BALATRON B110, B210
USER'S MANUAL

FIG. 1 Balatron 210

FIG. 2 Balatron 110

For any information, please contact:

www.fasep.it
info@fasep.it

e-mail:

FASEP 2000 srl
Via Faentina 96
50032 Ronta (Fi) Italy
Tel. #39 055 840 3126
Fax #39 055 840 3354

WARNING

.FASEP 2000 srl reserves the right to revise products firmware, software or documentation without obligation to notify any person or organization. The information contained in this document is subject to change without warning.

.Prior of the installation of the unit described in this manual, user should read this manual carefully to be instructed properly on installation, use and maintenance of the unit.

.***Failing to read this manual and operate accordingly may cause damage to the user or the unit****.*

.FASEP 2000 srl shall not be responsible for inconvenience, breakdown, accidents due to uncomplete knowledge of this manual or uncomplete application of recommendations described in this manual.

.FASP 2000 srl shall not be responsible for inconvenience, breakdown, accidents due to unauthorized modifications of the unit, use of non-original or unauthorized accessories (see Accessories listing in this manual for a list of original accessories available for this model).

.***FASEP 2000 srl shall not be responsible for any inconvenience, breakdown, accidents caused directly or indirectly by not qualified service. Service to any parts by not qualified persons will void warranty and will void any right of the owner of the unit.***

SYMBOLS AND CONVENTIONS

To speed the retrieval of main information and make easy to understand the instructions, this manual uses the following typing conventions:

<NAME OF THE PUSH BUTTON>		Used to indicate name of push-buttons on the control panel.
DISPLAY		Used to indicate text or number visible on the displays on the control panel.
☺	**ADVICES**	Contain useful advices or solutions, evidence d with respect to the rest of the text.
☝	**NOTE**	Notes contain important information, evidenced to the rest of the text.
✋	**WARNING**	Warning messages appears corresponding to procedures that, if not properly observed, may lead to loose of data or cause damage to the unit.
⚠	**CAUTION**	Caution messages appears corresponding to procedures that, if not properly observed, may cause injuries to the user.

