



**Ankersmid Sampling**

# Gas Sampling & Conditioning



## Company overview

The company Ankersmid Sampling BVBA is providing a full range of gas analysis equipment from one source by developing and manufacturing high-tech gas sampling and gas conditioning equipment.

Ankersmid is producing complete innovative and future-oriented turnkey solutions for environmental protection, including multi-component gas analyzers for emission monitoring, synthesis gases, biogases and flue gases.

In addition to our unique designed, developed and manufactured products like sample probes, compressor and Peltier gas coolers, universal filters, gas conditioning systems, NOx-converters, liquid stops and alarm sensors, we also provide the full range of gas analysis equipment, e.g. heated sample lines, peristaltic pumps, diaphragm vacuum pumps, and flow meters.



**Catalogue chapters:**

**Gas  
coolers**

**Gas  
pumps**

**Filters  
Moisture alarm**

**Portable  
systems**

**Sample  
probes**

**Control  
modules**

**Gas  
Analysers**

**Heated  
lines**





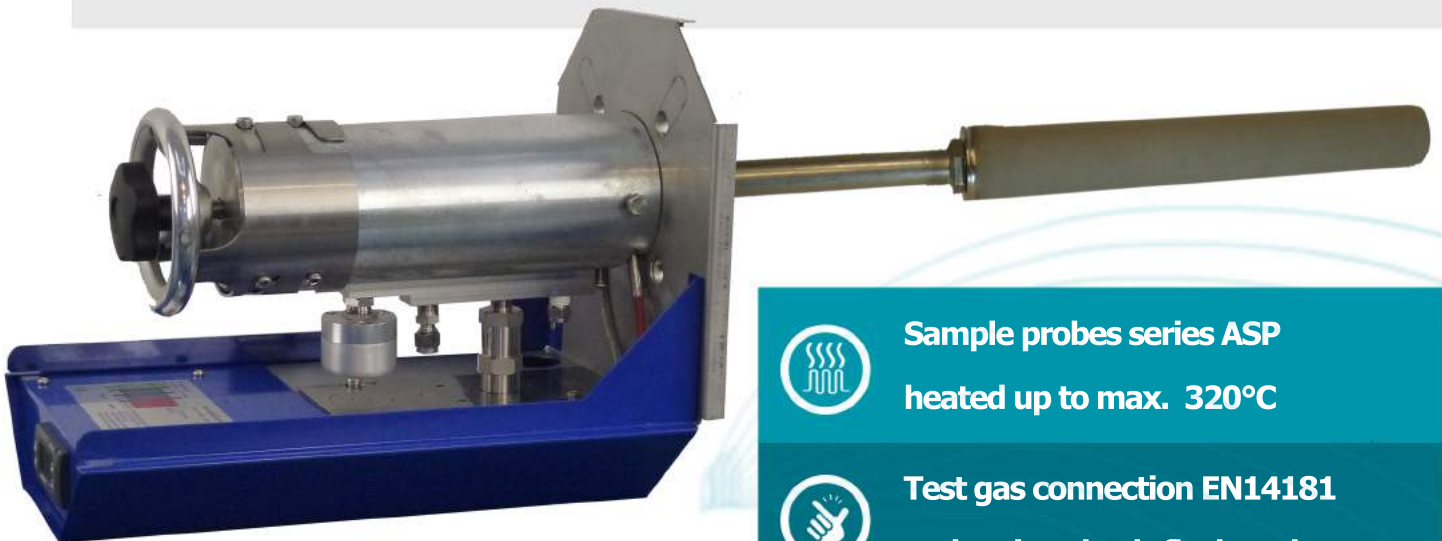
## Stationary Heated Gas Sample Probe Series ASP

The gas sample probes series ASP are designed for continuous gas sampling in difficult processes with gases of high and low dust content, different temperatures and extreme humidity. Due to various acid dew-points the probe can be heated up to max. 320°C.

A large filter element with a length of 150mm is integrated, suitable for most applications up to 1gr/m<sup>3</sup> dust. For higher dust loadings various top-filters can be added.

