



# FALKE

## User Manual

User manual for the FALKE device from VÖGEL, the latest device for detecting and distinguishing between different metals.





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## IMPORTANT NOTES

In the case of tampering with the device, the device will lose its security.



The device must be connected to the searching coil during operation



Do not store the device in a place with high temperatures and humidity.



The user strips himself of metal, such as rings watch, or a metal belt



- ❖ The user should practice on how to use the device before setting off for detection and search operations.
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## TECHNICAL SPECIFICATIONS

search for:	Searching for metals, gold and blanks.
searching system:	Very low frequency VLF system
Operator	mikrocontroller
Operating system	A system for measuring and processing levels of the electromagnetic field formed around the target and the receiver through the reception coil in the search coil, analyzing these results and showing them through sound alerts and color graphic indicators on the screen.
Sound alert	YES
Power	Three cells Li-ion 3.7 V, 3000 mA Power output 8.4 V
working hours	10 hours
Charger	12 volts 2 amps / charging time 2 hours
Display	5 inch color TFT screen.

Operating temperature:	From -15 °C to 60 °C
storage temperature:	From -15 °C to 40 °C
Humidity :	It can be stored and operated at an average air humidity of 5% to 75%.
weight:	8 Kg
Dimensions:	17 x 21 x 5 cm
Bag dimensions:	66x51x26 cm

## INTRODUCTION

FALKE is the best device of what was produced by the German company VÖGEL and the latest in metal detector technology. This device is characterized by different systems and multiple search options in order to reach the most accurate results in the search for targets. FALKE device through its unique search systems and various analysis algorithms saves the work of the prospectors and shortens the effort and time spent during difficult excavations. It is also characterized by advanced search settings that allow ignoring unwanted targets during the search, which facilitates the work of prospectors

FALKE device is equipped with four different search modes. Each system has its own unique features to show search results on screen through interactive graphical interfaces and alerts

- Graph Mode
- Treasures Mode
- Coins Mode
- Depth mode

The device allows the user to adjust the search settings to suit the search requirements  
Desensitization to iron

Increase or decrease the sensitivity in proportion to the electromagnetic nature of the soil  
Manual and automatic calibration

## WHY FALKE...?

Dear customer, we appreciate your trust in us and your acceptance of a new and unique experience in the world of metal detectors by owning one of our products.

The Falke device has a number of features and characteristics, including:

- The special design of the (DoubleD) search coil to avoid magnetic anomalies caused by metallic minerals.
- The ability to isolate mineral and rocky soils, ie canceling magnetic noise without affecting sensitivity, thus giving greater effectiveness and a more accurate allergic field during the research.
- Complete the search task without interruption due to the unique advantage in the number of continuous working hours, which  
Up to ten hours straight.

Fast Charging: The Falke takes only 2 hours to fully charge.

- High-resolution color interactive interfaces to give the search process a lively character.

## CONTENTS



Handel



Main Unit



search coil 33 cm

Designed according to standard standards to sense pieces of small sizes



Device Bag



search coil 45 cm

Designed according to standard parameters to give a wide sensitivity range



warranty card



User Manual



Charger



Hedphone

## ASSEMBLY

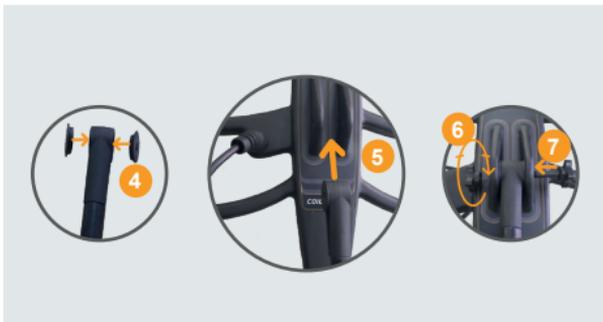


### HANDEL SETUP

- 1- We open the handle locks to calibrate the length of the handle.
- 2- Lengthening or shortening both arms of the carrying handle in proportion to the user.
- 3- When determining the appropriate length for each of the forearms, we close the locks to give them movement.

