



**WHEEL BALANCERS**

**TWF-95**

Ø Wheel diameter: 10" (254 mm) - 24" (610 mm)

# TWF-95

## INSTALLATION, OPERATION AND MAINTENANCE MANUAL



*Always read these operating instructions carefully before using the wheel balancer. Follow the instructions carefully.*

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**Further attachment:**

- **EU Declaration of Conformity**

Important information:

**ASSEMBLY**



You can find the assembly video for this machine on YouTube: <https://youtu.be/aQCKumTiYUQ> or scan the QR code.



**PRODUCT PRESENTATION**



You can find the product presentation video for this machine on YouTube: <https://youtu.be/IS-RXpG4tUY> or scan the QR code.



### CALIBRATION



You can find the calibration video for this machine on YouTube: <https://youtu.be/PKHwLVdZORg> or scan the QR code.



### LASER CALIBRATION



You can find the laser calibration video for this machine on YouTube: <https://youtu.be/aOHEp2BMUYo> or scan the QR code.





## TIPS & TRICKS



In the "Tips & Tricks" section, we show you simple solutions, in videos to make your TWIN BUSCH® products even more efficient to work. Our technical specialist will explain the exact steps to you.

<https://www.twinbusch.co.uk/Tips-Tricks: :74.html>

## 24/7 Service Center:



Our **24/7 Self-Service Centre** is a mobile website for self-diagnosis of problems with your Twin Busch lift, tyre changer or balancer. Here we offer you an extensive collection of videos covering a wide range of topics relevant to your Twin Busch product, from fine adjustment to maintenance and component replacement.

The **24/7 Self-Service Centre** is a versatile tool that helps you learn how to maintain and repair your Twin Busch lift, tyre changer or balancer yourself.

To open the page on your mobile device, please visit [twinbusch.com/qr](https://www.twinbusch.com/qr) or scan the QR code opposite.

For Twin Busch lifts delivered from mid-2020, you will also find the QR code on a sticker on the control box.

## 1. General information

The **TWF-95** automatic tyre balancer for professional work with laser position system and LED light. Equipped with TFT colour screen and 2 electric feeler arms for rim distance, rim width and rim diameter as well as automatic recognition of the balancing programs (normal and Alu-S).

The TW F-95 has a laser positioning system for the precise attachment of adhesive weights at the 6 o'clock position (also possible at the 12 o'clock position without laser). There is also an LED light for better visibility. The TW F-95 has a 40 mm shaft and an extended wheel holder for better balancing of wide tyres, e.g. Porsche, SUV, etc. The machine also has a foot brake to fix the shaft when clamping the wheel or correcting imbalances.

### Special features of the product:

- **1A processing quality**
- Production according to **ISO 9001**
- Laser positioning system
- Laser position system at 6 o'clock position
- LED light for better visibility
- Split programme for exact placement of the weights behind the spokes
- Measuring arm for automatic rim width determination with magnetic docking
- Foot brake for fixing the shaft during imbalance correction or wheel clamping
- Electronic sensing arm (data)
- Shaft diameter 40 mm for more precise balancing
- Wheel mounting 255 mm for better balancing of wide tyres
- Large TFT colour monitor
- Automatic measuring process with wheel braking
- Static and dynamic balancing
- Various programmes can be selected: Normal / Static / Alu1, Alu2, Alu3 / Motorbike etc.
- Integrated calibration and self-diagnosis programmes
- Menu languages: German, English, French, Spanish, Portuguese, Dutch, Italian, Polish, Swedish and Hungarian.
- **Optional: Motorbike adapter, adapter for vehicles without centre hole**

## 2. Identification of the operating instructions

Operating instructions for the **TWF-95**

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Status: -00, 10.01.2025

File: TWF-95\_Wheel\_Balancer\_Manual\_uk\_00\_20250110.pdf

## 3. Technical data

Rim width	1.5" (38 mm) to 20" (508 mm)
∅ Rims	10" (254 mm) to 24" (610 mm)
Wheel weight max.	65 kg
∅ Rim centre hole	40-135 mm
Measurement tolerance	+/- 1g
Measuring time	4-7 sec.
Drive voltage	230 V
Protection	16 A (C/sluggish)
Noise level	<70 dB
Tare weight	130 kg
Drive shaft length	255 mm
Rim tension	Manual
Dimension input	With 2 sensing arms

## 4. Modification of the product

Improper use, modifications, conversions and attachments of the tyre balancer and all its components that have not been agreed with the manufacturer are not permitted. The manufacturer accepts no liability for improper installation, operation or overloading. The CE certification and the validity of the certificate also expire due to improper use.

If you require any changes, please contact your dealer or the expert staff at Twin Busch GmbH beforehand.

## 5. Safety-related information

Read the operating instructions carefully before operating the tyre balancer. Keep the instructions for future reference. Follow the instructions exactly to achieve the best performance from the machine and to avoid damage due to personal negligence.

Check all connections and components thoroughly for damage.

### 5.1 Safety instructions

We accept no liability for damage caused by improper installation and operation, overloading or unsuitable floor conditions.

- Calibration must be carried out in strict accordance with the operating instructions. Incorrect calibration will impair the correct functioning of the tyre balancer and lead to incorrect measured values.
- The operating environment should comply with the provisions of the applicable safety regulations.
- Exceeding the measuring range of the device can lead to damage and inaccurate measurements.
- If the operator does not comply with the safety regulations and causes damage to the appliance by dismantling the safety device, the manufacturer will immediately terminate its safety obligation.



## 5.2 Warnings

All warnings are clearly visible to ensure that the user uses the appliance in a safe and appropriate manner. The warning labels must be kept clean and replaced if they are damaged or missing.

## 6. Conformity of the product

The TWF-95 tyre balancer is CE-certified and complies with the Machinery Directive 2006/42/EC and fulfils the EN ISO 12100:2010 standard. See also the EU Declaration of Conformity at the end of the operating instructions.

## 7. Technical specification

### 7.1 Machine description



## 7.2 Assembly of a tyre balancer

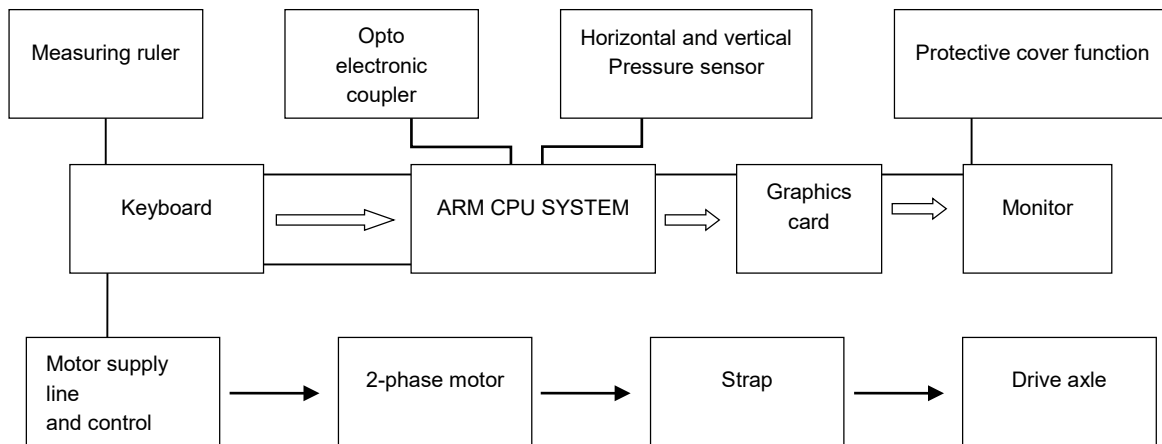
Two main components of the tyre balancer are: Drive shaft and rake unit.

### 7.2.1 Drive shaft

The drive shaft and the rigid shaft are pressed into each other and fastened together on the housing.

### 7.2.2 Electrics

1. The computing unit consists of a powerful CPU, a mainboard, a high-resolution graphics card, a soft-touch keyboard and an LCD screen.
2. electronic measuring rulers.
3. position detection using an optoelectronic coupler.
4. 2-phase asynchronous motor for controlled rotation.
5. horizontal and vertical pressure sensor and protective hood function.



## 8. Assembly and installation

### 8.1 Ground conditions

- The tyre balancer must be set up on firm concrete or a similarly solid surface; a soft or vibrating surface can cause measurement errors.
- There should be a free space of 50 cm around the machine so that it can be operated comfortably. The safety regulations for the work area must also be observed.
- Fasten the anchor bolts through the mounting hole of the tyre balancer in the foundation to ensure safe and accurate operation.

### 8.2 Assembly instructions

- 1) Remove the packaging.
- 2) Loosen the wooden frame from the pallet with a hammer and remove the packaging film in the upper part of the balancing machine.

- 3) Remove the small parts and put them to one side.
- 4) Now remove the remaining packaging film and remove the bracket from the protective cover.
- 5) Now remove the protective cover from the machine.
- 6) The machine is fixed to the pallet with three screws. Remove these and slide the machine off the pallet.  
**Note: Never lift the machine using the balancer shaft.**
- 7) Mounting the monitor
  - a) Remove the cable ties around the monitor cables.
  - b) Remove the monitor holder and the monitor from the packaging.
  - c) Firstly, unscrew the three screws for the monitor holder and guide the monitor cables into the monitor holder.



Illustration: Monitor holder

- d) Now loosen the four screws on the back of the monitor and attach it to the bracket. Plug in the monitor cable and power cable.



Illustration: Attaching the monitor

**Note:** You can adjust the rotation of the monitor using the three screws at the base of the bracket. Use the adjusting screw to set the tilt angle of the monitor.

- 8) Screw the cone brackets to the machine. Also attach the width gauge to the cone brackets.



Illustration: Cone brackets and width gauge

## 9) Mounting the shaft

- a) First, fit the shaft and screw it on with the support of the foot brake.



Illustration: Shaft

- b) Now tighten the Allen screw in the shaft.
- c) Assemble the quick-release nut with the clamping pot and the clamping pot rubber and slide it onto the shaft.

## 10) Fitting the bracket for the protective hood

- a) Connect the cable of the bracket to the balancing machine.  
**Note: Note the recess when connecting this.**
- b) Now attach the bracket and secure it with a screw.  
**Note: Take care not to pinch the cable.**
- c) Attach the end plug.

## 11) Fitting the protective hood

- a) Put the protective hood together and fasten it with the four screws supplied. Use the special spanner supplied to hold the nut.
- b) Then place the protective hood on the bracket and secure it at the top of the upper and lower bracket with the two screws.

### 8.3 Fastening the wheel

Check that you have removed all old weights and cleaned the wheel. If necessary, correct the prescribed tyre pressure in order to fit the wheel.

Select the appropriate cone.

