USER GUIDE

HYDROBALL®

NB-IoT (HB01N) / LoRaWAN (HB01L)

DENODL®
TECH FOR EASIER LIFE

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TECHNICAL SPECIFICATIONS

Product: HYDROBALL®

Generation: 1

Available models:

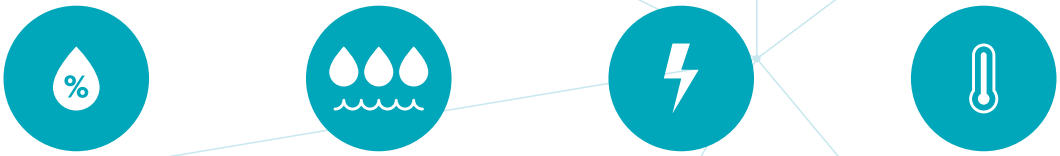
Our **HYDROBALL®** is available in two alternative models, depending on the type of connectivity used for wireless data transmission.

- **NB-IoT model (HB01N):** ideal for urban or agricultural environments with NB-IoT network coverage.
- **LoRaWAN model (HB01L):** designed for environments without NB-IoT network coverage.

Device description:

HYDROBALL® is a fully autonomous soil probe, designed to accurately measure the main parameters that define soil water conditions. Its use enables data-driven decision-making, optimising resource use, improving irrigation efficiency, and contributing to higher crop quality and productivity. Its spherical design eliminates edges, ensuring uniform contact with the soil and optimal integration into the soil profile.

HYDROBALL® continuously measures the following parameters:



Volumetric water content (%) | Water potential (kPa) | Apparent electrical conductivity (dS/m) | Soil temperature (°C)

Depending on the model (HB01N or HB01L), the device transmits data to the cloud using different communication technologies. The HB01N model uses NB-IoT, connecting directly to the cellular network via an integrated SIM card provided by the manufacturer, enabling autonomous communication without the need for additional infrastructure such as external antennas or repeaters. *(Please consult your distributor for information on coverage availability in your area).*

Meanwhile, **the HB01L model employs LoRaWAN® technology, which requires a gateway device to collect the data and transmit it to the cloud.** Both options ensure efficient, low-power connectivity, adapting to different operational environments and coverage levels. **The choice between the two communication models will depend on the NB-IoT coverage available at the installation site.**

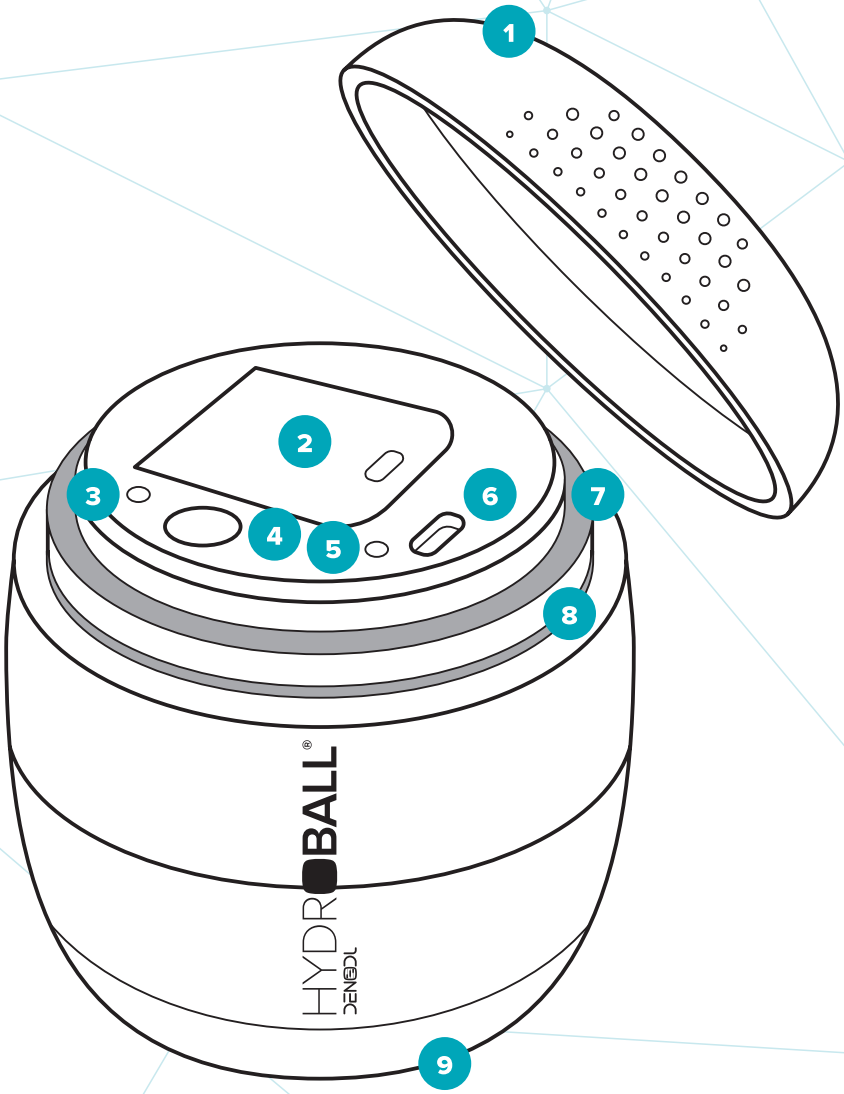
HYDROBALL® is an autonomous, robust, and highly durable device, designed to operate without the need for data loggers, external power sources, or additional infrastructure. It integrates all the components required for measurement, power supply, and data communication into a single device, simplifying installation and commissioning in any environment while also minimising maintenance requirements.

