



ENGLISH

# DONATELO

## GV250 mark III

Professional Controlled Robot for surface and underground (pipe) inspection and measuring with high resolution video monitoring



Accurate **Measuring**  
Unit with lot of Data



Powerfull **Mechanics**  
and **Motor** Drive



**Real-Time** Data and  
Video **Recording**



Microprocessor and  
**Smart**  
Remote **Control**



**Accessories** and  
Custom **Upgrade**  
solutions



**Protection** and Safety  
Operation



**General Data**





# Measuring Unit

## Surrounding Measurements

- Bosh** External Real-Time **Temperature** (-40C - 80C)
- Bosh** External **Air Pressure** (300 - 1100mBar)
- Bosh** External **Humidity** (0% - 100% RH)
- Dallas** Instruments (Motors Temp) (-40C - 65 C)



- Speed** Measurement - Optical (0.0 - 18.0 m/min)
- Motors **RPM** Measurement - Optical (0-900rpm)
- Pipe Diameter** (deviation)- Laser (250-640mm)



## SLOPE Measurement (Inclinometer Integrated Data)

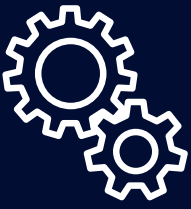
- Distance** Measurement - Optical (resolution 0.01m)
- Pich Angle** - Accelerometer (0.001 - 90')
- Yaw Angle** - Compass
- Roll Angle** - Gyroscope } (0.001 - 360')
- Relative Altitude** - HighSens AirPress. (0.01 - 10m)
- Data Integration** - Complementary + Kelman Filter

## Inclinometer Specs

powered by **Aerospace Tactical MEMS**

- Range - High Sens: +-10 deg
- Resolution: +-0.001 - 0.01 deg
- Linearity: +-0.01 deg
- Reproducibility: +-0.005 deg
- Zero Drift: 0.01 deg/h
- Temperature Drift: 0.001 deg/C
- Noise: 22.5 µg/√Hz
- Measure Freq. 42.5Hz
- Refresh Rate: 100ms
- Calibration: **Two - point Linear**





# Motor-Drive Unit

**Drive:** Stepper Motor Drive **4x4**  
**Transmission:** **Planetary** Ring  
**Transmission Rate:** **1:13.7**  
**Motor Speed:** max **900 RPM**  
**Total Torque:** **22 Nm**  
**Total Force:** **500 N**  
**Max Speed:** **15 m/min (~1 km/h)**  
**Wheel Diameter:** **90, 160, 200 mm**



## Real-Time Data and Video Recording

DVR with Keyboard AHD **720p** 10" LCD  
**USB** DVR with Software for Windows (Lap Top PC not included) - **optional**  
Data measuring: file format **.csv**



## Camera

Video Camera files - format **.avi** (DVR micro SD card up to 128GB, **16GB** included)

Screen Capture function - picture format **.jpg**

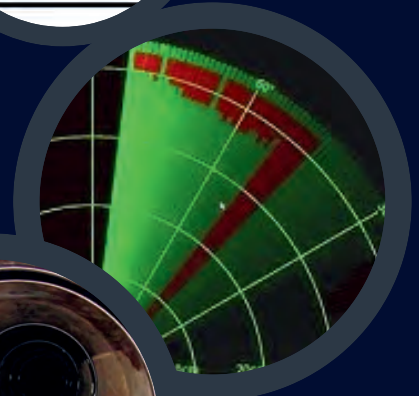
Camera: AHD **720 - 1080p 2MP 2.8mm**  
PAL/NTSC 48db H.264/265 2W

Recording angle: **(0 - 360) + (0-90)**

Pipe **Joint Inspection** with single click

Adjustable Camera LED **Light** up to 5W

Ultra-Sonic Short Distance **Radar**  
(pipe wall inspection) - optional  
on April 2027.





# MCU and Remote Control



**Microprocessors:** Dual **16MHz** AVR

**Communication:** **RS485** Half Duplex + Bluetooth 2.0 or UART

**Wireless Remote:** **Lora** 169MHz up to **15km** (surface) - optional  
RC 2.4GHz up to 200m (underground) - on April 2027.



