

**SUGGESTIONS FOR WRITING BID SPECIFICATIONS ON THE  
Clarke RA40™ 20D**

<b>GENERAL</b>	<p>Machine shall be the type generally described as a rider automatic floor scrubber and named Clarke RA40 20D. It shall wet scrub and vacuum in one pass.</p> <p>The machine shall have a cleaning path no larger than 20 inches (51 cm) which allows the machine to clean in tight and congested areas and allows cleaning where other machines cannot reach.</p>
<b>CHEMICAL MIXING SYSTEM</b>	<p>The machine shall have as optional a dealer installed onboard chemical mixing system that reduces the machines total cost of ownership and provides a more environmentally responsible way to clean. The machine shall have 5 available detergent strength settings: OFF, ½ ounce per gallon, 1 ounce per gallon, 2 ounces per gallon and 3 ounces per gallon. The detergent strength shall be depicted on the LCD panel.</p>
<b>BRUSH SYSTEM</b>	<p>Shall be equipped with one heavy-duty 24 Volt permanent magnet DC motor rated at 0.6 horsepower (450 Watt). Brush motor shall have automatic amp control to maintain 155 RPM for consistent cleaning results across different floor types.</p> <p>The machine shall have brush off in neutral to protect floors when machine comes to rest.</p>
<b>VACUUM SYSTEM</b>	<p>Shall be equipped with one 24 Volt 0.54 horsepower (400 Watt) 2-stage DC motor with tangential discharge and sound reduction system.</p> <p>The machine shall have two sound levels selectable by the operator. The sound level in standard mode shall not exceed 68 dB A to allow the machine to be used in noise sensitive environments, occupied facilities and be less fatiguing for the operator. The sound level in quiet mode shall not exceed 62 dB A which further protects the operator from fatiguing sound and allows operation in virtually all environments.</p> <p>Vacuum system must be capable of 39 inches of waterlift (inch H<sub>2</sub>O).</p>
<b>DRIVE SYSTEM</b>	<p>Shall be a 0.60 horsepower (450 Watt) motor and rear transaxle for improved traction, ramp climbing and safety. Machine shall have a maximum scrub speed of 3.7 mph (6 kph) for increased productivity and labor savings.</p> <p>Machine shall have a fully-variable forward and reverse electronic control. Forward and reverse shall be operated by means of an ergonomic foot pedal. Reverse shall be activated by a button on the dashboard and a backup alarm shall be standard for increased safety.</p>
<b>CONSTRUCTION</b>	<p>Shall be built with corrosion and impact-resistant polyethylene tanks and body, and a sturdy, powder coated and corrosion resistant steel frame.</p>
<b>SOLUTION TANK</b>	<p>Shall have 18.5 gallon (70 L) capacity, constructed of linear high-density rotationally molded polyethylene. Shall have fill port on the rear of the machine so the machine can be dumped and refilled from the rear, increasing productivity.</p>

