

Genius 5® Portable Stack Emissions Sampling System

The **Genius 5** is a portable stack sampling controller designed for emissions testing of dioxins, dust and heavy metals according to EPA and EN standards. Genius 5 was developed to reduce the usual uncertainty and to increase the quality of these measurements. It is a portable automatic and sequential sampling device suitable for short-term sampling. Genius 5 can be used both for isokinetic and for constant flow sampling.



Genius5-Instruments GmbH

Innovations in automatic sampling technologies

Dust

EPA5 and EN13284

Heavy metals

EPA60 and EN14385

PCDD/PCDF

EPA23A and EN1948-1

HCl

EPA51, EPA50 and EN1911

Short term isokinetic stack sampling and constant flow sampling

The Genius 5 becomes a complete **Portable Emission Measurement System** when associated with its front end parameter specific sampling train (dioxins, dust, heavy metals....). Its highly adaptable fabrication allows using the Genius 5 also as part of an existing PEMS, in this case customer specific plugs and connectors are installed.

Genius 5® Sampling Characteristics

Application	Manual stack sampling and all application requiring isokinetic and constant flow sampling control
Target compounds	Dust, metals, dioxins, POPs, Hcl, HF, ect... <i>others please consult</i>
Sampling flow	0.4–3 m3/h, measured and controlled by calibrated gas meter
Operating mode	isokinetic sampling (pitot tube or zero pressure probe) and constant flow sampling
Temperature controllers	3 built-in controllers for the probe, filter and cooler
Methods	EPA and EN approved loadable methods individually adjustable

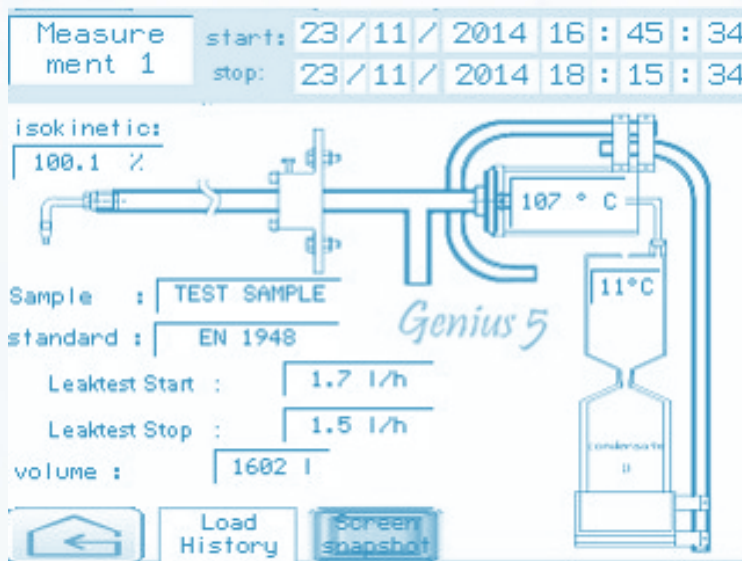


Genius 5[®] Controller features

- ↳ Compact construction with all parts in one box - Light weight
- ↳ Versatile pollutants sampling according to EPA and EN standards
- ↳ Preconfigured and user defined storage methods (Internal logger and USB port)
- ↳ Fully automated isokinetic sampling sequences
- ↳ Touchscreen terminal - software assisted emissions testing operations
- ↳ Enhanced dry gas meter eliminating the need of pre/post-sampling calibration

Interface	3.8" or 5.8" Touchscreen terminal	Weight	23 to 26 kg depending on associated equipment and sampling chains configuration
Dimensions	2KPa - 50 kPa	Operating conditions	0–40°C
Protection class	600W 240D 340H	Power supply	230VAC - 115VAC, 50 or 60Hz
Noise	<70dB(A)	Power consumption	170VA (stand-alone) max. 2400VA

Genius 5[®] Interface built-in software



Real time display

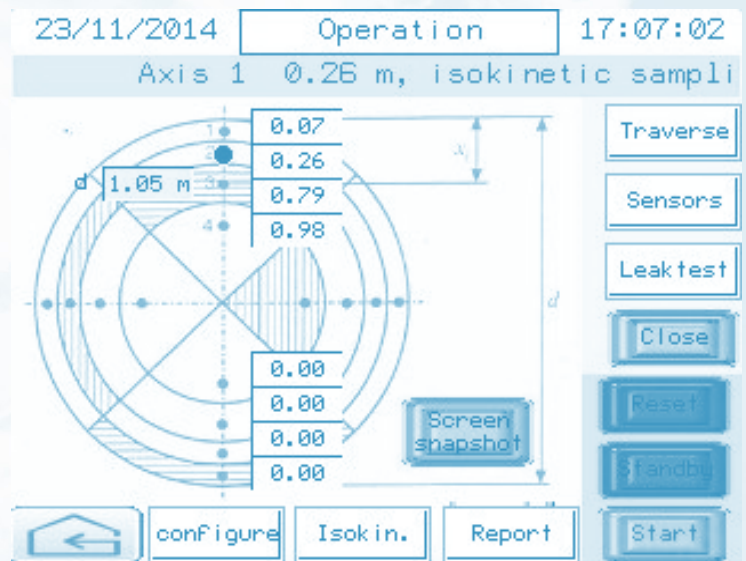
Isokinetic rate according to EPA and EN standards

