

Greener. Cleaner. Smarter.



CS7000

Hybrid & Battery Drive Combination Sweeper-Scrubbers



Smart cleaning.

A Nilfisk-Advance Brand



GREENER. CLEANER. SMARTER.

The industry's first Hybrid and ePower™ Drive Combination Sweeper-Scrubbers slash your total cost of ownership.

The new green class of industrial cleaning technology has arrived. In a single broad stroke, the Advance CS7000 Combination Sweeper-Scrubber reinvents an entire class of equipment by reducing total cost of ownership — including operation, labor and maintenance, while effectively doubling fuel economy and runtime efficiency. Now, the most economical solution is also the most ecological.

Available in three models, LPG-Hybrid, Diesel-Hybrid and ePower™ Battery, the CS7000 delivers unparalleled performance, while replacing power-hungry, high-maintenance hydraulic systems with efficient, state-of-the-art Electric Drive technology. Whichever model you choose, the CS7000 delivers the lowest cost of ownership and the most sustainable cleaning solution in its class.

The CS7000 by the numbers. Compared to other sweeper-scrubbers in its class, the CS7000 offers:

- **Up to 50%** reduced LPG / diesel fuel consumption and costs
- **Twice** the operational range and runtime on the same fuel
- **Half** Up to 50% less emissions than comparable LPG or diesel-fueled machines
- **100%** indoor emission-free ePower battery operation
- **64% increased** battery runtime vs. competitors
- **One** innovative machine with dedicated sweeping and scrubbing functions

ePower™ BATTERY EXTENDS RUNTIME BY 64%

Competition

e POWER CS7000

0.....1.....2.....3.....4.....5
Single charge runtime (in hours)

HYBRID TECHNOLOGY DOUBLES FUEL EFFICIENCY

Competition

HYBRID CS7000

.....
Relative operational runtime (on identical fuel)

AVAILABLE IN THREE HIGH-EFFICIENCY MODELS.



ePower™ Battery

With an extended runtime rating up to 5.4 hours on a single charge, the CS7000 ePower model offers a new, low-noise, emission-free green solution for facilities once deemed too large to utilize a battery-powered sweeper-scrubber. The CS7000 ePower easily surpasses all other machines in its class offering one-pass sweeping and scrubbing of up to 640,000 ft² (60,000 m²) per charge.*

* Measured run time using low scrubbing and sweeping mode at normal operating speeds on smooth floors (actual results will be application dependent)

CS7000 LPG-Hybrid

For indoor and outdoor operational versatility with unlimited runtime and high efficiency, the CS7000 LPG-Hybrid can save you thousands in fuel costs alone. Expect unprecedented operational runtime of up to 5.5 hours per 32 lb (14.5 kg) LPG tank, half the emissions per square foot, and much lower operation costs compared to other machines in its class.

CS7000 Diesel-Hybrid

For demanding outdoor environments, the CS7000 Diesel-Hybrid offers superior performance with up to 50% fuel savings, up to 15.5 hours of operation per 9.2 gal (35 L) tank, half the emissions and twice the productivity. The CS7000 makes an immediate impact by reducing your operational, labor and maintenance costs as well as your environmental footprint.



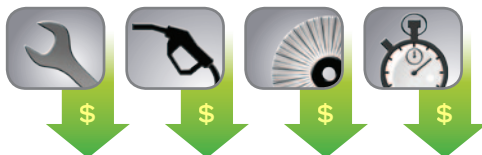
THE MOST ADVANCED CLEANING PLATFORM EVER.



All the power. Twice the efficiency. None of the hydraulic headaches.

Lower total cost of ownership.

The CS7000 dispels the complexity and high maintenance of hydraulic systems that power conventional sweepers—scrubbers. We've eliminated large hydraulic reservoirs, filters and oil coolers as well as 98% of the leak-prone hydraulic hoses, pumps, motors and valves. Hydraulic drives have been replaced with an intelligent system of electronically-controlled, low-maintenance electric drives. This technology shift alone will save the average owner thousands of dollars in reduced maintenance costs.



More efficient power delivery, management and controls.

