



adiate^k
Design and innovation

R-QUARTZ

From the cooperation between **Adiatek**, that found it's roots in the cleaning sector and **Muratec**, the Japanese reality active on the electronic development

for industrial solutions, a new autonomous drive scrubber is born, that combines all the main values of the two partners.



We want to be a landmark for the environment and for your wellness, by making high efficiency scrubbers with an inspired design.



We shall strive to expand the boundaries of technological advancement, provide meaningful products that enrich the lives of our customers, bring prosperity to each of our employees and lead society to a better tomorrow.

The teaching modes of the **R-QUARTZ**

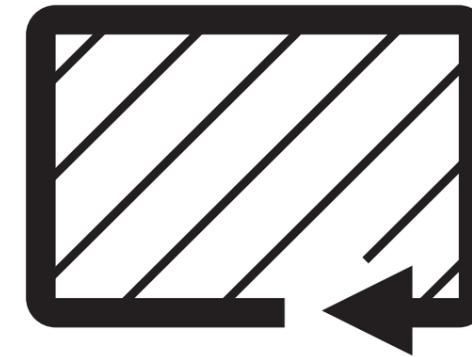
The technology which is at the base of the functioning, divides itself in two different stages:

- Learning of the task to carry out by the machine and memorization of this task as a route.
- Repetition of the route from the starting point, assigned during the Teaching mode.

R-Quartz allows two learning ways:

Playback

To use the **Playback** mode the operator first has to make a complete cleaning cycle the same as it will be made autonomously by the machine. All the route details and the settings (water carriage, brushes pressure, etc.) will be memorized and faithfully repeated. "**Playback**" is useful when cleaning narrow and congested areas, with few variations of the environment configuration.



Perimeter

With **Perimeter** mode, the operator just needs to define the outer perimeter of the area to be cleaned and the machine will manage optimally the cleaning of the inner areas.

"**Perimeter**" is a very quick learning method, interesting when dealing with large areas with few elements on their inside, which environmental configuration is regularly changed. On this mode, the route's starting and ending points needs to coincide.



Work sequences and Teaching combinations

When starting an autonomous work cycle, the operator can create a sequence that will automatically combine more memorized routes even in different modes. Moreover, this function has the big advantage to give the programmer the chance to create shorter and so more flexible routes.

R-QUARTZ will be able to manage new situations which are not integrated with the learning process, in order to grant safety to the people and the environment. The learning and repetition stages can be stopped by the operator whenever there is the need to, without this affecting the remaining route.

If **R-QUARTZ** finds a new obstacle it will try to avoid it and will resume its route as soon as it is possible. If this is not possible, a notification will be send to the operator through the **TELEMATICS** system.

Controls Console

The dashboard is provided with a 7" touch screen which allows an easy and intuitive communication between the machine and the operator.

All the functions, both in "operator" and "autonomous" mode, are clearly identified by intuitive icons which allow a quick approach to the work with con **R-QUARTZ**.



To allow an interesting productivity in autonomous mode, **R-QUARTZ** was designed based on the **QUARTZ 66-80** model, a high level performances and technical features machine.

- 24V 330Ah lithium battery pack, which grants up to 6 hours of work autonomy.
- Fast charge in 5 hours.
- Possibility of a 185 Ah Gel battery pack, with an autonomy of 3 hours.



- 100l solution tank capacity and "3SD" system as standard equipment.
- On-board dedicated tank for the detergent.
- Thanks to the "3SD", it is possible to precisely adjust the consumptions, granting up to a 4 hours autonomy.



3 power stages for the suction motor in order to reduce its noise up to 67 dB.