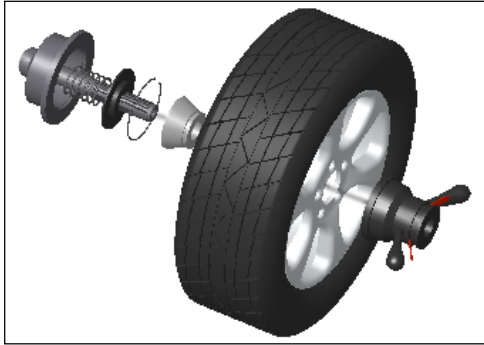


Illustration: Method A - Inner cone

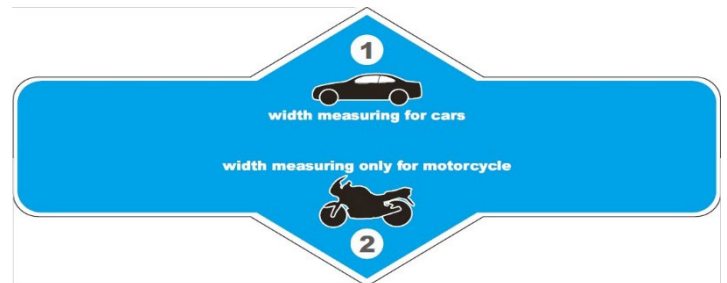
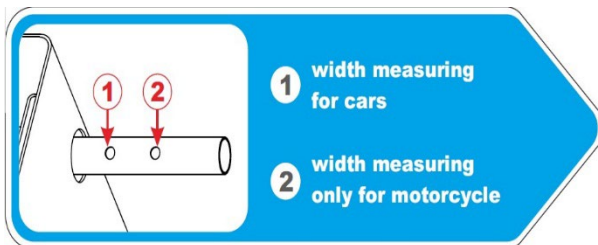


Illustration: Method B - external cone

**Note:** Place the wheel carefully on the threaded rod! (Do not slide back and forth with the centre hole of the wheel on the threaded rod). This can damage the threaded rod in the long term.

### 8.4 Important notes on the protective hood position

- Attachment to the hole ① is *only* used for measuring car tyres
- Attachment to the hole ② is *only* used to measure motorbike tyres



#### Operating instructions:

- When balancing car wheels, make sure that the hole in the protective cover matches the hole in the shaft ① and is firmly fixed with the adjusting pin; only then can the width gauge measure the wheel width of the car correctly.
- When balancing motorbike wheels, the machine is fitted with a motorbike adapter. Please make sure that the hole of the protective cover is aligned with the hole of the shaft ② (Take out the adjusting pin, move the protective cover shaft and fix it firmly with the hole ②); The width measuring scale can measure the motorbike wheel width correctly.

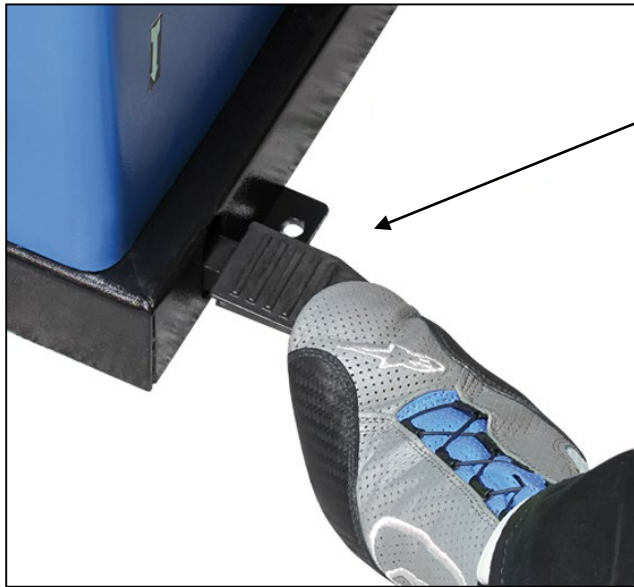
**Caution:** Place the protective cover shaft on the correct hole, otherwise the measuring data of the balancing machine may be inaccurate.

## 9. Commissioning

### 9.1 Safety precautions

- a) If the safety devices are defective or show abnormalities, the machine must not be put into operation under any circumstances!
- b) Check that all connections are tight and functional.

### 9.2 Description of the foot parking brake



The foot parking brake is used to hold the shaft in place during unbalance correction or wheel clamping.

### 9.3 Description of the symbols on the screen



Menu: Press "M" to access the menu.



Conversion to equalisation mode: Press "ALU" to enter equalisation mode.



Recalculate: After finishing the balancing and if you have forgotten to enter the current rim data, please enter the correct rim data and press "E", the machine will recalculate the rim with the appropriate balancing weights and display the correct results.



Exit: Press "STOP", end the current task and return to the interface for entering the rim data.



Check the actual imbalance weights: Press "FINE" to obtain a more accurate display of the balancing weights.



Split mode: This function can be activated in static balancing mode, ALU-S1 mode and ALU-S2 mode. Press "S" in split mode, the weights are split and glued behind the adjacent rim spokes.



Tracking Sticking Balancing Mode: This function can be activated in static balancing mode, ALU-S1 mode and ALU-S2 mode. Press "T" for this function. Attach the appropriate weights to the gauge, pull out the gauge and stick the weights to the correct position according to the on-screen instructions.



Optimisation notes: When this symbol appears, the operator is informed that the static imbalance of the tyre is too high and the position must be optimised. Please remove the tyre from the rim and rotate it by approx. 90° to optimise the existing imbalance and reduce the static imbalance.



Press any button to return: Press any button to end the current process and return to entering the rim data.



Switch: Press the "M" button to switch to the next option.



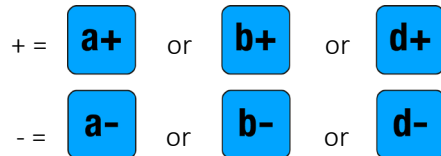
Setting: Press "E" to set the corresponding function



Confirm: Press "E" to confirm the selected operation.



BACK TO MAIN user interface



## 9.4 Button function

**a+** or **a-** enter the distance value (a)

**b+** or **b-** enter the width value (b)

**d+** or **d-** enter the diameter value (d)

**S** "Split" mode, stick weight behind spoke

**T** Tracking adhesive levelling mode (switch on laser)

**ALU** ① Conversion of the balancing mode; ② Confirmation function when calibrating the measuring scale

**M** ① Menu; ② Switch selection

**E** ① Recalculation; ② Confirmation; ③ Setting

**FINE** The realistic display of unbalanced weights

**STOP** Stop button

**START** Start button

inch / mm Inch/mm conversion key

Key combination Function

**FINE** + **d+** or **d-** Entering the value for the exact rim diameter

**Caution:** Only press the press studs with your fingers. Never use sharp objects.

## 9.5 The parameter input methods

The input of the parameters differs depending on the programme type:

- a) Programme M1, M3, M5, M6: The parameters A / B / D are required here
- b) Programme M2, M4: The parameters A / A+ / D are required here.
- c) Static or OPT programme: Only parameter D is required here.

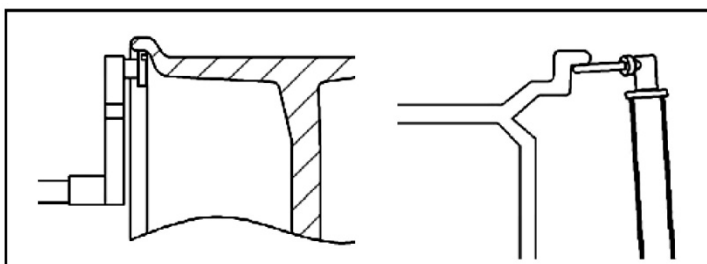
When working with the electronic rulers, please note that the values are adopted.

Once the rulers have been moved to their corresponding position, they must be held for approx. 2 seconds.

Once the value has been accepted, an acoustic signal sounds.

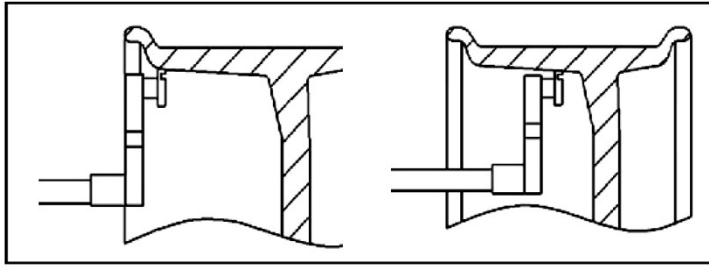
Diagrams of the ruler rim contact:

- Left ruler" refers to the ruler that comes out of the housing.
- The "right-hand ruler" is the ruler located on the protective cover.

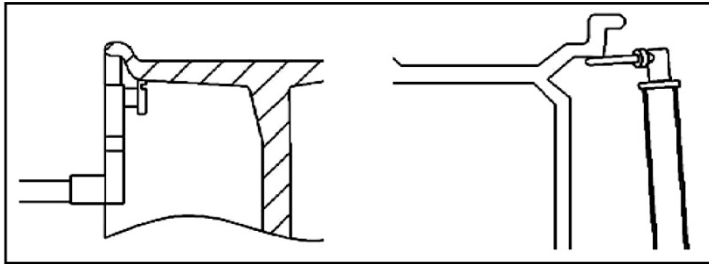


Dynamic:  
Left ruler measures values A and D  
Right ruler measures value B

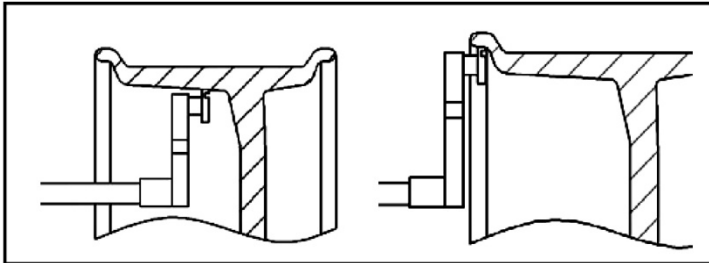




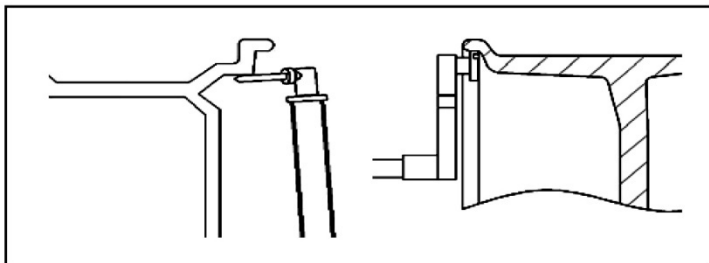
ALU 1 / S1  
Left ruler measures values A and D  
Left ruler measures value A+



