

Operator manual -



Сертификат за съответствие
Osvědčení o shodě
Konformitätserklärung
Overensstemmelsecertifikat
Declaración de conformidad
Vastavussertifikaat
Déclaration de conformité
Yhdenmukaisuustodistus

Conformity certificate
Πιστοποιητικό συμμόρφωσης
Megfelelősségi nyilatkozat
Dichiarazione di conformità
Atitikties deklaracija
Atbilstības deklarācija
Konformitetssertifisering
Conformiteitsverklaring

Declaração de conformidade
Deklaracja zgodności
Certificat de conformitate
Заявление о соответствии
Överensstämmelsecertifikat
Certifikát súladu
Certifikat o ustreznosti
Uyumluluk sertifikası



Модел / Model / Modell / Model / Modelo / Mudel / Modèle / Malli / Model / Μοντέλο / Modell / Modello / Modelis / Modelis / Modell / Model / Modelo / Model / Model / Модель / Modell / Model / Model / Model :

SC43 0 53 B GO FULL PKG

Тип / Typ / Typ / Type / Tipo / Tüüp / Type / Tuuppi / Type / Τύπος / Típus / Tipo / Tipas / Tips / Type / Type / Tipo / Typ / Tip / Тип / Typ / Typ / Tip / Tip

SCRUBBER-DRYER

Сериен номер / Výrobní číslo / Seriennummer / Seriennummer / Número de serie / Seerianumber / Numéro de série / Sarjanumero / Serial number / Σειριακός αριθμός / Sorozatszám / Numero di serie / Serijos numeris / Sērijas numurs / Seriennummer / Seriennummer / Número de série / Numer seryjny / Număr de serie / Серийный номер / Seriennummer / Výrobné číslo / Serijska številka / Seri Numarası :

Година на производство / Rok výroby / Baujahr / Fabrikationsår / Año de fabricación / Väljalaskeasta / Année de fabrication / Valmistusvuosi / Year of construction / Έτος κατασκευής / Gyártási év / Anno di costruzione / Pagaminimo metai / Izgatavošanas gads / Byggeår / Bauwjaar / Ano de fabric / Rok produkcji / Anul fabricației / Год выпуска / Tillverkningsår / Rok výroby / Leto izdelave / Leto izdelave / lmal yılı :

BG Долуподписаният потвърждава, че гореспоменатият модел е произведен в съответствие със следните директиви и стандарти. Техническият файл е съставен от производителя.

GB The undersigned certify that the above mentioned model is produced in accordance with the following directives and standards. The technical file is compiled by the manufacturer.

P A presente assinatura serve para declarar que os modelos supramencionados são produtos em conformidade com as seguintes diretivas e normas. A ficha técnica é redigida pelo fabricante.

CZ Níže podepsaný stvrzuje, že výše uvedený model byl vyroben v souladu s následujícími směrnici a normami. Autorem technického listu je výrobce.

GR Ο κάτωθι υπογεγραμμένος πιστοποιεί ότι η παραγωγή του προαναφερθέντος μοντέλου γίνεται σύμφωνα με τις ακόλουθες οδηγίες και πρότυπα. Το τεχνικό αρχείο συντάσσεται από τον κατασκευαστή.

PL Nízej podpisany zaświadcza, że wymieniony powyżej model produkowany jest zgodnie z następującymi dyrektywami i normami. Dokumenty techniczne zostały przygotowane przez producenta

D Der Unterzeichner bestätigt hiermit dass die oben erwähnten Modelle gemäß den folgenden Richtlinien und Normen hergestellt wurden. Die technische Dokumentation wird vom Hersteller erstellt.

H Alulírottak igazoljuk, hogy a fent említett modellt a következő irányelvek és szabványok alapján hoztuk létre. A műszaki fájl a gyártó készítette.

RO Subsemnatul atest că modelul susmenționat este produs în conformitate cu următoarele directive și standarde. Fișierul tehnic este redactat de către producător.

DK Undertegnede atterer herved, at ovennævnte model er produceret i overensstemmelse med følgende direktiver og standarder. Den tekniske fil er udarbejdet af fabrikanten.

I Il sottoscritto dichiara che i modelli sopra menzionati sono prodotti in accordo con le seguenti direttive e standard. Il fascicolo tecnico è redatto dal costruttore.

RUS Настоящим удостоверяется, что машина вышеуказанной модели изготовлена в соответствии со следующими директивами и стандартами. Техническая документация составлена производителем.

E El abajo firmante certifica que los modelos arriba mencionados han sido producidos de acuerdo con las siguientes directivas y estandares. El fascículo técnico está redactado por el fabricante

LT Toliau pateiktu dokumentu patvirtinama, kad minėtas modelis yra pagamintas laikantis nurodytų direktyvų bei standartų. Techninę bylą sudarė gamintojas.

S Underteknad intygar att ovannämnda modell är producerad i överensstämmelse med följande direktiv och standarder. Den tekniska filen är sammanställd av tillverkaren.

EST Allakirjutanu kinnitab, et ülalnimetatud model on valmistatud kooskõlas järgmiste direktiivide ja normidega. Tehnilise dokumentatsiooni koostab tootja.

LV Ar šo tiek apliecināts, ka augstākminētais modelis ir izgatavots atbilstoši šādām direktīvām un standartiem. Tehnisko aprakstu ir sastādījis ražotājs.

SK Dolu podpísaný osvedčuje, že hore uvedený model sa vyrába v súlade s nasledujúcimi smernicami a normami. Technický súbor vytvoril výrobca.

F Je soussigné certifie que les modèles ci-dessus sont fabriqués conformément aux directives et normes suivantes. Le dossier technique est rédigé par le fabricant.

N Undertegnede atterer att ovennevnte modell är produceret i överensstemmelse med följande direktiv och standarder. Den tekniske filen er opprettet av produsenten

SLO Spodaj podpisani potrjujem, da je zgoraj omenjeni model izdelan v skladu z naslednjimi smernicami in standardi. Spis s tehnično dokumentacijo pripravi izdelovalec.

FIN Allekirjoittain vakuuttaa että yllämainittu malli on tuotettu seuraavien direktiivien ja standardien mukaan. Valmistaja kääntää teknisen tiedoston.

NL Ondergetekende verzekert dat de bovengenoemde modellen geproduceerd zijn in overeenstemming met de volgende richtlijnen en standaards. Het technische bestand is door de fabrikant samengesteld.

TR Aşağıda imzası olan kişi, yukarıda bahsedilen model cihazın aşağıda verilen direktiflere ve standartlara uygunlukta imal edildiğini onaylar. Teknik dosya üretici tarafından derlenmiştir.

EC Machinery Directive 2006/42/EC

EN ISO 12100, EN ISO 13857, EN 349, EN 982

EN 6 0335-1, EN 60335-2-69, EN60335-2-72

EC EMC Directive 20 04/108/EC

EN 55014-1, EN 55014-2, EN 61000-3-2, EN61000-3-3

Производителя / Výrobce / Hersteller / Fabrikanten / Fabricante / Tootja / Fabricant / Valmistaja / Manufacturer / Κατασκευαστή / Gyártó / Costruttore / Gamintojas / Ražotājs / Produsenten / Fabrikant / Fabricante / Producenta / Producător / Производителем / Tillverkaren / Výrobca / Izdelovalec / Üretici :

Viper Cleaning Equipment Co., Ltd. Liangbian, Liaobu, Dongguan, Guangdong, China

Tel: (+86) 769 8328 3988 Fax : (+86) 769 8228 3018

Authorized signatory: Alex Sin, Vice President of China Production

Date: 23 Nov. 2015

Signature:

TABLE OF CONTENTS

| | |
|--|-----------|
| INTRODUCTION | 1 |
| MANUAL CONTENT AND PURPOSE | 1 |
| HOW TO KEEP THIS MANUAL | 1 |
| DECLARATION OF CONFORMITY | 1 |
| ACCESSORIES AND MAINTENANCE | 1 |
| CHANGE AND IMPROVEMENT | 1 |
| SCOPE OF APPLICATION | 1 |
| MACHINE IDENTIFICATION DATA | 1 |
| TRANSPORT AND UNPACKING | 1 |
| | |
| SAFETY | 2 |
| VISIBLE SYMBOLS ON THE MACHINE | 2 |
| SYMBOLS THAT APPEAR ON THE INSTRUCTION FOR USE MANUAL | 2 |
| GENERAL SAFETY INSTRUCTION | 2 |
| | |
| MACHINE DESCRIPTION | 5 |
| TECHNICAL PARAMETERS | 5 |
| MACHINE STRUCTURE | 5 |
| CONTROL PANEL | 7 |
| DISPLAY WINDOW OF CHARGER INDICATON LIGHT | 7 |
| | |
| OPERATING GUIDE | 7 |
| INSTALLING AND SETTING OF NEW MACHINE BATTERY | 8 |
| BRUSH/PAD-HOLDER INSTALLATION AND UNINSTALLATION | 10 |
| ADJUSTING THE BALANCE OF SQUEEGEE | 10 |
| SOLUTION TANK FILLING | 11 |
| REGULATING THE VOLUME OF WATER FLOW | 11 |
| MACHINE START AND STOP | 12 |
| MACHINE OPERATION | 12 |
| TANK EMPTYING | 13 |
| USING FOR THE FIRST TIME | 14 |
| AFTER USING THE MACHINE | 14 |
| MACHINE STORAGE | 14 |
| | |
| MAINTENANCE | 15 |
| SCHEDULED MAINTENANCE TABLE | 15 |
| BATTERY CHARGING | 15 |
| SQUEEGEE CLEANING | 16 |
| SQUEEGEE BLADE CHECK AND REPLACEMENT | 17 |
| BRUSH OR PAD-HOLDER CLEANING | 17 |
| TANK AND FLOAT BALL FILTER CLEANING AND TANK SEALING STRIP INSPECTION | 18 |
| CLEAN WATER FILTER CLEANING | 19 |
| CIRCUIT DIAGRAM | 20 |
| | |
| TROUBLE SHOOTING | 21 |
| | |
| SCRAPPING | 21 |

INTRODUCTION



NOTE

The numbers in brackets refer to the components shown in Machine Description chapter.

MANUAL CONTENT AND PURPOSE

The purpose of this Instruction for Use Manual is to provide the operator with necessary information to use the machine properly and safely. It contains information about technical data, safety, operation, storage, maintenance, spare parts and how to scrap it.

Before performing any procedure on the machine, no matter the operators and qualified technicians must read this Manual carefully. Contact our company service center for any queries about this manual or for any further information is needed.

The operators must not perform procedures that should be done by qualified technicians. our company will not be answerable for damages coming from the non-observance of this prohibition.

HOW TO KEEP THIS MANUAL

The Manual must be kept near the machine, inside an adequate case, away from liquids and other substances that can cause any damage to it.

DECLARATION OF CONFORMITY

Declaration of Conformity is supplied with the machine and certifies machine conformity with the law in force.



NOTE

The copies of the original declaration of conformity are provided together with the machine documentation.

ACCESSORIES AND MAINTENANCE

All the necessary operation, maintenance and repair procedures must be performed by qualified personnel, or by our company appointed service center. ONLY authorized spare parts and accessories should be used.

Contact our company customer service for any service or purchase of accessories or spare parts if necessary.

CHANGE AND IMPROVEMENT

We committed to continuous improvement of its products, the company reserves the right to the machine changes and improvements without informing in additional.

SCOPE OF APPLICATION

The scrubber applies to commercial and industrial use. It is suitable for cleaning smooth and solid floor, operating by a qualified personnel in safety circumstance. It is not suitable for outdoor use or carpet or rough floor cleaning.

MACHINE IDENTIFICATION DATA

The machine serial number and model name are marked on the serial label (4).

This information is useful. Use the following table to write down the machine identification data when requiring spare parts for the machine.

| |
|----------------------------|
| MACHINE MODEL..... |
| MACHINE SERIAL NUMBER..... |

TRANSPORT AND UNPACKING

When the carrier delivers the machine, make sure the packaging and machine are both whole and undamaged. If any damaged, make the carrier know the damage and before accepting the goods, reserve the right in compensation of the damage.

Follow the instructions on packing strictly when unpacking the machine.

Check the package to ensure following items are included:

1. Technical documentations including Quick Start Guide manual, Instruction for Use Disk and on-board charger manual if on-board charger is equipped.
2. Charger cable if on-board charger is equipped.

SAFETY

The following symbols indicate potentially dangerous situations. Always read this information carefully and take all necessary precautions to safeguard people and property.

VISIBLE SYMBOLS ON THE MACHINE



WARNING!

Read all the instructions carefully before performing any operation on the machine.



WARNING!

Do not wash the machine with direct or pressurized water jets.



WARNING!

Do not use the machine on slopes with a gradient exceeding that is defined in the specification.

SYMBOLS THAT APPEAR ON THE INSTRUCTION FOR USE MANUAL



DANGER!

It indicates a dangerous situation with risk of death for the operator.



WARNING!

It indicates a potential risk of injury for people.



CAUTION!

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



NOTE

It indicates a remark related to important or useful functions.



CONSULTATION

It indicates the necessity to refer to the Instruction for Use manual before performing any procedure.

GENERAL SAFETY INSTRUCTION

Specific warnings and cautions to inform about potential damages to people and machine are shown below.



DANGER!

- This machine must be operated by trained and authorized personnel according to guidance of the manual.
- Before performing any cleaning, maintenance, repair or replacement procedure, read all the instructions carefully, ensure to turn the machine OFF and disconnect the battery connector.

- Do not operate the machine near toxic, dangerous, flammable and/or explosive powders, liquids or vapour. This machine is not suitable for collecting dangerous powders.
- Do not wear jewels when working near electrical components.
- Do not work under the lifted machine without supporting it with safety stands.
- When using lead (WET) batteries, they may emit inflammable gas under normal use, must keep sparks, flames, smoking materials and radiating, illuminating and burning items away from the batteries.
- When charging lead (WET) batteries, they may emit hydrogen gas which may cause explosive. Must ensure the charging environment is well ventilated and away from naked flames.

**WARNING!**

- Check the machine carefully before each use. Ensure that all the components have been well assembled before use. Or it may causes damages to people and properties.
- Before using the battery charger, ensure that the values of frequency and voltage indicated on the machine serial number label match those of mains.
- Never move the machine by pulling the battery charger cable. Do not let the cable through a closed door, or winding on sharp edges or corners. Do not run the machine on the battery charger cable. Keep the battery charger cable away from heated surfaces.
Do not charge the batteries if the battery charger cable or the plug are damaged.
- To reduce the risk of fire, electric shock, or injury, make sure machine is off before leaving.
- Use or store the machine indoors in dry conditions, it is not allowed for outdoor use.
- The machine both storage and working temperature must be between 0 °C and +40 °C, the humidity of air must be between 30% - 95%.
- Do not use the machine on slopes with a gradient exceeding as specification show.
- When using and handling floor cleaning detergents, follow the instructions on the labels of the detergent bottles and wear suitable gloves and protections.
- Use brushes and pads supplied with the machine or defined in the manual. Using other brushes or pads could reduce safety.
- 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.
- Take all necessary precautions to prevent hair, jewels and loose clothes from being caught by the machine moving parts.
- Do not use the machine in particularly dusty areas.
Do not wash the machine with direct or pressured water jets, or with corrosive substances.
- Do not bump into shelves or scaffoldings, especially where there is a risk of falling objects.
- Do not lean liquid containers on the machine, use the relevant can holder.
- To avoid damaging the floor, do not allow the brush/pad to operate while the machine is stationary.
- In case of fire, use a dry powder fire extinguisher. Do not use liquid fire extinguishers.
- Do not remove or modify the machine stickers.
- Do not tamper with the machine safety guards and follow the ordinary maintenance instructions scrupulously.
- Pay attention during machine transportation when temperature is below freezing point. The water in the recovery tank and in the hoses could freeze and cause seriously damage to the machine.
- If spare parts need be replaced, order ORIGINAL spare parts from an Authorized Dealers or Retailers.
- Return the machine to the Service Center if it doesn't work as usual or it is in condition such as damaged, placed outdoors, dropped into water.