TABLE OF CONTENTS

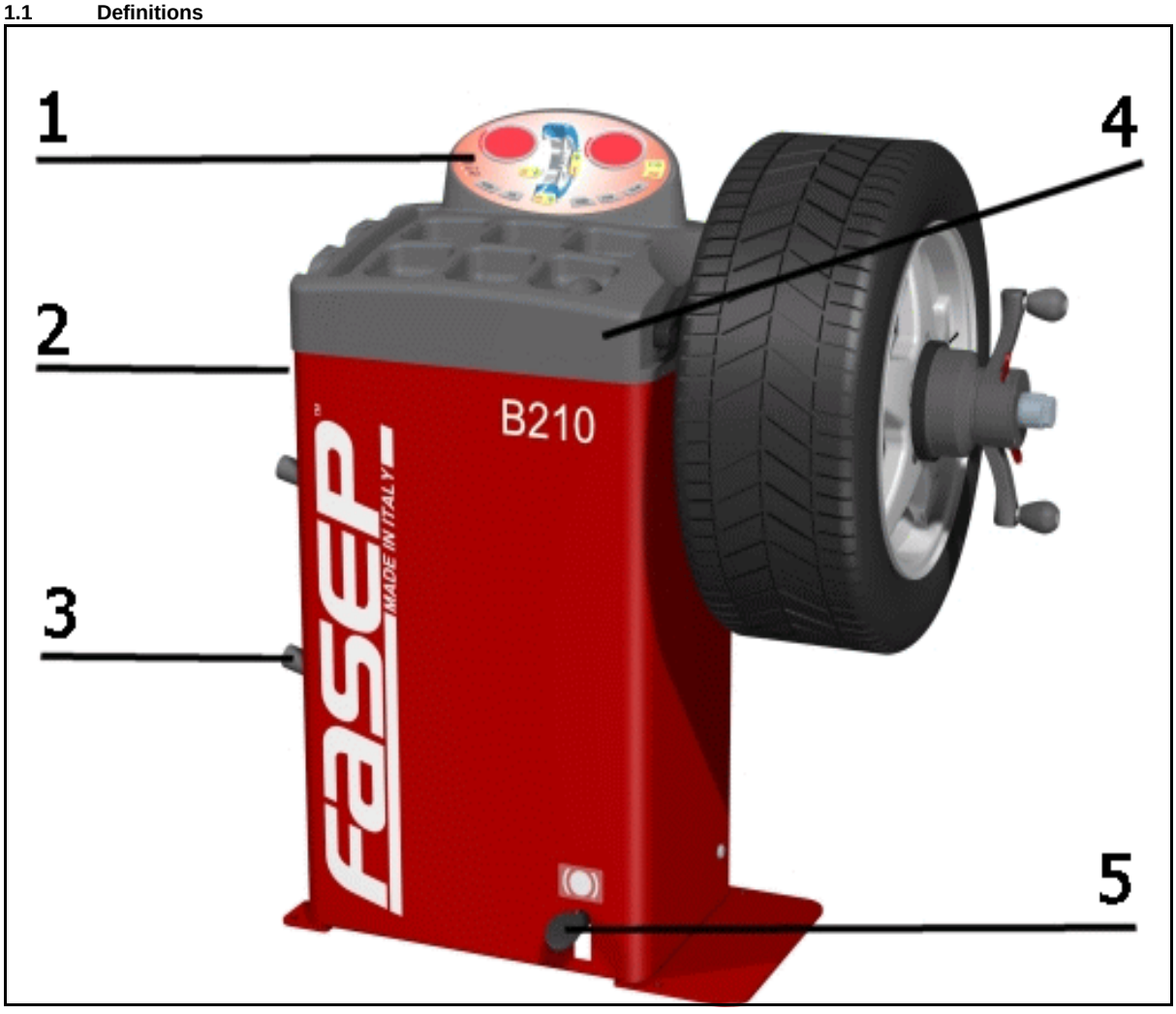
1 PRESENTATION

1.0 Intended Use

This unit is designed to measure and correct static and dynamic unbalance of vehicle wheel, the dimension and weight of which are within the working range of the machine (see "Technical Data"appendix for reference)
This unit is meant for a professional use. Operator shall be properly trained before use. Training Course is not included in the price of the unit and must be purchased separately.
This unit is designed for indoor use only (see "Environmental Data"appendix for reference).

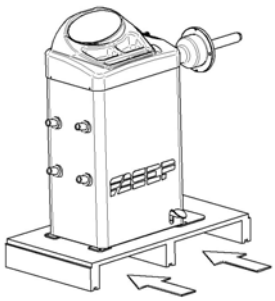
CAUTION *This unit is designed to spin vehicle wheels only, within the range of dimensions and weight approved (see "Technical Data"appendix for reference). Special adaptors suit this purpose. Do not attempt to use the machine to spin anything else. Unproper locking may cause the part being spun to be ejected, causing damage to the unit itself, the operator or anything in the in the neighborhood.*

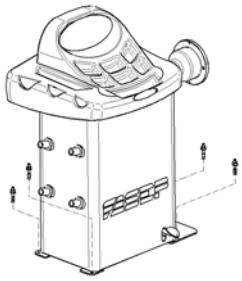
1.1 Definitions



1. 3D console
2. Nameplate label
3. Flange holders
4. Weights and tolls compartments
5. Foot-pedal brake

2 INSTALLATION





2.1 Moving the unit

WARNING *When the unit has to be moved: never lift balancer by motor shaft or by neighborhood of it.*

2.2 Assembling the unit

For ease of transportation, the wheel balancer might be disassembled into units. If necessary, assembling instruction are provided within each package.

2.3 Installation

The wheel balancer must be installed on a firm and level ground.

CAUTION *The machine must be secured to the floor. Using four holes in the base and anchor bolts provided.*

2.4 Electrical Hookup

CAUTION *Failure to follow these instructions can results in damage to unit or create an electrical hazard and will void warranty.*

2.4.1 Electrical hookup is to be provided by a qualified electrician.

2.4.2 A fusible wall-mounted switchbox is required at the installation site. This switch should provide on-off control and overload protection for your wheel balancer only. The switchbox should be fused with time-delay fuse(s) in accordance with the power rating specified on your wheel balancer.

2.4.3 Electrical connection of the machine should be by plug connectors.

2.4.4 The balancer must be effectively connected to ground. The electric cord is regularly provided with a ground terminal.

2.4.5 Make sure that Power Rate Specifications for your wheel balancer (refer to nameplate on the wheel balancer) comply with those provided by the external power source.

CAUTION *After electrical hookup has been performed unit is ready to operate. Always observe pertinent safety precautions when operating the unit (see Appendix tables for an overview of relevant Safety requirement).*

The unit is operated with 12V battery,

Wall mount battery charger is provided.