### CONNECT THE HANDEL WITH SEARCHING COIL

- 4- Putting rubber protection to prevent friction between the handle and the search disk.
- 5- Place the contact head of the handle in the place designated for it in the search coil.
- 6- Inserting the fixing shaft into the channel designated for fixing the handle to the search coil.
- 7- Turn the locking nut clockwise.



### CONNECT THE JACK WITH THE DEVICE

- 8- Align the coil plug and insert it into the socket on the side of the main unit.
- 9- Slightly tighten the retaining ring clockwise to secure the cable.



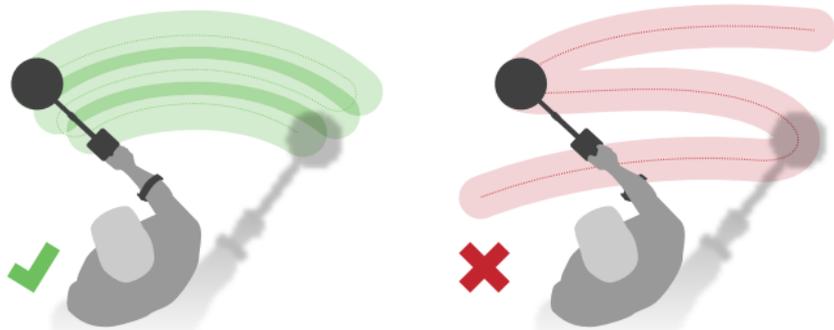
## MAIN UNIT



- 1 Power button ON/OFF
- 2 Move buttons
- 3 OK button
- 4 Back button
- 5 Hold button
- 6 Charger socket

- 7 Calibration button
- 8 Pinpoint button
- 9 TFT display
- 10 searching coil socket
- 11 Headphone socket
- 12 speaker

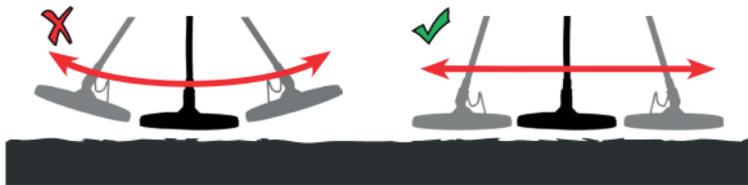
## GETTING STARTED



In order for the search to be complete and without leaving unchecked areas, it is not possible to move and move randomly, but by moving it from side to side, moving forward slowly at the end of each scanning movement. Overlap a little with the previous sweep to make sure the floor is completely covered. So that the average speed of a single scan movement is 2 to 3 seconds from right to left to right.



Wiping should be done by keeping the search coil parallel to the soil surface while avoiding excessive rubbing of the coil on the floor as shown in the figure.



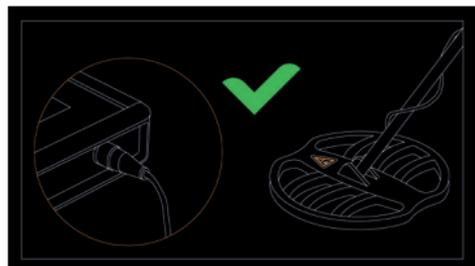
When moving the search coil during the search, the search coil must be kept perpendicular to the surface of the soil, as this will increase the depth of detection and improve the detector's response to small objects.

## MAIN UNIT SETUP AND START WORKING

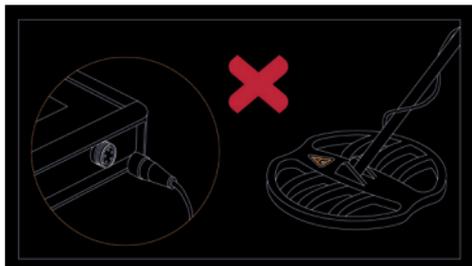


- ❖ Turn on the device by pressing the Power Button
- ❖ The boot screen will appear and then the interface of the connection mode with the search coil





