

## GLOBAL AIR SAMPLING OVERVIEW F&J MODEL GAS-EDL-110WE-REMP

The Global Air Sampling (GAS) systems provide air monitoring specialists worldwide with the ultimate operator flexibility for customizing the hardware to meet their specific needs.

The GAS product line enables an operator to select the engineering units for measured and calculated parameters as well as mass or volumetric flow and periodic or continuous sampling mode. The operator can select the data storage frequency and the RS232 data output frequency that best suits his application.

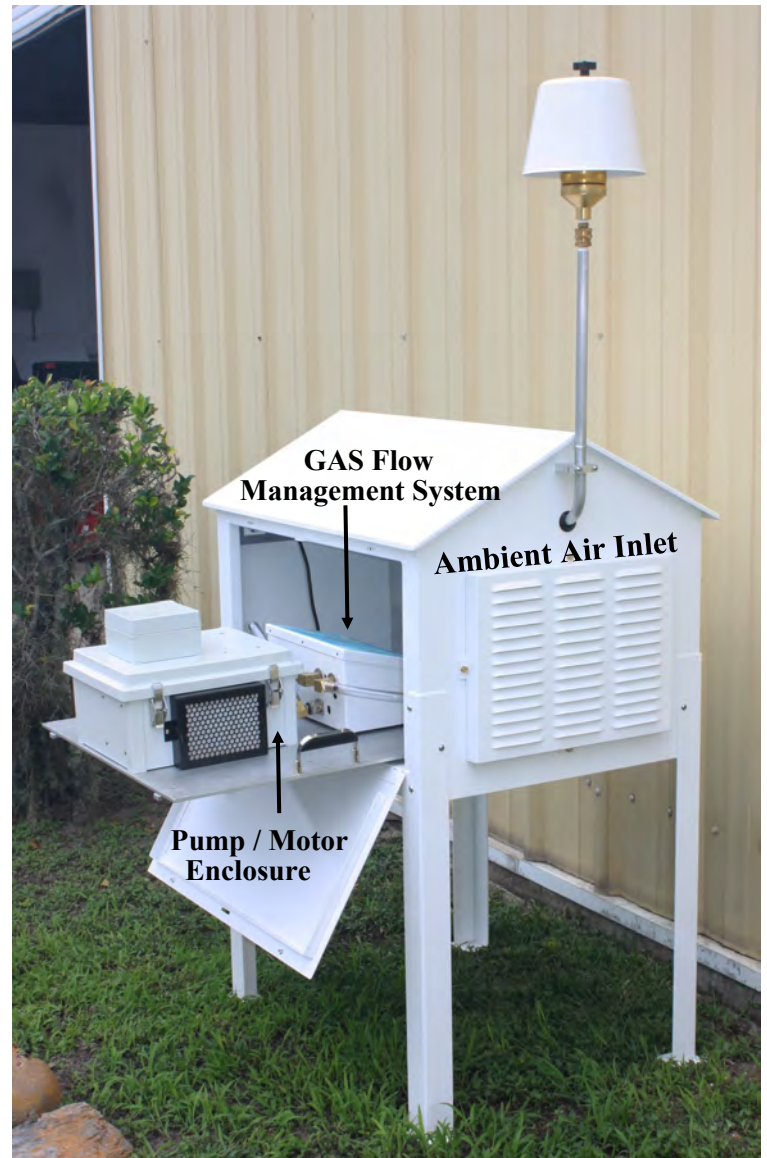
The GAS system displays a multitude of on-board calculations, including maximums, minimums and averages for measured and calculated parameters. The % Availability of the unit is also determined for continuous operation mode along with power outage commencement time and duration.

Hardware features include a 4 line  $\times$  24 character vacuum fluorescent display, dual RS232 ports which permits integration with other instruments and to enable in-bound and out-bound communication.

The flow rate and volume accuracy of 3.0% Full Scale (F.S.) is among the best in the industry.

The F&J Global Air Sampling (GAS) systems raise the bar for air sampling instruments by providing air sampling specialists with the maximum operator flexibility, an increase in the amount of valuable information about the air sampling event, increased accuracy and the best combination of tools to comply with present and future regulatory requirements.

Model GAS-EDL-110WE-REMP is designed for operation in desert environments of high temperatures and frequent wind blown sand storms.