3 USE THE CONTROL PANEL

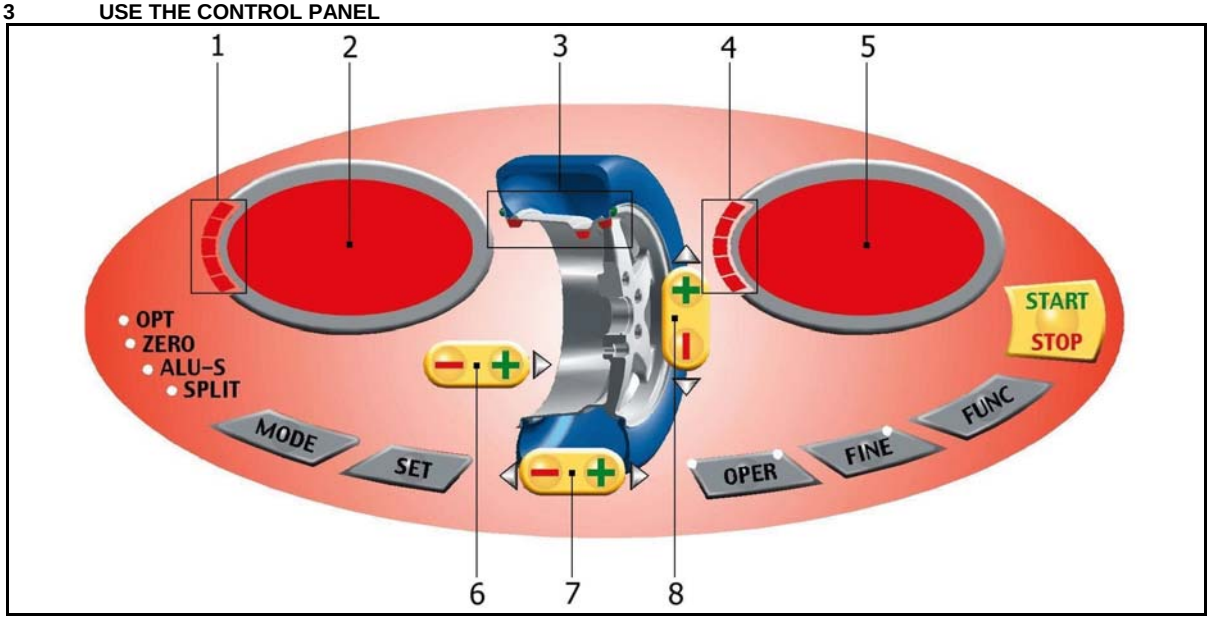


FIG. 7: Panel Balatron 2000

3.1 Meaning of keys at the keyboard

These instructions apply to Normal Operating Mode. Other function maybe activated by these keys in other operating modes (see Special Functions).

<MODE>: . . . . . To select balancing type: Dynamic-Static-Alu.
<SET>: . . . . . Confirm selection
<OPER>: . . . . . To select Operator 1 or Operator 2.
<FINE>: . . . . . To select reading scale.
<FUNC>: . . . . . To select specific functions
<START-STOP>: . . . . . Starts-stops wheel spinning.
6 <DISTANCE -/+>: . . . . . Set internal side measure.
7 <WIDTH -/+>: . . . . . Set width measure.
8 <DIAMETER -/+> . . . . . Set diameter measure.

3.2 Meaning of Led Indicators

1-4: . . . . . indicate location of weight required.
2-5: . . . . . indicate amount of weight required.
3: . . . . . indicate the application point of weights.

4 CALIBRATION

4.1 How to calibrate the Wheel Balancer

NOTE *the following symptoms indicate need for calibration:*

a) check calibration program fails.
b) constant low or high weight readings.
c) indicated point of unbalance constantly wrong
d) more than 2 spins required to balance wheels repeatedly

Switch on the wheel balancer.
Press **<SET>** when **SOF X.XX** (software version) is displayed.

Place a wheel on the flange (Fig. 9).

Press **<SET>**

Hand spin the wheel

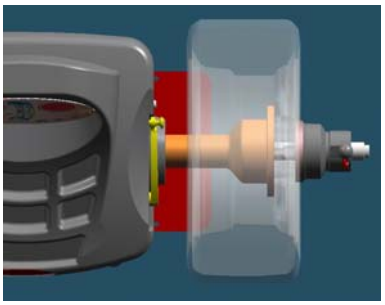


FIG. 9

NOTE: ACC EL: impress greater speed.
RED UCE: reduce the speed.
GO OD: the speed is corrected.

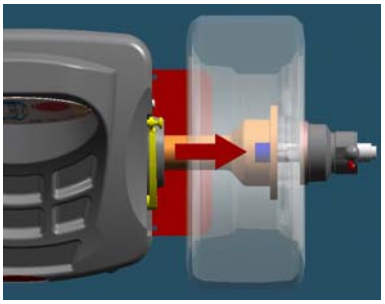
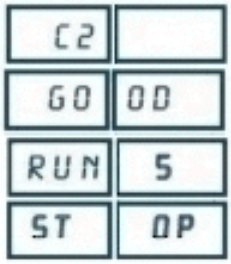


FIG. 10

Put the calibration weight (Fig. 10).



