



Helwan new GRAUN site

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Upper air stations in Egypt

We have 6 upper air stations distributed according to recommendation of WMO .

- Marsa Matrouh
- Aswan
- Qena
- Helwan
- Frafra
- EL-Arish



Helwan new GRUAN Site

GCOS Reference Upper-Air Network



Egypt participated in WMO 2022 Upper-Air Instrument Intercomparison Campaign





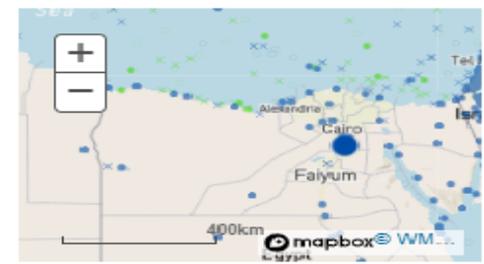
- [Station](#)
- [Station cluster](#)
- [Instrument](#)
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HELWAN (Egypt)

in WMO Region I - Africa

Station characteristics

Name:	HELWAN				
Station alias:					
Date established:	1959-01-01				
Date closed:					
Regional WIGOS Center:					
Station class(es):	Climatological station, GBON Upper air station, Surface land meteorological station (SYNOP), Upper-air / Radiosonde station Operational				
Declared reporting status:	Operational				
Assessed reporting status:	Partly operational				
Station type:	Land (fixed)				
WIGOS Station Identifier(s):	<table border="1"> <thead> <tr><th>WIGOS Station Identifier</th><th>Primary</th></tr> </thead> <tbody> <tr><td>0-20000-0-62378</td><td><input checked="" type="checkbox"/></td></tr> </tbody> </table>	WIGOS Station Identifier	Primary	0-20000-0-62378	<input checked="" type="checkbox"/>
WIGOS Station Identifier	Primary				
0-20000-0-62378	<input checked="" type="checkbox"/>				



WMO region:	I - Africa
Country / Territory:	> Egypt
Coordinates:	> 29.8627777778°N, 31.3491666667°E, 139.3m
Time zone:	
Supervising organization:	> Egyptian Meteorological Authority
Station URL:	
Other link (URL):	
Site description:	> The station was originally registered based on WMO Pub 9 Vol A information containing these observation remarks: CLIMAT(C);GSN;OBS. RW IRREG.;RBCN;RBSN(ST);SOILTEMP;SUNDUR (see code table A for explanations). These remarks imply the following additional observations that could not be registered automatically: none.

Climate zone:
 Predominant surface cover:
 Surface roughness:
 Topography or bathymetry:
 Population in 10km / 50km (in thousands):
 Station / platform event logbook:

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Last updated: 2016-04-28

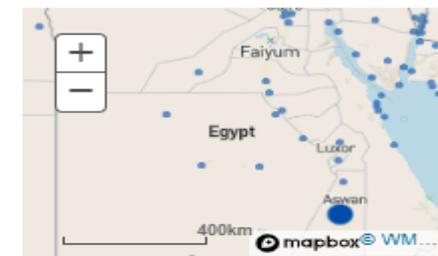
ASSWAN (Egypt) in WMO Region I - Africa

Station characteristics

Name: ASSWAN
Station alias:
Date established: 1954-01-01
Date closed:
Regional WIGOS Center:
Station class(es): Climatological station, GBON Upper air station, Surface land meteorological station (SYNOP), Upper-air / Radiosonde station
Declared reporting status: Operational
Assessed reporting status: Partly operational
Station type: Land (fixed)
WIGOS Station Identifier(s):

WIGOS Station Identifier	Primary
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0-20000-0-62414	<input checked="" type="checkbox"/>
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WMO region: I - Africa
Country / Territory: > Egypt
Coordinates: > 23.964444444444°N, 32.8200°E, 201.78m
Time zone:
Supervising organization: > Egyptian Meteorological Authority
Station URL:
Other link (URL):
Site description:

> The station was originally registered based on WMO Pub 9 Vol A information containing these observation remarks: A;CLIMAT(C);GSN;GUAN;OBS. RW IRREG.;OZONE;RAD;RBCN;RBSN(ST);SKYRA;SOLRA;SUNDUR (see code table A for explanations). These remarks imply the following additional observations that could not be registered automatically: Ozone observations; Radiation measurements; Sky radiation measurements; Solar radiation measurements.

Climate zone:
Predominant surface cover:
Surface roughness:
Topography or bathymetry:
Population in 10km / 50km (in thousands):
Station / platform event logbook:



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SOUTH OF VALLEY UNIVERSITY (Egypt)

Last updated: 2016-04-28

in WMO Region I - Africa

Station characteristics

Name: SOUTH OF VALLEY UNIVERSITY

Station alias:

Date established: 2003-01-01

Date closed:

Regional WIGOS Center:

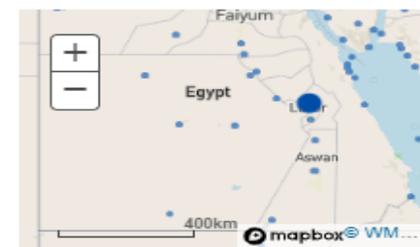
Station class(es): Climatological station, GBON Upper air station, Surface land meteorological station (SYNOP), Upper-air / Radiosonde station

Declared reporting status: Operational

Assessed reporting status: Partly operational

Station type: Land (fixed)

WIGOS Station Identifier(s):



WIGOS Station Identifier	Primary
0-20000-0-62403	<input checked="" type="checkbox"/>

WMO region: I - Africa

Country / Territory: > Egypt

Coordinates: > 26.2002777778°N, 32.7486666667°E, 95.99m

Time zone:

Supervising organization: > Egyptian Meteorological Authority

Station URL:

Other link (URL):

Site description: > The station was originally registered based on WMO Pub 9 Vol A information containing these observation remarks: CLIMAT(C);GAW;RAD;RBCN;RBSN(ST);RW OBS. TEMPOR. DISCONTINUED/RW OBS. TEMPOR. SUSPENDUES;SKYRA;SOLRA;SUNDUR (see code table A for explanations). These remarks imply the following additional observations that could not be registered automatically: Radiation measurements; Sky radiation measurements; Solar radiation measurements.