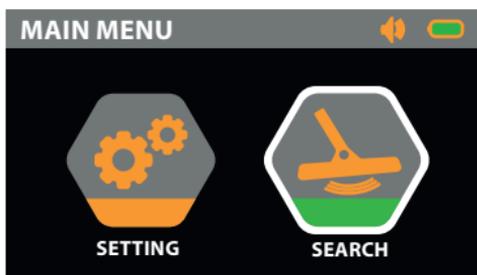
This status appears if the search coil is connected



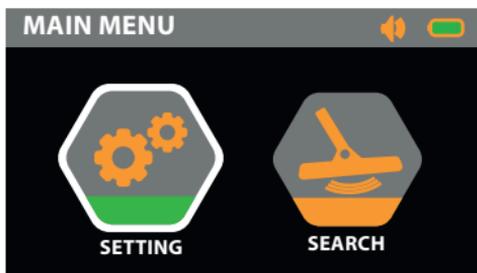
This condition appears if the search coil is not connected

- ❖ The main interface contains two icons. Search to enter the search and settings menu to adjust the device settings and an indicator of the battery charge level is present in all interfaces. Moving between icons is done by pressing the Move buttons. To confirm one of the two options, press the OK button

- ❖ When selecting the search icon

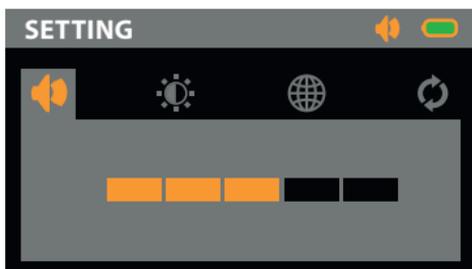


- ❖ When selecting the Setting icon

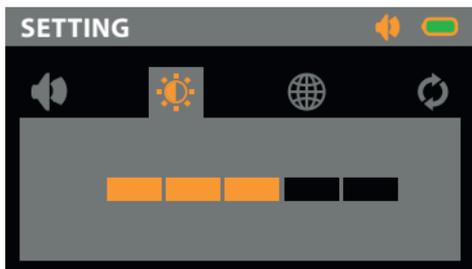


- ❖ When choosing the settings icon and pressing the enter button, we will see a settings interface that enables us to reset the device. It contains options for adjusting the brightness, sound, and language of the device, in addition to the possibility of restoring the device to factory settings

- ❖ volume setting: when selecting the volume icon, the volume is changed by pressing the Enter button. To change the volume according to eight levels, we press the increase and decrease buttons



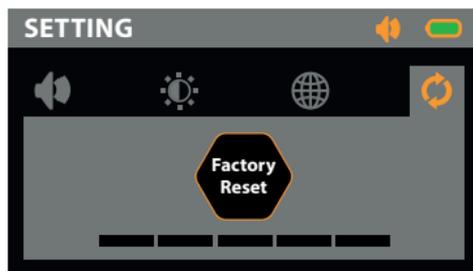
- ❖ brightness setting: When selecting the brightness icon, the screen brightness value is changed by pressing the OK button. The brightness value changes according to eight brightness levels from 10% to 100%. We press the increase and decrease buttons



- ❖ **Language setting:** When selecting the language icon to change the language, we press the enter button to go to the languages interface. The device has six languages: English, German, French, Arabic, Spanish and Russian. The transition between these languages is done through the navigation buttons, and to confirm one of the languages, we press the OK button



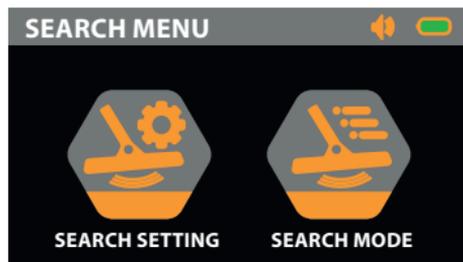
- ❖ **Factory reset:** When selecting the factory reset icon, factory settings can be restored by pressing the OK button



- ❖ To return to the settings interface, press the Back button

## SEARCHING SETUP

- ❖ When selecting the search icon and pressing the OK button, the search menu appears, which contains the search Mode and search settings

