



STACK TESTERS AND MOBILE LABORATORIES

STACK TESTING PORTABLE SAMPLING EQUIPMENT

PORTABLE SAMPLE PROBE - APP

Application

The **APP portable gas sample probe** is especially designed for portable applications where easy handling, safe and reliable operation as well as easy maintenance at a wide range of conditions are required. The low weight and innovative design guarantees a perfect operation for short and medium term mobile measurements.

Descriptions

Due to various acid dew points depending on the type of applications the probe is heated up to **180°C**. A filter element of 150mm is integrated, suitable for most applications up to 1g of dust per cubic meter of emissions. Thanks to its design, the filter can be replaced or checked without the need of dismounting the probe. For applications where the dust load reaches 10 g/m³, a **blowback** option can be fitted. **Calibration** gas can be injected directly into the probe through the calibration gas port accordingly to **EN14181** (regulation related to calibration of emission monitoring systems) that enables calibration gas feeding via the probe's filter element. To complete this function the use of a high-flow check valve **APP200** is recommended.

Tailored for STACK TESTERS



APP sample probe



Standard 150mm ceramic filter



Spun glass filter for Diesel application

Key Features - APP

- ↪ 180°C operating temperature
- ↪ Integrated over temperature safety switch
- ↪ Low temperature alarm contact
- ↪ Test gas port according to EN14181 available as standard
- ↪ Optional Backflush port for dust load up to 10g/m³
- ↪ Spun glass cartridge for diesel generators, diesel exhaust or similar sooty applications
- ↪ Universal mounting clamp for heated line
- ↪ Optional quick lock system for easy, fast and reliable connection of heated line
- ↪ Compact design and universal applicability, easy handling with mounting eye on housing (2m chain incl.)
- ↪ APP150 Portable heavy duty ABS case for safe transport

Fully automated portable sampling system

The portable gas sample probe **APP** is a perfect completion to the portable gas conditioning system series **APS303**. Both devices can easily be associated and becomes excellent when used in combination with the sample heated line **AHL205** with the incorporated innovative quick lock system ensuring efficient, fast and reliable operation. Suitable sample probe tubes are available in heated and unheated versions depending of the level of moisture and operating conditions.



Complete sampling system

Probe packed in housing

Sampling probe specifications - APP1XX

CONSTRUCTION & ENVIRONMENT

Dimensions	Approx. 330 x 125 x 220 mm (L x W x H)
Weight	2,5 kg
Gas wetted material	Stainless steel 316L
Integrated filter	150mm
Filter material	Ceramic (other on request)
Filter porosity	2µm (other on request)
Sealing material	Viton
Environment & Protection	IP40
Ambient T°	-20 to +80°C
Relative humidity	10 to 80%

ELECTRICAL UTILITIES

Power supply	110 - 240 VAC 50 / 60 Hz
Consumption	450W
Electrical connection	Plug and socket connector 7 pin, with 4m connection cable

SAMPLE

Max sample temperature	Up to 200C (consult if higher)
Max. Sample pressure	0.5 to 4 bar abs.
Dust load	1 g/m3 with standard filter (up to 10g/m3 with Backflush fitted)

CONNECTIVITY, & ALARMS

Sample gas outlet	1/4" f NPT
Test gas/Backflush connection	1/4" f NPT
Sample gas inlet	G 3/8" f
Alarms	Low temperature alarm
Safety features	Over temperature safety switch-off

OPTIONS

Case	Heavy duty ABS case with compartments for probe and accessories 53 x 43 x 21 cm (W x H x D)
Backflush	Fitted for high dust load
Heated line connection	1/4" m NPT quick release connector
Sample tube	AST various lengths and material available
Insitu Pre-Filter	Two versions : Heated and Unheated
	Various porosity and material

OPERATION

method	Short to medium term continuous sampling
Warming up	Approx. 15 to 30 min
Temperature control	Self-limiting heating cartridges with Power-ON indication (RED LED) and ready to use indication (GREEN LED)
Operating temperature	0-180C
Calibration port	Available as standard according to EN14181

VALIDATED OVER THE YEARS
IN THE FIELDS OF CONTINU-
OUS EMISSION MONITORING
AND STACK TESTING

SGS

BASF

SIEMENS

Dräger

BP

SOLVAY

CLEAN AIR

ENVITEC

INEOS

Dupont de Nemours

FISHER Rosemount...