Hand spin the wheel

End of calibration.

Press **<MODE/ESC>** to return to normal balancing mode.

4.2 How to check the calibration of Wheel Balancer

Switch on the wheel balancer.
Press **<SET>** when **SOF X.XX** (software version) is displayed.

Press <+/-> to select CAL TEST

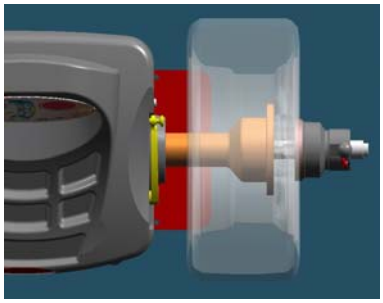


FIG. 12

Place a wheel on the flange (Fig. 12).

Press **<SET>**

Hand spin the wheel

Stop the wheel

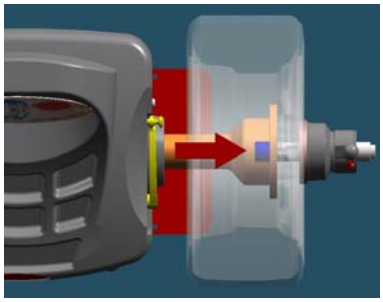


FIG. 13

Put the calibration weight (Fig. 13).

Hand spin the wheel

Stop the wheel

Press **<MODE/ESC>** to return to normal balancing mode.

4.3 ALU-SE Calibration

Put the rod in 0 position (Fig. 15)

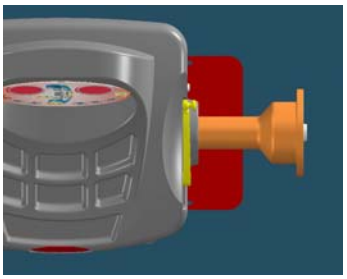


FIG. 15

Put the rod in internal side of flange (Fig.16)

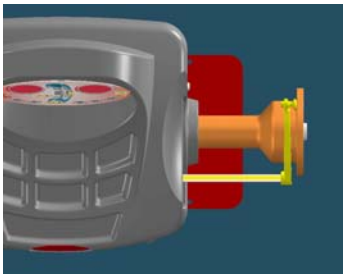


FIG. 16

Put the rod in the internal side of the rim (Fig.17)

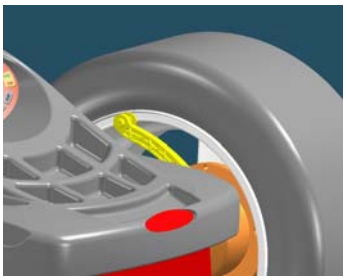


FIG. 17

Select the wheel diameter

Press **<MODE/ESC>** to return to normal balancing mode.

5 MEASUREMENT AND CORRECTION OF UNBALANCE

5.1 Placing the wheel rim on the wheel balancer

5.1.1 Select the cone or flange suitable for the wheel to be balanced. Specific mounting instructions are delivered with each flange.

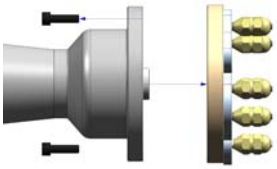
NOTE *The operation of centering and tightening of the wheel on the flanges is of basic importance for correct balancing. Good results depend on proper performance of these procedures.*
Clean accurately all cones, shaft and adapter surface before placing the wheel on the wheel balancer.

CAUTION *Always make sure flanges are correctly locked on the motor shaft and wheel is correctly locked on the flange being used.*

5.2 How to compensate unbalance of flanges using AFC function

NOTE *This operation allows to put compensate unbalance of flange and other accessories.*

5.2.1 Lock the required flange on the shaft without the wheel.

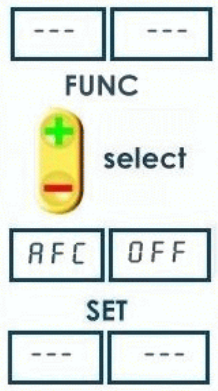


HOW TO TURN ON AFC FUNCTION

The ZERO led blinking.

The ZERO led is on.

HOW TO TURN OFF AFC FUNCTION



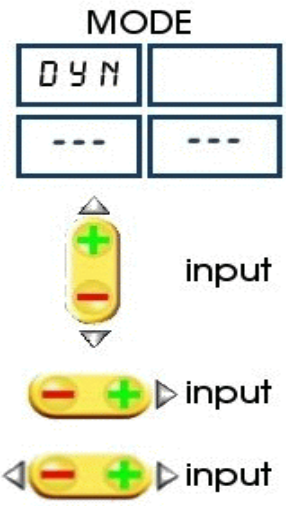
Remove the flange.