Climate zone:

Predominant surface cover:

Surface roughness:

Topography or bathymetry:

Population in 10km / 50km (in thousands):

Station / platform event logbook:



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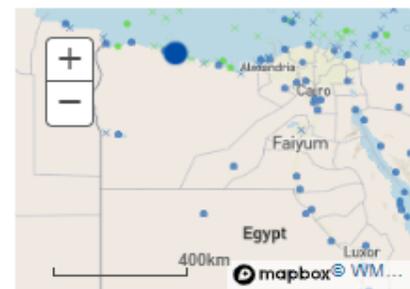
Last updated: 2022-07-23 by Salah Mahmoud Zeinab

Marsa Matrûh (Egypt)

in WMO Region I - Africa

Station characteristics

Name:	Marsa Matrûh
Station alias:	
Date established:	1981-07-01
Date closed:	
Regional WIGOS Center:	
Station class(es):	Radiation station
Declared reporting status:	Operational
Assessed reporting status:	Unknown
Station type:	Land (fixed)
WIGOS Station Identifier(s):	



WIGOS Station Identifier	Primary
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0-20008-0-MRS	<input checked="" type="checkbox"/>
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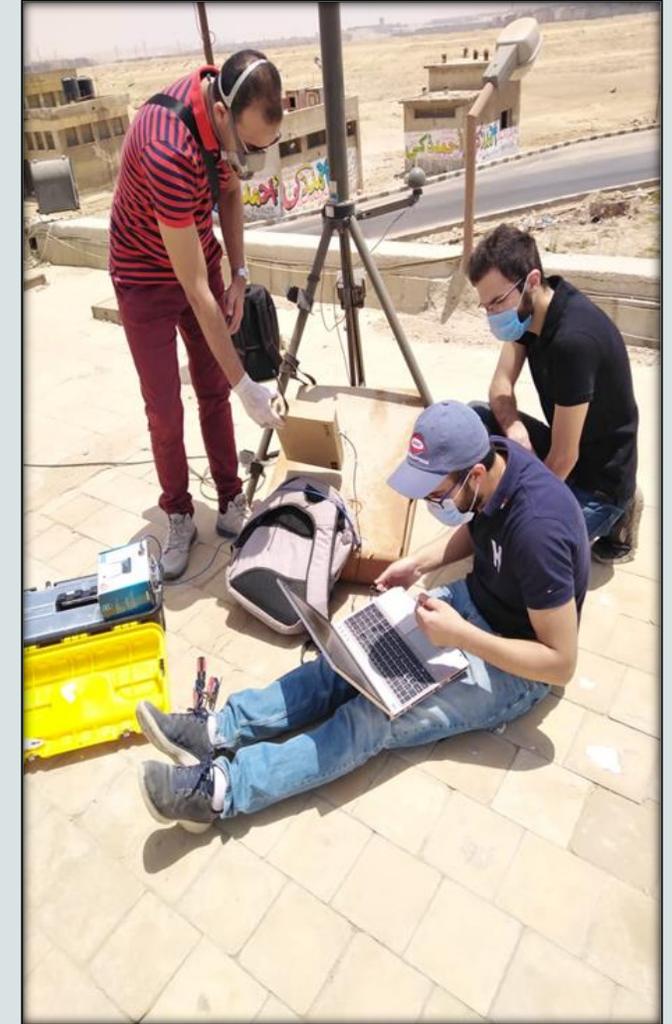
WMO region:	I - Africa
Country / Territory:	> Egypt
Coordinates:	> 31.3299999237°N, 27.2199993134°E, 35m
Time zone:	> UTC+2
Supervising organization:	
Station URL:	
Other link (URL):	
Site description:	
Climate zone:	> Desert - Hot arid
Predominant surface cover:	
Surface roughness:	
Topography or bathymetry:	
Population in 10km / 50km (in thousands):	
Station / platform event logbook:	



