Professional Meteorological Measurement Equipment

CATALOGUE 2015

WIND2MEASURE.COM

Wind2measure.com offers complex solutions in the area of automatic measurements for meteorology and renewable energy. The company designs and produces equipment for professionals and individuals looking for accurate and easy-to-use systems.

Data loggers manufactured by **Wind2measure.com** are compatible with wide range of meteorological sensors used for measuring rainfall, wind speed, wind direction, and temperature.

The measurement masts and data loggers are designed and manufactured by us and can be used together with various meteorological sensors. This makes our offer unique and complete, simply fitted to your needs.

Choose from the following products or combine them to get full sets of measurement instruments:

RAIN GAUGES

ALUMINUM TELESCOPIC MAST SETS

WIND SPEED AND DIRECTION SENSORS

DATA LOGGERS

WIND2MEASURE.COM

DATA LOGGER BASIC

✓ **The process of data importing is done via IP67 USB slot and does not require opening the housing, disassembling the logger, or stopping the measuring process.**

✓ **The logger can be set to the following modes:**

- rainfall and temperature
- wind speed and wind direction

The data logger operates in a continuous mode. It does not just sample the measurements from time to time, but calculates ALL impulses generated by the sensors. The amount of impulses is recorded once a minute.

The logger's housing is weatherproof and can be installed outdoors.

Importing data from the wind logger is performed by inserting a USB memory stick into a USB slot. This way, you do not need to open the housing every time you want to import data from the logger and expose the electronics to humidity and other hazardous field conditions.

The data is not recorded on an SD card but on a more reliable internal memory located on a printed circuit board.

The wind logger is powered by two R20 batteries. It is built with the latest, energy efficient components and should be able to operate for a standard period of 6 months without battery replacement.

SPECIFICATION

Battery voltage	3.0 V
Operating temperature	-30°C….+50°C
Size	60mm x 82mm x 157mm
Data import time	up to 40s
Input channels	1 x rainfall or wind speed 1 x temperature or wind direction
Internal memory	720 days
Logging rate	1 minute
Data import	via USB port
Protection (housing)	IP55
Battery type	2 x R20 alkaline
Battery life	6 months
Data analysis	offline tool, compatible with Win XP, Vista, Win7/8

DATA LOGGER ADVANCED

✓ **The Advanced version of Data Logger BASIC. Main differences:**

- 3 inputs for weather sensors
- built-in temperature and battery voltage sensors
- housing made of Polycarbonate with IP 66/67
- battery container made of stainless steel

✓ **The logger can be set to the following modes:**

- rainfall, wind speed and direction and temperature
- 2 x wind speed and wind direction and temperature

Data importing is done through IP67 USB slot and does not require opening the housing, disassembling the logger, or stopping the measuring process.

Polycarbonate housing – lightweight, high impact resistant with a gloss finish. Completely waterproof and dust-tight (IP 66/67). Battery container made of stainless steel.

Operates in a continuous mode and counts ALL impulses generated by the wind speed sensors and records the data every minute.

Calculates 1 minute standard deviation for each wind speed sensor.

The battery voltage is logged every 23 minutes. It allows an easy control of the energy consumption without the necessity to open the housing

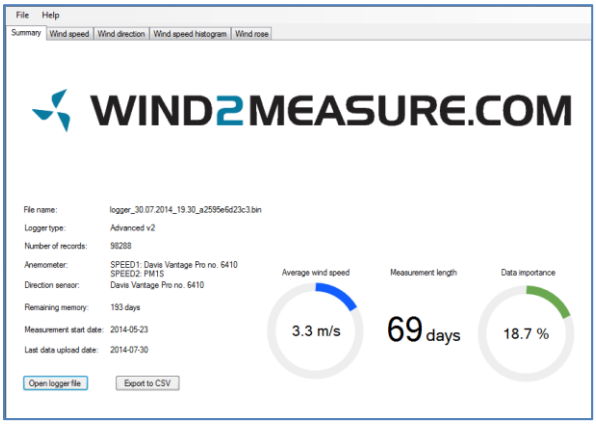
The logger is powered by two R20 batteries and operates for a standard period of 6 months on one set.

