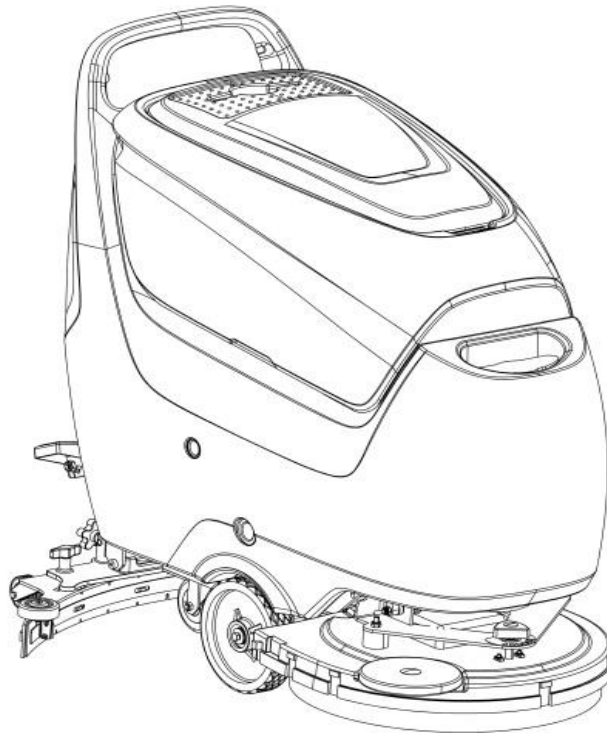


Operator Manual

NB530 Walk-Behind Floor Scrubber



WARNING

Do not operate the floor scrubber before reading and understanding the operator manual.

NOTE:

- **Please check product type and parameters of your scrubber in this manual as well as on the ID-plate.**
- **Keep this operator manual for future reference.**

Version 12/2024

NB530-SMS-004-EN

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INTRODUCTION



NOTE

The code of related components in () can be found in the chapter of machine description.

MANUAL PURPOSE AND CONTENT

- This manual is to provide the operator with the necessary information for the correct and safe use of the machine, which includes the technical data, safety, operation, storage, maintenance, accessories and dispose of the machine.
- Before performing any operation or maintenance on this machine, the operator and the qualified technicians must read this manual carefully.
- If you have any questions about the explanation of this manual or want more related information, please contact our company.
- The purpose of this manual is to allow operators and qualified technicians to carry out the maintenance of the machine. The operator is not allowed to perform the steps that must be completed by the technicians. All instructions in this manual should be seriously followed, otherwise our company shall not be liable for any losses arising therefrom.

HOW TO KEEP THE MANUAL

- This manual must be placed near the machine. Properly keep the manual away from water, fire or other dangers.

DECLARATION OF CONFORMITY

- The declaration of conformity is provided with the machine to prove that the machine complies with relevant criteria and regulations.



NOTE

The certificate of conformity is provided with the documentation of the machine.

ACCESSORIES AND MAINTENANCE

- All necessary operation, maintenance and repair procedures must be performed by qualified personnel or the maintenance center designated by our company. Only original spare parts and accessories are allowed to be used on the machine.
- If you need service or want to order spare parts or accessories, please contact our company's after-sales service department or the agent, and provide the model and serial number of the machine.

CHANGE AND IMPROVEMENT

- Our company is committed to the continuous improvement of the products and reserves the right to notify the improvements and changes of the products that have been sold.

INTENDED USE

- This floor scrubber can be used in commercial and industrial environments, and it is suitable for cleaning smooth and hard floors (washing and sewage collecting). It must be used in a safe environment by a qualified operator. This scrubber is not suitable for cleaning outdoors floors, carpets or rough floors.

MACHINE IDENTIFICATION

- The model and serial number of this machine are marked on the identification label. The information on this label is very important, which is required to be provided when you order the accessories for the machine.

TRANSPORTING AND UNCRATING

- Carefully check machine for signs of damage. Report damages at once to carrier. Record the damages on paper to reserve the right for compensation.

After uncrating, check if the machine is equipped with the following items:

1. Technical documents, including operation manual;
2. Battery connecting cable.

SAFETY

The following symbols indicate potential dangers. In any case, please read this information carefully and take necessary precautions to avoid possible injury and property loss. It is necessary to have cooperation of the operator to avoid injury, otherwise any precautions are ineffective. Most of the safety accidents that occur in factories are caused by people who fail to obey simple and effective instructions during working and walking. A careful and prudent operator is the best guarantee against accidents and is essential for successful completion of any prevention program.

SAFETY SYMBOLS



DANGER!

It indicates the danger that may cause death of the operator.



WARNING!

It indicates a potential hazard that may cause people injury and objects damage.



CAUTION!

It indicates a caution related to important or useful functions.
Pay attention to the paragraphs marked by this symbol.



NOTE

It indicates notes on important matters and useful functions.



CONSULTATION

It indicates the necessity to refer to the instructions of this manual before performing any procedures.

GENERAL SAFETY INSTRUCTIONS

Specific warnings and cautions for potential damages to personnel and machine are notified as follows:



DANGER!

- Disconnect the battery before performing any maintenance/repair procedures.
- Only trained or authorized personnel is allowed to use this machine. Children or disabled people cannot use this machine.
- Keep the battery far from sparks, flames and incandescent material. During the normal operation explosive gases are released.
- Do not wear jewelry when working near electrical components.

-
- Do not work on the ground that cannot bear the weight of the machine.
 - Do not use the machine near toxic, dangerous, flammable, explosive dust, liquid, or steam.
 - The battery will produce explosive hydrogen during the charging process. Please keep the recovery tank open during charging, and ensure that the surrounding area is well ventilated and away from open flames.



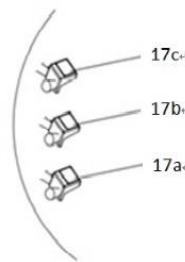
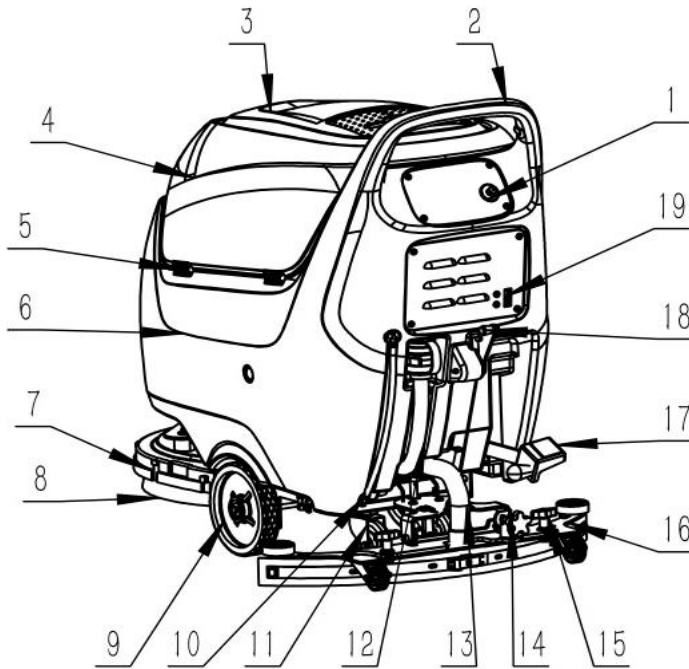
WARNING!