The probe should be installed at the depth corresponding to the crop's root system. It operates with standard AA batteries, with a minimum estimated battery life of 2 years for the NB-IoT model and 3 years for the LoRaWAN model, depending on the measurement and data transmission frequency settings. These minimum durations are calculated based on measurements every 15 minutes with energy-saving mode enabled (minimum adaptive mode). Battery life will be longer if the transmission frequency is reduced.

Data recorded by HYDROBALL® is automatically transmitted to the cloud, where it is processed and made available to the user through DENODL® App, a digital platform for agronomic data management. Available in both web and mobile versions, **DENODL® App** allows real-time data visualisation, access to historical data, configuration of alerts, and comparison of metrics across different sensors or monitored zones. Its interface facilitates technically informed decision-making based on objective data in a simple and user-friendly way.

Interface:

1. Screw cap
2. Battery compartment cover
3. User LED
4. Button
5. Control LED
6. USB-C port
7. Flat gasket
8. O-ring
9. Ceramic



(USB-C Port exclusively for technical maintenance and diagnostics by the manufacturer).

Uses:

The main applications of the probe are found in the following sectors:

- **Sports turf:** golf courses and football pitches, tennis courts, natural grass surfaces in sports facilities.
- **Agricultural sector:** cereals, legumes, oilseeds, vegetables (greenhouse, hydroponics, traditional methods), fruit trees (orange, almond, avocado), roots and tubers (potatoes, beetroot) and pastures.
- **Green spaces in urban environments:** municipal parks and gardens, street trees, landscaped green areas, seasonal flowers, planters, grass surfaces in public areas.
- **Private gardens:** gardens in hotels, hospitals, schools, residential developments, domestic gardens, university campuses or other private estates.
- **Composting:** compost heaps and tunnels, organic waste treatment plants, sludge processing, moisture and temperature control in maturation processes.

Main features:

- **Autonomous device:** does not require a data logger or external power source.
- **Models according to communication protocol:**
  - **HYDROBALL® NB-IoT (HB01N):** transmits data directly via an **integrated SIM card** provided by the manufacturer.
  - **HYDROBALL® LoRaWAN (HB01L):** transmits data through an **external LoRaWAN network via an easily installed gateway**.
- **Installation:** should be buried **at the depth of the crop's root system.**
  See the "Probe installation" section for details on burial technique and device orientation.
- **Power supply and battery life:** **approximately 2 years for the NB-IoT version and 3 years for the LoRaWAN version,** depending on the configuration *(see "Power supply and consumption" section).*
- **Parameters measured by a single device:**
  - **Volumetric water content (%): quantifies the fraction of water present in the soil relative to the total soil volume; a key parameter for adjusting irrigation volumes.**
  - **Water Potential (kPa): indicates the effort a plant must exert to extract water from the soil; used to define specific irrigation thresholds according to soil texture.**
  - **Apparent Electrical Conductivity (dS/m): provides an estimate of soil salinity and helps prevent salt stress and nutrient lock-up.**
  - **Soil temperature (°C): monitors root activity and the kinetics of water and nutrient uptake, and provides information for the correct application of certain treatments.**

