

PSG Plus Probe

DeNOx

Application

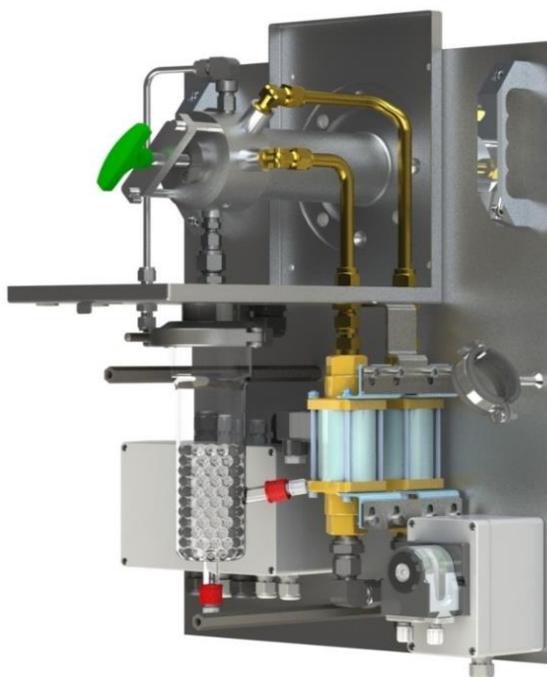
The heated gas sampling probes of the **PSG Plus Probe DeNOx** series are used for continuous extractive gas analysis. They are used for the trouble-free representative sampling of hot heavily dust and water vapour loaded gases. Typical applications are DeNOx processes (SCR) in which NH_3 is added to the flue gas to reduce the NOx content.

Technology

The **PSG Plus Probe DeNOx** probes are based on the PSG Plus probe series. With the market's largest filtration surface of 212 cm² and the dual stage back purging with 12x1 mm tubing, which is controlled via two Coax solenoid valves with 10 mm passage, this enables operation in high dust concentrations of up to 280 g/m³. In combination with the full-surface, close-fitting heating sleeve and the thick-walled glass-fibre insulating jacket, which enables homogeneous heating of the **PSG Plus Probe DeNOx** to 180°C, dust is reliably separated without condensation of water vapour and therefore without blocking of the filter. The membrane coated ceramic filter with 0,3 µm porosity additionally supports the great back purge effectiveness.

For use in DeNOx processes, the **PSG Plus Probe DeNOx** is also equipped with a glass condensate vessel. This is filled with glass balls to increase the surface for the saltification. The condensate with dissolved ammonium salts is removed via the built-in peristaltic pump type SR25. Due to the hot gas flow, the temperature of the condensate vessel is higher than the ambient temperature. In order to determine the loss of measuring components, the **PSG Plus Probe DeNOx** is equipped with a test gas inlet including piping. The built-in protection against accidental contact ensures safety.

Thanks to the intelligent design, both the filter change and the maintenance of the separating vessel can be carried out quickly and without tools.