- Please check if the values of voltage and frequency indicated on the serial number sticker match with the power before using the on-board charger.
- Do not move the machine by pulling the charger cord, do not let the cord pass through a closed door, or wind the cord around objects with sharp edges or angles, and do not let the machine run over the cord. Please keep the charger cord away from hot surfaces.
- Do not charge the battery when the wire or plug is damaged. If the machine is damaged, not working properly, has been placed outdoors or dropped into water, please return the machine to the repair center.
- In order to avoid fire, electric shock or personal injury, please make sure someone is on duty when the machine is energized. Before taking any maintenance or repair, please disconnect the charger from the power supply.
- Do not smoke while charging.
- The machine must be protected from sunlight, rain and bad weather. Please store the machine indoors.
- Do not use the machine as a toy. Be careful when there are children nearby.
- The machine can only be used under the instructions manual, and only the accessories approved by the company can be used.
- Take precautions to avoid the danger that hair, jewelry and loose clothes may be caught by the moving parts of the machine.
- The responsible personnel can leave the machine only after confirming that the machine cannot move itself, otherwise someone must be on duty there.
- Please do not use the machine on a slope exceeds the specified angle.
- Please do not use the machine in particularly dirty areas.
- When using the machine, please be careful not to injure people or objects around.
- Do not collide with the surrounding shelves, especially when the collision may cause the danger of falling objects.
- Keep the machine away from corrosive liquids.
- The storage temperature and working ambient temperature of the machine must be between 0-40°C (32°F~104°F).
- The humidity of the air must be between 30%-95%.
- Do not use the machine as a means of transportation.
- Do not use the machine on a slope higher than 2%.
- For stationary machine, stop the working brush to avoid damage to the ground.
- When the machine catches fire, please use dry powder fire extinguisher instead of liquid one.
- Do not change the safety protection of the machine, be sure to follow the maintenance instructions carefully.
- Keep the working area unobstructed and do not use the machine in blocked aisle. Remove dust, hair and any objects that may obstruct the air circulation from the aisles.

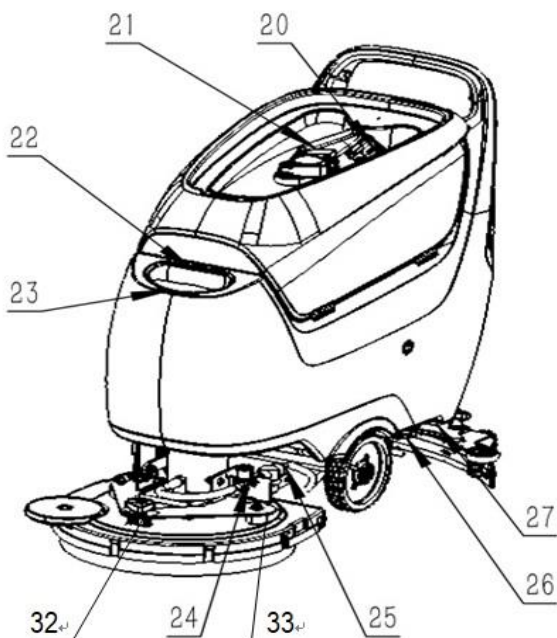
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- Do not remove or change the stickers on the machine.
 - The vibration generated by the machine when operating in accordance with the instructions is safe. The vibration of the machine should be lower than 2.5m/s^2 (98/37/EEC-EN 1033/1995).
 - This machine cannot be used on roads or public streets.
 - Be careful when transporting the machine when the temperature is below 0°C (32°F). The water in tanks and hoses may freeze and seriously damage the machine.
 - Please use the brushes and pad provided with the machine and the parts specified in the instruction manual. Other brushes and pads may reduce security.
 - In case of machine malfunctions, ensure that these are not due to lack of maintenance. If necessary, request assistance from the authorized personnel or from an authorized service center.
 - If the accessories really need to be replaced, please obtain original accessories from an authorized dealer or agent.
 - In order to ensure the safe and correct use of the machine, please ask authorized personnel or maintenance center to perform regular maintenance according to the manual.
 - Please read all relevant instructions carefully before performing any maintenance/repair procedures.
 - Do not directly rinse the machine with water or corrosive materials.
 - This machine must be properly disposed because of the toxic and hazardous materials (batteries, etc.) that must be disposed by a specific center in accordance with relevant regulations (see the chapter for disposal).

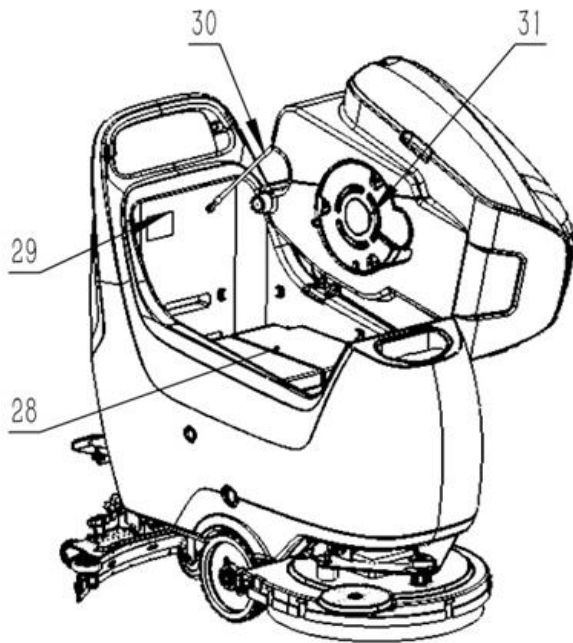
MACHINE SETUP

MAIN COMPONENTS



1. Control panel
2. Handle
3. Recovery tank lid
4. Recovery tank
5. Hinge
6. Solution tank
7. Brush disk cover
8. Brush disk/ Pad driver
9. Load wheel
10. Solution tank level hose
11. Caster
12. Recovery tank drain hose
13. Squeegee vacuum hose
14. Squeegee adjusting knob
15. Squeegee fixing knob
16. Squeegee blade
17. Squeegee lift/lower foot pedal
18. Squeegee lifting lever





