



# KlinMak<sup>®</sup>

keep clean



**Catalogue 2021**



<b>Evolution in the cleaning industry.</b>	
<b>Company presentation.</b>	2
<b>Why choose us?</b>	3
<b>Sustainability and efficiency.</b>	4
<b>Professional cleaning machines.</b>	
<b>Areas of use and applications.</b>	6
<b>Scrubber dryers</b>	8
Why choose Trion scrubber dryers?	8
Trion 2040	9
TrionX 2040 - <i>Green Product</i>	17
Trion 4050	25
TrionX 4050 - <i>Green Product</i>	33
Trion 5070	41
HiLo 8065	49
Why choose the Hilo8065 ride-on scrubber dryer?	55
<b>Machines for disinfecting</b>	56
Why choose Klinmak Disinfection Machines	57
Killo Pro	58
Disy 5	60
Disy 10	60
Hygeno	62
<b>Klinmak.com</b>	64

# Evolution in the cleaning industry.

## KlinMak srl: History and Values.

KlinMak srl is a young company (2014) that was however founded by men with extensive experience in the professional cleaning industry.

It is located in the south of Milan in a beautiful 1,000 square meter location. Its first production was a compact scrubber dryer (HiLo 8065 : 80 L - 2x13"= 65cm) .

**Its objective was immediately clear: to produce exclusively innovative machines.** It filed a **patent** which was brilliant in its simplicity: two geared brushes driven by a single motor.

At the Pulire 2019 Trade Fair, KlinMak srl presented the Trion range: two 20 and 40 liter walk behind scrubber dryer models with two brushes (2x8" and 2X10") and a turbine, driven by a single motor powered by lithium batteries. Lithium batteries can be used thanks to the overall energy savings of the Power Unit and guarantee enormous advantages in runtime (up to 4 hours), charging time (around 2 hours), size and weight compared to the use of traditional batteries, as well as drastically reduced noise with the elimination of the turbine's electric motor. This innovation has allowed KlinMak to design and manufacture machines with a deep respect for the environment.

At the end of 2019, the Trion range was expanded with **two new models unique in the world: TrionX 2040 and TrionX 4050**. These models have the same features as the basic versions, but are enriched with 4 new aspects of absolute value for the user: antibacterial plastic, stainless steel frame and parts in contact with water, ability to adjust the amount of detergent used directly from the control panel, and above all **Hepa H13** filtration of the contaminated air from the squeegee. A real revolution in the scrubber dryer industry.

At the end of 2020, the Trion Range was completed with an absolute novelty: **Trion5070**. A 50 liter, 70 cm cleaning track with **4 7" brushes** geared with a single motor that can also rotate the turbine for suction. No increase in power absorption, which remains around 350 total Watts. The 70 cm cleaning track increases the cleaned surface by 40% compared to the traditional 50 cm single-brush machines.

A huge leap forward in terms of operational savings.

The pandemic has also been a further accelerator for KlinMak in the development of its range. The Scrubber Dryer Range has been complemented by a Range of **Disinfecting Machines** consisting of **5 models and 4 tank capacities** (1-5-10-20 Liters). All the models are powered by lithium batteries, by now the company's hallmark.

In addition to machines, KlinMak has also added Chemicals (alcohol-based hand sanitizing gels, alcohol and peroxide-based sprays) and other complementary products to its catalog: Stands & Dispensers, Disposable masks for civil and medical use.

But, as always, the best is yet to come...



# Why choose us?

**We founded our company with the aim of “introducing exclusively innovative products to the cleaning market”. The two partners’ collective experience of over 60 years in the industry has allowed us to write an important page in the scrubber dryer sector.**

**In six years Klinmak srl has developed 17 machine models: 11 are in production, while 3 new models are in the design phase.**

**Innovating means presenting machines that are completely different from the existing ones, and this involves the important, hard work of designing, prototyping, testing and consolidating unique technical solutions that have never been adopted by other manufacturers.**

## **Our choices followed the guidelines below:**

- 1 Use of a double brush on all scrubber dryers, guaranteeing uniform cleaning. The KlinMak patent (a single motor rotates two brushes) made this goal possible.
- 2 Lower total absorbed power and therefore the possibility of using lithium batteries on walk-behind scrubber dryers, with enormous advantages in terms of weight, compactness, manageability, and above all the cost of using the machine.
- 3 Use of lithium batteries on the entire range of disinfecting machines.
- 4 Very low maintenance costs resulting from the choice of components with proven quality and the controlled use of electronics.
- 5 An excellent availability of machines, accessories and spare parts for “next day” deliveries.
- 6 Technical application training already with the first supply and technical-commercial support 24/7. KlinMak is always by its customer’s side, at all times.
- 7 Sustainable economic offer, thanks to a simplified approach to the technical solutions adopted.
- 8 24 month warranty on ride-on machines, extending to 36 months on walk behind scrubber dryers.
- 9 The opportunity to choose from a wide range of colors (five standard and five custom) with the Klinmak brand and alternatively with the Customer Brand (private label), with minimum production batches.
- 10 Lastly, the promise of many innovative models for years to come.



## **Sustainability and efficiency.**







## We set new standards in the cleaning industry.

All KlinMak® scrubber dryers are designed to ensure maximum cleaning efficiency with reduced energy consumption.

## Sustainability is not just a word, it is a concrete action.

As manufacturers of cleaning machines, we care about the future of the planet. By operating in a sector whose primary objective is cleanliness and hygiene, being sustainable means taking into account not only the protection of the environment, but also the well-being of people.

Precisely for this reason, every product we design and manufacture has intrinsic sustainability values, reflecting the company's philosophy. We are convinced of the goodness of our work and were the first to introduce certain significant green innovations.

## With our work we concretely support the UN's SDGs.

The Sustainable Development Goals (SDGs) are the 17 goals for 2030 agreed by the UN under the Global Agenda for Sustainable Development, which aim to bring progress within a path of sustainability.

## Green features of our products

### Reduced consumption

We invest in R&D so that our machines have the same efficiency with less energy use.

### Made to last

We study our products so that they can last for years, thereby reducing the need for maintenance and lowering the production of waste.



### Filtering emissions

We were the first in the industry to filter the emissions produced by our machines, thanks to a system that makes them safer by polluting less.

### Low noise pollution

Thanks to the use of less energy-consuming motors, our products have a very low sound impact, which also makes them comfortable for the operators using them.

# Professional cleaning machines.

## Areas of use.



### For large-scale retail and stores

Having a clean store is a priority of both large-scale retailers and local shops. Any company that sells food or personal care products must preserve its goods as best as possible in order to offer its customers a quality service.

KlinMak offers a wide range of professional products and machines for cleaning large-scale retail stores, so they can ensure the utmost cleanliness inside the store while simultaneously ensuring the protection of the most delicate products such as fresh or refrigerated foods.



### For hospitals and nursing homes

Hospitals and nursing homes care about the health of their patients and guests, and to do so they must not only provide quality services but also offer an environment that puts people in a safe inpatient environment and allows doctors and nurses to work with peace of mind.

KlinMak offers a wide choice of professional healthcare products and machines that guarantee the best cleaning performance and ensure the well-being of patients and healthcare professionals. The TrionX range was created mainly for these applications.



### For food services

Customer care, friendliness and quality are the core values of all food services, and attention to detail allows a restaurant to stand out above its competition. The cleanliness of dining rooms and common areas is one of the characteristics most appreciated by customers. Businesses which are in such close contact with the public must also dedicate the right amount of attention to cleaning their kitchens, the beating heart of the restaurant, to offer quality service.

KlinMak offers several solutions suitable for professionally cleaning restaurants, both for ordinary activities such as scrubber dryers, and for extraordinary ones imposed by the latest Covid-19 emergency, such as nebulizers.



### For offices and public bodies

Offices and public spaces are constantly changing and in recent years more and more cutting-edge solutions have been created, such as open spaces or co-working offices, to offer both workers and users a comfortable space to work. Keeping environments clean and tidy is a priority of companies and public bodies.

KlinMak offers a range of professional office cleaning products that meet any need. In fact, thanks to the versatility of our machines we have the ideal solutions for any type of work environment, and ensure the best possible level of cleanliness and hygiene.



### For cleaning companies

Professional cleaning companies need equipment that can guarantee reliable performance over time, is easy to use and requires little maintenance. One of the main requirements is to be able to offer quality, fast and effective service while always maintaining high standards.

KlinMak offers a wide choice of professional cleaning products and machines for cleaning companies, such as the Trion 2040 scrubber dryer which guarantees the best performance and safe quality.





## For warehouses

Product storage is a delicate activity that requires precision and order, thus it is **essential to always keep a warehouse clean both for the preservation of goods and for the workers employed there.**

**KlinMak offers a wide range of professional cleaning machines and products for warehouses, such as the [Trion 5070 Scrubber Dryer](#) which guarantees maximum efficiency and ease of use.**



## For hotels and the hospitality industry

The main objective of the hospitality industry is to pamper guests and make them feel at home. Rooms, dining rooms and all common areas must be highly attended to in order to offer customers an unforgettable experience.

KlinMak offers a wide choice of professional cleaning products and machines for hotels and accommodations, to ensure the best possible level of cleanliness.



## For the transport industry

Ensuring the safety and well-being of travelers is one of the focuses of the transport industry. **The thousands of passengers who move through these areas every day must be guaranteed the continuous maintenance and cleaning of common areas.**

**KlinMak offers a wide range of professional cleaning machines and products for the transport industry, such as the [Disy10 Disinfecting Machine](#) which guarantees the utmost performance, low maintenance and ease of use.**



## For industry

**Clean, ordered warehouses and workshops can guarantee better operation and efficiency.** Companies need practical, high-performance products to make sure their workers have a comfortable and inclusive work environment. These tools must also be easy to handle and manage.

**KlinMak offers a wide range of professional cleaning products and machines for industry** which are designed to last over time, be practical and require little maintenance.

## Applications

		Cleaning companies	Large-scale retail	Warehouses	Industry	Healthcare	Hotels	Food services	Public Bodies	Transportation
Scrubber dryers	Trion 2040	●					●	●	●	●
	TrionX 2040 - Green Product	●	●			●	●	●		
	Trion 4050	●					●	●	●	
	TrionX 4050 - Green Product	●	●			●	●	●		
	Trion 5070	●	●	●	●		●		●	
	HiLo 8065	●	●	●	●	●	●		●	●
Machines for disinfecting	Killo		●	●	●		●	●	●	●
	Killo Pro	●	●	●	●	●	●	●	●	●
	Disy5	●	●	●	●	●	●	●	●	●
	Disy 10	●		●	●	●			●	●
	Hygeno	●		●	●	●			●	●
Sanitizers and accessories	Alkogel	●	●	●	●	●	●	●	●	●
	AlkoSpray	●	●	●	●	●	●	●	●	●
	Oxyspray	●	●	●	●	●	●	●	●	●
	Disposable masks	●	●	●	●	●	●	●	●	●
	Surgical masks	●	●	●	●	●	●	●	●	●
	Gel Stands	●				●			●	

# Scrubber Dryers



Trion 2040



TrionX 2040



Trion 4050



TrionX 4050



Trion 5070



HiLo 8065

## Why choose Trion scrubber dryers?

### The main strengths of the Trion Walk Behind Scrubber Dryer range are listed below:

- 1 **The high rotation double brush (340 rpm)** cleans better than a single brush machine and does not require continuous directional balancing by the operator, typical of the single brush machine.
- 2 **Compact:** with the same tank capacity and track, Trion is the shortest, narrowest and lightest (max 70 kg overall) machine available, thus the easiest to handle in confined and non-confined spaces.
- 3 **Easy to use:** once the solution flow rate and operating mode have been selected, Trion has only one control button.
- 4 **Silent:** the power unit includes just a single motor that drives the two brushes and the suction turbine, which in fact does not require an electric motor, notoriously the noisiest component.
- 5 **Symmetrical:** able to operate flush with the wall in both directions of travel.
- 6 **Low energy consumption:** Trion has the best power consumption / clean square meters (0.14W/sq.m.) ratio on the world market.
- 7 **Only with lithium batteries,** with a runtime of up to four hours and a battery recharge time of around two hours. Ability to work up to 16 hours a day.
- 8 **Modularity:** it simply transforms from a basic battery to a dual-life battery (Plus) and from battery to cable.
- 9 **Display which is simple while full of information:** hour counter, continuous detection of the remaining runtime, setting the Eco or Max Power working mode. Possibility to set the detergent percentage (optional Kit).
- 10 **The standard Trion X versions are equipped with:**
  - Hepa H13 filter for filtering the contaminated air from the squeegee
  - Stainless steel frame to guarantee long life in corrosive environments
  - Antibacterial plastics
  - Detergent Dosing Kit (KIDO) to avoid waste or poor cleaning results

Trion has a three-year warranty and is designed according to UN Sustainability criteria no. 12.5.



