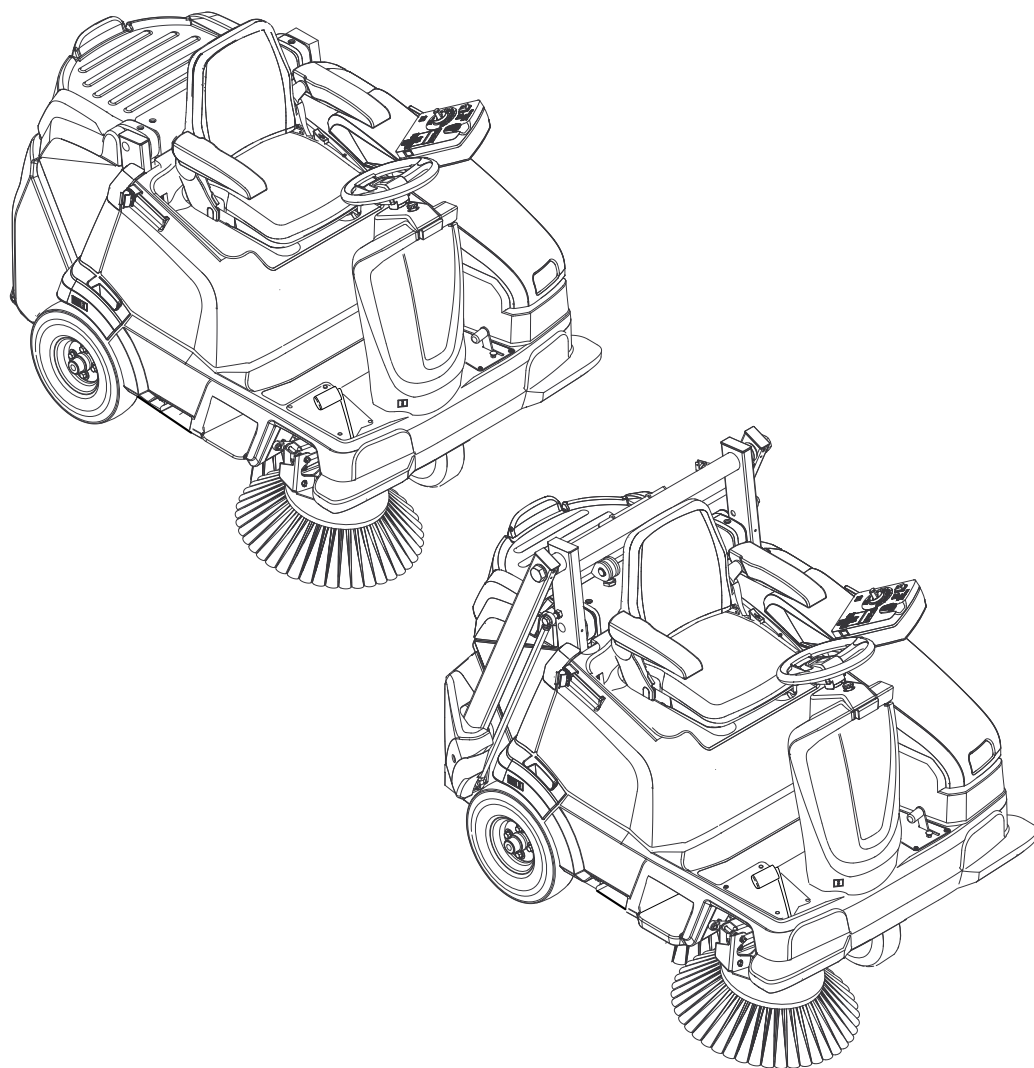


KM 105/100 R Bp  
KM 105/100 R Bp Pack  
KM 105/110 R Bp  
KM 105/110 R Bp Pack



 Register and win!  
[www.kärcher.com/register-and-win](http://www.kärcher.com/register-and-win)

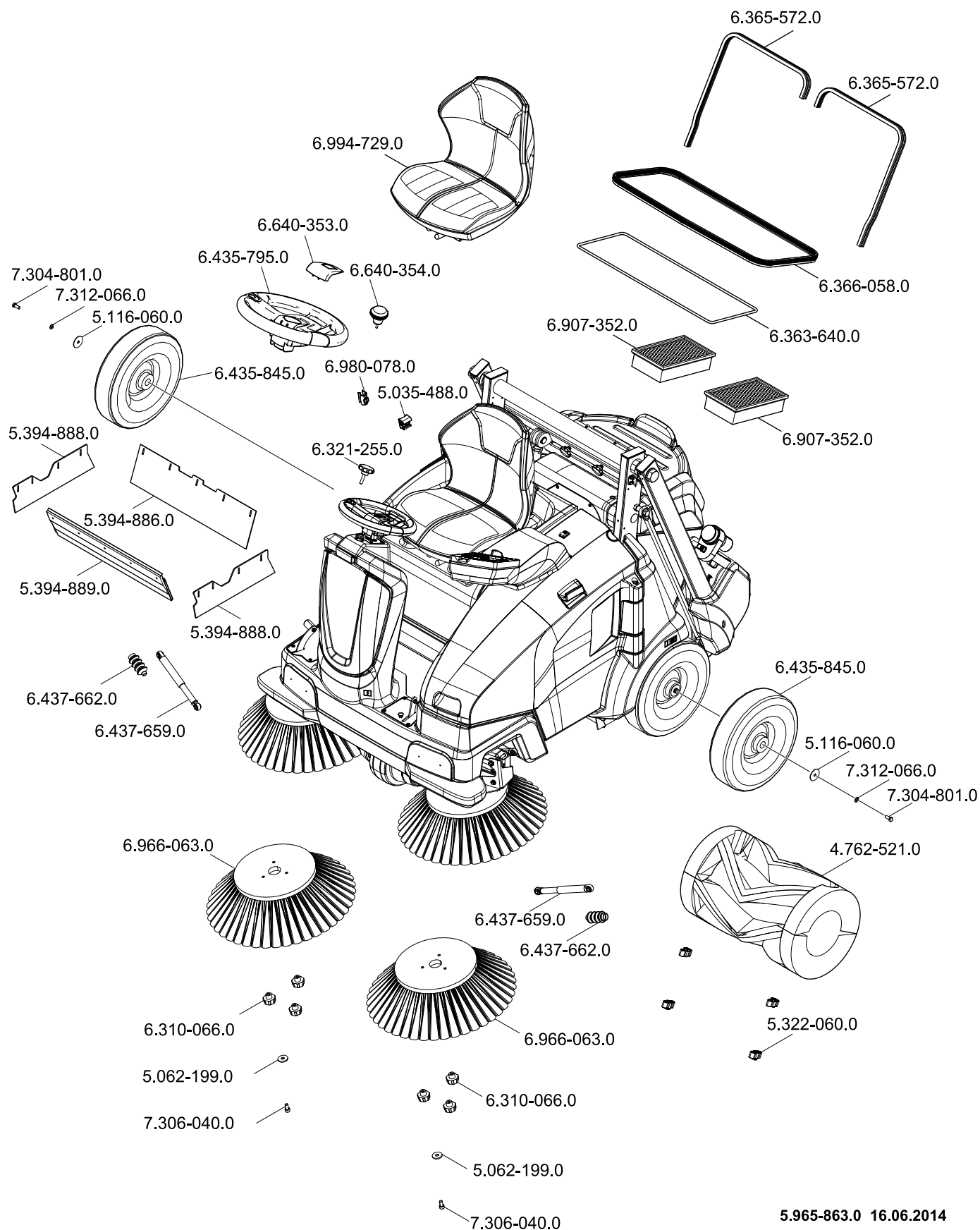


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# Die Spracheinstellung des gelben und grauen KIK (Kärcher Intelligent Key) The language settings for yellow and grey KIK (Kärcher Intelligent Key)



# **KM 105/100 R BP** **KM 105/110 R BP**





<http://www.kaercher.com/dealersearch>





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Please read and comply with these original instructions prior to the initial operation of your appliance and store them for later use or subsequent owners.

Please read the safety instructions before start-up!

### Appliance configuration

There are 2 different options for waste disposal:

The **KM 105/100 R** has two removable waste containers (low emptying system).

The **KM 105/110 R** is equipped with a high emptying system for the waste container.

## General notes

Your sales outlet should be informed about any transit damage noted when unpacking the product.

- Warning and information plates on the machine provide important directions for safe operation.
- In addition to the information contained in the operating instructions, all statutory safety and accident prevention regulations must be observed.

## Environmental protection



The packaging material can be recycled. Please do not throw the packaging material into household waste; please send it for recycling.



Old appliances contain valuable materials that can be recycled. Please arrange for the proper recycling of old appliances. Please dispose your old appliances using appropriate collection systems.

Engine oil, diesel and petrol must not be released into the environment. Protect the ground and dispose of used oil in an environmentally responsible way.

### Notes about the ingredients (REACH)

You will find current information about the ingredients at:

[www.kaercher.com/REACH](http://www.kaercher.com/REACH)

## Warranty

The warranty terms published by the relevant sales company are applicable in each country. We will repair potential failures of your appliance within the warranty period free of charge, provided that such failure is caused by faulty material or defects in manufacturing. In the event of a warranty claim please contact your dealer or the nearest authorized Customer Service centre. Please submit the proof of purchase.

## Accessories and Spare Parts

### ⚠ DANGER

To avoid risks, all repairs and replacement of spare parts may only be carried out by authorized customer service personnel.

- Only use accessories and spare parts which have been approved by the manufacturer. The exclusive use of original accessories and original spare parts ensures that the appliance can be operated safely and trouble free.
- At the end of the operating instructions you will find a selected list of spare parts that are often required.
- For additional information about spare parts, please go to the Service section at [www.kaercher.com](http://www.kaercher.com).

## Symbols in the operating instructions

### ⚠ DANGER

Warns about immediate danger which can lead to severe injuries or death.

### ⚠ WARNING

Warns about possible danger which could lead to severe injuries or death.

### ⚠ CAUTION

Points out a possibly dangerous situation which can lead to light injuries or property damage.

### ATTENTION

Pointer to a possibly dangerous situation, which can lead to property damage.

## Symbols on the machine



### ⚠ DANGER

Risk of fire!  
Please do not sweep away any burning substances such as cigarettes, match sticks or similar objects.



### ⚠ WARNING

Risk of being squeezed or hurt at the belts, side-brushes, containers, machine cover.

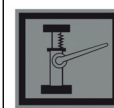


### ⚠ DANGER

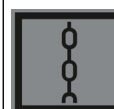
Danger of tipping. Only empty the waste container when the appliance is placed on a level and stable ground



Tyre pressure



Intake points for the jack



Lashing point



Risk of injury on account of rotating roller brush. Open the appliance hood only when the engine has come to a halt.