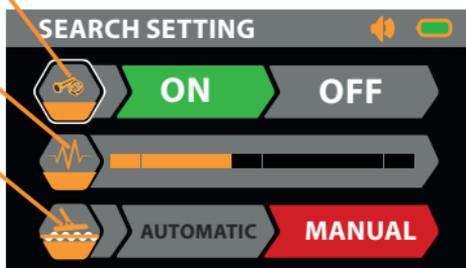


- ❖ Search settings: To adjust the search settings, there are three options
  - The option to cancel or activate the sensitivity to iron
  - The option to decrease or increase the sensitivity level within ten levels of sensitivity
  - Manual or automatic calibration optionThe transition between these options is done by pressing the scroll buttons, and to confirm one of the options, we press the confirmation button

Iron sensing or desensing

sensitivity adjusting

calibration modes



- ❖ To return to the search menu, press the Back button.

## CALIBRATION

Note: When operating the device, a soil calibration must be performed before starting work by pressing the Calibration button and following the instructions mentioned about calibration on page 16.



## AUTOMATIC CALIBRATION

### CALIBRATION SETTING



LIFT THE COIL 35 CM OFF THE GROUND AND PRESS ENTER

35 cm



When you press the automatic calibration option, the user will see an instruction interface asking him to raise the dial a distance of 35 cm from the surface of the earth and then press the OK button to ask him to lower the search coil to a height of 10 cm. We notice an increase in the percentage of the indicator with a beep at this height.

We press the OK button and the value will be zeroed and the beep disappears to ask the user to raise the disc to a height of 35 cm and press the enter button and decrease the disc to 10 cm we notice the alarm firing and the indicator value is repeated. The process of raising and lowering the disc is repeated with pressing the enter button each time until The indicator value at a height of 10 cm becomes zero and the alarm disappears.

### CALIBRATION SETTING



LIFT THE COIL 10 CM OFF THE GROUND AND PRESS ENTER

10 cm



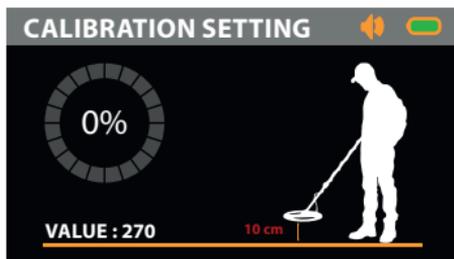
Then we press the Enter button to complete the calibration process, and the user is shown a message of completion of the calibration, in which the average calibration value appears, and the user is asked to press the OK button to start the search process.



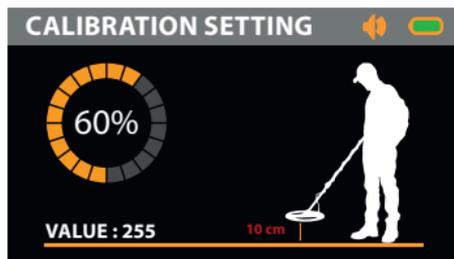
Note: If the calibration is not achieved, the user must repeat the previous steps.

## MANUAL CALIBRATION

When pressing the manual calibration option by pressing the move button and then confirming through the enter button, the manual calibration interface appears asking the user to raise the search coil from the ground surface by 10 cm and move it up and then return to a height of 10 cm with manually changing the calibration value by pressing the transition buttons, until the percentage becomes zero with repeated lifting from the ground and returning it to a height of 10 cm from the ground more than once, in order to obtain the magnetic harmonic of the soil surface, when we obtain the zero magnetic harmonic of the soil, we press the enter button to finish the calibration process And go to the search interface.



Zero magnetic harmonic

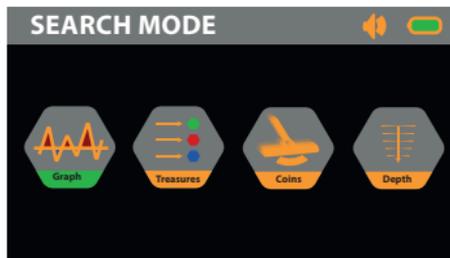


Non zero magnetic harmonic

## SEARCHING MODE



When entering the search interface, we press the move button (move) to detect the search mode icon then press the OK button to enter the search mode interface, which contains four different search modes.