# TRION<sup>20</sup><sub>40</sub>

WALK BEHIND SCRUBBER DRYER

# TRION<sup>20</sup><sub>40</sub>

This model is a further step forward in the development of the dual brush models thanks to the innovative **"KlinMak single-motor power unit"**, now able to operate both the two toothed brushes and the suction turbine. This solution allows both an incredible reduction in power consumption and a considerable increase in silence (in Eco = **64.6 dbA**).

**The significant energy savings have made it possible to use a lithium-ion battery (Li-Ion) capable of guaranteeing significant advantages in operating autonomy, charging times, as well as a very low environmental impact.** The power used, which is visible on the display together with the residual runtime, is quite low (max. 340W). **The Trion 2040 scrubber dryer is intended for cleaning surfaces from 250 to 1,000 sq.m. Its energy consumption (ratio of power consumption to hourly yield) is the lowest in the cleaning market (0.14 W/sq.m.).**

**Trion 2040 is an innovative, high performance, low power consumption, continuous cycle, easy to use, and maintenance-free scrubber dryer.**







## Superior cleaning performance



### 1 Front brush head washing system with two brushes

Guarantees excellent, uniform cleaning on various types of surfaces and greatly increases the quality of washing compared to scrubber dryers with a single brush. The high brush speed (340 rpm) also contributes to better cleaning results.



Perfectly cleans angles and corners, easily covers areas flush with the wall and operates in narrow spaces, avoiding expensive manual cleaning operations. The centered head also allows the machine's use in both directions.



### 2 Heavy-duty brush head (30 kg)

Trion can thus be used for deep, intermediate and maintenance cleaning. The squeegee can also be lifted for deep cleaning, held in place by magnets.



### 3 3-stage turbine and squeegee behind the brushes

This combination ensures perfect drying on every surface, especially in corners.



## Easy to use



Mode selection button  
Eco / Max Power / Off  
and % detergent selection



Water adjustment button from  
0.3 to 2 l/min. The same  
button also allows draining  
the solution tank.



Total power  
consumption



Residual runtime  
and hour counter



Activate washing and suction



### 4 Simple control panel

Two simple buttons control all the functions of the scrubber dryer. One button adjusts the amount of washing solution (from 0 to 2 l/min) by displaying its value; the typical waste of manual taps is avoided. A second button simultaneously activates the washing and suction functions. A display detects the battery state, cumulative runtime (in hours). The left button allows selecting between two use modes (Eco-Max), displaying the power absorbed during operation and the residual runtime before charging is necessary. **The board is already prepared for the detergent dosing system.**



### 5 Tank in tank system

The tank has an optical level indicator. The recovery tank has a wide opening for cleaning and inspection. The tanks lack any edges or areas where contaminated water could stagnate. Utmost hygiene!



### 6 2 large wheels (250 mm) and 2 for parking and transport

Easy to move on smooth and rough surfaces.

The two rear wheels make it easy to park the machine, and all four wheels together facilitate loading and unloading water.





## Eco-sustainable production



### 7 Toothed brushes: extremely high energy efficiency and cleaning (KlinMak patent)

The toothed brushes (KlinMak patent) make it possible to use a single gearmotor, simplifying transmission and reducing the overall cost. Moreover, they increase energy efficiency, thereby increasing the scrubber dryer's runtime. The use of a single motor greatly improves the machine's energy efficiency and greatly reduces the sound level it produces, since the machine lacks an electric motor for the turbine. This greatly increases runtime and simplifies maintenance. The two-brush system greatly facilitates the scrubber dryer's traction. The use of an Li-Ion battery significantly reduces the weight and volume of the machine, and therefore substantially reduces the production of industrial waste.



### 8 Single electric motor; no electric motor needed for the turbine. Very low noise

**Its energy consumption (ratio of power consumption to hourly yield) is the lowest in the cleaning market (0.14 W/sq.m., in Eco mode).**

The sound pressure level (noise) in the operator's ear is quite low, at 64.6 dbA in Eco mode.

Trion is setting new standards in professional cleaning, following the sustainability logic indicated by the UN in point 12.5 of the Sustainable Development Goals.



## Low cost in use



### 9 Li-Ion battery with BMS, increased runtime up to 16 h/day

There are innumerable advantages to using lithium-ion batteries (Li-NCA): lightness, small size, no memory effect, low self-discharge rate, much higher charge cycles (1,000) than traditional AGM or Gel batteries, and above all the possibility of being able to count on very low charging times. The battery charger with double setting is offered as standard: 5/8A. The advanced BMS (single-cell control system) entirely designed in Italy manages the battery's operation, transmitting its parameters to the main board of the machine and storing infinite data. Start-up is through a special bistable button located next to the battery charging socket. The use of Li-Ion batteries allows the machine to be used **up to 16 hours a day**, an unthinkable amount of time with traditional batteries.



### 10 Ultra-high productivity and incredibly low maintenance costs

Trion optimizes consumption and operating costs. Eco mode (ideal on hard surfaces such as ceramic, marble and the like) further reduces consumption and noise levels. All routine maintenance tasks, such as cleaning and replacing the squeegee rubber, cleaning the clean-water filter, and replacing the brushes are simple and fast.

The wide opening in the upper part of the recovery tank makes it quite easy to clean effortlessly and without wasting any time. The standard diagnostics and hourly runtime counter also facilitate scheduled and extraordinary maintenance. **All Trion models come with a three-year warranty or 1,000 hours of runtime.**




## The Trion Range. Absolute green!



Characteristics	Benefits	Green aspect	Note
Single-motor power unit able to operate the two washing brushes (the second through KlinMak patent) and suction turbine for drying.	The use of a single motor, compared to other machines which use three for the same functions, greatly reduces the scrubber dryer's energy requirements in the form of power consumed. Trion's display shows the power consumption in the two operating modes: Eco and Max, selectable by the operator.	Less electrical power consumed and less use of materials due to the smaller size of the machines (a KlinMak 40I has an overall volume of less than 0.5 m <sup>3</sup> ), much lower than any competitor. The reduction in overall dimensions allows better operator maneuverability and consequently less fatigue.	Energy efficiency understood as the ratio of power consumption and clean square meters. KlinMak measured values between the Eco and Max conditions equal to 0.14 - 0.21 watts/clean sq.m.
Use of lithium batteries (made possible by the previous point).	Increase in charging cycles, compared to the use of traditional batteries, by at least three times (from 350 to 1,000 cycles). Hence the very strong reduction in overall volumes, especially that of the battery compartment. Lastly, charging times are greatly reduced from 10/12 to two hours. Trion machines can be used up to 16 hours every day.		At least three PB battery packs are used during the lifetime of a single Li-Ion battery pack.
No electric motor for operating the suction turbine.	Noise reduction.	Less noise impact on the operator.	Very low maintenance.
Timely display of residual runtime.	Operators are aware of the remaining runtime so they can best organize the cleaning work to be done.	Optimization of working times.	Total control of operations.
Water amounts adjustable from the display.	Easy to use and precise control of the amount of water used in relation to the type of floor and dirt.	Typical water wastage in manual tap adjustments avoided.	No wasted water or detergent.

## Technical characteristics

Description	Note	TRION2040-e	TRION2040	TRION2040 Plus
Voltage		230V/50Hz	54.6V	54.6V
Total installed power	1 Motor	500 W	500 W	500 W
Total power consumption	Eco-Mode / Max	240 / 340 W	240 / 340 W	240 / 340 W
Tank capacity	solution/recovery	20 / 22 L	20 / 22 L	20 / 22 L
Recommended	cleaning area	from 250 to 1,000 sq.m.	from 250 to 1,000 sq.m.	from 250 to 1,000 sq.m.
Theoretical / Real	Productivity	1,624 / 1,200 m²/h	1,624 / 1,200 m²/h	1,624 / 1,200 m²/h
Clean surface per charging cycle Eco-Mode / Max Pot.			2,400 / 1,700 sq.m.	4,800 / 3,400 sq.m.
<b>OPERATOR SOUND PRESSURE LEVEL</b>	Eco-Mode / Max Pot.	64.6 / 66.6 dB(A)	64.6 / 66.6 dB(A)	64.6 / 66.6 dB(A)
<b>ENERGY CONSUMPTION</b>	Eco-Mode / Max	0.14-0.21 W/m²	0.14-0.21 W/m²	0.14-0.21 W/m²
Length		800 mm	800 mm	800 mm
Width including squeegee		490 mm	490 mm	490 mm
Height		1,100 mm	1,100 mm	1,100 mm
Protection level		IPX3	IPX3	IPX3
<b>WARRANTY</b>		36 months or 1000 h	36 months or 1000 h	36 months or 1000 h
<b>WASHING</b>				
Cleaning width		406 mm / 2x8"	406 mm / 2x8"	406 mm / 2x8"
Brush rotation speed	Empty/loaded	340/300 rpm	340/300 rpm	340/300 rpm
Load on brushes/pads	30 kg	30 kg	30 kg	
Adjustable water flow rate	0-2 l/min	0-2 l/min	0-2 l/min	
<b>DETERGENT DOSING KIT (KiDo)</b>		pre-prepared	pre-prepared	pre-prepared
<b>SUCTION</b>				
Suction width		490 mm	490 mm	490 mm
Turbine vacuum	Eco-Mode / Max	600/900 mmH2O	600/900 mmH2O	600/900 mmH2O
<b>WEIGHT AND PACKAGING</b>				
Dimensions	WxLxH	960x630x1,060 mm	960x630x1,060 mm	960x630x1,060 mm
Total unpacked / packed weight		57 / 71 kg	59 / 73 kg	62 / 76 kg
<b>BATTERY AND BATTERY CHARGER</b>				
Li-Ion capacity	 with BMS		54.6V/11.60Ah	54.6V/20.30Ah
Autonomy			2h	4h
UL certified	charger		54.6V - 5/8A	54.6V - 5/8A
Charging time			2h (setting 5A)	2.5h (setting 8A)
Charging cycles			1000	1000

## Accessories supplied

### Washing



Solution flow rate adjustment via proportional solenoid valve  
 Water filter with integrated tap  
 Self-leveling splash guard  
 Optical solution level indicator  
 Clean water drain from the steering wheel  
 Recovery tank level sensor for total stop  
 Detergent dosing kit pre-prepared (KiDo)

### Suction



3-stage suction turbine without electric motor

### Controls and Adjustments



Operation with two power consumption levels (Eco-Mode/Max)  
 Hour counter  
 Battery charge state  
 Diagnostics  
 Optical power consumption indicator  
 Residual runtime indicator in minutes

### Driving comfort



Comfortable steering wheel with simultaneous brush and turbine motor start-up functions  
 4-wheel transport and parking position



Optional equipment

TRION 2040

Code	Description
H.052.0	Detergent dosing kit (KiDo)



Trion 2040 can be equipped as standard with the detergent regulation system whose percentage (fixed with four values: 0.2%-0.5%-1%-1.5%) is set from the display with a simple operation. This allows the precise calibration of the amount of chemical product according to the application. Therefore, both the waste of detergent compared to manual dosing in water tanks and product stagnation in the tank are avoided.

Consumables

TRION 2040

Code	Note	Equipment
G.019.0	445 mm	Front curved squeegee blade
G.020.0	480 mm	Rear curved squeegee blade
G.032.0	445 mm	Polyurethane-anti-oil front curved squeegee blade
G.033.0	480 mm	Polyurethane-anti-oil rear curved squeegee blade
D.018.0	8"	White toothed brush PPL 0.9 mm
D.019.0	8"	Blue toothed brush PPL 0.7mm soft
D.020.0	8"	Black toothed brush PPL 0.5mm supersoft
D.034.0	8"	Tynex Grit 320 toothed brush
D.021.0	8"	Pad holder
D.022.0	8"	Black Nylon Pads (10x)
D.023.0	8"	Green Nylon Pads (10x)
D.024.0	8"	Red Nylon Pads (10x)

Available tank colors



Emerald green



Blue



Red



Lemon green



Light blue



Yellow



Grey



Black



Orange



Fuchsia

Tank colors on request

Minimum order 12 machines



# TRION X<sup>20</sup>/<sub>40</sub>

ULTRA-COMPACT WALK BEHIND SCRUBBER DRYER

# TRION X<sup>20</sup><sub>40</sub>

This model is a further step forward in the development of the dual brush models thanks to the innovative **"KlinMak single-motor power unit"**, now able to operate both the two toothed brushes and the suction turbine. This solution allows both an incredible reduction in power consumption and a considerable increase in silence (in Eco = **64.6 dbA**).

**The significant energy savings have made it possible to use a lithium-ion battery (Li-Ion) capable of guaranteeing significant advantages in operating autonomy, charging times, as well as a very low environmental impact.** The power used, which is visible on the display together with the residual runtime, is quite low (max. 340W). **The TrionX 2040 scrubber dryer is intended for cleaning surfaces from 1,000 to 1000 sq.m. Its energy consumption (ratio of power consumption to hourly yield) is the lowest in the cleaning market (0.14 W/sq.m.).**

**TrionX 2040 is an innovative, high performance, low power consumption, continuous cycle, easy to use, and maintenance-free scrubber dryer.**







## Superior cleaning performance



### 1 Front brush head washing system with two brushes

Guarantees excellent, uniform cleaning on various types of surfaces and greatly increases the quality of washing compared to scrubber dryers with a single brush. The high brush speed (340 rpm) also contributes to better cleaning results.



