**SALIENT CHARACTERISTICS**

**SS350 | stand-on scrubber**

Disk: 20 in / 500 mm or 24 in / 600 mm

|  |  |
| --- | --- |
| **Scrubbing System** | |
| Cleaning Path | The machine shall be either a 20 in / 50 cm or 24 in / or 600 mm scrubbing path disk scrub head. The 24 in / 600 mm head will consist of (2) 13 in / 330 mm disks. |
| Solution Tank Capacity & Filling | The machine shall have a minimum solution tank capacity of 14.1 gal / 53 liters.  The fill port shall easily accept water from a hose or bucket. The fill port will also have a screw cover preventing solution from spilling from the port during machine operations. The fill port will also have a strainer to keep debris out of the solution tank.  The fill port shall have a hose retainer feature to ensure the hose stays in the fill port when adding water. |
| Pad Driver/Brush Attachment and removal - Disk | The machine shall come standard with an Insta-Click™ magnetic pad driver(s) or brush(s). Cleaning tool removal shall be done automatically with a press of a button. |
| Conventional Scrubbing Solution Flow Control | The solution flow and brush rotation shall be automatically turned on / off with the 1-Step button on the control panel and go pedal activated.  Minimum conventional water flow is 0.15 gpm / 0.57 lpm  Maximum conventional water flow is 0.50 gpm / 1.89 lpm |
| Scrub Brush Motors | The 20 in / 500 mm disk machines shall be equipped with one heavy-duty 0.87 hp (0.65 kW) brush motor that turns at 215 rpm for 20” / 50 cm disk units.    The 24 in / 600 mm dual disk machine shall be equipped with one heavy-duty 0.87 hp (0.65 kW) brush motor that turns the brushes at 275 rpm. |
| Down Pressure | Down pressure to be electronically controlled by button on control panel.  The machine shall have two selectable down pressure settings:  20 in / 500 mm Single Disk – 62 and 90 lbs / 28 and 41 kg  24 in / 600 mm Dual Disk – 64 and 91 lbs / 29 and 41 kg |
| Brush Skirt | The machine shall be equipped with a non-marking, self-adjusting brush skirt that follows the contours of the floor.  The brush skirt shall not require operator adjustment due to wear. |
| **Scrubbing System, Continued** | |
| Reach Under & Edge Cleaning | The disk machine scrub heads shall be designed to clean under “toe kicks” of approximately 1 in / 25.4 mm. |
| Double Scrub | The machine shall be equipped with a double scrubbing function. |
| **Recovery System** | |
| Recovery Tank Capacity | The machine shall have a minimum recovery tank capacity of 18.4 gal / 70 liters. |
| Recovery Tank Sanitization | The machine recovery tank shall have a recovery tank lid that allows for visual inspection and complete spray-down to clean all internal tank surfaces.  The machine shall be equipped with a yellow recovery tank debris tray at the vacuum hose inlet. |
| Vacuum Fan | The machine shall be equipped with a heavy-duty 0.62 hp (0.46 kW), 2-stage vacuum fan.  The vacuum fan shall create water lift of 42 in / 1067 mm. |
| Water Recovery & Squeegee Assembly | The squeegee shall be designed to capture water under “toe kicks” of approximately 1 in / 25 mm.  The squeegee assembly shall have “no tool” squeegee blade exchange with 4 usable blade edges, per blade.  The machine shall be equipped with a squeegee that maintains even suction pressure across the entire width.  The machine’s squeegee assembly shall be set at the optimum blade angle from the factory and require no adjustment during use.  The vacuum motor shall continue to run for 15-seconds after the squeegee is lifted off the floor to collect water remaining in the vacuum hose.  The squeegee will be electronically activated by pushing and button on the control panel and stepping on the go pedal on the platform.  Squeegee assembly shall be easily removed without tools by squeezing a bar and pulling the squeegee assembly off the squeegee frame.  The machine shall be equipped with a vac only mode. |

