

ONYX

TECHNOLOGY POWERING A CLEANER FUTURE



DX15
BATTERY AUTOSCRUBBER

OPERATOR MANUAL

DX15 BATTERY AUTOSCRUBBER

This Guide provides necessary instructions on machine operation and maintenance. Before operation or use of this machine, please carefully read and understand this Guide.

TABLE OF CONTENTS

ONYX 12605 Commerce Station Drive • Suite 700
Huntersville, NC 28078
TECHNOLOGY POWERING A CLEANER FUTURE 704.827.9368

Website: <https://www.onyx solutions.store/>

No further notice will be given for possible change of specification and parts.

Machine Information:

Please fill in when installing for future reference.

Model number: _____
Machine serial number: _____
Sales representative: _____
PO number: _____
Date PO placed: _____
Installation Date: _____



Parts Ordering	4
Warranty Claims	4
Technical Support	4
Protect the Environment	4
Safety Precautions	5-7
Machine Components	8
Machine Unpacking	9
Machine Installation Instructions	9
Battery Installation	9
Installation and Connection of Squeegee Component	10
Installation of Brush/Pad	11
Machine Operation	12
Machine Water Flow Adjustment	12
Information on Brush and Scouring Pad	12
Pre-operational Examination	13
Machine Operation	14
Machine Operation Duration	15
Battery power meter	16
Drainage of Water Tank	16
Drainage of Wastewater Tank	16
Battery Charging	17
Machine Maintenance	18
Daily Maintenance (after each use)	18
Monthly Maintenance (every 80 hours)	19
Machine Transport	19
Machine Storage	20
Troubleshooting Guide	21
Technical Parameters	22
Wiring Diagram/Schematic	23

PARTS ORDERING

When ordering the replacement parts, please refer to the ONYX website at www.onyx solutions.com. Use of the published Illustrated Parts Lists (IPL's) to identify the correct part number required is required to support accuracy of parts ordering.

Machine IPL's can be found at the top of the SHOP page of the ONYX website. Before matching parts or accessories, please firstly determine your machine model and serial number. You can order parts and accessories from any authorized service center or dealer by telephone at 704-827-9368, or email us at sales@onyx solutions.com.

WARRANTY CLAIMS

ONYX Warranty Statement (policy) and Warranty Claim form can be found on the SUPPORT page of the ONYX website, <https://www.onyx solutions.store/support>.

TECHNICAL SUPPORT

Technical support is available by submitting a HELP TICKET on the CONTACT US page of the ONYX website, <https://onyx solutions.odoo.com/contact>.

PROTECT THE ENVIRONMENT



Please abandon the old machine components such as packaging material, battery, etc. and toxic liquid such as anti-freezing agent and oil according to your local regulations on waste disposal and on the premise of maintaining environmental safety. Please ensure to carry out the recycling well.



12605 Commerce Station Drive • Suite 700
Huntersville, NC 28078
704.827.9368

SAFETY PRECAUTIONS

This machine is suitable for industrial and commercial use and specially used for cleaning indoor hard floor instead of other purposes. Please use the suggested scouring pad and brush as well as the commercially available floor cleaner suitable for this machine.

All operators must read, understand and observe the following safety precautions.

The following are explanation for safety warning signs and [for safety] headlines used in this Guide:



WARNING: for warning of risks possibly causing personnel injury or death or unsafe operations.

FOR SAFETY: point out matters which must be observed when using the machine to guarantee safety. If the following warnings are not observed, it may cause: personnel injury, electric shock, fire or explosion.



WARNING: fire or explosion hazard:

- Do not use flammable liquid; do not operate the machine close to or in the place where there is flammable liquid, air or dust.
- This machine is not equipped with explosion-proof motor. If this machine is used in the place where there is flammable air, liquid or dust, electric motor may generate spark during the start and operation, which may cause flash fire or explosion.
- Please do not pick up flammable materials or reactive metals.
- The battery releases hydrogen. Please be away from spark or open fire. The battery cabin must be kept open when charging.



WARNING: Electric shock hazard. Please firstly disconnect the battery wiring before maintaining the machine.



WARNING: Operation of rotary brush. Do not get close with hands. Please turn off the power before maintaining the machine.