28. Battery

29. Identification plate

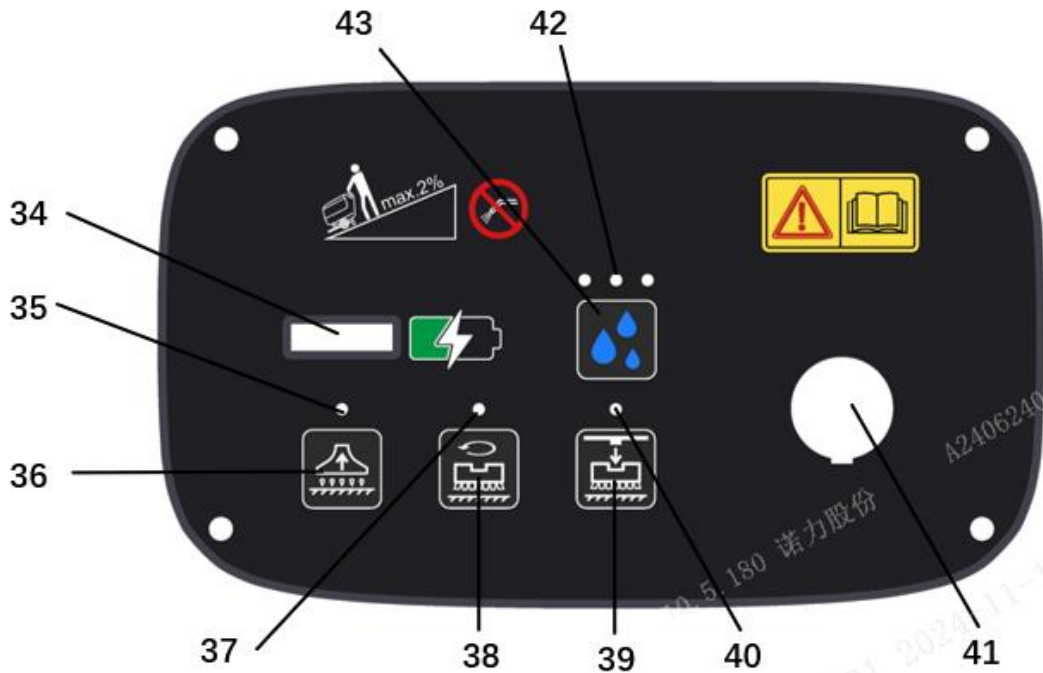
30. Tank rope

31. Vacuum pressure plate

32. Balance adjusting knob

33. Brush angle adjusting knob

CONTROL PANEL



NO.	Description	Function
34	Electricity meter	Display remaining power.
		Display fault codes by flashing lights.
35	Vacuum motor button lamp	The light is on, indicating that the suction pump motor works.
36	Vacuum motor button	Short press the button, lower the squeegee assembly, and vacuum motor works.
		Long press the button to enter ECO energy-saving mode.
37	Brush motor button lamp	The light is on, indicating that the brush disk is working.
38	Brush motor button	Short press the button, the brush disk push rod drops and the brush motor works.
39	Brush disc removal button	Short press the button, the brush disk will be removed.
40	Brush disc removal button lamp	The light is on to indicate that the brush disk is being removed.
41	Key switch	Control the main power supply of the machine. Turn the key to "OFF" when charging.
42	Water yield lamp	Three lights from left to right represent small, medium and large water volume.
43	Solution flow button	Short press the button to adjust the amount of liquid, the flow increases step by step.

MAIN COMPONENTS DESCRIPTION

- Control panel (1)** -- This panel is the control part of the machine, see the description of control and switch.
- Handle (2)** -- Hold this handle and operate the machine through it.
- Recovery tank lid (3)** -- This lid seals the recovery tank. When cleaning the recovery tank, it can be taken off and hanged on the fill-port.
- Recovery tank (4)** -- This tank stores sewage sucked up by squeegee.
- Hinge (5)** -- This hinge connects solution tank and recovery tank.
- Solution tank (6)** -- This tank stores solution/clean water.
- Brush disk cover (7)** -- This brush cover mounts brush disk, pad driver and the brush motor.
- Brush disk/ Pad driver (8)** -- A brush disk or a pad driver with a polishing pad can be installed on the machine.
- Load wheel (9)** -- This wheel carries the weight of the machine.
- Solution tank level hose (10)** -- This hose indicates the level of water in the solution tank.
- Caster (11)** -- This caster turns the machine.
- Recovery tank drain hose (12)** -- This hose drains dirty water from the recovery tank.
- Squeegee vacuum hose (13)** -- This hose transfers sewage from the squeegee to the recovery tank.
- Squeegee adjusting knob (14)** -- This knob adjusts the angle of the squeegee to be well-matched with the ground and the sewage can be well-sucked.
- Squeegee fixing knob (15)** -- This knob connects and fixes the squeegee to the machine.
- Squeegee assembly (16)** -- This squeegee collects the dirty water after washing.
- Squeegee lift/lower foot pedal (17)** -- This pedal lifts/lowers/presses the brush disk.
- Squeegee lifting lever (18)** -- The lever lifts or lowers the squeegee.
- Charging socket (19)** -- This socket is used to charge the battery.
- Float shut-off screen (20)** -- Keep this part clean or the vacuum motor will be clogged.
- Float shut-off screen holder (21)** -- This fixes the floating shut-off screen.
- Solution tank fill-port (22)** -- This port makes filling water/ detergent (low-foam type) easier to the solution tank.
- Solution tank filter (23)** -- This filter prevents the dirt into the solution tank.
- Draining electromagnetic valve (24)** -- This valve controls the flow of water and the output.
- Filter (25)** -- This filter filters the solution liquid before supplying to the brush.
- Solution tank drain tap (26)** -- This tap is used for emptying the solution tank.
- Solution tank water tap (27)** -- This tap is used for turning on/off the solution liquid.
- Battery (28)** -- This battery supplies power for the operation of the machine. The optional battery must be 24V.
- Identification plate (29)** -- This ID plate indicates the data of the machine.
- Tank rope (30)** -- This rope helps holding the open recovery tank.
- Vacuum pressure plate (31)** -- This plate fixes the filter sponge and protects the vacuum pump.
- Balance adjusting knob (32)** -- This knob is used to adjust the horizontal balance of the brush disk/ pad driver to prevent shaking.
- Brush angle adjusting knob (33)** -- This knob is used to adjust the angle of brush disk/ pad driver, which influence the machine speed.
- Battery indicator/ fault code display (34)** -- This display indicates the battery charge level and fault codes.
- Vacuum motor indicator (35)** -- This indicator light indicates the working state of the vacuum motor.
- Vacuum motor button (36)** -- This button is used for turning on/off the vacuum motor.
- Brush/pad driver indicator (37)** -- This indicator light indicates the working status of the brush motor.
- Brush/pad button (38)** -- This button is used for turning on/off the brush motor.
- Brush/pad removal button (39)** -- Long press this button to automatically release the brush disk/ pad driver.
- Brush/pad removal indicator (40)** -- This indicator light indicates the working status of the automatic brush removal switch.

Key switch (41) -- This switch is used for turning on/off the power of machine.

