

# AQUAGAS



MONITORING  
SYSTEMS

## GAS SAMPLING SYSTEM



## Continuous Emissions Monitoring & Process Online Analysis

## ASP® Gas Sampling Probes

The **ASP** gas sample probe series is specially designed for **Continuous Emissions Monitoring and Process control**. The Extremely reliable ASP gas sampling probes, offered in four versions with modular options, are suitable for a large range of sampling conditions: Dry or wet flue gas, high or low dust load, corrosive media and high temperature. The ASP series is also available in **ATEX** version for installation in hazardous area.



### ASP100

Cost-effective version designed for **standard process and ambient conditions**.

Operating temperature adjustable from 0 to 180C.

Option backflush, Calibration port



### ASP300 - ASP500

**Advanced** versions for applications with high dust and moisture content. Filter and housing available in different lengths with operating temperature adjustable from 0 to 320C.

Option backflush, Calibration port



### ASP600

ATEX certified version for application with high dust and moisture content.

Filter and housing available in different lengths with operating temperature adjustable from 0 to 180C.

Option backflush, calibration port



### ASP320 - DeNOx

Approved solution for **DeNOx processes (SCR)** or flue gas with **extremely high pollutants concentrations**. Available at various lengths with operating temperature adjustable from 0 to 320C.

Option backflush, calibration port



## AST Sampling Tubes

The **AST sample tubes** are used in combination with the ASP sampling probes in order to sample the gas in the optimal section of the gas stream. Several versions are available to fulfil applications requirements. For dust load higher than  $2\text{g}/\text{m}^3$  a **ATF pre-filter** can be fitted on the tip of the sample tube.



Heated AST



Demister for  
wet scrubber

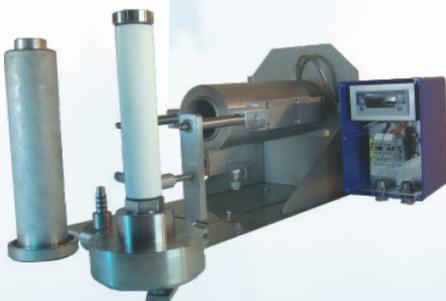


Unheated AST

All versions of tubes are available in **various lengths** and materials to handle temperature up to **1800C**.

## ASP/AST Key Features

- ↪ Retractable inner probe body for easy access to probe filter and sample tube without dismounting the probe
- ↪ Spun glass cartridge for diesel generators, diesel exhaust or similar sooty applications
- ↪ Digital controller with LCD display and RS485 interface
- ↪ Optional quick lock system for easy, fast and reliable connection of heated line
- ↪ Modular and flexible design to ease the integration and enhance onsite installation
- ↪ Compact design and universal applicability, Universal mounting clamp for heated line
- ↪ Test gas port according to EN14181 available as standard
- ↪ low and high temperature Alarm
- ↪ Optional Backflush port for dust load up to  $10\text{g}/\text{m}^3$
- ↪ Fully certified sample probes acc. To ATEX for hazardous area
- ↪ Optional shut-off valve reducing operator exposure to safety risks
- ↪ Designed optimised for easy and low maintenance



SGS

BASF

SIEMENS

Dräger

BP

SOLVAY

CLEAN AIR

ENVITEC

INEOS

Dupont de Nemours

FISHER Rosemount...

## ACC Compressor Gas Coolers

The **ACC compressor gas cooler series** are offering precision, safety and long term stability for extractive analysis. The unique cooling and separating technology of the newly designed coolers attains an **extremely stable and low gas dew point** of +4°C ( $\pm 0,1^{\circ}\text{C}$ ) to avoid water vapour cross-sensitivity and volumetric errors. It allows compensating for operating data fluctuations as well as high thermal loads.

### ACC key features

- ↪ Universal cooler housing for wall-mounting and 19" rack version by multifunctional assembly brackets
- ↪ Digital controller with LCD display and optional RS485 interface
- ↪ Temperature, moisture, flow alarm contacts
- ↪ Up to six exchangers contained in the same cooler (Duran glass, PTFE, PVDF or SS316) for high cooling purposes or multi-stream applications
- ↪ NEO generation with PFA coated exchangers with higher chemical resistance and extended cooling performances
- ↪ Up to 200NI/h flow per heat exchanger - dismountable for ease of maintenance
- ↪ Humidified heat-exchanger for calibration cross-interference compensation
- ↪ Optional flow meter/needle valve / front panel filter for each gas path
- ↪ As standard, one peristaltic pump integrated for each heat exchanger
- ↪ Fully certified gas cooler acc. To ATEX for hazardous area



ACC 401

ACC400 up to 6 channels



ACC 1xx

ACC100 single channel

The **APC Peltier gas cooler series** features unique microprocessor controlled Peltier Coolers designed with a powerful dew point stabilizer for an extremely stable and low gas dew point of  $+4^{\circ}\text{C}$  ( $\pm 0,1^{\circ}\text{C}$ ) to eliminate water vapour cross-sensitivity and volumetric errors.

### APC key features

- ↪ Extreme compact design
- ↪ Digital controller with LCD display and optional RS485 interface
- ↪ Temperature, moisture, flow alarm contacts
- ↪ 3 different versions: 1 x 200NI/h, 2x 200NI/h and 1 x 350NI/h
- ↪ PFA coated exchangers featuring higher chemical resistance and extended cooling performances (as standard).
- ↪ Dismountable heat exchanger for ease of maintenance



### ACC and APC SERIES - TUV certified efficiency

Thanks to their innovative design and PFA coated exchangers the new generation of AquaGas supplied gas coolers have been TUV certified less than 5% of loss on H<sub>2</sub>O soluble components allowing unsurpassed liquid gas separation capability without affecting the sample integrity.

