

Webinar Q&A

2018-12-11

Highest level of operational efficiency with automated soundings

Q: Can we connect the AUTOSONDE to a hydrogen generator?

A: Yes, the generator will create the hydrogen gas to a tank that is then connected to the AUTOSONDE.

Q: You mentioned that safety is an important aspect in the AUTOSONDE. Can we be inside when the AUTOSONDE is preparing for a launch or filling a balloon?

A: Yes, the gas lines and the balloon launcher are outside the container so there is no risk of gas getting inside the container.

Q: Can we use a parachute with AUTOSONDE?

A: Yes, it can be either an internal parachute inside the balloon or external that is connected between the balloon and a radiosonde.

Q: What kind of platform or base is needed to install the AUTOSONDE?

A: The simplest and the most cost efficient platform is a levelled sand foundation. Should the environment be subject to flooding or heavy snowing conditions then concrete or steel foundation raised around one meter above ground level is a feasible choice.

Q: You said that the capacity is 60 radiosondes. Does this mean that I can launch the radiosondes in two months period without the storage affecting the balloons or radiosondes?

A: Yes, the system has been designed and tested to allow up to two months of launches without loading the radiosondes meanwhile.

Q: How far does the automatic weather station need to be from the AUTOSONDE without the balloon hitting the mast?

A: Our general recommendation is to install it to a distance of at least four times the height of the mast to minimize the chance of a released balloon being tangled to the mast. With a 10m mast, this would mean at least 40 meters.

Q: When was the new AUTOSONDE AS41 released?

A: AS41 has been just released in October, 2018.

Q: How long does it take to fully load the system?

A: One RS41 radiosonde can be loaded in less than three minutes – a complete loading of maximum 60 radiosondes takes about 3-4 hours.

Q: Is the radiosonde checked for the proper function already during loading?

A: Yes, when RS41 radiosonde is loaded to AUTOSONDE, the system will automatically perform a functionality check to ensure that the radiosonde is working properly.

Q: What is the maximum size of balloon in the AUTOSONDE AS41?

A: AS41 is compatible with 200-1200g balloons.

Q: How does AUTOSONDE AS41 measure the gas amount filled in the balloon?

A: AS41 uses a flow meter to measure the gas flow (liters per minute). The AS41 flow meter unit is maintenance free without moving parts.

Q: How long does it take to prepare a balloon for launch?

A: The preparation takes about 20 minutes.

Q: What are the requirements for power and communication bandwidth?

A: AS41 peak power consumption is 6.5kW, average consumption less than 1 kW. Communication bandwidth more than 2 MB is recommended to ensure smooth remote connection with Remote Desktop tools.

Q: What is the total weight of the AUTOSONDE system?

A: Total weight of the AUTOSONDE AS41 system is 7.500 kg. This and other specifications are found from the datasheet available [on our website](#).

Q: Does AUTOSONDE need calibration?

A: AUTOSONDE system itself does not need calibration. A pressure reference instrument can be field calibrated every 2 years. There is also a temperature and humidity transmitter for monitoring the inside conditions that should be checked. Automatic weather stations sensors should be checked with the normal interval for surface observation sensor.

Q: Does AUTOSONDE send the meteorological data automatically?

A: Yes, MW41 software creates the meteorological messages (TEMP, PILOT, BUFR) automatically once enough data is gathered and sends the data for example using FTP.

Q: What is the data availability of the AUTOSONDE system, soundings reaching to 100 hPa?

A: The target for the data availability for reaching 100 hPa is more than 97%.

Q: What kind of automatic weather data formats are supported?

A: AS41 can be connected directly with Vaisala AWS310 and WXT530 systems. Data can also be provided in Vaisala SMSAWS format from other surface observations systems. Other formats require tailoring of the software.

Q: Can AUTOSONDE be installed close to weather radar?

A: AUTOSONDE system should be installed with some distance from the radar (for example 100m) and located such that the system is in downwind in the prevailing wind direction to minimize the possibility of a launched radiosonde going very close to the radar beam after launch.

Q: Does the system have a solution for the case when a radiosonde fails to launch?

A: If the radiosonde fails during the launch and a balloon has been already filled, it will be released because a balloon filled with hydrogen cannot be left to the system. If a radiosonde fails before or just after launch, AUTOSONDE will initiate a spare sounding for a second release.