- **To ensure machine proper and safe operation, the scheduled maintenance shown in the relevant chapter of this Manual, must be performed by the authorized personnel or an authorized Service Center.**
- **The machine must be properly disposed of, because the presence of toxic-harmful materials (batteries, etc.), which are subject to standards that require disposal in special centers (see Scrapping chapter).**
- **This machine as a cleaning tool only, not for any other purpose use.**
- **Always keep the openings free from dust, hairs and any other foreign material which could reduce the air flow. Do not use the machine if the openings are clogged.**
- **Use the machine only where a proper lighting is provided.**
- **This machine is not intended for use by persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the machine by a person responsible for their safety.**
- **Close attention is necessary when used near children.**
- **Children should be supervised to ensure that they do not play with the machine.**
- **While using this machine, take care not to cause damage to people or objects.**

MACHINE DESCRIPTION**TECHNICAL PARAMETERS**

| MODEL | SC430 53 B GO FULL PKG |
|--------------------------------------|-------------------------------|
| Packing dimensions (Lx W x H) | 1270x650x1270 MM |
| Machine height | 1100 MM |
| Machine length | 1140 MM |
| Machine width (without squeegee) | 550 MM |
| Machine weight (Net) | 135 KG |
| Machine weight (Gross) | 175 KG |
| Solution tank capacity | 40 L |
| Recovery tank capacity | 40 L |
| Main wheel diameter | 200 MM |
| Guide wheel diameter | 64 MM |
| Vacuum motor power | 350 W |
| Vacuum capacity | 1200 MM H ₂ O |
| Climbing capacity (Max) | 2% |
| Sound level | 70 dB(A) ±3 dB(A) |
| Batteries | 24 VDC 105Ah AGM |
| Battery compartment size (L x W x H) | 340x330x260 MM |
| Working width | 510 MM |
| Squeegee width | 760 MM |
| Brush diameter | 510 MM |
| Brush motor power | 560 W |
| Brush speed | 150 RPM |
| Brush/pad-holder pressure (Max) | 35 KG |

MACHINE STRUCTURE (as shown in Figure 1)

Note: (*) Applies ONLY to machine with battery charger which is optional.

- | | |
|--|---------------------------------|
| 1. Safety switch | 21. Rear squeegee holder |
| 2. Handlebar | 22. Front squeegee holder |
| 3. Control panel | 23. Storage box |
| 4. Serial number plate/technical data/conformity certification | 24. Recovery tank lid |
| 5. Control box cover | 25. Tank |
| 6. Winding bracket(*) | 26. Clean water inlet |
| 7. Battery charger level indicator | 27. Bumper wheel |
| 8. Circuit breaker | 28. Brush deck |
| 9. Battery connector | 29. Brush/Pad |
| 10. Battery cover | 30. Suction motor |
| 11. Vacuum hose | 31. Brush motor |
| 12. Squeegee drawing cord | 32. Main wheel |
| 13. Security cover of charging jack | 33. Battery |
| 14. Squeegee lifting handle | 34. Vacuum hose |
| 15. Drain hose | 35. Charger(*) |
| 16. Squeegee fixing nut | 36. Float ball filter |
| 17. Squeegee clip | 37. Clean water level indicator |
| 18. Squeegee blade | 38. Water spray valve |
| 19. Squeegee bracket | 39. Filter |
| 20. Squeegee balance adjusting handle | 40. Clean water outlet |
| | 41. Auxiliary wheel |

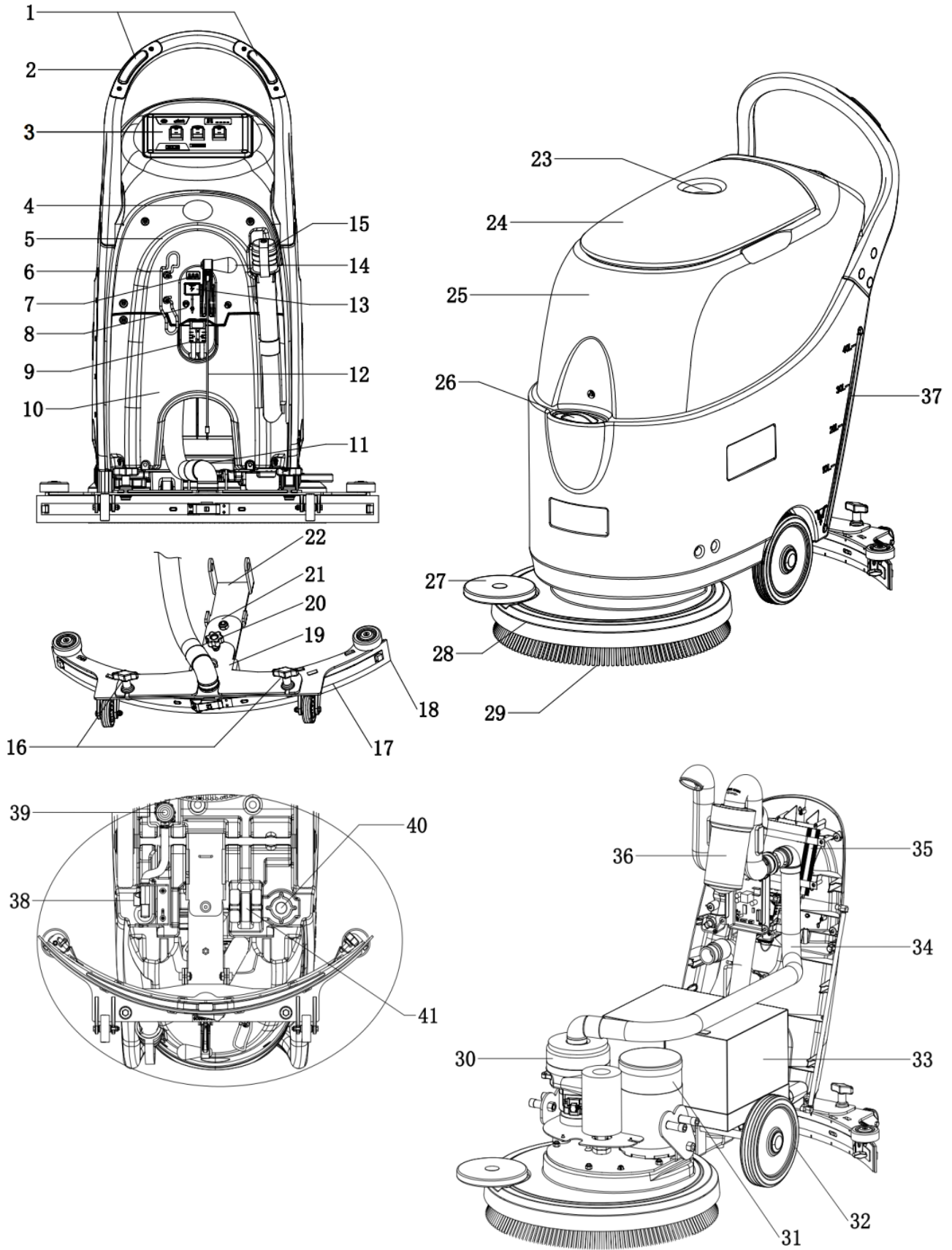


Figure 1

CONTROL PANEL (as shown in Figure 2)

- | | |
|--|---|
| 42. Battery capacity indicator light | 46. Brush and electromagnetic valve switch |
| 43. Battery power half indicator light | 47. Vacuum switch |
| 44. Battery power use up indicator light | 48. Timer (Optional, for brush working time record) |
| 45. Power switch | |

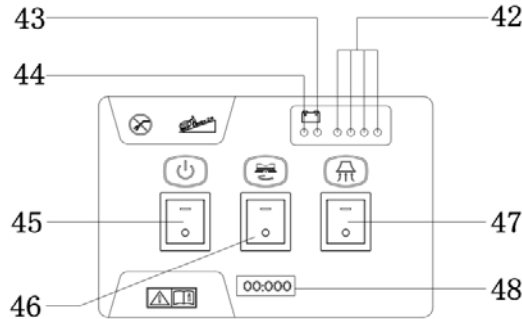


Figure 2

DISPLAY WINDOW OF CHARGER INDICATON LIGHT (as shown in Figure 3)

(Optional, for machine with battery charger)

1. At the beginning of charging, the red LED (49) of charger normally on after several times flashing. It is the first stage of charging.
2. After charging some time, the red LED (49) turns off, the yellow LED (50) turns on, this is the second stage of charging.
3. After charging about 10 hours, the yellow LED (50) off, the green LED (51) turns on to indicate that the battery is fully charged.