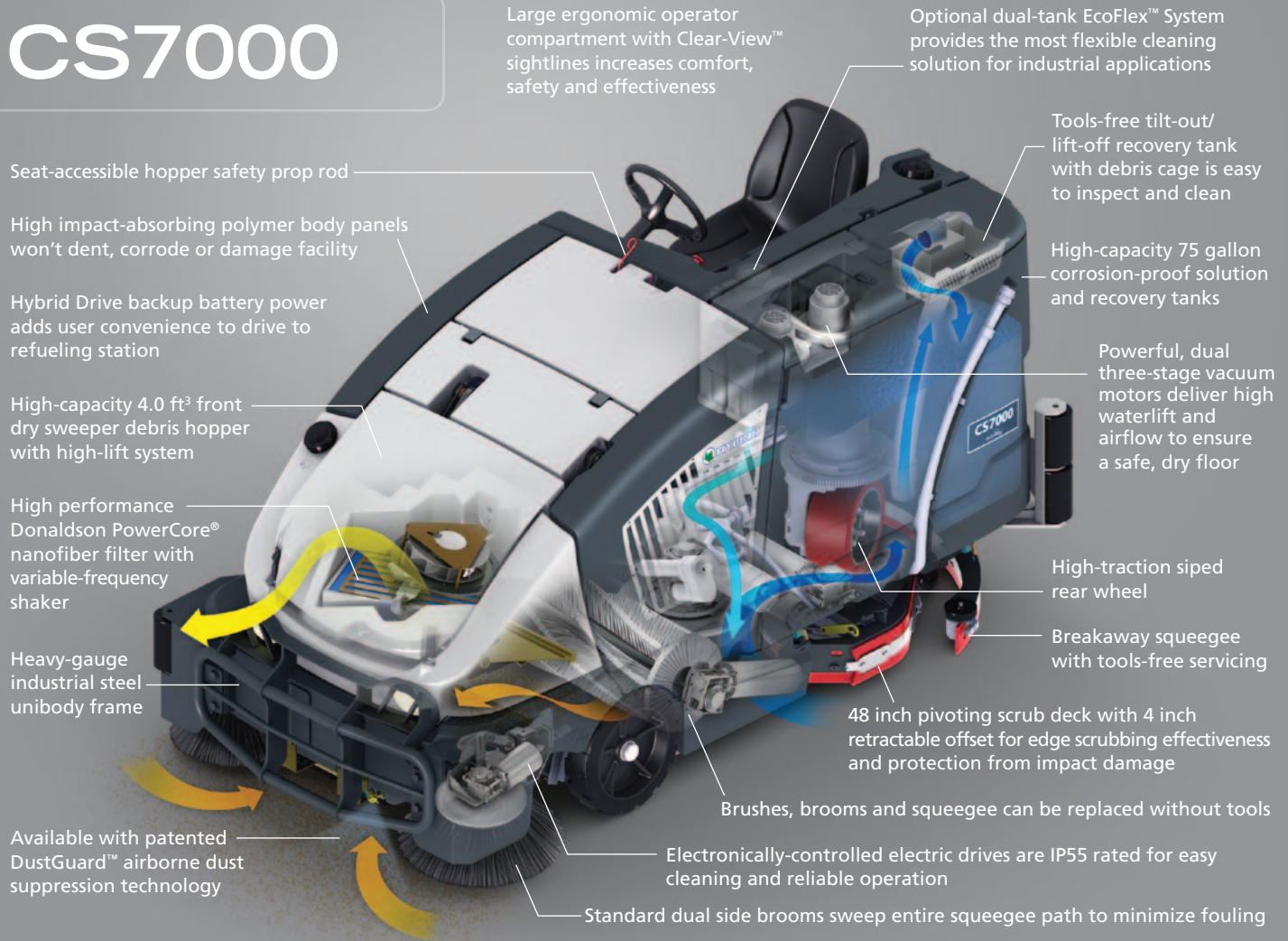
The CS7000 features zero-maintenance brushless AC drives for steering and propulsion with high-efficiency DC drives for scrub and sweep functions. This state-of-the-art system is driven by optimally-sized, high-efficiency Kubota industrial engines in the Hybrid models, or powered by an extended range 36 V battery in the ePower model. By eliminating all but a small hydraulic power unit and cylinder for the debris hopper, the CS7000's electric drive platform operates with twice the efficiency, for increased floor cleaning without sacrificing performance.

The quietest machines in their class.

When it comes to which machines are the most ergonomic and environmentally-sensitive, noise is a critical emission that factors heavily. By eliminating noisy hydraulic pumps and using compact industrial engines, the CS7000 is not only the most efficient, but also the quietest machine in its class too. The ePower Battery model operates at only 72 dB A, with the LPG and diesel Hybrid models operating at 82 and 81 dB A respectively – again, much quieter than comparable machines.



CS7000



Independent sweeping and scrubbing functions leave nothing behind but a clean, dry surface.

Dedicated dry sweep and wet scrubbing for one-pass cleaning.

Like other combination sweeper-scrubbers, the CS7000 lets you sweep and scrub in a single pass. But that's where the similarities end. Compared to competitive dual cylindrical sweeper-scrubber designs, the CS7000 utilizes a cylindrical sweeping system and a separate disc scrubbing system. Dedicated sweeping and scrubbing functions with one-pass cleaning power keep dry debris dry without introducing scrub solution into the debris hopper. This provides operators and equipment owners with increased productivity and reduced maintenance.

It's twice the machine.