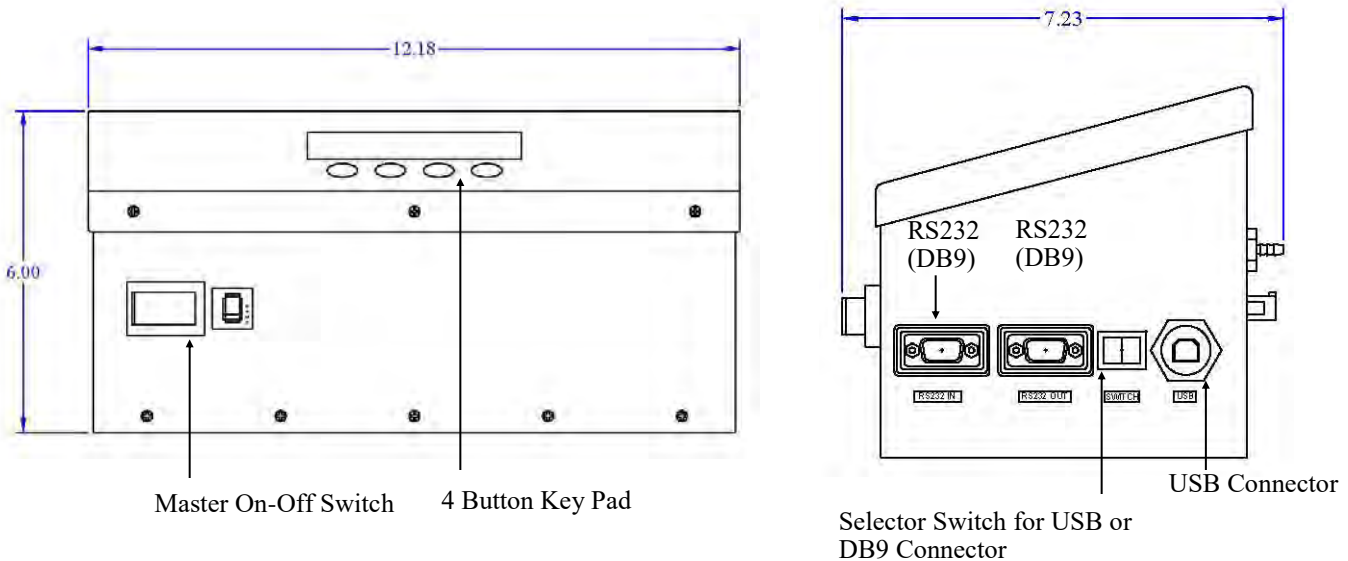


## GLOBAL AIR SAMPLER SYSTEM FEATURES

### Operator Selectable Features in Setup Mode

Language:	English
Sampling Mode:	Volumetric Flow or Mass Flow
Gas Type:	Air, O <sub>2</sub> , N <sub>2</sub> , H <sub>2</sub> , CO, CO <sub>2</sub> , C <sub>3</sub> H <sub>6</sub> , H <sub>c</sub> , NH <sub>3</sub>
Engineering Units	
Volumetric Flow:	scem, SLPM, SCFM, sm <sup>3</sup> /min, sm <sup>3</sup> /hr
Mass Flow:	kg/hr, g/min, lbs/hr
Temperature:	°C, °F
Pressure:	In. Hg, mm Hg, bar, mbar, atm, kPa, hPa
Reference T and P	
Reference T:	0°C, 15°C, 20°C, 21.1°C (70°F), 25°C
Reference P:	101.325 kPa (760 mm Hg), 100 kPa (1bar)
RS232 Data Output Frequency:	1 sec, 1 min, 10 min, 20 min, 30 min, 1 hr
Data Storage Frequency:	1 min, 10 min, 20 min, 30 min, 1 hr
Operating Mode:	Continuous, Periodic
Periodic Sampling Options:	1 hr. (12 five minute periods), or weekly (24 one hour periods for 7 days)
Ending Mode:	By time, By volume
Operator Selectable Passwords:	2 levels
Alarm Settings	Flow, inlet P., temperature, DP due to dust loading, loss of power
Date and Time Setup	Input of real time and date

### Close Up Drawings of Control Box



## Examples of Viewable Data Screens

### KEY MEASUREMENT IN PROGRESS INFORMATION (LV)

#### Elapsed Time and Flow Values

Elapsed time: 4:00:08  
Current flow: 3.12 SCFM  
Ambient flow: 3.24 CFM  
Initial flow: 3.00 SCFM\*

\*Appears after 6th minute of operation

#### Average Flow Values and Volumes

Avg. std. flow: 3.12 SCFM  
Avg. amb. flow: 3.24 CFM  
Std. volume: 1.235E02 SCF  
Amb. volume: 1.453E02 CF

#### Temperature and Pressure Values

Temperature: 23.3 C  
Diff. press: 0.012 InHg  
Inlet press: 29.87 InHg  
Amb. press: 29.91 InHg

### POST MEASUREMENT INFORMATION

#### Start time, End Mode, Elapsed Time and Operating Mode Info

Start at: 29MAY2011 08:16  
Stop at: 11JUN2011 08:16  
Elapsed time: 0,12:11  
Op: 5 min per: 010011011101

#### Average Flow Values and Volume

Avg. std. flow: 3.12 SCFM  
Avg. amb. flow: 3.24 CFM  
Std. volume: 1.235E02 SCF  
Amb. volume: 1.453E02 CF

#### Ref. and Amb. Flow, T and Amb. Pressure Ranges

Std. f: 9.02- 9.19 SCFM  
Amb. f: 9.14- 9.33 CFM  
Temp: 23.1- 26.4 C  
Amb. p: 29.81- 29.99 InHg

#### Flow, T and Ambient Pressure Ranges

Std. f: 9.02- 9.19 SCFM  
Amb. f: 9.14- 9.33 CFM  
Temp: 23.1- 26.4 C  
Amb. p: 29.81- 29.99 InHg

#### DP Range, Gas and Ref. Values

DiffP: 0.012- 0.045 InHg  
Initial flow: 3.00 SCFM  
Ref. temp.: 21.1 C  
Ref. press.: 29.92 InHg

#### Start time, End Mode, Current Time and Operating Mode Info

Start at: 29MAY2011 08:16  
Stop at: 11JUN2011 08:16  
Time: Wed 01JUN2011 08:20  
Op: 5min per: 010011011101

#### DP Range, Initial Flow and Ref Values

DiffP: 0.012- 0.045 InHg  
Initial flow: 3.00 SCFM  
Ref. temp.: 21.1 C  
Rf. Press.: 29.92 InHg

#### Set up Flow and % Availability

Setup flow: 10.50 SCFM  
% availability: 98.9 %

#### Gas, Storage Freq. and Power Outages Info

Gas: Air  
Storage freq.: 1 min  
Power outages: 1  
Duration: 0,00:12

#### Additional Power Outage Info

29MAY 08:14, L: 0,00:12

EXIT

# GAS-EDL-110WE-REMP Air Sampler Specifications

**Pump Type:** Centrifugal blower, 100 watt Brushless motor with ceramic bearings and high temperature grease.

**Maximum Flowrate:**

155 LPM - Typical w/47mm FP47M glass fiber Media; flow rate with other filter mediums will vary  
230+ LPM – Free air flow capacity

**Power Source:**

Line Power; 220VAC to 240VAC  
External DC Source – 24VDC

**Maximum Current Draw:** 4 A maximum on line power  
10 A maximum on 24 VDC

**Filter Holder Fitting:** 3/8 FNPT quick disconnect

**Weight:** 120 lbs. (54.4 kg)

**Dimensions:** 52.6" × 33.8" × 25.9"  
(133.6 × 85.8 × 65.7 cm)

**Foot Print Specifications:**

Dimension: 28" x 22" (71.1 x 55.8 cm)  
Hole Diameters: 0.563" (1.43 cm)

**Operating Temperature Range:**

0°F to 145°F (-17°C to 60°C)

**Display:** VFD, 4×24 characters

**Flow Control:**

Adjustable from keypad between 30-210 LPM

**Flow Accuracy:** ±3.0% of Full Scale

**Communication Interface:** Dual RS-232

**Operator Selectable Features**

Language Options: English  
Sampling Mode: Volumetric Flow or Mass Flow  
Gas Type: Air, O<sub>2</sub>, N<sub>2</sub>, H<sub>2</sub>, CO, CO<sub>2</sub>, C<sub>3</sub>H<sub>6</sub>, He, NH<sub>3</sub>