The following information explains the conditions causing potential dangers to the operators or equipment:

FOR SAFETY:

1. Please do not operate the machine:
 - when contacting flammable liquid or getting close to flammable air, otherwise it may cause explosion or flash fire.
 - unless being trained and authorized to operate the machine.
 - unless having read and understood the operation manual.
 - unless in the conditions of correct operation.

SAFETY PRECAUTIONS

2. Before starting the machine:

- Please ensure that all safety equipment have been in place and operated correctly.

3. When using the machine:

- please walk slowly when encountering the slope and sliding surface.
- please wear anti-skid shoes.
- please slow down when turning.
- report immediately when the machine is broken or the operation fails.
- do not let the children play on or around the machine.
- observe the mixing ratio and processing instructions on the chemical vessel.

4. Before leaving or maintaining the machine:

- stop and place the machine on the stable ground
- shut down the machine.

5. When repairing the machine:

- avoid moving the parts. Please do not wear loose jacket, shirt or over sleeve.
- before operating the machine, please firstly disconnect the battery wiring.
- when treating battery or battery wiring, please wear protective gloves and eye protectors.
- avoid contacting battery liquid acid.
- please do not spray this machine with high pressure or flush this machine with water pipe.
- use the replacement parts provided or recognized by the manufacturer.
- all maintenance must be carried out by qualified maintenance personnel.
- please do not revise the original design of the machine.

6. When transporting the machine:

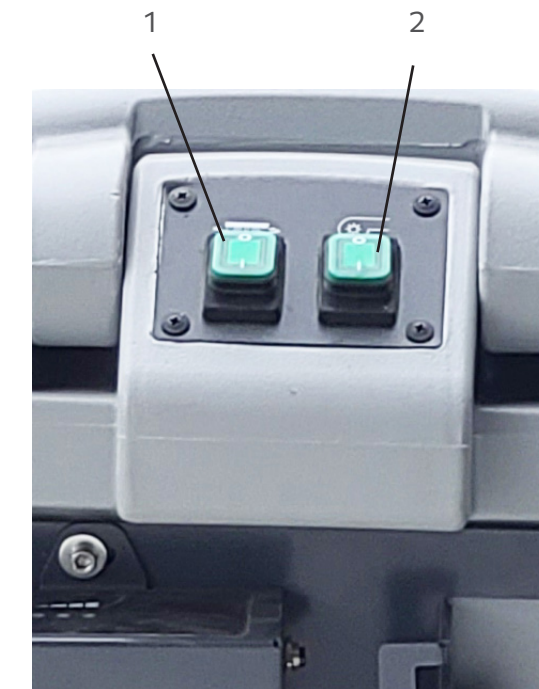
- please shut down the machine.
- please do not transport the machine with the battery on.
- please transport the machine with the aid of the others.
- please use the suggested handling apron when handling the machine from the truck or trailer.
- use the rope to fix the machine on the truck or trailer.
- lower the squeegee to the lower position.

MACHINE COMPONENTS

1. Handle
2. Model Label
3. Squeegee Assembly
4. Wheel
5. Supporting Wheel for brush
6. Brush
7. Brush Shroud
8. Solution Water Tank
9. Logo
10. Recovery water tank
11. Lid for recovery water tank



1. Brush Switch
2. Suction Switch



Machine Unpacking

1. Please carefully check whether there is damage on the packing box of the machine. If there is, please immediately reflect to the carrier.
2. Check the freight list, if there is any omission, please contact the distributor.

Freight content:

- Two 12V batteries - standard configuration
- One 24V battery charger - standard configuration
- One set of battery cable - standard configuration
- One Squeegee Assembly - standard configuration
- One scrubbing brush - standard configuration
- One pad drive - standard configuration
- Other accessories - additionally purchased

3. Before unpackaging the machine, please dismantle the cargo fixed parts and ropes fixing the machine on the warehouse. Carefully unload the machine from the warehouse with the aid of the others.

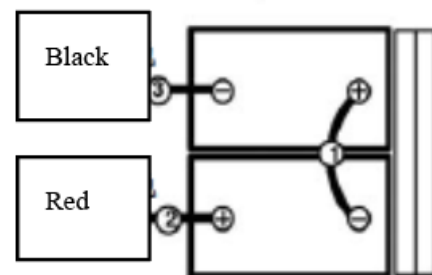
BATTERY INSTALLATION



WARNING: fire or explosion hazard. The battery releases hydrogen. Please be away from spark or open fire. The battery cover must be kept open when charging.

