

## GENERAL DESCRIPTION:

The Universal Analyzers Model 270SF (Div 2 & Zone 2 Certified) heated sample probe is designed for continuous use in extractive gas sampling systems and may be installed in a Hazardous Areas. It is commonly used in refineries, petrochemical and chemical locations. The modular design is used to filter dust and particulate from a wide variety of gas streams in exhaust stacks and duct applications. The sample probe is designed with the end user in mind, and comes with a unique no-tools design for filter replacement. This versatile probe is available in a number of configurations with many options to customize it to specific applications.

### Options include:

- Choice of Flange Size: ANSI & DN
- Choice of probe tube lengths and materials
- Filter chamber blow back with integrated solenoid valve
- Calibration gas inlet connection with check valve
- Fiberglass or Stainless Steel weather enclosures NEMA 4X-IP65
- FM Approval for NEC Class I, Div. 2 Groups A,B,C,D
- CSA Approval for NEC Class I, Div. 2 Groups A,B,C,D
- TÜV Approval for ATEX Ex II 3 G Ex nA IIC 175°C (T3)



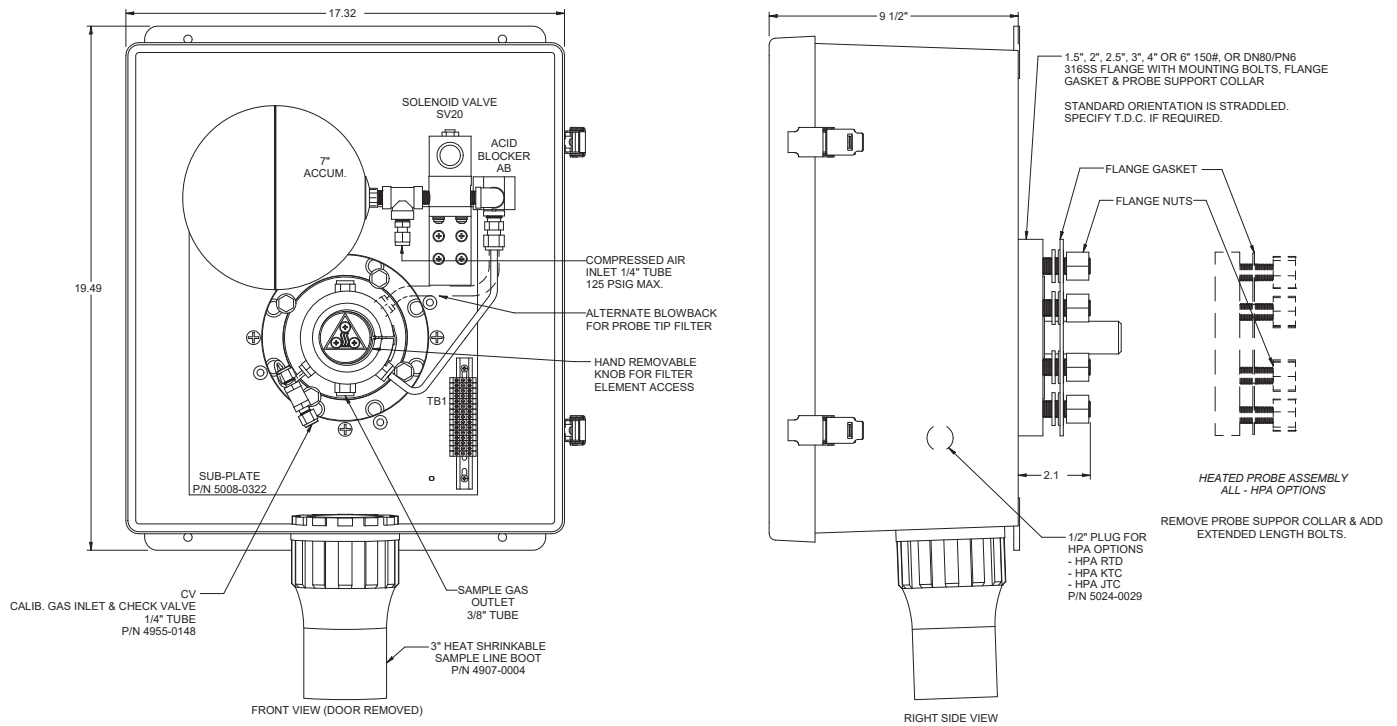
Shown with most common options

## OPERATION:

To avoid condensation, a self regulating heater is used to keep the filter chamber and tubing connections hot and above the sample dew-point. Temperature is controlled new 340°F (171°C) and includes a low temperature contact alarm output. The standard filter element is constructed of a non-reactive 2 µm ceramic material with Viton seals. For continuous, low-maintenance operation, it is recommended to provide blow back for periodic cleaning of the filter chamber and probe tube. High-pressure plant air is stored in an on-board accumulator vessel and then released through an installed high-flow solenoid valve. Easy access to the probe tube is allowed through the design of a sub-flange which allows removal of the filter chamber/probe tube while leaving the enclosure attached to the stack/duct. For ease of installation, the model 270SF comes complete with a sample line heat shrink boot, and all electrical connections are within the enclosure, eliminating break out wiring to external electrical junction enclosures.