The ZERO led switch off.

5.3 Input of Rim Dimensions

NOTE *DOUBLE OPERATOR option (optional for B212): this wheel balancer can be used by 2 operators in the same time. Everyone can memorizes the dimensions of the wheel to balance with* ***<OPER>*** *button. The machine memorizes the operating procedure too.*

5.3.1 DYNAMIC MODE



Press **MODE** to select the operating mode.

Select the wheel diameter.

Select the distance of the wheel.(Fig.23, Fig.25)

Select the wheel width.

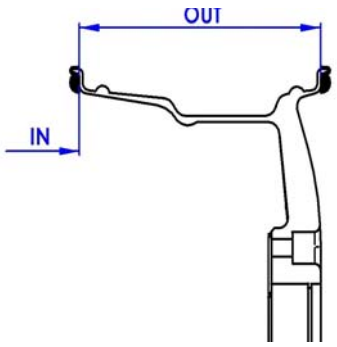


FIG. 22

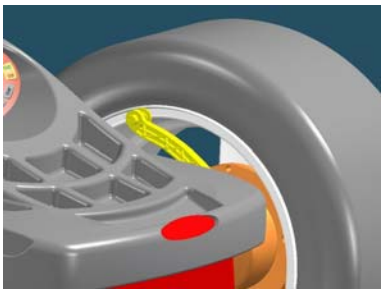
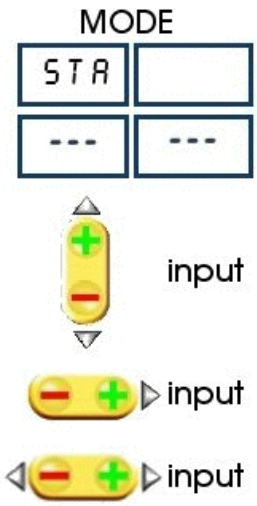


FIG. 23

5.3.2 STATIC MODE



Press **MODE** to select the operating mode.

Select the diameter.

Select the distance.

Select the width.

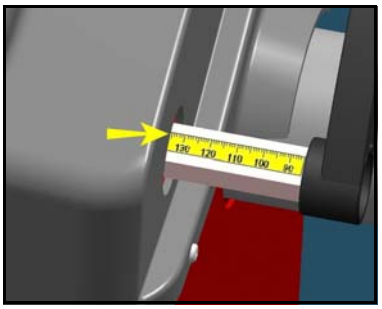
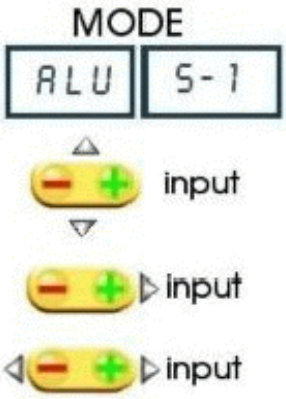


FIG. 25

5.3.3 ALU S-1 MODE / ALU S-2 MODE (Manual input)



Press **MODE** to select the operating mode.

Select the wheel diameter.

Insert the internal measure (IN 1) (Fig. 27, Fig.28).

Insert the external measure (IN 2) (Fig.27, Fig.28)

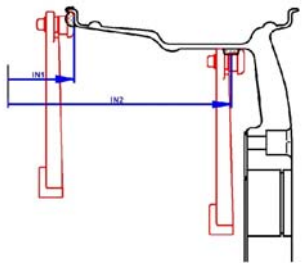


FIG. 27

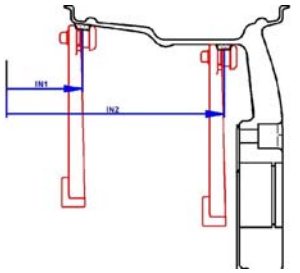


FIG. 28

5.3.4 ALU SE-1 MODE / ALU SE-2 MODE (Automatic input - optional)

Press **MODE** to select the operating mode

Place the rod on the rim (fig. 30)

Wait for the BEEP take-over first measure.

Please the rod as in picture 31.
Wait for the BEEP take-over second measure.

