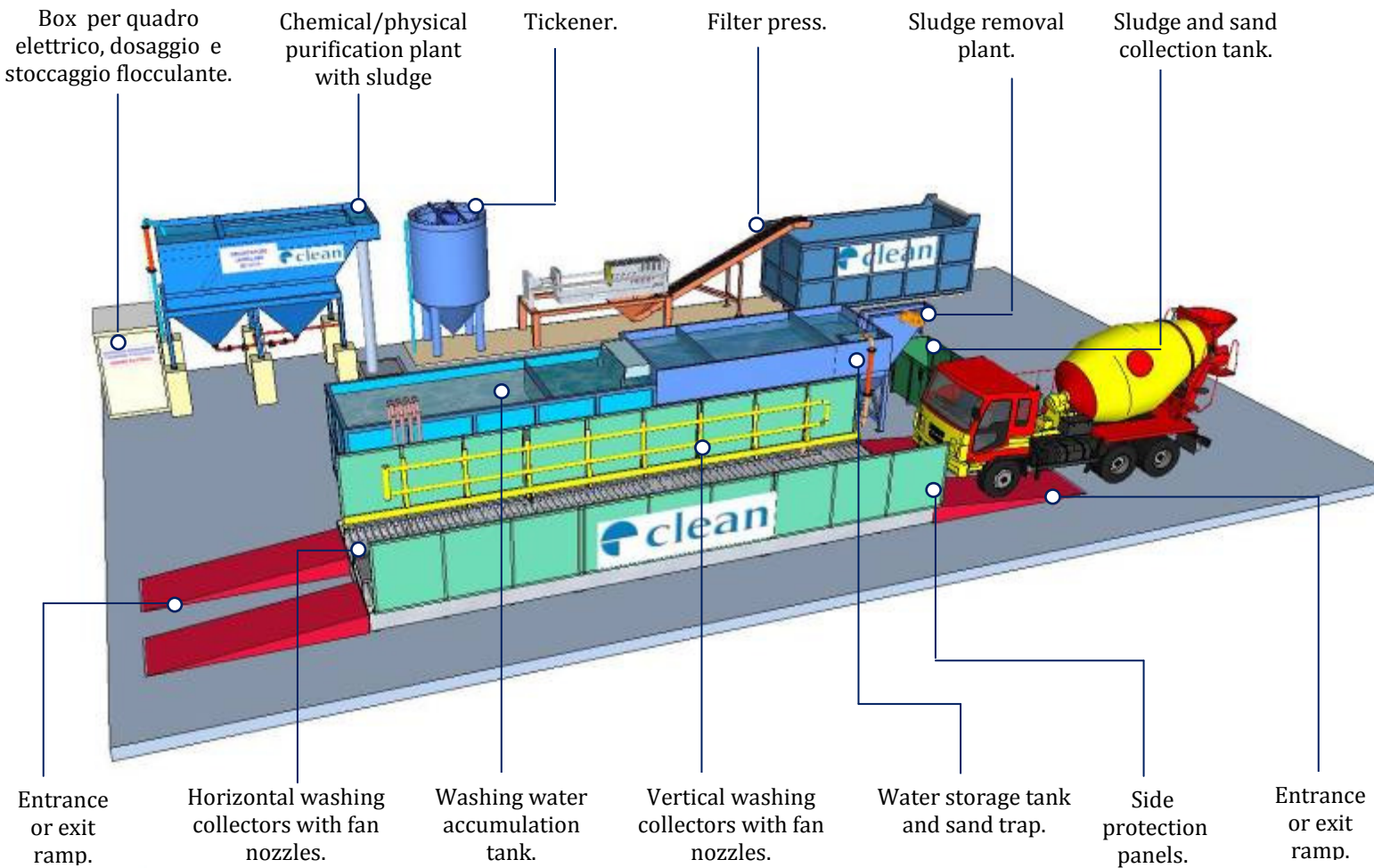




MOBILE/PERMANENT Wheel washing systems mod. Clean with CHEMICAL and PHYSICAL PURIFICATION supplied with SLUDGE TREATMENT.



MOBILE or PERMANENT WHEEL WASHING SYSTEMS WITH PURIFICATION SYSTEM SUPPLIED WITH SLUDGE TREATMENT

Clean S.r.l. has taken on great importance over time, which made it to distinguish oneself in washing and water treatment field and achieving wide success for quality products.

The company is able to plan, build and install purification plant for the wastewater re-use that in general derive from industrial plants.

We deal in:

- Analysis.
- mechanical filtration, sedimentation and de-olting.
- Filtration with quartz filter and activated carbon filter.
- chemical treatment and chemical/physical treatment.
- Machines of evaporation concentration.
- biological purification.
- Micro-filtration, Ultra-filtration, Nano-filtration e reverse osmosis.
- Water potability.