## FEATURES:

- Easy “no-tool” filter element replacement
- Subflange for easy filter chamber/probe tube removal
- Efficient blow back
- Fiberglass or Stainless Steel environmental protection (NEMA 4X-IP65)
- Cartridge heaters
- Self-limiting temperature control
- Heated filter chamber with insulation wrap
- Rugged construction
- Corrosion resistant wetted parts
- All electrical and pneumatic connections within enclosure



## Technical Information:

Sample Flow Rate:	0 to 20 LPM
Calibration Gas Flow Requirement:	Sample flow rate plus 10%
Operating Pressure Drop at 10 LPM:	12" inch w.c. (3.0 kPa)
Maximum Stack Gas Temperature:	700°F (370°C)
Filter Chamber Temperature:	340°F (171°C)
Enclosure Dimensions:	Fiberglass Stainless Steel 19.5" x 17.5" x 9.5" (500 mm x 440 mm x 240 mm) HxWxD 16" x 14" x 9 1/4" (410 mm x 360 mm x 230 mm) HxWxD
Weight:	25 lb (12 kg) (plus probe tube)
Input Power Requirement:	125 W (Certain options require more power)
Input Voltage Requirement:	115 or 230 VAC at 50/60 Hz ( <i>External fuse required of 20 A or less</i> )
Electrical Classification:	General Purpose or FM/CSA Class I, Div 2, Groups A, B, C, & D & ATEX II 3G Ex nA IIC 175°C (T3)
Temperature Classification:	FM/CSA T3A, ATEX 175°C (T3)
Ambient Temperature Operating:	200°F (Maximum 93°C)
Blowback Tank Volume:	0.7 SCF (19.8 L) when at 100 psig (7.4 barg)
Blowback Duration:	0.5 sec to empty accumulator
Blowback Timer Period:	External control (without timer card) 15 minutes to 24 hours (with timer card), located in unclassified area
Enclosure:	NEMA 4X/IP65 fiberglass (standard) NEMA 4X/IP65 stainless steel (optional)
Sample Line Connection:	3" Heat Shrink Boot (standard) 4" Heat Shrink Boot (optional) 2" Heat Shrink Boot (optional)
Heater Type:	Rod heaters in aluminum block controlled by thermal switch
Available Filter Chamber Materials:	316 stainless steel (standard) 316 SS, SilcoNert™ 2000 coated (optional) Hastelloy C-276 (optional) PTFE coated 316SS
Available Filter Element Types:	2 μm ceramic (standard) 2 μm 316 stainless steel (optional) (other porosities available)