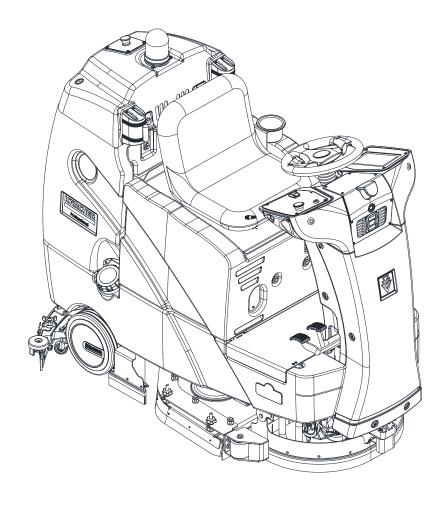


KIRA B100 R English 02







#### Machine Data Label | Overview

Model:	
Date of Purchase:	
Serial Number:	
Dealer:	
Address:	
Phone Number:	
Sales Representative:	

#### Overview

The KIRA B100 R is a battery powered, stand-on, hard floor scrubber intended for commercial use. The appliance applies a cleaning solution onto a hard floor, scrubs the floor with brushes or pads, and then vacuums the soiled water back into the recovery tank. The machine is a commercial floor scrubber capable of manual and autonomous (self-driving) mode operation. Attributions

BrainOS is the name of the Brain Corporation artificial intelligence (AI) and autonomous navigation software that powers the autonomous operating capabilities of the machine. Use of autonomous operation requires a subscription to Brain Corporation Autonomy Services.

Model: 1.006-720.0 KIRA B100 R

## **Warranty Registration**

Thank you for purchasing a Kärcher North America product. Warranty registration is quick and easy. Your registration will allow us to serve you better over the lifetime of the product.

To register your product go to : http://warranty.karcherna.com

For customer assistance: 1-800-444-7654



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#### How To Use This Manual

This manual contains the following sections:

- How to Use This Manual
- Safety
- Operations
- Maintenance
- Suggested Spare Parts

The HOW TO USE THIS MANUAL section will tell you how to find important information for ordering correct repair parts.

Parts may be ordered from authorized dealers. When placing an order for parts, the machine model and machine serial number are important. Refer to the MACHINE DATA box which is filled out during the installation of your machine. The MACHINE DATA box is located on the inside of the front cover of this manual.

Model:
Date of Purchase:
Serial Number:
Dealer:
Address:
Phone Number:
Sales Representative:

The model and serial number of your machine are located on the back of the machine.

The SAFETY section contains important information regarding hazardous or unsafe practices of the machine. Levels of hazards are identified that could result in product damage, personal injury, or severe injury resulting in death.

The OPERATIONS section is to familiarize the operator with the operation and function of the machine.

The MAINTENANCE section contains preventive maintenance to keep the machine and its components in good working condition. They are listed in this general order:

- Daily Maintenance
- Monthly Maintenance
- Motor Maintenance
- Battery Maintenance
- Machine Storage
- Fault Codes & Solutions

NOTE: The manual part number is located on the lower right corner of the front cover.

#### PROTECT THE ENVIRONMENT





Please dispose of packaging materials, old machine components, such as batteries, hazardous fluids, including anti-freeze and oil, in an environmentally safe way according to local waste disposal regulations.

Always remember to recycle.

### **Safety Precautions**

- · Batteries emit flammable hydrogen gas.
- · Explosion or fire can result.
- Keep sparks and open flame away.

If at any time the labels become illegible, promptly replace them.



Figure 1: Explosion, fire, and shock hazard label, located in front of the operator seat

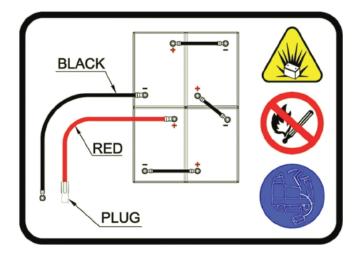


Figure 2: Battery safety label, located under the operator seat

### IMPORTANT SAFETY INSTRUCTIONS

### When using this machine, basic precaution must always be followed, including the following: READ ALL INSTRUCTIONS BEFORE USING THIS MACHINE.

**! WARNING:** To reduce the risk of fire, electric shock, or injury:

#### **GENERAL SAFETY**

Operators must be thoroughly trained on the use of the machine.

Operators must read and understand this document before operating or maintaining the machine.

