

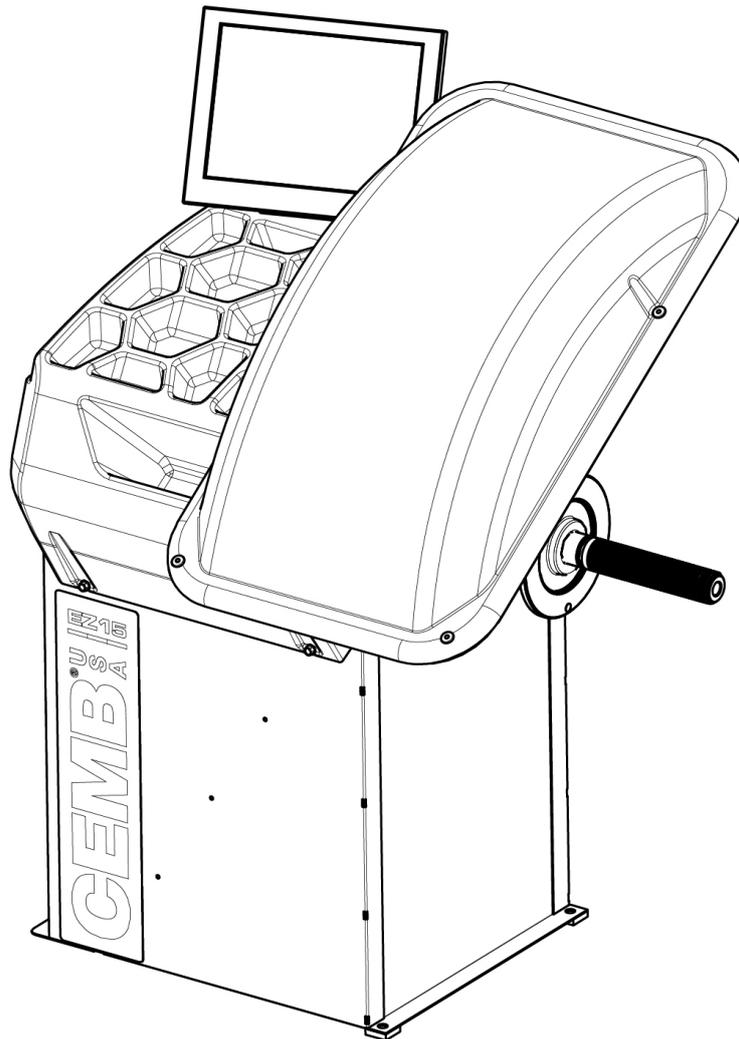


CEMB

BALANCING MACHINES

EN

Use and maintenance manual



EZ15

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The Manufacturer declines all liability for any damage to people or property caused by incorrect use of this product.
Subject to change without prior notice.



Istruzioni originali

Translation of the original instructions

Traduction de la notice originale

Übersetzung der Originalanweisungen

Traducción de las instrucciones originales

Tradução das instruções originais



ENGLISH



EN

Use and maintenance manual

General Index

1. FOREWORD	3
1.1 GENERAL	3
1.2 PURPOSE OF THE MANUAL	3
1.3 WHERE AND HOW TO KEEP THE MANUAL	4
1.4 MANUAL UPGRADES	4
1.5 COLLABORATION WITH USERS	4
1.6 MANUFACTURER	4
1.7 MANUFACTURER'S RESPONSIBILITY AND WARRANTY	4
1.7.1 <i>Terms of warranty</i>	5
1.8 TECHNICAL ASSISTANCE SERVICE	5
1.9 COPYRIGHT	5
2. MACHINE DESCRIPTION	6
2.1 TECHNICAL SPECIFICATIONS	6
2.2 DIMENSIONS	6
2.3 COMPONENTS	6
3. STARTING	8
4. CORRECTION PLANE IDENTIFICATION	10
5. USE OF THE WHEEL BALANCER	11
5.1 INITIAL SCREEN	11
5.2 STANDARD BALANCING (CLIP-ON COUNTERWEIGHTS)	11
5.2.1 <i>Wheel dimensions setting</i>	11
5.2.2 <i>Result of the measurement and weight application</i>	13
5.3 BALANCING WITH ADHESIVE WEIGHTS (ALU)	14
5.3.1 <i>Wheel dimensions setting</i>	14
5.3.2 <i>Result of the measurement and weight application</i>	14
5.4 BALANCING WITH A MIX OF ADHESIVE AND CLIP-ON WEIGHTS AND STATIC BALANCING	15
5.5 STATIC UNBALANCE	16
5.6 EXACT POSITIONING OF THE ADHESIVE WEIGHT BY MEANS OF THE GAUGE WITH CLIPS	17
5.7 HIDE THE ADHESIVE WEIGHTS (SPLIT)	18
5.8 MULTIPLE USERS	18
5.9 AUTOMATIC MINIMIZATION OF STATIC UNBALANCE	19
5.10 UNBALANCE OPTIMIZATION	19
6. MENU	20
6.1 MENU ACCESS DIAGRAM	20
6.2 STATISTICS	21
7.2.1 <i>Weight statistics screen</i>	21
6.3 CALIBRATIONS	22
6.3.1 <i>Sensors calibration</i>	22
6.3.1.1 <i>Distance gauge calibration</i>	22
6.3.1.2 <i>Diameter gauge calibration</i>	22
6.3.2 <i>Balancing machine calibration</i>	22
6.3.3 <i>Adhesive weight width</i>	22

6.3.4	<i>Touch screen calibration</i>	22
7.	SETUP	23
7.1	LANGUAGE	23
7.2	SCREEN-SAVER TIME	23
7.3	ACOUSTIC SIGNAL	23
7.4	SETTING THE CLOCK	23
7.5	OPTIONS	23
7.5.1	<i>Wheel locking enable</i>	23
7.5.2	<i>Weight statistics</i>	23
7.5.3	<i>User</i>	23
7.5.4	<i>Date</i>	23
7.5.5	<i>Time</i>	23
7.6	BALANCING SETUP	23
7.6.1	<i>Unit of unbalance measurement</i>	23
7.6.2	<i>Unbalance display pitch</i>	23
7.6.3	<i>Tolerance</i>	24
7.6.4	<i>AutoAdaptive correction method</i>	24
7.6.5	<i>Static always enabled</i>	24
7.7	SPECIAL FUNCTIONS	24
7.7.1	<i>Presetting the customer and user name</i>	24
7.7.2	<i>Wheel balancing machine SELF TEST</i>	24
8.	DIAGNOSTICS	25
8.1	INCONSISTENT UNBALANCE READINGS	25
8.2	ALARM SIGNAL	25
9.	MAINTENANCE	27
9.1	GENERAL	27
9.1.1	<i>Introductory notes</i>	27
9.1.2	<i>Safety rules</i>	27
9.1.3	<i>Replacing fuses</i>	28
9.1.4	<i>Cleaning the screen</i>	28
10.	DISPOSAL	28
10.1	DISPOSING OF THE BALANCER	28
10.2	DISPOSING OF ELECTRONICS COMPONENTS	28
11.	SPARE PARTS	29
11.1	IDENTIFICATION AND ORDERING METHOD	29
12.	ATTACHED DOCUMENTATION	29

1. Foreword



THIS MANUAL IS AN INTEGRAL PART OF THE INSTALLATION MANUAL WHICH SHOULD BE CONSULTED CONCERNING STARTING AND USING THE MACHINE SAFELY.
READ CAREFULLY BEFORE CONTINUING.

1.1 GENERAL

The machine has been constructed in conformity with the current EC Directives and the technical standards implementing the requirements, as stated in the declaration of conformity issued by the manufacturer and attached to the manual.

This publication, hereinafter simply referred to as '**manual**', contains all the information required to safely use and service the machine referred to in the Declaration of Conformity.

This appliance, hereinafter is generically referred to as '**machine**'.

The manual addresses operators instructed on the precautions to take in relation to the presence of electric current and moving devices.

This publication is intended for all 'users' who as far as within their competence need to and/or are obliged to give instructions to others or operate on the machine themselves.

These persons can be identified as follows:

- operators directly involved in transporting, storing, installing, using and servicing the machine from when it is put on the market until when it is scrapped
- direct private users.

The original Italian text of this publication constitutes the only reference to resolve any interpretation controversies related to the translation into the European Community languages.

This publication forms an integral part of the machine and must therefore be kept for future reference until final dismantling and scrapping of the machine.

1.2 PURPOSE OF THE MANUAL

This manual, and the installation manual, contains the instructions required to use the machine safely and carry out routine maintenance work.

Any calibrations, adjustments and extraordinary maintenance operations are not considered in this document as they may only be performed by the service engineer who must work on the machine according to the technical and rated characteristics for which it was built.