A wide range of sample and extension tubes and options like test gas, back-purge and shut-off valves, timer relays, adaptor flanges, integrated NO<sub>x</sub>-converter or oxygen sensor are available. For DeNO<sub>x</sub>-applications a special designed high-temperature sample probe with integrated separator is available.

A significant advantage is the easy and fast replacement of the integrated filter element as well as any optional top-filter and sample/extension tube without dismounting the probe, even under heated conditions.



Sample probes series ASP  
heated up to max. 320°C



Test gas connection EN14181  
and various back-flush options



Various top-filters for up to  
>20gr/m<sup>3</sup> dust loadings



Digital PID-controller with  
high/low-temperature alarm



Explosion-proofed versions  
according to ATEX (Zone 1 & 2)



Special sample probes for DeNox  
and sooty applications





## Gas Cooler Series ACC & APC

The Ankersmid gas coolers series ACC (compressor system) and APC (Peltier system) are offering precision, safety and long-term stability for extractive analytical systems.

The unique cooling and separating technology of the innovative designed and patented heat exchangers attains an extremely stable and low gas dew point of  $+4^{\circ}\text{C}$  ( $\pm 0,1^{\circ}\text{C}$ ) to avoid water vapor cross-sensitivity and volumetric errors and compensates process fluctuations.

The heat exchanger design allows demounting for cleaning purposes and provides pressure and chemical resistance.



Outlet gas dew-point of  $+4^{\circ}\text{C}$   
for an accurate gas analysis



Demountable chemical and  
pressure resistant heat exchanger



Digital PID-controller with  
high/low-temperature alarm



Incorporated peristaltic pumps  
for continuous condensate removal



Explosion-proofed versions  
according to ATEX (Zone 1 & 2)



Universal housing for 19"-racks  
and wall-mounting



## Portable Gas Sampling System

The portable gas sampling system has been designed so that a wide range of gas analyses can be carried out at any time and in any place.

The gas sample probe series APP with its compact housing and low weight guarantees a perfect operation. Due to various acid dew-points the sample probe is constant heated up to +180°C. A large filter element of 150mm length is integrated.

A significant advantage is the easy and fast replacement of the integrated filter element without dismounting the probe, even under heated conditions and with connected sample line.

The portable gas conditioning system is suitable for short and long-term operation. The design of the system is suitable for various applications. The entire gas conditioning unit is housed in a robust and compact carrying case in an eye-catching colour for safety reasons.



**Sample probe series APP**  
heated up to +180°C



**Port for back-flush and**  
test gas (acc. to EN14181)



**Optical moisture sensor for**  
conductive & non-conductive media  
with automatic switch-off function



**Separate digital PID-controller**  
for integrated Peltier cooler  
and heated sample line



**Compact design in Peli-Case**  
for low weight



**Integrated Peltier cooler**  
for outlet dew-point +4°C



## Gas Filter Series AUF

Ankersmid Filters series AUF/APF/AAF/AFP as well as the various range of separators, wash bottles and humidifiers are known as a reliable technique for the separation of particles from gas, ensuring a flow of clean gas to the analyzer. The filter housings are available in a variety of materials and dimensions.

Humidifier and wash bottles control the humidity of the gas sample stream. The Humidifier is used to wet calibration gases after passing the cooler to create the same H<sub>2</sub>O interference as the process sample gas.

The liquid-stop series ALS protects analyzers against an inrush of liquids into the analyzer.



Filter for wall-mounting  
and front panel mounting



Reliable separation of solids  
and aerosols



Highly chemical and  
pressure resistant materials



Optional optical moisture sensor for  
conductive & non-conductive media



Deep-acting filter elements  
with various porosities



Wash bottles and humidifier  
in various sizes and volumes











## Gas Analyzer Series ABYSS and APA

The ABYSS Syngas/Biogas/Fluegas analyzers are developed to cover a wide range of applications such as coal or biomass gasification or pyrolysis, coal chemical processes, off-gas from steel and metal producing processes, Landfill, Flare and Biogas plants, Boilers (furnace exhaust emission gas and combustion efficiency monitoring), cement industries, continuous emission monitoring systems (CEMS), waste gases generated from pollution sources such as fire-coal smoke-stacks, steel works, cement plants, aluminium manufacturing factories, nonferrous metallurgic plants, phosphate fertilizer factories, nitric plants, sulphuric acid factories, petrochemical works, chemical fibre plants and large industrial chimney stacks.