Train all personnel who are assigned to operate the machine. The machine is not intended for users with reduced physical, sensory, or mental capabilities, nor use by untrained operators.

Report any damage or faulty operation immediately. Do not use the machine if it is damaged in any way.

Avoid moving parts.

Do not allow children to play on or with the machine.

Do not use the machine in a manner other than what is described in this document.

Do not clean the machine with a pressure washer.

Only plug the external charger into an outlet with an appropriate electrical rating: 100 to 240 VAC, 50/60 Hz, 8 A. In North America, the standard grounded outlet emits 120 VAC, which is the designated electrical rating.

Because arcing could result, do not disconnect the off-board charger DC cord from the machine charging receptacle when the charger is operating. If battery charging must be interrupted, disconnect the battery charger AC power supply cord first.

Do not pull on the battery charger cord to unplug. Grasp the plug at the outlet and pull.

Only use approved batteries and chargers. Use of unapproved parts could impair safety and potentially damage the machine or cause a fire.

#### **ENVIRONMENTAL SAFETY**

The machine is not designed or intended for use in environments requiring fail-safe performance, including but not limited to any application in which failure of the machine could lead directly to death, personal injury, or severe physical or property damage.

Do not use on soil, grass, artificial turf, or carpeted surfaces.

Indoor use only.

Do not use on public paths or roads.

Only use the machine to clean flat, hard surfaces with little to no inclines (up to 2% incline when operating in manual operation; 0% incline when operating in autonomous operation).

All drops, stairs, escalators, moving platforms, or cliffs near the machine must be guarded by a physical barrier when operating in autonomous operation.

Do not use temporary elevated platforms—such as ladders or scaffolds—near the machine during operation.

Do not leave electrical cords or low-profile items—such as items with a height of less than 7 in (18 cm) from the ground—in the machine area of operation.

The operating and storage temperature is 35°F to 100°F (2°C to 38°C).

Store indoors in a dry environment.

Park and store the machine on a level surface.

Some objects could be difficult for the machine to detect, such as reflective black surfaces, other highly polished or reflective surfaces, or plexiglass. Avoid cleaning in autonomous operation in areas where these objects are present.

Avoid using the machine in proximity to other products that are sensitive to electromagnetic noise.

Do not use in low-traction environments where ice or oil are present.

Avoid use in environments where stopping could result in a safety risk, such as blocking an emergency exit or access to medical equipment.

Avoid use in environments with inconsistent (excessively bumpy) terrain texture or many floor transitions.

Dispose of packaging materials, used batteries, and fluids in an environmentally safe way according to local waste disposal regulations. Remember to recycle.

#### OPERATIONAL SAFETY

Keep hands and feet clear of moving parts while the machine is in operation.

Locate and make sure all safety devices—such as the operator seat sensor, yellow safety straps, and Emergency Stop buttons—are in place and fully functional.

All doors and covers must be positioned as indicated in this document before using the machine.

Keep all third parties—especially children and animals—at least 3 ft (0.9 m) away from the machine during operation.

The operator is responsible for supervising and monitoring safe operation of the machine.

Do not ride the machine when it is operating in autonomous operation.

Do not attempt to hold the steering wheel when operating in autonomous operation. It could move rapidly and unexpectedly and cause injury.

The wheels and tires must remain in contact with the floor at all times. Avoid abrupt maneuvers while operating the machine in manual mode.

Do not operate the machine near flammable materials, such as solvents, thinners, fuels, grain dust, and so on. Electric motors and components can cause an explosion when operated near explosive materials or vapors.

Do not use the machine to pick up hazardous substances.

Do not leave the machine unattended without turning the ignition key off and removing the key. When operating the machine in autonomous operation, remove the ignition key to prevent unauthorized use.

Prevent unauthorized use of the machine by storing it with the ignition key removed.

Do not charge batteries when open flames or sparks are present. Do not smoke.

If the battery charger or power supply cord is damaged, replace it. Do not use damaged parts.

#### MAINTENANCE AND SERVICE SAFETY

Repairs and specified maintenance tasks must only be performed by authorized personnel.

Only use approved replacement parts. Use of unapproved parts could impair safety and potentially damage the machine.

Read all instructions before performing any service or maintenance functions.

### Safety

Take precautions to prevent hair, jewelry, or loose clothing from becoming caught in moving parts.

