears in the digital display and the two red LEDs for the wheel planes (8) come on at the same time.

- Clamp the empty rim to the base flange.

1. Turn the rim until the valve is vertical under the balancing shaft (6 o'clock).



2. Press key (5). "P2" appears in the digital display.

Start the machine, and wait until "P3" appears on the display.

Brake the machine.

3. Fit the tyre on the rim and clamp the wheel to the balancing flange again.

4. Turn the wheel until its valve is vertical under the balancing shaft (6 o'clock).



5. Press key (5). "P4" appears in the digital display.

Start the machine, and wait until "P5" appears in the digital display.

- Brake the machine.

6. Turn the wheel according to the red arrow until the green LEDs (10) come on, indicating the balancing position.

Mark the tyre directly above the balancing shaft (12 o'clock position).

- Turn the tyre on the rim until the mark is aligned with the valve on the rim.

7. Fit the wheel on the balancing flange again, and turn it until its valve is vertical under the balancing shaft (6 o'clock).



8. Press key (5). "P6" appears in the digital display.

Start the machine, and wait until the imbalance figures for the outer plane are shown in grams in the digital display. (The machine is now back in its normal balancing program).

Brake the machine.

Attach imbalance weights.

Call up the inner plane and attach imbalance weights.

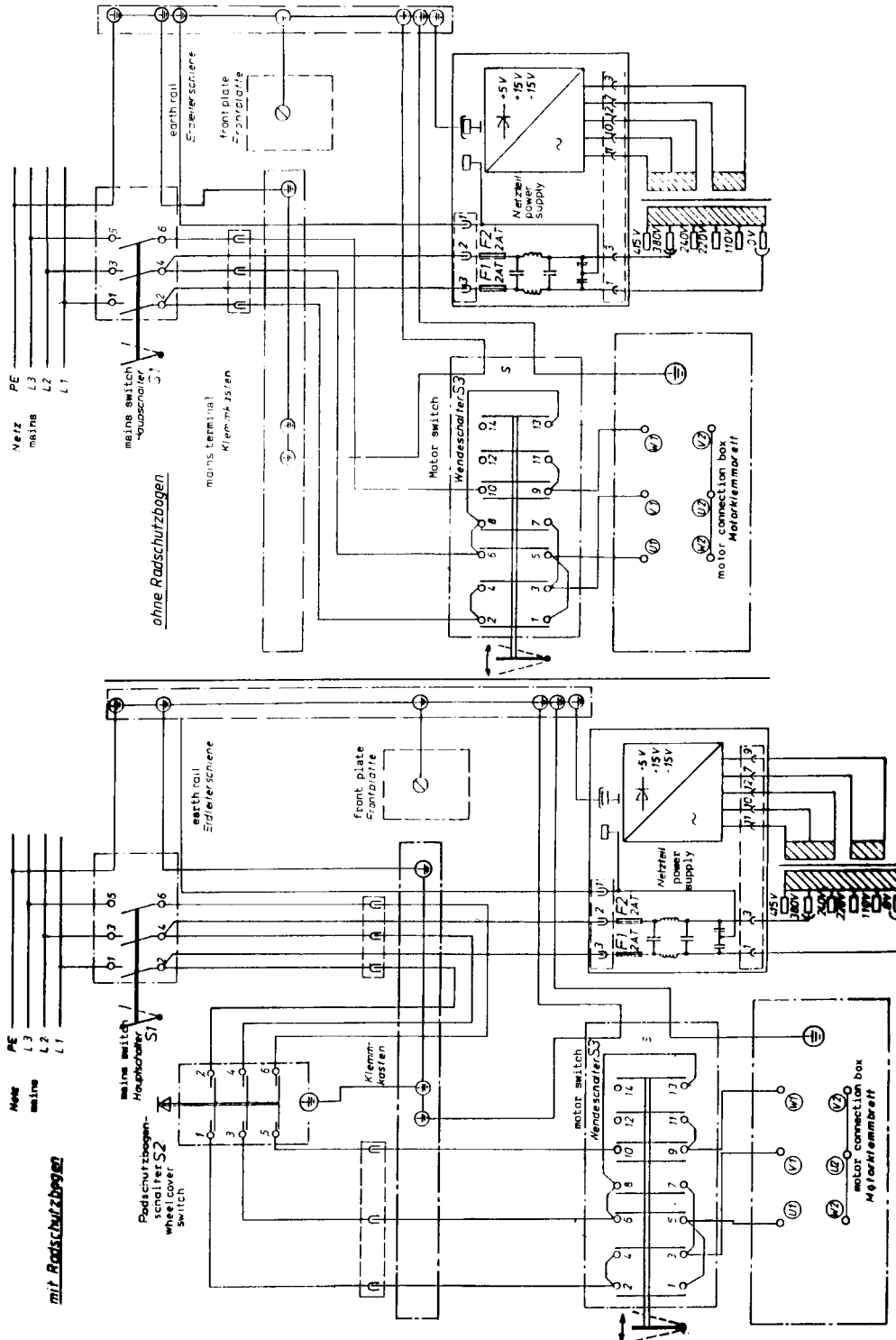
Important:

If the static imbalance components of the tyre and rim are still incorrect, the machine returns automatically to program stage "P5" and demands that the tyre once again be turned on the rim.

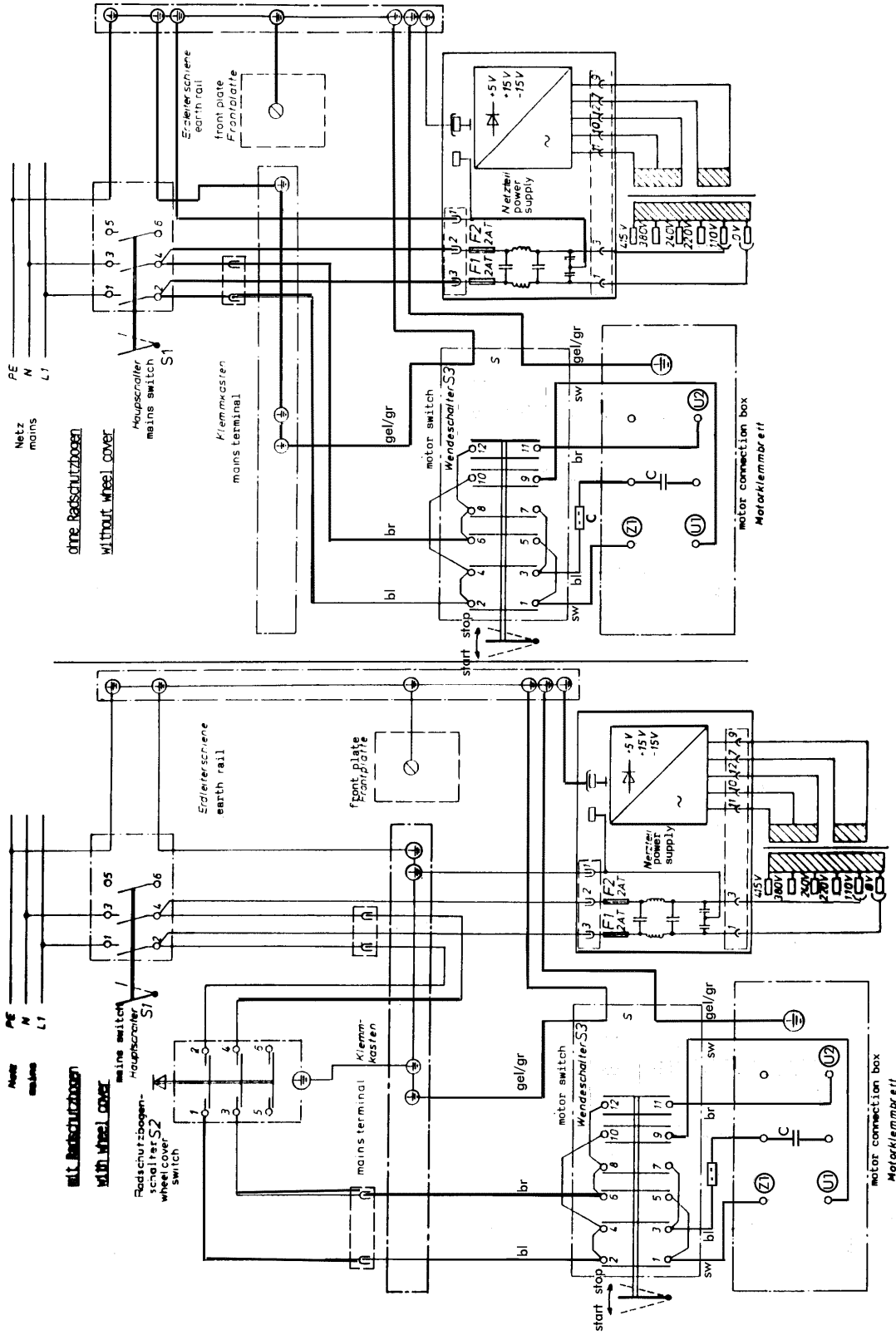
Note:

The matching process can be interrupted and the normal balancing program obtained at any time by pressing key (6).