**Engineering Units**

Volumetric Flow: sccm, SLPM, SCFM, sm<sup>3</sup>/min, sm<sup>3</sup>/hr  
Mass Flow: kg/hr, g/min, 1 lbs/hr  
Temperature: °C, °F  
Pressure: In, Hg, mm Hg, bar, atm, kPa, hPa

**Reference T and P**

Reference T: 0°C, 15°C, 20°C, 21.1°C (70°F), 25°C  
Reference P: 101.325 kPa (760 mm Hg), 100 kPa (1 bar)

RS232 Data Output Frequency: 1 sec, 1 min, 10 min, 20 min, 30 min, 1 hr

Data Storage Frequency: 1 min, 10 min, 20 min, 30 min, 1 hr

Operating Mode: Continuous, Periodic

Periodic Sampling Options: 1 hr. (12 five minute periods), or weekly (24 one hour periods for 7 days)

Ending Mode: By time, By volume

Operator Selectable Passwords: 2 levels

Date and Time Setup: Input of real time and date

**Standard Combination Filter Holders Available:**

FILTER HOLDER MODEL	CHARCOAL CARTRIDGE DIMENSIONS	PARTICULATE PAPER DIAMETER
FJ-05P	F&J Model B	2" or 50 mm
FJ-21P	F&J Model C	2" or 50 mm
FJ-35P	F&J Model B	47 mm
FJ-46P	F&J Model C	47 mm
FJ-51P	F&J Model M	2" or 50 mm
FJ-53P	F&J Model M	47 mm
FJ-47RH	F&J Model C	47mm
FJ-20RH	F&J Model C	2 inch or 50 mm

**Optional Items:**

- Air Sampler Data Acquisition Program  
P/N: GASdaq
- Ruggedized Cellular Phone System  
P/N: CASRPS
- Automatic Line Power to 24 VDC switch over electronics P/N: LP-24V
- Heating system with thermostat control for cold weather periods