Though it is fundamental to read this manual, it cannot replace skilled technical staff who must be adequately trained beforehand.

The foreseen use and configurations of the machine are the only ones allowed by the manufacturer; do not attempt to use the machine in a different way.

Any other use or configuration must be agreed in advance with the manufacturer in writing and in this case an annex will be attached to this manual.

For use, the user must also comply with the specific workplace legislation in force in the country where the machine is installed.

The manual also refers to laws, directives, etc., that the user must know and consult in order to accomplish the goals that the manual sets out to achieve.

1.3 WHERE AND HOW TO KEEP THE MANUAL

This manual (and relative attachments) must be kept in a safe and dry place and must always be available for consultation.

Make a copy and keep it in the archive.

When exchanging information with the manufacturer or the technical assistance staff authorised by the former, quote the rating plate information and the serial number of the machine.

This manual must be kept for the entire lifetime of the machine, and if necessary (e.g.: damage making all or some of it illegible, etc.) the user must request another copy exclusively from the manufacturer, quoting the publication code indicated on the cover.

1.4 MANUAL UPGRADES

This manual is an integral part of the machine and reflects the state of the art at the moment it was put on the market. The publication complies with the directives in force on that date; the manual cannot be considered inadequate as a result of regulatory updates or modifications to the machine.

Any manual upgrades that the manufacturer may see fit to send to users will become an integral part of the manual and must be kept together with it.

1.5 COLLABORATION WITH USERS

The manufacturer will be pleased to provide its customers with any further information they may require and will consider proposals for improving this manual in order to more fully satisfy the requirements it was written for.

In case of transfer of ownership of the machine, which must always be accompanied by the use and maintenance manual, the original user must inform the manufacturer of the name and address of the new user in order to allow it to send the new user any communications and/or updates deemed to be indispensable.

This publication is the property of the Manufacturer and may not be fully or partly reproduced without prior written agreement.

1.6 MANUFACTURER

The machine identification data is indicated on the plate mounted on the machine.

The plate below is shown for the sake of example.

MODEL	<input type="text"/>	VER	<input type="checkbox"/>
SER. N°	<input type="text"/>		
<input checked="" type="checkbox"/> V	<input type="text"/>	CE	KW <input type="text"/>
<input type="checkbox"/> A	<input type="text"/>		Hz <input type="text"/>
			T° [C] <input type="text"/>
PHASE	<input type="text" value="1"/>		AIR SUPPLY Kg/cm ² <input type="text"/>
<input type="text"/>			

1.7 MANUFACTURER'S RESPONSIBILITY AND WARRANTY

In order to make use of the manufacturer's warranty, the user must scrupulously observe the precautions contained in the manual, in particular he must:

- never exceed the limits of use of the machine
- always constantly and carefully clean and service the machine
- have the machine used by people of proven capacity and attitude, adequately trained for the purpose.

The manufacturer declines all direct and indirect liability caused by:

- use of the machine in a different way from that indicated in this manual
- use of the machine by people who have not read and fully understood the contents of this manual
- use in breach of specific regulations in force in the country of installation
- modifications made to the machine, software and operating logic, unless authorised by the manufacturer in writing
- unauthorised repairs
- exceptional events.

Transfer of the machine to a third party must also include this manual; failure to include the manual automatically invalidates all the rights of the purchaser, including the terms of warranty, where applicable.

If the machine is transferred to a third party in a country with a different language from the one written in this manual, the original user shall provide a faithful translation of this manual in the language of country in which the machine will operate.

1.7.1 Terms of warranty

The Manufacturer guarantees the machines it manufactures against all manufacturing or assembly faults for 12 (twelve) months from the date of collection or delivery.

The Manufacturer undertakes to replace or repair any part which it deems to be faulty free of charge at its factory, carriage paid.

If a Manufacturer's repairman (or a person authorised by the same) is required to work at the user's facilities, the relative travel expenses and board and lodging shall be charged to the user.

The free supply of parts under warranty is always subject to the faulty part being inspected by the manufacturer (or a person authorised by the same).

The warranty is not extended following repairs or other work done to the machine.

The warranty does not cover damage to the machine deriving from:

- transport
- neglect
- improper use and/or use not in compliance with the instructions in the operating manual
- incorrect electrical connections.

The warranty is invalidated in case of:

- repairs made by people who were not authorised by the manufacturer
- modifications that were not authorised by the manufacturer
- use of parts and/or equipment that were not supplied or approved by the manufacturer
- removal or alteration of the machine identification plate.

1.8 TECHNICAL ASSISTANCE SERVICE

For any technical service operation, contact the manufacturer directly or an authorised dealer always quoting the model, the version and the serial number of the machine.

1.9 COPYRIGHT

The information contained in this manual may not be disclosed to third parties. Partial or total duplication, unless authorised by the Manufacturer in writing, through photocopying, duplication or other systems, including electronic acquisition, is breach of copyright and can lead to prosecution.

2. Machine description

It is used to balance the wheels of cars, vans, 4-WD, motorcycles and scooters. The wheels must weigh less than 75 kg. and, when fitted on the balancing machine, must not interfere with any fixed part of the machine, excluding the shaft and support adaptor. The machine is supplied with equipment enabling the vast majority of car wheels available on the market to be fitted. Other wheels with special dimensions, gekometry and centring require special adaptors supplied on request (consult the attached sheet “ORIGINAL ADAPTORS”). The machine can operate only on flat non resilient floor.

Do not mount anything other than motorbike, car or truck tyres on the wheel balancer.

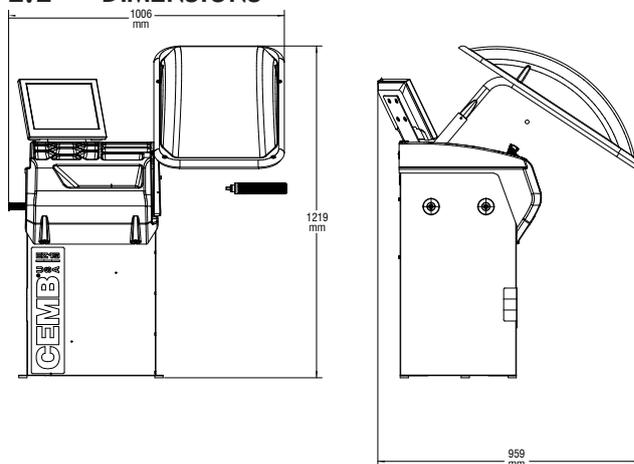
Thanks to the new and exclusive VDD (Virtual Direct Drive) system, reliable unbalance measurements can be made in a short time, almost half the time of the cycle used with respect to other balancers in this range.

2.1 TECHNICAL SPECIFICATIONS

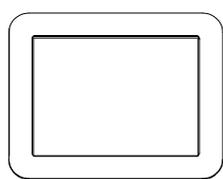
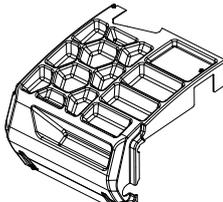
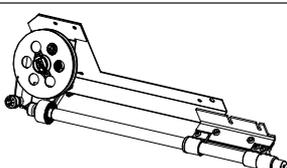
The following data refers to the balancer in its standard configuration.

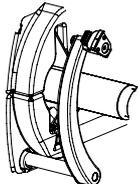
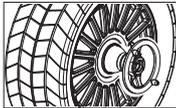
Single-phase power supply	115 / 230 V 50/60 Hz
Protection class	IP 54
Rated power	0,15 kW
Balancing speed	100 min ⁻¹
Cycle time for wheel	4.7 s (5 3/4"x14") 15 kg
Measurement uncertainty	0,5 g
Average noise	< 70 dB (A)
Rim width setting range	1.5" ÷ 20" or 40 ÷ 510 mm
Diameter setting range	10" ÷ 30" or 265 ÷ 765 mm
Maximum wheel weight	< 75 kg
Machine weight	110 kg

2.2 DIMENSIONS



2.3 COMPONENTS

		
TOUCH CONTROL PANEL		✓
WEIGHT-TOOL HOLDER		✓
AUTOMATIC GAUGE		✓

GAUGE INDEX		✓
LOCK NUT		✓

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3. Starting

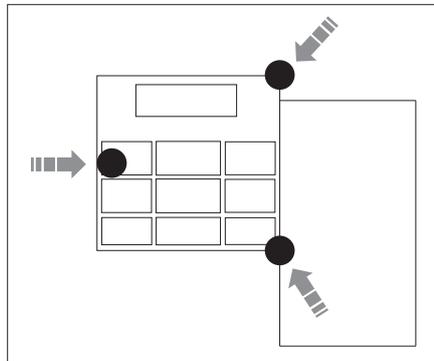


BEFORE SWITCHING ON THE MACHINE, MAKE SURE THAT ALL THE CONNECTIONS DESCRIBED IN THE INSTALLATION CHAPTER HAVE BEEN MADE CORRECTLY.

