

2. Vallon Field Computer VFC2 (ruggedized PDA*)

Realtime display of the measuring graphs, storage and calculation of the survey data at site.

Connection of SEPOS® or GPS-Navigation possible. Data survey can also be made without navigation system, however, not as accurate.



*) Standard PDA with Vallon software. Type of PDA is subject to change.

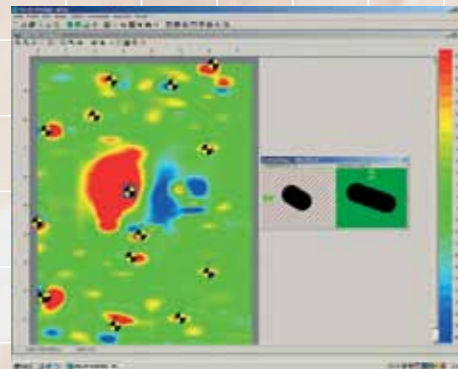
3. Standard PC (Laptop)

Software VALLON EVA2000® installed for realtime display of the measuring graph, storage and evaluation directly at site.

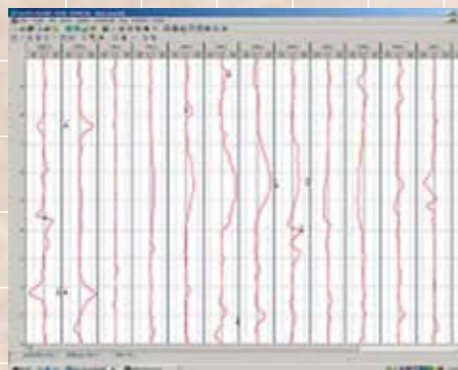


4. VALLON EVA2000®

The evaluation software VALLON EVA2000® allows the processing of the survey data. The magnetic in-



terferences are displayed as colour field map. Topographic maps can be inserted true-to-scale (bmp, jpg, dxf etc.). With DGPS the local coordinates in meters and the GPS-coordinates are used.



All common systems of coordinates can be displayed. All maps can be exported (dxf).

The automatic algorithm calculates all objects in a field at the touch of a button. Object position and object depth are indicated on the object list. Filter functions facilitate the evaluation.

Many import functions allow to process strange data formats as well.

Additional accessories

- Side handlebars when using DGPS
- Pad for carrying belt
- Rod for DGPS-antenna
- Rechargeable batteries
- Charging set
- External power supply

Technical Data

Measuring range: $x1 = \pm 2-2000 \text{ nT}$, $x10 = \pm 20-20000 \text{ nT}$
 Compensation range: $\pm 500 \text{ nT}$
 Power supply: 6 x 1.5 V round cells IECR14 Alkaline or 6 x 1.2 V Ni-MH-Batteries RSH 1.8
 Distance of sensors: 500 mm
 Diameter of sensor tube: 32 mm
 Sensitivity steps: 7
 Max. sensitivity: Ferromagnetic parts (steel) are detected according to their size and magnetic condition
 Battery life: approx. 60 h with Alkaline batteries without data logger
 Compliance to environmental conditions: according to MIL STD-810E 501.3, 502.3, 503.3, 506.3, 514.4
 Operation temp.: -31°C to $+63^\circ \text{C}$

Signal outputs:

1. Analog data output
0 to $\pm 6.1 \text{ V}$ for Field Computer VFC1
2. Digital output RS 232 for online data acquisition with Vallon data-loggers via cable or Bluetooth® technology
3. Headset

Inputs:

1. External battery power supply 9 Volts
2. SEPOS® navigation system

Weight of detector: approx. 4 kg (with batteries)
 Shipping weight with case: approx. 12 kg

Dimensions - case: 79 x 29 x 14 cm

NATO-Stock-Number 6695-12-375-6833

All technical data are subject to change without prior notice.
 Issue 01/2012

Ferrous Locator EL1302D2

Compact Difference Magnetometer for the location of unexploded ordnances in the ground

- Robust design
- High detection sensitivity
- Quick setting-up
- Ease of operation
- Lightweight
- Data output
- No sensor adjustment required

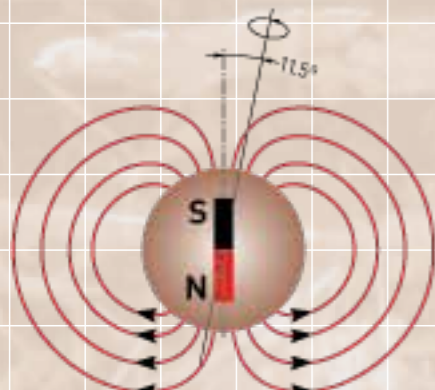


General

The Ferrous Locator EL1302D2 is a easily portable and robust instrument which is highly recommended for practical explosive ordnance disposal due to its light weight.

