

**SUGGESTIONS FOR WRITING BID SPECIFICATIONS FOR A CLARKE:
26 INCH (660 mm) DISC or 28 INCH (711 mm) BOOST®
BATTERY-POWERED RIDER FLOOR SCRUBBER**

INTENT

The intent of these specifications are to describe a battery-powered riding floor scrubber capable of scrubbing hard floor surfaces such as concrete, tile, marble, or terrazzo flooring.

In order to increase productivity, reduce labor costs, reduce detergent costs, and reduce environmental impact, the capacities and specifications of this machine are critical.

All exceptions to the specifications must be clearly identified and submitted, in writing, on a separate sheet of paper marked "Exceptions". Bidders who fail to submit their exceptions will not be considered.

POWER SOURCES

Machine shall be powered by four 6 Volt batteries in a 24 Volt system. Rated battery capacities acceptable are 242 Ah (wet acid) or 255 Ah AGM. A 24 Volt onboard charger that is fixed to the machine to allow the machine to be charged at any AC outlet is required for security and safety.

Unit must be equipped with a low voltage shutdown system to protect the batteries from damage. The scrub function shall automatically shut off at 80% discharge for wet acid batteries and 70% for AGM batteries.

SCRUBBING SYSTEM

Machine shall have a moving deck system (SafetyGlide) that moves out from under the machine to the right when the machine turns right and moves to the left when the machine turns left. The deck shall move to place it in-line with the path of the rear squeegee to pick up all the water, thereby increasing floor safety by reducing slip and fall hazards.

The deck shall be spring loaded and be able to move underneath the machine if it contacts an object while scrubbing, to protect both the facility and the deck from costly damage.

The scrub deck shall have no rubber side skirts that touch the floor during scrubbing.

Whenever the scrub function is activated, brush rotation shall begin automatically when the machine is propelled in either forward or reverse direction. Solution flow and onboard chemical mixing are automatically initiated only when propelling forward. Machine must protect the floor surface from damage by stopping the brush rotation whenever the machine is stationary as well as stop all solution flow to prevent slippery water and minimize detergent waste.

DISC MACHINE

Machine shall use two 13 inch (33 cm) pad drivers and have a scrub path no less than 26 inches (660 mm) for productivity and for greater maneuverability and to clean in congested areas. A maximum of two 0.54 hp (400 Watt) brush drive motors shall be used to drive the pad drivers and achieve the required run time.

BOOST® MACHINE

Machine shall use one 14 inch (35.6 cm) X 28 inch (71 cm) rectangular pad driver for high productivity. The pad driver shall be fixed onto the machine. The pad driver shall rotate in ¼ inch (0.64 cm) orbits at a speed of 2,250 RPMs. The pad driver shall be powered by a single ¾ hp (560 Watt) motor. The cleaning solution shall be applied in front of the pad driver via a manifold across the 28 inch (71 cm) width.