**Manual** and **Auto** Motion Control

**Camera** Motion Control

**LED Light** Control

Instruments **Calibration** and System Setup

Measuring Data Real-Time **Preview**

Measuring Data **Export**

Data Export - **microSD** card (4GB included)

RC - Remote Control: **Android App**

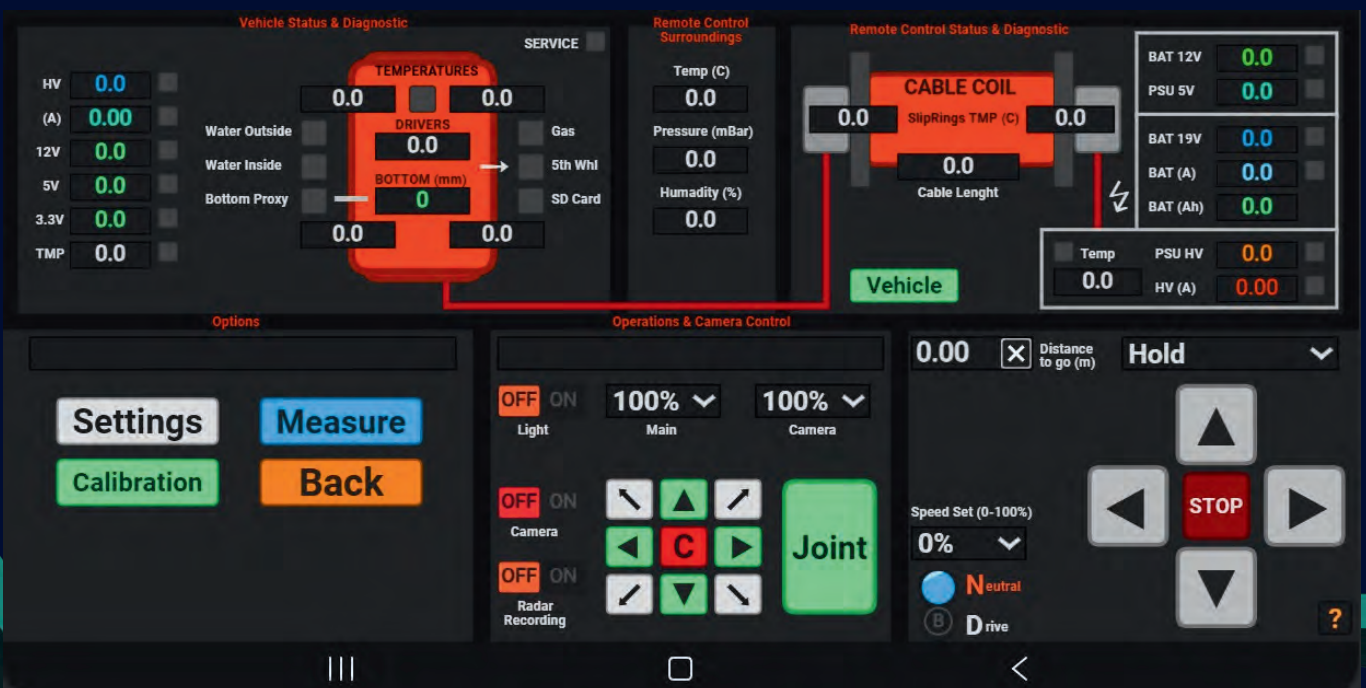
Android Tablet 10.1 inch: **Bluetooth - USB**

**Online** Remote - Support - **simCard** Data

**Video** User Manual included

**PC Link** for Windows

(Lap Top PC not included) - optional





## Accessories and Custom Upgrade solutions

# Wheels **40 Shore A** Cast Polyurethane Custom

90mm **Classic** - General Purpose

90mm **V-Shape** - Dirty Pipes

90mm **Si-Carbide** - Plastic Pipes

90 mm **Flexible** - Suspension

**160mm Ruber** - Concrete Pipes

**200mm Pneumatic** - 640-1000mm

Device Physical Protection: **IP62**

Pipe **Water Level** - InfraRed, Laser

**Water** Detection **Inside** - Physical

**Water** Detection **on Bottom** - Physical

**Mechanics** Monitoring - Optical

**Power Supply Unit** Monitoring with **Battery**

Durable **Custom made PVC Cable**

**Industrial grade WATERPROOF Connector** for safe cable pull up.

**Gas Detection Sensor** - Metane, Propane, Butane

### GENERAL PURPOSE:

- Inspection of newly constructed pipelines.
- Inspection of semi-dry and clean pipes.
- Device is **NOT** for use in dirty sewage systems.





# General Data and Specification

## DONATELO GV250 mark III

Dimensions: **350 x 220 mm**

Weight: **10-15kg**

Remote Control Weight: **25-45kg**

Pipe Dimensions: **250 - 640 - 1000 mm**

Com Cable Length: **max 150 meters**

Remote Control Battery: **LiFePO4 19V DC 30Ah**

Remote Control Operating Voltage: **30V DC**

Remote Control Battery Life: **8 - 12h**

Remote Control Charging Time: **6-8h**

DVR Battery: VRLA AGM **12V DC 9Ah**

DVR Battery Life: min **8 - 12h**

DVR Charging Time: **8h**

Vehicle Operating Voltage: **18 - 24V DC**

Vehicle Operating Current: **2 - 4A**

System Operating Temperature: **2 - 40C**

Max Water Level in Pipe: **20 - 70mm**



Designed by 

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