Only work on the machine when it is parked on a level surface and appropriately stabilized with safety blocks or support stands, if necessary.

Do not lay tools or metal objects on top of the batteries.

#### SCRUBBER SAFETY

Place wet floor signs in areas where the machine is operating. See the Autonomy Services Agreement and the End User License Agreement (EULA) for further uses and restrictions.

Use caution when moving the machine in or out of areas below freezing temperatures. Frozen water in the tanks or hoses could damage the machine.

Use the correct personal protective equipment—as recommended by the cleaning chemical safety data sheet—when adding cleaning chemicals or draining fluids.

Observe the legal directives and local regulations for disposal of cleaning chemicals or detergents.

In the event of accidental contact or spill of cleaning chemicals or detergents, follow the guidelines provided by the manufacturer.

Only use brushes or pads provided with the machine or those specified by Brain Corporation or ICE. Use of unauthorized brushes or pads could impair safety and potentially damage the machine.

- •Do not use flammable cleaning agents.
- •Drain all tanks and hoses prior to storing the machine.

### READ AND SAVE THESE INSTRUCTIONS

The following symbols are used throughout this guide as indicated in their descriptions:

#### HAZARD INTENSITY LEVEL

There are three levels of hazard intensity identified by signal words **-WARNING** and **CAUTION** and **FOR SAFETY**. The level of hazard intensity is determined by the following definitions:

### **AWARNING:**

WARNING - Hazards or unsafe practices which COULD result in severe personal injury or death.

### A CAUTION:

**CAUTION** - Hazards or unsafe practices which could result in minor personal injury or product or property damage.

#### FOR SAFETY: To Identify actions which must be followed for safe operation of equipment.

Report machine damage or faulty operation immediately. Do not use the machine if it is not in proper operating condition. Following is information that signals some potentially dangerous conditions to the operator or the equipment. Read this information carefully. Know when these conditions can exist. Locate all safety devices on the machine. Please take the necessary steps to train the machine operating personnel.

#### FOR SAFETY:

DO NOT OPERATE MACHINE:

Unless Trained and Authorized.

Unless Operation Guide is Read and understood.

In Flammable or Explosive areas.

In areas with possible falling objects.

#### WHEN SERVICING MACHINE:

Avoid moving parts. Do not wear loose clothing; jackets, shirts, or sleeves when working on the machine. Use Kärcher North America approved replacement parts.

### **AWARNING:**

Batteries emit hydrogen gas. Explosion or fire can result. Keep sparks and open flame away. Keep battery compartment open during charging. Keep sparks and flames away from the batteries. Do not smoke around batteries.

### **AWARNING:**

Disconnect batteries before working on machine. Only qualified personnel should work inside machine. Always wear eye protection and protective clothing when working on or near batteries. Avoid skin contact with the acid contained in the batteries.

### **AWARNING:**

Never allow metal to lie across battery tops.

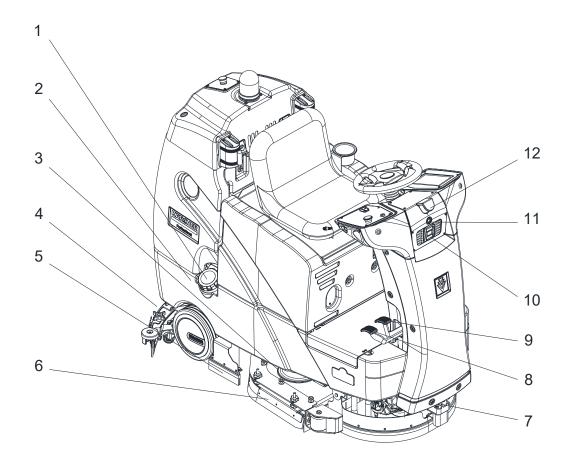
### **AWARNING:**

Flammable materials can cause an explosion or fire. Do not use flammable materials in tanks.

### **AWARNING:**

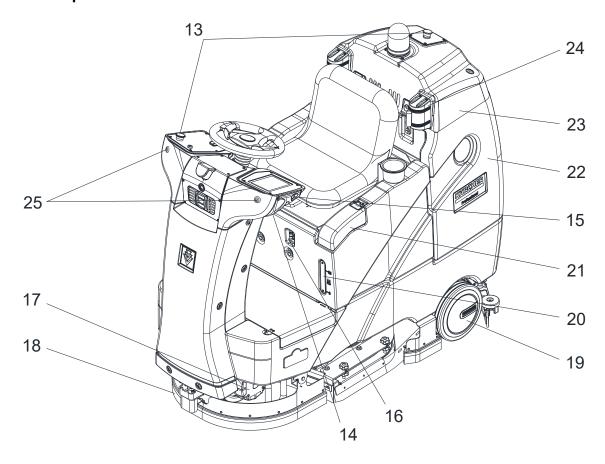
Flammable materials or reactive metals can cause explosion or fire. Do not pick up.