- **Derived indicators in DENODL® App:**
  - **Soil characteristic curve and soil texture estimation: based on the real-time relationship between volumetric water content and soil water potential, the platform generates the soil characteristic curve, also called the soil moisture retention curve, and uses its parameters to estimate soil texture. This information helps to estimate field capacity and permanent wilting point, and defines specific irrigation thresholds for each soil type.**
  - **Accumulated degree days: also known as thermal integral; a metric used to predict crop and pest development based on the accumulation of effective heat from temperature.**
- **Compatibility and integration:** access to data via REST API for incorporation into external or third-party platforms.
- **Resistance and durability:** sealed housing (IP68), no moving parts, resistant to immersion, dust and high temperatures.
- **Minimal maintenance:** "plug and play" installation. Only maintenance required: replacement of batteries at the end of their service life and potential replacement of the ceramic tensiometer, which can be easily replaced by the user using a spare part.

Technical data sheet:

Dimensions	85 x 85 x 80 mm (width x length x height)
Weight without batteries	450 g
Weight with batteries	526 g
Finish	Matt black
Materials	PBT/PET + fibre POM TPE PC Polyurethane resin Ceramic material
Tolerances and quality standards	Designed and manufactured in the EU Water and dust resistant (IP68) Resistant to temperatures up to 50°C Maximum operating altitude: 2,000 metres CE marking

COMMUNICATION PROTOCOL

HYDROBALL® is available in two versions, distinguished by the technology used for data transmission:

- **HYDROBALL® NB-IoT (HB01N)**
- **HYDROBALL® LoRaWAN (HB01L)**

Both models measure the same parameters and have identical physical and operational functionality, but differ in the way they transmit data from the probe to the cloud. The choice between the two models will depend on the coverage available at the installation site.

NB-IoT (Narrowband Internet of Things):

The HB01N model uses the NB-IoT communication protocol, a cellular network technology specifically designed for IoT devices. **This protocol allows data to be transmitted via the mobile network infrastructure** without the need for gateways or other intermediate devices.

The probe includes an integrated SIM card provided by the manufacturer, enabling direct connection to the NB-IoT operator network available in the area. **This type of communication is particularly suitable for urban, agricultural, or sports environments with good NB-IoT coverage.**

During initial power-up, the device may take up to 5 minutes to register with the operator network for the first time. The probe should be left idle during this period. A continuous double flash of the user LED indicates that the probe is searching for the operator network.

LoRaWAN (Long Range Wide Area Network):

The HB01L model uses LoRaWAN technology, a long-range, low-power wireless communication protocol. Unlike the NB-IoT model, **this system requires the presence of a nearby LoRaWAN gateway** to act as a bridge between the probe and the cloud server. The effective range of the base station with the gateway and antenna can reach up to 1 km, depending on terrain and line of sight between the antenna and the probe.

The probe periodically transmits data to the gateway, which then forwards it to the central management system (the DENODL® servers) via the Internet. This model is **suitable for rural areas or installations without NB-IoT coverage**, where a LoRaWAN infrastructure can be deployed.

Coverage verification:

Before selecting a probe model, it is necessary to check NB-IoT coverage availability in the installation area. To do this, it is advisable to consult with the distributor, who will be able to review the NB-IoT coverage map of the network operator, analyse the distance from the installation site to nearby antennas, and assess any elements that could cause interference. They will also consider installation depth, soil type, crop type, and planting layout. **If the analysis results are positive, a final step is to perform an on-site coverage test with an NB-IoT device.**

OPERATING INFORMATION

Operating conditions:

The operating temperature range is between -15°C and 50°C.
Using the appropriate batteries, the probe can operate at high temperatures (for example, in composting).
(The batteries supplied with the device are not suitable for use at such temperatures).

Store in a dry environment at temperatures between -15°C and 50°C.

The probe is designed to operate in contact with soil and dust, and in humid environments and saturated soils.