Perfectly cleans angles and corners, easily covers areas flush with the wall and operates in narrow spaces, avoiding expensive manual cleaning operations. The centered head also allows the machine's use in both directions.



### 2 Heavy-duty brush head (30 kg)

Trion can thus be used for deep, intermediate and maintenance cleaning. The squeegee can also be lifted for deep cleaning, held in place by magnets.



### 3 3-stage turbine and squeegee behind the brushes

This combination ensures perfect drying on every surface, especially in corners.



## Easy to use



Mode selection button  
Eco / Max Power / Off  
and % detergent selection



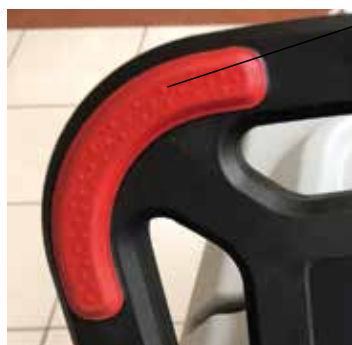
Water adjustment button from  
0.3 to 2 l/min. The same  
button also allows draining  
the solution tank.



Total power  
consumption



Residual runtime  
and hour counter



Activate washing and suction



### 4 Simple control panel

Two simple buttons control all the functions of the scrubber dryer. One button adjusts the amount of washing solution (from 0 to 2 l/min) by displaying its value; the typical waste of manual taps is avoided. A second button simultaneously activates the washing and suction functions. A display detects the battery state, cumulative runtime (in hours). The left button allows selecting between two use modes (Eco-Max), displaying the power absorbed during operation and the residual runtime before charging is necessary. **The board is already prepared for the detergent dosing system.**



### 5 Tank in tank system

The tank has an optical level indicator. The recovery tank has a wide opening for cleaning and inspection. The tanks lack any edges or areas where contaminated water could stagnate. Utmost hygiene!



### 6 2 large wheels (250 mm) and 2 for parking and transport

Easy to move on smooth and rough surfaces.

The two rear wheels make it easy to park the machine, and all four wheels together facilitate loading and unloading water.



## Eco-sustainable production



### 7 Toothed brushes: extremely high energy efficiency and cleaning (KlinMak patent)

The toothed brushes (KlinMak patent) make it possible to use a single gearmotor, simplifying transmission and reducing the overall cost. Moreover, they increase energy efficiency, thereby increasing the scrubber dryer's runtime. The use of a single motor greatly improves the machine's energy efficiency and greatly reduces the sound level it produces, since the machine lacks an electric motor for the turbine. This greatly increases runtime and simplifies maintenance. The two-brush system greatly facilitates the scrubber dryer's traction. The use of an Li-Ion battery significantly reduces the weight and volume of the machine, and therefore substantially reduces the production of industrial waste.

### 8 Single electric motor; no electric motor needed for the turbine. Very low noise

**Its energy consumption (ratio of power consumption to hourly yield) is the lowest in the cleaning market (0.14 W/sq.m., in Eco mode).**

The sound pressure level (noise) in the operator's ear is quite low, at 64.6 dbA in Eco mode.

Trion is setting new standards in professional cleaning, following the sustainability logic indicated by the UN in point 12.5 of the Sustainable Development Goals.



## Low cost in use



### 9 Li-Ion battery with BMS, increased runtime up to 16 h/day

There are innumerable advantages to using lithium-ion batteries (Li-NCA): lightness, small size, no memory effect, low self-discharge rate, much higher charge cycles (1,000) than traditional AGM or Gel batteries, and above all the possibility of being able to count on very low charging times. The battery charger with double setting is offered as standard: 5/8A. The advanced BMS (single-cell control system) entirely designed in Italy manages the battery's operation, transmitting its parameters to the main board of the machine and storing infinite data. Start-up is through a special bistable button located next to the battery charging socket. The use of Li-Ion batteries allows the machine to be used **up to 16 hours a day**, an unthinkable amount of time with traditional batteries.

### 10 Quick charge

The reduced consumption of total power allows the use of lithium batteries. Beyond its very limited size, lithium batteries have the enormous advantage of being able to be charged in just two hours allowing high machine use during the day in the same or different worksites. In addition, the possibility of recharging the batteries for more than 1,000 cycles means being able to work more than 4,000 hours without having to change the battery. This results in considerable overall savings.



## Hygiene first!



### 11 Rotationally molded plastic: “antibacterial”

Bacterial proliferation inside the scrubber dryer tank is avoided, also avoiding returning the bacteria to the environment in the suction phase.

The tanks and covers are made of admixed plastic material that can greatly reduce the bacterial load, avoiding its re-entry into the environment during suction.



### 12 Detergent Dosing System Kit (KiDo)

TrionX is equipped as standard with the detergent dosing system whose percentage (fixed with four values: 0.2%-0.5%-1%-1.5%) is set from the display with a simple operation. This allows precisely calibrating the amount of chemical product used according to the application. Therefore, both the waste of detergent compared to manual dosing in water tanks and product stagnation in the tank are avoided.



### 13 Use of anti-corrosion stainless steel

All the metal parts in contact with water (frame, squeegee, brackets, brush plate, etc.) are strictly made of AISI 304 stainless steel. This ensures lower sensitivity when subjected to strongly corrosive substances (salts, etc.), thereby improving the overall longevity of the machine.



### 14 Hepa H13 Filtration of air from the squeegee

The contaminated air from the squeegee is properly conveyed and passed through a Hepa H13 filter before being released into the environment.

A simple door allows access for cleaning or replacing the filter.








Characteristics	Benefits	Green aspect	Note
Single-motor power unit able to operate the two washing brushes (the second through Klinmak patent) and suction turbine for drying.	The use of a single motor, compared to other machines which use three for the same functions, greatly reduces the scrubber dryer's energy requirements in the form of power consumed. Trion's display shows the power consumption in the two operating modes: Eco and Max, selectable by the operator.	Less electrical power consumed and less use of materials due to the smaller size of the machines (a Klinmak 40l has an overall volume of less than 0.5 m <sup>3</sup> ), much lower than any competitor. The reduction in overall dimensions allows better operator maneuverability and consequently less fatigue.	Energy efficiency understood as the ratio of power consumption and clean square meters. Klinmak measured values between the Eco and Max conditions equal to 0.14 - 0.21 watts/clean sq.m.
Use of lithium batteries (made possible by the previous point).	Increase in charging cycles, compared to the use of traditional batteries, by at least three times (from 350 to 1,000 cycles). Hence the very strong reduction in overall volumes, especially that of the battery compartment. Lastly, charging times are greatly reduced from 10/12 to two hours. Trion machines can be used up to 16 hours every day.		At least three PB battery packs are used during the lifetime of a single Li-Ion battery pack.
No electric motor for operating the suction turbine.	Noise reduction.	Less noise impact on the operator.	Eliminates one of the biggest Problems with washer scrubbers.
Timely display of residual runtime.	Operators are aware of the remaining runtime so they can best organize the cleaning work to be done.	Optimization of working times.	Total control of operations.
Water amounts adjustable from the display.	Easy to use and precise control of the amount of water used in relation to the type of floor and dirt.	Typical water wastage in manual tap adjustments avoided.	Absolute comfort.
Use of a Hepa filter for filtering the contaminated air from the turbine outlet and from the squeegee.	Reduction of bacterial contamination from cleaning the floors which is then released into the environment.	Filtered air released into the environment.	<b>Totally new.</b>
Use of (rotational) plastic with antibacterial additive.	Less bacterial stagnation on walls.	Prevents the proliferation of bacteria inside the scrubber dryer, which would then release the bacteria back into the environment in the suction phase.	Essential for cleaning sanitary environments.
Use of stainless steel.	Longevity in more and less aggressive environments.	Longer machine life.	Possible use in aggressive environments.
Standard detergent dosing kit.	Precise calibration of the percentage of chemical product according to the application (four values 0.2-0.5-1-1.5%).	Waste of detergent compared to traditional manual dosing is avoided.	Rare feature with small capacities.

## Technical characteristics

Description	Note	TRION X2040	TRION X2040Plus
Voltage		54.6V	54.6V
Total installed power	1 Motor	500 W	500 W
Total power consumption	Eco-Mode / Max	240 / 340 W	240 / 340 W
Tank capacity	solution/recovery	20 / 22 L	20 / 22 L
Recommended cleaning area		from 250 to 1,000 sq.m.	from 250 to 1,000 sq.m.
Theoretical / Real Productivity	1,624 / 1,200 m <sup>2</sup> /h	1,624 / 1,200 m <sup>2</sup> /h	
Clean surface per charging cycle	Eco-Mode / Max Pot.	2,400 / 1,700 sq.m.	4,800 / 3,400 sq.m.
<b>OPERATOR SOUND</b>			
<b>PRESSURE LEVEL</b>	Eco-Mode / Max Pot.	64.6 / 66.6 dB(A)	64.6 / 66.6 dB(A)
<b>ENERGY CONSUMPTION</b>			
	Eco-Mode / Max	0.14-0.21 W/m <sup>2</sup>	0.14-0.21 W/m <sup>2</sup>
Length		800 mm	800 mm
Width including squeegee		490 mm	490 mm
Height		1,100 mm	1,100 mm
Protection level		IPX3	IPX3
<b>WARRANTY</b>			
36 months or 1000 h 36 months or 1000 h			
<b>Cleaning</b>			
cleaning width		406 mm / 2x8"	406 mm / 2x8"
Brush rotation speed	Empty/full	340/300 rpm	340/300 rpm
Load on brushes/pads		30 kg	30 kg
Adjustable water flow rate		0-2 l/min	0-2 l/min
<b>DETERGENT DOSING KIT (KiDo)</b>			
		pre-prepared	pre-prepared
<b>SUCTION</b>			
Suction width		490 mm	490 mm
Turbine vacuum	Eco-Mode / Max	600/900 mmH2O	600/900 mmH2O
<b>WEIGHT AND PACKAGING</b>			
Dimensions	WxLxH	960x630x1,060 mm	960x630x1,060 mm
Total unpacked/packed weight		59 / 73 kg	62 / 76 kg
<b>BATTERY AND BATTERY CHARGER</b>			
Li-Ion capacity	 with BMS	54.6V/11.60Ah	54.6V/20.30Ah
Autonomy		2h	4h
UL certified	charger	54.6V - 5/8A	54.6V - 5/8A
Charging time		2h (setting 5A)	2.5h (setting 8A)
Charging cycles		1000	1000

## Consumables

TRION X2040		
Code	Note	Equipment
G.019.0	445 mm	Front curved squeegee blade
G.020.0	480 mm	Rear curved squeegee blade
G.032.0	445 mm	Polyurethane-anti-oil front curved squeegee blade
G.033.0	480 mm	Polyurethane-anti-oil rear curved squeegee blade
D.018.0	8"	White toothed brush PPL 0.9 mm
D.019.0	8"	Blue toothed brush PPL 0.7mm soft
D.020.0	8"	Black toothed brush PPL 0.5mm supersoft
D.034.0	8"	Tynex Grit 320 toothed brush
D.021.0	8"	Pad holder
D.022.0	8"	Black Nylon Pads (10x)
D.023.0	8"	Green Nylon Pads (10x)
D.024.0	8"	Red Nylon Pads (10x)



## Ultra-high productivity and incredibly low maintenance costs

Trion optimizes consumption and operating costs. Eco mode (ideal on hard surfaces such as ceramic, marble and the like) further reduces consumption and noise levels. All routine maintenance tasks, such as cleaning and replacing the squeegee rubber, cleaning the clean-water filter, and replacing the brushes are simple and fast.

The wide opening in the upper part of the recovery tank makes it quite easy to clean effortlessly and without wasting any time. The standard diagnostics and hourly runtime counter also facilitate scheduled and extraordinary maintenance. **All Trion models come with a three-year warranty or 1,000 hours of runtime.**

## Accessories supplied

### Washing



Solution flow rate adjustment via proportional solenoid valve  
Water filter with integrated tap  
Self-leveling splash guard  
Optical solution level indicator  
Clean water drain from the steering wheel  
Recovery tank level sensor for total stop  
Detergent dosing kit pre-prepared (KiDo)

### Suction



3-stage suction turbine without electric motor

### Controls and Adjustments



Operation with two power consumption levels (Eco-Mode/Max)  
Hour counter  
Battery charge state  
Diagnostics  
Optical power consumption indicator  
Residual runtime indicator in minutes

### Driving comfort



Comfortable steering wheel with simultaneous brush and turbine motor start-up functions  
4-wheel transport and parking position





# TRION<sup>40</sup>/<sub>50</sub>

WALK BEHIND SCRUBBER DRYER

This model is a further step forward in the development of the dual brush models thanks to the innovative **“KlinMak single-motor power unit”**, now able to operate both the two toothed brushes and the suction turbine. This solution allows both an incredible reduction in power consumption and a considerable increase in silence (in Eco = **64.6 dbA**).