## Proper use

The sweeper is intended for cleaning floor surfaces for commercial use and e.g. for the following fields of application:

- Car parks
- Production facilities
- Logistics areas
- Hotel
- Retail industry
- Storage areas
- Walkways
- Use this sweeper only as directed in these operating instructions.
- Any use extending beyond this is not considered as proper use. The manufacturer is not liable for any losses resulting from this; the user alone bears the risk for this.
- The machine may not be modified.
- The sweeper is only suitable for use on the types of floor areas specified in the operating instructions.
- The machine may only be operated on the surfaces approved by the company or its authorised representatives.
- The following applies in general: Keep highly-flammable substances away from the appliance (danger of explosion/fire).

## Foreseeable misuse

- Never vacuum up explosive liquids, combustible gases or undiluted acids and solvents. This includes petrol, paint thinner or heating oil which can generate explosive fumes or mixtures upon contact with the suction air. Acetone, undiluted acids and solvents must also be avoided as they can harm the materials on the machine.
- Never sweep/vacuum up reactive metal dusts (e.g. aluminium, magnesium, zinc), as they form explosive gases when they come in contact with highly alkaline or acidic detergents.
- Do not sweep/vacuum up any burning or glowing objects.
- The appliance is not suitable for sweeping off hazardous substances.
- The machine may not be used or stored in hazardous areas. It is not allowed to use the appliance in hazardous locations.
- It is strictly prohibited to take co-passengers.
- Pushing/pulling or transporting objects by means of this appliance is prohibited.

## Suitable surfaces

- Asphalt
- Industrial floor
- Screed
- Concrete
- Paving stones

## Safety instructions

### Safety instructions concerning the operation

- *The machine with working equipment must be checked to ensure that it is in proper working order and is operating safely prior to use. Otherwise, the appliance must not be used.*
- *If the appliance is used in hazardous areas (e.g. filling stations) the corresponding safety provisions must be observed. It is not allowed to use the appliance in hazardous locations.*

#### ⚠ DANGER

*Risk of injury!*

- ➔ *Do not use the appliance without an overhead guard in areas where the operator might get hit by falling objects.*

### Operations

- *The operator must use the appliance properly. The person must consider the local conditions and must pay attention to third parties, in particular children, when working with the appliance.*
- *Prior to starting work, the operator must ensure that all protective devices are properly installed and function correctly.*
- *The operator of the appliance is liable for accidents with other individuals or their property.*
- *Ensure that the operator wears tight-fitting clothes. Wear sturdy shoes and avoid wearing loose-fitting clothes.*
- *Check the immediate vicinity prior to starting (e.g. children). Ensure sufficient visibility!*
- *Never leave the device unattended as long as it is switched on. The operator may only leave the device when the key (Intelligent Key) has been removed and the device is secured against accidental movements.*
- *Please remove the key, when not in use, to avoid unauthorised use of the appliance.*
- *The appliance may only be used by persons who have been instructed in handling the appliance or have proven qualification and expertise in operating the appliance or have been explicitly assigned the task of handling the appliance.*
- *This appliance is not intended for use by persons (including children) with limited physical, sensoric or mental capacities or lack of experience and/or skills, unless such persons are accompanied and supervised by a person in charge of their safety or if they received precise instructions on the use of this appliance.*
- *Children should be supervised to prevent them from playing with the appliance.*

### Safety information concerning the driving operation

#### ⚠ Danger

*Risk of injury!*

*Danger of tipping if gradient is too high.*

- *The falling and rising gradients in the direction of travel may not exceed 12%.*

*Danger of tipping on unstable ground.*

- *Only use the machine on sound surfaces.*

*Danger of tipping with excessive sideways tilt.*

- *The gradient perpendicular to the direction of travel should not exceed 10%.*

*The travel speed must be adapted to the existing conditions.*

### Appliances with high emptying system

#### ⚠ DANGER

*Risk of injury!*

- ➔ *When working on the high emptying system, completely lift and secure the waste container.*

### Devices with overhead guard

#### NOTICE

*The overhead guard (optional) protects the driver against larger falling objects. However, it does not provide rollover protection!*

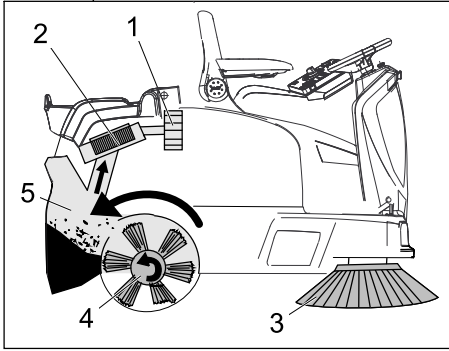
### Safety information concerning the transport of the appliance

- *Mind the weight of the appliance during transport.*
- *Disconnect the battery and securely fasten the device for transport.*

### Safety information concerning maintenance and care

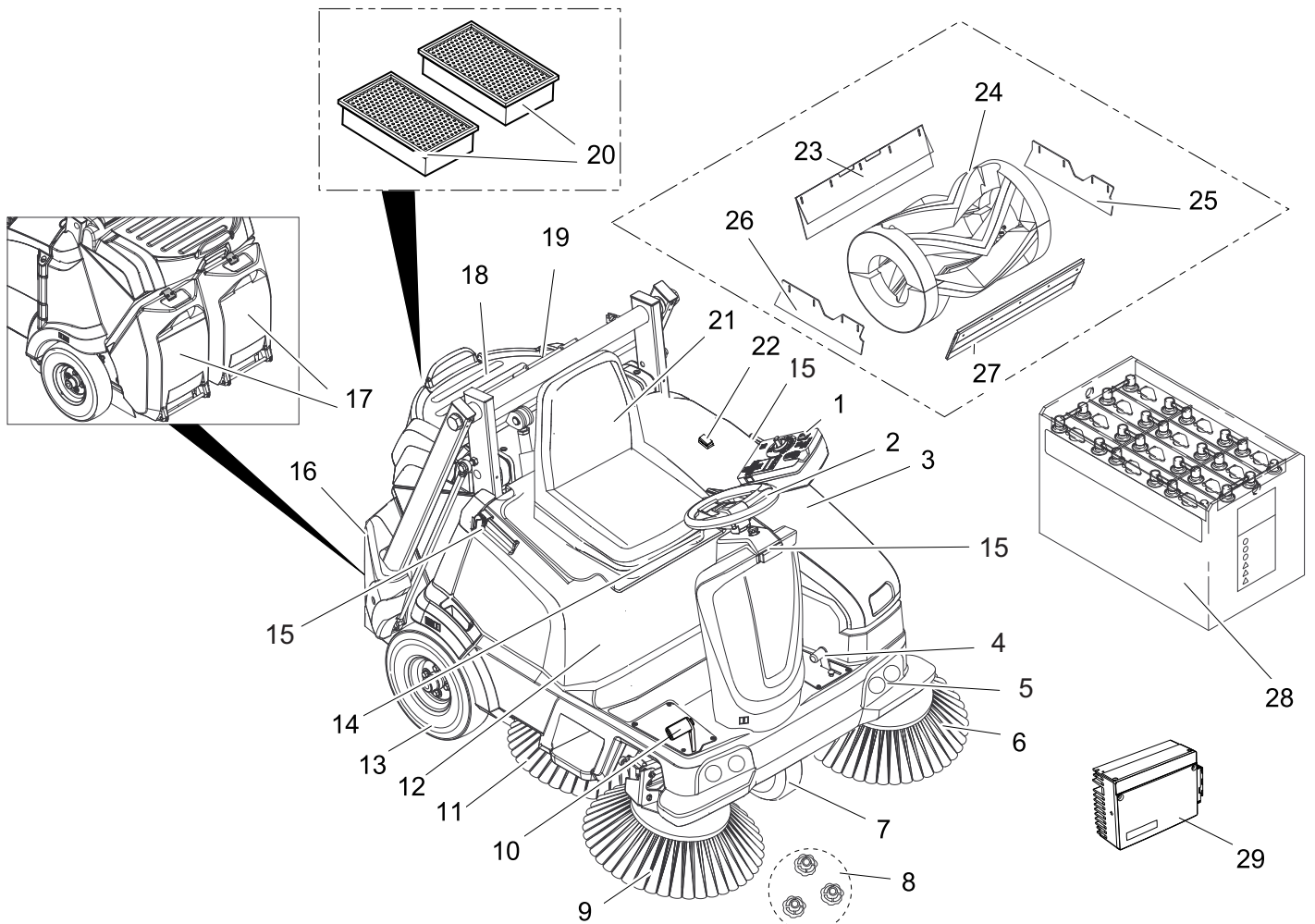
- *Prior to cleaning and maintaining the appliance, the replacement of parts, or the change to another function, the appliance must be switched off and the key (intelligent key) pulled out.*
- *Always disconnect the battery when working on the electrics.*
- *Do not clean the appliance with a water hose or high-pressure water jet (danger of short circuits or other damage).*
- *Maintenance work may only be carried out by approved customer service outlets or experts in this field who are familiar with the respective safety regulations.*
- *Please observe the local safety regulations regarding portable commercially used appliances.*
- *Always use appropriate gloves while working on the device.*

## Function



The sweeper operates using the overthrow principle.

- The side brushes (3) clean the corners and edges of the surface, moving dirt and debris into the path of the roller brush.
- The rotating roller brush (4) moves the dirt and debris directly into the waste container (5).
- The dust raised in the container is separated by the dust filter (2) and the filtered clean air is drawn off by the suction fan (1).
- The cleaning of the dust filter (2) takes place automatically.



- 1 Operating field
- 2 Steering wheel
- 3 Cover on the left
- 4 Pedal for raising/lowering bulk waste flap
- 5 Localised work illumination (option)
- 6 Left side brush (optional)
- 7 Driving operations
- 8 Fastener of the side brush
- 9 Right side brush
- 10 Drive pedal
- 11 Sickle brush (option)
- 12 Appliance cover right side
- 13 Rear wheel
- 14 Lever for seat adjustment
- 15 Holding rail for home base
- 16 Waste container high emptying system (KM 105/110 R)
- 17 Waste container low emptying system (KM 105/100 R)
- 18 Storage area
- 19 Storage cylinder support (safeguard high emptying system)
- 20 Dust filter (flat-fold filter)
- 21 Seat (with seat contact switch)
- 22 Button for two-handed operation (KM 105/110 R)
- 23 Rear sealing strip
- 24 Roller brush
- 25 Lateral sealing strip on the left
- 26 Lateral sealing strip on the right
- 27 Front sealing strip
- 28 Batteries

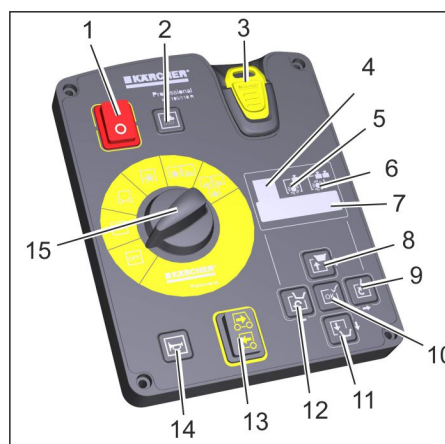
- (KM 105/100(110) R Bp Pack: already installed)  
 (KM 105/100(110) R Bp: not included in delivery)
- 29 Charger  
 (KM 105/100(110) R Bp Pack: already installed)  
 (KM 105/100(110) R Bp: not included in delivery)

## Optional

The following equipment that is installed when ordering ex work or can be subsequently installed is not displayed.