<b>SOLUTION CONTROL</b>	Machine shall come standard with a solution flow system that controls the amount of solution dispensed based on the speed of the machine (SmartFlow) This ensures that the same amount of cleaning solution is applied per square foot regardless of the speed of the machine, which increases productivity per tankfull by up to 50% and ensures consistent cleaning performance. Machine shall have five solution flow levels: Off, 1, 2, 3 and 4 to maximize productivity. Maximum shall be Level 4 with a 0.74 gal/minute (2.8 L/minute) flow rate for full cleaning performance. Solution levels 1 through 3 shall be adjustable through the hidden menu for optimal cleaning performance at their facility. Machine shall have an automatic solution shut off in neutral to conserve cleaning solution.
<b>RECOVERY TANK</b>	<p>Shall have 18.5 gallon (70 L) capacity constructed of linear high-density rotationally molded polyethylene. Recovery tank shall include removable cover and gasket, debris tray, float vacuum shut-off system to prevent tank overflow and variable flow drain hose.</p> <p>Recovery tank must have a large opening to allow the operator to inspect and access all geometry inside the recovery tank for proper cleaning and maintenance. Recovery tank shall hinge open to allow full access to internal components such as batteries and the optional detergent tank.</p>
<b>BRUSH / PAD SYSTEM</b>	<p>Included with the machine shall be a 20 inch (51 cm) pad driver to cover a 20 inch scrubbing path. A variety of brushes shall be available for any cleaning application. Brush shall be installed or removed without tools or by using "Click-On/Click-Off" functionality.</p> <p>Scrub deck shall be raised and lowered by an electronic actuator.</p>
<b>BRUSH PRESSURE</b>	<p>The machine shall have no more than two brush pressure settings: 33 lb (15 kg) and 66 lb (30 kg) that clean effectively while protecting delicate floor surfaces from damage.</p> <p>Brush pressure shall be changed with one touch button on control panel.</p>
<b>SQUEEGEE</b>	Shall be a 28.4 inch (72 cm) wide curved (parabolic) style squeegee constructed of durable and lightweight plastic reducing the cost of ownership while making maintenance easier. Squeegee mounting bracket must have a break-away design to prevent machine or facility damage when immovable objects are contacted. The squeegee suction hose shall not be connected to the squeegee tool directly so if the squeegee breaks away, damage to the hose shall not occur and this will reduce the total cost of ownership (TCO). The squeegee tool must automatically rise when the machine is placed into reverse thereby lessening squeegee wear and reducing the total cost of ownership.
<b>DRIVE WHEELS</b>	The machine shall have rear wheel drive via a transaxle for improved traction, ramp climbing and operator safety. The rear wheels shall be constructed of high traction polyurethane and be non-marking gray.
<b>DIMENSIONS</b>	<p>Machine dimension shall be no larger than follows dimension:</p> <p>Length 50 inches (127 cm), width 22 inches (55 cm) and height 40 inches (102 cm) to increase productivity and maneuverability.</p>
<b>POWER SOURCE</b>	<p>24 Volt System: Shall have the option of two 12 Volt / 130 amp hour wet-acid batteries or two 12 Volt / 140 amp hour maintenance-free AGM batteries.</p> <p>Machine shall be equipped with a low voltage cutout feature that can be set for the battery type (80% discharge for wet-acid; 70% discharge for maintenance-free AGM).</p>

<b>CHARGER</b>	Shall have onboard charger as standard equipment: 24 VDC, 13 Amps.
<b>WEIGHT</b>	Gross machine weight shall not exceed 754 lb (342 kg) to provide easy elevator transport and be gentle on delicate floor surfaces.
<b>APPROVALS</b>	Shall have ETL, CSA and CE for safety.
<b>OPERATING SYSTEM</b>	<p>Machine shall have a multifunction LCD graphical display on the control panel and serve as the interface for displaying operating parameters and current configuration including: hours worked, battery type, battery gauge and charging status, quiet mode, brush pressure and the detergent ratio.</p> <p>Control panel shall have a vacuum mode switch to control the sound level of the machine (standard sound, quiet and off mode) to reduce operator fatigue and allow for daytime cleaning of occupied facilities. Sound level shall be depicted on the multifunction display.</p> <p>Control panel shall have a solution flow push-button to switch between: no solution, level 1, level 2, level 3 and level 4. Level 4 is disabled by default and can only be activated through the hidden menu. The solution flow rate shall be adjustable to customize the machine for optimal cleaning within the facility.</p> <p>Control panel shall have a detergent ratio push-button to switch between chemical free cleaning, weak detergent strength mode (level 1) and strong detergent strength mode (level 2). Detergent ratio shall be depicted on the multifunction display.</p> <p>Machine shall have One-Touch™ Scrub ON/OFF push-button to activate the scrub deck systems. Pressing the One-Touch™ Scrub button will lower the deck up/down indicated by a flashing green LED. A solid green LED shall indicate the system is active. Holding One-Touch™ Scrub button for two seconds shall apply maximum pressure indicated by a red LED for maximum cleaning performance and productive one pass cleaning in dirtier areas.</p>

**The Machine Shall Be a Clarke RA40™ 20D**