

# Liberty SC50 Autonomous Scrubber

## FREEDOM TO DO BETTER



*"The Liberty saves me a couple of hours every day. It's easy to use and easy to program."*

*"The liberty cleans a hallway in about half the time it used to take me."*

*"With the autonomous scrubber, we're able to better maintain the floors in not only my area, but across the entire facility."*

*~St. Michael-Albertville High School~*

### Welcome to the era of intelligent floorcare

With a century's knowledge behind its development, and today's most advanced robotics technology powering its capabilities, the autonomous Nilfisk Liberty SC50 represents our commitment to delivering the world's most intelligent cleaning solutions.

By successfully integrating an array of 3D, 2D, infrared and depth sensors within a high-performance scrubber-dryer, Nilfisk has elevated floorcare to new standards of both effectiveness and efficiency.

### Productivity and Safety go hand in hand

Safety-certified, fully autonomous and designed for consistent results with minimal oversight, the Nilfisk Liberty SC50 allows operators to focus on tasks that benefit the most from valuable human effort, and provides the means for unmatched productivity in any cleaning operation.

Because safety is a prime objective when working with autonomous solutions, the Nilfisk Liberty SC50 is engineered to ensure smooth synergy within its operating environment.

- Adjusts in real-time to route changes and obstacles including people
- User-access configuration prevents unauthorized intervention
- Leaves floors spotless and dry to reduce high-traffic slip risks

### The newest member of your high-performance team

The Nilfisk Liberty SC50 gives you programmable floorcare that adapts to your needs. Three distinct cleaning modes give you the power to optimize productivity, and as the world's only 3rd-party certified autonomous cleaning solution, it's ideal for operation in a variety of populated environments.

#### TYPICAL APPLICATIONS INCLUDE

- Schools and Universities
- Hospitals/Healthcare Facilities (SC50 is EMC Certified)
- Entertainment and Convention Centers
- Large Retail Malls
- Airports
- Office Buildings
- Facility Management

#### STANDARD FEATURES INCLUDE

- **CopyCat™ mode** - replicates a designated cleaning path
- **Fill-in mode** - lets you implement autonomous cleaning the fastest way possible (a Nilfisk exclusive)
- **Manual mode** - give you complete control over movement and cleaning
- **Smart Obstacle Detection and Go-Around** - tracks obstacles around the machine
- **Independent Safety System** - creates a safety zone around the machine and detects any danger in the surroundings
- **Robotic Safety Certification** - world's only 3rd party certified autonomous machine (CSA/ANSI C22.2 No. 336-17)
- **SLAM** (simultaneous localization and mapping) - eliminates expensive and long pre-mapping

ecoflex™ system

REV

SmartFlow™

TrackClean™

 Nilfisk®

# Liberty SC50

## Defining Cleaning Innovation...

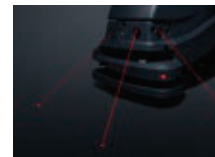
- Our products are designed using innovative technology that increases productivity and drives down the cost to clean.
- You can get expert service and maintenance for your Nilfisk machines from factory-trained personnel around the world. Fast parts delivery, too.
- Maintain peak performance with Nilfisk Parts.



## Technical Specifications

Models	SC50 (X20R) REV	SC50 (X20D) Disc
Scrub Head	REV™	Disc
Scrub Path	20 in (51 cm)	20 in (51 cm)
Solution Tank	15 gal (57 L)	15 gal (57 L)
Recovery Tank	14 gal (53 L)	14 gal (53 L)
Machine Voltage	24V	24V
Battery Capacity (max)	255 Ah	255 Ah
Protection Grade	IPX4	IPX4
Scrub Brush Speed	2250 RPM – ¼ orbits & macro of 10-30 RPM	157 RPM
Vibrations at the Hand Controls (ISO 5349-1)	0.17 m/s <sup>2</sup>	0.17 m/s <sup>2</sup>
Vibrations for the Whole Body (ISO 2631-1)	0.01 m/s <sup>2</sup>	0.01 m/s <sup>2</sup>
Max Transport Speed - Manual Fwd.	3.1 mph (5.0 kph)	3.1 mph (5.0 kph)
Max Transport Speed - Manual Rev.	1.62 mph (2.6 kph)	1.62 mph (2.6 kph)
Max Speed Autonomous	2.35 mph (1.055 m/s)	2.35 mph (1.055 m/s)
Max Theoretical Productivity	11,000 ft <sup>2</sup> /hr (2,453 m <sup>2</sup> )	11,000 ft <sup>2</sup> /hr (2,453 m <sup>2</sup> )
Sound Pressure Level (IEC 60335-2-72)	63 dB A / .029344 µPa	63 dB A / .029344 µPa
Gradeability -Manual Transport	15% (8.53°)	15% (8.53°)
Gradeability - Manual Cleaning	9% (5.14°)	9% (5.14°)
Gradeability - Autonomous	2% (1.15°)	2% (1.15°)
Minimum Aisle Turn Width - Manual	62.7 in (159.2 cm)	62.7 in (159.2 cm)
Squeegee Width	30.2 in (76.7 cm)	30.2 in (76.7 cm)
Length	53.3 in (135.5 cm)	53.3 in (135.5 cm)
Width	30.0 in (76.1 cm)	30.0 in (76.1 cm)
Height (antenna)	56.8 in (144.1 cm)	56.8 in (144.1 cm)
Gross Weight (standard machine w/o options; w/full solution tank, empty recovery tank, batteries installed) – with 165 lb / 75 kg operator	1067.9 lb (484.4 kg)	1057.1 lb (479.5 kg)
Model Numbers	56104507 - US rev	56104506 - US disk

### INDEPENDENT SAFETY SYSTEM



Separate system independent of the mapping, obstacle system and path planning. Overrides autonomous system and can immediately stop if an unsafe event is detected. Dual safety rated sensors provide 360 degree coverage. Drop off sensors detect drop offs like a loading dock, stairs, escalators, steps, etc.

### DIGITAL SOLUTIONS



The SC50's digital solutions enable you to take proactive actions by providing timely information specific to your site and machine.

- Cleaning job reports detail where you cleaned, when you cleaned and who cleaned.
- Operator receives real-time updates of machine performance sent to their cell-phone through TextAssist.

### PATH PLANNING



**CopyCat™** is designed to do exactly what the operators trains the machine to do. Fill-in is the fastest way to start cleaning and is optimized for larger spaces.

Specifications are subject to change without notice



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