



Automatic Sounding Station Vaisala AUTOSONDE®



Features

- All benefits of Vaisala Radiosonde RS41 and Vaisala MW41 Sounding System
- Entirely automatic for 24 consecutive soundings
- Remote control and configuration on common Vaisala Observation Network platform
- Cost effective due to low maintenance and low manhours

The Automatic Sounding Station Vaisala AUTOSONDE® automates the synoptic upper-air observations. It saves costs and gives the freedom to extend the coverage of upper-air networks everywhere. In populated areas, remote locations, or in climates ranging from polar to tropical, the efficiency of the Automatic Sounding Station has been proved.

Minimize Operating Costs and Maximize Meteorological Data Availability

The Vaisala AUTOSONDE® has the capacity to perform entirely automatically for 24 consecutive synoptic soundings. It is only at this point the Vaisala AUTOSONDE® is restocked and checked manually. A restocking and check visit takes around one hour, which means 24 synoptic observations per man-hour. This gives real benefits and operational reductions in costs. Fully automatic sounding in turn by preprogrammable and repeatable actions improves data quality and availability. System is designed to fulfill strict standards concerning safe hydrogen use as balloon filling gas. As a prove of this Vaisala AUTOSONDE® has authority statements. Whether it is a new station, or a replacement of an older system, setting up and reconfiguring the Vaisala AUTOSONDE® is quick and inexpensive. This compact package

includes everything from the sounding station to the balloon filling unit. It can be transported on a trailer, making it easy to relocate. The system is also easy to reconfigure to suit new sites saving time and money.

Proven Performance in Every Climate

The Vaisala AUTOSONDE® system has a robust design and the ability to operate automatically. The system is equipped with heaters and an air conditioner to cope with wide variations in any climate. In even more extreme conditions, a cold climate kit is available to deal with a minimum operating temperature of -40 °C and additional windcovers raise the operating wind speed up to 25 m/s.

Remote Flexible Operation

The Vaisala AUTOSONDE® is one of the several Vaisala's weather observation systems which can be monitored on Vaisala Observation Network Manager

platform. Vaisala AUTOSONDE® can be configured remotely from a central location by using the Remote Control System. It also allows the remote interruption of the regular sounding schedule to measure interesting events such as extreme weather phenomena. The whole system network can also be monitored from one central location and remotely commanded to adapt actions according to changing weather conditions.



An attendant only needs to reload the daisywheel with radiosondes and balloons every 12 days.

Technical Data

The Automatic Sounding Station Vaisala AUTOSONDE®

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|--|--|
| Radiosonde | RS41-SG, RS41-SGP |
| Sounding Workstation | Sounding System software pre-installed: Operating system Windows 10, pre-installed System recovery tools, including USB drive with recovery image |
| Vaisala Sounding Processing Subsystem SPS311 | |
| Windfinding options | Code correlating GPS |
| Antennas | Directional UHF antenna GPS antenna |
| Automatic ground check device | |
| UPS | |
| Vaisala Automatic Surface Weather System | |

Automatic Launcher

| | |
|---------------------------------------|--|
| Shelter | |
| Dimensions | 4.9 m x 2.4 m x 2.5 m (length x width x height) |
| Total height with radiosonde launcher | 3.7 m |
| Gross weight with radiosonde launcher | 3 metric tons |
| Mechanical Construction | |
| Shelter | Sandwich construction: 2 plastic-coated steel plates with 100 mm fireproof mineral wool insulation |
| Fire protection class | EI 120 |
| Access door with window | 900 x 2100 mm |
| Electricity | |
| Power consumption | Max 6.9 kW |
| Nominal input voltages | 230 V 50 Hz, 1-phase, or 400 V/230 V 50 Hz, 3-phase |
| Mains cable | According to national regulations |
| Distribution box | Inside container, 3 circuit-breakers and fault current breakers, surge arrester(s) |
| Indoor cabling | Inside aluminum cable channels |
| Wall sockets | In the cable channels |
| Lights | On the ceiling, switch near the door |
| Heaters | 750 W with thermostat |
| Air conditioner | Standard |
| Air dryer | Optional |

Launcher Vessel

| | |
|--------------|---|
| Dimensions | Height 2.3 m, diameter 2 m |
| Construction | Steel frame |
| Cover lids | 2 pcs, optionally 4 pcs |
| Balloon tube | Fiberglass with conductive gel inside fixed with steel bars to the shelter, canvas bag inside, pneumatic cylinders controlled with logic controller |

Logic Controller

Installed in a box inside the shelter, microprocessor-based, pre-programmed, analog inputs, on/off inputs and on/off outputs

Launcher Vessel Heater

Equipped with thermostat, installed in a sealed metal pipe, switched off automatically when launcher is operated

Gas Measurement

| | |
|------------------|--|
| Measurement unit | Installed on the roof of the shelter, 2 flexible input gas hoses, 8 m, extendable connection to local gas regulator to be specified, output hose to nozzle controlled by magnetic valves |
| Gas flow meter | With electrical current output, automatic measurement of gas amount |

Balloon Filling and Size

Balloon nozzle connected to the balloon during loading, gas-proof balloon nozzle connection

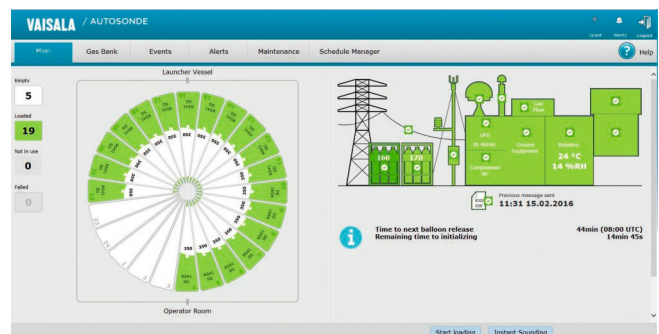
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| Balloon size | 200-800 g |
| Balloon filling gas | Hydrogen or helium |
| Classification | IEC 60079-14 (2013), IEC 60079-10-1 (2015) |

Options

- Additional wind shield
- Mains transformer
- Cold climate kit
- Filling gas regulator
- Dehumidifier
- Ex for hydrogen use

Remote Control System

Workstation: Vaisala Observation Network Manager software NM10, pre-installed Operating system Windows 7, pre-installed System recovery tools including USB drive with recovery image



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