

Specifications

Heated Filter Unit (Part No. 803361)

Particle filter:	Heated unit with replaceable element 180 °C / 356 °F or 280 °C / 536 °F
Filter element:	2.0 µm Ceramic (0.1 µm optional)
Manual control:	Switch for Filter Temperature
Status LEDs:	Power On/Off, Heater Control Cycle
Status outputs:	4 - 20mA current loop output for Filter Temperature Volt free contact closures for System OK
Operating temperature:	-40 to +70 °C / -40 to +158 °F
Enclosure:	Stainless steel enclosure, sealed to IP 65 /NEMA 4X
Electrical safety:	Conforms to EN-61010-2
EMC:	Conforms to EN-61326 (Class A)
Power supply:	110 or 230 V a.c. ±10%, 50 or 60 Hz
Power consumption:	800 W
Sample Line entry:	40 mm or 60 mm diameter/ 1.6 or 2.4 in diameter
Sample Gas inlet:	¼" stainless Swagelok fitting
Sample Gas outlet:	¼" stainless Swagelok fitting
Dimensions (H x W x D):	460 x 330 x 214 mm / 18.1 x 13 x 8.4 inches
Weight:	18.4 kg / 41 lb
Mounting:	3 " ANSI or DN65
Flange temperature:	up to 180 °C / 356 °F without adaptor

Sample Drier (Part No. 803364)

Sample cooler:	2-stage cooler system (incorporating Peltier unit) with automatic condensate removal
Warm-up/ cool-down time:	<30minutes
Water carry-over protection:	PTC Thermistor connected to cooler outlet. Activation of relay and peristaltic pump whilst signal present
Local Indications:	Power, Heat/Cool indicator Cooler Temperature out of limits; Water carry-over
Outputs:	Cooler Temperature out of limits, Water carry-over
(Volt free contact closure)	Peristaltic pump drive fault, Fault, Pump Current
Current loop Output:	Isolated 4-20 mA for temperature of top cooler
Sample Gas inlet:	¼" pvdf fitting
Sample Gas outlet:	¼" pvdf fitting located inside case.
Sample Drain:	Heated (below 5 °C, to prevent freezing).
Heated sample lines:	Entry for 40mm or 60 mm diameter / 1.6 or 2.4 in diameter
Condensate removal:	Peristaltic pump
Electrical safety:	Conforms to EN-61010-2
EMC:	Conforms to EN-61326 (Class A)
Power supply:	110 or 230 V a.c. ±10%, 50 or 60 Hz
Power consumption:	200 W
Ambient Operating temp.:	-20 to 45 °C / -4 to 113 °F
Enclosure:	IP65 / NEMA 4X
Dimensions (H x W x D):	524 x 330 x 214 mm / 20.6 x 13 x 8.4 in overall
Weight:	18.2 kg / 40 lb

Integrated Heated Filter and Sample Drier (Part No. 803397)

As above for Drier and Heated Filter except:

Ambient Operating temp.:	-20 to 45 °C / -4 to 113 °F
Signal and Power Connections:	Inside Drier section
Power Consumption:	1000 W
Dimensions:	524 x 670 x 214 mm / 20.6 x 26.4 x 8.4 in
Weight:	37.2 kg / 82 lb

Continuous product development may make it necessary to change these details without notice

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Advanced Flue Gas Sampling System



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Approval applies in the UK



Approval applies in the USA

PDS 238/02/10

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Unicorn

Modular flue gas sampling system



Unicorn is a flue gas sampling system designed for use with continuous emissions monitoring systems. It is ideally suited to processes with moderate levels of particulates e.g. gas turbines, where it filters and cools the flue gas without degrading the sample gas. Three options are available, a heated filter unit, a sample drier and an integrated unit (which both filters and dries the sample gas).

