

# zero emissions

## ECOLOGICAL SOLUTIONS FOR THE OUTDOOR CLEANING



INNOVATION IN CLEANING EQUIPMENT

**TSM**<sup>®</sup>

# TSM TOWARDS A CLEANER WORLD

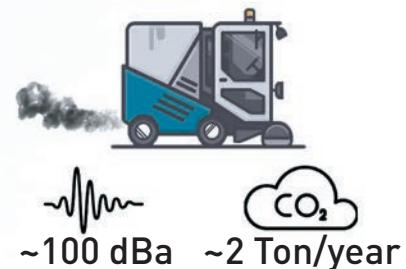
The air we breathe becomes every year more toxic due to the CO<sub>2</sub> increase. Worldwide municipalities are placing more and more attention to the environment, understanding the urgency of reducing pollutants agents to protect the territory and the quality of life.

Research and development of new technologies with low environmental impact have been accelerated worldwide to meet the increasingly felt need to limit CO<sub>2</sub> emissions in the air.

From the very beginning, TSM has imagined the “green” future of the professional cleaning sector, investing continuously in research and development of solutions that were unique in the market and with ZERO ENVIRONMENTAL IMPACT.

The outdoor vacuum ARIA 240 and the sweeper ITALA 135 are proof of this. 100% ELECTRIC SOLUTIONS for the cleaning of our cities.

TSM, acronym of Technological Systems by Moro is a company located in the town of Fiume Veneto in the north east of Italy, in the same territory which tells the passion, the knowledge and the achievements of a dynasty of manufacturers of industrial and urban cleaning machines, which lasts since 5 generations.



# >> WORLDwide



Designed and developed in Italy, TSM products are setting new standards worldwide - available in more than 60 countries.



# >> HOW IT WORKS

ITALA 135 is the electric outdoor sweeper by TSM which stands out for having ZERO ENVIRONMENTAL IMPACT. It doesn't produce CO<sub>2</sub> emissions and thanks to its powerful filtering system, fine particles remain trapped and are not released into the environment during the sweeping tasks.

All functions are electric therefore the noise emissions are reduced only to the noise of the brushes on the ground, offering the possibility to work at any time of day or night. The advantages of ITALA 135 are related to its high productivity. The mechanical system allows to collect even voluminous materials, which combined with the suction system with water spray on the front brushes allows a total reduction of fine particles.

**Itala**  
135

## FRONTAL BRUSHES

The frontal brushes convey the waste to the center of Itala 135, and are equipped with an anti-impact re-entry system



## CONSOLE

The electric traction of Itala 135 is controlled by the handlebars. To move forward simply push the lever forward, otherwise by pushing it backwards Itala 135 will reverse. The speed is established by the operator, directly on the console



HOPPER

## FILTERING SYSTEM

The dust raised by the brushes is sucked in by the vacuum and held back by the filter. The air that is released into the atmosphere is completely purified and free of fine dust

## CENTRAL BRUSH

The conveyed waste by the frontal brushes is collected by the central brush and thrown inside the hopper

## >> HOW IT WORKS

ARIA 240 is the electric outdoor vacuum by TSM which stands out for having ZERO ENVIRONMENTAL IMPACT. It doesn't produce CO<sub>2</sub> emissions and thanks to its powerful filtering system, fine particles remain trapped and are not released into the environment during the tasks.

ARIA 240 is equipped with an electric traction system that allows the operator to move easily in the city center, leaving ample freedom of movement in the aspiration of any waste.

aria  
240



### VACUUM HOSE

The waste is sucked through the hose supported by the operator and flows to the hopper

### CONTROL LEVER

The electric traction of Aria 240 is controlled by the front lever. To move forward, simply push the lever forward, otherwise by pushing it backwards Aria 240 will reverse. The speed is established by the operator, directly on the console

### FILTERING SYSTEM

The filter mounted vertically allows a complete and optimal use of the same, guaranteeing the operator long suction performance. The air that is released into the atmosphere is completely purified and free of fine dust



### NO NOISE

Itala 135 and Aria 240 can take advantage of both night and early morning hours to clean city centres, without interruption to people.