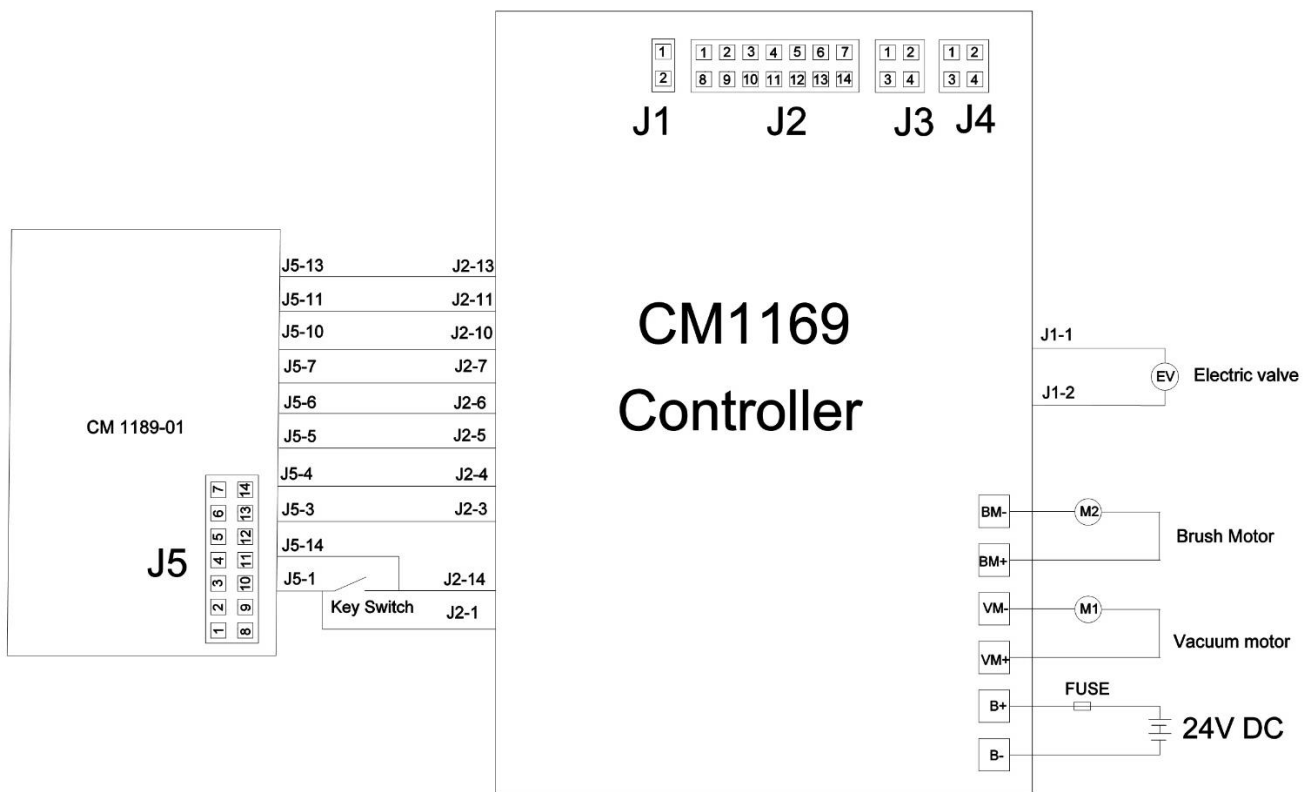
Solution flow indicator (42) -- The three indicator lights indicate three different solution flows.

Solution flow button (43) -- This button is used for adjusting the flow of detergent/water supplied to the brush. Three flows are available.

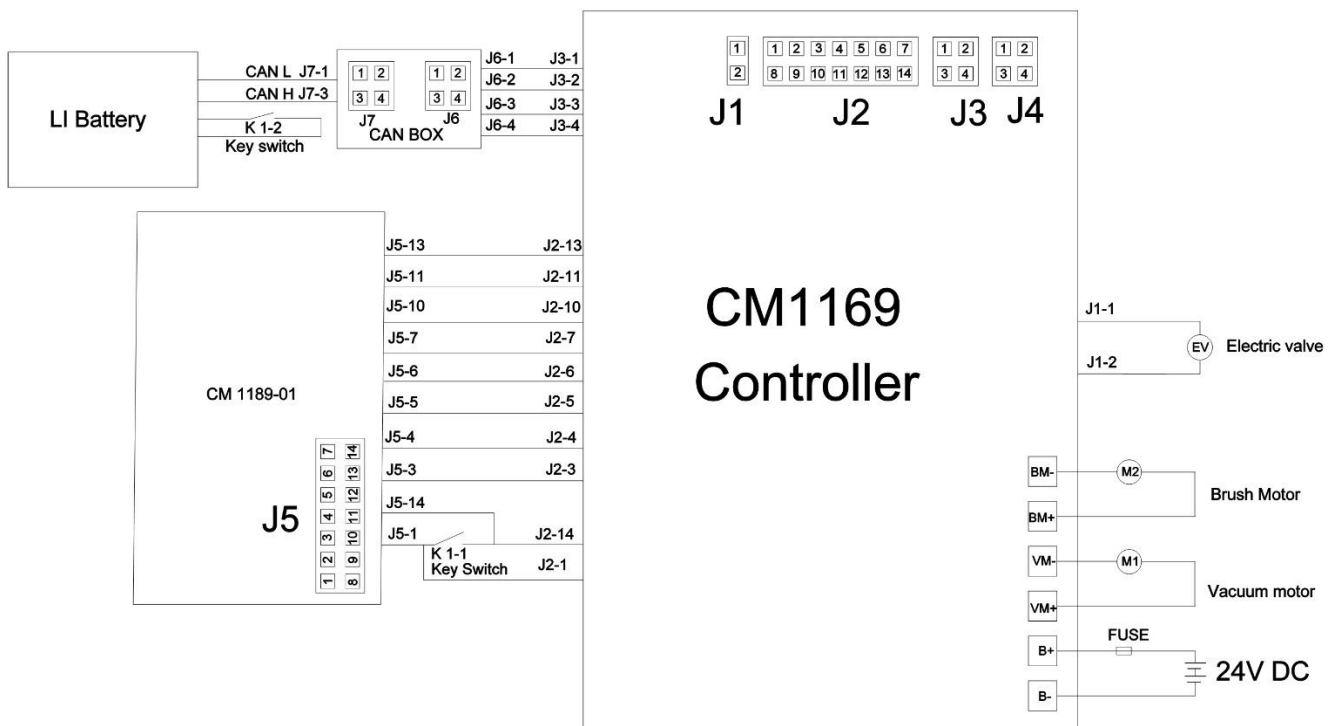
TECHNICAL DATA

Model		NB530
Machine Height	mm	1060
Solution tank capacity	L	50
Recovery tank capacity	L	50
Front wheel diameter	mm	200
Rear wheel diameter	mm	100
Vacuum motor power	W	400
Gradeability	%	2
Sound pressure level	dB (A)	65.8
Battery (maintenance free AGM)		(2*12V) 24V100Ah/3-4h
Battery compartment size (L*W*H)	mm	360*360*240
Vacuum capacity	mmH ₂ O	>1055
Scrubbing path width	mm	530
Squeegee width	mm	760
Maximum length	mm	1228
Machine width (without squeegee)	mm	550
Brush/pad diameter	mm	530
Net weight (without batteries)	kg	89
Brush motor rated power	W	550
Brush rotate speed	rpm	160
Minimum brush pressure	kg	20.5
Maximum brush pressure	kg	27.8