FOR SAFETY: Please wear protective gloves and eye protectors when treating the battery and battery wiring when repairing the machine. Avoid contacting the battery liquid acid.

1. Stop and place the machine on the level ground and take out the key.
2. Lift up the waste water tank to expose the touchable battery cabin
3. Carefully install the battery in the battery cabin and connect the battery cable according to the following figure



Note: Please do not throw the battery into the battery cabin so as to avoid the damage to the battery and the machine.

4. Before connecting the battery, please firstly ensure whether the electrodes and electric terminals are clean. Use electrode cleaning fluid and wire brush as required.

Explanation: Paint a thin layer of metal-free lubricating oil or protective spray on the connected wiring to avoid battery corrosion.

5. After the battery is installed, please check the voltage of the battery using a voltage multimeter. Charge the battery as required.

MACHINE CLEANING

Manually control the water valve to adjust the volume of the cleaning liquid (water and detergent) flowing to the ground. The brush cleans the floor with the solution mixing detergent and water. While the machine advances, absorb the waste water on the floor with squeegee into the waste water tank.

INFORMATION ON BRUSH AND SCOURING PAD

To ensure the optimum efficiency, please use the correct type of brush for cleaning. The brush and scouring pad suggested for use are as follows:

Soft nylon brush (white) -

It is suggested to clean the coated floor without damaging the floor. Clean without scratches.

Polishing pad (white) -

It is used for maintaining highly smooth or polished floor.

Crash pad (red) -

It is used for scrubbing slight dirt without damaging the floor.

Gravity folding pad (black) -

It is used for powerfully removing the heavy coating or base or super-powerful scrubbing.

INSTALLATION AND CONNECTION OF SQUEEGEE

1. Stop and place the machine on the level ground and take out the key.
2. Lower the lifting rod of the squeegee to the lower position.
3. Install the squeegee to the squeegee installation bracke. Ensure to fully place the fastening knob into the jack and then tighten the knob.
4. Connect the vacuum suction pipe to the squeegee component.
5. Examine the squeegee blade and reasonably adjust.

Installation of Brush/Scouring Pad

Explanation: As for the brush and scouring pad suggested for use, please refer to the section of [Information on Brush and Scouring Pad] in this Guide or consult your local authorized dealer.

1. Stop and place the machine on the level ground and take out the key.
2. Tilt machine backwards to lift up the brush head from the ground.
3. Place the scouring pad on the holder and then install the drive disc. Fasten the central lock to fix the scouring pad.
4. Align the holder/brush installation stud at the motor drive disc buckle and rotate to lock into position.

MACHINE OPERATION

FOR SAFETY: Please do not operate this machine before reading and understanding the operation manual.



WARNING: Fire or Explosion Hazard: Do not operate the machine close to or in the place where there is flammable liquid, air or dust.

Pre-operational Examination

- Clean the dust on the ground.
- Check the scale of the battery Multimeter. (refer to the battery Multimeter)
- Check the abrasion conditions of the scouring pad/brush.
- Check the abrasion conditions of the squeegee adhesive tape and reasonably adjust the angle.
- Confirm that the waste water tank is empty and has been equipped with clean floating filter screen.
- Check the abrasion conditions of the skirt section of the brush head.

Machine Operation

1. Switch the key of the main power supply to the position of (I).
2. Pull down the squeegee lifting rod to lower the squeegee component to the ground.
3. Adjust the water flow control valve to desired flow rate.
4. Press the motor switch of the brush and press the switch of water suction motor.

Machine Operation Duration



WARNING: Fire or Explosion Hazard: Please do not pick up flammable materials or reactive metals.

1. Each cleaning path overlaps by 5cm.
2. Let the machine advance constantly to avoid ground damage.
3. If there is drag mark on the ground after the squeegee absorbs water, remove the waste with duster cloth wiping adhesive tape. Clean in advance to prevent drag mark.

4. Do not operate the machine on the slope with a slope over 5% (3°). For safety, please move slowly on slope or skid surface.
5. If there is too much foam, it is suggested to pour the used defoamer solution into the waste water tank.

Note: Do not let the foam enter the filter screen so as to avoid damage to vacuum motor. The foam will make the switch of the filter screen invalid.