|  |  |
| --- | --- |
| **Operator Controls / Maintenance** | |
| Power On/Off | The machine shall be equipped with a removable key in order to turn the power on/off. |
| Icons/Gauges/Buttons | The standard machine shall be equipped with the following icons:   * Service * Down pressure * Water flow * Vac only * Zone Settings * Cleaning tool (brushes or pad driver) release * Machine speed * Battery Discharge Indicator * ec-H20 NanoClean® on/off (if applicable) (electrically activated water) * Severe Environment Switch™ (if applicable) (detergent metering device) * Quiet-Mode™ (if applicable) (sound reduction)   The machine shall come standard with an hour meter. The machine hours shall be displayed at all time, with hours accruing during the scrubbing process only.  There shall be an Emergency Stop Switch on the instrument panel.  Key maintenance items will be colored bright yellow to assist the operator with the identification of service/maintenance touch points. |
| On-board Diagnostics | The machine shall be equipped to provide at least 139 operator diagnostic signals/fault guides for troubleshooting. |
| Machine Activation | The machine shall activate the primary scrubbing functions of solution flow and brush motors by pressing 1-step button and stepping on the go pedal on the platform.  The machine shall deactivate the primary scrubbing functions of solution flow and brush motors by pressing 1-step button and stepping off the go pedal on the platform. |
| Speed Control | The machine shall be equipped with a speed control knob on the control panel. |
| Forward/Reverse Function | Machine will be equipped with a toggle to indicate activation in a forward or reverse motion.  The squeegee shall automatically lift off the floor when machine is put into reverse. |
| Vacuum Fan On / Off | The machine vacuum fan shall automatically turn on when the squeegee is lowered into working position or when the vac only function is activated.  The vacuum motor shall continue to run for 15 seconds once the 1-Step button turns off the scrubbing function. |
| **Operator Controls / Maintenance, Continued** | |
| Low Voltage Cut-off | The machine shall shut down all functions except self-propel when the battery voltage is discharged to 20% of its total capacity. |
| **Machine Construction & Safety** | |
| Head Construction | The 20 in / 500 mm disk machine scrub deck shall be made of high density polyethylene for corrosion-resistance and durability.  The 24 in / 600 mm dual disk machine will be constructed of cast aluminum. |
| Squeegee Frame | The machine squeegee frame shall be made of cast aluminum for corrosion-resistance and durability. |
| Tank Construction | The machine tanks shall be made of rotationally-molded polyethylene to retain shape during impacts and vacuum cycles. |
| Machine Frame & Transaxle | The machine frame shall be a steel weldments that are powder coated.  The machine shall come standard with a sealed drive system. |
| Power Source | The machine shall have a 24-volt electrical system.  The machine shall come standard with (4) 6-volt batteries:  210 AH lead acid battery package  240 AH lead acid battery package  220 AH AGM battery package  Maximum run time will be achieved with 240 AH lead acid batteries  The machine shall come standard with an on-board, water-resistant charger and 15 ft / 5.6 meter power cord. |
| Battery Run Time | 20 in / 500 mm, Single Disk, Self-Propel – up to 3.1 hours  24 in / 600 mm Dual Disk, Self-Propel – up to 4.0 Hours |
| Electrical Wiring | The machine shall have color-coded and numbered wiring. |
| Ramp Climb | The machine shall have be able to ascend ramps up to a 9 degree angle with empty tanks, 5 degree angle in scrub mode. |
| Wall Rollers | The machine shall be equipped with rights side wall rollers on the squeegee assembly. |
| Ingress Protection | The machine shall meet IPX3 rating. |

|  |  |
| --- | --- |
| **Machine Construction & Safety, Continued** | |
| Sound Levels | 20 in / 500 mm single disk models shall have a standard sound level as low as 63.7 dBA.  24 in / 600 mm dual disk machines shall have a standard sound level as low as 64.5 dBA.  20 in / 500 mm single disk models shall have a Quiet-Mode™ sound level as low as 59.7 dBA.  24 in / 600 mm dual disk machines shall have a Quiet-Mode™ sound level as low as 61.3 dBA.  The machine sound level based on the ISO11201 sound pressure test standard as recommended by the American Association of Cleaning Equipment Manufacturers (AACEM) and OSHA. |
| Standard Safety Features | The machine shall come standard with the following safety features:   * The machine shall come equipped with a dynamic braking drive that when on flat ground, stops the machine within 4 feet (1.2 m) when the go pedal is released.   The machine shall be equipped with a parking brake. |
| Tie Downs and Jack Points | The machine shall be equipped with features suitable for tying down the machine for shipping and transport. The machine is suitable for using a standard, 2-ton floor jack (55 mm). |
| **Machine Warranty & Support** | |
| Warranty | The machine shall carry a 10 year warranty on rotationally-molded polyethylene tanks.  The machine shall carry a 2-year labor warranty.  The machine shall carry a 6-month travel warranty.  The machine shall carry a 3-year or 2,000 hour parts warranty. |
| Installation | A factory representative shall install the machine on-site. |
| Manuals / Quick-Reference Guides | The machine shall come with full operator manual at no additional charge.  The machine shall come standard with a full color, quick-reference operation & maintenance guide that can be posted in the worker area. |