THE FOLLOWING OPERATIONS INVOLVE A POTENTIAL RISK FOR THE OPERATOR, GIVEN THE PRESENCE OF VOLTAGE ON THE EQUIPMENT. THE PERSONAL PROTECTIVE EQUIPMENT DESCRIBED IN THE INSTALLATION MANUAL MUST BE WORN AND WORK MUST BE DONE WITH DUE CARE AND ATTENTION. OPERATIONS MAY ONLY BE PERFORMED BY A SPECIALISED TECHNICIAN.

Before powering the machine, carry out the following checks:

1. Check that the balancing machine touches the floor at the three support points.

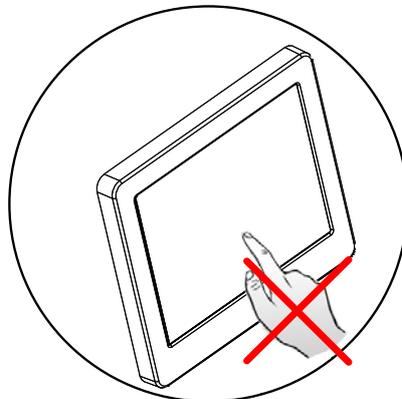


2. Make sure that all the parts of the balancer are correctly connected and fixed.
3. Make sure that the parameters (voltage and frequency) of the mains power supply are compatible with those indicated on the rating plate of the balancer.
4. Make sure the power cable is correctly connected.
5. Make sure the machine shaft and flange hole are clean.



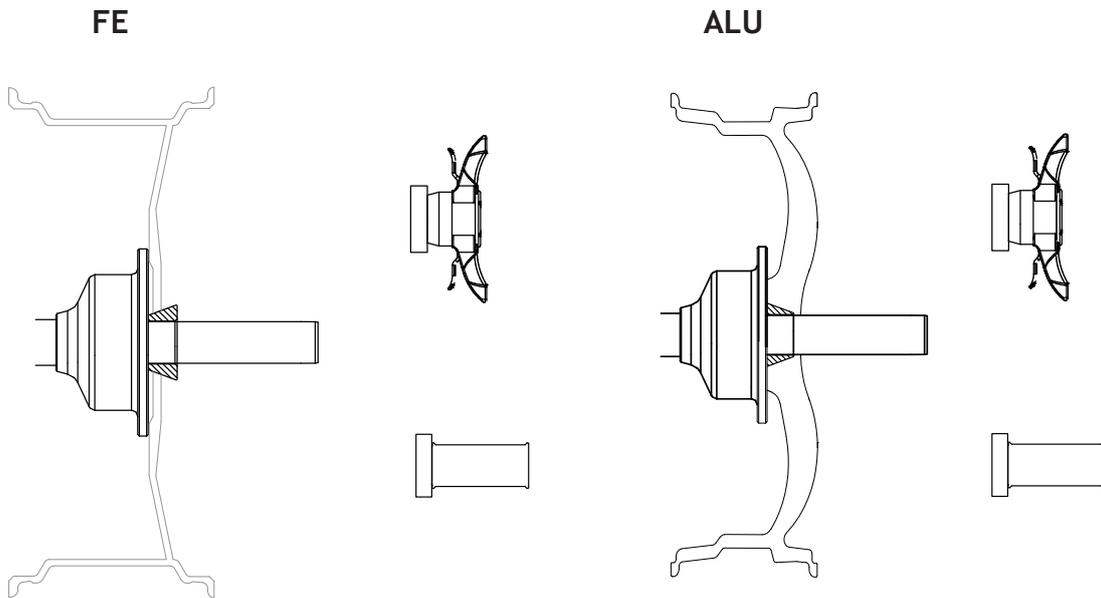
ANY TRACES OF DIRT MAY AFFECT BALANCING ACCURACY.

6. To turn on the wheel balancer press the switch on the side or back of the same; for the models with touchscreen don't touch the screen.



PRESS THE BUTTONS WITH YOUR FINGERS. NEVER USE THE COUNTERWEIGHT GRIPPERS OR OTHER POINTED OBJECTS!

7. Position the wheel on the terminal with the inner part facing the balancer.



8. Firmly attach the wheel to the balancer shaft using the lock nut. In the pneumatic version, use the specific collar provided. For operation of the spindle with pneumatic locking (constant thrust air spring) connect the wheel balancer to the compressed air mains. The connection fitting is located at the back of the machine. At least 7 kg/cm^2 (~ 0.7 MPa; ~7 bar; ~105 psi) pressure is needed for correct operation of the release device.
9. In the pneumatic version, the pedal allows fastening/releasing the wheel on the adapter using the collar.
10. At this point, you can read the tyre measurements and perform balancing.
11. To perform the spin, lower the splash guard, when fitted and, if necessary and available, press the START button.
12. The wheel is automatically locked when reaching the correct angular position for weight application on the inside and outside, turning it slowly by hand. To unlock the wheel, turn it hard to move it from the correct correction position. If the unbalance is within tolerance, the wheel is locked automatically.

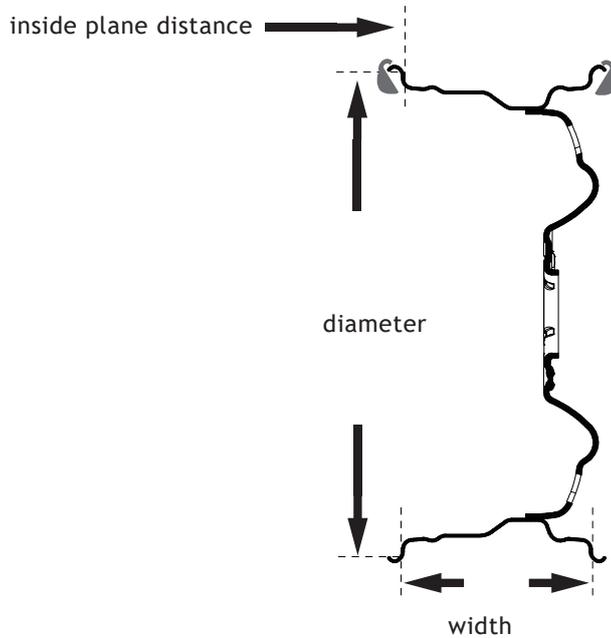


IT IS PROHIBITED TO TOUCH ANY PART OF THE MACHINE DURING THE BALANCING CYCLE.

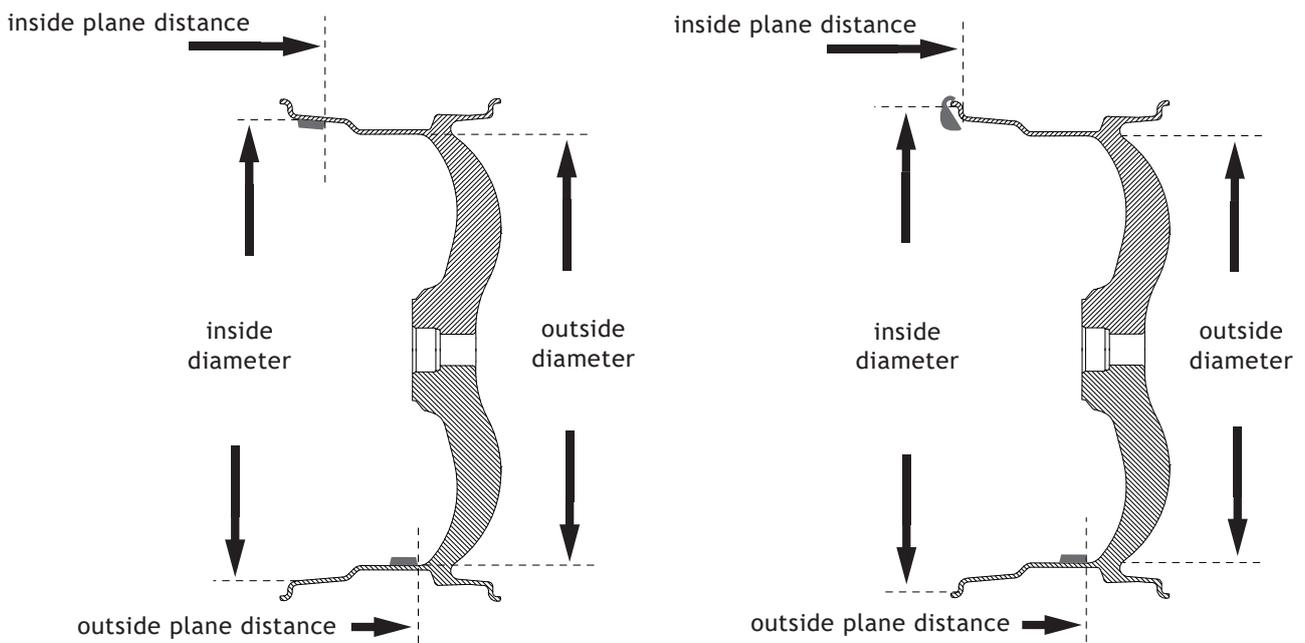
4. Correction plane identification

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- Standard dynamic balancing using only clip-on weights:

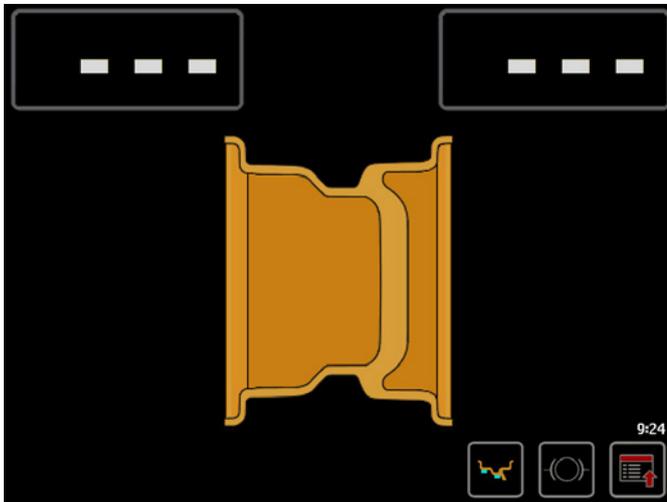


- Standard dynamic balancing using adhesive weights or a mix of adhesive and clip-on weights:



5. Use of the wheel balancer

5.1 INITIAL SCREEN



-  selects the type of weight to be applied
-  wheel locks/unlocks
-  main functions screen
( MENU ACCESS DIAGRAM)

Dimensions gauge: pulling it out, it measures the wheel dimensions ( WHEEL DIMENSIONS SETTING).

If the machine remains on the initial screen for a certain amount of time without being used, the system is automatically switched to a screen-save. Striking of any key, movement of the wheel of distance + diameter gauge will cause automatic switching from the screen-save menu to the initial screen.

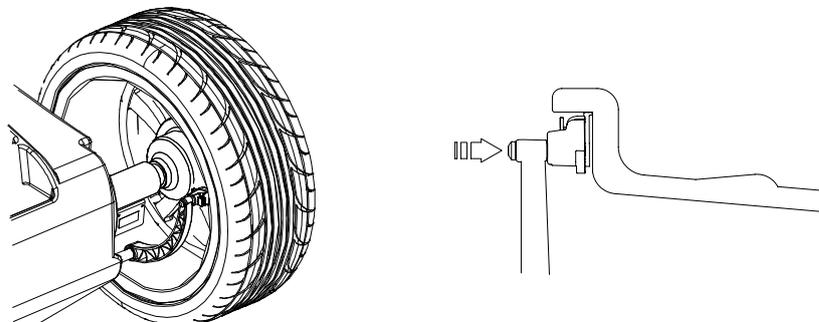


WHEN THE SCREENSAVER IS ACTIVE, AUTOMATIC STARTING ACTIVATED BY THE GUARD IS NOT AVAILABLE FOR SAFETY REASONS.

5.2 STANDARD BALANCING (clip-on counterweights)

5.2.1 Wheel dimensions setting

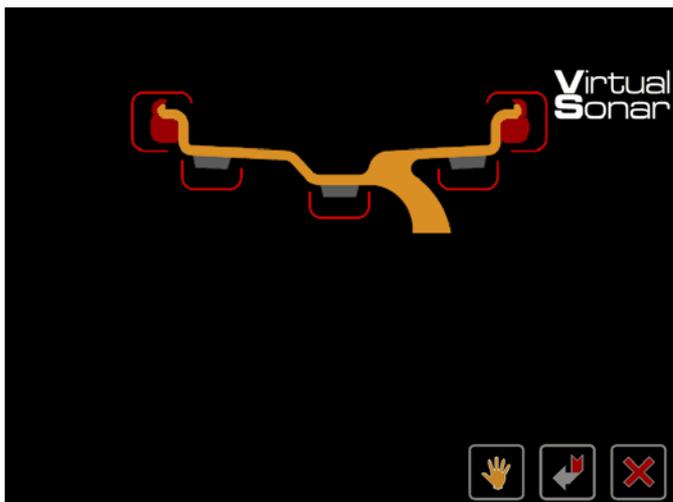
Using the special grip, move the end of gauge against the rim as shown in the figure:



Hold the gauge in position for at least 2 seconds.

If the acoustic signal is enabled ( MENU - ACOUSTIC SIGNAL), the dimensions acquisition is accompanied by a beep.

Set the gauge to the rest position.



selects the type of weight to be applied

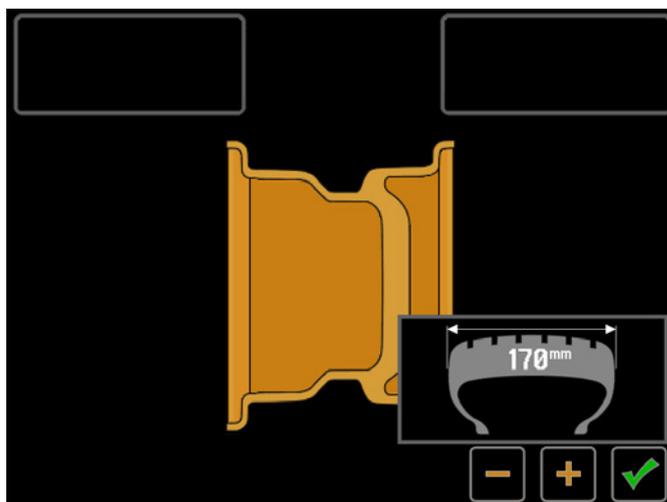


selects the manual dimension presetting screen



returns to the initial screen

In the standard machine setting as VIRTUAL SONAR (AWA and AUTOADAPTIVE enabled), at the end of the automatic distance and diameter measurement, perform a measuring spin.
 In the case of particular rims, the wheel balancer may ask you to set the tyre width value in mm.

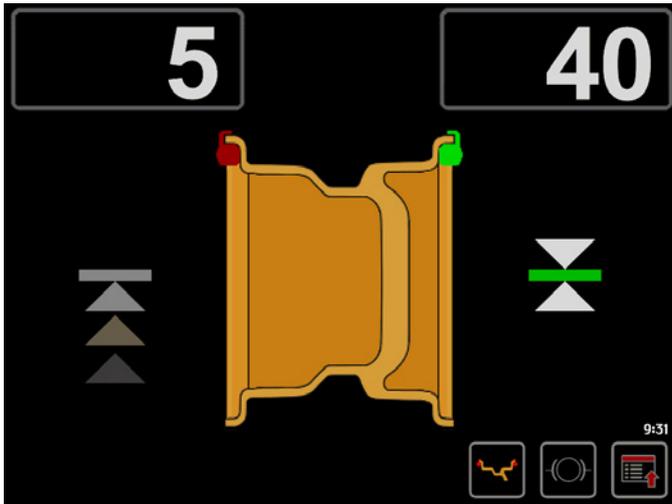


Set the width value shown on the tyre and proceed with balancing the wheel.

If the wheel dimensions have been entered incorrectly, the parameters can be modified without repeating the balancing spin.

From the measurement screen press  ->  .

5.2.2 Result of the measurement and weight application



5
40

Inside unbalance indicator

Outside unbalance indicator

If the unbalance is out of tolerance:

1. When the spin is complete, bring the unbalance into correction position by turning the wheel by hand. The spindle is automatically locked in correction position (if not disabled the wheel lock). If the acoustic signal is enabled (👉 **MENU - ACOUSTIC SIGNAL**), a beep will sound when the correction position has been reached.
2. The symbol  is shown on the display on the side corresponding to the active correction plane
3. Manually apply the number of weights shown on the display on the rim at 12 o'clock using clip-on weights:



IF THE OUT-OF-BALANCE IS LESS THAN THE CHOSEN THRESHOLD VALUE, "OK" APPEARS INSTEAD OF THE OUT-OF-BALANCE VALUE TO INDICATE, ON THAT PARTICULAR SIDE, THAT THE WHEEL IS IN TOLERANCE; IF AUTOADAPTIVE IS DISABLED, PRESS ON THE UNBALANCE INDICATORS TO DISPLAY THE RESIDUAL VALUE BELOW THE CHOSEN THRESHOLD.