During conventional detection the measuring data are read off on the indication meter. By connecting a data logger the measuring data can be stored, displayed as graphs and evaluated subsequently.

Measuring Principle



Magnetic field of the earth

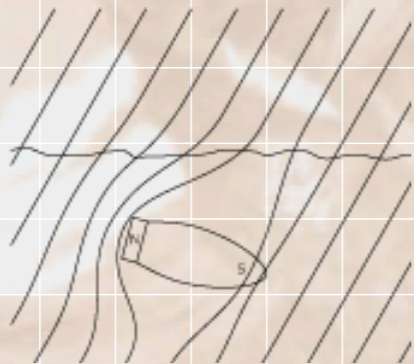
The magnetic field of the earth is homogeneous with regards to the field strength and the direction of the field strength. If a ferromagnetic object is brought into this homogeneous field, the own field of the object is superposing the local homogeneous magnetic field of the earth.

With increasing distance from the object the field distortion is decreasing.

The extent of the distortion depends on several factors. The most important ones are the size of the object to be detected and its permeability. The larger the object to be detected, the larger the detection distance.

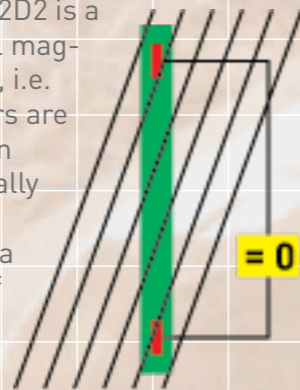
If the buried object is magnetized, i.e. it has an own magnetic field, the field lines are reacting according to the polarity of the object.

The north pole of the object displaces the field lines of the earth, whereby the south pole of the ob-



ject attracts the field lines. In general, the total disturbance of magnetized objects is larger than the disturbance of objects having no own field. But very rarely the total disturbance might even be smaller depending on the position of the object.

The EL1302D2 is a differential magnetometer, i.e. two sensors are arranged in geometrical true alignment with a distance of 500 mm and are connected in a way that they measure the value zero in a homogeneous field.



Each sensor passing a ferrous object is differently affected. The LEDs of the indication meter deflect to plus or minus depending on the position of the object.

The measuring accuracy is guaranteed over long time under normal field operation and all weather conditions.

Sensor adjustment is not necessary!

**) Field lines of the northern hemisphere*

Main Components

The EL1302D2 comes with a splash-watertight metal case housing the complete set:

- Electronics with batteries
- Control panel with Sensors
- Carrying belt
- Headset
- Operation Manual



The robust and easily accessible operating and indicating elements correspond to the standards of a ferrous locator used under all weather conditions:

- 7 steps sensitivity switch
- Volume control
- Integrated loudspeaker
- Headset socket
- TEST-key
- Compensation key
- Input for SEPOS®-Detector



The watertight electronics contains pluggable printed boards. The cable connection is integrated in the carrying bar.



- Data output analog and digital (RS232)
- Socket for external power supply
- Mode selector
- for linear indication in the measuring range x 1 or x 10
- Logarithmic indication in all sensitivity steps
- Battery check on load
- Data recording via: cable RS 232 or Bluetooth® technology

A separately sealed battery compartment for 6 round cells IEC R 14



is arranged in the rear of the electronics. Operation is also possible with rechargeable accumulators. The batteries are stored in such a position that they neutralize each other magnetically. The cover of

the battery compartment is protected against unintentional opening.



The The light woven glass fabric carrying bar with very low thermal conductivity offers ease of handling of the detector under all climate conditions.

An extremely rigid integrated plug-in connection connects both detector parts electrically and mechanically.



The Vallon Data Loggers can comfortably be fixed to this carrying bar as well.

Optional Accessories for Computeraided Detection

1. SEPOS®-Navigationssystem

For an exact calculation of the position and depth of objects with software VALLON EVA2000® the data acquisition must be as accurate as possible.

This includes also a constant survey speed which is very difficult in practise.

The result are wrong entries of the track length, wrong object depths and positions, that means increasing costs and risks for explosive ordnance disposal. But these disadvantages are things of the past if you use SEPOS®.

The SEPOS® navigation system consists of a SEPOS®-detector and SEPOS®-marks, which are integrated in the SEPOS®-rope in a distance of 100 cm. The SEPOS®-marks correct each 100 cm the walking speed, that means 1 correction per meter.

The SEPOS®-detector is fixed at the lower end of the sensor tube. Whilst walking along the tracks, the data acquisition is started automatically when the SEPOS®-detector passes the first SEPOS®-mark respectively is stopped at the last SEPOS®-mark.

Thus the track length is automatically determined, even if the operator has different walking speeds.

With normal walking speed 20 resp. 40 measuring points per second are recorded, this corresponds to a measuring point distance of approx. 5 resp. 2.5 cm.