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Operating manual
Pallet truck scale

Jednoduchý paletový vozík s váhou KERN VHE-A(SK)

Version 1.1
01/2014
GB



GB

KERN VHE-A

Version 1.1 01/2014

Operating instructions Pallet truck scale

English

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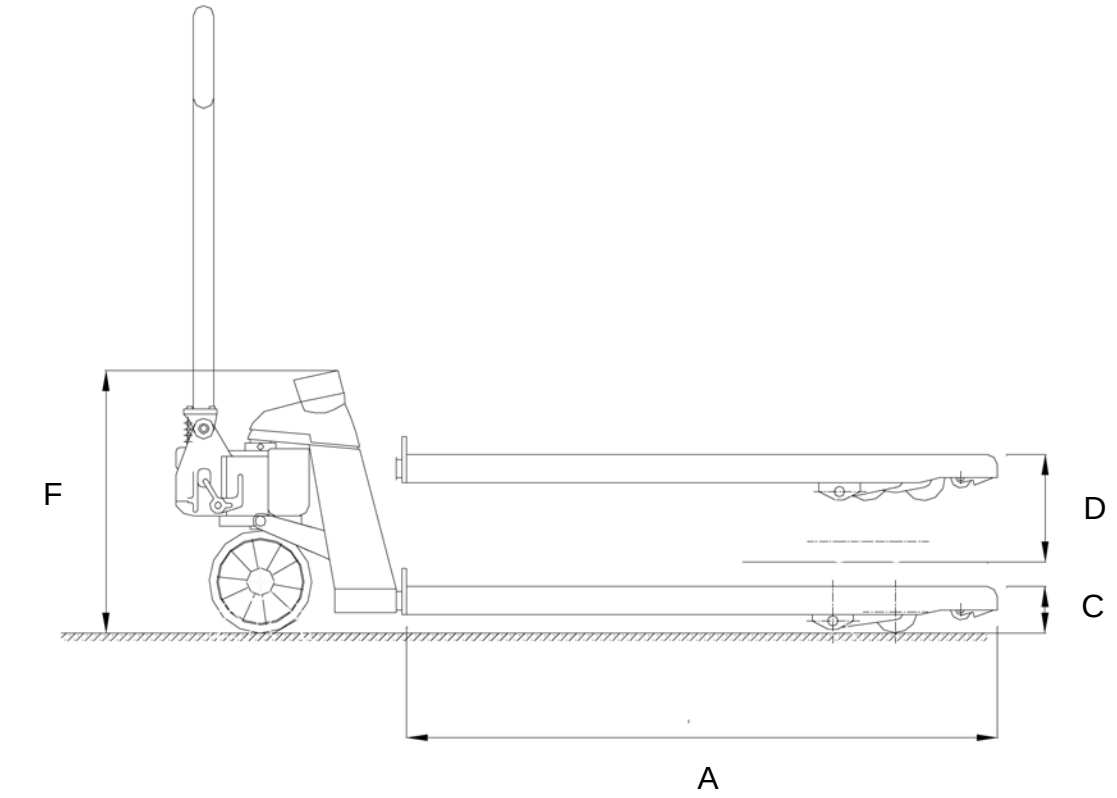
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1 Technical data

KERN	VHE 2T5A
Readability (d)	5 kg
Weighing range (max)	2000 kg
Reproducibility	20 kg
Linearity	± 30 kg
Stabilization time	3 sec.
Allowable ambient temperature	-10° C .... + 40° C
Humidity of air	max. 95 % (not condensing)
Weighing unit	kg
Electric Supply	2 x 1.5V AA batteries
Operating period	100 h
Auto Off	3 min
Net weight	65 kg

1.1 Dimensions





A	Fork length	1150 mm
B	Fork width	150 mm
C	Minimum fork height	83 mm
	Clearance	30 mm
D	Maximum fork height	205 mm
	Hoisting height	122 mm
E	Width across forks	520 mm
F	Height upper edge of display	575 mm

2 Appliance overview

2.1 Overview of display



	Load lifted too high; upper arrow is flashing
	Reference height reached
	Reference height almost reached, very slow lifting, 1 arrow lighting
	Slowly lifting, 2 arrows lighting
	Fast lifting, 3 arrows lighting
	The displayed weight value is negative
M	Weight is stored
KG	Weight value in kg
	Batteries of the display unit are empty; exchange batteries

English

2.2 Keyboard overview

2.2.1 In weighing mode:

Operation		
Short key pressing	• Zeroing	• Switch on balance • Add weight to sum memory
long pressing of button (>3 sec)		• Call up subtotal
very long pressing of button (>10 sec)	• Delete memory	
Press both buttons at the same time until OFF is displayed.	• Switch off system	

English

3 Basic instructions for scales

3.1 Proper use

The balance you purchased is intended to determine the weighing value of material to be weighed. It is intended to be used as a “non-automatic balance”, i.e. the material to be weighed is manually and carefully placed in the centre of the weighing pan. As soon as a stable weighing value is reached the weighing value can be read.

