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**VIHELM MD4030**

# VIHELM MD4030 Metal Detector User Manual

Model: MD4030

## 1. Introduction

Thank you for choosing the VIHELM MD4030 Metal Detector. This device is designed for detecting various metals underground, including iron, gold, silver, and coins. It features adjustable sensitivity, discrimination modes, and an ergonomic design for comfortable use. Please read this manual thoroughly before operating the detector to ensure proper assembly, operation, and maintenance.

## 2. Safety Information

- Do not operate the metal detector near power lines or electrical cables.
- Avoid using the detector in areas with known unexploded ordnance or hazardous materials.
- Always obtain permission before searching on private property.
- Protect the control housing from moisture and extreme temperatures. The search coil is waterproof, but the control housing is not.
- Dispose of batteries responsibly according to local regulations.
- Keep the device out of reach of children.

## 3. Package Contents

Upon unpacking, please verify that all components are present:

- Control Housing with View Meter
- Adjustable Stem (Upper and Lower)
- Waterproof Search Coil
- Arm Rest
- Knob Threaded Bolt and Locking Collar
- User Manual

## 4. Product Overview

Familiarize yourself with the main components of your MD4030 Metal Detector:

MD4030
Color: Black
Material: ABS Plastic + Aluminum
Sensitivity: Min. 130mm / 5.12" (Test Coin: US Φ 25)
Detect Objects: Metal(Iron nail, iron covering, aluminum ring, small aluminum product, coins, gold, bronze, silver)
Detection Mode: All Metal, Discrimination
Operating Frequency: 5KHZ
Power Supply: 2 x 6F22 9V Batteries (Not Included)
Operating Current: Standby 10mA(LCD with backlit color 80mA)
Max 70mA(LCD with backlit color 150mA)
Operating Voltage Range: 9V
Detection Indication: Mechanical Pointer Mode, Audio Mode
Control: Power Switch
Sensitivity: Adjustable
Detection Depth: 10-30cm / 3.94-11.81inch
Volume: Adjustable
Adjustable Height of Detector: 78-107cm / 30.71-42.12inch
Application: Testing metal foreign body of raw materials, fuel and food, Detection of underground pipeline & line, Archaeology, Exploration, Found buried treasures of gold, silver and metal artifacts, The acquisition of scrap metal industry, Customs and safety inspection, Police department detective search, Detection of interpol search, Checking metal foreign bodies in express delivery and luggage.
Operating Temperature: -15~45℃ / 5~113℉
Storage Temperature: -20~60℃ / -4~140℉
Item Size: 107 * 27 * 16.5cm / 42.12 * 10.63 * 6.50in
Item Weight: 862g / 1.90 lb
Package Size: 54 * 22 * 11cm / 21.26 * 8.66 * 4.33in
Package Weight: 1.28kg / 2.83 lb

Image 1: Overview of the MD4030 Metal Detector with key components labeled, including the waterproof search coil, adjustable stem, anti-slip handle, arm rests, view meter, discrimination knob, volume knob, low battery alert, sensitivity knob, and earphone jack.




Image 2: Close-up view of the control panel, showing the DISC (Discrimination) knob, VOLUME knob, LOW BAT (Low Battery) indicator, EAR (Earphone) jack, POWER OFF knob, SENS (Sensitivity) knob, and the Target Indicator display.

## Key Components:

- **Waterproof Search Coil:** Detects metal objects. Can be submerged in shallow water.
- **Adjustable Stem:** Allows for length adjustment to suit user height.
- **Control Housing:** Contains the electronics, display, and control knobs.
- **View Meter:** Indicates the presence and relative strength of detected metal.
- **DISC (Discrimination) Knob:** Used to differentiate between metal types and eliminate unwanted targets.
- **SENS (Sensitivity) Knob:** Adjusts the detector's sensitivity to metal objects.
- **VOLUME Knob:** Controls the audio output level.

- **Low Battery Alert:** Indicator light for low battery power.
- **Earphone Jack:** For connecting headphones (not included) for private listening.

## 5. Setup

### 5.1 Assembly

Follow these steps to assemble your metal detector:

1. Attach the search coil to the lower stem using the provided knob threaded bolt and locking collar. Ensure it is secure but allows for slight angle adjustment.
2. Insert the lower stem into the upper stem.
3. Slide the control housing onto the upper stem and secure it.
4. Attach the arm rest to the control housing.
5. Wrap the search coil cable around the stem, ensuring it is not too tight, and plug the connector into the control housing's designated port.




Image 3: Diagram showing the individual components of the metal detector, including the search coil, lower stem, upper stem, control house, view meter, arm cuff, locking collar, and knob threaded bolt, illustrating how they fit together during assembly.

### 5.2 Battery Installation

The MD4030 requires two (2) 9V 6F22 batteries (not included).

1. Locate the battery compartment on the control housing.
2. Open the battery compartment cover.
3. Insert two 9V batteries, ensuring correct polarity (+/-).
4. Close the battery compartment cover securely.

## 6. Operating Instructions

## 6.1 Power On/Off

To turn on the detector, rotate the POWER OFF knob clockwise. To turn off, rotate it counter-clockwise until it clicks.

## 6.2 Adjustable Height

The detector's stem can be adjusted from 78cm (30.71 inches) to 107cm (42.12 inches) to accommodate different user heights. Loosen the locking collar on the stem, adjust to the desired length, and then tighten the collar.