4. After applying the weights, spin the wheel to check the correction made checking that both planes are within tolerance.

Enabled buttons:



selects the correction mode. When the mode is changed, the unbalance values are recalculated automatically on the basis of the previous spin. Simultaneous display of the dynamic+static unbalance can be enabled through the special function in Setup (👉 **STATIC ALWAYS ENABLED**)



displays the residual out-of-balance

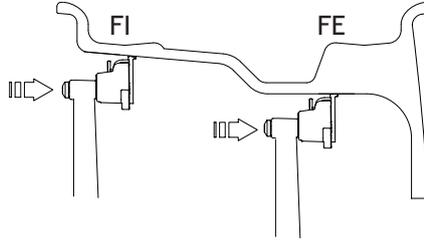


wheel locks/unlocks.

5.3 BALANCING WITH ADHESIVE WEIGHTS (ALU)

5.3.1 Wheel dimensions setting

Using the dedicated grip, move the gauge tip up against the inside of the rim and make two consecutive measurements starting from the inside (FI) as shown in the figure. The two preselected positions coincide with the point where the counterweight is to be applied.

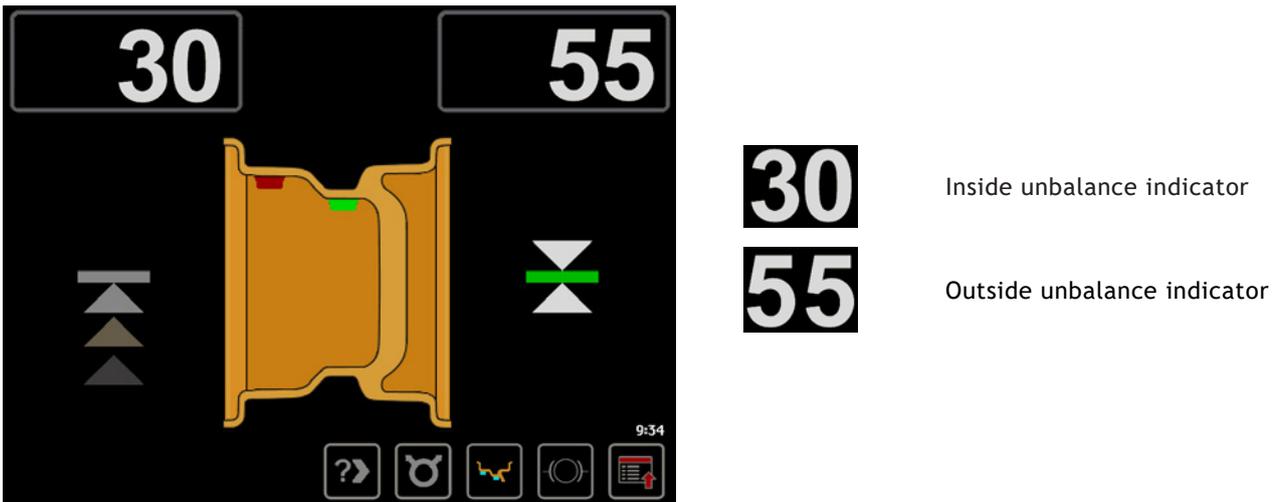


if the acoustic signal is enabled (🔊 MENU - ACOUSTIC SIGNAL), the dimensions acquisition is accompanied by a beep.

Set the gauge to the rest position.

Slowly lower the guard and perform a measurement spin.

5.3.2 Result of the measurement and weight application



If the unbalance is out of tolerance:

- When the spin is complete, bring the unbalance into correction position by turning the wheel by hand. The spindle is automatically locked in correction position (if not disabled the wheel lock). If the acoustic signal is enabled (🔊 MENU - ACOUSTIC SIGNAL), a beep will sound when the correction position has been reached.

- The symbol  is shown on the display on the side corresponding to the active correction plane. After positioning and locking the wheel, apply the weight vertically at the top.



IF THE OUT-OF-BALANCE IS LESS THAN THE CHOSEN THRESHOLD VALUE, "OK" APPEARS INSTEAD OF THE OUT-OF-BALANCE VALUE TO INDICATE, ON THAT PARTICULAR SIDE, THAT THE WHEEL IS IN TOLERANCE; IF AUTOADAPTIVE IS DISABLED, PRESS ON THE UNBALANCE INDICATORS TO DISPLAY THE RESIDUAL VALUE BELOW THE CHOSEN THRESHOLD.

- After applying the weights, spin the wheel to check the correction made checking that both planes are within tolerance.

Enabled buttons:



enables the indication of the longitudinal position of the out-of-balance



enables the unbalance SPLIT function



selects the correction mode. When the mode is changed, the unbalance values are recalculated automatically on the basis of the previous spin. Simultaneous display of the dynamic+static unbalance can be enabled through the special function in Setup (👉 **STATIC ALWAYS ENABLED**)



displays the residual out-of-balance



wheel locks/unlocks.

5.4 BALANCING WITH A MIX OF ADHESIVE AND CLIP-ON WEIGHTS AND STATIC BALANCING

After dimension acquisition in standard balancing mode, pressing the buttons , you can select one of the following correction modes.

 WEIGHT APPLICATION POSITION		
Correction type	Inside	Outside
	Clip-on weight at 12 o'clock	Clip-on weight at 12 o'clock
	Clip-on weight at 12 o'clock	Adhesive weight at 12 o'clock
	Adhesive weight at 12 o'clock	Clip-on weight at 12 o'clock
	Adhesive weight at 12 o'clock	Adhesive weight at 12 o'clock
STATIC 	Adhesive weight at 12 o'clock	

After dimension acquisition in ALU mode, pressing the buttons , you can select one of the following correction modes. The adhesive weight application distance and diameter are measured by means of the automatic distance and diameter gauge, except for the static unbalance where the dimensions acquired are modified following some fixed parameters.

 WEIGHT APPLICATION POSITION		
Correction type	Inside	Outside
	Adhesive weight at 12 o'clock	Adhesive weight at 12 o'clock
	Clip-on weight at 12 o'clock	Adhesive weight at 12 o'clock
STATIC 	Adhesive weight at 12 o'clock	

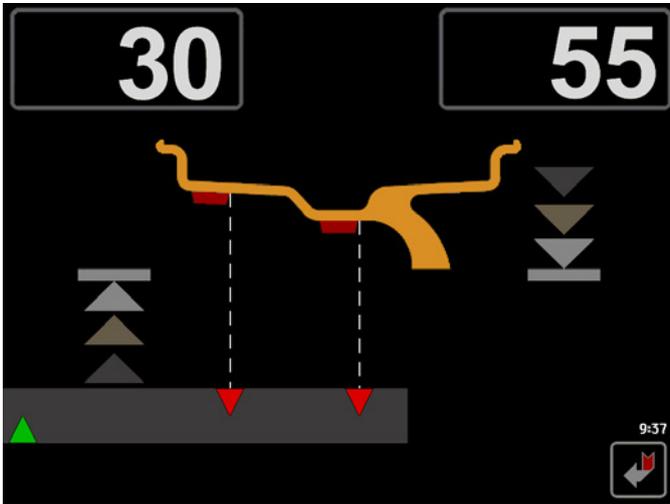
5.5 STATIC UNBALANCE



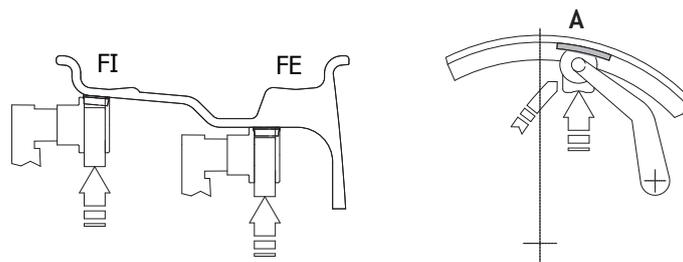
To display the static unbalance press the  button, then press the static weight. The correction weight application diameter cannot be set, but is deduced from the dimensions acquired in standard or ALU mode through interpolation algorithms and the use of fixed parameters. Tolerance and brake control is the same as for standard balancing, only that it refers to a single correction plane.