|  |  |
| --- | --- |
| **Optional Accessories & Configurations** | |
| ec-H20 NanoClean® Technology | The machine shall have a switch on the operator console that allows the operator to instantly change between electrically activated water scrubbing technology and conventional scrubbing modes.  The scrubber should be equipped to electrically activate water on board and on demand.  The water flow shall be adjustable on the console to accommodate for varying hydration needs. No tools will be necessary to make the change to water flow.  An icon shall be located on the console to indicate when electrically activated water is operating.  The scrubber and electrically activated water technology shall be certified by the National Floor Safety Institute for high traction.  The machine shall self monitor its electrically activated water technology and notify the operator, through visual means, that the system needs maintenance.  The machine's electrically activated water technology shall adjust the power input based on water flow and the conductivity of the input water; resulting in a consistent output and cleaning capability.  Minimum water flow is 0.12 gpm / 0.45 lpm  Medium water flow is 0.25 gpm / 0.94 lpm  Maximum water flow is 0.35 gpm / 1.32 lpm |
| Severe Environment™ Switch  (Only available on machines equipped with ec-H20 NanoClean®™ Technology) | The machine shall be capable of injecting a metered amount of detergent into the cleaning solution line (downstream of the electrically activated water module).  The detergent metering device will allow the operator to use it in two modes – either for a temporary 30 second time period or to be used continuously until the operator choses to turn the function off.  The detergent metering device will allow for virtually any chemical brand to be used in the liter detergent tank. The dispensing of the detergent shall have a dilution ratio ranging between 1:640 to 1:32 by accessing a knob on the detergent metering device.  A blinking icon indicates when detergent tank is too low to operate correctly. When refilled, the indicator light will clear. |

|  |  |
| --- | --- |
| **Optional Accessories & Configurations, Continued** | |
| LCD Pro-Panel® | LCD touch screen will be available and will provide the following information:   * Help Screen * Battery Charge Status * Ec-H2O NanoClean® Technology (electrically activated water) * Cleaning Tool Release * Severe Environment™ Switch (if applicable) (detergent metering device) * Quiet-Mode™ (if applicable) (sound reduction) * Service Warning Light * Water Flow Indicators * Zone Settings™ * Maintenance and training Videos * Down Pressure Settings * Vac only   The LCD touch screen will be able to withstand an ambient operating temperature range of 36 to110o F / 2 to 43o C. Storage temperature range is -20 to 150o F / -29 to 66o C.  The LCD touch screen assembly shall withstand over 60 lbs / 27 kg of force.  The LCD touch screen assembly shall have an ingress protection rating of IPX3. |
| Quiet-Mode™ | 20 in / 500 mm single disk models shall have a sound level as low as 59.7 dBA.  24 in / 600 mm dual disk machines shall have a sound level as low as 61.3 dBA.  The machine sound level based on the ISO11201 sound pressure test standard as recommended by the American Association of Cleaning Equipment Manufacturers (AACEM) and OSHA.  The machine can be returned to normal sound levels with the touch of a button. |
| Charger | An optional off board charger will be available. |
| Hoses & Drain Cap | Recovery tank hoses shall be made from polyvinyl chloride (PVC).  Recovery tank hoses shall be made from Polyurethane.  The recovery tank drain hose shall have a pinch feature to control the flow of dirty water. |
| Smart-Fill™ | The machine shall come with automatic battery watering for wet batteries. |
| Parking Brake | The machine shall be equipped with an automatic parking brake.  The parking break shall automatically engage when the machines is stationary. |