

**SUGGESTIONS FOR WRITING BID SPECIFICATIONS FOR A
CLARKE FOCUS® II RIDER AUTOSCRUBBER
28 INCH DISC, 28 INCH BOOST, 34 INCH DISC CONFIGURATIONS**

INTENT: The intent of these specifications are to describe a range of self-propelled, battery-powered, rider machines capable of scrubbing surfaces such as VCT tile, grouted tile, concrete, marble, terrazzo and a variety of other types of resilient flooring.

In order to reduce labor costs and to provide the required level of environmental sustainability the specifications and features of the 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 SYSTEM: Machine shall be 24 Volts and use four 6 Volt batteries. Available battery options are 310 Ah wet acid, 420 Ah wet acid and 312 Ah maintenance-free AGM (Absorbed Glass Mat). Machine must be able to support AGM batteries that provide increased safety and environmental stewardship.

The battery and charger options shall be as follows:

- 28 inch (71 cm) machines with 310 Ah batteries: Onboard charger.
- 28 inch (71 cm) machines with 312 Ah AGM batteries: Onboard charger.
- 28 inch (71 cm) machines with 420 Ah batteries: Shelf charger.
- 34 inch (86 cm) machines with 420 Ah batteries: Shelf charger.
- 34 inch (86 cm) machines with 312 Ah AGM batteries: Onboard charger.

Unit must be equipped with a low voltage shutdown system to protect the batteries, extend their life, and provide increased environmental sustainability. The scrub function shall terminate at the low voltage cut off point of 80% DOD (Depth of Discharge) for wet acid and 70% DOD for AGM batteries, but the transport function shall remain operational so the machine can be transported to a suitable charging location.

SCRUBBING SYSTEM: The machine shall be available in the following configurations:

- 28 inch (71 cm) BOOST® (Battery Operated Orbital Scrubbing Technology) system that utilizes a single 28 inch (71 cm) by 14 inch (35.5 cm) rectangular pad driver.
- 28 inch (71 cm) disc system utilizing two 14 inch (35.5 cm) pad drivers.
- 34 inch (86 cm) disc system utilizing two 17 inch (43 cm) pad drivers.

BOOST® Scrub System: Pad RPM shall not be less than 2,250 RPMs in ¼ inch (0.635 cm) orbits. This specification is critical to provide even and effective cleaning while enabling a very low solution flow rate to improve safety against slip and falls, reduce chemical consumption for environmental protection, and improve productivity and labor savings. Pad pressure shall not exceed 150 pounds (68 kg). This will provide enhanced sustainability by protecting the flooring from damage and eventual replacement.

Disc Scrub System: Pad RPM shall not be less than 260 RPMs. Pad pressure shall not exceed 220 pounds (102 kg). This will provide enhanced sustainability by protecting the flooring from damage and eventual replacement.

SOLUTION SYSTEM: Solution shall be dispensed to the floor at three discreet and repeatable flow rates via a pulsating solenoid or valve. The solution solenoid shall open and close at various frequencies to regulate low flow, medium flow and high flow rates. This provides a consistent cost to clean by regulating chemical and water usage regardless of the operator. This is also required for environmental sustainability by controlling the amount of detergent used and released into the wastewater stream. The machine shall not use a solution pump which increases complexity and maintenance costs.

SOLUTION / RECOVERY TANKS: Machine shall have a clean water capacity no less than 31 gallons (117 L) to enable high productivity and thereby lower floor maintenance costs through fewer dump and refills. Machine shall be capable of solution temperatures up to and including 140 degrees Fahrenheit (60 c). Solution tank shall have a solution sight tube that indicates the level of the solution tank, to optimize dump and refills and maximize the operator's productivity.

Recovery capacity shall be 31 gallons (117 L). The recovery tank shall have a debris catch cage to trap large debris and prevent said debris from being sent down the drain causing clogs.

VACUUM SYSTEM: The machine shall be equipped with a single 0.75 hp (670 Watt) 3-stage vacuum motor. The vacuum motor shall be protected from ingesting water through the use of a ball float that will block incoming water. Whenever the vacuum is shut off there shall be a 10 second delay to clear the vacuum hose and prevent slippery dirty water from dripping back onto the floor, thereby increasing safety and reducing the risk of slip and fall accidents. As standard, the machine shall have a single vacuum motor installed. The machine shall have the option for an additional vacuum motor (dual vacuum motors) to increase drying performance, and thereby increase safety and reduce the possibility of slip and fall incidents.