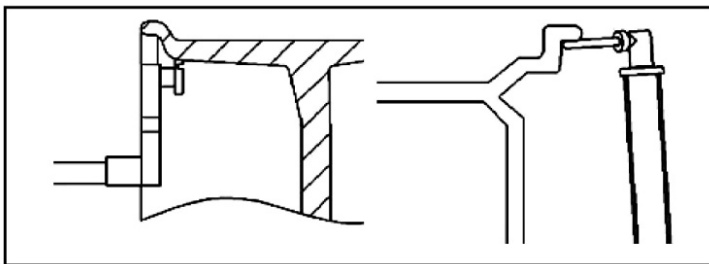
ALU 3:  
Left ruler measures values A and D  
Right ruler measures value B



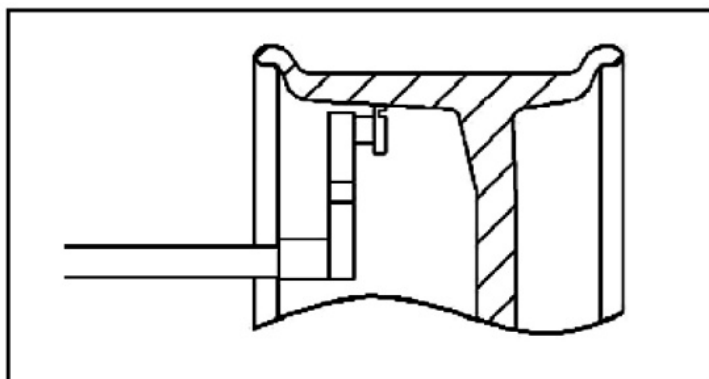
ALU 2 / S2  
Left ruler measures value A+  
Left ruler measures values A and D



ALU 4:  
Right ruler measures value B  
Left ruler measures values A and D1



ALU 5:  
Left ruler measures values A and D  
Right ruler measures value B



Static:  
Left ruler measures value D

## 10. Calibration

### 10.1 Width gauge calibration

- 1) Press the **M** button to select the width gauge. Note: The width gauge must be set to ON.
- 2) Press **STOP** to exit the menu.
- 3) Press the **M** button to select the width gauge calibration. Confirm with **E**.
- 4) Press the **ALU** button while the width gauge is in the starting position.
- 5) Hold the width gauge against the axis surface and confirm with the **ALU** button.

### 10.2 Gauge "Distance" Calibration

- 1) Fit a steel rim with tyres. This does not need to be balanced.
- 2) Press the **M** button to select "Distance" calibration gauge.
- 3) Set the gauge to 0 and confirm with the **ALU** button.

### 10.3 Diameter" measuring gauge Calibration

- 1) Press the **M** button to select "Diameter" calibration gauge. Confirm with **E**.
- 2) Use the **d+** and **d-** buttons to enter the rim diameter of the mounted wheel. Confirm with **ALU**.
- 3) Hold the measuring gauge against the rim flange and confirm this again with **ALU**.

### 10.4 Regular calibration

- 1) Press **M**, call up the "Self-calibration" menu and confirm with **E**. Close the protective cover and press the **START** button for the measurement.
- 2) After stopping the axle, open the protective hood. Attach a 100 g test weight anywhere on the outside of the rim. Close the protective hood.
- 3) After the axle stops, end of calibration. Remove the wheel, the balancing machine is now ready for operation.

### 10.5 Sensor testing

Press the **M** button to select Self-diagnostics and confirm with **E**. You can now check the functionality of the sensors in real time.

If you move the gauge, main shaft (press lightly) or rotate the main shaft, you can observe a change in the values. If you do not see any change, there is a possible defect.

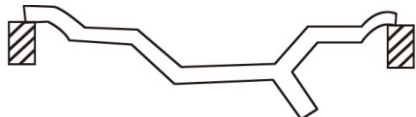
## 11. Balancing modes of the wheel

### 11.1 Changing the balancing mode

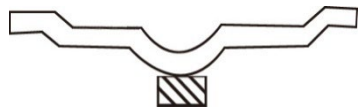
Dynamic equalisation mode → Static equalisation mode → ALU-1 → ALU-2 → ALU-3  
 → ALU-4 → ALU-5 → ALU-S1 → ALU-S2 → ALU-X

**Note:** If the balancing results under ALU-1 & ALU-2 are not so good, please work in ALU-S1 & ALU-S2 mode.

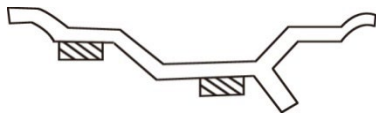
All weights were added in the different balancing modes as shown below:



Dynamic equalisation mode (standard mode): Attaching the weights to both sides of the wheel.

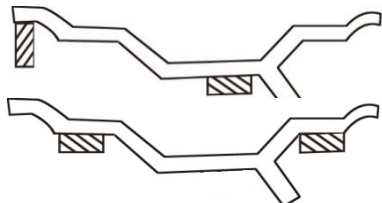


ST mode (static equalisation mode): Sticking the weights in the centre of the wheel, this mode is suitable for the motorbike wheel.

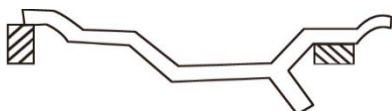


ALU-1: Glue the weights to the inside of the left-hand rim shoulder and close to the inside of the rim spoke.

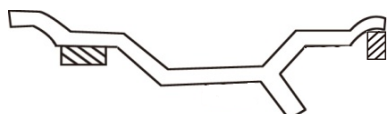
ALU-2: Hammer in the weights on the inside of the rim and glue the weights near the inside of the rim spoke.



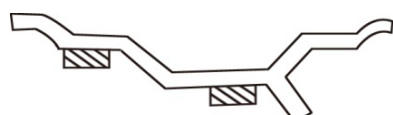
ALU-3: Glue the weights to the inside rim shoulder and to the outside rim shoulder.



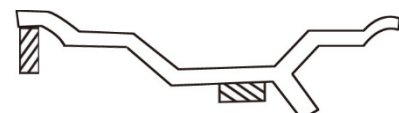
ALU-4: Hammer in the weights on the inside rim edge and glue the weights on the outside rim shoulder.



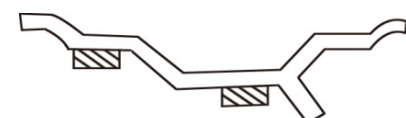
ALU-5: Glue the weights to the inside rim shoulder and hammer the weights onto the outside rim edge.



ALU-S1: Glue the weights to the inside of the left-hand rim shoulder and close to the inside of the rim spoke.



ALU-S2: The weights are hammered in on the inside of the rim and glued on close to the rim spoke.



ALU-X: this mode is self-customised by the manufacturer, please use this mode under the professional guidance. Stick the weights on the left shoulder of the rim inside and near the rim spoke inside

## 11.2 Dynamic mode

If a bar appears above a weight display, the weight is attached at the point where the ruler touches the rim (approx. 10 to 11 o'clock). If there is no bar above the weight display, the weight is positioned at 12 o'clock position! The balancing programmes "STATIK" to "ALU 5" should be used according to this simple formula.

After switching on, the machine is set to DYNAMIC. The machine automatically recognises an ALU programme: Move the ruler to the two desired gluing positions, first to the left, then to the right and then place the ruler in the rest position. The machine has switched over. This also works from ALU to DYNAMIC.

- 1) Clamp the wheel, enter the values a- / a+ / d- / d+ using the ruler.
- 2) Close the protective hood (autostart through the hood, without autostart also **press the START button**).
- 3) After braking the machine, open the protective hood; the required weights are displayed.
- 4) Turn the wheel by hand until the inside of the wheel is at 12 o'clock, the left-hand vertical bars appear red, attach the weight at this point.



- 5) Turn the wheel by hand until the outside of the wheel is at 12 o'clock, the right-hand vertical bars appear red, attach the weight at this point.



- 6) Close protective hood (autostart through hood, press **START** button without autostart)  
After braking the machine, 00 grams should now appear, open the hood and remove the wheel.

## 11.3 Mode ALU 1

- 1) Clamp the wheel, enter the values **a- / a+ / d- / d+** using the ruler.
- 2) Close the protective hood. After braking the machine, open the protective hood. The required weights are displayed.



- 3) Press **T** (tracking). Turn the wheel by hand until the inside of the wheel is at 12 o'clock. (Left vertical bar is red). Place the weight in the ruler device and pull the ruler out until the left-hand bar above the weight display is fully red. A signal will now sound. This is the correct position for attaching the weight.
- 4) Turn the wheel by hand until the outside of the wheel is at 12 o'clock. (Right vertical bar red). Place the weight in the device of the ruler. Now pull out the ruler until the right-hand bar above the weight display is fully red. A signal will now sound. This is the correct position for attaching the weight.
- 5) Close the protective hood. After braking the machine, 00 grams should now appear, open the hood and remove the wheel.

**Note:** If a bar appears above a weight display, the weight is attached at the point where the ruler touches the rim (approx. 10 to 11 o'clock). If there is no bar above the weight display, the weight is at the 12 o'clock position! Use this simple formula with the balancing programmes ALU1 to ALUX.

## 11.4 Working with the static balancing programme or ST mode

A special adapter is required to balance motorbike tyres, which can be purchased as an option.

- 1) Press the **ALU** button to access the **ST** programme
- 2) Clamp the wheel and enter the value **D** using the ruler
- 3) Close the protective hood. After braking the machine, open the protective hood; the required weights are displayed.



- 4) Turn the wheel by hand until the bar is completely red and "OK" is displayed.  
An adhesive weight can now be attached at 12 o'clock in the centre of the rim.

**Note:** Press the "Fine" button to display the required weight to the nearest 1 gram.

The machine is factory-set to 5 gram increments.

**Example:** The machine shows 20 g inside / 30 g outside. Now press the "Fine" button: Machine shows 22 g / 32 g.

### 11.5 The function of the hidden weight attachment behind the spokes

With this function, the weights are split up and attached behind the spokes so that they are not visible and affect the appearance of the wheel.

**Note:** This function can only be used with the ALU S1, ALU S2 and ST programmes.

The following example shows the application under programme ALU S1:

- 1) Run the **ALU S1** programme as usual.
- 2) **S** Press the button activate split rim mode, enter the number of spokes with **b+ /,b-**.



The required weights are displayed for inside and outside. Now proceed as follows:

- 1) Press **the S** button
- 2) Enter the number of spokes with **b+ / -b-** and press the **S** button
- 3) Turn the wheel until one of the spokes is at 12 o'clock and confirm with **S**.