**The significant energy savings have made it possible to use a lithium-ion battery (Li-Ion) capable of guaranteeing significant advantages in operating autonomy, charging times, as well as a very low environmental impact.** The power used, which is visible on the display together with the residual runtime, is quite low (max. 390W). **The Trion4050 scrubber dryer is intended for cleaning surfaces from 1000 to 2000 sq.m. Its energy consumption (ratio of power consumption to hourly yield) is the lowest in the cleaning market (0.14 W/sq.m.).**

**Trion4050 is an innovative, high performance, low power consumption, continuous cycle, easy to use, and maintenance-free scrubber dryer.**





## Superior cleaning performance



### 1 Front brush head washing system with two brushes

Guarantees excellent, uniform cleaning on various types of surfaces and greatly increases the quality of washing compared to scrubber dryers with a single brush. The high brush speed (340 rpm) also contributes to better cleaning results.



Perfectly cleans angles and corners, easily covers areas flush with the wall and operates in narrow spaces, avoiding expensive manual cleaning operations. The centered head also allows the machine's use in both directions.



### 2 Heavy-duty brush head (30 kg)

Trion can thus be used for deep, intermediate and maintenance cleaning. The squeegee can also be lifted for deep cleaning, held in place by magnets.



### 3 3-stage turbine and squeegee behind the brushes

This combination ensures perfect drying on every surface, especially in corners.





## Easy to use



Mode selection button  
Eco / Max Power / Off  
and % detergent selection



Water adjustment button from  
0.3 to 2 l/min. The same  
button also allows draining  
the solution tank.



Total power  
consumption



Residual runtime  
and hour counter



Activate washing and suction



### 4 Simple control panel

Two simple buttons control all the functions of the scrubber dryer. One button adjusts the amount of washing solution (from 0 to 2 l/min) by displaying its value; the typical waste of manual taps is avoided. A second button simultaneously activates the washing and suction functions. A display detects the battery state, cumulative runtime (in hours). The left button allows selecting between two use modes (Eco-Max), displaying the power absorbed during operation and the residual runtime before charging is necessary. **The board is already prepared for the detergent dosing system.**



### 5 Tank in tank system

The tank has an optical level indicator. The recovery tank has a wide opening for cleaning and inspection. The tanks lack any edges or areas where contaminated water could stagnate. Utmost hygiene!



### 6 2 large wheels (250 mm) and 2 for parking and transport

Easy to move on smooth and rough surfaces.

The two rear wheels make it easy to park the machine, and all four wheels together facilitate loading and unloading water.





## Eco-sustainable production



### 7 Toothed brushes: extremely high energy efficiency and cleaning (KlinMak patent)

The toothed brushes (KlinMak patent) make it possible to use a single gearmotor, simplifying transmission and reducing the overall cost. Moreover, they increase energy efficiency, thereby increasing the scrubber dryer's runtime. The use of a single motor greatly improves the machine's energy efficiency and greatly reduces the sound level it produces, since the machine lacks an electric motor for the turbine. This greatly increases runtime and simplifies maintenance. The two-brush system greatly facilitates the scrubber dryer's traction. The use of an Li-Ion battery significantly reduces the weight and volume of the machine, and therefore substantially reduces the production of industrial waste.



### 8 Single electric motor; no electric motor needed for the turbine. Very low noise

**Its energy consumption (ratio of power consumption to hourly yield) is the lowest in the cleaning market (0.14 W/sq.m., in Eco mode).**

The sound pressure level (noise) in the operator's ear is quite low, at 64.6 dbA in Eco mode.

Trion is setting new standards in professional cleaning, following the sustainability logic indicated by the UN in point 12.5 of the Sustainable Development Goals.



## Low cost in use



### 9 Li-Ion battery with BMS, increased runtime up to 16 h/day

There are innumerable advantages to using lithium-ion batteries (Li-NCA): lightness, small size, no memory effect, low self-discharge rate, much higher charge cycles (1,000) than traditional AGM or Gel batteries, and above all the possibility of being able to count on very low charging times. The battery charger with double setting is offered as standard: 5/8A. The advanced BMS (single-cell control system) entirely designed in Italy manages the battery's operation, transmitting its parameters to the main board of the machine and storing infinite data. Start-up is through a special bistable button located next to the battery charging socket. The use of Li-Ion batteries allows the machine to be used **up to 16 hours a day**, an unthinkable amount of time with traditional batteries.



### 10 Ultra-high productivity and incredibly low maintenance costs

Trion optimizes consumption and operating costs. Eco mode (ideal on hard surfaces such as ceramic, marble and the like) further reduces consumption and noise levels. All routine maintenance tasks, such as cleaning and replacing the squeegee rubber, cleaning the clean-water filter, and replacing the brushes are simple and fast.

The wide opening in the upper part of the recovery tank makes it quite easy to clean effortlessly and without wasting any time. The standard diagnostics and hourly runtime counter also facilitate scheduled and extraordinary maintenance. **All Trion models come with a three-year warranty or 1,000 hours of runtime.**




## The Trion Range. Absolute green!



Characteristics	Benefits	Green aspect	Note
Single-motor power unit able to operate the two washing brushes (the second through KlinMak patent) and suction turbine for drying.	The use of a single motor, compared to other machines which use three for the same functions, greatly reduces the scrubber dryer's energy requirements in the form of power consumed. Trion's display shows the power consumption in the two operating modes: Eco and Max, selectable by the operator.	Less electrical power consumed and less use of materials due to the smaller size of the machines (a KlinMak 40I has an overall volume of less than 0.5 m³), much lower than any competitor. The reduction in overall dimensions allows better operator maneuverability and consequently less fatigue.	Energy efficiency understood as the ratio of power consumption and clean square meters. KlinMak measured values between the Eco and Max conditions equal to 0.14 - 0.21 watts/clean sq.m.
Use of lithium batteries (made possible by the previous point).	Increase in charging cycles, compared to the use of traditional batteries, by at least three times (from 350 to 1,000 cycles). Hence the very strong reduction in overall volumes, especially that of the battery compartment. Lastly, charging times are greatly reduced from 10/12 to two hours. Trion machines can be used up to 16 hours every day.		At least three PB battery packs are used during the lifetime of a single Li-Ion battery pack.
No electric motor for operating the suction turbine.	Noise reduction.	Less noise impact on the operator.	Very low maintenance.
Timely display of residual runtime.	Operators are aware of the remaining runtime so they can best organize the cleaning work to be done.	Optimization of working times.	Total control of operations.
Water amounts adjustable from the display.	Easy to use and precise control of the amount of water used in relation to the type of floor and dirt.	Typical water wastage in manual tap adjustments avoided.	No wasted water or detergent.

## Technical characteristics

Description	Note	TRION4050-e	TRION4050	TRION4050 Plus
Voltage		230V/50Hz	54.6V	54.6V
Total installed power	1 Motor	500 W	500 W	500 W
Total power consumption	Eco-Mode / Max	290 / 390 W	290 / 390 W	290 / 390 W
Tank capacity	solution/recovery	40 / 45 L	40 / 45 L	40 / 45 L
Recommended cleaning area		from 500 to 1,000 sq.m.	from 1,000 to 2,000 sq.m.	from 1,000 to 2,000 sq.m.
Theoretical / Real Productivity	2,030 / 1,320 m²/h	2,030 / 1,500 m²/h	2,030 / 1,500 m²/h	
Clean surface per charging cycle Eco-Mode / Max Pot.		3,000 / 2,250 sq.m.	6,000 / 4,500 sq.m.	
<b>OPERATOR SOUND PRESSURE LEVEL</b>	Eco-Mode / Max Pot.	64.6 - 66.6 dB(A)	64.6 - 66.6 dB(A)	64.6 - 66.6 dB(A)
<b>ENERGY CONSUMPTION</b>	Eco-Mode / Max	0.14-0.19 W/m²	0.14-0.19 W/m²	0.14-0.19 W/m²
Length		900 mm	900 mm	900 mm
Width including squeegee		590 mm	590 mm	590 mm
Height		1,100 mm	1,100 mm	1,100 mm
Protection level		IPX3	IPX3	IPX3
<b>WARRANTY</b>		36 months or 1000 h	36 months or 1000 h	36 months or 1000 h
<b>WASHING</b>				
Cleaning width		508 mm / 2x10"	508 mm / 2x10"	508 mm
Brush rotation speed	Empty/loaded	340/300 rpm	340/300 rpm	340/300 rpm
Load on brushes/pads	30 kg	30 kg	30 kg	
Adjustable water flow rate	0-2 l/min	0-2 l/min	0-2 l/min	
<b>DETERGENT DOSING KIT (KiDo)</b>		pre-prepared	pre-prepared	pre-prepared
<b>SUCTION</b>				
Suction width		590 mm	590 mm	590 mm
Turbine vacuum	Eco-Mode / Max	600/900 mmH2O	600/900 mmH2O	600/900 mmH2O
<b>WEIGHT AND PACKAGING</b>				
Dimensions	WxLxH	960x630x1,060 mm	960x630x1,060 mm	960x630x1,060 mm
Total unpacked / packed weight		65 / 81 kg	69 / 83 kg	72 / 86 kg
<b>BATTERY AND BATTERY CHARGER</b>				
Li-Ion capacity	 with BMS		54.6V/11.60Ah	54.6V/20.30Ah
Autonomy			1.5 h	3h
UL certified	charger		54.6V - 5/8A	54.6V - 5/8A
Charging time			2h (setting 5A)	2.5h (setting 8A)
Charging cycles			1000	1000

## Accessories supplied

### Washing



Solution flow rate adjustment via proportional solenoid valve  
 Water filter with integrated tap  
 Self-leveling splash guard  
 Optical solution level indicator  
 Clean water drain from the steering wheel  
 Recovery tank level sensor for total stop  
 Detergent dosing kit pre-prepared (KiDo)

### Controls and Adjustments



Operation with two power consumption levels (Eco-Mode/Max)  
 Hour counter  
 Battery charge state  
 Diagnostics  
 Optical power consumption indicator  
 Residual runtime indicator in minutes

### Suction



3-stage suction turbine without electric motor

### Driving comfort



Comfortable steering wheel with simultaneous brush and turbine motor start-up functions  
 4-wheel transport and parking position



Optional equipment

TRION 4050	
Code	Description
H.052.0	KI-DO (Detergent dosing kit)



Trion 4050 can be equipped as standard with the detergent dosing system whose percentage (fixed with four values: 0.2%-0.5%-1%-1.5%) is set from the display with a simple operation. This allows the precise calibration of the amount of chemical product according to the application. Therefore, both the waste of detergent compared to manual dosing in water tanks and product stagnation in the tank are avoided.

Consumables

TRION 4050		
Code	Note	Equipment
G.021.0	560 mm	Front curved squeegee blade
G.022.0	600 mm	Rear curved squeegee blade
G.034.0	560 mm	Polyurethane-anti-oil front curved squeegee blade
G.035.0	600 mm	Polyurethane-anti-oil rear curved squeegee blade
D.025.0	10"	White toothed brush PPL 0.9 mm
D.026.0	10"	Blue toothed brush PPL 0.7mm soft
D.027.0	10"	Black toothed brush PPL 0.5mm supersoft
D.035.0	10"	Tynex Grit 320 toothed brush
D.028.0	10"	Pad holder
D.029.0	10"	Black Nylon Pads (10x)
D.030.0	10"	Green Nylon Pads (10x)
D.031.0	10"	Red Nylon Pads (10x)

Available tank colors



Emerald green



Blue



Red



Lemon green



Light blue



Yellow



Grey



Black



Orange



Fuchsia

Minimum order 12 machines

Tank colors on request





# TRION X<sup>40</sup>/<sub>50</sub>

WALK BEHIND SCRUBBER DRYER

# TRION X<sup>40</sup><sub>50</sub>

This model is a further step forward in the development of the dual brush models thanks to the innovative **“KlinMak single-motor power unit”**, now able to operate both the two toothed brushes and the suction turbine. This solution allows both an incredible reduction in power consumption and a considerable increase in silence (in Eco = **64.6 dbA**).

**The significant energy savings have made it possible to use a lithium-ion battery (Li-Ion) capable of guaranteeing significant advantages in operating autonomy, charging times, as well as a very low environmental impact.** The power used, which is visible on the display together with the residual runtime, is quite low (max. 390W). **The Trion 4050 scrubber dryer is intended for cleaning surfaces from 1,000 to 2,000 sq.m. Its energy consumption (ratio of power consumption to hourly yield) is the lowest in the cleaning market (0.14 W/sq.m.).**

**TrionX 4050 is an innovative, high performance, low power consumption, continuous cycle, easy to use, and maintenance-free scrubber dryer.**





## Superior cleaning performance



### 1 Front brush head washing system with two brushes

Guarantees excellent, uniform cleaning on various types of surfaces and greatly increases the quality of washing compared to scrubber dryers with a single brush. The high brush speed (340 rpm) also contributes to better cleaning results.



Perfectly cleans angles and corners, easily covers areas flush with the wall and operates in narrow spaces, avoiding expensive manual cleaning operations. The centered head also allows the machine's use in both directions.



