

## 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



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

-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.

### 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), IEC-364-7-708 (1988)  
SFS-EN 60439-1 (1990), KY 204-92  
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



**VAISALA**

www.vaisala.com

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