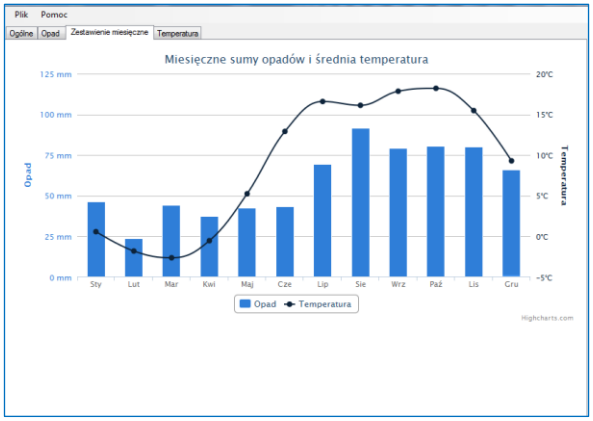
Every ADVANCED data logger comes with a free data analysis program. It presents all gathered data on precise graphs, histograms and a wind rose.

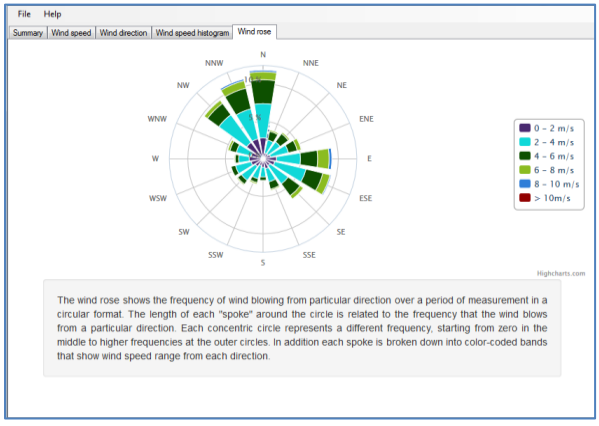
SPECIFICATION

Battery voltage	3.0 V
Operating temperature	30°C….+50°C
Size	55mm x 160mm x 100mm
Data import time	up to 40s
Input channels	3
Internal memory	280 days
Data import	via USB port
Protection (housing)	IP 66/67
Logging rate	1 minute
Temperature logging frequency	10 minutes
Battery voltage logging frequency	23 minutes
Battery type	2 x R20 alkaline
Battery life	6 months
Material	Polycarbonate
Data analysis	offline tool, compatible with Win XP, Vista, Win7/8

DATA ANALYSIS SYSTEM







Use our system to see all measurements on precise graphs, histograms and the wind rose and analyse the data.

The system is FREE and comes with every Data Logger BASIC and ADVANCED.

- The Data Analysis System is fully compatible with Data Loggers manufactured by **Wind2measure.com**. Files generated by the logger can be easily downloaded and analysed on your computer, laptop or tablet.

- After downloading the data from the logger, the system presents recorded data on line graphs with the zoom-in option. It also displays a wind distribution chart, average temperature & rain and a wind rose. The Data Logger Advanced users will also get the battery voltage charts.

- The System enables exporting all data to CSV file. It allows a detailed analysis of the measurement in spreadsheets or other dedicated software.

- Exporting the wind speed distribution chart to CSV file gives you the possibility to calculate the amount of energy generated for you by selected wind turbines. **Wind2measure.com** provides an MS Excel calculator to prepare such forecasts.

- The System gives useful averages of the measurements and other additional information.

If you would like to test the system and you do not have a Wind2measure.com logger, please email us at *info@wind2measure.com* and we will send you the Data Analysis System with a sample data file.

RAIN GAUGE – DAVIS INSTRUMENTS

The rain gauge is used for constant measurement of precipitation including its mount, time of occurrence and intensity.

It can be installed 1 metre above the ground level on a mounting pole or placed straight on a flat surface.

During measurements the amount of the rainfall is measured with accuracy of 0,2mm.