5.6 EXACT POSITIONING OF THE ADHESIVE WEIGHT BY MEANS OF THE GAUGE WITH CLIPS

The position repeater function can be accessed by pressing the 2  button



- pull out the gauge to position A



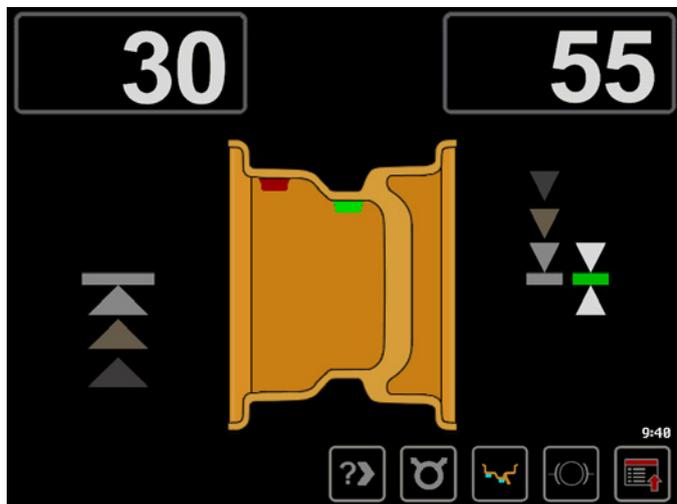
- a mobile coloured arrow [] indicates the approach of the weight towards the correction position.
- when a fixed arrow [] is reached, rotate the wheel to correction position (FI or FE) and apply the counterweight by rotating the gauge tip towards the outside, into the position where the pincer touches the wheel (where appropriate use the weight pusher)
- the correction weight application position is automatically reset in relation to the position of the distance + diameter gauge



WHEN THE ACOUSTIC SIGNAL IS ENABLED ( ACOUSTIC SIGNAL), ATTAINMENT OF THE FIXED ARROW STATUS [] IS ACCOMPANIED BY A "BEEP".

5.7 HIDE THE ADHESIVE WEIGHTS (SPLIT)

SPLIT is only possible in the event of static unbalance or ALU external side and is used to hide any adhesive weights correcting unbalance behind the rim spokes.



1. Position the static unbalance or outside ALU in the in the correction position:



2. Bring one of the spoke at 12 o'clock and press



3. Turn the wheel in the unbalance rotation direction indicated on the display until the second spoke is at 12

o'clock and press the



button.

4. Two indications appear on the screen for positioning of the outside correction plane.

5. Turn the wheel to the correction positions indicated and correct the value displayed.

5.8 MULTIPLE USERS

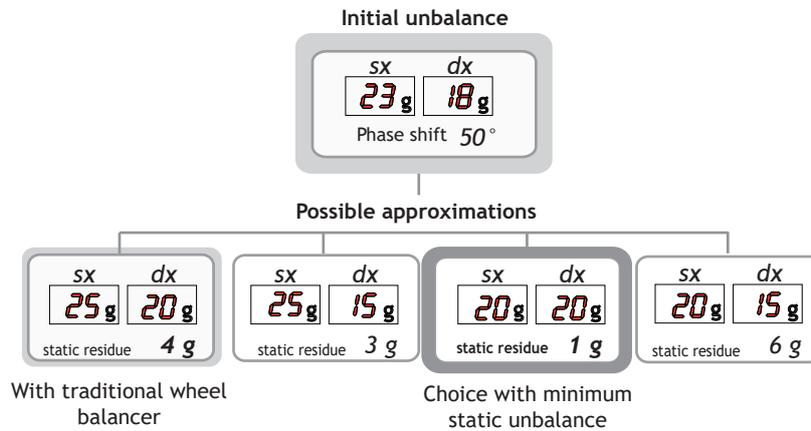
It is possible operate on three different vehicles at the same time, using the same wheel balancer. The system keeps three programs in memory, each with different dimensions set.

1. Press one of the three buttons to select the user  (1, 2, 3)

2. Lower the guard to balance the wheels

Selecting the user , the relative program (1, 2 or 3) is called for subsequent wheel balancing operations without having to enter the dimensions again.

5.9 AUTOMATIC MINIMIZATION OF STATIC UNBALANCE



This program is designed to improve the quality of balancing without any mental effort or loss of time by the operator. In fact by using the normal commercially available weights, with pitch of 5 in every 5 g, and by applying the two counterweights which a conventional wheel balancer rounds to the nearest value, there could be a residual static unbalance of up to 4 g. The damage of such approximation is emphasized by the fact that static unbalance is cause of most of disturbances on the vehicle. This new function, resident in the machine, automatically indicates the optimum entity of the weights to be applied by approximating them in an “intelligent” way according to their position in order to minimize residual static unbalance.

5.10 UNBALANCE OPTIMIZATION



returns to the previous screen



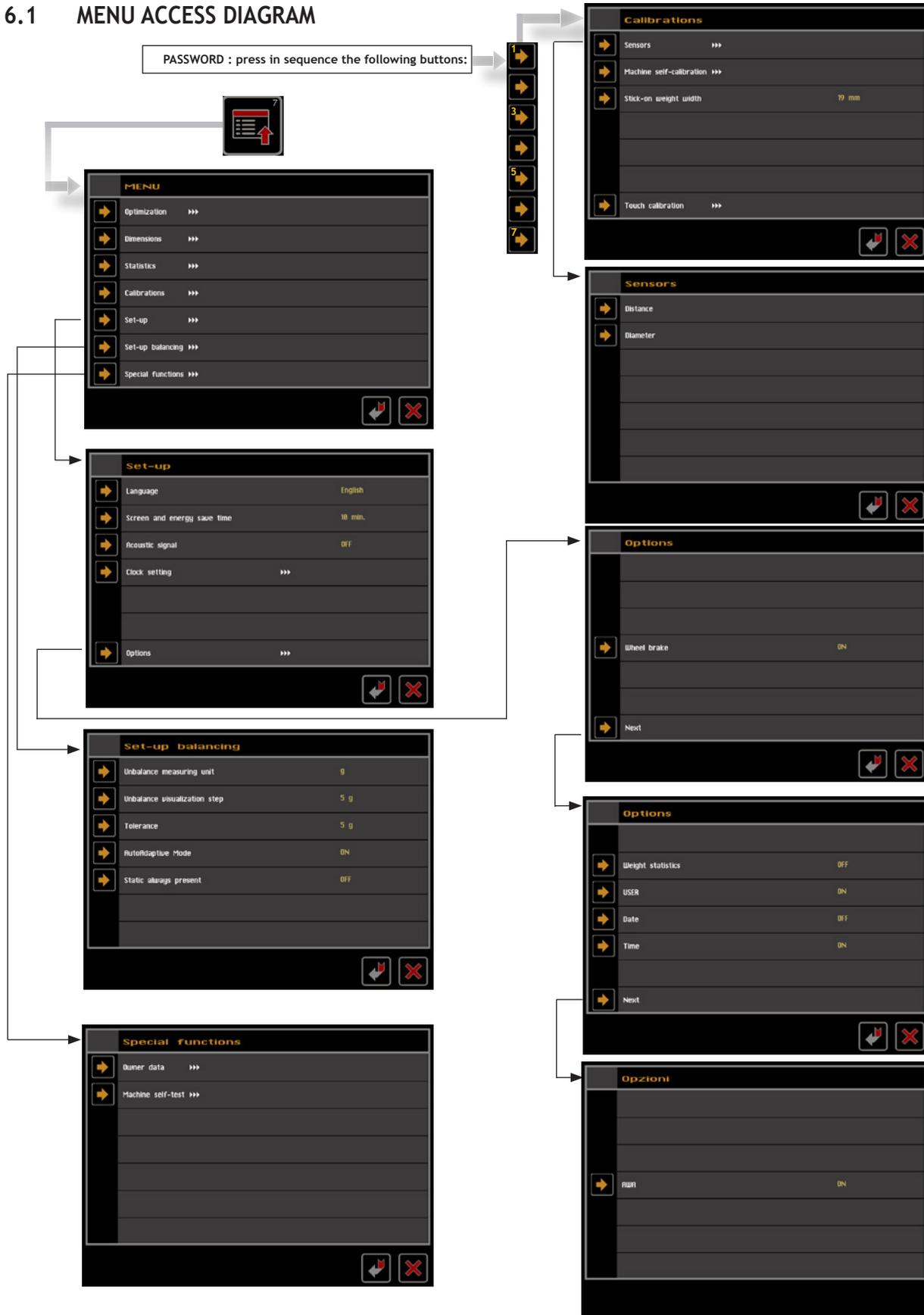
returns to the measurement screen

The program allows total wheel out-of-balance to be reduced by compensating, when possible, tyre and rim out-of-balance values. It requires two runs, rotating the tyre on the rim on the second run.