3.2 Improper Use

Do not use balance for dynamic weighing. In the event that small quantities are removed or added to the material to be weighed, incorrect weighing results can be displayed due to the “stability compensation“. (Example: Slowly draining fluids from a container on the balance.)
Do not leave permanent load on the weighing pan. This may damage the measuring system.
Impacts and overloading exceeding the stated maximum load (max) of the balance, minus a possibly existing tare load, must be strictly avoided. Balance may be damage by this.
Never operate balance in explosive environment. The serial version is not explosion protected.
The structure of the balance may not be modified. This may lead to incorrect weighing results, safety-related faults and destruction of the balance.
The balance may only be used according to the described conditions. Other areas of use must be released by KERN in writing.

3.3 Warranty

Warranty claims shall be voided in case

- Our conditions in the operation manual are ignored
- The appliance is used outside the described uses
- The appliance is modified or opened
- Mechanical damage and damage caused by media, liquids
- Natural wear and tear
- The appliance is improperly set up or incorrectly electrically connected
- The measuring system is overloaded

3.4 Monitoring of Test Resources

In the framework of quality assurance the measuring-related properties of the balance and, if applicable, the testing weight, must be checked regularly. The responsible user must define a suitable interval as well as type and scope of this test. Information is available on KERN's home page (www.kern-sohn.com) with regard to the monitoring of balance test substances and the test weights required for this. In KERN's accredited DKD calibration laboratory test weights and balances may be calibrated (return to the national standard) fast and at moderate cost.

4 Basic safety instructions for scales

4.1 Pay attention to the instructions in the Operation Manual

	Carefully read this operation manual before setup and commissioning, even if you are already familiar with KERN balances. All language versions contain a non-binding translation. The original German is binding.

4.2 Personnel training

The appliance may only be operated and maintained by trained personnel.

5 Transport and storage

5.1 Testing upon acceptance

When receiving the appliance, please check packaging immediately, and the appliance itself when unpacking for possible visible damage.

5.2 Packaging / return transport



⇨ Keep all parts of the original packaging for a possibly required return.

⇨ Only use original packaging for returning.

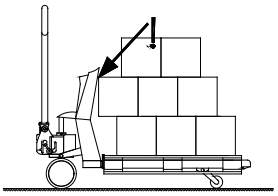
6 Unpacking and placing

6.1 Site of installation, place of operation for scales

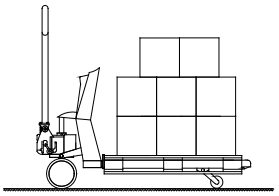
The balances are designed in a way that reliable weighing results are achieved in common conditions of use.
You will work accurately and fast, if you select the right location for your balance.

On the installation site observe the following:

- The load must be lifted clear of the display unit's case and other pallets.

