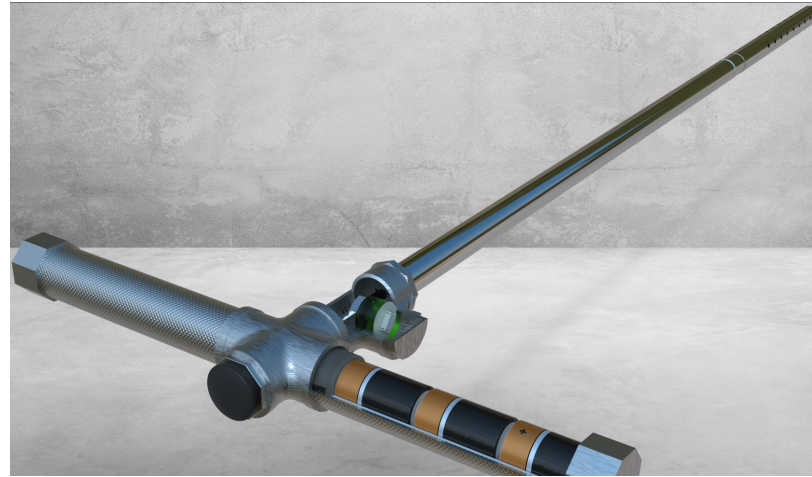


## Product description:

The measuring device is a 1.2 m or 1.5 m long lance driven into the compost and contains one oxygen sensor and two temperature sensors. The tip of the lance driven into the compost has a rounded head, so that the compost components encountered "on the way" do not stick into it. The oxygen sensor, to which air is sucked from the tip of the lance by means of a pump, is located in the upper part of the lance. Temperature sensors are placed at the end and in the middle of the lance. **The lance is cordless, battery powered.** It uses the LoRa network for communication.



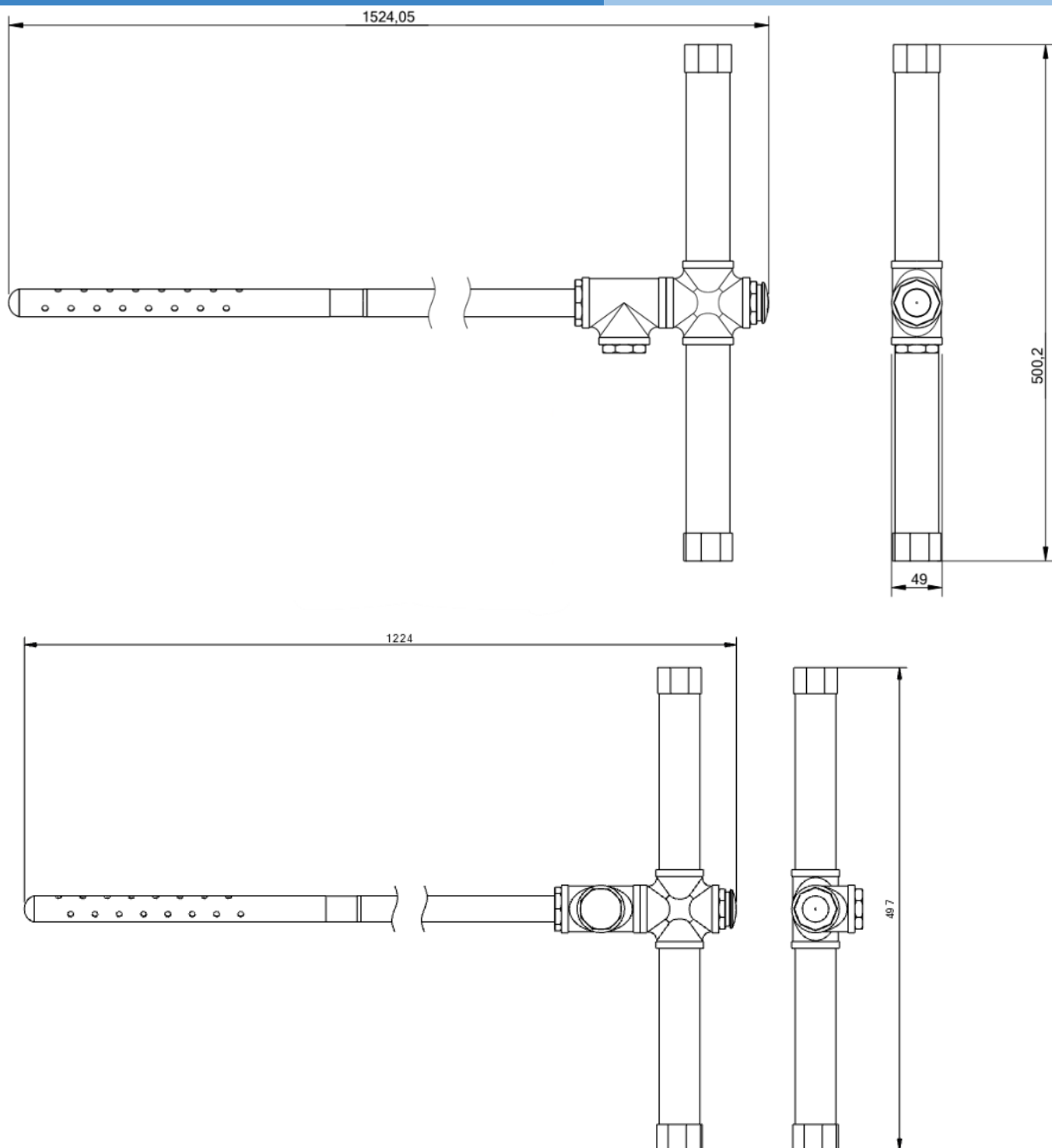
## Technical Specifications:

<b>Connectors:</b>	No external connectors. Wireless communication in the LoRa network was used. Battery powered.
<b>Construction:</b>	Housing made of AISI 316L stainless steel, welded and bolted elements ensuring tightness of the device
<b>Working conditions:</b>	-20° do +100° C 0.1 of the 21% O <sub>2</sub>
<b>Dimensions:</b>	Length: 1225mm / 1525mm Height: 500mm Width: 50mm
<b>Weight:</b>	4 kg
<b>Protection level:</b>	IEC IP67, 99% relative humidity of the sensor element
<b>Mechanical and vibration resistance:</b>	IEC 68-2-6 and IEC 68-2-7 Mechanical: 3g, 11 ms half sine, 18 shocks Vibration: 0.5 mm p-p, 10 to 60 Hz

# Compost lance for measuring oxygen content and temperature

<b>Power:</b>	3 x bateria R20 1.5V
<b>Communication:</b>	<p>Device operating in a LoRaWAN network:</p> <ul style="list-style-type: none"> <li>• Class A device</li> <li>• Possible communication with or without acknowledgement.</li> <li>• Possible configuration changes by sending Downlink frames</li> </ul>
<b>Transferred data:</b>	<p>The device sends measurement data through the LoRa frame.</p> <p>Factory sending frequency:</p> <ul style="list-style-type: none"> <li>• temperature - 60 measurements / hour</li> <li>• oxygen - 10 measurements / hour</li> </ul> <p>Possibility to modify the sampling frequency, independently for temperature and oxygen, min 15s, max 1h</p>
<b>Measurement Accuracy:</b>	<p>Temperature measurement +/- 2C</p> <p>Oxygen measurement +/- 2%</p>
<b>Sensor arrangement:</b>	<p>Oxygen measurement - space 0-25 cm from the tip of the lance.</p> <p>Temperature measurement - 30 cm and 80 cm from the tip of the lance.</p>

## Dimensional specification:



## Signs:

The product is marked with the CE mark

## Warnings:

### **Improper use:**

KSK Developments allows the device to be used only for its intended purpose, i.e. to monitor the oxygen level in the compost heap.

KSK Developments is not liable for any damages related to the use of the system contrary to its intended use.

### **Incorrect connection:**

The device is designed to operate with a rated voltage of 4.5 V. Connecting a different voltage may cause irreparable damage to the equipment.

KSK Developments is not liable for damages related to incorrect connection of the device.

## About the document:

This document concerns the system developed by KSK Developments sp. z o.o.

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