- Beacon lamp
- Overhead guard
- Comfort seat

## Operating field



## Control elements on the control panel

- 1 Main switch  
**Position 0:** Appliance is decommissioned  
**Position I:** The appliance is ready for operation.
- 2 Button suction blower with indicator lamp  
**Lamp is illuminated:** Suction blower and filter dedusting deactivated:  
 – for sweeping damp or wet floors, or fibrous dry waste such as straw, hay, etc.  
**Lamp off:** Suction blower and filter dedusting activated (default):  
 – for sweeping dry floors
- 3 Key (intelligent key)  
 yellow - operator  
 grey - supervisor
- 4 Display sweeping programme "ECO"  
 – for even floors with minor soiling  
**Note:** This sweeping programme is activated by default with every start-up of the sweeping system, even if another sweeping programme was selected before.  
**Note:** The selected sweeping programme is shown on the display, the setting is effected by means of the direction keys.
- 5 Display sweeping programme "MEDIUM"  
 – for normally soiled floors



- 6 Display sweeping programme "HEAVY"  
– for heavily soiled and uneven floors
- 7 Display
- 8 KM 105/110 R: Lift waste container and direction key "upwards"  
KM 105/100 R: Direction key "upwards"
- 9 KM 105/110 R: Tip waste container and direction key "to the right"  
KM 105/100 R: Direction key "to the right"
- 10 Confirmation key "OK"
- 11 KM 105/110 R: Swivel in waste container and direction key "to the left"  
KM 105/100 R: Direction key "to the left"
- 12 KM 105/110 R: Lower waste container and direction key "downward"  
KM 105/100 R: Direction key "downward"
- 13 Blinker switch
- 14 Horn
- 15 Program selection switch

### Language setting on the control panel

The default language on the display is English.

Select the desired language on the control panel prior to working with the machine. How the language is set for the yellow and grey key (Intelligent Key) is shown in the illustrated brief instructions on Page 2 of these operating instructions or in the following Chapter "Intelligent Key yellow/grey".

### Intelligent key yellow/grey

#### Yellow intelligent key

The parameters for the various cleaning programmes are preset. The indication takes place on the display.

The texts on the display are plain texts and therefore self-explanatory. The selection of the desired sweeping programme is made by means of the direction key "to the right".

Shown display texts are:

>Battery charge indicator<

>Operating hours and sweeping programme<

>Usability of the roller brush: .. %<

>Day counter .. h .. min<

Extra with upgrade kits:

>Switch on beacon light<

>Switch on working light<

If you wish to permanently change the parameters, you must use a grey intelligent key to make the settings. The procedure is described in section "Grey intelligent key".

#### Grey Intelligent Key

With the grey intelligent key the authorisations for the yellow intelligent key are enabled.

Parameters that are adjusted with the grey Intelligent Key, are kept until another setting is selected.

➔ Insert the grey intelligent key.

➔ Turn the programme selector switch to "ON".

➔ Push the direction key "upwards" or "downwards" until the >key manager< menu appears.

**Note:** In this menu item the authorisations for the yellow intelligent key are enabled.

➔ Confirm the message with the "OK" key.

➔ Remove the grey intelligent key and within the seconds being counted down insert the yellow intelligent key that is to be personalised.

➔ Push the direction keys "upwards" or "downwards" and select menu items.

#### Available menu items are:

##### >Language selection<

18 languages are available in the language selection, among others German, English, French, Spanish, Greek and Russian.

##### >Device operation locked/enabled<

The yellow key (Intelligent Key) can be locked for the operation of this machine here.

##### >Sweeping track locked/enabled<

With a locked sweeping track the sweeping programme ECO, MEDIUM or HEAVY is to be set and cannot be changed by the operator. With an enabled sweeping track you can change between the 3 sweeping programmes during operation.

##### >Dust level locked/enabled<

Adaption of the automatic filter cleaning (TACT) to the environment.

##### >Light on/off<

The operator can switch on the light (optional).

##### >Light locked/enabled<

Continuous operation with light is activated or locked.

##### >Flashing beacon locked/enabled<

The operator can choose whether he or she wants to drive with or without the flashing beacon; when starting the device, the flashing beacon is on automatically.

##### >Flashing beacon mode locked/enabled<

It can be selected whether the flashing beacon is necessarily on (even if it has been switched off by the operator) or not.

##### >Speed locked/enabled<

Without function

##### >Sweeping speed locked/enabled<

Without function

##### >Blower/pump locked/enabled<

Without function

##### >Enable delete day counter<

It can be selected whether the operator is able to reset the day counter.

##### >Programming yes/no<

As the last menu item the >Programming< display with the seconds counted down appears.

➔ To transfer the settings to the yellow intelligent key:

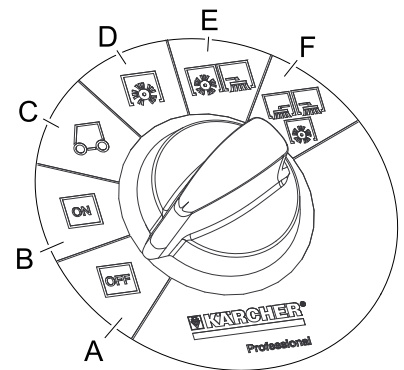
While the seconds are counted down, select >YES< with the direction key "to the right" and confirm with the "OK" key.

**Note:** Thereby the settings made are transferred to the yellow intelligent key and are enabled.

### Program selection switch

#### Note

The functions are only activated with the main switch being switched on and the key (Intelligent Key) inserted.



#### A OFF

Device is switched off

#### B ON

The appliance is now ready for operation.

#### C Drive the machine

Drive to the operating location; in order to do so, push the accelerator pedal.

#### Note

Roller brush and side brushes are raised and switched off.

#### D Sweeping with sweep roller

Roller brush is lowered.

#### E Sweeping with roller brush and right side brush

Roller brush and right side brush are lowered, the sickle brush (optional) is ready for operation.

#### F Sweeping with roller brush and right and left side brush

Roller brush and right side brush are lowered, the sickle brush (optional) is ready for operation.

### Safety Devices

#### ⚠ WARNING

*This appliance is equipped with a variety of safety installations. The proper function of every safety installation must be checked prior to operation and must NOT be over-ridden!*

#### Main switch

The main switch serves the immediate shutdown of the electrical drives in case of emergencies and may only be used for this purpose.

#### Cover on the left

The left cover is equipped with a safety installation that switches off the running device when it is opened and issues a warning message on the display.

### Waste container (low emptying system)

Both waste containers are equipped with a safety installation that switches off the running device when it is opened and issues a warning message on the display.

### Waste container (high emptying system)

The high emptying system is equipped with a safety installation that blocks the sweeping operation during the emptying procedure.

### Button for two-hand operation

Appliances with a high emptying system are equipped with a button for two-hand operation.

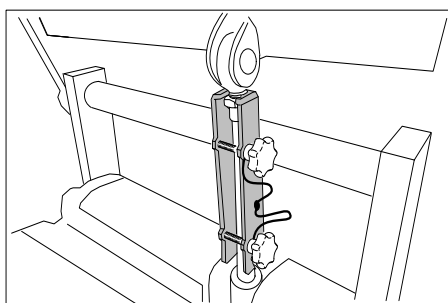
- ➔ For emptying the waste container, the button must be pressed together with the keys of the high emptying system.

### Safety support waste container (high emptying system)

During any work underneath the lifted waste container, the lifting cylinder must be secured by means of a safety support. The safety support is attached to the cross-beam by means of 2 star screws for storage.

- ➔ Remove safety support, in order to do this, unscrew 2 star screws.
- ➔ Insert safety support into the piston rod for the lifting cylinder and secure it.

**Note:** The round notch must point upwards.



### Parking brake

The appliance is equipped with an automatic parking brake that is integrated in the front-wheel drive.

The parking brake takes effect as soon as the device comes to a standstill and the accelerator pedal is released.

## Before Startup

### Remove the appliance cover

- ➔ The cover with the seat can be removed for repair or maintenance work.
- ➔ Prior to removing the cover, disconnect the electrical socket plug connection of the seat contact switch.

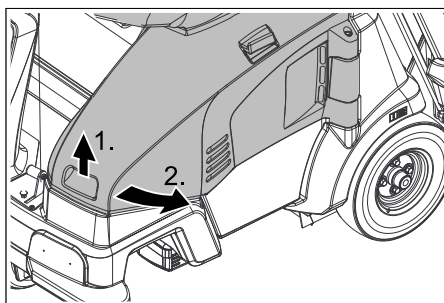
### Opening/closing cover on the left

#### ATTENTION

The left cover may only be opened when the programme selector switch is in the "OFF" position and the key (Intelligent Key) is removed.

Opening the left cover during operation of the device is prohibited.

- ➔ Grab the front of the cover on the recessed grip, unlock it towards the top and swivel it to the side.



**Note:** The cover is equipped with a safety installation that switches off the drive when it is opened and issues a warning message on the display. If the cover is not properly closed the device will not operate. If a warning message is pending, it can be reset as follows:

- ➔ Completely close the bonnet (locking in place).
- ➔ Turn the programme selector switch to "ON".
- ➔ Sit on the driver seat.

### Unloading tips

#### ⚠ DANGER

*Risk of personal injury or damage!*

- ➔ Observe the weight of the appliance when you load it!
- ➔ Do not use a forklift truck to unload the machine as this may damage it.

#### ATTENTION

Charge the battery before commissioning the machine.