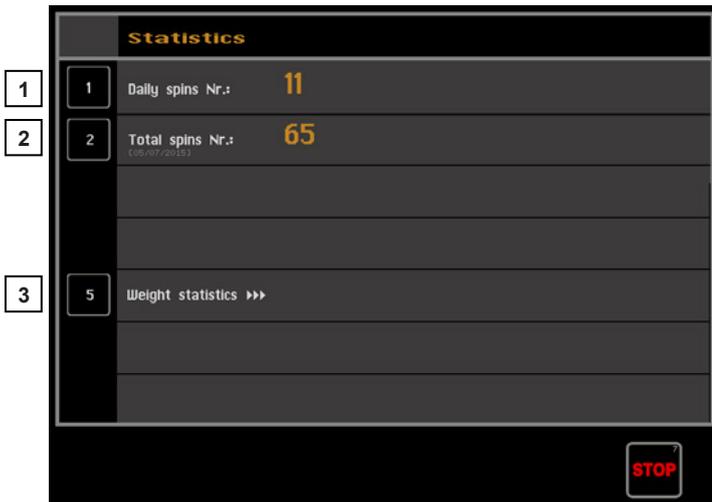
Having performed a run, press + 1 and follow the on-screen instructions.

6. Menu

6.1 MENU ACCESS DIAGRAM



6.2 STATISTICS



- 1 / 2 resets the relative counter
- For the TOTAL counters a correct password must be entered:
- 3 accesses to the weight statistics screen
- returns to the previous screen

DAILY N° OF RUNS:

Indicates the number of runs performed as from switching on the machine. Such parameter is automatically reset after switching the machine off.

TOTAL N° OF RUNS:

Indicates the number of runs starting from the date indicated in square brackets. This parameter remains memorized even when the machine is switched off.

6.2.1 Weight statistics screen



- resets the weight statistics screen by pressing and entering the password
- returns to the previous screen
- returns to the measurement screen

Each horizontal line indicates the number of clip-on and adhesive weights used to balance the wheels in the period between the two dates indicated on the screen (in square brackets).

- **Tot g (Tot oz):** indicates the total weight value (clip-on and adhesive weights) used to balance the wheels in the interval indicated on the screen
- **Tot n:** indicates the total number of clip-on and adhesive weights used to balance the wheels in the interval indicated on the screen.



TO ENABLE SAVING OF THE WEIGHT STATISTICS
(WEIGHT STATISTICS SCREEN).

THE WEIGHTS ARE SAVED ONLY IF THE UNBALANCE DISPLAY PITCH IS SET TO 5 IN 5.

6.3 CALIBRATIONS

When   is pressed from the Special Functions menu, access is gained to the Calibration menu.

6.3.1 Sensors calibration

6.3.1.1 Distance gauge calibration

To calibrate the distance gauge, set it in rest position and then on the adapter plane.

When done, set the gauge in rest position. If calibration is correct, the wheel balancer is ready for operation, otherwise an error message may be displayed if there are errors or malfunctioning; in this case repeat calibration.

Enabled buttons:



confirms



cancels the distance gauge calibration function if has erroneously been accessed

6.3.1.2 Diameter gauge calibration

Position the gauge rod of the spindle sleeve as indicated in the figure and press 

Rotate the gauge downwards and place the gauge rod in contact with the spindle sleeve as indicated in the figure

and press 

Enabled buttons:



confirms



cancels the diameter gauge calibration function if has erroneously been accessed

6.3.2 Balancing machine calibration

To calibrate the balancing machine, use a wheel with steel rim of average dimensions, e.g. 6" x 15" (± 1 ").

To properly perform the procedure:

- Mount a wheel on the machine, even unbalanced, and very carefully set its dimensions.



SETTING INCORRECT MEASUREMENTS WILL RESULT IN THE MACHINE NOT BEING CORRECTLY CALIBRATED, AND BALANCING OF SUBSEQUENT WHEELS WILL HENCE BE INCORRECT UNTIL THE MACHINE IS RECALIBRATED WITH THE CORRECT MEASUREMENTS!!

- Follow the on-screen instructions.

6.3.3 Adhesive weight width

Indicates the average width of the adhesive weights on the market.

Change ONLY if the width of the adhesive weights used for unbalance correction differ +/- 3 mm with respect to that shown on the screen (default=19mm).

6.3.4 Touch screen calibration

Sequentially tap the three points indicated on the touch screen. Calibrate ONLY if the on-screen buttons malfunction.

7. Setup

The Setup screen provides the user with many possibilities required for presetting the machine according to his own requirements. Such settings remain unaltered even when the machine is switched off.

Enabled buttons:



returns to measurement screen



returns to previous screen



selects the parameter.

7.1 LANGUAGE

This function allows selecting the language to be used for displaying descriptive and diagnostic messages regarding machine operation.

7.2 SCREEN-SAVER TIME

If this function is enabled, the screensaver will automatically be activated when the machine is not used for a certain period of time. This function can be disabled by setting it to 0.

7.3 ACOUSTIC SIGNAL

When "ON" is selected, the sending of an acoustic signal (beep) is enabled in the following cases:

- when any push button is pressed;
- when dimensions are acquired in automatic mode;
- when the correct angular position for weight application is reached in the Measurement screen.

7.4 SETTING THE CLOCK

Used to set date and time correctly. Follow the instructions on the screen.

7.5 OPTIONS

7.5.1 Wheel locking enable

Enables/disables wheel locking in the correction position.

7.5.2 Weight statistics

Enables/disables saving of the weight type used to balance the wheels ( WEIGHT STATISTICS SCREEN).

7.5.3 User

Enables/disables user selection display.

7.5.4 Date

Enables/disables date display.

7.5.5 Time

Enables/disables time display.

7.6 BALANCING SETUP

7.6.1 Unit of unbalance measurement

It is possible to select whether to display the unbalance values expressed in grams or ounces.

7.6.2 Unbalance display pitch

You can view the unbalances in steps of 5 grams or 1 gram (1/4 oz or 0.1 oz).



FOR FULL USE OF THE WHEEL BALANCER FUNCTIONS, IT IS ADVISABLE TO ALWAYS SET A DISPLAY STEP OF 5 GRAMS (1/4 OZ.).

7.6.3 Tolerance

This is the unbalance threshold below which OK appears on the screen at the end of the spin instead of the numerical value.

7.6.4 AutoAdaptive correction method

The innovative tolerance calculation system AutoAdaptive Mode is based on the evaluation of the residual imbalance limit value corresponding to an acceptable perceived vibration. For each wheel that is balanced, the software AutoAdaptive Mode detects weight and dimensions and calculates the tolerance value that will cancel any vibration perceived on the steering wheel. AutoAdaptive Mode grants the highest comfort when driving.

7.6.5 Static always enabled

Enables/disables the simultaneous display of the selected correction plane and STATIC unbalance.

7.7 SPECIAL FUNCTIONS

7.7.1 Presetting the customer and user name

The machine can be customised by setting the name that appears on the screensaver.

7.7.2 Wheel balancing machine SELF TEST

An automatic self-diagnostic cycle is provided for easier trouble-shooting.

(Consult the extraordinary maintenance manual or contact Technical Service).

8. Diagnostics

8.1 INCONSISTENT UNBALANCE READINGS

In some cases, when a wheel that has just been balanced is repositioned on the balancer, the machine can detect an unbalance.

This is not a machine problem but is due to faulty mounting of the wheel on the flange. In other words, when mounting the wheel after initial balancing, it has taken another position with respect to the balancer shaft axis.

If the wheel has been mounted on the flange with screws, the screws may not have been tightened correctly (criss-cross sequence) or the tolerances of the holes drilled in the wheel may be too large. Small errors, up to 10 grams (0.4 oz), are to be considered normal in wheels locked with the relative cone: The error is normally greater for wheels locked with screws or studs.

If, after balancing, the wheel is still unbalanced when refitted on the vehicle, this could be due to an unbalanced brake drum or, very often, the tolerances of the holes drilled in the rim and drum are too large. In this case, balancing should be performed using a balancer with the wheel mounted on the vehicle.

8.2 ALARM SIGNAL

The machine has a self-diagnostics cycle which identifies the most frequent malfunctions during the normal work cycle. These malfunctions are processed by the system and shown on the display.



THE INFORMATION IN THE POSSIBLE REMEDY COLUMN REQUIRES WORK TO BE PERFORMED BY SPECIALIST TECHNICIANS OR OTHER AUTHORISED PEOPLE WHO MUST ALWAYS WORK USING THE PERSONAL PROTECTIVE EQUIPMENT INDICATED IN THE INSTALLATION MANUAL. IN SOME CASES, THIS WORK CAN BE PERFORMED BY A NORMAL OPERATOR.