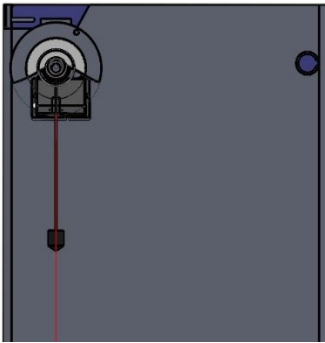


## 12. Calibration of the laser

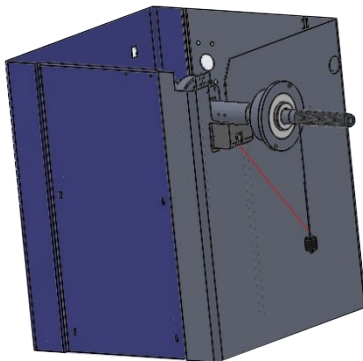
Before entering the laser settings, please make sure that the device is working properly, otherwise the laser programme cannot be set as required.

First fit a tyre with a steel rim and enter the values **a**, **b**, **d** correctly, then remove the tyre.

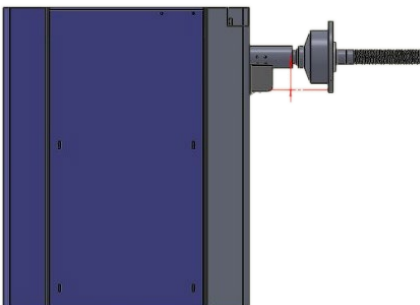
- 1) Hang an object (plumb bob) on the inside of the shaft and adjust the position of the laser box so that the laser is pointing downwards (factory set, you can skip this), then press **ALU** for the next step.



- 2) Hang an object (plumb bob) on the outside of the shaft and adjust the screw on the bottom of the laser box so that the laser dot and the outer vertical line overlap (factory set, you can skip this), then press **ALU** for the next step.

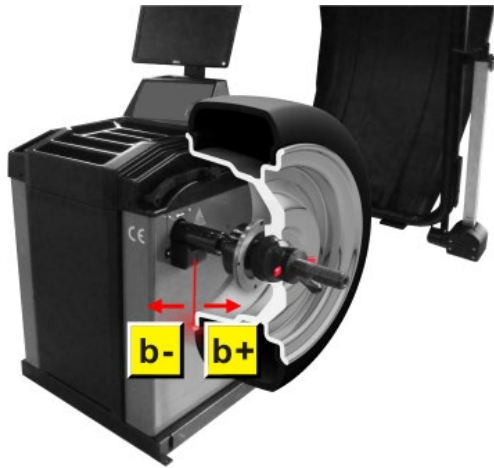


- 3) Hang an object on the outside of the shaft and adjust the screw on the bottom of the laser box so that the laser dot and the outer vertical line overlap (factory set, you can skip this), then press **ALU** for the next step.



- 4) Press **b +** or **b -** to align the laser dot with the inner edge of the rim (factory set, you can skip this), then press **ALU** to go to the next step.





- 5) Fit the tyre with the steel rim, attach the protective cover (press the **START** button) and wait until the balancing process is complete.
- 6) Rotate the tyre by hand to find the balancing point, add a 100 g weight to the top of the tyre, remove the protective cover (press the **START** button) and wait for the balancing process to finish.
- 7) Rotate the tyre by hand to align the centre of the weights with the laser dot and press **ALU** to complete the process.

### 13. LED lighting

The lighting device can be operated both in automatic mode and in manual mode. The default setting is automatic mode. In automatic mode, rotate the tyre after balancing has been completed by hand. If an imbalance is detected, the lighting system switches on, otherwise it is switched off. In manual mode, the Lighting device always switched on. After starting the machine, the default setting of the Automatic mode (automatic switching on and off). By pressing the "STOP" button, the device can be switched to transport mode. By pressing the "STOP" button again, the appliance can be switched back to the Automatic mode.



Illustration: LED lighting

## 14. Troubleshooting

**Please note:** Do not hesitate to contact the expert staff at Twin Busch GmbH if you are unable to rectify a fault yourself. We will be happy to help you solve the problem. In this case, please document the fault and send us pictures and a precise description of the fault so that we can identify and rectify the cause as quickly as possible. The following table lists possible errors, their cause and the associated troubleshooting for quicker identification and self-remedy.

PROBLEM	CAUSE	SOLUTION
After pressing the START button, the main axis does not rotate.	The LED indicates Err-1.	Check motor, computer board, position sensor and cable connections
If the balancing test has already been completed but the wheel is still turning for a long time and does not brake.	Wheel turns and does not brake.	Check the brake resistor, the power supply board, the computer board and the cable connections.
When the device is switched on, the LCD display shows "Measuring frequency".	Value sensor incorrect or broken.	Calibrate the scale, set a value sensor or replace the sensor.
The rim data displayed differs from the actual rim data.	When automatically measuring the rim.	Calibrate the measuring scale again.
No display appears when the appliance is switched on.	Main switch defective. The VGA cable is not connected correctly. CPU, graphics card and/or screen defective. Powerboard defective.	Check whether the indicator light on the power switch is working; if not, first check the power supply, then the power supply board and the computer board.
The precision after calibration is not exact.	The wheel installation may be incorrect or the weight of the balance weight may be incorrect. Or the 100 gram calibration weight for self-calibration is not accurate.	The 100 gram calibration weight provided by the manufacturer must always be used for self-calibration, checked and stored safely.
The automatic width measurement is not correct.		First check whether the value entered for the distance (a value) is correct, always enter the correct a value first and then measure the width (b value). If the automatic width measurement is still inaccurate, calibrate the width measurement scale.

## 15. Maintenance

### 15.1 Maintenance by non-specialists

Please switch off the power supply before carrying out maintenance.

1. Disassembly Please switch off the power supply before carrying out maintenance.
2. Check that the electrical cables are connected correctly.
3. Check whether the pressure screw of the main axle is loose.
4. The lock nut cannot secure the wheel to the main axle
5. Use the hexagon spanner to tighten the pressure screw of the main axle.

### 15.2 Maintenance by experts

Maintenance by specialists can only be carried out by specialists.

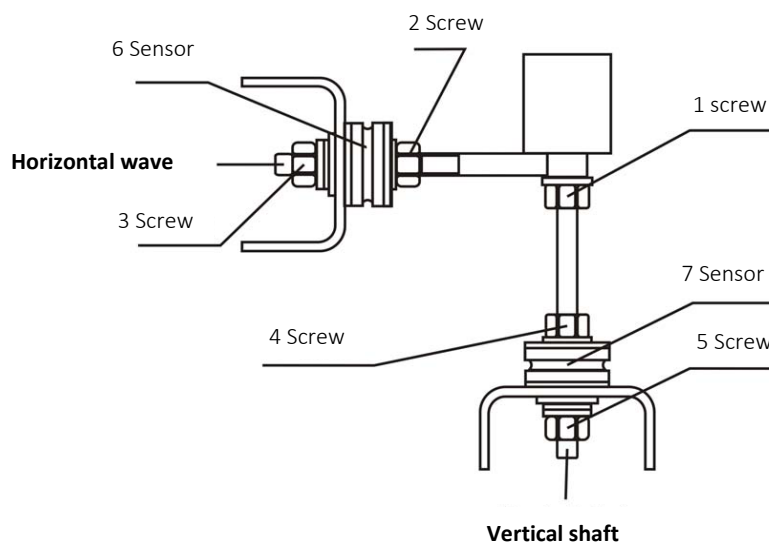
**15.2.1** If the imbalance of the tested wheel is obviously incorrect and even after the self-calibration does not improve, this proves that the parameters of the machine have changed and the user should consult a specialist.

**15.2.2** The pressure sensors should be replaced and adjusted according to the following methods and carried out exclusively by specialists.

Proceed as follows:

1. Loosen the nuts 1, 2, 3, 4 and 5.
2. Remove the sensor and the nut.
3. Replace no. 6 and 7, the sensor.
4. Install the sensor and the nut. **Note: Pay attention to the alignment of the sensor.**
5. Tighten nut no. 1 hand-tight.
6. Tighten nut no. 2 on the main axle and the side of the cabinet and tighten nut no. 3 hand-tight.
7. Tighten nut no. 4 hand-tight and no. 5 firmly

**12.2.3** The replacement of the circuit board and the components on it should be carried out by specialists.



**If you follow the above maintenance activities, your machine will remain in good condition and damage and accidents will continue to be avoided.**

### 15.3 Correct handling of the quick-release nut and threaded axle

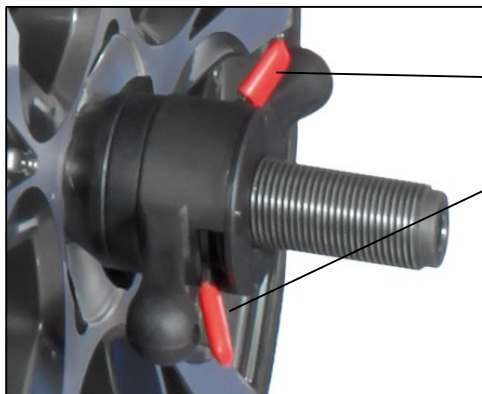
The quick-release nut is a wearing part, as is the threaded axle on which it is tightened. To ensure a long service life of the quick-release nut, the tension of the tightened quick-release nut should be removed before removing it as follows

the tightened quick-release nut as follows before removing it:

Loosen the quick-release nut by hand (two to three turns). The tension is thus removed. Then press and hold the red release levers and pull off the quick-release nut.

***Never press the release under tension, as this will permanently destroy the threads!***

When mounting and removing the wheel on the threaded axle, there should be as little contact as possible with the wheel centre hole. However, this is unavoidable and does not lead to faster wear of the axle. Both parts (quick-release nut and threaded axle) can be ordered from your TWIN BUSCH service centre. Please let us know the diameter of the threaded axle in millimetres.