#### Net weight (transport weight)

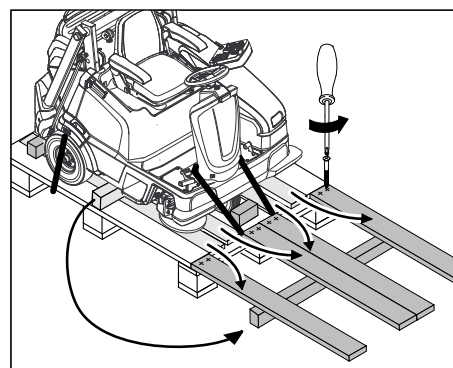
Weight (without driver, without attachment kits, without batteries)	305 kg
KM 105/100 R (low emptying system)	405 kg
KM 105/110 R (high emptying system)	
Weight (without driver, without attachment kits, with batteries)	490 kg
KM 105/100 R (low emptying system)	590 kg
KM 105/110 R (high emptying system)	

\* If upgrade kits are installed, the weight is respectively higher.

- ➔ When loading the appliance a suitable ramp must be used!
- ➔ If the machine is delivered on a pallet, you must create an unloading ramp using the boards provided.

To unload the machine, proceed as follows:

- ➔ Cut plastic packing belt and remove foil.
- ➔ Remove the elastic tape fasteners at the stop points.
- ➔ Connect battery (see section on Care and maintenance)
- ➔ Four indicated floor boards of the pallet are fastened with screws. Unscrew these boards.
- ➔ Place the boards on the edge of the pallet. Place the boards in such a way that they lie in front of the four wheels of the machine. Fasten the boards with screws.



- ➔ Slide the four support beams included in the packaging under the ramp.
- ➔ Remove the wooden blocks for locking the wheels.

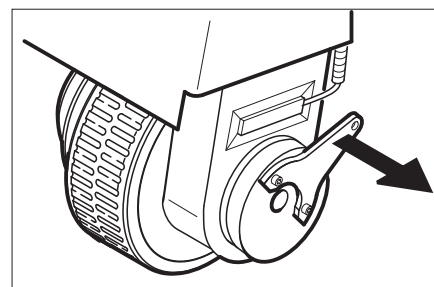
### Push the sweeper off the pallet (appliance without built-in battery)

#### ⚠ DANGER

*Risk of accident, risk of injury!*

- ➔ It is prohibited to release the emergency brake on an incline without using the stopper.
- ➔ Before releasing the immobilizing brake, the machine must be secured to prevent it rolling away. If the device is not secured, it will roll with a speed of approx. 4.5 km/h after releasing the parking brake until the electronics brakes the device.

### Release emergency brake:



- ➔ Remove the brake level from the wheel and put it in its position. The immobilizing brake is thus deactivated; the machine can now be moved.
- ➔ Slide the machine over the prepared ramp from the pallet.

### Drive the sweeper off the pallet (appliance with built-in battery)

- ➔ Connect the battery, refer to Chapter "Connecting and installing the battery".
- ➔ Main switch to position 1/ON and insert key (Intelligent Key).
- ➔ Turn the programme selector switch to position C (drive).
- ➔ Press the drive direction switch and slowly move the machine down from the ramp.
- ➔ Turn the programme selector switch to position A (OFF).

### Install side brush

Upon delivery the side brush is not installed, install side brush prior to commissioning.

- ➔ Refer to Chapter "Care and maintenance/replacing the side brush".

## Notes regarding the battery

### Safety notes regarding the batteries

Please observe the following warning notes when handling batteries:

	Observe the directions on the battery, in the instructions for use and in the vehicle operating instructions!
	Wear an eye shield!
	Keep away children from acid and batteries!
	Risk of explosion!
	Fire, sparks, open light, and smoking not allowed!
	Danger of causticization!
	First aid!
	Warning note!
	Disposal!
	Do not throw the battery in the dustbin!

#### **⚠ Danger**

Risk of explosion! Do not put tools or similar on the battery, i.e. on the terminal poles and cell connectors.

#### **⚠ Danger**

Risk of injury! Ensure that wounds never come into contact with lead. Always clean your hands after having worked with batteries.

#### **⚠ Danger**

Risk of fire and explosion!

- Smoking and naked flames are strictly prohibited.
- Rooms where batteries are charged must have good ventilation because highly explosive gas is emitted during charging.
- Batteries must not be stored outside.

#### **⚠ DANGER**

Danger of causticization!

- Rinse thoroughly with lots of clear water if acid gets into the eye or comes in contact with the skin.
- Then consult a doctor immediately.
- Wash off the acid if it comes in contact with the clothes.

### Check and correct the fluid level of the battery (only for low-maintenance batteries)

#### **⚠ Warning**

Regularly check the fluid level in acid-filled batteries.

- The acid in a fully charged battery has a specific weight of 1.28 kg/l at a temperature of 20 °C.
- The acid in a partially discharged battery has a specific weight between 1.00 and 1.28 kg/l.
- The specific weight of the acid must be uniform in all cells.
- ➔ Unscrew all cell caps.
- ➔ Take a sample from each cell using the acid tester.
- ➔ Put the acid sample back into the same cell.
- ➔ Where fluid level is too low, top up cells to the mark provided with distilled water.
- ➔ Charge battery.
- ➔ Screw in cell caps.

#### Recommended batteries, chargers

We recommend the use of our batteries and chargers; only then a claim under warranty exists.

#### **NOTICE**

With the KM 105/100(110) R Bp pack the low-maintenance batteries and the charger are already installed.

#### Use of batteries and chargers of other manufacturers

#### **ATTENTION**

Only if you use the batteries and chargers recommended by Kärcher, a claim under warranty exists.

#### **Note**

When using batteries of other manufacturers, the maximum battery dimensions must be observed.

#### Maximum battery dimensions (single battery)

The appliance requires 4 single batteries with 6 volt each.

The available space (LxWxH) in the device is: 622 mm x 402 mm x 379 mm  
Please follow these instructions if you are using low-maintenance batteries:

- It is necessary to conform to the maximum battery dimensions.
- When charging low-maintenance batteries, the left cover must be opened.
- While charging maintenance-free batteries, follow the specifications of the battery manufacturer.

#### Installing and connecting the batteries

- ➔ Open left cover.
- ➔ Remove the appliance cover.
- ➔ Insert batteries into the battery mount.
- ⚠ **Warning**
- ➔ Pay attention to correct poles.
- ➔ Connect pole terminal (red cable) to positive pole (+).
- ➔ Screw the connection lines onto the batteries.
- ➔ Connect pole terminal to negative pole (-).

### **NOTICE**

When removing the battery, make sure that the negative pole lead is disconnected first. Check that the battery pole and pole terminals are adequately protected with pole grease.

### **NOTICE**

Charge the batteries before commissioning the appliance.

### Charging battery

#### **⚠ DANGER**

Risk of injury!

- ➔ Comply with safety regulations on the handling of batteries. Observe the directions provided by the manufacturer of the charger.

#### **⚠ DANGER**

Risk of injury!

- ➔ Only put the charger into operation if the mains connection is free of damage. A damaged mains connection must immediately be replaced by the manufacturer, the customer service or a qualified person.

#### **⚠ DANGER**

Risk of injury!

- ➔ Charge the battery only with an appropriate charger.

#### **NOTICE**

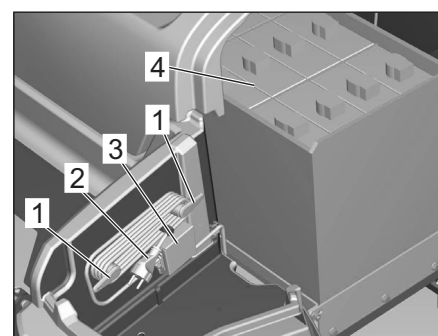
The charger is controlled electronically and completes the charging process automatically. All functions of the device are automatically interrupted during the charging process.

#### **NOTICE**

When the batteries are charged, first remove the charger from the mains and then disconnect it from the batteries.

#### (1) Charging process KM 105/100(110) R Bp Pack

With the KM 105/100(110) R Bp pack the low-maintenance batteries and the charger are already installed.



- 1 Retainers for mains connection (folding)
- 2 Mains cable with mains plug
- 3 Connection for mains connection of the charger
- 4 Batteries

- ➔ Open left cover.
- ➔ Fold in retainers and remove mains connection.
- ➔ Insert the plug of the charger into the socket.



## Note

The progress of the charging process is shown via a bargraph (5 bars) on the display. At the beginning of the charging process 5 lines can be seen briefly.

Little by little the 5 bars are filled (depending on the charging state of the battery at the beginning of the charging process, more slowly or faster). When the last bar is filled, the battery is charged.

## (2) Charging process KM 105/100(110) R Bp

- Open left cover.
- Separate the battery plug and connect the charger cable.
- Plug in mains connector and switch on charger, if necessary.

### With low-maintenance batteries

- Add distilled water after the charging process has been completed; observe the correct acid level. There are corresponding indicators on the battery.

## ⚠ DANGER

*Danger of causticization!*

- Adding water to the battery in its discharged state can cause the acid to leak.
- Wear protective glasses and protective clothing when handling battery acid. Observe the regulations concerning the handling of batteries!

## ⚠ WARNING

*Risk of damage!*

- Use only distilled or desalinated water (EN 50272-T3) for filling the battery.
- Do not add any substances (so-called performance improving agents), else warranty claims will not be entertained.

## Information concerning accidents with a risk of chemical burns

- Rinse thoroughly with lots of clear water if acid gets into the eye or comes in contact with the skin.
- Then consult a doctor immediately.
- Change clothing.
- Wash off the acid if it comes in contact with the clothes.

## After charging

- Unplug the charger from the mains.
- **For devices with built-in charger:** Store the mains connection away in the retainer and clip in the mains plug.
- **If the device does not have a built-in charger:** Pull the mains plug off the charger, reconnect the battery plug.

## Start up

### Prior to start/safety test

## To be performed by the operator on a daily basis!

The description of the checks and work below can be found in Chapter "Care and maintenance/maintenance work".

- Check safety function of the left cover (device must not start while the cover is open).
- Check function of seat contact switch.
- Check the roller brush and the side brush for wear, foreign bodies and wrapped belts

- During a standstill of the machine: Check the drive pedal for ease of movement in order to guarantee functional reliability or timely detect a jamming of the pedal.
- Empty waste container.
- Check tyre pressure.
- Check battery acid level.
- **With appliances with high emptying system:** Check filling level at the hydraulic unit.

## Operation

### Adjusting driver's seat

- Pull seat adjustment lever inwards.
- Slide seat, release lever and lock in place.
- Check that the seat is properly locked in position by attempting to move it backwards and forwards.

### Storage area

**Note:** The max. load of the storage area is 20 kg.

- Ensure safe fastening of the cargo.