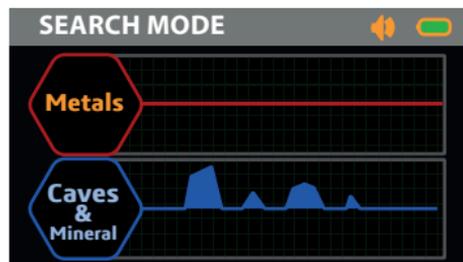


Note: The calibration process must be performed before starting the research process, by pressing Calibration button.

## GRAPH MODE

Entering the Chart Pattern is done by pressing the OK button to show the Graph mode interface.

The interface of the graph mode contains two graphs, the first showing the results of the showing of minerals in the search area, and the second showing the results of Minerals and caves.



If there are caves and voids



If there is metal

Note: You can pause and restart the search process by pressing the Hold button.

Note: Calibration can be performed by pressing the Calibration button to go to the search settings interface, allowing the user to choose the expression pattern (manual - automatic) by pressing the navigation buttons and the OK button to choose one of the two patterns and follow the instructions on the screen.

Note: The user has to press the enter button periodically to re-initialize the signal during the search to cancel the effect of transient signals.

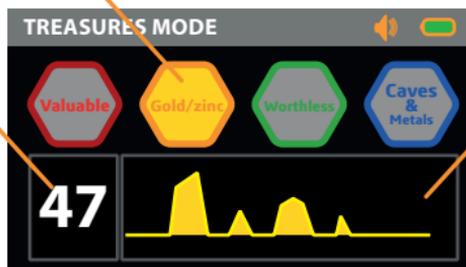
## TREASURES MODE

When selecting the treasure search mode, we press the OK button to show the treasures mode interface, which contains a chart for the graphic analysis of the search process in addition to the list of targets that the device can detect.

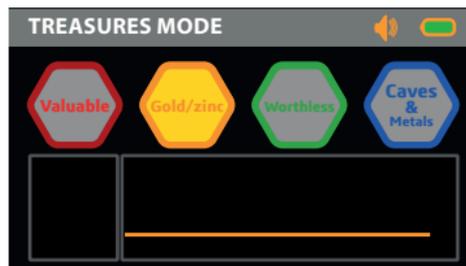
The device, through the treasure search pattern, directly analyzes the soil under the search coil to distinguish the type of target, if it is present, through a graph to show the intensity of the signal, thus the depth of the target. It also performs color discrimination between the different targets if found during the search process. In the event that a target appears during the search process, the icon corresponding to the target type is selected from the list of targets on the interface, and the graph signal is also shown with the same color match. In the graph, the signal intensity gradually increases as the target depth approaches the search coil.

Illumination of the icon of the target that was found

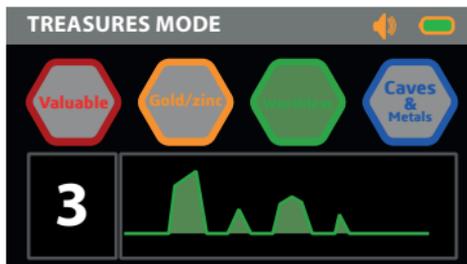
Signal intensity



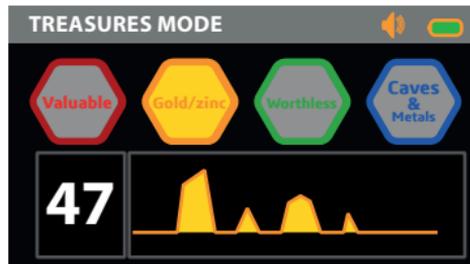
Note: The search process can be paused and restarted by pressing the Hold button.