Power supply and consumption:

The probe is powered by 4 x 1.5V AA batteries.
Power consumption in standby mode: 5µA.
Battery life: approximately 2 years for the NB-IoT model and 3 years for the LoRaWAN model, depending on measurement frequency, data transmission settings, and connectivity conditions at the installation site. These durations are based on measurements every 15 minutes with energy-saving mode enabled (minimum adaptive mode). Battery life will be longer if the transmission frequency is reduced. **High-quality alkaline or lithium batteries** are recommended for maximum durability. Rechargeable batteries may also be used, although their operational life is considerably shorter.

Measurements:

Measurement range and maximum error in the measurement of **volumetric water content:**	0% to 70%, +/- 3%
Measurement range and maximum error in the measurement of **water potential:**	0 kPa to 150 kPa, +/- 2 kPa
Measurement range and maximum error in the measurement of **apparent electrical conductivity:**	0 dS/m to 6 dS/m, +/- 0.2 dS/m
Measurement range and maximum error in the measurement of **soil temperature:**	-40°C to +100°C, +/- 1°C

SAFETY INFORMATION

⚠ Do not disassemble or modify the device; any unauthorised intervention will void the warranty.
All repairs must be carried out by authorised technical personnel.

⚠ The USB-C port is reserved for advanced configurations carried out by authorised personnel from **DENODL®**.
Do not use without express instruction.

⚠ Transport the device in its original packaging. Avoid impacts, drops, and severe vibrations.

⚠ Handle the device with care.
Do not insert objects into its openings or press or apply pressure to the probe body with tools.

⚠ Keep the device away from excessive heat sources and flammable materials.

⚠ Use only the recommended accessories and power sources.
Do not connect cables that could cause overloads or misconfiguration of the device.

⚠ Use the probe within the temperature range specified in the technical data sheet.

♻ Dispose of the device and used batteries in accordance with local electronic and battery waste regulations.
Take both to an authorised recycling centre.

For queries or assistance, contact your distributor or the **DENODL® Technical Support Service**.

WARRANTY

Thank you for purchasing your HYDROBALL®probe.

It has been designed to operate in demanding conditions. However, to ensure correct functioning, it is essential to respect the operating and storage conditions. In addition to these conditions, it is important to follow certain recommendations to prevent damage or malfunction of the device.

You can consult these and other instructions in the user guide or at:
welcome.denodl.com/hydroball *(QR code access shown in the section: Contact and Technical Support Service).*

Warranty coverage:

HYDROBALL® comes with a two (2) year warranty from the date of purchase, which covers internal faults attributable to manufacturing defects or device malfunctions.

Warranty exclusions:

The warranty DOES NOT cover the following cases:

- **Damage caused by improper use, knocks, or external physical impacts.**
- **Cracks or breaks in the ceramic component.**
- **Damage resulting from incorrect handling of the gaskets.**

Any damage not directly caused by a manufacturing defect is excluded from this warranty.

What should I do in the event of a fault within the warranty period?

Contact your authorised distributor or the manufacturer's **Technical Support Service** directly via:
welcome.denodl.com/hydroball *(QR code access shown in the section: Contact and Technical Support Service).*

You will need to send your damaged probe for evaluation. If it can be repaired, it will be returned to you as soon as possible. If not, a replacement unit will be sent. This may or may not be identical to the original model; however, it will be guaranteed to have equivalent or improved features.

What should I do in the event of a fault outside the warranty period?

If the damage occurs outside the warranty period or is not covered by it, you may also contact your authorised distributor or the manufacturer's **Technical Support Service** directly via:
welcome.denodl.com/hydroball *(QR code access shown in the section: Contact and Technical Support Service).*

You will need to send your damaged probe for evaluation. After inspection, a repair estimate will be provided. If repair is not feasible, a replacement unit will be offered with the corresponding cost estimate. If you accept, the repair or replacement will be carried out as soon as possible. This replacement may or may not be identical to the original model; however, it will be guaranteed to have equivalent or improved features.

CONTACT AND TECHNICAL SUPPORT SERVICE

For any queries or requests for assistance, please contact your authorised distributor or the manufacturer's Technical Support Service directly.

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cs@denodl.com (for technical support).
info@denodl.com (for general information).

welcome.denodl.com/hydroball

BEFORE USE

Handling the probe:

Before using your HYDROBALL®, please read this guide carefully. Remove the probe from its packaging and discard all packing materials. **Check that all parts and components are present and in good condition.** If you notice any visible damage, contact the **Technical Support Service**.