### Starting up the appliance

Preconditions for the functioning operation of the appliance are:

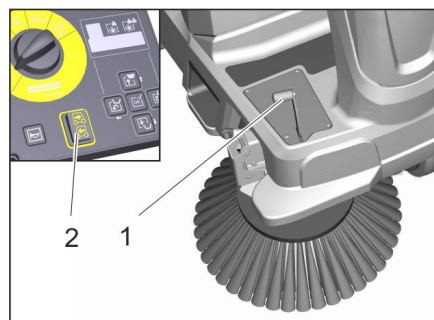
- The intelligent key (grey or yellow) with the authorisation for the operation of the appliance must be inserted in the key slot of the control panel.
- The main switch must be in position 1.
- The programme selector switch may not be in the "OFF" position.
- Waste container and left cover must be closed and locked in place.

### Drive the machine

## ⚠ CAUTION

*Risk of damage!*

- Always press the accelerator pedal carefully and slowly. Do not jerkily change from reverse to forward drive or vice versa.
- The travel speed must be adapted to the existing conditions.



- 1 Drive pedal
- 2 Driving direction switch

### Drive forward

- Set the travel direction to forward using the travel direction switch at the control panel.
- Press accelerator pedal down slowly.

## Reverse drive

## ⚠ DANGER

*Risk of injury!*

- When reversing, there must not be any risk for third parties, have somebody marshal the driver if necessary.
- Set the travel direction to reverse using the travel direction switch at the control panel.
- Press accelerator pedal down slowly.

### Driving method

- The accelerator pedal can be used to vary the driving speed infinitely.
- Avoid operating the pedal fitfully.

### Brakes

- Release the accelerator pedal, the machine brakes automatically and stops.  
**Note:** Should the device not come to a stop, push the main switch to the "0" position for an "Emergency stop".

### Driving over obstacles

## ATTENTION

*Objects or loose obstacles may not be run over or pushed.*

- Stationary obstacles of a height of up to 6 cm can be slowly and carefully driven over (only when the coarse dirt flap is opened).
- Drive over stationary obstacles higher than 6 cm (2 1/3 inch) only when using a suitable ramp.

### Sweeping mode

## ⚠ DANGER

*Risk of injury! If the bulk waste flap is open, stones or gravel may be flung forwards by the roller brush. Make sure that this does not endanger persons, animals or objects.*

## CAUTION

*Do not sweep up packing strips, wire or similar objects as this may damage the sweeping mechanism.*

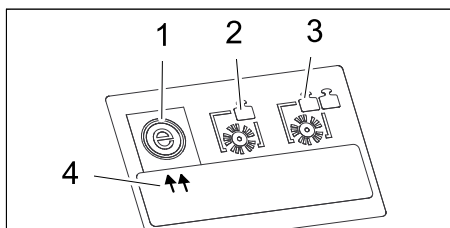
### Information on the sweeping operation

- Adjust the driving speed to the conditions in order to achieve an optimal cleaning result.
- Empty the waste container at regular intervals during the sweeping operation.  
**Note:** If mainly gravel was swept up (high weight of the waste), empty the waste container sooner.  
**With appliances with low emptying system:** There is a marking for the maximum filling level for gravel on the waste container. The marking becomes visible when the waste container is removed.
- Lower the roller brush while cleaning surfaces.
- Preferably perform the cleaning of side edges with the right side brush.
- The sickle brush (optional) is only lowered during left cornering.



### Sweeping with sweep roller

For cleaning with the roller brush 3 different sweeping programmes are available, they are shown by 2 arrows on the display.



- 1 Sweeping programme "ECO"
- 2 Sweeping programme "MEDIUM"
- 3 Sweeping programme "HEAVY"
- 4 Indicator (2 arrows)

**Note:** By default the sweeping programme "ECO" is activated during start-up. If another sweeping programme is required, proceed as follows (a precondition is that an intelligent key with the enabled authorisation is inserted in the control panel).

### Selecting a sweeping programme

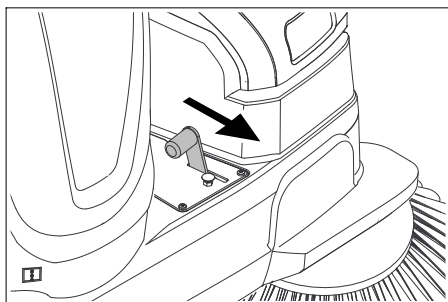
(Programme selector switch in position D, E, F)

- Stop the machine.
  - Push the direction key "to the right" in order to select the desired sweeping programme.
- Note:** The indicator (2 arrows) on the display points to the selected sweeping programme.

### Sweeping with bulk waste flap raised

**Note:** To sweep up larger items up to a height of 50 mm, e.g. cigarette packs, the bulk waste flap must be raised briefly. Raising bulk waste flap:

- Push the coarse dirt flap pedal towards the front and hold it there briefly.



- To lower it, take foot off pedal.
- Note:** An optimum cleaning result can only be achieved if the bulk waste flap has been lowered completely.

### Sweeping with side brushes

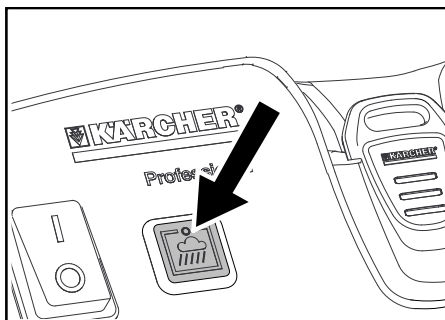
- Turn the programme selector switch to the E or F position. The side brushes and roller brush are lowered.

### Sweeping damp or wet floors

To protect the filter from moisture:

- Switch the suction blower off using the button on the control panel.

**Note:** The indicator lamp is illuminated.



### Sweep in fibrous and dry waste (such as dry grass, hay)

To avoid clogging of the filter system:

- Switch the suction blower off using the button on the control panel.

### Sweeping dry floors

- Work with suction blower switched on.

**Note:** The suction blower is activated by default when switching on a sweeping programme.

### Filter dedusting

The appliance is equipped with an automatic filter cleaning system. The cleaning takes place automatically approx. every 15 seconds. In the process a short blow-off sound can be heard.

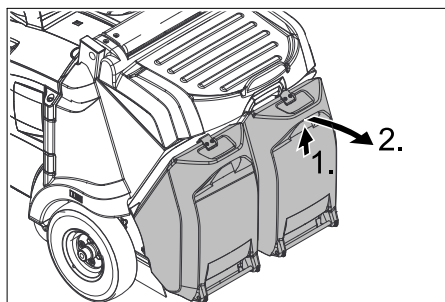
- Check the installed dust filter for contamination every once in a while. Replace a heavily contaminated or defective filter.

### Emptying waste container

**Note:** After parking the appliance, wait at least 1 minute before opening or emptying the waste container. This way the dust can settle.

### With appliances with low emptying system

- Park the sweeper on an even surface.
- Turn the program selection switch to "OFF".
- Slightly lift the waste container and swivel it downwards to the rear, then unhinge the waste container.



- Empty waste container.
  - Slide the waste container in and lock it in place, check for proper seating of the waste container
- Caution**  
*Risk of crushing hands!*
- Empty the second waste container.

### With appliances with high emptying system

The high emptying system of the appliance allows the direct disposal of the waste in the waste container into a refuse container (for maximum unloading height see Chapter "Technical data").

#### ⚠ Danger

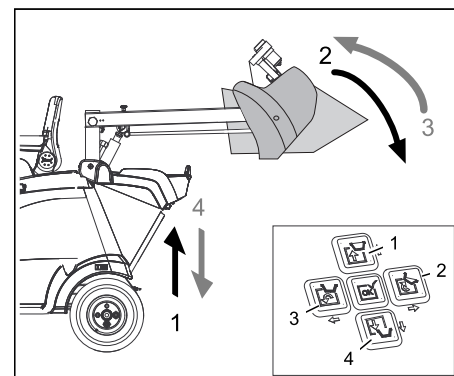
*Risk of injury! When emptying the waste container, care should be taken to ensure that no persons or animals are within its swivelling range.*

#### ⚠ Danger

*Danger of crushing. Never reach into the rod assembly for the drainage mechanism. Stay away from the area under the raised container.*

#### ⚠ Danger

*Danger of tipping. Place the machine on an even surface during emptying.*



- Turn the programme selector switch to position C (drive).
- Roughly position the appliance.

#### NOTICE

*The container can only be tilted and emptied once a set minimum level has been reached.*

#### NOTICE

*The following steps can only be performed in the two-hand operation. Push the two-hand operation button on the left cover together with the corresponding direction keys 1 to 4 on the control panel.*

- Raise waste container: Push the two-hand operation button and direction key 1.

**Note:** Function reacts with a delay.

#### ⚠ CAUTION

*Do not switch into the sweeping mode (programme selector switch in D, E, F position) while the waste container is raised.*

- Slowly drive towards the collection container.
  - Tipping the waste container outwards: Push the two-hand operation button and direction key 2.
- Note:** Function reacts with a delay.
- Completely tip the waste container inwards: Push the two-hand operation button and direction key 3.
- Note:** Function reacts with a delay.
- Drive away the collection container slowly.
  - Lower the waste container to the end-position: Push the two-hand operation button and direction key 4.

**Note:** Function reacts with a delay.

**Note:** The waste container can only be completely lowered after it has been tipped inwards into its initial position.

### Charging battery upon display message

- If the message **>Charge battery!<** appears on the display during cleaning work, the machine can only be driven for approx. 15 more minutes to protect the battery against total discharge. It is highly recommended to drive to the charging station and to charge the battery.
- If this message is ignored, the message **>BAT switch off!<** will eventually appear on the display. Driving the machine is no longer possible now.

### Turn off the appliance

**Note:** After switching off the appliance, the dust filter is automatically dedusted.

- Park the sweeper on an even surface.
- Turn the program selection switch to "OFF".
- Remove the key.

### Transport

#### ⚠ DANGER

*Risk of personal injury or damage!*

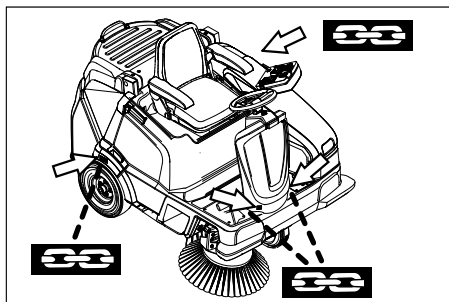
- *Mind the weight of the appliance during transport.*

#### ⚠ DANGER

*Risk of accident, risk of injury!*

- *When loading the device, the drive and the parking brake must be operational. The appliance must always be moved up or down slopes by engaging self-propulsion.*
- Secure the wheels of the machine with wheel chocks.
- Secure the machine with tensioning straps or cables.

**Note:** Observe markings for fixing points on the base frame (chain symbols). Only unload the appliance on level grounds.