Helwan upper air station



Launching of Egyptian Radiosonde from Helwan Station

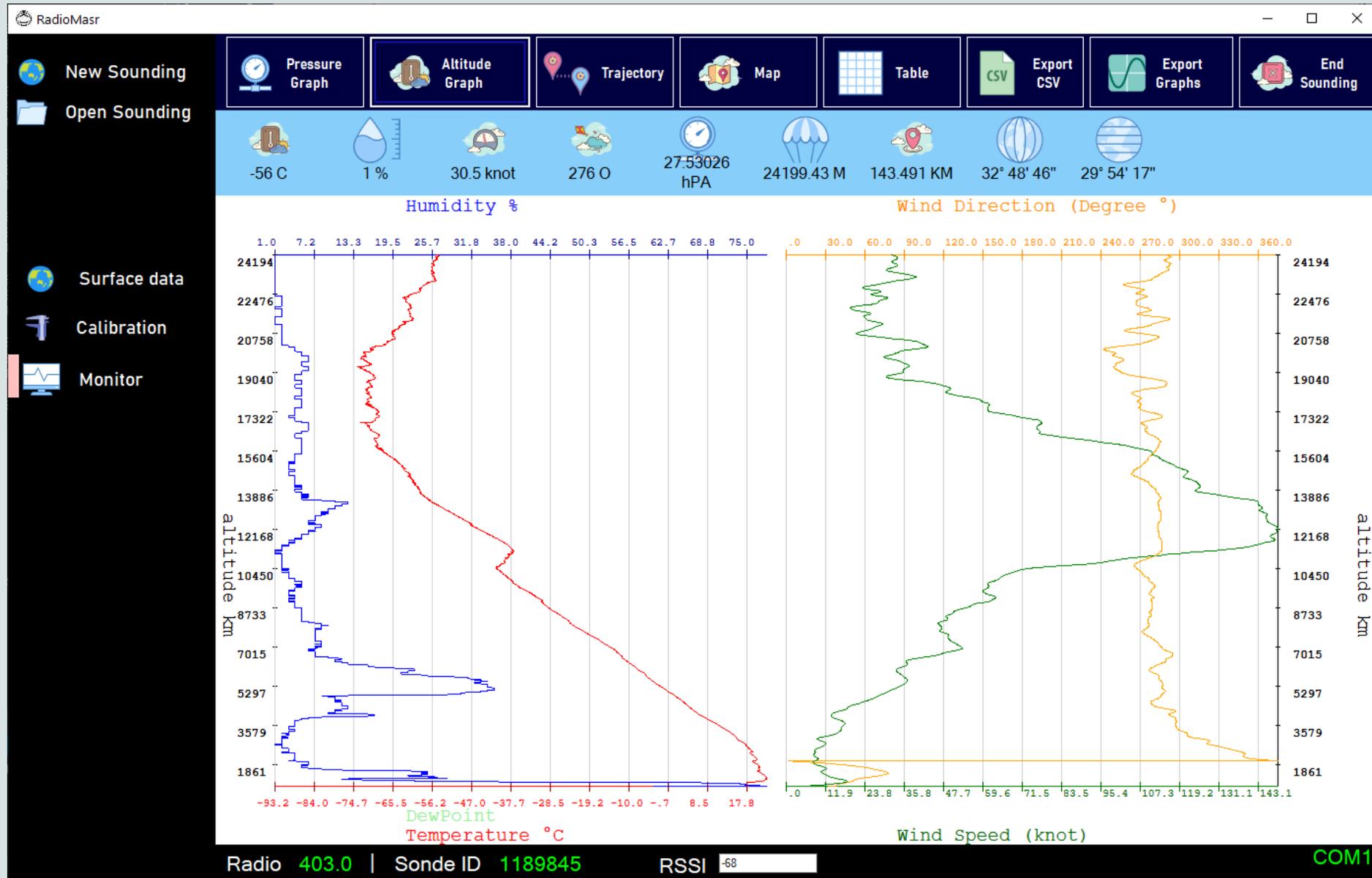


**We do a lot of research and experiments to
manufactory radiosonde at Helwan statin**

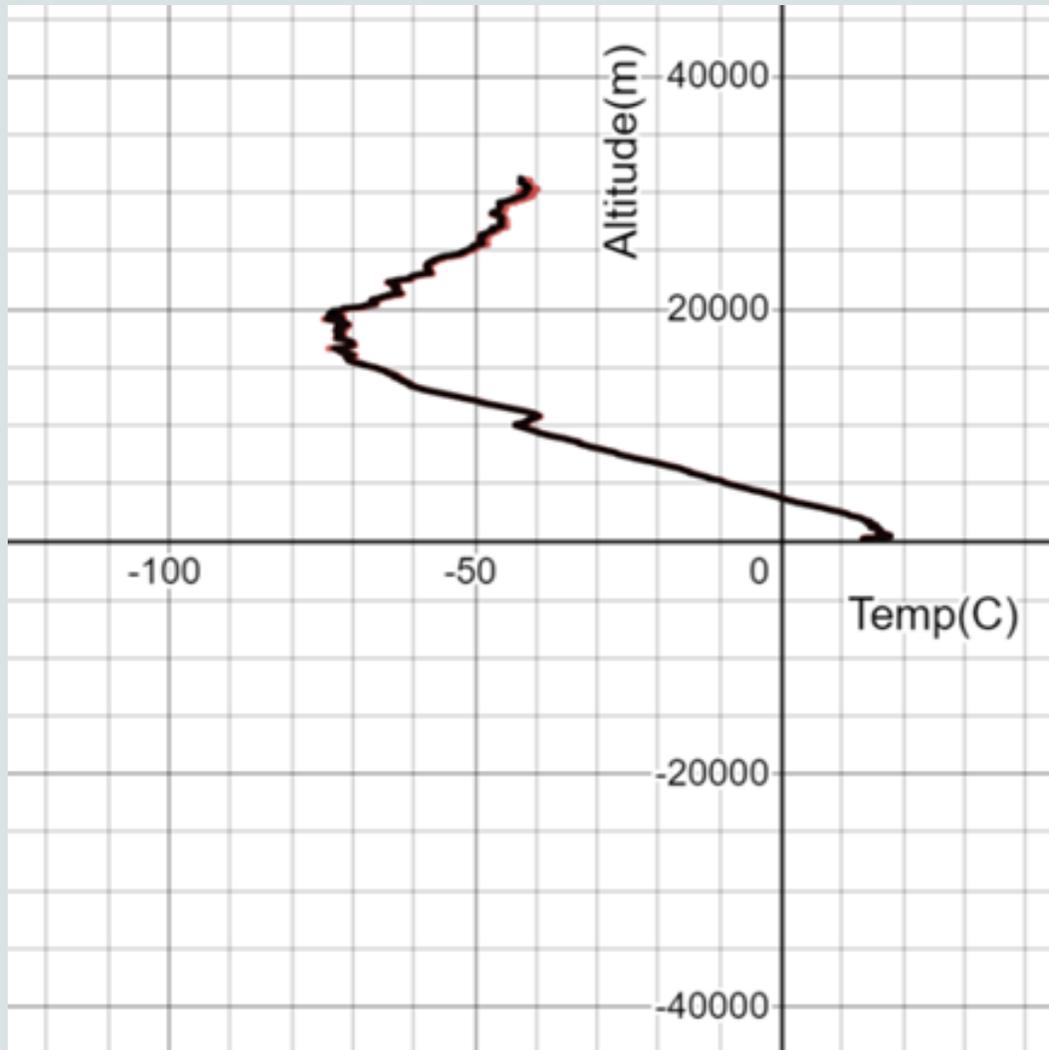
Egyptian Radiosondes and Ground Station comparison with Vaisala RS41SG under supervisor of EMA