EMISSIONS

Application

The **APS** portable conditioning system is especially designed so that detailed gas analysis can be carried out at any time in any place. The entire gas conditioning system is housed in a **compact and robust** carrying case which ensures that the components can be removed easily and gas analysis performed in an efficient manner: quickly, safely and with a minimum maintenance. This system ensures **reliable sample preparation** without loss and prevents damage on the analysis system used downstream. It is suitable for a **large range of application** and has already been adopted by many stack testers around the world.

Descriptions

The **APS** is suited for variable, **discontinuous and continuous** operation. The components integrated into the system are also used for standard CEMS applications. The heated sample line linking the probe is to be mounted at the gas measuring inlet terminal located inside the portable case. A ball valve can be fitted to the inlet terminal of the **APS** allowing the **analyser(s) calibration checks**.

The sample flow generated by a sample gas diaphragm pump (PTFE coated) can be checked and adjusted by the use of the optional combined **flowmeter/needle valve**. The sample pump is activated automatically according to the instant temperature of the internal gas cooler. The flowmeter are built-in as the electronic controller and are visible from outside when the carrying case is closed. This unique microprocessor controlled **Peltier cooler** is a powerful dew point stabiliser. The dew point is factory set at **4°C** but can be adjusted at any value between 1 and 15°C depending on the application requirements. The gas cooler is equipped with an innovative **heat exchanger** system. A **preliminary fine filter AUF** is installed at the inlet of the sample pump and can be selected within a large range of filter in different materials and porosities.

Any condensation is continuously removed by the **ASR25** peristaltic pump.



APS sample conditioning system



Heavy duty adapted ABS case

CONSTRUCTION & ENVIRONMENT

Dimensions	Approx. 53 x 43 x 21 mm (W x H x D)
Weight	12 kg
Heat exchanger coating	PFA
Integrated filter	Head, element holder: PVDF, Filter element: PTFE, body, DURAN glass - Porosity 2 microns
Diaphragm Pump	AMP11P- Head: PPS, Valves: FFPM, Membrane: PTFE-coated
Peristaltic Pump	Tube: Novoprene, Connectors: PVDF
Others	Tubing: PTFE, Inlet connector:SS316, Outlet connector: PVDF
Number of gas inlet/outlet	1 sample inlet - 2 max. sample outlet
Housing	Portable heavy duty ABS case
Ambient / storage T°	Ambient +5 to +45°C / Storage -25 to +65°C
Relative humidity	10 to 80%

ELECTRICAL UTILITIES

Power supply	110 - 240 VAC 50 / 60 Hz
Consumption	100VA
Electrical equipment standard	EN610010
Electrical connection	Cold appliance plug with 1.5m of cable
Electrical Protection	2A fuse
Alarm contact	Free programmable contact 1 NO/NC, rating 250VAC, 16 A AC
Warming up	Less than 15 min

SAMPLE

Max. Gas flow rate	APS303: 350NI/h - APS313: 200NI/h
Sample outlet dew point	1 to 15C adjustable set point, factory set at 4C
Dew point stability	+/- 0.1C
Max sample temperature	190C at the inlet
Max. Sample pressure	3 bar abs.
Sample inlet connection	SS316 DN4/6 or 1/4"OD tube fitting
Sample inlet dew point	Max. 80C
Total cooling capacity	Max. 245kJ/h (2 Peltier elements)

Enhanced Sampling System

With the optional **thermostatic O2 sensor APS100**, the gas conditioning system becomes a suitable and reliable instrument for monitoring oxygen concentrations in various gas analytical applications including process gasses, emissions monitoring, ambient air in confined space and laboratory process control measurement.