- When transporting in vehicles, secure the appliance according to the guidelines from slipping and tipping over.

### Storage

#### ⚠ CAUTION

*Risk of personal injury or damage!*

- *Consider the weight of the appliance when storing it.*
- Park the machine in a safe and dry place.

### Shutdown

If the sweeper is going to be out of service for a longer time period, observe the following points:

- Park the machine on an even surface.
- Clean the inside and outside of the sweeper.
- Park the machine in a safe and dry place.
- Turn the program selection switch to "OFF".
- Remove key (intelligent key).
- Main switch to position 0.
- Disconnect the negative terminal of the battery if the appliances is not used for more than 4 weeks.
- Charge battery approx. every 2 months.

### Maintenance and care

#### General notes

#### ⚠ DANGER

*Prior to cleaning and maintaining the appliance, the replacement of parts, or the change to another function, the appliance must be switched off and the key (intelligent key) pulled out.*

*Always disconnect the battery when working on the electrics.*

- Turn the program selection switch to "OFF".
- Remove key (intelligent key).
- Maintenance work may only be carried out by approved customer service outlets or experts in this field who are familiar with the respective safety regulations.
- Mobile appliances used for commercial purposes are subject to safety inspections according to VDE 0701.
- Use only roller brushes/ side-brushes that are provided with the appliance or specified in the Operations Manual. The use of other roller brushes/ side-brushes can affect the safety of the appliance.
- The battery installed in the device is low-maintenance.

#### Cleaning

#### ⚠ CAUTION

*Risk of damage! Do not clean the appliance with a water hose or high-pressure water jet (danger of short circuits or other damage).*

*Do not use aggressive and abrasive detergents.*

### Cleaning the inside of the machine

#### ⚠ Danger

*Risk of injury! Wear dust mask and protective goggles.*

- Open left cover.
- Blow through machine with compressed air.
- Clean the machine with a damp cloth which has been soaked in mild detergent.
- Close left cover.

### External cleaning of the appliance

- Clean the machine with a damp cloth which has been soaked in mild detergent.

### Maintenance intervals

#### Observe the inspection checklist!

The service hour counter indicates the time of the maintenance intervals.

- Turn the programme selector switch to "ON".
- Read the service hours: Push the direction keys "upwards" or "downwards".  
**Note:** If the value reaches "0", a service message with the phone number of the local service branch is displayed when the appliance is switched on.

### Maintenance by the customer

**Note:** Where maintenance is carried out by the customer, all service and maintenance work must be undertaken by a qualified specialist. If required, a specialised Kärcher dealer may be contacted at any time.

**Note:** For description, see section on Maintenance work.

#### Daily maintenance:

- See chapter "Prior to start/safety test".

#### Weekly maintenance:

- Check dust filter and clean filter box, if required.
- Check moving parts for freedom of movement.
- Check the sealing strips in the sweeping area for position and wear.
- **With appliances with high emptying system:** Check filling level at the hydraulic unit.  
Check hydraulic lines for leaks.

### Maintenance to be carried out every 200 operating hours

- Check the drive belt of the roller brush for tension, wear and function.

#### Maintenance following wear:

- Replace sealing strips.
- Replace roller brush.
- Replace side brush.

### Maintenance by Customer Service

**Note:** In order to safeguard warranty claims, all service and maintenance work during the warranty period must be carried out by the authorised Kärcher Customer Service in accordance with the maintenance booklet.

Maintenance to be carried out every 200 operating hours

Maintenance to be carried out every 300 operating hours

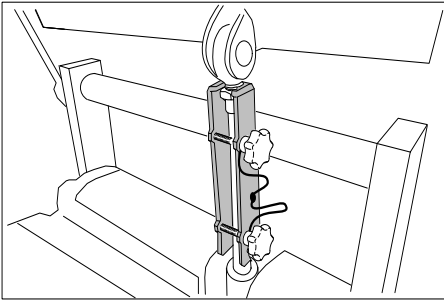
## Maintenance Works

### General notes on safety

#### ⚠ Danger

*Risk of injury! While working around the lift/tilt emptying mechanism, raise the waste container to its highest point and secure.*

- ➔ Insert safety support into the piston rod for the lifting cylinder and secure it.



#### ⚠ DANGER

*Risk of burns!*

*Allow the machine sufficient time to cool down before carrying out any maintenance and repair work.*

### Preparation

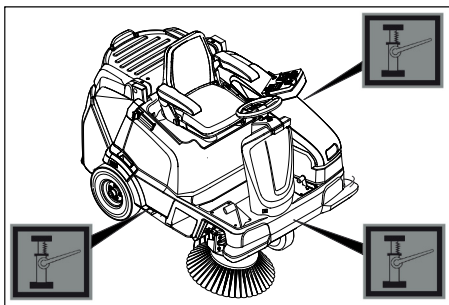
- ➔ Park the sweeper on an even surface.
- ➔ Turn the program selection switch to "OFF".
- ➔ Remove key (intelligent key).
- ➔ Allow device to cool down sufficiently.

### Check the tyre pressure

- ➔ Park the sweeper on an even surface.
- ➔ Connect air pressure testing device to tyre valve.
- ➔ Check air pressure and adjust if required. For permissible tyre inflation pressure see Chapter "Technical specifications".

### Remove rear wheel

- ➔ Park the machine on an even surface.
- ➔ Check stability of ground. Lock the appliance to ensure that it does not roll off.



- ➔ Place the jack at the relevant position point.

#### NOTICE

*Use a suitable commercially available vehicle jack.*

- ➔ Loosen the central wheel bolt by approx. 1 rotation using a suitable tool.
- ➔ Raise machine using vehicle jack.
- ➔ Unscrew and remove the wheel bolt.
- ➔ Remove wheel.
- ➔ Have a defective wheel repaired or replaced in a specialist workshop.
- ➔ Fit the wheel and screw the wheel bolt all the way in and tighten it lightly.
- ➔ Lower machine using vehicle jack.
- ➔ Tighten the wheel bolt with the required torque.

Tightening torque 49 Nm

### Dismantling the drive

- ➔ Contact the customer service for the removal of the drive.

### Check the function of the seat contact switch

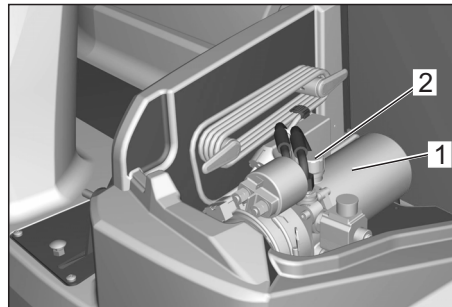
- ➔ Do **not** sit down on the driver seat.
- ➔ Turn the programme selector switch to position C (drive).
- ➔ If the message **>Please sit down on the machine<** appears on the display, the safety function is given.

### Checking hydraulic oil level at the hydraulic unit

(only with devices with high emptying system)

#### CAUTION

*This inspection may only be carried out when the machine has cooled down.*



- 1 Hydraulic unit
- 2 Filler neck

### Checking the sweeping mirror of the side-brushes

**Note:** The side brush floating mounting adjusts the sweeping track as the bristles wear down. The side brush must be replaced if it becomes too worn.

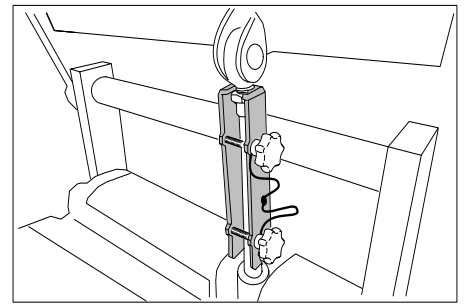
### Replacing side brush

**Recommendation:** Replacing the side brush at a remaining bristle length of approx. 10 cm.

- ➔ Park the machine on an even surface.
- ➔ Turn the programme selector switch to "OFF" and remove the key (intelligent key).
- Note:** The side brush is raised.
- ➔ Unscrew all 3 star grip nuts at the bottom of the side brush by hand. For this purpose reach through the bristles of the side brush.
- ➔ Remove the wiper blade.
- ➔ Clip new side brushes on to driver and screw on.

### Checking roller brush

- ➔ Park the sweeper on an even surface.
- ➔ *With appliance with low emptying system:* Turn the programme selector switch to "OFF" and remove the key (intelligent key). Remove both waste containers.
- ➔ *With appliance with high emptying system:* Turn the programme selector switch to position C (drive). Lift the waste container and secure by means of cylinder support. Turn the programme selector switch to "OFF" and remove the key (intelligent key).



- ➔ Remove belts or cords from roller brush.

### Check the sweeping mirror of the sweeping roller

The sweeping track of the roller brush is automatically adjusted by a system called TEACH.

The condition of the roller brush can be shown on the display.

- ➔ Turn the programme selector switch to "ON".
- ➔ Push the direction key "upwards" or "downwards" until the display **> usability of the roller brush: ..%<** appears.

**Note:** If the roller brush is heavily worn, the indication **>Usability of the roller brush <20%<** appears on the display.

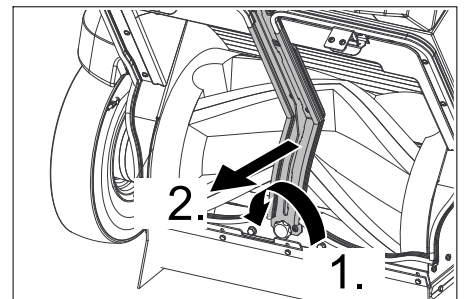
Now, at the latest, the roller brush should be replaced.

### Replacing the roller brush halves

The replacement is required if the sweeping result visibly decreases due to the wear of the bristles or the indication **>Usability of the roller brush <20%<** appears on the display.

Each roller brush half is attached to the shaft by means of 2 screws. Both halves are identical, which facilitates the installation.

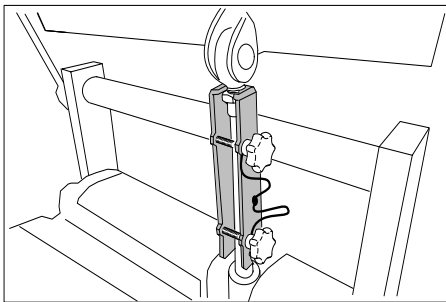
- ➔ Park the machine on an even surface.
- With appliance with low emptying system:*
- ➔ Turn the programme selector switch to "OFF" and remove the key (intelligent key).
- ➔ Remove both waste containers.
- Note:** For the removal of the roller brush dismount the centre bar first.
- ➔ Loosen the screw and remove the centre bar.