ELECTRICAL WIRING DIAGRAM(Lead-acid battery)



ELECTRICAL WIRING DIAGRAM(Lithium battery)



OPERATION INSTRUCTIONS



WARNING

If the battery is installed or wired incorrectly, the electrical components of the machine may be seriously damaged. The battery must be installed by qualified personnel. Please check whether the battery is damaged before assembling. Disconnect the battery connector and charger plug. Handle the battery with great care.

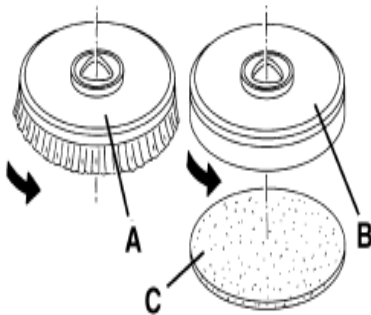
This machine requires two 12V batteries, please follow the solution water tank drawing for wiring.

INSTALLING BATTERIES

1. Open the recovery tank lid (3) to check whether the recovery tank is empty, if not, drain it through the drain hose (12).
2. Remove the recovery tank lid (3), hang it on the solution tank fill-port (22), and then turn the recovery tank (4) to one side.
3. Put the battery into the battery compartment, wire it according to the solution tank drawings, and connect the battery to the machine through the connector.

INSTALLING AND REMOVING DISK BRUSHES/PADS

The machine can be equipped with brush or pad depending on the different cleaning tasks.



1. Place the brush disk (A) or pad driver (B) under the holder.
2. Operate the squeegee lower/lift foot pedal (17) to lower the holder for installing the brush/pad driver.
3. Start the machine through turning the key switch to "ON" position.
4. Turn on the brush disk/pad driver switch (38) and vacuum motor switch (36).
5. Gently push the machine forward to install the brush disk/pad driver. If necessary, repeat this operation until the brush disk/pad driver is installed.
6. Depress the foot pedal (17) to lift the holder in order to remove the brush disk/pad driver, and then press and hold the brush removal switch (39) until the indicator light flashes, and the brush disk/pad driver will fall to the ground automatically.
7. If you need to remove the brush manually, just rotate the brush disk/pad driver in the opposite direction to the normal direction.

ATTACHING SQUEEGEE ASSEMBLY

Install the squeegee assembly (16) and tighten it with the squeegee fixing knob (15), and then assemble the vacuum hose (13) to the squeegee.

START AND STOP OF MACHINE

START THE MACHINE

1. Follow the methods described above for preparation.
2. Turn on the key switch (41) to "I" position. Check the battery charge through the BDI. If the red light of BDI is on, please turn the key switch to "O" position and charge the battery.
3. Hold the handle and move the machine to the working area.
4. Use the lifting lever (18) to lower the squeegee (16).
5. Press the pedal (17) to place the brush disk/pad driver on the ground.
6. Press the brush disk/pad driver button (38) and vacuum motor button (36), the brush disk/pad driver indicator light (37) and vacuum motor indicator light (35) will be on.
7. Adjust the water flow according to the state of the ground to be cleaned, press the solution flow button (43) and adjust the water flow.
8. The angle adjusting knob can adjust the speed of the machine. Increase the tilt angle of the brush disk by turning the knob to the direction with rabbit mark, which makes it easier to push the machine and narrows the scrubbing path width. Decrease the tilt angle of the brush disk by turning the knob to the direction with tortoise mark, which makes it heavier to push the machine and widens the scrubbing path width. Adjustment depends on the cleanliness of the ground.
9. Adjusting the balance knob makes the machine walk straightly.
10. Check the squeegee if it works well, adjust the balance knob if necessary (14).
11. Adjust the squeegee adjusting knob (14) until the rear squeegee blade fully touches the ground, and the front squeegee blade must be in light contact with the ground.
12. Hold the handle and push the machine to start scrubbing.

STOP THE MACHINE

13. Press the brush disk/pad driver switch (38) to turn off the drive motor.
14. When the brush drive motor turns off, depress the foot pedal (17) to raise the brush disk/ pad driver.
15. Press the vacuum motor button (36) to turn off the vacuum motor. After a delay of 5 seconds, the vacuum motor is off, for sucking up the remaining sewage on the ground.
16. Lift the squeegee (16) with the lifting lever (18).
17. Turn the key switch (41) to "O" position.
18. Make sure that the machine cannot move independently. If the floor is particularly difficult to clean, it is possible to turn on the brush disk/pad driver extra pressure function by pressing the pedal (17) to position (17c).



CAUTION !

To avoid any damage to the floor surface, turn off the brush/pad driver when the machine stops in an area, especially when the extra pressure function is on.

Working with brush disk/pad driver extra pressure function turned on

If the floor is particularly difficult to clean, it is possible to turn on the brush disk/pad driver extra pressure function by pressing the pedal (17) to position (17c).

Charging the battery during work

There are 10 notches on the BDI display (34) indicating the state of the battery charge. When only the last red notch (81c) is on, the battery is run out of charge. After a few seconds, the brush disk/pad driver will automatically turn off. Move the machine to the charging area for charging as soon as possible.



CAUTION !

Do not use the machine when the battery charge is low, to avoid damaging the batteries and reducing the battery life.

DRAINING TANKS

The float shut-off screen (20) will block the inspiratory path of vacuum motor when the recovery tank (4) is full. A sudden noise increase of the vacuum motor indicates the recovery tank (4) needs to be drained immediately.



CAUTION !

If the vacuum path is closed accidentally (for example, when the float ball is activated because of a sudden machine movement), to resume the operation: turn off the vacuum motor by pressing the vacuum motor button(36), then open the recovery tank lid (22) and check if the float ball inside the shut-off screen (20) has gone down to the water level. Then close the recovery tank lid (3) and press the vacuum motor button (36) to turn on the vacuum motor.

When the recovery water tank (4) is full, drain it according to the following procedures.

DRAINING RECOVERY TANK

1. Stop the machine.
2. Depress the foot pedal (17) to raise the brush disk/ pad driver.
3. Lift the squeegee (16) by the lifting lever (18).
4. Move the machine to the designated sewage discharge area.
5. Drain the recovery tank (4) through the drain hose (12).