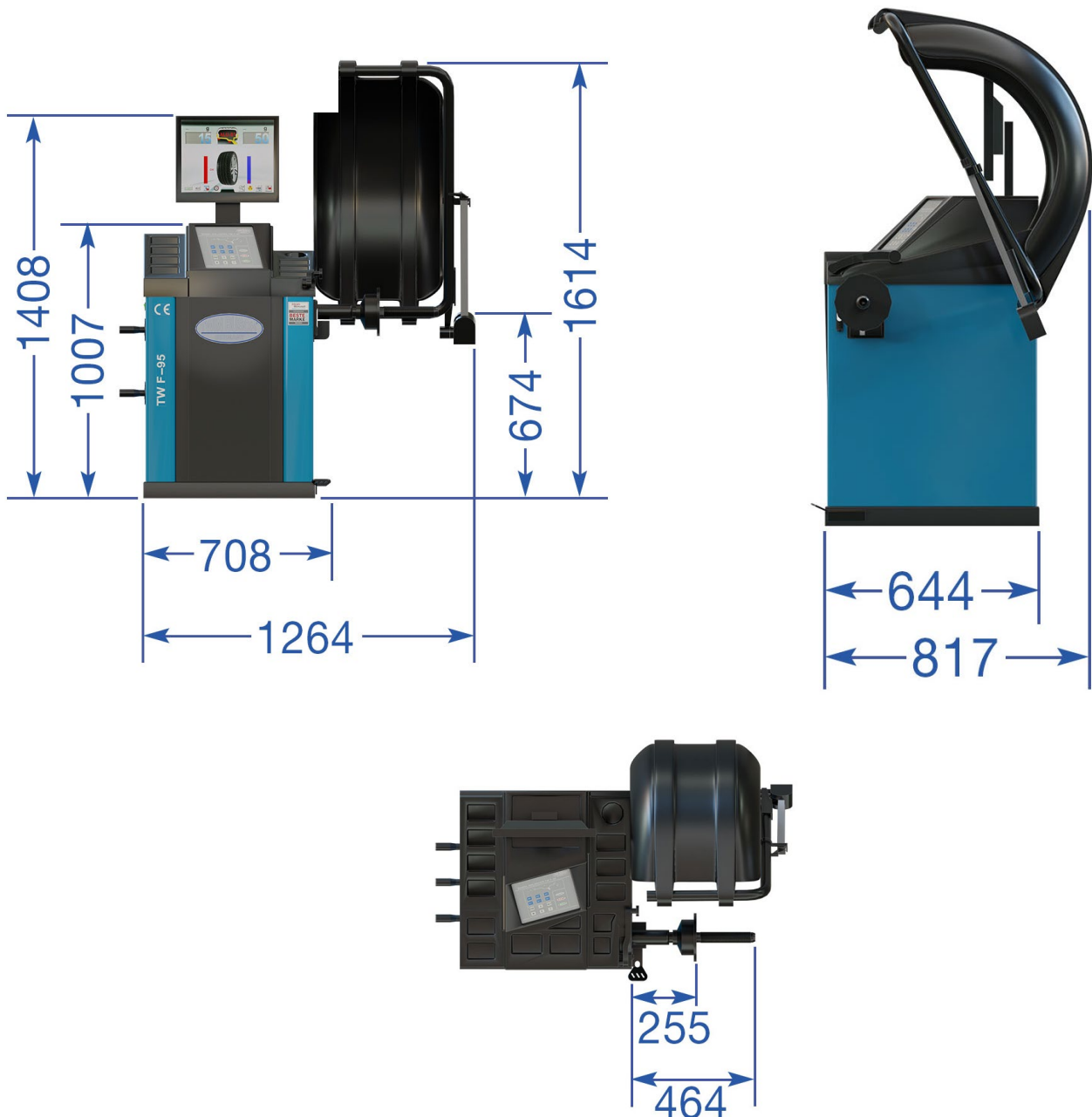
Press and hold simultaneously while pulling off the quick-release nut.

## 16. Appendix

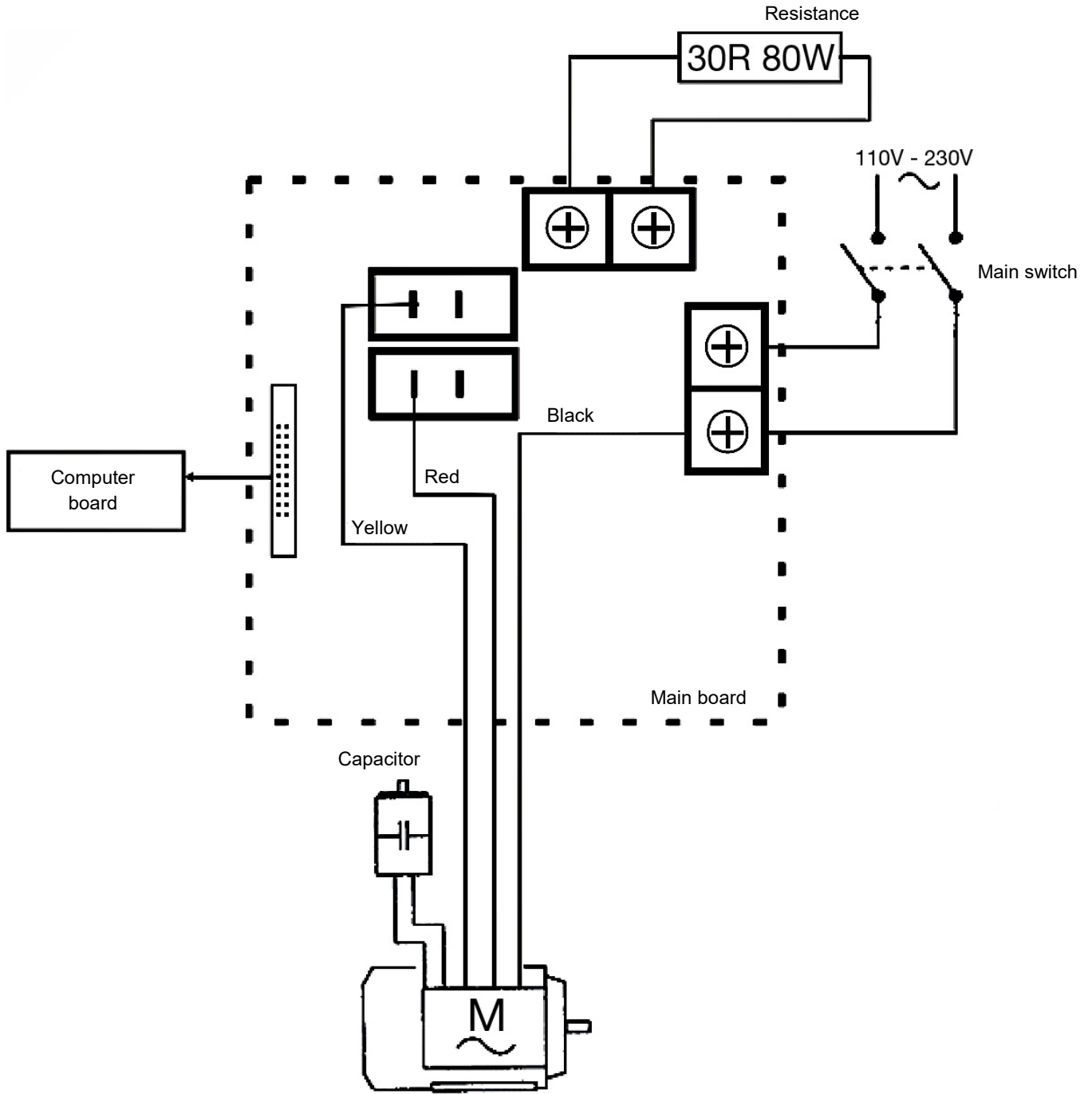
### 16.1 Packing list

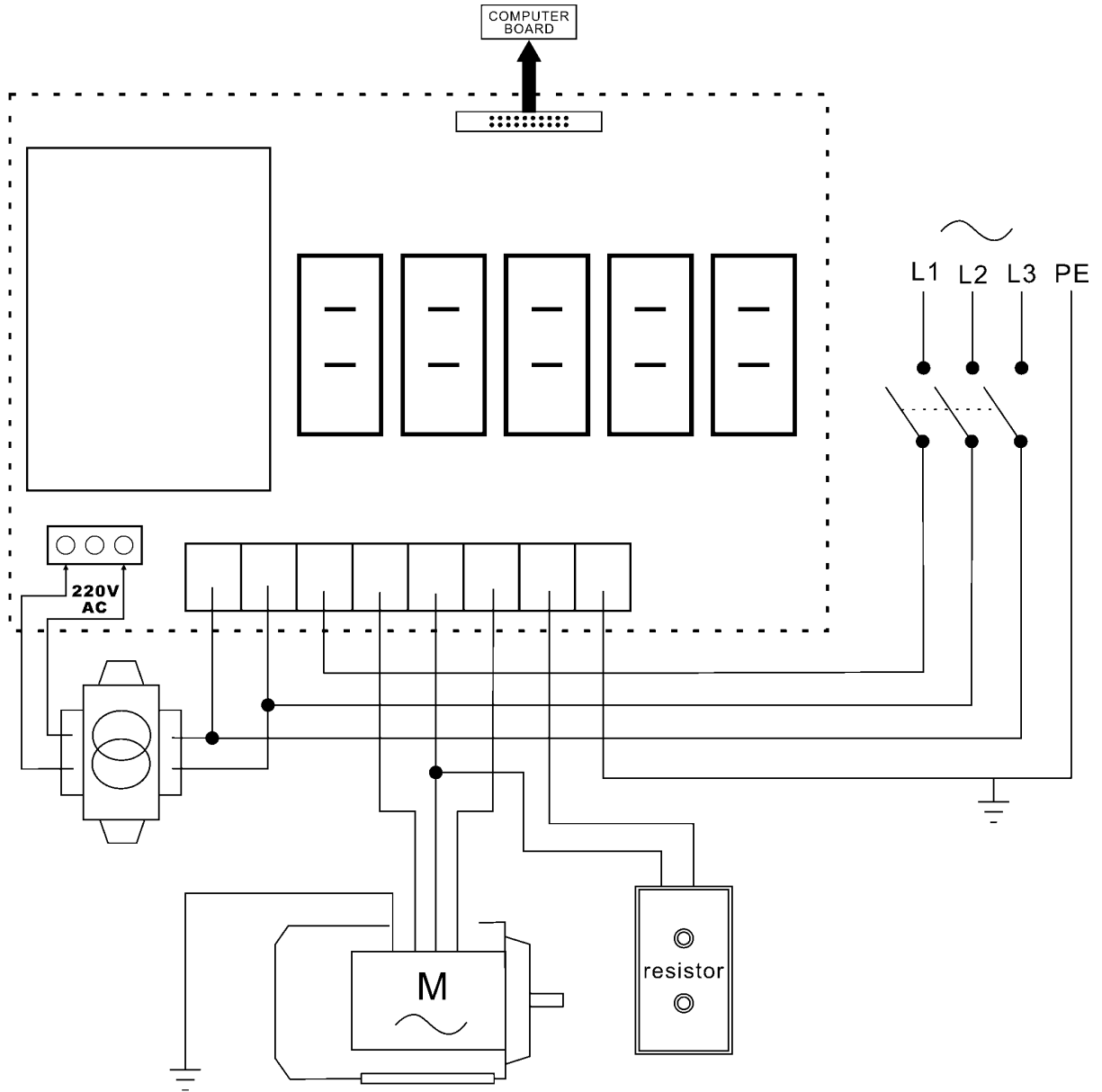
Name	Quantity
Threaded axle	1
Balancing weight tongs	1
Allen key	2
Gauge	1
Quick-release nut	1
Clamping pot with rubber	1
Clamping ring	1
Centring cones	4
Balancing weight (100 g)	1
Monitor + monitor mount	1
Protective hood device (rod + bonnet + screw set)	1