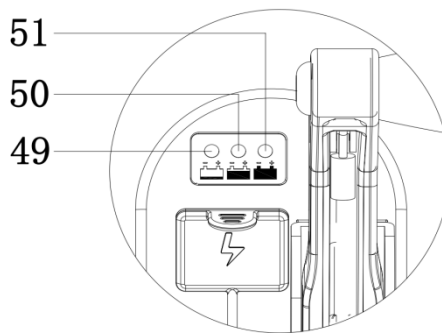


Figure 3

NOTE



When charging, if the yellow LED of charger is on, it may be caused by: Battery and charger does not match, battery is not connected well, or output is short-circuited.
The red LED of charger flashing may be caused by charger internal short circuit.

OPERATING GUIDE

WARNING!

Pay high attention to these symbols on the machine and in this guide:



- **DANGER!**
- **WARNING!**
- **CAUTION!**
- **CONSULTATION**

Never cover these symbols on the machine for any reason, replace it immediately if any damage.

INSTALLING AND SETTING OF NEW MACHINE BATTERY



WARNING!

The electric components of the machine can be seriously damaged if the batteries are either improperly installed or connected.

The batteries must be installed by qualified personnel only. Set the battery charger (optional) according to the battery type (WET or GEL/AGM).



NOTE

The machine requires two 12V batteries not exceeding the total size L330 x W170 x H260 MM and connecting according to Figure 4.

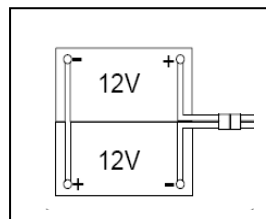


Figure 4

The machine can be operated in one of the following mode:

Without Batteries

1. Buy appropriate batteries (See the Technical Data paragraph). For battery choice and installation, choose qualified battery Retailers.
2. When batteries are ready, set the machine and the battery charger (if equipped) according to the type of batteries. (Refer to the installation and settings of batteries)

WET or GEL/AGM batteries are already installed and ready to be used

1. Connect the battery connector (9) to the machine then turn on the power switch (45).
2. If the green LED (42) is on, batteries are full charged for use. If the yellow or red LED (44 or 43) turns on, the batteries must be charged (see the procedure in Maintenance chapter).

Machine setting

Set the electronic circuit board of the machine and battery charger (if equipped) according to battery types (WET or GEL/AGM) following steps below:

1. Make sure the connector (9) of the battery is disconnected. The factory setting is for GEL batteries. If the setting correspond to the battery installation, go to step 7 directly. Otherwise, follow next steps 2~5.
2. Take down the drain hose (15) from the clip.
3. Unscrew the screws on control box cover (5), battery cover (10) and PCB bracket (A, Figure 5), then turn over the PCBA to find the DIP switch (B, Figure 5) for setting battery type(WET or GEL).
4. Turn the DIP switches to “WET” position for wet batteries installed.
5. Perform steps 2, 3, 4 in the reverse order to recovery the machine.

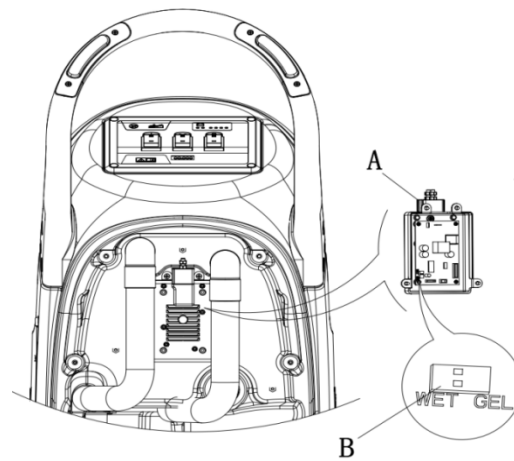


Figure 5

Battery installation

6. Disconnect the battery connector (9).
7. Open the recovery tank lid (24) to check if the tank is empty, if not, empty it by the drain hose (15).
8. Unscrew the squeegee knob (16) and remove the connector of sewage suction hose (11) to take down the squeegee.
9. Unscrew the screws of battery box cover (10) to remove it.
10. Remove the connector that connect squeegee lifting (12) and squeegee bracket (19), place the squeegee lifting to suitable place for battery installation.
11. Place the sewage suction hose and drain hose to suitable place for not prevent battery installation. (A, Figure 6)
12. Push the battery baffle block to inside of the machine battery box.



NOTE

When battery size less than the specified, to prevent battery movement, choose suitable battery baffle block (B, Figure 6) to plug the battery.

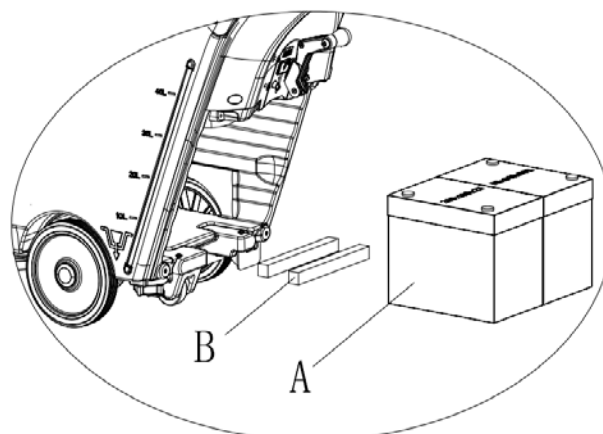


Figure 6

14. Use specialized tool (A, Figure 7) for batteries assembly.
15. Assemble all the disassembled components along with opposite order.

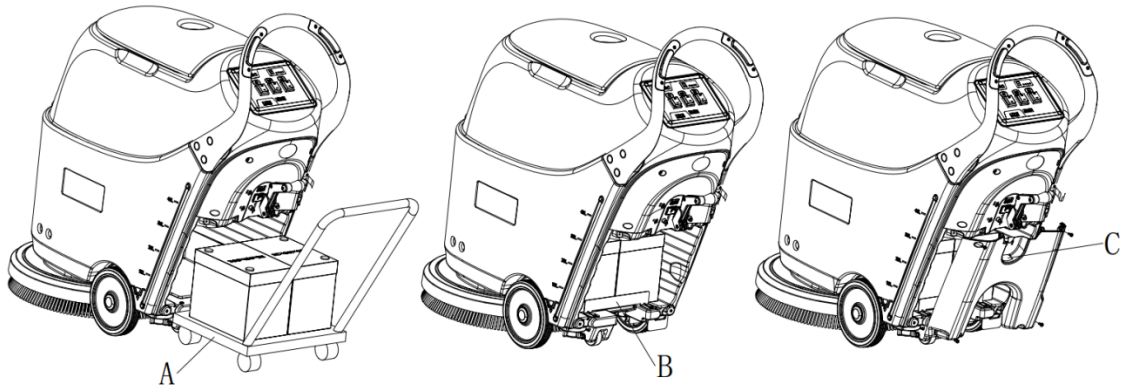


Figure 7

Battery charging

16. Charge the batteries. (See procedures in maintenance chapter).

BRUSH/PAD-HOLDER INSTALLATION AND UNINSTALLATION



NOTE

Install either the brush (A, Figure 8) or pad-holder (B and C, Figure 8) according to the type of floor to be cleaned.



CAUTION!