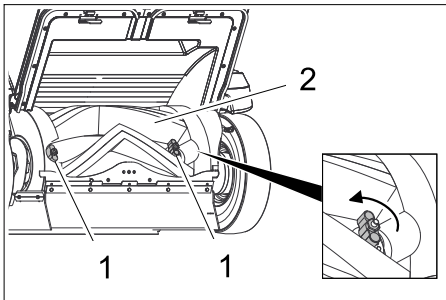
*With appliance with high emptying system:*

- ➔ Turn the programme selector switch to position C (drive).
- ➔ Lift the waste container and secure by means of cylinder support.





- ➔ Turn the programme selector switch to "OFF" and remove the key (intelligent key).



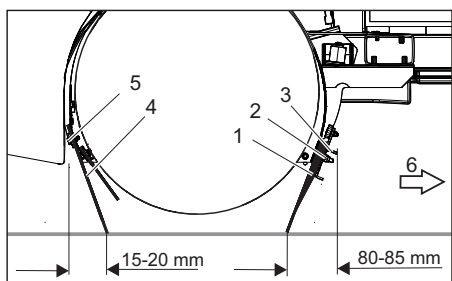
- 1 Screws
- 2 Roller brush

- ➔ Unscrew both screws by hand and pull the roller brush half from the shaft.
- ➔ Insert new roller brush halves and tighten the screws (pay attention to the marking "L" = left and "R" = right).
- ➔ Turn the roller brush by 180°, loosen and remove the screws from the second roller brush half.
- ➔ Insert new roller brush half and tighten the screws.
- ➔ Then ensure that the roller brushes are safely locked in place.

*With appliance with low emptying system:*  
➔ Reattach the centre bar, ensure proper seating of the gaskets!

#### Adjusting and replacing sealing strips

- ➔ Park the machine on an even surface.
  - ➔ Turn the programme selector switch to "OFF" and remove the key (intelligent key).
- Side brush and roller brush are raised.



- 1 Front sealing strip
- 2 Nut
- 3 Retaining plate front
- 4 Rear sealing strip
- 5 Screw
- 6 Forward travel direction

#### ■ Front sealing strip

Adjusting the sealing strip:

- ➔ Loosen the nuts by approx. 2 rotations, do not completely unscrew them.
- ➔ Set the distance between the sealing strip and the floor so that the bottom edge trails behind at a distance of between 80-85 mm.
- ➔ Tighten nuts.

If worn, replace.

- ➔ For replacing the sealing strips unscrew the nuts completely, insert new sealing strip, fit retaining plate, adjust sealing strips and screw down retaining plate.

#### ■ Rear sealing strip

Adjusting the sealing strip:

- ➔ Loosen screws by approx. 2 rotations, do not completely unscrew them.
- ➔ Set the distance between the sealing strip and the floor so that it tilts towards the front with an overtravel of 15 - 20 mm.
- ➔ Tighten the screws.

If worn, replace.

- ➔ For replacing the sealing strips unscrew the screws completely, insert new sealing strip, fit retaining plate, adjust sealing strips and screw down retaining plate.

#### ■ Side sealing strips

Adjusting the sealing strip:

- ➔ Loosen screws by approx. 2 rotations, do not completely unscrew them.
- ➔ To set the floor clearance, insert a sheet with a thickness of between 1 and 3 mm under the sealing strip.
- ➔ Adjust sealing strip.
- ➔ Tighten the screws.

If worn, replace.

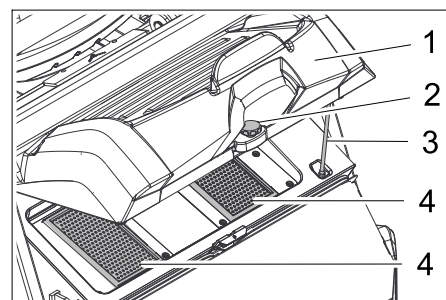
- ➔ For replacing the sealing strips unscrew the screws completely, insert new sealing strip, fit retaining plate, adjust sealing strips and screw down retaining plate.

#### Check/replace dust filter

##### ⚠ WARNING

*Wear a dust mask when working around the dust filter. Observe safety regulations on the handling of fine particles.*

**Note:** Wait at least 1 minute before removing the dust filter so that the dust can settle.



- 1 Lid with cleaning device
- 2 Screw
- 3 Support
- 4 Dust filter (flat-fold filter)

- ➔ Loosen screws.
- ➔ Fold the lid up and secure it by means of the support.
- ➔ Take out the dust filter.
- ➔ Check dust filter.
- ➔ Insert cleaned or new dust filter.
- ➔ Place support into retainer.
- ➔ Close the lid.
- ➔ Screw in the screws and tighten them.

#### Check suction blower

- ➔ Have the suction blower checked for leaks.

Check by customer service

#### Checking drive belt of roller brush

- ➔ Check the drive belt of the roller brush for tension, wear and function.

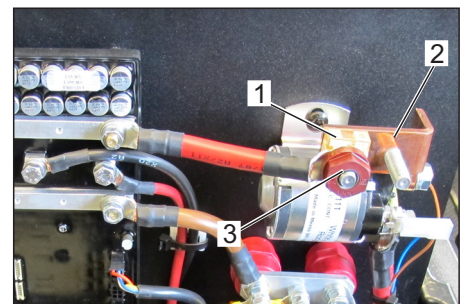
Check by customer service

#### Replacing fuses

- ➔ Replace defective fuse.

F1	Control CPU	5 A
F2	Main fuse Pole fuse	175 A
F70	Charger	40 A

#### Pole fuse



- 1 Pole fuse
- 2 Jumper
- 3 Nut

**Note:** A defective pole fuse may only be replaced by a Kärcher service technician or an authorised expert. If this fuse is defective, check the usage conditions and the entire control system.



## Troubleshooting

Failure	Correction
Appliance cannot be started	Turn the programme selector switch to position C (drive).
	Sit on the driver seat, the seat contact switch gets activated.
	Set main switch to "I/ON".
	Insert approved key (intelligent key)
	Plug in battery plug (KM 105/100 R Bp; KM 105/110 R Bp)
	Close left cover.
	Properly insert the waste container (low emptying system) or completely tip it inwards and lower it (high emptying system)
	Check the charging state of the battery on the display (appears upon switching on the device).
	Charge the battery if required.
	Inform Kärcher Customer Service.
Machine is not sweeping properly	Select sweeping programme, in order to do so, turn the programme selector switch to position D, E or F
	Increase roller brush contact pressure; in order to do so, select sweeping programme "MEDIUM" or "HEAVY" on the control panel.
	Check roller brush and side brushes for wear, replace if necessary.
	Check function of bulk waste flap
	Check sealing strips for wear, adjust or replace as required
	Check the roller brush halves for proper seating
	Inform Kärcher Customer Service.
Dust gathers in the machine Insufficient vacuum performance	Empty waste container
	Switch on suction blower
	Check dust filter, clean or replace
	Check filter case seal
	Check the function of the automatic filter cleaning device (see malfunction point "repeated blowout bang audible")
	Check the gaskets on the waste container
	Check sealing strips for wear, adjust or replace as required
Side brush or roller brush switch-on operation is not working	Inform Kärcher Customer Service.
Roller brush does not turn. Side brush does not turn	Select sweeping programme, in order to do so, turn the programme selector switch to position D, E or F
	Check the roller brush and side brushes for wrapped belts.
	Inform Kärcher Customer Service.
(High emptying system) waste container does not retract/extend Waste container cannot be tilted	Turn the programme selector switch to position C (drive).
	Push and hold down the two-hand operation button on the left cover and the direction keys on the control panel.
	<b>Note:</b> Function reacts with a delay.
	Inform Kärcher Customer Service.
A short blow-off sound can be heard.	The appliance is OK, the automatic filter cleaning system is working

## Troubleshooting by the operator with plain text messages on the display

### Note:

If the display messages shown remain despite the corrective measures described, contact service!

	Display	Meaning and consequence	Corrective measures
1	<b>Invalid KiK! Operation locked</b>	The identification of the inserted key is unknown. – The appliance operation is prevented	→ Use approved Kärcher key!
2	<b>Valid KiK but no operation rights</b>	The Kärcher key is known, however, not approved for this appliance. – The appliance operation is prevented	→ Use approved Kärcher key! → Programme the key with the Supervisor Intelligent Key.
3	<b>High dump tracer stuck! Check it!</b>	The function of the two-hand operation button is checked for its safety function when the appliance is switched on. – When the two-hand operation button is pushed, the operation is prevented during start-up	→ Release the two-hand operation button. → Confirm the message with the OK key (delete).
4	<b>Locked HD-tracer</b>	The two-hand operation button (high emptying system) was pushed in a sweeping programme. – High emptying is prevented in the sweeping programme for safety reasons.	→ Release the two-hand operation button. → Turn the programme selector switch to position C (drive). → Press the two-hand operation button and keep it down. → Operate the high emptying system by means of the direction keys.
5	<b>Sit on machine for operation!</b>	Appears when a sweeping or transport programme is selected upon starting up the machine and no operator is sitting on the seat. – All unit functions are prevented	→ Sit on the driver's seat. <b>Note:</b> The selected sweeping / transport operation starts fully automated. <b>Note:</b> This procedure simultaneously serves the inspection of the safety function of the seat switch!
7	<b>Dirt pan open!</b>	Is displayed (low emptying system) as soon as a transport or sweeping programme has been selected and at least one waste container is removed. – All unit functions are prevented	→ Lock all waste containers in place. → Turn the programme selector switch to "ON". <b>Note:</b> The message disappears. The appliance is ready for operation.
8	<b>Dirt pan open?</b>	Is displayed (high emptying system) as soon as a sweeping programme has been selected and the waste container is not fully retracted and tipped inwards. – All sweeping functions are prevented.  <b>Note:</b> In case of an attempt to completely lower a container that is tipped outwards, a collision monitoring system prevents the high emptying system from being damaged  <b>Note:</b> In case of an attempt to tip a retracted container outwards, a collision monitoring system prevents the high emptying system from being damaged	→ Turn the programme selector switch to position C (drive). → Press the two-hand operation button and keep it down. → If necessary, tip the waste container inwards and then lower it by means of the direction keys.  → Release the two-hand operation button and the direction keys. → Press the two-hand operation button and keep it down. → Completely tip the container inwards by means of the direction keys before lowering it.  → Release the two-hand operation button and the direction keys. → Press the two-hand operation button and keep it down. → Sufficiently raise the container by means of the direction keys before it can be tipped outwards.
9	<b>Brushpos. not ok</b>	Is displayed when the roller brush cannot move to the factory-set end position. – The appliance is ready for operation, however, the sweeping result may be dissatisfying	→ Confirm the message with the OK key (delete). → Turn the programme selector switch to position C (drive). → Change to the desired sweeping programme again.
10	<b>RBroompos. not ok</b>	Is displayed when the right side brush cannot move to the factory-set end position. – The appliance is ready for operation, however, the sweeping result may be dissatisfying or the right side brush may not be raised	→ Confirm the message with the OK key (delete). → Turn the programme selector switch to position C (drive). → Change to the desired sweeping programme again.
11	<b>LBroompos. not ok</b>	Is displayed when the optionally available left side brush cannot move to the factory-set end position. – The appliance is ready for operation, however, the sweeping result may be dissatisfying or the left side brush may not be raised	→ Confirm the message with the OK key (delete). → Turn the programme selector switch to position C (drive). → Change to the desired sweeping programme again.