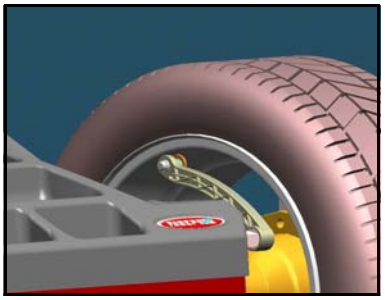


FIG. 30

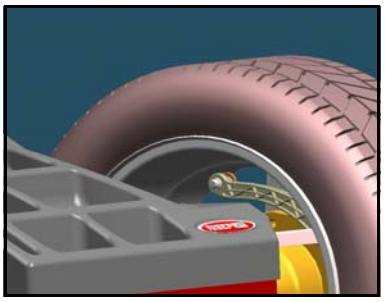


FIG. 31

5.4 Detecting and correcting unbalance

5.4.1 After setting wheel dimensions, spin the wheel till **GOOD** appears on the display..

NOTE: **GOOD** = correct speed
ACCEL = accelerate (speed is too low)
DECEL = decelerate (speed is too high).

5.4.2 At the end of the spin, stop the wheel. The display will show the weight position and weight requirement to correct the wheel's umbalance.

5.4.3 If unbalance shown is 0, press **<FINE>** to show residual unbalance.

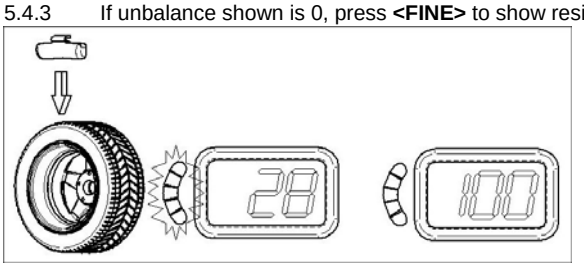


FIG. 32

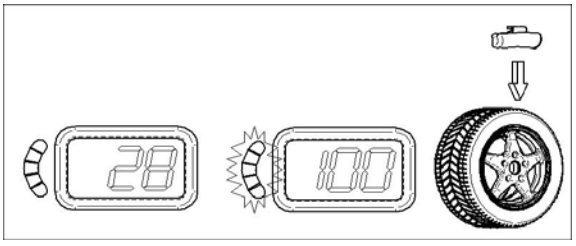


FIG. 33

NOTE *OPT light blinking after the measurement indicates that static unbalance is exceeding more than 20grs. Optimization procedure is suggested.*

5.5 How to apply the weight using ALU-SE indicator (Option)

Place the weight (Fig. 34).

Turn the wheel to the position (Fig. 32, Fig. 33).

Move the rod until ≡≡≡ appears on the display (picture on the left).

Apply the weight (Fig. 36).

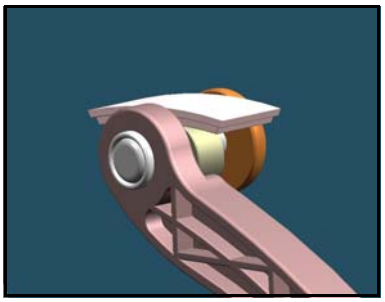


FIG. 35

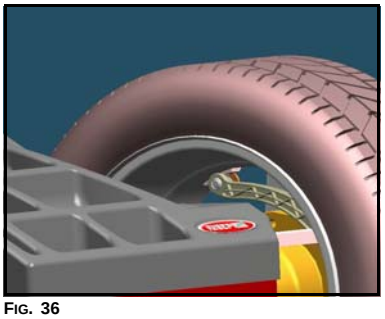


FIG. 36

6 HOW TO OPTIMIZE UNBALANCE OF THE WHEEL (Option)

6.1 Measure the unbalance of the rim only. Once the measurement of rim unbalance is calculated, press **<FUNC>** to enter optimization function.

Mount the tyre on the rim. After mounting the tyre, the wheel must be put on the shaft in the same position as before.

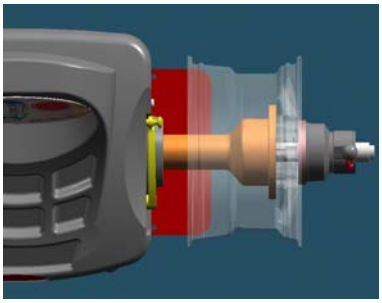


FIG. 38

Hand spin the wheel

Left display (20 in example) indicates present static unbalance. Right display (55% in example) indicates possible reduction of weight in %.

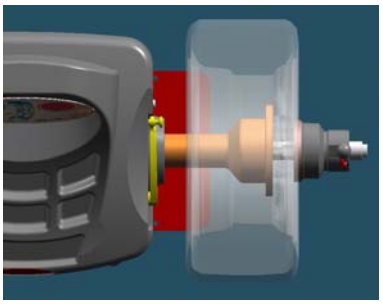


FIG. 39

Turn the wheel until SIGN 1 is displayed.

Mark the rim (12 o'clock).

Turn the wheel until SIGN 2 is displayed.