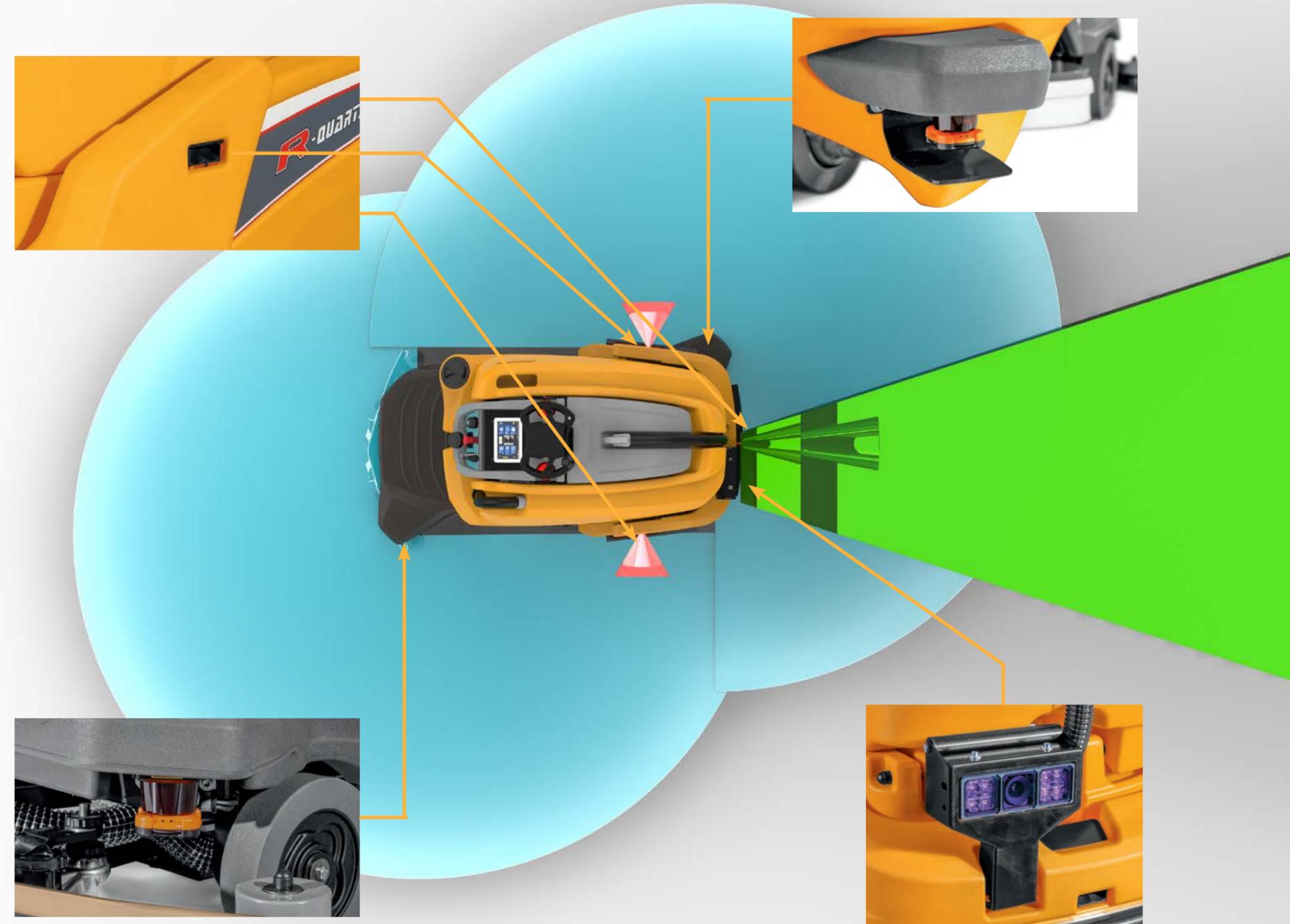
Speed up to 4 km/h, (very fast for an autonomous scrubber).

Brushes pressure variable up to 52 kg.