### 2 Heavy-duty brush head (30 kg)

Trion can thus be used for deep, intermediate and maintenance cleaning. The squeegee can also be lifted for deep cleaning, held in place by magnets.



### 3 3-stage turbine and squeegee behind the brushes

This combination ensures perfect drying on every surface, especially in corners.



## Easy to use



Mode selection button  
Eco / Max Power / Off  
and % detergent selection



Water adjustment button from  
0.3 to 2 l/min. The same  
button also allows draining  
the solution tank.



Total power  
consumption



Residual runtime  
and hour counter



Activate washing and suction



### 4 Simple control panel

Two simple buttons control all the functions of the scrubber dryer. One button adjusts the amount of washing solution (from 0 to 2 l/min) by displaying its value; the typical waste of manual taps is avoided. A second button simultaneously activates the washing and suction functions. A display detects the battery state, cumulative runtime (in hours). The left button allows selecting between two use modes (Eco-Max), displaying the power absorbed during operation and the residual runtime before charging is necessary. **The board is already prepared for the detergent dosing system.**



### 5 Tank in tank system

The tank has an optical level indicator. The recovery tank has a wide opening for cleaning and inspection. The tanks lack any edges or areas where contaminated water could stagnate. Utmost hygiene!



### 6 2 large wheels (250 mm) and 2 for parking and transport

Easy to move on smooth and rough surfaces.

The two rear wheels make it easy to park the machine, and all four wheels together facilitate loading and unloading water.





## Eco-sustainable production



### 7 Toothed brushes: extremely high energy efficiency and cleaning (KlinMak patent)

The toothed brushes (KlinMak patent) make it possible to use a single gearmotor, simplifying transmission and reducing the overall cost. Moreover, they increase energy efficiency, thereby increasing the scrubber dryer's runtime. The use of a single motor greatly improves the machine's energy efficiency and greatly reduces the sound level it produces, since the machine lacks an electric motor for the turbine. This greatly increases runtime and simplifies maintenance. The two-brush system greatly facilitates the scrubber dryer's traction. The use of an Li-Ion battery significantly reduces the weight and volume of the machine, and therefore substantially reduces the production of industrial waste.

### 8 Single electric motor; no electric motor needed for the turbine. Very low noise

**Its energy consumption (ratio of power consumption to hourly yield) is the lowest in the cleaning market (0.14 W/sq.m., in Eco mode).**

The sound pressure level (noise) in the operator's ear is quite low, at 64.6 dbA in Eco mode.

Trion is setting new standards in professional cleaning, following the sustainability logic indicated by the UN in point 12.5 of the Sustainable Development Goals.



## Low cost in use



### 9 Li-Ion battery with BMS, increased runtime up to 16 h/day

There are innumerable advantages to using lithium-ion batteries (Li-NCA): lightness, small size, no memory effect, low self-discharge rate, much higher charge cycles (1,000) than traditional AGM or Gel batteries, and above all the possibility of being able to count on very low charging times. The battery charger with double setting is offered as standard: 5/8A. The advanced BMS (single-cell control system) entirely designed in Italy manages the battery's operation, transmitting its parameters to the main board of the machine and storing infinite data. Start-up is through a special bistable button located next to the battery charging socket. The use of Li-Ion batteries allows the machine to be used **up to 16 hours a day**, an unthinkable amount of time with traditional batteries.



### 10 Quick charge

The reduced consumption of total power allows the use of lithium batteries. Beyond its very limited size, lithium batteries have the enormous advantage of being able to be charged in just two hours allowing high machine use during the day in the same or different worksites. In addition, the possibility of recharging the batteries for more than 1,000 cycles means being able to work more than 4,000 hours without having to change the battery. This results in considerable overall savings.



## Hygiene first!



### 12 Rotationally molded plastic: “antibacterial”

Bacterial proliferation inside the scrubber dryer tank is avoided, also avoiding returning the bacteria to the environment in the suction phase.

The tanks and covers are made of admixed plastic material that can greatly reduce the bacterial load, avoiding its re-entry into the environment during suction.



### 13 Detergent Dosing System Kit (KiDo)

TrionX is equipped as standard with the detergent dosing system whose percentage (fixed with four values: 0.2%-0.5%-1%-1.5%) is set from the display with a simple operation. This allows precisely calibrating the amount of chemical product used according to the application. Therefore, both the waste of detergent compared to manual dosing in water tanks and product stagnation in the tank are avoided.



### 14 Use of anti-corrosion stainless steel

All the metal parts in contact with water (frame, squeegee, brackets, brush plate, etc.) are strictly made of AISI 304 stainless steel. This ensures lower sensitivity when subjected to strongly corrosive substances (salts, etc.), thereby improving the overall longevity of the machine.



### 15 Hepa H13 Filtration of air from the squeegee

The contaminated air from the squeegee is properly conveyed and passed through a Hepa H13 filter before being released into the environment.

A simple door allows access for cleaning or replacing the filter.






## The Trion X Range. Absolute green!



Characteristics	Benefits	Green aspect	Note
Single-motor power unit able to operate the two washing brushes (the second through Klinmak patent) and suction turbine for drying.	The use of a single motor, compared to other machines which use three for the same functions, greatly reduces the scrubber dryer's energy requirements in the form of power consumed. Trion's display shows the power consumption in the two operating modes: Eco and Max, selectable by the operator.	Less electrical power consumed and less use of materials due to the smaller size of the machines (a Klinmak 40l has an overall volume of less than 0.5 m <sup>3</sup> ), much lower than any competitor. The reduction in overall dimensions allows better operator maneuverability and consequently less fatigue.	Energy efficiency understood as the ratio of power consumption and clean square meters. Klinmak measured values between the Eco and Max conditions equal to 0.14 - 0.21 watts/clean sq.m.
Use of lithium batteries (made possible by the previous point).	Increase in charging cycles, compared to the use of traditional batteries, by at least three times (from 350 to 1,000 cycles). Hence the very strong reduction in overall volumes, especially that of the battery compartment. Lastly, charging times are greatly reduced from 10/12 to two hours. Trion machines can be used up to 16 hours every day.		At least three PB battery packs are used during the lifetime of a single Li-Ion battery pack.
No electric motor for operating the suction turbine.	Noise reduction	Less noise impact on the operator.	Eliminates one of the biggest Problems with washer scrubbers.
Timely display of residual runtime.	Operators are aware of the remaining runtime so they can best organize the cleaning work to be done.	Optimization of working times.	Total control of operations.
Water amounts adjustable from the display.	Easy to use and precise control of the amount of water used in relation to the type of floor and dirt.	Typical water wastage in manual tap adjustments avoided.	Absolute comfort.
Use of a Hepa filter for filtering the contaminated air from the turbine outlet and from the squeegee.	Reduction of bacterial contamination from cleaning the floors which is then released into the environment.	Filtered air released into the environment.	<b>Totally new.</b>
Use of (rotational) plastic with antibacterial additive.	Less bacterial stagnation on walls.	Prevents the proliferation of bacteria inside the scrubber dryer, which would then release the bacteria back into the environment in the suction phase.	Essential for cleaning sanitary environments.
Use of stainless steel.	Longevity in more and less aggressive environments.	Longer machine life.	Possible use in aggressive environments.
Standard detergent dosing kit.	Precise calibration of the percentage of chemical product according to the application (four values 0.2-0.5-1-1.5%).	Waste of detergent compared to traditional manual dosing is avoided.	Rare feature with small capacities.



## Technical characteristics

Description	Note	TRION X4050	TRION X4050 Plus
Voltage		54.6V	54.6V
Total installed power	1 Motor	500 W	500 W
Total power consumption	Eco-Mode / Max	290 / 390 W	290 / 390 W
Tank capacity	solution/recovery	40 / 45 L	40 / 45 L
Recommended cleaning area		from 1000 to 2000 sq.m.	from 1000 to 2000 sq.m.
Theoretical	Real Productivity	2,030 / 1,500 m <sup>2</sup> /h	2,030 / 1,500 m <sup>2</sup> /h
Clean surface per charging cycle	Eco-Mode / Max Pot.	3,000 / 2,250 sq.m.	6,000 / 4,500 sq.m.
<b>OPERATOR SOUND</b>			
<b>PRESSURE LEVEL</b>	Eco-Mode / Max Pot.	64.6 - 66 dB(A)	64.6 - 66 dB(A)
<b>ENERGY CONSUMPTION</b>	Eco-Mode / Max	0.14-0.19 W/m <sup>2</sup>	0.14-0.19 W/m <sup>2</sup>
Length		900 mm	900 mm
Width including squeegee		590 mm	590 mm
Height		1,100 mm	1,100 mm
Protection level		IPX3	IPX3
<b>WARRANTY</b>		36 months or 1000 h	36 months or 1000 h
<b>WASHING</b>			
Cleaning width		508 mm / 2x10"	508 mm / 2x10"
Brush rotation speed	Empty/full	340/300 rpm	340/300 rpm
Load on brushes/pads		30 kg	30 kg
Adjustable water flow rate		0-2 l/min	0-2 l/min
<b>DETERGENT DOSING KIT (KiDo)</b>	pre-prepared	pre-prepared	
<b>SUCTION</b>			
Suction width		590 mm	590 mm
Turbine vacuum	Eco-Mode / Max	600/900 mmH2O	600/900 mmH2O
<b>WEIGHT AND PACKAGING</b>			
Dimensions	WxLxH	960x630x1,060 mm	960x630x1,060 mm
Total unpacked / packed weight	69 / 83 kg	72 / 86 kg	
<b>BATTERY AND BATTERY CHARGER</b>			
Li-Ion capacity	 with BMS	54.6V/11.60Ah	54.6V/20.30Ah
Autonomy		1.5 h	3h
UL certified	charger	54.6V - 5/8A	54.6V - 5/8A
Charging time		2h (setting 5A)	2.5h (setting 8A)
Charging cycles		1000	1000

## Consumables

TRION X4050		
Code	Note	Equipment
G.021.0	560 mm	Front curved squeegee blade
G.022.0	600 mm	Rear curved squeegee blade
G.034.0	560 mm	Polyurethane-anti-oil front curved squeegee blade
G.035.0	600 mm	Polyurethane-anti-oil rear curved squeegee blade
D.025.0	10"	White toothed brush PPL 0.9 mm
D.026.0	10"	Blue toothed brush PPL 0.7mm soft
D.027.0	10"	Black toothed brush PPL 0.5mm supersoft
D.035.0	10"	Tynex Grit 320 toothed brush
D.028.0	10"	Pad holder
D.029.0	10"	Black Nylon Pads (10x)
D.030.0	10"	Green Nylon Pads (10x)
D.031.0	10"	Red Nylon Pads (10x)



## Ultra-high productivity and incredibly low maintenance costs

Trion optimizes consumption and operating costs. Eco mode (ideal on hard surfaces such as ceramic, marble and the like) further reduces consumption and noise levels. All routine maintenance tasks, such as cleaning and replacing the squeegee rubber, cleaning the clean-water filter, and replacing the brushes are simple and fast.

The wide opening in the upper part of the recovery tank makes it quite easy to clean effortlessly and without wasting any time. The standard diagnostics and hourly runtime counter also facilitate scheduled and extraordinary maintenance. **All Trion models come with a three-year warranty or 1,000 hours of runtime.**

## Accessories supplied

### Washing



Solution flow rate adjustment via proportional solenoid valve  
Water filter with integrated tap  
Self-leveling splash guard  
Optical solution level indicator  
Clean water drain from the steering wheel  
Recovery tank level sensor for total stop  
Detergent dosing kit pre-prepared (KiDo)

### Controls and Adjustments



Operation with two power consumption levels (Eco-Mode/Max)  
Hour counter  
Battery charge state  
Diagnostics  
Optical power consumption indicator  
Residual runtime indicator in minutes

### Suction



3-stage suction turbine without electric motor

### Driving comfort



Comfortable steering wheel with simultaneous brush and turbine motor start-up functions  
4-wheel transport and parking position





# TRION<sup>50</sup>

WALK BEHIND SCRUBBER DRYER

This model is a further step forward in the development of dual brush models thanks to the innovative **“Klinmak single-motor power unit”**, now able to operate both the four toothed brushes and the suction turbine. This solution allows both an incredible reduction in power consumption and a considerable increase in silence (in Eco = **64.6 dbA**).

**The significant energy savings have made it possible to use a lithium-ion battery (Li-Ion) capable of guaranteeing significant advantages in operating autonomy, charging times, as well as a very low environmental impact.** The power used, which is visible on the display together with the residual runtime, is quite low (max. 390W). **The Trion 5070 scrubber dryer is intended for cleaning surfaces from 1,000 to 2,000 sq.m. Its energy consumption (ratio of power consumption to hourly yield) is the lowest in the cleaning market (0.14 W/sq.m.).**

**Trion 5070 is an innovative, high performance, low power consumption, continuous cycle, easy to use, and maintenance-free scrubber dryer.**





## Superior cleaning performance



### 1 Front brush head washing system with four brushes

Guarantees excellent, uniform cleaning on various types of surfaces and greatly increases the quality of washing compared to scrubber dryers with a single brush. The high brush speed (340 rpm) also contributes to better cleaning results.