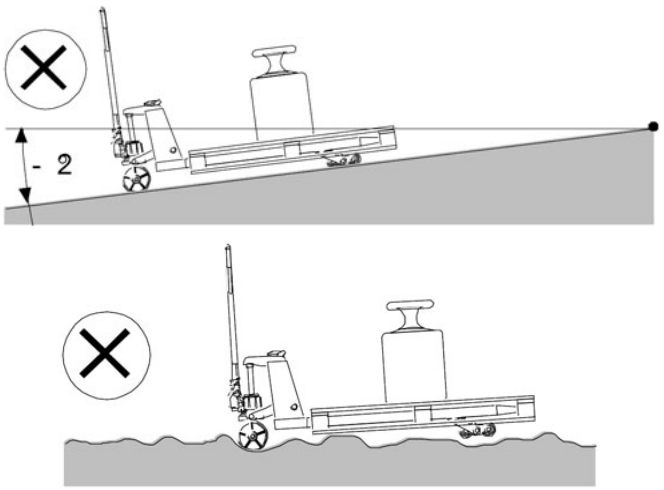


Incorrect lifting of a load

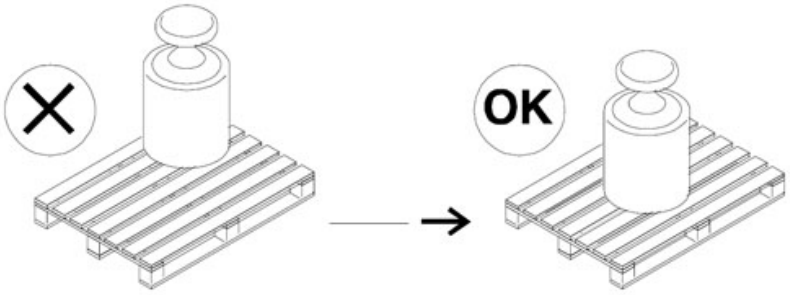


Correct lifting of a load

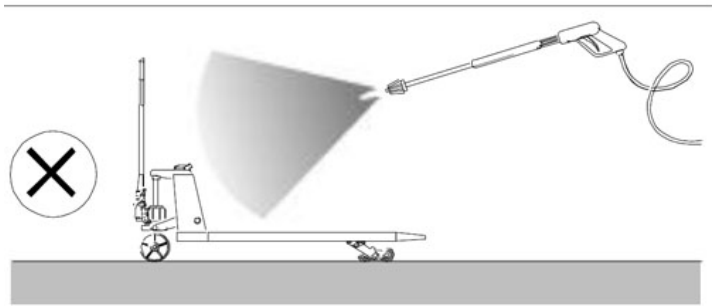
- The load must be lifted evenly distributed, so that it has the lowest measurement insecurity (deviations up to 0.8% of the capacity may occur).
- Inclined position of the weighing system can falsify the weighing result. Holes and unevenness, too, have this effect. A smooth floor is ideal.



- Optimum accuracy in weighing results is achieved if the load centre is between the forks. The forks are easily bent and twisted when the load is off-centre. This may result in diminished accuracy.



- Avoid jarring during weighing
- Protect the balance against high humidity, vapours and dust



- Do not expose the device to extreme dampness for longer periods of time. Non-permitted condensation (condensation of air humidity on the appliance) may occur if a cold appliance is taken to a considerably warmer environment. In this case, acclimatize the disconnected appliance for ca. 2 hours at room temperature.

- Major display deviations (incorrect weighing results) may be experienced should electromagnetic fields (e.g. due to mobile phones or radio equipment), static electricity accumulations or instable power supply occur. Change location or remove source of interference.

6.2 Scope of delivery

Serial accessories:

- Pallet truck scales
- 2 x 1.5V AA batteries
- Operating manual

7 Adjustment

As the acceleration value due to gravity is not the same at every location on earth, each balance must be coordinated - in compliance with the underlying physical weighing principle - to the existing acceleration due to gravity at its place of location (only if the balance has not already been adjusted to the location in the factory). This adjustment process must be carried out for the first commissioning, after each change of location as well as in case of fluctuating environment temperature. To receive accurate measuring values it is also recommended to adjust the balance periodically in weighing operation.

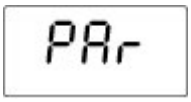
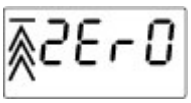
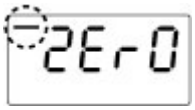
Observe stable environmental conditions. A warming up time (see chapter **Fehler! Verweisquelle konnte nicht gefunden werden.**) is required for stabilization. Ensure that the system is not loaded. The system should be lifted by approximately 2 lifting index markings and stand absolutely free.

7.1 Zero-setting

⇨ Unload the weighing system and switch-on with TOTAL.

⇨ If the weighing system does not display „**0**“, press ZERO

How to carry out adjustments

⇨ Switch off weighing system ⇨ Press TOTAL ON for 30 sec., PAR is displayed	
⇨ Press TARE until CAL is displayed	
⇨ Press TARE, ZERO is displayed flashing, because the reference height is not reached yet ⇨ Place a pallet and adjust the reference height, when the reference height is reached, the display stops flashing and only the right-hand bar above in the display continues to be displayed.	 
⇨ Press TARE for approx. 3 sec., the count down fur setting the first adjustment point runs automatically. The weight of 1000 kg for the first adjustment point is displayed. One point (=1. adjustment point) is displayed before the cipher.	 ⇩  ⇩ 
⇨ Place 1000 kg After placing the weight the weighing system leaves the reference height, the display flashes ⇨ Bring the weighing system on reference height, the display stops flashing	