### **Machine Components**



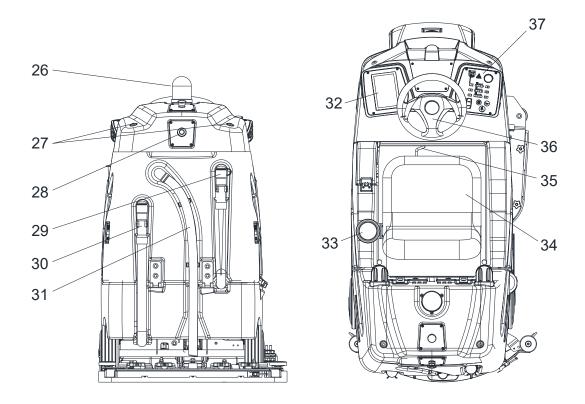
- 1. Hose Fill Clean Water Port
- 2. Clean Water Tank
- 3. Scrub Deck
- 4. Rear Squeegee
- 5. Side Perimeter Skirt
- 6. Side Squeegee
- 7. Lower LIDAR Sensor
- 8. Accelerator Pedal
- 9. Brake Pedal
- 10. Front 3d Camera
- 11. Front 2d Camera
- 12. Upper LIDAR Sensor

### **Machine Components 2**



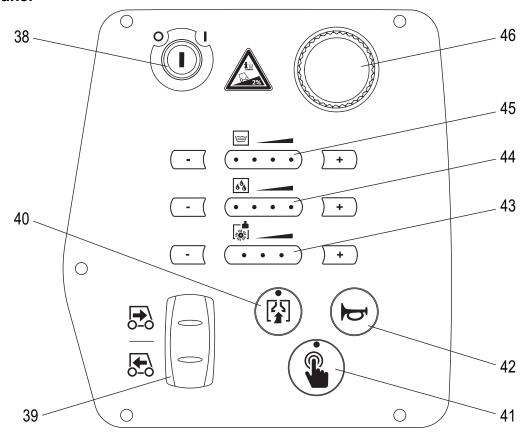
- 13. Emergency Stop Button
- 14. Side 3d Camera
- 15. Side 2d Camera
- 16. Battery Charger Receptacle
- 17. Front Drive Wheel
- 18. Front Perimeter Skirt
- 19.10-inch Wheels
- 20. Solution Level View Window
- 21. Solution Port
- 22. Recovery Tank
- 23. Recovery Tank Cover
- 24. Retractable Safety Straps
- 25. Front Signal Lights

### **Machine Components 3**



- 26. Warning Light
- 27. Rear Signal Light
- 28. Start/pause Button
- 29. Recovery Tank Drain Hose
- 30. Clean Water Tank Drain Hose
- 31. Vacuum Hose
- 32. User Interface (UI) Screen
- 33. Cup Holder
- 34. Seat
- 35. Seat Adjustment Handle
- 36. Steering Wheel
- 37. Control Panel

### **Control Panel**



- 38. Ignition Key Switch
- 39. Directional Switch
- 40. Vacuum Button
- 41. One-touch Button
- 42. Horn Button
- 43. Brush Pressure Control
- 44. Water Flow Control
- 45. Solution Flow Control
- 46. Emergency Stop Button

### Machine Set Up & Installation

### **Uncrating Machine**

Be sure and check packing carton for any damage. Immediately report any damage to carrier. Check the contents of package to ensure that the following items are included:

- Machine
- 4-6V Batteries
- Squeegee assembly
- 2-Pad drivers
- Uncrate the wooden box, place the top board on the edge of pallet, lie in the front of the machine, as below shown.



### **AWARNING:**

Do not operate machine unless you have read & understood this manual.

- Install batteries.
- Turn on the Main power key switch, make sure the Squeegee assembly and the Scrub head assembly are off the floor.
- 4. Sit in the Operator seat, hold the steering wheel, press the accelerator pedal and drive the machine slowly down from the slope.