6. Use double cleaning method to clean the extremely dirty area. Lift up the squeegee firstly for cleaning, sink with solution for 3-5 min, lower the squeegee for re-cleaning.
7. Replace or rotate the scouring pad as required.
8. Observe the power consumption of the battery Multimeter (refer to the battery Multimeter).
9. Observe the residual liquid amount through the liquidometer of the clean water tank. In traditional scrubbing method, the consumption for each 10 min is about 10l.
10. When the solution in the clean water tank is used up, empty the waste water tank firstly, then re-pour the solution.
11. When the staff leaves the machine, stop and place the machine on the level ground.
12. After cleaning, carry out daily maintenance procedure.

Battery Multimeter

The battery Multimeter will display the power quantity of the battery. When the battery is full of power, all indicator lights will be on. Along with the consumption of the power quantity, the indicator lights will go out from the right to the left. To prolong the life of the battery, do not let the indicator lights go out to below the following power consumption.

Explanation: To prolong the life of the battery, please ensure to charge the battery after the total use time of the machine exceeds 30min.

Drainage of Water Tank

After each use, the waste water tank shall be drained and cleaned. The clean water tank shall be periodically cleaned to remove any corroded parts. Carry the machine to the drainage place, and drain the water according to the following drainage instructions: for safety: please stop and place the machine on the level ground and shut down the machine and take out the key before leaving or maintaining the machine.

Drainage of Waste Water Tank

1. Unclip the drain pipe cover of the waste water tank and take it down.
2. Open the cover of the waste water tank and flush the water tank.
3. Dismantle and flush the floating filter screen in the waste water tank.

Battery Charging

Note: To prolong the life of the battery and ensure the optimum efficiency of the machine, the battery must be charged after the use time of the machine exceeds 30min. Please do not let the battery exist in the uncharged state for long. The following charging instructions are suitable for the charger attached to this machine. Please ensure to use the charger of the following specification to avoid battery damage.

The specification of the battery charger:

- Charger type: - charger for aluminum acid battery.
- Output voltage - 24V
- Output current - 15A
- APO circuit
- Suitable for deep cycle battery charging

1. Move the machine to the place with good ventilation for charging.



WARNING: Fire or Explosion Hazard: The battery releases hydrogen. Please be away from spark or open fire. The battery cabin must be kept open when charging.

2. Stop and place the machine on the level ground.

FOR SAFETY: Please wear protective gloves and eye protectors when treating the battery and battery wiring when repairing the machine. Avoid contacting the battery liquid acid.

4. When charging, please open the side of the waste water tank to facilitate ventilation.
 5. Plug the AC (alternating current) power cord of the charger to the power socket with sound grounding.
 6. Plug the DC (direct current) power cord of the charger to the battery charging socket behind the waste water tank.
 7. The charger will automatically start charging and will automatically switch off when it is full
- Note: during the charging of the charger, please do not pull the DC cord of the charger out of the socket of the machine to avoid generation of arc strike. If the charging must be suspended during the charging, please pull out the AC power cord firstly.



WARNING: Fire or Explosion Hazard: The battery releases hydrogen. Please be away from spark or open fire. The battery cabin must be kept open when charging.

8. After the charging is completed, recheck the electrolyte level.

Only by indeed following daily, weekly and monthly maintenance procedure can the machine be kept in the optimum working state.



WARNING: Electric shock hazard. Please firstly disconnect the battery wiring before maintaining the machine.

Daily Maintenance (after each use)

1. Drain and clean the waste water tank
2. Dismantle and flush the floating filter screen in the waste water tank
3. Drain the clean water tank and flush the water tank with hot water of no higher than 60 degrees as required
4. Dismantle the scouring pad/brush for cleaning. If there is any abrasion, overturn or replace the scouring pad
5. Wipe the squeegee blade. Place the squeegee component in the rising position to avoid damage to blade.
6. Check the conditions of the squeegee blades. If there is any wear and tear, exchange two sides of the blade.
7. Use multi-purpose detergent and wet cloth to wipe the machine. For safety: please do not spray this machine with high pressure or flush this machine with water pipe when cleaning the machine to avoid failure of electronic component.
8. Check the conditions of the skirt side of the brush head and replace it if there is any wear and tear or damage.

Charge the battery. To prolong the life of the battery and ensure the optimum efficiency of the machine, the battery must be charged after the use time of the machine exceeds 30 min.