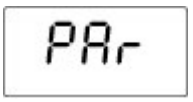
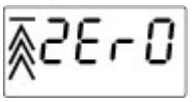
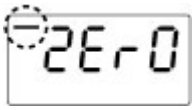
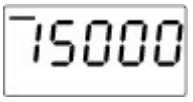
English

⇨ Press TARE for approx. 3 sec., the count down for setting the second adjustment point runs off automatically. The weight for the second adjustment point is displayed. Moreover two points appear in the display. ⇨ Place 2000 kg ⇨ After placing the weight the weighing system leaves the reference height, the display flashes ⇨ Place the weighing system on reference height, the display stops flashing.	 
⇨ Press TARE for approx. 3 sec., the count down for setting the third adjustment point runs off automatically, 0 is displayed	
⇨ Remove weight. ⇨ Press TOTAL ON, vU004 is displayed, followed by PAr	 ⇩ 
⇨ Press TARE for approx. 3 sec., SAVE is displayed, followed by 0. The balance is now in weighing mode.	 ⇩ 
Adjustment now has finished. An adjusting error or incorrect adjusting weight will be indicated by the error message; repeat adjustment procedure.	

English

English

Carry out adjustment by entering the adjustment weight

⇨ Switch off weighing system ⇨ Press TOTAL ON for 30 sec., PAR is displayed	
⇨ Press TARE until CAL is displayed	
⇨ Press TARE, ZERO is displayed flashing, because the reference height is not reached yet ⇨ Place a pallet and adjust the reference height, when the reference height is reached, the display stops flashing and only the righthand bar above in the display continues to be displayed.	 
⇨ Press TARE for approx. 3 sec., the count down runs off automatically. .1000 is displayed.	 ⇩  ⇩ 
⇨ Press 2 x TOTAL ON, 0 is displayed	
⇨ Press TARE shortly, the display for entering the adjustment weight is displayed, the right digit flashes.	
⇨ Use both keys to enter the desired adjustment weight: Use TOTAL ON to alter cipher, use TARE to change the digit	 (example)
INFO: when entering 1500 kg = enter 15000 (example). With the other values proceed in the same way: the last zero will not be considered:	

⇨ Acknowledge by TARE.	
⇨ Place the set weight and set the reference height	
⇨ Press TARE for approx. 3 sec., the count down runs off automatically, followed by the program version and Save. Then the balance returns automatically into the weighing mode.	
Adjustment now has finished. An adjusting error or incorrect adjusting weight will be indicated by the error message; repeat adjustment procedure.	

English

8 Commissioning

Correct weighing only possible at „reference height“ (see fig. 1 and 2)

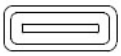
⇨ Actuate repeatedly the drawbar handle (hand lever **1** downwards. fig.1) until the reference height is reached. In the display appears  see fig.2.



Fig. 1



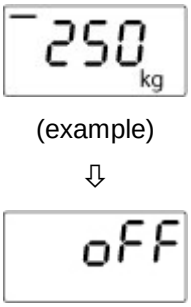
Fig. 2

	⇨ If the pallet truck scale is not in reference height, the weight value in the display appears flashing. ⇨ Place the pallet truck scale into reference height, the display does not more flash.

8.1 Switch on the pallet truck scale

⇨ Switch on the pallet truck scale using TOTAL ON key, the balance carries out a selftest and changes then to the zero display	

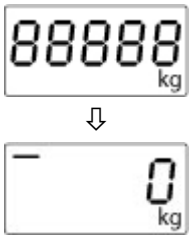
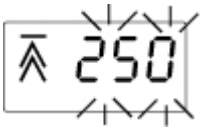
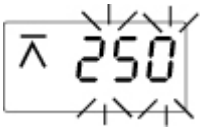
8.2 Switch off the pallet truck scale

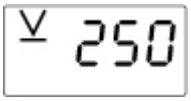
⇨ Press the buttons TARE and TOTAL ON at the same time until OFF appears.	
After that the display extinguishes.	

	⇨ The display extinguishes automatically when the buttons have not been pressed for two minutes or if the system is not used.