DRAINING SOLUTION TANK

6. Then rinse the recovery tank with clean water. Perform step 1 to step 4.
7. Turn on the solution tank water tap (27) and drain the solution tank (6). Then rinse the tank with clean water.

AFTER USE

After working, complete the following steps before leaving the machine:

1. Remove the brush disk/pad driver according to the procedures shown in the relevant chapter.
2. Drain the solution tank and recovery tank according to the procedures shown in the relevant chapter.
3. Perform the daily maintenance procedures (see the maintenance chapter).
4. Store the machine in a clean and dry place, with the brush disk/ pad driver and the squeegee lifted or removed.

AFTER LONG-TERM INACTIVITY

If the machine is not going to be used for more than 30 days, proceed as follows:

1. Perform the procedures shown in chapter of After Use.
2. Disconnect the battery and the machine.
3. Charge the battery regularly.

INITIAL USE

After the first 8 hours of use, check if the fastening and connecting parts of the machine are loose, and check for visible damage and leakage.

MAINTENANCE

The service life and maximum operational safety of the machine are guaranteed by correct and regular maintenance. The following checklist provides a general maintenance schedule for the machine. The maintenance interval depends on the working condition of the machine, which should be set by the person in charge of maintenance.



WARNING !

The procedures must be carried out with the machine off and the battery disconnected. Moreover, read carefully the instructions in the Safety chapter before performing any maintenance procedures.

All regular or extraordinary maintenance procedures must be performed by qualified personnel, or by an authorized service center. This manual describes only the easiest and most common maintenance procedures. For other maintenance procedures shown in the Regular Maintenance Table, refer to the Service Manual that can be consulted at any service center.

REGULAR MAINTENANCE CHECKLIST

Check Item	Daily (after use)	Weekly	Semiannually
Charge battery			
Clean squeegee			
Clean brush/pad			
Clean solution tank and recovery tank			
Check seal of tanks			
Check squeegee and replace it if necessary			
Clean solution tank filter			
Clean vacuum motor filter			
Check if all screws and nuts are tightened			

CHARGING BATTERY



NOTE

Charge the batteries when the red indicator light (34) turns on, or at the end of every working

cycle.



CAUTION!

Keep the battery fully charged to extend the service life of the battery.



CAUTION!

Charge the battery as soon as possible when the battery is low, otherwise the battery life will be shortened. Please check the battery at least once a week.

CHARGE THE BATTERY

1. Turn the key switch (41) to "O" position.
2. Check if charger is suitable, the output voltage must be DC 24 V.
3. Connect the charger to the charging socket (19) of the machine.
4. Connect the charger to the power supply and start charging.
5. When the charger shows fully charged, remove the charger from the power supply and the charging socket in turn.



CAUTION!

Do not turn on the key switch (41) or operate the machine while charging the battery.

CLEANING SQUEEGEE



NOTE

The squeegee must be clean and its blades must be in good conditions in order to get a good drying.



CAUTION!

It is advisable to wear protective gloves when cleaning the squeegee because there may be sharp debris.

1. Move the machine to a level ground.
2. Turn the key switch (41) to "O" position.
3. Lift the squeegee (16) by the lifting lever (18).
4. Loosen the fixing knob (15), and remove the squeegee (16).
5. Remove the vacuum hose (13) from the squeegee.
6. Clean the squeegee (16). 8. In particular, clean the compartments (A, Fig. 2) and the vacuum hose from dirt and debris. Check the front squeegee blade (C) and the rear squeegee blade (D) for integrity, cuts and tears; otherwise replace them (see the procedures in the following paragraph).
7. Assemble the squeegee in the reverse order of the above.

SQUEEGEE BLADE CHECK AND REPLACEMENT

1. Clean the squeegee (Fig. 2) as shown in the previous paragraph.
2. Check that the edge (E, Fig. 2) of the front blade (C) and the edge (F) of the rear blade (D), they should be on the same horizontal level over the entire length; otherwise adjust the height of squeegee according to the following procedures:

-- Loosen the buckle (G), release the retainers (M) to adjust the rear blade (D); then lock the buckle.

-- Unscrew the knob (I) and adjust the front blade (C); then tighten the knob.

3. Check front blade (C) and rear blade (D) for integrity, cuts and tears; if necessary replace them as shown below. Check if the front edge (J) of the rear blade is not worn; otherwise, turn it upside down (the upper edge is intact). If the upper edge is worn, then replace the blade according to the following procedures:

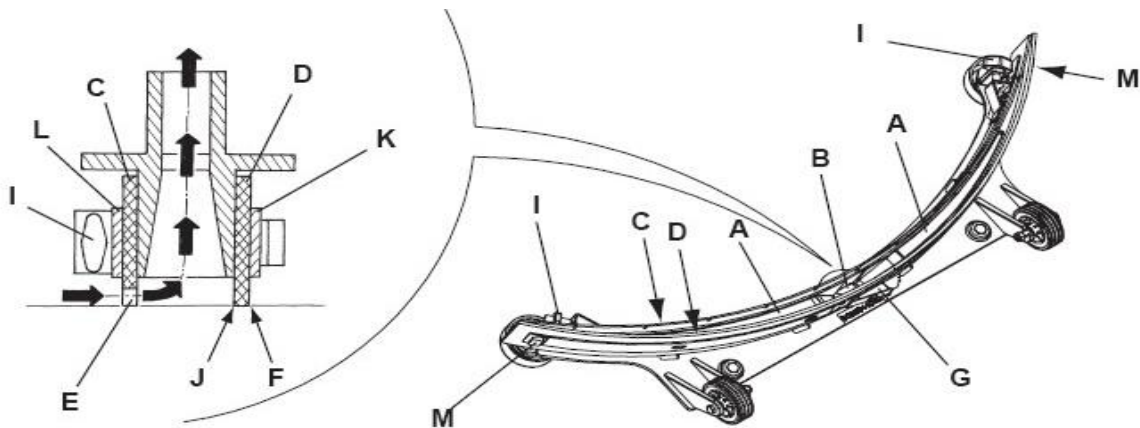
-- Loosen the buckle (G), release pressure strip from the retainers (M) and remove the retaining strip (K). Replace the worn blade and assemble the new rear blade in the reverse order of removal.

-- Unscrew the knob (I) and remove the retaining strip (L), then replace the front blade (C). Assemble the front blade in the reverse order of removal. After the blade replacement (or overturning), adjust the height as shown in the previous procedures.

4. Connect the vacuum hose (13) to the squeegee.

5. Assemble the squeegee (16) and tighten the knob (15).

6. If necessary, adjust the balance of the squeegee through adjusting knob (14).



CLEANING BRUSH/PAD



CAUTION!

It is advisable to wear protective gloves when cleaning the brush/pad because there may be sharp debris.

