

# UHP Gas Purity Monitors

## ta7000F Special Specifications



Model designation and detection limit specifications

SAMPLE GAS	MODEL	Lower Detection Limit*			
		CH <sub>4</sub> ppb	CO <sub>2</sub> ppb	NMHC ppb	CO ppb
Nitrogen	ta7000F - N <sub>2</sub>	< 0.5	< 1.0	< 1.0	
Argon	ta7000F - Ar	< 0.5	< 1.0	< 1.0	
Helium	ta7000F - He	< 0.5	< 1.0	< 1.0	
Oxygen	ta7000F - O <sub>2</sub>	< 1.0	< 1.0	< 1.0	
Hydrogen	ta7000F - H <sub>2</sub>	< 1.0	< 1.0	< 1.0	
Hydrogen	ta7000F - H <sub>2</sub> (CO only)				< 1.0

### Performance

Accuracy, EDL Mode	Greater of ±0.25 ppb CH <sub>4</sub> ; ±0.5 ppb CO <sub>2</sub> ; ±1.0 ppb NMHC; ±1.0 ppb CO; ±10% of reading
Range	0 to 199.9 ppb
Response Time	10 minutes to 99% response. 60 minutes to 75% response in EDL mode. Response time is independent of sample concentration.
Ambient Operating Temperature	60 to 90°F (16 to 32°C)
Sample Compatibility	Specific models available for N <sub>2</sub> , Ar, He, O <sub>2</sub> , or H <sub>2</sub> analysis
Resolution, Display	0.1 ppb
Resolution, Communication Ports	0.01 ppb

### Sample Gas Supplies

Inlet Pressure Range	70 to 90 psig (4.8 to 6.1 bar)
Inlet Pressure Stability	±2%, regulator required
Return Pressure	Atmospheric vent is optimal, ±0.5 psig maximum
Flow Rate	300 cc/min minimum, sample at 50 cc/min.
Temperature	60 to 100°F (16 to 38°C), optimum when temperature maintained +2°C
Maximum Impurity Levels	200 ppb Moisture, CO <sub>2</sub> , Hydrocarbons

### Chassis

Dimensions	7" H x 16.8" W x 26.5" D (18 cm x 43 cm x 67 cm)
Weight	35 lb. (15.9 kg)
Power	100 - 120 VAC, 50/60 Hz; 200 - 240 VAC, 50/60 Hz

### Gas Ports

Carrier/Sample Inlet	1/4-inch face seal fitting
Sample Inlet	1/4-inch face seal fitting (H <sub>2</sub> and O <sub>2</sub> models only)
FID Air	1/16-inch VICI compression
FID H <sub>2</sub>	1/16-inch VICI compression
AUX (Calibration)	1/16-inch VICI compression
Sample Outlet	1/16-inch VICI compression
FID H <sub>2</sub> Shut-Off	1/8-inch VICI compression (supplied at 57 psi (3.9 bar))
Actuator Gas	1/8-inch VICI compression

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## Outputs

Display	LCD graphics, backlit, 100mm x 150mm
Printer Port	Concentration, chromatogram, and diagnostic reports
Serial PLC Port	Concentration data and alarms via RS-232
4 to 20ma (optional)	Concentration signals and status relay contacts

## Installation Requirements - ta7000F Special

### Sample Gas

Inlet Fitting	1/4-inch face seal fitting*
Inlet Pressure Range	70 to 90 psig (4.8 to 6.2 bar)
Inlet Pressure Stability	±2%, UHP regulator required
Vent Pressure	Atmospheric pressure vent is optimal, +0.5 psig maximum
Flow Rate	300 cc/min minimum, sample bypass at 50 cc/min

### Calibration Gas

Inlet Fitting	1/16-inch VICI compression fitting
Cylinder Concentration	5 to 10 ppm H <sub>2</sub> , CO, CH <sub>4</sub> , CO <sub>2</sub> , and ethane (C <sub>2</sub> H <sub>6</sub> ), balance nitrogen
Cylinder Volume	100 cubic feet minimum (2800L)
Supply Pressure	80 to 90 psig (5.5 to 6.2 bar)
Consumption	Approximately 1.0 L per calibration (4 to 8 L/month), automatic shut off between calibrations

\* 1/4-inch face seal x 1/16-inch adapter fittings are available from Trace Analytical.

### FID Hydrogen

Inlet Fitting	1/16-inch VICI compression fitting
Inlet Pressure Range	50 to 60 psig (3.4 to 4.1 bar)
Inlet Pressure Stability	±2%, UHP regulator required
Flow rate	35 cc/min
Purity	Hydrocarbons, CO, CO <sub>2</sub> <1 ppm

### FID Air

Inlet Fitting	1/16-inch VICI compression fitting
Inlet Pressure Range	50 to 60 psig (3.4 to 4.1 bar)
Inlet Pressure Stability	±2%, regulator required
Flow Rate	250 cc/min
Purity	<1 ppm total hydrocarbons, dew point < -65°C

### Nitrogen Carrier Gas (for Oxygen and Hydrogen models only)

Inlet Fitting	1/4-inch face seal fitting*
Inlet Pressure Range	70 to 90 psig (4.8 to 6.2 bar)
Inlet Pressure Stability	±2%, UHP regulator required
Flow Rate	300 cc/min
Purity	99.9999% (<1 ppm total impurity content)

\* 1/4-inch face seal x 1/16-inch adapter fittings are available from Trace Analytical.



## PROCESS INSTRUMENTS

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