The paramagnetic O<sub>2</sub>-analyzer Series APA monitors oxygen in a linear way. A programmable auto-calibration function as well as RS232 interface (USB or D-sub9) are integrated. The analysers are available for 19"-racks, wall-mounting and portable applications.



-  Constant gas bench temperature control for high stability
-  Syngas analyzer for  $\text{CO} + \text{CO}_2 + \text{CH}_4 + \text{H}_2 + \text{O}_2 + \text{C}_n\text{H}_m + \text{Calorie}$
-  Biogas analyzer for  $\text{CO}_2 + \text{CH}_4 + \text{H}_2\text{S} + \text{O}_2$
-  Fluegas analyzer for  $\text{SO}_2 + \text{NO} + \text{CO} + \text{CO}_2 + \text{O}_2$
-  Auto-calibration
-  NDIR, TCD, ECD and paramagnetic sensor technologies





## Control Module ACM, NO<sub>2</sub>-NO converter AOX

The Control Module Series ACM for 19"-rack mounting is a modular system with an integrated Siemens S7 touchscreen PLC and used as a compact all-in-one device to monitor and control all gas sampling and gas conditioning equipment such as sample probe, cooler, sample line, pump and flow of gas media. The gas flow is measured and monitored by an integrated ultrasonic flow sensor. Depending on the version, the gas pump can be flow-adjusted. A remote control for calibration and back-purge as well as MODBUS, USB-output and output alarm relays are implemented.

The NO<sub>2</sub> to NO converter Series AOX can be connected to a NO<sub>x</sub> or NH<sub>3</sub> gas analyzer for flue exhaust. The converter is using a special catalyst that converts NO<sub>2</sub> in sample gas to NO with high efficiency.



Touch-screen PLC Siemens S7  
with tailor-made software



Ultrasonic flow sensor  
Optical moisture sensor



Flow-controlled gas pump with  
pull-out system for easy access



High flow rate at long operating  
time and high conversion efficiency  
(98% with new cartridge)



Special Molybdenum catalyst for  
zero CO emission and moderate  
operating temperature of 225°C



Catalyst cartridge easy to change  
without any tools



## Pump Series AMP and ACP

Ankersmid gas pumps series AMP are used for the transportation of sample gas from sampling points to gas conditioning systems, for environmental applications and in production technology; some application examples are sampling gases from the ambient environment, exhaust gases and smoke analysis.

Due to a special diaphragm and valve plate system, the diaphragm pumps are operating maintenance-free.

The peristaltic pump series ACP are designed for continuous condensate removal in gas coolers and condensate vessels, and are suitable for a wide range of analytical applications. The design ensures that condensate flow-back is impossible.



**No contamination of the media  
due to oil-free operation**



**Explosion-proofed versions  
according to ATEX (Zone 1 & 2)**



**Corrosion resistant materials  
for various applications**



**For wall-mounting or  
in a housing as stand-alone device**



**Self-suction pumps,  
driven by a synchronous motor**



**100% Gas tightness**



## Heated Sample Line Series AHL

Heated lines Series AHL ensures that the gas components in the sample stream remain above their acid dew-points and thereby eliminates the risk of condensation. This is a safe way to transport the sample to a heated analyzer or gas coolers.

Heated lines can be either self-limiting with various fixed operating temperatures up to max. 120°C or controlled by a separate temperature controller Series ATC to operating temperatures up to 250°C.

The electrically heated sample lines series AHLX are certified according to ATEX and designed to transport sample gas through an explosive zone 1 or 2.

The microprocessor-based (PID) temperature controller Series ATC are combining easy handling and a digital display. The clear design of the controller functions ensures a fast and reliable adjustment.



**Heated sample lines**  
heated up to max. 250°C



**Completely manufactured**  
"ready-to-use"



**Digital PID-controller with**  
high/low-temperature alarm



**Explosion-proofed versions**  
according to ATEX (Zone 1 & 2)



**Solid-State-Relay with**  
10A/20A/25A switching capacity



**Maintenance-free**  
with longlife technologies





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