VACUUM SYSTEM	Machine shall be equipped with a maximum 0.56 hp (420 Watt) motor to achieve the required run time and conserve energy. A ball float shut off valve shall be used to protect the vacuum motor from ingesting water thereby extending its life. The vacuum fan shall continue to operate for 10 seconds after the squeegee is lifted from the floor to clear the vacuum hose of excess dirty slippery water so it does not drip back down on the floor creating an unsafe floor condition. To maintain quiet sound and extend run time the vacuum airflow cannot exceed 55.3 CFM (26.1 L/Sec) and the waterlift shall not exceed 57 inches (14.2 KPA).
SOUND LEVEL	Machine shall have two vacuum power setting and corresponding sound levels that are user selectable via a switch on the dash board. The high power setting shall result in a machine sound level not to exceed 65 dBs when measured in accordance with EN ISO 11201. The low power setting shall result in a machine sound level not to exceed 61 dBs so it can be operated in noise sensitive environments such as when building occupants are present or cleaning during the day.
SQUEEGEE DESIGN	The rear squeegee shall not exceed 35 inches (89 cm) making it possible to scrub through doorways and in tight areas. Squeegee shall be equipped with abrasion and oil/grease resistant polyurethane blades for long life and low cost of operation. Squeegee pitch adjustment and blade replacement shall be done without the use of tools for maximum performance and ease of use.
SOLUTION / RECOVERY TANKS	<p>The machine shall be equipped with 21 gallons (80 L) solution and recovery tanks. Machine shall be capable of handling solution up to 130° Fahrenheit and be constructed from roto molded polyethylene or equivalent. Both the solution fill and the recovery draining system shall be located at the rear of the machine to increase worker productivity.</p> <p>Machine shall indicate to the operator how much clean water solution remains in the tank via a graphical display on the steering wheel mounted control panel. The machine shall display the level of the solution tank in increments of 10% from 100% to 0%.</p>
ONBOARD CHEMICAL MIXING SYSTEM	<p>Machine shall have an optional onboard chemical mixing system to increase productivity, save time, reduce cleaning costs and minimize environmental impact. The system shall accommodate standard 1 gallon (3.8 L) rectangular or round bulk chemical containers. To minimize the operator's exposure to hazardous chemicals, the manufacturer's original packaging or container must be stored and used on the machine without having to transfer the chemicals to another container.</p> <p>The machine shall have four dilution ratios of 0.5, 1.0, 2.0 and 3.0 ounces per gallon that are selected via a color coded switch located on the control panel. The chemical mixing system shall have an off position that allows chemical-free cleaning to reduce costs and for environmental protection.</p>
DRIVE SYSTEM	Shall have a drive motor not to exceed 0.54 hp (400 Watt) to achieve the desired run time and conserve energy. The drive motor shall be capable of propelling the machine up to 3.7 MPH (6 KM/H) for high productivity. The machine shall be equipped with a single direction foot pedal for safety. Reverse shall be engaged via a dashboard mounted switch. Machine shall be equipped with an accelerometer that slows the machine down automatically when an unsafe operating condition is detected thereby preventing the machine from tipping and ensuring the safety of the operator.

DIMENSIONS For optimal maneuverability the maximum dimensions of the machine shall be as follows:
Length shall not exceed 53.5 inches (136 cm)
Width shall not exceed 28.7 inches (73 cm)
Height shall not exceed 48.4 inches (123 cm)

TIRES Shall be made of solid high traction, non-marking polyurethane tires to protect from damage to the floor surface, the facility and the operator. The maximum tire pressure on the floor shall not exceed 130.5 psi (0.9 N/mm²) to protect the floor from costly damage.

MINIMUM AISLE U-TURN The machine shall be able to turn 180 degrees in a 59 inch (150 cm) aisle for maneuverability and cleaning in obstacle intensive environments.

CONTROLS The machine controls shall be centered on the machine under the steering wheel in direct sight of the operator for safety.

The following controls are required for easy and consistent training and machine operation:

- Graphical display that indicates:
 - The hours accumulated on the brush motors for machine maintenance
 - The level of the solution tank for increased productivity
 - Machine diagnostics for less costly and more efficient repairs
- Master key switch for safety and preventing unauthorized use
- One-Touch scrub switch to start and stop the scrubbing function
- Extra pressure switch to increase brush pressure and cleaning power
- Chemical dilution control switch for environmental protection
- Battery level indicator for productivity
- Solution increase and decrease switches for cleaning performance
- Vacuum on/off switch for application flexibility
- Sound level switch for noise sensitive environments
- Maximum scrub speed increase and decrease switches for safety.
- Backup alarm with automatic activation for safety

APPROVALS Shall have ETL and CSA safety approvals and these shall be clearly displayed on the serial plate decal.

WARRANTY The warranty must provide the following minimum coverage: 3 years parts, 1 year labor, 30 days travel with 8 years roto molded components.

THIS MACHINE SHALL BE A CLARKE Focus® II MicroRider™