Automatic pre/post-sampling leak check

Filter and adsorption stage temperatures

Sampling date, duration, end and start time

Normalised sampling volume (temperature, pressure, O2 or CO2 compensated expressed on wet or dry gas).



Advanced software functions

calibration capability

Internal logger and USB port

Configuration wizard with pre-loaded methods

Remote control

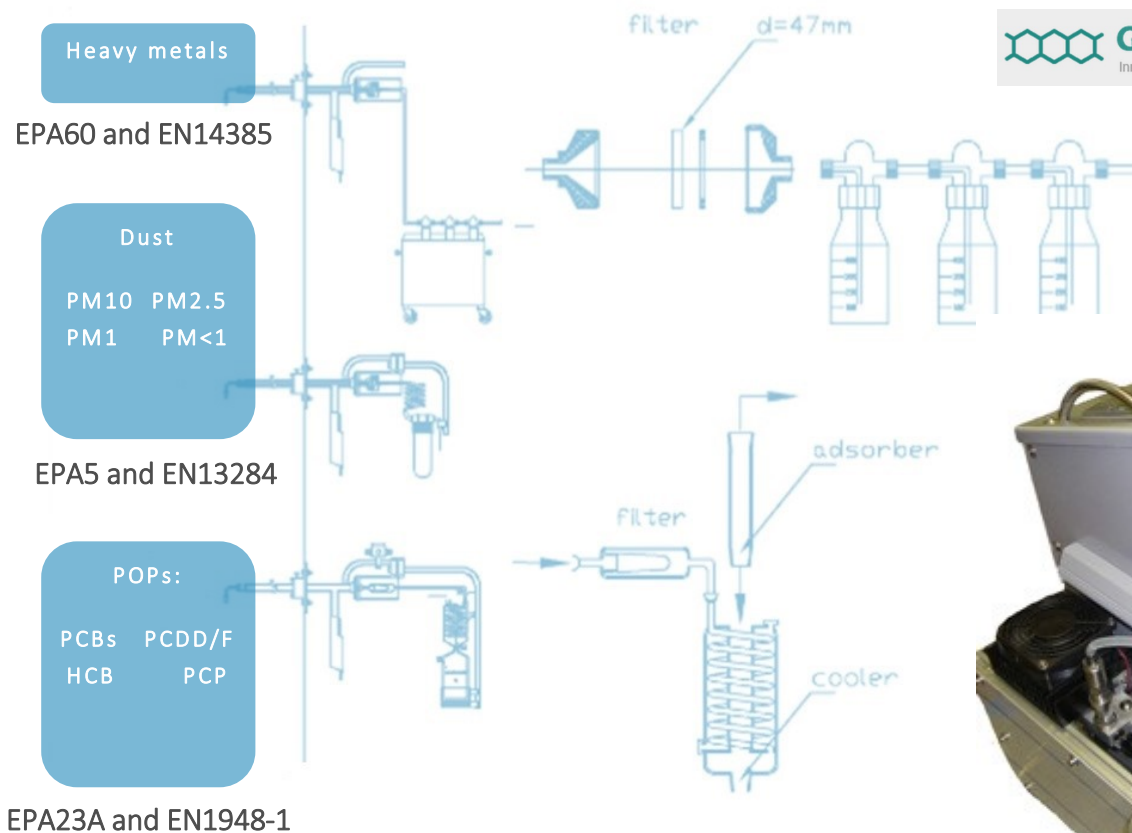
Assisted operations including traverse module, nozzle size calculation, sampling menu snapshots...





Genius 5® Sampling train configurations

Three standard sampling train configurations are available for metals, dust and POPs. To overcome variances between methods, standards and licenses, the Genius 5 sampling train can also be adapted to specific needs and special applications. The Genius 5 complete system can be supplied in two versions: split version with the pump enclosed separately from the controller and the compact “all in one” version.



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Two versions Compact and split with up to 40m distance between the pump unit and the controller

Sampling train made of stainless steel, Titan or Duran parts

Light weight and robust design (5kg - 1.4m)

Inner or outer dust sampling, suitable for numerous applications and pollutants