Lower ceramic component:

Located at the base of the probe, **this component allows the measurement of soil water potential.** As it is made of ceramic, it can break if struck or dropped. **Handle with care.** Minor superficial cracks may appear due to the manufacturing and drying process; these do not affect its integrity or performance. In the event of obvious damage, contact the **Technical Support Service**.

Sealing gasket:

HYDROBALL® is a fully watertight device. The only point susceptible to water ingress is the junction between the screw cap and the device body. To ensure watertightness, the probe includes a flat gasket and an O-ring, the latter located at the lower seating of the thread perimeter. **When closing the cap after configuration or battery replacement, ensure that both gaskets are correctly positioned and clean.**

Recommendations for opening and closing:

- **Before opening the probe:**
  - Clean the exterior to remove any remains of soil or moisture.
- **After opening the probe:**
  - Clean the gasket area with a damp cloth.
  - If soil particles are present, remove and clean both the gaskets and their seating.
  - Ensure that the thread and both gaskets are completely clean.
- **During closure:**
  - Check that the gaskets are correctly seated in their original positions.
  - Screw the cap on tightly.

Passage of machinery and soil aeration operations:

HYDROBALL® can remain buried during the passage of machinery provided it is installed at a depth that avoids contact with wheels, tools or other components. If the probe is shallow or insufficiently buried, take extra precautions. During mechanical soil aeration work, it is advisable to temporarily remove the probe or mark its location to prevent damage by driving over it. **Do not allow soil aeration machinery to pass over the probe installation area.**

PROBE INSTALLATION

The careful installation of any sensor device is crucial for obtaining consistent and representative data to support decision-making in agricultural operations and green areas.

To achieve maximum accuracy, all factors that may affect the probe measurements should be considered: presence of roots, large elements, air pockets, slope orientation, and soil structure, among others.

This section details everything you need to install your HYDROBALL® probe correctly:

- Materials.
- Pre-installation steps.
- Probe installation methodology.
- Marking.
- Monitoring, uninstalling and maintaining the probe.

Materials:

The essential materials for installation are:

- **Bucket,** to collect the soil extracted from the hole ≈ 10 L.
- Plenty of **water**.
- **Cylindrical auger** or other tool suitable for digging the hole.
- **Plastic bag** (test bag), for conducting depth emission tests (included in the device box).
- **Measuring tape,** ≈ 30 m long, for taking measurements.
- **Marking tools,** for example: stake with flag and/or tee provided by the manufacturer.
- **Cloth,** for cleaning.
- **Smartphone with DENODL®App and DENODL®Connect,** for pairing and geolocation.

Pre-installation steps.

Defining the installation objectives:

The location of each HYDROBALL® will primarily depend on the objectives and purposes of the installation. For example:

- If the objective is **to determine the amount of water available to the crop**, the sensor should be installed in the area and at the depth of maximum root water uptake.

- If the sensor is installed **to analyse competition from ground cover and measure soil evaporation**, it should be placed in the top few centimetres of the soil.

- If the aim is **to detect percolation losses, the quantity and movement of salts at depth, or to assess the effectiveness of the applied leaching fraction**, the sensor should be installed below the root system.

- If the purpose is **to verify whether the irrigation strategy is producing the desired wetting front**, for example, to ensure that wet bulbs are overlapping and that no dry zones or salt accumulation areas are forming, the sensor should be placed between drippers or irrigation lines, in other words, in the least favourable areas.

Control point location:

After defining the objectives of the installation, the exact control points where the probes are to be installed should be selected. The **HYDROBALL®must be placed at a point that is representative of the area to be monitored (where crop condition and irrigation dose are average), based on the defined objectives.** Factors to consider include sunlight conditions, elevation, soil composition differences, crop condition, irrigation heterogeneity, etc.
If data duplication and measurement robustness are required, probes should be installed at points with identical conditions (probes must be installed at a minimum spacing of 1 m from each other).

When the objective is to determine the water available to the crop, the ideal location of the **HYDROBALL®** will vary depending on the irrigation system installed:

- **Drip or subsurface irrigation:** place the probe in the wet bulb, avoiding both the centre (permanently high moisture) and the periphery (dry zone), at the depth with the highest volume of active roots. Adjust the distance from the dripper according to the shape of the wet bulb.

- **Static sprinkler irrigation:** if the depth of maximum absorption is between 0 and 30 cm, place the probe at 2/3 of the distance between the sprinkler and the end of the spray. Otherwise, place it at 1/3 of the distance. Avoid overlap zones between sprinklers.

