

**DRAKO-15:
IMPROVEMENTS
AND DEVIATIONS
PT2**




REVISION 01					
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INDEX

1. INTRODUCTION	1
2. DEVIATIONS.....	1
2.1. General	1
2.2. Chassis	1
2.3. Scrub-cleaning Tests requirements	1
2.4. Deluge cleaning Tests requirements	1
2.5. HCE Cleaning.....	2
3. IMPROVEMENTS	3
3.1. Chassis	3
3.2. Water tank.....	3
3.3. Scrub-cleaning system	3
3.4. Deluge cleaning system	4
3.5. Control system.....	4
3.6. Validity	4

	Reference	PT2	Date	15/10/2020
	Description	DRAKO-15: Deviations and Improvements	Revision	01

1. INTRODUCTION

The present document aims to indicate the observed deviations and propose unsolicited improvements.

2. DEVIATIONS

2.1. General

Feniks will support with all the documentation required but legalization is not included on the bid because of we understand it is needed a local agent to do it like with the rest of the vehicle of the plant. Our recommendation is not to do it because you will have to do the oficial revisions. All the costumer use the postsale service of the trucks on site and in case of a special intervention they use a truck to transport them.

2.2. Chassis

Feniks does not recommend cruise speed higher than 10 km/h when you have the Cleaning devices conected in the solar field (Your RFQ ask for 30 Km/h). This is the normal way to work in the rest of plants.

Wash bar: Placed under the cabin and fed with gravity water. It is not necessary feed it with pressure water because of will damage the land. For us is similar but based in the experience we recomendad this option.

To ensure any spark will damage the HCE, exhaust gases from engine will not be directed in vertical direction.


2.3. Scrub-cleaning Tests requirements

With brushing device, the reflectivity can reach 99 % or more but it depends on the inistial dirtiness of the collectors. We guarantee 98%.

Water consumption during test will be ≤ 0.6 L/m².


2.4. Deluge cleaning Tests requirements

Water consumption during test will be ≤ 0.4 L/m².

	Reference	PT2	Date	15/10/2020
	Description	DRAKO-15: Deviations and Improvements	Revision	01

2.5. HCE Cleaning

We do not have experience in how to take the measure of the cleaning of it. In some conferences we have listen about special devices but never like commercial and without any reference about the cleanless factor. Take in consideration the limitation of the manufacturer, always said that the cleaning must be oversure for them and do not clean with high pressure or contact. We do it with high pressure in all the cases but some costumer with problems with the HCE has limitedated the pressure and water quality during the investigation phase, later all of them clean with the maximum performances.

	Reference	PT2	Date	15/10/2020
	Description	DRAKO-15: Deviations and Improvements	Revision	01

3. IMPROVEMENTS

3.1. Chassis

It can be manufactured on different brands of trucks and models. We include a second offer with a chassis of 33 tons for 15 m³ water tank.

Air outlet of engine is conducted by a deflector to avoid dusty problems. On the same way, air inlet of engine is taken from a clean area.

Chassis incorporates an acoustic reversing warning to warn of this maneuver.

The subframe is anchored to the chassis by means of elastic joints to protect the body against torsion of the chassis due to irregularities of the terrain.

Adapter specially designed between crane and cleaning devices that allow coupling the diferents cleaning devices to the crane. Both cleaning devices are interchangeable.

3.2. Water tank

It is built in polyester reinforced with fiberglass which prevents corrosion, is light, easy to repair and guarantees a much longer useful life than metal tanks.

Incorporates transversal and longitudinal breakwaters to reduce inertial loads.

Tank of 10.000 liters capacity. Because of the gross vehicle weight rating will be exceed, rear leaf springs and the front suspension will be reinforced to ensure the DRAKO stability.

3.3. Scrub-cleaning system

Quick coupling system between crane and cleaning device which allows quick coupling and uncoupling, in addition to avoiding fluid loss and the entry of air into the circuit.


Material of brushes is polypropylene because of its better results. Feniks has tested polyethylene brushes without properly results.

Built of aluminium because of weight reduction.

Independent flow regulators that allow the speed of each brush to be adjusted independently of the chassis speed.

Damping of each brush by independent pneumatic cylinders. This system allows that if an ultrasound detects a broken facet, only the brush that passes over said facet is lifted while the rest of the brushes continue cleaning. We use pneumatic cylinders due to their quick response.

Central brushes of great diameter to avoid hitting the structure.

	Reference	PT2	Date	15/10/2020
	Description	DRAKO-15: Deviations and Improvements	Revision	01

Adjustable ball joints in the nozzles to make small adjustments in the direction of the same.

3.4. Deluge cleaning system

Built of aluminium because of weight reduction.

Adjustable ball joints in the nozzles to make small adjustments in the direction of the same.

3.5. Control system

Our software and PLC includes extra information about sensors, security information and give more automatization level than your requirements.

We include free of charge a remote control assistance. With this system we can provide postsale service from Spain connecting to the truck with your own computer and a Wi-fi connection.

3.6. Validity

Feniks has a ST8.2 module to carry out the FAT test.