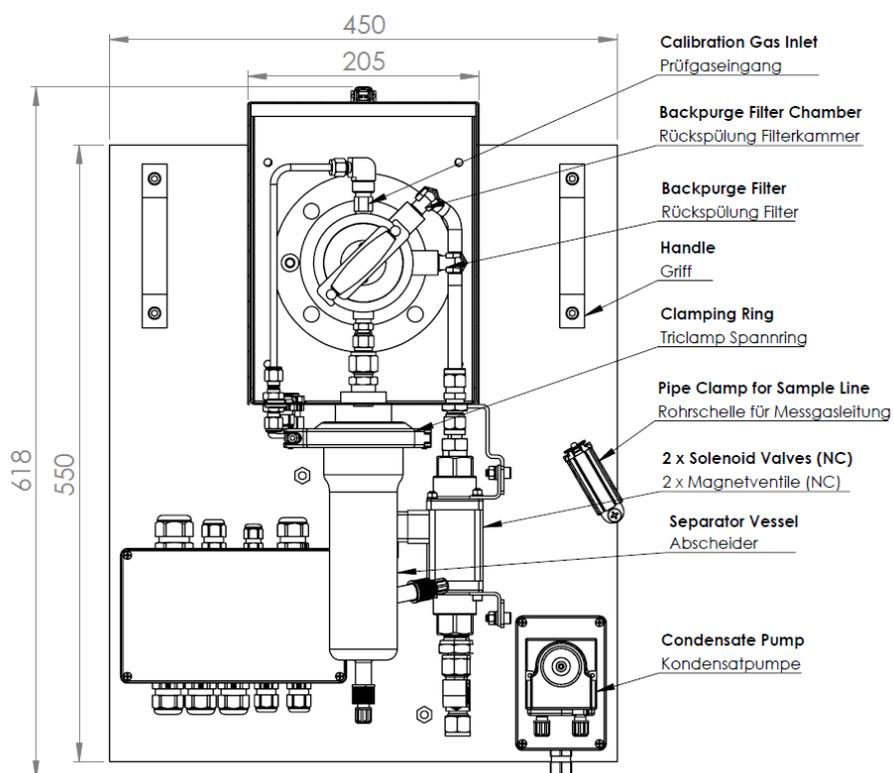
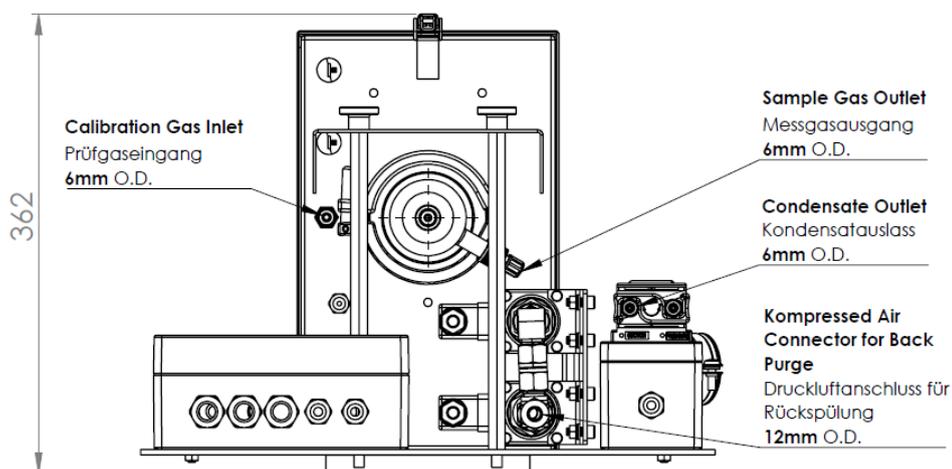
- ✓ Largest active filter surface on the market
- ✓ Dual stage back purging with 10 mm passage
- ✓ Corrosion resistant made of stainless steel SS316Ti
- ✓ Controlled heating to 180°C
- ✓ Comfortable maintenance without tools
- ✓ Separator with glass ball filling
- ✓ Peristaltic pump for condensate drainage
- ✓ Test gas connection as standard
- ✓ Protective housing for outdoor installation

Technical Data

Process gas sampling conditions PSG Plus Probe DeNOx	
Pressure	$p_{abs} = 50 \dots 600$ kPa
Temperature	max. 200°C at probe inlet
Flow	30...1500 l/h, referred to 100 kPa and 0°C
Pressure drop	approx. 0,6 hPa at 100 l/h
Max. dust concentration	280 g/m ³
Connections	
Sample gas outlet / Condensate outlet	Hose screw connection DN4/6
Test gas / Tubing	G1/4" f (DIN ISO 228/1) / 6mm tube
Back purge / Tubing	12x1mm tube
Heating	
Type	Heating sleeve incl. PT100, 250W (350W optional)
Insulation	Removable insulation jacket
Temperature	180°C (315°C with 350W option)
Temperature alarm	approx. 150°C
Temperature control	PID-controller ST49 incl. solid state relay for DIN-rail-mounting Thermostat control with controller in connection box
Filter properties PSG Plus	
Filter	Surface filter, ceramic coated
Porosity	0,3 µm
Tightness	10 ⁻⁴ hPa l/s
Dead volume	approx. 280 ml
Dimensions	50/20 x 135 mm
Protective Housing	
Dimension	330 x 205 x 270 mm (L x B x T)
Material	Stainless steel SS 304
Ambient temperature	-20°C ... +60°C
Weight	approx.31 kg (complete probe)
Protection class connection box	IP65 EN 60529
Mountin	
Flange	DN 65, PN 6, 4-hole, form B according to DIN 2527
Installation angle	10°-35° inclination to horizontal position (recommended)
Materials in contact with sample gas	
Housing, flange, gas connections	Stainless steel SS 316Ti
Gaskets	FPM (FFKM optional) FFKM instead of FPM for heating to 315°C or corrosion resistant version (with back purging)
DeNOx separator vessel	
Vessel / Filling	Duran®-Glass / Glass balls (Ø10 mm)
Volume	330 ml
Filling level	150 mm
Quantity of glass balls in Vessel (Ø10 mm)	500 g
Peristaltic pump	SR25
Part Numbers	
53402211	PSG Plus DeNOx, 250 W 230 V 50/60 Hz, with thermostat controller in connection box, Solenoid valves in 230V AC
53402207	PSG Plus DeNOx, 250 W 230 V 50/60 Hz, with thermostat controller in connection box, Solenoid valves in 24V DC
53500098	2/2-Way pneumatic valve installed in sample gas path (Optional)
Spare part numbers	
80060176	Ceramic filter coated 0,3 µm incl. 2 filter element gaskets
80060638	O-ring-set FFKM for probes with back purging (2 x lid + 2 x filter element)
80060740	Separator vessel Duran®-Glass (incl. 1 KG glass balls)
30114513	GL hose screw connection for hose with DN4/6 (for separator vessel)
80060741	Quick release ring DN60 (for separator vessel)
80060743	Gasket for quick release ring (for separator vessel)
30008695	Glass balls Ø10 mm (1 KG)
92300498	Hose set N3,2x1,6mm with bolted joint – 210ml/h (for SR25)
92300211	Roller carrier for condensate pump SR25
92300212	Conveying belt for condensate pump SR25