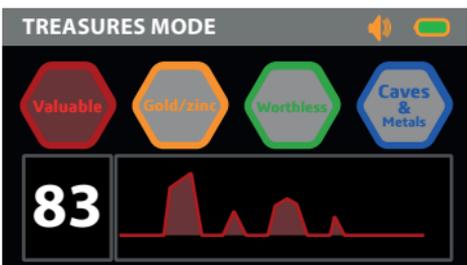
In case no target



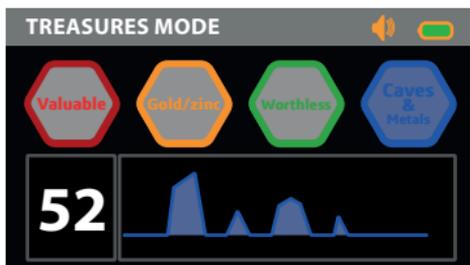
Signals in case non-precious metals.



Signal form in case of gold/zinc.



Signals in case precious metals.



Signal form in the event of caves and minerals.

Note: When a group of oxidized metals aggregate to form a single mass under the soil, it behaves like zinc and valuable minerals.

Note: Calibration can be performed by pressing the Calibration button to go to the search settings interface, allowing the user to choose the calibration mode (manual - automatic) by pressing the move buttons and the OK button to choose one of the two modes and follow the instructions on the screen.

## COINS MODE

When selecting the coin search pattern, we press the OK button to display the coins pattern interface, which contains a list of targets that the device can detect. When there is a target, the area around the icon of the detected target is illuminated, indicating the intensity of the signal, and thus the depth of the target from the search coil.



In the case of a valuable target The magnetic force caused by the target



In case no target



The case of gold/zinc



In the case of a non valuable target

## ACCURATE IDENTIFICATION

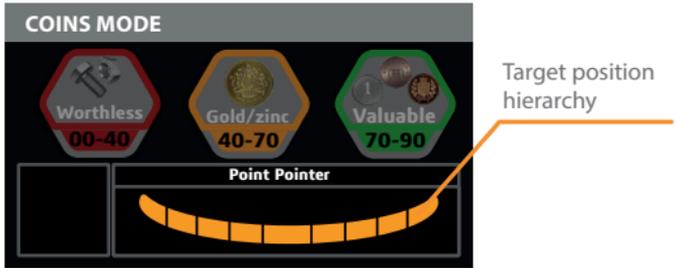


In this type of search, the user can activate the pointer option, which expresses the position of the target in relation to the disk, by pressing the Pinpoint button. When enabled, the discrimination pattern is temporarily disabled so that the device detects all targets. If the target is below the middle of the disc, the signal is maximum in the search area and decreases towards the edge of the disc.

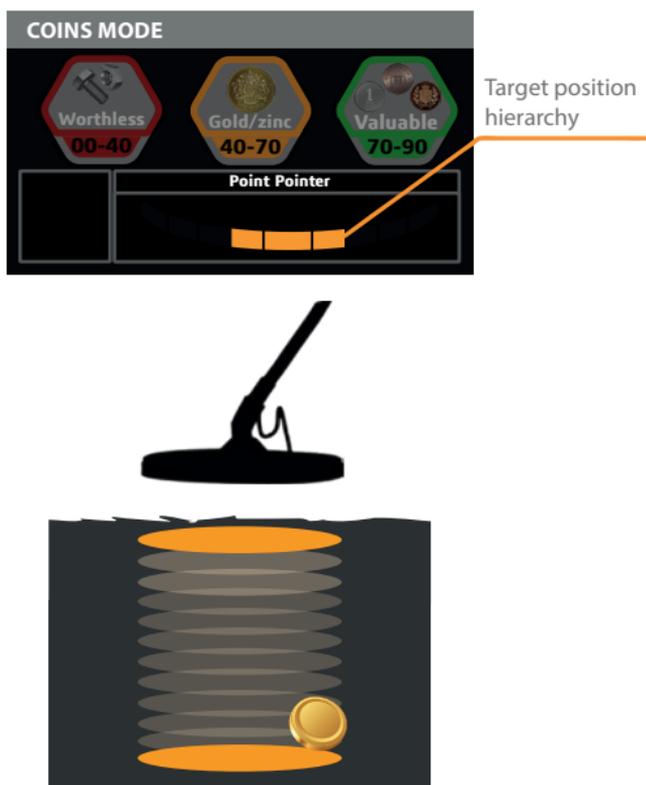


Pinpoint mode also turns off motion detection, so that an alert if a target is detected can be heard even if the coil is stationary. Pinpoint mode covers the target's response by reducing sensitivity with each scanning movement, so the target's response remains from a very narrow area. This helps determine the exact location of the target. In pinpoint mode, target response refers to the signal strength of the target located directly below the coil. The voice response of the precise positioning through indicators on the screen and the frequency of the alarm tone to help you determine the location and depth of the target.