Before installation or uninstallation of brush or pad-holder, make sure all the switches on machine are in off position and lifting up the squeegee from the floor. The operator must be equipped with suitable personnel protection devices such as gloves to reduce the risk of accidents.

Proceed as following:

1. Make sure that the power switch (45) is turned to off position “o”.
2. Lift the tank (25) by prying the handlebar (2).
3. Rotate the brush (A, Figure 8) or the pad-holder (B/C, Figure 8) in clockwise (direction of arrow mark D, Figure 8) to install it to the deck.
4. Rotate the brush or the pad-holder in counterclockwise (direction of arrow mark E, Figure 8) to uninstall it from the deck.

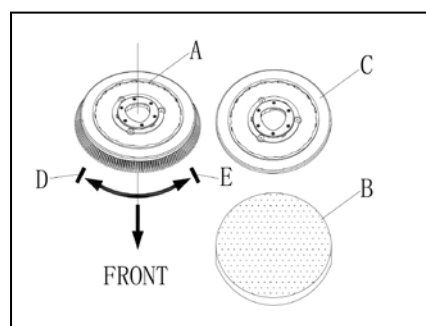


Figure 8

ADJUSTING THE BALANCE OF SQUEEGEE

1. Install the squeegee and screw up the nut (16), then connect the vacuum hose (11) to the squeegee.
2. Adjust the squeegee by squeegee adjusting handle (A, Figure 9).

- If there is gap between the ground and middle section of rear squeegee blade (B), adjust the knob (A) in counterclockwise direction (F) until all section of rear squeegee blade good contact with ground, the front blade touch the ground slightly.
- If there is gap between the ground and both end section of rear blade(C and D), adjust the knob (A) in clockwise direction (E) until all section of rear blade good contact with the ground, the front blade touch the ground slightly.

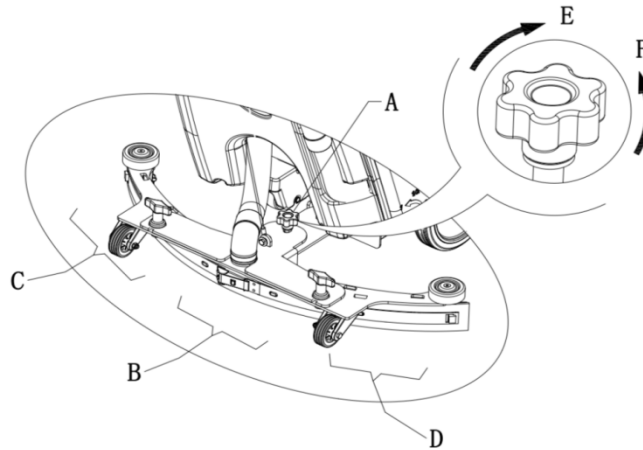


Figure 9

SOLUTION TANK FILLING



CAUTION!

Use only low-foam and non-flammable detergents that are intended for automatic scrubber applications. When using the cleaning detergents, please follow the instructions on the labels of detergent bottles and wear suitable gloves and protections to handle it.

Open the clean water inlet (26) to fill cleaning water or cleaning solvents to solution tank. Don't overfill the tank. Stop filling when solution is centimeters near the edge.

REGULATING THE VOLUME OF WATER FLOW



WARNING!

The power switch (45) must on off position "o" before adjusting valve knob (A, Figure 10).

Adjust the valve knob to regulate the volume of the water flow basing on actual need. B in Figure 10 shows the volume of the water flow.

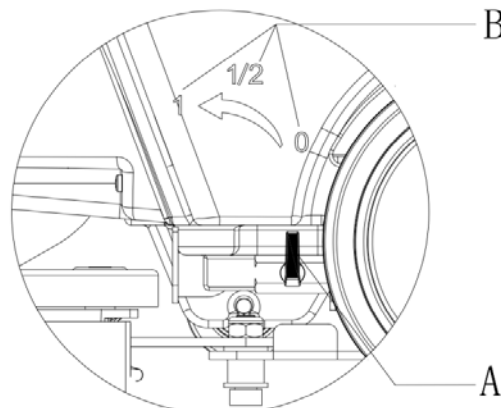


Figure 10

MACHINE START AND STOP

Starting the machine

1. Firstly connect power, adjust squeegee, install pad-holder or brush and regulate volume of water, then make them to be ready for the run status according to previous sections when you operate the machine.
2. Lay down the squeegee by squeegee lifting handle.
3. Press the power switch (45), brush switch (46) and vacuum switch (47) to on position “-”.
4. Start cleaning by holding machine handle and press the safety switches, and then push the machine.

Stopping the machine

Follow below steps to stop the machine.

1. Release the safety switches (1), and then brush/pad-holder stop working.
2. Press the brush switch (46), vacuum switch (47) and power switch (45) to off position “o”.
4. Lifting the squeegee (A, Figure 11) from the ground by squeegee lever (14).
5. Hold the machine handlebar (2) and lean back machine until assist wheels (B, Figure 11) touch the ground.
6. After machine is whole stop, uninstall the brush/pad-hold.



NOTE

To thoroughly suck dry the water in drain hose, when you just turn off the vacuum switch and keep the power switch on, the vacuum will stop after five seconds delay.

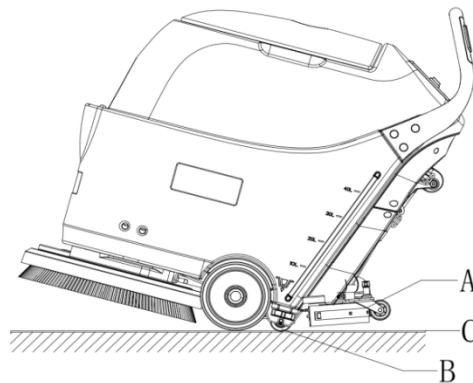


Figure 11

MACHINE OPERATION (SCRUBBERING AND DRYING)

1. Start the machine as shown in previous paragraphs.
2. While keeping both hands on the handlebar press the safety switch (1), then manoeuvre the machine and start scrubbing/drying the floor.
3. If necessary, stop the machine then adjust squeegee according to section “Adjusting balance of squeegee”.
4. If necessary, stop the machine then adjust the solution quantity by using the valve (38).



CAUTION!

To avoid any damage to the floor surface, turn off the brush/pad-holder when the machine stops in one place.



NOTE

For correct scrubbing/drying of floors at the corner of walls, Nilfisk suggests to go near the walls with right side of the machine as shown in below Figure 12.

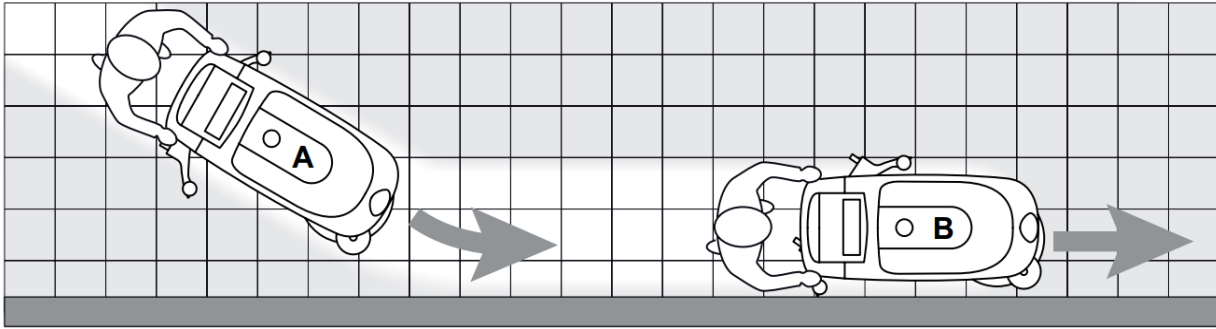


Figure 12

Battery charge during operation

When the four green LEDs (42) are on, the batteries allow the machine to work normally.

NOTE



When there is only one green LED (42) is on and flashing, the machine will stop working automatically after a few minutes, please charge the batteries. When four of green LEDs (42) are off, the red LEDs (43/44) begin flash, the machine will be turned off automatically after a few minutes. (See maintenance section for details).