# >> UNSTOPPABLE WORKERS



1960



1980



2000



## BROOM AND SHOVEL

- OBSOLETE TOOLS, WITH MANUAL ACTIVITIES
- EFFECTIVENESS DEPENDS ON THE OPERATOR
- NON-UNIFORM QUALITY BETWEEN OPERATORS
- TIME INCREASES BECAUSE ARE TASKS ARE TOUGH
  - NO LIMITS IN THE TIME OF USE
  - NO LIMITS IN THE USE
  - ACCESS TO CENTRAL AREAS
  - NO LIMITS OF DIMENSIONS AND WEIGHT
  - ANTIGENIC, DO NOT PROTECT FROM THE DIRT
  - DO NOT REQUIRE EXPERIENCE
  - DO NOT REQUIRE BIG INVESTMENTS
  - DEMEAN THE OPERATOR
  - DO NOT GIVE REFERENCE

**VS**

## TRADITIONAL VEHICLE

- MECHANICAL VEHICLES, WITH PETROL ENGINES +
- EFFECTIVENESS NOT RELATED TO THE OPERATOR ++
- UNIFORM RESULTS, NOT RELATED TO THE OPERATOR ++
- LESS TIME, BUT WITH FUEL REFILL +
- LIMITS IN THE TIME OF USE DUE TO THE NOISE
- LIMITATIONS OF USE DUE TO CO<sub>2</sub> EMISSIONS
- LIMITED ACCESS TO CENTRAL AREAS
- LIMITS ON DIMENSIONS AND WEIGHT
- NEGATIVE IMPACT ON ENVIRONMENT AND PEOPLE
- LIMITED TO EXPERT OPERATORS WITH DRIVING LICENSE
- REQUIRE BIG INVESTMENTS
- INCREASE MOTIVATION +
- DO NOT GIVE REFERENCE



VS



Itala  
135



aria  
240

INNOVATIVE VEHICLES, WITH ECOLOGICAL MOTORS ++

CONSTANT EFFECTIVENESS, NOT RELATED TO THE OPERATOR ++

UNIFORM RESULTS, NOT RELATED TO THE OPERATOR ++

NO STOPS. AUTONOMY OF A COMPLETE WORKING SHIFT ++

NO NOISE >>> NO LIMITS IN THE TIME OF USE ++

ZERO CO<sub>2</sub> EMISSIONS >>> NO LIMITS IN THE USE ++

TOTAL ACCESS TO CENTRAL AREAS ++

COMPACT DIMENSIONS AND REDUCED WEIGHT ++

ZERO IMPACT ON ENVIRONMENT AND PEOPLE ++

EASY TO USE. DRIVING LICENSE NOT NEED ++

ECONOMICAL WITH LOW MAINTENANCE COSTS ++

INCREASE MOTIVATION AND VALUE CLEANING TASKS ++

GIVE REFERENCES TO THE COMPANY RESPONSIBLE FOR CITY CLEANING ++



# >> DISTINCTIVE FEATURES

**aria**  
240

## NEBULIZER IN THE BIN

for dust suppression, deodorize, disinfect and prevent any combustions



## WATER TANK

30 Lt of water to be used also with the addition of chemical for sanitizing and perfuming the bin



## EXTRA BAGS HOLDER

Extra bag compartment to ensure the continuity of cleaning tasks during the day



## 4 WHEELS

Wheels of the same size between front and rear guarantee high stability on any type of surface. Aria 240 easily overcomes obstacles and kerbs without risk of overturning



## WASHABLE POLYESTER FILTER

to filter fine particles up to 0.5 microns, returning a completely cleaned air



**ERGONOMIC CONTROL**  
MIN/MAX vacuum  
Nebulizer  
Warning buzzer



**ULTRA LIGHT HOSE**  
The hose in carbon fiber allows a total freedom of movements



**NEBULIZER ON THE HOSE**  
Nebulizer on the hose to extinguish any cigarette butts still lit.



## FREE MAINTENANCE BATTERIES

GEL batteries has an autonomy off >10 hours depending on the use.

