

## Sample Tubes Series AST

### Unheated sample tubes

Sample tubes series AST are used in combination with Ankersmid sample probes to extract sample gas in the optimal section of the gas-stream. For an optimal measurement of a representative sample a position in the middle third of the gas stream is advised.

Process temperature	Material	Type
0 - 160°C	PTFE	AST 41X
0 - 440°C	Titanium	AST 42X
0 - 600°C	Stainless steel	AST 40X
0 - 960°C	Hastelloy C®	AST 431/2/3/4
0 - 1400°C	Kanthal®	AST 435/7/8
0 - 1600°C	Saphalloy®	AST 436

### Demister tubes for wet processes

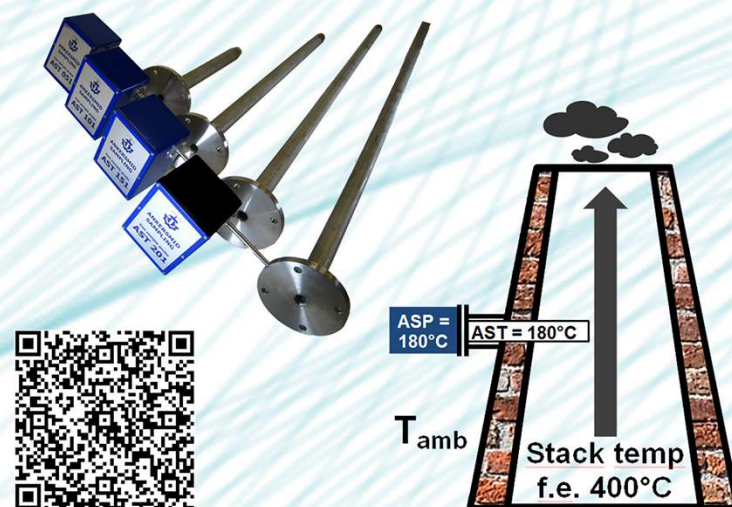
For gas sampling downstream a wet scrubber with high water content the tube type ADT, equipped with an integrated demister for liquid drop collection and rejection to the process, is available.

	0 - 95°C	PVDF	ADT
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### Heated sample tubes for operating temperatures

Electrically heated sample tubes series AST are used in extractive sampling systems to avoid dew-point problems and condensation in the insitu tube during transfer from the sample point to the heated sample probe. Heated sample tubes avoid cold spots and thermal bridges due to thick stack walls.

	0 - 600°C	Stainless steel	AST 050 - 200
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## Top-Filters Series ATF

### Top-filter for high-dust loaded processes

The Ankersmid top-filters are used together with gas sample probes series ASP for continuous gas sampling in processes with increased dust loading. These extra stainless filters can be mounted on top of the sample tubes in case of very high dust levels (> 10g/m³).

Process temperature	Material	Type
0 - 600°C	Sintered steel	ATF 180/050

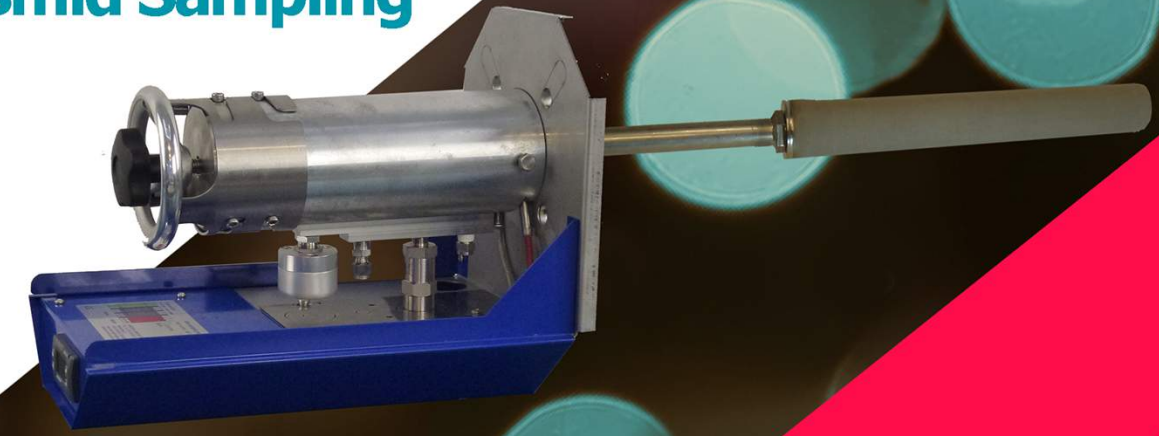
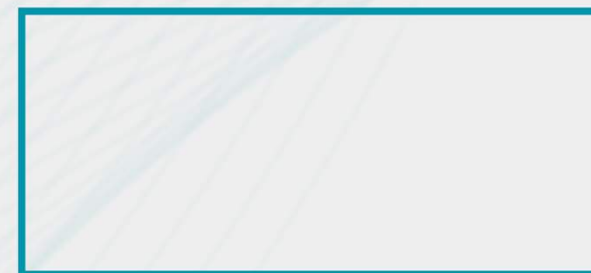


## Ankersmid Sampling BVBA

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Distributor:



## Stationary Gas Sample Probes 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 (f. e. DeNO<sub>x</sub>-applications).

A wide range of filter elements and process top-filters are available to customize the sample probe to each application. Various features like test gas, back-purge and shut-off valves, timer relays, adaptor flanges, integrated NO<sub>x</sub>-converter or oxygen sensor are available.