English

8.3 Weighing

⇨ Switch on the pallet truck scale using TOTAL ON key, the balance carries out a selftest and changes then to the zero display „**0**“ is displayed flashing. If „**0**“ is not displayed, press TARE	
⇨ Let the pallet truck scale lower onto the lowest point. Three arrows are lighting up when the lowest point is reached.	
⇨ Take up the load and lift till to reference height. Three arrows are lighting up. The weight value is displayed flashing. Continue lifting the load.	
⇨ Two arrows are lighting up. Lift slowly	
⇨ A arrow is lighting up. Lift slowly.	
The reference height is reached. The symbol ▭ is displayed. The display of the weight value does not more flash.	

The upper arrow is lighting up, when a load has been lifted too high up. Lower the pallet truck scale completely till to the ground to start a new weighing.	

8.4 Zero point correction

⇨ Switch on pallet truck scale using TOTAL ON button.	
⇨ Check whether the forks of the pallet truck scale are empty ⇨ Lift pallet truck scale till to the reference height (see chap. 8, fig. 1). ⇨ If the display does not show zero, reset display using TARE	

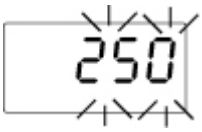
8.5 Taring

⇨ Lift weighing container till to the reference height (see chap. 8, fig. 1).	
⇨ Switch on pallet truck scale using TOTAL ON button. The weight of the weighing container is displayed.	
⇨ Tare using TARE button. ⇨ Fill material to be weighed in the container, the net weight is displayed.	 
⇨ If the container is removed from the balance, the tare weight is displayed as a negative value. The tare weight remains stored until the TARE button is pressed anew or the balance is switched off.	

English

8.6 Totalization

The display unit offers an option that allows the addition of weighing values and the display of the total weight.

⇨ Pick up the load and bring it to reference height	 (example)
⇨ Press TOTAL ON. The value is stored and „**M**“ is displayed. The display alternately shows the consecutive number (number of weighings) and the total weight. After a few seconds the system automatically reverts to standard weighing mode.	  Number of weighing procedures  Total weight
⇨ Add-up another load as described before. Observe that the system must be unloaded between the weighing procedures.	

8.7 Display stored weighing data

⇨ Press TOTAL ON for approx. 3 sec, the number of weighing procedures and the total weight are displayed alternately

8.8 Delete the saved weighing data

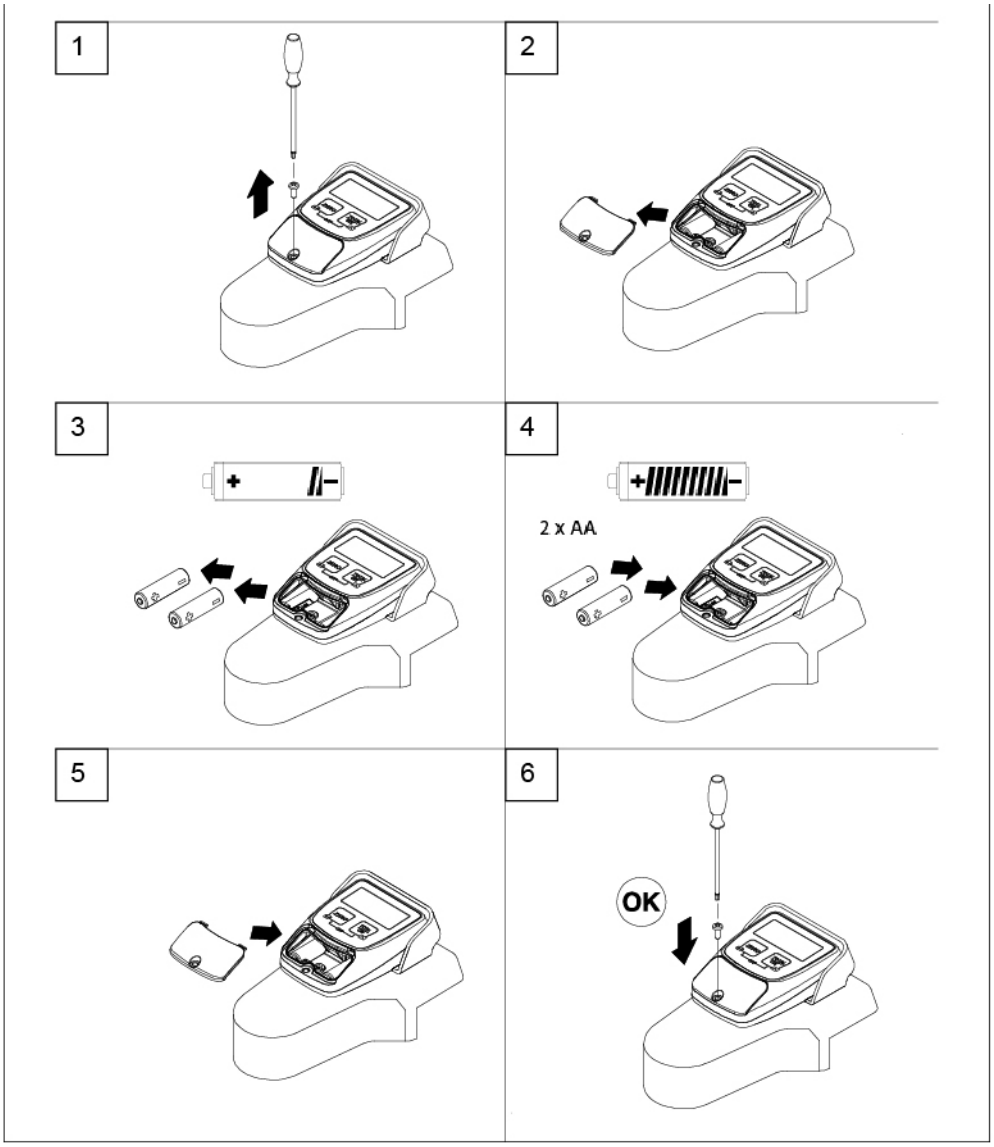
⇨ During display of the weighing data press TARE shortly, data in the store are deleted, the display changes automatically into weighing mode and the „**M**“ extinguishes.