CAUTION!

To avoid damage the batteries and shortening their working life, do not use the machine once the batteries are at the minimum level.

TANK EMPTYING

When the recovery tank is full, the ball in float ball filter (36) blocks off the inlet of suction hose to turn off the vacuum system. At the same time, the noise of suction motor is increased suddenly to remind operator emptying the recovery tank. The vacuum system is deactivation, and the floor is not dried.



CAUTION!

If the vacuum system is turned off accidentally (For example, when the float is activated because of a sudden machine movement).

Please follow below steps to recover the machine.

1. Stop machine as previous section.
2. Open the recovery tank lid (24), check the float ball filter whether it is on the water surface.
3. Close the recovery tank lid.
4. Press power switch and suction switch to turn on the machine.

Recovery tank emptying

When recovery tank is full, emptying it according to below steps:

1. Take down the drain hose and fold the upper end (as shown A in Figure 13). Then lay down the drain hose to low spot or on the ground and unscrew the cover to empty the tank (as shown B in Figure 13).
2. Rinse the recovery tank with clean water.



CAUTION!

Make sure the drain hose is lay down to low spot or on the ground (shown as A or B in figure 13) to avoid any dirty water spray to the operator.

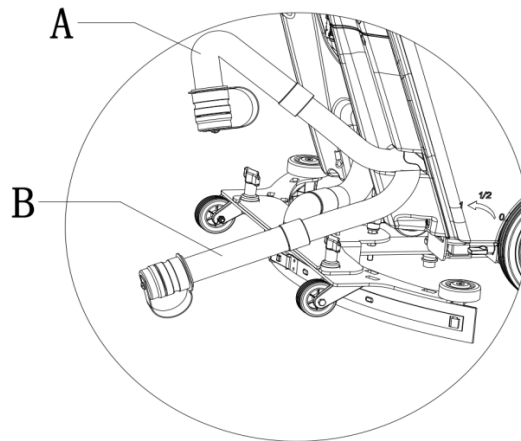


Figure 13

Solution tank emptying

1. Perform steps 1 and 2 of Recovery tank emptying.
2. Unscrew the cap of clean water outlet (A, Figure 14) in Counterclockwise direction (C, Figure 14) to empty the solution tank.

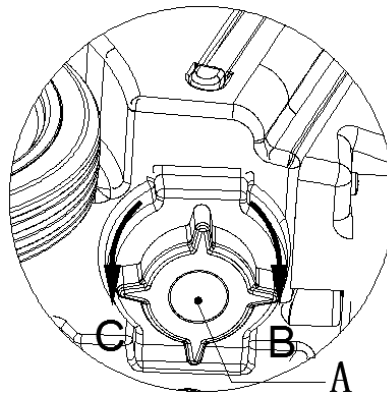


Figure 14

USING FOR THE FIRST TIME

After nine hours using for the first time, please check if any damage or abnormal situation, check whether the fasteners or fittings is loose.

AFTER USING THE MACHINE

After working, before leaving the machine:

1. Remove brush or pad-holder as shown in previous section.
2. Empty recovery tank and solution tank according to related paragraphs.
3. Perform daily maintenance (See the maintenance chapter).
4. After brush/pad-holder uninstalled, storing the machine in a clean and dry place with squeegee lifted.

MACHINE STORAGE

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

1. Perform steps of "AFTER USING THE MACHINE" section.
2. Disconnect the battery connector (9).
3. To avoid any damage of the batteries, charge the batteries every three months if do not use the machine more than three months.

MAINTENANCE**WARNING!**

Maintenance procedures must be performed after the machine is turned off and the battery charger cable is disconnected. In addition, carefully read the safety chapters in the manual.

All scheduled or extraordinary maintenance procedures must be performed by qualified personnel or an authorized Service Center. This manual only describes the general and common maintenance procedures.

For other maintenance procedures that are not in below maintenance schedule table, please refer to the Service Manual that can be consulted at any our company Service Center.

SCHEDULED MAINTENANCE TABLE**CAUTION!**

The procedure marked with (1) must be performed when the machine is used after 9 hours for the first time.

The procedure marked with (2) must be done by Service Center that qualified by our company.

| Procedure | Daily, after each use | Weekly | semiannually | Yearly |
|--|-----------------------|--------|--------------|--------|
| Battery charging | | | | |
| Squeegee cleaning | | | | |
| Brush/Pad-holder cleaning | | | | |
| Tank cleaning | | | | |
| Tank sealing strip inspection | | | | |
| Float ball filter cleaning | | | | |
| Squeegee blade check and replacement | | | | |
| Cleaning water filter cleaning | | | | |
| Suction filter cleaning | | | | |
| WET battery fluid level check | | | | |
| Screw and nut tightness inspection | | | (1) | |
| Brush/Pad-holder carbon brush check or replacement | | | | (2) |
| Suction motor carbon brush check or replacement | | | | (2) |

BATTERY CHARGING**NOTE**

Please charge the batteries when the yellow LED (43) or red LED (44) is on, or at the end of each working cycle.

**CAUTION!**

Always keep the battery in a full charged state can extend its lifetime.

**CAUTION!**

Please charge the battery as soon as possible if the battery level is low, otherwise the lifetime of battery can be reduced. It is better to check the battery at least once a week.

**CAUTION!**

If no on-board charged is equipped, use a qualified external charger for battery charging.

**WARNING!**

Wet battery charging produces highly explosive hydrogen gas.

Charge the battery in well-ventilated areas and away from naked flames.

Do not smoke while charging the battery.

Do not reinstall the recovery tank until the battery charging cycle is over.

**WARNING!**

Pay careful attention when charging WET battery as there may be battery fluid leakages.

The battery fluid is corrosive. If comes in contact with skin or eyes, rinse thoroughly with water and consult a physician.

The steps to charge the battery:

1. Open the recovery tank cap (24) to check if it is empty, if not, empty the tank first.
2. Turn the power switch (45) to off position “o”.
3. For WET battery only:
 - Check the battery electrolyte level, if necessary, full fill it.
 - Let all the battery covers open.
 - Clean the surface of the battery if necessary.
4. Select one of below charging mode base on the charger type.

Use an external charger for battery charging

5. The external charger output must be 24V DC, make sure use the suitable external charger.
6. Connect battery connector to the charger and then connect charger to the supply mains.
7. Disconnect the charger connector to the machine after charging is completed.

Use on-board charger for battery charging

8. Open the security cover of battery charger interface.
9. Connect the end of the battery charging connector with the mains with a charging cable. (Please note the mains must be Voltage 100 – 240V and frequency 50-60 Hz.) If the red warning light on the on-board charger continues lighting, it shows that the charger is charging the battery.
10. The Green LED (51) lighting indicates that the battery is full charged.
11. Charging completed, disconnect the charging cable from supply mains and cover the security cover.

**NOTE**

For more on-board charger information (35), refer to relevant manual.

SQUEEGEE CLEANING**NOTE**

In order to assure the drying result well, must keep squeegee blade cleaning and in good conditions.

**CAUTION!**

The operator must wear gloves for squeegee blade cleaning, because the squeegee blade may contain some sharp fragments.

The steps to clean the squeegee blade:

1. Drive the machine to the flat ground.
2. Turn off the machine by turn the power switch (45) to off position “o”.

3. Unscrew the squeegee knob (16), remove the sewage suction hose (11) to take off the squeegee.
4. Lifting the squeegee bracket by lifting lever.
5. Cleaning the squeegee blade and taking out the special dirt and debris on the groove of supporting structure (A) and sewage suction hose.
6. Assembly the squeegee in the opposite order of above steps.