1. Remove the brush disk/ pad driver from the machine according to the methods described above.
2. Clean the brush disk/ pad driver with water and detergent.
3. Check the brush bristles for integrity and wear, and replace the brush if necessary.
4. Check the pad for wear, and replace the pad if necessary.

Clean the recovery tank and the filter, inspect the sealing of the lid

1. Move the machine to the designated sewage discharge area.
2. Turn the key switch (41) to "O" position.
3. Remove the recovery tank lid (3) and rinse the lid (3), recovery tank (4) and the screen (20) with clean water. Drain the sewage through the hose (12).
4. If necessary, loosen the buckle of the screen (20), clean the float ball and other parts and fit them back.
5. Check the sealing of recovery tank lid for integrity. Replace the sealing if necessary.



NOTE

The seal of the lid creates vacuum in the tank which is necessary for sucking in the

recovery water.

VACUUM FILTER CLEANING

1. Gently turn the recovery tank to one side, if necessary, drain the water in the recovery tank first.
2. Take out the filter cotton assembled on the vacuum pressure plate (31).
3. Check if the vacuum filter is clean, if necessary, clean it with water and compressed air, and then fit it back in place.
4. Turn the recovery tank back to normal working position.

SOLUTION FILTER CLEANING

1. Close the solution tank water tap (27).
2. Remove the filter cover and the filter screen, clean them with water, and then fit them back.
3. Fix the filter cover.




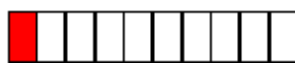
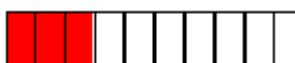


NOTE




The filter screen (E) must be correctly fitted on the housing (G).

4. Turn on the solution tank water tap (27).

TROUBLESHOOTING

FAULT CODE

State of the BDI		Fault	Possible Cause	Remedy
	0 notch is on	Unknown error	1. The machine is not on. 2. BDI is broken. 4. Controller failed.	1. Check the machine and the wiring cables. 3. Replace the PCB. 2. Replace the controller.
	1 notch flashes	Battery is low	Battery voltage is too low.	Charge the battery.
	3 notches flash	Controller temperature failure	1. Controller temperature is too high/low. 2. Controller failed.	1. Turn off the key switch and cool the controller itself. 3. Replace the controller.
	5 notches flash	Open circuit of vacuum motor	Open connection for vacuum motor.	Check the wiring of the vacuum motor with controller.
	6 notches flash	Open circuit of brush motor	Open connection for brush motor.	Check the wiring of the brush motor with controller.

	7 notches flash	Over-current of vacuum motor	1. Short circuit.	1. Check if there is short circuit.
			2. Vacuum motor failed.	3. Replace the vacuum motor.
	8 notches flash	Over-current of brush motor	1. Short circuit.	1. Check if there is short circuit.
			2. Brush motor failed.	2. Replace the vacuum motor.
	9 notches flash	Over-voltage of battery	Battery voltage is too high.	Check if the battery specification is correct.
Solution flow indicator	3 notches flash	Open circuit of electromagnet valve	Open connection for electromagnet valve.	Check electromagnet valve.

COMMON TROUBLE SHOOTING

Trouble	Possible Cause	Remedy
Insufficient recovery water vacuuming	The recovery tank is full.	Drain the tank.
	The hose is disconnected from the squeegee.	Connect the hose and the squeegee.
	The float shut-off screen is clogged.	Clean the float shut-off screen and check the float.
	The hose or the inspiratory path is closed.	Clean the hose or the inspiratory path.
	The squeegee is dirty or the blades are worn or damaged.	Clean and check the squeegee.
	The recovery tank lid is not correctly closed or the sealing is broken.	Close the lid correctly or replace the sealing.
Insufficient solution flow to the brush	The solution/clean water filter is dirty and clogged.	Clean the filter.
	The dirty solution tank makes the drain hose and tap clogged.	Clean the solution tank and the drain tap.
	The electromagnetic valve is damaged or clogged.	Clean or replace the electromagnetic valve.
Marks caused by the squeegee	There are debris under the squeegee blade.	Remove the debris.
	The squeegee blade is worn, shipped or torn.	Replace the squeegee blade.
	The squeegee has not been balanced with the adjusting knob.	Adjust the balance of the squeegee.

SCRAPPING AND DISPOSE

Have the machine scrapped by a qualified scrapper.

Before scrapping the machine, remove and separate the following materials, which must be properly disposed of according to relevant laws and regulations:

- Battery
- Brush disk/pad driver
- Plastic hoses and components
- Electrical and electronic components (*)

HAZARDOUS SUBSTANCE AND CONTENT

Item	Hazardous substance					
	Pb	Hg	Cd	Cr (VI)	PBB	PBDE
Battery	X	o	o	o	X	X
Charger	X	o	X	o	o	o
Chassis	X	o	o	o	o	o
Electronic accessories	X	o	X	o	X	X
Hose	X	o	o	X	X	o
Motor	X	o	o	o	X	X
Cable	X	o	X	X	o	o
Basic parts	o	o	o	X	o	o
Controller	X	o	o	o	o	o
Treatment/sewage	o	o	o	o	X	X
Brush/broom	o	o	o	o	X	X
This table compiles in accordance with SJ/T 11364.						
O: Indicates that the content of the hazardous substance in all homogeneous materials of the part is below the limit requirement specified in GB/T 26572.						
X: Indicates that the content of the hazardous substance in at least one of the homogeneous materials of the part exceeds the limit requirement of GB/T 26572.						

LITHIUM BATTERY



Temperature range for using the battery is from +5°C to +40°C. Low temperatures reduce the effective battery capacity, high temperatures reduce the battery's life time. The temperature difference between the two sides of the battery shall not exceed 5°C.

Only approved battery chargers must be used to charge the lithium battery.

Do not try to make any repairs or servicing of lithium batteries. Replacement of parts is not assumed.



Risk of electric shock and burning

The battery's charging and discharging connectors have open terminals, avoid any body contacts, contamination or direct contacts with objects which can cause short circuit connection of terminals. Use necessary pre-cautions and protective caps to secure the open terminals. The connectors should be maintained in clean and dry conditions.



Use only batteries designed and approved by the manufacturer for the truck.

Do not try to modify or alter the battery.



Any damage or defects to the charger can result in accidents. Use only charger approved by the manufacturer of the truck, which is suitable for used battery.

In case charger has any damages or defects, exclude the charger from operation and contact your service provider. Do not modify or try to repair the charger.



Improper use of charger or use of wrong charger can cause damages to a battery or charger. Follow the required charger specifications; If the operation voltage of the charger is out of the applicable voltage range, the charger or battery may be damaged causing serious safety risks. The charger in use must be approved by the battery (truck) manufacturer.

Reversed connection of charging plug is prohibited. Follow the instruction for correct connection. For disconnection of charging plug use dedicated grip and never pull out the plug by means of cable. Stop charging immediately if any abnormalities are detected, e.g. severe temperature increase, deformation of battery case, smoke, noise etc.