Perfectly cleans angles and corners, easily covers areas flush with the wall and operates in narrow spaces, avoiding expensive manual cleaning operations. The centered head also allows the machine's use in both directions.



### 2 Heavy-duty brush head (30 kg)

Trion can thus be used for deep, intermediate and maintenance cleaning. The squeegee can also be lifted for deep cleaning, held in place by magnets.



### 3 3-stage turbine and squeegee behind the brushes

This combination ensures perfect drying on every surface, especially in corners.





## Easy to use

### 4 Simple control panel

Two simple buttons control all the functions of the scrubber dryer. One button adjusts the amount of washing solution (from 0 to 2 l/min) by displaying its value; the typical waste of manual taps is avoided. A second button simultaneously activates the washing and suction functions. A display detects the battery state, cumulative runtime (in hours). The left button allows selecting between two use modes (Eco-Max), displaying the power absorbed during operation and the residual runtime before charging is necessary. **The board is already prepared for the detergent dosing system.**



Activate washing and suction



Water adjustment button from 0,3 to 2 l/min. The same button also allows draining the solution tank.



Eco / Max Power / Off mode selection button and % detergent selection



Total Power Consumption



Residual runtime and hour counter



### 5 Squeegee lifting

Pedal squeegee lifting



### 6 Tank in tank system

The tank has an optical level indicator. The recovery tank has a wide opening for cleaning and inspection. The tanks lack any edges or areas where contaminated water could stagnate. Utmost hygiene!



### 7 2 large wheels (250 mm) and 2 for parking and transport

Easy to move on smooth and rough surfaces.

The two rear wheels make it easy to park the machine, and all four wheels together facilitate loading and unloading water.





## Eco-sustainable production



### 8 Toothed brushes: extremely high energy efficiency and cleaning (KlinMak patent)

The toothed brushes (KlinMak patent) make it possible to use a single gearmotor, simplifying transmission and reducing the overall cost. Moreover, they increase energy efficiency, thereby increasing the scrubber dryer's runtime. The use of a single motor greatly improves the machine's energy efficiency and greatly reduces the sound level it produces, since the machine lacks an electric motor for the turbine. This greatly increases runtime and simplifies maintenance. The two-brush system greatly facilitates the scrubber dryer's traction. The use of an Li-Ion battery significantly reduces the weight and volume of the machine, and therefore substantially reduces the production of industrial waste.



### 9 Single electric motor; no electric motor needed for the turbine. Very low noise

**Its energy consumption (ratio of power consumption to hourly yield) is the lowest in the cleaning market (0.14 W/sq.m., in Eco mode).**

The sound pressure level (noise) in the operator's ear is quite low, at 64.6 dbA in Eco mode.

Trion is setting new standards in professional cleaning, following the sustainability logic indicated by the UN in point 12.5 of the Sustainable Development Goals.



## Low cost in use



### 10 Li-Ion battery with BMS, increased runtime up to 16 h/day

There are innumerable advantages to using lithium-ion batteries (Li-NCA): lightness, small size, no memory effect, low self-discharge rate, much higher charge cycles (1,000) than traditional AGM or Gel batteries, and above all the possibility of being able to count on very low charging times. The battery charger with double setting is offered as standard: 5/8A. The advanced BMS (single-cell control system) entirely designed in Italy manages the battery's operation, transmitting its parameters to the main board of the machine and storing infinite data. Start-up is through a special bistable button located next to the battery charging socket. The use of Li-Ion batteries allows the machine to be used **up to 16 hours a day**, an unthinkable amount of time with traditional batteries.



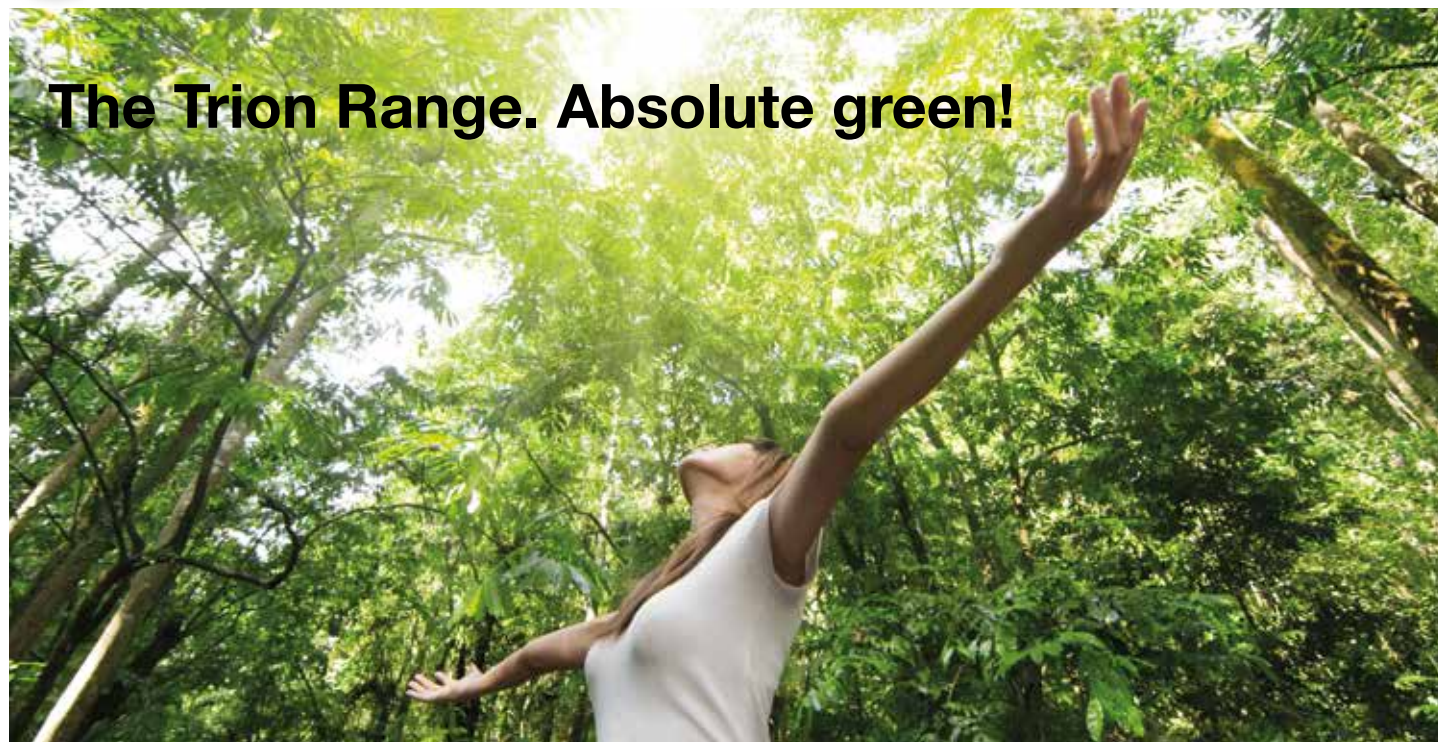
### 11 Ultra-high productivity and incredibly low maintenance costs

Trion optimizes consumption and operating costs. Eco mode (ideal on hard surfaces such as ceramic, marble and the like) further reduces consumption and noise levels. All routine maintenance tasks, such as cleaning and replacing the squeegee rubber, cleaning the clean-water filter, and replacing the brushes are simple and fast.

The wide opening in the upper part of the recovery tank makes it quite easy to clean effortlessly and without wasting any time. The standard diagnostics and hourly runtime counter also facilitate scheduled and extraordinary maintenance. **All Trion models come with a three-year warranty or 1,000 hours of runtime.**




## The Trion Range. Absolute green!



Characteristics	Benefits	Green aspect	Note
Single-motor power unit able to operate the two washing brushes (the second through KlinMak patent) and suction turbine for drying.	The use of a single motor, compared to other machines which use three for the same functions, greatly reduces the scrubber dryer's energy requirements in the form of power consumed. Trion's display shows the power consumption in the two operating modes: Eco and Max, selectable by the operator.	Less electrical power consumed and less use of materials due to the smaller size of the machines (a KlinMak 40l has an overall volume of less than 0.5 m³), much lower than any competitor. The reduction in overall dimensions allows better operator maneuverability and consequently less fatigue.	Energy efficiency understood as the ratio of power consumption and clean square meters. KlinMak measured values between the Eco and Max conditions equal to 0.14 - 0.21 watts/clean sq.m.
Use of lithium batteries (made possible by the previous point).	Increase in charging cycles, compared to the use of traditional batteries, by at least three times (from 350 to 1,000 cycles). Hence the very strong reduction in overall volumes, especially that of the battery compartment. Lastly, charging times are greatly reduced from 10/12 to two hours. Trion machines can be used up to 16 hours every day.		At least three PB battery packs are used during the lifetime of a single Li-Ion battery pack.
No electric motor for operating the suction turbine.	Noise reduction.	Less noise impact on the operator.	Very low maintenance.
Timely display of residual runtime.	Operators are aware of the remaining runtime so they can best organize the cleaning work to be done.	Optimization of working times.	Total control of operations.
Water amounts adjustable from the display.	Easy to use and precise control of the amount of water used in relation to the type of floor and dirt.	Typical water wastage in manual tap adjustments avoided.	No wasted water or detergent.

## Technical characteristics

Description	Note	TRION5070	TRION5070 Plus
Voltage		54.6V	54.6V
Total installed power	1 Motor	500 W	500 W
Total power consumption	Eco-Mode / Max	290 / 390 W	290 / 390 W
Tank capacity	solution/recovery	47 / 50 L	47 / 50 L
Recommended cleaning area		from 1000 to 2000 sq.m.	from 1000 to 2000 sq.m.
Theoretical / Real Productivity		2,800 / 2,100 m²/h	2,800 / 2,100 m²/h
Clean surface per charging cycle Eco-Mode / Max Pot.		4,200 / 3,150 sq.m.	8,400 / 6,300 sq.m.
<b>OPERATOR SOUND PRESSURE LEVEL</b>	Eco-Mode / Max Pot.	64.6 - 66.6 dB(A)	64.6 - 66.6 dB(A)
<b>ENERGY CONSUMPTION</b>	Eco-Mode / Max	0.14-0.19 W/m²	0.14-0.19 W/m²
Length		900 mm	900 mm
Width including squeegee		750 mm	750 mm
Height		1,100 mm	1,100 mm
Protection level		IPX3	IPX3
<b>WARRANTY</b>		36 months or 1000 h	36 months or 1000 h
<b>WASHING</b>			
Cleaning width		700 mm / 4x7"	700 mm / 4x7"
Brush rotation speed	Empty/full	340/300 rpm	340/300 rpm
Load on brushes/pads		30 kg	30 kg
Adjustable water flow rate		0-2 l/min	0-2 l/min
<b>DETERGENT DOSING KIT (KiDo)</b>		pre-prepared	pre-prepared
<b>SUCTION</b>			
Suction width		590 mm	590 mm
Turbine vacuum	Eco-Mode / Max	600/900 mmH2O	600/900 mmH2O
<b>WEIGHT AND PACKAGING</b>			
Dimensions	WxLxH	960x630x1,060 mm	960x630x1,060 mm
Total unpacked / packed weight		66 / 80 kg	69 / 83 kg
<b>BATTERY AND BATTERY CHARGER</b>			
Li-Ion capacity	 with BMS	54.6V/11.6Ah	54.6V/20.3Ah
Autonomy		1.5 h	3h
UL certified	charger	54.6V - 5/8A	54.6V - 5/8A
Charging time		2h (setting 5A)	2.5h (setting 8A)
Charging cycles		1000	1000

## Accessories supplied

### Washing



Solution flow rate adjustment via proportional solenoid valve  
 Water filter with integrated tap  
 Self-leveling splash guard  
 Optical solution level indicator  
 Clean water drain from the steering wheel  
 Recovery tank level sensor for total stop  
 Detergent dosing kit pre-prepared (KiDo)

### Suction



3-stage suction turbine without electric motor

### Controls and Adjustments



Operation with two power consumption levels (Eco-Mode/Max)  
 Hour counter  
 Battery charge state  
 Diagnostics  
 Optical power consumption indicator  
 Residual runtime indicator in minutes

### Driving comfort



Comfortable steering wheel with simultaneous brush and turbine motor start-up functions  
 4-wheel transport and parking position



Optional equipment

TRION 5070

Code	Description
H.052.0	KI-DO (Detergent dosing kit)



Trion 5070 can be equipped as standard with the detergent regulation system whose percentage (fixed with four values: 0.2%-0.5%-1%-1.5%) is set from the display with a simple operation. This allows the precise calibration of the amount of chemical product according to the application. Therefore, both the waste of detergent compared to manual dosing in water tanks and product stagnation in the tank are avoided.