When the target is under the search coil in the middle



The target is under the search coil on the tip.



To deactivate the pointer, press the Pinpoint button.

In this mode, the user can desensitize any of the targets in the list by pressing the transition buttons to show an X in green on the icon of the desired target. Objectives. To remove the cancellation, press the OK button again.

The following figure shows the process of selecting a target to desensitize to it.

Determine the unwanted target



The following figure shows the process of confirming the selection of a target to desensitize it.

Desensitization to this target



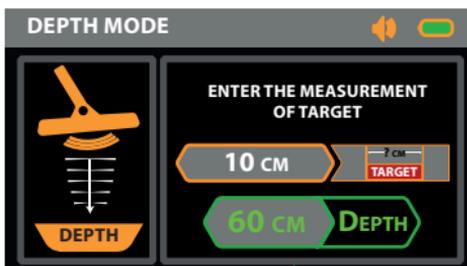
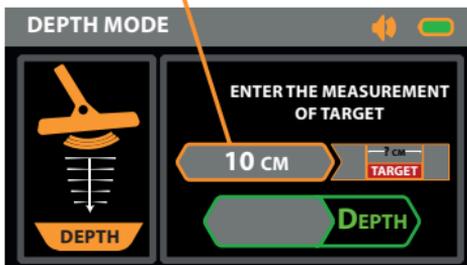
Note: The search can be paused and resumed by pressing the Hold button.

## DEPTH MODE



This mode depends on the latest analysis and processing algorithms for the data generated during the search process to determine the depth of the target discovered through the search using one of the previous search modes. When a target is detected, we have to measure the dimensions of the target by defining the starting point and the endpoint. Then go to the depth mode, by detect on the depth mode icon and then press the enter button to show the depth mode interface, which asks the user to enter the length of the approximate distance by pressing the move buttons to increase or decrease the value by 10 cm and then press the enter button to show the expected depth value for the detected target.

Change the value of the target distance length



Show the expected value of target's depth.

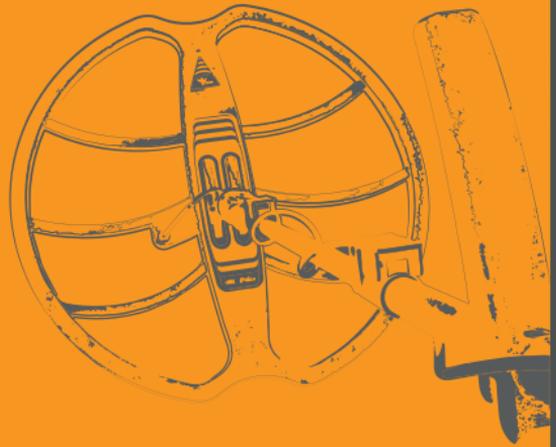
## CHARGING

It is preferable to turn off the device during the charging process. The total charging process takes two hours.

When the charging process is finished, the color of the LED on the charger will change from red to blue.

## NOTES

- 1- The user must connect the search coil to the device before turning it on.
- 2- When an unused button is pressed in one of the search modes, a different beep sounds.
- 3- The device must be turned off during the charging process.
- 4- Use the charger that came with the device.
- 5- The small search coil is used to detect relatively small targets, and the large search coil is used to detect relatively large targets.
- 6- Not to tamper with the device or any of its components so that the device does not lose its warranty.



**VÖGEL**



[info@vogeldetectors.com](mailto:info@vogeldetectors.com)

[www.vogeldetectors.com](http://www.vogeldetectors.com)