Intermediate charging

Lithium batteries support so called opportunity charging. The lithium battery, which is not fully discharged can be charged in any time. However, frequent opportunity charging not to the full charging state and stop of charging process before the appearance of corresponding indication of charger may result in dis-balance voltage of cells which increases the battery BMS calculation error. In order to effectively deal with this phenomenon, charge the battery in full allowing the automotive balancing process to be completed at least once a week.



Do not charge a fully charged battery

Note that in order to prevent the battery from continuing restart of charging under fully charged condition causing reduction of battery lifetime, the BMS has a protection function that prohibits

recharging of fully charged battery.

Potential hazards

If equipment is used according to its design purpose, following the correct operations procedures, there are no hazards anticipated.

The following hazards can arise in the event of improper use:

- Physical damage to the battery in case a battery falls or is deformed through impacts. Mechanical damages can cause leakages of harmful materials, fire or battery explosion.
- Short circuits may be caused by short connection of battery terminals, for instance, by water or other intentional/unintentional short connections.
- Temperature damages caused by placing of batteries in overheated environment conditions or being exposed to impact of fire, open sunlight etc. can cause leakages of harmful materials, fire or battery explosion.





In order to avoid fire, explosion and/or leakage of harmful materials, a safe place for storing non-functional or damaged batteries until the service arrives on site must satisfy the following criteria:

- Do not store in places where personnel is located.
- Do not store in places with valuable objects and close to valuable objects.
- A Class D fire extinguisher must be available on demand.
- There should not be any fire or smoke detectors in the storage area in order to ensure that an automatic fire detection system is only activated in the event of actual danger (e.g. flames).
- No ventilation intake pipes should be in the facility to exclude spreading of discharged content within a building.

Examples of where to store a non-functional battery:

- Roofed outdoor position.
- Ventilated container.
- Covered fire resistant box with pressure and smoke discharge option.

Symbols - Safety and Warnings

	Used lithium-ion batteries must be treated as hazardous waste. Lithium-ion batteries marked with the recycling symbol and the sign showing a crossed-out waste bin must not be disposed of with ordinary household waste.
	Avoid fire and short circuits causing overheating. Do not ignite or locate batteries close to open flame, heat sources or sparks. Keep lithium-ion batteries away from heat sources.
	Caution! Battery short-circuit is prohibited.
	Protect the lithium-ion battery from solar radiation or other forms of heat radiation. Do not expose the lithium-ion battery to heat sources.

Explosion and fire hazard



Physical damage, thermal impacts or incorrect storage in the event of a defect can result in explosions or fire. The battery materials can be flammable.

Particular hazard from combustion products

The lithium batteries may be damaged by a fire. When extinguishing a lithium battery fire, the following information must be taken into consideration.



Contact with combustion products can be hazardous

Fire produces combustion products, which can occur in the form of smoke, through leaking fluids, escaping gases, debris as well decomposition products of certain chemicals. These combustion products are substances that enter the body through the respiratory tract and/or the skin, can produce and adverse effects such as choking.



- **Avoid contact with combustion products.**
- **Use protective equipment.**

Special firefighting protective equipment

Use self-contained breathing apparatus.

Wear protective equipment.

Additional firefighting instructions

To prevent secondary fires, the lithium-ion battery must be cooled from the outside.

Suitable extinguishing agents

- Carbon dioxide extinguisher (CO₂)
- Water (not on mechanically opened or damaged batteries) •

Unsuitable extinguishing agents

- Foam
- Grease fire extinguishing agents
- Powder extinguishers
- Metal fire extinguishers (PM 12i extinguishers)
- Metal fire powder PL-9/78 (DIN EN 3SP-44/95)
- Dry sand

Instructions for cooling an overheated, non-physically damaged battery

This type of damage may be caused by a short circuit inside the battery, which may result in leakage of harmful materials, fire or battery explosion.

Material discharge

Battery electrolyte fluid can be hazardous

Electrolyte fluid can be discharged if the battery is physically damaged. Avoid its contact with skin or eyes. If the contact happened:



- Rinse the affected parts with big amount of water and request for medical assistance immediately.
- In case of skin irritation or if any substances are breathed in request the medical assistance

immediately.

Precautionary measures for personnel

- Keep personnel away, avoid any contact with smoke or discharged materials.
- Block off the affected area and ensure its reasonable ventilation.
- Wear personal protective equipment. If vapors, dust or aerosols are presented use self-contained breathing apparatus.

Precautionary measures for the environment

Do not allow spilled fluids to enter the water system, drainage system or the underground water.

Cleaning measures

The leaked fluid must be removed professionally following the related protocols.

Battery lifetime, maintenance and storage

The lithium-ion batteries are maintenance-free.

Deep discharge can damage the battery

Self-discharge without periodical recharge can lead the battery to fully discharged state. Full discharge shortens the service life of the battery and can cause deep discharge and activation of related safety protocols when battery will not be able to be charged anymore.

Before a long period of inactivity, the battery must be charged to 40%~60%.

Control the level of battery charge at least every 12 weeks and re-charge if necessary.

The temperature range for storing of the battery should be within the range of 0°C to 30°C.

If the battery is deeply discharged or if the battery temperature is below the permissible level, the battery cannot be charged. Deeply discharged batteries can never be charged. Due to the risk of condensate formation, batteries that have been stored at 0°C or below must only be charged after natural warming up to at least +5°C, forced heating is forbidden.

Instructions for safe handling of batteries

- Do not modify the battery.
- Do not open, damage, drop, penetrate or deform the battery.
- Do not throw the battery into a fire.
- Protect the battery from overheating.
- Protect the battery from direct sun light.
- Follow storage and charging procedures
- Protect the battery from water damages and other impacts

Failure to comply with these safety instructions can result in fire and explosion or the leakage of harmful materials.

Pre-shift checks before the system is put into operation

Check that the battery is in its normal condition, has no evidence of damages, leakages, abnormal findings, e.g. high temperature, smell, smoke etc. The surface of the battery should be clean and dry, without evidence of water damages, marks of rust on terminals and housing (if applicable). Connecting cables and plugs are in good condition.

Faults

If any damage is found to the battery or battery charger contact the service provider immediately.



Do not open the battery or attempt to repair it.

Disposal and transport of a lithium-ion battery

Instructions for disposal

Lithium-ion batteries must be disposed in accordance with the relevant national environmental protection regulations. Batteries must be treated as hazardous waste. Batteries must not be disposed with ordinary waste.

Shipping information

The lithium-ion battery is a hazardous material. The applicable regulations must be fulfilled during transportation.

Shipping functional batteries

Functioning batteries can be shipped in accordance with the related regulations

Shipping faulty batteries

To transport faulty lithium-ion batteries, contact the service provider. Faulty lithium batteries require following of special transporting procedures.