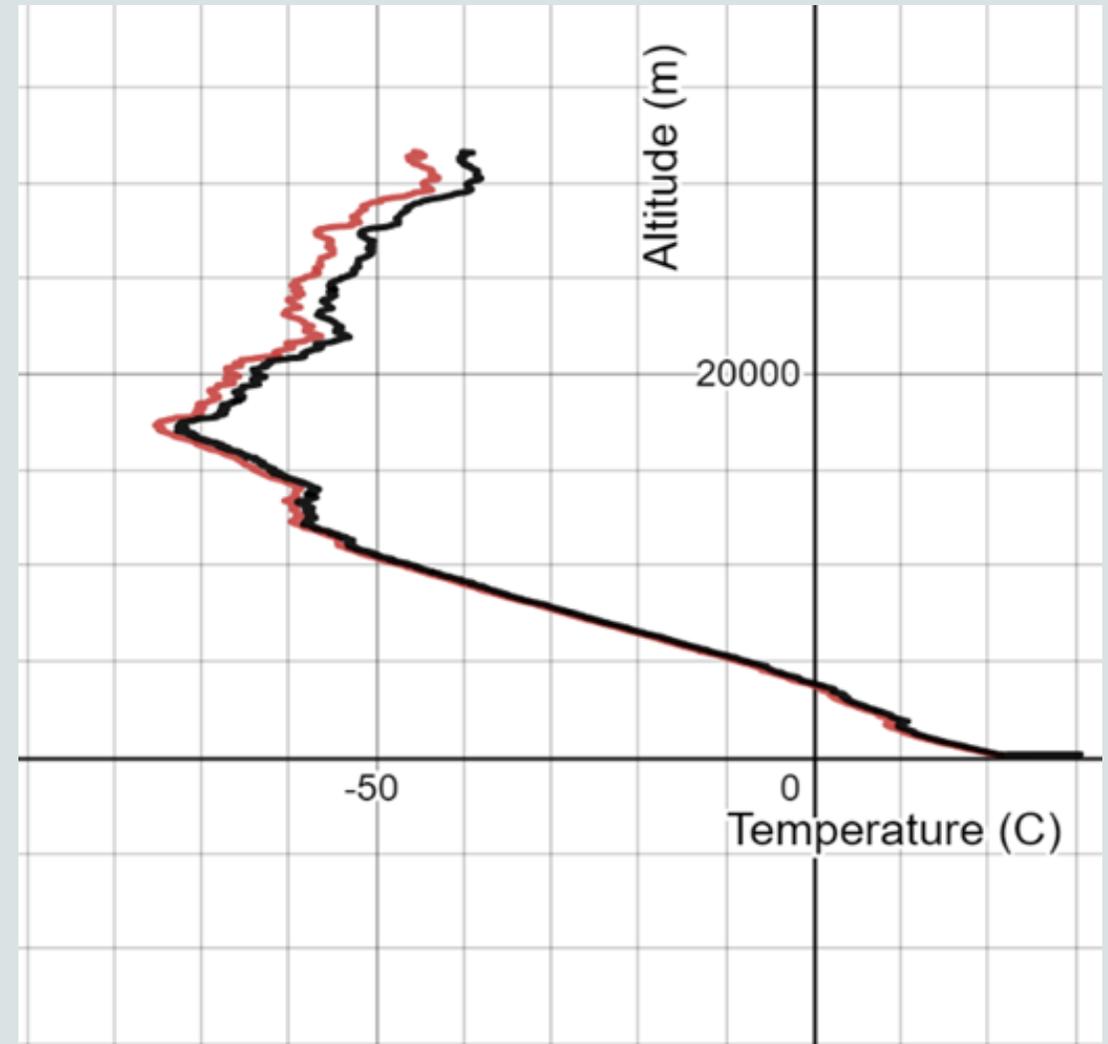
PTU Data Representation



Temperature Result compared EGYsonde with vaisala RS41SG

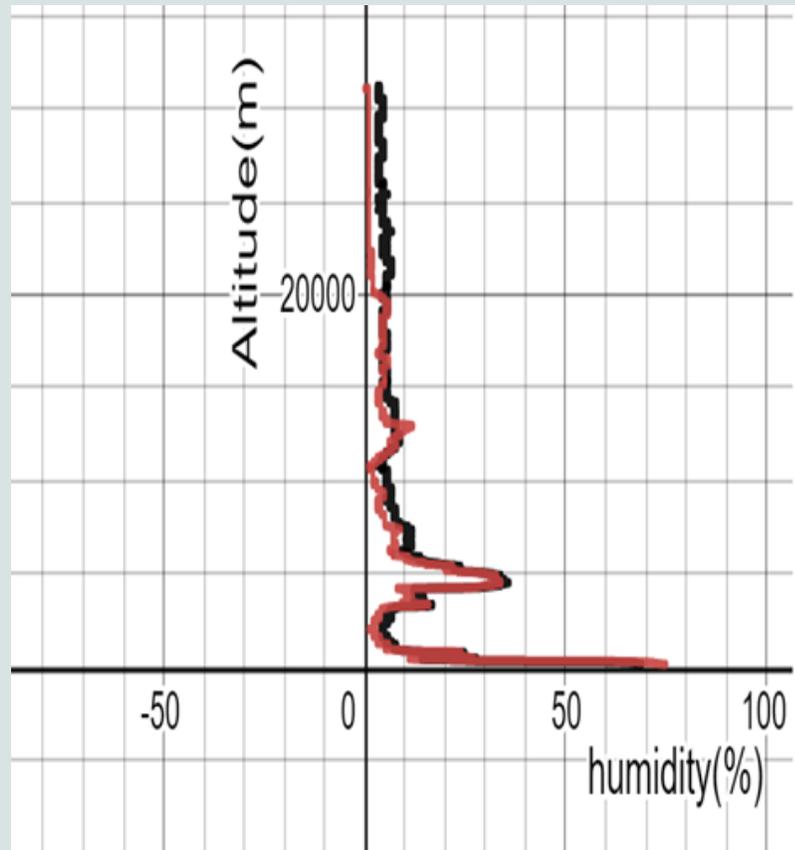


Night Flight results

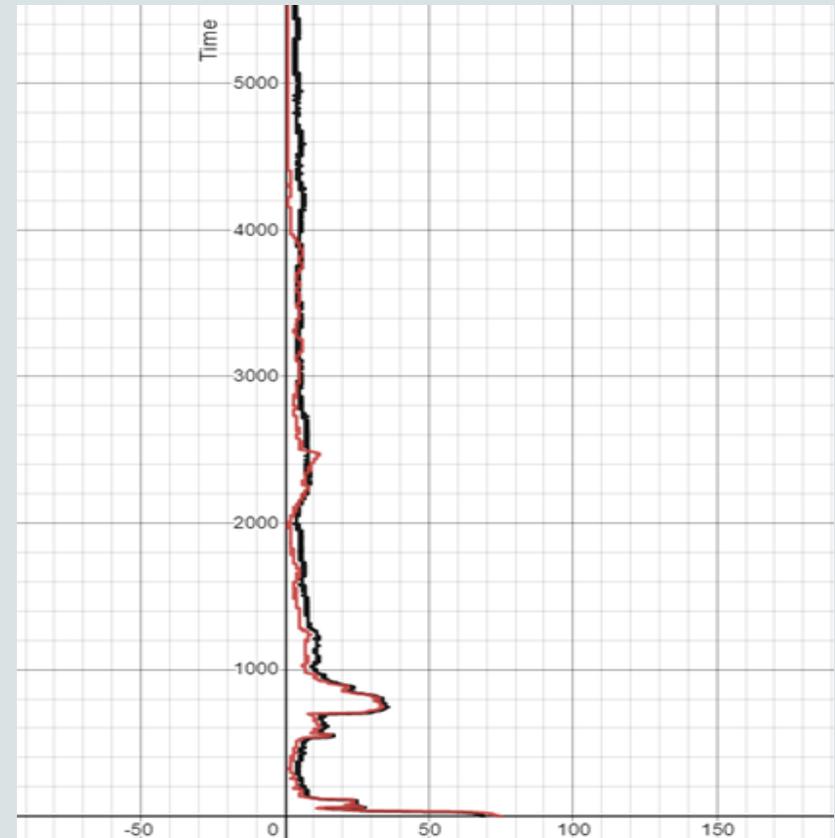


Day Flight Results