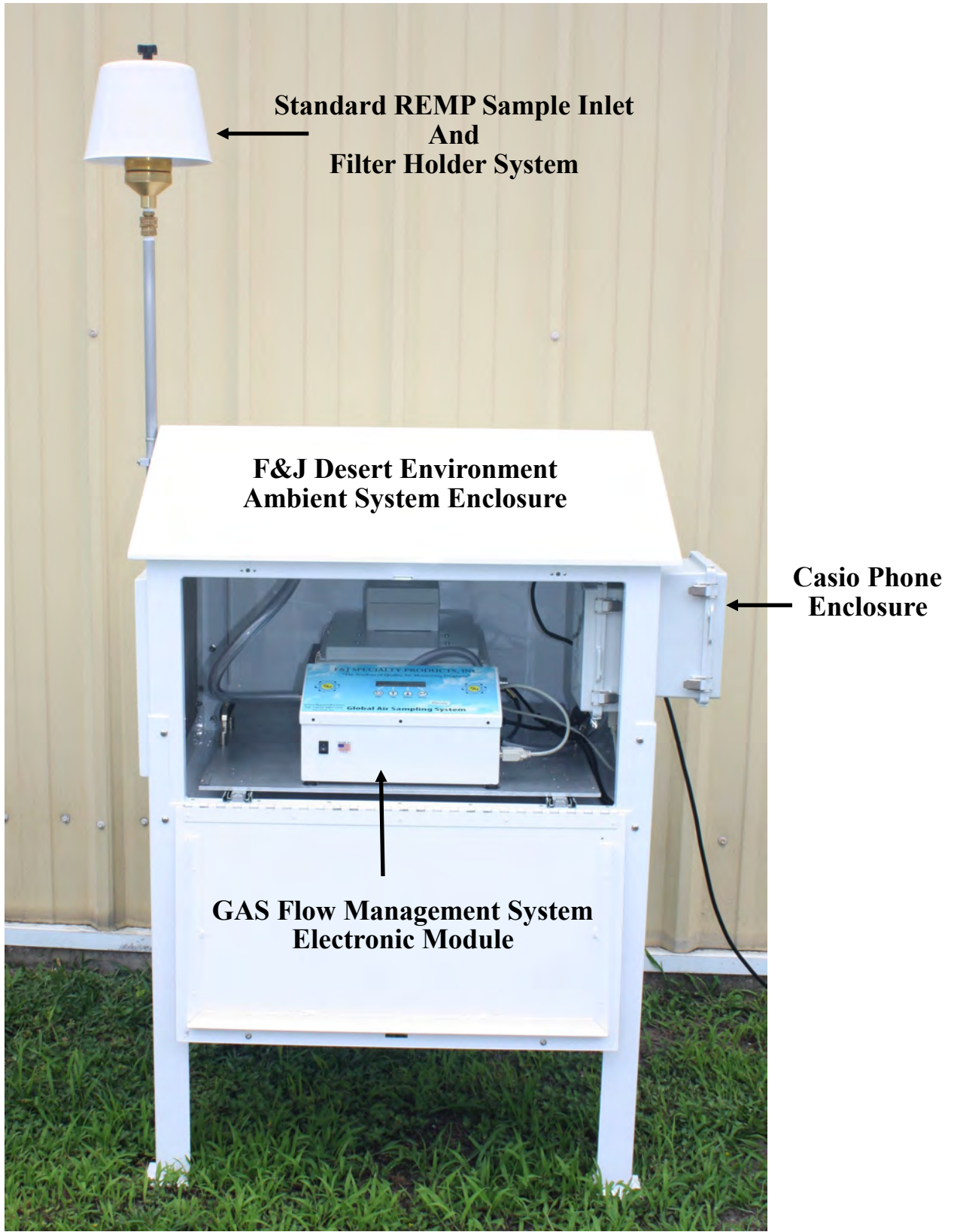
**CASRPS**

## Typical Maximum Flow Rates for Various Filter Media Combinations

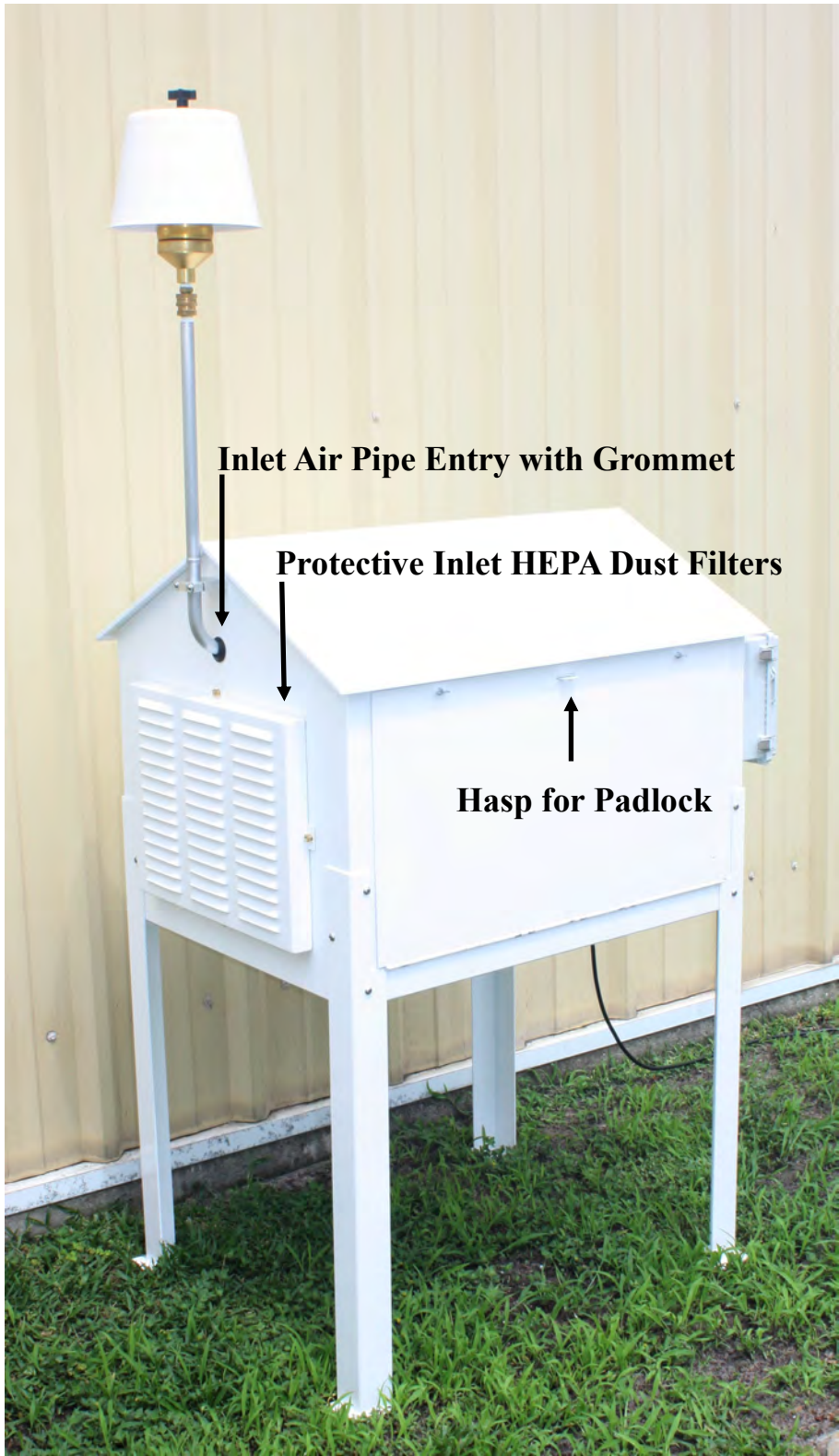
Filter Media	Flow Rate (SCFM)	Flow Rate (SLPM)	Media D.P.("Hg)	Media D.P.("H <sub>2</sub> O)
FP47	2.90	81.63	3.22	43.78
FP47M	4.55	129.11	2.13	28.96
FP47M2	7.02	198.25	1.31	17.81
FP47 & TE2C	2.29	65.06	3.55	48.26
FP47M & TE3C	3.56	100.79	2.85	38.75
FP47M2 & TE1C	4.46	126.35	1.79	24.34
FP20M	4.49	127.29	1.80	24.47
FP20M & TE2C	3.19	90.28	2.95	40.11
FP20M & TE3C	3.51	99.48	2.67	36.30
FP40M	9.16	258.23	0.77	10.47