### **Installing Batteries**

### **AWARNING:**

Batteries emit hydrogen gas. Explosion or fire can result from hydrogen gas. Keep sparks and open flames away! Keep battery compartment open when charging.

#### Recommended battery spec:

4-6V, 260AH@20HR deep cycle batteries.

#### Max. battery dimensions

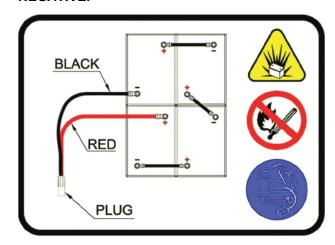
300mm (L) X 180mm (W) X 290mm (H)

- 1. Turn the Main power key switch off.
- 2. Remove the Operator seat & the Battery box.
- Carefully place the batteries into the compartment as shown in the figure below. Place the battery brace at the rear of the batteries.

## NOTE: Do not drop the batteries into the compartment!

Connect battery cables to posts in numbered order as shown in drawing below.

## NOTE: RED to POSITIVE and BLACK to NEGATIVE.



5. Reinstall the Operator seat and the Battery box.

#### Machine Set Up

#### Installing Brushes Or Pads

- Turn off the 1-Step switch and raise the Scrub head assembly off of the floor, then stop machine on the level surface, remove the key and ensure the machine is turned off.
- If using the pad driver, first attach the appropriate pad to the pad driver surface.

3. Align the pad driver or brush under the motor hub and push it upward to engage.



 To remove the pad driver or brush, raise the scrub head and remove the side squeegee assembly, push the edge of brush downward.

### **Mounting The Squeegee Assembly**

- 1. Turn off the 1-Step switch and raise the squeegee assembly off the floor.
- 2. Mount the squeegee assembly to the squeegee pivot bracket. make sure the knobs are completely seated into the slots before securing knobs.
- Connect the Vacuum hose to the squeegee assembly. Loop the hose by using the hose clip provided.
- 4. Check the squeegee blades for proper adjustment.

### Filling The Solution Tank

The machine is equipped with a hose fill-port at the side of the machine, and a bucket fill port located under the recovery tank.

NOTE: Before accessing the bucket fill-port make sure that the recovery tank is empty. When filling the solution tank with a bucket, make sure that the bucket is clean. Do not use the same bucket for filling and draining the machine.

### **AWARNING:**

Do not put any flammable materials into the solution tank. This can cause an explosion or a fire.

### Filling The Detergent Bottle

The machine is equipped with a 6 liter detergent bottle. Open the cap and when filling, watch the liquid level on the detergent level watching window.

The ratio of water and detergent is 0~5%, you can adjust this ratio via pressing the detergent dosage adjusting buttons.

NOTE: Only use recommended cleaning chemicals. Contact your janitorial supply distributor for recommendations on proper chemicals.

### **Machine Operation**

### **AWARNING:**

Do not operate machine unless you have read and understand this manual.

### **Pre-operation Check**

- 1. Check the tank cover seals for damage.
- 2. Drain the recovery tank, check the vacuum fan inlet filter, clean them if necessary.
- 3. Check the vacuum hose for debris or blockage.
- Check the squeegees for damage, wear and for deflection adjustment.
- 5. Check whether pad/brush is installed properly.
- 6. Check the brakes and steering for proper operation.

#### **Operating The Machine**

1. Sit in the Operator seat, adjusting the seat to comfortable place by pushing the seat adjustment handle.

# NOTE: The machine will not travel unless the operator is sitting in the operator seat.

- Turn on the machine.
   Check the LED display screen, if there are fault codes and the fault indicator is blinking, please do not operate the machine unless the faults have been eliminated (please see FAULT CODES AND ELIMINATE section).
- 3. Select the preferred settings by pressing the Brush pressure adjusting buttons, solution flow adjusting buttons, and detergent dosage adjusting buttons.

## NOTE: Use the minimal pressure and flow possible.

 Turn on the 1-Step switch, the scrub head assembly and the squeegee assembly will lower down automatically, all the presetting functions will turn on.

### **Operations**

5. The machine can scrub in both forward and backward, place the directional switch in the forward direction is to move forward, backward is to move backward. The horn will sound and the squeegee will raise automatically (the vacuum motor will turn off after a short delay) when driving the machine backwards. This is to prevent damaging the squeegee.