### Applications:

- Stack and environmental measurement
- Continuous Emission Monitoring (CEM)
- Chemical and Petro-chemical processes
- Steel plants
- Incinerators
- Oil and Gas refineries
- and many more...

**"Innovative and unique features are our standard"**

### Reference customers:





## Gas Sample Probe Series ASP



	ASP 1300	ASP 400	ASP 500	ASP 100	ASP 7xx	ASP 320
<b>Heating</b>	Electrical	Electrical	Electrical	Electrical	Steam-driven	Electrical
Self-limiting with fixed operating temperature	✗	✗	✗	✓	✗	✗
Adjustable for variable operating temperature 	✓	✓	✓	✗	✗	✓
<b>Operating temperature</b>	0-200°C (max. 320°C)	0-200°C (max. 320°C)	0-200°C (max. 320°C)	180°C	0-200°C (max. 350°C)	0-320°C
<b>Test/calibration gas</b>						
Via probe filter element acc. to EN14181	*1 ✓	✓	✓	✓	✓	✓
Via probe sledge for pure calibration	*2 ✓	✓	✓	✗	✗	✓
<b>Options</b>						
Retractable system to exchange sample tube/top-filter without demounting the probe	*3 ✓	✓	✓	✗	✗	✓
Pneumatic isolation valve to shut-off the sample outlet from the process	*4 ✓	✓	✓	✗	✗	✗
<b>Probe filter</b>						
2µm, OD: 30mm/L: 150mm Material: ceramics	✓	✗	✗	✓	✓	✓
5µm, OD: 40mm/L: 180mm Material: sintered steel	✗	✓	✗	✗	✗	✗
5µm, OD: 40mm/L: 500mm Material: sintered steel	✗	✗	✓	✗	✗	✗
<b>Process dust loading</b> (without top-filter and back-flush options)	0-2g/m³	2-10g/m³	>10g/m³	0-2g/m³	0-2g/m³	0-2/m³
<b>Top-filter</b>						
ATF 180, 5µm, OD: 40mm, L: 180mm 	✓	✗	✗	✗	✗	✓
<b>Process dust loading</b>	2-10g/m³					2-10/m³
ATF 050, 5µm, OD: 40mm, L: 500mm 	✓	✗	✗	✗	✗	✓
<b>Process dust loading</b>	>10g/m³					>10/m³
<b>Back-flushing</b>						
Sample tube/top-filter (bypassing the probe filter element)	*5 ✓	✓	✓	✓	✓	✓
Probe filter element and sample tube/top-filter	*6 ✓	✓	✓	✗	✗	✓



	ASP 611	ASP 613	ASP 618	ASP 620	ASP 622	ASP 630
<b>Heating</b>	Electrical	Electrical	Electrical	Electrical	Electrical	Electrical
Self-limiting with fixed operating temperature	✗	✗	✓	✗	✗	✓
Adjustable for variable operating temperature	✓	✓	✗	✓	✓	✗
<b>Operating temperature</b>	0-180°C	0-180°C	150°C	0-180°C	0-180°C	180°C
<b>Sampling from Ex-zone</b>						
	0 / 1 / 2	0 / 1 / 2	1 / 2	2	2	1 / 2
<b>Mounting in Ex-zone</b>						
	1 / 2 / 21 / 22	1 / 2 / 21 / 22	1 / 2	2	2	1 / 2
Controller/limiter unit mounted to Sample probe (in hazardous area)	✓	✗	✗	✓	✗	✗
Controller/limiter unit mounted by customer (in non-hazardous area)	✗	✓	✗	✗	✓	✗
<b>ATEX-declaration</b>						
	II 2G EEx d E i b IIC T3	II 2G EEx d E i b IIC T3	II 2G/D T3	II 3G, Ex nR IIB T3 (for heater)	II 3G, Ex nR IIB T3 (for heater)	II 2G Ex d IIC T3 II 2D IP66
<b>Test/calibration gas options</b>						
Via probe filter element acc. to EN14181	✓	✓	✓	✓	✓	✓
Via probe sledge for pure calibration	✓	✓	✗	✓	✓	✗
<b>Options</b>						
Retractable system to exchange sample tube/top-filter without demounting the probe	✓	✓	✗	✓	✓	✗
Pneumatic isolation valve to shut-off the sample outlet from the process	✓	✓	✗	✓	✓	✗
<b>Probe filter</b>						
2µm, OD: 30mm/length: 150mm Material: ceramics	✓	✓	✓	✓	✓	✓
<b>Process dust loading</b> (without top-filter and back-flush options)	0-2g/m³	0-2g/m³	0-2g/m³	0-2g/m³	0-2g/m³	0-2g/m³
<b>Top-filter</b>						
ATF 18x, filter porosity: 5µm (OD: 40mm, length: 180mm)	✓	✓	✗	✓	✓	✗
<b>Process dust loading</b>	2-10g/m³	2-10g/m³		2-10g/m³	2-10g/m³	
ATF 05x, filter porosity: 5µm (OD: 40mm, length: 500mm)	✓	✓	✗	✓	✓	✗
<b>Process dust loading</b>	>10g/m³	>10g/m³		>10g/m³	>10g/m³	
<b>Back-flushing</b>						
Sample tube/top-filter (bypassing the probe filter element)	✓	✓	✓	✓	✓	✓
Probe filter element and sample tube/top-filter	✓	✓	✗	✓	✓	✗