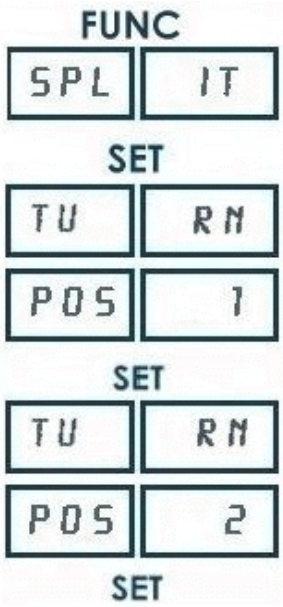
Mark the tyre (12 o'clock).

Put the two marks together to optimize unbalance.

6.2 After pressing **<SET>**, the program return to the measurement of unbalance mode, where an indication of the residual unbalance values will be given.

7 HOW TO USE SPLIT WEIGHT FUNCTION

7.1 Measure the unbalance of the wheel. Once the measurement of unbalance is calculated, press **<FUNC>** to enter split function.



Turn the wheel until POS 1 is displayed.

Mark the tyre when the first spoke selected is at 12 o'clock.

Turn the wheel until POS 2 is displayed.

Mark the tyre when the second spoke selected is at 12 o'clock.

7.2 The weight in grams for external side is displayed only when the wheel is in a correct position (12 o'clock).

8 SPECIAL FUNCTIONS MENU

8.1 Enter in the special functions menu

Switch on the wheel balancer. Press **<SET>** before SOF X.XX will disappear.

CAL	Calibration of wheel balancer
CAL tSt	Control of the calibration of electronic sensors
CAL rod	Calibration of electronic input sensors
LED TST	Test Led
SEn Sor	Diagnostic of sensors
StA tiS	Statistic about the use of machine
USr Set	User setup
tEc Set	Technical Setup
Ser nuM	Serial number
Act Cod	Inserting Activation Codes

8.2 Diagnostic program of sensors

Switch on the wheel balancer. Press **<SET>** before SOF X.XX will disappear. Select **Sen Sor** and press **<SET>**.

rPM	Balancing speed
PS1	PS1 voltage
PS2	PS2 voltage
tO	Encoder is in the zero position
PoS	Angle of position sensor(from 0 to 255)
dIS	Value of distance sensor
dIA	Value of diameter sensor

8.3 Statistic program

Switch on the wheel balancer. Press **<SET>** before SOF X.XX will disappear. Select **Sta tis** and press **<SET>**.

tOt	Total number of spin
SUC	Percent of runs with a good result
c11 0s	Percent of wheels with diameter <11"
from **11** to **17**	Percent of wheels with the indicated diameter
]17 0s	Percent of wheels with diameter >17"
CAL	Number of calibrations

8.4 User Setup

Switch on the wheel balancer. Press **<SET>** before SOF X.XX will disappear. Select **USa SET** and press **<SET>.**

ScA LE	Set 1 or 5 grams step (0.05/0.25 ounces).
Cut oFF	Set minimum weight to be displayed
Uni Out	Unit of measure for the width (0=inch, 1=millimeters).
Uni Umb	Unit of measure for the weight (0= grams, 1=once).
Fin AL	Display of final (0 = normal, 1 = blink, 2= Go OD).
biP	Enable/Disable beep in position
EME StP	Motor brakes in case of emergency stop (On or OFF) (OFF: motor power is cut).
Cou Er	OFF = safety cover is not installed; On = the motor starts only if the safety cover is closed; Aut = closing of safety cover the motor starts automatically
rod in	Enable/Disable distance input system.
rod out	Enable/Disable width input system
STE P	Increase distance/width measure.
PNE U	Enable/Disable PL system.
SCR EEN	Screen saver selection from 1 to 5 (0 = disable).
VOI CE	Enable/Disable voice system.
Snr	Sensibility to external vibration.
Tim er	Input system speed.
Fas t	Enable/Disable fast cycle
APS	Enable/Disable automatic position system.
ADM IN	Enable/Disable Admin mode.
OPT	Set minimum tire matching level.
rES Et	Load Factory Setup.