Consumables

TRION 5070

Code	Note	Equipment
G.043.0	750 mm	Front curved squeegee blade
G.044.0	800 mm	Rear curved squeegee blade
G.042.0	750 mm	Polyurethane-anti-oil front curved squeegee blade
G.045.0	800 mm	Polyurethane-anti-oil rear curved squeegee blade
D.012.0	7"	White toothed brush PPL 0.9 mm
D.036.0	7"	Blue toothed brush PPL 0.7mm soft
D.037.0	7"	Black toothed brush PPL 0.5mm supersoft
D.038.0	7"	Tynex Grit 320 toothed brush
D.039.0	7"	Pad holder
D.040.0	7"	Black Nylon Pads (20x)
D.041.0	7"	Green Nylon Pads (20x)
D.042.0	7"	Red Nylon Pads (20x)

Available tank colors



Emerald green



Blue



Red



Lemon green



Light blue



Yellow



Grey



Black



Orange



Fuchsia

Minimum order 12 machines

Tank colors on request





Also available  
with Li-Ion batteries



# HiLo<sup>80</sup><sub>65</sub>

## COMPACT RIDE-ON SCRUBBER-DRYER

# HiLo<sup>80</sup><sub>65</sub>

With the introduction of this innovative scrubber dryer, we have maintained the mobility and maneuverability features of a walk behind machine with the productivity and yield of a ride-on machine.

**The combination of advantages generates a unique machine that can be adapted to all types of applications.**



## Economic Choice

HiLo 8065 has the performance features of a ride-on scrubber dryer and the purchasing and operating cost of a walk behind scrubber dryer. This allows greatly increasing productivity while halving the use costs (euro/m<sup>2</sup> washed).



### 1 Front brush head washing system

Strongly increases visibility during operation

Ensures full coverage of the areas where it operates, compared

to the versions with an "underbelly" one or two front brush head.

Perfectly cleans angles and corners, areas flush with the wall and narrow spaces, avoiding expensive manual cleaning operations.



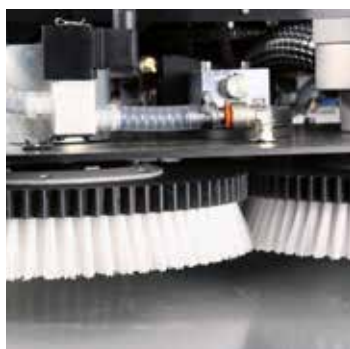
### 2 Squeegee in front of the wheels

Drying before the wheels allows, especially in maintenance washing, always driving on a dry surface, avoiding slipping or accidental impacts when turning or braking.

This innovation greatly increases comfort and safety standards.



## Superior cleaning performance



### 3 Toothed brushes

- The use of two brushes guarantees excellent, uniform cleaning on various types of surfaces and greatly increases the quality of washing compared to the use of a single brush.

- The toothed brushes make it possible to use a single gearmotor, simplifying transmission and reducing costs.

Moreover, they increase energy efficiency, thereby increasing the scrubber dryer's runtime.



### 4 Heavy duty brush head (41 kg) and adjustable working pressure

HiLo 8065 can thus be used for deep cleaning with layered dirt, as well as maintenance cleaning. HiLo 8065 is equipped with an electric load adjustment device which ranges from the maximum value (41 kg) up to zero. This allows a reduction in consumption in the event of modest dirt on rough surfaces.



### 5 Reduced Maintenance

All routine maintenance tasks, such as cleaning and replacing the squeegee rubber, cleaning the clean-water filter, and replacing the brushes are simple and fast. The wide opening in the upper part of the recovery tank makes it quite easy to clean effortlessly and without wasting any time. The standard diagnostics and hourly runtime counter also facilitate scheduled and extraordinary maintenance.





## Easy to use



### 6 Electromechanics

In order to ensure a high level of reliability, technical solutions with the calibrated use of electronics have been adopted (only for traction), favoring traditional electromechanics for the brushes, suction and head lifting.

Standard resettable fuses.



### 7 Safety brake pedal

The electric brake, always lifted with the operator on board, intervenes only when the safety pedal is activated. This allows less wear of the electric brake itself and the significant recovery of energy in decelerating conditions, benefiting the scrubber dryer's runtime.



### 8 Operating speed selection

The operator can adjust the operating speed, adapting it to the type of dirt and the environment to be cleaned.



### 9 Lower turning speed

An automatic device reduces the turning speed both forward and in reverse, increasing operator safety in all environments and on all surfaces.

### 10 Motor differential

During deep cleaning, the traction located at the rear wheels ensures high stability, especially on wet floors.

### 11 Power Steering

3 wheel turns equates to an absolute advantage in driving comfort and maneuverability.

### 12 Less solution while turning

An automatic device reduces the consumption of solution where unnecessary, avoiding losses in recovery. This results in greater cleaning runtime.



## Technical characteristics

Description	HiLo 8065
Tanks (solution/recovery)	80/80 L
Cleaning Track	650 mm
Theoretic yield	3,900 sq.m./h
Installed power/ Power supply /	
Protection degree	1,350 W / 24 V / IPX3
Autonomy	up to 4 h
Energy consumption	0.35 W / sq.m.
Dimensions (LxWxH) with mounted squeegee	1,320 x 730 x 1,225 mm
Weight without batteries / with batteries	125 - 210 kg
Reverse corridor	1.8 m
Sound level	69 dbA
<b>WASHING</b>	
Brushes	2 x Ø13" - 330mm
Brush motor rated power	550W
Rated / vacuum brush rotation speed	225 - 187 rpm
Load on brushes adjustable	0-41 kg
<b>SUCTION</b>	
Silenced turbine rated power	500W
Vacuum (0 mm orifice)	1,526 mm H2O
<b>TRANSMISSION</b>	
Motor differential power with electric brake	300 W
Working speed	0 - 4 km/h
Transfer speed	0 - 6 km/h
Max. slope exceedable (work / ramp)	7% - 16%
<b>WASHING HEAD LIFTING</b>	
Gear motor power	30 W
<b>BATTERIES</b>	
Battery compartment (2x)	375 x 375 x 315 mm
Standard batteries (2x)	Gel 12V 105/140Ah (C5/C20)
Recommended battery unit size	345 x 170 x 285 mm
Recommended battery unit weight	42.7 kg
<b>PACKAGING</b>	
Dimensions (pallet included)	1349x749x1364 mm
Weight without batteries (including pallet, cardboard...)	155 kg
Weight with batteries (including packaging)	240 kg
Weight with batteries, charger, brushes (including packaging)	246 kg
<b>STANDARDS AND WARRANTY</b>	
Machines Directive	EN60335-2-72: 2013
Low Voltage Directive	2014/35/EC
Electromagnetic Compatibility Directive	2014/30/EC
Warranty	24 months

## Accessories supplied

### Washing



Solenoid valve with proportional solution flow adjustment directly on the washing head
Self-leveling splash guard
Water filter with integrated tap
Detergent dosing kit pre-prepared (KIDO)
Squeegee Lip in Serilor® (oil-resistant polyurethane High strength and durability)
Self-adjustment of the solution flow rate during turns
Manual lifting of the independent squeegee for deep cleaning
Dirty water drain hose with flow control
Solution level indicator
Water loading hose
Fine pressure adjustment of brushes and LED display for controls from control panel

### Suction



Stainless steel air filter to protect the suction turbine
Three-stage silenced suction turbine

### Checks and adjustments




Hour counter
Flashing LED
Diagnostics
Electric brake pedal
Electric washing head and squeegee lifting
Operator fuses resettable

### Comfortable driving



Power steering (3 wheel turns)
Operating speed adjustment from panel
Self-adjustment of speed during turns
Comfortable seat with backrest
Ergonomic steering wheel
Anti-slip accelerator pedal
High quality, durable bumpers

## Accessories on request

Code	Accessory	Notes
K.001.0	Additional rear weight 30 kg	Recommended for uneven surfaces
B.001.0	Gel battery 12V 105/140 Ah (C5/C20)	Standard
B.012.0	AGM Discover battery 12V 105/130 Ah (C5/C20)	EV12A-B
B.013.0	AGM Discover battery 12V 120/140 Ah (C5/C20)	EV12A-A
	 <b>Li-Ion Batteries (2x) 24V-70Ah + 40A charger</b>	<b>up to 6 hours of use and only 3.5h of charging</b>
X.024.0	Battery charger with removable cable 24V - 13A	

## Optional equipment

Code	Optional accessory	Notes
H.024.0	Parabolic squeegee	Ideal for slanted tiles
H.038.0	V-squeegee	Ideal for linear tiles
H.013.0	KI-DO (Detergent dosing kit)	Retrofit possible
H.050.0	Double water flow kit	up to 7 l/min

## Consumables

Code	Consumable	Notes
G.003.1	Front curved squeegee blade	anti-oil - longlife 800 mm
G.004.1	Rear curved squeegee blade	anti-oil - longlife 800 mm
G.017.0	Front V squeegee blade	anti-oil - longlife 900 mm
G.018.0	Rear V squeegee blade	anti-oil - longlife 900 mm
D.001.0	White toothed brush 13" 0.9 mm	non-delicate floors
D.002.0	Blue toothed brush 13" 0.7mm	intermediate floors
D.011.0	Blue toothed brush 13" 0.3 mm	delicate floors
D.003.1	Tinex toothed brush 13" 0.6 mm grit 320	
D.004.0	Pad holder 13"	
D.005.0	Black Nylon Pads 13" (6x)	
D.006.0	Green Nylon Pads 13" (6x)	
D.007.0	Red Nylon Pads 13" (6x)	
D.014.0	Melamine Pads 13" (2x)	

## Available tank colors

Code	Description	Recovery tank color
F.180.0	HiLo 8065 G	Emerald green
F.181.0	HiLo 8065 N	Black
F.182.0	HiLo 8065 B	Blue
F.184.0	HiLo 8065 R	Red
F.189.0	HiLo 8065 Gr	Grey

## Tank colors on request

Code	Description	Recovery tank color
F.183.0	HiLo 8065 O	Orange
F.185.0	HiLo 8065 Y	Yellow
F.186.0	HiLo 8065 LG	Lemon Green
F.187.0	HiLo 8065	Fuchsia
F.188.0	HiLo 8065 LB	Light Blue



Emerald green

Black

Blue



Red

Grey



Orange

Yellow

Lemon Green



Fuchsia

Light Blue

# Why choose the Hilo8065 ride-on scrubber dryer?

The main strengths of the Hilo8065 ride-on scrubber dryer are listed below.

HiLo8065 was created in 2015 as an alternative to self-propelled walk-behinds in many applications, as it can guarantee doubled productivity (passage from 2 to 4,000 meters/h of forward speed) for the same length (man + machine). HiLo's challenge was being able to reduce, thanks to wise design choices, an increase in costs deriving from the ride-on aspect, getting as close as possible to the price of a walk behind model. In short the objective, which was achieved, was to favor the cost in use.

We can confirm that despite being a ride-on machine, HiLo8065 has a very reasonable cost and is able to compete with many walk behinds in the 40-80 liter tank capacity segment.

Here are the main advantages offered by the HiLo8065 ride-on model:

- 1 **It was the first machine in the world to implement the KlinMak patent for the use of a single motor capable of rotating two brushes.** This allowed the simplification of the transmission, substantial energy savings and reduction in overall cost.
- 2 **Electromechanics:** the electronics are only applied to the traction control, while the brushes and turbine are controlled traditionally by robust contactors. This results in very low maintenance needs and a consequent sustainable machine cost.
- 3 **HiLo is quite compact**, and the front head allows total cleaning control. Compared to the versions with an underside head, expensive manual repairs are avoided.
- 4 The drying is contiguous to the brushes and therefore the **three wheels always remain dry.**
- 5 **The scrubber head can adjust the pressure on the surface** from a maximum value to zero, maximizing the cleaning effectiveness or minimizing the absorbed power.
- 6 The power steering guarantees unique and pleasant driving comfort to the operator.
- 7 Hilo is the **ideal machine for the periodic cleaning of environments from 2,000 to 5,000 square meters** (supermarkets, workshops, industry, car showrooms, logistics, shops, etc.).
- 8 **It works perfectly with heavy or prolonged use**, where its quality and reliability are noteworthy.
- 9 **Incredibly low maintenance costs.**
- 10 Also the **ideal choice for short, medium or long-term full service and non full service rentals.**

# Disinfecting machines





# Why choose Klinmak Disinfection Machines

**The main strengths of KlinMak's disinfecting machines are listed below.**

When we began studying “anti-covid” machines, we were immediately inspired by the Trion walk behind scrubber dryers because of their compactness, so we firstly developed Hygeno. We then worked on fine-tuning the Killo range and finally completed the range with the two DySy models, intermediate between the range above and below from every perspective.

The recurring motive was autonomy from the mains network and operating continuity; we therefore chose to build the four-model assortment around the use of lithium batteries.

The second relevant choice was the use of the primary water vector, obviously with the addition of the appropriate disinfectant, to treat surfaces.

