

**INDEPENDENT POWER TRANSMISSION  
OPERATOR S.A.**

**TRANSMISSION SYSTEM MAINTENANCE  
DEPARTMENT**

**TECHNICAL DESCRIPTION**

**FOR**

**MOBILE PLANT PROCESSING SF6 GAS**

**ATHENS MAY 2014**

## **Mobile plant processing sf6 gas**

### **A. GENERAL DESCRIPTION**

The mobile plant will be used for removal, cleaning, vacuuming and refilling of sf6, for sf6 circuit-breakers of 150 KV or 400 KV. These circuit-breakers there are in outdoor substations.

It should be characterized by compact - robust design and ergonomic construction with portability through wheels within substations, attachment points for lifting - loading and support safe during transport with a service vehicle, and storage capability for protection from the weather in the short intervals.

Maximum operation pressure of the plant will be 50 bars.

The group should meet all the requirements - specifications for the effective processing of sf6 gas used as an insulating medium at the auto circuit-breakers of high and extra high voltage.

The piping assembly should be characterized by specifications such as to reduce the risk of accidental loss of gas.

All necessary functions are integrated to the mobile plant processing including a) the purification of gas through a dry filter b) the possibility of storing the sf6 gas in liquid form in the portable cylinder which is brought in mobile plant, c) the connectivity of portable cylinders for increased storage capacity.

The gas will be recovered from the compartment of mobile plant to a final vacuum <5 mbar to fully comply with the international standards for processing gas sf6 (IEC).

By proper filter device should have the ability of removing particles of dust, humidity, and the gaseous decomposition products of sulfur hexafluoride (by products sf6).

It should be fitted with pre - filter unit to protect the assembly during recovery of gas from the compartment.

All prices pressure switch tank- filling process, indicating vacuum, etc. appear in the screen of plant.

Mobile plant possessing sf6 gas should provide the ability to control operating cycles, to expunge the case of improper handlings and be equipped with a lock-out system in the event of unwanted reactions ( eg overpressure gas bottle sf6).

Technical support providing.

The Company has to be present in Greece at least 10 years.

Warranty of at least one year.

## **B. TECHNICAL SPECIFICATIONS.**

- Operating voltage 220V/50 Hz
- Oil-free compressor (1.6 m<sup>3</sup>/h, 50 bars)
- Vacuum compressor for sf<sub>6</sub> gas recovery (3.3 m<sup>3</sup> / h, final vacuum <5 mbar).
- Vacuum pump for air (10m<sup>3</sup>/h, 2-stage, final vacuum <1 mbar)
- Two-way operation compressor for sf<sub>6</sub> gas. (Absorbance of the sf<sub>6</sub> circuit-bleaker to the bottle and vice versa).
- Pre - filter
- Dry filter
- Particle Filter
- Pressure Reducer sf<sub>6</sub>.
- 20 lit storage bottle.
- Digital weighing scales for sf<sub>6</sub> bottle (with option adjustable), 230 V / 50 Hz
- At least 8 m rubber hose high pressure sf<sub>6</sub> coupling tongue parts DN8 (Dilo) for connecting with circuit-breaker (or two rubber hoses, 4 m each connectable throw suitable coupling).
- Hose high pressure sf<sub>6</sub> for connecting the bottle with thread W 21.8 x 1/14"
- Power supply cable.
- Weight: until 250 Kg.
- The manual of operation and Maintenance instructions will be of CD-ROM in Greek language.