## NOTE: Go slow when driving the machine backwards.

6. Press the accelerator pedal, the machine will start scrubbing, the speed can be adjusted by controlling the force of your foot stepping on the accelerator pedal. Light is slow, heavy is fast.

#### NOTE: Go slow on inclines and slippery surfaces.

- 7. To stop scrubbing, turn off the 1-Step switch, the scrub head will raise automatically, the squeegee will also raise after a short delay (the vacuum indicator flashing), please keep moving until the dirty water is picked up, and then release the accelerator pedal and stop scrubbing.
- 8. Turn off the machine.

#### **Brake Device**

The machine is driven by the front drive wheel that is equipped with a brake device. When you release the accelerator pedal, the machine will stop moving, and the park brake will engage after a short delay.

The machine is equipped with a Brake pedal that can be used to control the machine if quicker stopping is needed or if operating on an incline.

### **Emergency Stop Button**

The machine is equipped with an emergency stop button, please push it in an emergency. This will shut off all power to the machine and it will brake immediately.

To restart the machine, please reset the emergency stop button, and turn off the main power key switch, then turn on key switch.

NOTE: Please hold the steering wheel then push the emergency stop.

### While Operating The Machine

### **AWARNING:**

Fire or explosion hazard. Do not pick up flammable materials or reactive metals.

- 1. Go slow on inclines and slippery surfaces, go slow when turning and reversing. Do not operate the machine on inclines that exceed 2%.
- 2. Drive machine in as straight of a path as possible. Avoid turning the Steering wheel too sharply when the machine is in motion. avoid sudden turns except emergencies.
- 3. Do not keep the machine in the same position with pad / brush spinning, keep the machine moving to prevent damage to floor finish.
- 4. If the squeegee assembly leaves streaks on the floor, raise the squeegee off the floor and wipe the blades down with a damp cloth. Pre-sweep the area to prevent leaving streaks on the floor.
- 5. To obtain the optimum cleaning performance, you can adjust the brush pressure, solution flow, and detergent dosage as needed. If the machine is not picking up the water properly, please stop scrubbing and check the squeegee blade. Adjust or replace if necessary.
- 6. If the dirty water path exceeds the width of squeegee, please adjust the side squeegee assembly.
- 7. Pour a recommended defoamer into the recovery tank if excessive foam appears.

### **AWARNING:**

The foam does not activate water level switch, excessive foam may result in vacuum motor damage.

- 8. Press the horn button to alert if necessary.
- If there is a fault code F10 (Batt low) on the LED display screen, the machine will stop scrubbing and alarm, please drive the machine to the charger.
- 10. If there is a fault code F08 (Rec Tank Full) on the LED display screen, the vacuum motor will stop working and alarm. Please drain the water from the machine recovery tank. If there is a fault code F09 (Soln Tank Empty) on the LED display screen, the detergent system will

stop working and alarm. Please fill the solution tank.

- 11. If there are other fault codes on the LED display screen, please turn off the machine. Eliminate the fault (please see FAULT CODES AND ELIMINATE section), then restart machine.
- For heavily soiled areas, please use DOUBLE SCRUBBING mode.

The first time: Turn on the 1-step switch, then press the vacuum motor switch. It's indicator will turn off and the squeegee will raise automatically, then will start to scrub the areas without picking up water.

The second time: turn on the vacuum motor switch, the squeegee will lower down automatically, and then start to scrub and pick up water.

13. If you only want to pick up water and don't need to scrub, turn on the vacuum motor switch (squeegee will lower down) and turn off the 1-step switch (if it is ON). The scrub head will raise and then the vacuum will start.

### **Electric Parking Brake Engagement**

FOR SAFETY: Before leaving or servicing machine, stop on a level surface, turn off machine and remove key.

### **Electric Brake Engagement**

This machine is equipped with an electric parking brake.

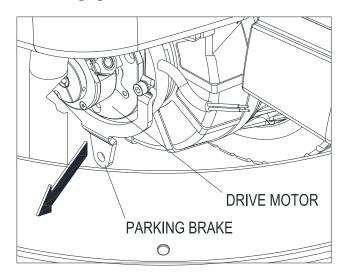
The brake automatically engages and keeps the machine from moving whenever the operator steps off the platform or when emergency stop is engaged.

The brake has a mechanical over-ride that can be engaged so machine can be pushed or towed (slowly).