Monthly Maintenance (every 80 hours)

1. Dismantle the filter of the clean water tank from the bottom of the machine and clean the filter screen. Ensure the clean water tank is emptied before dismantling the filter.
2. Clean the top of the battery to prevent electrode corrosion (refer to [Battery Maintenance]).
3. Check whether the battery wiring is loose.
4. Check and clean the cover seal of the waste water tank and replace it if there is any damage.
5. Spray the silica gel dry lubricant on all pivots and wheels, and cover a layer of water-proof lubricating oil to ensure smooth operation of wheels and pivots.
6. Check whether the nuts and bolts on the machine are loose.
7. Check whether the machine leaks.

Quarterly Maintenance

1. Examine the abrasion conditions of the carbon brush of drive motor (drive model), vacuum motor and brush motor every 250 hours. When the abrasion length of the carbon brush is within 10mm, the carbon brush needs to be replaced. If it is required to deliver the machine for maintenance, please contact with the authorized service center.



WARNING: Electric shock hazard. Please firstly disconnect the battery wiring before maintaining the machine.

When transporting the machine with truck or trailer, please ensure to following the following binding procedure:

1. Lift up the brush head to the transport position
2. Use the suggested handling apron to load and unload the machine.
3. Lean the front of the machine closely against the front part of the truck or trailer. When the machine is placed properly, lower down the brush head and turn the key to the close position.
4. Place blocks behind each driving wheel to prevent the machine from sliding.
5. Use the rope to fix the top of the machine to prevent titling. You must install bracket on the sweeping board of the truck or trailer. For safety: when transporting the machine, please use the suggested handling apron when handling the machine from the truck or trailer and use the rope to fix the machine on the sweeping board.

Machine Storage

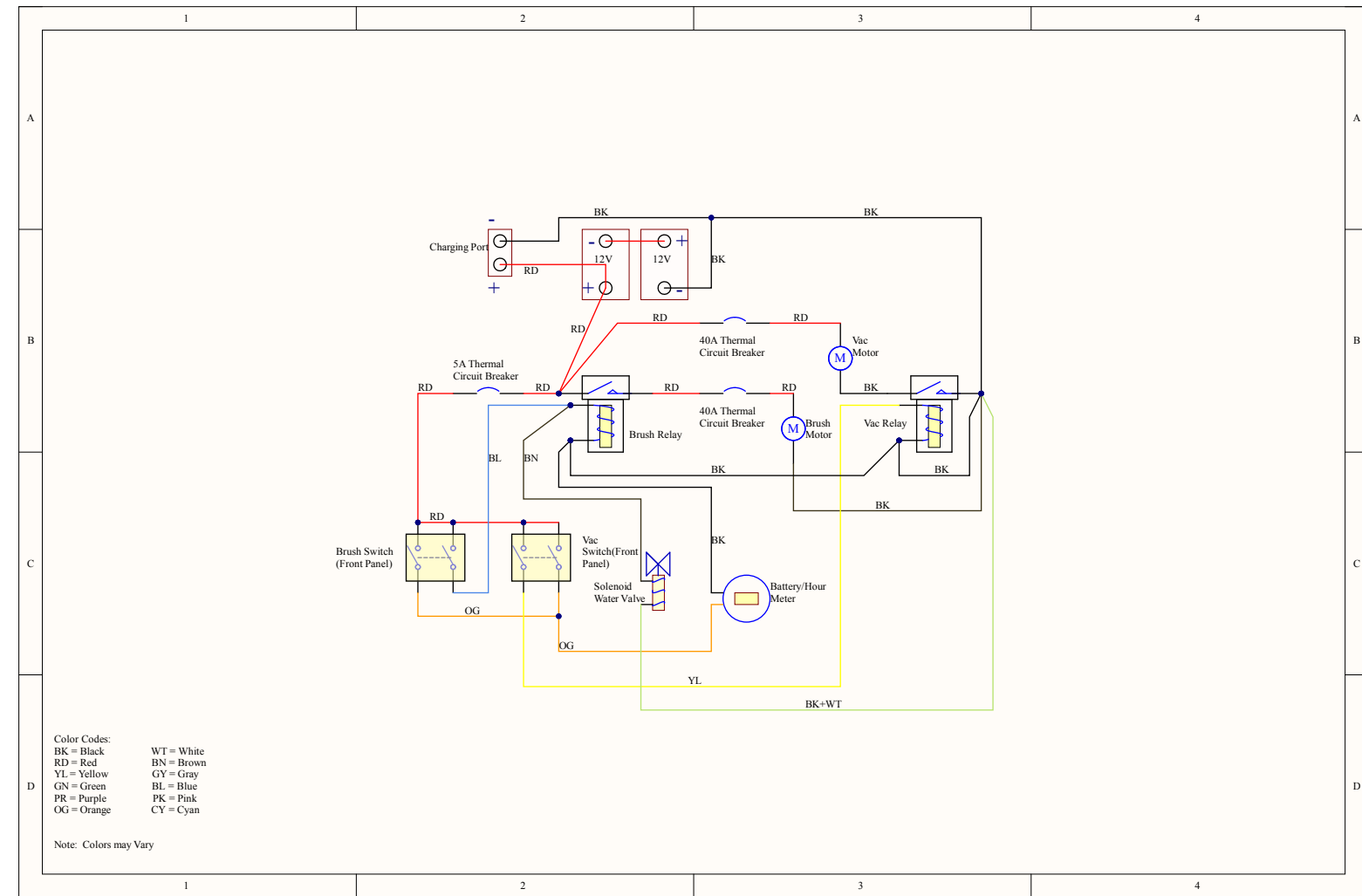
1. Please charge the battery before storage. Do not store the battery with the power running out.
2. Drain and flush thoroughly the bottom of the water tank.
3. Store the machine in a dry place and the brush head shall be kept in the rising position.
4. Open the cover of the waste water tank. Note: Don not let the machine subject to the rain and store it indoor.
5. If the machine is stored in a cold environment, please indeed drain all liquid in the machine.