### 16.2 Dimensions of the tyre balancer

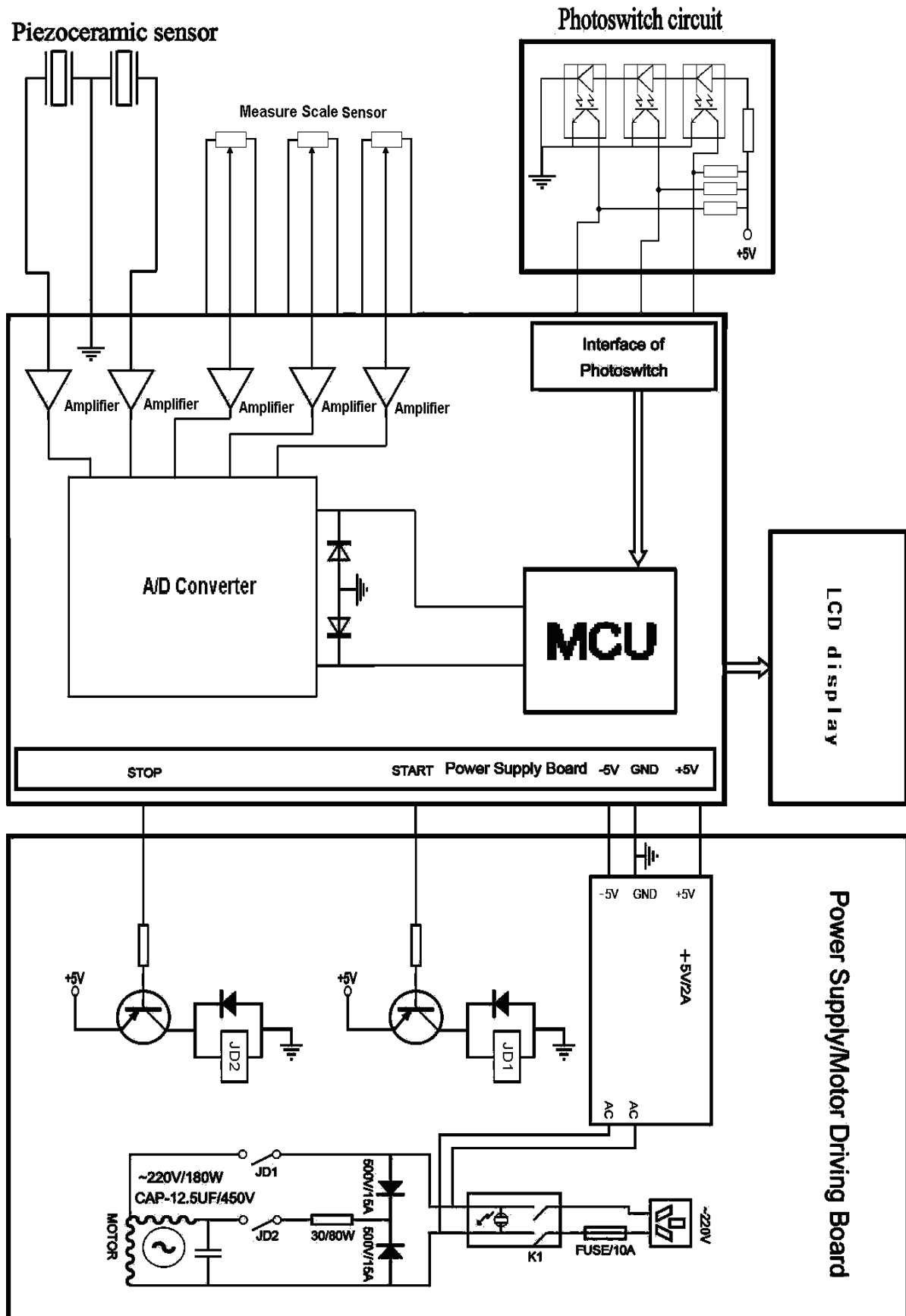


16.3 Circuit diagram



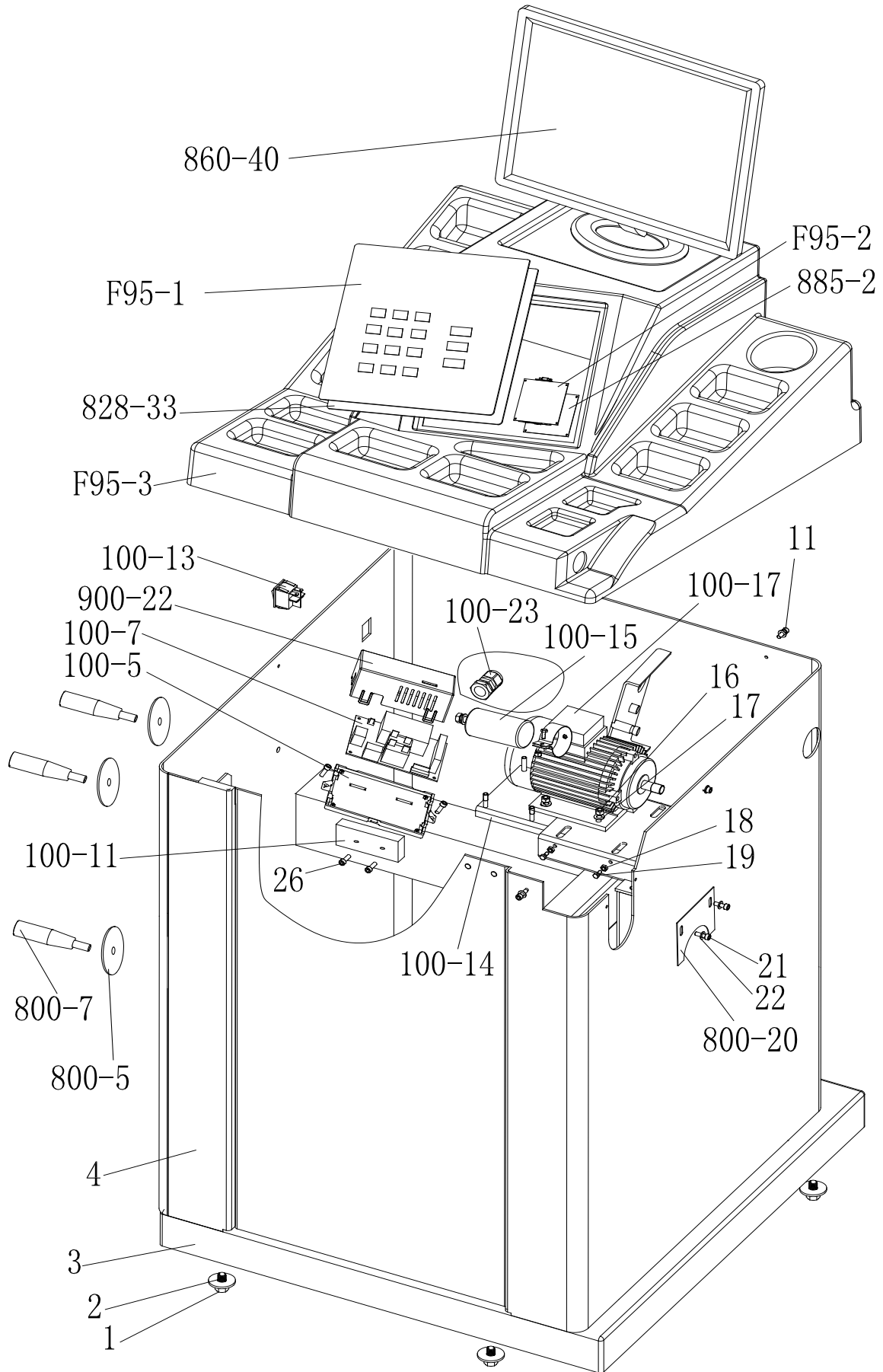