	Display	Meaning and consequence	Corrective measures
12	<b>SBroompos.not ok</b>	Is displayed when the optionally available sickle brush cannot move to the factory-set end position. – The appliance is ready for operation, however, the sweeping result may be dissatisfying or the sickle brush may not be raised	→ Confirm the message with the OK key (delete). → Turn the programme selector switch to position C (drive). → Change to the desired sweeping programme again.
13	<b>Seat switch open</b>	Appears if the seat is left for more than 1.5 seconds in drive mode. – Device switches off, all brushes and the roller brush that are lowered to the ground are raised automatically	→ Sit on the driver's seat. <b>Note:</b> The selected sweeping / transport operation starts fully automated.
14	<b>Usable sweeping brush &lt;25%</b>	Appears if the roller brush has reached its wear limit. – The appliance is ready for operation, however, the sweeping result may be dissatisfying	→ Replace the roller brush as soon as possible to achieve a good sweeping result.
15	<b>MF-module not ready to use x</b>	Appears if the control panel has no connection to the machine control. – The operation of the appliance is disabled	→ Perform a programme selector switch reset (OFF position).
16	<b>Motorhood open!</b>	Appears if the left side cover is not properly locked in place. – The operation of the appliance is disabled	→ Completely close the left cover and lock in place. → Turn the programme selector switch to "ON". <b>Note:</b> The message disappears. The appliance is ready for operation.
18	<b>Charge battery!</b>	Appears if the battery voltage is low. – All sweeping functions are switched off, the appliance is still running	<b>Note:</b> The message can no longer be confirmed. → Charge battery.
19	<b>BAT shut-down</b>	Appears if the battery is empty. – The operation of the device is prevented for the protection of the battery, device can no longer be driven.	→ Charge battery.
20	<b>MF-mod. requests firmware update!</b>	Appears if the machine control has detected a safety-critical error during the self test. – The operation of the appliance is disabled	→ Call service!
22	<b>Call service! +xx-xxxx-xx-xxxx</b>	The inspection interval has lapsed. This message appears upon every start-up of the appliance. – The appliance remains fully operational	→ Confirm the message with the OK key (delete). → Contact your local service for inspection under the displayed phone number.
23	<b>Red 0/1 switch=0 Operation locked</b>	The message appears both during operation and start-up of the appliance if the red main switch is in the "0" position. – The appliance operation is prevented	→ Set main switch to "I/ON".
24	<b>Easy oper.switch must be OFF next</b>	This message appears in connection with message 23.	→ For safety reasons the start-up of the appliance requires the switching-off of the programme selector switch (OFF position)!

### Troubleshooting with coded error message on the display

#### Note:

A coded error message is always displayed in the upper display line and has the following formats:

<b>X yyy</b>	Identification letter X followed by up to 3 digits yyy
e.g. <b>S 110</b>	There is a system error that completely or partly disables the appliance function.
e.g. <b>P 3 C 41 H 2</b>	There is an error in the machine control. Individual or several appliance functions are disabled.

If a coded error occurs, try resetting the programme selector switch first.

In order to do so, turn the programme selector switch in the "OFF" position. Wait for at least 5 seconds before restarting the appliance.

If the error is still pending, contact service. The indication of the error code may be helpful for the service!

## Specifications

		KM 105/100 R Bp KM 105/110 R Bp	KM 105/100 R Bp Pack KM 105/110 R Bp Pack
<b>Machine data</b>			
Length x width x height	mm	1800 x 1250 x 1450	1800 x 1250 x 1450
Net weight (transport weight)		Weight (without batteries)	Weight (with batteries)
KM 105/100 R (low emptying system)	kg	305	490
KM 105/110 R (high emptying system)	kg	405	590
Permissible overall weight			
KM 105/100 R (low emptying system)	kg	725	725
KM 105/110 R (high emptying system)	kg	825	825
Driving speed	km/h	6	6
Cleaning speed	km/h	4	4
Usage duration with battery fully charged	h	ca. 2,5	ca. 2,5
Climbing capability (max.)	%	12	12
Turning radius	m	2,70	2,70
Roller brush diameter	mm	400	400
Roller brush width	mm	640	640
Side brush diameter	mm	600	600
Surface cleaning performance without side brushes	m²/h	3840	3840
Surface cleaning performance with 1 side brushes	m²/h	6300	6300
Surface cleaning performance with 2 side brushes	m²/h	8700	8700
Working width without side brushes	mm	640	640
Working width with 1 side brushes	mm	1050	1050
Volume of waste container			
KM 105/100 R (low emptying system)	l (kg)	2 x 35 (2 x 50)	2 x 35 (2 x 50)
KM 105/110 R (high emptying system)	l (kg)	80 (110)	80 (110)
Maximum unloading height (high emptying system)	mm	1550	1550
Protection type, drip-proof	--	IPX 3	IPX 3
<b>Motors</b>			
<b>– Drive motor</b>			
Type	--	DC permanent solenoid motor for front and reverse drive	DC permanent solenoid motor for front and reverse drive
Type	--	Wheel hub motor in front wheel	Wheel hub motor in front wheel
Voltage	V	24	24
Rated power (mechanical)	W	750	750
Type of protection	--	IP 44	IP 44
Speed	1/min	Phaseless	Phaseless
<b>– Blower motor</b>			
Type	--	DC permanent solenoid motor	DC permanent solenoid motor
Voltage	V	24	24
Rated power (mechanical)	W	200	200
Type of protection	--	IP 20	IP 20
Speed	1/min	3500	3500
<b>– Roller brush motor</b>			
Type	--	DC permanent solenoid motor	DC permanent solenoid motor
Voltage	V	24	24
Rated power (mechanical)	W	750	750
Type of protection	--	IP 20	IP 20
Speed	1/min	500 (at the roller brush)	500 (at the roller brush)
<b>– Side brush motor</b>			
Type	--	DC permanent solenoid motor	DC permanent solenoid motor
Type	--	Drive motor (angular drive)	Drive motor (angular drive)
Voltage	V	24	24
Rated power (mechanical)	W	240	240
Type of protection	--	IP 44	IP 44
Speed	1/min	65	65



		KM 105/100 R Bp KM 105/110 R Bp	KM 105/100 R Bp Pack KM 105/110 R Bp Pack
<b>Battery</b>			
Type	--	--	24V 4 PzS 240 I
Capacity	Ah	--	240
Charging time for fully discharged battery	h	--	10...15
Operating time after frequent charging	h	--	ca. 2,5
<b>Charger</b>			
Mains voltage	V~	--	230
Output voltage	V	--	24
Output current	A	--	30
<b>Fuses</b>			
Main fuse	A	175	175
Control CPU	A	5	5
Charger	A	--	40
<b>Tyres</b>			
Size, rear	--	4.00-8 8PR	4.00-8 8PR
Air pressure, rear	bar	6,0	6,0
<b>Brake</b>			
Service brake	--	electronic	electronic
Parking brake	--	Disc brake, operated electrically (with spring)	Disc brake, operated electrically (with spring)
<b>Filter and vacuum system</b>			
Filter system		TACT	TACT
Category of use – filter for non-hazardous dust	--	M	M
Nominal vacuum, suction system	mbar	6	6
Nominal volume flow, suction system	l/s	92	92
<b>Working conditions</b>			
Temperature	°C	0...+ 40	0...+ 40
Air humidity, non-condensing	%	0 - 90	0 - 90
<b>Values determined as per EN 60335-2-72</b>			
Noise emission			
Sound pressure level $L_{pA}$	dB(A)	64	64
Uncertainty $K_{pA}$	dB(A)	3	3
Sound power level $L_{WA}$ + Uncertainty $K_{WA}$	dB(A)	83	83
Machine vibrations			
Hand-arm vibration value	m/s <sup>2</sup>	< 2,5	< 2,5
Seat	m/s <sup>2</sup>	0,4	0,4
Uncertainty K	m/s <sup>2</sup>	0,2	0,2

## EC Declaration of Conformity

We hereby declare that the machine described below complies with the relevant basic safety and health requirements of the EU Directives, both in its basic design and construction as well as in the version put into circulation by us. This declaration shall cease to be valid if the machine is modified without our prior approval.

**Product:** Vacuum sweeper

**Type:** 1.280-120.2

### Relevant EU Directives

2006/42/EC (+2009/127/EC)

2004/108/EC

2000/14/EC

### Applied harmonized standards

EN 55012: 2007 + A1: 2009

EN 60335-1

EN 60335-2-29

EN 60335-2-72

EN 61000-3-2: 2006+A1: 2009+A2: 2009

EN 61000-3-3: 2008

EN 61000-6-2: 2005

EN 62233: 2008

### Applied conformity evaluation method

2000/14/EC: Appendix V


### Sound power level dB(A)

Measured:

Guaranteed: 83

The undersigned act on behalf and under the power of attorney of the company management.

  
H. Jenner  
CEO

  
S. Reiser  
Head of Approval

Authorised Documentation Representative  
S. Reiser

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Winnenden, 2013/10/01

## Accessories

<b>Side brushes, standard</b>	<b>6.966-063.0</b>
For cleaning of indoor and outdoor areas.	
<b>Hard side-brushes</b>	<b>6.906-705.0</b>
For removing stubborn dirt in the external area; resistant to moisture.	
<b>Side-brushes, soft</b>	<b>6.966-065.0</b>
Especially for sweeping fine dust on even floors.	
<b>Roller brush, standard</b>	<b>4.762-529.0</b>
Resistant of wear and moisture. Universal bristles for inside and outside cleaning.	
<b>Roller-brush, soft</b>	<b>4.762-523.0</b>
With natural bristles especially for fine dust sweeping on smooth indoor floors. Not resistant to wetness; not for abrasive surfaces.	
<b>Roller-brush, hard</b>	<b>4.762-524.0</b>
For removing stubborn dirt in the external area; resistant to moisture.	
<b>Flat-fold filter (dust filter)</b>	<b>6.907-352.0</b>
<b>Set holder brush homebase</b>	<b>4.035-523.0</b>
<b>Set coarse dirt pliers homebase</b>	<b>4.035-524.0</b>