Problem	Reason	Solution
The Machine cannot be operated	The battery has no power	Charge the battery
	The batter fails	Replace the battery
	The battery wiring is loose	Fasten the battery wiring
	The main fuse blows out	Replace the fuse
The brush motor does not work	The brush head rises up from the ground	Lower down the brush head
	The battery Multimeter is locked and not started	Charge the battery
	The breaker of the brush motor circuit triggers blackout	Reset the button of the breaker of the brush circuit
	The brush (upper/lower) switch fails	Please contact the service center
The vacuum motor does not work	The carbon brush of the motor wears	Please contact the service center
	The squeegee rises up from the ground	Lower down the squeegee
	The fuse of the vacuum motor blows out	Replace the fuse
	The vacuum motor or wiring fails	Please contact the service center
Little or no water flows out	The carbon brush of the motor is worn	Please contact the service center
	The filter or solution pipe of the clean water tank is blocked	Clean the filter of the clean water tank
	The speed of the flow control knob is set too low	Adjust the water control knob
The waste water recovery rate is low	The screw of the control knob is loosened	Lubricate the knob and then fasten the screw
	The waste water tank is full	Drain the waste water tank
	The water-absorbing adhesive tape is worn	Replace the water-absorbing adhesive tape
	The water suction pipe is blocked	Remove the blocked scraps
	The sealing strip of the waste water tank is damaged	Replace the sealing stripe
The Machine cannot be operated	The vacuum motor fails	Please contact with the service center
	The battery has flaws	Replace the battery
	The battery charging fails	Repair or replace the charger

TECHNICAL PARAMETERS

Technical parameter	Unit	DX15
Operating voltage	V/AH	24/70-100
Scrubbing motor	W	650
Suction motor	W	500
Squeegee lifting motor	W	100
Brush lifting motor	W	100
Drive motor	W	1150 (4.5hp)
Cleaning width	mm	430 (15")
Squeegee width	mm	620 (24")
Cleaning efficiency	m2/h	1500 (16,000sq-ft/hr)
Clean water tank capacity	L	28 (7.5 Gallons)
Waste water tank capacity	L	30 (8 Gallons)
Machine weight	Kg	103kg (227lbs; Shipping weight 237lbs)
Machine dimension	cm	100 x 57 x 84 (39" x 22" x 33")

WIRING DIAGRAM/SCHEMATIC



Link to Wiring Schematic PDF file on ONYX Website Support Page:
<https://www.onyx solutions.store/support>

ONYX
TECHNOLOGY POWERING A CLEANER FUTURE

12703 Commerce Station Dr • Suite 200
Huntersville, NC 28078
704.827.9368



onyxsolutions.com