- **Mobile sprinkler irrigation:** place the probe in the first area to be irrigated, avoiding wheel tracks. Do not install near the ends of the sprinklers (first and last spans). If the system (e.g., a pivot) does not complete a full rotation, place the probe more than 20 m from the non-irrigated area.

Checking that the sensor and tools are in perfect condition:

Before installation, check that:
- The **ceramic** of your **HYDROBALL®** is undamaged and securely fitted.
- The **screw cap** fits precisely onto the body of the **HYDROBALL®**.
- The installation **tools** are clean and in perfect condition.

Geolocation and pairing of the sensor in the DENODL®App:

Before installing your HYDROBALL®, you must download the DENODL®App from the App Store or Google Play and follow these initial steps:
- **Create an account or log in** with the credentials provided to you.
- **Create the Digital Twin of the area to be monitored.**

If this is your first installation, please refer to the full user guide for the **DENODL®App** at: **welcome.denodl.com/es.**

Once these steps have been completed, you can proceed with pairing your probe:

- **Turn on your HYDROBALL® probe:**
  - **Unscrew the top cap.**
  - **Open the battery compartment and insert four 1.5V AA batteries, ensuring they are correctly oriented.**
  - **Close the battery compartment.** Upon contact, the user LED will begin to flash. If no light is observed, check the battery placement. If the user LED flashes twice continuously, your probe is searching for a network. If the user LED emits a long flash, your probe has successfully connected.

On first power-up, the initial connection of the NB-IoT probe may take up to 5 minutes. Wait for the long flash and then for the probe to enter standby mode, with the user LED off.

- **Pair your HYDROBALL® probe:**
  - **Activate Bluetooth and location on your mobile device.**
  - **Open DENODL®App. Press "add" and select "HYDROBALL®".** Follow the instructions shown in the app.
  - **Configure the emission interval and mode of your probe.** Recommended measurement interval: 15 min. Recommended adaptive mode: minimum (energy-saving mode).
  - **Set the name of your device and select the GPS location of the control point.**
  - **Save the configuration.** The device will be configured and registered in the system.

Warning: *do not change the device identifier (Alt ID). This pairs your probe with the app. If this identifier is changed, the* ***HYDROBALL®*** *will not be able to send data to the platform.*
Recommendation: *check that the equipment is in perfect condition and pair the sensor in* ***DENODL®App*** *before going out into the field to ensure that it is working properly.*

Once these steps have been completed, proceed with the physical installation of the probe:

Probe installation methodology: *see the installation video tutorial at:* ***welcome.denodl.com/hydroball.***

Remember to complete the pre-installation steps before proceeding with the physical installation of the probe.
The installation methodology varies depending on the customer's activity and the characteristics of the soil.

Agricultural sector:

1. Use a 10 cm Ø hole digger/auger to **make a hole of the desired sensor depth** and keep the extracted soil in a bucket.

2. **Leave a slope of ≈ 10° at the bottom of the hole** (the slope prevents air pockets and ensures proper operation of the tensiometer).

3. **Activate the "field mode" of the HYDROBALL® from the settings panel in DENODL®App.** Click the "three dots" in the top right corner and go to "Bluetooth settings". Make sure the mobile phone's Bluetooth is on and connect the probe's Bluetooth (press the button for 4 s). **For 2 hours, the probe will transmit every 2 minutes**. This mode temporarily increases the transmission frequency to verify correct operation immediately after installation and during the first hours of use.

4. **Perform a transmission test:** place the sensor without its cap inside the test bag, rest it on the ground surface and wait for the **transmission confirmation** (the user LED will emit a long flash). **Check that the data appears in DENODL®App** (correct measurement: 0% VWC). Repeat the same **transmission test at depth** by placing the probe in the test bag at the bottom of the hole.

5. Once transmission is verified, remove the **HYDROBALL®** from the test bag, **ensure the rubber gaskets are correctly positioned, and screw the lid on firmly to guarantee the probe's watertightness.**

6. Finally, **place the HYDROBALL® into the hole without the bag, correctly closed, with the ceramic facing downwards, and at an approximate 10° angle**. Ensure that in its final installation position, the name **HYDROBALL®** engraved on the probe casing is on the visible side.