ERROR	PROBLEM	POSSIBLE SOLUTIONS
Black	The wheel balancer does not switch on	<ul style="list-style-type: none"> Verify correct connection to the mains Verify and eventually replace the fuses on the power card Verify monitor function Replace the computer board
Err. 1	No rotation signal	<ul style="list-style-type: none"> Check in self-diagnostics that the encoder functions properly Replace the phase pick-up board Replace the computer board
Err. 2	Speed too low during detection During the unbalance measurement revolutions, the wheel speed has fallen to below 42 rpm	<ul style="list-style-type: none"> Make sure that a vehicle wheel is mounted on the wheel balancer Use the self-diagnostics function to check the encoder Disconnect the piezo connectors from the board and do a spin (if no error is detected, replace the piezo sensors) Replace the CPU board
Err. 3	Unbalance too high	<ul style="list-style-type: none"> Verify wheel dimension settings Check detection unit connections Perform machine calibration Mount a wheel with more or less known unbalance (less than 100 grammes) and verify the response of the machine Replace the computer board
Err. 4	Rotation in opposite direction After pressing [START], the wheel starts turning in the opposite direction (anticlockwise)	<ul style="list-style-type: none"> Check in self-diagnostics that the encoder functions properly Check the bearing/spring of the phase generator
Err. 5	Guard open	<ul style="list-style-type: none"> Reset the error Close the guard Verify the function of the protection Switch
Err. 7/ Err. 8/ Err. 9	NOVRAM parameter read error	<ul style="list-style-type: none"> Switch off the machine and wait for at least ~ 1 min.; re-start the machine and check it works properly Repeat machine calibration Replace the computer board

Err. 11	Speed too high error During unbalance measurement rotation, wheel speed is more than 270 rpm	<ul style="list-style-type: none"> Check in self-diagnostics that the encoder functions properly Replace the computer board
Err.14 / Err.15 / Err.16 / Err.17 / Err.18 / Err.19	Unbalance measurement error	<ul style="list-style-type: none"> Check in self-diagnostics that the encoder functions properly Check detection unit connections Verify machine earth/ground connection Mount a wheel with more or less known unbalance (less than 100 g) and verify the response of the machine Replace the computer board
Err. 20	Wheel still. The wheel must remain still for more than one second after START	<ul style="list-style-type: none"> Use the self-diagnostics function to check the encoder Check the connections on the power board Replace the computer board
Err. 21	Motor on for more than 15 seconds	<ul style="list-style-type: none"> Use the self-diagnostics function to check the encoder Check the connections on the power board Replace the computer board
Err. 24	Distance between the spokes less than 18 degrees	<ul style="list-style-type: none"> The minimum distance between the spokes where the unbalance is to be split must be greater than 18 degrees Repeat the SPLIT function increasing the distance between the spokes
Err. 25	Distance between the spokes greater than 120 degrees	<ul style="list-style-type: none"> The maximum distance between the spokes where the unbalance is to be split must be less than 120 degrees Repeat the split function increasing the distance between the spokes
Err. 26	First spoke too far from the unbalance	<ul style="list-style-type: none"> The maximum distance between the unbalance position and the spoke must be less than 120 degrees Repeat the split function increasing the distance between the spokes and the unbalance
Err.230÷238	Operating touch monitor errors	<ul style="list-style-type: none"> Restart the balancing machine Calibrate the touch monitor Check touch monitor connections Replace the touch monitor
Err. 240	Machine setting error	<ul style="list-style-type: none"> Execute the initialization function
Err. 241	Estimated width dimension	<ul style="list-style-type: none"> Manually set the correct rim width value before calibrating the machine
Unbalance incorrect with back centring cones	Mount the wheel in vertical position and push the sleeve up against the wheel. If necessary, repeat locking/unlocking/locking and perform the procedure again	<ul style="list-style-type: none"> Mount the wheel in vertical position and push the sleeve up against the wheel. If necessary, repeat locking/unlocking/locking and perform the procedure again.

9. Maintenance

9.1 GENERAL



BEFORE PERFORMING ANY MAINTENANCE OPERATIONS, MAKE SURE THE MACHINE HAS BEEN DISCONNECTED FROM THE MAINS POWER SUPPLY. ALWAYS USE THE PERSONAL PROTECTIVE EQUIPMENT INDICATED IN THE INSTALLATION MANUAL.

9.1.1 Introductory notes

This machine has been designed so as not to require routine maintenance, apart from accurate periodic cleaning. It is important to keep the machine perfectly clean in order to prevent dust or impurities from compromising the operation of the balancer.



THE PEOPLE RESPONSIBLE FOR CLEANING THE AREA WHERE THE MACHINE IS INSTALLED MUST WEAR PERSONAL PROTECTIVE EQUIPMENT IN ORDER TO WORK IN SAFETY AND ACCORDING TO THE CURRENT OCCUPATIONAL HEALTH AND SAFETY REGULATIONS. IN ANY EVENT, THE MAINTENANCE MUST BE CARRIED OUT EXCLUSIVELY BY A SPECIALISED TECHNICIAN TRAINED TO OPERATE ACCORDING TO CEI EN 50110-1 (NFPA70E-2004 SECTION 400.11).

As extraordinary maintenance must be performed by service staff or, in any case, by specifically authorised and trained people, is not dealt with in this manual.

9.1.2 Safety rules

Performing specialist activities on the equipment, particularly if the guards need to be dismantled, exposes people to serious danger due to the presence of potentially live parts.

The rules shown below must be scrupulously followed.

People must always use the Personal Protective Equipment indicated in the Installation Manual. During activities, unauthorised people may not access the equipment and WORK IN PROGRESS signs will be erected in the department in such a way that they are visible from every place of access.

Specialist staff must be authorised and especially trained concerning the dangers that may arise during operation and the correct methods for avoiding them.

They must always work with great care and pay full attention.

If, exceptionally, the staff removes the guards to carry out a particular specialist technical maintenance, inspection or repair job, they are required to put them back after work.

After work, staff must make sure that foreign objects, in particular mechanical pieces, tools or devices used during the operative procedure that could cause damage or malfunctions are not left inside the balancer.

For safety, before starting work, maintenance, inspection and repair staff must disconnect all power sources and take all the necessary preventive safety measures.

As well as operating frequencies, the operations described below indicate the qualifications that staff must possess in order to perform the operation.

9.1.3 Replacing fuses

Some protection fuses are located on the power board (see wiring diagrams) accessible by dismantling the weight shelf). If fuses require replacement, use ones with an identical current intensity.

9.1.4 Cleaning the screen

Use a soft cloth and NON-ABRASIVE commercial glass/plastic cleaning spray or ethanol or natural detergents.

DO NOT USE:

- Organic solvents type nitro thinner
- Turpentine
- Petrol
- Trichloroethylene
- Acetone

10. Disposal



THE INSTRUCTIONS IN THIS CHAPTER ARE INDICATIVE. REFER TO THE REGULATIONS IN FORCE IN THE COUNTRY WHERE THE EQUIPMENT IS USED.

10.1 DISPOSING OF THE BALANCER

The balancer must be disposed of after dismantling the various parts.

For disposal operations, as well as wearing the Personal Protective Equipment indicated in the INSTALLATION MANUAL, refer to the instructions and diagrams in this manual. If necessary, request specific information from the manufacturer.

Once you have removed the various parts and components, separate them into the different types of materials according to the differentiated waste disposal regulations in force in the country where the machine is dismantled.

If the various components must be stored before being taken to the dump, make sure to keep them in a safe place protected from atmospheric agents in order to prevent them from contaminating the ground and the water table.

10.2 DISPOSING OF ELECTRONICS COMPONENTS



Community directive 2002/96/EC, assimilated in Italy with legislative decree n° 151 of 25th July 2005, requires electrical and electronic equipment manufacturers and users to comply with a number of obligations concerning the collection, treatment, recovery and disposal of this waste.

Please scrupulously comply with these waste disposal regulations.

Remember that abusive dumping of this waste leads to the application of the administrative penalties established by current law.

11. Spare parts

11.1 IDENTIFICATION AND ORDERING METHOD

The various parts can be identified using the exploded drawings, the electrical drawings and diagrams in the machine technical file which is archived by the Manufacturer to which a request can be made.

For off-the-shelf parts, the technical manuals or the supplier's original documents can be provided if the Manufacturer deems this to be useful.

If not supplied, this documentation is also included in the machine Technical File, archived by the Manufacturer, as regards by Ministerial Decree 2006/42/CE.

In this case, contact the Technical Service to identify the required piece.

If the required pieces are not in any position or they cannot be identified, contact the Technical Service, specifying the type of machine, its serial number and year of construction.

This information is indicated on the machine identification plate.

12. Attached documentation

If not supplied, this documentation is included in the Technical File of the machine, archived by the Manufacturer.

In this case, contact the Technical Service for detailed information concerning the machine.