The on-board charger allows easy charging



**SAFETY DEVICES**  
 Fire extinguisher, horn, reverse buzzer, reflectors, parking brake, automatic stop with filter opened, functions auto-switch off with minimum autonomy to transfer Aria 240 to the nearest power socket

## USER FRIENDLY CONSOLE

Hour counter  
 Battery indicator  
 Speed regulator  
 Vacuum On/Off  
 Working light



## \* WORKING LIGHTS

Powerful LED lighting to work at any time of day



## \* TOOLS KIT

Broom, litter picker and bucket to collect the waste that does not pass through the suction hose

"\*": optional



## \* REAR DISPLAY

The rear display for advertising purposes



## \* FULL BIN SENSOR

Warning buzzer and led on when the bin is full for emptying to keep working



## WHEELIE BIN

The standard urban bin with a capacity of 240 liters. Can be used without or with bag, using the convenient quick-draw holder



# >> INNOVATIONS

## THE POWER OF THE S VERSION

The **S** stands for “**SUPER**” for the **outstanding** and **innovative features** mounted that make the TSM ARIA 240 incredibly efficient. **TSM ARIA 240 Super** comes equipped with a **mechanical support for the hose** which both facilitate the movements during the tasks and eliminates curves of the hose so the suction is always powerful even with voluminous waste. It has also the **on board automatic filter cleaning system**, which is automatically timed to clean the filter and the operator avoids to stop frequently to clean it manually throughout the day. **TSM ARIA 240 Super** is the only urban vacuum designed to reduce the operator's efforts during prolonged cleaning activities.

AUTOMATIC  
CLEANING  
8 bar of power  
with the extra  
air gun for the  
cleaning finishing



### ...WHAT OFFERS MORE

- ✓ MECHANICAL SUPPORT FOR THE HOSE
- ✓ ON BOARD AUTOMATIC FILTER CLEANING
- ✓ AIR GUN FOR FINISHINGS

### + Benefits

- > REDUCTION EFFORTS FOR THE OPERATOR
- > MORE SUCTION POWER
- > CONTINUOUS POWER SUCTION
- > TIME SAVINGS IN THE FILTER MAINTENANCE

### EFFICIENCY & PERFORMANCE



ARIA 240



ARIAMATIC 240

# ariamatic

240 Super

THE 1<sup>ST</sup> OUTDOOR VACUUM

AUTONOMOUS DRIVEN



## + BENEFITS

- > ZERO EFFORTS FOR THE OPERATOR
- > FREEDOM OF MOVEMENTS
- > FOCUS ON THE ONLY CLEANING TASK
- > TIME SAVINGS IN THE CLEANING TASKS



## ARIAMATIC IS THE FIRST AUTONOMOUS DRIVEN OUTDOOR VACUUM

equipped with the innovative **FOLLOW ME system** able to follow the operator's movements, offering **absolute versatility** and working autonomy. ARIAMATIC **detects obstacles**, ensuring the safety of people and things that surround in the environment, leaving to the operator the sole task of directing the vacuum hose to the waste and ARIAMATIC will promptly follow its operator.

# >> DISTINCTIVE FEATURES

**Itala**  
135

## CONTROL LEVERS

Comfortable and ergonomic brush management. The red lever of the central brush, if pressed, adjusts the pressure of the same to the ground



## ULTRA LIGHT WANDER HOSE

The carbon hose allows the cleaning finishing in areas difficult to reach like flowerbeds, benches and between racks of bicycles



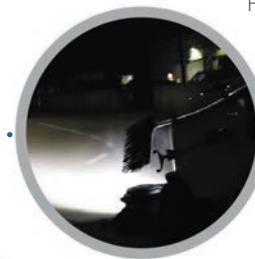
**WASHABLE POLYESTER FILTER**  
to filter fine particles up to 0.5 microns, returning a completely cleaned air



\* **ON BOARD RAMPS**  
To easily overcome obstacles and kerbs



**WORKING LIGHTS**  
Powerful LED lighting to work at any time of day



## \* OPERATOR'S CHARIOT

It is added to Itala 135 with a "click". It is really useful when the operator is requested to clean an extended area



**X4**

## FREE MAINTENANCE BATTERIES

GEL batteries has an autonomy of >7 hours depending on the use.  
The on-board charger allows easy charging



**ANTI-DUST SYSTEM**  
Nebulizers on the frontal brushes for suppressing the dust during sweeping



# Itala

135

**SAFETY DEVICES**  
 Fire extinguisher, horn, reverse buzzer, parking brake, automatic stop with hood opened, functions auto-switch off with minimum autonomy to transfer Itala 135 to the nearest power socket