7. To complete the installation, **fill the hole in layers with the extracted soil and some water.** Avoid air pockets around the probe and maintain the natural structure of the soil (excessive compaction of the soil alters its behaviour and prevents representative dynamics from being obtained).

8. Use the remaining soil to finish **filling the hole, preserving the original bulk density of the soil.** Level the surface to avoid preferential infiltration channels, and pour water once the hole is closed to help natural soil stabilisation.

9. **Mark the location of the probe.** See the section on "marking" below.

10. **Check in DENODL® App that the probe is transmitting data while buried.** Remember that in "field mode" your probe will transmit every 2 minutes for 2 hours. The soil texture analysis will appear in **DENODL® App** one week later.

Sports turf:

1. Use a 10 cm Ø turf auger for **removing a 3–4 cm sod** and keep it aside.

2. With the same tool **dig an additional 8–9 cm** and pour the extracted substrate into a bucket for later use.

3. **Leave a slope of ≈ 10° at the bottom of the hole** (the slope prevents air pockets and ensures proper operation of the tensiometer).

4. Perform a **transmission test of the HYDROBALL®** as described in points 3 and 4 of the previous section (agricultural sector).

5. Once transmission is verified, remove the **HYDROBALL®** from the test bag, **ensure the rubber gaskets are correctly positioned, and screw the lid on firmly to guarantee the probe's watertightness.**

6. **Place the probe in the hole** as indicated in point 6 of the previous section "agricultural sector".

7. To complete the installation, use the extracted substrate kept in the bucket to finish **filling the hole,** as indicated in point 7 of the previous section "agricultural sector" and **place the sod back level**. Pour water to facilitate natural soil stabilisation.

8. **Mark the location of the probe.** See the section on "marking" below.

9. **Check in DENODL® App that the probe is transmitting data while buried.** Remember that in "field mode" your probe will transmit every 2 minutes for 2 hours. The soil texture analysis will appear in **DENODL® App** one week later.

Parks and gardens:

If you are monitoring grass, follow the instructions in the previous section on "sports turf".
Otherwise, follow the instructions in the section "agricultural sector".

Marking:

Mark the location of the probes to quickly identify the control points and facilitate removal during maintenance or relocation of the HYDROBALL®.

- For application in the **agricultural sector**, use a flag and a tee to mark the location of the **HYDROBALL®.** Place the flag next to the sensor and the tee flush with the ground, indicating the direction of installation of the sensor with the arrow on the top.

- For application in **sports turf**, mark the turf with spray paint (if possible) and triangulate it with a fixed element in the surroundings using a tape measure and compass.

- For application in **parks and gardens,** if it is not possible to install a marking element, mark it as described for application in sports turf.

Recommendation: *record the references taken to establish the location the probe in the "notes" section of the* **HYDROBALL®** *in* **DENODL®App.**

Monitoring, removal and maintenance of the probe:

Monitoring:

- **Check the condition of the markers throughout the campaign.** Posts may fall and markings may fade due to UV rays. If posts need to be removed, mark immediately after completing the task.

- **Monitor the sensor battery status** via **DENODL®App** and replace batteries when below 20 %.

- **Check that the data recorded in DENODL®App is consistent.** If any anomalies are detected and there are no visible problems, reinstall the **HYDROBALL®** or contact your authorised distributor or the manufacturer's **Technical Support Service** directly via: **welcome.denodl.com/hydroball** *(QR code access shown in the section: Contact and Technical Support Service).*

Uninstalling:

- **Locate the marked area** using the geolocation feature in **DENODL®App** and the instructions saved in "notes". (Use a metal detector if the area is not properly marked). Use the auger and hand shovel to dig to the installation depth and remove the **HYDROBALL®** once it is accessible.
  In turf, to avoid damaging the sod, before using the auger, use a metal tip (or screwdriver) to pierce the turf and ensure you locate the probe. Once located, use the tool to remove it.

Maintenance:

After uninstalling the probe, clean the housing with a damp cloth and, if necessary, replace the batteries and the ceramic. The ceramic is easily replaceable using a screwdriver.

If the **HYDROBALL®** is not going to be installed immediately, remove the batteries and store the sensor in a dry place.

MANUFACTURER INFORMATION

Company name: Fernando Sarría Agrotechnologies S.L.
Brand name: DENODL®

For any queries or requests for assistance, please contact your authorised distributor or the manufacturer's Technical Support Service directly.

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