Features & Benefits

- **Flexible modular system** - Modular configuration allows range of installation options
- **Simple installation** - Can be mounted at the sample point or adjacent to the analyzer itself
- **Compact and lightweight** - Can be fitted almost anywhere, fully weatherproof
- **High performance heated filter** - 2 µm filter standard, optional 0.1 µm for fine particles
- **Handles gas with high moisture content** - Drier uses 2-stage cooler to remove the liquid
- **Stand-alone operation** - No user interface or communications connections required
- **Simple field maintenance** - Probe tube can be removed in minutes

Meeting all gas sampling requirements

Unicorn provides three distinct configuration alternatives - ensuring compatibility with not just LAND analysers but any analyser where a high performance gas sampling system is required.

Description	Part No.	Sampling Requirements	Compatibility with LAND analysers
Heated Filter	803361	Any analyser that is fitted with own integral drier/cooler unit, but requires a separate heated filter unit	<ul style="list-style-type: none"> • FGA 900 Series • FGA^{II} (Sample drier also required)
Sample Drier	803364	Any analyser that requires an external gas drier/cooler to provide processed sample gas	<ul style="list-style-type: none"> • FGA^{II} (Heated filter also required)
Integrated Heated Filter and Drier Unit	803397	Any analyser which requires a complete filter and drier to provide processed sample gas to its measurement system	<ul style="list-style-type: none"> • FGA^{II}

Heated Filter Unit

The Heated Filter Unit uses a large area, heated ceramic filter to clean the hot sample gas. The heater can be set to either 180 or 280 °C (356 or 536 °F) dependent upon the gas composition. The unit is compact and operates as a fully stand-alone device. Single-tool removal of the probe tube for maintenance purposes is straightforward.



Sample Drier Unit

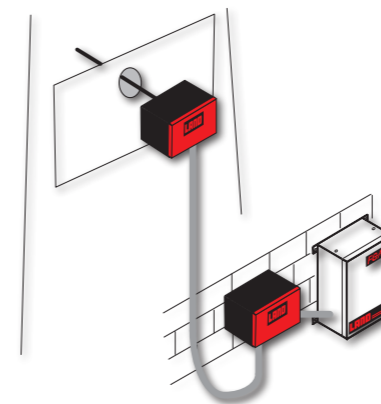
The Sample Drier comprises a 2-stage Peltier cooler to rapidly drop the temperature of the sample gas to 3 °C, thus removing the excess moisture, whilst retaining the integrity of the sample gas itself. An automatic pump removes the condensed liquid from the unit. The outlet is heated to prevent the liquid freezing in low ambient temperatures.

Integrated Sample Filter and Drier Unit

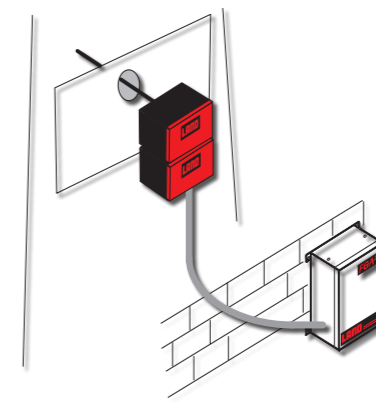
This unit combines the heated sample filter and drier into a single unit. The single unit has identical functionality and specification to the individual units.



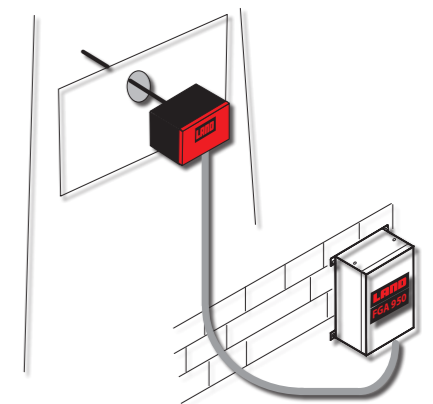
Flexible Installation options



Option 1 - Heated filter is mounted on the process. Anti-freeze / heated sample line carries the gas to the drier unit mounted adjacent to the analyser (e.g. LAND FGA^{II}).



Option 2 - Integrated heated filter and drier mounted on the process. PTFE/Anti-freeze sample line carries the conditioned gas to the analyser (LAND FGA^{II}).



Option 3 - Analyser fitted with internal drier unit. Heated filter is mounted on the process. Anti-freeze / heated sample line carries the clean, hot sample gas to the analyser (e.g. LAND FGA 900 Series).