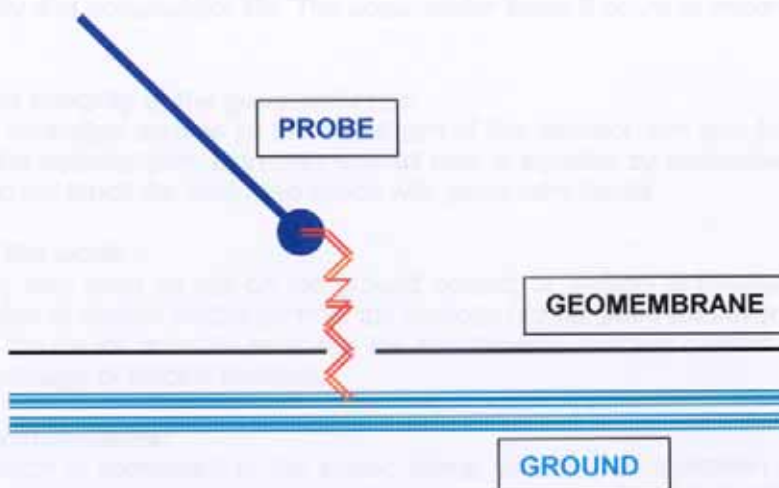


# The HVET insulation tester



## High Voltage Electromagnetic insulation Tester

The High Voltage Electromagnetic Tester (HVET) insulation tester is a portable insulation tester for geomembranes consisted of HDPE, PE, PVC and other similar materials. The Tester has been designed for operation in external environment with no fire hazard. In order to achieve the best results, it is necessary so that the insulation being tested can be easily accessible from one side, dry and unpolluted with dust. On contrary, the other part of the insulation should be sufficiently pressed down to the ground made of partially conductive material, e.g. concrete, brick, sand, gravel or clay.



The probe of the HVET tester moves on insulation surface and its test voltage causes electric beam in the insulation breakpoint to the distance of 25mm.

Beam size is mostly dependent on ground conductivity. The hole size in the insulation is not substantial and for the detector running it is sufficient to have air in the hole.

### Technical parameters:

Size of the detectable hole:	min. 0.1 mm
Detecting distance:	max. 25 mm
Detectable width:	max 900 mm
Power supply:	12 V DC
Taking:	max 1 A
Weight:	2,8 kg
Weight of the pack incl. the accumulator:	3,5 kg
Operable time with the accumulator 12V / 7Ah:	8 hours
Operating air temperature:	-10 to +60 °C
Operating air humidity:	max 90%

## Service:

### Beginning of the work:

Device is portable with self power supply from the accumulator. It consists of two parts – the test probe and the pack including the accumulator.

Before using, the detecting arm needed to be connected with the probe and fixed by a rotary screw. Width of the detecting arm should be chosen according to the range of checked surface. The pack includes the accumulator contains a feeding connector for the probe and the Cu wire which must be connected to the ground through a good conductive junction of resistance less than 50 ohm. When the device has been mechanically and electrically assembled, it is possible to connect the bag with accumulator.

Now the probe can be activated by pressing the control switch on the probe handle. Using a correct function, the probe creates well-marked electric discharge to ground contact or metal contact connected to the ground. Discharge intensity is changeable by the rotary regulator on the detecting arm. Setting influences discharge output intensity and accumulator life. The accumulator takes 8 hours at maximum performance in productive running.

### Control of the integrity of the geomembrane:

Move on the controlled surface by the metal part of the detector arm and follow electric discharge rising in surround of the detector arm. Moreover a small hole is signified by noticeable increase of discharge current or a spark. Do not touch the controlled space with yours bare hands.

### Finishing of the work:

The detecting arm must be put on the ground contact or ground at finishing of the work and for a safety remove remains of electric discharge from the detector (do not push the button on the handle).

Then turn off the device from the pack with the accumulator. Proceed carefully at device demounting as there could occur damage of electric contacts.

### Change of accumulators:

The accumulator is connected to the elastic clamp with colored indication – black, + red-black. Use just completely encapsulated accumulators without maintenance with output voltage of 12 VDC and capacity, minimum 6Ah. Accumulator life is about 3 to 5 years in accordance with using intensity. Accumulator capacity 6 Ah is sufficient for working within one period of running. Then the accumulator must be charged.

**Safety instruction:** Device generates high voltage electric signal till 50kV. Therefore, take care of your safety and follow work instructions with electric equipments. Use just electrically non-conducting shoes with non-conducting shoe sole of the thickness minimum 10 mm.