The sensor has been designed to meet the guidelines of the World Meteorological Organization.

After connecting the rain gauge with **Wind2measure.com** Data Logger you get a device that can log the amount and intensity of rainfall at a chosen location.

The rain gauge is fully compatible with the data loggers manufactured by **Wind2measure.com**.

The following accessories are included in the rain gauge:

- Rain cone with grips
- Bird spikes
- Debris screen
- 40 ft (12 m) cable
- Mounting hardware

Specification

Sensor type	tipping bucket
Output	contact closure
Cable type	2 conductor
Dimensions	diameter – 16,5cm height – 24cm
Weight	1kg
Collection area	214 cm^2
Resolution	0,2mm
Accuracy	For rain rates up to (50 mm/hr): ±4% of total or 0.2mm (0.2mm = one tip of the bucket), whichever is greater. For rain rates from 50mm/hr to 100 mm/hr: ±5% of total or (0.2mm) whichever is greater.
Attached cable length	12 m
Producer	Davis Instruments
Product ID no.	7857

RAIN GAUGE - KALYX-RG

KALYX-RG rain gauge is used for constant meteorological measurements made by professionals and other users who plan to make advanced precipitation study.

The sensor is based on a tipping bucket mechanism which automatically tips when a certain amount of precipitation accumulates inside of it. Total precipitation is determined by the number of tips.

The unique aerodynamic shape of the rain gauge reduces the effect of wind blowing and carrying rainfall away from the collecting vessel.

The tipping bucket type sensor does not accumulate rainfall and does not need to be emptied.

The rain gauge is manufactured by EML (Environmental Measurements Limited), a British company that specializes in designing various sensors used for professional meteorological measurements.

The sensor is fully compatible with data loggers manufactured by **Wind2measure.com.**

Specification

Sensor type	tipping bucket
Output	contact closure
Cable type	2 conductor
Dimensions	diameter – 13 cm height – 23cm
Weight	1kg
Attached cable	yes
Resolution	0,2mm
Producer	Environmental Measurements Limited
Product's ID no.	KALYX-RG

DAVIS VANTAGE PRO – WIND SPEED and DIRECTION SENSOR

Description

The sensor is manufactured by *Davis Instruments Corp.* This precision-crafted anemometer includes both wind speed and wind direction sensors. Rugged components stand up to hurricane-force winds, yet are sensitive to the lightest breeze. Vane is hand-balanced for optimal stability and accuracy. Sealed stainless steel ball bearings for long life. Comes complete with 12 m standard cable and the hardware needed to mount it on a pipe, wooden post, antenna mast, or similar structure.

Specification

- Operating Temperature -40° to +65°C
- Attached Cable Length – 12 m
- Dimensions (length x width x height) – (381 mm x 38 mm x 457 mm)
- Weight – 1.332 kg
- Compatible with Wind Logger BASIC
- Serial number – 6410
- Wind Vane and Control Head – UV-resistant ABS
- Wind Cups – Polycarbonate
- Anemometer Arm – Black-anodized aluminium
- Wind direction measuring resolution - 1°
- Wind direction measuring accuracy - ±3°
- Wind speed measuring range – 0.5 - 89 m/s
- Wind speed measuring accuracy – ± 1 m/s or ± 5%, whichever is greater

PM1S and PM2D - WIND SPEED and DIRECTION SENSORS

Specification

- Measuring range – 0 – 44,5m/s
- Accuracy - ±1,0m/s or 10% whichever is greater
- Attached Cable Length – 5 m
- Dimensions (length x width x height) – (381 mm x 38 mm x 457 mm)
- Weight – 0,2 kg
- Material – synthetic material POM
- Colour – grey
- Compatible with Wind Logger BASIC

Specification

- Measuring range – 360°
- Measuring resolution - 8 points (45°) on compass rose
- Material – synthetic material PC+ABS
- Measuring method – 8 reed switches
- Weight – 0,2kg
- Colour – grey
- Compatible with Wind Logger BASIC

Description

PM1S and PM1D sensors give you a reliable accuracy of the wind measurement which is sufficient when planning an investment in a micro or small wind system. They are the ideal data transmitters for simple requirement, especially where economical solutions are requested. They are fully compatible with the wind loggers manufactured by **wind2measure.com**.