SQUEEGEE BLADE CHECK AND REPLACEMENT

1. Follow the previous paragraph to cleaning the squeegee blade. (Figure 15)
2. Check the edge of front squeegee blade (B) and rear squeegee blade (C), they should at the same horizontal line, otherwise adjust their height by following procedures:
 - Loosen the clip (D) to separate the rear squeegee blade (C) from the bracket (A) for the adjustment of squeegee blade, after the adjustment, lock the clip again.
 - Loosen the screw (G) and bolt (H) of handle to adjust the front squeegee blade, after that, tighten the screw and bolt.
3. Check the integrity of the front and rear squeegee blade whether there is any gap or crack. If necessary, replace it by below steps.
 - Loosen the clip (D) to separate the fastener from the bracket (A), take off the clip bar (E), then turn the rear squeegee blade (C) upside down or replace it. Re-Install the rear blade in reverse order of uninstallation.
 - Loosen the screw (G) of handle to take down the front clip bar (F), then replace the front squeegee blade (B) with new one. Re-install the front squeegee blade in reverse order of taking it off. After the squeegee blade is replaced or turned upside down, adjust the height of front and rear squeegee blades according to procedures above.
4. Install the squeegee and use the knob (16) to fasten it, and then connect the sewage suction hose (11) to squeegee.
5. If necessary, adjust squeegee balance by the squeegee adjusting knob (20).

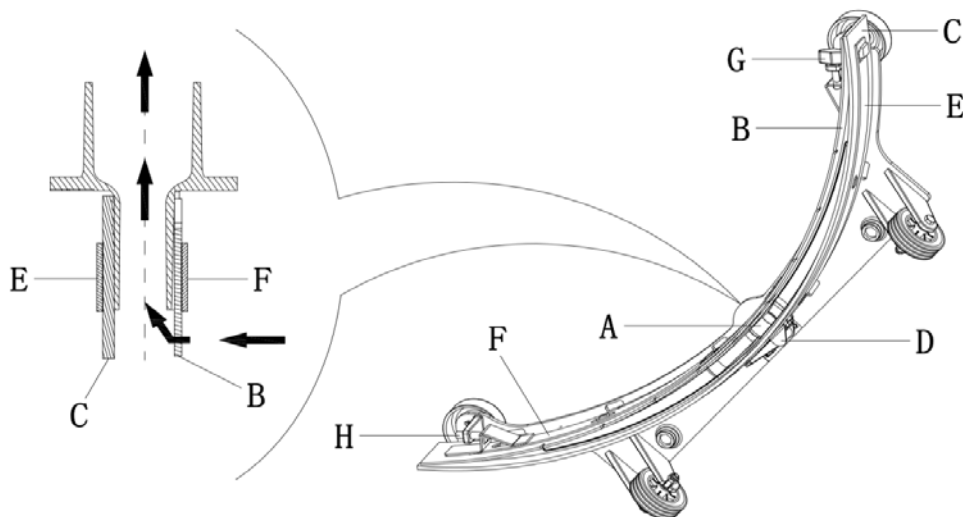


Figure 15

BRUSH OR PAD-HOLDER CLEANING



CAUTION!

It is recommended to wear gloves when cleaning the brush or pad-holder since it may contain sharp fragments.

1. Take the brush/pad-holder off base on procedures in previous sections.
2. Clean the brush/pad-holder using water and detergent.

3. Check the integrity and abrasion conditions of the brush bristle, if necessary, replace the brush.
4. Check the abrasion condition of the polishing pad, if necessary, replace it.

TANK AND FLOAT BALL FILTER CLEANING AND TANK SEALING STRIP INSPECTION

1. Turn off the machine.
2. Turn the recovery tank lid (A, Figure 17) 90 degree position where it can be took off from the tank, and then take down the float ball filter (36) from the tank.
3. Clean the recovery tank lid (A), recovery tank (B), clean water tank(C) and the float ball filter support frame (E). Empty the recovery tank with the drain hose (15).
4. If necessary, follow the symbols "OPEN" and "CLOSE" as shown in Figure17 to open the bottom cover (F) of float ball filter and then clean the float ball (D), filter support frame (E) and filter sponge (I). After cleaning, fix the float ball (D) into the filter support frame (E) and then align the mark groove (L) of the bottom cap (F) of the float ball filter with the mark groove (L) of the float filter support frame (E). Screw the bottom cap of the float ball filter tight, and fix the filter sponge (I) onto the float filter support frame (E). Finally, connect it to the sewage suction hose (M).
5. Inspect the integrity of the tank sealing strip.



NOTE

Tank sealing strip (G) makes to produce the vacuum inside the tank when suction motor works. The tank must be sealed can effectively absorb the water from the ground to recovery tank.

6. Check whether the contact surface of sealing strip (G) is integrity and sealing is sufficient. If necessary, take the sealing strip of the tank out of the groove (H) and replace it. Assembly the new sealing strip as shown in Figure16, the joint should be back in the middle area.
7. Close the recovery tank lid (A).

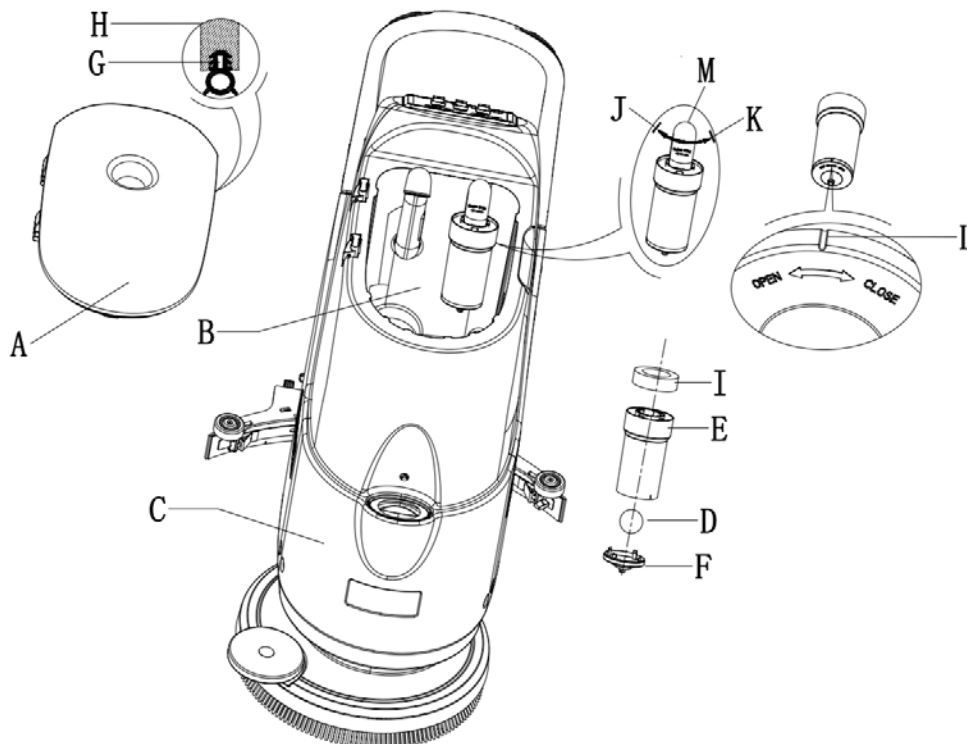


Figure 16

CLEAN WATER FILTER CLEANING

1. Empty the clean water tank.
2. Turn off the machine.
3. Turn off the water spray valve (A, Figure 17)
4. Take off the transparent lid of the valve (B), and then take off the filter (C), install them to the filter box (D) after cleaning.
5. Open the water spray valve (A).

**NOTE**

The filter screen (C) must be accurately assembled to the projection (E).