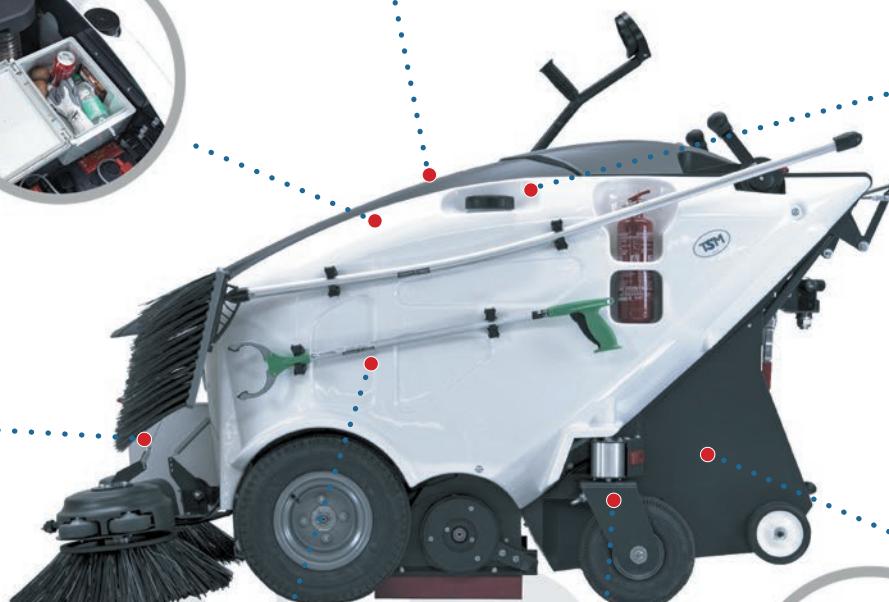
**\* GLOVE COMPARTMENT**

Lockable compartment to safely store personal belongings, such as gloves, water bottles, etc.



**FRONTAL EXTRA BIN**

It allows to collect the voluminous waste that the operator may find on the way



**\* TOOLS KIT**

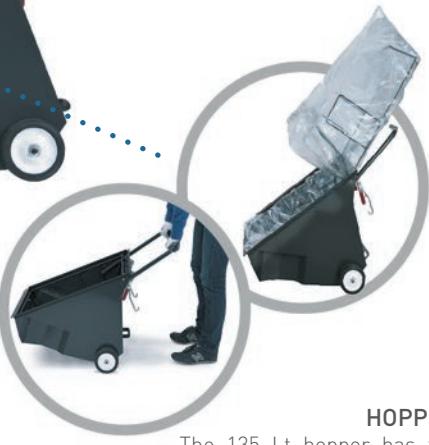
Handy broom and litter picker to avoid touching the voluminous waste with hands

“\*”: optional



**WATER TANK**

30 Lt of water to be used with the anti-dust system



**HOPPER**

The 135 Lt hopper has the shape of an ergonomic wheelbarrow, which allows an easy and fast transfer. It can be used without or with bag, using the convenient quick-draw holder



