

Vaisala Unmanned Sounding System AUTOSONDE®



Vaisala AUTOSONDES have performed over 300 000 operational soundings during the past 15 years in different parts of the world.

The Vaisala Unmanned Sounding System 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 unmanned sounding system 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 only takes three hours, which means eight 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.

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



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

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

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.

Benefits

- Entirely automatic for 24 consecutive soundings
- Remote control and configuration
- All benefits of Vaisala Radiosonde RS92 and Vaisala MW31 Sounding System
- Cost effective due to low maintenance and low man-hours

Technical Data

Vaisala Unmanned Sounding System AUTOSONDE®

RADIOSONDE

RS92-SGPA Dry-cell battery with external power switch and status LED

SOUNDING WORKSTATION

Sounding System MW31 software pre-installed:
Standard Software, METGRAPH software,
AUTOSONDE® software

Operating system Windows 2008 Server, pre-installed

System recovery software

VAISALA SOUNDING PROCESSING SUBSYSTEM SPS311

Windfinding options Code correlating GPS

ANTENNAS Directional UHF antenna
GPS antenna

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 (Paroc)
with 100 mm fireproof mineral wool insulation

Fire protection class EI 120

Access door with window 900 x 2100 mm

ELECTRICITY

Power consumption 230 V 50 Hz 20 A, 1-phase, or
400 V/230 V 50 Hz 20 A, 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

Heater 2 x 800 W with thermostat

Air conditioner Standard

Air dryer Optional

LAUNCHER VESSEL

Dimensions Height 1.2 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

Balloon size 200-800 g

Balloon filling gas Hydrogen or helium

CLASSIFICATION

IEC 60079-14 (2007), IEC 60079-10-1 (2008), IEC-364-7-708 (1988)

SFS-EN 60439-1 (1990), KY 204-92

OPTIONS

Additional wind shield

Cold climate kit

Dehumidifier

Mains transformer

Filling gas regulator

Additional Remote Control Software

Remote Control System

WORKSTATION

Sounding System MW31 software pre-installed:

Standard Software, METGRAPH software,

AUTOSONDE® software

Operating system Windows 7, pre-installed

System recovery software

VAISALA

For more information, visit
www.vaisala.com or contact
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