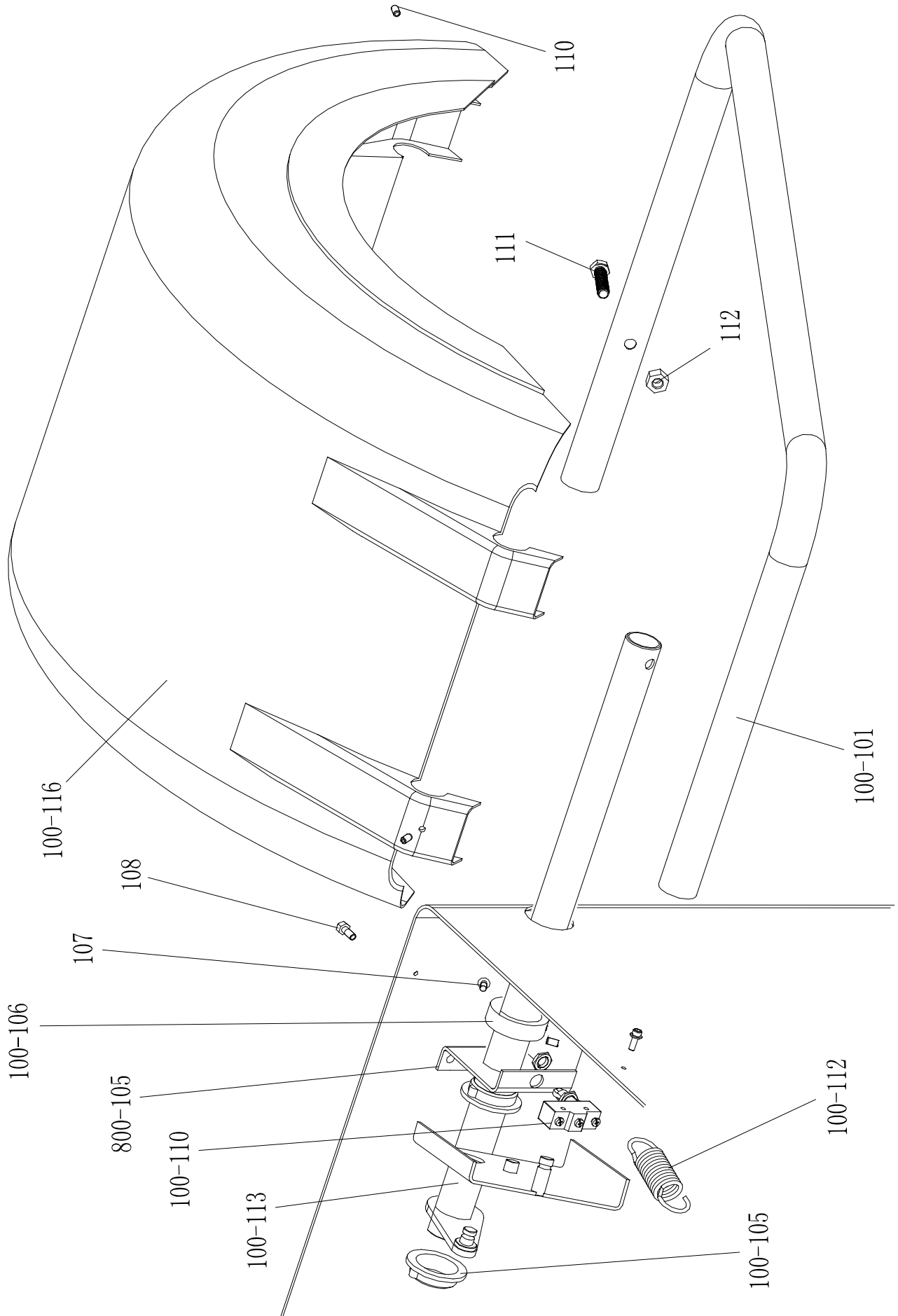
System circuit diagram

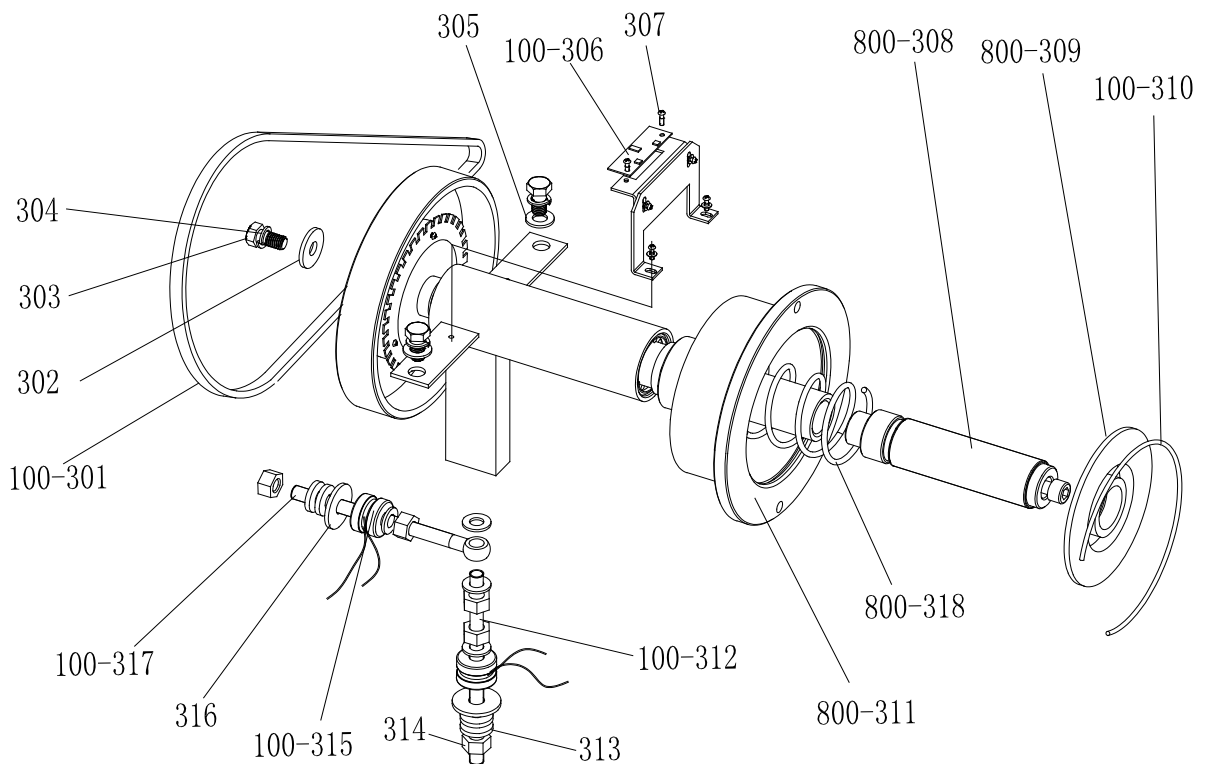
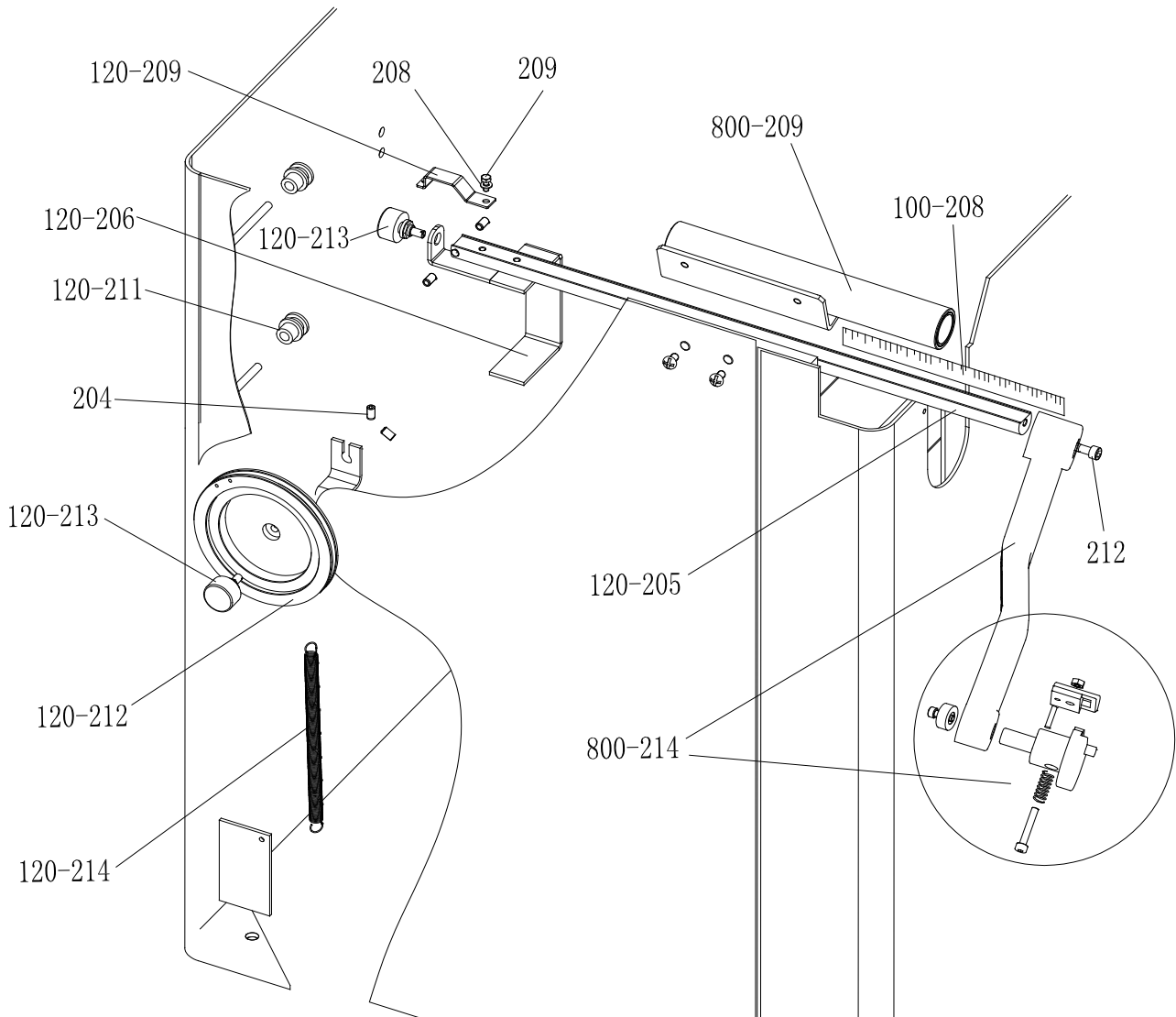


