VAISALA www.vaisala.com

Automatic Sounding Station Vaisala AUTOSONDE®

Vaisala AUTOSONDES have performed over 400 000 operational soundings during the past 20 years in different parts of the world.

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.

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

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.

Benefits

- 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 man-hours

Technical Data

The Automatic Sounding Station Vaisala AUTOSONDE®

RADIOSONDE

RS41-SG, RS41-SGP

SOUNDING WORKSTATION

Sounding System software pre-installed:
Operating system Windows 7, 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	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	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

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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Please contact us at
www.vaisala.com/requestinfo

www.vaisala.com

Scan the code for more information

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