The **ASP** equipped with the internal heated line temperature controller **APS007**, the liquid alarm **APS006** can be let online for continuous monitoring. The sampling pump is controlled based on the probe, heated line and cooler temperatures. In addition if sample condensates are detected, the sampling will automatically be interrupted to protect the instruments installed downstream.



EMISSIONS

KEY FEATURES

Fully automated

Extremely stable
dew point +/- 0.1C

Optimum reliability

Compact design

Light weight

Ready to operate in
less than 15min

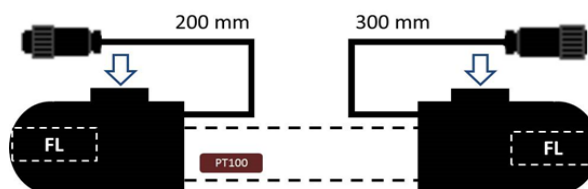
Paramagnetic O2
sensor

Low and easy
maintenance



For **mobile laboratory and stack testers**, AquaGas recommends the use of the heated lines **AHL 205 / 025** specifically dedicated to portable applications. This version of heated line offers the following benefits:

- Black smooth silicon outer cover for the **highest flexibility and resistance** required by the application
- **Integrated Power cable** to feed the sample probe **APP** with power supply eliminating the need of an additional cable run separately.



- Quick-lock female connection cap for **fast and reliable connection**
- Operating temperature adjustable up to **190C** suitable to most of the application



SCOPE OF SUPPLY

From a stand alone analyser to a complete monitoring station (stationary or mobile) , AquaGas supplies turnkey systems fully integrated meeting the Australian and International standards and matching the exact project requirements. Our system are delivered with a full set of documentation and a minimum warranty of one year which includes 24h/7days email and phone support.

Complete Gas analysis equipment from one source



AquaGas Products and Services



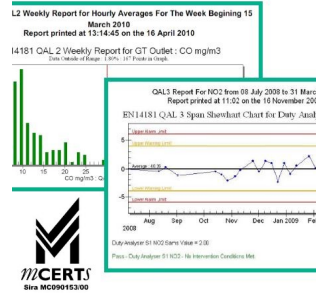
CEMS

System INTEGRATION
& Innovative
SAMPLING solutions



WQMS

ONLINE water
quality analysers



DATA ACQUISITION

States EPA approved
Data Acquisition and
Handling Software



ONSITE

Maintenance
commissioning
Training

*"For the Environnement,
excellence comes as a standard"*



AQUAGAS SYSTEM INTEGRATION

More than 14 years of experience in **environmental monitoring**, AquaGas commitment in implementing innovative, reliable and cost effective solutions is undeniable. Our main focus is to meet your application requirements in due time while maintaining high quality service and relationship. We have the **skills, products and services** in house with a full dedication to your monitoring needs, so please contact us when it comes to **environmental monitoring** and industrial analysis.

ANKERSMID SAMPLING

Ankersmid Sampling provides a complete range of **gas sampling and gas conditioning equipment**. All products like gas sample probes, gas coolers, compact conditioning systems, universal filters, NOx converter etc.... are designed, and manufactured by Ankersmid Sampling. ANKERSMID is well known on the market for more than **30 years**. Subsidiaries in several countries and more than 100 employees worldwide assures ANKERSMID in a **leading position** in the field of gas analysis and laboratory equipment.

Contact Us

Give us a call for more information about our services and products

AQUAGAS Pty Ltd

OFFICE BRISBANE

Unit 3/3 Wirranina Place

CURRUMBIN QLD4223

1300 850 862

(07) 5525 0600

Visit us on the web at
www.aquagas.com.au



INTEGRATED SOLUTIONS TO MONITOR OUR ENVIRONMENT