# GAS-EDL-110WE-REMP Air Sampler Specifications

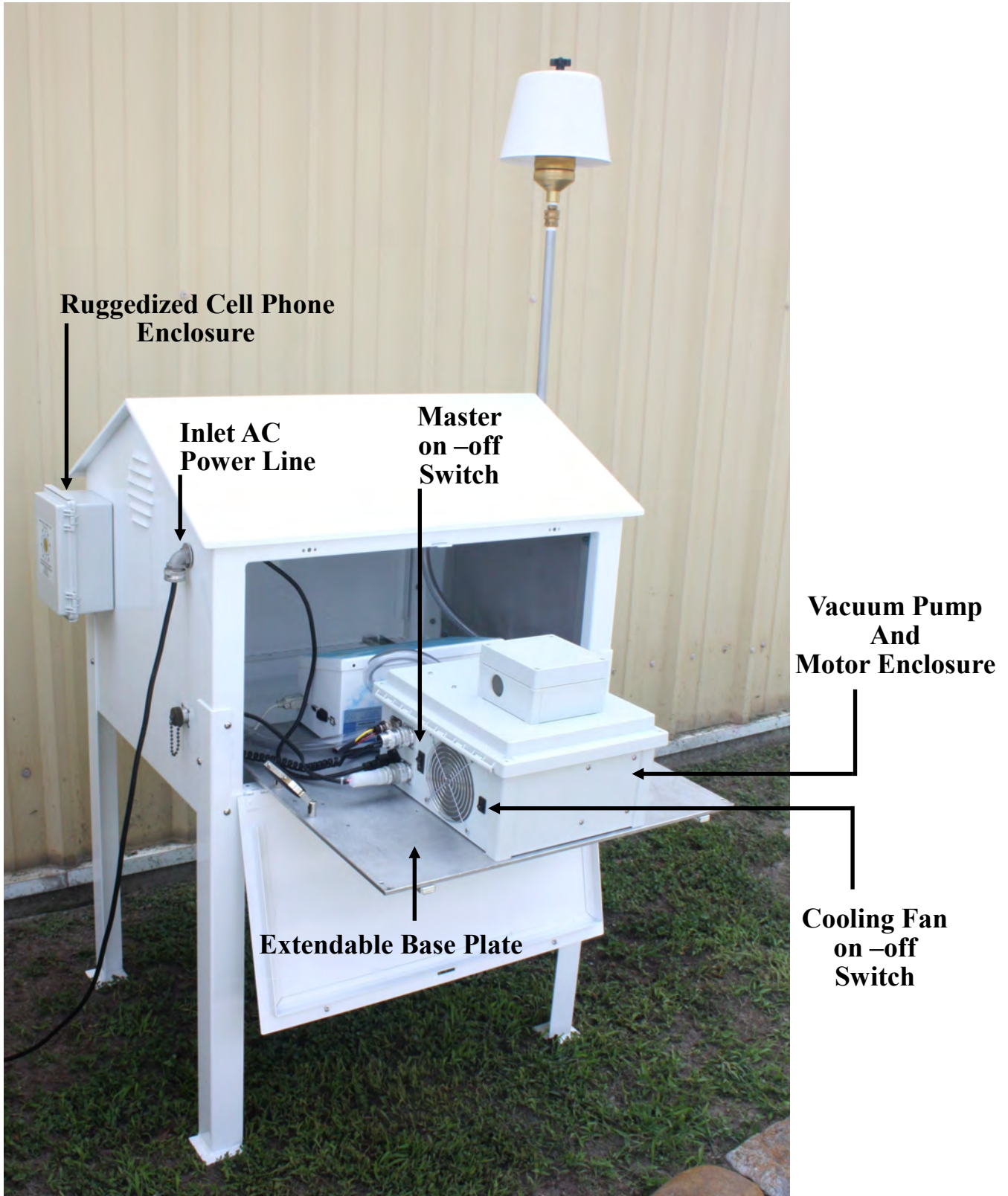


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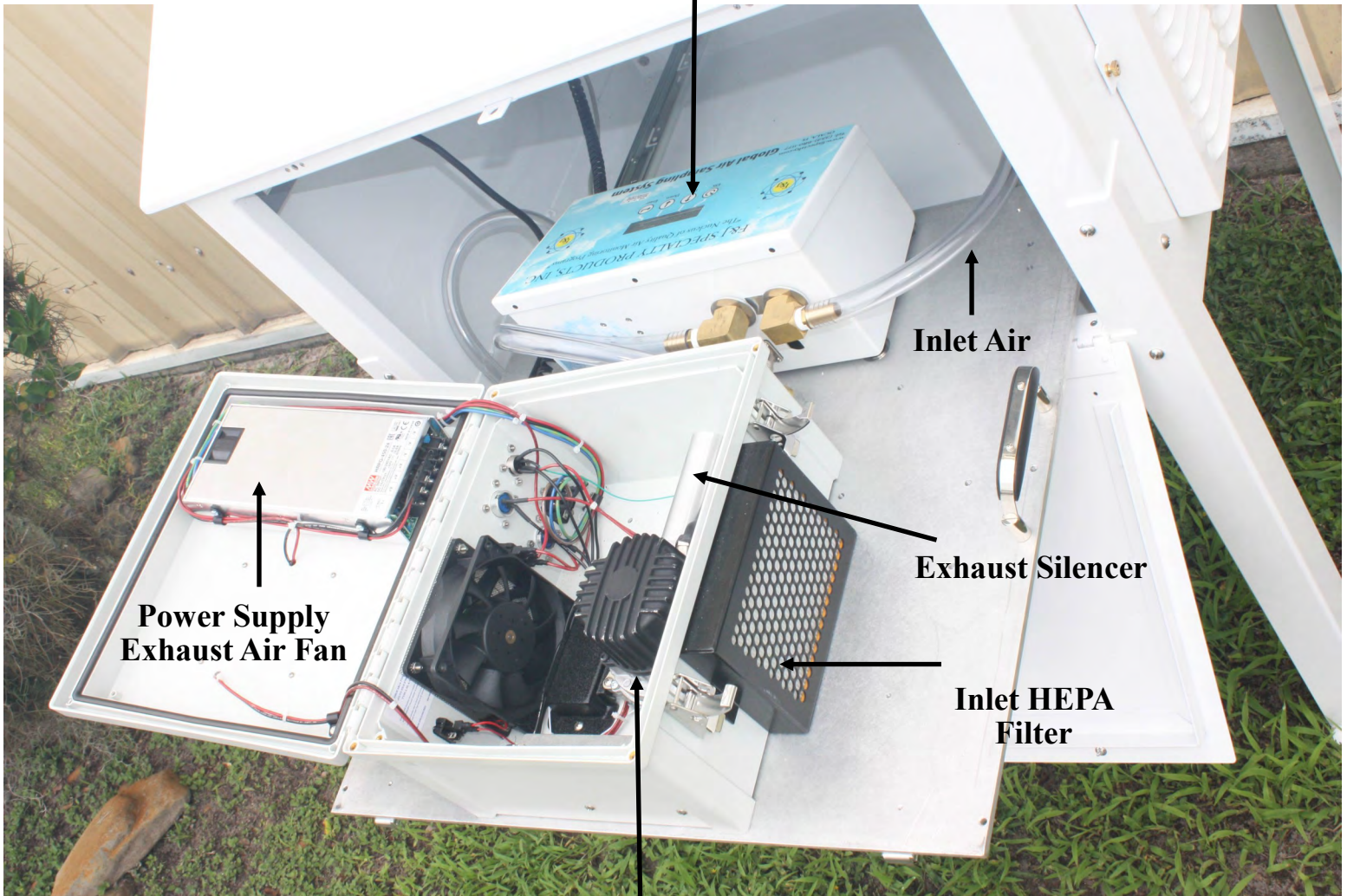




