

Automated vehicle for cleaning mirrors in CSP plants with parabolic trough collector technology. High-capacity water tank, a high pressure pump and a crane with cleaning devices.

Technical specifications:

- Hydrostatic system allows slowly and safely cleaning providing continuous working speed of 0-5 km/h.
- Water tank built in polyester reinforced with fiberglass that provides low maintenance, high corrosion resistance and excellent electrical and thermal insulation performance. Includes manhole, breakwaters, overflow tube and water level.
- Closet included into the tank to locate the different elements from the oil-hydraulic circuit and the high-pressure pump. LED lighting with opening/closing doors.
- High pressure pump driven by oil hydraulic circuit connected to the PTO. Nominal performance are 153 L/min and 130 bar.
- Commercial automated crane with a high load capacity to support the device.
- Control system that allows an automatic single operator cleaning. Sensors installed in the cleaning devices can correct deviations such as: Variations in the ground, changes in the direction made by the driver or oscillations due to accelerations or strong braking.
- LED lightings and work lamps to operate during night.
- Cleaning devices are easily interchangeable. Only two operators are required to exchange them.
- Electronic security measures included:
 - Speed limitation to 10 km/h when the vehicle is driven with the cleaning device connected.
 - Ultrasonic sensors to keep working distances.
 - Potentiometers to control the cleaning device position.
 - Pneumatic cylinders with pressure regulation to ensure contact between brushes and mirrors.
 - Different cabin alarms to guarantee the structural safety of the bodywork.

Cleaning devices

- Brushing cleaning device: For deeper cleaning, reaching the nominal reflectivity of the mirror. Up to 3 km/h working speed. Reflectivity can reach 99% or more but it depends on initial dirtiness. We guarantee 98%.
- High pressure cleaning device: For faster cleaning when it is not necessary a more precise cleaning. Up to 4 km/h working speed. Reflectivity increases between 2 and 10% and it can reach 95%. It depends on initial dirtiness.

Optionals:

- Rear hose reel with 15 m hose and high-pressure lance for manual cleaning [1150]
- Front irrigation bar [1151]
- Global position system [1153]
- Remote control [1154]
- Water Flow meter [1152]
- Labeling – customer's corporate image [1156]



Chasis recommended

- Power over 315 HP
- Suitable PTO to provide the necessary power to move all the equipment installed.

Water tank(l)*	Chassis GVW recommended	Traction
9.000	18 Tn	4x4
14.000	26 Tn	6x4 or 6x6

*Final capacity will be limited depending on the GVW of the truck

General conditions

- 2 years warranty.
- Operation and maintenance manual included.
- Legalization and registration in the country of destination is not necessary to work within a solar plant. If the client wishes it, is his own responsibility to take the necessary steps to legalize it and Feniks will provide him all the necessary information.
- Commissioning and training on site is needed for each truck and cleaning device.



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