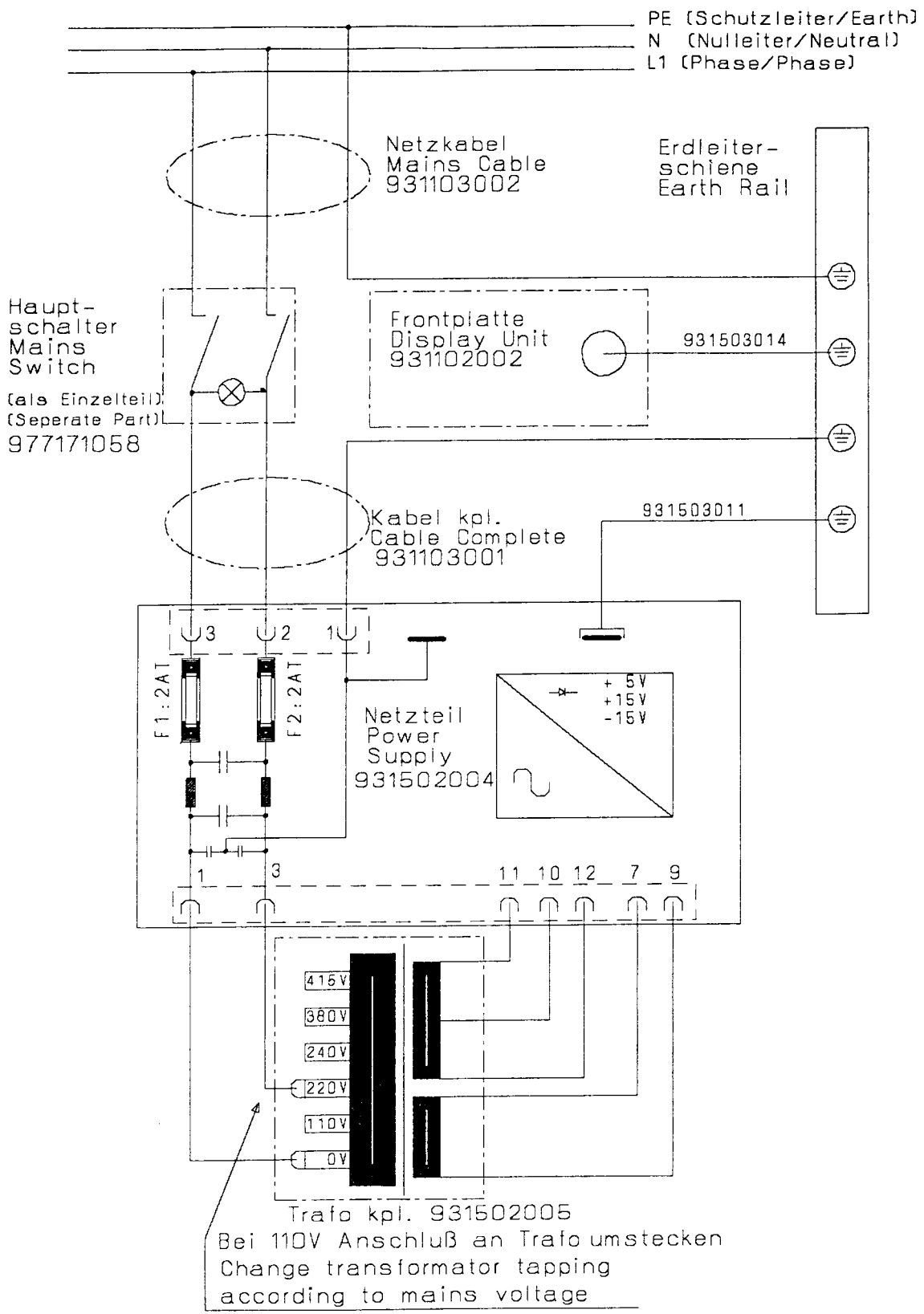




- a) Machine wiring is factory set for 3 phase 380V.
- b) The shaft should revolve in arrow direction with motor switch in "start" position.
- c) The motor must be connected in delta for 3 phase, 220 or star for 3 phase, 380 or 3 phase 415V.
- d) The mains transformer, located at the power supply must be set at the appropriate mains voltage tapping.



- a) The shaft should revolve in arrow direction with motor switch in "start" position.
- b) The motor direction can be reversed by switching over the wires at terminal 1 and 3 of the motor switch.