# GAS-EDL-110WE-REMP Air Sampler Specifications



## Global Air Sampler Flow Management System Electronic Module



Power Supply  
Exhaust Air Fan

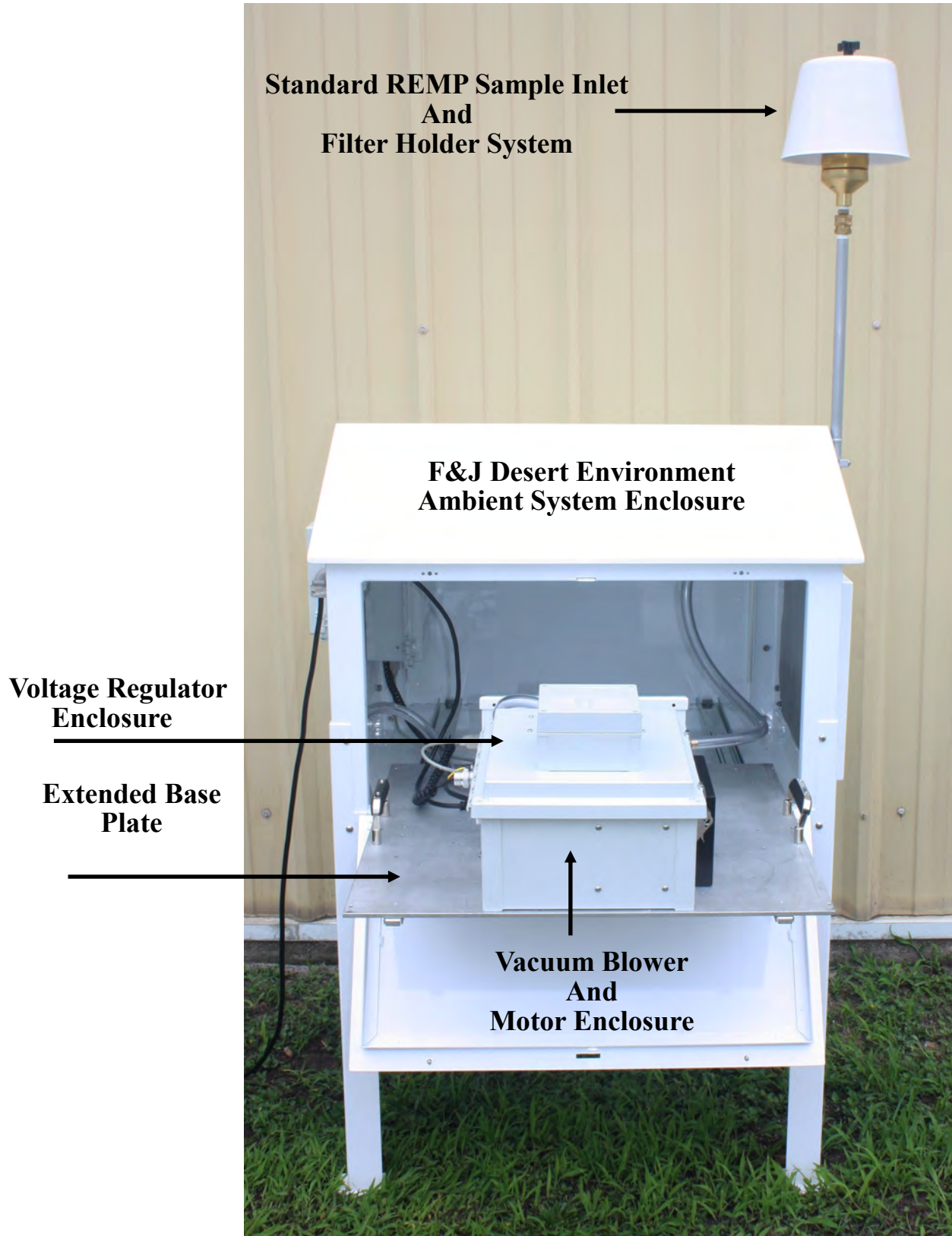
Inlet Air

Exhaust Silencer

Inlet HEPA  
Filter

Vacuum Pump  
Motor

# GAS-EDL-110WE-REMP Air Sampler Specifications



# GAS-EDL-110WE-REMP Air Sampler Specifications

**Vacuum Pump and Motor  
Protective Housing**