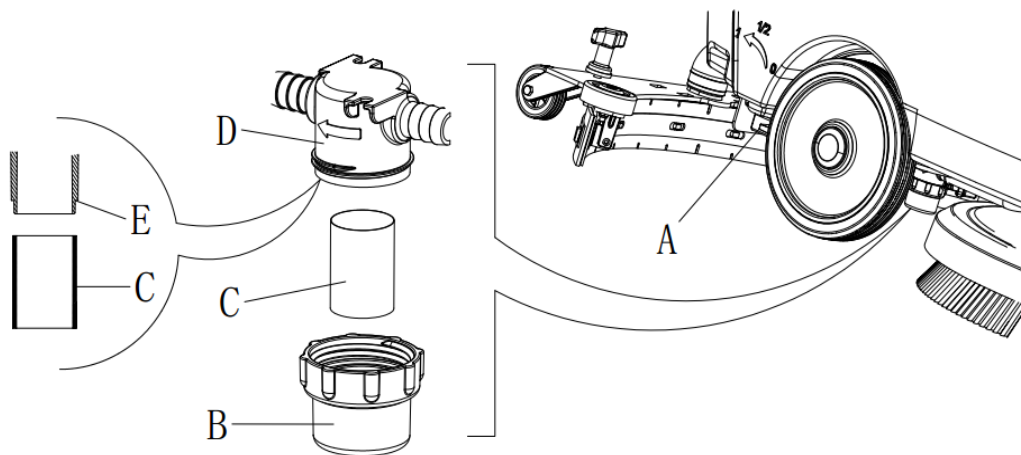
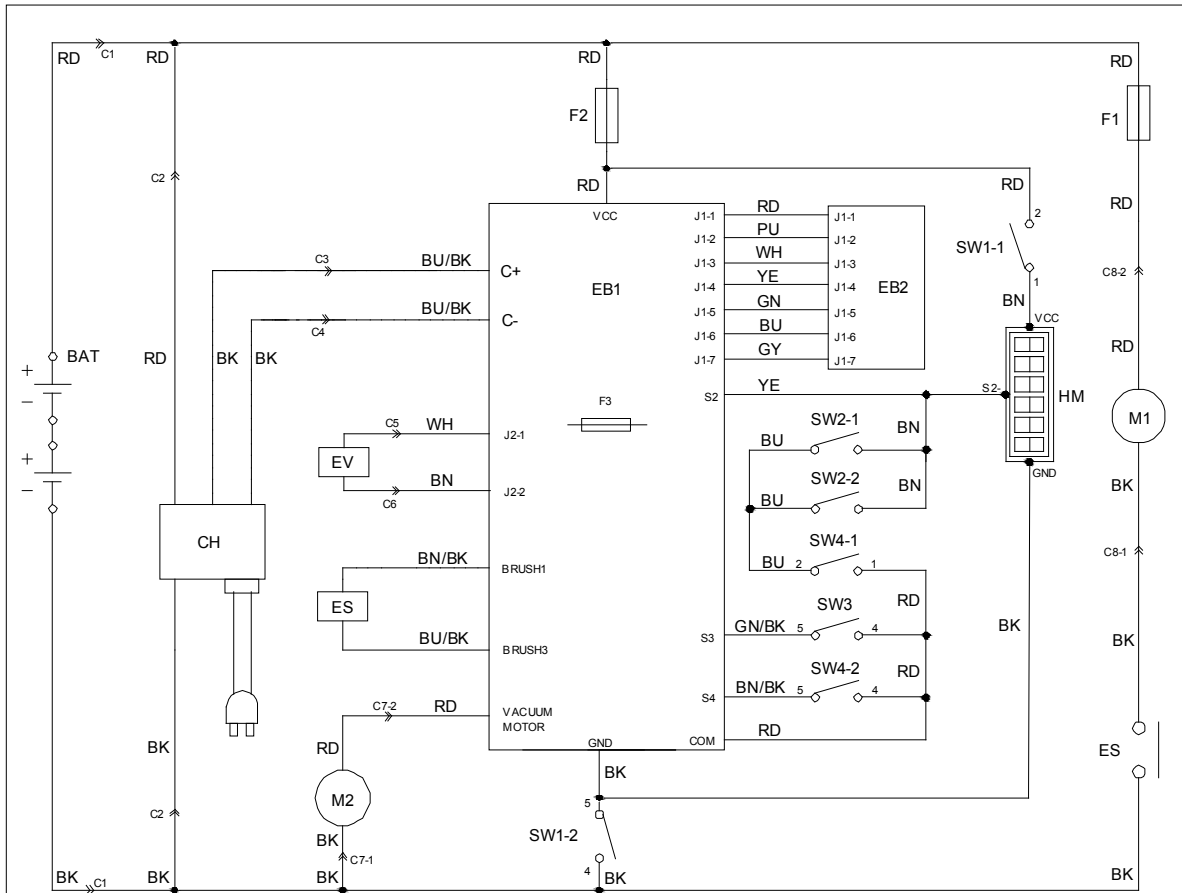


Figure 17

CIRCUIT DIAGRAM



| COMPONENTS | |
|------------|-------------------------------|
| BAT | 24V BATTERY |
| C1 | BATTERY CONNECTOR |
| C2~C4 | BATTERY CHARGER CONNECTOR |
| C5~C8 | CONNECTOR |
| CH | BATTERY CHARGER(OPT) |
| EB1 | CONTROL PANEL BOARD |
| EB2 | LED BOARD |
| ES | CONTACTOR |
| EV | SOLENOID WATER VALVE |
| F1 | BRUSH MOTOR CIRCUIT BREAKER |
| F2 | VACUUM CIRCUIT BREAKER |
| F3 | SOLENOID WATER VALVE FUSE |
| M1 | BRUSH MOTOR |
| M2 | VACUUM SYSTEM MOTOR |
| SW1 | POWER SUPPLY SWITCH |
| SW2 | BRUSH ACTIVATION PUSH-BUTTONS |
| SW3 | VACUUM SWITCH |
| SW4 | BRUSH SWITCH |
| HM | HOUR METER |

| COLOUR CODES | |
|--------------|-------------|
| BK | BLACK |
| BU/BK | BLUE/BLACK |
| BN | BROWN |
| BU | BLUE |
| GN | GREEN |
| GN/BK | GREEN/BLACK |
| GY | GREY |
| PU | PURPLE |
| RD | RED |
| WH | WHITE |
| YE | YELLOW |

TROUBLE SHOOTING

| Trouble | Probable causes | Countermeasure |
|---|--|---|
| Machine not work indicate lights not on | Battery connector (9) without connect | Connect the battery connector |
| | Battery power exhausted | Charge the battery |
| Warning light (43 or 44) flashing | Brush motor overload | Replace it with suitable brush |
| | Some objects obstacle brush rotating | Clear up the brush |
| Brush not work | Fuse of brush motor trip off | Reset |
| | Belt slipping | Check belt, adjust tension pulley |
| Vacuum motor not work | Fuse of vacuum motor trip off | Reset |
| Inefficiency vacuum | Recovery tank is full | Empty the recovery tank |
| | Sewage suction hose and squeegee probably not connected | Connect squeegee and sewage suction hose |
| | Float ball filter or vacuum inlet block | Clean float ball filter then check the ball location |
| | Squeegee blade with dirt or abrasion | Clean or replace the squeegee blade |
| | Recovery tank lid not closed well or tank sealing strip abrasion | Cover the lid correctly, or replace the sealing strip |
| Spray water not enough | Filter with dirt | Clean the filter |
| Squeegee leaves trace | Debris or fragments on squeegee blade | Remove the debris or fragments |
| | Squeegee abrasion or with crack or aging | Replace new squeegee |
| | Balance of squeegee not adjusted | Adjust the balance of squeegee |

NOTE

If the machine is equipped with on-board charger (optional), the machine can't be operated if there is any trouble of the charger. Please contact the our company qualified maintenance center.
For more information, please refer to maintenance manual (It can be available from any of our company maintenance center).

SCRAPPING

Scrap the machine by the qualified waste treatment institution.

Before the machine is scrapped, please take away and segregate below subassembly that relevant laws and regulations request must be disposed in appropriate way.

- Battery
- Brush/Pad-holder
- Plastic hose and plastic parts
- Electrical and electronic components (*)

(*) Please contact our company service center for any destroy of electrical and electronic components.



We supply a full range of cleaning equipment for rental or purchase.

For more information, or a cleaning solution to suit your business, please get in touch –

For a more comprehensive product range, please visit our website.



Address

Berrington House,
Berrington Road,
Leamington Spa
CV31 1NB

Contact

t: 0845 33 77 695
f: 0845 33 78 695
e: info@c-ind.co.uk

www.crescentindustrial.co.uk