MT 510/ 510.M/ 100.M/En/Rev. 002/03/98 * 901 512 002

Before carrying out any maintenance or servicing work, disconnect the mains plug from the power supply. If the power supply is permanently attached to the machine, turn off the main switch and secure it in the off position with a padlock so that it cannot be accidentally switched on again.

If malfunctions occur and the machine operator cannot eliminate them, or if fault indications are displayed, please consult Beissbarth's service organisation.

The quality of wheel balancing depends decisively on the condition of the mounting cone at the main shaft, and the corresponding clamping devices. These parts must therefore be looked after with particular care. Keep them clean, dry and free from grease when in use.

If the wheel balancing computer is to remain out of use for a lengthy period, it should be covered over and stored in a dry place. The mounting cone and the clamping devices must be protected against corrosion by coating them with an acid-free oil. However, this oil film must be removed again before the machine is next used.



(+49) 89-14901-233

EC-Declaration of Conformity



CE-Declaration de conformité / EG-Konformitätserklärung
CE-Dichiarazione di conformita / CE-Declaration de conformidad
CE-Declaração de conformidade / EG-Conformiteitsverklaring
EC-försäkran om överensstämmelse

Hiermit erklären wir, daß die nachfolgend bezeichnete Maschine/Ausrüstung aufgrund Ihrer Konzipierung und Bauart sowie in der von uns in Verkehr gebrachten Ausführung den einschlägigen grundlegenden Sicherheits- und Gesundheitsanforderungen der betreffenden EG-Richtlinie(n) entspricht. Bei einer nicht mit uns abgestimmten Änderung der Maschine/Ausrüstung verliert diese Erklärung ihre Gültigkeit.

We hereby declare, that the following described machine/equipment as a result of its conception and construction in all our distributed versions, meets the relevant fundamental health and safety requirements of the respective EC guidelines. This declaration will lose validity if changes to the machine/equipment are made without our consent.

Nous déclarons par la présente que les machines et équipements décrits ci-après, sont conçus et construits pour l'ensemble de la production, au regard des règles fondamentales du cahier des charges européen. Cette déclaration perd sa validité si des changements sont opérés sur ces machines ou équipement sans notre consentement.

Con la presente dichiariamo che la seguente macchina/attrezzatura e il risultato delola sua concezione e costruzione in tutte le sue versioni distribuite. E conforme ai fondamentall criteri die sicurezza e salute delle rispettive normative CEE. Questa dichiarazione perderà validità se la macchina/attrezzatura subirà modifiche senza il nostro consenso.

Por la presente, declaramos que la máquina/equipo descrito a continuación, como resultado de su concepción y construcción, en todas lasw versiones que distribuimos, cumple con las normas de salud y seguridad descritas en la guía de la CE. Esta declaración perderá validez si se realizan cambios en el equipo/máquina sin nuestro consentimiento.

Pelo presente declaramos que o equipamento/maquina abaixo descrito foi concebido e construido emk todas as versões disponíveis, de acordo com as normas de segurança exigidas da CE. Esta declara çao perderá toda a validade se o equipamento/maquina forem alterados.

Hiermede verklaren wij dat de navolgende machine/apparatuur beantwoordt aan de EG-richtlijnen inzake eisen voor veiligheid en gezondheid zowel op grond van constructie en samenstelling als op grond van de door ons in het gelodigheid indien zonder overleg met ons wijzigingen in de machine/apparatuur worden aangebracht.

Vi härmed intygar att följande maskin/utrustning överensstämmer med var ritning och konstruktion i alla vara distribuera-de typer, möter alla de krav pa hälso- och säkerhetskrav i enitgt med EC-Riktlinjer. Denna deklaration gäller ej om mas-kinen/utrustningen ändras utan var vetskap.

Bezeichnung der Maschine/Ausrüstung: Machine/Equipment description: Description de la machine/équipement:
Descrizione macchina/attrezzatura: Descripción máquina/equipo: Descrição máquina/equipamento: Aanduiding van de machine/aparatuur:
Maskin/utrustning Beskrivning:

Radauswuchtmaschine / Wheel balancer / Equilibreuse de roues / Equilibratrice / Equilibradora
Equilibradora de rodas / Balanceermachine / Hjulbalancering

Typ.: microtec 510/ 510.M/ 100.M (mt 510/ 510.M/ 100.M)

Hersteller-Nr.: Production No.: No. de série: Produzione No.: Producción No.: Número série: Fabrikaatnr.: Tillverkningsnummer:

Fab.Nr.:

- **EG Maschinenrichtlinie (89/392/EWG) i.d.F.91/368/EWG,93/44EWG,93/68/EWG73/23/EWG**
- **EG Richtlinie Elektromagnetische-Verträglichkeit (89/336/EWG) i.d.F. 93/68/EWG**
- **EG-Niederspannungsrichtlinie (73/23/EWG) i.d.F. 93/68/EWG**
- **EG-Richtlinie CE Kennzeichnung 93/68/EWG**

In conformance with the requirements of the following EC Guidelines:

- EC-Machine Standard (89/392/EWG) i.d.F.91/368/EWG,93/44EWG,93/68/EWG73/23/EWG
- EC Guidelines for Electro-Magnetic Compatibility (89/336/EWG) - 93/68/EWG
- EC Low Voltage Guidelines (73/23/EWG) - 93/68/EWG
- EC Guidelines for CE Certification 93/68/EWG

En concordance avec les exigences des directives CE:

- **EC-Standard machine (89/392/EWG) i.d.F.91/368/EWG,93/44EWG,93/68/EWG73/23/EWG**
- **Directive CE pour la compatibilit, electro-magnetique (89/336/EWG) - 93/68/EWG**
- **Directive CE pour la basse tension (73/23/EWG) - 93/68/EWG**
- **Directives pour la certification CE 93/68/EWG**

In conformita con le seguenti normative CE:

- CE-Macchina Standard (89/392/EWG) i.d.F.91/368/EWG,93/44EWG,93/68/EWG73/23/EWG
- Normativa ce per compatibilita elettromagnetica (89/336/EWG) - 93/68/EWG
- Normativa per bassa tensione (73/23/EWG) - 93/68/EWG
- Normativa ce per certificazione 93/68/EWG

Conforme con los requerimientos de las siguientes Guias de la CE:

- **CE-Maquina estandar (89/392/EWG) i.d.F.91/368/EWG,93/44EWG,93/68/EWG73/23/EWG**
- **Guia EC para compatibilidad electro magn,tica (89/336/EWG) - 93/68/EWG**
- **Guia EC para bajo volaje (73/23/EWG) - 93/68/EWG**
- **Guia EC para certificaciñ de la CE 93/68/EWG**

Em conformidade com os seguintes Regulamentos CE:

- CE-Maquina estandar (89/392/EWG) i.d.F.91/368/EWG,93/44EWG,93/68/EWG73/23/EWG
- Regulamento CE para compatibilidade electro-magn,tica(89/336/EWG - 93/68/EWG
- Regulamento CE para a baixa voltagem (73/23/EWG) - 93/68/EWG
- Regulamento CE para o certificado CE 93/68/EWG

Conform de Bepaligen van de EG-Richtlijnen:

- **EG-Machinerichtlijn (89/392/EWG) i.d.F.91/368/EWG,93/44EWG,93/68/EWG73/23/EWG**
- **EG Richtlijn elektromagnetische storings gevoeligheid (89/336/EWG) - 93/68/EWG**
- **EG Laagspannings-Richtlijn (73/23/EWG) - 93/68/EWG**
- **EG Richtlijn CE-Markering CE 93/68/EWG**

I enlighet med EC följande väglednings föreskrifter:

- EC Maskindirektivet (89/392/EWG) i.d.F.91/368/EWG,93/44EWG,93/68/EWG73/23/EWG
- EC vägledning för electro-magnetisk förenlighet med (89/336/EWG) - 93/68/EWG
- EC lag volts vägledning (73/23/EWG) - 93/68/EWG
- EC vägledning för CE certifikat CE 93/68/EWG

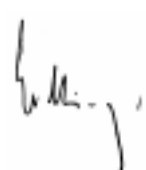
Angewandte harmonisierte Normen, insbesondere: Applied harmonious norms, in particular: Application de l'harmonie d'une norme: Norme particolari applicate: Normas aplicadas, en particular: Normas de harmonia particulares aplicadas: Toegepaste geharmoniseerde normen, in het bijzonder: Tillverkad i följande harmoniserande normer:

**EN 60204-1; EN 292-1; EN 292-2, EN 294
EN 50081 Teil 1; EN 50082 Teil 1; EN 55022 Kl.B**

Datum: Date: Data: Fecha: 09.08.1997

Hersteller-Unterschrift: Signature of the manufacturer: Signature du constructeur: Firma del costruttore: Firma del fabricante: Assinatura do fabricante: Handtekening van de fabrikant: Tillverkares signatur:

BEISSBARTH



ppa. D.Eberhartinger

Angaben zum Unterzeichner: Particulars of the undersigned: Fonction du signataire: Particolarità della controfirma: Detalles del firmante: Cargo do responsável: Details van de ondertekenaar: Namnförtydligande

Prokurist