**Data Concentrator  
Protective Enclosure  
IP65**

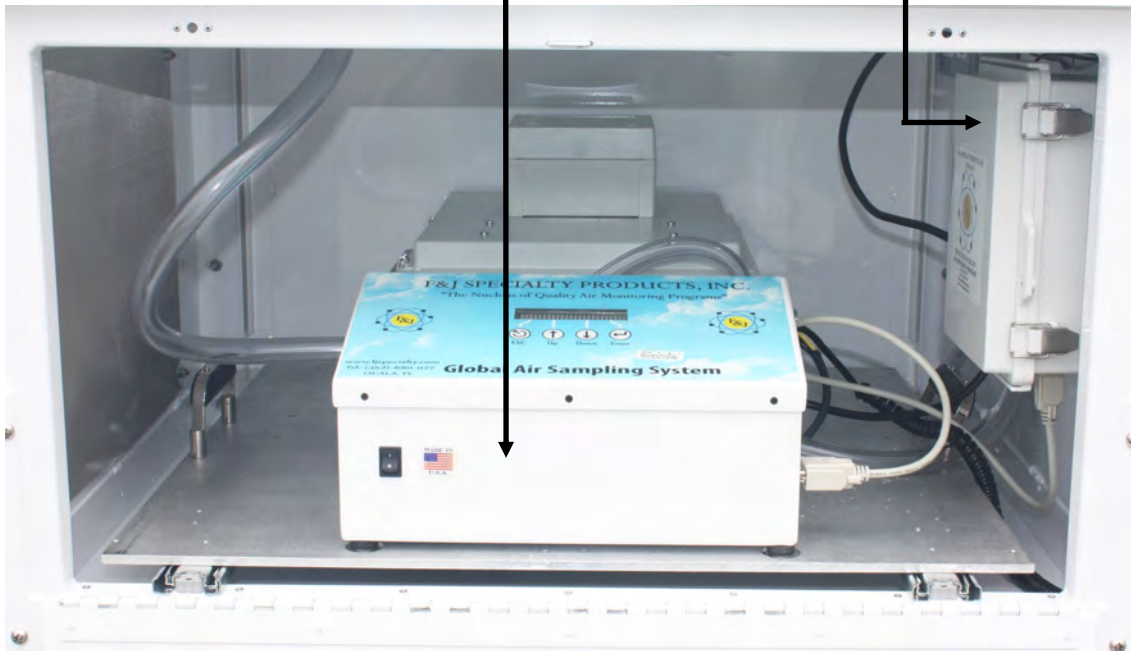


**GAS Flow Management System  
on-off Switch**

**Global Air Sampler  
Flow Management System  
Electronic Module**

**Global Air Sampler  
Flow Management System  
Electronic Module**

**Data Concentrator  
Protective Enclosure  
IP65**