## APPLICATIONS

Large Combustion Plants

Power Stations

Utility boilers

Cogenerations and Gas  
turbines

Oil and Gas, refineries  
and Petrochemical  
plants

Cement Kilns

Glass industry

Syngas

Metallurgy and Steel  
plants

Mining

Combustion optimisation

## ASS Stationary Gas Sampling System

The **ASS stationary gas sampling system** is fully automated and designed for continuous operation in a wide range of applications. The APS is mounted on a plate for an ease of installation and suitable for CEMS and process control applications. Thanks to its compact and Innovative design, this is a versatile CEMS equipment that will allow reducing integration cost while ensuring optimal reliability and efficiency.

## ASS key features

- ↪ Low maintenance, compact and universal design,
- ↪ Digital controller with LCD display and optional RS485 interface
- ↪ Temperature, moisture, flow alarm contacts
- ↪ Fully automated sampling device
- ↪ Optional O2 paramagnetic sensor
- ↪ Flow control
- ↪ Liquid sensor
- ↪ Peristaltic pump
- ↪ Integrated PTFE coated sample pump controlled based on system status
- ↪ Excellent chemical resistance



ASS stationary gas sampling system



The **ADS CEMS controller** is housed in a compact 19" enclosure and designed to handle the **most complex application requirements** such as dual CEMS, automated redundancy, multi-streams monitoring ... Its integrated **PLC** provides the advantage of an onsite data archive and a large panel of communication protocol enhancing the data transfer.

A front panel touchscreen allows **direct interface** with a comprehensive desktop, and separate pop-up menus to visualise in real time the system status and to control CEMS sequences such as calibrations, purges, stream selection... Furthermore it includes calibration valves, temperature controller (for heated line), high performance Peltier cooler, sampling pump, digital flow sensor to control and adjust the flows and a preliminary front panel filter. The sample condensates are continuously drained by the use of a peristaltic pump.



Fully  
Automated  
SAMPLING  
Systems

### ADS key features

- ↗ Universal and versatile equipment, compact design and light weight
- ↗ Integrated PLC for emission data local storage and direct interface
- ↗ Temperature, moisture, flow alarm contacts
- ↗ Ready for operation in less than 15 minutes
- ↗ PFA coated exchangers provides higher chemical resistance and extended cooling performances (as standard)
- ↗ Dew point of  $+4^{\circ}\text{C} \pm 0,1^{\circ}\text{C}$
- ↗ All-in-one CEMS Controller - data logger - sampling system
- ↗ Fully automated and design for continuous operation

AquaGas supplies universal **filters and CEMS accessories** including and not limited to particulate filters, coalescing filters, fittings and connectors, sample pumps, peristaltic pumps, temperature controllers, sample calibration and air lines, condensates separators vessels and traps, automatic liquid drain, liquid alarm sensors, adsorption filters, humidifier, wash bottles, flowmeters... These accessories are designed for reliable and optimal sample conditioning ensuring a flow of clean gas to the analysers.

### Accessories key features

- ↗ Large variety of housing, materials (PVDF, PTFE, SS316...) and dimensions
- ↗ Universal and Modular
- ↗ Deep acting filter elements
- ↗ Reliable solutions for fluids and particles separation
- ↗ Wall mounting and front panel versions

Complete  
Gas ANALYSIS  
Equipment from  
ONE source



For optimal sample transfer from the sampling probes to the analysers location, AquaGas recommends the use of the heated lines **AHL**. The heated lines ensures gas components in the sample stream remain above acid dew point and thereby eliminates the risk of condensation. A large choice of option and configurations is available to match diverse application and installation requirements including:

- ↘ **Various type of coating** (UV resistant PA12 corrugated, high flexible smooth silicon, Polyamide braiding...)
- ↘ **Integrated power and/or signal cable** to feed the sampling probe with power supply and/or report its status to the CEMS controller without 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
- ↘ Integrated temperature sensor (PT100 or Thermocouple)
- ↘ Fully certified Heated lines according to ATEX 
- ↘ Integral tubes with various materials (PTFE, PFA,SS...) and diameters (polytube, fixed or interchangeable...)
- ↘ Hard caps, stress relief cable, SS studs, glands...



## AOX NO2/NO Converter

The **AOX NO2/NO catalyst converter** is to be coupled with a NOx or NH3 gas analysers for continuous NOx monitoring in gas emissions. Inserted upstream of the NO or NH3 analysers, the Molybdenum catalyst integrated in the converter and regulated at 225C guarantees an **efficiency of conversion at 99%**. An optional bypass valve allows determining the content of NO2 in the gas analysed.

### AOX Key features

- ↪ High flow rate, long operating time and optimal conversion efficiency
- ↪ No CO emissions
- ↪ Operating temperature at 225C
- ↪ Compact 19" rack housing
- ↪ Catalyst cartridge easy to replace without tools
- ↪ Safe handling for easy maintenance
- ↪ Bypass solenoid valves
- ↪ Programmable Alarm contact



## AquaGas Monitoring Systems

AquaGas Pty Ltd is supporting the global industrial community with high performance **Environmental & Process Monitoring Systems** (Continuous Emissions Monitoring Systems, Air Quality Monitoring Systems, Online process analysers, Water Quality Monitoring Systems) specifically designed and built to meet your application requirements.

With extensive expertise and diverse technical skills acquired around the globe, AquaGas Pty Ltd designs, installs, and supports innovative technical solutions, which respond to the requirements of environmental regulations in terms of pollution monitoring and environmental impact assessment. AquaGas Pty Ltd Systems and Services are available in **Australia, New-Zealand and New Caledonia.**

*Complete Gas analysis equipment from one source*