The sensors are delivered together with an aluminium fixing that enables an easy mounting on a met mast or other construction.

THIES WIND SPEED and DIRECTION SENSORS

Specification

- Measuring range – 0,5 - 40 m/s
- Accuracy – ± 0,5 m/s or ± 5% v. Mw.
- Load – max. 60 m/s –for a short time
- Measurement method – 1 Reed-contact
- Ambient temp. - 25 °C to + 60°C
- Serial number -4.3515.51.000
- Material – synthetic material ABS
- Cable length – 3m
- Weight – 0,3kg
- Compatible with Wind Logger BASIC

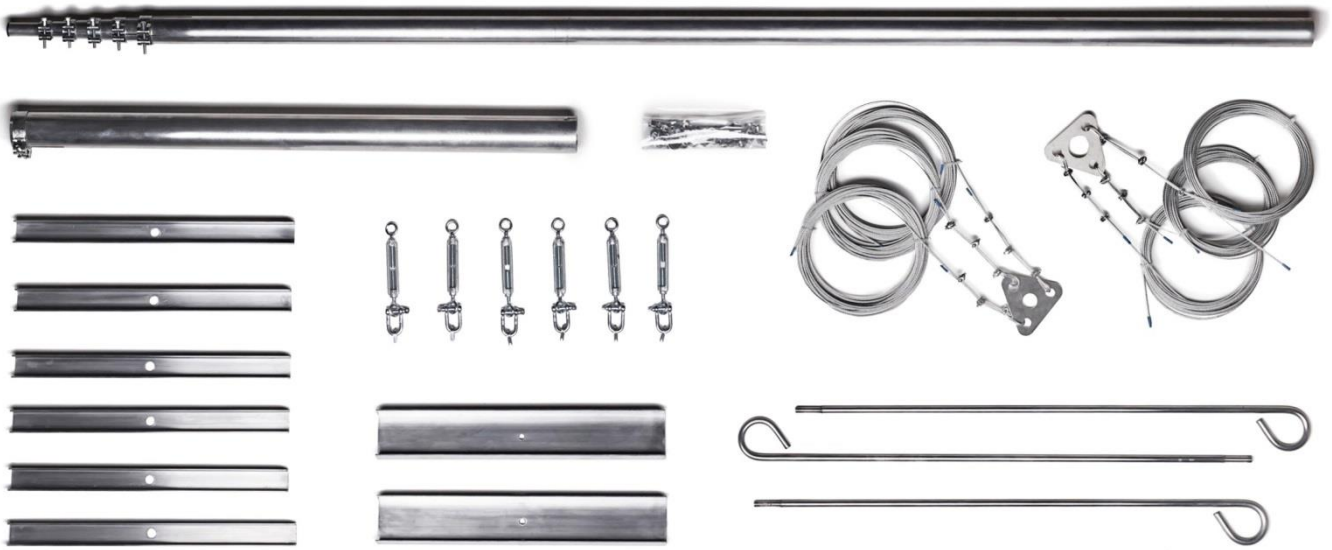
Specification

- Measuring range – 10°-350° (20° dead-zone in the north)
- Measuring resolution - 1°
- Ambient temperature -25 to +60 °C, ice-free
- Serial number - 4.3140.51.010
- Cable length – 3m
- IP rating – IP54
- Size – 210 mm high
- Weight – 0,3 kg
- Compatible with Wind Logger BASIC

Description

The sensors are produced by a German company *Thies Clima* - one of the leading manufacturers of systems, instruments and sensors for the measurement of meteorological parameters. Their products are characterized by a high degree of instrument precision and quality. Selected and tested materials of the sensors ensure the operation even under extreme conditions. Their supporting and dynamic parts of are made of synthetic materials, guaranteeing a long working life with absolutely no maintenance.