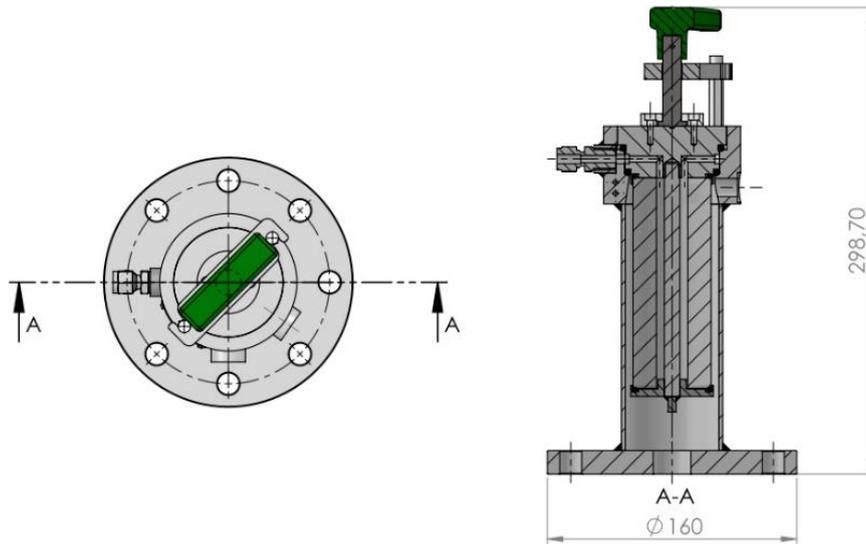
PSG Plus Filter

Dimensions



Dimensions in mm

Dimensions



Product details

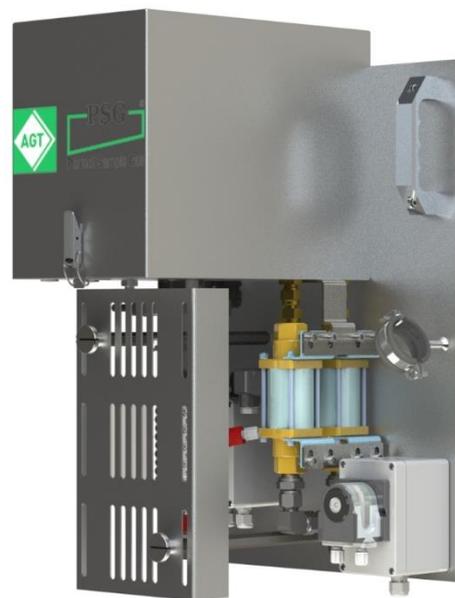
Dimensions in mm



Removable insulation jacket



Coax solenoid valve for back purge control



PSG Plus Probe DeNOx with protection against accidental contact and protective housing

State 07 / 2022 | Subject to change