**REAR RED LIGHTS**

To be visible at any time of the day





**Itala**  
135 BT - BATTERY  
135 ST - PETROL



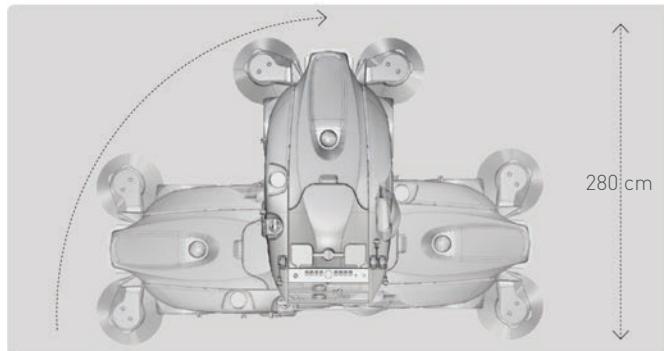
# Itala

135 BT - BATTERY  
135 ST - PETROL

135 ST

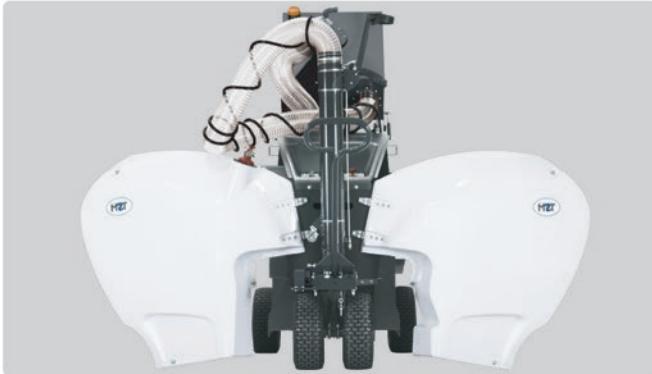
135 BT

Runs on	-	Petrol (Honda)	<b>Battery 24 V</b>
Motor power	Kw	4.10	1.90
Working time	h	$\infty$	> 7
Coverage performance	m <sup>2</sup> /h	5500	6500
Traction	-	Oleodynamic	Electric
Maximum speed	Km/h	6.5	6.5
Main sweeping path	mm	600	600
With 1 side brush	mm	925 - 975	925 - 975
With 2 sides brushes	mm	1250 - 1350	1250 - 1350
Hopper capacity	L	135	135
Filter	-	Polyester panel	Polyester panel
Filtering surface	m <sup>2</sup>	3	3
Maximum slope	%	20	20
Sound power level	Db (A)	80	70
Batt. compartment (LxWxH)	mm	-	580 x 450 x 450
Weight without batteries	Kg	330	350
Dimensions (LxWxH)	mm	2000 x 1270 x 1140	2000 x 1270 x 1140



# aria

240 Super



# aria

240 *Super*

Supply	-	<b>Battery 24 V</b>
Total power	Kw	2.8
Working time	h	> 10
Maximum speed	Km/h	6
Vacuum motor	W	1500
Hopper capacity	L	240
Hose length/Ø	mm	3600 / 120
Hose support	-	Mechanical
Nebulizer	-	Yes - doble
Filter	-	Polyester cartridge
Filtering surface	m <sup>2</sup>	14
Filter cleaning system	-	Automatic
Twin front wheels	-	Yes - standard
Maximum slope	%	20
Noise level	Db [A]	68
Batt. compartment (LxWxH)	mm	716 x 410 x 490
Weight without batteries	Kg	330
Dimensions (LxWxH)	mm	1920 x 980 x 1825



ariamatic



# ariamatic

240 Super

<b>Supply</b>	<b>Battery 24 V</b>	
Total power	Kw	2.8
Working time	h	> 10
Maximum speed	Km/h	6
Vacuum motor	W	1500
Hopper capacity	L	240
Hose length/Ø	mm	4100 / 120
Hose support	-	Mechanical
Nebulizer	-	Yes - doble
Filter	-	Polyester cartridge
Filtering surface	m <sup>2</sup>	14
Filter cleaning system	-	Automatic
Twin front wheels	-	Yes - standard
Maximum slope	%	20
Noise level	Db (A)	68
Batt. compartment (LxWxH)	mm	716 x 410 x 490
Weight without batteries	Kg	380
Dimensions (LxWxH)	mm	1920 x 980 x 1825



# ECOLOGICAL SOLUTIONS FOR ANY ENVIRONMENT

designed to be leaders in the urban cleaning with  
**ZERO ENVIRONMENTAL IMPACT**, thanks to their  
exceptional ratio between performance,  
purchasing and operating costs

CAMPUS

MALLS

SCHOOLS

SUBWAYS

HOSPITALS

LOGISTIC CENTERS

NURSING HOMES

TRANSFERABLE  
ANYWHERE IN A BIT

easily transportable to strategic  
points of the city



TRAIN STATIONS  
AIRPORTS  
TRADE CENTERS



PARKS  
& GARDENS



INDUSTRIAL  
FACILITIES



CITY CENTRES



BATHING  
ESTABLISHMENTS

## ➤ NOTE&

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For more information, please visit [www.sweepclean.com.au](http://www.sweepclean.com.au)

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