APPENDIX

A: Technical Data

Absorbed power		5W
Speed Balancing		75/125RPM
Measuring time		4-15 seconds
Precision		±1grs (±1/28 ounce)
Wheel dimensions	**Rim Diameter**	from 8" (200mm) to 26" (650mm)
	Wheel Diameter (m ax, with cover)	34" (850mm)
	Rim Width (max, with cover)	16" (410mm)
	Wheel Weight (max)	70Kg (155Lbs)

Wheel balancer dimensions

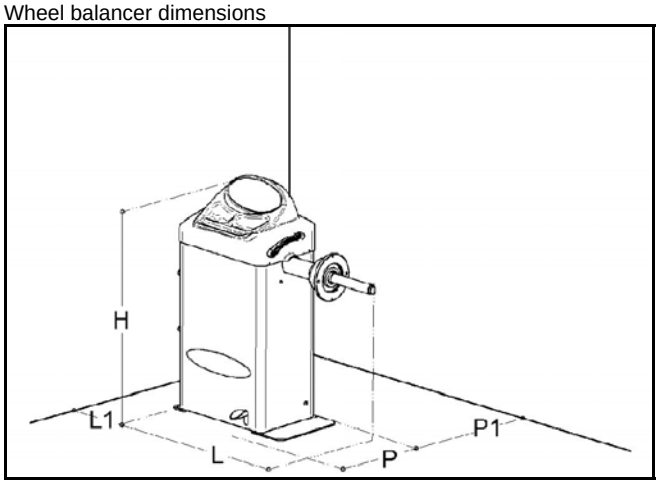


Fig.24 : Balatron B110/B210 measures

	B110	B210
L (mm)	1100	1030
L1 (mm)	500	500
P (mm)	340	430
P1 (mm)	550	550
H (mm)	380	940
Weight (kg)	44	65

B: Environmental Data, Safety Features and Requirements

Environmental Data

[*Operating conditions*]
This unit is designed for indoor use only.
Temperature: 0 to 45˚C Relative Humidity: 5 to 80% a 40˚

[*Storage conditions*]
Package is designed for indoor storage only.
Temperature: -25˚ to 70˚C Relative humidity: 5 at 95% to40˚C

Safety Features

1. The Balance Weights Holder may be removed for servicing. It is secured to the machine body through screws so that only voluntarily it may be removed. Removal of this protection is therefore restricted to Authorized Service Engineers.
2. The Control Panel may be removed for servicing. It is secured to the machine body through screws so that only voluntarily it may be removed. Removal of this protection is therefore restricted to Authorized Service Engineers.

WARNING *FASEP 2000 srl shall not be responsible for any inconvenience, breakdown, accidents caused directly or indirectly by unauthorized service. Service to any parts by unauthorized engineers will void warranty and will any right of the owner of the unit.*

NOTE *As this unit runs at a speed below 100rpm, a safety cover is not required. However a safety cover is recommended when balancing wheels with diameter bigger then 20".*

CAUTION *The safety cover is anyway required when using the motorcycle adapter.*

General Safety Requirement
[*before using/servicing this unit*]

1. Read this instruction manual before operating or servicing the wheel balancer.
2. Make sure electrical power source conforms to requirements shown on nameplate (see also model identification chart for reference).
3. Make sure the unit has a stable position and it's bolted to the ground.
   [when using the unit]
4. Protect power leading to the unit from damage.
5. When work area is being washed, make sure unit is adequately protected.
6. Remove all stones and mud lodged in tire treads before balancing the wheel.
7. Do not touch spinning wheel.
8. Make sure counterweights are securely attached before checking residual unbalance.
   [when servicing the unit]
9. Make sure power sources are disconnected before service on the unit is performed.
10. Service to PCB, electrical and mechanical parts should be done only by an Authorized FASEP 2000 Service Center.

C: Errors and Malfunctions recognized by the Computer
Errors may apply to some model only.

ERR 1	Shaft does not rotate	**ERR 16**	Calibration memory error
ERR 2	Rotation Direction is wrong	**ERR 17**	Rod in uncorrected position
ERR 3	Rotation speed is not ready	**ERR 18**	Excessive weight detected
ERR 4	Rotation speed is wrong (too low or too high)	**ERR 19**	Reserved
ERR 5	Position Sensor or Position Disk failure	**ERR 20**	Excessive Deceleration
ERR 6	Safety Safety cover is open	**ERR 21**	Error in inputting data
ERR 7	Measuring cycle was interrupted	**ERR 22**	Brake error
ERR 8	Calibration weight was not inserted	**ERR 23**	Reserved
ERR 9	Activation code not correct	**ERR 24**	Insufficient air pressure (PL version)
ERR 10	Overflow in calculations	**ERR 25**	Reserved
ERR 11	Serial number is wrong	**ERR 26**	Piezo sensor error
ERR 12	Serial number not inserted	**ERR 27**	Wheel is not securely tightened on the shaft
ERR 13	Reserved	**ERR 28**	Laser error
ERR 14	Uncorrected password	**ERR 29**	Reserved
ERR 15	E^2prom error		

For a complete and updated list of error codes on the machine together with resolution procedure, please visit http://support.fasep.it/kb