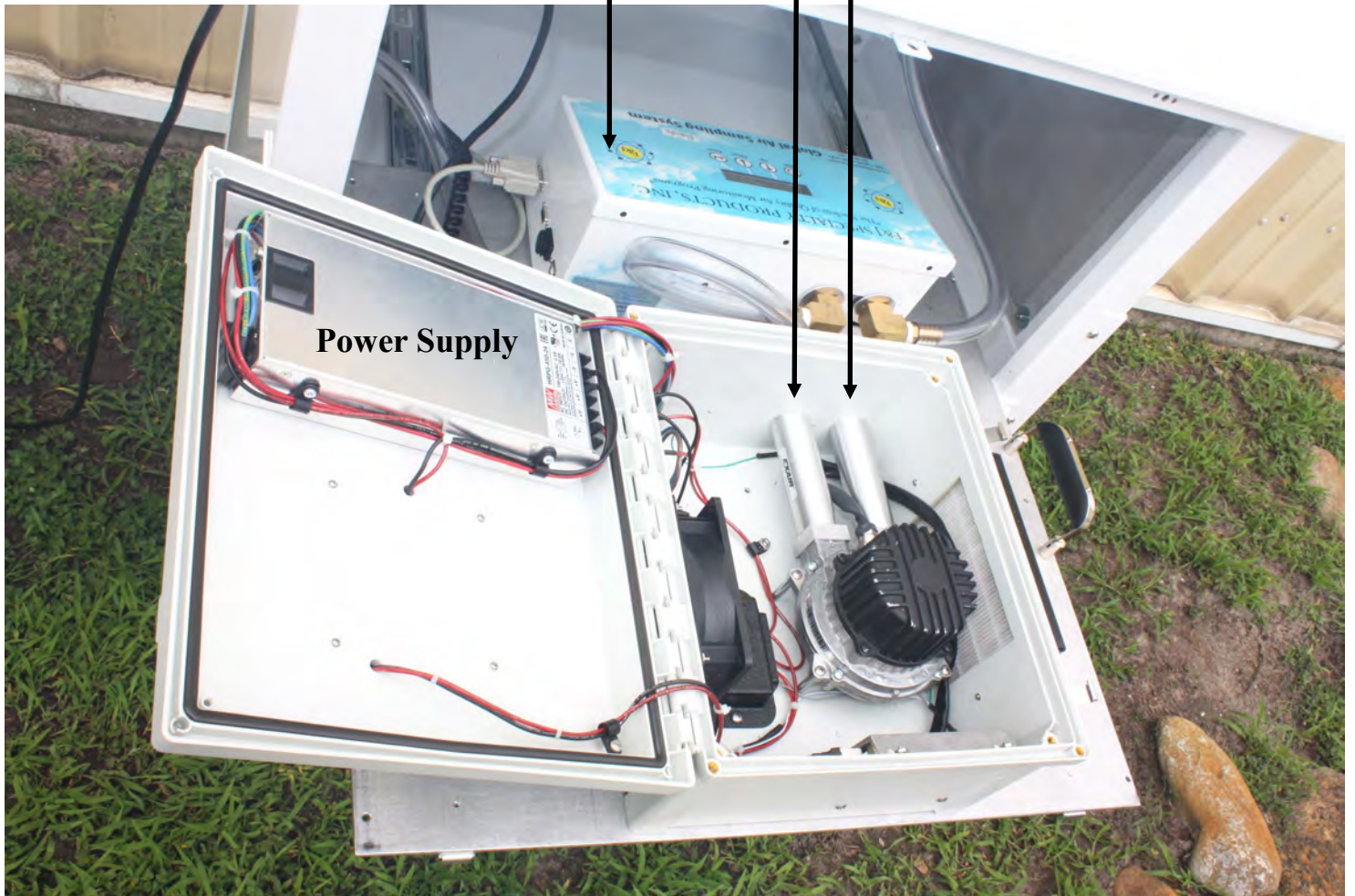


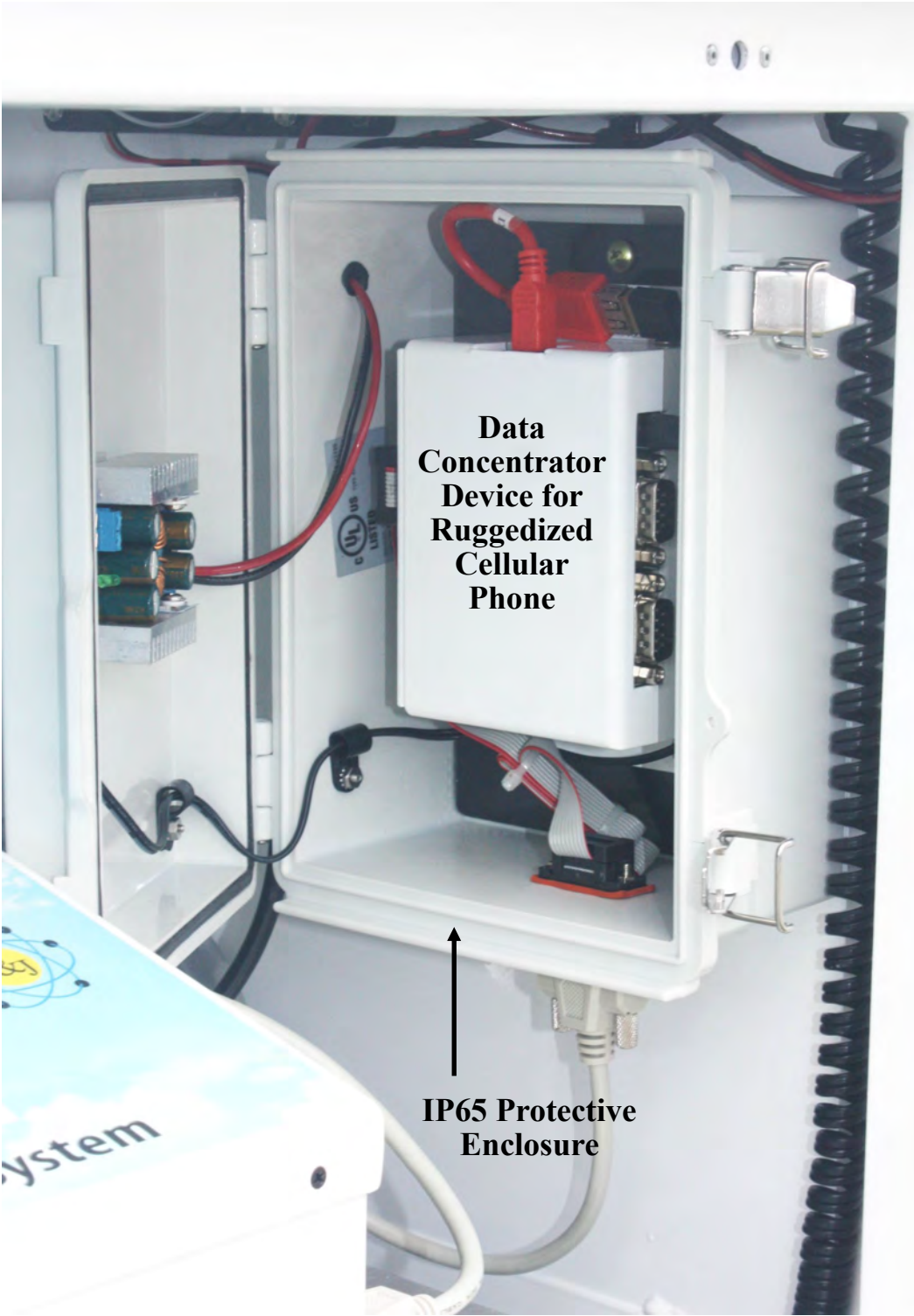
# GAS-EDL-110WE-REMP Air Sampler Specifications

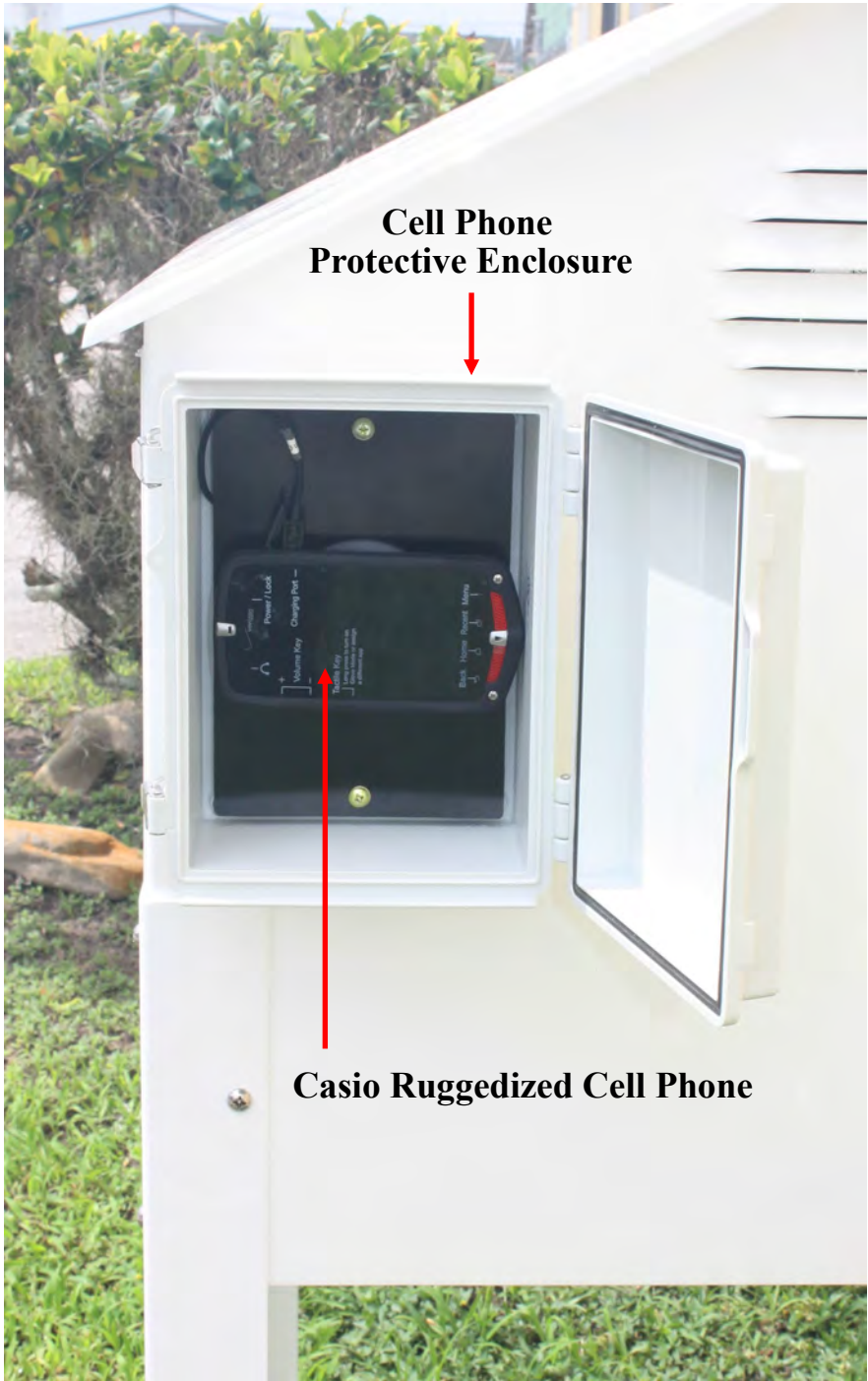
**Global Air Sampler  
Flow Management System  
Electronic Module**

**Air Exhaust**

**Air Intake**







**Cell Phone  
Protective Enclosure**

**Casio Ruggedized Cell Phone**

# GAS-EDL-110WE-REMP Air Sampler Specifications