Image 4: Illustration demonstrating the adjustable length feature of the metal detector's rod, allowing users to customize its height for comfortable operation.

## 6.3 Detection Modes

The MD4030 offers two primary detection modes controlled by the DISC knob:

- **ALL METAL Mode:** (DISC knob turned fully counter-clockwise) In this mode, the detector will respond to all types of metal objects. This is ideal for general treasure hunting when you want to find any metal.

- **DISC (Discrimination) Mode:** (DISC knob rotated clockwise) This mode allows you to eliminate certain types of unwanted metals, such as iron, from detection. As you turn the knob clockwise, the detector will progressively ignore smaller iron objects, then larger iron objects, and eventually some non-ferrous junk.




Image 5: Visual comparison of the two operating modes: 'All Metal' mode detects all metal types (keys, coins, cans, bottle caps, gold, silver), while 'Discrimination' mode allows the user to filter out unwanted metals like iron cans and bottle caps, indicated by red 'X' marks.

## 6.4 Sensitivity Adjustment (SENS)

The SENS knob controls the detector's sensitivity. Turn it clockwise to increase sensitivity for deeper detection or smaller objects. Turn it counter-clockwise to decrease sensitivity, which can help reduce false signals in highly mineralized ground or areas with a lot of metallic trash.

## 6.5 Volume Adjustment (VOLUME)

The VOLUME knob adjusts the loudness of the audio signal. Adjust to a comfortable level. Using earphones (connected to the EAR jack) can help hear faint signals and conserve battery life.

## 6.6 Target Indication

When a metal object is detected, the detector provides two forms of indication:

- **Mechanical Pointer Mode:** The needle on the view meter will swing to the right. The farther the pointer swings, the closer or larger the target is.
- **Audio Mode:** An audible tone will be emitted. The pitch and intensity of the tone may vary depending on the target's size, depth, and metal type.



Image 6: Diagram illustrating the 'Easy Operation' of the MD4030, highlighting the Target Indicator. The pointer swings to the right when metal is found, with a greater swing indicating a closer target.

### 6.7 Detection Depth

The MD4030 can detect objects at a depth of approximately 10-30cm (3.94-11.81 inches), with a maximum detection depth of 5.12 inches for a US Φ 25 coin. Actual depth may vary based on target size, ground mineralization, and sensitivity settings.




Image 7: Illustration showing the detection depth capability of the MD4030, indicating a maximum detection depth of 5.12 inches for various metal objects like keys, coins, and cans, with the meter pointer shaking upon detection.

## 7. Maintenance

- **Cleaning:** Wipe the detector with a damp cloth after each use. Do not use abrasive cleaners or solvents.
- **Storage:** Store the detector in a dry, cool place when not in use. Remove batteries if storing for extended periods to prevent leakage.
- **Battery Care:** Replace batteries when the Low Battery Alert illuminates. Always use fresh, high-quality 9V batteries.
- **Cable Care:** Ensure the search coil cable is not pinched or damaged during use or storage.

## 8. Troubleshooting

- **No Power:** Check if batteries are correctly installed and fully charged. Ensure the POWER OFF knob is turned clockwise.
- **No Sound/Weak Sound:** Check volume setting. Ensure earphones are properly plugged in if used. Check battery level.
- **False Signals/Chattering:** Reduce sensitivity (SENS knob). Move away from electrical interference (power lines, other electronic devices). Ensure the search coil cable is wrapped snugly around the stem.
- **Detector Not Finding Metal:** Ensure the detector is in ALL METAL mode or DISC mode is not set too high. Check sensitivity setting. Ensure the search coil is parallel to the ground and swept correctly.
- **Pointer Not Moving:** Check battery level. Ensure the search coil cable is securely connected.

## 9. Specifications

| | |
|---|---|
| **Model** | MD4030 |
| **Color** | BLACK |
| **Material** | ABS Plastic + Aluminum |
| **Sensitivity** | Min. 130mm / 5.12" (Test Coin: US Φ 25) |
| **Detect Objects** | Iron, nail, ring, aluminum, coins, gold, silver |
| **Detection Mode** | All Metal, Discrimination |
| **Operating Frequency** | 5KHz |
| **Power Supply** | 2 x 6F22 9V Batteries (Not Included) |
| **Operating Current** | Standby 10mA (LCD with backlit color 80mA), Max 70mA (LCD with backlit color 150mA) |
| **Operating Voltage Range** | 9V |
| **Detection Indication** | Mechanical Pointer Mode, Audio Mode |
| **Control** | Power Switch, Sensitivity, Adjustable Volume |
| **Detection Depth** | 10-30cm / 3.94-11.81inch |
| **Adjustable Height of Detector** | 78-107cm / 30.71-42.12inch |
| **Operating Temperature** | -15-45°C / 5-113°F |

| | |
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| **Storage Temperature** | -20-60°C / -4-140°F |
| **Item Size** | 107 * 27 * 16.5cm / 42.12 * 10.63 * 6.50in |
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## 10. Warranty and Support

VIHELM products are manufactured to high-quality standards. For warranty information, technical support, or service inquiries, please contact your retailer or visit the official VIHELM website. Please retain your proof of purchase for warranty claims.

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