Humidity Result compared Egysonde with vaisala RS41SG

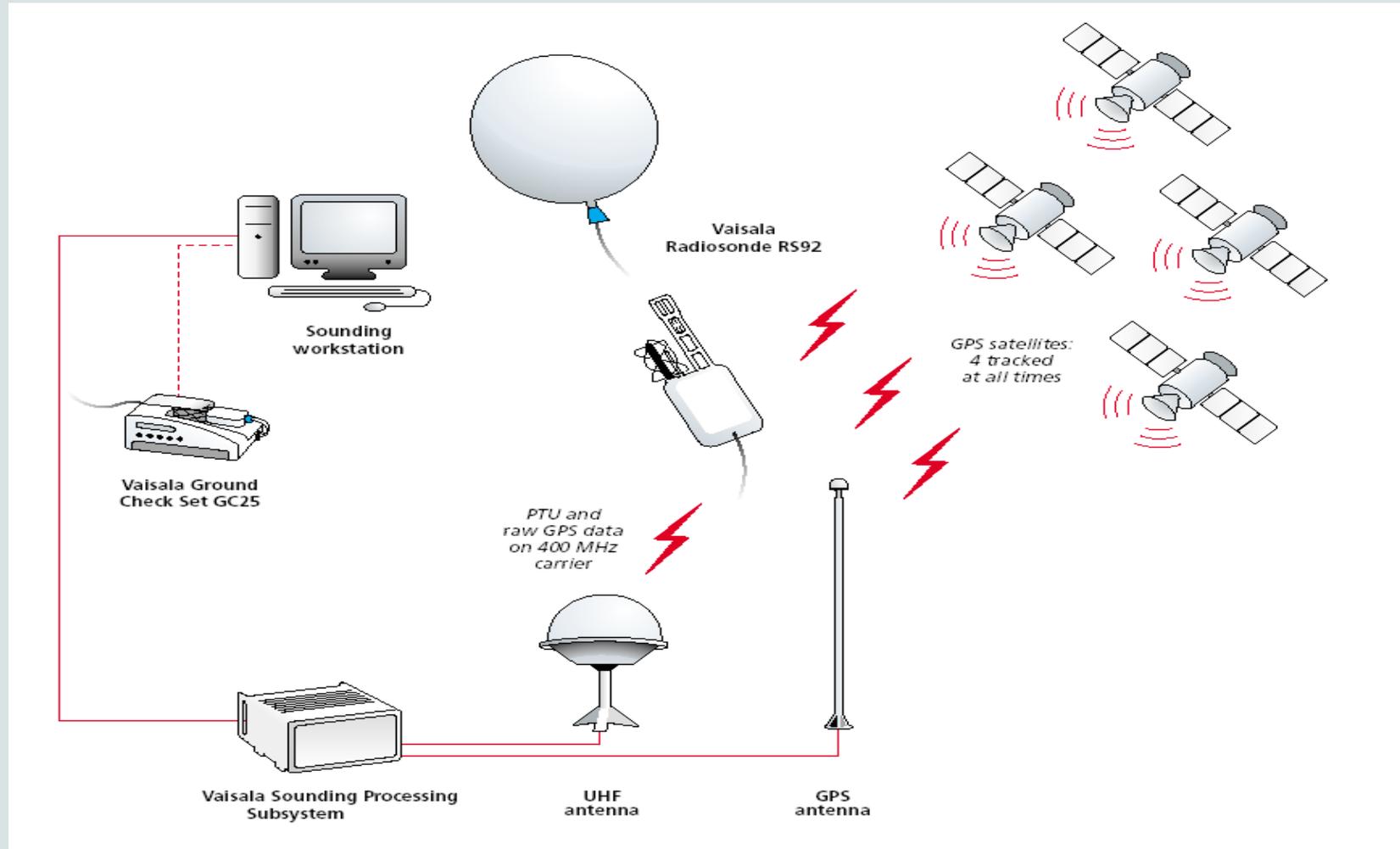


Night Flight results



Day Flight results

Vaisala Correlating GPS



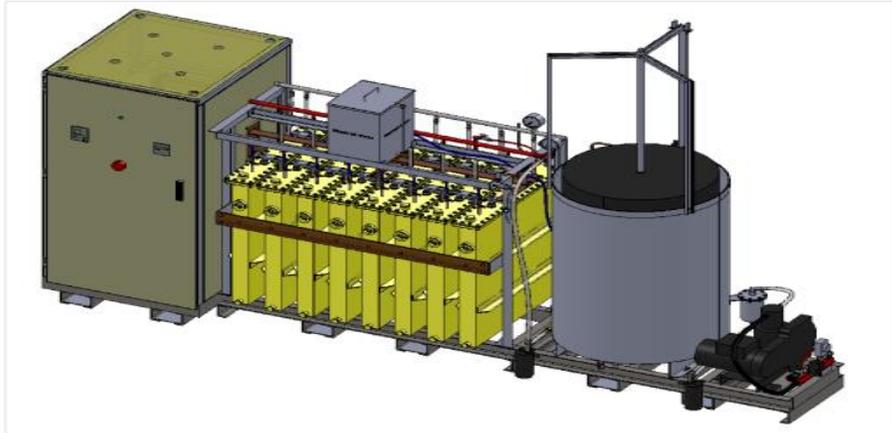
Vaisala upper air station MW4