## **AWARNING:**

Do not operate machine with brake disengaged.

### To disengage brake:



- 1. Pull lever away from brake housing.
- 2. Insert material to hold brake lever in place.

### **Emergency Stop/Brake Switch**

This safety feature is designed to cut all power to the machine at any time and apply parking brake.

To shut the machine power off, push the emergency stop switch. This will also engage the parking brake and cause the machine to stop immediately.

Excessive emergency stop usage can cause premature brake wear; use only when necessary. To reset the machine, rotate the switch clockwise.

### **Tank Draining**

### **Draining The Recovery Tank**

Any time scrubbing is completed, or when refilling the solution tank, the recovery tank should be drained and cleaned.

## **AWARNING:**

If the recovery tank is not drained when the solution tank has been refilled, foam or water may enter the float shut-off screen and cause damage to the vacuum motor.

- 1. While holding the recovery tank drain hose upward, remove the cap and lower hose to drain.
- 2. Open the Recovery tank cover and rinse out the tank. Use a rag to remove any excess dirt. Clean the vacuum fan inlet filter located in the recovery tank.

### **Draining The Solution Tank**

Any time scrubbing operation is completed, the solution tank should be drained and cleaned.

- While holding the solution tank drain hose upward, remove the cap and lower hose to drain.
- Rinse the solution tank with clean water after every use. This will help prevent chemical buildup and clogging of the solution lines.

### **Battery Charging**

## **AWARNING:**

Fire or explosion hazard. Batteries emit hydrogen gas. Keep sparks and open flame away. Keep battery compartment propped open when charging.

### **External Charger**

Use a 24V 50A DC charger which will automatically shut off when the batteries are fully charged.

- Stop the machine in a clean, well ventilated area next to the charger.
- 2. Turn "OFF" machine.

FOR SAFETY: Before leaving or servicing machine; stop on level surface, turn off machine and remove key.

3. Lift seat.

FOR SAFETY: When charging, connect the charger to the batteries before connecting the charger to the AC wall outlet. Never connect the charger to the AC wall outlet first. Hazardous sparks may result.

- 4. Plug the charger connector into the battery connector. Connect the charger AC plug to a wall outlet. The charger gauge should indicate that the batteries are charging.
- 5. When the batteries are fully charged, disconnect the charger from the AC wall outlet, then disconnect the charger from the batteries.
- 6. Lower seat.

#### **Preventative Maintenance**

### **AWARNING:**

Before performing any maintenance on the machine, be sure that the power is turned off, or the batteries are disconnected!

### **AWARNING:**

Repairs are to be completed by an authorized service center only. Any repairs completed by unauthorized persons will void the warranty.

### **Daily Maintenance**

- 1. Remove pad driver/ brush and clean with approved cleaner.
- Drain recovery and solution tanks completely and rinse out with clean water. Visually check the recovery tank for debris and clean out as necessary.
- 3. Raise the squeegee assembly off the floor and wipe it down with a damp towel. Be sure to store the squeegee in the up position.
- 4. Remove the vacuum fan inlet filter and rinse it out with clean water.
- 5. Clean machine with an approved cleaner and a damp towel.
- 6. Recharge the batteries.
- 7. Check the condition of the squeegee blade wiping edge, rotate blade if worn.

### **Monthly Maintenance**

- 1. Clean the battery tops to prevent corrosion.
- 2. Check for loose battery cable connections.
- 3. Inspect and clean the recovery tank cover seal. Replace it if damaged.
- 4. Check the machine for loose nuts and bolts.
- 5. Check the machine for leaks.

#### **Motor Maintenance**

- Contact your local distributor for any motor maintenance.
- 2. Motor should have the brushes checked every 250 hours. Brushed should be replaced when they are worn to a length of 10mm or less.

### **Battery Maintenance**

### **AWARNING:**

Batteries emit hydrogen gas and an explosion or fire can result. Keep sparks and fire away from batteries at all times.

### **AWARNING:**

Whenever servicing batteries, be sure to wear protective gloves. Avoid contact with battery acid at all times.

NOTE: For the best machine performance, keep batteries charged at all times. Do not let them sit in a discharged condition.

