



Battery and power operator sampler

Delta Mk2

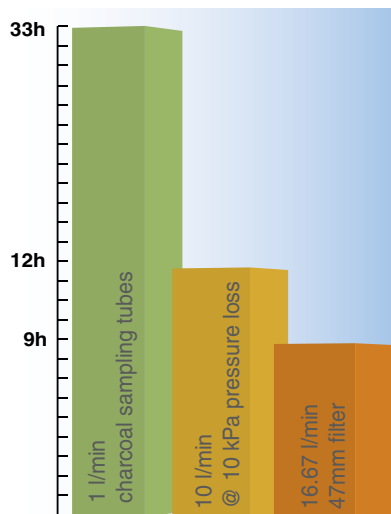
Main Features:

- In accordance with official method EN12919
- External power supply 110/220 Vac without any adapter and 12 Vdc with Delta Battery Pack
- Intergrated dry gas meter version available
- Operating flow range 0.2 - 25 l/min without any external devices
- Battery consumption optimized according to the sampling flow rate
- Electronic controlled flow rate at standard and actual conditions
- Adjustable flow rate during the sampling mode without any stop
- Measured and logged parameters:
 - Instant flow rate,
 - Total volumes,
 - Ambient and Temperature pressure
 - Loss of pressure across the filter
- Liquid protection trap
- Logging of more than 60 sampling reports
- SMS remote control (*)

Delta Mk2 is the evolution of Delta battery sampler. The main topics of the new version are the removal of the battery adapter, now as built-in device, and the integration of the dry gas meter (DGM), as requested by the official methods.

The DGM version supplies a double control (flow and volume) on effective sampling performance: this comparison is unique to find in a portable equipment, with the result of high accuracy for output data.

An innovative electronic flow control system, optimized for battery consumption, manages the power used in relation to the flow rate.



Autonomy with Delta Battery Pack

* Optional

Thanks to its modular structure, changing the battery pack in the field, without stopping the sampling, is a quick and easy operation that increases the autonomy of the sampler. In this new version, the sampler built in system allows both 110/220 Vac and Delta battery pack power supply. Compared to the old version, the new built-in power supply system allows battery charging and instrument running using a simple power cord (included).



Flow Checking

The control of the flow is effective to obtain fast response time, even at low flow ranges.

The response time (only 5 seconds) allows the instrument to adjust itself to changing ranges and pressure drops.

The new pneumatic system doesn't need any external device and is free from pulsations, even at lower flows.

A trap secures the instrument from damages caused by the accidental liquid suction.

Sequentiality

Equipping Delta with the TCR sequential manifold module, it is possible to connect to the sampler all TCR sequential modules.

The module is connected to the instrument in the place of the battery pack and it is supplied with 110/220 Vac.

The programming modes allow to perform multiple samplings, daily or with established duration and pause.

A sequential pump function allows to spread the sampling duration. This function is very useful with sampling on tubes or impingers, because allows to have a representative sample for 24 hours, without the risk to overload the tube or the adsorbent liquid.

Data processing

Measurement reports are saved on the internal flash memory. Using the function "Explore memory", through the wide graphic display, it is possible to see all stored reports. Through the RS232 interface, it is possible to download all stored data on a PC.



Utility software

The dedicated **Downloader** software, compatible with Echo and Bravo series, allows to convert all stored data in an Excel™ sheet with a simple click. The software is supplied with the instrument and the connecting cables in a CD format.



Delta with Battery Pack



Delta with TCR sequential manifold module

Software Downloader



Every sampler is supplied with:

- carrying case
- Rauclair tube 3 mt
- kit universal adaptors for tubes
- power supply cable
- instructions manual
- calibration certificate



Delta Mk2 with DGM



Delta Battery Pack with integrated battery charger



Delta module for TCR manifold

Technical characteristics

Measured sizes

Range regulation	0.2 - 25 l/min
Maximum flowrate range	> 30 l/min
Mass flow	Precision better than $\pm 2\%$
Volume flow	Precision better than $\pm 2\%$
Secondary volume *	With dry gas meter precision $\pm 2\%$

Atmospheric pressure

Range	20-110kPa (200-1100 mBar)
Precision	better than 1% f.s. ± 0.5 kPa
Resolution	0.01 kPa (0.1 mBar)

Lost of charge on filter

Range	20-110kPa (200-1100 mBar)
-------	---------------------------

Sucked air temperature

(associated with amb. temp.)

Used sensor	Pt 100
Range [resolution]	-30 +50 °C [0.01 °C]
Precision	better than 1% f.s. ± 0.5 °C

Gas temperature at DGM*

Used sensor	Pt 100
Range [resolution]	-10 +60 °C [0.01 °C]
Precision	better than 1% f.s. ± 0.5 °C

Specifications

Flow regulation	Electronic automatic
Reaction time T ₉₀ (regulation)	<30 sec
Pump	Membrane
Operating temperature	-5 +40 °C 95% UR
Power supply	110/220 Vac 50/60Hz or with Delta Battery Pack
Autonomy	See graphic on page 1
Display	Graphic LCD 128x64 pixel
Keypad	Tactile membrane
Interface	RS 232
Data memory	over 60 report
Logging interval	Average 5 min
Weight [Battery pack]	5.4 Kg [Batt. 5.5 Kg]
Dimensions [Battery pack] bxpwx	23x26x30 cm [Batt. 23x26x12 cm]

Codes for orders

Delta MK2 (basic)	AA99-004-0001SP
Delta MK2V (with dry gas meter)	AA99-004-0002SP
Battery Pack	AA99-004-9907SP
Delta interface for manifold module	AA99-004-9920SP
Delta module for TCR manifold	AA99-004-9921SP
Software Downloader - CD and connecting cable RS232	AA99-009-9909SP
GSM Modem for control via SMS	AA99-004-9910SP
Portable battery Printer	AA99-000-9907SP