Hydrogen generator

saqim
Hydrogen Generators - GIP™

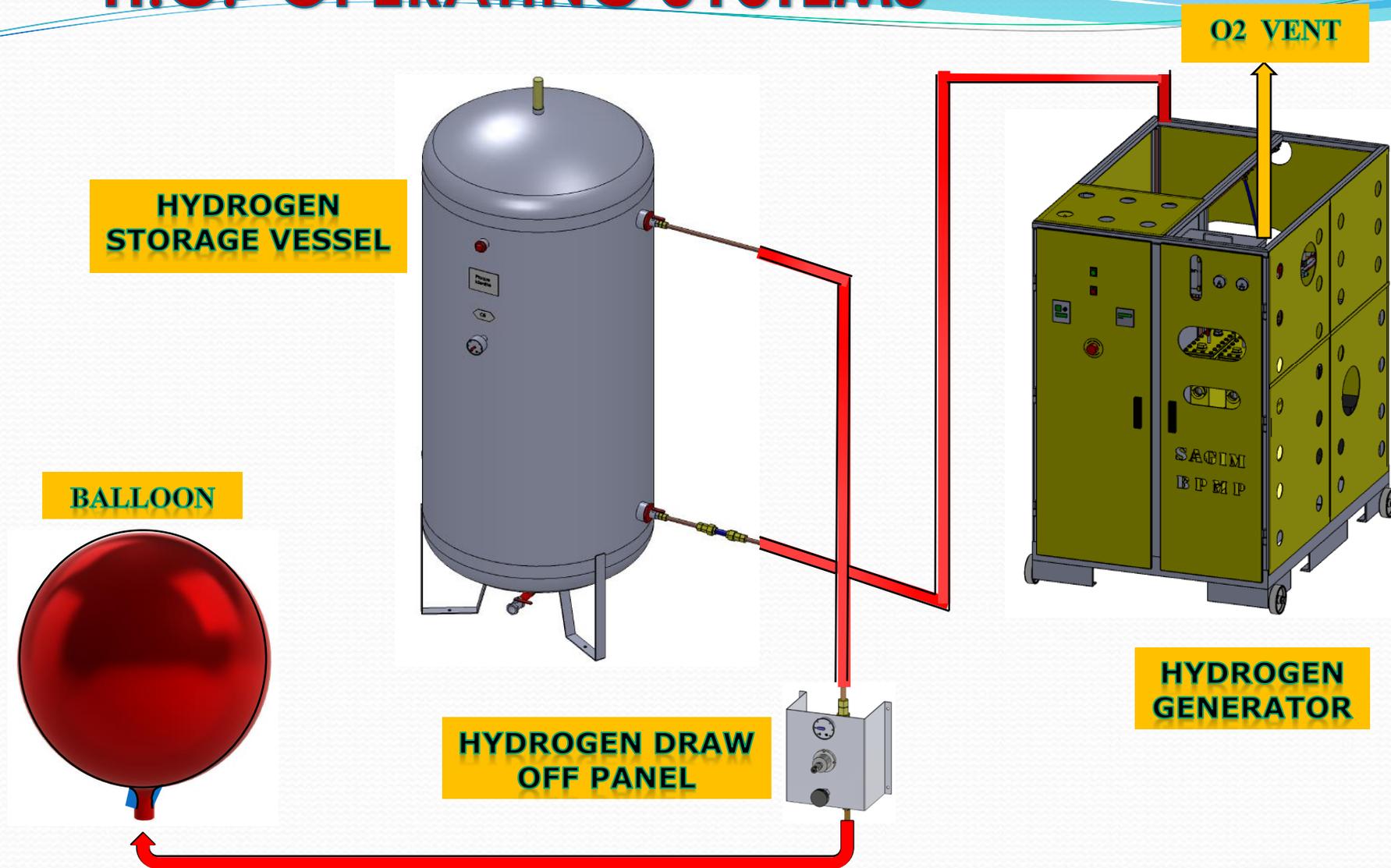
TECHNICAL SPECIFICATIONS
FOR AN ELECTROLYTIC HYDROGEN
GENERATOR TYPE M 1500



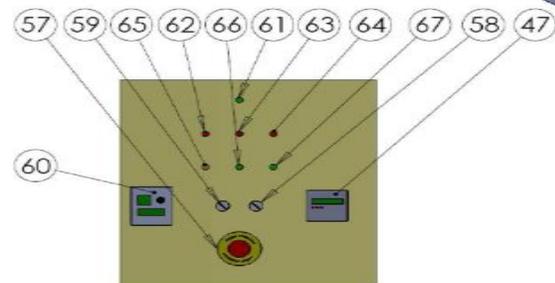
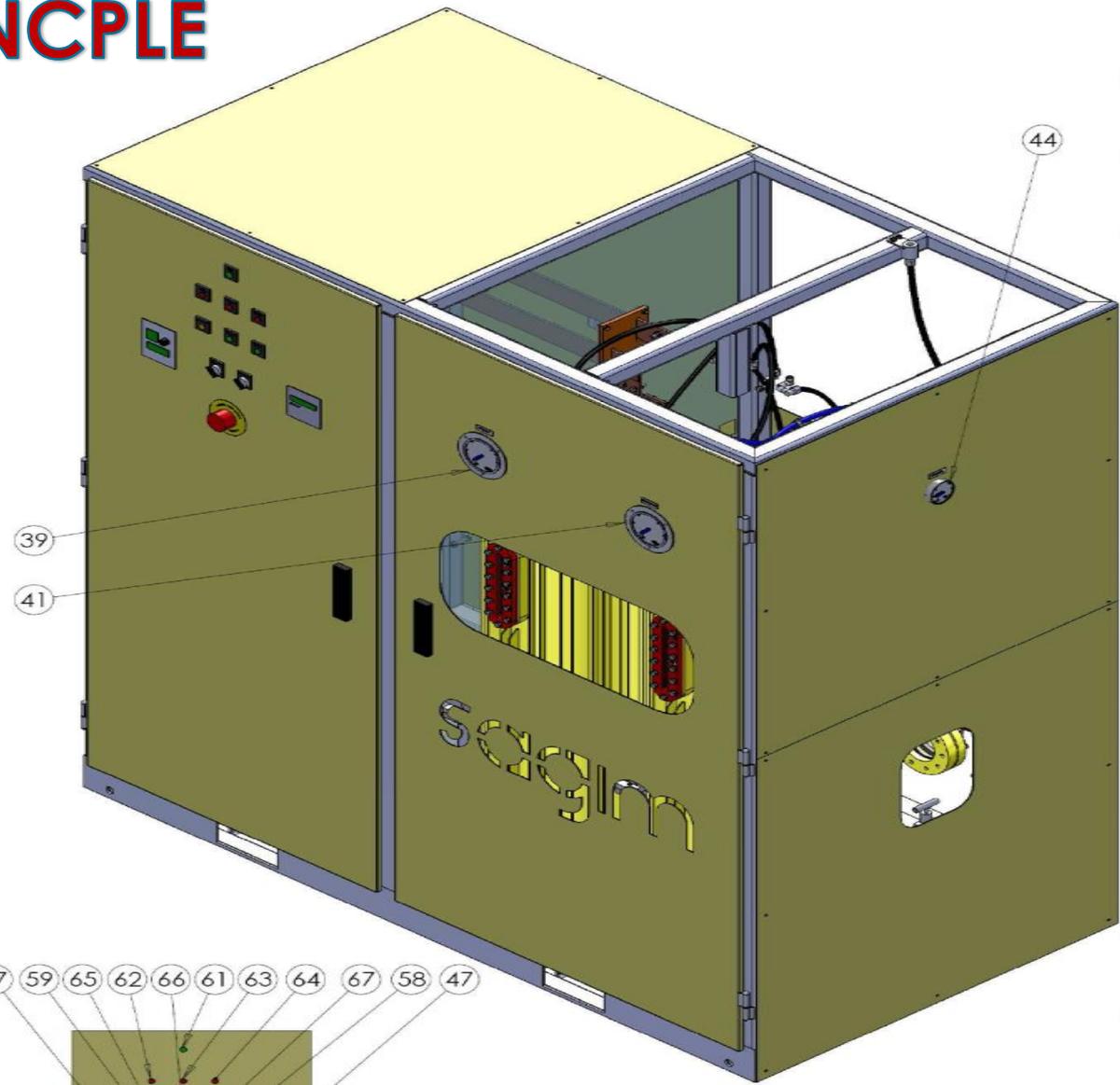