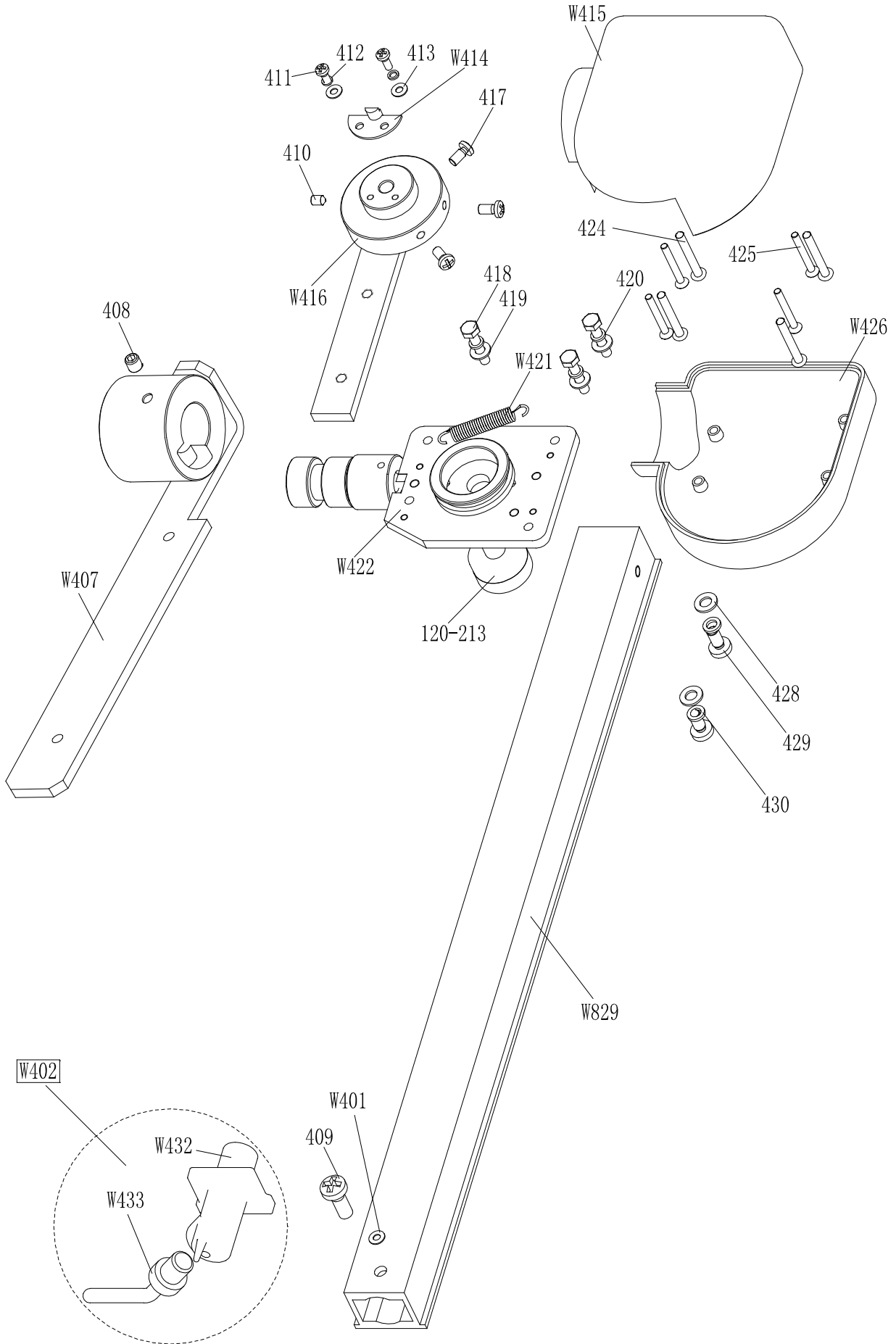


16.4 Detailed drawing and parts description







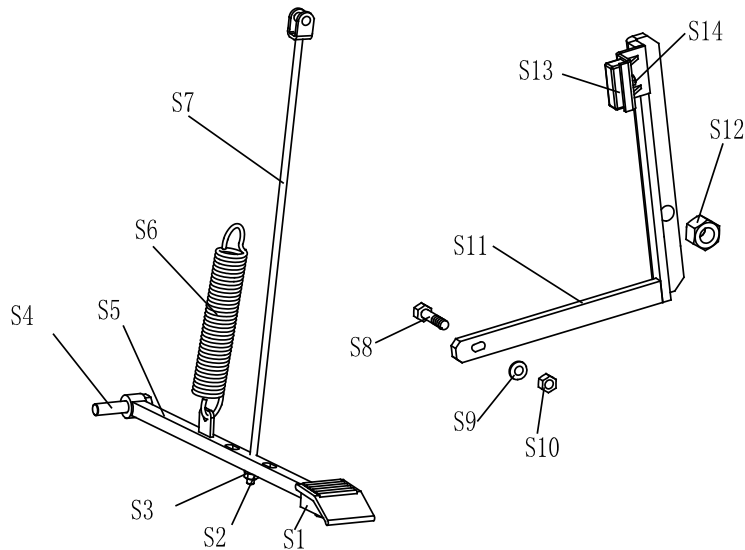


S/N	Code	Description	Quantit	S/N	Code	Description	Quanti
1	B-014-100251-0	Screw	4	100-116	P-100-200100-0	Bonnet	1
2	B-040-103030-1	U-disc	2	110	B-007-060081-0	Screw	3
3	PX-800-020000-0	Base	1	111	B-014-100451-0	Screw	1
4	PX-800-010000-0	Housing	1	112	B-001-100001-0	Mother	1
800-5	P-000-009002-0	ABS disc	3	100-101	PX-100-200200-0	Bar	1
800-7	P-000-009000-0	Tool holder	3				
100-13	S-060-000210-0	Power switch	1	120-214	P-120-210000-0	Spring	1
100-23	S-025-000135-0	Cable Seeger ring	1	120-212	P-120-250000-0	Wheel (sprung)	1
100-14	PX-100-010920-0	Motor mount	1	120-213	S-132-000010-0	Ruler sensor	2
11	B-024-050161-1	Screw	4	204	B-007-060081-0	Screw	5
12	B-040-050000-1	U-disc	4	120-211	PZ-120-260000-0	Idler wheel	2
100-15	S-063-002000-0	Capacitor	1	120-206	PX-120-240000-0	Recording ruler	1
100-17	S-051-230020-0	motor	1	120-209	PX-120-230000-0	Sheet metal fastening	1
16	B-004-060001-1	Mother	4	208	B-040-050000-1	U disc	1
17	B-040-061412-1	U-disc	4	209	B-024-050161-1	Screw	1
18	B-004-050001-1	Mother	2	800-209	PX-820-570000-0	Ruler support	1
19	B-014-050351-1	Screw	2	212	B-010-060161-0	Screw	1
800-20	PX-100-110000-0	disc	1	120-205	PZ-120-090000-0	Distance ruler	1
21	B-024-050061-0	Screw	2	100-208	Y-004-000070-0	Dimension strip	1
22	B-040-050000-1	U-disc	2	800-214	PW-109-082800-0	Linear head	1
100-7	PZ-000-020822-0	Power board	1				
100-5	P-100-120000-0	Board holder	1	100-301	S-042-000380-0	Strap	1
26	B-024-050251-0	Screw	2	302	B-040-103030-1	U disc	1
100-11	D-010-100300-1	Resistor	1	303	B-014-100251-0	Screw	3
F95-3	P-800-190100-T	Top cover	1	304	B-050-100000-0	U disc	3
37	B-004-030001-1	Mother	8	305	B-040-102020-1	U disc	6
885-2	PZ-000-010885-0	Computer board	1	100-306	PZ-000-040100-0	Pickup board position	1
860-40	S-135-001700-0	LCD	1	307	B-024-030061-0	Screw	4
F95-1	S-115-008890-T	Keyboard	1	800-308		Main shaft	1
828-33	PX-830-100000-0	Keyboard plate	1	800-309	P-100-420000-0	Plastic cover	1
F95-2	S-140-000080-0	Graphics card	1	100-310	P-100-340000-0	Spring	1
				800-311	S-100-000800-0	Main shaft complete	1
100-112	P-100-210000-0	Spring	1	100-312	P-100-080000-0	Screw	1
100-105	P-800-180000-0	Holder (rod)	2	313	B-048-102330-1	U disc	4
100-113	PX-800-040000-0	Bar	1	314	B-004-100001-2	Mother	5
100-110	S-060-000400-0	Micro switch	1	100-315	S-131-000010-0	Sensor complete	2
800-105	PX-800-030000-0	Rod holder	1	316	B-040-124030-1	U disc	2
100-106	PX-800-050000-0	Rod bearing	1	100-317	P-100-070000-0	Screw	1
107	B-024-060061-0	Screw	1	800-318	P-100-350000-0	Spring	1
108	B-010-080201-1	Screw	2				

## Wide ruler (optional)

S/N	Code	Description	Quantity	S/N	Code	Description	Quantity
W401	P-870-011800-0	Magnet	1	419	B-040-040000-1	U-disc	3
W402	PW-112-082901-0	Linear head complete	1	420	B-050-040000-0	Spring washer	3
W407	P-870-011001-0	Recording	1	421	P-870-010900-0	Spring	1
408	B-007-060081-0	Screw	1	W422	P-870-010100-0	Complete shaft	1
409	B-019-420161-0	Screw	1	120-213	S-132-000010-0	Arm sensor	1
410	B-007-040061-0	Screw	2	424	B-024-350281-0	Screw	4
411	B-024-030081-0	Screw	2	425	B-017-030251-0	Screw	4
412	B-050-030000-0	Spring washer	2	W426	P-870-010700-0	Bottom cover	1
413	B-040-030000-1	U-disc	1	428	B-040-050000-1	U-disc	2
W414	P-870-010600-0	Fixation segment	1	429	B-024-050101-0	Screw	2
W415	P-870-010400-0	Gauge cover	1	430	B-050-050000-0	Spring washer	2
W416	P-870-010500-0	Gauge connection	1	W829	P-870-010800-0	Measuring gauge	1
417	B-024-040081-0	Screw	3	W432	P-870-011500-0	Gauge head holder	1
418	B-010-040201-0	Screw	3	W433	P-870-011400-0	Gauge head	1

## Braking system (optional)



S/N	Code	Description	Quantity	S/N	Code	Description	Quantity
S1	C-221-640000-A	Rubber pedal	1	S8	B-010-060301-0	Screw	1
S2	B-001-060001-0	Mother	1	S9	B-040-061412-1	U disc	1
S3	B-040-061412-1	U disc	1	S10	B-004-060001-1	Mother	1
S4	B-014-100251-0	Screw	1	S11	PX-100-020200-0	Brake lever	1
S5	PX-800-020300-0	Foot lever	1	S12	B-001-120001-0	Mother	1
S6	C-200-380000-0	Spring	1	S13	P-000-002001-1	Brake pad	4
S7	PX-100-020400-0	Bar	1	S14	B-004-060001-1	Mother	2

16.5 Accessories list

Code	Name	Quantity	Picture	
1:S-100-036000-1	1# Cone	1		1:φ36
2:S-100-040000-1				2:φ40
1:S-100-036000-2	2# Cone	1		1:φ36
2:S-100-040000-2				2:φ40
1:S-100-036000-3	3# Cone	1		1:φ36
2:S-100-040000-3				2:φ40
1:S-100-036000-4	4# Cone	1		1:φ36
2:S-100-040000-4				2:φ40
1:P-005-100000-0	Quick-release nut	1		1:φ36
2:P-005-100040-0				2:φ40
1:P-100-400000-0	Main shaft	1		1:Tr36
2:P-828-400000-0				2:Tr40
Y-032-020829-0	MANUAL	1		
PX-100-200400-0	key	1		
S-105-000080-0	Allen key	1		
S-105-000060-0	Allen key	1		
S-110-001000-0	Weight 100 g	1		
P-000-001-008-0	Measuring clamp	1		
S-108-000010-0	Weight tongs	1		
P-100-490000-0	Bell	1		
P-000-001002-0	Rubber ring	1		











The company

**Twin Busch GmbH | Amperestr. 1 | D-64625 Bensheim**

hereby declares that the **Wheel Balancer**

**TWF-00, TWF-23, TWF-95, TWF-100, TWF-50T, TWF-150**

(PL-1800, PL-1823, PL-1895WR, PL-1100, PL-1850, PL-1150)

Serial number:

in this configurations we have placed on the marked complies with the relevant essential health and safety requirements of the following EC-directive(s) in its/their current version(s).

EC-directive(s)

**2006/42/EC**

**machines**

Applied harmonized standards and regulations

**EN ISO 12100:2010  
design**

**Safety of machinery - General principles for**

CE Certificate

**M.2021.206.C65382**

date of issue: 09.06.2023  
place of issue: Ankara  
technical file no.: MD-TCF-210601-31312

Certification body

UDEM International Certification,  
Mutlukent Mahallesi 2073 Sokak (Eski 93 Sokak) No: 10,  
Çankaya - Ankara - Turkey  
Notified Body Appointment No.: 2218

**In the case of improper use, as well as in the case of assembling, modification or changes which are not agreed with us, this declaration will lose its validity.**

Authorized person to compile technical documentation is: Michael Glade (address as below)

  
  
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Authorized signatory: Michael Glade  
Bensheim, 25.11.2021 Qualitätsmanagement

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