- Always follow the battery charging directions as outlined in the BATTERY CHARGING section of this manual.
- Keep battery tops and terminals free from corrosion. A strong solution of baking soda and water is the best way to keep the batteries corrosion free. DO NOT ALLOW THE BAKING SODA / WATER SOLUTION TO ENTER THE BATTERY CELLS.
- 3. Use a wire brush with the baking soda solution to properly clean the battery posts and connections.
- 4. Check battery connections for wear and loose terminals. replace if necessary.

### Machine Storage

- 1. Always store the machine indoors.
- 2. Always store the machine in a dry area.
- 3. Always store the machine in its upright position.
- 4. Always store the machine with the pad driver/ brush raised off the floor
- 5. Always store the machine with the squeegee assembly raised off the floor.
- If storing in an area which may reach freezing temperatures, be sure to drain all fluids from the machine prior to storage. Any damage caused by freezing temperatures will not be covered by the warranty.
- 7. Drain the recovery tank.
- 8. Drain the solution tank of all fluid.

### Maintenance

### **Technical Specifications**

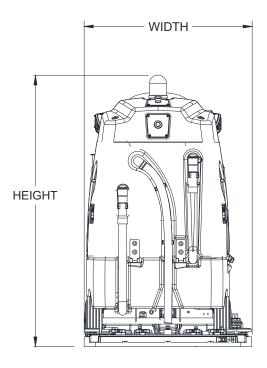
ITEM	DIMENSION/CAPACITY	
Nominal power	2100W	
Rated Voltage	24V DC	
Rated Amperage	90 Amps	
Batteries	4 x 6V, 240AH@20Hr	
Battery - Dimensions	24" L x 14" W x 14" H	
Run time per charge	3~3.5 Hours	
Scrub Brush Motors - Disk Machine	2 X .6 HP (450 W)	
Vacuum Motor(s)	0.6 hp / 0.45KW	
Maximum flow rate of vacuum motor	31.7 L/min(66.5 CFM)	
Maximum suction of vacuum motor	70 in. H2O / 1780 mm. H2O	
Drive Wheel	1.1 hp / 0.8 KW	
Brush Motor	(2) 0.6 hp / 0.45KW, 210 RPM	
Weight empty without batteries	618 lbs / 280 Kg	
Weight with batteries	880 lbs / 400 Kg	
Solution Flow	0 ~ 0.7 Gal / Min - 0 ~ 2.7 L / Min	
Solution Control	Variable – four levels of solution flow rate, selected by operator on control panel	
Solution capacity	29 Gal / 110 L	
Recovery capacity	29 Gal / 110 L	
Scrub brush diameter - Disk Machine	26 inch (2x 13inch)	
Scrub brush/pad pressure	80 lbs / 35 Kg - 120 lbs / 55 Kg - 165 lbs / 75 Kg	
Scrub brush speed - Disk Machine	210 RPM	
Tires	10 inch, Solid scrubber compound rear	
Foundation Pressure	95.6 psi (659 Kpa)	
Maximum Speed	6.5 Km/h	
Travel Speed (Transport)	4 Mile/h / 6.5 Km/h	
Frame Construction	Powder coated steel	
Brake	Electric parking brake sets automatically whenever operator leaves seat, or when either emergency stop button is pressed	
Minimum aisle u-turn width	71 in / 1,800 mm	
Maximum rated climb and descent angle	Autonomous Mode: 0 deg/0% - Manual Mode: 1 deg/2%	
Sound Pressure Level	68 dB(A)	
Decibel rating at operator's ear, indoors	68 dB(A)	
Vibration Hands (ISO 5349)	1.07 m/sec² Uncertainty .5 m/sec²	
Vibration Body (ISO 5349)	0.37 m/sec² Uncertainty .5 m/sec²	

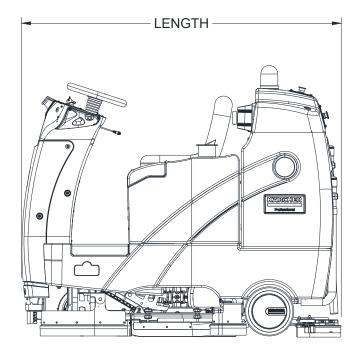
### **Technical Specifications**

ITEM	MEASURE
Height	56.7 in / 1,440 mm
Length	61.6 in / 1,565 mm
Width (Machine With Scrub Head)	32 in / 815 mm
Width of squeegee	33.8 in / 860 mm
Width of scrub path	26 in / 650 mm ( 2 x 13 inch)

## **ACAUTION:**

This appliance is not intended for use by persons (including children) 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 appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.







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