The design of the CS7000 is a remarkable feat of engineering. Under the hood you'll find a powerful dedicated dry sweep function supported by standard dual side brooms and a cylindrical main broom. The high-dump front debris hopper provides a safe, visible approach to the dumpster and empties without having to leave the seat. The Donaldson PowerCore® nanofiber filter won't clog like others, as the variable frequency shaker clears trapped dust easily. A fully

swept surface virtually eliminates squeegee fouling, and the CS7000's 48 inch triple disc scrub deck delivers more effective cleaning with up to 400 lb of scrub pressure.

Clean out is easier and less frequent too. The tilt-out recovery tank and removable debris cage makes cleaning easier and more complete compared to competitive cylindrical scrubbers with a shared wet scrub/dry sweep hopper. With the CS7000, you'll find everything just works better. Just like you will.



ecoflex™ system

The optional EcoFlex™ System puts multiple cleaning modes at your fingertips, making it the most efficient single-machine solution for every surface and cleaning requirement in your facility.

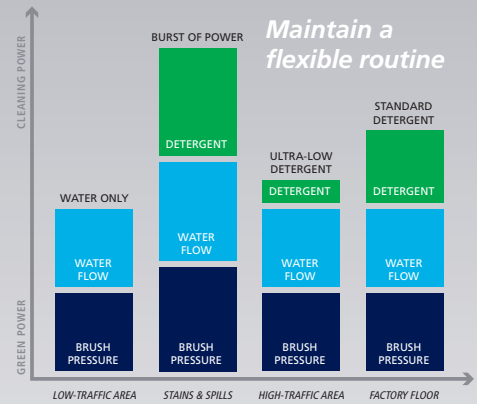
Green

The EcoFlex System lets you clean green and still meet the highest expectations for clean floors. With metered dispensing of detergent at the scrub deck, you can clean effectively while reducing impact on the environment. Using only what you need to do the job right is the cornerstone of a sustainable cleaning routine, and the EcoFlex System gives you that capability.



Clean

No two cleaning challenges are alike, and EcoFlex is the ideal solution to help you clean most effectively in the way you require. Make on-the-fly adjustments between water-only cleaning and various pre-calibrated settings for water flow, down pressure and detergent strength. A touch of a button delivers a 60 second burst of maximum cleaning power. From light traffic and surface dirt to the greasiest, most stubborn industrial surface, the CS7000 with EcoFlex gives you the power to tackle your daily cleaning challenges.



Cost-efficient

Efficiency means doing more with one machine. And the CS7000 with EcoFlex cuts your toughest surface cleaning requirements down to size. With EcoFlex, now you can instantly dial up cleaning power or reduce solution strength and flow as you need it. EcoFlex lets you add greater flexibility to your cleaning capabilities and schedule, while reducing labor, time and costs.

Exclusive features. Smarter design. It all adds up to a superior solution.

MaxAccess™

Unlike conventional machines that require a lot of tools and a lot of time for even the most routine service, we designed the CS7000 to provide quick access to all vital systems for easier inspection and maintenance. Features like swing-out LP tanks and a roll-out battery make service simple.



DustGuard™

Available as a popular option on the CS7000, our patented DustGuard™ technology is the only system of its kind, proven to reduce airborne dust generated by side broom sweeping by up to 85%. An ultra-fine fog suppresses fugitive dust particles which are redirected back into the brooms, greatly improving cleaning results and surrounding air quality.

Clear-View™

The CS7000 represents our commitment to user-friendly design and optimal productivity. Visibility from the operator's seat offers clear sightlines for greater safety and consistent edge cleaning. Our forward-facing, high-dump hopper lets you dump debris easier and safer. Compared to some competitors' backward, rear-facing hopper designs that make dumping debris a challenge, we think you'll like our forward thinking.



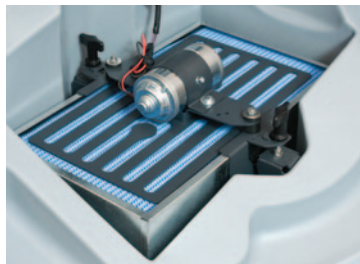
Standard features that perform.



- **48 inch pivoting scrub deck** with 4 inch retractable offset enhances edge scrubbing and resists damage from accidental impact.
- **Breakaway squeegee** won't damage if hooked by obstacles; raises and lowers easily for double scrubbing if desired.



- **Ergonomic operator compartment** with tilt steering wheel and fully adjustable seat.
- **High-capacity 75 gallon tanks** for water and recovery improve productivity by reducing refilling and dumping frequency.
- **Rear wheel steer** delivers greater maneuverability and tighter aisle turning of just 104 inches.



- **High-capacity Donaldson PowerCore® UltraWeb® nanofiber synthetic media filter**, combined with a variable-frequency shaker, offers high dust/dirt holding capacity in a more compact package, plus longer filter life and more consistent performance compared to conventional pleated filters.