10 METRE ALUMINUM MAST SET



The set includes

MAST

6 pieces of 2m. long aluminium pipes

5 solid steel hose clamps

TOWER BASE

1 tubular element made of aluminium

2 aluminium channel bars (0,5 m long) used as the lower part of the tower base

1 solid steel hose clamp to block mast in the base

3 GROUND ANCHORS

bent eye bolt ø18mm (x3)

2 aluminium channel bars (0,4 m long) used as the lower part of the ground anchors (x3)

6 GUY - WIRES

13 metres long, galvanized steel line 3 mm thick (x3)

10 metres long, galvanized steel line 3 mm thick (x3)

2 guy-wire fixings at different heights

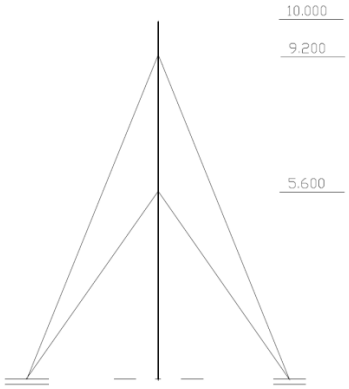
wire rope clips made of galvanized steel (x36)

bottle screw made of galvanized steel used to adjust the length of guy-wires (x6)

thimble made of galvanized steel used to prevent lines from wearing down (x12)

shackle made of galvanized steel used to attach guy wires to ground anchors (x6)

INSTALLATION MANUAL



Specification

Actual height – 10,00 metres

Diameter of the lowest segment – 50mm

Diameter of the highest segment – 25mm

Holes in the ground required for installation:

- tower base – 60cm deep and diameter of 50cm

- ground anchors - 80cm deep and diameter of 40cm

Distance between tower base and ground anchors – 6-8 m

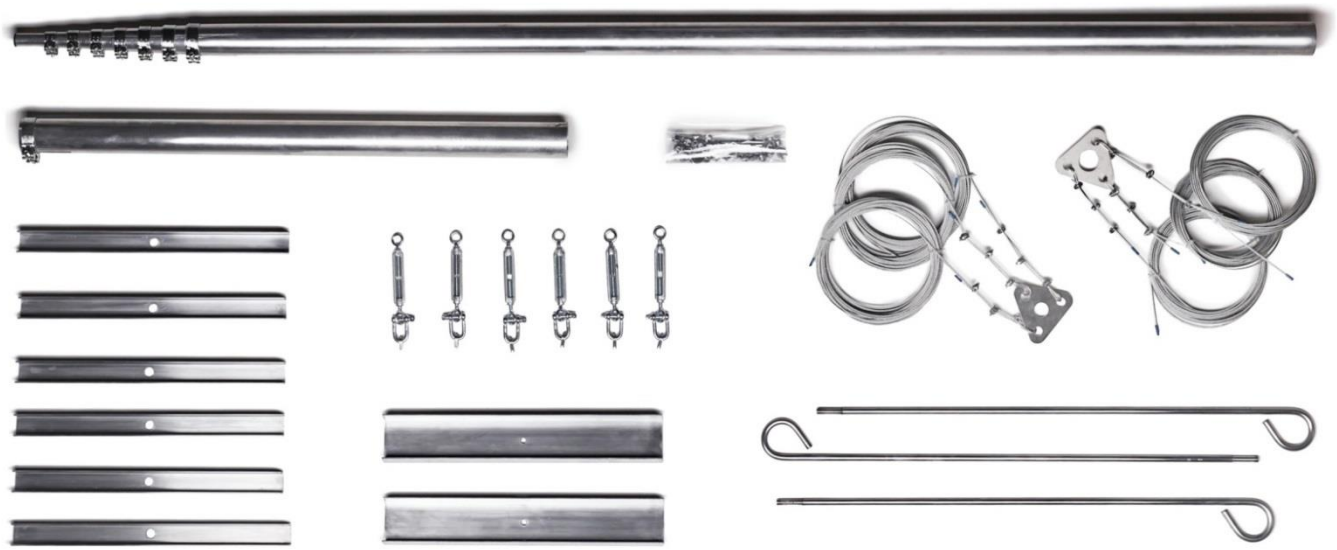
Guy-wires placing angle – 120°

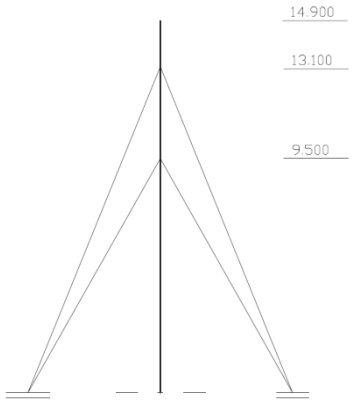
Maximum weight of an object placed on the top-5kg

Construction standard specifications- **EN-1991-1-4**

Warranty period – 12 months

15 METRE ALUMINUM MAST SET





The set includes

MAST

8 pieces of 2m. long aluminium pipes

7 solid steel hose clamps

TOWER BASE

1 tubular element made of aluminium

2 aluminium channel bars (0,5 m long) used as the lower part of the tower base

1 solid steel hose clamp to block mast in the base

3 GROUND ANCHORS

bent eye bolt ø18mm (x3)

2 aluminium channel bars (0,4 m long) used as the lower part of the ground anchors (x3)

6 GUY - WIRES

17 metres long, galvanized steel line 3 mm thick (x3)

14 metres long, galvanized steel line 3 mm thick (x3)

2 guy-wire fixings at different heights

wire rope clips made of galvanized steel (x36)

bottle screw made of galvanized steel used to adjust the length of guy-wires (x6)

thimble made of galvanized steel used to prevent lines from wearing down (x12)

shackle made of galvanized steel used to attach guy wires to ground anchors (x6)

INSTALLATION MANUAL

Specification

Actual height – 14,90 metres

Diameter of the lowest segment – 65mm

Diameter of the highest segment – 25mm

Holes in the ground required for installation:

- tower base – 60cm deep and diameter of 50cm

- ground anchors - 80cm deep and diameter of 40cm

Distance between tower base and ground anchors – 6-8 m

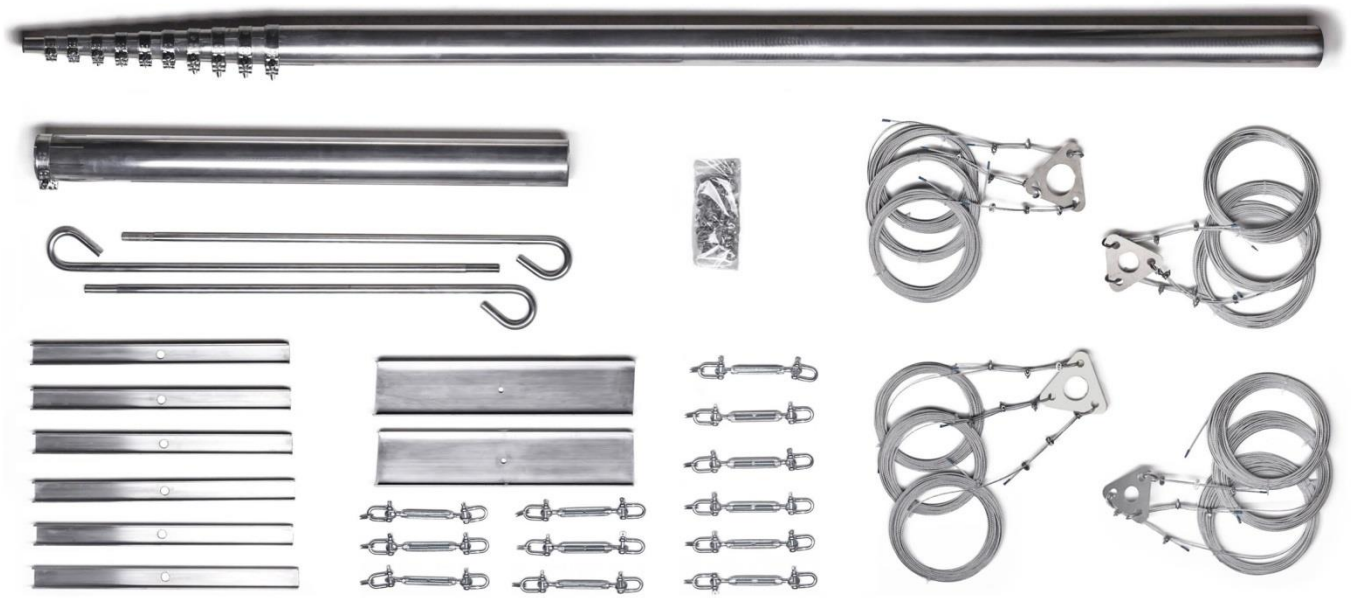
Guy-wires placing angle – 120°

Maximum weight of an object placed on the top-5kg

Construction standard specifications - **EN-1991-1-4**

Warranty period – 12 months

20 METRE ALUMINUM MAST SET



The set includes

MAST

11 pieces of 2m. long aluminium pipes

10 solid steel hose clamps

TOWER BASE

1 tubular element made of aluminium

2 aluminium channel bars (0,4 m long) used as the lower part of the tower base

1 solid steel hose clamp to block mast in the base

3 GROUND ANCHORS

bent eye bolt ø18mm (x3)

2 aluminium channel bars (0,4 m long) used as the lower part of the ground anchors (x3)

12 GUY - WIRES

23 metres long, galvanized steel line 3 mm thick (x3)

20 metres long, galvanized steel line 3 mm thick (x3)

17 metres long, galvanized steel line 3 mm thick (x3)

14 metres long, galvanized steel line 3 mm thick (x3)

4 guy-wire fixings at different heights

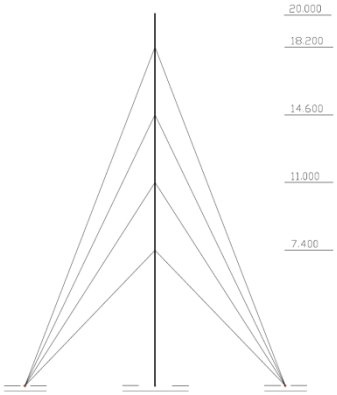
wire rope clips made of galvanized steel (x72)

bottle screw made of galvanized steel used to adjust the length of guy-wires (x12)

thimble made of galvanized steel used to prevent lines from wearing down (x24)

shackle made of galvanized steel used to attach guy wires to ground anchors and aluminium tube (x24)

INSTALLATION MANUAL



Specification

Actual height – 20,00 metres

Diameter of the lowest segment – 80mm

Diameter of the highest segment – 30mm

Holes in the ground required for installation:

- tower base – 60cm deep and diameter of 50cm

- ground anchors - 80cm deep and diameter of 40cm

Distance between tower base and ground anchors – 6-8 m

Guy-wires placing angle – 120°

Maximum weight of an object placed on the top-5kg

Construction standard specifications- **EN-1991-1-4**

Warranty period – 12 months

ACCESSORIES

DATA LOGGER HOLDER

Data Logger Holder is used to attach a logger to an aluminium mast or any kind of similar construction.

- compatible with Data Loggers BASIC and ADVANCED
- made of 5mm aluminum flat bar
- fitted to the size/diameter of the mast
- easy to install
- equipped with a vibration absorber

MAST BOOMS

These are the elements that are used to install wind speed and direction sensors. They are stable and solid, aluminum flat bars. The elements are delivered with all necessary screws and clamps. Choose from the 3 kinds of booms:

- vertical for the top segment of the mast
- vertical for the middle segment of the mast
- horizontal for middle segment of the mast

VERTICAL TOP SEGMENT

VERTICAL MIDDLE SEGMENT

HORIZONTAL MIDDLE SEGMENT

WIND2MEASURE.COM

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