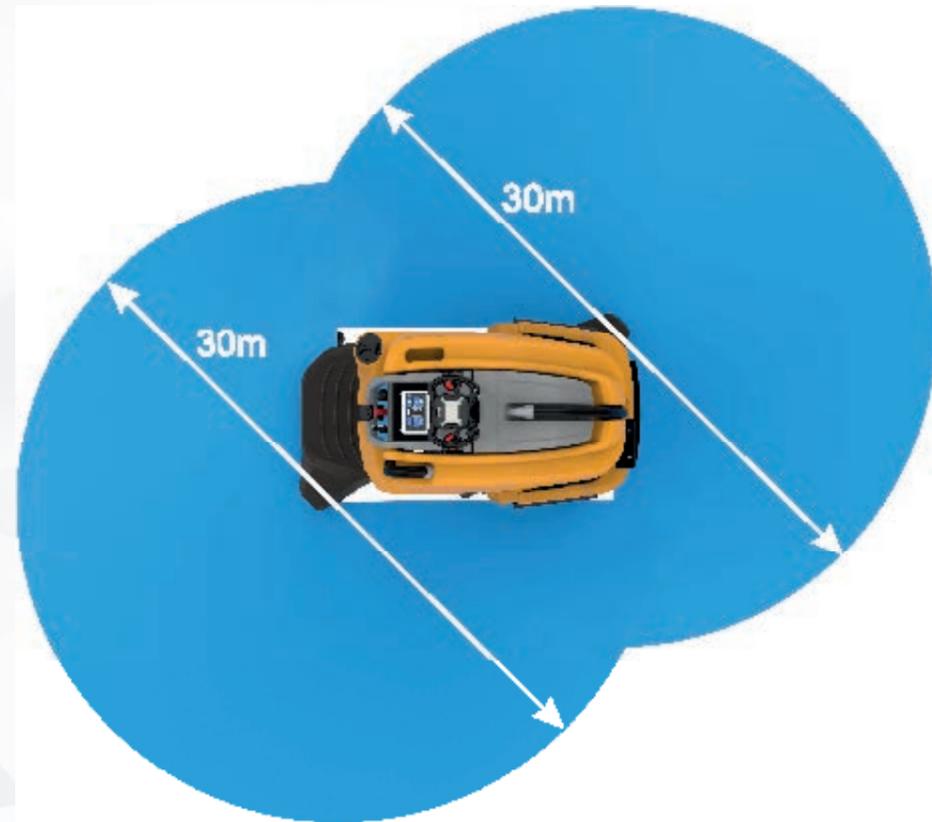
Work safely

R-QUARTZ is provided with 3 safety systems which work simultaneously and are able to make it move in total autonomy. Furthermore, 3 bumpers are installed on the sides of the machine. When touching a sudden obstacle, the bumpers immediately make the machine stop.



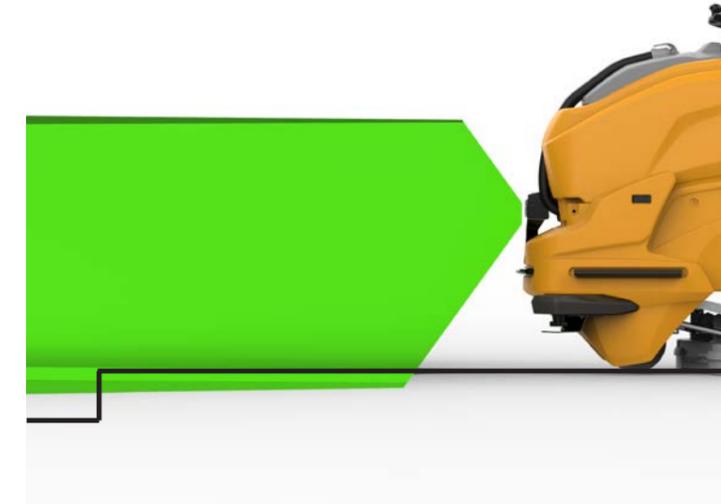
LIDAR sensors

A-QUARTZ is provided with **2 LiDAR sensors** (light detection and ranging), a front and a rear one, which allow a very accurate 360° horizontal mapping, at an height from the ground of 200 mm. The LIDAR sensor grant the machine a complete view when turning. In the learning stage, they allow to make a precise mapping of the route environment. The machine is then able to position itself in the space and quickly manage any eventual unexpected event.



The 3D camera

In the front part of the machine a **3D camera** is positioned. The wide sight range allows to detect obstacles at an height up to 700mm from the floor and floor variations, even large ones, i.e. steps. Even in presence of obstacles, as much as possible, **A-QUARTZ** will try to avoid them and resume its route.



Ultrasonic sensors

The **3 ultrasonic sensors**, placed on the front and side parts, provides an additional safety in the management of eventual obstacles that were not identified during the learning stage. These sensors are also able to detect the presence of transparent obstacles such as windows and shop's glass walls.



TELEMATICS

Through the Telematics the machine is always in touch with the operator. Thanks to this device, the operator can always see the map's sequence that the machine is performing, the remaining time to the end of the task and the indications related to the eventual issues, error or warnings that the machine reports. Moreover, in case of problems, the operator will be warned real time through notifications transmitted directly on the smartphone.



Technical data

Working capacity:	3425 m ² /h
Battery autonomy:	6 h
Cleaning width:	685 mm
Squeegee width:	900 mm
Brushes motor:	2x350 Watt
Brushes pressure:	max 52 Kg
Brushes speed:	160 giri/min
Disc brushes :	2x355 mm
Speed:	4 km/h
Maximum gradient:	10%
Suction motor:	570 Watt
Suction vacuum:	160 mbar
Solution tank:	100 l
Recovery tank:	106 l
Detergent tank:	7 l
Machine dimensions:	L: 1634 mm W: 922 mm H: 1350 mm
Machine weight (with batteries L1):	340 kg
Power supply	24V / 330 Ah
Battery compartment x2:	L: 532 mm W: 187 mm H: 325 mm
Class:	III
Protection level:	IP X3
Loudness:	liv 1: 67 dB (A) liv 2: 70 dB (A) liv 3: 76 dB (A)





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www.adiatek.com

Sede Legale

Via Monte Pastello, 14
San Giovanni Lupatoto
37057 Verona - Italia
Tel. +39 045 877 9086

Sede Produttiva

Via Saturno, 25
Santa Maria di Zevio
37059 Verona - Italia
T. +39 045 606 6289