- **Intuitive controls with One-Touch™ operation** reduce training time, improve productivity and deliver more consistent cleaning results.



- **IP55-rated electric motors** allow for pressurized washdown of machine.*
- **Tilt-out recovery tank** makes inspection and clean-out much easier.



Other available options

- **EcoFlex™ System with interchangeable dual detergent cartridges** are refillable with your favorite brand of detergents.
- **Heated water supply up to 130°**, offers the added cleaning effectiveness and fast dry times of hot water with no fuel penalty.
- **Optional extended scrub recycling system** greatly extends runtimes in low traffic areas while reducing water use.



- **Overhead guard, bumper guards, tail lights** available as optional equipment.
- **Optional onboard pressure washer or low pressure spray hose** are both cab-accessible and can be used for convenient cleaning. Pressure washer is rated at 2,200 psi.

*Pressurized washdown should not be performed on control board or operator compartment. Consult your operators manual for more information.

CS7000 Specifications

| Models | CS7000 Battery | CS7000 LPG Hybrid | CS7000 Diesel Hybrid |
|--|---|---|---|
| Configuration | Independent front dry sweeping w/dust control and rear scrubbing functions Electronically controlled electric drives for all sweeping and scrubbing functions Electrically driven hydraulic power unit for hopper raise/lower functions | | |
| Sweeping System | | | |
| Sweeping Path w/Dual Side Brooms | 61 in (154 cm) - Squeegee path width is fully swept | | |
| Main Broom | 36 in (90 cm) x 12.2 in (31 cm) | | |
| Sweeping Coverage Rate Per Hour | 146,400 ft ² (13,600 m ²) | | |
| Dust Control System | 115 ft ² (10.7 m ²) Donaldson high-capacity PowerCore® UltraWeb® filter w/synthetic media. Variable frequency automatic filter shaker | | |
| Hopper Dump Height (Max.) | 60 in (152 cm) | | |
| Hopper Capacity | 4.0 ft ³ (113 L) - Measured usable capacity 300 lb (136 kg) | | |
| DustGuard™ Tank Capacity ¹ | 26 gal (98 L) | | |
| Scrubbing and Recovery Systems | | | |
| Scrubbing Path and Brushes | 48 in (122 cm) - 3 x 17 in (43 cm) disc | | |
| Scrubbing Coverage Rate Per Hour | 118,600 ft ² (11,000 m ²) | | |
| Scrub Pressure | Three scrub pressure settings up to 400 lb (182 kg) of down force at maximum setting | | |
| Recovery/Solution Tank Capacity | 75 gal (285 L) each | | |
| Recovery Vacuum | Dual vac fan motors capable of 48 in (122 cm) waterlift | | |
| Power and Propulsion Systems | | | |
| Power System | Battery: 36 V/770 Ah | Kubota WG972: 3 cyl., 0.96 L 30 hp (22.0 kw) | Kubota D1305: 3 cyl., 1.26 L 29 hp (21.7 kw) |
| Propulsion System | Variable speed brushless A/C drive | | |
| Propel Speed (Variable) Transport | 5.5 mph (8.9 km/h) | | |
| Sweeping/Scrubbing | 3.5 mph (5.6 km/h) w/override capability | | |
| Operational Run Time Sweeping/Scrubbing ² | 5.4 hrs. w/770 Ah battery | 5.5 hrs. w/32 lb (14.5 kg) tank | 15 hrs. w/9.2 gal (35 L) tank |
| Gradeability Transport @ Gross Weight | 21% (12 deg.) | 27% (16 deg.) | |
| Scrubbing/Sweeping | 17% (9.6 deg.) | 17% (9.6 deg.) | |
| Dimensions/Weight/Sound/Environmental | | | |
| Length | 97 in (246 cm) | | |
| Width | 48 in (122 cm) | | |
| Height | [59 in (150 cm)] | [82 in (208 cm) std. overhead guard] | [79 in (201 cm) low clearance overhead guard] |
| Minimum Aisle Turn | 104 in (264 cm) | | |
| Weight : GVW | 5,400 lb (2,455 kg) | 4,350 lb (1,977 kg) | 4,239 lb (1,927 kg) |
| Empty | 4,366 lb (1,985 kg) | 3,400 lb (1,545 kg) | 3,313 lb (1,506 kg) |
| Sound Level (IEC60335-2-72) | 72 dB A | 82 dB A | 81 dB A |
| Water Ingression | All electric drive motors and actuators rated IP55 for water washdown | | |

¹ DustGuard™ optional

² Measured run time using low scrubbing and sweeping mode at normal operating speeds on smooth floors (actual results will be application dependent)

Note: Specifications subject to change without notice

CS7000 models shown in photos may feature optional accessories.



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