### IT'S FORBIDDEN:

**To touch metal parts of the detector arm at device operation or connection to the accumulator.**

**To use the device during or after raining on wet surfaces.**

**To eat, drink or smoke at device operation.**

**To use the device in the surroundings marked EX, or in the surroundings of cartridges with high combustible substances, such as: hydrogen, methane, propane, petrol, oil, ...**

**To use the device near by demollitions and explosive matters.**

**To use the device near by electric equipments sensitive to electric discharge.**

**To use the device near by animals.**

No.1



The case contains the device, the bag including the accumulator and the charger, the detecting arm with two components for extension, the alternate accumulator,

No.2



Plug the detecting arm in the lower device part and fix by the rotary screw

No.3



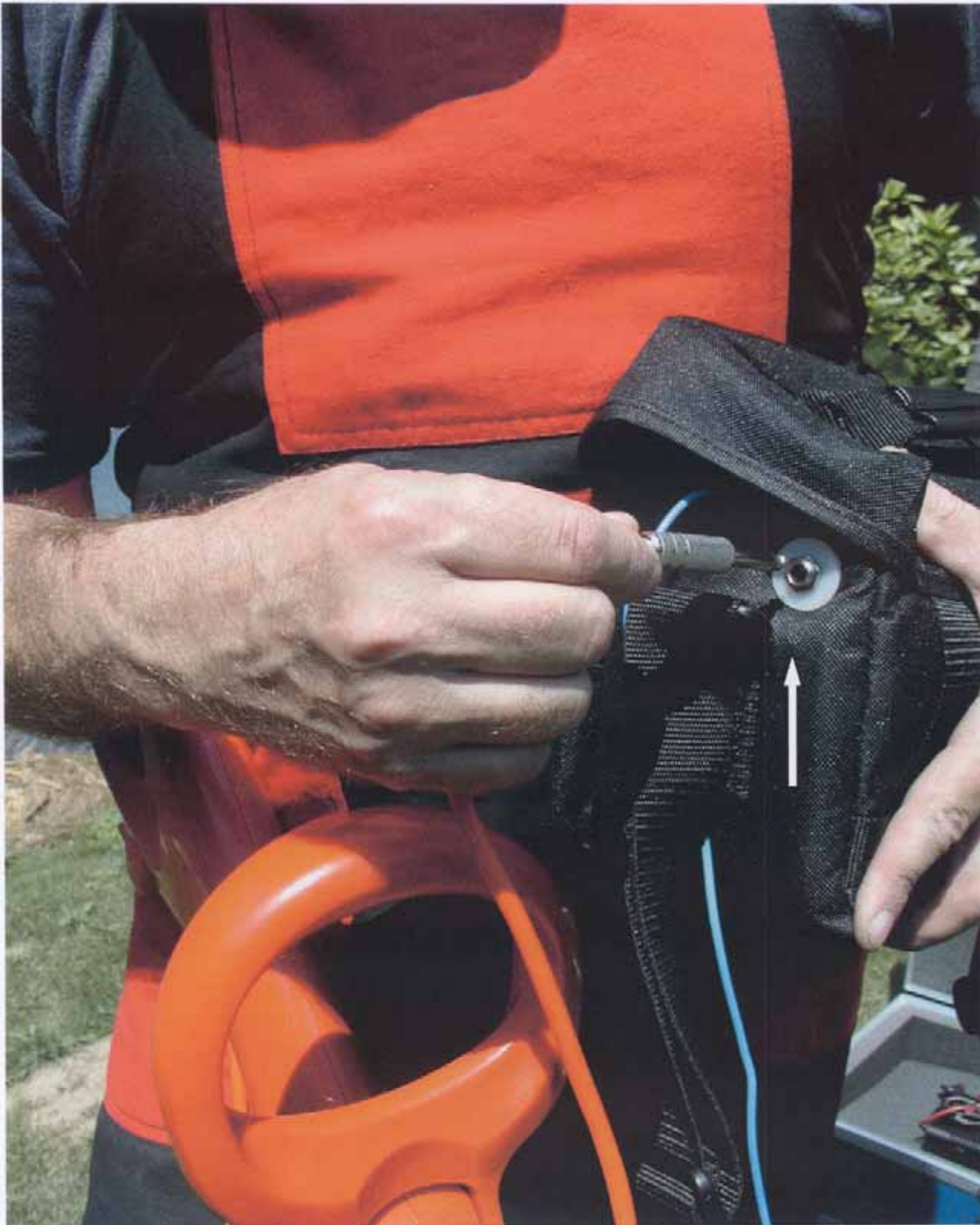
Width of the detecting arm should be chosen in accordance with controlled surface range

No.4



The pack incl. the accumulator consists of the blue earth wire which must be connected to the ground of resistance less than  $50\Omega$

No.5



The pack also contains a feeding connector for the probe

No. 7

No.6



The probe is operated by pressing the switch on the probe handle

No.7



Discharge intensity could be adjusted by the rotary regulator on the detecting arm

No.8



The probe has an extension arm where the length can be fixed by the wide plastic nut, see photo No.8 and 9

No.9



No.10



The probe contains a swinging holder whose position could be changed after pressing the side buttons

No. 11



A part of the probe for detecting arm location is tipping and locking in two positions after pressing the button, see photo No.11 and 12

No.12



### **Safety instructions at work**

The device generates high voltage electric signal till 50kV. Consequently, take care of your safety and follow work instructions with electric equipments. Use just electrically non-conducting shoes with non-conducting shoe sole of the thickness minimum 10 mm.

### **Warranty**

Atarfil, S.L. shall not be liable for any damages resulting from any malfunctions of this product or any other uses of this product.

### **Warning for electric shocks**

The product described in this manual generates electric shock hazard potential. Keep all warning instructions mentioned in this manual.