In relation to these guidelines we are able to offer many solutions in different fields, i.e.: food industry, chemical field, pulp and paper industry, glass and ceramics industry, energy industry, pharmaceutical industry, mineral reserves, metallurgical industry, processing plant for the production of aggregates, water drilling and gallery, rain water treatment plants.

We stand out because of the research ability, development, planning, realization of the solutions considering the customer's requirement and the purification exigencies.

Clean® develops, plans and builds wheel washing systems, comprising 2 important plants:

- **The wheel washing systems,** in relation to the amount and type of vehicles to wash and the amount and level of sludge contamination, can be permanent, in ground installation (FEC) or totally mobile (MF o MFC) and equipped by a washing track, the length can vary from 4.000 mm to 16.000 mm,
- **The clarification plant:** generally comprising a Decanter, with lamellar settlers too, a plant for the preparation of chemical reagents necessary for the flocculent, a thickener and a Filter press.



MOBILE or PERMANENT washing plant installed in a cement or asphalt bed

- ▶ AUTOMATIC washing plant.
- ▶ Entrance and exit ramps built in carbon steel Fe 510 or alternately in reinforced concrete with a maximum slope of 10%.
- ▶ 2 transit and washing collectors with tubular structure.
- ▶ **The washing track has been planned to facilitate the removal of mud from the wheels without damaging them.**
- ▶ The length of the tire guides depends on the model.
- ▶ 2 couples of photoelectric sensors or magnetic loops for switching on and off.
- ▶ Lack of water alarm and protection.
- ▶ Electric control panel IP 65 with PLC for the direction and the monitoring of all operative functions inside a metal cabin.
- ▶ The washing plant is built for the prevention of freezing in case of frost conditions.
- ▶ The oscillating side spray nozzles height can vary from 50 cm to 150 cm.
- ▶ There are no mechanical devices for wheels washing.

Clean® is continuously involved in research, development, planning and in the construction of innovative and personalized plants.



A solution that offers many advantages

- ▶ Maximum water re-use and minimum re-integration. The water can be almost completely recycled. Only the quantity of water lost with the exit of the vehicle and with the discharged sludge has to be reintegrated.
- ▶ With the new sand extraction systems, the costly operations of sand and sludge suction and separation by specific means can be minimized.
- ▶ Carefully designed solutions.
- ▶ Installation and start-up in a few hours.
- ▶ Modular and expandable plant design.
- ▶ The plants can be re-installed in other sites.



Depuration process for the re-use of washing water

- ▶ The type of activities carried out determines the composition of the solids in the washing water.
- ▶ The intensity of the washing determines the number of washing cycles.
- ▶ A specific treatment will be proposed on the basis of these data.
 - Sand trapping – Oil separator – Sludge removal - Clarification - Heavy metals removal - Sludge dewatering.



Wastewater treatment for the re-use of washing water

- ▶ With the new clean® treatment plants, sand and many other impurities are extracted from wastewater.
- ▶ Settlers and sand trap – The extracted sand and sludge are moved directly into a water tank or into a dewatering plant with draining bags or into a filter press plant.
- ▶ Maximum water re-use and minimum re-integration. The water can be almost completely recycled. Only the quantity of water lost with the exit of the vehicle and with the discharged sludge has to be reintegrated.
- ▶ Water clarification can be carried out even if the quantity of sludge is big. This operation is carried out with the help of flocculants. The particular structure of the water tank permits to obtain a perfect clarification.
- ▶ Alternately to the Settler, sludge can be removed with a chain conveyor equipped with stainless steel shovels.
- ▶ Sludge dewatering with a thickener, draining bags, a draining tank or a filter press plant. The choice of the most suitable dewatering system depends on sludge quantity and characteristics.



Customized treatment for polluted washing water:

- ▶ In case of extremely muddy washing water, with suspended solids of different origins and characteristics (i.e.: clay, carbon, organic substances, etc.) the purification plant is more complex and it varies according to the features of the substances to be removed.
- ▶ According to the activities carried out, the vehicles release in the washing water different kinds of polluting substances, which, to be removed, require specific treatments, either chemical/physical or biological. In these cases the treatment plants installed are designed to obtain perfectly clarified washing water, which can be re-used, in accordance with the drainage system regulation.



Installation functionality

- ▶ The wheel washing plant consists of a structure with collectors and fixed washing nozzles. The starting of this plant is activated by photoelectric sensors.
- ▶ The first couple of sensors detects the vehicle, the pumps start and pressurize the collectors making the water flow out through the spray nozzles.
- ▶ The washed vehicle, exiting from the wheel washing plant, activates the second couple of photoelectric sensors and the washing pumps are switched off and remain ready for the following washing.
- ▶ The speed of the vehicle inside the wheel washing plant depends on the driver, who will have to pass slowly and, if necessary, to stop every now and then to allow a perfect washing of the wheels (front and rear), for a complete removal of residuals. In any case, the maximum speed allowed inside the wheel washing plant is 3 km/h.



Wastewater treatment and purification of the washing water



OUR OBJECTIVES



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