SQUEEGEE DESIGN: Both the front and rear blades shall be changed without the use of tools. Adjusting the pitch of the squeegee shall be tools-free allowing easy adjustment to ensure no slippery and dirty water is left behind introducing a slip and fall hazard. The squeegee tool shall have a break-away design that helps prevent damage to the facility and to the machine. The squeegee shall have an integrated squeegee hanger feature that allows the squeegee to be suspended or stored on the back of the recovery tank. This provides increased safety by reducing trip and fall injuries during machine storage.

DRIVE SYSTEM: Shall have one 1.05 hp (780 Watt) drive motor with integrated electromagnetic brake. Shall use a non-marking high traction urethane tire 9.84 inches (25 cm) in diameter with a width of 3.15 inches (80 cm).

Forward transport speed shall not be less than 3.91 mph (6.30 kph). Reverse speed shall not be less than 2.61 mph (4.2 kph). The machine shall have 5 pre-set maximum speeds to provide ergonomic operation for the operator.

GRADEABILITY: Machine shall have the ability to climb ramps at 7.1% or 12.5 degrees in transport mode. It shall be able to scrub ramps with a slope of 4.5% or 7.9 degrees.

SOUND LEVEL: Shall be a maximum of 68.6 dB A at the operator's position per IEC 60704-1. A sound reduction kit shall be available as an option.

DIMENSIONS: For optimal maneuverability the overall maximum machine dimensions shall not exceed the following:

	BOOST® 28	Disc 28	Disc 34
Minimum Aisle Turning Radius	63 inches (160 cm)	63 inches (160 cm)	67.5 inches (171 cm)
Body Length	60 inches (152 cm)	60 inches (152 cm)	60 inches (152 cm)
Body Height	55 inches (140 cm)	55 inches (140 cm)	55 inches (140 cm)
Body Width	30 inches (76 cm)	30 inches (76 cm)	30 inches (76 cm)
Maximum Width Without Squeegee (Doorway passage)	31.5 inches (80 cm)	31.5 inches (80 cm)	35.8 inches (91 cm)
Squeegee Width	32.6 inches (83 cm)	32.6 inches (83 cm)	41.4 inches (105 cm)

REAR TIRES: Shall have 12 inch (30.5 cm) solid high traction polyurethane tires for maximum traction and safety and to protect the floor from damage. Tires shall have grooves that run circumferentially for improved traction and safety.

WHEEL PSI: Machine shall not exert more than 175 PSI (12.3 kg/sq. cm) on the floor with a full tank of water and a 200 pound (91 kg) operator to protect the floor from damaging the floor when fully loaded as noted.

CONTROLS:

Shall be located directly underneath the steering wheel for safety and convenience. Machine shall have a single color-coded one-touch scrub ON/OFF button for ease of use and efficient training.

Other controls required are:

- Master key switch for safety and security
- Scrub pressure increase and decrease buttons to select low, medium or high pressure for optimized cleaning performance
- Solution button to select between Off, low, medium and high flow rates to optimize cleaning performance and environmental sustainability
- Vacuum On/Off button
- Maximum speed increase and decrease button to select between one of five preset speeds for operator safety
- Maximum speed indicator
- Horn button for safety
- Chemical selection button to turn the optional chemical mixing system On/Off and select various dilution ratios
- Chemical mixing dilution ratio display
- Hour meter
- Battery level indicator
- Onboard diagnostics
- Low voltage cut off display for battery protection

OPTIONAL CHEMICAL MIXING SYSTEM: Machine shall have an optional onboard chemical mixing system for environmental sustainability, cost savings and productivity. The machine shall be capable of holding a 1 gallon (3.78 L) square or round chemical container. A single button on the dashboard shall turn the chemical On/Off and adjust the dilution ratio in one of 10 ratios from 1:32 to 1:400.

APPROVALS: Shall have certification from ETL and clearly displayed labels showing as such.

WARRANTY: The warranty must provide the following minimum coverage:
3 years parts except rotomolded plastic which is 8 years, 1 year labor and 30 days travel.

**THE MACHINE SHALL BE A
CLARKE FOCUS® II RIDER
AUTOSCRUBBER**