**The main advantages of KlinMak machines are as follows:**

- 1 All models powered by lithium batteries in order to guarantee prolonged duration and fast recharging times. Hence the possibility of using the machine for many hours a day.
- 2 The elimination of the power cable lets operators move around without any hindrance while sanitizing.
- 3 Each model is easily transportable (such as Disy and Hygeno), while Killo Pro guarantees continuous use of 20 minutes to disinfect small surfaces in any environment.
- 4 Disinfectant dispensing is guaranteed by three or five nozzles which finely atomize the solution on each surface reached.
- 5 Filling with water and chemicals is very simple and intuitive.
- 6 With DySy and Hygeno, the long tube allows operating at a distance, having only the work lance in hand.
- 7 All the machines are very quiet, light, compact and easy to use.
- 8 They are equipped with essential instrumentation that indicates the remaining battery charge.



MADE IN ITALY



**With KilloPro disinfect quickly  
and without wetting. Always!**

**KilloPro is an ideal professional device, always ready for use, for very fine, uniform spraying of disinfectant products on every surface** where the “impalpable” spray is particularly necessary, extending the field of use of Killo to new applications (e.g., textile surfaces such as mattresses, curtains, sofas, armchairs or various equipment, etc.) as well as traditional applications (glass, windows, bathrooms, furniture, tables, doors, windows, shutters, floors, etc.).

**K•LLO<sup>®</sup>**  
**PRO**



PORTABLE NEBULIZER FOR DISINFECTING



## Easy to use



LED battery status indicator



Triple adjustable dispensing nozzle



Battery charger and cable included



USB plug



On – off switch



1L tank.  
Solution level indicator

## Technical data Killo Pro

Description	KilloPro
Code	F.641.0
Lithium battery power supply	2000 mAh
Battery charger	5V 1A (included)
Charge time	5h to maximum charge
Indicative yield	400 sq.m./tank
Runtime	4 hours
Charge indicator	yes
Capacity	1 L
Level indicator	yes
Nebulisation level	< 20 microns
Solution flow rate	50 ml/min
Nebulization distance	from 20 to 40 cm
Materials	ABS - HDPE (polyethylene)
Packaging size Killo Pro	15x13x15cm
Packaging	single
Box	18 pcs
Box size	48 x 42 x 34 cm
Unit weight including packaging	0.45 kg
Box weight	8.1 kg

## How to use the appliance

1. Do not disassemble the appliance
2. Do not immerse the appliance in water.
3. Do not use liquids that are overly viscous (such as paint)
4. Do not place the appliance near heat sources
5. Do not use the appliance while charging
6. Avoid placing the appliance upside down
7. Switching on: Press the ON/OFF switch and wait 4-6 seconds for continuous spraying. To stop, lightly press the switch once. Likewise, press the ON/OFF switch for 4-6 seconds to completely switch it off. If not used, the appliance automatically switches off after a few minutes.

### Warnings

1. For the first use, make sure you have fully charged the battery.
2. If the appliance is used to spray disinfectants or other products (pesticides, etc.) be sure that you have cleaned the canister at the end of use.
3. Do not use corrosive substances.
4. Charge the batteries at least once every 2 months in order to keep the battery efficient.
5. The appliance is equipped with a spray pump, therefore the dispensing nozzle must be kept clean.



With DiSy disinfecting is easier



**DiSY**



DISINFECTING MACHINE





## Easy to use

### DiSy5 & DiSy10

The DiSy range, in the practical Trolley versions, is the ideal solution for dispensing a low wet-effect, water-based solution (micro-drops less than 30 microns in diameter) on every surface (floors, walls, doors, wardrobes, bathrooms, kitchens, tables, metal surfaces, etc.), added with a specific disinfectant (e.g., bactericidal, fungicidal or virucidal) in a variable percentage depending on the objective: decontamination-disinfection and sanitation only.

The treatment offers results through the correct use of disinfectant, understood as both type (e.g., virucidal if the main danger is coronavirus) and contact time. It is advisable to use a low residue disinfectant. Always follow the manufacturer's instructions both in percentages and in the use of PPE during operation.



#### Simplified dashboard for a better user experience

The display is equipped with a button for activating the misting pump and a charge indicator for the battery charge status; the charger is external.



#### Compact and efficient

Two models of 5 and 10 Liters allow continuous operation from 30 to 60 minutes, covering a total surface area of 1,250 to 2,500 square meters; the power supply is with a lithium battery able to guarantee 2 to 4-hour runtime and a fast recharge.



#### Easy to move and maneuver


Portability and handling are guaranteed by the 4 wheels, with 15 meters of tubing on board together with the spray system consisting of a lance and a multi-outlet nozzle holder.



#### Fine spraying spherical in shape

The fine, spherical nebulization allows the operator to reach distances of up to 1.5 m, easily and completely covering the surfaces to be treated.

## Technical data DiSy range

Description	u.m.	DiSy5	DiSy10
<b>Code</b>		<b>F.600.0</b>	<b>F.650.0</b>
Disinfectant solution tank volume	L	5	10
Max hourly productivity	sq.m.	750	1500
Total area treated per tank	sq.m.	1250	2500
Run time / solution tank		up to 30 min	up to 1h
<b>Spray</b>			
Total flow rate	ml/min	200	200
Nebulization degree	microns	max 30	max 30
Nebulization distance	mm	0-1500	0-1500
Spray hose length	m	15	15
<b>Power supply</b>			
Voltage	V	24	24
Battery	type	 Lithium 24V-5.6Ah	Lithium 24V-11.2Ah
Battery charger	A	2	5
<b>Runtime and charge time</b>			
Spray runtime	h	2	4
Battery charge time	h	2	2
<b>Other data</b>			
Sound level	dbA	50	50
Packaging dimensions		400x500x300	mm 400x600x300
Weight with packaging	kg	12/15	18/24





With Hygeno  
disinfecting is easier



**HYGENO**



DISINFECTING MACHINE



## Easy to use

The micrometric atomizer **Hygeno** is the ideal walk-behind machine for easily decontaminating or disinfecting any type of surface (floors, walls, doors, cabinets, bathrooms, kitchens, tables, metal surfaces, etc. ) with a low wet-effect (micro-drops less than 30 microns in diameter) water-based solution, added with a specific disinfectant (e.g., bactericidal, fungicidal or virucidal) in a variable percentage depending on the objective: **decontamination-disinfection and sanitation only**.

The treatment offers results through the correct use of disinfectant, understood as both type (e.g., virucidal if the main danger is coronavirus) and contact time.

It is advisable to use low residue disinfectant. Always follow the manufacturer's instructions both in percentages and in the use of PPE during operation.



### 20L tank to cover large surfaces

The 20-liter tank allows continuous operation for about 2 hours, covering a total area of up to 5,000 sqm. The machine is electrically powered by a lithium battery capable of guaranteeing operation for up to 4 hours and a fast recharge.



### Convenient handle

A comfortable handle makes it easy to move Hygeno anywhere thanks to the 15-meter hose housed in the special compartment, to which the lance is connected with a multi-nozzle head.



### Simplified dashboard for a better user experience

The display is equipped with a button for activating the misting pump and a charge indicator for the battery charge status; the charger is stored in the machine for quick use.



### Fine spraying spherical in shape

The fine, spherical nebulization allows the operator to reach distances of up to 1.5 m, easily and completely covering the surfaces to be treated.

## Technical data Hygeno

Description	u.m.	Hygeno
Code	F.620.0	
<b>Operating yield</b>		
Disinfectant solution tank volume	L	20
Max hourly productivity	sq.m.	3000
Total area treated per tank	sq.m.	5000
Run time / solution tank	h	up to 2
<b>Spray</b>		
Total flow rate	ml/min	200
Nebulization degree	microns	max 30
Nebulization distance	mm	0-1500
Spray hose length	m	15
<b>Power supply</b>		
Voltage		24V
Battery	Type	Lithium 24V - 10Ah
Battery charger		2A
<b>Runtime and charge time</b>		
Spray runtime	h	4
Battery charge time	h	5
<b>Other data</b>		
Sound level	dbA	50
Packaging dimensions	mm	520x910x1000
Weight without / with packaging	kg	28/42



## KLINMAK.COM

We are pleased to present our updated digital image: the new KLINMAK.COM website is online!

Enter the **Klinmak world**, where you'll find everything you need for the professional cleaning industry. Browse our **PRODUCTS**, exploring the entire range of machines and accessories perfect for your business. Discover the main application **AREAS** and which tools are best suited to your business.

All the technical and commercial material you need is just a click away. Explore our increasingly complete **USER AREA**:

- **DOWNLOAD AREA**: an area with all the documentation of our individual products and the general catalog;
- **PRIVATE AREA**: this area has Commercial – Technical and Marketing documentation available to view and download.

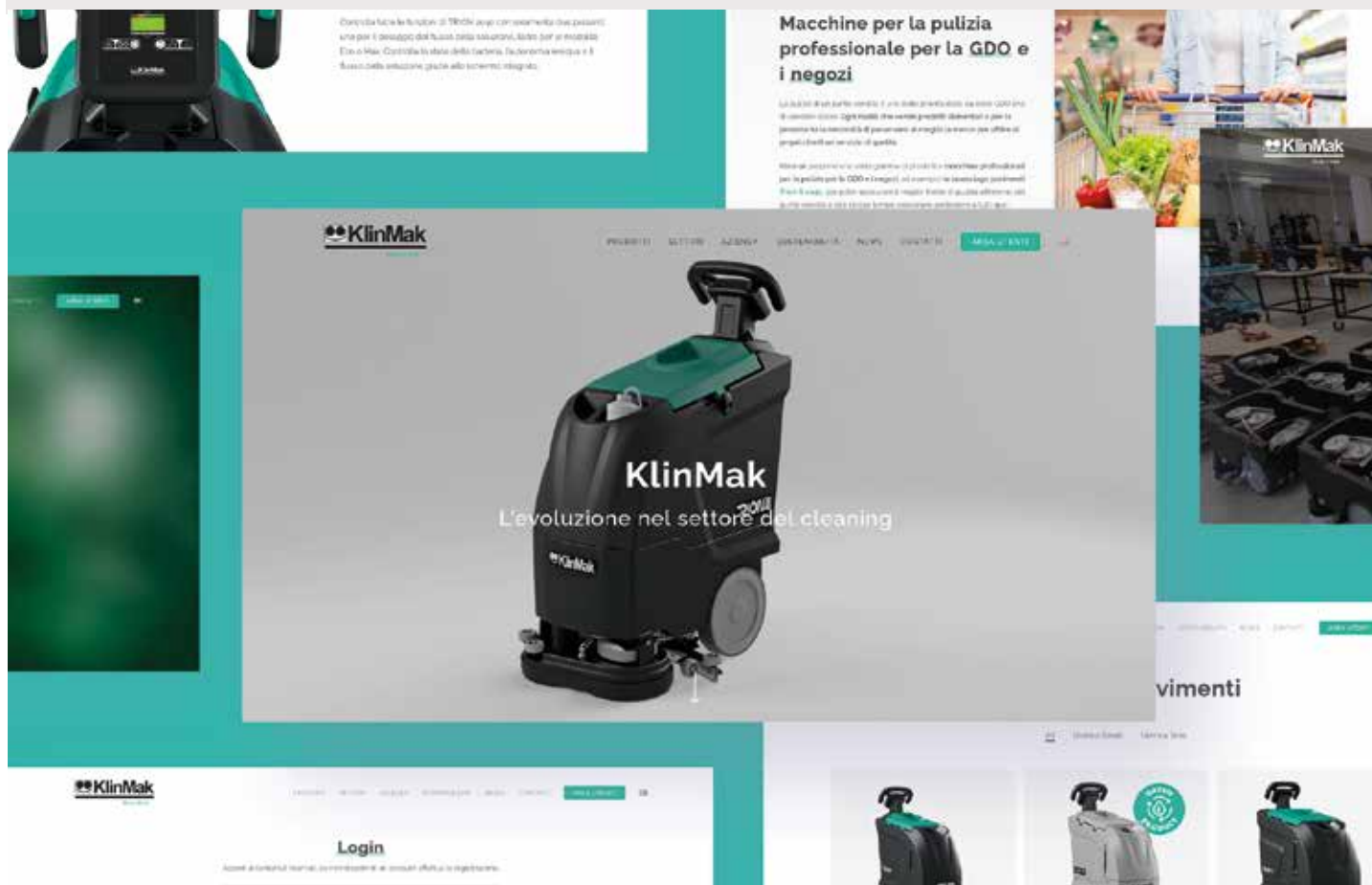
To access the private area, simply click on **PRIVATE AREA** in the menu and log in.

Haven't got an account? No problem, just follow these steps:

1. click on "REGISTRATION";
2. fill in the form, making sure to complete all the fields and accept the conditions of the Privacy Policy. Make sure you have entered a valid email address and that you protect your private password;
3. you'll receive a confirmation email as soon as your profile is activated.

Your data is safe with us because it is stored on servers present in Italy and will never be transferred to third parties.

Enjoy the new site!









---

**Partner**

---



**KlinMak Srl**

Via della Levata 1 | 20084 Lacchiarella (MI) | Italy

Tel. +39 02 892929.1 | Fax +39 02 892929.90

[info@klinmak.com](mailto:info@klinmak.com) | [www.klinmak.com](http://www.klinmak.com)