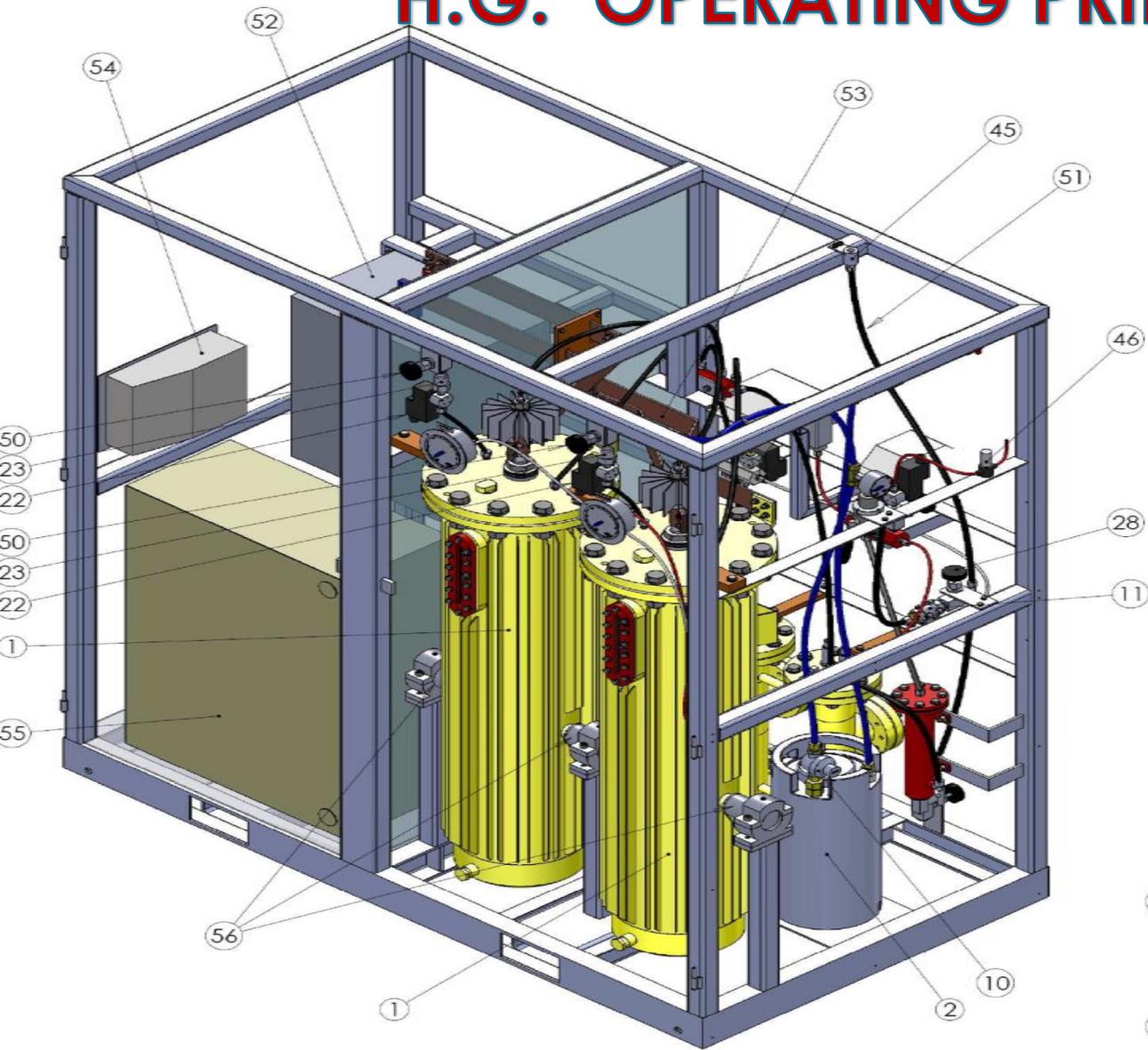
35, rue Schoenen-Kostner - 42000 Saint-Etienne - France • téléphone +33 4 77 92 20 00 • télécopie +33 4 77 74 71 09 • www.saqim-gip.com
SIRET 304 534 573 00012 - APE 2829 B - S.A.S. au capital de 376 229 €