8.9 Battery operation

Power is supplied via 2 x 1.5V AA batteries. At a regular use with full batteries, approx. 1 year can be weighed.

If the battery symbol  is displayed, this means that the batteries will soon be flat.
Change the batteries immediately.
If the capacity of the batteries is completely exhausted, the display will switch-off automatically.
In order to save the battery, the balance switches automatically off after 3 minutes without load changing.
If the balance is not used for a longer time, take out the batteries and store them separately. Leaking battery liquid could damage the balance.

Change the battery as follows:



9 Error messages

- O.L. -	The weighing system is overloaded. Remove the load
Err06	Load cell signal too high
Err07	Load cell signal too low
Err12	Calibration deleted
Err98	The calibration value must be higher than the former value
	Battery symbol flashes: The battery is almost empty and has to be replaced (see chap. 8.9)
M	Flashing „M“: Memory is full, no more weights can be added-up. Delete memory (see chap. 8.8)

English

10 Servicing, maintenance, disposal

10.1 Clean

Please do not use aggressive cleaning agents (solvents or similar agents), but a cloth dampened with mild soap suds. Take care that the device is not penetrated by fluids and polish it with a dry soft cloth.

10.2 Servicing, maintenance

The appliance may only be opened by trained service technicians who are authorized by KERN.

The same maintenance guidelines as for standard manual lift truck without load-display system.

General rules:

- Pulling instead of pushing allows an easier handling of the load (steering wheels on the side of the drawbar)
- If the lifting device is not used, the manual lever should be left in centre position. This prolongs the life span of the seals.
- The display unit should only be cleaned with a damp cloth. Chemical cleaning agents and a pressurized water jet cause damage.
- To prevent damages to the electronic system and weighing cells it is necessary that welding work on the entire weighing system is carried out exclusively by technical specialists.
- The bearings of the wheels as well as the joints in the load roller section should be regularly cleaned and greased.

10.3 Disposal

Disposal of packaging and appliance must be carried out by operator according to valid national or regional law of the location where the appliance is used.

11 Instant help

In case of an error in the program process, briefly turn off the balance and disconnect from power supply. The weighing process must then be restarted from the beginning.

Help:

Fault	**Possible cause**
The displayed weight does not glow.	• The balance is not switched on. • The batteries are empty
The displayed weight is permanently changing	• Draught/air movement
-	• Sites with vibration. • Loading fork is in contact with foreign matter. • Electromagnetic fields / static charging (choose different location/switch off interfering device if possible)
The weighing value is obviously wrong	• The display of the balance is not at zero • Adjustment is no longer correct. • Great fluctuations in temperature. • Electromagnetic fields / static charging (choose different location/switch off interfering device if possible) • Load fork has not been pumped to reference height • The control pin is not in position „Reference height“.

Should other error messages occur, switch balance off and then on again. If the error message remains inform manufacturer.