H.G. OPERATING SYSTEMS



H.G. OPERATING PRINCIPLE



Hydrogen generator



2.3 TECHNICAL SPECIFICATIONS

ITEM	DESIGNATION	SPECIFICATIONS
1	HYDROGEN GENERATOR	
1.1	Hydrogen flow rate at atm. pressure	1.560 Nm ³ /hour (1560 Liters/hour)
1.2	Hydrogen pressure in gas holder	5 mbar mini / 8 mbar maxi
1.3	Temperature at gas holder outlet	65°C max
1.4	Hydrogen storage pressure	7 bars
1.5	Hydrogen storage volume	14 m ³
1.6	Hydrogen purity	99.9% at 20°C ambient temperature
1.7	Operating environment	0 to 50°C
1.8	Cooling system	Natural air
1.9	Monitoring system	Fully automatic and static



3.2 DAILY CHECKS

NO.	DAILY CHECK	FREQUENCY
1	Level of electrolyte in cell	1
2	Check of oxygen content in hydrogen	1
3	Check the water level in the drain vats of the gas holder	1
<u>Note</u>	During checks or measurements, the electrolyzer <u>does not</u> have to be stopped	

3.3 PREVENTIVE MAINTENANCE

NO.	PREVENTIVE MAINTENANCE	FREQUENCY
1	Drain the hydrogen compressor oil	12 months
2	Replacement of the alumina load in the particle filter	12 months
3	Replacement of the resin in the water treatment system	12 months
4	Greasing of the central guide of the gas holder	12 months

Note

The spare parts list and timetable for checks and maintenance have been drawn up on the basis of operation of the unit at 8,000 hours per year.

The tooling required for the commissioning and maintenance of the equipment is included in the scope of supply.

Meteorological balloons

Distributed by
sagim
 Hydrogen Generators - GIP™



SPECIFICATIONS <i>SPECIFICATIONS</i>	PR 30	PR 45	PR 100	PR 200	PR 300	PR 350	PR 500	PR 600	PR 750	PR 850
Type <i>Type</i>	C / P	P	P	P / S	P / S	P / S	S	S	S	S
Average Weight (g) <i>Poids Moyen (g)</i>	30	45	100	200	300	350	500	600	750	850
Colour <i>Couleur</i>	R / U	R / U	U	U	U	U	U	U	U	U
Neck Diameter (mm) <i>Diamètre de la manche (mm)</i>	22	26	36	40	48	50	60	63	77	77
Neck Length (mm) <i>Longueur de la manche (mm)</i>	75	75	110	120	120	120	170	170	180	180
Flacid Body Length (cm) <i>Longueur à plat (cm)</i>	42	52	85	100	120	120	160	180	190	200
Payload (g) <i>Charge utile (g)</i>	-	-	-	250	250	250	250	250	250	250
Free Lift (g) <i>Force ascensionnelle libre (g)</i>	60	140	300	700	900	900	900	900	900	900
Nozzle Lift (g) <i>Tare (g)</i>	-	-	-	1150	1150	1150	1150	1150	1150	1150
Total Lift (g) <i>Poids total (g)</i>	-	-	-	1350	1450	1500	1650	1750	1900	2000
Rate of Ascent (m / min) <i>Vitesse ascensionnelle (m / mn)</i>	150	180	250	320	325	325	325	325	325	325
Bursting Diameter (m) <i>Diamètre à l'éclatement (m)</i>	1.15	1.35	2.25	3.15	3.50	3.85	4.50	4.70	5.00	5.25
Altitude of Bursting (km) <i>Altitude à l'éclatement (km)</i>	11	13	15	16	20	23	25	26	27	28

R – Red <i>R - Rouge</i>	U – Uncolored <i>U – Incolore</i>	C – Ceiling Balloon <i>C- Ballon Plafonnant</i>	P – Pilot Balloon <i>P – Ballon Pilote</i>	S – Sounding Balloon <i>S – Ballon Sonde</i>
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Pour tout renseignement
 For further information
 35, rue Scheurer Kestner - 42000 Saint-Etienne - France
 Tél. +33 (0)4 77 92 20 00 - Fax : +33 (0)4 77 74 71 09
 e-mail : contact@sagim-gip.com
www.sagim-gip.com





Summary

-Egyptian Meteorological Authority (EMA) has 6 upper air stations for GPS Sounding System SR2K2 Modem with Radiosonde **M20** .

- 6 Upper Air stations of (**Vaisala**) of **GPS Sounding System MW41** (Vaisala) with Radiosonde RS41-SGP this stations distributed in Egypt as fig (1) .

Every station have **a Hydrogen generator**

_We used 500 gm meteorological ballon fill with hydrogen gas:

We sending buffer and temp code every day to GTS :

We have been storing all the data since the station was established .

Thank you



Dr : Zeinab Fahmy

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Egyptian Meteorological Authority

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Website: ema.gov.eg